Environmental Water Account

VOLUME II

Draft Environmental Impact Statement
Environmental Impact Report

July 2003

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NOAA Fisheries
National Marine Fisheries Service

July 2003

ENVIRONMENTAL WATER ACCOUNT

Draft Environmental Impact Statement
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Volume II
Chapters 10-24
Attachment 1
Appendices A-I

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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
AF	acre-foot/acre-feet
AFA	acre-feet annually
AFRP Plan	Anadromous Fish Restoration Program
APE	Area of potential effect
ARP	Acreage Reduction Provisions
ASIP	Action Specific Implementation Plan
Bay-Delta	San Francisco Bay/Sacramento-San Joaquin River Delta
BA	biological assessment
BEA	Bureau of Economic Analysis
BIA	Bureau of Indian Affairs
CAA	Clean Air Act
BO	biological opinion
CALFED Ops Group	CALFED Operations Group
CASS	California Agricultural Statistics Service
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CDPR	California Department of Parks and Recreation
CEQ	President's Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
CNDDB	California Natural Diversity Database
COA	Coordinated Operation Agreement
CVP	Central Valley Project
CVP/SWP	Central Valley Project/State Water Project
CVPIA	Central Valley Project Improvement Act
CVPIA(b)(2)	Central Valley Project Improvement Act Section 3406(b)(2)
CWA	Clean Water Act
CWSCP	Critical Water Storage Contingency Plan
CWSRMP	Critical Water Shortage Reduction Marketing Program
DBPs	disinfection byproducts
DCC	Delta Cross Channel
DEE	Daily Energy Expenditure
DEIM	Department of Water Resources Economic Model for Temporary Idling of Irrigation Land
DEIS/EIR	Draft Environmental Impact Statement/ Environmental Impact Report
DER	Daily Energy Required
DOE	Department of Energy
DOF	Department of Finance
DOI	Department of the Interior
DRRIP	Drought Risk Reduction Investment Program
DWR	California Department of Water Resources
EDD	Employment Development Department

EFH	Essential Fish Habitat
E/I	Export/Inflow
EIR	environmental impact report
EIS	environmental impact statement
ERP	Ecosystem Restoration Program
ESA	Federal Endangered Species Act
ESU	Evolutionary Significant Unit
ETAW	evaptranspiration of applied water
EWA	Environmental Water Account
EWA agencies	NOAA Fisheries, CDFG, USFWS, DWR, and Reclamation
EWAT	Environmental Water Account Team
EWP	Environmental Water Program
FERC	Federal Energy Regulatory Commission
FMMP	Farmland Mapping and Monitoring Program
FWCA	Fish and Wildlife Coordination Act
FPPA	Farmland Protection Policy Act
ft	foot/feet
GADPP	Governor's Advisory Drought Planning Panel
GAP	Gap Analysis Program
GGS	Giant garter snake
GIS	Geographic Information System
GWh	gigawatt hours
HCP	Habitat Conservation Plan
Hyatt-Thermalito	Hyatt Pumping-Generating Plant and Termalito Pumping Generating Plant
ID	Irrigation District
IDS	inland dune scrub
IO	input-output
ITA	Indian Trust Assets
ISI	Integrated Storage Investigation
Joint Point or JPOD	Joint Point of Diversion
KLCI	Knight's Landing catch index
KW	kilowatts
Management Agencies (MAs)	NOAA Fisheries, CDFG, USFWS
MAF	million acre-feet
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation & Management Act
M&I	municipal and industrial
MBTA	Migratory Bird Treaty Act
MR	montane riparian
MRA	montane riverine aquatic
MSCS	Multi-Species Conservation Strategy
msl	mean sea level
MSW	managed seasonal wetland
MW	megawatt
MWF	montane woodland and forest
NAAQS	National Ambient Air Quality Act
NCCPA	Natural Community Conservation Planning Act

NCCP	Natural Community Conservation Plan
NCWA	Northern California Water Association
NDIP	North Delta Improvement Project
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA Fisheries	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSW	natural seasonal wetland
NWR	National Wildlife Refuge
OPR	Office of Planning and Research
PBO	Programmatic Biological Opinion
PCWA	Placer County Water Agency
PDA	public domain allotments
PEIS/EIR	Programmatic Environmental Impact Statement/ Environmental Impact Report
PG&E	Pacific Gas & Electric Company
PPIC	Public Policy Institute of California
Project Agencies	DWR and Reclamation
PSD	prevention of significant deterioration
Reclamation	Bureau of Reclamation
REIS	Regional Economic Information System
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SAFCA	Sacramento Area Flood Control Agency
SCE	Southern California Edison
SFA	Seasonally Flooded Agriculture
SGA	Sacramento Groundwater Authority
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJRA	San Joaquin River Agreement
SMS	Scenery Management System
SMUD	Sacramento Municipal Utility District
SDIP	South Delta Improvement Project
SRA	State Recreation Area
SRFCP	Sacramento River Flood Control Project
SVWMA	Sacramento Valley Water Management Agreement
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	total acre-feet
TMDL	total maximum daily load
TOC	total organic carbons

TPA	tidal perennial aquatic
UCCE	University of California Cooperative Extension
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDA FS	U.S. Department of Agriculture Forest Service
USFWS	U.S. Fish and Wildlife Service
USEPA	U.S. Environmental Protection Agency
VAMP	Vernalis Adaptive Management Plan
WA	Water Agency
WAP	Water Acquisition Program
WAPA	Western Area Power Administration
Water Code	California Water Code
WC	Water Company
WD	Water District
WEG	wind erodibility group
Western	Western Area Power Administration
WMAs	Wildlife Management Areas
WOMT	Water Operations Management Team
WQCPs	Water Quality Control Plans
WSD	Water Storage District

Chapter 10
Vegetation and Wildlife

For an area of its size, California has one of the greatest diversities of natural areas and flora and fauna in North America. California's topography, climate, and soil types provide for a variety of microhabitats and a high degree of endemism - approximately 24 percent of California's plants and a large number of its animals are native exclusively to California (Hickman 1993). Section 10.1 details the existing conditions of the EWA area of analysis. Section 10.2 details the effects of EWA actions on vegetation and wildlife.

10.1 Affected Environment/Existing Conditions

This section describes the existing conditions of each region potentially affected by the EWA program. Section 3.4 provides a description of the baseline to be used for this affects analysis. The focus of this section will be on the natural and agricultural communities within each region and the wildlife associated with these communities. Fish and fisheries issues are discussed in Chapter 9. Additional information about California Endangered Species Act (CESA)/Federal Endangered Species Act (ESA) special-status species and natural community conservation plan (NCCP) communities is contained within the EWA Action Specific Implementation Plan (ASIP) being prepared by the California Department of Water Resources (DWR), the Bureau of Reclamation (Reclamation), the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NOAA Fisheries). An ASIP is prepared for each CALFED action or groups of actions as they are proposed for implementation. ASIPs are designed to provide the information necessary to initiate project-level compliance with the ESA, CESA, and Natural Community Conservation Planning Act (NCCPA) (CALFED 2000c). The EWA ASIP can be found in Appendix J.

In this document and the ASIP, special-status species are defined as those threatened, endangered, or rare (in the case of plants) species provided protection under the ESA and the CESA. Also included within the special-status species designation are species of special concern based on factors such as limited distribution; declining population size; diminishing habitat acreage or value; or unusual scientific, recreational, or educational value maintained by federal and state agencies. Legal protection for species of special concern is more limited than listed species, but species of special concern may be added to official lists in the future if the decline of these species continues. Special-status species within the area of analysis and those species considered for evaluation can be found in the EWA ASIP.

The Multi-Species Conservation Strategy (MSCS), which was developed to assist entities implementing CALFED actions with ESA/CESA compliance, identifies 20 NCCP communities (18 habitats and two fish groups). The existing conditions section of this document consistency uses the 18 NCCP habitats for all described regions to

reduce confusion between this Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) and the EWA ASIP. (See Table 10-1.) Using these 18 habitats also provides continuity between the EWA program and other CALFED programs.

The California GAP mapping system[1], which is based on the California Natural Diversity Database (CNDDB) classification system, and CDFG's Wetland and Riparian Classification, which is based on a combined Cowardin and National Oceanic and Atmospheric Administration (NOAA) C-CAP system[2] were used to identify habitat types surrounding water transfer facilities. Table 10-1 provides cross-references for the California GAP habitats and MSCS NCCP habitats.

Both the ESA and the NCCPA include provisions for the development of conservation plans to protect vegetation and wildlife resources. The Habitat Conservation Plan (HCP) is designed to offset any harmful effects that a proposed activity might have on a listed species. The HCP process allows development to proceed while promoting listed species conservation. An NCCP "identifies and provides for the regional or area wide protection of plants, animals, and their habitats, while also allowing appropriate development to proceed" (CDFG 2002). There are over 105 HCPs and 15 NCCPs within the State of California that have been approved or are in-progress. Because EWA actions are confined to water transfers or crop idling, the EWA Program would not violate any of these HCP's or NCCP's.

10.1.1 Area of Analysis

EWA actions would affect portions of the Central Valley, the Delta, and, to a limited extent, Southern California. However, these actions would be confined to rivers, reservoirs, and rice croplands upstream from the Delta; the waterways of the Delta; and cotton croplands, canals, and reservoirs in the Export Service Area (areas downstream from the Delta). The area of analysis, shown on Figure 10-1, illustrates the location for each river and water conveyance/storage system addressed in this EIS/EIR.

- The Sacramento River from its terminus in the Delta north to Lake Shasta;
- The Feather River from its intersection with the Sacramento River through Lake Oroville up the South Fork to Little Grass Valley Reservoir;

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1 California Gap Analysis Program (GAP) mapping system. California GAP data under represents wetland and riparian features by using a 40-heactare (ha) (99-acre) minimum mapping unit for wetlands. Most wetland areas within the state are less than 40-ha; and would not be represented on the GAP maps. In order to adequately describe wetland and riparian habitats within the EWA action area, the DFG's Wetland and Riparian Classification maps were also used. California GAP uses a 100-ha (247-acre) minimum mapping unit for upland types (MSCS, 2000).

2 Classification of Wetlands and Deepwater Habitats of the United States, (Cowardin *et al.*, 1997) and National Oceanic and Atmospheric Administration Coastal Change Analysis Project (Dobson *et al.*, 1995)

Table 10-1
Crosswalk of MSCS NCCP Habitat Types to Other Community and Habitat Classification Systems

MSCS NCCP Habitat Type	***Equivalent Community or Habitat Type Under Other Classification Systems***				
	Ecosystem Restoration Program	***Wildlife Habitat Relationships*** [a]	***Terrestrial Natural Communities of California*** [b]	***National Wetland Inventory*** [c]	***Department of Water Resources*** [d]
Tidal perennial aquatic	Tidal perennial aquatic, Delta sloughs, and midchannel islands and shoals	Estuarine	None	Estuarine (aquatic subtypes only)	Water surface
Valley riverine aquatic	Riparian and riverine aquatic	Riverine	None	Riverine (aquatic subtypes only)	Water surface
Montane riverine aquatic	Riparian and riverine aquatic	Riverine	None	Riverine (aquatic subtypes only)	Water surface
Lacustrine	Nontidal perennial aquatic	Lacustrine	None	Lacustrine (aquatic subtypes only)	Water surface
Saline emergent	Saline emergent wetland	Saline emergent wetland	Coastal saltmarsh (52100) and coastal brackish marsh (52200)	Estuarine/emergent	Riparian vegetation: marshlands
Tidal freshwater emergent	Fresh emergent wetland, Delta sloughs, and midchannel islands and shoals	Fresh emergent wetland	Coastal and valley freshwater marsh (52410)	Palustrine/emergent/tidal	Riparian vegetation: marshlands
Nontidal freshwater permanent emergent	Fresh emergent wetland	Fresh emergent wetland and wet meadow	Freshwater marsh (52400), alkali marsh (52300), and meadow and seep (45000)	Palustrine/emergent/nontidal/ permanent; lacustrine/emergent/permanent; riverine/emergent/permanent	Riparian vegetation: marshlands; riparian vegetation: natural high-water table
Natural seasonal wetland	Seasonal wetlands	Fresh emergent wetland	Vernal pool (44000), vernal marsh (52500) and alkali playa (46000)	Palustrine/emergent/nontidal/ seasonal	None
Managed seasonal wetland	Seasonal wetlands	Fresh emergent wetland	Vernal marsh (52500)	Palustrine/emergent/nontidal/ seasonal/artificial	Riparian vegetation: duck marsh
Valley/foothill riparian	Riparian and riverine aquatic	Valley foothill riparian	Great Valley riparian forest (61400), sycamore alluvial woodland (62100) and Great Valley riparian scrub (63400)	Estuarine/scrub-shrub, estuarine/ forested, palustrine/scrub-shrub, and palustrine/forested	Riparian vegetation: trees and shrubs.
Montane riparian	Riparian and riverine aquatic	Montane riparian	Montane riparian forest (61500) and montane riparian scrub (63500)	Estuarine/scrub-shrub, estuarine/ forested, palustrine/scrub-shrub, and palustrine/forested	Riparian vegetation: trees and shrubs.
Grassland	Perennial grassland	Annual grassland and perennial grassland	Valley and foothill grassland (42000)	Upland	Native vegetation: grassland
Inland dune scrub	Inland dune scrub	None	Stabilized interior dunes (23100)	Upland	None

Table 10-1
Crosswalk of MSCS NCCP Habitat Types to Other Community and Habitat Classification Systems

MSCS NCCP Habitat Type	***Equivalent Community or Habitat Type Under Other Classification Systems***				
	Ecosystem Restoration Program	***Wildlife Habitat Relationships*** [(a)]	***Terrestrial Natural Communities of California*** [(b)]	***National Wetland Inventory*** [(c)]	***Department of Water Resources*** [(d)]
Upland scrub	None	Montane chaparral, mixed chaparral, chamise-redshank chaparral, and alkali desert scrub	Great valley chenopod scrub (36200), chaparral (37000), and Diablan sage scrub (32600)	Upland	Native vegetation: light brush, medium brush, and heavy brush
Valley/foothill woodland and forest	None	Valley oak woodland, blue oak woodland, and blue oak-foothill pine	Cismontane woodland (71000), interior live oak forest (81330)	Upland	Native vegetation: brush and timber
Montane woodland and forest	None	Sierran mixed conifer, Douglas-fir, ponderosa pine, aspen, montane hardwood conifer, and montane hardwood	Broadleaved upland forest (81000), upland Douglas fir forest (82420), and Sierran coniferous forest (84200)	Upland	None
Upland cropland	Agricultural lands	Cropland, pasture, and orchard-vineyard	None	Upland	Grain and hay crops, field crops, truck and berry crops, pasture, and idle
Seasonally flooded agriculture	Agricultural lands	Cropland	None	Palustrine/framed	Grain and hay crops, field crops, and rice

Notes: In many cases, the MSCS NCCP habitats do not directly crosswalk to other classifications. NCCP habitats may encompass several habitats from other classifications or only a portion of a habitat from another classification. Habitats from other classifications may encompass several NCCP habitats.

(a) Mayer, K.E. and W.F. Laundenslayer (eds). 1988. A guide to wildlife habitats of California. California Department of Forestry and Fire Protection. Sacramento, CA.

(b) Holland, R.F. 1986. Preliminary description of the terrestrial communities of California. California Department of Fish and Game. Sacramento, CA. Numbers in parentheses are Natural Diversity Database element codes corresponding to each community type.

(c) Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service. Washington, D.C.

(d) California Department of Water Resources. 1993. Land cover mapping program. Sacramento, CA.

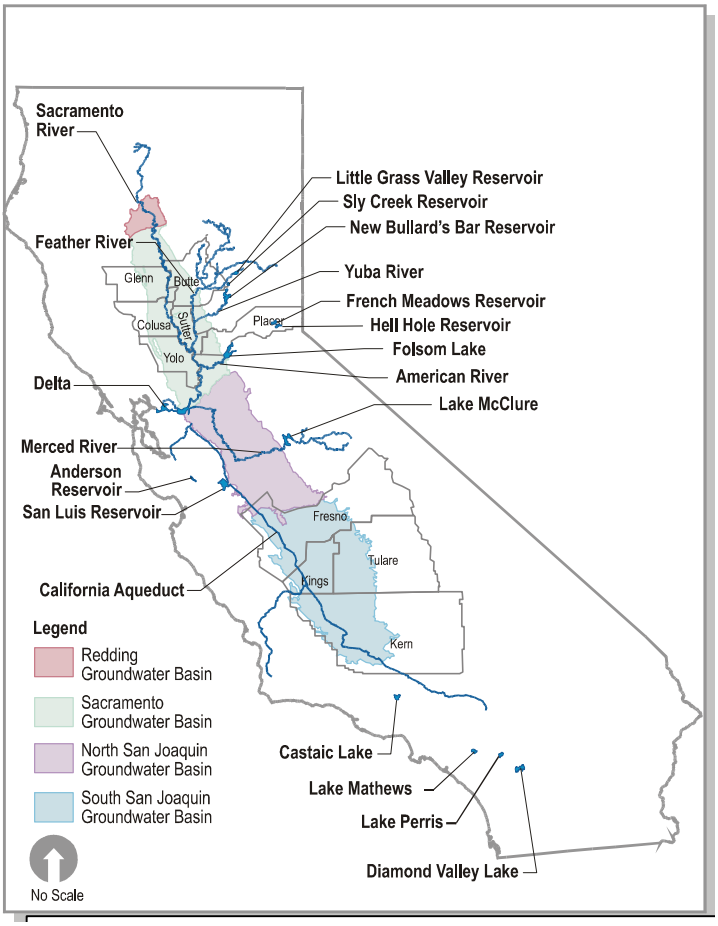


Figure 10-1
Vegetation and Wildlife Area of Analysis

- The Lost Creek from its juncture with the South Fork of the Feather River to Sly Creek Reservoir;
- The Yuba River from its intersection with the Sacramento River up to New Bullards Bar Reservoir;
- The American River from its intersection with the Sacramento River up through Lakes Natomas and Folsom to Hell Hole and French Meadows Reservoirs;
- The Merced River from its intersection with the San Joaquin River up to Lake McClure;
- The San Joaquin River from its terminus in the Delta to its intersection with the Merced River;
- Other waterways within the legal boundaries of the Delta (as described in California Water Code 12220);
- The California aqueduct and its branches from the Tracy and Banks Pumping Plants to Lake Perris and Castaic Lake;
- MWD's Diamond Valley Lake and Lake Mathews; and
- Santa Clara Valley Water District's Anderson Reservoir.

In addition, the area of analysis extends up to one mile around each river or to the flooding limits of each river whichever is greater. For reservoirs the area of analysis encompasses the reservoir itself and adjacent lands up to ¼ mile away from the reservoir. Also included are all rice and cotton fields being considered for crop idling actions and adjacent lands up to ½ mile surrounding idled fields, and wetlands and riparian habitats associated with groundwater substitution areas.

10.1.2 Upstream from the Delta

The Upstream from the Delta region includes the Sacramento and San Joaquin River watersheds, encompassing most of the Central Valley of California. Fifteen of the 18 counties within the Central Valley contain parts of these two watersheds. The Central Valley contains approximately one-fifth the land area (27,000 square miles) of the state, and once supported a variety of grassland, savannah, riparian, and wetland habitats (Lopez 1996). Today the Central Valley is predominantly agricultural, with rice, orchards, and vineyards in the northern part of the valley and cotton and citrus orchards in the southern part. Undeveloped land in the Central Valley is mostly non-native annual grasslands. However, the Central Valley still includes remnants of native perennial grassland, vernal pool wetlands, riparian, and oak woodland habitats providing the Central Valley with a diversity of habitats, which supports over 827 special-status species (USFWS 2003). The following sections detail the habitats, vegetation[3], and wildlife within the Upstream from the Delta Region.

The sections below describe the NCCP habitats within the Upstream from the Delta Region. These descriptions include the dominant vegetation, where each habitat can be found within the area of analysis, and lists of wildlife and special-status species associated with each habitat. Lists of dominant vegetation are based on the California Wildlife Habitat Relationship System; lists of wildlife are based upon searches of available literature; and lists of special-status species are based on MSCS Appendix C and the Ecosystem Restoration Program Plan.

10.1.2.1 Valley Riverine Aquatic

Valley riverine aquatic (VRA) habitat includes the water column of flowing streams and rivers in low-gradient channel reaches below an elevation of approximately 300 feet that are not tidally influenced. This includes associated shaded riverine aquatic (SRA), pool, riffle, run, and unvegetated channel substrate (including seasonally exposed channel bed) habitat features, and sloughs, backwaters, overflow channels, and flood bypasses hydrologically connected to stream and river channels. The following river systems have VRA habitat.

Sacramento River

VRA habitat on the Sacramento River extends from approximately the legal limits of the Delta (Sacramento River at the I Street bridge) to the vicinity of Red Bluff, California (approximately 300 feet above mean sea level [amsl]).

Feather River

VRA habitat on the Feather River extends from the juncture of the Sacramento and Feather Rivers up to Oroville, CA.

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[3] The California Wildlife Habitat Relationship System (2002) has been used to determine the dominant vegetation and wildlife for each habitat type.

Yuba River
VRA habitat on the Yuba River extends from the juncture of the Feather and Yuba rivers up to approximately Timbuctoo Bend.

American River
VRA habitat on the American River extends from the juncture of the Sacramento and American Rivers to Folsom Lake.

Merced/San Joaquin River
VRA habitat on the Merced River extends from the juncture of the Merced and San Joaquin Rivers to Merced Falls, CA. VRA habitat on the San Joaquin River in the EWA area of analysis extends from the juncture of the Merced and San Joaquin Rivers into the Delta.

10.1.2.1.1 Vegetation
The dominant vegetation of valley riverine aquatic habitat includes plankton, water moss, algae, and duckweed.

10.1.2.1.2 Wildlife
Aquatic species include riffle insects such as the nymphs of caddisflies, mayflies, alderflies, and stoneflies; pool insects such as dragonflies, damselflies, and water striders; and mollusks, crustaceans, diving beetles, water boatmen. Avian species associated with VRA habitat include waterfowl, wading birds, shorebirds, and raptors. Example species include gulls, terns, herons, kingfisher, swallows, swifts, and flycatchers. Mammal species associated with VRA include river otter, muskrat, and beaver.

10.1.2.1.3 Special-Status Species
Special-status animal and plant species associated with VRA include bald eagle, bank swallow, osprey, western pond turtle, California red-legged frog, foothill yellow-legged frog, and eel-grass pondweed.

10.1.2.2 Montane Riverine Aquatic
Montane riverine aquatic (MRA) habitat includes the water column of flowing streams and rivers above an elevation of approximately 300 feet. This includes associated SRA, pool, riffle, run, and unvegetated channel substrate (including seasonally exposed channel bed) habitat features, and sloughs, backwaters, and overflow channels hydrologically connected to stream and river channels. The following river systems have developed MRA habitat.

Sacramento River
MRA habitat on the Sacramento River extends from Red Bluff, CA to Lake Shasta.

Feather River
MRA habitat on the Feather River extends between Oroville, CA and Lake Oroville, and then continues from Lake Oroville to Little Grass Valley Reservoir. MRA habitat can also be found along Lost Creek from its juncture with the Feather River to Sly

Creek Reservoir. However, water transfers occurring within this area of analysis would take place through tunnels developed by power companies and not in the natural rivers and creeks.

Yuba River
MRA habitat on the Yuba River in the EWA area of analysis extends from approximately Timbuctoo Bend to New Bullards Bar Reservoir.

American River
MRA habitat on the American River in the EWA area of analysis extends from approximately Folsom Lake to French Meadows Reservoir.

Merced/San Joaquin River
MRA habitat on the Merced River in the EWA area of analysis extends from Merced Falls, CA through Lake McSwain to Lake McClure.

10.1.2.2.1 Vegetation
The dominant vegetation for montane riverine aquatic habitat is the same as for valley riverine aquatic (plankton, water moss, algae, and duck weed).

10.1.2.2.2 Wildlife
The wildlife associated with montane riverine aquatic habitat is similar to valley riverine aquatic habitat species.

10.1.2.2.3 Special-Status Species
Special-status animal and plant species associated with MRA habitats include bald eagle, osprey, western pond turtle, California red-legged frog, foothill yellow-legged frog, California freshwater shrimp, and eel-grass pondweed.

10.1.2.3 Lacustrine
Lacustrine habitat is defined as portions of permanent bodies of water that do not support emergent vegetation and that are not subject to tidal exchange, including lakes, ponds, oxbows, gravel pits, and flooded islands.

When water levels are low, exposed shorelines (drawdown zones) are a common feature of reservoirs, and include rocky, sandy, or silty substrates. Aside from ruderal species, these areas are usually devoid of vegetation because of the inundation/desiccation cycle associated with fluctuating reservoir water levels (Entrix 1996). The following river systems have areas of lacustrine habitat.

Sacramento River
Lacustrine habitat along the Sacramento River includes Lake Shasta and Keswick Reservoir. In addition, historical meandering by the Sacramento River has created remnant oxbow and floodplain lakes within the area of analysis.

Feather River
Lacustrine habitat along the Feather River includes Little Grass Valley and Sly Creek Reservoirs, Lake Oroville, and the Thermalito Afterbay. As with the Sacramento

River, historical meandering by the Feather River has created remnant oxbow and floodplain lakes within the area of analysis.

Yuba River
Lacustrine habitat along the Yuba River includes New Bullards Bar Reservoir and Englebright Lake.

American River
Lacustrine habitat along the American River includes French Meadows and Hell Hole Reservoirs and Folsom Lake and Lake Natoma. Historical meandering by the American River has created remnant oxbow and floodplain lakes within the Lower American River area of analysis.

Merced/San Joaquin River
Lacustrine habitat along the Merced and San Joaquin Rivers within the area of analysis includes Lakes McClure and McSwain.

10.1.2.3.1 Vegetation
Plankton, water lilies, duckweed, pondweed, and smartweeds are the dominant vegetation for lacustrine habitats.

10.1.2.3.2 Wildlife
Lacustrine habitats are used by mammals, birds, reptiles, and amphibians for reproduction, food, water, and cover (Grenfell Jr. 2003). For example, bird species observed foraging over Lake Oroville include the barn swallow, western grebe, and great blue heron.

10.1.2.3.3 Special-Status Species
Special-status animal and plant species associated with lacustrine habitats include bald eagle, Aleutian Canada goose, California gull, osprey, western pond turtle, California red-legged frog, and eel-grass pondweed.

10.1.2.4 Nontidal Freshwater Permanent Emergent
Nontidal freshwater permanent emergent habitat (NFPE) includes permanent (natural and managed) wetlands, including meadows, dominated by wetland plant species that are not tolerant of saline or brackish conditions. The following river systems have developed areas of NFPE habitat.

Sacramento River
NFPE habitat can be found scattered along the Sacramento River typically in areas with slow moving backwaters. Substantial portions of these habitats occur at the Colusa, Sutter, and Tisdale Bypasses, the Butte Sink, and at the Fremont Weir.

Feather River
NFPE habitat can be found scattered along the Feather River typically in areas with slow moving backwaters. The Oroville Wildlife Area supports this habitat around its quarry ponds. Other areas include the Feather River Wildlife Area.

Yuba River
NFPE habitat can be found scattered along the Feather River typically in areas with slow moving backwaters.

American River
NFPE habitat can be found scattered along the Feather River typically in areas with slow moving backwaters.

Merced/San Joaquin River
NFPE habitat can be found scattered along the Feather River typically in areas with slow moving backwaters. The Dredger Tailings reach supports approximately 28 acres of remnant marsh (approximately half of all remnant marsh in the river corridor) (Stillwater Sciences 2002).

10.1.2.4.1 Vegetation

The dominant vegetation for nontidal freshwater permanent emergent includes thingrass, spikerush, big leaf sedge, bulrush, redroot nutgrass, tules, cattails, common reed, and water grass.

10.1.2.4.2 Wildlife

Freshwater emergent wetlands are among the most productive wildlife habitats in California. They provide food, cover, and water for more than 160 species of birds and numerous mammals, reptiles, and amphibians (Kramer 2003). Examples of amphibians include bullfrogs, western toads, and Pacific tree frogs. Birds include herons, egrets, bitterns, merganser, wood duck, and yellow warbler.

10.1.2.4.3 Special-Status Species

Special-status animal species associated with NFPE habitats include Aleutian Canada goose, American peregrine falcon, black-crowned night heron, black tern, black rail, California gull, greater sandhill crane, long-billed curlew, northern harrier, short-eared owl, snowy egret, tricolored black bird, western least bittern, white-faced ibis, white-tailed kite, giant garter snake, western pond turtle, and California red-legged frog.

Special-status plants include Ferris' milk vetch, bristly sedge, Hispid bird's beak, four-angled spikerush, Delta coyote thistle, rose-mallow, California beaked-rush, Sanford's arrowhead, marsh skullcap, mad-dog skullcap, marsh checkerbloom, and Kenwwod marsh checkerbloom.

10.1.2.5 Natural Seasonal Wetland

Natural seasonal wetland (NSW) habitat includes vernal pools and other nonmanaged seasonal wetlands with natural hydrologic conditions that are dominated by herbaceous vegetation and that annually pond surface water or maintain saturated soils at the ground surface for enough of the year to support facultative or obligate wetland plant species. Alkaline and saline seasonal wetlands that were not historically part of a tidal regime are included in natural seasonal wetlands.

Sacramento River
NSW habitat can be found scattered along the Sacramento River typically in areas with slow moving backwaters. Substantial portions of these habitats occur at the Colusa, Sutter, and Tisdale Bypasses, the Butte Sink, and at the Fremont Weir.

Feather River
NSW habitat can be found scattered along the Feather River typically in areas with slow moving backwaters.

Yuba River
NSW habitat can be found scattered along the Yuba River typically in areas with slow moving backwaters.

American River
NSW habitat can be found scattered along the American River typically in areas with slow moving backwaters.

Merced/San Joaquin River
NSW habitat can be found scattered along the Merced/San Joaquin River typically in areas with slow moving backwaters.

10.1.2.5.1 Vegetation
Dominant natural seasonal wetland vegetation includes big leaf sedge, bulrush, and redroot nutgrass.

10.1.2.5.2 Wildlife
Wildlife associated with natural seasonal wetlands are predominantly special-status species. Common species can include ducks, geese, heron, and other waterfowl, wading, and shorebirds.

10.1.2.5.3 Special-Status Species
Special-status animal species associated with NSW include American peregrine falcon, California gull, greater sandhill crane, long-billed curlew, northern harrier, short-eared owl, Swainson's hawk, tricolored blackbird, white-tailed kite, giant garter snake, California red-legged frog, California tiger salamander, western spadefoot toad, conservancy fairy shrimp, Delta green ground beetle, longhorn fairy shrimp, mid-valley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Special-status plant species associated with NSW include Henderson's bentgrass, Ferris' milkvetch, alkali milk vetch, heartscale, brittlescale, San Joaquin spearscale, lesser saltscale, succulent owl's clover, Hoover's spurge, Hispid bird's beak, palmate-bracted bird's beak, recurved larkspur, Boggs Lake hedge-hyssop, Ahart's dwarf rush, Contra Costa goldfields, Legenere, Heckard's peppergrass, Butte County meadowfoam, pincushion navarretia, Colusa grass, San Joaquin Valley orcutt grass, hairy orcutt grass, slender orcutt grass, Sacramento orcutt grass, Ahart's paronychia, and Greene's tuctoria.

10.1.2.6 Managed Seasonal Wetland

Managed seasonal wetland (MSW) habitat includes wetlands dominated by native or non-native herbaceous plants, excluding croplands farmed for profit (e.g., corn and rice), that land managers flood and drain during specific periods to enhance habitat values for specific wildlife species. Ditches and drains associated with managed seasonal wetlands are included in this habitat type.

Sacramento River

Managed seasonal wetlands on west side of the Sacramento River generally occur between Willows and Dunnigan, CA along the Colusa Main Drain. Substantial portions of these habitats also occur at the Colusa, Sutter (including the Sutter Bypass Wildlife Area), Tisdale, and Yolo (including the Yolo Bypass Wildlife Area) Bypasses, at the Fremont Weir, and as a part of the Sacramento National Wildlife Refuge Complex (six refuges totaling 35,000 acres).

Feather River

MSW habitat between the Sacramento River and the Feather River generally occur along Butte Creek in the Butte Basin (Upper Butte Basin and Gray Lodge Wildlife Areas), around the Thermalito Afterbay, along the Feather River downstream of Oroville, CA, and along Angel Slough north of Butte City, CA (Llano Seco Rancho Wildlife Area).

Yuba River

MSW habitat generally occurs north of the Yuba River, and around Dry Creek and the Bear River.

Merced/San Joaquin River

MSW habitat along the Merced and San Joaquin Rivers generally occurs just south of the juncture of the two rivers and is described as a part of the Export Service Area.

10.1.2.6.1 Vegetation

Dominant managed seasonal wetland habitats can include the same vegetation as for natural seasonal wetlands.

10.1.2.6.2 Wildlife

MSW habitats are often managed for waterfowl such as mallards, pintails, American widgeon, and Canada and other geese. MSW habitats also support a variety of wading and shorebirds, such as herons, egrets, terns, and gulls.

10.1.2.6.3 Special-Status Species

Special-status animal species associated with MSW include Aleutian Canada goose, American peregrine falcon, bald eagle, black tern, California gull, greater sandhill crane, long-billed curlew, northern harrier, short-eared owl, Swainson's hawk, tricolored blackbird, western snowy plover, white-faced ibis, white-tailed kite, giant garter snake, western pond turtle, California red-legged frog, and vernal pool tadpole shrimp.

Special-status plant species associated with MSW are often the same as those species found in natural seasonal wetlands.

10.1.2.7 Valley/Foothill Riparian

Valley/foothill riparian (VFR) habitat includes all successional stages of woody vegetation, commonly dominated by willow, Fremont cottonwood, valley oak, or sycamore, within the active and historical floodplains of low-gradient reaches of streams and rivers generally below an elevation of 300 feet. The following river systems and their tributaries have developed VFR habitat.

Sacramento River

South of Red Bluff, the Sacramento River enters the Sacramento Valley and transitions into Valley Riverine Aquatic and Valley/Foothill Riparian habitat. Along most of the Sacramento River and its tributaries, remnants of riparian communities are all that remain of once very productive and extensive riparian areas. Between Red Bluff and Chico, the river is mostly unleveed and contains substantial remnants of the Sacramento Valley's riparian forests. One of the most important factors, other than agriculture, affecting riparian habitat downstream of Chico Landing is the Sacramento River Flood Control Project constructed by the US Army Corps of Engineers (Sacramento River Advisory Council 2001). (See Chapter 15, Flood Control, for a more detailed description of the Sacramento River Flood Control Project.) The flood control project has confined riparian vegetation to a narrow band between the river and the riverside of the levees.

Natural areas within this reach include the Redding Arboretum and Kutras River Access; the largely riparian, Anderson River Park owned by CDFG; the Woodson Bridge State Recreation Area; the Bidwell-Sacramento River State Park; the Colusa-Sacramento River State Recreation Area; and the Sacramento River Wildlife Area.

Feather River

The Oroville Wildlife Area supports VFR habitat and represents the largest acreage of cottonwood forests along the lower Feather River. The Feather River Wildlife Area also supports VFR habitat.

Yuba River

VFR habitat on the Yuba River extends from the juncture of the Sacramento and Yuba Rivers up to approximately Timbuctoo Bend. "Deposition of hydraulic mining debris, subsequent dredge mining, and loss/confinement of the active river corridor and floodplain of the lower Yuba River since the mid-1800's probably eliminated much of the riparian vegetation along the lower Yuba River. However, since completion of New Bullard's Bar Reservoir, higher, more stable flows during the growing season appear to have increased the linear extent of riparian vegetation along the lower Yuba River" (Reclamation 2001).

American River

VFR habitat on the American River extends from the juncture of the Sacramento and American Rivers to Folsom Lake. The U.S. Fish and Wildlife Service (1991b)

estimated that approximately 3,530 acres of riparian scrub shrub and riparian forest occurs along the American River.

Merced/San Joaquin River

VFR habitat on the Merced River extends from the juncture of the Merced and San Joaquin Rivers to Merced Falls, CA. VFR habitat on the San Joaquin River in the EWA area of analysis extends from the juncture of the Merced and San Joaquin Rivers into the Delta. Approximately 3,928 acres of riparian vegetation currently exist along the Merced River, most within three miles of the confluence with the San Joaquin River. As with all Central Valley Rivers, the Merced River has been affected by agriculture, resource extraction, flow regulation and bank revetment. These actions have altered the hydrology and geomorphology of the river, in turn affecting riparian vegetation. "Consequently, existing mature forest stands along the Merced River may be unsustainable relicts of pre-dam hydrologic regimes" (Stillwater Sciences 2002).

10.1.2.7.1 Vegetation

Riparian forest systems include riparian forest successional stages, gravel bars and bare cut banks, shady vegetated banks, and sheltered wetlands such as sloughs, side channels, and oxbow lakes (Sacramento River Advisory Council 2001). Figure 10-2 shows the typical succession pattern for these communities. Other plant communities found in conjunction with riparian forests include valley oak woodland, wetland, and non-native grassland. Table 10-2 lists vegetation associated with the habitats of river corridors.

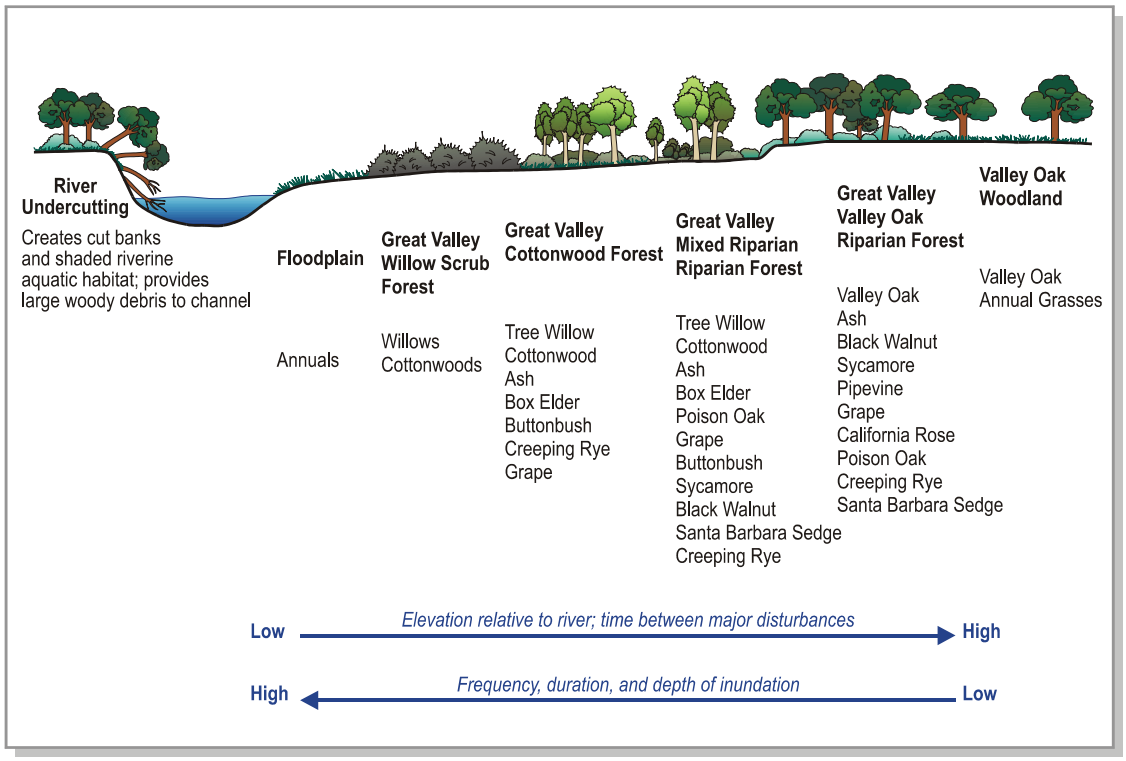


Figure 10-2
Typical Riparian Cross-section

Table 10-2
River Corridor Habitats and Associated Vegetation

Riparian Habitat	*Common Vegetation*	*Location*	*Hydrology*
Gravel bars	Willows	Active channel	Frequently indundated throughout the year
Bare cut banks	None	Riverbanks of the active channel	Repeatedly disturbed by elevated winter and spring river flows
Shady vegetated banks	Cottonwoods and willows	Riverbanks of the active channel	Repeatedly disturbed by elevated winter and spring river flows
Sloughs, side channels, oxbow lakes, backwater ponds, and wetlands	Willow, sedge, cattail, bulrush, rush, barnyard grass, slough grass, tules, and lycopus, water primrose, buttonwillow, alder, and cottonwood	Adjacent to the mainstem of a river	Connected to the river by surface water during high winter flood flows and by groundwater during other times of the year.
Willow scrub	Sandbar and other willows, cottonwoods, alder, sycamore, box elder, walnuts, Oregon ash	Point bars near the rivers edge	Repeatedly disturbed by elevated winter and spring river flows
Cottonwood forests	Cottonwood, willow, ash, box elder, butttonwillow, creeping rye, wild grape, poison oak	Narrow belts along the active river channel	Seasonal disturbance by occasional large flows
Mixed riparian forest	Cottonwood, willow, box elder, sycamore, walnut, alder, buttonwillow, blackberry, poison oak, wild grape, creeping rye, Santa Barbara sedge, elderberry	Floodplain terrace	Seasonal disturbance by occasional large flows
Valley Oak Riparian Forest	Valley oak, black walnuts, sycamore, ash, blackberry, wild grape, elderberry, grasses, sedges	Floodplain terrace; Upper terraces composed of fine sediment where soil moisture provides a long growing season	Flooded infrequently
Valley oak woodland	Valley oaks, non-native grasses	Floodplain terrace; Upper terraces composed of fine sediment where soil moisture provides a long growing season	Flooded infrequently at shallow depths
Grassland	Non-native grasses, wild rye	Found on many of the sites within the river corridor; Commonly occurs in areas that have been disturbed by human activity	Occurs in areas that are frequently flooded to those that are only indundated by exceptionally high flows at a shallow depth
Elderberry Savannah	Elderberry, grasses	Adjacent to the floodplain terrace	Only inundated by exceptionally high flows at a shallow depth

Source: SRAC 2001

Riparian plant germination, establishment, growth, and distribution is driven by water availability and floodplain and channel geomorphology. Late winter and early spring high water flows are necessary to clear the river channel of debris and vegetation and unclog sediments. These mobilized bank and riverbed sediments result in the deposition of nutrient-rich sediments on the floodplain. When timed with the release of seeds in the spring, these sediments provide suitable areas for germination of pioneer species such as cottonwood and willow. The low-flow regime, which provides freshly exposed surfaces, is the most important factor for successful seedling establishment and is critical for survival of young trees (Strahan 1985). During the summer and early fall months water availability can determine growth rates and plant types. Inundation may result in the death of young or established

pioneer species through mechanical abrasion or through lack of sufficient soil oxygen; late summer desiccation results in the death of many cottonwood and willow seedlings (Strahan 1985).

Pioneer tree species tend to be shade intolerant and have difficulty growing under a closed canopy. Therefore, other dominant tree species, such as box elder and black walnut, which have the ability to germinate and grow under the cottonwood/willow overstory, begin to succeed the pioneer species. Eventually, oak and sycamore, which are found in old stands on high terraces with the other dominants and along banks high above the river, succeed the intermediate species establishing a later stage successional community (Strahan 1985).

River regulation in California's Central Valley has created artificially stable inter- and intra-annual hydrological conditions that have impaired recruitment and altered the age structure of native riparian tree populations that have evolved with pre-regulation cycles of flooding and summer drought (Stella, et. al. 2003). Changes in hydrology have caused an overall decline in bank erosion rates and an accompanying decrease in point bar formation. Fewer suitable sites for cottonwood and willow forest regeneration are now available, changing the pattern of riparian forest succession. For example, in the absence of river processes on the Lower American River such as new gravel and sand bar formation, and in combination with increased summer flows, cottonwood recruitment has been virtually eliminated and existing stands appear to be aging without opportunities for replacement. Instead alders have increased in abundance by taking advantage of the more consistent summer flows and increased bank stability (USFWS 1991b). On the Sacramento River, controlled flows have resulted in a higher survival percentage through lack of scouring and a continual provision of moisture reducing losses from desiccation (Strahan 1985).

Also affected by changes in hydrology is the inundation frequency along rivers. The frequency of overbank flooding required for natural establishment, maturation, and regeneration of the later stage successional forests continually affects smaller and smaller land areas. According to the Sacramento River Advisory Council (2001), another factor in reduced riparian forests along rivers is conversion of the land to agricultural practices.

10.1.2.7.2 Wildlife

More than 60 percent of all vertebrates spend some portion of their life cycle in riparian habitat (Reclamation and SJRG 1999). In California over 225 species of birds, mammals, reptiles, and amphibians depend on riparian habitats, and cottonwood-willow riparian areas support more breeding avian species than any other comparable broad California habitat type (Sacramento River Advisory Council 2001and Stillwater Sciences 2002). Riparian areas also serve as a corridor for wildlife movement, providing access to additional seasonal food sources and new territories for dispersing young, and allowing for the movement of individuals into and out of areas, thus ensuring a good mix of genetic material into a population (Sacramento River Advisory Council 2001).

Some of the riparian habitat has a lush canopy with associated shade and cover, which provides habitat for a myriad of insects. Rough ever-sloughing bark of common riparian trees attracts wood-boring larvae and provides forage for bark-gleaning and trunk-scaling birds. Woodpeckers, warblers, flycatchers, and owls are common inhabitants of this habitat. The tall trees also attract wintering and breeding raptors (Reclamation and SJRG 1999). Other wildlife that use riparian habitats include California towhee, Bewick's wren, belted kingfisher, scrub jay, rufous-sided towhee, blue grosbeak, tree swallow, yellow-rumped warbler, lazuli bunting, western tanager, northern oriole, western fence lizard, Pacific tree frog, western toad, bullfrog, western skink, western whiptail, southern alligator lizard, racer, gopher snake, king snake, garter snake, rattlesnake, opossum, black-tailed hair, western gray squirrel, ringtail, river otter, striped skunk, raccoon, beaver, a number of bat species, and mule deer.

10.1.2.7.3 Special-Status Species

Special-status animal species associated with VFR habitat include greater western mastiff bat, ringtail, riparian brush rabbit, San Joaquin Valley woodrat, western yellow-billed cuckoo, bank swallow, bald eagle, black-crowned night heron, California yellow warbler, Cooper's hawk, double-crested cormorant, golden eagle, great blue heron, great egret, least bell's vireo, little willow flycatcher, long-eared owl, osprey, snowy egret, Swainson's hawk, white-tailed kite, yellow-breasted chat, giant garter snake, western pond turtle, California red-legged frog, foothill yellow-legged frog, and valley elderberry longhorn beetle.

Special-status plant species include silky cryptantha, Delta coyote-thistle, marsh checkerbloom, fox sedge, rose-mallow, northern California black walnut, and Sanford's arrowhead.

10.1.2.8 Montane Riparian

Montane riparian (MR) habitat includes all successional stages of woody vegetation, such as willow, black cottonwood, white alder, birch, and dogwood, within the active floodplains of moderate-to-high-gradient reaches of streams and rivers generally above an elevation of 300 feet. The following rivers have developed MR habitat.

Sacramento River

MR habitat occurs along the Sacramento River between Red Bluff, CA and Lake Shasta.

Feather River

MR habitat on the Feather River extends between Oroville, CA and Lake Oroville, and then continues from Lake Oroville to Little Grass Valley Reservoir. MRA habitat can also be found along Lost Creek from its juncture with the Feather River to Sly Creek Reservoir. However, water transfers occurring within this area of analysis would take place through tunnels developed by power companies and not in the natural rivers and creeks.

Yuba River
MR habitat on the Yuba River in the EWA area of analysis extends from approximately Timbuctoo Bend to New Bullards Bar Reservoir.

American River
MR habitat on the American River in the EWA area of analysis extends from approximately Folsom Lake to French Meadows Reservoir.

Merced/San Joaquin River
MR habitat on the Merced River in the EWA area of analysis extends from Merced Falls, CA through Lake McSwain to Lake McClure.

10.1.2.8.1 Vegetation

Montane Riparian habitat vegetation is dominated by cottonwood (black and Fremont [at lower altitudes]), white alder, big leaf maple, dogwood, box elder, quaking aspen, wild azalea, water birch, and buttonwillow trees.

10.1.2.8.2 Wildlife

As with VFR a wide variety of wildlife is supported by riparian habitats.

10.1.2.8.3 Special-Status Species

Special-status species associated with MR habitat include California wolverine, greater western mastiff bat, ringtail, bald eagle, black-crowned night heron, California yellow warbler, Cooper's hawk, double-crested cormorant, great blue heron, great egret, least bell's vireo, little willow flycatcher, long-eared owl, osprey, snowy egret, yellow-breasted chat, California red-legged frog, foothill yellow-legged frog, silky cryptantha, valley elderberry longhorn beetle, and saw-toothed lewisia.

10.1.2.9 Grassland

Grassland habitat includes upland vegetation communities dominated by introduced and native annual and perennial grasses and forbs, including non-irrigated and irrigated pasturelands.

Grassland communities in the Central Valley are primarily confined to the western and eastern margins of the valley.

Sacramento River
Grassland habitats can also be found on the north side of Lake Shasta.

Feather River
The Oroville and Feather River Wildlife Areas downstream of Lake Oroville support grassland habitats.

American River
Grassland habitats can be found along portion s of the Folsom Lake shoreline.

Merced/San Joaquin Rivers
Grassland habitats can be found around portions of Lakes McClure and McSwain.

10.1.2.9.1 Vegetation

Grasslands in California are dominated by wild oats, soft chess, brome, ryegrass, mustard, foxtail, California oatgrass, hairgrass, sweet vernalgrass, and barley. Common forbs include filaree, clover, popcorn flower, and mullein.

10.1.2.9.2 Wildlife

Grassland wildlife include western fence lizard, common garter snake, western rattlesnake, black-tailed jackrabbit, California ground squirrel, Botta's pocket gopher, harvest mouse, California vole, badger, and coyote. Bird species include western meadowlark, turkey vulture, and American kestrel.

10.1.2.9.3 Special-Status Species

Grassland special-status species include greater western mastiff bat, Merced kangaroo rat, Nelson's antelope ground squirrel, grasshopper sparrow, greater sandhill crane, long-billed curlew, mountain plover, northern harrier, short-eared owl, Swainson's hawk, tricolored black bird, western burrowing owl, white-tailed kite, California horned lark, prairie falcon, San Joaquin whipsnake, California red-legged frog, California tiger salamander, western spadefoot toad, Callippe silverspot, and valley elderberry longhorn beetle.

Grassland special-status plant species include Henderson's bentgrass, Clara Hunt's milk vetch, Jepson's milk-vetch, Ferris' milk-vetch, alkali milk-vetch, heartscale, brittlescale, San Joaquin spearscale, lesser saltscale, Indian Valley brodiaea, beakerd clarkia, silky cryptantha, recurved larkspur, diamond-petaled California poppy, adobe lily, Congdon's tarplant, Brewer's western flax, drymaria-like western flax, red-flowered lotus, Ahart's paronychia, Merced phacelia, Hartweg's golden sunburst, California beaked rush, and Sanford's arrowhead.

10.1.2.10 Upland Scrub

Upland scrub habitat includes habitat areas dominated by shrubs characteristic of coastal scrub, chaparral, and saltbush scrub communities.

Sacramento River
Upland scrub habitat can be found around Lake Shasta and Keswick Reservoir.

Feather River
Mixed chapparal occurs on steep south-facing slopes particularly at Lake Oroville.

Yuba River
Upland scrub habitats surround portions of New Bullards Bar Reservoir.

American River
Upland scrub habitats occur along portions of the Middle and Lower North Forks of the American River and around Folsom Lake.

Merced/San Joaquin River
Upland scrub habitats occur around portions of Lakes McClure and McSwain.

10.1.2.10.1 Vegetation

Upland scrub habitat is dominated by several types of vegetation including, ceanothus, manzanita, bitter cherry, oaks, poison oak, coffee berry, buckbrush, California buckeye, toyon, sugar sumac, chamise, saltbush, sagebrush, and creosote bush.

10.1.2.10.2 Wildlife

Upland scrub habitats support brush rabbit, black-tailed jackrabbit, mule deer, and birds such as rufous-sided towhee, California quail, California thrasher, and red-tailed hawk.

10.1.2.10.3 Special-Status Species

Upland scrub special-status species include greater western mastiff bat, ringtail, golden eagle, Swainson's hawk, prairie falcon, Cooper's hawk, San Joaquin whipsnake, and foothill yellow-legged frog.

Upland scrub special-status plant species include dimorphic snapdragon, Indian Valley brodiaea, dwarf soaproot, Mariposa clarkia, Baker's larkspur, Brandegee's eriastrum, adobe lily, El Dorado bedstraw, Brewer's western flax, drymaria-like western flax, Napa western flax, Tehama county western flax, Parry's horkelia, saw-toothed lewisia, Hall's bush mallow, Mount Diablo phacelia, and Arburua Ranch jewelflower.

10.1.2.11 Valley/Foothill Woodland and Forest

Valley/foothill woodland and forest (VWF) habitat includes nonriparian forest, woodland, and savanna of valleys and foothills.

Sacramento River

VWF habitats are scattered along the Sacramento River often adjacent to VFR habitats. Also, the Woodson Bridge State Recreation Area includes an oak woodland park.

Feather River

Isolated patches of blue oak woodland habitat occur at lower elevations bordering Lake Oroville on south facing slopes. Interior live oak woodlands occur at Lake Oroville on all aspects at elevations below 1,000 feet, and on south-facing slopes at elevations above 1,000 feet. Canyon live oaks occur in protected areas including north-facing slopes, canyons, and along drainages. Extensive mixed oak woodlands occur at elevation above 1,000 feet surrounding Lake Oroville. At elevations below 1,000 feet mixed oak woodlands occur on north and east facing slopes. The Oroville and Feather River Wildlife Areas also support VWF habitat.

Yuba River

VWF habitats are scattered along the Yuba River from Timbuctoo Bend to the Yuba River's juncture with the Feather River.

American River
VWF habitat is scattered along lower portions of American River and along portions of the Folsom Lake shoreline.

Merced/San Joaquin River
VWF habitats occur around portions of Lakes McClure and McSwain.

10.1.2.11.1 Vegetation
Valley/Foothill woodland and forest habitat is often dominated by sycamore, black walnut, foothill pine, valley oak, live oak, juniper, blue oak, interior live oak, coast live oak, and California buckeye.

10.1.2.11.2 Wildlife
VFW habitat supports a variety of wildlife, including: acorn woodpecker, northern flicker, wild turkey, plain titmouse, black-tailed jackrabbit, American crow, California quail, Bewick's wren, western fence lizard, coyote, mule deer, California ground squirrel, western gray squirrel, scrub jay, beaver, river otter, muskrat, skunk, raccoon, wood ducks, pheasant, Nutall's woodpecker, western wood pewee, hermit thrush, yellow-billed magpies, gopher snake, common kingsnake, and western rattlesnake.

10.1.2.11.3 Special-Status Species
VWF special-status species include greater western mastiff bat, ringtail, Cooper's hawk, long-eared owl, osprey, Swainson's hawk, bald eagle, white-tailed kite, golden eagle, and northern goshawk.

VWF special-status plant species include dimorphic snapdragon, Clara Hunt's milk-vetch, Jepson's milk-vetch, Mariposa clarkia, Shasta clarkia, beaked clarkia, silky cryptantha, recurved larkspur, Brandegee's eriastrum, adobe lily, El Dorado bedstraw, Congdon's tarplant, Brewer's western flax, drymaria-like western flax, Napa western flax, Tehama County western flax, Parry's horkelia, Mt. Tedoc linanthus, Madera linanthus, red-flowered lotus, Ahart's paronychia, thread-leaved beardtongue, Mt. Diablo phacelia, and Hartweg's golden sunburst.

10.1.2.12 Montane Woodland and Forest
Montane woodland and forest (MWF) habitat includes nonriparian forest and woodland above the foothills.

Sacramento River
MWF can be found around portions of Lake Shasta and Keswick Reservoir.

Feather River
MWF can be found around portions of Little Grass Valley and Sly Creek Reservoirs and Lake Oroville.

Yuba River
MWF can be found around portions of New Bullard's Bar Reservoir.

American River
MWF can be found around portions of French Meadows and Hell Hole Reservoirs and the northern shores of Folsom Lake.

10.1.2.12.1 Vegetation
Montane woodland and forest vegetation is dominated by white fir, Douglas fir, ponderosa pine, Jeffery pine, red fir, lodgepole pine, sugar pine, live oak, tanoak, incense cedar, coulter pine, willows, alders, black cottonwood, aspens, black oak, and knobcone pine.

10.1.2.12.2 Wildlife
Wildlife associated with MWF includes: western tanager, white-breasted nuthatch, woodpeckers, mule deer, bobcat, mountain lion, raccoon, striped skunk, black bear, beaver, marmot, chipmunk, coyote, fisher, pine martin, and weasel.

10.1.2.12.3 Special-Status Species
MWF special-status animal species include California wolverine, greater western mastiff bat, ringtail, bald eagle, Cooper's hawk, northern spotted owl, and osprey.

Special-status plant species include Indian Valley brodiaea, silky cryptantha, drymaria-like western flax, saw-toothed lewisia, Mount Tedoc linanthus, Madera linanthus, thread leaved beardtongue, California beaked-rush, and marsh skullcap.

10.1.2.13 Upland Cropland
Upland cropland habitat includes agricultural lands farmed for grain field, truck, and other crops for profit that are not seasonally flooded.

Upland cropland areas are found throughout the Sacramento Valley. However, EWA water acquisition actions will only involve cotton fields in the San Joaquin Valley.

10.1.2.13.1 Vegetation
Upland cropland vegetation is dominated by cereal rye, barley, wheat, corn, dry beans, safflower, alfalfa, cotton, tomatoes, lettuce, Bermuda grass, ryegrass, tall fescue, almonds, walnuts, peaches, plums, and grapes.

10.1.2.13.2 Wildlife
Wildlife use of these areas varies throughout the growing season with crop type, level of disturbance, and available cover. Orchard and vineyard typically support resident species, such as scrub jay, northern mockingbird, yellow-billed magpie, American crow, and northern flicker. During the winter, orchard habitats provide foraging habitat and roosting sites for many songbirds species including the white-crowned sparrow, dark-eyed junco, golden-crowned sparrow, lesser goldfinch, and yellow-rumped warbler. Species associated with field and row crops include the red-winged blackbird, European starling, western meadowlark, California vole, black-tailed jackrabbit, western harvest mouse, Botta's pocket gopher, raccoon, striped skunk, and Virginia opossum. Croplands provide foraging habitat for many raptors including the northern harrier, red-tailed hawk, and white-tailed kite.

10.1.2.13.3 Special-Status Species

Upland cropland special-status species includes San Joaquin kit fox, Aleutian Canada goose, California gull, greater sandhill crane, long-billed curlew, mountain plover, northern harrier, Swainson's hawk, tricolored blackbird, western burrowing owl, white-faced ibis, and white-tailed kite.

10.1.2.14 Seasonally Flooded Agriculture

Seasonally flooded agricultural land habitat includes agricultural lands farmed for grain, rice, field, truck, and other crops for profit that require seasonal flooding for at least one week at a time as a management practice (e.g., for pest control and irrigation) or are purposely flooded seasonally to enhance habitat values for specific wildlife species (e.g., ducks for duck clubs). Agricultural ditches and drains associated with maintaining seasonally flooded agricultural land are included in this habitat type.

Seasonally flooded agriculture is found throughout the Sacramento Valley. However, currently the EWA agencies are only considering idling up to 89,608 acres of rice crop in six counties (Glenn, Colusa, Butte, Sutter, Placer, and Yolo). These counties typically harvest about 496,820 acres of rice (USDA 2002). For more information on crop idling within these counties refer to Section 2.4.2.1.3.

10.1.2.14.1 Vegetation

For the purposes of the EWA program, EWA actions affecting seasonally flooded agriculture will be focused on rice fields.

10.1.2.14.2 Wildlife

- Rice fields provide important foraging habitat for a variety of wildlife species. (See examples in Table 10-3 and Figure 10-3.) Many species forage on post-harvest waste grain (on average 300-350 pounds per acre depending upon harvest method) and other food found within the fields (more than 250 pounds per acre), such as duckweed, fish, and crayfish and other invertebrates (Brouder and Hill 1995). Typically various birds and rodents consume rice waste grain and then raptors feed on the birds and rodents. Duckweed and other moist soil plants can provide high quality food for waterfowl. Water level manipulations are necessary for moist soil plant germination and maturity. Fish are often entrained in the irrigation canals that supply water to the rice fields. Crayfish are found in the canal banks and berms of the rice fields. Simply continuing to pump water through the canals will ensure some level of fish and crayfish abundance for wildlife such as herons, cranes, egrets, etc.



Figure 10-3
Great Blue Heron Using Flooded Rice Field
Source: California Department of Fish and Game

Table 10-3
Wildlife, Including Special-Status Species, Associated with Rice Fields[1]
(Note: This list is not exhaustive.)

Species	***Scientific Name***	***Status[2]***
	Amphibians	
Western Spadefoot	*Scaphiopus hammondii*	CSC
	Reptiles	
Western Pond Turtle	*Clemmys marmorata*	CSC
Giant Garter Snake*	*Thamnophis gigas*	FT, ST
	Birds	
Double-crested Cormorant	*Phalacrocorax auritus*	CSC
American Bittern*	*Botaurus lentiginosus*	FSC
Great Egret	*Casmerodius albus*	CSC
Snowy Egret	*Egretta thula*	CSC
White-faced Ibis	*Plegadis chihi*	CSC
Aleutian Canada Goose	*Branta canadensis leucopareia*	Delisted
White-tailed Kite	*Elanus leucurus*	FSC, FP
Bald Eagle	*Haliaeetus leucocephalus*	FT, PR, SE, FP
Northern Harrier*	*Circus cyaneus*	CSC
Swainson's Hawk	*Buteo swainsoni*	ST
Ferruginous Hawk	*Buteo regalis*	CSC
Golden Eagle	*Aquila chrysaetos*	PR, CSC, FP
Merlin	*Falco columbaris*	CSC
Peregrine Falcon	*Falco peregrinus*	SE, FP
Prairie Falcon	*Falco mexicanus*	CSC
Greater Sandhill Crane	*Grus canadensis tabida*	ST, FP
Mountain Plover	*Charadrius montanus*	PT, FSC, CSC
Long-billed Curlew	*Numenius americanus*	CSC
Black Tern*	*Chlidonias niger*	CSC
Burrowing Owl*	*Speotyto cunicularia*	CSC
Long-eared Owl	*Asio otus*	CSC
Short-eared Owl*	*Asio flammeus*	CSC
Bank Swallow	*Riparia riparia*	ST
Bewick's Wren	*Thryomanes bewickii*	FSC
Loggerhead Shrike	*Lanius ludovicianus*	CSC
Lark Sparrow	*Chondestes grammacus*	FSC
Tricolored Blackbird*	*Agelaius tricolor*	CSC
California Gull	*Larus californicus*	CSC
Pheasant	*Phasianus colchicus*	-
Black-necked Stilt	*Himantopus mexicanus*	-
American Avocet	*Recurvirostra americana*	-
Mallard*	*Anas platyrhynchos*	-
Gadwall	*Anas strepera*	-
Cinnamon Teal	*Anas cyanoptera*	-
Northern Shoveler	*Anas clypeata*	-
Northern Pintail	*Anas acuta*	-
Ruddy Duck	*Oxyura jamaicensis*	-
Wood Duck	*Aix sponsa*	-
Redhead	*Aythya americana*	-
Virginia Rail	*Rallus limicola*	-
Black-crowned Night Heron	*Nycticorax nycticorax*	CSC
Great Blue Heron	*Ardea herodias*	CSC
White-fronted goose	*Anser albifrons*	-
Canada Goose	*Branta canadensis*	-
Tundra Swan	*Cygnus columbianus*	-

Table 10-3 (continued)
Wildlife, Including Special-Status Species, Associated with Rice Fields[1]
(Note: This list is not exhaustive.)

Species	*Scientific Name*	*Status[2]*
Mammals		
Raccoon	*Procyon lotor*	-
Opossum	*Didelphis virginiana*	-
River Otter	*Lutra canadensis*	-
Beaver	*Castor canadensis*	-
Muskrat	*Ondatra zibethicus*	-

[1]RMI 1997 and CALFED 1998.
[2] Status Codes
FE = Listed as Endangered under ESA
FT = Listed as Threatened under ESA
PT = Proposed for listing as Threatened under ESA
FSC = Federal species of management concern
PR = Protected under the Bald and Golden Eagle Protection Act
SE = Listed as Endangered under CESA
ST = Listed as Threatened under CESA
FP = Fully protected under California Fish and Game Code
CSC = California Department of Fish and Game "species of special concern"
* = Species breeds or in some manner uses rice cultural habitats for successful reproduction.

Other invertebrates and their larvae can be found in very shallow water particularly during an early to midseason drawdown. These invertebrates, such as bloodworms, are particularly important to shorebirds.

Rice also provides resting, nesting, and breeding habitat similar to natural wetlands. Irrigation ditches can contain wetland vegetation such as cattails, which provide cover habitat for rails, egrets, herons, bitterns, marsh wrens, sparrows, and common yellowthroats. Rice fields provide pair, brood, and nesting habitat for species such as the mallard, northern pintail, and black tern. Both the Waterfowl and Special-Status Species section below provide more information on the association between rice and these wildlife categories.

Waterfowl

Although the extent of wetlands that once existed isn't precisely known, it is estimated that within the last 100 years, 95 percent of the Central Valley wetlands have been converted to cropland or other anthropogenic uses. Of the remaining 383,000 acres of wetlands left in the Central Valley, 2/3 are privately owned; the remaining 1/3 is divided between state wildlife management areas and federal National Wildlife Refuges (Harrell et. al. 1995). Because of the loss of wetland habitat, wintering waterfowl populations have been reduced to between three and five million (RMI 1997). With the continued loss of wetlands, waterfowl within the Sacramento Valley have become increasingly dependent upon managed seasonally flooded wetlands and agricultural lands, including rice fields, for food and cover. Despite the reduced waterfowl numbers, the Central Valley supports 250 species of birds that includes 60 percent of all wintering waterfowl on the Pacific Flyway. Waterfowl supported by the Central Valley fall into four groups:

- **Permanent residents** – These are primarily breeding ducks, such as mallard ducks, cinnamon teal, gadwell and wood ducks. For successful breeding, "pair",

upland nesting areas, and "brood water" habitats are needed. "Pair" water consists of shallow water (4-12 inches deep) in wetlands, ditches, or small ponds that are adjacent to upland nesting fields. These areas have good invertebrate populations that are believed to be the primary food source of pre-laying hens. Breeding ducks begin establishing territories and accumulating fat and protein reserves between February and May prior to nesting (Smith 1995). Nesting occurs in adjacent uplands. Once the young have fledged, "brood water" is needed to support the hen and ducklings. Spring and summer wetlands can serve as suitable brood water providing these wetlands have a sufficient quantity of invertebrate foods, contain vegetative cover for protection from predators, and are located near upland nesting sites. Spring/summer wetlands that are flooded for part of the year (such as rice fields/duck hunting sites) can provide good duck brood habitat. Wild rice, which is typically planted and flooded in late March, may be especially important as early brood habitat.

- **Winter residents** – These include the greater and lesser sandhill crane (often included with waterfowl because of their closely associated life history requirements), white geese (snow and Ross'), cackling Canada geese, and various species of ducks. Of the wintering ducks, the northern pintail is the most abundant with a winter population of approximately 1.6 million birds. The mallard duck is the next most abundant. Other ducks include the American widgeon, northern shoveler, green-winged teal, gadwell, cinnamon teal, ruddy duck, and canvasback ducks. Winter residents migrate to the Central Valley during the fall (September – November) and depart in spring (March – May) for their summer breeding grounds. Wintering waterfowl tend to use shallow marshes, agricultural fields such as rice, some uplands, and open lakes.

- **Summer Residents** – The cinnamon teal is an example of a summer resident duck of the Central Valley. It begins to arrive in the Central Valley in mid-February to establish territories. Other marsh dwellers begin to arrive in mid-March with yet another wave of species arriving in late May. Summer residents depart the Valley for their wintering grounds in the fall (Engilis 1995).

- **Transient Residents** – Transients residents pass through the Central Valley in March through May and/or August through October while en route to their winter or summer grounds.

To guide management and conservation efforts, research has been conducted to determine habitat usage and foraging behavior by wintering waterfowl. The results of these studies indicate that within the Sacramento Valley, waterfowl used flooded rice fields differently than semi-natural wetlands for both foraging and cover (Elphick et. al. 1996). Birds tended to use dry fields in the early fall when flooded fields were not available and in late winter (February) in the absence of rain-filled fields. (Miller and Newton 1999) Some habitats are used at night to provide food for certain species (such as the green winged teal) but these same habitats only provide thermal cover or protection from nocturnal predators for others (wood ducks, mallards). All studies

indicate that diverse habitats are required/optimal to provide needed uses of all wintering species.

Migrating waterfowl that begin arriving in August depend on food from both the managed wetlands and flooded rice fields. The elimination of historic wetlands within the Sacramento Valley has resulted in rice seed becoming an increasingly essential food in the diet of migrating waterfowl residents. Rice is a particularly important food for green-winged teal, pintail, widgeon and mallard-ducks; white-fronted, Canada, snow and Ross' geese. Critical periods of energy expenditure for individual wintering pintails within the Sacramento Valley determined for a dry and wet year were found to include the early fall period from August through November when rapidly increasing daily energy was required from food (DER_{food}); a period of lowered DER_{food} and increased daily energy required from body reserves ($DER_{reserves}$) during late winter (January and February when food availability is diminished); and a period when daily energy expenditure (DEE) and DER_{food} decreased somewhat during February and March of the wet year (Miller and Newton 1999). In the dry year monitored, $DER_{reserves}$ increased in February and March. The greatest population demand for food occurred in December and January when pintails were most abundant and body mass was low or moderate.

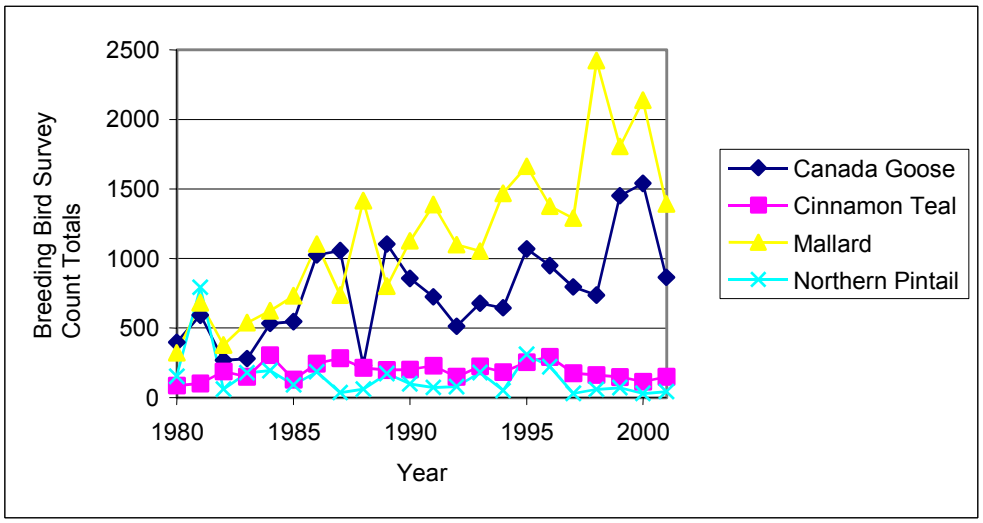
Types of foods that were consumed during these critical periods were investigated in other studies of fall and winter foods consumed by northern pintails overwintering in the Sacramento Valley (Miller 1987 and Miller and Newton 1999). In addition to rice seed from unharvested refuge wetlands, seeds available included swamp timothy, barnyard grass, flat sedges, and smartweeds. Marsh seeds were used intensively in the fall, but rice seed was still a dominant factor in pintail foraging routines. Rice, although high in carbohydrates, lacks essential nutrients that include the proper complements of amino acids, fatty acids, minerals and vitamins in natural marsh seeds that are crucial to survival and reproduction of waterfowl. However, rice fields serve as a supplement when marsh seeds are not available.

After arriving in the Sacramento valley, waterfowl feed exclusively on vegetation. As the winter progresses, vegetation intake was found to decrease while invertebrate intake increased in mid-winter and reached as high as 65 to 70 percent of daily intake in late winter. Flooded-harvested rice fields on the wildlife refuges were excellent sources of midge larvae in late winter. Ponds on private lands, however, are normally drained in mid-January following the last day of hunting season, which eliminates roosting space and productive invertebrate feeding areas. Midges, for example, die within 10 days of drainage. The invertebrates provide dietary protein that may be required several weeks prior to rapid growth of reproductive organs, and therefore late winter consumption of invertebrates may directly affect reproductive performance. Protein is also needed for the mid-winter molt and egg laying process. Pintails were found to roost on flooded rice fields more frequently as the winter progressed where they increasingly relied on night feeding of rice seeds and invertebrates.

Relatively recent methods of straw management have begun to affect the food available to wintering waterfowl on rice fields. These methods, that include flooding and wet rolling, straw chopping and incorporation through discing or other means, and straw removal, have replaced burning as the primary means of straw disposal. This change was brought about as a result of the Rice Straw Burning Reduction Act (AB 1378) passed by the California legislature in 1991 that restricted burning due to concerns over air quality in Northern California (Brouder and Hill 1995). Straw removal/disposal off-site, which is not economical due to poorly developed market options), and traditional straw cutting and discing drastically decreases the amount of residual rice seed and optimal habitat available to waterfowl. Shallow flooding and wet rolling, however, which results in waste rice seed floating on shallow floodwaters, preserves residual rice seed as a carbohydrate source and creates winter habitat that fosters growth of important invertebrate species needed for reproductive success (Brouder and Hill 1995).

Research has shown that after harvest, and before burning (the method traditionally used to dispose of rice straw residue), there was an average of 260 pounds of rice per acre lay on the ground an additional 86 pounds per acre on the straw stubble (Brouder and Hill 1995). These figures were generated from fields on which the rice was harvesting using conventional cutter-bar technology common in the 1980's, which cuts the rice stalks and leaves the stubble. In the 1990's with the advent of stripper headers, which strips seeds off of the seed heads but leaves the rice stalk standing, an average of 260 pounds of rice per acre lay directly on the ground, but only 46 pounds of rice per acre remained on the straw. In addition, rice fields provide approximately 250 pounds per acre of naturally occurring food sources such as small invertebrates, tubers, edible shoots, and seeds. From these figures, it appears that rice fields managed as wetlands can provide almost 600 pounds per acre, which is approximately 80 percent of the food found in natural wetlands (Brouder and Hill 1995).

As stated above, the abundance of waterfowl in the Central Valley has greatly declined from historic numbers. Since the late 1870's, waterfowl wintering in the Central Valley has declined dramatically, due to a variety of reasons that include extended periods of drought on northern breeding grounds and associated decline in suitable nesting habitat, and loss of wetlands in the Central Valley wintering grounds. Concern over loss of wetland habitat peaked when, in 1981, the relationship between winter habitat quantity and quality and hunter success was demonstrated. The discovery of large successful nesting populations in the Central Valley and recognition that duck hunting was better on well managed wetlands than flooded rice fields increased interest in private wetland management in the 1980's. Through efforts of waterfowl conservation groups, proactive management of both breeding and winter waterfowl habitats by the US and Canadian governments, California waterfowl population began to change so that by the early 1990's, numbers began increasing for many species (RMI 1997). (See Figure 10-4.)



Source: Sauer, J. R., et. al..

Figure 10-4
Breeding Bird Survey Results 1980-2001

The USFWS report on trends in duck breeding populations within the traditional survey area (primarily western and central U.S. and Canada) over the period from 1955 through 2001 indicates that the 2001 population estimates for ducks, blue winged teal, gadwalls, green winged teal, and northern shovelers all exceed historical average population figures. Mallards, widgeons, redheads and canvasbacks 2001 populations are approximately equal to historical averages. Pintail and scaup numbers, however, are below historic average population figures (Wilkins et. al. 2001). The pintail population, which has steadily fallen beginning in 1970 (6.4 million), began to increase by the mid-1990's, but the 2001 estimate of 3.3 million is still significantly less than the early 1970 averages (RMI 1997).

10.1.2.14.3 Special-Status Species

Certain special-status species rely on, to varying degrees, seasonally flooded agricultural lands, in particular rice fields and their associated uplands, drainage ditches, irrigation canals, and dikes. Detailed species accounts for species of concern to EWA agencies can be found in Appendix J, the EWA ASIP. The relationship between these species and rice production in the Sacramento Valley is described in Table 10-7, Section 10.2.6.1.7. Figure 10-5 provides a brief overview of the rice production cycle.

10.1.3 Delta Region

The Delta Region encompasses the legal limits of the Delta as described in California Water Code Section 12220. Figure 3-3 in Chapter 3 shows the Delta Region and its facilities. Each NCCP Community was described at a general level of detail in the Upstream from the Delta Region. This section will detail the existing conditions as they apply to the EWA area of analysis within the Delta Region. Some habitats occur in the Upstream from the Delta Region and in the Delta Region. Habitat descriptions for those habitats can be found in Section 10.1.2, Upstream from the Delta Region. The Delta Region sections for these habitats will simply include the habitat location and associated wildlife and special-status species.

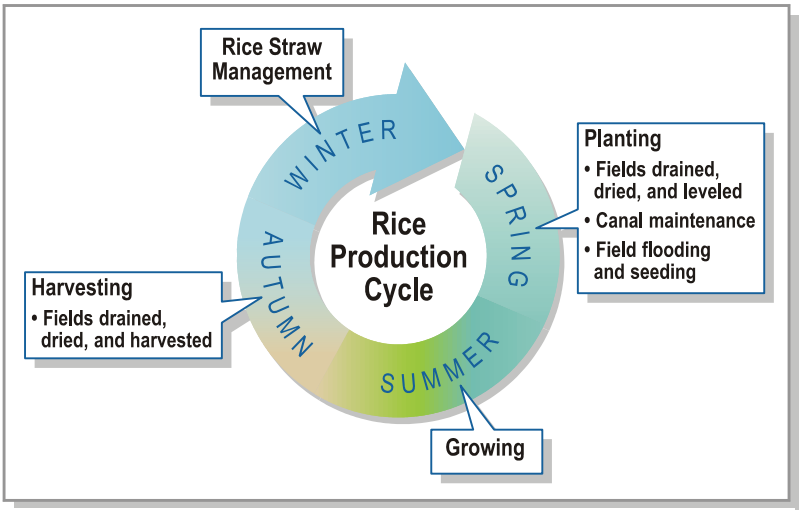


Figure 10-5
Rice Production Cycle

The Sacramento, San Joaquin, and other rivers, join in the Delta and flow westward into Suisun and San Pablo bays, and ultimately, reach the San Francisco Bay. Today, the Delta Region contains about 641,000 acres of agricultural land (72 percent of the total land area) that dominate its lowland areas. Other dominant habitats in the region include valley foothill riparian and fresh and saline emergent wetlands. Although less prominent, other important habitats include seasonal fresh-water wetlands and nontidal freshwater, tidal freshwater, and brackish water emergent marsh. Hundreds of miles of waterways divide the Delta Region into islands, some of which are below sea level. The Delta Region relies on more than 1,000 miles of levees to protect these islands. Suisun marsh represents over ten percent of the remaining wetlands in California and is one of the largest contiguous marshlands in the U.S. (Entrix 1996).

10.1.3.1 Tidal Perennial Aquatic

Tidal perennial aquatic (TPA) habitat is defined as deepwater aquatic (greater than 3 meters deep from mean low lowtide), shallow aquatic (less than or equal to 3 meters deep from mean low lowtide), and unvegetated intertidal (tideflats) zones of estuarine bays, river channels, and sloughs.

Tidal perennial aquatic habitat within the Delta occurs in open water including sloughs and channels in the Delta, and bays. Deep open-water areas are largely unvegetated; beds of aquatic plants occasionally occur in shallower open-water areas.

10.1.3.1.1 Vegetation

TPA habitats are largely unvegetated.

10.1.3.1.2 Wildlife

Tidal perennial aquatic habitat is used as foraging and resting habitat and escape cover for shorebirds, wading birds, and waterfowl. Double-crested cormorant, California gull, ring-billed gull, herring gull, migrating waterfowl such as canvasback, red head, ring-necked duck, greater scaup, lesser scaup, common golden eye, and bufflehead.

10.1.3.1.3 Special-Status Species

Special-status wildlife species associated with TPA habitat include: Aleutian Canada goose, American peregrine falcon, bald eagle, California brown pelican, western snowy plover, California least tern, California gull, long-billed curlew, and osprey.

10.1.3.2 Valley Riverine Aquatic

Delta VRA habitat includes the Sacramento, San Joaquin, Consumnes, Mokelumne, and Calaveras rivers; and sloughs, streams, and ephemeral creeks. Major waterways in Suisun Bay and Marsh area include Suisun, Montezuma, and Nurse sloughs. River channels and sloughs associated with the Sacramento and San Joaquin Rivers.

10.1.3.2.1 Wildlife

Many species rely on riverine habitat and the associated adjacent habitats. Bird species, including herons, shorebirds, and songbirds commonly forage in this habitat. Amphibians, such as newts and frogs are closely associated with the riverine environment. Also, several mammal species are linked to river habitats including the river otter, mink, muskrat, and beaver.

10.1.3.2.2 Special-Status Species

Special-status species associated with VRA include bald eagle, bank swallow, osprey, western pond turtle, California red-legged frog, foothill yellow-legged frog, and eel-grass pondweed.

10.1.3.3 Lacustrine

Lacustrine habitats such as dead end sloughs, forebays, and flooded islands can be found throughout the Delta.

10.1.3.3.1 Wildlife

This habitat provides foraging habitat for a variety of wildlife species including fish-eating birds such as terns, grebes, cormorants, herons, and waterfowl. In addition, it provides habitat for beaver, river otter, and muskrat.

10.1.3.3.2 Special-Status Species

Special-status species associated with lacustrine habitats include bald eagle, Aleutian Canada goose, California gull, osprey, western pond turtle, California red-legged frog, California tiger salamander, and eel-grass pondweed.

10.1.3.4 Saline Emergent

Saline emergent habitat includes the portions of San Francisco, San Pablo, and Suisun Bays and the Delta that support emergent wetland plant species that are tolerant of saline or brackish conditions within the intertidal zone or on lands that historically were subject to tidal exchange (diked wetlands).

The dominant vegetation for saline emergent habitats includes cordgrass, pickleweed, bulrush, glasswort, saltwort, saltgrass, arrowgrass, seablite, hairgrass, cattail, common reed, and algae.

10.1.3.4.1 Wildlife

More than 25 species of birds and mammals used saline emergent wetlands (CALFED 2000a). Examples include herons, egrets, ducks, hawks, and a variety of rodents.

10.1.3.4.2 Special-Status Species

Special-status animal species associated with saline emergent habitats includes salt marsh harvest mouse, San Pablo California vole, Suisun ornate shrew, Aleutian Canada goose, American peregrine falcon, California black rail, California clapper rail, California gull, long-billed curlew, northern harrier, saltmarsh common yellowthroat, San Pablo song sparrow, short-eared owl, Suisun song sparrow, white-tailed kite, Suisun marsh aster, Suisun thistle, soft bird's beak, Delta tule pea, Marin knotweed, and California seablite. Other species include saltmarsh wandering shrew, California least tern, black-crowned night heron, great blue heron, snowy egret, great egret, and marsh wren.

Special-status plant species include Ferris' milkvetch, palmate-bracted bird's beak, narrow-leaf gumplant, heartscale, San Joaquin spearscale, crownscale, brittlescale, Delta button celery, hairy bird's beak, Mason's lilaeopsis, bristly sedge, rose-mallow, mad-dog skullcap, Delta mudwort, and Delta coyote-thistle.

10.1.3.5 Tidal Freshwater Emergent

Tidal freshwater emergent habitat includes portions of the intertidal zones of the Delta that support emergent wetland plant species that are not tolerant of saline or brackish conditions.

Tidal fresh-water and brackish-water emergent marsh habitat occurs on in-stream islands and along mostly unleveed, tidally influenced waterways. Tidal emergent marsh provides habitat for many special-status species. The Suisun Marsh is the largest contiguous brackish water wetland in California (USFWS 2000).

The dominant vegetation for tidal freshwater emergent habitat includes California, river, and big bulrush, tules, cattails, and common reed.

10.1.3.5.1 Wildlife

Freshwater emergent wetlands are among the most productive wildlife habitats in California. They provide food, cover, and water for more than 160 species of birds and numerous mammals, reptiles, and amphibians (Kramer 2003). The Suisun Marsh is a critical resource for wintering waterfowl providing resting, and feeding habitat for up to 28 percent of the waterfowl along the Pacific Flyway during the autumn in low rainfall years (Entrix 1996). Approximately 200 species of birds, 45 species of mammals, and 36 species of amphibians and reptiles inhabit the Suisun Marsh environs (USFWS 2000). Over 50 species of birds, mammals, reptiles, and amphibians use freshwater emergent wetlands in the Delta (CALFED 2000a).

10.1.3.5.2 Special-Status Species

Special-status animal species includes: Suisun ornate shrew, salt marsh common yellowthroat, giant garter snake, Aleutian Canada goose, bald eagle, peregrine falcon, black tern, black rail, California clapper rail, California gull, long-billed curlew, northern harrier, short-eared owl, Suisun song sparrow, white-faced ibis, and white-tailed kite.

Special-status plant species of Suisun Bay include Suisun Marsh aster, Antioch Dunes evening primrose, Carquinez golden bush, Contra Costa goldfields, Delta tule pea, Delta mudwort, brittlescale, Valley spearscale, Suisun thistle, soft bird's-beak, Contra Costa wallflower, Mason's lilaeopsis, California hibiscus, bristly sedge, Jepson's Tule Pea, marsh mudwort, Sanford's arrowhead, marsh scallup, rose-mallow, mad-dog skullcap, Delta coyote-thistle, Point Reyes bird's-beak.

10.1.3.6 Nontidal Freshwater Permanent Emergent

Nontidal freshwater permanent emergent habitat occurs on the landward side of Delta Region levees and in the interiors of Delta Region islands, mostly in constructed waterways and ponds in agricultural areas. Occur throughout the Delta in areas where soils are inundated or saturated for all or most of the growing season, primarily around Delta islands, backwater areas, and in thin bands along Delta rivers and channels where accumulation of sediments has occurred. This habitat also occurs on Delta islands in low-lying areas among crop and pasture land.

10.1.3.6.1 Wildlife

These areas are extremely productive and important habitat for hundreds of different species of birds, mammals, reptiles, and amphibians. Many species entire life cycles rely on this habitat while migratory species, such as ducks and geese, use these wetlands seasonally. Over 50 species of birds, mammals, reptiles, and amphibians use freshwater emergent wetlands in the Delta (CALFED 2000a).

10.1.3.6.2 Special-Status Species

Special-status animal species include: California black rail, giant garter snake, western pond turtle, and greater sandhill crane.

Special-status plant species are similar to those listed above for tidal freshwater permanent emergent habitat.

10.1.3.7 Natural Seasonal Wetland

Seasonal freshwater wetlands include inland freshwater marshes, which maintain surface water during only a portion of the year and vernal pools, which are associated with grasslands.

10.1.3.7.1 Wildlife

The wetlands of the Delta provide habitat for a number of shorebirds and waterfowl species including killdeer, western sandpiper, greater yellow-legs, American coot, American widgeon, gadwall, mallard, canvasback, and common moorhen. Waterfowl and shorebirds prey extensively on invertebrates and forage primarily in permanent saline, brackish, and fresh-water marshes, seasonal wetlands, and agricultural cropland. These areas also support a number of mammals such as coyote, gray fox, muskrat, river otter, and beaver. Several species of reptiles and amphibians also occur in this region.

10.1.3.7.2 Special-Status Species

Special-status species associated with NSW include American peregrine falcon, California gull, greater sandhill crane, long-billed curlew, northern harrier, short-eared owl, Swainson's hawk, tricolored blackbird, white-tailed kite, giant garter snake, California red-legged frog, California tiger salamander, western spadefoot toad, conservancy fairy shrimp, Delta green ground beetle, longhorn fairy shrimp, mid-valley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Special-status plant species associated with NSW include Alkali milk-vetch, Crampton's tuctoria, Colusa grass, Bogg's lake hedge-hyssop, legenere, Hoover's spurge, Butte County meadowfoam, Greene's tuctoria, slender orcutt grass, hairy orcutt grass.

10.1.3.8 Managed Seasonal Wetland

Large seasonal wetlands managed for waterfowl are in the northwestern part of the Delta Region, west of the Sacramento Deep Water Ship Channel. These managed seasonal wetlands are of great importance to migratory waterfowl and shorebird populations for the forage that these wetlands provide during fall, winter, and spring, when bird populations in the Delta increase dramatically.

A significant managed private wetland in the Central Delta is a 395-acre State easement project on Empire Tract west of Lodi (USFWS 2000). According to the Central Valley Wetlands Supply Investigation (USFWS 2000) the Delta Basin (defined to include all land between the American River and the Stanislaus River, the Sierra Nevada foothills and the Sacramento River/Deepwater ship channel and Coast Range to the west) contains 32,210 acres of privately managed wetlands, 92 percent of which occurs in the Suisun Bay area. The water supply for these privately managed wetlands comes primarily from landowners' riparian or appropriative rights and the distribution by diversion from Delta channels and tributaries directly onto properties.

10.1.3.8.1 Wildlife

MSW habitats are often managed for waterfowl such as mallards, pintails, American widgeon, and Canada and other geese. MSW habitats also support a variety of wading and shorebirds, such as herons, egrets, terns, and gulls.

10.1.3.8.2 Special-Status Species

Special-status animal species associated with MSW include saltmarsh harvest mouse, San Pablo California vole, Suisun ornate shrew, Aleutian Canada goose, American peregrine falcon, bald eagle, black tern, California gull, greater sandhill crane, long-billed curlew, northern harrier, San Pablo song sparrow, short-eared owl, Suisun song sparrow, Swainson's hawk, tricolored blackbird, western snowy plover, white-faced ibis, white-tailed kite, giant garter snake, western pond turtle, California red-legged frog, and vernal pool tadpole shrimp.

Special-status plant species associated with MSW are similar to those listed above for natural seasonal wetlands habitats.

10.1.3.9 Valley/Foothill Riparian

Riparian scrub typically occurs on channel islands or levees and along unmaintained, narrow channel banks of Delta Region creeks, waterways, and major tributaries. The major rivers of the Delta Region include the Sacramento, San Joaquin, Mokelumne, Cosumnes, and Calaveras. About 7,000 acres of riparian vegetation occur primarily on the levees of Delta islands and along the Cosumnes and Mokelumne Rivers. The riparian zone along leveed islands is usually very narrow, but more extensive riparian areas occur along the San Joaquin River just below its confluence with the Stanislaus River and along the Cosumnes River. Scattered throughout the Delta System on islands, along levees, in backwater areas, in sloughs, and in thin bands along river channels.

10.1.3.9.1 Wildlife

VFR habitats provide refuge shelter food water resting and nesting sites for at least 50 amphibian and reptile species, 147 birds, and 55 mammals (Entrix 1996). A number of these species are listed in Section 10.1.2.7.

10.1.3.9.2 Special-Status Species

Special-status animal species associated with VFR habitat include greater western mastiff bat, ringtail, riparian brush rabbit, San Joaquin Valley woodrat, western yellow-billed cuckoo, bank swallow, bald eagle, black-crowned night heron, California yellow warbler, Cooper's hawk, double-crested cormorant, golden eagle, great blue heron, great egret, least bell's vireo, little willow flycatcher, long-eared owl, osprey, snowy egret, Swainson's hawk, white-tailed kite, yellow-breasted chat, giant garter snake, western pond turtle, California red-legged frog, foothill yellow-legged frog, and valley elderberry longhorn beetle.

Special-status plant species associated with VFR include slough thistle, silky cryptantha, Delta coyote-thistle, marsh checkerbloom, fox sedge, rose-mallow, northern California black walnut, and Sanford's arrowhead.

10.1.3.10 Grassland

Grasslands occur in many outlying areas surrounding the Delta and on islands in the Delta.

10.1.3.10.1 Wildlife

Grassland provides foraging and denning habitat for several mammal species such as the California ground squirrel, badger, skunk, and coyote. Other common species found in this habitat include the ring-necked pheasant, western meadowlark, red-tailed hawk, western toad, and gopher snake.

10.1.3.10.2 Special-Status Species

Grassland special-status species includes many of those listed in Sections 10.1.2.9 and 10.1.4.4.

10.1.3.11 Inland Dune Scrub

Inland dune scrub (IDS) habitat comprises vegetated stabilized sand dunes associated with river and estuarine systems. This habitat can be found at the Antioch Dunes National Wildlife Refuge (ADNWR) and Brannan Island State Park. IDS habitat also historically occurred in the Antioch-Oakley areas, Delta marshes, and as small isolated dunes on eastern edge Delta.

10.1.3.11.1 Vegetation

Dominant vegetation is comprised of primarily special-status species, but also includes primrose, wallflower, buckwheat, elegant clarkia, California poppy, California croton, Grindelia, deerweed, telegraph weed, California matchweed, and silver bush lupine.

10.1.3.11.2 Wildlife

Wildlife associated with IDS habitat include mink, desert cottontail rabbit, beaver, muskrat, opossum, weasel, skunk, gopher, gray fox, Beechy ground squirrel, coyote, blacktail jack rabbit, raccoon, Townsend's mole, weasel, red fox, California legless lizard, sideblotched lizard, coast horned lizard, San Joaquin whipsnake, glossy snake, western whiptail lizard and the fence lizard.

10.1.3.11.3 Special-Status Species

IDS special-status species include San Joaquin whipsnake, Lange's metalmark butterfly, Antioch dunes evening primrose, Contra Costa wallflower, and Delta green ground beetle.

10.1.3.12 Upland Cropland

Upland croplands are adjacent to nearly every leveed waterway within the Delta. EWA agencies do not propose to acquire water through crop idling actions in the Delta Region.

10.1.3.13 Seasonally Flooded Agriculture

Approximately 20,000 to 30,000 acres of field crops and grain are post-harvest flooded each winter in the Central Delta (USFWS 2000). EWA agencies do not propose to acquire water through crop idling actions in the Delta Region.

10.1.4 Export Service Area

The Export Service Area includes Anderson Reservoir, San Luis Reservoir, the southern San Joaquin Valley, and portions of southern California focused on the following EWA actions:

- Crop idling within the export service area region would be limited to cotton fields in Fresno, Kings, Tulare, and Kern Counties.

- Groundwater substitution transfers initiated by EWA agencies would occur on farms primarily within the Tulare Basin and the jurisdiction of the Kern County Water Agency.

- Groundwater storage transfers initiated by EWA agencies would occur within the Semitropic Water Storage District and the Arvin-Edison Water Storage District. These water districts use San Luis Reservoir to obtain water for groundwater substitution and groundwater purchase actions.

- San Luis Reservoir can also provide borrowed project water for EWA actions when necessary. (See Section 2.4.2.3.2.)

- Source-shifting agreements to be made with Metropolitan Water District (Metropolitan WD) of Southern California and potentially affecting Metropolitan Water District and SWP facilities. Water supplies sent downstream of the Delta are routed through the San Luis Reservoir to southern California via the California Aqueduct. Within the export service area, the EWA agencies would conduct source-shifting actions using Metropolitan Water District storage facilities (Diamond Valley Lake and Lake Mathews [Metropolitan Water District owned]; Castaic Lake, Silverwood Lake, and Lake Perris [State Water Project owned]); and groundwater storage programs (Semitropic, Arvin-Edison, and Hayfield); and, Santa Clara Valley Water District (Anderson Reservoir).

These areas are predominantly agricultural (cotton, dairy, safflower, wheat, and citrus orchards) and urban environments (such as Fresno, Bakersfield, and Los Angeles). Land left for natural habitats consists mostly of non-native annual grasslands in the San Joaquin Valley and upland scrub or desert habitats in Southern California. Many native habitats of the San Joaquin Valley have declined dramatically in size and quality with the rise of the agricultural industry and urban development.

The sections below describe the NCCP habitats within the Export Service Area. Descriptions for each habitat, including the dominant vegetation, have been given in Section 10.1.2. Where this description differs from that provided in Section 10.1.2, it

will list location of the habitat within the Export Service Area, and the wildlife and special-status species associated with each habitat.

10.1.4.1 Lacustrine

Lacustrine habitats in the Export Service Area include Anderson Reservoir, San Luis Reservoir, Castaic Lake, Lake Perris, Lake Mathews, and Diamond Valley Lake.

10.1.4.1.1 Wildlife

Wildlife found within lacustrine habitat include belted kingfisher, Caspian tern, ring-billed gull, Clark's grebe, western grebe, pied-billed grebe, osprey, common egret, spotted sandpiper, and killdeer. Other birds include white-throated swift, cliff swallow, violet-green swallow, northern rough-winged swallow, and various tern, loon, and waterfowl species such as teal, northern shoveler, pintail, and Canada geese.

10.1.4.1.2 Special-Status Species

Special-status species associated with lacustrine habitats in the Export Service Area includes: Aleutian Canada goose, American peregrine falcon, California gull, great blue heron, osprey, double-crested cormorant, bald eagle, western pond turtle, California red-legged frog, and California tiger salamander.

10.1.4.2 Nontidal Freshwater Permanent Emergent

Elizabeth Canyon at Castaic Lake provides for shallow sandy ledges. A high water associated with the lake table support hydrophilic vegetation (Entrix 1996). Intermittent and perennial tributaries of Castaic Lake support small isolated patches of freshwater emergent wetland habitat.

10.1.4.2.1 Wildlife

Wildlife associated with NFPE habitats can be found in Section 10.1.2.4.

10.1.4.2.2 Special-Status Species

Special-status species associated with NFPE habitats can be found in Section 10.1.2.4.

Special-status plant species associated with NFPE in the Export Service Area includes slough thistle, Hispid's bird's beak, California beaked-rush, and Sanford's arrowhead.

10.1.4.3 Valley/Foothill Riparian

This habitat generally occurs at the shorelines and in association with tributaries that enter the lakes. The eastern shoreline of Lake Perris includes an extensive riparian canopy with a well-developed understory. At San Luis Reservoir riparian habitat was limited to scattered patches of mule fat and occasional willows. Riparian habitat at Anderson Reservoir occurs along tributaries.

10.1.4.3.1 Wildlife

Wildlife associated with VFR habitats in the Export Service Area include black phoebe, red-winged blackbird, brewer's blackbird, ash-throated flycatcher, northern rough-winged swallow, scrub jay, black headed grosbeak, California quail, Nuttall's

woodpecker, plain titmouse, California towhee, Merriam's chipmunk, mule deer, coyote, black bear, mountain lion, and raccoon.

10.1.4.3.2 Special-Status Species

Special-status species associated with VFR habitats can be found in Section 10.1.2.7.

Special-status plant species includes slough thistle and northern California black walnut.

10.1.4.4 Grassland

Non-native annual grasslands surround San Luis Reservoir and portions of Anderson Reservoir. These non-native grasses are mixed with native species such as purple needle grass, creeping wild rye, and onion grass.

10.1.4.4.1 Wildlife

Grassland wildlife includes killdeer, white-throated swift, ring-necked pheasant, American crow, rufous-crown sparrow, rock wren, western meadowlark, red-tailed hawk, American kestrel, common loon, American white pelican, Barrow's goldeneye, savannah sparrow, California vole, black-tailed jackrabbit, California ground squirrel, coyote, foxes, badgers, skunk, western rattlesnake, southern alligator lizard, two-striped garter snake, California mountain kingsnake, and western fence lizard.

10.1.4.4.2 Special-Status Species

Special-status grassland species around San Luis Reservoir include San Joaquin kit fox, American peregrine falcon, Swainson's hawk, California red-legged frogs (tributaries), Aleutian Canada goose, bald eagle, greater sandhill crane, California tiger salamander, foothill yellow-legged frog, western pond turtle, California horned lark, San Joaquin whipsnake, double-crested cormorant, long-billed curlew, California gull, osprey, northern harrier, Cooper's hawk, merlin, prairie falcon, white-tailed kite, ferruginous hawk, western burrowing owl, long-eared owl, loggerhead shrike, and San Joaquin pocket mouse.

Special-status plant species associated with grasslands in the Export Service Area includes: heartscale, brittlescale, San Joaquin spearscale, lesser saltscale, Lost Hills crownscale, Tiburon Indian paintbrush, recurved larkspur, Hoover's eriastrum, spiny-sepaled button-celery, Hall's tarplant, Congdon's tarplant, pale-yellow layia, San Joaquin woolythreads, Panoche peppergrass, red-flowered lotus, showy madia, Merced phacelia, Hartweg's golden sunburst, San Joaquin adobe sunburst, rock sanicle, most beautiful jewel-flower, and showy Indian clover.

10.1.4.5 Upland Scrub

Upland scrub habitat occurs on the slopes and shorelines surrounding Lakes Perris and Mathews, Castaic and Diamond Valley Lakes, and Anderson Reservoir. This habitat consists of mixed chapparal and coastal scrub vegetation including chamise, scrub oak, big berry manzanita, mountain mahogany, yucca, and big pod ceanothus. Blue elderberry is infrequent. Upland scrub also includes purple sage, white sage, rabbit brush, California sage, and California buckwheat.

10.1.4.5.1 Wildlife

Wildlife associated with upland scrub habitats in the Export Service Area includes scrub jay, common raven, greater roadrunner, Anna's hummingbird, mourning dove, song sparrow, western fence lizard, granite spiny lizard, black bear, bobcat, mountain lion, Merriam's chipmunk, California ground squirrel, western rattlesnake, coast horned lizard, and alligator lizard.

10.1.4.5.2 Special-Status Species

Special-status upland scrub species around Castaic Lake include arroyo toad and California red-legged frog (tributaries), California newt, foothill yellow-legged frog, San Diego horned lizard, western pond turtle, Cooper's hawk, northern harrier, sharp-shinned hawk, golden eagle, osprey, prairie falcon, and loggerhead shrike.

Special-status upland scrub species around Lake Perris, Lake Mathews, and Diamond Valley Lake include Stephen's kangaroo rat, western spadefoot toad, San Diego horned lizard, double-crested cormorant, Cooper's hawk, osprey, golden eagle, northern harrier, sharp-shinned hawk, loggerhead shrike, short-eared owl, burrowing owl, yellow warbler, and yellow-breasted chat.

Special-status plant species associated with upland scrub habitats in the Export Service Area includes: San Benito evening-primrose, Shrasmith's harebell, tree anemone, Mt. Hamilton coreopsis, Brandegee's eriastrum, Ben Lomond buckwheat, Hall's bush mallow, San Antonio Hills mondarella, Mt. Diablo phacelia, rock sanicle, most beautiful jewel-flower, Mt. Hamilton jewelflower, Coyote ceanothus, and Arburua Ranch jewelflower.

10.1.4.6 Valley/Foothill Woodland and Forest

Scattered blue oak woodlands occur on the western shore of the San Luis Reservoir. Isolated patches of coast live oak woodland occur at scattered locations in association with upland scrub habitats at Castaic Lake. The hillsides adjacent to Anderson Reservoir display a combination of blue oak/foothill pine and coast live oak woodlands.

10.1.4.6.1 Wildlife

Wildlife associated with VFW habitats includes acorn woodpecker, northern flicker, wild turkey, plain titmouse, black-tailed jackrabbit, American crow, California quail, western fence lizard, coyote, mule deer, western bluebird, white-breasted nuthatch, and American kestrel.

10.1.4.6.2 Special-Status Species

Special-status species associated with VWF are listed in Section 10.1.2.11.

Special-status plant species includes, Sharsmith's onion, Big Bear Valley woolypod, San Benito evening-primrose, tree anemone, Mt. Hamilton coreopsis, recurved larkspur, Brandegee's eriastrum, Ben Lomond buckwheat, Hall's tarplant, pale-yellow layia, Madera linanthus, red-flowered lotus, showy madia, San Antonio Hills monardella, Mt. Diablo phacelia, rock sanicle, and Mt. Hamilton jewelflower.

10.1.4.7 Upland Cropland

Upland cropland areas are found throughout the San Joaquin Valley. However, EWA water acquisition actions will only involve cotton fields in the San Joaquin Valley.

"Cotton is of limited value to wildlife because of the intensive management of this crop and the use of chemicals to control pests and disease. Mourning doves and house mice are found in this crop type. During irrigation when vegetation is short and sparse additional wildlife including killdeer, American pipet, and horned lark may be attracted (CALFED 1998)." Associated agricultural ditches are also treated with chemicals to control vegetation, making these ditches also less suitable for wildlife. Figure 10-6 is a picture of cotton farmland habitat.



Figure 10-6
Upland Cropland – Cotton Habitat

10.2 Environmental Consequences/Environmental Impacts

The following section evaluates the effects of the EWA alternatives on vegetation and wildlife. This section includes discussions on the following topics:

- Special-status species and NCCP communities included in the effects analysis;
- Methods used to assess effects of EWA program actions;
- Conservation measures posed to avoid or minimize effects of EWA actions on vegetation and wildlife;
- Effects of each alternative on NCCP habitats and associated wildlife in the area of analysis;
- Comparison of each alternatives' effects on the NCCP habitats and associated wildlife; and
- Analysis of the cumulative effects on the NCCP habitats and associated wildlife.

10.2.1 NCCP Communities and Special-Status Species Addressed in the EIS/EIR and ASIP

To comply with NEPA, CEQA, ESA, CESA, and NCCPA requirements, the EWA agencies must identify a list of NCCP communities and special-status species for evaluation in the EWA EIS/EIR and ASIP. The following section describes the processes for selecting NCCP habitats and special-status species for analysis.

10.2.1.1 Identification of NCCP Communities Analyzed

A total of twenty natural communities were analyzed on a broad, programmatic basis in the MSCS – 18 habitats and two ecologically based fish groups. The term "NCCP communities" refers to both NCCP habitats and fish groups. Chapter 9 of this EIS/EIR analyzes the fish groups. This EIS/EIR includes addresses 15 of the 18 NCCP habitats analyzed in the MSCS.

10.2.1.1.1 Determining the Likelihood that EWA Actions would Affect NCCP Habitats

EWA actions were considered likely to affect evaluated habitats adversely or beneficially:

- If the quality of the habitat to support populations of species is changed;
- If habitat of a species, critical to the viability of the population, is present in the area where actions could be implemented;
- Implementing one or more actions may affect or could result in take of the species; or
- Implementing the actions would increase or decrease the extent or quality of habitat potentially occupied by the species.

Out of the 20 community types, this EIS/EIR does not evaluate five community types for the reasons given below. Detailed descriptions of the 20 habitats, including their assigned conservation goal from the MSCS, can be found in the EWA ASIP Chapter 5 and Appendix A of the EWA ASIP, which are included as Appendix H of this EIS/EIR.

10.2.1.1.2 Grassland

EWA actions would not affect this habitat because the root zone of the plant species is elevated above any EWA water acquisition/management-induced groundwater and reservoir level change. EWA actions would not lead to restoration of the function of this habitat.

10.2.1.1.3 Upland Scrub

EWA actions will not affect this habitat because the root zone of the plant species is elevated above any EWA water acquisition/management -induced groundwater and reservoir level change. EWA actions will not lead to restoration of the function of this habitat.

10.2.1.1.4 Valley/Foothill Woodland and Forest

EWA actions will not affect this habitat because the root zone of the plant species is elevated above any EWA water acquisition/management -induced groundwater and reservoir level change. EWA actions will not lead to the restoration of this habitat.

10.2.1.1.5 Montane Woodland and Forest

EWA actions will not affect this habitat because the root zone of the plant species is elevated above any EWA water acquisition/management -induced groundwater and reservoir level change. EWA actions will not lead to the restoration of this habitat.

10.2.1.1.6 Inland Dune Scrub

EWA actions will not affect this habitat because the root zone of the plant species is elevated above any EWA water acquisition/management -induced groundwater and reservoir level change. EWA actions will not lead to the restoration of this habitat.

10.2.1.2 Identification of Species to be Analyzed

The analysis includes the special-status species that fit into at least one of the following categories and potentially occur in the EWA Asset Acquisition and Management Areas (Figure 2-3):

- Listed as threatened or endangered under FESA;
- Proposed for listing under FESA;
- Candidates for listing under FESA;
- Listed as threatened or endangered under CESA;
- Candidates for listing under CESA;
- Plants listed as rare under the California Native Plant Protection Act;
- Fully protected species or specified birds under various sections of the California Fish and Game Code;
- California species of special concern (CSC);
- Plants included on California Native Plant Society (CNPS) List 1 A, lB, 2, or 3;
- Other native species of concern to CALFED; or
- Aquatic species with designated Essential Fish Habitat within the area of analysis.

Pursuant to Section 7(c) of ESA, the EWA agencies requested species lists from USFWS, NOAA Fisheries, and CDFG regarding any species listed or proposed for listing as threatened or endangered, including designated or proposed critical habitats under ESA and CESA that may be present in the EWA area of analysis. Additionally, the EWA agencies developed a list of special-status species known to occur or with

the potential to occur within the area of analysis compiled from the California Natural Diversity Database (CNDDB) and California Native Plant Society's Inventory of Rare and Endangered Plants. More than 400 special-status fish, wildlife, and plant species considered[4] in the MSCS were combined with the results from the species request lists and the database search to generate a preliminary species list. (See EWA ASIP, Table A-1.)

Species included in this preliminary species list were then screened to identify all species that occur outside of the area of analysis. Additional species were screened out because they occur in habitats that the EWA actions would not affect (as described in Section 1.4.2 of the ASIP).

The final selection process determined which special-status species should be included based on several considerations that helped determine if EWA asset acquisition and management actions could affect the species or the habitat of listed species[5]. After all of the screening steps, this EIS/EIR and EWA ASIP includes the following species:

- MSCS covered terrestrial species whose life cycles are dependent on seasonally flooded agricultural land;
- MSCS covered species that extensively use agriculture water supply/return ditches as habitat; and
- MSCS covered species that use seasonally flooded agriculture land for a portion of their life cycle (e.g., nesting/forage during the summer, over-winter forage for winter migrants).

Species that are analyzed in detail in the EWA ASIP are described in relation to their association with seasonally flooded agricultural land below. These species include the Aleutian Canada goose, black tern, black-crowned night heron, great blue heron, great egret, greater sandhill crane, long-billed curlew, snowy egret, tricolored blackbird, white-faced ibis, giant garter snake, and western pond turtle.

Aleutian Canada Goose: During the winter, the Aleutian Canada Goose forages on post-harvest wastegrain, among other items, in the Sacramento Valley.

Black Tern: The black tern uses rice fields, primarily in Glenn and Colusa Counties for both nesting and foraging.

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4 Actions considered by CALFED when analyzing effects in the PEIS/EIR and MSCS did not include crop idling; therefore, this ASIP used the list of MSCS considered species as a basis for its preliminary species list rather than the list of MSCS evaluated species.

5 Based on the description of the Flexible Purchase Alternative provided in Chapter 2 the following EWA actions are most likely to affect MSCS covered species: 1) the pumping of EWA assets to the Export Service Area, 2) reduction in Delta outflows, 3) changes in timing of releases of water from reservoirs, and 4) crop idling involving seasonally flooded agriculture (rice).

Black-crowned Night Heron: The black-crowned night heron forages along irrigation canals and other waterways associated with rice crops throughout the Sacramento Valley.

Great Blue Heron: The great blue heron forages along irrigation canals and other waterways associated with rice crops throughout the Sacramento Valley.

Great Egret: The great egret has similar life history requirements as the great blue heron.

Greater Sandhill Crane: During the winter, the greater sandhill crane forages on waste grain remaining in fields following the harvesting of the rice crop, particularly in the Butte Basin.

Long-billed Curlew: The Long-billed Curlew uses rice fields to forage for invertebrates during the winter.

Snowy Egret: The snowy egret has similar life history requirements as the great blue heron and great egret.

Tricolored Blackbird: The tricolored blackbird forages on grain provided by rice along with insects.

White-faced Ibis: The white-faced ibis uses rice fields to forage for invertebrates during the winter.

Giant Garter Snake: In some portions of the Sacramento Valley, the giant garter snake is highly dependent upon rice fields for the majority of its habitat requirements.

Western Pond Turtle: The western pond turtle uses irrigation and drainage ditches adjacent to rice fields for resting and foraging habitat.

10.2.1.3 Description of Species Not Analyzed In Detail

Species are not included in this EIS/EIR if they may occasionally visit, but are not dependent on, seasonally flooded agriculture land (e.g., migrants or species with broad home ranges) and would not be affected by EWA crop idling actions. The following text lists those species and explains the rationale for the no effects determination. The EWA ASIP Appendix A (Appendix J to this EIS/EIR) presents additional details regarding the life histories and status of these species.

10.2.1.3.1 Western Spadefoot Toad

Levees and drainage ditches are potential habitat for the western spadefoot toad. They use ditch bottoms in the spring for breeding (at times when EWA idling actions would not be occurring) and the levee sides as habitat the remainder of the year. The EWA asset acquisition and management actions would not physically affect levees or the quantity of rainwater in ditches adjacent to rice fields.

10.2.1.3.2 Double-Crested Cormorant

Double-crested cormorant use levees adjacent to rice fields to dry their wings. EWA asset acquisition and management actions would not affect levees adjacent to rice fields.

10.2.1.3.3 American Bittern

American bitterns forage in flooded rice fields and adjacent irrigation ditches during the winter primarily for invertebrates. EWA asset acquisition and management actions would not prevent flooding of fields in the winter.

10.2.1.3.4 White-tailed Kite

During the winter, white-tailed kites forage for small rodents, insects, frogs, and snakes over flooded and idled rice fields. EWA asset acquisition and management actions would not prevent the winter flooding of fields. EWA actions have the potential to increase the overall acreage of idled rice fields increasing the forage base for this species. This potential benefit cannot be quantified and is not addressed further in this EIS/EIR.

10.2.1.3.5 Bald Eagle

Bald eagles forage for ducks, geese, and sometimes fish over large areas, including rice fields. This species, however, is highly mobile with a home range radius of approximately 1 mile, whereas the largest possible block of idled land will be 160 acres (½ mile X ½ mile). EWA asset acquisition and management actions would not reduce the forage supply of waterfowl and fish within the Sacramento Valley.

10.2.1.3.6 Swainson's Hawk

Swainson's hawks forage in idled rice fields. EWA asset acquisition and management actions have the potential to increase the overall acreage of idled rice fields, increasing the forage base for this species. This potential benefit cannot be quantified and is not addressed further in this EIS/EIR.

10.2.1.3.7 Ferruginous Hawk

Ferruginous hawks forage for small mammals in idled rice fields. EWA asset acquisition and management actions have the potential to increase the overall acreage of idled rice fields. This potential benefit cannot be quantified and is not addressed further in this EIS/EIR.

10.2.1.3.8 Golden Eagle

Golden eagles forage over large areas that include rice fields near their nests in the foothills surrounding the Central Valley. This species, however, is highly mobile with an extensive home range, whereas the largest possible block of idled land will be 160 acres (½ mile X ½ mile).

10.2.1.3.9 Merlin

During the winter, merlins forage for songbirds and shorebirds over flooded and idled rice fields. EWA asset acquisition and management actions would not prevent the winter flooding of fields. EWA actions have the potential to increase the overall

acreage of idled rice fields. This potential benefit cannot be quantified and is not addressed further in this EIS/EIR.

10.2.1.3.10 Peregrine Falcon

During the winter, peregrine falcons forage for ducks and shorebirds over flooded and idled rice fields. EWA asset acquisition and management actions would not prevent flooding of fields. EWA actions have the potential to increase the overall acreage of idled rice fields. This potential benefit cannot be quantified and is not addressed further in this EIS/EIR.

10.2.1.3.11 Prairie Falcon

During the winter, the prairie falcon forages over flooded and idled rice fields. EWA asset acquisition and management actions would not prevent flooding of fields. EWA actions have the potential to increase the overall acreage of idled rice fields.

10.2.1.3.12 Mountain Plover

The mountain plover uses disced rice fields in late winter to find insects. EWA asset acquisition and management actions would not prevent disking of these fields, which would ensure forage habitat is maintained for the mountain plover.

10.2.1.3.13 Short-eared Owl

The short-eared owl could find a suitable prey base in idled rice fields. EWA asset acquisition and management actions have the potential to increase the overall acreage of idled rice fields. This potential benefit cannot be quantified and is not addressed further in this EIS/EIR.

10.2.1.3.14 Northern Harrier

The northern harrier could find a suitable prey base in idled rice fields. EWA asset acquisition and management actions have the potential to increase the overall acreage of idled rice fields. This potential benefit cannot be quantified and is not addressed further in this EIS/EIR.

10.2.1.3.15 Long-eared Owl

Long-eared owls can be found in trees along rice fields and forage over idled fields at night. EWA asset acquisition and management actions have the potential to increase the overall acreage of idled rice fields and would not affect woodlands.

10.2.1.3.16 Burrowing Owl

Burrowing owls can be found on the levees bordering rice fields. EWA asset acquisition and management actions would not affect these levees.

10.2.1.3.17 Bank Swallow

During the spring and summer, bank swallows can be found foraging for insects over rice fields. This species, however, is highly mobile with a foraging range of 8-10 km, whereas the largest possible block of idled land will be 160 acres (½ mile X ½ mile).

10.2.1.3.18 Bewick's Wren

Bewick's wrens are casual visitors to rice fields in the fall and winter. They are sometimes found feeding along weedy irrigation ditches or in idled rice fields. EWA asset acquisition and management actions would not affect irrigation ditches and would increase the acreage of idled rice fields.

10.2.1.3.19 Loggerhead Shrike

Loggerhead shrikes can be found hunting along the borders of rice fields and in idled rice fields. EWA asset acquisition and management actions would increase the acreage of idled rice fields and would not affect adjacent ditches.

10.2.1.3.20 Lark Sparrow

Lark Sparrows are casual visitors to rice fields in the fall and winter. They are sometimes found feeding along weedy irrigation ditches or in idled rice fields. EWA asset acquisition and management actions would increase the acreage of idled rice fields and would not affect adjacent ditches.

Terrestrial species that may be associated with lacustrine habitats (lakes, ponds, oxbows, gravel pits), such as bald eagles and osprey, are also not included because the analysis of EWA actions produced no adverse affect to fish populations (see Chapter 9), which can be a primary food source.

10.2.2 Assessment Methods

The assessment methods used for this analysis address effects on vegetation and wildlife, special-status species, and NCCP communities caused by implementation of EWA actions. The EWA ASIP (Appendix J) presents additional information on special-status species and associated habitats. ASIP preparation satisfies compliance with the state and federal endangered species laws.

EWA actions to benefit fish include pump reductions, Delta cross channel closure, instream flow increases, and Delta outflow augmentation. EWA asset acquisition and management actions include pre-delivery, source shifting, purchasing stored reservoir water, using groundwater substitution and/or storage, purchasing stored groundwater, and crop idling. These actions may affect the following variables: 1) the timing of water releases, 2) river flows, 3) reservoir levels, 4) water table levels, or 5) the number of acres of seasonally flooded land. Effects to plant communities may include changes in water availability, alteration of species composition, and removal, conversion, or fragmentation of communities. Changes in the quantity or quality of habitat, loss of forage and cover, and fragmentation of habitat could affect wildlife species.

This section analyzes effects to vegetation, wildlife, and NCCP communities at a community level; that is, this analysis assumes that if the EWA asset acquisition and management actions adversely affect an NCCP community, then the EWA asset acquisition and management actions would also adversely affect any species associated with that community. Where necessary, this analysis evaluates effects to

special-status species both on a community and species level. Additional details regarding the NCCP communities and special status species are presented in the ASIP.

10.2.2.1 Tidal Perennial Aquatic, Saline Emergent, and Tidal Freshwater Emergent Habitats

These three habitat types are found in portions of the Delta, and could potentially be affected by changes in magnitude and timing of Delta flows, which could also affect Delta water quality. The CALSIM II model simulates Delta inflows, Delta outflows, and Delta exports with and without the EWA program. CALSIM provides monthly flow data, which does not reflect the daily tidal variations that occur within the Delta. To determine more Delta-specific effects, DWR's Delta Simulation Model (DSM) 2 calculated Delta water quality and flow data at a more detailed level. Attachment 1 to this EIS/EIR describes these modeling efforts in greater detail. Model results were used to compare the frequency and magnitude of changes within the Delta to determine if these changes could affect Tidal Perennial Aquatic, Saline Emergent, or Tidal Freshwater Emergent Habitats or the species that depend on them.

10.2.2.2 Nontidal Freshwater Permanent Emergent

Within the Delta, the methods of assessing impacts to the Nontidal Freshwater Permanent Emergent habitat are the same as for the Tidal Freshwater Emergent, Upstream from the Delta, where this community may be supported by an elevated groundwater table, the lowering of the water table as part of groundwater substitution could affect this habitat. The effects analysis considers groundwater level changes from groundwater substitution, and a geographic comparison of the potential groundwater changes to areas with Nontidal Freshwater Permanent Emergent habitat.

10.2.2.3 Valley Riverine Aquatic, Montane Riverine Aquatic, Valley/Foothill Riparian, and Montane Riparian Habitats

EWA actions could affect these habitat types by changing the timing and volume of flows within rivers. The sections below describe how the flows were determined for each river.

10.2.2.3.1 Sacramento, Lower Feather, and Lower American Rivers

The analysis of potential effects on these habitats associated with rivers that are part of the CVP and SWP systems utilized the hydrologic modeling results. Attachment 1, the Modeling Description, provides a discussion of the hydrologic modeling process and its application to the EWA program analysis, including 1) the primary assumptions and model inputs that represent hydrologic, regulatory, structural and operational conditions; and 2) the model simulations that helped derive effects. For these rivers, modeling results were based on the maximum assets contained in Table 2-5, rather than available pump capacity as was used in Chapter 9.

10.2.2.3.2 Yuba, Upper Feather, Upper American, and Merced Rivers

These rivers are not a part of the CVP or SWP systems, and are therefore not included in the CALSIM II model. Attachment 1, the Modeling Description, describes the alternative methodology used to calculate changes in monthly operations based on historic water river flow data gathered from USGS. The effects analysis compares the changes in river flows to the surrounding vegetation to determine if the changes would affect these habitat types.

10.2.2.4 Lacustrine

EWA water storage and management actions involving reservoirs would alter reservoir levels compared with the Baseline, potentially causing effects to the lacustrine community. Fluctuations in reservoirs levels as a result of EWA asset storage and releases, if significantly different from the Baseline Conditions of the reservoirs could affect vegetation and associated wildlife species that are established at or near the water surface and within the drawdown zone and are not accustomed to the changes in reservoir levels. The sections below discuss the analysis methodologies for the rivers within the area of analysis.

10.2.2.4.1 CVP and SWP Reservoirs (Shasta, Oroville, and Folsom Reservoirs)

The analysis of potential effects on lacustrine habitat associated with CVP and SWP reservoirs utilized the hydrologic modeling results. Attachment 1, the Modeling Description, provides a discussion of the hydrologic modeling process and its application to the EWA program analysis, including 1) the primary assumptions and model inputs that represent hydrologic, regulatory, structural and operational conditions; and 2) the model simulations that helped derive effects.

10.2.2.4.2 Upstream from the Delta Non-Project Reservoirs

Several non-Project reservoirs upstream of the Delta (Little Grass Valley, Sly Creek, New Bullards Bar, French Meadows, Hell Hole, Lake McClure) could sell water to the EWA agencies. Because the CVP and SWP do not manage these non-Project reservoirs, the CALSIM II hydrologic modeling simulations do not reflect these reservoir operations. Attachment 1, the Modeling Description, describes the alternative methodology used to calculate changes in monthly operations based on historic water storage data. The effects analysis compares the rate of changes in storage and elevation to the surrounding vegetation to determine if the reservoir changes would affect the lacustrine community.

10.2.2.5 Natural Seasonal Wetland

High groundwater levels can create Natural Seasonal Wetlands; therefore, if the EWA asset acquisition and management actions decrease groundwater levels, this change could affect this habitat type. The specific locations in the Sacramento and San Joaquin valleys where groundwater substitution and groundwater purchase could occur are not currently identified and can vary year to year based on EWA water acquisition strategies and willing sellers. Mitigation measures proposed for groundwater actions (Chapter 6) may preclude this effect, but the groundwater measures have not been tested and there is no current mechanism for assessment of

the effect because specific locations for groundwater actions are not known. Therefore, the effect of the EWA water acquisitions can only be assessed in a qualitative sense.

10.2.2.6 Managed Seasonal Wetland

The EWA agencies have not identified the specific locations in the Sacramento and San Joaquin valleys where crop idling and groundwater substitution transfers could occur because they can vary year to year based on the location of willing sellers and EWA water acquisition strategies. Therefore, the following section assesses the effect of the EWA water acquisitions in a qualitative sense.

To determine if groundwater substitution transfers affect water in ditches, the analysis qualitatively examines the process that water agencies would use to sell water to the EWA agencies to determine if this process could decrease the water available to managed seasonal wetlands. Return flows may decrease if farmers idle lands that are upstream of managed seasonal wetlands. The analysis qualitatively examines the likelihood that crop idling would reduce flows within agricultural ditches, and compares the locations of ditches with decreased flows to wetlands that receive water from the same sources.

10.2.2.7 Upland Cropland

The impact assessment methods for this community were based on the relative value of a particular crop as wildlife habitat and forage. The EWA agencies propose to purchase water that would have been used to irrigate cotton farmland. This would idle the land, resulting in bare fields. Neither the cotton land nor bare field would provide for significant wildlife habitat. Dust suppression plans may involve the use of a substitute crop, providing some wildlife value. The EWA agencies are not specifically requiring farmers to substitute other crops; therefore, crop substitution is not factored into the effects analysis. However, because cotton land provides extremely marginal habitat and forage, the effects analysis does not assess the EWA's asset acquisition and management action effects on this habitat.

10.2.2.8 Seasonally Flooded Agriculture

Potential effects on special-status species associated with SFA were determined based on an analysis of changes in the amount of habitat and forage provided by rice fields within each county having water agencies that potentially would sell water to EWA agencies.

10.2.2.8.1 Changes in Habitat Availability

This SFA effects analysis addresses water acquisitions that would result in the maximum potential quantities available from crop idling. The SFA impact analysis includes the following steps:

- Derivation of the acquisition quantity for each county by the evapotranspiration of applied water[6] to determine the amount of idled acreage required to obtain the acquisition amount;

- Comparing the total acreage required for EWA crop idling to the amount in the rice land in the 1997 Agricultural Census data to obtain the change in rice acreage per county; and

- Calculating the absolute and relative change in rice habitat availability using the changes in rice acreage numbers.

The analysis presents change in rice habitat availability both as an absolute quantity (number of acres) and relative value (percent of rice acreage).

10.2.2.8.2 Changes in Forage Availability

Waste grain remaining after rice harvest serves as a food resource for wildlife species, including the special-status species associated with rice fields identified in Table 10-3. Consequently, changes in the amount of rice acreage would change the availability of forage for special-status species associated with rice fields. Each acre of rice provides approximately 300 to 350 pounds per acre (lbs/ac) of waste grain (Brouder and Hill 1995). Although newer technologies used for harvesting generate less waste grain per acre, this analysis uses 350 lbs/acre to provide a conservative estimate for the amount of waste grain lost due to rice idling (Brouder and Hill 1995). This analysis presents the total amount of waste grain lost due to rice idling for each county, and expressed as an absolute quantity (lbs) and relative value (percent of forage provided by rice in the county).

Rice fields also provide approximately 250 lbs/ac of other food (not waste rice grain), which is comprised primarily of invertebrates (Brouder and Hill 1995). This analysis assumed that some plant species (weeds and other plant species that could colonize idled fields) and invertebrates would still be available in idled fields, and that crop idling would not substantially reduce this food source. Accordingly, potential effects on other food available to wildlife species were considered to be insignificant and are not further analyzed in this section.

10.2.2.8.3 Habitat Fragmentation

A decrease in the availability of SFA under the EWA program has the potential to contribute to fragmentation and isolation of wetland habitats within an individual county on a temporary basis. Because the EWA is a program, and the specific fields where idling will occur cannot be predicted and will change from year to year, the degree of fragmentation within a county cannot be quantified. In addition, EWA program crop idling actions are dependent upon hydrologic year type and more than likely will not occur every year. Consequently, this section does not include an analysis of habitat fragmentation and isolation. Potential temporary fragmentation

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[6] The Evapotranspiration of Applied Water (ETAW) represents the amount of applied water that is used by the crop for evapotranspiration. This number is defined in Section 2, Program Description, and is approximately 3.3 acre-feet per acre for rice.

and isolation effects, however, will be avoided through crop idling conservation measures. Specifically, the EWA agencies will minimize crop idling in adjacent fields within each county.

10.2.3 Significance Criteria

Under criteria based on State CEQA Guidelines and the CALFED Programmatic EIS/EIR, the proposed project would be considered to have a significant effect on vegetation and wildlife if it would result in any of the following:

- Adversely affect, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations. (See sections 17.11 or 17.12;)

- Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Cause a reduction in the area or habitat value of critical habitat areas designated under the federal ESA;

- Substantially fragment or isolate wildlife habitats or movement corridors, especially riparian and wetland habitats, or impede the use of wildlife nurseries;

- Have a substantial adverse impact, such as a reduction in area or geographic range, on any riparian habitat, other sensitive natural community, or significant natural areas identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Adversely affect federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means;

- Substantially decrease the size of important native upland wildlife habitats or wildlife use areas; and

- Substantially decrease the amount of available forage, including forage from agricultural lands for wintering waterfowl.

10.2.4 Environmental Measures Incorporated into the Program

Environmental measures applicable to the EWA actions for each species and NCCP habitat that have been incorporated into the program description are described in this section. The MSCS also includes programmatic conservation measures for each species and NCCP community.

10.2.4.1 Environmental Measure Applicable to all Species

The EWA Project agencies will coordinate EWA water acquisition and transfer actions with Federal (Reclamation, USFWS and NOAA Fisheries), State (DWR and CDFG), other CALFED agencies, and regional programs (e.g., the San Francisco Bay Ecosystem Goals Project, the Anadromous Fish Restoration Program, the Senate Bill [SB] 1086 program, the U.S. Army Corps of Engineers' (USACE's) Sacramento and San Joaquin Basin Comprehensive Study, the Riparian Habitat Joint Venture, the CVPIA, the Central Valley Habitat Joint Venture, and the Grassland Bird Conservation Plan) that could affect management of evaluated species. Coordination would avoid conflicts among management objectives and would be facilitated through CALFED's water transfer program.

10.2.4.1.1 Giant Garter Snake (T-FESA; T-CESA)

Within the Sacramento River valley, the giant garter snake (GGS) is highly dependent on rice fields and associated irrigation ditches. EWA actions, or cumulatively, water acquisitions, could idle up to 20 percent of flooded rice fields in each county. The following text provides the proposed approach and conservation measures to protect the GGS.

As part of the EWA consultation, the USFWS will give programmatic approval to crop idling, followed by a site-specific consultation process to ensure consistency with the programmatic approval. The programmatic consultation will include three main elements: 1) the process by which site-specific agreements will be attained; 2) the list of conservation measures (avoidance, minimization, and conservation measures) which would be used wholly or in part to minimize effects of water transfers involving fallowing or crop-shifting; and 3) a description of GGS conservation strategy in Chapter 4 of this ASIP.

USFWS EWA consultation with the Project Agencies will outline a year-by-year "site specific" process to address crop idling impacts to GGS and will put boundaries on upper limit on the amount of crop idling that may occur in any given year, considering the existing 20 percent limit. Additional measures to those presented in this EIS/EIR may be incorporated as a part of consultation based on site-specific conditions.

Each year, once it has been determined that crop idling will occur, the EWA Project Agencies will contact USFWS staff to begin informal consultation and will put together a package describing where the idling activities will take place and what proposed minimization measures will be followed. This package will include maps of the proposed idled fields. USFWS will work with the EWA Project Agencies to determine if minimization measures proposed are sufficient and if additional compensatory habitat is required.

The EWA agencies will ensure through contract terms or other requirements that the following conservation measures will be implemented:

- The EWA agencies will ensure parcels from which water is to be acquired are outside of mapped proscribed areas (see ASIP Figure 3-11), which include:

    - *Refuges* – Land adjacent and within 1 mile of Sacramento, Delevan, Colusa, Sutter, and Butte Sink National Wildlife Refuge (NWR), and the Llano Seco Unit of the Sacramento River NWR, Gray Lodge Wildlife Area (WA), Upper Butte Basin WA, Yolo Bypass WA, and Gilsizer Slough CE;

    - *Corridors Between Refuges* – Lands adjacent to Hunters and Logan Creeks between Sacramento River NWR and Delevan NWR; Colusa Basin Drainange Canal between Delevan NWR and Colusa NWR; Little Butte Creek between Llano Seco units of Sacramento River NWR and Upper Butte Basin WA, and Howards Slough Unit of the Upper Butte Basin WA, Butte Creek Upper Butte Basin WA, and Gray Lodge WA;

    - *Waterways Serving as Corridors* – Land adjacent to Butte Creek, Colusa Basin Drainage Canal, Gilsizer Slough, land side toe drain along east side of the Sutter Bypass, Willow Slough and Willow Slough Bypass in Yolo County, North Drainage Canal and East Drainage Canal in Natomas Basin

    - *Other Core Areas* – East of SR99 and between Sutter-Sacramento County line and Elverta Road in Natomas Basin, Yolo County east of Highway 113;

- The water seller will ensure that water is maintained in irrigation and drainage canals to provide movement corridors;

- The water agency will ensure that the block size of idled rice parcels will be limited to 160 acres (includes rice fields shifting to another crop);

- The water agency will ensure that mowing along irrigation and drainage canals will be minimized and mowers will be elevated to at least 6 inches above the ground level;

- The water agency will ensure that, if canal maintenance such as dredging is required, vegetation will be maintained on at least one side; and

- The EWA agencies will maximize geographic dispersal of idled lands.

GGS conservation measures may include the following, as appropriate:

- The EWA agencies will avoid purchasing water from the same field for more than two consecutive years;

- The EWA agencies will recommend that sellers replace culverts already planned for repair or replacement with oversized culverts to facilitate better wildlife dispersal;

- The EWA agencies will recommend that sellers replace water control structures with those requiring less maintenance and less frequent replacement in order to minimize maintenance impacts (steel or wooden control boxes with pre-poured concrete boxes); and

- The water agencies may fund research or surveys.

10.2.4.1.2 Greater Sandhill Crane (T/FP-CESA)

Crop idling of seasonally flooded agricultural land could reduce the amount of over winter forage for migratory birds.

- Avoid or minimize actions near known wintering areas in the Butte Sink (from Chico in the north to the Sutter Buttes, and from Sacramento River in the west to Highway 99) that could adversely affect foraging and roosting habitat.

10.2.4.1.3 Black Tern (SSC-CDFG)

Crop idling of seasonally flooded agricultural land could reduce the amount of nesting and forage habitat during the summer rearing season.

- As part of the review process for the identification of areas acceptable for crop idling, the Management Agencies will review current species distribution/occurrence information from the Natural Diversity Database and other sources (including rookeries, breeding colonies, and concentration areas). The Management Agencies will then use the information to make decisions that will avoid EWA crop idling actions that could result in the substantial loss or degradation of suitable habitat in areas that support core populations of evaluated species that are essential to maintaining the viability and distribution of evaluated species.

- As part of contractual agreements, the willing seller will be required to maintain quantities of water in agriculture return flow ditches that maintains existing wetland habitat providing habitat to the covered species.

10.2.4.1.4 Western Pond Turtle (SSC-CDFG)

Ditches and drains associated with rice fields provide suitable habitat for the western pond turtle. The following environmental measures would ensure effects of crop idling actions on western pond turtle habitat are avoided or minimized.

- The willing seller will be required to maintain water levels in irrigation and drainage canals to within 6 inches of non-program conditions and do not completely dry out canals.

10.2.4.1.5 Non-tidal Freshwater Permanent Emergent, Natural Seasonal Wetland, and Valley/Foothill Riparian Communities

Natural and Managed Seasonal Wetlands and Riparian Communities often depend on surface water-groundwater interactions for part or all of their water supply. The following environmental measures would ensure effects on these communities from groundwater substitution actions are avoided or minimized.

- **A Well Adequacy Review.** Before groundwater substitution actions the hydrogeologic conditions of wells used to transfer EWA water will be examined to minimize the potential risk of depleting surface water sources and adversely affecting associated vegetation; and

- **A Monitoring Program.** The Project Agencies will implement a monitoring program that will provide data to determine if direct or indirect effects exist.

10.2.4.1.6 Valley/Foothill Riparian and Montane Riparian Communities

Riparian plant germination, establishment, growth, and distribution are driven by water availability and floodplain and channel geomorphology that conform to historical patterns. The following environmental measure would ensure effects on these communities would be avoided or minimized.

- The EWA agencies will implement a monitoring program, in cooperation with other programs, that will provide flow data and observations of habitat changes to determine if changes in flows are having a direct or indirect effect on riparian communities, particularly establishment of seedlings and survival of middle age classes.

10.2.4.1.7 Managed Seasonal Wetlands

Landowners with managed seasonal wetland communities often depend upon agricultural return flows for part or all of their water supply. The following environmental measure would ensure effects on this wetland community would be avoided or minimized.

- As a part of the contractual agreements, the EWA agencies will require the willing seller of water for crop idling to maintain their drainage systems at a water level that would maintain existing wetlands providing habitat to covered species. As part of monitoring program to ensure compliance with the contractual requirements, EWA agencies will periodically verify that the seller is adhering to the agreement and that no effects are occurring.

10.2.4.1.8 Seasonally Flooded Agricultural Lands

Environmental measures for seasonally flooded agricultural lands are provided for the giant garter snake.

10.2.5 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

The No Action/No Project alternative would involve not implementing EWA asset acquisition and management actions as described in Section 2.4.2. Under the No Action/No Project alternative there would be no new construction work by either the Project Agencies or project contractors to address the reduction in water supply that would result in a loss of vegetation or wildlife habitat. The No Action/No Project alternative would not alter (increase development or slowdown development) of the other agriculture, urban development, or land management projects that would affect vegetation and wildlife habitat.

As under the Baseline Condition, during some years, project contractors may not receive their full water allocations and would respond accordingly. Agricultural interests could fallow crops, substitute crops requiring less water, or pump groundwater as a substitute water supply. Municipal agencies could use alternative sources such groundwater, seek other surface water sources, or attempt additional water conservation measures. The effects of these water measures would be the same as under the Baseline Condition and thus there would be no effects to vegetation and wildlife in the Export Service area due to the No Action/No Project Alternative.

As a potential additional response to reduced water allocations, south of the Delta interests could also seek to obtain water from north of the Delta sellers using water transfer processes similar to those described for the EWA program. If the water transfers are similar to those described in Section 10.2.6, the effects of the transfers would be similar. Because transfers involving project facilities would require individual environmental documents, the effects would be disclosed through a separate environmental review process.

No effects to Delta vegetation and wildlife habitat would occur under the No Action/No Project alternative. No actions would be taken within the Delta that could affect vegetation and wildlife relative to the reduction in water allocation, other than those actions currently in the planning stages under the CALFED program.

Within the Export Service Area, North of Delta, and Delta areas, there are a number of urban, agricultural, and habitat restoration projects either planned or being implemented that could change Baseline Conditions during the next four years. Urban developments would reduce some wildlife habitat, agricultural land conversion could increase wildlife habitat, while mitigation programs and ERP-directed programs will increase habitat in general. These future restoration projects are also expected to increase the quality, distribution, and quantity of vegetation and wildlife habitats described in Section 10.1. The success of these projects during the Stage 1 phase of CALFED currently is not known. The EWA No Action/No Project alternative will not affect the current trend in changes in plant and animal habitats within the EWA area of analysis.

Future conditions also include habitat losses caused by other projects. Some of these losses are described in the Cumulative Effects section of this chapter. (See Section 10.2.11.) Additional losses that may occur during the five-year assessment period are not currently known.

10.2.6 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

During portions of the year, EWA actions could raise or lower reservoir levels and increase or decrease river flows compared to the Baseline Condition. The following section describes how these changes could affect vegetation and wildlife within each community.

Additionally, as stated in Section 10.1, numerous HCPs and NCCPs have been approved or are in-progress for areas throughout the State of California. A portion of these plans cover areas outside where EWA actions would take place. For those plans that cover areas where EWA actions would take place, such as the Placer County HCP/NCCP, EWA actions would not affect the species and communities covered by the plans. EWA water acquisition and transfer actions would not involve the construction of new facilities and crop idling effects would be temporary.

10.2.6.1 Upstream from the Delta

10.2.6.1.1 Valley Riverine Aquatic/Valley Riverine Riparian

This section analyzes the EWA water acquisition and management effects on aquatic habitat and associated riparian vegetation and associated wildlife within the valley reach of each river system in the Upstream from the Delta Region. Effects would be considered significant should 1) decreases in river flows or reservoir levels reduce the water source for riparian vegetation, thereby decreasing its extent; 2) decreases in stream flow do not allow for temporary flooding of adjacent floodplain thereby inhibiting germination and growth of seedlings; 3) decreases in river flows strand populations of wildlife species (e.g., tadpoles) increasing their loss through predation; 4) increases in stream flow cause erosion of stream banks resulting in a loss of shaded riverine habitat; 5) increases in stream flows flush populations (non-volitional movement) of wildlife from protected areas or wash seedlings of riparian vegetation away from stream banks/shallow areas causing a loss in recruitment vegetation; or 6) increases and timing of flows are such that natural geomorphic processes such as point bar formation do not occur and establishment of seedlings in adversely affected.

The timing and amount of EWA water releases, will, in general, decrease mean flow peaks in early spring and increase summer water levels available for plants. Peak spring flows typically clear the river channel of debris and unclog sediments, depositing them downstream creating point bars and nutrient rich floodplains essential for early successional plant germination. Decreasing summer water levels ensure that pioneer seedlings are able to match growth with increasingly unavailable water supplies and outcompete non-pioneer species for resources. Currently, river regulation in the Central Valley has created artificially stable hydrological conditions and EWA actions would further exacerbate this trend. Affects to riparian habitat

include the loss of point bars and other substrates for seed germination and increased water supply availability during the summer allowing non-pioneer species to compete for resources once only available to pioneer species.

Another consequence of altered hydrological conditions is the presence of amphibian species in river mainstems where they were previously confined to tributaries. Dams, particularly those created for power generation have often reduced flows to such a degree that newly created slow moving water habitats attract frogs such as the foothill yellow-legged frog (FYLF). These frogs lay eggs March through May, and the tadpoles metamorphose three to four months later. Frogs at this stage are highly vulnerable to non-volitional movements because of increased flows. However, a search of the CNDDB and current literature did not reveal any occurrences of species such as the FYLF in the mainstems of the rivers being affected by EWA actions.

The following sections provide detailed timing and flow rate discussions for each river and associated EWA actions. The effects on riparian habitats adjacent to each river and associated wildlife are the same as those just discussed, the only difference being the magnitude of the effect. The environmental measure outlined in Section 10.2.4 will ensure that effects on riparian habitat are avoided or minimized.

Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would decrease Sacramento River flows from Lake Shasta downstream to the point of diversion in June[7]*.* EWA acquisition of up to 120,000 acre-feet of water via groundwater substitution and up to 158,000 acre-feet from crop idling would decrease Sacramento River flows by 1,160 cfs in June. The reduction from 18,180 cfs to 17,020 cfs in June would not affect shoreline vegetation. Thus, the decrease in median monthly flows during June is less than significant.

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change Sacramento River flows downstream from Lake Shasta in April through September. EWA acquisition of up to 120,000 acre-feet of water via groundwater substitution and up to 158,000 acre-feet from crop idling would increase Sacramento River flows by 240 cfs between Lake Shasta and the point of diversion in July. Flows in this reach would decrease 133 cfs and 111 cfs in August and September, respectively. Downstream from the diversion point, flows would increase by 289 cfs, 372 cfs, 429 cfs, 1,940 cfs, 777 cfs, and 157 cfs in April through September, respectively. This represents a 1 to 11 percent increase in flow and is not considered significant to cause adverse effects.

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[7] Because of flow and temperature requirements in the Sacramento River, Lake Shasta would not be able to store EWA water from groundwater substitution and crop idling in April and May. During these months, flows in the Sacramento River would be the same as under the Baseline Condition. In some years, (depending on hydrologic conditions) Lake Shasta would store EWA water in June.

Feather River

EWA acquisition of Feather River contractor water via groundwater substitution, crop idling, and stored reservoir water would change Feather River flows downstream of Oroville Reservoir from July through September relative to the Baseline Condition. Under the Flexible Purchase Alternative, crop idling and groundwater substitution transfers would not affect flow in the lower Feather River from April through June (the hold-back period) because this water would typically have been released from the Thermalito Afterbay directly to the water agencies. Crop idling and groundwater substitution transfers would act in conjunction with Oroville-Wyandotte ID stored reservoir water transfers to increase flows in the lower Feather River from July through September. Long-term average flows in the lower Feather River below Oroville Dam during the March through October growing season would increase 2105 cfs (from 5, 896 cfs to 6,497 cfs) in July, increase 850 cfs (from 4,434 cfs to 4,515 cfs) in August, and increase 149 cfs (from 1,600 cfs to 1,421 cfs) in September compared to the Baseline Condition. These changes represent a 36 percent increase in July, a 19 percent increase in August, and a 9 percent increase in September. EWA agencies would monitor the releases to ensure that adverse effects do not occur, and institute changes to quantities of water released through adaptive management processes to avoid or minimize any adverse effect.

Yuba River

EWA acquisition of Yuba County WA water via groundwater substitution would decrease Yuba River flows from the power facility discharge upstream from Englebright Dam to the users' diversion points, typically at Englebright and Daguerre Point Dams, from April to June. Yuba River flows would decrease at most by 239 cfs in late spring as farmers use groundwater for irrigation instead of surface water from New Bullards Bar Reservoir. (A total of 12 to 19 percent reduction in April through June compared to the median flow under the Baseline Condition.) EWA agencies would monitor the releases to ensure that adverse effects do not occur, and institute changes to quantities of water released through adaptive management processes to avoid or minimize any adverse effect.

EWA acquisition of Yuba County WA water via stored reservoir water and groundwater substitution would increase Yuba River flows from July through September. EWA agencies acquisition of Yuba County WA stored reservoir water and Yuba River contractor water via groundwater substitution would increase Yuba River flows, downstream of Englebright Dam, from July to September relative to the Baseline Condition. Flows would increase at most by 1,005 cfs in July through September, approximately 60 percent above the Baseline Condition. While this increase would be a noticeable change, releases would be operated to maintain relatively constant flows during this time period in accordance with existing Yuba County WA operations to protect fish and the environment. This increase in flow would have the potential to increase non-volitional movement of aquatic wildlife that cannot find quieter water to remain in during periods of increase. However, species such as the California red-legged frog and foothill yellow-legged frog are not known to inhabit this reach of the Yuba River. These effects cannot be quantified, but may be considered significant adverse effects if

the EWA-related water releases are maintained at significantly higher flows for long periods of time. EWA agencies would monitor the releases to ensure that adverse effects do not occur, and institute changes to quantities of water released through adaptive management processes to avoid or minimize any adverse effect.

American River

EWA acquisition of Placer County WA stored reservoir water would decrease flows in the American River compared to the Baseline Condition while the reservoir refills during winter months. During the rainy season after December, Placer County WA would refill its reservoirs, which would decrease the flow that travels downstream of French Meadows, and Hell Hole Reservoirs. These decreases would occur during the winter rainy season, and would not likely have an effect on flow downstream of Folsom Lake.

EWA acquisition of Sacramento Groundwater Authority water via groundwater substitution and Placer County WA stored reservoir water under the Flexible Purchase Alternative would increase flows in the Lower American River compared to baseline from June to December. American River flows would increase from June through December because of increased releases from Folsom Lake because of Sacramento Groundwater Authority groundwater purchase transfers and Placer County WA stored reservoir water. The change in flow is not predicted to adversely affect stream habitat.

Merced and San Joaquin Rivers

EWA acquisition of Merced ID water via groundwater substitution would increase Merced River fall flows relative to the Baseline Condition. EWA agency acquisition of Merced ID water via groundwater substitution would increase Merced River flows by a maximum of 210 cfs (from 231 to 441 cfs; 52 percent above the median) below Crocker-Huffman Dam in the fall relative to the Baseline Condition as the water is released from Lake McClure. EWA agencies would monitor the releases to ensure that adverse effects do not occur, and institute changes to quantities of water released through adaptive management processes to avoid or minimize any adverse effect.

10.2.6.1.2 Montane Riverine Aquatic/Montane Riparian Habitat

The EWA program could affect Montane Riverine Aquatic habitats that are on the same rivers as the Valley Riverine Aquatic habitats, but at higher elevations. Several of the following sections include abbreviated discussions from the Valley Riverine Aquatic habitat evaluation.

Sacramento River

Montane Riverine Aquatic habitat within the EWA area of analysis on the Sacramento River occurs between approximately Red Bluff, CA and Lake Shasta.

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling under the Flexible Purchase Alternative would change Sacramento River flows from June through September. The flow changes would be the same as those described in Section 10.2.6.1.1 for Valley Riverine Aquatic habitat. The numbers represent a 1 to 11

percent increase in flow. No adverse effect to habitat is predicted due to the low changes in flow.

Feather River

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would increase Feather River flows below Sly Creek and Little Grass Valley Reservoirs to Lake Oroville in November and December. The water released from Little Grass Valley and Sly Creek Reservoirs into Lake Oroville would get diverted through Woodleaf and Forbestown tunnels to run through the corresponding power generation facilities and end up in Ponderosa Reservoir. Transfer water spills from Ponderosa Reservoir directly into Lake Oroville. Because the water transferred from Little Grass Valley and Sly Creek Reservoirs into Lake Oroville would almost entirely bypass the Feather River, there would be no effects on vegetation and wildlife.

EWA acquisition of Oroville-Wyandotte ID stored reservoir water could decrease flows in the South Fork of the Feather River during the winter. Oroville-Wyandotte ID would deliver stored reservoir water for the EWA agencies from October through December, and store it in Lake Oroville until it could be transferred through the Delta during the following summer. During the rainy season after December, Oroville-Wyandotte ID would refill its reservoirs, which would decrease the flow that travels downstream of Sly Creek and Little Grass Valley Reservoirs. The effect is not considered significant because it does not occur during the growing season for vegetation along the river.

Yuba River

Montane Riverine Aquatic habitat occurs on the Yuba River between approximately Timbuctoo Bend and New Bullards Bar Reservoir.

EWA acquisition of Yuba County WA water via stored reservoir water and groundwater substitution would decrease Yuba River flows downstream of New Bullards Bar Reservoir from April to June and increase flows from July through September. The flow changes would be the same as those described in Section 10.2.6.1.1 for Valley Riverine Aquatic habitat. The only stretch of the river that includes Montane Riverine Aquatic habitat is from Englebright Dam downstream to Timbuctoo Bend (between Englebright and Daguerre Point Dams). The increases from July through September would noticeably change river flows. The Yuba County WA would operate the system to maintain relatively constant flows during this time period in accordance with existing Yuba County WA operations to protect fish and the environment.

American River

EWA acquisition of Placer County WA stored reservoir water from French Meadows and Hell Hole Reservoirs would increase flows in the Middle Fork of the American River compared to the baseline downstream from Oxbow Power House to Folsom Lake from June to October. At a maximum, releases would increase flows from June through August relative to the Baseline Condition. Median flows downstream from Oxbow Power House (where the reservoirs' power facilities release water into the river) on the Middle Fork are 790, 793, and 776 cfs during June, July, and August, respectively. EWA agencies would monitor the releases to ensure that adverse effects do not occur, and institute

changes to quantities of water released through adaptive management processes to avoid or minimize any adverse effect.

EWA acquisition of Placer County WA stored reservoir water would decrease flows in the Middle Fork of the American River compared to the Baseline Condition while the reservoir refills during winter months. During the rainy season after December, Placer County WA would refill its reservoirs, which would decrease the flow that travels downstream of Oxbow Power House. These decreases would occur during the winter rainy season, and would likely not substantially decrease flows in the river.

EWA acquisition of Placer County WA stored reservoir water would decrease flows in the Middle Fork of the American River compared to the Baseline Condition while the reservoir refills during winter months. During the rainy season after December, Placer County WA would refill its reservoirs, which would decrease the flow that travels downstream of French Meadows, and Hell Hole Reservoirs.

Merced River

Montane Riverine Aquatic habitat occurs on the Merced River between approximately Merced Falls and Lake McClure.

EWA acquisition of Merced ID water via groundwater substitution would decrease Merced River summer flows and increase Merced River fall flows relative to the Baseline Condition. Merced ID would hold the EWA transfer water in Lake McClure until the fall, when it would release the water downstream. This pattern would decrease flows downstream of New Exchequer Dam in the summer by a maximum of 70 cfs, but only for the short distance between New Exchequer Dam and Lake McSwain (the typical diversion point). EWA agency acquisition of Merced ID water via groundwater substitution would increase Merced River flows in fall relative to the Baseline Condition as the water is released from Lake McClure. EWA agencies would monitor the releases to ensure that adverse effects do not occur, and institute changes to quantities of water released through adaptive management processes to avoid or minimize any adverse effect.

10.2.6.1.3 Lacustrine

Comparing EWA actions to the Baseline Condition determines project effects. Reservoirs fluctuate seasonally in response to use and hydrology; therefore, this normal fluctuation creates the Baseline Condition. EWA actions further modify these fluctuations, sometimes accentuating changes and other times attenuating changes in reservoir levels. Any change in reservoir level that could reduce the extent of riparian vegetation along the shore of the reservoir or populations of species inhabiting the shoreline environment would be significant. Chapter 9 presents the analyses of effects to fish populations inhabiting reservoir being used to store and manage EWA assets.

Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change the timing of releases from Lake Shasta. Lake Shasta would hold back at most 68,900 acre-feet that would have been released under the Baseline Condition.

The lake level would decline faster in July and August compared to the Baseline Condition; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September. (See Figure 14-5.) Lake Shasta elevation would be 1.1 feet lower in July, 0.5 of a foot lower in August, and equal to the Baseline Condition in September. These small changes of less than 0.5 inches per day would not be enough to affect the lacustrine habitat within the lake or surrounding the lake perimeter. The water source for riparian vegetation will not be affected and the upland scrub vegetation surrounding the reservoir does not rely on the reservoir for its water source. Therefore, the change in Lake Shasta water surface elevation would have a less-than-significant effect on the lacustrine habitat used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries along the water edge.

Feather River

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would decrease surface water elevations from December until refill for Sly Creek and Little Grass Valley Reservoirs. Little Grass Valley and Sly Creek Reservoirs could release a combined maximum of 15,000 acre-feet of water from October to December (a maximum of 12,000 acre-feet from Little Grass Valley and a maximum of 5,000 acre-feet from Sly Creek Reservoir). Reservoir levels within Little Grass Valley would decrease approximately 12 feet because of the maximum potential release. Reservoir levels within Sly Creek Reservoir would decrease approximately 17 feet because of the maximum potential release. These reductions would not affect shoreline vegetation because this vegetation is not dependent upon reservoir levels for water (the shore-line vegetation is not riparian, it is associated with upland scrub that is not dependent on saturated soil for water). In addition, Sly Creek and Little Grass Valley reservoir water levels fluctuate seasonally and annually; therefore, the drawdown zone is vegetated primarily with non-native herbaceous plants and scattered willow shrubs that do not form a contiguous riparian community and would not be affected by decreases in reservoir levels caused by EWA actions (CALFED 1998). Therefore, the EWA agencies' acquisition of Oroville-Wyandotte ID stored reservoir water would have a less-than-significant effect on the lacustrine habitat of Sly Creek and Little Grass Valley reservoirs used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries.

EWA acquisition of Feather River contractor water via crop idling and groundwater substitution would increase the surface water elevation April to June and decrease the surface water elevation in July and August in Lake Oroville compared to the Baseline Condition. EWA agencies would acquire 110,000 acre-feet through groundwater substitution and 126,550 acre-feet through crop idling. During April through June, Lake Oroville would hold back water that would have been released under the Baseline Condition. By the end of June, the surface water elevation in the reservoir would be, at most, two feet higher than under Baseline Conditions. (See Figure 14-8.) Increased releases in July and August as the stored EWA water is released for cross-Delta transfer would cause the lake level to decline faster compared to Baseline Conditions; however, reduced releases in September would allow end of month elevation in September to

be the same as Baseline Conditions. The increase water surface elevation would result in increased flooding of shoreline habitat. The increased level would come slowly (less than an inch per day) so that wildlife would not be affected and riparian vegetation are accustomed to flooding and will not be adversely affected. Therefore, the change in Lake Oroville water surface elevation would have less-than-significant effects on the lacustrine habitat used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries along the shoreline.

Yuba River

EWA acquisition of water from Yuba County Water Agency (Yuba County WA) via stored reservoir water and groundwater substitution would alter the surface water elevation April to refill at New Bullards Bar Reservoir. EWA agencies would acquire 85,000 acre-feet through groundwater substitution. During April through June, New Bullards Bar Reservoir would hold back water that would have been released under the Baseline Condition. By the end of June, the surface water elevation in the reservoir would be, at most, 5 feet higher than under the Baseline Condition. (See Figure 14-9.) An increase in the surface water elevation would only inundate the existing drawdown zone and would not affect vegetation and wildlife.

Yuba County WA would not enter into a transfer agreement unless local needs, instream flows, and system demand requirements were met. If these elements were met, EWA agencies could acquire water during July through September. Releases from New Bullards Bar Reservoir would be, at a maximum, 100,000 acre-feet of water from stored reservoir water and 85,000 acre-feet from groundwater substitution. The combination of these releases would reduce lake levels compared to the Baseline Condition by 1 foot, 10 feet, and 24 feet in July, August, and September, respectively. This reduction would not affect shoreline vegetation because this vegetation is not dependent upon reservoir levels for water (the shorel;ine vegetation is not riparian, it is associated with upland scrub that is not dependent on saturated soil for water). In addition, New Bullards Bar Reservoir water levels fluctuate seasonally and annually; therefore, the drawdown zone is vegetated primarily with non-native herbaceous plants and scattered willow shrubs that do not form contiguous riparian communities and would not be affected by decreases in water levels caused by EWA actions (CALFED 1998). Therefore, the EWA agency acquisition of Yuba County Water Agency water would have less-than-significant effects on the lacustrine habitat of New Bullards Bar Reservoir used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries along the shoreline.

The EWA agencies and Yuba County WA could agree to transfer water under a multi-year contract. If full refill occurred, which it has for 85 percent of the past transfers, effects on vegetation and wildlife for subsequent years would be the same as described above. If full refill did not occur, Yuba County WA would consider selling less water the following year.

American River

EWA acquisition of Placer County Water Agency stored reservoir water would decrease surface water elevations June to refill at Hell Hole and/or French Meadows Reservoirs. Hell

Hole Reservoir and French Meadows Reservoir would release a combined maximum of 20,000 acre-feet of water. The amount released from each reservoir would be at the discretion of Placer County Water Agency; however, this analysis assumes that releases would be in proportion to the sizes of the reservoirs (61 percent from Hell Hole, the remainder from French Meadows). Releases of reservoir water from French Meadows and Hell Hole could begin as early as June and end as late as October. For the purposes of this analysis, releases were assumed to take place between July and September. Using these assumptions, French Meadows would release 7,800 acre-feet, decreasing water surface levels by approximately eight feet. Hell Hole would release 12,200 acre-feet decreasing water surface levels by 14 feet. These reductions would not affect shoreline vegetation because this vegetation is not dependent upon reservoir levels for water. In addition, French Meadows and Hell Hole Reservoir water levels fluctuate seasonally and annually; therefore, the drawdown zones are vegetated primarily with non-native herbaceous plants and scattered willow shrubs that do not form a contiguous riparian community and would not be affected by decreases in reservoir levels caused by EWA actions (CALFED 1998). Therefore, the EWA agency acquisition of stored reservoir water and the decrease in surface water elevations at French Meadows and Hell Hole Reservoirs would have a less-than-significant effect on lacustrine habitat used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries along the shoreline.

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase and Placer County WA's water via stored reservoir water would change surface water elevations in Folsom Lake. During July and August, the surface water elevation at Folsom Lake would be 0.8 of a foot lower than the Baseline Condition. The lake level would decline faster in July and August compared to the Baseline Condition; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September. (See Figure 14-12.) Therefore, the change in Folsom Lake surface water elevations would have less-than-significant effects on lacustrine habitat used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries.

Merced River

EWA acquisition of Merced ID water via groundwater substitution would increase the water surface elevation in Lake McClure compared to the Baseline Condition. EWA agencies could acquire 25,000 acre-feet through groundwater substitution. During April through September, Lake McClure would hold back water that would have been released under the Baseline Condition. By the end of September, the surface water elevation in the reservoir would be, at most, three feet higher than under Baseline Conditions. (See Figure 14-13.) This increase would occur slowly over the six-month period, less than 0.5 inches per day. The increase would not flood sensitive habitats or nesting areas. Therefore, the change in Lake McClure surface water elevations would have a less-than-significant effect on lacustrine habitat used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries along the shoreline.

10.2.6.1.4 Nontidal Freshwater Permanent Emergent

EWA acquisition of water via groundwater substitution transfers in the Upstream from the Delta Region could lower groundwater levels. As a part of groundwater substitution transfers, the willing sellers would pump additional groundwater resulting in a decreased use of surface water. Pumping additional groundwater would decrease groundwater levels in the vicinity of the sellers' pumps. Some areas of Nontidal Freshwater Permanent Emergent habitat have groundwater as a source of water, and decreasing groundwater levels could reduce the supplies for these habitats thereby drying up the habitat.

Chapter 6, Groundwater Resources, analyzes in detail how groundwater substitution transfers could affect groundwater levels and surrounding beneficial users, including the environment. The section concludes that these effects could be potentially significant, and requires several measures. These measures would require monitoring to identify if any effects are occurring, and implementation of additional mitigation by the seller if any effects should occur. The additional mitigation steps could be cessation of pumping or use of a replacement water source for the affected area. Because the mitigation involves monitoring and the effect may only be determined after the drying of a habitat is observed, groundwater substitution has the potential for a significant effect on nontidal permanent emergent wetlands. The degree of that effect will be dependent on how soon the effect is noted and the response by the willing seller to mitigate that effect. Implementation of Environmental Measures in Section 10.2.4 will reduce this effect to a less-than-significant level.

10.2.6.1.5 Natural Seasonal Wetland

EWA acquisition of water via groundwater substitution transfers in the Upstream from the Delta Region could lower groundwater levels. As a part of groundwater substitution transfers, the willing sellers would use groundwater to irrigate crops and decrease use of surface water. Pumping additional groundwater would decrease groundwater levels in the vicinity of the sellers' pumps. Some areas of Natural Seasonal Wetland habitat have groundwater as a source of water, and decreasing groundwater levels could reduce the water base for these habitats.

Chapter 6, Groundwater Resources, analyzes in detail how groundwater substitution transfers could affect groundwater levels and surrounding beneficial users, including the environment. The section concludes that these effects could be potentially significant, and requires several measures. These measures would require monitoring to identify if any effects are occurring, and implementation of additional measures by the seller if any effects should occur. The additional mitigation steps could be cessation of pumping or use of a replacement water source for the affected area. Because the mitigation involves monitoring and the effect may only be determined after the drying of a habitat is observed, groundwater substitution has the potential for a significant effect on natural seasonal wetlands. The degree of that effect will be

dependent on how soon the effect is noted and the response by the willing seller to mitigate that effect. Implementation of Environmental Measures in Section 10.2.4 will reduce this effect to a less-than-significant level.

10.2.6.1.6 Managed Seasonal Wetland

Groundwater substitution and crop idling actions could have adverse effects on managed seasonal wetlands by reducing the water supply to these areas. The project effects on managed seasonal wetlands would be the same as for the nontidal emergent and natural seasonal wetland communities due to their potential association with high groundwater tables. The groundwater substitution mitigation strategy would also apply to this community. Effects to the community would be considered significant if the willing seller does not mitigate for the loss of the water source for this community.

In addition, both groundwater substitution and crop idling actions could result in less water in agriculture supply and return flow ditches, potentially resulting in the desiccation of managed seasonal wetlands. The sections below analyze potential project effects on agricultural water supplies caused by these two EWA actions.

Groundwater Substitution Transfers in the Sacramento Valley

Groundwater substitution transfers would decrease flows in agricultural delivery ditches. When water agencies agree to sell water to the EWA agencies through groundwater substitution transfers, the water agencies will identify the specific farms within each area participating in the idling action. The water sellers then forgo their surface water supplies and substitute water supplies with groundwater. This change results in less diversion into the agricultural delivery system, which could affect species within the delivery ditches. This decrease is likely to adversely affect the species and vegetation that depend on this flow; therefore, this effect is potentially significant. Measures in Section 10.2.4 would reduce effects to a less-than-significant level.

Crop Idling Transfers

The effects of crop idling transfers on managed seasonal wetlands depend on the location of the transfers. The following section is divided by river system to fully explain these potential effects.

EWA acquisition of Sacramento River water via crop idling would reduce the water supply for managed seasonal wetlands that rely on return flows from fields that would be idled. Glenn, Colusa, and Yolo Counties could idle up to 47,980 acres. The EWA agencies would purchase approximately 3.3 acre-feet per acre (the amount of water consumed by the crop); however, under the Baseline Condition, water agencies divert additional water from the Sacramento River to account for system losses. System losses include conveyance losses (evaporation or percolation within the conveyance system), riparian evapotranspiration (water used by vegetation along the conveyance system), and on-farm losses (deep percolation to groundwater or tailwater runoff). The amount of water diverted varies depending on the amount of system losses.

If farmers idled their crops, their water agency would reduce diversions by the 3.3 acre-feet per acre plus the additional amount that goes to on-farm losses. Of this additional amount that is applied to fields in the Baseline Condition, a portion percolates into the groundwater aquifer below and a portion runs off the field back into the conveyance system. This "tailwater" that runs back into the conveyance

system could then be used again by managed wetlands downstream on the conveyance system. If farmers idled land, tailwater would no longer be available to downstream users, either other farmers or managed wetlands.

Few managed seasonal wetlands exist downstream of the water agencies that may sell water to the EWA agencies via crop idling. The effects on these wetlands because of the reduction of return flows, however, could be potentially significant. The environmental measures in Section 10.2.4 would reduce effects to managed seasonal wetlands to a less-than-significant level.

EWA acquisition of Feather River water via crop idling would reduce the water supply for managed seasonal wetlands that rely on the return flows from fields that would be idled. Butte and Sutter Counties could idle up to 38, 340 acres. As described above for the Sacramento River, idling these fields would reduce tailwater, which could reduce supplies to downstream wetlands. Several of the agencies within Butte and Sutter Counties discharge return flows from the irrigation systems into Butte Creek, which provides water for several managed seasonal wetlands. The reduction in return flows could have potentially significant effects on these managed seasonal wetlands. The environmental measures in Section 10.2.4 would reduce effects to managed seasonal wetlands to a less-than-significant level.

EWA acquisition of American River water via crop idling would reduce the water supply for managed seasonal wetlands that rely on return flows from fields that would be idled. Placer County could idle up to 3,280 acres. As described above for the Sacramento River, idling these fields would reduce tailwater, which could reduce supplies to downstream wetlands. The reduction in return flows could have potentially significant effects on managed seasonal wetlands. The environmental measures in Section 10.2.4 would reduce effects to managed seasonal wetlands to a less-than-significant level.

10.2.6.1.7 Seasonally Flooded Agriculture

Crop idling would reduce the rice acreage in the Sacramento Valley. Table 10-4 displays SFA acreage and waste grain reduction for the maximum acreage of crop idling anticipated for all counties where idling action could occur for the EWA program. These numbers reflect the maximum water transfers (for all water programs acquiring water through crop idling) based on the project limitation of 20 percent maximum crop acreage idled per county. Idling this acreage would reduce the extent of habitat available to those special-status species dependent upon SFA for some portion of their lifecycle (identified with an * in Table 10-3), which would result in potentially significant effects to those species. Section 10.2.4 proposes environmental measures to help minimize any adverse effects to special-status species.

Table 10-4 also displays the reduction in the availability of waste grain as forage to wildlife by county and total for all crop idling actions (depending on agricultural practices). This amount would result in a potentially significant effect to those special-status species dependent upon waste grain for a large portion of their forage

(identified with an * in Table 10-3). Section 10.2.4 proposes environmental measures to help minimize any adverse effects to special-status species.

Associated with the idling of SFA is the potential loss of water within adjacent irrigation and return ditches in all six counties. EWA water would not enter water agencies' distribution systems because it is no longer being delivered to the agricultural users, and unused flows from the fields would not return to the delivery system. These changes have the potential to reduce flow in these ditches, thereby reducing the value of habitat provided. Some irrigation ditches provide forage, resting, and nesting habitat and serve as migration corridors. Devaluing or losing this habitat could affect giant garter snakes, herons, egrets, western pond turtles, etc. This decrease to water in agricultural ditches is a potentially significant effect to these special-status species. Section 10.2.4 proposes environmental measures to help minimize any adverse effects to special-status species.

Table 10-4
Seasonally Flooded Agriculture Acreage and Waste Grain Reductions in Each County Based on Crop Idling Maximum Purchases under the Flexible Purchase Alternative

	Rice Acreage (97 Ag Census) (AC)	Maximum Idled Acreage (AC)	Maximum Percent Rice Acreage (%)	Waste Grain per Acre (lbs)	Total Waste Grain (million lbs)	Maximum Waste Grain Loss (million lbs)	Maximum Percent Waste Grain Loss (%)	Maximum Total Acre-Feet of Water Available for EWA Fish Actions (TAF)	Maximum Potential Square Miles Idled
Butte	95,120	19,000	20%	350	33.3	6.6	20%	62.7	30
Colusa	132,338	26,460	20%	350	46.3	9.2	20%	87.3	41
Glenn	83,777	16,750	20%	350	29.3	5.7	20%	55.2	26
Placer	16,379	3,280	20%	350	5.7	1.1	20%	10.8	5
Sutter	96,722	19,340	20%	350	33.9	6.8	20%	63.8	30
Yolo	23,822	4,770	20%	350	8.3	1.7	20%	15.7	7
Total	448,158	89,608	20%	350	156.9	31.1	20%	295.7	140

Associated with the idling of SFA is the potential for fragmentation of seasonally flooded agriculture land habitat. Assuming the maximum acreage is idled (20 percent of rice within each county), a total of 140 square miles of formerly flooded land would be dry in all six counties over the late spring, summer, and early fall months. This impact would be significant if it occurred as one contiguous block of SFA. The idled land would have the potential to interfere with wildlife migration and the dispersal of individuals within a metapopulation (hence a loss of genetic diversity). The inability of a snake to migrate to more suitable habitat would potentially be a significant effect to this special-status species, especially those populations that are succumbing to other population pressures. Section 10.2.4 identifies environmental measures intended to reduce the significant effects to species utilizing SFA for an important part of their life cycle.

Also associated with idling SFA is the potential to affect wildlife, in particular special-status species. The following text provides a summary of the special-status species assessment conducted in the EWA ASIP. Table 10-5 provides the relationship of special-status species associated with rice lands and the rice production cycle.

10.2.6.1.8 Aleutian Canada Goose

Aleutian Canada Goose Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing winter forage and habitat for this recovering species. The Aleutian Canada goose is a winter visitor to the Central Valley. The primary cause of its population decline was the introduction of foxes to its breeding islands in Alaska. A recovery plan (USFWS 1991a) has been put in place to address the threat predators pose to its breeding habitat. The concern for its winter use in California is to ensure the survival of the over wintering populations as measure of addressing the species overall recovery.

Like many migratory waterfowl, the Aleutian Canada goose forages on waste grain on agricultural fields in the Colusa Basin. This includes flooded rice land and rice land stubble. In addition to waste grains, the birds also consume insects and vegetative matter.

The concern for SFA idling is a reduced winter food supply for the Aleutian Canada goose. However, the analysis of waterfowl population trends for the Central Valley (Figure 10-4) shows no correlation between the amount of waste grain and waterfowl numbers. It appears that waste grain is not a limiting factor for controlling waterfowl populations and therefore the reductions of winter forage resulting from EWA crop idling would have a less-than-significant effect on the species. No environmental measure for the Aleutian Canada goose related to reduction in winter forage is proposed.

Crop idling actions taken by EWA agencies would have less-than-significant effects on the Aleutian Canada goose.

10.2.6.1.9 Black Tern

Black Tern Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing breeding habitat and summer habitat for this special status species. The black tern was once a common spring and summer visitor to the emergent wetlands of the Central Valley, but its numbers have declined due to habitat losses. Although restricted to freshwater habitats for breeding, it migrates to bays, rivers, and pelagic waters the remainder of the year. SFA habitat has partially replaced the lost emergent vegetation breeding habitat for this species. The rice production cycle coincides with the tern's seasonal behavior in two ways: 1) fields are flooded during the tern's Central Valley breeding season, and 2) fields are dry when the birds have migrated to other aquatic habitats.

Table 10-5
Relationship of Special-Status Species Associated to Rice Land Crop Cycles

Annual Cycles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice Fields Status	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded or draining in Sacramento Valley)*	Generally draining and drying in preparation for planting*	Generally flooded*	Generally flooded*	Flooded	Flooded	Draining and harvesting	Draining and harvesting	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)
Giant Garter Snake	Snakes are dormant.	Snakes are dormant.	Snakes emerge. Riceland provides canals with emergent vegetation for cover and for locating mates.	Snakes emerge. Riceland provides canals with emergent vegetation for cover and for locating mates.	Snakes remain close to their denning areas.	Snakes move throughout flooded rice land habitat. Rice land provides warm shallow open waters with aquatic prey for foraging.	Snakes move throughout flooded rice land habitat and start birthing. Rice land provides emergent vegetation for birthing and juvenile dispersion cover.	Snakes move throughout flooded rice land habitat and continue birthing. Rice land provides emergent vegetation for birthing and juvenile dispersion cover.	Snakes complete birthing and leave rice land area to concentrate in drainage ditches and irrigation canals. Rice land provides concentrated prey within canals	Snakes are concentrating in drainage ditches and irrigation canals. Rice land provides drainage pools of concentrated prey for pre-dormancy gorging.	Snakes are dormant.	Snakes are dormant.
Tricolored Blackbird	Birds winter in pastureland and other habitat. Some flocks use shallow open waters for foraging on aquatic insects and plants if fields are flooded and barren fields for foraging on waste grain.	Birds winter in pastureland and other habitat. Some flocks use shallow open waters for foraging on aquatic insects and plants if fields are flooded and barren fields for foraging on waste grain.	Birds initiate breeding in habitats adjacent to rice lands. Some foraging may continue in residual flooded fields/inactive fields on aquatic insects and waste grain.	Birds are breeding in habitats adjacent to rice lands. Rice lands in planting stage typically provide no significant resource.	Birds are breeding in habitats adjacent to rice lands. Rice land resources include shallow open waters for foraging on aquatic insects and emergent plants.	Birds are breeding in habitats adjacent to rice lands. Rice land resources include shallow open waters for foraging on aquatic insects and emergent plants.	Birds are breeding in habitats adjacent to rice lands. Rice land resources include shallow open waters for foraging on aquatic insects and emergent plants.	Birds are breeding in habitats adjacent to rice lands. Rice land resources include shallow open waters for foraging on aquatic insects and emergent plants.	Birds finish breeding and are dispersing to a variety of habitats. Waste grain becomes available for foraging.	Birds finish breeding and are dispersing to a variety of habitats. Waste grain becomes available for foraging.	Birds winter in pastureland and other habitat. Some flocks use shallow open waters for foraging on aquatic insects and plants if fields are flooded and barren fields for foraging on waste grain.	Birds winter in pastureland and other habitat. Some flocks use shallow open waters for foraging on aquatic insects and plants if fields are flooded and barren fields for foraging on waste grain.

Table 10-5
Relationship of Special-Status Species Associated to Rice Land Crop Cycles

Annual Cycles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice Fields Status	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded or draining in Sacramento Valley)*	Generally draining and drying in preparation for planting*	Generally flooded*	Generally flooded*	Flooded	Flooded	Draining and harvesting	Draining and harvesting	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)
Greater Sandhill Crane	Crane is wintering. Rice land resources include dry and barren rice fields with rice stubble for foraging/cranes avoid flooded fields.	Crane is wintering. Rice land resources include dry and barren rice fields with rice stubble for foraging.	Crane migrates to breeding habitat in Northern California.	Crane breeds in Northern California.	Crane breeds in Northern California.	Crane breeds in Northern California.	Crane breeds in Northern California.	Crane breeds in Northern California.	Crane breeds in Northern California.	Crane begins returning to winter habitat, typically to the same location each year.	Crane is wintering. Rice land resources include dry and barren rice fields with rice stubble for foraging.	Crane is wintering. Rice land resources include dry and barren rice fields with rice stubble for foraging.
Great and Snowy Egrets and Heron	Egrets are wintering. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are wintering. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are wintering. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are breeding in rookeries. Rice lands during planting typically provide no significant resource.	Egrets are breeding in rookeries. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are breeding in rookeries. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are breeding in rookeries. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are breeding in rookeries. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are breeding in rookeries. Rice lands during harvesting typically provide no significant resource.	Egrets are wintering. Rice lands during harvesting typically provide no significant resource.	Egrets are wintering. Rice land resources include shallow open waters for foraging on small fish and invertebrates.	Egrets are wintering. Rice land resources include shallow open waters for foraging on small fish and invertebrates.

Table 10-5
Relationship of Special-Status Species Associated to Rice Land Crop Cycles

Annual Cycles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice Fields Status	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded or draining in Sacramento Valley)*	Generally draining and drying in preparation for planting*	Generally flooded*	Generally flooded*	Flooded	Flooded	Draining and harvesting	Draining and harvesting	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)
White-faced Ibis	Ibis is wintering. Rice land resources include shallow open waters for foraging on aquatic insects and invertebrates if fields are winter-flooded and barren fields for foraging on terrestrial or aquatic insects and invertebrates if fields are inactive.	Ibis is wintering. Rice land resources include shallow open waters for foraging on aquatic insects and invertebrates if fields are winter-flooded and barren fields for foraging on terrestrial or aquatic insects and invertebrates if fields are inactive.	Ibis is wintering. Rice land resources include shallow open waters for foraging on aquatic insects and invertebrates if fields are winter-flooded and barren fields for foraging on terrestrial or aquatic insects and invertebrates if fields are inactive.	Ibis is migratory and is breeding mostly in areas apart from rice lands.	Ibis is migratory and is breeding mostly in areas apart from rice lands.	Ibis is migratory and is breeding mostly in areas apart from rice lands.	Ibis is migratory and is breeding mostly in areas apart from rice lands.	Ibis is migratory and is breeding mostly in areas apart from rice lands.	Ibis is migrating. Rice lands during harvesting typically provide no significant resource.	Ibis is wintering. Rice lands during harvesting typically provide no significant resource.	Ibis is wintering. Rice land resources include shallow open waters for foraging on aquatic insects and invertebrates if fields are winter-flooded and barren fields for foraging on terrestrial or aquatic insects and invertebrates if fields are inactive.	Ibis is wintering. Rice land resources include shallow open waters for foraging on aquatic insects and invertebrates if fields are winter-flooded and barren fields for foraging on terrestrial or aquatic insects and invertebrates if fields are inactive.
Long-billed Curlew	Curlew is wintering. Rice land resources for the curlew include shallow open waters for foraging on invertebrates.	Curlew is wintering. Rice land resources for the curlew include shallow open waters for foraging on invertebrates.	Curlew is wintering. Rice land resources for the curlew include shallow open waters for foraging on invertebrates.	Curlew moves to breeding areas with elevated grasslands.	Curlew breeds in elevated grasslands.	Curlew breeds in elevated grasslands.	Curlew breeds in elevated grasslands.	Curlew breeds in elevated grasslands.	Curlew breeds in elevated grasslands.	Curlew returns. Rice lands during harvesting typically provide no significant resource.	Curlew is wintering. Rice land resources include shallow open waters for foraging on invertebrates.	Curlew is wintering. Rice land resources include shallow open waters for foraging on invertebrates.

Table 10-5
Relationship of Special-Status Species Associated to Rice Land Crop Cycles

Annual Cycles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice Fields Status	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded or draining in Sacramento Valley)*	Generally draining and drying in preparation for planting*	Generally flooded*	Generally flooded*	Flooded	Flooded	Draining and harvesting	Draining and harvesting	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)
Black Tern	Tern over winters in South America	Tern over winters in South America	Tern over winters in South America	Terns begin to return to California and initiate breeding in habitats other than rice land. Rice land during planting typically provides no significant resource.	Tern is breeding and can start using flooded rice land for foraging on insects and invertebrates.	Tern is breeding and is using flooded rice land emergent vegetation for nesting and for foraging on insects and invertebrates.	Tern is breeding and is using flooded rice land emergent vegetation for nesting and for foraging on insects and invertebrates.	Tern ends breeding. Rice land resources include shallow open waters and emergent vegetation for foraging on insects and invertebrates.	Terns begin to disperse from riceland	Tern migrates to South America	Tern over winters in South America	Tern over winters in South America
Black-crowned Night Heron	Heron is wintering. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates if fields are flooded.	Herons initiate breeding in trees possibly near rice land. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates if fields are flooded.	Heron is breeding. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates if fields are flooded.	Heron is breeding. Rice lands during planting typically provide no significant resource.	Heron is breeding. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates.	Heron is breeding. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates.	Heron completes breeding. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates.	Heron is roosting in trees more remote from rice land. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates.	Heron is roosting. Rice lands during harvesting typically provide no significant resource to Herons	Heron is roosting. Rice lands during harvesting typically provide no significant resource to Herons	Heron is wintering. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates if fields are flooded.	Heron is wintering. Rice land resources include shallow open waters for foraging on aquatic insects, small fish, and invertebrates if fields are flooded.

Table 10-5
Relationship of Special-Status Species Associated to Rice Land Crop Cycles

Annual Cycles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice Fields Status	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded or draining in Sacramento Valley)*	Generally draining and drying in preparation for planting*	Generally flooded*	Generally flooded*	Flooded	Flooded	Draining and harvesting	Draining and harvesting	Inactive (40% flooded in Sacramento Valley)	Inactive (40% flooded in Sacramento Valley)
Western Pond Turtle	Turtles are dormant.	Turtles are dormant.	Turtles become active. Rice land resources include emergent vegetation in canals and drainage ditches for cover and for foraging on aquatic plants and invertebrates and dikes for basking.	Turtles are active. Rice land resources include emergent vegetation in canals and drainage ditches for cover and for foraging on aquatic plants and invertebrates and dikes for basking.	Female turtles begin moving to upland nest sites. Rice land resources include emergent and wet irrigation canals and drainage ditches for cover and for foraging on aquatic plants and invertebrates and dikes for basking.	Female turtles move to upland nest sites. Rice land resources include emergent vegetation in canals and fields for cover and for foraging and dikes for basking.	Female turtles complete nesting. Rice land resources include emergent vegetation in canals and fields for cover and for foraging and dikes for basking.	Turtles are active in fields and canals. Juveniles begin to hatch but remain at the nests, usually until March	Turtles are active. Turtles move into drainages and canals with emergent vegetation and cover and for foraging on aquatic plants and invertebrates.	Turtles are active. Remain in drainages and canals with emergent vegetation until hibernation. Canals have concentrated prey to prepare for hibernation.	Turtles are dormant.	Turtles are dormant.

* The determination of when field preparation initiates is dependent on the last significant rainfall. If rainfall ends in March, field prep can start in April, if rain extends into May, field preparation may wait until early June..

The black tern forages by hovering above wet meadows and emergent wetlands, catching insects in the air and diving into the water to capture tadpoles, crayfish, small fish, and mollusks. It nests in loose mats of dead vegetation on the ground or anchored to other vegetation. In rice fields, the tern can also nest on dikes that separate the fields.

Because this species uses SFA for nesting and forage, a reduction of rice habitat could be detrimental to local populations. As an environmental measure, idling of rice habitat known to support colonies of black terns should be avoided. The EWA agencies will review maps of areas proposed for EWA water acquisition crop idling for the presence of the nearest colony. Fields supporting colonies will not be idled. The environmental measures in Section 10.2.4 would reduce effects on the black tern to less than significant.

10.2.6.1.10 Black-Crowned Night Heron

Black-Crowned Night Heron Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley affecting roosting habit and reducing forage for this special status species. The black-crowned night heron is a fairly common, yearlong resident of lowlands and foothills in California. It nests and roosts in dense tree foliage. Nesting roosts are typically near water, but non-breeding roosts can be some distance from water. Unlike other herons, the black-crowned night heron feeds primarily at night. It has a highly variable diet consisting of fish, crustaceans, aquatic insects, and other invertebrates, amphibians, and small mammals. There are reports of black-crowned night herons raiding bird colonies, including terns and tricolored black birds.

SFA habitat is just one of the many habitats used by the black-crowned night heron. These birds commonly fly up to three miles from their roosts to their feeding areas. Although idling of rice fields may reduce some forage available to the heron, the heron has no particular affinity to this habitat. The only effect would be to those herons, which have incorporated rice into their foraging routine. If insufficient forage is present within idled rice fields, the black-crowned night heron has the ability to forage elsewhere. The heron's roosting sites are not dependent on rice farmland practices and will not be affected by crop idling actions. The EWA program would have a less than significant effect on the black-crowned night heron.

10.2.6.1.11 Great Blue Heron, Great Egret, Snowy Egret

Great Blue Heron, Great Egret, Snowy Egret Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley affecting roosting habit and reducing forage for these special status species. These three species are included in one assessment because of coinciding roosting and feeding habits. In the Central Valley, all three species roost communally in trees in riparian areas, and feed commonly in shallow water, along shorelines, irrigation ditches, and other water bodies that contain fish, amphibians, insects, crustaceans, small mammals, and similar prey items. The species will readily abandon nesting attempts if disturbed. Destruction of riparian habitat and roosting trees is therefore a major concern for all of these species.

These species typically "commute" daily from their overnight roosting sites to their feeding areas. All species typically travel from one to five miles from the roosting site to the feeding locations. For seasonally flooded agricultural land (rice farmland), these species utilize both the rice fields and associated irrigation ditches. In relation to the rice cycle, the flooded fields during the summer and the irrigation ditches during the fall provide ample aquatic and insect prey. (See Section 10.1.1.14.) The dry fields during fall and spring, and partially flooded fields during the winter provide for some insect prey. None of the species rely on waste grain (except for the insect populations the grain may support) and thus absence of waste grain is not a concern for the species as it is for other avian species.

Idling of rice farmland for a season has the potential to reduce some summer and fall forage for egrets and herons that roost within 5 miles of the idling action. Because the birds will travel long distances to forage and because environmental measures for the giant garter snake will provide for the maintenance of aquatic habitat in rice growing areas, the only effect on these species is a potential change in forage patterns from idled fields to fields with abundant prey. Idling of rice farmland will not affect roosting sites; there is less human activity because no farming is occurring. Therefore, effects would be less than significant and no environmental measures are proposed.

10.2.6.1.12 Greater Sandhill Crane

Greater Sandhill Crane Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley thereby reducing winter forage for this special status species. The Central Valley Population of the sandhill crane is one of five populations in North America (Littlefield et al. 1994). It is comprised of 6000-6800 individuals, among which 3400 breed in the southern segment of its range, which includes northeast California, outside of the EWA area of analysis. The entire population winters in the Central Valley (Littlefield and Thompson 1979), and from 1983-1984, 95percent wintered from Sacramento Valley south to the Bay-Delta (Pogson and Lindstedt 1991).

The greater sandhill crane uses harvested rice fields in the Sacramento Valley for wintering habitat and forage from October to February (Littlefield 1993). It also uses grain fields in the Delta. The time period that cranes over winter also corresponds to the time when rice land is being harvested (October) and then becomes inactive. The greater sandhill crane prefers rice stubble that has not been flooded to decompose the vegetative materials. Burning or flooding to manage harvested rice stubble has contributed to the reduction of portions of the crane's wintering habitat (Littlefield 1993).

The greater sandhill crane typically returns to the same location each year to winter. Crop idling of seasonally flooded agricultural land used for rice production in the areas to which the cranes return will affect their wintering distribution patterns due to reduced forage on the idled fields. Although the cranes will disperse from their core areas as winter food resources diminish, crop idling could affect this change earlier. Avoiding crop idling in the core areas could minimize this effect to crane populations. Environmental measures in Section 10.2.4 would reduce this effect to a less-than-significant level.

10.2.6.1.13 Long-billed Curlew

Long-billed Curlew Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing winter forage for this special status species. The long-billed curlew is a common winter visitor to the Central Valley where it forages on upland herbaceous plants and croplands. Some non-breeding individuals remain in the Central Valley during the summer. Breeding habitat is located in upland prairie grassland habitat outside of the EWA area of analysis. Winter migrants can arrive as early as June and most leave the valley by April. The primary food prey items of the curlew in the Central Valley are estuarine fish, insects, worms, spiders, crayfish, snails, and small crustaceans. Curlews "display no consistent season-specific food item preferences or limitations" (NRCS 2000). Therefore, during the winter curlews would take advantage of flooded or dry rice fields as long as adequate prey is available. The idling of seasonally flooded agricultural land would reduce some insect forage areas for the species (assuming the idled cropland produces less insects), but curlews would respond by looking for forage in other habitats. This effect is considered less than significant and no environmental measure is proposed for this species.

10.2.6.1.14 Tricolored Blackbird

Tricolored Blackbird Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing summer forage and breeding colonies for this special status species. The tricolored blackbird is an inhabitant of the Sacramento-San Joaquin Delta and central coast of California in the winter and typically migrates to breeding locations near open freshwater in Sacramento County and throughout the San Joaquin Valley in the spring (Dehaven et al. 1975). In addition to insects and seeds, the tricolored blackbird forages on cultivated grains such as rice on croplands and flooded fields, and waste grain rice following the harvest (Zeiner et al. 1990). One study showed that rice constituted up to 38 percent of the annual diet of tricolored blackbirds (Crase and DeHaven 1978), but most reports indicate that insects can make up to 90 percent of their diets in the summer shifting to 88 percent vegetative matter in the winter.

Tricolored blackbirds generally breed from March to July, but have been observed breeding in the Sacramento Valley in October and December. In some years there may be up to three attempts at breeding, particularly if a colony is disturbed during an earlier attempt. Although the primary cause for the overall decline in tricolored blackbird populations is due to loss of wetland habitat to agriculture and urban development, the current threat to the population is predation by mammalian and avian predators and the destruction/disturbance of breeding colonies. Tricolored blackbirds can breed in large colonies, with over 100,000 birds being reported for some colonies.

Tricolored blackbirds have three basic requirements for selecting breeding colony sites (Beedy and Hamilton, 1997): 1) open accessible water; 2) protected nesting substrate, usually either flooded or thorny or spiny vegetation; and 3) suitable foraging space providing adequate insect prey within a few kilometers of the nesting colony. Rice fields can provide two of the three requirements (water and insects), but

the adjacent vegetation is usually not sufficiently shrubby and the emergent rice plants are not tall and strong enough to support nests, at least during the time when initial nesting is being attempted. Colonies have been rarely observed in rice fields (USFWS 1999), but can use emergent vegetation in canals associated with rice fields. The rice agriculture cycle provides insect forage in the flooded fields during the summer and waste grain forage over winter.

Tricolored black birds do not necessarily return to the same location each year to breed and can vary location between season or within a season. Because the birds have specific breeding habitat requirements and there are limited areas available for breeding, colonies are typically found in the general vicinity of the previous years colony, if the same site is not being used.

The primary concern for the tricolored blackbird's association with rice fields is the use of the habitat as a source of insects and waste grain forage. The birds are highly mobile and fly up to 3 miles from the colony site to forage. During the winter, the birds are more nomadic and move from pastureland and dairy farms to feed, primarily on vegetative matter. The idling of rice fields could affect the behavior of the birds related to foraging distribution patterns. Because environmental measures for the giant garter snake will prevent large blocks of land from being fallowed and will require maintenance of ditch habitat, any effect on foraging behavior is considered less than significant for the tricolored blackbird.

10.2.6.1.15 White-faced Ibis

White-faced Ibis Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing winter forage for this special status species. The white-faced ibis is primarily a winter migrant to the Central Valley. The largest breeding colonies are in Utah, Nevada, and Oregon. Key areas for wintering include the Delevan-Colusa Butte Sink, northwestern Yuba County, the Yolo Bypass, Grasslands Wetlands Complex, and Mendota Wildlife Area. There are reports of breeding colonies in the Central Valley, particularly within the Mendota Wildlife Area and Colusa National Wildlife Area. Within the Central Valley, the species occupies a variety of aquatic and wetland habitats, including rice fields that provide abundant prey (Remsen 1978). The ibis can breed from April to September (USFWS 1999).

Primary cause for the decline in numbers of this species is the drainage of wetlands and destruction of nesting habitat. SFA habitat is one of the many habitat types used by the species, and the species has no particularly affinity to rice fields compared to other wetland habitats.

The diet of the ibis consists of insects, small fish, and miscellaneous invertebrates (Granholm 1991). It feeds in flooded (less than 20 cm water depth) (USFWS 1999; RMI, 1997) or inactive fields that contain its prey items. Surveys of the Sacramento Valley found 66 percent of the ibis concentrated in agricultural fields. In one study up to 53 percent of the foraging ibis were observed in rice stubble (Shuford et. al. 1996).

The white-faced ibis is well adapted to changes in environmental conditions such as drought and flooding; therefore, use of specific areas can vary greatly from year to year depending on habitat conditions (Granholm 1991). The species interaction with the rice crop cycle includes using flooded land in the summer for foraging of prey, and dry or flooded rice fields in the winter, also for prey. Because the species is adaptive and responds to changes in environmental conditions, the effect dude idling of flooded rice fields is considered to be less than significant. No environmental measure is proposed for the species.

10.2.6.1.16 Giant Garter Snake

Giant Garter Snake Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing replacement wetland habitat that this special status species uses year around thereby jeopardizing population numbers. Giant garter snakes' reliance on rice fields and agricultural drainage is due to a lack of viable alternative habitats. Most of its historic wetland habitat has been lost (USFWS 1999). Riparian woodlands do not provide the basking areas the snake requires to warm to activity levels (Hansen and Brode 1980), nor do they provide the pools of concentrated prey such as carp, mosquitofish, and bullfrogs (Rossman et al. 1996) the species relies upon for food. Open river environments make the giant garter snake susceptible to predation by non-native species such as bass and leveed rivers do not provide the snake with grassy banks for basking or elevated areas for hibernation (58 FR 54053, Oct 20, 1993).

Rice fields provide all necessary elements of the giant garter snake habitat. This includes irrigation canals and flooded fields that provide forage and escape, emergent vegetation for cover, and upland areas along canals for basking and dens. Populations of giant garter snakes in the Colusa, Butte, Sutter, and American River Basins are mostly associated with rice field habitats and their connecting irrigation and drainage canals (58 FR 54053, October 20, 1993). Current studies are finding up to 50 percent of observed individuals in rice field habitats (USFWS 1999).

The rice agriculture cycle, as described in Section 10.1.1.14, coincides closely with the habitat requirements of the giant garter snake. The snake hibernates over winter in dens near the fields and thus land management practices that do not involve reconstruction of drainage channels will not affect the snake. (The Rice Council has provided guidance to rice growers in relation to protecting the snake.) When the snake emerges from its burrow in March and April, water is only in the drainage ditches. This helps concentrate prey and facilitates the mating process. After field preparation, the fields are flooded increasing the forage habitat for the snake. When flooded, rice field habitat provides warm shallow open waters of prey for foraging (Hansen 1980, Brode and Hansen 1992, Hansen and Brode 1993). Once the rice plant emerges, the rice field provides cover from predators.

In July to early September, the female snakes give birth. Rice fields continue to provide food and cover for the snake population. Finally, in the fall when the fields are drained, the snake's prey species are concentrated in the drainage ditches. The snakes move into the adjacent drainages that, as long as the vegetation cover is retained, provide the necessary habitat and forage to prepare the snake for

hibernation. The concentration of prey in the canals is a benefit to the snakes inhabiting rice farmland. In the fall, the snakes return to burrows and cracks in the upland area to hibernate. Snakes are generally dormant from November to February (USFWS 1999).

In September, juveniles make extensive use of the pools of concentrated prey that are associated with the temporally coinciding rice field drainage areas. Prey concentrations in drainage pools provide pre-dormancy gorging opportunities for giant garter snakes.

Predation of giant garter snakes is limited to the habitat corridors such as irrigation and drainage ditches. Irrigation ditches provide both mobility and extensive cover for the snake (USFWS 1999). Removal of vegetation can expose snakes to predators, thereby considerably diminishing this particular habitat benefit. The loss of a food source and critical habitat as a result of EWA crop idling actions would have a significant adverse effect on the giant garter snake populations associated with SFA habitat. Environmental measures described in Section 10.2.4 would reduce this effect to a less-than-significant level.

10.2.6.1.17 Western Pond Turtle

Western Pond Turtle Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing habitat for this special status species. The western pond turtle is the only native box turtle widely distributed in the western United States. Historically, the turtle once inhabited the vast permanent and seasonal wetlands of the Central Valley. The draining of wetlands for agriculture and urban development has greatly reduced this species' habitat. The western pond turtle is found in brackish permanent to intermittent aquatic habitats, including marshes, rivers, ponds, streams, and vernal pools. In the Central Valley it is also found in man-made habitats such as irrigation ditches, reservoirs, and ponds. Its preferred habitat is slow moving or quiet water, with emergent vegetation and undercuts for refuge. Protected, grassy uplands with a clay/silt soil are the preferred nesting sites. Because irrigation ditches typically are maintained, they generally do not include all required habitat elements for the turtle, particularly nesting habitat.

In addition to the loss of aquatic habitat, other causes of population decline include increased predation and collecting by man. Poor reproductive success due to predation and nest destruction is also hampering the turtle's recovery.

Females move upland from aquatic habitat to lay from 1 to 13 eggs. Eggs are laid May through July and juveniles hatch during August to October. Juveniles generally stay at the next site over winter. Movement of females from aquatic habitat to the nest and back, and juveniles from the nest, exposes the turtles to predation, particularly in agricultural areas where vegetation cover is controlled.

The diet of the western pond turtle is comprised primarily of small invertebrates, but adults do consume some vegetative matter. In seasonally flooded agricultural habitat, irrigation ditches and flooded rice land can contain required habitat elements for box

turtles. The turtles can forage in the aquatic habitat and bask on adjacent levees. The turtles are active during the spring, summer, and fall when rice preparation, growing, and harvesting is performed, respectively.

Because the western pond turtle can utilize irrigation ditches and rice fields as habitat, any action that dries up the habitat and forces the turtle to migrate to new areas, also exposes the turtle to increased predation. Further reduction of turtle population would be considered significant if it resulted from idling of seasonally flooded agricultural land. Environmental measures described in Section 10.2.4 for the giant garter snake will also be protective of the western pond turtle through the requirements to maintain irrigation ditch levels to six inches of normal and for retaining emergent vegetation with the ditches.

10.2.6.1.18 Wildlife in General

Wildlife Effects Statement: Crop idling would reduce the SFA acreage in the Sacramento Valley reducing habitat and forage for resident and migratory wildlife populations. In addition to the special status species presented above, the EIS/EIR considers other wildlife that are strongly dependent on rice croplands for some portion of their life cycle including waterfowl, wading birds, and shorebirds. This analysis approaches these species as guilds rather than analyzing each one individually. The Aleutian Canada goose was used to represent waterfowl; the great blue heron, great egret, and the snowy egret were used to represent wading birds; and the black tern was used to represent shorebirds. As stated above, the effects to these guilds would be less than significant with the implementation of the environmental measures presented in Section 10.2.4. Additionally, species such as the northern pintail and mallard also use rice fields for pair and brood habitat during the spring and summer. Up to 89,608 acres of rice fields may be lost during these critical times. Fallowing of approximately 20 percent of the current acreage of rice fields in the Sacramento Valley would have the following affects:

- Elimination of "pair" habitat of permanent residents who use winter flooded rice fields during the months in early spring. This will also eliminate "brood" water habitat that would normally be available during the spring and summer when rice is grown.

- Elimination of shallow flooded winter rice fields that wintering waterfowl use for night roosting and for food (vegetation and invertebrates). Flooded rice fields are frequented more than the natural wetlands by invertebrates as the winter progresses. Rice fields are also relied upon more heavily than natural wetlands as the winter progresses for dense cover at night since natural wetlands vegetation becomes prostrate and trampled, thus lacking needed protective cover.

However, there is still a large amount of forage and other habitat available to waterfowl within the Sacramento Valley. Although some waterfowl habitat may be affected, the overall effect is less than significant.

10.2.6.2 Delta

10.2.6.2.1 Introduction to Delta Effects Analysis

EWA acquisitions via groundwater substitution, crop idling, stored reservoir water purchase, stored groundwater purchase, and source shifting would change the timing of Delta flows. Changing the flows in the Delta could potentially affect the growth, maintenance, and reproductive capacity of vegetation in the lower Sacramento River and Delta. Table 10-6 shows the long-term average changes in Delta outflows because of the Flexible Purchase Alternative.

The Flexible Purchase Alternative would result in changes in the Delta, but these changes would remain within the same general range of flows that the Delta experiences. The vegetation in the region has adapted to these flow ranges; therefore, these changes would likely not substantially affect the growth, maintenance, or reproductive capacity of this community.

Table 10-6
Long-term Average Delta Outflow Under Baseline Condition and Flexible Purchase Alternative (Maximum Water Purchase Scenario) Conditions

Month	Monthly Mean Flow[1] (cfs)		Difference		
	Baseline	Flexible Purchase Alternative	(cfs)	(%)[2]	TAF[2]
Oct	7,494	7,494	0	0	0
Nov	14,729	14,729	0	0	0
Dec	29,135	29,762	627	2.2	37.3
Jan	35,403	36,000	597	1.7	35.5
Feb	57,924	58,824	900	1.6	53.5
Mar	53,136	54,665	1,529	2.9	90.9
Apr	29,039	30,674	1,635	5.6	97.3
May	17,995	19,372	1,377	7.7	81.9
Jun	13,767	14,792	1,025	7.4	60.9
Jul	7,915	8,354	439	5.6	26.1
Aug	4,192	4,492	300	7.2	17.9
Sep	5,574	5,884	310	5.6	18.5

[1] Based on 1979-1993 period of record.
[2] Relative difference of the monthly long-term average.

Changes to Delta inflows could result in changes in the position of X_2.[8] Moving the X_2 location closer to the Delta would indicate that the EWA actions were decreasing Delta water quality, which could affect the Tidal Perennial Aquatic habitat. Table 10-7 shows the long-term average changes to the position of X_2. In all months, the X_2 location is closer to the Golden Gate Bridge, indicating better Delta salinity. These results are because of stipulations within the EWA program description that require the long-term average position of X_2 to be maintained through the use of carriage

[8] The distance upstream from the Golden Gate Bridge (in km) at which mixing of freshwater from the Delta inflow and saltwater from the Bay results in a channel bottom salinity of two parts per thousand. Because Delta salinity is primarily a result of seawater intrusion, X_2 is mainly a measure of such intrusion; however, upstream sources such as agricultural drainage from the San Joaquin Valley also contribute to Delta salinity and to the values of X_2.

water releases. Chapter 5, Water Quality, contains additional analysis of Delta water quality, but concludes that EWA water acquisition and management effects would be less-than-significant.

10.2.6.2.2 Tidal Perennial Aquatic

The information presented in Section 10.2.6.2.1 indicates that EWA actions would not have an effect on this community from Baseline Conditions. This community is strongly influenced by global tides and EWA actions will maintain the position of X_2. In summary, changes to Delta inflows would not be of sufficient magnitude and frequency to significantly alter riparian habitat associated with this community. Therefore, the Flexible Purchase Alternative represents a less than significant effect on Delta tidal perennial aquatic habitat.

Table 10-7
Long-term Average Delta X_2 Position under Baseline and Flexible Purchase Alternative (Maximum Water Purchase Scenario) Conditions

Month	Monthly Mean Position[1] (km)		
	Baseline	Flexible Purchase Alternative	Difference
Oct	85.3	84.5	-0.8
Nov	83.6	83.4	-0.2
Dec	80.3	80.2	-0.1
Jan	76.9	76.6	-0.3
Feb	71.7	71.3	-0.4
Mar	66.4	66.0	-0.4
Apr	64.5	63.8	-0.7
May	67.8	67.0	-0.8
Jun	72.0	70.9	-1.1
Jul	75.9	74.7	-1.2
Aug	79.5	78.6	-0.9
Sep	84.5	83.6	-0.9

[1] Kilometers from the Golden Gate Bridge.

10.2.6.2.3 Valley Riverine Aquatic

Valley riverine aquatic habitat in the Delta occurs in Delta waterways such as the Sacramento, San Joaquin, Consumnes, Mokelumne, and Calaveras rivers, and sloughs, streams, and ephemeral creeks. Major waterways in Suisun Bay and Marsh area that are considered VRA habitat include Suisun, Montezuma, and Nurse sloughs. Out of these rivers, the EWA actions would only affect the Sacramento and San Joaquin Rivers. The effects on Valley Riverine Aquatic habitat on these rivers within the Delta would be the same as those described in Section 10.2.6.1.1 for the Upstream in the Delta Region.

10.2.6.2.4 Saline Emergent

EWA acquisitions via groundwater substitution, crop idling, stored reservoir water purchase, stored groundwater purchase, and source shifting would change the timing of Delta inflows, outflows, and pumping operations. Similar to the effects on Tidal Perennial Aquatic habitat, changing flows in the Delta could affect the Saline Emergent community because flow and water quality changes could affect the growth, maintenance, and reproductive capacity of the vegetation within these communities. As discussed in

Section 10.2.6.2.1, the changes in Delta flow and water quality would not be of sufficient magnitude and frequency to cause these effects. Therefore, the Flexible Purchase Alternative would result in less-than-significant effects on saline emergent habitat.

10.2.6.2.5 Tidal Freshwater Emergent

EWA acquisitions via groundwater substitution, crop idling, stored reservoir water purchase, stored groundwater purchase, and source shifting would change the timing of Delta inflows, outflows, and pumping operations. The text in Section 10.2.6.2.2, Tidal Perennial Aquatic, includes an analysis of changes in Delta inflows, outflows, and pumping operations on the Delta communities. The analysis found that the flow changes within the Delta would not have the magnitude and frequency to affect the growth, maintenance, and reproductive capacity of Delta communities. Under Flexible Purchase Alternative, the long-term average position of X_2 would be maintained through the use of carriage water releases. Changes within the Delta would not significantly alter existing tidal freshwater emergent habitats and associated species dependent on the Delta. Therefore, the Flexible Purchase Alternative represents a less than significant effect on tidal freshwater emergent habitat.

10.2.6.2.6 Nontidal Freshwater Permanent Emergent

EWA actions would only affect flows in Delta waterways. Changes in Delta flows will have no affect on nontidal freshwater permanent emergent habitat.

10.2.6.2.7 Natural Seasonal Wetland

EWA actions would only affect flows in Delta waterways. Changes in Delta flows will have no affect on natural seasonal wetland habitat.

10.2.6.2.8 Managed Seasonal Wetland

EWA actions would only affect flows in Delta waterways. Changes in Delta flows will have no affect on managed seasonal wetland habitat.

10.2.6.2.9 Valley/Foothill Riparian

The text in Section 10.2.6.2.2 Tidal Perennial Aquatic includes an analysis of potential direct and indirect effects on Delta NCCP communities, including valley/foothill riparian habitats and associated covered species. The effects presented in Section 10.2.6.2.2 would be the same for the portion of this community within the Delta. The same concerns for increased flow effects on riparian vegetation of upstream Sacramento River remain for the riparian vegetation of the Delta.

10.2.6.3 Export Service Areas

10.2.6.3.1 Lacustrine

Source shifting of Anderson Reservoir would decrease the summer water surface elevation of the reservoirs. EWA agencies could acquire up to 20,000 acre-feet of source shifting capability via agreements with Santa Clara Valley Water District (WD). Source shifting would delay the water amounts that the SWP delivers to the Santa Clara Valley WD, which would cause the Santa Clara Valley WD to draw upon other sources of water in the interim period. The Santa Clara Valley WD would typically

draw water from storage within Anderson Reservoir or temporarily reduce diversions to groundwater storage facilities. The water amounts drawn from each source would be at the discretion of Santa Clara Valley WD, but it would operate each facility within normal operating parameters. The levels of Anderson Reservoir currently vary widely year-to-year as part of normal Santa Clara Valley WD operations and EWA source shifting would occur within normal Santa Clara Valley WD operational parameters. Source shifting would not have adverse effects on lacustrine habitat at Anderson Reservoir.

EWA management of Santa Clara Valley WD water via predelivery could increase the surface water elevation in Anderson Reservoir in the months prior to the high point[9] in San Luis Reservoir. With the EWA, water would be transferred from San Luis Reservoir to Anderson Reservoir or groundwater storage facilities prior to the high point in San Luis Reservoir. Although the amount of water within Anderson Reservoir would increase compared to the Baseline Condition, it would not exceed the existing drawdown zone (for flood control reasons) and inundate established shoreline habitats. Therefore, the effect on vegetation and wildlife would be less than significant.

Borrowing project water from San Luis Reservoir would decrease surface water elevations. Under Baseline Conditions, surface water elevations in San Luis Reservoir would begin to decrease in mid-April. At approximately 300,000 acre-feet, the "low-point problem" at San Luis Reservoir occurs, whereby warm-season algae growth and decreasing summer levels can affect the quality of the reservoir water. EWA actions would be managed to prevent contributing to or aggravating the low point problem. (See Figure 2-13, Section 2.4.2.3.2.) Therefore, the effect of borrowing project water on lacustrine habitat would be less than significant.

Source shifting by DWR at Metropolitan WD reservoirs would decrease the summer surface water elevation of the targeted reservoirs.

Metropolitan WD has many options for source shifting. These options include:

- **Lake Mathews, Lake Perris, Castaic Lake, and Diamond Valley Lake.** Metropolitan WD could delay delivery of SWP water and instead draw its supplies from these storage facilities; accepting the SWP water deliveries at a later date.

- **Semitropic and Arvin Edison.** During wet years, Metropolitan WD could reduce deliveries when they would have otherwise SWP delivered water to storage. Metropolitan WD could then deliver SWP water to Semitropic and Arvin Edison for storage at a later date.

[9] High point is the value at which storage has peaked annually. In San Luis Reservoir, high point occurs approximately in mid-April.

- **Hayfield (upstream aqueduct groundwater storage on the Colorado River).** Metropolitan WD could delay delivery of Colorado River water to Hayfield; the water would be delivered at a later date.

- **Change blend.** Metropolitan WD generally maximizes water sources and quality by blending Colorado River and SWP water 50:50. Metropolitan WD could change the blend to provide water for source shifting.

Lake Mathews

Because the vegetation surrounding Lake Mathews is not dependent upon reservoir water levels changes to water surface elevations would be a less-than-significant effect on vegetation and wildlife.

Lake Perris and Castaic Lake

Metropolitan WD has rights to flexible storage in Castaic Lake and Lake Perris allowing the agency to borrow water from the lakes for up to 5 years, subject to DWR approval. The flexible storage in Castaic Lake is 153,940 acre-feet and 65,000 acre–feet in Lake Perris. Metropolitan WD gained these rights as part of the Monterey Amendments[10], signed in 1995, and has exercised the right several times, including in 2001 as part of the source shifting agreement in that year. The amount of water that could be source shifted under the EWA would fall within the recent operating parameters of both Castaic Lake and Lake Perris.

Diamond Valley Lake

Because the vegetation surrounding Lake Mathews is not dependent upon reservoir water levels, changes to water surface elevations would be a less-than-significant effect on vegetation and wildlife.

Metropolitan WD management of EWA water provided as predelivery could increase the surface water elevation in Diamond Valley Lake, Lake Mathews, and other Metropolitan WD storage facilities. If Metropolitan WD were to accept predelivery water and use it to repay its flexible storage debt in Castaic Lake or Lake Perris, predelivery could affect the surface water elevations in those lakes as well. With the EWA, water could be transferred to Metropolitan WD at any of its turnouts and then to storage in Diamond Valley Lake, Lake Mathews, or other Metropolitan WD storage facilities, or used to repay flexible storage in Castaic Lake or Lake Perris. Although the amount of water within these facilities would increase compared to the Baseline Condition, water surface elevations would not exceed the existing drawdown zone (for flood control reasons) and inundate shoreline habitats. Therefore, the effect on vegetation and wildlife would be less than significant.

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[10] The Monterey Agreement, signed in 1994 by DWR and SWP water contractors, addresses water supply reliability problems, provides greater flexibility in water operations, and provides greater financial stability for SWP contractors.

10.2.6.3.2 Nontidal Freshwater Permanent Emergent

Borrowing Project water from San Luis Reservoir would decrease surface water elevations. As with all other reservoirs associated with EWA actions, reductions in water surface elevations would not affect shoreline communities such as nontidal freshwater permanent emergent vegetation because this vegetation is not dependent upon lake levels for water. Therefore, the effect of borrowing Project water would be less than significant.

10.2.6.3.3 Upland Cropland

EWA acquisition of water via idling cotton would take cotton land out of production. Cotton land provides extremely marginal habitat and forage to wildlife. Although a maximum of 182,800 acres of cotton would be idled, EWA actions would have less-than-significant effects on upland cropland habitat and associated wildlife.

10.2.7 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative would involve the same water acquisition and management actions as the Flexible Purchase Alternative, but to a lesser degree. The Fixed Purchase Alternative limits upstream of the Delta transfers to 35,000 acre-feet and export service area transfers to 150, 000 acre-feet. The Fixed Purchase Alternative can acquire its 35,000 acre-feet upstream from the Delta from one or multiple sources. The EWA agencies would be most likely to seek stored reservoir water for the entire purchase; however, the agencies might also rotate acquisitions among diverse sources. This section of the document assumes that the EWA agencies could acquire the 35,000 acre-feet from any mix of upstream-from-the-Delta sources. The Flexible Purchase Alternative allows transfers up to 600, 000 acre-feet and does not specify transfer limits from upstream of the Delta or the export service areas. The effects described in Section 10.2.6 Flexible Purchase Alternative, represent the effects on vegetation and wildlife resources for a maximum transfer amount. Effects considered less than significant under the Flexible Purchase alternative would also be considered less than significant for a lesser transfer amount (The Fixed Purchase Alternative). Table 10-9 (towards the end of the chapter) shows the potential transfer amounts for each alternative and the significance of these transfers on vegetation and wildlife resources.

10.2.7.1 Upstream from the Delta

10.2.7.1.1 Valley Riverine Aquatic/Valley Foothill Riparian

This section analyzes the EWA effects on vegetation within each river system in the Upstream from the Delta Region. These effects would be similar to those discussed in Section 10.2.6.1.1.

Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would decrease Sacramento River flows from Lake Shasta downstream to the point of diversion in June. EWA acquisition of up to 35,000 acre-feet of water via groundwater substitution or up to 35,000 acre-feet from crop idling would decrease monthly

Sacramento River flows by 180 cfs in June. The effect due to this small flow decrease is less than significant.

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change Sacramento River flows downstream from Lake Shasta in July through September. EWA acquisition of up to 35,000 acre-feet of water via groundwater substitution and up to 35,000 acre-feet from crop idling would potentially increase Sacramento River flows between Lake Shasta and the point of diversion July through September. This change in flow is not considered significant to cause adverse effects.

Feather River

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would decrease flows in the South Fork of the Feather River from December through April and increase flows in the lower Feather River from July through September. Oroville-Wyandotte ID would deliver stored reservoir water for the EWA agencies from October through December, and DWR would store it in Lake Oroville until it could be transferred through the Delta during the following summer. During the rainy season after December, Oroville-Wyandotte ID would refill its reservoirs, which would decrease the flow that travels downstream of Sly Creek and Little Grass Valley Reservoirs. These decreases would occur during rain events during the winter, and would not likely have an effect on flow downstream of Lake Oroville. When the Oroville-Wyandotte ID water is released from Lake Oroville the following summer, this water would increase Feather River flows downstream of Oroville Reservoir from July to September. The section below describes the total increases in lower Feather River flow because of all EWA acquisitions from the Feather River system.

EWA acquisition of water from Western Canal WD, Joint Water Districts, and Garden Highway MWC via crop idling and groundwater substitution would increase Feather River flows in July through September. A maximum of an additional 35,000 acre-feet would be released from Lake Oroville, which would increase flows in the Feather River below the Thermalito Afterbay by a maximum of 212 cfs. The effects of these EWA actions are evaluated in Section 10.2.6.1.1, Feather River for the Flexible Purchase Alternative. The increase in flow in the Feather River would be greater under the Flexible Purchase Alternative than under the Fixed Purchase Alternative. Because no adverse effect was determined under the Flexible Purchase Alternative, no effect would occur under the Fixed Purchase Alternative.

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would increase Feather River flows below Sly Creek and Little Grass Valley Reservoirs to Lake Oroville in November and December. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 10.2.6.1.1, Feather River, for a discussion of potential effects.

Yuba River

EWA acquisition of Yuba County WA water via stored reservoir water and groundwater substitution would decrease Yuba River flows downstream of New Bullards Bar Reservoir from April to June and increase flows from July through September. Yuba County WA

would store water from groundwater substitution acquisitions in New Bullards Bar Reservoir until July, when the Delta pumps are available. Storing the water would decrease flows in the Yuba River from Englebright Dam, where the power facilities release Yuba County WA water, to the users' diversion points, typically at Englebright and Daguerre Point Dams. Yuba River flows would decrease by 195 cfs in late spring as farmers use groundwater for irrigation instead of surface water from New Bullards Bar Reservoir.

EWA acquisition of Yuba County WA stored reservoir water and Yuba River contractor water via groundwater substitution and stored reservoir water would increase Yuba River flows, downstream of Englebright Dam, from July to September relative to the Baseline Condition. Releases would be operated to maintain relatively constant flows during this time period in accordance with existing Yuba County WA operations to protect fish and the environment. Therefore, flows under EWA actions would not have a substantial adverse effect on Yuba River VRA habitats used by special-status species or important for wildlife movement or wildlife nurseries. EWA actions would also not have a substantial adverse effect on sensitive natural communities.

American River

EWA acquisition of Placer County WA stored reservoir water would increase American River flows downstream from French Meadows Reservoir to Folsom Lake from June to October. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 10.2.6.1.1 American River, for a discussion of potential effects.

EWA acquisition of Placer County WA stored reservoir water would decrease American River flows downstream from French Meadows Reservoir to Folsom Lake during refill of Hell Hole and French Meadows Reservoirs. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 10.2.6.1.1, American River, for a discussion of potential effects.

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase would increase American River flows downstream from Folsom Lake from June through December. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 10.2.6.1.1, American River, for a discussion of potential effects.

Merced River

EWA acquisition of Merced ID water via groundwater substitution would decrease Merced River flows downstream from New Exchequer Dam to the point of diversion in April through June. Merced River flows would decrease by approximately 70 cfs. An equivalent amount of water could be sold to the EWA agencies under the Fixed Purchase Alternative, as is described under the Flexible Purchase Alternative. Refer to Section 10.2.6.1.1 Merced River, for a discussion of potential effects.

San Joaquin River

EWA acquisition of MID water via groundwater substitution would increase San Joaquin River flows, below the San Joaquin-Merced river confluence, during the fall, relative to the Baseline Condition. Flows in the San Joaquin River would not change during the summer because it is downstream of Lake McSwain. Under the Fixed Purchase Alternative, long-term average flows during March through October on the San Joaquin River below its confluence with the Merced River would be essentially the same as the Baseline Condition.

10.2.7.1.2 Montane Riverine Aquatic/Montane Riparian

Sacramento River

Montane Riverine Aquatic habitat occurs on the Sacramento River between approximately Red Bluff, CA and Lake Shasta. The analysis in Section 10.2.7.1 Valley Riverine Aquatic also applies to montane riverine aquatic. Therefore:

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling under the Fixed Purchase Alternative would change Sacramento River flows from June through September. From June to September, EWA acquisition of Sacramento River contractor water would slightly increase or decrease Sacramento River flows (depending on the Delta pump availability) relative to the ESA Baseline Condition.

Therefore, flows under EWA actions would not have a substantial adverse effect on Sacramento River MRA habitats used by special-status species or important for wildlife movement or wildlife nurseries. EWA actions would also not have a substantial adverse effect on sensitive natural communities.

Feather River

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would increase flows in the South Fork of the Feather River from October through December and decreases flows during refill. Oroville-Wyandotte ID would deliver stored reservoir water for the EWA agencies from October through December, and DWR would store it in Lake Oroville until it could be transferred through the Delta during the following summer. During the rainy season after December, Oroville-Wyandotte ID would refill its reservoirs, which would decrease the flow that travels downstream of Sly Creek and Little Grass Valley Reservoirs.

Therefore, flows under EWA actions would not have a substantial adverse effect on Feather River MRA habitats used by special-status species or important for wildlife movement or wildlife nurseries. EWA actions would also not have a substantial adverse effect on sensitive natural communities.

Yuba River

Montane Riverine Aquatic habitat occurs on the Yuba River between approximately Timbuctoo Bend and New Bullards Bar Reservoir. The analysis in Section 10.2.7.1.1 Valley Riverine Aquatic also applies to montane riverine aquatic. Therefore:

EWA acquisition of Yuba County WA water via stored reservoir water and groundwater substitution would decrease Yuba River flows downstream of New Bullards Bar Reservoir from April to June and increase flows from July through September. Yuba County WA would store water from groundwater substitution acquisitions in New Bullards Bar Reservoir until July, when the Delta pumps are available. Storing the water would decrease flows in the Yuba River from Englebright Dam, where the power facilities release Yuba County WA water, to the users' diversion points, typically at Englebright and Daguerre Point Dams. Yuba River flows would decrease in late spring as farmers use groundwater for irrigation instead of surface water from New Bullards Bar Reservoir.

EWA acquisition of Yuba County WA stored reservoir water and Yuba River contractor water via groundwater substitution and stored reservoir water would increase Yuba River flows, downstream of Englebright Dam, from July to September relative to the Baseline Condition. Releases would be operated to maintain relatively constant flows during this time period in accordance with existing Yuba County WA operations to protect fish and the environment. Therefore, flows under EWA actions would not have a substantial adverse effect on Yuba River VRA habitats used by special-status species or important for wildlife movement or wildlife nurseries. EWA actions would also not have a substantial adverse effect on sensitive natural communities.

American River

EWA acquisition of Placer County WA stored reservoir water under the Fixed Purchase Alternative would increase flows in the Middle Fork of the American River from June to December. American River flows would increase from June through December because of releases from French Meadows and Hell Hole Reservoirs. These changes are not of sufficient magnitude or frequency to affect streambanks and existing aquatic or riparian species dependent on American River flows.

EWA acquisition of Placer County WA stored reservoir water would decrease flows in the Middle Fork of the American River compared to the Baseline Condition while the reservoir refills during winter months. During the rainy season after December, Placer County WA would refill its reservoirs, which would decrease the flow that travels downstream of French Meadows, and Hell Hole Reservoirs.

Therefore, flows under EWA actions would not have a substantial adverse effect on American River MRA habitats used by special-status species or important for wildlife movement or wildlife nurseries. EWA actions would also not have a substantial adverse effect on sensitive natural communities.

Merced River

Montane Riverine Aquatic habitat occurs on the Merced River between approximately Merced Falls and Lake McClure. The analysis in Section 10.2.7.1.1 Valley Riverine Aquatic also applies to montane riverine aquatic. Therefore:

EWA acquisition of Merced ID water via groundwater substitution would decrease Merced River summer flows and increase Merced River fall flows relative to the Baseline Condition. Merced ID would hold the EWA transfer water in Lake McClure until the fall, when it would release the water downstream. This pattern would decrease flows downstream of New Exchequer Dam in the summer, but only for the short distance between New Exchequer Dam and Lake McSwain (the typical diversion point). EWA acquisition of Merced ID water via groundwater substitution would increase Merced River flows in fall relative to the Baseline Condition as the water is released from Lake McClure.

Therefore, flows under EWA actions would not have a substantial adverse effect on Merced River MRA habitats used by special-status species or important for wildlife movement or wildlife nurseries. EWA actions would also not have a substantial adverse effect on sensitive natural communities.

10.2.7.1.3 Lacustrine

Comparing EWA actions to the Baseline Condition determines project effects. Reservoirs fluctuate seasonally in response to use and hydrology; therefore, this normal fluctuation creates the Baseline Condition. EWA actions further modify these fluctuations, sometimes accentuating changes and other times attenuating changes in reservoir levels.

Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change the timing of releases from Lake Shasta. Lake Shasta would hold back at most 35,000 acre-feet that would have been released under the Baseline Condition. The lake level would decline slower in June. Then the lake level would decline faster in July and August compared to the Baseline Condition; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September. The small changes during these months would not be enough to affect the lacustrine habitat within the lake or surrounding the lake perimeter. The water source for riparian vegetation will not be affected and the upland scrub vegetation surrounding the reservoir does not rely on the reservoir for its water source. Therefore, the change in Lake Shasta water surface elevation would have a less-than-significant effect on the lacustrine habitat used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries along the water edge.

Feather River

EWA acquisition of Oroville-Wyandotte Irrigation District (Oroville-Wyandotte ID) stored reservoir water would decrease surface water elevations December until refill for Sly Creek and Little Grass Valley Reservoirs. Little Grass Valley and Sly Creek Reservoirs are upstream from Lake Oroville on the Feather River. These reservoirs would release a combined maximum of 15,000 acre-feet of water from November to December. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 10.2.6.1.3, Feather River, for a discussion of potential effects. The effects of the Flexible Purchase

Alternative are considered less than significant; the effects of the Fixed Purchase Alternative are also considered less than significant.

EWA acquisition of water from Western Canal WD, Joint Water Districts, and Garden Highway MWC via crop idling and groundwater substitution would increase the surface water elevation April to June and decrease the surface water elevation in July and August in Lake Oroville compared to the Baseline Condition. EWA could acquire up to 35,000 acre-feet of water via groundwater substitution or up to 35,000 acre-feet from crop idling. Effects on Lake Oroville from an increase (April through June) and decrease (July and August) in surface water elevation are evaluated in Section 10.2.6.1.1, Feather River for the Flexible Purchase Alternative. There would be less change in surface water elevation under the Fixed Purchase Alternative than under the Flexible Purchase Alternative. Because there were no significant effects under the Flexible Purchase Alternative, there are no significant effects under the Fixed Purchase Alternative.

Yuba River

EWA acquisition of water from Yuba County Water Agency (Yuba County WA) via stored reservoir water and groundwater substitution would alter the surface water elevation April to refill at New Bullards Bar Reservoir. EWA agencies would acquire 35,000 acre-feet through groundwater substitution. During April through June, New Bullards Bar Reservoir would hold back water that would have been released under the Baseline Condition. By the end of June, the surface water elevation in the reservoir would be, at most, 2 feet higher than under the Baseline Condition. An increase in the surface water elevation would only inundate the existing drawdown zone and would not affect vegetation and wildlife.

EWA acquisition of Yuba County Water Agency (Yuba County WA) stored reservoir water would decrease surface water elevations July to refill at New Bullards Bar Reservoir. New Bullards Bar Reservoir would release, at a maximum, 35,000 acre-feet of water to be used as an EWA asset. Yuba County WA would not enter into a transfer agreement unless local needs, instream flows, and system demand requirements were met. If these elements were met, EWA agencies could acquire up to 35,000 acre-feet, decreasing the reservoir elevation 8 feet by September. Again, the drawdown zone is vegetated primarily with non-native herbaceous plants and scattered willow shrubs that do not form a contiguous riparian community and would not be affected by decreases in water levels caused by EWA actions (CALFED 1998). Therefore, the EWA acquisition of Yuba County WA water and its effects on lacustrine habitat are considered less than significant.

American River

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations June to refill at Hell Hole and/or French Meadows Reservoirs. Hell Hole Reservoir and French Meadows Reservoir would release a combined maximum of 20,000 acre-feet of water. An equivalent amount of water could be sold to the EWA agencies under the Fixed Purchase Alternative, as is described under the Flexible Purchase Alternative. Refer to Section 10.2.6.1.1, American River, for a discussion of

potential effects. The effects of the Flexible Purchase Alternative are considered less than significant; the effects of the Fixed Purchase Alternative are also considered less than significant.

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase and Placer County WA's water via stored reservoir water would change surface water elevations in Folsom Lake. During July and August, the surface water elevation at Folsom Lake would be lower than the Baseline Condition. The lake level would decline faster in July and August compared to the Baseline Condition; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September. Therefore, the change in Folsom Lake surface water elevations would have less-than-significant effects on lacustrine habitat used by special-status species or other wildlife, particularly as wildlife movement corridors or nurseries.

Merced River

EWA acquisition of Merced ID water via groundwater substitution would increase the water surface elevation in Lake McClure compared to the Baseline Condition. EWA agencies could acquire 25,000 acre-feet through groundwater substitution. As shown in Figure 14-13, water levels in Lake McClure would only increase. An increase in surface water elevation would have a beneficial effect on the amount of lacustrine habitat.

10.2.7.1.4 Nontidal Freshwater Permanent Emergent

In the Upstream from the Delta Region, the lowering of water tables as part of groundwater substitution actions could affect this habitat by potentially disrupting groundwater to surface water interactions that may support freshwater permanent emergent habitat. However, a well adequacy review to preclude pumping in areas with groundwater to surface water interactions will occur prior to all groundwater actions to prevent effect on nontidal freshwater permanent emergent habitat. Effects on nontidal freshwater permanent emergent habitat and associated special-status and other wildlife are less than significant.

10.2.7.1.5 Natural Seasonal Wetland

Groundwater pumping, as a part of groundwater substitution or groundwater purchase actions, in areas where there is direct connection between groundwater and surface water, could affect groundwater hydrology (lower the groundwater table) thereby drying up some natural seasonal wetlands. As an environmental measure, the EWA agencies will review all groundwater substitution and purchase proposals to ensure that there is no groundwater to surface water interaction that may be affected by groundwater pumping. The groundwater mitigation measures also include a mitigation response (e.g., cease pumping or provide alternative surface water source) should an undiscovered groundwater to surface water interaction become evident. (See Section 6.2.7.) Effects on natural seasonal wetland habitat and associated special-status and other wildlife are less than significant.

10.2.7.1.6 Managed Seasonal Wetland

Groundwater substitution and crop idling actions could have adverse effects (dry up) on managed seasonal wetlands. The project effects on natural seasonal wetlands and associated environmental measures outlined in the previous section are also applicable for managed seasonal wetland habitats.

In addition, both groundwater substitution and crop idling actions could result in less water in agriculture supply and return flow ditches, potentially resulting in the desiccation of managed seasonal wetlands. Project effects on agricultural water supplies caused by these two EWA actions are detailed in the sections below.

Groundwater Substitution Transfers in the Sacramento Valley

Groundwater substitution transfers would decrease flows in agricultural delivery ditches. When water agencies agree to sell water to the EWA agencies through groundwater substitution transfers, the water agencies help to identify willing sellers within each area. The sellers then forgo their surface water supplies and substitute water supplies with groundwater. This change results in less diversion into the agricultural delivery system, which could affect species within the delivery ditches. This decrease is likely to adversely affect the species and vegetation that depend on this flow. Measures incorporated into the project would reduce effects to a less-than-significant level. (See Section 10.2.4.)

Crop Idling Transfers

The effects of crop idling transfers on managed seasonal wetlands depend on the location of the transfers. The following section is divided by river system to fully explain these potential effects.

Sacramento River

EWA acquisition of water via crop idling would reduce the water supply for managed seasonal wetlands that rely on return flows from fields that would be idled. Glenn, Colusa, and Yolo Counties could idle up to 10,600 acres. EWA agencies would purchase approximately 3.3 acre-feet per acre (the amount of water consumed by the crop); however, under the Baseline Condition, water agencies divert additional water from the Sacramento River to account for system losses. System losses include conveyance losses (evaporation or percolation within the conveyance system), riparian evapotranspiration (water used by vegetation along the conveyance system), and on-farm losses (deep percolation to groundwater or tailwater runoff). The amount of water diverted varies depending on the amount of system losses.

If farmers idled their crops, their water agency would reduce diversions by the 3.3 acre-feet per acre plus the additional amount that goes to on-farm losses. Of this additional amount that is applied to fields in the Baseline Condition, a portion percolates into the groundwater aquifer below and a portion runs off the field back into the conveyance system. This "tailwater" that runs back into the conveyance system could then be used again by managed wetlands downstream on the conveyance system. If farmers idled land, tailwater would no longer be available to downstream users, either other farmers or managed wetlands.

Few managed seasonal wetlands exist downstream of the water agencies that may sell water to the EWA agencies via crop idling. These wetlands, however, have the potential to be adversely affected by the reduction in return flows. The measures in Section 10.2.4 would reduce effects to managed seasonal wetlands to a less-than-significant level.

Feather River

EWA acquisition of water via crop idling would reduce the water supply for managed seasonal wetlands that rely on the return flows from fields that would be idled. Butte and Sutter Counties could idle up to 10,600 acres. As described above for the Sacramento River, idling these fields would reduce tailwater, which could reduce supplies to downstream wetlands. Several of the agencies within Butte and Sutter Counties discharge return flows from the irrigation systems into Butte Creek, which provides water for several managed seasonal wetlands. The reduction in return flows has the potential to adversely affect these managed seasonal wetlands. The environmental measures in Section 10.2.4 would reduce effects to managed seasonal wetlands to a less-than-significant level.

American River

EWA acquisition of water via crop idling would reduce the water supply for managed seasonal wetlands that rely on return flows from fields that would be idled. Placer County could idle up to 3,280 acres. As described above for the Sacramento River, idling these fields would reduce tailwater, which could reduce supplies to downstream wetlands. The reduction in return flows has the potential to adversely affect managed seasonal wetlands. The environmental measures in Section 10.2.4 would reduce effects to managed seasonal wetlands to a less-than-significant level.

10.2.7.1.7 Seasonally Flooded Agriculture

Crop idling would reduce the rice acreage in the Sacramento Valley. Table 10-8 displays SFA acreage and waste grain reduction for the maximum acreage of crop idling anticipated for all counties where idling action could occur for the EWA program Fixed Purchase Alternative. These numbers reflect the maximum water transfers (for all water programs acquiring water through crop idling) based on the project limitation of 15,000 acres in Glenn, Colusa, or Yolo Counties and 10,600 acres in Butte, Sutter, and Placer Counties, or a 20 percent maximum crop acreage idled per county. Idling this acreage would reduce the extent of habitat available to those special-status species dependent upon SFA for some portion of their lifecycle (identified with an * in Table 10-3), which is likely to adversely affect those species. Details regarding effects to these species are presented in Section 10.2.6.1.7 for the Flexible Purchase Alternative. Because the Fixed Purchase alternative would involve less acreage, the effects would be similar or less than those of the Flexible Purchase Alternative. Section 10.2.4 proposes environmental measures to help minimize any adverse effects to special-status species.

Table 10-8 also displays the reduction in the availability of waste grain as forage to wildlife by county and total for all crop idling actions (depending on agricultural practices). This amount represents a potentially adverse effect to those special-status

species dependent upon waste grain for a large portion of their forage (identified with an * in Table 10-3). Environmental measures proposed in Section 10.2.4 help to minimize any adverse effects to special-status species.

Table 10-8
Seasonally Flooded Agriculture Acreage and Waste Grain Reductions in Each County Based on Crop Idling Maximum Purchases under the Fixed Purchase Alternative

	Rice Acreage (97 Ag Census) (AC)	Idled Acreage (AC)	Percent Rice Acreage (%)	Waste Grain per Acre (lbs)	Total Waste Grain (million lbs)	Waste Grain Loss (million lbs)	Percent Waste Grain Loss (%)	Total Acre-Feet of Water Available for EWA Fish Actions (TAF)	Potential Square Miles Idled
Butte	95,120	10,600	11	350	33.3	3.7	11	35.0	17
Colusa	132,338	15,000	11	350	46.3	5.2	11	49.5	23
Glenn	83,777	15,000	18	350	29.3	5.2	18	49.5	23
Placer	16,379	3,280	20	350	5.7	1.1	20	10.8	5
Sutter	96,722	10,600	11	350	33.9	3.7	11	35.0	17
Yolo	23,822	4,770	20	350	8.3	1.7	20	15.7	7
Total	448,158	59,250	13	350	156.9	20.7	13	195.5	93

Associated with the idling of SFA is the potential loss of water within adjacent irrigation and return ditches in all 6 counties. EWA agency acquired water would not enter water agencies' distribution systems because it is no longer being delivered to the agricultural users, and unused flows from the fields would not return to the delivery system. These changes have the potential to reduce flow in these ditches, thereby reducing the value of habitat provided. Some irrigation ditches provide forage, resting, and nesting habitat and serve as migration corridors. Devaluing or losing this habitat could affect giant garter snakes, herons, egrets, western pond turtles, etc. This decrease to water in agricultural ditches is potentially an adverse effect to these special-status species. Environmental measures proposed in Section 10.2.4 help to minimize any adverse effects to special-status species.

Associated with the idling of SFA is the potential for fragmentation of seasonally flooded agriculture land habitat. Assuming the maximum acreage is fallowed, a total of 93 square miles of formerly flooded land would be dry in all 6 counties over the late spring, summer, and early fall months. This impact would be significant if it occurred as one contiguous block of SFA. The idled land would have the potential to interfere with wildlife migration and the dispersal of individuals within a metapopulation (hence a loss of genetic diversity). The inability of a snake to migrate to more suitable habitat would potentially be an adverse effect to this special-status species, especially those populations that are succumbing to other population pressures. Environmental measures proposed in Section 10.2.4 help to minimize any adverse effects to special-status species.

Wildlife strongly dependent on rice croplands for some portion of their life cycle includes waterfowl, wading birds, and shorebirds. This analysis approaches these species as guilds rather than analyzing each one individually. The Aleutian Canada goose was used to represent waterfowl; the great blue heron was used to represent wading birds; and the black tern was used to represent shorebirds. As stated above, the effects to these guilds would be less than significant with the implementation of the environmental measures in Section 10.2.4.

10.2.7.2 Delta

10.2.7.2.1 Tidal Perennial Aquatic

EWA acquisitions via groundwater substitution, crop idling, stored reservoir water purchase, stored groundwater purchase, and source shifting change the timing of Delta pumping operations, and have the potential to result in changes to Delta inflows and associated parameters. Potential changes in lower Sacramento River flows can result in changes in the position of X_2. Under EWA actions, long-term average flows in the lower Sacramento River at Freeport would be similar relative to the Baseline Condition. Under EWA actions, the long-term average position of X_2 would be maintained through the use of carriage water releases and other EWA asset directed releases controlling X_2, relative to the Baseline Condition.

In summary, changes to Delta inflows would not be of sufficient magnitude and frequency to significantly alter existing riparian and wetland habitat found in the Delta. Therefore, the Fixed Purchase Alternative represents a less than significant effect on Delta tidal perennial aquatic habitat.

10.2.7.2.2 Valley Riverine Aquatic

Valley riverine aquatic habitat in the Delta occurs in Delta waterways such as the Sacramento, San Joaquin, Consumnes, Mokelumne, and Calaveras rivers, and sloughs, streams, and ephemeral creeks. Major waterways in Suisun Bay and Marsh area that are considered VRA habitat include Suisun, Montezuma, and Nurse sloughs.

EWA acquisition of water via groundwater substitution, groundwater purchase, crop idling, and stored reservoir water purchase would change Sacramento River flows from June through September. From June to September, EWA acquisition of Sacramento River contractor water would slightly increase or decrease Sacramento River flows (depending on the Delta pump availability) relative to the Baseline Condition. However, the Fixed Purchase Alternative would not shift flows outside the long-term average on the Sacramento River.

10.2.7.2.3 Saline Emergent

The text in Section 10.2.7.2.1 Tidal Perennial Aquatic includes an analysis of potential direct and indirect effects on Delta NCCP communities, including saline emergent habitats and associated covered species.

In summary, under the Fixed Purchase Alternative, long-term average flows in the lower Sacramento River at Freeport would be similar relative to the Baseline Condition. Under the Fixed Purchase Alternative, the long-term average position of

X_2 would be maintained through the use of carriage water releases and other EWA asset directed releases controlling X_2, relative to the Baseline Condition. Changes to Delta inflows would not be of sufficient magnitude and frequency to significantly alter existing saline emergent habitats and associated species dependent on the Delta. Therefore, the Fixed Purchase Alternative represents a less than significant effect on saline emergent habitat.

10.2.7.2.4 Tidal Freshwater Emergent

The text in Section 10.2.7.2.1 Tidal Perennial Aquatic includes an analysis of potential direct and indirect effects on Delta NCCP communities, including tidal freshwater emergent habitats and associated covered species.

In summary, under the Fixed Purchase Alternative, long-term average flows in the lower Sacramento River at Freeport would be similar relative to the Baseline Condition. Under the Fixed Purchase Alternative, the long-term average position of X_2 would be maintained through the use of carriage water releases and other EWA asset directed releases controlling X_2, relative to the Baseline Condition. Changes to Delta inflows would not be of sufficient magnitude and frequency to significantly alter existing tidal freshwater emergent habitats and associated species dependent on the Delta. Therefore, the Fixed Purchase Alternative represents a less than significant effect on tidal freshwater emergent habitat.

10.2.7.2.5 Nontidal Freshwater Permanent Emergent

EWA actions would only affect flows in Delta waterways. Changes in Delta flows will have no affect on nontidal freshwater permanent emergent habitat.

10.2.7.2.6 Natural Seasonal Wetland

EWA actions would only affect flows in Delta waterways. Changes in Delta flows will have no effect on natural seasonal wetland habitat.

10.2.7.2.7 Managed Seasonal Wetland

EWA actions would only affect flows in Delta waterways. Changes in Delta flows will have no effect on managed seasonal wetland habitat.

10.2.7.2.8 Valley/Foothill Riparian

The text in Section 10.2.7.2.1 Tidal Perennial Aquatic includes an analysis of potential direct and indirect effects on Delta NCCP communities, including valley/foothill riparian habitats and associated covered species.

In summary, under the Fixed Purchase Alternative, long-term average flows in the lower Sacramento River at Freeport would be similar relative to the Baseline Condition. Changes to Delta inflows would not be of sufficient magnitude and frequency to significantly alter existing valley/foothill riparian habitats and associated species dependent on the Delta. Therefore, the Fixed Purchase Alternative represents a less than significant effect on valley/foothill riparian habitat.

10.2.7.3 Export Service Areas

10.2.7.3.1 Lacustrine

Source shifting of Anderson Reservoir would decrease the summer water surface elevation of the reservoirs. EWA agencies could acquire up to 20,000 acre-feet of source shifting capability via agreements with Santa Clara Valley Water District (WD). Source shifting would delay the water amounts that the SWP delivers to the Santa Clara Valley WD, which would cause the Santa Clara Valley WD to draw upon other sources of water in the interim period. The Santa Clara Valley WD would typically draw water storage within Anderson Reservoir or temporarily reduce diversions to groundwater storage facilities. The water amounts drawn from each source would be at the discretion of Santa Clara Valley WD, but it would operate each facility within normal operating parameters. The levels of Anderson Reservoir currently vary widely year-to-year as part of normal Santa Clara Valley WD operations and EWA source shifting would occur within normal Santa Clara Valley WD operational parameters. Source shifting would not have adverse effects on lacustrine habitat at Anderson Reservoir.

EWA management of Santa Clara Valley WD water via predelivery could increase the surface water elevation in Anderson Reservoir in the months prior to the high point[11] in San Luis Reservoir. The effects of predelivery under the Fixed Purchase Alternative are equivalent to the effects as described under the Flexible Purchase Alternative because the transfer amounts are the same under both Alternatives. Therefore, the effect of predelivery on vegetation and wildlife would be less than significant.

Borrowing project water from San Luis Reservoir would decrease surface water elevations. Under Baseline Conditions, surface water elevations in San Luis Reservoir would begin to decrease in mid-April. At approximately 300,000 acre-feet, the low-point problem at San Luis Reservoir occurs, whereby warm-season algae growth and decreasing summer levels can affect the quality of the reservoir water and impair the ability of urban water agencies to treat the water adequately for municipal and industrial uses. EWA actions would be managed to prevent contributing to or aggravating the low point problem. (See Figure 2-13, Section 2.4.2.3.2.) Under the Baseline Condition, San Luis Reservoir is drawn down each summer; however, vegetation surrounding the reservoir and within the drawdown zone would not be affected. Therefore, the effect of borrowing project water would be less than significant.

Source shifting by Metropolitan WD would decrease the summer surface water elevation of reservoirs used by Metropolitan WD. Source shifting options by Metropolitan WD would be the same under the Fixed Purchase Alternative as those described under the Flexible Purchase Alternative. Metropolitan WD could source shift a maximum of 200,000 acre-feet. Metropolitan WD has rights to flexible storage of over 153,940 acre-feet and 65,000 acre-feet of flexible storage in Castaic Lake and Lake Perris, respectively. The action of source shifting would fall under current operating

[11] High point is the value at which storage has peaked annually. In San Luis Reservoir, high point occurs approximately in mid-April.

parameters; therefore, there would be no change from the Baseline Condition and a less-than-significant effect on lacustrine habitats.

Metropolitan WD management of EWA water provided as predelivery could increase the surface water elevation in Diamond Valley Lake, Lake Mathews, and other Metropolitan WD storage facilities. If Metropolitan WD were to accept predelivery water and use it to repay its flexible storage debt in Castaic Lake or Lake Perris, predelivery could affect the surface water elevations in those lakes as well. The effects of predelivery under the Fixed Purchase Alternative are equivalent to the effects as described under the Flexible Purchase Alternative because the transfer amounts are the same under both Alternatives. Therefore, the effect of predelivery on vegetation and wildlife would be less than significant.

10.2.7.3.2 Nontidal Freshwater Permanent Emergent

As with all other reservoirs associated with EWA actions, reductions in water surface elevations would not affect shoreline such as nontidal freshwater permanent emergent vegetation because this vegetation is not dependent upon lake levels for water. Therefore, the effect of borrowing project water would be less than significant.

10.2.7.3.3 Upland Cropland

Cotton land provides extremely marginal habitat and forage to wildlife. Although a maximum of 177,300 acres of cotton would be idled, EWA actions would have no adverse effects on upland cropland habitat and associated wildlife.

10.2.8 Comparative Analysis of Alternatives

10.2.8.1 Upstream from the Delta

In the Upstream from the Delta region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. This amount could typically be obtained from stored reservoir water purchases in most year types. In very dry years, stored reservoir water may not be available, and the EWA agencies would need to look to other sources.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources upstream from the Delta. EWA agencies would prefer to purchase water from upstream sources because the water is generally less expensive. The amount that could be purchased would be limited by the capacity of the Delta export pumps to move the water to export areas south of the Delta. During wet years, excess pump capacity may be limited to between 50,000 and 60,000 acre-feet of EWA asset water because the pumps primarily would be used to export state and federal project water to export service area users. During dry years, when there would be less Project water available for pumping (and therefore the pumps would have greater availability capacity), the EWA Project Agencies could acquire up to 600,000 acre-feet of water from sources upstream from the Delta. Table 10-9 compares the Flexible and Fixed Purchase Alternatives to the Baseline Condition.

The EWA Project Agencies usually prefer to purchase stored reservoir water because it is the least expensive option. In dry years for the Fixed Purchase Alternative, they would likely purchase all stored reservoir water available, and then look to other options for the remainder of their purchases. The effects on vegetation and wildlife would be greater during these years. In wet years, a portion of the stored reservoir water available would likely provide the entire amount of water that could be moved through the Delta. During these years the effects on vegetation and wildlife would be minimal.

The potential for effects on vegetation and wildlife during wet years for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative. That is, during wet years, acquisitions would most likely be from stored water sources and groundwater and crop idling sources would not be used. However, as rainfall amounts for areas north of the Delta decrease, reflecting dry year conditions, the greater capacity of the export pumps to move EWA assets could result in a greater reliance on crop idling and groundwater resources for the additional EWA acquisitions. If the EWA Project Agencies were to acquire 600,000 acre-feet upstream from the Delta, they would need to utilize most available sources, which would include stored reservoir water, groundwater substitution, groundwater purchase, and crop idling. Although the groundwater mitigation measures and socioeconomic thresholds would be employed to minimize the potential for impact, the greater reliance on crop idling and groundwater acquisitions during dry years would result in the Flexible Purchase Alternative having a greater potential for effects on vegetation and wildlife than the Fixed Purchase Alternative.

10.2.8.2 Export Service Area

EWA asset acquisitions in the Export Service Area under the Fixed Purchase Alternative would be limited to 150,000 acre-feet from stored groundwater and crop idling sources. Stored groundwater would be acquired from agencies that have previously stored water in the ground (e.g., Kern Water Bank). Therefore, there would not be an adverse effect on vegetation and wildlife in the Export Service Area under the Fixed Purchase Alternative. Crop idling would only occur on cotton fields. Cotton provides poor quality habitat for wildlife; therefore, any amount of idling of these fields would not affect vegetation wildlife.

EWA asset acquisitions in the Export Service Area under the Flexible Purchase Alternative would be dependent on the water year type north of the Delta. Export pump capacity during wet years would limit the ability of the EWA Project Agencies to move assets through the Delta, requiring reliance on greater purchase amounts from export area sources. During wet years, acquisitions within the export service area could involve up to 540,000 acre-feet of assets. The EWA agencies would acquire assets from stored groundwater and idled cropland sources. Because groundwater would be purchased from previously stored banks of water, no adverse effects to groundwater resources within the export service area would be expected under the Flexible Purchase Alternative. Again, crop idling would occur on cotton fields. There would be no impacts to vegetation and wildlife.

Table 10-9
Vegetation and Wildlife: Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Region	*Asset Acquisition or Management*	*Result*	*Effects on Vegetation and Wildlife*	*Flexible Alternative Change from Baseline*	*Fixed Alternative Change from Baseline*	*Significance of Flexible Alternative*	*Significance of Fixed Alternative*	*Comments*
Upstream from the Delta Region								
Sacramento River	Groundwater substitution/Crop idling Flexible: 225,000 acre-feet Fixed: 35,000 acre-feet	Water held in Lake Shasta in June	Sacramento River flows decrease in June	Sacramento River flows decrease by a maximum of 1,160 cfs	Sacramento River flows decrease by a maximum of 180 cfs	Less-than-significant	Less-than-significant	
			Slower decrease in water levels in Lake Shasta in June, relative to the Baseline Condition	Lake Shasta contains as much as 68,900 acre-feet more compared to Baseline Conditions	Lake Shasta contains as much as 9,000 acre-feet more compared to Baseline Conditions	Less-than-significant	Less-than-significant	
		Water is released from Lake Shasta is not diverted	Sacramento River flows increase July – September	Sacramento River increases by a maximum of 1,940 cfs	Sacramento River increases	Less-than-significant with environmental measures	Less-than-significant with environmental measures	
	Crop Idling Flexible 35,000 acre-feet Fixed: 35,000 acre-feet	Conversion of rice crop to bare fields	Reduced rice crop acreage in Glenn, Colusa, and Yolo Counties	Idle a maximum of 47,980 acres, which is a loss of habitat and forage	Idle a maximum of 34,770 acres, which is a loss of habitat and forage	Less-than-significant with environmental measures	Less-than-significant with environmental measures	
Feather River Region	Stored Reservoir Water Flexible & Fixed: Sly Creek – 5,000 acre-feet Little Grass Valley – 12,000 acre-feet	Water released from Sly Creek and Little Grass Valley Reservoirs	Sly Creek and Little Grass Valley Reservoir levels lower than the Baseline Condition November – refill	Sly Creek reduced by maximum of 5,000 acre-feet and 17 feet (ft) in elevation. Little Grass Valley reduced by maximum of 12,000 acre-feet and 12 ft in elevation.	Sly Creek reduced by maximum of 5,000 acre-feet and 17 ft in elevation. Little Grass Valley reduced by maximum of 12,000 acre-feet and 12 ft in elevation.	Less-than-significant	Less-than-significant	
			Increased flows diverted through Woodleaf and Forbestown tunnels in November and December	No effect on vegetation and wildlife.	No effect on vegetation and wildlife.	Less-than-significant	Less-than-significant	

Table 10-9
Vegetation and Wildlife: Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Region	*Asset Acquisition or Management*	*Result*	*Effects on Vegetation and Wildlife*	*Flexible Alternative Change from Baseline*	*Fixed Alternative Change from Baseline*	*Significance of Flexible Alternative*	*Significance of Fixed Alternative*	*Comments*
			Oroville levels increased November through following September	Lake Oroville increases by a maximum of 15,000 acre-feet	Lake Oroville increases by a maximum of 15,000 acre-feet	Less-than-significant	Less-than-significant	
		Water is held in Little Grass Valley and Sly Creek Reservoirs during refill	Flows in the Feather River are decreased during refill	Feather River flows are decreased during refill	Feather River flows are decreased during refill	Less-than-significant	Less-than-significant	
		Water released from Lake Oroville	Increased flows in Feather River downstream of Lake Oroville July - September	Feather River flow increases by a maximum of 84 cfs	Feather River flow increases by a maximum of 84 cfs	Less-than-significant	Less-than-significant	
	Groundwater Substitution/ Crop Idling Flexible: 236,500 acre-feet Fixed: 35,000 acre-feet	Water is held in Lake Oroville April – June	Slower decrease in water levels in Lake Oroville from April – June compared to Baseline Conditions	Lake Oroville would be at most, 2 feet higher than the Baseline Condition.	Lake Oroville contains as much as 17,900 acre-feet more than Baseline Conditions	Less-than-significant	Less-than-significant	
		Water is released from Lake Oroville	Feather River flows downstream of Oroville increase July – September	Feather River flow increases by a maximum of 2,105 cfs.	Feather River flow increases by a maximum of 212 cfs.	Less-than-significant with environmental measures	Less-than-significant with environmental measures	
	Crop Idling Flexible: 120,000 acre-feet Fixed: 35,000 acre-feet	Conversion of rice crops to bare fields	Reduced rice crop acreage in Butte and Sutter counties	Idle a maximum of 38,340 acres	Idle a maximum of 21,200 acres	Less-than-significant with environmental measures	Less-than-significant with environmental measures	
Yuba River Region	Stored Reservoir Water Flexible: 100,000 acre-feet Fixed: 35,000 acre-feet	Timing of water released from New Bullards Bar Reservoir is changed	Yuba River flows increase July – September	Yuba River flow increases by a maximum of 1005 cfs	Yuba River flow increases	Less-than-significant with environmental measures	Less-than-significant with environmental measures	
			Yuba River flows decrease during refill	Yuba River flows decrease during refill	Yuba River flows decrease during refill	Less-than-significant	Less-than-significant	

Table 10-9
Vegetation and Wildlife: Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Region	*Asset Acquisition or Management*	*Result*	*Effects on Vegetation and Wildlife*	*Flexible Alternative Change from Baseline*	*Fixed Alternative Change from Baseline*	*Significance of Flexible Alternative*	*Significance of Fixed Alternative*	*Comments*
			Slower decrease in water levels in New Bullards Bar Reservoir from April – September relative to Baseline Conditions	New Bullards Bar Reservoir is 5 ft higher in elevation than Baseline Conditions	New Bullards Bar Reservoir is 2 ft higher in elevation than Baseline Conditions	Less-than-significant	Less-than-significant	
			New Bullards Bar water levels are lower than the Baseline Condition July – refill	New Bullards Bar water levels reduced by a maximum 100,000 acre-feet and 24 ft in elevation.	New Bullards Bar water levels reduced by a maximum 35,000 acre-feet and 8 ft in elevation.	Less-than-significant	Less-than-significant	
	Groundwater Substitution Flexible: 85,000 acre-feet Fixed: 35,000 acre-feet	Water is held in New Bullards Bar	Yuba River flows decrease April – June	Yuba River flow decreases by a maximum of 239 cfs	Yuba River flow decreases by a maximum of 195 cfs	Less-than-significant	Less-than-significant	
American River Region	Stored Reservoir Water Flexible & Fixed: 20,000 acre-feet	Water is released from French Meadows and Hell Hole Reservoirs	French Meadows and Hell Hole Reservoir water levels are lower than the Baseline Condition June – refill	FM decreases by a maximum of 7,800 acre-feet and 8ft in elevation. HH decreases by a maximum of 12,200 acre-feet and 14ft in elevation.	FM decreases by a maximum of 7,800 acre-feet and 8ft in elevation. HH decreases by a maximum of 12,200 acre-feet and 14ft in elevation.	Less-than-significant	Less-than-significant	
			Flows in the Middle Fork of the American River are increased July – September	Middle Fork of the American River flow increases	Middle Fork of the American River flow increases	Less-than-significant	Less-than-significant	
		Water is held in French Meadows and Hell Hole Reservoirs during refill	American river flows are decreased during refill	American river flows are decreased during refill	American river flows are decreased during refill	Less-than-significant	Less-than-significant	

Table 10-9
Vegetation and Wildlife: Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Region	*Asset Acquisition or Management*	*Result*	*Effects on Vegetation and Wildlife*	*Flexible Alternative Change from Baseline*	*Fixed Alternative Change from Baseline*	*Significance of Flexible Alternative*	*Significance of Fixed Alternative*	*Comments*
	Stored Reservoir Water, Groundwater Purchase, and Crop Idling Flexible: 41,000 acre-feet Fixed: 35,000 acre-feet	Water is held in Folsom Lake	Surface water elevation in Folsom Lake is lower than the Baseline Condition in July and August.	Surface water elevation in Folsom Lake is 0.8 foot lower than the Baseline Condition	Surface water elevation in Folsom Lake is lower than the Baseline Condition	Less-than-significant	Less-than-significant	
		Water is released from Folsom	Lower American River flows downstream of Folsom increased June – December	Lower American River flow increases	Lower American River flow increases	Less-than-significant	Less-than-significant	
	Crop Idling	Conversion of rice crops to bare fields	Reduced rice acreage in Placer County.	Idle a maximum of 3,200 acres.	Idle a maximum of 3,200 acres.	Less-than-significant	Less-than-significant	
Merced/San Joaquin River Regions	Groundwater Substitution Flexible & Fixed: 25,000 acre-feet	Water is held in Lake McClure	Slower decrease in water levels in Lake McClure in April – October compared to Baseline Conditions	Lake McClure contains as much as 25,000 acre-feet (a water surface increase of 3 feet) more compared to Baseline Conditions	Lake McClure contains as much as 25,000 acre-feet (a water surface increase of 3 feet) more compared to Baseline Conditions	Less-than-significant	Less-than-significant	
			Merced River flows decrease April – September	Merced River flow decreases by a maximum of 70 cfs	Merced River flow decreases by a maximum of 70 cfs	Less-than-significant	Less-than-significant	
		Water is released from Lake McClure	Merced River flows increase in October	Merced River flow increases by a maximum of 210 cfs	Merced River flow increases	Less-than-significant	Less-than-significant	

Table 10-9
Vegetation and Wildlife: Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Delta Region								
Delta Region	Crop Idling, Groundwater Substitution, Stored Groundwater Purchase, Stored Reservoir Water Purchase	Water is released from reservoirs	Increased Delta outflows July – September	Outflows increase by a maximum of 1,635 cfs.	Outflows increase	Less-than-significant	Less-than-significant	
			Alterations in the position of X_2	The position of X_2 would be shifted by as much as 1.2 km closer to the Golden Gate Bridge	The position of X_2 would be shifted			
Export Service Area								
Export Service Area	Crop idling	Conversion of cotton crop to bare fields	Reduced cotton crop acreage in Fresno, Tulare, Kings, and Kern Counties	Idle a maximum of 182,800 acres.	Idle a maximum of 177,300 acres.	Less-than-significant	Less-than-significant	Cotton does not provide suitable habitat for wildlife
	Stored Groundwater Purchase	Release of water from groundwater storage	Decrease in the amount of water available through KCWA water banks	A maximum of 165,000 acre-feet from water bank.	A maximum of 165,000 acre-feet from water bank.	Less-than-significant	Less-than-significant	
	Source Shifting	Water is released from SWP and/or Metropolitan Water District reservoirs	Decreased water levels in Castaic, Perris, Diamond Valley, and Mathews	Water levels decreased by a maximum of 200,000 acre-feet.	Water levels decreased by a maximum of 200,000 acre-feet.	Less-than-significant	Less-than-significant	
		Water is drawn from Anderson Reservoir	Decreased levels in Anderson Reservoir compared to the Baseline Condition.	Water levels decreased by a maximum if 20,000 acre-feet.	Water levels decreased by a maximum if 20,000 acre-feet.	Less-than-significant	Less-than-significant	
	Borrowed Project Water	EWA water is released from San Luis Reservoir earlier in the year compared to Baseline Conditions	Decreased water levels in San Luis Reservoir	San Luis is lower in July and August than under Baseline Condition	San Luis is lower in July and August than under Baseline Condition	Less-than-significant	Less-than-significant	

10.2.9 Mitigation Measures

The environmental measures presented in Section 10.2.4 have been developed to reduce effects to vegetation and wildlife to less than significant levels. As such no mitigation measures are proposed for vegetation and wildlife.

10.2.10 Potentially Significant Unavoidable Impacts

All effects on vegetation and wildlife would be less than significant with the environmental measures listed in Section 10.2.4; therefore no potentially significant unavoidable impacts occur within this resource category.

10.2.11 Cumulative Effects

The analysis of cumulative effects on vegetation and wildlife compares potential effects from other water transfer related actions and other projects occurring in the EWA action area to the Baseline Condition by evaluating the total effects to changes in quantity and/or quality of vegetation communities and the effect of these changes to associated wildlife. For example, if other water transfer programs include crop idling within the Sacramento Valley then the effects of the additional sources of crop idling when combined with EWA actions could be cumulatively significant.

A cumulative analysis for groundwater purchase actions can be found in Chapter 6 Section 6.2.9. The effect on vegetation and wildlife of each program considered in the cumulative analysis has been evaluated and would be covered by environmental documents developed for each groundwater program.

10.2.11.1 Upstream from the Delta

As described in Chapter 22, five water supply programs, in addition to EWA, are being included in the cumulative effects analysis. All five involve water acquisition upstream from the Delta and two downstream from the Delta.

Upstream from the Delta, four programs (Sacramento Valley Water Management Agreement, Dry Year Purchase Program, Drought Risk Reduction Investment Program, and CVPIA Water Acquisition Program) would participate in groundwater substitution actions (three of the four would only occur during dry years). All programs will conduct groundwater actions based on individual environmental documents required for the use of CVP and SWP facilities. The oversight of water transfers by Reclamation and DWR would ensure that the effects because of groundwater substitution actions on wetlands and other vegetation communities would be avoided or minimized. Groundwater substitution actions undertaken by other water supply programs would also be limited by water transfer capacities and the same criteria applied to the EWA program. Therefore, groundwater substitution would not present a cumulative effect on vegetation and wildlife resources.

Three programs (Sacramento Valley Water Management Agreement, Dry Year Purchase Program, and Drought Risk Reduction Investment Program) would include crop idling

as a water acquisition method (during dry years only). As with groundwater substitution, these programs, including EWA, would be limited by water export capacities. These limitations coupled with a 20 percent limitation by EWA agencies for water purchases related to crops idling within a county would control the amount of cropland idled for water supply programs (EWA agencies would limit or not acquire water through crop idling when the cumulative total of all programs is at 20 percent). Therefore, crop idling would not present any cumulative effects on vegetation and wildlife resources.

The purchase of stored reservoir water would potentially occur in all of the cumulative programs. The EWA analysis includes the maximum amount of water available from each reservoir. Therefore, the amount for purchase either by the EWA agencies or in combination with other projects evaluated in this section is the worst-case effect that could occur should all programs purchase stored reservoir water in any single year. Therefore, the analysis in this section can also be used as the cumulative analysis. The effect is considered less than significant.

Groundwater substitution would take place as part of two programs, the Drought Risk Reduction Investment Program and the CVPIA Water Acquisition Program. All actions would be coordinated by Reclamation and DWR transfer programs that will monitor for and address the effects from groundwater substitution actions on wetlands and other vegetation communities would be avoided or minimized. Therefore, groundwater substitution would not present a cumulative effect on vegetation and wildlife resources.

All of the cumulative programs would also contribute to changes in timing and levels of river flows. Water resource and development projects, such as dams and levees, and land uses, such as conversion to agriculture, have had significant effects on the regeneration potential of riparian forests (Strahan 1985). EWA water transfers would potentially exacerbate conditions that are currently unhealthy for riparian forest. However, the EWA program includes a monitoring and adaptive management plan that is tasked with ensuring effects of EWA actions on riparian habitats are either avoided or minimized. Coordination with other programs would also help to reduce potential cumulative effects on riparian habitat.

10.2.11.2 Export Service Area

Two programs, the Drought Risk Reduction Investment Program and the CVPIA Water Acquisition Program, would include crop idling in the Export Service Area. EWA crop idling actions reduce the acreage of this habitat. However, cotton does not provide habitat of value to wildlife; therefore idling of cotton crops under the EWA program would not affect vegetation and wildlife resources. Consequently EWA actions would not contribute to cumulative effects in the Export Service Area through crop idling actions.

EWA is the only program employing source shifting in the EWA Service Area; therefore, there is no cumulative impact to consider for this water management option. Overall, the EWA program would not contribute to cumulative effects on vegetation and wildlife resources.

10.3 References

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Chapter 11
Regional and Agricultural Economics

Regional economies are local systems of producing, delivering, and trading goods and services. Agriculture in the Environmental Water Account (EWA) area of analysis is an important element of the local economy. Regional and agricultural economics is concerned with the net effect of all EWA actions on local economies, including agriculture. Economic indicators addressed in this chapter include agricultural net returns, total output, value added, wages and salaries, and employment.

This chapter describes the economic situation in the EWA area of analysis, the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) issues, and the economic effects of the No Action/No Project Alternative, the Fixed Purchase Alternative and the Flexible Purchase Alternative.

11.1 Affected Environment/Existing Conditions

The Affected Environment/Existing Conditions section presents recent data related to the economic conditions of the subject areas. First, data are provided for those areas with regional economies affected by crop idling for water transfers. This section presents most data at the county level because data regarding regional and agricultural economics area descriptions are generally available by county. The description of the affected environment does not include the Delta and Southern California portions of the Export Service Area, in which regional agricultural economic effects from EWA crop idling would be unlikely.

Next, this section provides background data related to other economic issues, such as county tax revenue generated by the Williamson Act, agricultural groundwater extraction costs, and water transfer market effects.

11.1.1 Area of Analysis

The Regional and Agricultural Economics area of analysis includes counties in which EWA could acquire water through crop idling. Crop idling would temporarily reduce agricultural production, which could result in regional economic effects. The Upstream from the Delta Region includes Butte, Colusa, Glenn, Placer, Sutter, and Yolo Counties. The Export Service Area includes Fresno, Kern, Kings, and Tulare Counties. The boundaries of each county in each region define the Upstream from the Delta Region and the Export Service Area.

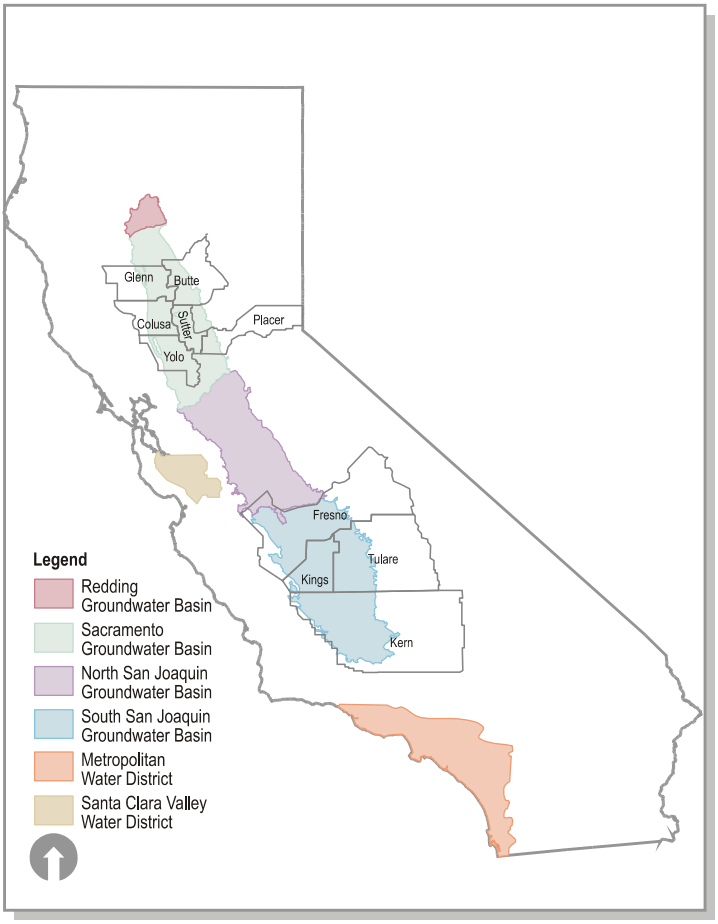


Figure 11-1
Regional and Agricultural Economics Area of Analysis

Agricultural business losses and related effects that could be caused by crop idling would occur in the counties where the EWA agencies purchase water through crop idling. The regional and agricultural economics area of analysis also includes the groundwater resources area of analysis, which extends from the City of Redding in the northern portion of the Sacramento Valley to Kern County in the southern portion of the San Joaquin Valley, because groundwater substitution could increase groundwater extraction costs. The potential for water transfer market effects would be relevant to all EWA regions across California. Figure 11-1 shows the complete area of analysis.

11.1.2 Upstream from the Delta Region

Potentially affected counties in the Upstream from the Delta Region are Butte, Colusa, Sutter, Placer, Glenn, and Yolo Counties. The subsections below first present regional economic data, then economic settings in each potentially affected county within the region. Figure 11-2 displays the Upstream from the Delta Region. Sacramento County is included for reference purposes; Yuba County is included because regional effects of rice idling may affect Yuba County rice-related businesses. Refer to Section 11.2.5.1 for further discussion.

11.1.2.1 Regional Economics

Regional economics data are taken directly from the Bureau of Economic Analysis (BEA) Regional Economic Information System (REIS) 2000. Table 11-1 shows estimated industry earnings and employment for potentially affected counties in the Upstream from the Delta Region. The region's population in 1999 was approximately 773,000, an increase from 665,000 in 1990. In 1999, the Upstream from the Delta Region employed approximately 434,000 people (BEA REIS 2000). Primary employers were services, government, retail trade, and the finance, insurance and real estate sectors. Over time, agriculture, mining, and manufacturing's share of economic

activity in the region has decreased (BEA REIS 2000). This trend is expected to continue in the future.

In Table 11-1, total earnings include wage and salary disbursements, other labor income, and proprietor's net income. In 1999, the largest contributors to total earnings were services, government, and retail trade, at approximately 23.7 percent, 22.5 percent, and 12.4 percent, respectively (BEA REIS 2000). Agriculture, forestry, and fishing provided 1.5 percent, approximately $190 million, of the region's total earnings, yet the percentage varied widely among the counties. In 1999, agriculture contributed 6.6 percent of total earnings in Glenn County, 3.8 percent in Sutter County and 2.6 percent in Yuba County (BEA REIS 2000). These counties have relatively small urban areas and large percentages of their acreage devoted to farmland.

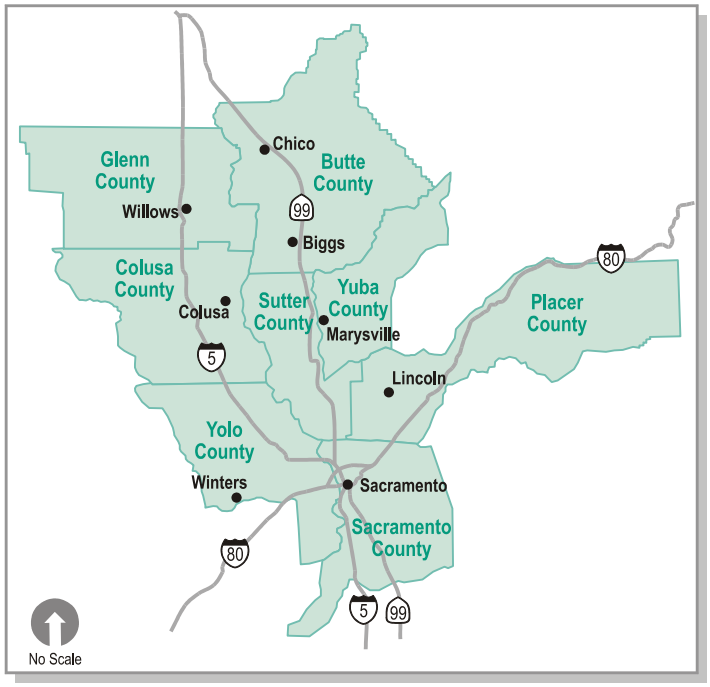


Figure 11-2
Counties in the Upstream from the Delta Region

Table 11-1
1999 Total Industry Earnings and Employment Upstream from the Delta Region [(1)]

	1999 Total Industry Earnings ($1,000)	*1999 Total Industry Employment (jobs)*
Total	$12,674,710	360,183
Agriculture, Forestry, Fishing	$190,403	8,828
Mining	$24,253	695
Construction	$1,140,331	28,749
Manufacturing	$1,544,633	33,288
Transportation, Comm., Utilities	$889,127	19,222
Wholesale Trade	$685,689	17,287
Retail Trade	$1,571,883	75,781
Finance, Insurance, Real Estate	$765,349	31,508
Services	$3,011,758	73,470
Govt. Enterprise & Special Industry	$2,851,284	71,355

Source: 1999 Bureau of Economic Analysis (BEA) Regional Economic Information System (REIS) Data, Published 2000

(1) Data for Butte, Colusa, Sutter, Placer, Glenn, Yuba, and Yolo Counties, except where noted below. Regional Economic Information System (REIS) data did not include some county estimates to avoid disclosure of confidential information in both industry earnings and employment. Butte estimates are not included in agriculture, forestry and fishing, and mining sectors. Colusa estimates are not included in agriculture, forestry and fishing, and services sectors.

Total personal income is total earnings, adjusted for place of residence,[1] plus dividends, interest and rent, and transfer payments received by the residents. In 1999, total personal income in the region was about $20.7 billion. Total farm personal income in the region was about $552 million (BEA REIS 2000). Table 11-2 shows a summary of economic activity by county in the Upstream from the Delta Region.

Table 11-2
1999 Economic Activity Upstream from the Delta Region $1,000

	Personal Income[1]				Total Industry Earnings[3]	Total Employment[4] (jobs)	Total Population (persons)
County	Total	Non-Farm	Farm	Per Capita (dollars)[2]			
Butte	$4,297,201	$4,247,290	$49,911	$22,012	$2,488,069	98,967	195,220
Colusa	$435,022	$320,040	$114,982	$23,085	$311,180	11,143	18,844
Glenn	$474,298	$448,015	$26,283	$18,015	$291,249	12,406	26,328
Placer	$8,375,356	$8,369,585	$5,771	$34,972	$4,663,985	139,088	239,485
Sutter	$1,899,637	$1,756,224	$143,413	$24,223	$1,039,337	39,474	78,423
Yolo	$4,206,288	$4,047,267	$159,021	$27,037	$3,741,271	107,331	155,573
Yuba	$1,042,211	$1,019,004	$23,207	$17,485	$767,182	25,725	59,607
Total	$20,730,013	$20,207,425	$522,588		$13,302,273	434,134	773,480

Source: 1999 BEA REIS Data, Published 2000

(1) Personal income is the income that is received by persons from participation in production, from both government and business transfer payments, and from government interest

(2) Per capita personal income is measure of income is calculated as the total personal income of the residents of an area divided by the population of the area. Per capita personal income is often used as an indicator of the economic well-being of the residents of an area.

(3) Total industry earnings include all farm and non-farm earnings.

(4) Total employment includes all industry sector employment estimates of both full and part-time jobs.

11.1.2.2 Agricultural Economics

Numbers and sizes of farms, together with ownership patterns, cropping patterns, production characteristics, and expense characteristics, are used to describe the general structure of agriculture in the region. Table 11-3 provides data on number of farms, land in farms, and amount of cropland for counties in the Upstream from the Delta Region, taken from the United States Department of Agriculture (USDA) Census of Agriculture.

Ownership patterns describe the number of farm owners who live within a region. In 1997, full owners operated about 65 percent of farms or approximately 5,150 farms, and part owners or tenants operated the remaining farms in the counties in the Upstream from the Delta Region (USDA 1999).[2]

In 1997, the average farm size in counties in the Upstream from the Delta Region was 347 acres (USDA 1999).[3] In 1997, the region supported about 1.7 million acres of total cropland, of which 1.4 million acres were irrigated land (USDA 1999).

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1 The place of residence of individuals is the State and county in which they live.

2 Full owners operated only land they owned. Part owners operated land they owned and also land they rented from others. Tenants operated only land they rented from others or worked on shares for others.

3 USDA data provided assumes the Census Bureau's most recent definition of a farm, being any place from which $1,000 or more of agricultural products were produced or sold, or normally would have been sold during the census year (USDA 1999).

Table 11-3
Farms, Land in Farms and Cropland Profiles of Counties Upstream from the Delta Region, 1997

County	Number of Farms	Land in Farms[1] (acres)	Avg. Size of Farm[2] (acres)	Total Cropland[3]		Harvested Cropland[4]		Irrigated Land[5]	
				Farms[6]	Acres	Farms	Acres	Farms	Acres
Butte	1,942	404,166	208	1,750	247,368	1,646	222,209	1,686	223,690
Colusa	810	430,958	532	759	316,756	722	287,630	723	276,562
Glenn	1,189	482,583	406	1,070	255,968	916	212,848	1,025	220,235
Placer	997	139,597	140	629	62,284	388	28,431	703	34,754
Sutter	1,314	348,349	265	1,259	297,107	1,203	266,399	1,199	242,183
Yolo	923	536,595	581	832	380,700	747	324,291	709	294,021
Yuba	706	208,462	295	548	96,989	426	79,586	556	85,241
Total	7,881	2,550,710	347	6,847	1,657,172	6,048	1,421,394	6,601	1,376,686

Source: 1997 United States Department of Agriculture (USDA) Agricultural Census Data Published 1999

(1) The acreage designated as "land in farms" consists primarily of agricultural land used for crops, pasture, or grazing. All grazing land, except land used under government permits on a per-head basis, was included as " land in farms" provided it was part of a farm or ranch.

(2) All farms were classified into selected size groups according to the total land area in the farm. The land area of a farm is an operating unit concept and includes land owned and operated as well as land rented from others.

(3) This category includes land from which crops were harvested or hay was cut; land in orchards, citrus groves, vineyards, nurseries, and greenhouses; cropland used only for pasture or grazing; land in cover crops, legumes, and soil-improvement grasses; land on which all crops failed; land in cultivated summer fallow; and idle cropland.

(4) This category includes land from which crops were harvested or hay was cut, and land in orchards, citrus groves, Christmas trees, vineyards, nurseries, and greenhouses.

(5) This category includes all land watered by any artificial or controlled means, such as sprinklers, flooding, furrows or ditches, and spreader dikes. Included are supplemental, partial, and preplant irrigation.

(6) Number of farms with some cropland

Cropping patterns are important to both agricultural and regional economics. Crops in the region include rice, other field crops, truck crops, and tree and vine crops. According to California Agricultural Statistics Service (CASS) California Agricultural Commissioners' data report (CASS 2001), in 2000, the Upstream from the Delta Region contributed $765 million to total field crop value of production, including rice, or about 21 percent of the State total. Practically all of the rice, orchards, vegetables, and cotton acreage within the region are irrigated.

Some field crops utilize relatively large amounts of water per acre for irrigation. If idled, rice fields provide the largest amount of water of any of the region's major crops, approximately 3.3 acre-feet per acre (Water Transfers Office 2002).[4]

The Upstream from the Delta Region produces most of the rice grown in California. In 2000, Colusa County had the largest amount of rice acreage in the region and contributed 25.8 percent of the total value of the State's rice production of $618 million (CASS 2001). After Colusa County, the top four counties for rice production in the region were Sutter (20.6 percent of value), Butte (18.2 percent), Glenn (16.6 percent) and Yuba (6.7 percent) (CASS 2001).

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4 3.3 AF/acre is the estimated ETAW for rice used in the economic analysis (Water Transfers Office 2002). For a definition of ETAW see footnote 11 of this chapter. The estimates of 3.3 acre-feet per acre may be refined in the future as the science for generating these values further develops. Refer to Chapter 2 for more information.

The BEA definition of agricultural net returns is gross crop revenues plus other income less total farming costs. Although higher costs reduce farm profits, some costs represent farm expenditures in the regional economy. In 1999, total cash receipts for the region were approximately $1.5 billion, other income was $0.4 billion, and agricultural net income for the region was estimated to be approximately $232 million (BEA REIS 2000). Table 11-4 shows specific county totals.

Farm production expenses represent income for farm labor, farm supply companies, custom operators, and related businesses. If farm production expenses decrease, then the revenues received by farm labor and businesses also declines. In 1999, total production expenses for the region were about $1.7 billion (Table 11-5). Hired farm labor costs were one of the largest costs reported, accounting for about 32.4 percent of total expenses.

Table 11-4
1999 Agricultural Revenues and Production Costs, Upstream from the Delta Region ($1,000)

	Gross Farm Income[1]							
	Total Cash Receipts			Other Income				
County	Livestock, Production	Crops	Total	Govern-ment Payments	Total Other Income	Total Production Expenses[2]	Realized Net Income[3]	Total Farm Labor and Proprietors Income[4]
Butte	$9,619	$209,466	$219,085	$43,760	$74,101	$286,186	$7,000	$49,911
Colusa	$5,792	$282,188	$287,980	$60,930	$87,327	$308,750	$66,557	$114,982
Glenn	$54,765	$133,319	$188,084	$41,093	$68,456	$251,518	$5,022	$26,283
Placer	$15,744	$24,071	$39,815	$6,824	$12,602	$53,424	-$1,007	$5,771
Sutter	$8,212	$326,740	$334,952	$47,414	$88,374	$330,877	$92,449	$143,413
Yolo	$10,892	$373,020	$383,912	$26,130	$61,196	$374,249	$70,859	$159,021
Yuba	$14,460	$60,127	$74,587	$16,771	$34,809	$117,925	-$8,529	$23,207
Total	$119,484	$1,408,931	$1,528,415	$242,922	$426,865	$1,722,929	$232,351	$522,588

Source: 1999 BEA REIS Data Published 2000

(1) Gross farm income consists of estimates for the following items: cash receipts from marketing of crops and livestock; income from other farm-related activities, including recreational services and the sale of forest products; government payments to farmers; value of food and fuel produced and consumed on farms; gross rental value of farm dwellings; and the value of the net change in the physical volume of farm inventories of crops and livestock.

(2) Production expenses consist of: purchases of feed, livestock, seed, fertilizer and lime, and petroleum products; hired farm labor expenses (including contract labor); and all other production expenses (e.g. depreciation, interest, rent and taxes, and repair and operation of machinery), further broken down in Table 11-5.

(3) Production expenses and gross farm income excluding inventory change are used to calculate realized net income of all farms (gross farm income, excluding inventory change, minus production expenses equals realized net income).

(4) Bureau of Economic Analysis estimate of farm proprietors' income is estimated from modifying realized net income to exclude the income of corporate farms and salaries paid to corporate officers.

Table 11-5
1999 Production Expenses, Upstream from the Delta Region
($1,000)

County	Feed Purchased	Livestock Purchased	Seed Purchased	Fertilizer and Lime	Petroleum Products Purchased	Hired Farm Labor Expenses[1]	Other Production Expenses[2]
Butte	$2,370	$1,165	$8,195	$33,679	$7,767	$102,729	$130,281
Colusa	$1,178	$1,133	$17,283	$38,849	$10,833	$100,003	$139,471
Glenn	$14,897	$6,123	$6,999	$29,495	$7,858	$68,644	$117,502
Placer	$3,785	$1,703	$2,191	$3,878	$1,512	$12,691	$27,664
Sutter	$1,500	$1,001	$11,414	$41,653	$11,436	$107,146	$156,727
Yolo	$1,854	$2,056	$20,373	$46,172	$12,807	$126,149	$164,838
Yuba	$3,699	$862	$2,337	$12,540	$3,406	$41,314	$53,767
Total	$29,283	$14,043	$68,792	$206,266	$55,619	$558,676	$790,250

Source: 1999 BEA REIS Data Published 2000

(1) Hired farm labor includes contract labor.
(2) Other production expenses includes depreciation, interest, rent and taxes, and repair and operation of machinery.

11.1.2.3 County Settings

The regional economic analysis in Section 11.2 describes the economic effects of idling rice fields within selected counties in the Upstream from the Delta Region. The selected counties (Butte, Colusa, Glenn, Placer, Sutter, and Yolo) have extensive rice acreage and water agencies within the counties have shown willingness to participate in the EWA. (See Chapter 2 and Section 11.4.6.1.1.) The following sections describe the existing conditions in these counties. Figure 11-2 shows the general location of the counties within the region.

11.1.2.3.1 Butte County

Butte County is about 60 miles north of Sacramento in California's Central Valley along the Highway 99 corridor and is bordered by the Sacramento River or Butte Creek on the west and the Sierra Nevada Mountains on the east. Historically, Butte County has been an agriculturally based county, and commercial agriculture continues to be the county's principal economic base. Some non-agricultural industry located in Chico provides alternative economic base. Butte County's water supplies include local surface water, the Feather River, and groundwater. The Feather River and groundwater are the largest sources for the county's water demands.

In 1997, Butte County had 1,942 farms on approximately 404,000 acres (USDA 1999). In 1997, farming accounted for 38.5 percent of the county's land area. Butte County's gross value of agricultural production was $291 million in 2000 (CASS 2001).[5] In addition, in 1993, agriculture indirectly contributed an estimated $1 billion annually to the county's economy, as agricultural revenue spent in the county (Butte County 1995). The most valuable crop in Butte County is rice. The county's milled rice, planted on 98,000 acres, generated 18 percent ($112.3 million) of California's gross

[5] The gross value of production includes all farm production, whether sold into usual marketing channels or used on the farm where it is produced. Includes production of field crops, seed crops, vegetable crops, fruit and nut crops, nursery, flowers and foliage, apiary products, livestock, livestock products, poultry and poultry products.

value of agricultural production of rice in 2000 (CASS 2001). Other major crops in the county are almonds, walnuts, and plums. Table 11-6 summarizes the value of production and acreage of Butte County's leading commodities.

Table 11-6
Butte County Leading Commodities, 2000

Commodity	Value of Production ($ Million)	Acreage	Rank Among California Counties
Rice	112.3	98,000	3
Almonds	47.5	36,095	7
Walnuts, English	38.0	18,398	4
Plums, dried	31.1	12,472	2
Peaches, clingstone	7.1	1,933	5
Field crops	7.1	7,106	3
Nursery stock	6.0	N/A	15
Cattle and calves	5.7	N/A	30
Kiwifruit	5.2	1,271	2
Seed, rice	4.5	4,125	3

Source: County Agricultural Commissioners Report 2001

N/A – Not available. Acreage for commodity cannot be enumerated

According to Employment Development Department (EDD) labor statistics, the services sector was the largest employer in the county, employing 24.5 percent of the labor force in 2000. Recent growth within the service industry has been in health services and the social services components (EDD 2001a). Aircraft and parts, colleges and universities, and amusement and recreation services are some of the other major employers in the county (EDD 2001a). According to the Department of Finance (DOF) labor statistics, in 2000, agricultural employment was less than 4 percent (3,000 people) of the civilian labor force (DOF 2002). [6] In 2000, Butte County had an unemployment rate of 7 percent (DOF 2002).

11.1.2.3.2 Colusa County

Colusa County is about 35 miles northwest of Sacramento along the I-5 corridor. The coastal ranges border the county on the west side, and Butte Creek or the Sacramento River is the border on the east. The county has a highly agricultural economy. Relative to other California locations, land in Colusa County is inexpensive and high quality water is generally available. Water sources include groundwater, local surface waters, the Sacramento River, and surface water reuse.

Colusa County had 810 farms in 1997, totaling 430,958 acres, or 38.5 percent of the 736,450 total acres in the county (USDA 1999). The gross value of agricultural production in the county was $346 million in 2000 (CASS 2001). Colusa County ranks as the leading rice-producing county in the United States. Colusa County is also the lead producer of field crops in the region, with a total field crop production value of about $195 million in 2000 (CASS 2001). Major field crops include 147,270 acres of rice, 18,900 acres of wheat, 11,600 acres of safflower, 6,250 acres of hay, and 860 acres of

[6] Agricultural employment includes agricultural workers who are employed by farm labor contractors; employment data do not include unpaid family workers.

field corn. A University of California Cooperative Extension (UCCE) profile states that in Colusa County, "there is currently a transition from row crops to perennial crops (almonds, grapes, walnuts) and from low-value agronomic crops to higher value vegetables or other row crops" (UCCE 2002).

Table 11-7 displays the county's major crops and associated value of production, acreage, and rank among California counties.

Table 11-7
Colusa County Leading Commodities, 2000

Commodity	*Value of Production ($ million)*	*Acreage*	*Rank Among California Counties*
Rice	159.9	147,270	1
Tomatoes, processing	41.8	20,900	4
Seed, vegetables & vinecrop	28.4	11,410	1
Almonds (meats)	28.2	21,800	8
Cattle and calves	10.7	N/A	21
Cotton lint, upland	10.5	10,820	5
Seed, rice	8.0	7,730	2
Walnuts, English	6.9	4,250	11
Plums, dried	6.2	4,100	7

Source: County Agricultural Commissioners Report 2001

N/A – Not available. Acreage for commodity cannot be enumerated

Colusa is primarily a rural agricultural county, with a total population of about 19,000 in 1999 (BEA REIS 2000). In 2000, agricultural employment in Colusa County was 28.8 percent (or 2,540 employees) of total employment, the highest share in the Sacramento Valley (DOF 2002). A little over 19 percent of the workforce was employed in the government sector and 15 percent in retail trade (DOF 2002). Some of the other major employers in the county include trucking and courier services, amusement and recreation services, oil and gas field services, and groceries and related products (EDD 2001a). In 2000, Colusa County had an unemployment rate of 17.6 percent (DOF 2002).

11.1.2.3.3 Glenn County

Glenn County is about 100 miles northwest of Sacramento, along the I-5 corridor. The county includes the western boundary of the Mendocino National Forest and has the Sacramento River as its eastern boundary. Glenn County has a highly agricultural economy. The county has a high quality water supply; groundwater, local surface water and Sacramento River water are the main sources of supply.

Glenn County had 1,189 farms in 1997. In 1999, farmland occupied 57.3 percent, or 482,583 acres of the county's total land area (USDA 1999). In 2000, Glenn County's major commodities were rice, almonds, milk products, prunes and livestock. Table 11-8 presents value of production and acreage of the county's top commodities. The county's gross value of farm production was $280.9 million in 2000. In 2000, field crops produced over $140 million in total value annually. Rice was produced on 87,383 acres and the total production value was over $100 million (CASS 2001).

Table 11-8 Glenn County Leading Commodities, 2000			
Commodity	**Value of Production ($ million)**	**Acreage**	**Rank Among California Counties**
Rice, paddy	102.5	87,383	4
Dairy products	32.9	N/A	15
Almonds	27.8	25,433	9
Plums, dried	18.1	9,121	5
Cattle and calves	16.4	N/A	13
Corn	10.0	16,285	5
Walnuts	8.6	7,828	9
Hay, alfalfa	8.3	15,067	17
Olives	5.3	4,645	3
Sugar beets	4.7	3,601	7

Source: County Agricultural Commissioners Report 2001
N/A – Not available. Acreage for commodity cannot be enumerated

Government was the top industry in Glenn County in 2000, employing 22 percent of the county's labor force (DOF 2002). Agriculture employed 14.4 percent (1,520 people) of the work force in Glenn County. Manufacturing jobs, a substantial portion of which are in food processing, constitute 8 percent of local employment in 2000 (DOF 2002). In 2000, Glenn County had an unemployment rate of 12 percent (DOF 2002).

11.1.2.3.4 Placer County

Placer County is about 15 miles northeast of Sacramento along the I-80 corridor. The county encompasses the rim of the Sacramento Valley to the west and the Sierra Nevada Mountains, Lake Tahoe, and the Nevada border to the east. Placer County has urban and agricultural areas and is one of the fastest growing counties in California (EDD 2001). The county's water supply includes surface water and groundwater. A large share of the water supply comes from surface water runoff stored by Nevada ID, PG&E and others (Hutchison 2002).

In 1997, of the 898,820 acres of land within the county, 139,597 acres were occupied by 997 farms. Farmland accounted for 15.5 percent of the total land area. From 1992 to 1999, the number of farms in the county decreased 12 percent (USDA 1999).

Currently, Placer County's major commodities include milled rice, cattle and calves, and nursery products. Table 11-9 presents the top commodities in the county in terms of gross value of production. The county's total gross value of agricultural production in 2000 was $60.5 million (CASS 2001).

Table 11-9 Placer County Leading Commodities, 2000			
Commodity	**Value of Production ($ million)**	**Acreage**	**Rank Among California Counties**
Rice, milling	15.8	15,799	7
Cattle and calves	13.7	N/A	17
Nursery products	11.5	N/A	30
Pasture, irrigated	2.8	25,000	12
Walnuts, english	1.6	1,091	18
Livestock products	1.6	N/A	11
Pasture and range	1.5	171,000	34
Sheep and lambs	0.9	N/A	9
Plums	0.8	439	6

Source: County Agricultural Commissioners Report 2001

N/A – Not available. Acreage for commodity cannot be enumerated

In 2000, agricultural employment was less than 3.5 percent (4,000 people) of the civilian workforce in Placer County. In fact, over 50 percent of the workforce was employed in trade and service industries (DOF 2002). Recently an influx of major corporations, including numerous technology firms, has occurred in Placer County. In 2000, the county's unemployment rate was 3.2 percent, lower than that of the State unemployment rate of 4.9 percent (DOF 2002).

11.1.2.3.5 Sutter County

Sutter County is about 40 miles north of Sacramento, along the State Highway 99 corridor, in the Sacramento Valley between the Sacramento and Feather Rivers. The county has a highly agricultural economy. Sutter County's water supply includes surface water from the Feather and Sacramento Rivers, other surface water, surface water reuse, and groundwater wells (Dahlman 2002).

In 1997, there were 1,317 farms occupying 248,349 acres (90.3 percent) of the 385,600 total acres in the county (USDA 1999). The gross value of Sutter County's agriculture production in 2000 was $343.5 million (CASS 2001), 21st in the state. The main commodities in 2000 were rice, dried plums, peaches, and walnuts (see Table 11-10 for other top commodities). In 2000, Sutter County accounted for 20.6 percent of total rice production value (CASS 2001). The county produced approximately $154 million of rice, corn, safflower, hay/alfalfa, wheat and various other field crops. In 2000, rice was planted on a total of 107,704 acres, and corn, safflower, hay, pasture and wheat were on 6,992 acres, 12,914 acres, 6,571 acres, 11,556 acres and 9,003 acres, respectively.

Table 11-10
Sutter County Leading Commodities, 2000

Commodity	Value of Production ($ million)	Acreage	Rank Among California Counties
Rice	144.6	107,704	2
Plums, dried	43.5	4100	1
Peaches	38.5	10,446	3
Walnuts	26.5	15,886	5
Tomatoes	17.5	9700	13
Melons	10.1	4376	8
Nursery products	8.2	N/A	31
Almonds	6.3	5549	12
Cattle and calves	5.3	N/A	32
Hay, alfalfa	4.3	6571	21

Source: County Agricultural Commissioners Report 2001
N/A – Not available. Acreage for commodity cannot be enumerated

Approximately 32,100 people were in Sutter County's workforce and the unemployment rate was 13 percent in 2000 (DOF 2002). According to the 1996 General Plan, agriculture and agriculturally related services and industries have dominated employment in the county (Sutter County 1996). In 2000, about 17 percent (6,200 people) of Sutter County's civilian workforce was employed in agriculture. Other major industries in the county were the retail trade and service industries; each employed about 5,400 people in 2000 (DOF 2002).

11.1.2.3.6 Yolo County

Yolo County is immediately west of Sacramento County near the southern end of the Sacramento Valley along the I-80 and I-5 corridors. Bordered by the Vaca Mountains to the west and the Sacramento River to the east, Yolo County encompasses 1,034 square miles (Yolo County 1983). The county has a very agricultural economy except that some urban areas are tied to education facilities and the Sacramento urban economy. Yolo County's water supply includes groundwater and surface water. Important surface waters are the Cache Creek System, which includes Clear Lake, Indian Valley Reservoir, and Cache Creek upstream from the Capay Diversion Dam, and water from the Sacramento River via diversions and drainage channels.

In 1997, Yolo County had 923 farms on approximately 536,595 acres (USDA 1999). Farming accounted for approximately 82.8 percent of the county's land area (USDA 1999). The most valuable crop in Yolo County was tomatoes for processing. In 2000, the county's tomato crops, planted on 48,575 acres, generated about 13 percent ($76.5 million) of California's processing-tomato income (CASS 2001). Within the State, only Fresno County generates more income from tomatoes on more acres. Other major crops in the county are grapes, rice, and hay. Table 11-11 provides data on Yolo County's leading commodities.

Table 11-11 Yolo County Leading Commodities, 2000			
Commodity	**Value of Production ($ million)**	**Acreage**	**Rank Among California Counties**
Tomatoes, Processing	76.5	48,575	2
Grapes, Wine	40.9	9,496	11
Rice	34.6	36,229	6
Hay, Alfalfa	21.4	38,720	14
Seed Crops	20.0	N/A	
Corn, Field (grain)	13.7	28,125	2
Cattle and Calves	10.0	N/A	22
Walnuts	9.9	8,497	8
Wheat	8.4	43,144	6
Melons, Honeydew	7.5	4,342	3

Source: County Agricultural Commissioners Report 2001

N/A – Not available. Acreage for commodity cannot be enumerated.

In 2000, the agricultural industry employed about 5,000 people, less than 6 percent of the civilian workforce. Other major industries in the county were state-local government and trade industries, which employed 26,600 and 21,800 people, respectively (DOF 2002). In 2000, Yolo County had an unemployment rate of 4.3 percent (DOF 2002).

11.1.3 Export Service Area

This section describes regional and agricultural economic conditions in Fresno, Kern, Kings, and Tulare Counties of the Export Service Area. This description of the affected environment does not include the Southern California portion of the Export Service Area, in which regional agricultural economic effects from the EWA are unlikely. In Chapter 11, the term "Export Service Area" always means Fresno, Kern, Kings, and Tulare Counties.

Section 11.1.3.2 describes the settings in Fresno, Kern, Kings and Tulare Counties, which are the counties most likely to experience agricultural economic effects as a result of EWA water purchases. These counties are shown in Figure 11-3.



Figure 11-3
Counties in the Export Service Area

11.1.3.1 Regional Setting – Export Service Area

Table 11-12 shows economic variables estimated by industry in the Export Service Area. The regional population in 1999 was approximately 1.8 million (BEA REIS 1999). In 1999, the region employed approximately 823,000 people. Primary employers were services, agriculture/forestry/fisheries, retail trade, services, and government. Employment in agriculture has decreased in recent years. In 1999, the agricultural sector provided about 98,000 jobs (or 11.9 percent of employment) in the region (BEA REIS 2000).

Table 11-12
1999 Total Industry Earnings and Employment in the Export Service Area [1]

	Total Industry Earnings ($1,000)	***Total Industry Employment (jobs)***
Total	**$24,492,217**	**823,222**
Agriculture, Forestry, Fishing	$1,542,613	98,189
Mining	$587,166	9,902
Construction	$1,650,448	45,410
Manufacturing	$2,092,673	57,735
Transportation, Comm., Utilities	$1,685,642	36,965
Wholesale Trade	$1,224,966	32,209
Retail Trade	$2,631,617	138,922
Finance, Insurance, Real Estate	$1,071,016	43,606
Services	$5,495,303	215,425
Govt. Enterprise & Special Industry	$6,510,773	144,859

Source: 1999 BEA REIS Data Published 2000

(1) Data for Fresno, Kern, Kings, and Tulare Counties, except where noted below. REIS data did not include some county estimates for industry earnings and employment by sector to avoid disclosure of confidential information. Kings and Tulare estimates are not included in mining and financial sectors

Total industry earnings for the region were about $24 billion in 1999. Largest contributors to total earnings were government (26.6 percent), services (22.4 percent) and retail trade (10.7 percent). Agriculture, forestry, and fishing provided 6.3 percent, approximately $1.5 billion, of the region's total earnings (BEA REIS 1999). In 1999, the agriculture, forestry and fishing sector in Tulare, Kern, and Fresno Counties provided 7.4 percent, 5.8 percent and 5.3 percent of county industry earnings, respectively. Average per capita income for the region was $19,023 (BEA REIS 2000). Table 11-13 summarizes economic activity by county in the Export Service Area.

Table 11-13
1999 Economic Activity in the Export Service Area, $1,000

County	Personal Income				Total Industry Earnings[1]	Total Employment[2] (jobs)	Total Population (persons)
	Total	Nonfarm	Farm	Per Capita (dollars)			
Fresno	$16,135,625	$15,496,060	$639,565	$21,146	$11,307,494	406,823	763,069
Kern	$12,776,502	$12,392,868	$383,634	$19,886	$9,226,525	309,598	642,495
Kings	$1,938,811	$1,839,351	$99,460	$15,732	$1,413,555	48,952	123,241
Tulare	$6,928,875	$6,229,845	$699,030	$19,329	$4,558,793	173,455	358,470
Total	$37,779,813	$35,958,124	$1,821,689		$26,506,367	938,828	1,887,275

Source:1999 BEA REIS Data Published 2000

Refer to Table 11-2 definitions of terms

11.1.3.2 Agricultural Economics

Table 11-14 provides data on number of farms and their acreage in the Export Service Area.

Table 11-14
Farm and Cropland Profiles of Counties in the Export Service Area, 1997

County	Number of Farms	Land in Farms (acres)	Average Farm Size (acres)	Total Cropland		Harvested Cropland		Irrigated Land	
				Farms	Acres	Farms	Acres	Farms	Acres
Fresno	6,592	1,881,418	285	6,005	1,250,984	5,730	1,157,357	5,810	1,153,812
Kern	1,997	2,851,462	1,428	1,522	1,054,228	1,360	893,221	1,406	912,584
Kings	1,079	656,968	609	935	526,132	830	445,537	892	421,365
Tulare	5,446	1,309,525	240	4,992	703,295	4,812	639,578	4,809	625,070
Total	**15,114**	**6,699,373**	**641**	**13,454**	**3,534,639**	**12,732**	**3,135,693**	**12,917**	**3,112,831**

Source: 1997 USDA Data, Published 1999

Refer to Table 11-3 for definitions of terms

In 1997, the average farm size in counties in the Export Service Area was 641 acres. In 1997, the region supported about 3.5 million acres of total cropland, of which 3.1 million acres were irrigated land (USDA 1999). Ownership patterns describe the number of farm owners who live within a region. In 1997, full owners operated about 73 percent of farms or approximately 11,014 farms, and part owners or tenants operate the remaining farms in the counties in the Export Service Area (USDA 1999).

As measured by harvested acres, cotton was the number one crop in the Export Service Area. In 2000, Fresno contributed 34.0 percent of the total $905 million production value of cotton lint in the State, while Kings and Kern supplied 21.8 percent and 21.4 percent, respectively (CASS 2001). Other important crops in the region, as measured by value of production, were other field crops, orchards, grapes, and alfalfa.

In 2000, the Export Service Area accounted for 39 percent of the State's livestock production value, about 41 percent of fruit and tree-nuts value, and about 43 percent of field crop value (CASS 2001). In 1999, total agricultural cash receipts for the region were about $7.6 billion. Including other income and government payments, agricultural income for the region was estimated at $8.2 billion. Production expenses were about $7.6 billion in 1999, leaving a net cash return of $0.6 million (BEA REIS 2000). Hired and contract labor was the largest expense reported, accounting for

about 31 percent of total expenses (BEA REIS 2000). Tables 11-15 and 11-16 summarize farm income and production expenditures by county in the Export Service Area.

Table 11-15
1999 Agricultural Revenues and Production Costs, Export Service Area
($1,000)

County	Total Cash Receipts			Other Income		Total Production Expenses	Realized Net Income	Total Farm Labor and Proprietors Income
	Total	Livestock, Production	Crops	Govt. Payments	Total Other Income			
Fresno	2,862,748	805,061	2,057,687	76,417	201,198	2,877,951	185,995	639,565
Kern	1,989,160	237,018	1,752,142	59,913	127,357	2,136,293	-19,776	383,634
Kings	662,178	372,252	289,926	31,065	64,219	733,770	-7,373	99,460
Tulare	2,077,356	1,084,493	992,863	65,244	197,177	1,862,213	412,320	699,030
Total	7,591,442	2,498,824	5,092,618	232,639	589,951	7,610,227	571,166	1,821,689

Source: 1999 BEA REIS Data Published 2000
Refer to Table 11-4 for further definitions of terms

Table 11-16
1999 Production Expenses, Export Service Area
($1,000)

County	Feed Purchased	Livestock Purchased	Seed Purchased	Fertilizer and Lime	Petroleum Products Purchased	Hired Farm Labor Expenses	Other Production Expenses
Fresno	306,110	213,139	52,832	279,052	65,569	867,885	1,093,364
Kern	60,426	29,343	52,924	212,317	43,977	755,157	982,149
Kings	144,680	17,292	17,874	78,182	21,500	173,733	280,509
Tulare	303,231	65,907	18,774	130,927	32,890	531,376	779,108
Total	814,447	325,681	142,404	700,478	163,936	2,328,151	3,135,130

Source: 1999 BEA REIS Data Published 2000
Refer to Table 11-5 for further definitions of terms

11.1.3.3 County Settings

The regional economic analysis in Section 11.2 evaluates the economic effects of idling cotton fields within selected counties in the Export Service Area. The counties (Fresno, Kern, Kings, and Tulare) have extensive cotton acreage, and water agencies within the counties have shown willingness to participate in the EWA. (Refer to Chapter 2.) The following section describes the existing conditions in these counties.

11.1.3.3.1 Fresno County

Fresno County is in the central San Joaquin Valley. The Sierra Nevada rises out of the low foothills on the county's eastern boundary, and the county's western border extends into the Diablo Mountains (EDD 2001a). The valley floor between is 50 to 60 miles wide and contains some of the most productive agricultural land in the country. The county's economy is highly agricultural except that some urban areas such as Fresno have a more diverse economic base. Fresno County agriculture relies on local surface water, groundwater, and CVP contracts for most of its surface water supply. The groundwater basin below the county is an important water supply.

In 1997, Fresno County had 6,592 farms encompassing 1,881,418 acres (49.3 percent of total county acres). The average size of farms increased 13 percent from 253 acres in

1992 to 285 acres in 1997 (USDA 1999). Irrigated acreage in 1997 was 1,538,812 acres (USDA 1999).

With extensive acreage and intensive agriculture, Fresno County had the largest dollar value of agricultural production in the State, $3.41 billion, in 2000 (EDD 2001a). In 2000, fruit and nut crops contributed $1.24 billion to total value, and field crops contributed $507 million (CASS 2001). Cotton was valued at $354 million, a 6.61 percent increase from 1999 (Fresno County Agricultural Commissioner's Office 2001). Grapes have been the leading crop for over twenty years. In 2000, the value of grapes reached $642 million, about 18.7 percent of the county's total production value (CASS 2001). Table 11-17 shows the leading commodities by value and acreage.

Table 11-17
Fresno County Leading Commodities, 2000

Commodity	Value of Production ($ million)	Acreage	Rank Among California Counties
Grapes	642.3	225,276	1
Poultry	400.0	N/A	1
Cotton	354.4	302,700	1
Tomatoes	279.7	121,520	1
Milk	198.8	N/A	7
Cattle and Calves	186.7	N/A	2
Almonds	117.9	57,350	3
Head Lettuce	109.0	20,020	2
Plums	96.7	14,841	1
Peaches	95.1	13,953	1

Source: County Agricultural Commissioners Report 2001

N/A – Not available. Acreage for commodity cannot be enumerated

In 2000, Fresno County had an unemployment rate of 14.3 percent (DOF 2002). High unemployment is a result of seasonal variations in the demand for farm labor (EDD 2001a). The agricultural industry employed 77,500, or 20 percent of the civilian labor force, in 2000 (DOF 2002). Other major employers in the county include colleges and universities, hospitals, poultry and eggs, and department stores (EDD 2001a).

11.1.3.3.2 Kern County

Kern County is on the south end of the San Joaquin Valley and is bordered by the Temblor Mountain Range along the county's western boundary, the Tehachapi Mountains on the south and the Sierra Nevada Mountains to the east. About one-third of the county is within the valley floor of the San Joaquin Valley. Kern County is the third largest county in California in land area (EDD 2001a). The counties' economy is agricultural except that transportation, petroleum and some urban areas provide other economic base. Water sources include local and imported surface water and groundwater.

Kern County contributed approximately $2.2 billion to the gross value of agricultural production, ranking it number four in the State in 2000 (CASS 2001). Kern County relies heavily on groundwater for agricultural uses; however, some water agencies

have SWP and CVP water supplies. Irrigated acreage in 1998 was 861,900 acres (Kern County Water Agency 2002).

In 1997, Kern County had 1,997 farms encompassing over 2.8 million acres (USDA 1999). Farmland made up 54.7 percent of the 5.2 million acres in the county. The average farm size was 1,428 acres (USDA 1999).

Kern County ranks in the top five agricultural counties in the United States (EDD 2001a). In 1990, cotton was the county's most valuable crop with a production value of about $352 million (Kern County Agriculture Commissioner's Office 1991). In 1993, grapes replaced cotton as the most valuable crop. Citrus became the second highest value crop in 1997 because of increased prices and more acreage in production (Kern County Agriculture Commissioner's Office 1998). Over time, Kern County has shown a decrease in cotton acreage and an increase in permanent crop acreage.

In 2000, Kern County's top five commodities, grapes, citrus, cotton, milk and almonds, accounted for 57 percent of Kern County's total value of production. Table 11-18 shows the leading commodities by value and acreage.

Table 11-18
Kern County Leading Commodities, 2000

Commodity	*Value of Production ($ million)*	*Acreage*	*Rank Among California Counties*
Grapes	438.3	85,971	2
Citrus, Fresh and Processing	291.1	41,405	2
Cotton, including Seed	226.0	196,075	3
Milk, Marketing and Manufacturing	156.3	N/A	5
Almonds	142.2	82,572	1
Pistachios	124.0	29,077	1
Nursery Crops	106.2	3,440	10
Hay, Alfalfa	91.2	129,000	2
Potatoes, Fresh and Processing	78.7	20,390	1
Cattle and Calves	55.9	N/A	6

Source: County Agricultural Commissioners Report 2001

N/A – Not available. Acreage for commodity cannot be enumerated

In 2000, Kern County's work force was about 287,000 people. Agriculture was the third largest employer for Kern County in 2000, following government (18.0 percent) and services (17.1 percent) (EDD 2001). Agriculture provided 16.3 percent of total employment with approximately 46,900 jobs (DOF 2002). The agricultural industry increased by 2000 jobs in the year 2000 (EDD 2001). Other major employers in the county include hospitals, schools, groceries and related products, and public administration (EDD 2001). In 2000, the county had a relatively high unemployment rate of 11.3 percent (DOF 2002).

11.1.3.3.3 Kings County

Kings County is in the southern half of the San Joaquin Valley, north of Kern County. The county is the smallest of the Export Service Area counties considered in the analysis. Its borders are the Kings River and the Kettle Hills to the southwest (EDD

2001a). The county is composed mainly of level farmland, crossed by the California Aqueduct and a number of other irrigation waterways. The economy is very agricultural. Kings County relies heavily on groundwater and local surface water supply.

In 1997, 421,365 irrigated acres represented approximately 70 percent of total land in farms (USDA 1999). In 1997, of the total 897,280 county acres, 617,030 acres, about 68.7 percent, was devoted to farmland. In 1997, there were 1,079 farms (USDA 1999). With double cropping, field crops accounted for 641,117 total harvested acres and fruit and nut crops were planted on 30,634 acres.

In 2000, Kings County was ranked 12th in the state in total agricultural production with a gross value of $885 million, a 1.8 percent decrease from the all time high level set in 1999 (Kings County Agricultural Commissioner's Office 2000). The value of field crops increased by about $22 million from 1999 to 2000 and vegetable crop value increased $10 million (Kings County Agricultural Commissioner's Office 2001). The top five commodities in 2000 in the county were milk, cotton, cattle and calves, alfalfa and hay, and turkeys. Total milk value was approximately $292 million and total cotton value was $232 million (CASS 2001). Kings County produces upland and pima cotton varieties, 113,106 acres and 86,494 acres, respectively. Table 11-19 shows the leading commodities by value and acreage.

Table 11-19
Kings County Leading Commodities, 2000

Commodity	*Value of Production ($ million)*	*Acreage*	*Rank Among California Counties*
Milk, Market	291.8	N/A	5
Cotton Lint, Upland	111.7	113,106	3
Cotton Lint, Pima	85.9	86,494	1
Cattle and Calves	62.6	N/A	3
Cottonseed	34.4	9,265	4
Hay, Alfalfa	33.9	53,710	8
Turkeys	30.4	N/A	3
Wheat, All	28.9	95,330	1
Tomatoes, Processing	19.0	9,969	7
Vegetable Crops	17.6	3,372	18

Source: County Agricultural Commissioners Report 2001
N/A – Not available. Acreage for commodity cannot be enumerated

In 2000, Kings County had an unemployment rate of 13.9 percent (DOF 2002). In 2000, agriculture was the second largest employer in the county, employing 7,710 or 16.8 percent of the civilian labor force (DOF 2002). Government was by far the largest industry, employing 27 percent of the labor force. The service industry was the third largest employer (DOF 2002). Other major employers in the county include public administration, hospitals, and preserved fruits and vegetables (EDD 2001a).

11.1.3.3.4 Tulare County

Tulare County is north of Kern County. The Sierra Nevada range dominates the eastern portion of the county, while extensively cultivated lands on the valley floor are the major features of the western half. Almost half the county's 3.1 million acres is devoted to national parks and forests, including Sequoia and Kings Canyon National Parks and Inyo and Sequoia National Forests (EDD 2001). The economy is very agricultural except that some transportation and urban economic base is located along the Highway 99 corridor. Tulare County relies on groundwater, local surface water, and SWP and CVP imported water for irrigation.

In 1997, Tulare County had 5,446 farms encompassing over 1.3 million acres (USDA 1999). Farming represented about 42.4 percent of total county land area. Acres in cotton have decreased approximately 35 percent since 1987, while land in orchards has increased 14 percent (USDA 1999).

In 2000, Tulare County was the second highest-ranking county in California in gross value of agricultural production, at over $3 billion (CASS 2001). Fruit and nut crops accounted for $1.3 billion of the total value. Livestock and poultry products had a production value of $8.7 million in 2000. The top five commodities in 2000, milk, oranges, grapes, cattle and calves, and plums, accounted for 71.5 percent of Tulare County's total production. Cotton had a production value of $84 million (CASS 2001). Table 11-20 shows the leading commodities by value and acreage.

Table 11-20
Tulare County Leading Commodities, 2000

Commodity	*Value of Production ($ million)*	*Acreage*	*Rank Among California Counties*
Milk	857.2	N/A	1
Oranges, Navel and Valencia	451.2	104,751	1
Grapes	419.0	78,264	3
Cattle and Calves	375.2	N/A	1
Plums	91.5	18,054	2
Cotton Lint and Seed	84.0	79,410	4
Hay and Silage, Alfalfa	78.6	92,888	3
Peaches	67.4	13,931	2
Nectarines	62.2	14,995	2
Corn, Grain and Silage	51.8	110,474	1

Source: County Agricultural Commissioners Report 2001

N/A – Not available. Acreage for commodity cannot be enumerated

In 2000, agriculture employed approximately 35,500 persons, almost 21 percent of total employment (DOF 2002). Dairy products, schools, and hospitals are other major employers in the county. In addition to substantial packing/shipping operations, light and medium manufacturing plants are increasing in number and becoming an important factor in the county's total economy (EDD 2001a). In 2000, the unemployment rate was 15.4 percent (DOF 2002).

11.1.4 Property Tax Revenue

The affected environment for property tax revenues includes those counties that might participate in EWA water acquisition by idling irrigated land for water transfers.

The California Legislature passed the Williamson Act in 1965 to preserve open space and agricultural lands by discouraging premature and unnecessary conversion to urban use. The Williamson Act authorizes local governments and property owners to voluntarily enter into contracts to commit land to specified uses for 10 years or more. Once the land is enrolled, it is valued at a reduced rate for property tax purposes pursuant to valuation laws. Chapter 13, Table 13-1 shows acreage enrolled in the Williamson Act.

The Open Space Subvention Act provides partial replacement of local property tax revenues foregone as a result of participation in the Williamson Act. The Open Space Subvention Act allows the State to pay counties $5 per acre for prime agricultural land and $1 per acre for all other agricultural land that participates in the Williamson Act.[7] One condition for prime land classification under the Williamson Act is that the land has produced a gross crop value of not less than two hundred dollars ($200) per acre for 3 of the previous 5 years. If farmers idle a parcel of Prime land for any 3 out of 5 years, the State could reclassify that parcel to a lower level and the county could lose $4 per acre of Open Space Subvention Act revenues.

Table 11-21 summarizes total property tax revenues and Open Space tax relief payments the county governments received during Fiscal Year 1999 to 2000.

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[7] Prime agricultural land under the Williamson Act means any of the following:

- All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.
- Land which qualifies for rating 80 through 100 in the Storie Index Rating.
- Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.
- Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than 5 years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than $200 per acre.
- Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars ($200) per acre for 3 of the previous 5 years.

Table 11-21 County Property Tax Revenues and Open Space Tax Relief Aid, Fiscal Year 1999-2000, Dollars		
County	**Total Property Tax**	**Open Space Tax Relief Payment**
Butte	$13,431,708	$642,887
Colusa	$4,888,116	$584,299
Glenn	$3,293,736	$710,593
Placer	$45,963,637	$100,249
Sutter	$8,040,433	----
Yolo	$11,665,837	$1,148,612
Fresno	$70,008,544	$5,813,928
Kern	$110,870,978	$5,194,660
Kings	$11,135,985	$2,833,900
Tulare	$30,221,403	$3,519,857

Source: State Controller's Office 2000

11.1.5 Groundwater Pumping Costs

The affected environment for groundwater pumping costs includes all counties overlying groundwater basins with potential EWA actions. Within this region, groundwater costs could be potentially affected anywhere that groundwater users participate in groundwater substitution transfers.

Agricultural groundwater costs vary considerably throughout California. Many factors influence these costs, including depth to groundwater, pump efficiencies, and power costs. The California Water Plan Update presents a range of averages for agricultural groundwater costs for the hydrologic regions, which are summarized in Table 11-22. Groundwater pumping costs tend to increase during drought as more water is pumped and average depth to water increases.

Table 11-22 Typical Agricultural Groundwater Production Costs in 1992 by Hydrologic Region	
Region	**Groundwater Costs ($/acre-foot)**
Sacramento River	30-60
San Joaquin	30-40
Tulare Lake	40-80

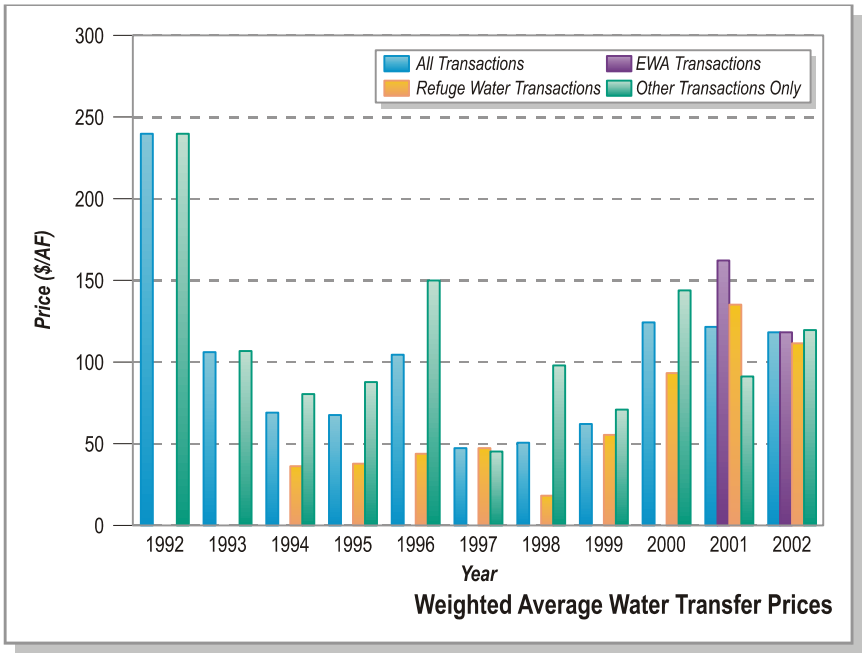
Source: DWR 1993
The range represents the average cost a specific locations within a region, and includes capital, operations, and maintenance and replacement costs.

11.1.6 Water Transfer Market Effects

The affected environment for water transfer market effects includes all EWA regions across California. This area includes the State and Federal Project service areas and areas that could be affected by exchange of water.

A CALFED program objective is to develop a water market that effectively transfers water from willing sellers to buyers, while protecting third-party water users and the environment (CALFED 2001). The water transfers market has grown markedly in the past years. The Public Policy Institute of California (PPIC) estimated that the total volume of water transfers in California has recently ranged from 0.5 acre-foot to 1.2

million acre-feet annually. (PPIC 2002, see Table 11-40.) Figure 11-4 shows prices of major water transfers from 1992 to 2002. The prices have varied over time, and statistical analysis suggests that a trend in the prices over time does not exist.



Sources: Stratecon, Inc. 1992-2003, Water Transfers Office 2003 and 2003a, USBR 2003

Figure 11-4
Weighted Average Prices of Major Water Transfers 1992-2002

The wide variation in prices may be caused by differences in location of the transfers, types of buyers and sellers, timing of availability, water quality, and variation in demand and supply conditions. Also, prices for water transfers may reflect individual negotiations between buyers and sellers rather than competitive market prices.

Factors affecting demand include hydrologic conditions, institutional factors, and agricultural prices. If hydrologic conditions are dry, the price of water transfers typically increases. This premise is supported by Figure 11-4. Prices appear to be higher during 1992, 2001, and 2002, all years which were classified as "dry" under the Sacramento Valley Index (CDEC 2002). When conditions were wet, as in 1995 through 1999, there is more supply and less demand for water transfers, and prices are generally lower. Institutional factors include changes in water allocation caused by changes in laws, regulations and court decisions. For example, recent decisions regarding Colorado River supplies have affected the demand for water transfers to Southern California.

Higher agricultural prices should both increase demand for water transfers and reduce their supply. If agricultural prices are low, more farmers should be willing to participate in water transfers and sell their irrigation water, thereby decreasing the price. According to California Department of Food and Agriculture (CDFA) Resource Directory (2002), upland cotton prices in 1996 were estimated at $0.82 per pound. In 1998, value of rice was estimated at $0.0919 per pound (CDFA 2002). In 2001, the minimum price received by farmers participating in Federal programs was $0.5192 per pound for cotton and $0.065 per pound for rice, both much lower than mid-1990s

levels. These lower crop prices probably increased the willingness of cotton and rice farmers to participate in water transfers in the early 2000s.

11.2 Environmental Consequences/Environmental Impacts

This section describes the effects of EWA actions related to economics. First, section 11.2.1 discusses regulatory requirements for reporting and analyzing economic effects. Then, section 11.2.2 describes assessment methods. Section 11.2.3 describes how economic considerations are being incorporated into the EWA program. Finally, economic effects of the No Action/ No Project, Flexible Purchase Alternative, and Fixed Purchase Alternative are discussed. The analyses first discuss crop idling effects, followed by property tax effects, groundwater cost effects and water transfer market effects. The section ends with a discussion of potential cumulative effects.

11.2.1 NEPA/CEQA Issues

Social and economic changes resulting from a project are addressed somewhat differently under CEQA than under NEPA. CEQA does not consider economic or social changes resulting from a project as adverse effects on the environment. If a physical change in the environment is caused by economic or social effects, the physical change may be regarded as an adverse effect. Because the economic effects of EWA actions do not change the physical environment, a CEQA analysis is not necessary or included in this chapter.

Additionally, under CEQA, the economic or social effect of a project may be used to determine the significance of physical changes caused by the project. For example, economic effects of crop idling could be used to help judge the significance of land use changes. However, the land use effects analysis considers EWA crop idling actions to be less than significant because they do not result in permanent changes to the land use. (Refer to Chapter 13 for further discussion.) Therefore, economic effects are not needed to judge the significance of land use changes.

Under NEPA, economic or social effects must be discussed if they are inter-related to the natural or physical environmental effects of a project. Since economic effects of the EWA are related to physical environmental effects, a NEPA analysis is required. However, NEPA does not require that economic impacts be judged for significance. Therefore, this chapter provides a description of economic effects but does not attempt to determine significance of any economic effects.

In any alternative, the EWA agencies would be responsive to local environmental, economic, and social concerns. The EWA program will include a number of actions to avoid and reduce adverse economic effects. Section 11.2.3 describes these actions.

11.2.2 Assessment Methods

Under each alternative, the EWA Project Agencies would negotiate contracts with willing sellers based on a number of factors including price, water availability, and

location. The EWA Project Agencies may choose to vary their acquisition strategy each year as these factors and others change. Crop idling would occur primarily in dry years in the Upstream from the Delta Region, and primarily in the Export Service Area in wetter years. Other programs would seek crop idling transfers upstream in dry years as well. (Refer to Section 11.2.8.)

To provide a maximum effects analysis, this chapter includes a high level of potential transfers even though the EWA Project Agencies would not likely transfer this much water in a given year. Chapter 2 defines the transfers that are included in the analysis. EWA acquisitions through crop idling and groundwater substitution, purchase, or storage could result in economic effects in the Upstream from the Delta Region and the Export Service Area. In general, any EWA water acquisition could affect market prices for water transfers. The subsections below describe how potential economic effects of crop idling, groundwater acquisitions, and potential changes in water transfer market prices were evaluated.

11.2.2.1 Crop Idling

In crop idling acquisitions, participating farmland owners would voluntarily cease irrigation of rice or cotton for a crop season and transfer the unused irrigation water to the EWA. The EWA Project Agencies would only idle irrigated land by mutual agreement with willing sellers. Economic effects would occur only to the extent that water is obtained by crop idling. (See Section 11.2.7 Comparative Analysis for discussion of crop idling actions during wet and dry years.)

Several institutional issues must be overcome to idle cropland for water transfers. (Refer to Chapter 2 for further discussion.) This document assumes that the EWA agencies and potential sellers can overcome these institutional obstacles and that crop idling would be a viable source of water for the EWA.

The adverse effects of crop idling occur because of trade linkages between irrigated production, use of farm inputs, production of farm outputs, and regional economies. Many businesses trade with farmers. Farmers buy inputs from farm stores, equipment supply stores, custom operators, and other farmers; other regional businesses earn their income by transporting, storing, marketing, and processing agricultural products. Idling of crop land reduces the volume of sales for these businesses. These types of effects are often referred to as third-party economic effects.

DWR (2002) suggests that an analysis of third party effects consider the following: the size of the local economy, its dependence on local agriculture, the pre-existing amount of land idling, the amount of normal variation in idling and the agricultural economy, and self-mitigating conditions such as opportunities for re-employment. The EWA agencies consider some of these factors when making land idling acquisitions in order to avoid or decrease adverse effects. (See Section 11.2.3.)

Effects of idling land are typically a small percentage of a large regional economy when the region includes large urban areas such as Sacramento or Stockton. Use of economic data from large regions as a baseline tends to mask the effects of land idling on individual counties or small rural communities. An effect that appears very small relative to an entire economy may seem quite adverse within the most affected areas. Economic effects of crop idling tend to be concentrated within small subgroups of the regional economy; for example, certain agricultural interests in certain locales within a county. At one extreme, if one job were lost, that job loss could be a very adverse effect for one person. A baseline for comparison of adverse effects should, therefore, be based on the smallest possible regional economies.

This analysis describes economic effects at three levels: the regional level, the county level, and the local level. The regional and county-level analyses can use the economic methodology, and baseline acreage and economic data are available for comparison; however, economic methodology and baseline economic data for rural towns and local industries are not available.

The regional and county economic analysis for this document uses a model based on IMPLAN, an input-output (IO) database and modeling routine, with information from recent University of California Cooperative Extension crop budgets for rice and cotton.[8] The analysis estimates the direct agricultural effects of land idling using the crop budget information and estimates indirect and induced effects in individual counties or aggregations of counties with IMPLAN.[9] Indirect effects are caused by expenditures in the region by regional industries, and include purchases of inputs to grow crops and make products. Induced effects are caused by expenditure of household income. The rest of this chapter refers to this model as the Department of Water Resource's Economic Model for Temporary Idling of Irrigated Land (DEIM).

IMPLAN can apply IO models for any county or group of counties. There is no readily available method for developing IO information for local economies within counties. Therefore, the analysis includes a qualitative discussion of economic effects on local economies.

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[8] IMPLAN data were in 1997 dollars. Agricultural input data were adjusted to 1997 levels using the GDP price deflator index.

[9] The regional input-output analysis for this assessment uses detailed UCCE crop budgets to correct for three deficiencies of the IMPLAN data and methods.

- IMPLAN expenditure estimates are based on aggregated crop categories and may not be accurate for individual California crops. This analysis uses the crop budgets, not IMPLAN, to estimate the direct farm expenditure, farm labor income, and employment losses.
- Input-output analysis presumes that all inputs change in fixed proportions to output. Idling does not reduce certain fixed inputs. Therefore, this economic analysis uses changes in variable expenditures from the crop budgets as input to the model.
- Input-output analysis does not automatically count impacts from forward linkages (marketing, transportation, storage, and processing of farm production). This assessment uses data from several sources to estimate direct effects associated with rice milling, storage, and transportation (DWR 2002). Forward linkages for the cotton analysis did not need to be added. Farm costs and revenues carry cotton to the point where it leaves the cotton gin, which is believed to be enough expenditure to fairly represent direct effects in the county (DWR 2002).

The method of combining IMPLAN and crop budget information is described by DWR (2002). Refer to Attachment 1 for further discussion of IMPLAN.

11.2.2.2 Property Tax Revenues

Property tax revenues are determined by property values, tax rates, and the Williamson Act and Open Space Subvention Act. Water transfers could have effects on property values and tax revenues in ways that are not easily measured by IO-type models. Therefore, this analysis handles tax revenue effects qualitatively.

11.2.2.3 Groundwater Pumping Costs

Section 11.2.5.4 briefly addresses potential effects of costs associated with EWA groundwater actions. The EWA Project Agencies may acquire water through various groundwater actions, including groundwater substitution, and groundwater purchase. These EWA groundwater actions, as described in the project description, could lead to diminished groundwater levels which may adversely affect costs associated with groundwater extraction. EWA groundwater storage could increase groundwater levels which could lead to lower extraction costs for nearby groundwater users. Economic effects would occur only to the extent that water is obtained by groundwater substitution.

In general, energy costs for pumping, operations and maintenance, and well development are the main components of the costs associated with groundwater extractions. Pumping costs are directly related to the depth of groundwater tables. If groundwater tables decline, more energy is required for pumping, increasing costs.

11.2.2.4 Water Transfers Market Effects

The objective of the water transfers market analysis is to evaluate the effect of EWA participation in the water market on water transfer prices. The analysis of the water transfers market is generally qualitative. The assessment evaluates factors affecting demand and supply in the market for water transfers. Section 11.2.5.5 discusses how the EWA might affect prices in water transfer markets in California.

11.2.3 Environmental Measures Incorporated into the Project

Most of the adverse economic effects of crop idling occur because of trade linkages between irrigated production and regional economies. Many businesses trade with farmers. Farmers buy inputs from farm stores, equipment supply stores, custom operators, and other farmers; other regional businesses earn their income by transporting, storing, marketing and processing agricultural products. Idling of crop land reduces the volume of this business.

In order to avoid or decrease third-party economic effects, the EWA would incorporate the following measures as part of the program definition.

1. EWA agencies would not purchase water via crop idling if more than 20 percent of recent harvested rice or cotton acreage in the county would be idled through EWA water acquisitions. (Refer to Section 11.2.8 for discussion of additional water acquisition programs. The EWA would idle less than 20 percent if other reasonably foreseeable transfers under other programs are idling land.)

To determine the recent harvested acreage, the EWA Project Agencies would consider the number of acres of rice and cotton harvested in each county during the 5 years previous to the transfer. If, in the year immediately prior to the transfer, harvested acreage in each county was within 5 percent of the mean harvested acreage of the county of all 5 previous years, then the amount of rice or cotton acres harvested in the prior year would be used to determine the basis for 20 percent crop acreage. If acres harvested during the year immediately prior to the transfer were not within 5 percent of the mean, then the calculated mean would be used to determine the basis for 20 percent crop acreage.

EWA Project Agencies would gather accurate data regarding the amount of crop acreage previously harvested and idled in participating counties. The data are available from DWR Land Use Surveys, the USDA, and county crop reports. This information would be confirmed by the local Farm Bureau, local UCCE offices, the Agricultural Commissioners Office, or other crop-specific authorities.

Refer to Section 11.2.3.1 for further explanation of the 20 percent crop idling measure incorporated into the project.

2. EWA agencies would also acquire less water by crop idling when the level of land idling is already larger than historically normal.

   Economic effects are related to background conditions as well as the amount of land idling. One of these conditions is the amount of land idling caused by other factors such as drought, low agricultural prices, or other water transfers. The negative economic effects of land idling are exacerbated when an unusual amount of land is already being idled. Therefore, idling less land in a local area when the amount of land idling is already more than historically normal would lessen economic effects.[10] Refer to Section 11.2.8 for discussion of additional water acquisition programs.

11.2.3.1 Considerations Regarding Socioeconomic Effects

EWA agencies incorporated the 20 percent crop idling measure into the project to reduce potential effects on the regional and agricultural economies. Water Code Section 1745.05(b) and the large variation in historical acreage and the intentional, voluntary fallow from Federal farm programs suggest precedent for the 20 percent crop idling measure.

Water Code Section 1745.05 (b) requires a public hearing under some circumstances where the amount of water made available for land idling exceeds 20 percent of the water that would have been applied or stored absent the water transfer. Presumably, third parties would be able to attend the hearing and could argue to limit the transfer based on its economic effects.

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[10] The local area is defined as a small local economy consisting of a town and closely allied outlying residences and businesses.

The agricultural industry experiences normal variation in crop acreages and agricultural economies are adapted to address this variation. Table 11-23 shows cotton and rice acreage in counties of interest from 1990 to 2000.

Table 11-23 shows that both cotton and rice acreage is quite variable. For both crops, the standard deviation of acreage is about 15 percent of the average. As of 2000, cotton acreage had been below average for 3 years. This trend probably reflects poor cotton prices in these years. For rice, acreage in the 4 years before 1994 was considerably less than average. The lower acreage was probably caused by drought, by DWR's Drought Water Bank, and by rice acreage reduction provisions in these years. Since 1994 there has been relatively little variation in rice acreage. If the effects of idling rice and cotton can be judged by historical precedent in the 1980s and early 1990s, then there is much precedent for land idling up to 15 percent of acreage historically used for these crops.

Table 11-23
Acreage of Cotton and Rice in Counties of Interest, 1990 to 2000

Year	Cotton		Rice	
	1000 acres	*Difference from Mean*	*1000 acres*	*Difference from Mean*
1990	1,071	115	342	-71
1991	948	-9	292	-121
1992	1,023	67	342	-71
1993	1,055	99	387	-26
1994	1,057	100	445	32
1995	1,134	178	432	19
1996	1,058	101	447	34
1997	942	-14	460	47
1998	715	-242	441	28
1999	730	-227	461	48
2000	787	-170	492	80
Average	956		413	
Standard Deviation	147.8		62.8	
As % Mean	15.5%		15.2%	

Source: CASS California Agricultural Statistical Service

Counties of interest for cotton are Fresno, Kern, Kings, and Tulare. For rice acreage, includes Butte, Colusa, Glenn, Placer, Sutter, and Yolo Counties. Acreage does not include acreage for seed.

Acreage reduction provisions (ARPs) under Federal farm programs were an important cause of intentional idling of rice and cotton before 1991. These provisions required participating farmers to idle a given share of their rice or cotton land in order to receive program benefits. Historically, about 50 to 75 percent of cotton acreage and 95 percent of rice acreage participated in the programs (Mann and Moore 1993). The mandatory acreage reduction for rice was 20 percent or more in every year from 1984 to 1990, reaching 35 percent in 1986 and 1987 (Green 1990). For cotton, the ARP was 20 percent or more in every year from 1983 to 1990 except 1988 and 1990 (12.5 percent

in both years). With voluntary acreage reduction provisions and improved market conditions, the ARPs were reduced after 1991. The 1996 Farm Bill (the Federal Agriculture Improvement and Reform Act) eliminated the ARPs entirely. However, the large, voluntary acreage reduction established under the ARPs created a precedent to idle up to 20 percent of rice and cotton.

This analysis only describes the economic effects of idling 20 percent of rice and cotton acreage in the identified counties. CEQA and NEPA do not require this analysis to make a judgment on adverse effects relative to a specific threshold. Several other studies have, however, assessed the adversity of actions similar to those that the EWA agencies would take (Table 11-24).

Table 11-24
Information from Other Studies Related to Socioeconomic Effects for Land Idling

Example/Source	*Action*	*Results*	*Substantial/Not Substantial*
Draft report by USBR – "Economic Impacts of Fallowing Irrigated Land in the Imperial Irrigation District" (2001)	5% Reduction in county water supply	County employment reduced by 0.1%; county economic activity (output) reduced by 0.2%	Effects considered not substantial
Yolo County – "California Water Transfers, Gainers and Losers in Two Northern Counties" (1992)	16% reduction in county water supply (154,323 acre-feet) from Drought Water Bank (DWB)	County employment reduced by 0.6%; agricultural related income down 5%	Farmers felt that effects were not substantial (they were being compensated); community leaders felt that it was substantial (initiated lawsuit).
"California's 1991 DWB, Economic Impacts in Selling Regions" – Rand Report (1993)	DWB water transfers made available a total of 820,805 acre-feet of water from 13 California counties	Reduction in agricultural related income was "not large" compared to variation experienced in 1980's; no relationship found between DWB effects and overall county economies.	Effects considered not substantial
"Agriculture-to-Instream and Urban Water Transfers in the Central Valley of California: An Economic Reality Check" – CH2M HILL (1998)	Transfer of 1 MAF from Central Valley irrigation use to instream and urban uses	Net personal income reduced by $170 for every AF water transferred and 8 jobs lost for every 1 thousand acre-feet (TAF) water transferred. Total effects are 2% to 3% of regional total.	Not substantial regionally, but effects could be more concentrated in a few areas of origin.
"Water Marketing in California. Resolving Third-Party Impact Issues" – David Mitchell (1992)	Water transfers (in general)	"Impacts are well within the range of ordinary economic consequences that arise from changing circumstances in a market economy."	Effects considered not substantial

11.2.4 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

The No Action/No Project Alternative represents future conditions during Stage 1 of CALFED if the EWA were not implemented. In general, agricultural economies would not likely change in the future. Farmers would continue to idle some land temporarily and would continue to rotate other previously idled land back into production as common land management practices and in response to market issues,

and as a result of water supply shortages. These farming practices cause normal variations in total value of output, value added, wages and salaries, and employment. The conditions under the No Action/No Project Alternative generally reflect the conditions described in the Affected Environment/Existing Conditions section. This analysis further refers to the Affected Environment/Existing Conditions as the Baseline Condition.

Several CALFED and other government-sponsored programs would retire irrigated land for restoration and habitat purposes, reducing agricultural land. Section 11.2.8, Cumulative Effects, discusses these potential effects.

11.2.5 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers up to 600,000 acre-feet each year and does not specify transfer limits from the Upstream from the Delta Region or the Export Service Area. Transfers from the Upstream from the Delta Region would range from 50,000 to 600,000 acre-feet each year, depending on hydrologic year type and excess conveyance capacity through the Delta each year. Even though all potential transfers would not occur in some years, this section assumes the 600,000 acre-feet level in order to discuss the maximum economic effects for the transfer scenario. Therefore, the crop idling acreages indicated in the analysis represent maximum crop idling actions and would not likely occur in any one year.

11.2.5.1 Upstream from the Delta

The county-level analysis includes Butte, Glenn, Colusa, Placer, Sutter, and Yolo Counties. These counties all have large amounts of rice acreage and various water agencies that have expressed some willingness to sell water to the EWA (refer to Chapter 2). Shasta and Solano Counties produce no or little rice; therefore, the analysis excludes them (CASS 2001). Tehama and Sacramento Counties do not produce enough rice acreage to provide a significant contribution to the water supply needs of the EWA and were also omitted. Furthermore, the analysis excludes Sacramento County because of its expansive baseline economy, which, if included, would dilute any economic effects. Although Yuba County had over 36,000 acres of rice in 2000, Yuba County Water Agency has stated that it would not participate in crop idling water transfers with the EWA. Any rice acreage in Yuba County outside of the Yuba County Water Agency boundaries would not be a significant source of water for the EWA. Therefore, the county analysis does not include idling in Yuba County. Yuba County was included in the regional analysis with the other six counties because the rice mills in Yuba County serve multiple counties within the region (Davis 2002).

11.2.5.1.1 Regional Analysis

The regional analysis evaluates changes in economic activity that result from idling rice acreage. The region is defined as Butte, Colusa, Glenn, Placer, Sutter, Yolo and Yuba Counties. The IMPLAN data set (1997) provides baseline value of output, value

added, wages and salaries, and employment data for this analysis. Value of output is value of production. Value added consists of wages and salaries, proprietor's and property incomes, dividends and interest, and indirect business taxes. Employment is the number of jobs at industries in the region and is measured in full-time job equivalents.

The Upstream from the Delta Region analysis considers only rice for idling. Of all common crops, rice provides the largest amount of water per acre idled, approximately 3.3 AF of ETAW per acre.[11] In past and recent water transfer programs and agreements, rice farmers have enrolled their crop for idling. Therefore, rice farmers would represent a potential seller to the EWA.

Table 11-25 summarizes the baseline conditions for the region. These data are from the 1997 IMPLAN data set. IMPLAN accounting conventions differ slightly from some other common economic data measurement standards.[12] Placer and Yolo Counties, which include some urban areas near Sacramento, contribute most to the baseline economy of the region.

Table 11-25
Baseline Conditions – Upstream from the Delta Region(1), 1997 dollars

	Value of Output, Million $	Value Added, Million $	Employment, Jobs	Wages and Salaries, Million $
Baseline	32,395	19,157	408,410	10,389

Source: 1997 IMPLAN Data Set

(1) Counties included are Butte, Colusa, Glenn, Placer, Sutter, Yolo, and Yuba.

Economic effects would occur only to the extent that water is obtained by land idling (see Section 11.2.7). Effects would occur only in years when the crop idling actions take place and effects would be less when less land is idled. Therefore, the average effect of a land idling scenario over a number of years would be less than the effects described below.

EWA acquisition of water via crop idling of rice acres in the Upstream from the Delta Region would decrease net revenues to some tenant farmers whose landowners choose to participate in the EWA.

Tenant farmers, those who rent land from property owners, could be adversely affected by the crop idling. The landowner would receive revenues from the sale of the water instead of rent from the tenant, but the tenant farmer would not receive the

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11 3.3 AF/acre is the estimated evapotranspiration of applied water (ETAW) per acre for rice used in the economic analysis. Evapotranspiration is total water loss due to free-water evaporation, plant transpiration, and soil-moisture evaporation. ETAW is the portion of the total evapotranspiration that is provided by irrigation as opposed to precipitation. DWR calculates normal year ETAW values using information and methodologies from established sources. ETAW is the commonly accepted measure of surface water savings due to crop shifting or idling (Water Transfers Office 2002).

12 Bureau of Economic Analysis (BEA) Commodity Classifications, which form the basis of the IMPLAN technical matrix, can vary from Standard Industrial Classifications.

net revenue from rice production. If there is no other land available for rent, or if land rents are increased, the tenant farmer would be worse off.

For several reasons, this type of effect may be the exception rather than the rule. Full owners operated about 65 percent of farms in the Upstream from the Delta Region in 1997 (USDA 1999) and part owners operated most of the remaining farms. Tenant farmers may be able to rent other parcels of land or engage in alternative economic activity. A tenant farmer could also be an owner of some land. In other cases, tenants could have formal or informal agreements with landowners that would result in sharing of the water transfer revenue.

EWA acquisition of water via crop idling of rice acres in the Upstream from the Delta Region would increase net revenues to individual farmers/landowners participating in the EWA.

Land enrollment in the EWA program is voluntary and farmers would be paid to participate. If farmers participate, the expected net return from the water transfer must exceed the expected net return from growing the crop to be idled, so farmers expect to be better off. If they do not participate, they are no worse off, at least with respect to their own farming decision.

The economics of participation for a representative farm can be shown using results from DEIM. DEIM models a representative farm using 1995 to 1999 agricultural prices and recent farm production costs (DWR 2002). Table 11-26 compares the net revenues gained by the water transfer in DEIM to the revenue lost from discontinued rice production. The model assumes the farmer receives $50 for each acre-foot, after water costs, for water made available by idling rice land. DEIM found that this price should be sufficient to compensate rice landowners for their net revenue losses under 1995 to 1999 conditions.

Rice provides 3.3 acre-feet ETAW of water per acre when idled; therefore, the farmer would receive $165 per acre of rice idled under the DEIM price. Various land idling expenses would offset some of this income. The farmer would forego all rice production, and would give up the value of the crop sales less variable costs avoided (DWR 2002). Under current farm program rules, farmers obtain a government payment per acre of rice land enrolled in the commodity program in any case. Therefore, temporary participation in water transfers will not affect the government payment.

Table 11-26
Net Revenue From Water Transfer, Lost Revenue, Variable Costs Avoided and Lost Return Over Variable Costs, 1997 dollars
(Dollars per Acre)

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
County/Crop	*Water Transfer Price, $/AF*	*Net Revenue from Water Transfer*	*Revenue from Crop Production (lost)*	*Variable Costs Avoided by the Transfer*	*Net Revenue from Crop Production (lost) (3) - (4)*	*Net Revenue gained from Water Transfer (2) – (5)*
Butte/Rice	50	128	641	552	89	39
Colusa/Rice	50	130	616	551	64	66
Glenn/Rice	50	128	656	656	98	30
Placer/Rice	50	131	530	542	-12	143
Sutter/Rice	50	130	614	547	67	63
Yolo/Rice	50	129	627	554	72	57

Source: DWR 2002.

(1) The model assumes the farmer/land owner receives $50 for each acre-foot made available by idling rice land. Water transfer prices are net to farmer after water costs are paid.
(2) Net Revenue from Water Transfer is the water transfer revenue less costs required when land is idled. Land idling costs differ slightly among counties (DWR 2002).
(3) Revenue from Crop Production is value that the crop would have produced, not including direct government payments.
(4) Variable Costs Avoided by the Transfer are farming costs that would be avoided if the land were idled.
(5) = (3) – (4). Net Revenue from Crop Production equals Revenue from Crop Production minus Variable costs of crop production, or, the revenue that the farmer would have received by producing crops on the land, for example, it is negative if variable costs avoided by the transfer exceed lost revenue from crop production.
(6) = (2) – (5). Net Revenue gained from Water Transfer equals Net transfer revenue minus Lost Net Revenue from Crop Production.

As Table 11-26 shows, the net revenue received per acre from a water transfer (2) is larger than the net revenue received from crop production (5). The water transfer price could be even less than $50 per acre-foot, and the transfer would still provide a positive net revenue to the farmer.

It should be noted that $50 per acre foot is a representative price used for modeling and would likely vary according to hydrologic conditions and prices in agricultural markets. Table 11-32 provides sensitivity analysis of economic impacts at higher prices.

EWA acquisition of water via crop idling of rice acres in the Upstream from the Delta Region would decrease the total value of output, value added, wages and salaries, and employment in the region.

Farmers selling water to the EWA from idled land would be compensated for expected losses in net income from not growing rice; however, indirect and induced effects create losses for persons who trade with farmers.

Table 11-27 summarizes the total annual effects per acre of idling rice in the Upstream from the Delta Region estimated from DEIM. In the rice idling action, if one acre of rice were idled, there would be a $2,488 decrease in total value of output, a $960 decrease in value added, a $499 decrease in wages and salaries, and 25 jobs lost.

Again, these effects would take place only in years when the crop idling actually occurs. Land idling actions would not occur every year. As the actions occur less frequently, the average annual effect becomes less. For example, if a scenario results in a 1 percent loss in output, but the idling would actually occur only once every 3 years, then the average annual loss in output would be only one-third of 1 percent.

Table 11-27
Value of Output, Value Added, Wages and Salaries, and Employment - Total Effect of Idling Rice per Acre In Upstream from the Delta Region, 1997 dollars

Upstream from the Delta Region Action	*Value of Output $/acre*	*Value Added $/acre*	*Wages and Salaries $/acre*	*Employment # of jobs/1000 acres*
Rice Idling [1]	-$2,488	-$960	-$499	-25

Source: DEIM 2002

[1] Results are specific to the distribution of acreages across counties described in the county analyses. The per-acre regional effects would change when the county acreage distributions change.

Table 11-28 shows the regional effects of acquiring water by idling rice. The effects are expressed as a percentage change to the baseline conditions in Table 11-25. If 89,600 rice acres were idled, it would cause a less than one percent effect to the region's economy as measured by four key parameters. The effect on the region's rice economy or even the region's agricultural economy would be larger on a percentage basis; however, there are no standard measures for the size of the rice or agricultural economies in a region. Section 11.2.5.1.3 discusses local effects.

Table 11-28
Description of Potential EWA Rice Idling Action Upstream from the Delta Region

Total Acres	*Action*	*Maximum Idled Acres*	*Portion of Total Rice Acres*	*Change in Output Relative to Baseline[1]*	*Change in Value Added Relative to Baseline[1]*	*Change in Wages and Salaries Relative to Baseline[1]*	*Change in Employment Relative to Baseline[1]*
448,158	Rice Idling	89,600	20.0%	-0.69%	-0.45%	-0.43%	-0.54%

Source: DEIM 2002

[1] Percentages represent reductions to baseline values. The percentages translate into the following dollar losses to the four parameters: total value of output would decrease by $222.9 million, value added would decrease by $86.0 million, wages and salaries would decrease by $44.8 million and 2218 jobs would be lost.

11.2.5.1.2 County Analysis

The county analysis describes changes in county value of output, value-added, wages and salaries, and employment to individual counties that result from idling rice acreage. Effects to individual landowners and tenant farmers were described qualitatively in Section 11.2.5.1.1. Table 11-29 describes the baseline conditions in the counties in which rice idling might occur.

Table 11-29
Upstream from the Delta Region County Baseline Conditions, Million 1997 $ and Jobs

County	Value of Output Baseline	Value Added Baseline	Wages and Salaries Baseline	Employment, Jobs Baseline
Butte	6,319	3,803	2,063	96,329
Placer	11,081	6,506	3,258	125,480
Colusa	1,085	456	212	10,781
Glenn	1,071	504	254	12,308
Sutter	2,707	1,606	780	38,201
Yolo	8,365	5,064	3,081	98,433

Source: 1997 IMPLAN Data set

Economic effects would occur only to the extent that water is obtained by land idling. (See Section 11.2.7 for explanation of crop idling amounts during wet and dry years.) Effects would occur only in years when the crop idling actions take place, and effects would be less when less land is idled. Therefore, the average effect of a crop idling scenario over a number of years would be less than the effects described below.

EWA acquisition of water via crop idling of rice acres in Butte, Colusa, Glenn, Placer, Sutter, and Yolo Counties would decrease total value of output, value added, wages and salaries, and employment in each county.

Table 11-30 summarizes the total effects per acre of idling rice land, as estimated by DEIM. There is variation among counties because some counties do not have operating rice mills and some counties have more economic leakage[13] than other counties. Most of the job losses involve agricultural services, on-farm employment and rice milling, if mills operate in the county.

Table 11-30
Total County Effect of Idling Rice, 1997 dollars

County	Value of Output $/acre	Value Added $/acre	Wages and Salaries $/acre	Employment # of jobs/1000 acres
Butte	-$2,777	-$1,093	-$543	-30
Colusa	-$1,982	-$628	-$357	-18
Glenn	-$1,332	-$584	-$323	-23
Placer	-$1,441	-$653	-$335	-19
Sutter	-$1,563	-$647	-$361	-22
Yolo	-$2,455	-$931	-$530	-23

Source: DEIM 2002

The section below describes the potential effects of EWA water acquisition through rice idling. As Section 11.2.3.1 explained, no more than 20 percent of baseline rice acreage would be idled under EWA water acquisitions.

This scenario includes approximately 89,600 acres of rice land idling. The following economic effects are calculated from DWR's DEIM model using the per-acre estimates

[13] Leakages are out-shipments of money from a local economic region, mostly payments made to non-local residents for goods, materials and production factors that are used in the region, but are brought in from outside the region.

described in Table 11-30. Table 11-31 presents these dollar amounts as a percentage loss to the baseline values.

- Idling 19,000 rice acres in Butte County would result in a $52.8 million total decrease in value of output, a $20.8 million decrease in value added, a $10.3 million decrease in wages and salaries, and a loss of 570 jobs.
- Idling 26,460 rice acres in Colusa County would result in a $52.4 million total decrease in value of output, a $16.6 million decrease in value added, a $9.4 million decrease in wages and salaries, and a loss of 476 jobs.
- Idling 16,750 rice acres in Glenn County would result in a $22.3 million total decrease in value of output, a $9.8 million decrease in value added, a $5.4 million decrease in wages and salaries, and a loss of 385 jobs.
- Idling 3,280 rice acres in Placer County would result in a $4.7 million total decrease value of output, a $2.1 million decrease in value added, a $1.1 million decrease in wages and salaries and a loss of 62 jobs.
- Idling 19,340 rice acres in Sutter County would result in a total of $30.2 million decrease in value of output, a decrease of $12.5 million in value added, a decrease of $7.0 million in wages and salaries, and a loss of 425 jobs.
- Idling 4,770 rice acres in Yolo County would result in an $11.7 million total decrease in value of output, a $4.4 million decrease in value added, a $2.5 million decrease in wages and salaries and a loss of 110 jobs.

Table 11-31
Economic Effects of Alternative Rice Idling Action in Counties in the Upstream from the Delta Region

	Maximum Rice Idling Action			***Percent Economic Effect[2]***			
County	***Total Rice Acres[1]***	***Maximum Idled Acres***	***% of Total Acres Idled***	***Value of Output***	***Value Added***	***Wages and Salaries***	***Employment***
Butte	95,120	19,000	20.0%	-0.84%	-0.55%	-0.50%	-0.59%
Colusa	132,338	26,460	20.0%	-4.83%	-3.64%	-4.46%	-4.42%
Glenn	83,777	16,750	20.0%	-2.08%	-1.94%	-2.13%	-3.13%
Placer	16,379	3,280	20.0%	-0.04%	-0.03%	-0.03%	-0.05%
Sutter	96,722	19,340	20.0%	-1.12%	-0.78%	-0.91%	-1.11%
Yolo	23,822	4,770	20.0%	-0.14%	-0.09%	-0.08%	-0.11%
Total	448,158	89,600	20.0%				

Source: DEIM 2002

(1) The figures representing total rice acres within the counties are based on a five-year average to take into account any recent land trends in rice production. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.
(2) These percentages represent reductions to baseline values.

The economic effects of water transfers from rice land would vary depending on many conditions. Table 11-32 shows the effects per acre of idling rice in Colusa and Glenn Counties at higher water prices of $75 and $100. The county-level negative effects of idling rice become smaller as the price of water increases. At higher prices,

the water transfer revenue would provide more offset to the negative effects of idling. The overall negative effect of crop idling to output, value-added, wages and salaries, and employment, however, does not appear to be very sensitive to the price of water.

Farmers would likely spend a percentage of the increased net revenue received from a water transfer in their local economy. Farmers may decide to invest in new equipment for the farm, increasing revenue for the agricultural sector, or they may choose to spend money in the trade, services, finance, or other sectors of the economy. This would result in higher sales for these sectors. The analysis of the effects of water price changes show that the spending boost provided by increased net revenues from water transfers would not offset the negative effects from land idling. As Table 11-32 indicates, in Colusa County, a $50 increase in farmer's net revenue would only lessen the reduction to total output by $153.

Table 11-32
Total County Effect of Idling Rice in Colusa and Glenn Counties Under Different Water Prices, 1997

County	Price of Water to Farmer ($/AF)	Value of Output $/acre	Value Added $/acre	Wages and Salaries $/acre	Employment # of jobs/1000 acres
Colusa	$50	-$1,982	-$628	-$357	-18.5
	$75	-$1,905	-$602	-$345	-17.8
	$100	-$1,829	-$575	-$333	-17.1
Glenn	$50	-$1,332	-$584	-$323	-22.8
	$75	-$1,252	-$559	-$312	-22.1
	$100	-$1,171	-$535	-$302	-21.4

Water transfer prices are net to farmer after water costs are paid.

Source: DEIM 2002.

11.2.5.1.3 Local Analysis

The following is a qualitative discussion of local third-party economic effects. For this analysis, local effects mean effects on towns, communities and local industries. Local economic data do not exist for all communities, and the locations of EWA rice land idling within counties cannot be predicted with certainty. Therefore, this analysis does not attempt to predict economic effects in specific communities, and the analysis of local effects is handled descriptively and qualitatively. In the future, experience will allow the EWA agencies to anticipate where most adverse local effects might be.

The effects of the rice idling action described above are changes in value of output, value added, wages and salaries, and employment at the regional or county levels. Large urban centers in some counties create large baseline economic values. Rural communities have a much smaller economic base, and any change to economic levels would be more adverse relative to the larger regional and county economies. Even if a community were not adversely affected, some persons within the community may be affected.

The majority of rice fields in the Upstream from the Delta Region are along the Interstate-5 corridor in Glenn and Colusa Counties, between the I-5 and Highway-99 corridors in Butte and Sutter Counties, and in western Placer County. Most of the

communities in these areas are small and dependent on agriculture. Some of the agriculturally based communities include Artois and Willows in Glenn County; Maxwell, Arbuckle, and Grimes in Colusa County; Richvale and Biggs in Butte County; and numerous others. These towns often house companies associated with rice production, such as seed and fertilizer suppliers, aerial application services, rice mills, and rice driers and storage warehouses that rely on rice production for revenue. These companies also provide employment to many local residents.

Interviews with several managers and operators of rice mills, aerial application services, and rice storage warehouses indicated that the companies are volume driven. If rice production is reduced, adverse effects occur. Aerial applications and other custom operations would not occur on idled lands, resulting in a loss of revenue. Fertilizer, herbicide, and seed companies would also lose sales if farmers did not plant rice. Furthermore, rice idling would reduce the demand for haulers and harvest equipment operators. Equipment rentals and fuel sales would decrease as well (Hoff 2002).

Idling rice land would cause a decrease in revenue and employment for many companies involved in rice production. These effects would generally be adverse to both business owners and employees. Decreased revenue and employment at rice mills would result in less local spending.

The adverse effects are likely to be larger if the idled land is near a local community far from any large urban center, because a larger share of expenses is likely to be paid to local businesses. Residents of rural communities far from urban centers typically spend larger portions of their incomes within the community than residents of rural communities that are close to large urban centers.

Leakages are out-shipments of money; for example, payments made to non-residents for imported goods, materials, and production factors. The share of income or revenue that becomes leakage is generally larger when there are more shopping opportunities outside the local community. Therefore, the adverse effects of land idling would be larger for land that is close to communities located far from urban centers.

Farmland owners would realize a net gain in net revenue by selling water to the EWA, as described above. Presumably, farmers or landowners would spend some of their increased net revenues in the local economy. This effect could offset some of the decrease in local spending by the third parties described above. The analysis of the effects of water price changes in Table 11-32 suggests that the spending boost provided by increased net revenues from water transfers will not offset the negative effects from land idling.

11.2.5.2 Export Service Area

The Export Service Area analysis includes Fresno, Tulare, Kings and Kern Counties. In this analysis, the region does not include southern California. Stanislaus and San Joaquin Counties produce very little, if any, cotton. Although Madera and Merced Counties have cotton crops, water agencies in these counties are not selling water or are only selling groundwater supplies to the EWA; therefore, these counties were also excluded from the analysis. Fresno, Kern, Kings, and Tulare Counties all have large amounts of cotton acreage and water agencies that have expressed some interest in selling water to the EWA. Therefore, EWA actions may affect these counties.

11.2.5.2.1 Regional Analysis

The regional analysis evaluates changes in value of output, value-added, wages and salaries, and employment that would result from idling cotton. This analysis considers only cotton for idling in this region because cotton farmers in the Export Service Area have shown willingness to sell water to the EWA. (Refer to Chapter 2 for further discussion.) Cotton provides approximately 2.3 acre-feet ETAW of water per acre idled.[14]

The models for Fresno, Tulare, Kings and Kern Counties assume that only upland cotton would be idled in these counties. EWA agencies are not planning to purchase water though idling pima and other cotton varieties. Therefore, the regional and county analysis does not include potential idling of pima cotton and other varieties.

Table 11-33 summarizes the baseline conditions of the region. These data are from the 1999 IMPLAN data set for Fresno, Kern, Kings and Tulare Counties.

Table 11-33
Baseline Conditions – Export Service Area, 1997 dollars

	Value of Output, Million $	*Value Added, Million $*	*Employment, Jobs*	*Wages and Salaries, Million $*
Baseline	70,494	40,754	924,468	22,009

Export Service Area include Fresno, Kern, Kings, and Tulare Counties.
Source: 1999 IMPLAN data set. IMPLAN accounting conventions differ slightly from some other common economic data measurement standards.

Economic effects would occur only to the extent that water is obtained by crop idling. (See Section 11.2.7 Comparative Analysis.) Effects would occur only in years when EWA agencies acquire water through crop idling actions, and effects would be less when less land is idled. Therefore, the average effect of a crop idling scenario over a number of years would be less than the effects described below.

[14] 2.3 AF/acre is the estimated ETAW for cotton used in the economic analysis. Refer to footnote 2 in section 11.2.3.1.1 for further definitions.

EWA acquisition of water via crop idling of cotton acres in the Export Service Area would decrease net revenues to some tenant farmers whose landowners choose to participate in the EWA.

Tenant farmers, those who rent land from property owners, could be adversely affected by the EWA crop idling actions. The landowner would receive revenues from the sale of the water instead of rent from the tenant, but the tenant farmer would not receive the net revenue from cotton production. If there is no other land available for rent, or if land prices are increased, the tenant farmer would be worse off.

For several reasons, this type of effect may be the exception rather than the rule. Full owners operated about 73 percent of farms in the Region in 1997 (USDA 1999) and part owners operated about 16 percent. Tenant farmers operated only about 11 percent of farms in the region. Tenant farmers may be able to rent other parcels of land or engage in alternative economic activity. A tenant farmer could also be an owner of some land. In other cases, tenants could have formal or informal agreements with landowners that would result in sharing of the water transfer revenue.

EWA acquisition of water via crop idling of cotton acres in the Export Service Area would increase net revenues to farmland owners participating in the EWA.

Land enrollment in the EWA program is voluntary and farmland owners would be paid to participate. If farmland owners participate, the expected net return from the water transfer must exceed the expected net return from growing the crop to be idled, so farmers expect to be better off. If they do not participate, they are no worse off, at least with respect to their own farming decision.

DEIM results can show the economics of participation for a representative farm. DEIM models a representative farm using 1995 to 1999 agricultural prices and recent farm production costs (DWR 2002).

Table 11-34 compares the net revenues gained by the water transfer to the net revenue lost from discontinued cotton production. The model assumes that the farmer receives $150 per acre-foot of water idled in Kern and Tulare Counties, $120 in Kings County and $200 per acre-foot in Fresno County. DEIM suggests that these prices should be sufficient to induce landowners to participate. The analysis assumes that cotton net returns in Fresno County may be higher than other counties evaluated; however, individual lands vary in capability, and these assumptions may not apply to lands entering the EWA Program. The EWA agencies may not be willing to pay different amounts in each county.

Cotton provides about 2.3 acre-feet of water per acre when idled. Under prices assumed by the model, the farmer would receive $345 per acre of cotton idled in Kern and Tulare, $276 in Kings County, and $460 in Fresno. Various land-idling expenses, such as certain machinery costs, petroleum, material and custom costs, would offset some of this income (DWR 2002). The farmer would forego all cotton production, and

would give up the value of the crop sales less variable costs (DWR 2002). Table 11-34 shows that the transfer revenues are sufficient to compensate the farmer for losses in net returns from cotton production.

Table 11-34
Net Revenue From Water Transfer, Lost Revenue, Variable Costs Avoided and Lost Return Over Variable Costs, Dollars per Acre, Export Service Area, 1997 dollars

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
County/Crop[7]	*Water Transfer Price, $/AF*	*Net Revenue from Water Transfer*	*Revenue from Crop Production (lost)*	*Variable Costs Avoided by the Transfer*	*Net Revenue from Crop Production (lost) (3) – (4)*	*Net Revenue gained from Water Transfer (2) – (5)*
Fresno/Cotton	200	402	1035	634	402	0
Kern/Cotton	150	287	900	634	266	21
Kings/Cotton	120	218	797	634	163	55
Tulare/Cotton	150	287	857	634	223	64

(1) Water transfer prices are net to farmer after water costs are paid.
(2) Net Revenue from Water Transfer is the water transfer revenue less costs required when land is idled. Land idling costs differ slightly among counties (DWR 2002).
(3) Revenue from Crop Production is value that the crop would have produced, not including market transition payment (government payment).
(4) Variable Costs Avoided by the Transfer are farming costs that would be avoided if the land were idled.
(5) = (3) – (4). Net Revenue from Crop Production equals Revenue from Crop Production minus Variable costs of crop production, the revenue that the farmer would have received by producing crops on the land (It is negative if variable costs avoided by the transfer exceed lost revenue from crop production).
(6) = (2) – (5). Net Revenue gained from Water Transfer equals Net Transfer Revenue minus Lost Net Revenue from Crop Production.
(7) Revenues and costs apply to upland Acala cotton.

EWA acquisition of water via crop idling of cotton acres in the Export Service Area would decrease the total value of output, value added, wages and salaries, and employment in the region.

Farmers selling water to the EWA from idled land would be compensated for their expected losses in income; however, indirect and induced effects would still occur. Table 11-35 summarizes the regional economic effects of idling an acre of upland cotton estimated from DEIM.

Table 11-35
Value of Output, Value Added, Wages and Salaries and Employment - Total Regional Effect of Idling Cotton, 1997

Export Service Area Action	*Value of Output $/acre*	*Value Added $/acre*	*Wages and Salaries $/acre*	*Employment # of Jobs/1000 Acres*
Cotton Idling Action	-$1,613	-$454	-$284	-15

Results are specific to the distribution of acreages across counties as described in the county analysis (Section 11.2.5.2.2). The per-acre regional effects would change when the county acreage distributions change due to the different economies of the counties.

Source: DEIM 2002

Table 11-36 shows the regional effects of acquiring water through cotton idling. In this scenario, 20 percent of total regional cotton acres would be idled. The effects are expressed as a percentage reduction to baseline conditions in Table 11-31. The total effects of idling 182,800 cotton acres in the region would be a $294.9 million total decrease in value of output, an $82.9 million decrease in value added, a $51.9 million

decrease in wages and salaries and 2,806 jobs lost. These EWA effects represent less than one-half of 1 percent of the regional economy. Section 11.2.5.2.3 addresses effects on local economies.

Table 11-36
Description of EWA Cotton Idling Actions in Export Service Area

Total Acres	Action	Maximum Idled Acres	Portion of Total Cotton Acres	Change in Output Relative to Baseline[1]	Change in Value Added Relative to Baseline[1]	Change in Wages and Salaries Relative to Baseline[1]	Change in Employment Relative to Baseline[1]
914,719[2]	Cotton Idling	182,800	20.0%	-0.42%	-0.20%	-0.24%	-0.30%

Source: DEIM 2002

(1) Percentages represent reductions to baseline values.
(2) Total cotton acreage include upland, pima and other cotton varieties planted in Fresno, Kern, Kings and Tulare Counties.

Farmers would likely spend a percentage of the increased net revenue received from the water transfer in their local economy. Farmers may decide to invest in new equipment for the farm, increasing revenue for the agricultural sector, or they may choose to spend money in the trade, services, finance, or other sectors of the economy. This would result in higher sales for these sectors. Analysis of the effects of water price changes suggests that the spending boost provided by increased net revenues from water transfers would not offset the negative effects from land idling.

11.2.5.2.2 County Analysis

The county analysis evaluates changes in value of output, value-added, wages and salaries, and employment to individual county economies that results from idling cotton. Effects to individual landowners and tenant farmers were described qualitatively in Section 11.2.5.2.1. Table 11-37 describes the baseline conditions in the counties in which cotton idling might occur.

Table 11-37
Export Service Area County Baseline Conditions, 1997dollars

County	Value of Output, Million $ Baseline	Value Added, Million $ Baseline	Wages and salaries, Million $ Baseline	Employment, jobs Baseline
Fresno	31,803	18,139	9,883	416,932
Kern	23,988	14,436	7,669	305,432
Kings	3,842	2,253	1,298	47,756
Tulare	12,132	6,652	3,554	171,036

Source: 1999 IMPLAN Data set

Economic effects would occur only to the extent that water is obtained by land idling (see Section 11.2.7). Effects would occur only in years when the crop idling actions take place, and effects would be less when less land is idled. Therefore, the average effect of a land idling scenario over a number of years would be less than the effects described below.

EWA acquisition of water via crop idling of cotton acres in Fresno, Kern, Kings, and Tulare Counties would decrease total value of output, value added, wages and salaries, and employment in each county.

Table 11-38 summarizes the economic effects per acre of idling cotton on value of output, value added, wages and salaries, and employment, as determined by DEIM.

Table 11-38
Total County Effect of Idling Cotton, 1997 dollars

County	Value of Output $/acre	Value Added $/acre	Wages and Salaries $/acre	Employment # of Jobs/1000 Acres
Fresno	-$1775	-$477	-$294	-16
Kern	-$1614	-$467	-$291	-15
Kings	-$1398	-$403	-$258	-15
Tulare	-$1470	-$411	-$262	-15

Source: DEIM 2002

This section describes the potential effects of EWA water acquisitions through cotton idling.

This scenario includes 182,800 acres of cotton crop idling. DWR's DEIM calculates these results using per acre estimates described in Table 11-38. Table 11-39 presents these dollar amount as a percentage loss to the baseline values.

- Idling 70,500 cotton acres in Fresno County would result in a $125.1 million total decrease in value of output, a $33.6 million decrease in value added, a $20.7 million decrease in wages and salaries, and a loss of 1,127 jobs.

- Idling 49,300 cotton acres in Kern County would result in a $79.6 million total decrease in value of output, a $23.0 million decrease in value added, a $14.4 million decrease in wages and salaries, and a loss of 752 jobs.

- Idling 44,500 cotton acres in Kings County would result in a $62.2 million decrease in total value of output, a $17.9 million decrease in value added, an $11.2 million decrease in wages and salaries, and a loss of 668 jobs.

- Idling 18,500 cotton acres in Tulare County would result in a $27.2 million total decrease in value of output, a $7.6 million decrease in value added, a $4.8 million decrease in wages and salaries, and a loss of 276 jobs.

This cotton idling scenario would reduce value of output, value added, wages and salaries, and employment in Fresno, Kern, and Tulare Counties by less than one half of one percent. In Kings County, the effects would range from 0.8 percent to 1.6 percent of the baseline values. Section 11.2.5.2.3 addresses effects on local economies.

Table 11-39
Economic Effects of Alternative Cotton Idling Actions in Export Service Area Counties

Cotton Idling Action				Percent Economic Effect[2]			
County	Total Cotton Acres[1]	Maximum Idled Acres	% of Total Acres Idled	Value of Output	Value Added	Wages and Salaries	Employment
Fresno	352,880	70,500	20.0%	-0.41%	-0.19%	-0.22%	-0.28%
Kern	246,616	49,300	20.0%	-0.33%	-0.16%	-0.19%	-0.25%
Kings	222,543	44,500	20.0%	-1.62%	-0.80%	-0.88%	-1.40%
Tulare	92,680	18,500	20.0%	-0.22%	-0.11%	-0.14%	-0.16%
Total	914,719	182,800	20.0%				

Source: DEIM 2002

(1) The figures representing total cotton acres within the counties are based on a five-year average to take into account any recent land trends in cotton production. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.
(2) Percentages represent reductions to baseline values.

The results in Table 11-39 are predicated on the water prices shown in Table 11-34. Actual water prices will vary from year to year as hydrologic conditions and conditions in agricultural markets change; however, the results of the regional analysis are not very sensitive to water price. For example, if the price of water in Kings County is increased 50 percent to $180 per acre-foot, the adverse effect on output is reduced from $1,398 per acre to $1,261 per acre, or about 10 percent. The adverse effect is not substantially reduced. This sensitivity analysis also supports the premise that, although increases in water transfer revenue increase farmer spending and offsets some of the economic loss from idling land, the amount of offset would not eliminate the negative effect from idling land.

11.2.5.2.3 Local Analysis

The following is a qualitative discussion of local third party economic effects. Third-party economic effects in the Export Service Area would be similar to those in the Upstream from the Delta Region. The majority of cotton fields in the region are in western Kern County, in the Tulare Lake Basin in Kings and Tulare Counties and in western Fresno County. Crop idling would affect the small, rural communities in this area, where agriculture is the major source of income and employment.

Most of the agricultural companies in the area depend on volume for revenue. A reduced volume of cotton production would cause cotton gins to lose revenues and would result in a decrease in employment opportunities. Although the loss of gross revenue and jobs may be small relative to the total economic activity in a region, that loss would be concentrated in just one industry – cotton. The infrastructure that supports the region's cotton industry could be reduced in the long run, due to the ongoing land-idling operations of the EWA program, land retirement, and other factors that may idle cotton land.

Third-party economic effects would occur locally. Businesses directly involved with cotton production and processing, such as seed and fertilizer supply stores and cotton gins, would lose both revenue and employment. Local spending would decrease. These effects would adversely affect the business owners, whose revenues could decrease, and the employees, who could lose their jobs.

Farmers and landowners would increase their net revenue by selling water to the EWA, as described above. Presumably, farmland owners would spend some of their increased net revenues in the local economy. This effect could potentially partially offset the decrease in local spending by the third parties described above. Analysis of the effects of water price changes suggests that the spending boost provided by increased net revenues from water transfers would not offset the negative effects from land idling.

11.2.5.3 Effects on Tax Revenue

EWA acquisition of water through crop idling could change county property tax revenues.

Local governments are dependent on property tax revenues for financing of local services and education. Water acquisitions via crop idling could affect property taxes if they affect property values. For landowners of irrigated land, water transfers represent a potential source of profits. Theoretically, if a farmer voluntarily transfers water, then expected profits from the sale of water must exceed the profits expected from farming the land. The opportunity provided by voluntary transfers increases long-run average economic returns to irrigated land. Therefore, property values should increase. Subsequently, property tax revenues to the county would also increase.

One economic issue associated with land idling is the potential for Open Space Subvention Act revenue losses to be caused by a reclassification of "Prime" land to non-prime land, as defined under the Williamson Act. County tax revenue could potentially decrease if land idling results in the State reclassifying lands enrolled in the Williamson Act to lower levels. Under the Open Space Subvention Act, county governments receive subvention payments to replace lost property tax revenues from lands enrolled in the Williamson Act. Lands classified as prime land under the Williamson Act qualify for a $5 per acre subvention payment, and lands other than prime farmland qualify for a $1 per acre subvention payment.

In order to determine whether crop idling by the EWA would alter the classification of prime farmland, it is important to consider the land use and production value during the prior years of the particular parcel to be idled (Bryant 2003). Cropland could be downgraded from the prime category if the land was idled for 3 or more of the last 5 years. The EWA Project Agencies would consider the cropping patterns' history during the previous 5 years of the parcel of land before purchase. Chapter 13 identifies mitigation measures that propose limits for EWA crop-idling purchases to avoid changing the classification of lands under the Williamson Act. Therefore, with this mitigation measure in effect, the decrease in subvention payments to county governments would not likely occur.

EWA acquisition of water though crop idling could cause a decrease in sales tax revenue to the county.

Retail sales at agricultural supply stores and certain other retail outlets would decrease because of land idling. Decreased sales would reduce sales tax revenue returned to the county. Sales taxes are roughly 7 percent of retail sales, and one percent is returned directly to the county. The effect of a 1-acre reduction of rice in the counties in the Upstream from the Delta Region on sales tax revenue returned to the county would range from $0.93 to $1.75 (DWR 2002). DWR (2002) found that a 1-acre reduction of upland cotton in Colusa County would decrease sales tax revenue returned to the county by about $0.98 (DWR 2002). Effects would occur only in years when the crop idling actions take place, and effects would be less when less land is idled.

11.2.5.4 Effects on Costs Associated with Groundwater

EWA acquisition of water through groundwater substitution and groundwater purchase in the Upstream from the Delta Region and Export Service Area could cause a decline in groundwater levels and increase groundwater extraction costs.

Section 6.2.2 in the Groundwater Resources chapter defines groundwater-level declines to be significant if there is a substantial long-term decline in groundwater levels that results in water-level declines exceeding those experienced historically, or a net reduction in groundwater levels that exceeds basin management objectives established for the basin in question, resulting in adverse third-party and/or environmental effects. Third party effects may include an increase of energy costs to users, as more energy is needed to extract the groundwater at a greater depth. Well yields may also diminish, adversely affecting water supply to third-party users. Decreased yields may cause the third-party user a reduction in crop yield or further increase production costs if farmers choose to apply optimal amounts of irrigation water to retain high yields.

The groundwater mitigation measures are designed to reduce adverse effects by requiring a preliminary review of the existing local groundwater levels and extraction wells prior to the transfer. These measures, however, do not guarantee that all adverse effects would be avoided and further stipulate that all sellers have a monitoring and mitigation program to address adverse effects. These programs provide assurances that substantially adverse effects resulting from groundwater transfers to the EWA Program would be identified, assessed, and mitigated for at a local level.

Furthermore, the groundwater mitigation measures recommend that each local mitigation program include a financial strategy for funding appropriate mitigation measures. Mitigation costs may encompass, but are not inclusive to the following: (1) costs associated with providing an alternative water supply if well yields substantially decrease or pumping curtailment is required until natural recharge

raises water levels, (2) costs of lowering pumping bowls or deepening wells, and (3) reimbursement for substantial increases in pumping costs that are incurred by third party groundwater users. Expenses incurred from groundwater effects are the responsibility of the local seller, unless an alternative agreement has been made between the seller and purchasing agency.

Groundwater storage by the EWA agencies would increase groundwater levels, resulting in less pumping energy required to extract water for third-party users. Raising groundwater levels would reduce extraction costs.

11.2.5.5 Effects on Water Transfer Market Prices

EWA water transfers could reduce the availability of water transfers and, by increasing demand increase the price and cost of water transfers for other water users. In economic theory, if the demand for water transfers increases, the price might also increase. The extent to which price might increase with EWA purchases depends on the size of the transfer and the shape of the water transfer supply function.

This type of effect could be important for other water users, who sometimes buy water to augment their supplies, and for water acquisition programs that buy water for environmental purposes. In particular, the CVP Level 4 refuge water supply program buys water to meet requirements in CVPIA Section 3406(d)(2).[15] If water prices were increased, and the budget for purchasing Level 4 supplies were fixed, then less refuge water supply could be purchased. Water transfer market price effects could affect all EWA regions. Potential price increases to municipal water districts, such as Metropolitan Water District, could be transferred to consumers in Southern California through higher water rates.

In recent years, more buyers and sellers have participated in water transfers. Water demand in cities is growing and some supplies have been reduced by environmental and administrative decisions. These factors have caused water agencies to seek new sources of water to meet their demands. At the same time, the amount of water transfers for environmental purposes has increased.

Table 11-40 summarizes water transfer volumes purchased for various uses since 1995.

[15] Chapter 1 and Chapter 2 discuss requirements of Refuge Level 4 water demands.

Table 11-40
Water Purchases by Type of End User
(Acre-feet)

Year	Total	Environmental	M&I	San Joaquin Valley Farmers	Other Farmers	Mixed Purpose
1995	511,904	111,899	112,667	279,331	8,007	0
1996	825,185	72,216	220,308	503,548	29,113	0
1997	1,037,808	293,000	191,402	439,322	14,084	100,000
1998	554,411	61,748	215,956	211,029	65,678	0
1999	1,078,379	229,459	173,988	556,980	75,592	45,360
2000	1,281,305	276,290	169,826	507,841	94,146	233,202
2001	1,257,117	445,543	261,922	388,401	112,776	48,475

Source: Public Policy Institute of California 2002

Table 11-40 shows that environmental transfers were not a large share of total water transfers in the market from 1995 to 2000. In 2001, the share of environmental transfers increased to about one-third of all transfers. Not all the 2001 environmental transfers were EWA acquisitions (PPIC 2002).

The discussion and conclusions below are based on the short history of the EWA and the water transfer market in California. The EWA has been active in the water transfers market only since 2001. In 2001, EWA Project Agencies paid prices ranging from $75 to $100 Upstream from the Delta Region and $138 to $360 in the Export Service Area (Water Transfers Office 2003a). In 2002, EWA Project Agencies paid $75 for water transfers in the Upstream from the Delta Region and $181 in the Export Service Area (Water Transfers Office 2003).

In the future, the EWA would not likely account for a large share of total water transfers in most years. Other buyers, especially agricultural users, typically buy more water, and M&I buyers are likely to be more important in the future. In some years, if and when EWA purchases up to 600,000 AF, the EWA could account for a larger share of the water transfer market. During these years, the EWA could influence water prices.

The water transfer supply function describes the relationship between price and quantity of water transfers supplied. It shows how much more water would be provided by sellers as the price of water increases. Supply elasticity is the percentage increase in quantity of a good or service supplied divided by a small percent change in price offered for that good or service. For an inelastic supply, price does not have much effect on quantity supplied. A 1 percent increase in price would increase the quantity supplied by a smaller percentage. For an elastic supply, price has a relatively large effect on quantity supplied. The same 1 percent increase in price would increase the amount of water transferred by more than 1 percent. If supply is elastic, increases in transfer demand have little effect on price because more water is readily made available for sale at the going price.

Two factors are very important in determining the elasticity of water transfer supply. One factor, which pertains to water transfers from idling land, is the amount and quality of agricultural land that could be idled. If the amount is large and the quality is very similar, then a large amount of land would give up a similar per-acre net return by participating in water transfers and the water transfer supply would be relatively elastic. In California, this factor should contribute to a relatively elastic water transfer supply. California has large amounts of similar rice and cotton land, relative to the transfer market size, and EWA water acquisitions would only idle up to 20 percent of that land.

The second factor pertains to water transfers from surface or groundwater. Supply is more elastic if more surface and groundwater can be supplied economically in response to higher prices. In general, the amount of groundwater and surface water capacity is also large relative to the water transfer market.

In economic theory, long-run supply is more elastic than short-run supply because some adjustments that sellers make to respond to higher prices take time. For example, investments to develop new supplies or conserve water take time to plan and implement. The amounts of intentional groundwater recharge and other new supplies available for transfer are growing, in part, because buyers are willing to pay for them, but these improvements tend to lag behind the demand for them.

Figure 11-5a illustrates examples of demand and supply curves in the water transfers market. If demand increases, the demand curve would shift to the right, as shown on Figure 11-5b, resulting in an increase in price. In this example, supply is elastic so the increase in price is small relative to the increase in demand.

The factors potentially affecting long-run supply discussed above would result in shift of the supply curve to the right and make it even flatter – more elastic. More water supply would shift the supply function and drive down the price of transfers.

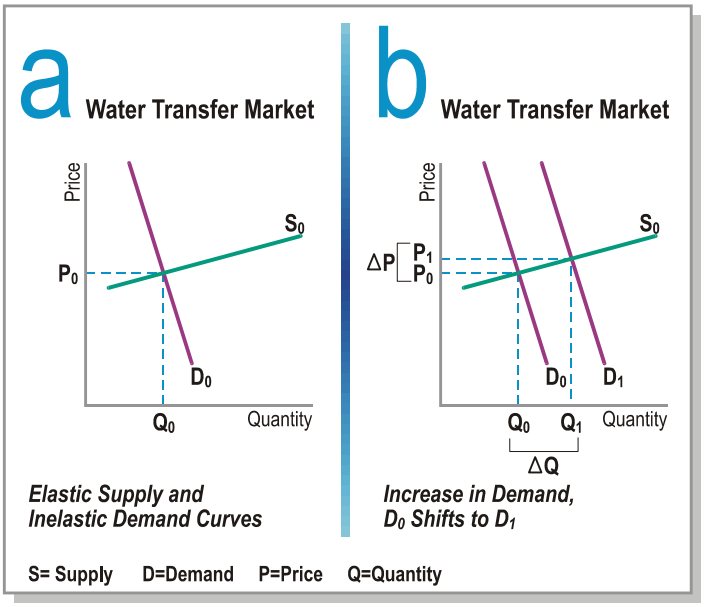


Figure 11-5
Supply and Demand in the Water Transfers Market

The supply function also shifts from year to year as underlying factors change. Hydrologic conditions and agricultural prices are both important underlying factors. These factors could affect water transfer prices much more than water transfer demand. The difference in available supply between a wet year and a dry year

amounts to millions of acre-feet. Dry hydrologic conditions probably had an upward influence on water prices in 2001. Small changes in agricultural prices can also have a large effect on water transfer supply because net returns in farming are very responsive to agricultural prices.

The water purchases by EWA Project Agencies in 2001 did not appear to increase water transfer prices. Prices in 2002 for major water transactions actually decreased on average from 2001 (Stratecon Inc. 2003). However, other factors such as the location of water purchases may have been important in the reduction of prices from 2001 to 2002.

The water transfer price data in Figure 11-4 and the amount of water purchases as shown in Table 11-41 suggest that water transfer prices are not determined by the amount of water purchased. Rather, water transfer prices are more closely related to underlying hydrologic conditions and conditions in agricultural markets.

The discussion above suggests that (1) water transfer supply may be fairly elastic in California, and (2) hydrologic conditions and agricultural prices have more influence on water transfer prices than the amount of water transfer demand.

In summary, EWA water acquisitions could increase water transfer prices; however, effects in a typical water year would not likely be substantial. The water transfer market in California is developing, so the amount of increase that may occur under different amounts and locations of water purchases is very uncertain. Several factors are important when considering price effects caused by EWA acquisitions:

1. Whether the EWA accounts for a large share of the water transfer market in most years.

2. Elasticity of supply in the water transfer market means that increasing demands would not necessarily have much upward effect on prices.

3. Variability in water transfer prices over time might have little to do with the amount of water bought by the EWA or other buyers. Rather, hydrologic conditions and agricultural prices probably have more effect on the price of water transfers. These factors are not controlled by participants in the market.

For reasons discussed above, the amount of price effect and its subsequent adverse effect cannot be predicted at this time. In particular, the amount and location of future water transfers are not known.

11.2.5.6 Effects of Multi-Year Water Transfers

EWA Project Agencies could negotiate multi-year water transfers with willing sellers. The project description specifies that an EWA acquisition would not result in idling of more than 20 percent of available rice or cotton acreage in a county or region. The effects on value of output, value added, wages and salaries, and employment

described above represent annual effects. A multi-year purchase would produce some economic effects above the sum of effects for the individual years. Fixed expenses for farmers would change some during multi-year water transfers. For example, a 1-year transfer would probably not affect a farmer's decision to invest in machinery, but a multi-year transfer may.

Conversely, farmers participating in multi-year transfers would plan on returning the land to production after the transfer. Therefore, some fixed expenses might be deferred, but not avoided. To the extent that capital and replacement expenses would be deferred and not canceled, long-run effects of multi-year transfers at the farm level would be about the same as annual transfers.

In the long-run, a multi-year water purchase should not produce any economic effects in the off-farm agricultural industry above those that would occur annually. DEIM assumes that fixed expenses in farm-related businesses change as they adjust to new, long-run level of output. The infrastructure that supports the region's agricultural industry could be reduced in the long-run, but, relative to a scenario with annual transfers only, additional off-farm reduction occurs only if farms engaged in multi-year transfers decide to cancel (not defer) their capital and replacement expenses.

11.2.6 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area. While the amounts in each region are fixed, the acquisition types and sources could vary. In this section, the effects of each potential transfer are analyzed to allow the EWA Project Agencies maximum flexibility when negotiating purchases with willing sellers. These transfers are the same actions as those described in the Flexible Purchase Alternative, but the amounts are limited by the total acquisition amount in each region (35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area). As in the Flexible Purchase Alternative, crop idling and groundwater substitution would be EWA actions with potential regional and agricultural economic effects; and all water acquisitions could affect prices in the water transfer market.

11.2.6.1 Crop Idling

Crop idling acquisitions under the Fixed Purchase Alternative would have the potential to idle approximately 15,000 acres of rice in the Upstream from the Delta Region in Glenn, Colusa or Yolo Counties and 10,600 acres in Placer, Sutter or Butte Counties. The difference in acreages among the counties is caused by conveyance and storage issues in Lake Shasta and the Sacramento River (see Chapter 2). A total of 65,000 acres of cotton would be idled in the Export Service Area to acquire the total 150,000 acre-feet. The effects described in Section 11.2.5, Flexible Purchase Alternative, represent the effects on regional, county, and local economies for maximum land idling actions as determined by the 20 percent crop idling measure of

the project description. The Fixed Purchase Alternative is also limited by the 20 percent crop-idling measure. The Fixed Purchase Alternative analysis assumes that it would be possible to purchase the entire 35,000 acre-feet or 150,000 acre-feet of water in a single county, if the 20 percent of baseline acreage is not reached first. This assumption is made to allow the EWA agencies to purchase available water in a county. It would be unlikely that the EWA agencies would acquire the entire 35,000 acre-feet or 150,000 acre-feet from a single county, and this analysis is only demonstrating that it could be possible. However, even though it is possible, the EWA will try to spread purchases across a larger area.

EWA acquisition of water via crop idling of would increase net revenues to individual farmland owners participating in the EWA.

Effects to farmland owners would be similar to those described under the Flexible Purchase Alternative. Farmland owners who participate in the EWA would receive higher expected net revenues from the sale of water than what they would receive from farming the land.

EWA acquisition of water via crop idling would decrease net revenues to some tenant farmers whose landowners choose to participate in the EWA.

Effects to tenant farmers under the Fixed Purchase Alternative would be the same as described in the Flexible Purchase Alternative.

EWA acquisition of water via crop idling of rice acres in the Upstream from the Delta Region would decrease the total value of output, value added, wages and salaries, and employment in the region.

In the Upstream from the Delta Region, it would be possible to acquire the entire 35,000 acre-feet of water in a single county if 15,000 acres (or 10,600 acres in Placer, Sutter, or Butte Counties) were below the 20 percent crop idling measure. Table 11-31 (Section 11.2.5) describes the maximum rice idling actions in each county in the Upstream from the Delta Region. If the acres of rice idled under the Flexible Purchase Alternative were greater than 15,000 acres (or 10,600 acres), then the Fixed Purchase Alternative would idle only 15,000 acres (or 10,600 acres) as the maximum EWA action. If the maximum acres idled were less than 15,000 acres (or 10,600 acres) because of 20 percent crop idling limits, then the Fixed Purchase Alternative would include the same acreage as the Flexible Purchase Alternative as the maximum EWA action. Table 11-41 summarizes the rice acres idled in the Fixed Purchase Alternative. (Values associated with the percentages are presented in Table 11-43.)

Table 11-41
Economic Effects of Rice Idling under the Fixed Purchase Alternative
Upstream from the Delta Region

	Rice Idling Action			Percent Economic Effect[3]			
County	Total Rice Acres[1]	Maximum Idled Acres[2]	% of Total Acres Idled	Value of Output	Value Added	Wages and Salaries	Employment
Butte	95,120	10,600	11.1%	-0.47%	-0.30%	-0.28%	-0.33%
Colusa	132,338	15,000	11.3%	-2.74%	-2.07%	-2.53%	-2.50%
Glenn	83,777	15,000	17.9%	-1.87%	-1.74%	-1.91%	-2.80%
Placer	16,379	3,280	20.0%	-0.04%	-0.03%	-0.03%	-0.05%
Sutter	96,722	10,600	10.9%	-0.61%	-0.43%	-0.49%	-0.61%
Yolo	23,822	4,770	20.0%	-0.14%	-0.09%	-0.08%	-0.11%
Maximum acres available	448,158	59,250	13.2%				

Source: DEIM 2002

(1) The figures representing total rice acres within the counties are based on a five-year average to take into account any recent land trends in rice production. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

(2) In order to avoid limiting potential land idled a single county, the Fixed Purchase Alternative analysis assumes that it is possible to purchase the entire 35 TAF from one county. Therefore, these are the maximum acreages available for the Fixed Purchase Alternative in each county. It is important to note, EWA agencies only seek to acquire maximum 35 TAF water and would not likely acquire all water in an individual county.

(3) These percentages represent reductions to baseline values.

EWA acquisition of water via crop idling of cotton acres in Fresno, Kern, Kings, and Tulare Counties would decrease total value of output, value added, wages and salaries, and employment in each county.

The Export Service Area analysis for the Fixed Purchase Alternative uses a similar approach as the Upstream from the Delta Region. In the Export Service Area, it would be possible to acquire the entire 150,000 acre-feet of water in an individual county if 65,000 acres of cotton in the county were below the 20 percent crop idling measure. Table 11-39 describes the maximum cotton-idling actions in each county. Twenty percent of cotton acreage was more than 65,000 acres as in Fresno County, so the Fixed Purchase Alternative could include all 65,000 acres as the maximum EWA action in that county. In the other counties, 20 percent of cotton acreage was less than 65,000 acres, so the Fixed Purchase Alternative included only 20 percent of cotton acreage as the maximum EWA action for the county. Table 11-42 shows the maximum cotton acres idled in each county in the Fixed Purchase Alternative. Values associated with the percentages are presented in Table 11-43.

Table 11-42
Economic Effects of Cotton Idling under the Fixed Purchase Alternative
Export Service Area

Cotton Idling Action				Percent Economic Effect[3]			
County	Total Cotton Acres[1]	Maximum Idled Acres[2]	% of Total Acres Idled	Value of Output	Value Added	Wages and Salaries	Employment
Fresno	352,880	65,000	18.4%	-0.38%	-0.18%	-0.20%	-0.26%
Kern	246,616	49,300	20.0%	-0.33%	-0.16%	-0.19%	-0.25%
Kings	222,543	44,500	20.0%	-1.62%	-0.80%	-0.88%	-1.40%
Tulare	92,680	18,500	20.0%	-0.22%	-0.11%	-0.14%	-0.16%
Maximum acres available	914,719	177,300	19.4%				

Source: DEIM 2002

(1) The figures representing total cotton acres within the counties are based on a five-year average to take into account any recent land trends in cotton production. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

(2) In order to avoid limiting potential land idled a single county, the Fixed Purchase Alternative analysis assumes that it is possible to purchase the entire 150 TAF from one county. Therefore, these are the maximum acreages available for the Fixed Purchase Alternative in each county. It is important to note, EWA agencies only seek to acquire maximum 150 TAF water, or 65,000 acres and would not likely acquire all water in an individual county.

(3) Percentages represent reductions to baseline values.

EWA acquisition of water through crop idling could change county property and sales tax revenues.

County tax revenues would be less affected under the Fixed Purchase Alternative because less land would be idled. Agricultural land use mitigation measures continue to apply under the Fixed Purchase Alternative; therefore, property tax and subvention revenues would not be reduced. Agricultural and retail stores would lose some sales, so sales taxes would be reduced though not as much as under the Flexible Purchase Alternative.

11.2.6.2 Groundwater Pumping Costs

EWA acquisition of water through groundwater substitution and groundwater purchase in the Upstream from the Delta Region and groundwater substitution, groundwater purchase, and groundwater storage in the Export Service Area could cause a decline in groundwater levels and increase groundwater extraction costs.

Groundwater acquisitions would be further limited under the Fixed Purchase Alternative, relative to the Flexible Purchase Alternative. Groundwater transfers to the EWA Program would be identified, assessed, and mitigated for at a local level. Furthermore, if necessary, a local mitigation program would include a financial strategy for funding appropriate mitigation measures. This would protect users from any increases in energy or pumping costs.

11.2.6.3 Water Transfer Market Prices

EWA water transfers could reduce the availability of water transfers and increase the price and cost of water transfers for other water users.

Under the Fixed Purchase Alternative, EWA Project Agencies would limit water acquisitions. EWA would also not be as large of a participant in the market. Therefore, EWA would have less demand for water transfers and, therefore, less effect on the price of water.

11.2.7 Comparative Analysis of Alternatives

This chapter has thus far analyzed the economic effects of potential EWA water transfers which represent the "worst-case scenario" that could occur if all acquisitions were made in a single year. This approach ensures that all effects of transfers are included, and provides the EWA Project Agencies the flexibility to choose transfers that may be preferable in a given year. The EWA, however, would not actually purchase all of this water in the same year. The following paragraphs provide information about how the EWA would more likely operate in different year types.

Under the No Action/No Project Alternative, historic farming practices would continue in wet and dry years. Farmers may choose to idle more land in dry years, relative to wet years, because of the decrease in water supply for irrigation. Agricultural crop prices would also continue to fluctuate in dry and wet years, resulting in changes in the cropping pattern.

11.2.7.1 Upstream from the Delta Region

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. In most years, this amount could be obtained from stored reservoir water purchases. In those years when surface water assets were not available (in part or in total), the EWA agencies would acquire water first from groundwater substitution and/or groundwater purchase, followed by crop idling. The Fixed Purchase Alternative would therefore not likely involve acquisition of water from groundwater substitution or crop idling. Therefore, crop idling effects on local, county, and regional economies, sales tax revenue, and property tax revenue would be minimal, and groundwater pumping costs would likely not increase.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources in the Upstream from the Delta Region. EWA agencies would prefer to purchase water from upstream sources because the water would be generally less expensive. The amount that could be purchased would be limited by the excess capacity of the Delta export pumps to move the water to export areas. During wet years, excess pump capacity may be limited to as little as 50,000 acre-feet of EWA asset water because the pumps primarily would be used to export State and Federal project water to Export Service Area users. During dry years, when there would be less CVP and SWP water available for pumping (and therefore the pumps

would have greater availability capacity), the EWA Project Agencies could acquire up to 600,000 acre feet of water from sources in the Upstream from the Delta Region.

The potential for economic effects in the Upstream from the Delta Region during wet years for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative. During wet years, under both alternatives, acquisitions would most likely be from stored water sources, and groundwater substitution and crop idling would not be exercised. During dry year conditions, however, when the export pumps have greater capacity to move EWA assets, groundwater substitution and crop idling would be utilized for additional EWA acquisitions. Therefore, during dry years, under the Flexible Purchase Alternative, EWA Project Agencies would acquire water through groundwater substitution and crop idling at much greater amounts than would occur under the Fixed Purchase Alternative. Increased groundwater substitution and crop idling in dry years would increase the potential for the Flexible Purchase Alternative to have economic effects.

11.2.7.2 Export Service Area

EWA asset acquisitions in the Export Service Area under the Fixed Purchase Alternative would be limited to 150,000 acre-feet from stored groundwater and crop-idling sources. The EWA agencies would purchase stored groundwater first, then purchase water from crop idling if more is needed. Stored groundwater has finite availability, and 150,000 acre-feet would not likely be available in all years. In years with less stored groundwater availability, EWA agencies would turn to crop idling for the remaining water.

EWA asset acquisitions in the Export Service Area under the Flexible Purchase Alternative would be dependent on the water year type in the Upstream from the Delta Region. Export pump capacity during wet years would limit the ability of the EWA Project Agencies to move assets through the Delta, requiring reliance on greater purchase amounts from export area sources. During wet years, acquisitions within the Export Service Area could involve up to 600,000 acre-feet of assets. Much of this water would be from crop idling; therefore, economic effects related to crop idling of the Flexible Purchase Alternative would likely be greater than for the Fixed Purchase Alternative.

Less water would be purchased under the Fixed Purchase Alternative than the Flexible Purchase Alternative regardless of the hydrologic year. Therefore, effects to the water transfer market under the Fixed Purchase Alternative would be less than the Flexible Purchase Alternative.

Table 11-43 summarizes the economic effects of the Fixed Purchase Alternative and the Flexible Purchase Alternative relative to the Baseline Condition.

Table 11-43
Comparison of Regional and Agricultural Economic Effects of Flexible and Fixed Purchase Alternative Compared to the Baseline Condition

Region	***Asset Acquisition or Management***	***Result***	***Effects[1]***	***Maximum Flexible Purchase Alternative Effects[2][3]***	***Maximum Fixed Purchase Alternative Effect[2][4]***
Upstream from the Delta Region and Export Service Area	Crop Idling	Temporary loss of irrigated production and related economic activity	Decrease net revenue to tenant farmers	Tenant farmers could be worse off if landowner sells water	Tenant farmers could be worse off if landowner sells water
Upstream from the Delta Region and Export Service Area	Crop Idling	Temporary loss of irrigated production and related economic activity	Increase net revenue to farmers/land owners participating in the sale of water to EWA	Increased net revenue to farmers from sale of water	Increased net revenue to farmers from sale of water
Butte	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* rice acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 19,000 acres, 20.0% *(2)* $52.8 million, 0.84% *(3)* $20.8 million, 0.55% *(4)* $10.3 million, 0.50% *(5)* 570 jobs, 0.59%	*(1)* 10,600 acres, 11.1% *(2)* $29.4 million, 0.47% *(3)* $11.6 million, 0.30% *(4)* $5.8 million, 0.28% *(5)* 318 jobs, 0.33%
Colusa	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* rice acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)26,460* acres, 20.0%, *(2)* $52.4 million, 4.83% *(3)* $16.6 million, 3.64% *(4)* $9.4 million, 4.46% *(5)* 476 jobs, 4.42%	*(1)* 15,000 acres, 11.3% *(2)* $29.7 million, 2.74% *(3)* $9.4 million, 2.07% *(4)* $5.4 million, 2.53% *(5)* 270 jobs, 2.50%
Glenn	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* rice acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 16,750 acres, 20.0% *(2)* $22.3 million, 2.08% *(3)* $9.8 million, 1.94% *(4)* $5.4 million, 2.13% *(5)* 385 jobs, 3.13%	*(1)* 15,000 acres, 17.9% *(2)* $20.0 million, 1.87% *(3)* $8.8 million, 1.74% *(4)* $4.8 million, 1.91% *(5)* 345 jobs, 2.80%
Placer	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* rice acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 3,280 acres, 20.0% *(2)* $4.7 million, 0.04% *(3)* $2.1 million, 0.03% *(4)* $1.1 million, 0.03% *(5)* 62 jobs, 0.05%	*(1)* 3,280 acres, 20.0% *(2)* $4.7 million, 0.04% *(3)* $2.1 million, 0.03% *(4)* $1.1 million, 0.03% *(5)* 62 jobs, 0.05%
Sutter	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* rice acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 19,340 acres, 20.0% *(2)* $30.2 million, 1.12% *(3)* $12.5 million, 0.78% *(4)* $7.0 million, 0.90% *(5)* 425 jobs, 1.11%	*(1)* 10,600 acres, 10.9% *(2)* $16.6 million, 0.61% *(3)* $6.9 million, 0.43% *(4)* $3.8 million, 0.49% *(5)* 233 jobs, 0.61%
Yolo	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* rice acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 4,770 acres, 20.0% *(2)* $11.7 million, 0.14% *(3)* $4.4 million, 0.09% *(4)* $2.5 million, 0.08% *(5)* 110 jobs, 0.11%	*(1)* 4,770 acres, 20.0% *(2)* $11.7 million, 0.14% *(3)* $4.4 million, 0.09% *(4)* $2.5 million, 0.08% *(5)* 110 jobs, 0.11%
Fresno	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* cotton acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 70,500 acres, 20.0% *(2)* $125.1 million, 0.41% *(3)* $33.6 million, 0.19% *(4)* $20.7 million, 0.22% *(5)* 1127 jobs, 0.28%	*(1)* 65,000 acres, 18.4% *(2)* $115.4 million, 0.38% *(3)* $31.0 million, 0.17% *(4)* $19.1 million, 0.20% *(5)* 1,038 jobs, 0.26%
Kern	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* cotton acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 49,300 acres, 20.0% *(2)* $79.6 million, 0.33% *(3)* $23.0 million, 0.16% *(4)* $14.4 million, 0.19% *(5)* 752 jobs, 0.25%	*(1)* 49,300 acres, 20.0% *(2)* $79.6 million, 0.33% *(3)* $23.0 million, 0.16% *(4)* $14.4 million, 0.19% *(5)* 752 jobs, 0.25%

Table 11-43
Comparison of Regional and Agricultural Economic Effects of Flexible and Fixed Purchase Alternative Compared to the Baseline Condition

Region	***Asset Acquisition or Management***	***Result***	***Effects[1]***	***Maximum Flexible Purchase Alternative Effects[2][3]***	***Maximum Fixed Purchase Alternative Effect[2][4]***
Kings	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* cotton acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 44,500 acres, 20.0% *(2)* $62.2 million, 1.62% *(3)* $17.9 million, 0.80% *(4)* $11.2 million, 0.88% *(5)* 668 jobs, 1.40%	*(1)* 44,500 acres, 20.0% *(2)* $62.2 million, 1.62% *(3)* $17.9 million, 0.80% *(4)* $11.2 million, 0.88% *(5)* 668 jobs, 1.40%
Tulare	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduced economic activity indicated by *(1)* cotton acreage *(2)* county output, *(3)* value added, *(4)* wages and salaries and *(5)* employment	*(1)* 18,500 acres, 20.0% *(2)* $27.2 million, 0.22% *(3)* $7.6 million, 0.11% *(4)* $4.8 million, 0.14% *(5)* 276 jobs, 0.16%	*(1)* 18,500 acres, 20.0% *(2)* $27.2 million, 0.22% *(3)* $7.6 million, 0.11% *(4)* $4.8 million, 0.14% *(5)* 276 jobs, 0.16%
Upstream from the Delta Region and Export Service Area	Crop Idling	Temporary loss of irrigated production and related economic activity	Reduce sales tax revenue to the county	Sales tax revenue would decrease from lower sales in agricultural retail stores.	Sales tax revenue would decrease from lower sales in agricultural retail stores.
Upstream from the Delta Region and Export Service Area	Crop Idling	Temporary loss of irrigated production and related economic activity	Change property tax revenue to the county and reduced subvention payments	Property taxes would increase from higher land values and decrease from change in land classification under Williamson Act.	Property taxes would increase from higher land values and decrease from change in land classification under Williamson Act.
Upstream from the Delta Region and Export Service Area	Groundwater Substitution, Purchase and Storage	Decline in groundwater levels	Increase in groundwater extraction costs	All effects resulting from groundwater transfers would be identified assessed and mitigated for at a local level.	All effects resulting from groundwater transfers would be identified assessed and mitigated for at a local level.
Upstream from the Delta Region, Export Service Area, Delta Region	All	Changes in water transfer prices	Increase in water transfer market prices	Effect would not likely be substantial in a typical water year.	Effect would not likely be substantial in a typical water year.

1) The individual effects, crop acreage, output, value added, wages and salaries, and employment, are hereon referred to by number corresponding to the effect in subsequent columns.
(2) Numbers are presented as reduction in county acreage, total value of output, value added, wages and salaries and employment, followed by percent change to baseline conditions.
(3) The Flexible Purchase Alternative effects presented in the table are based on the county analysis described in section 11.4.6.1 and section 11.4.6.2, and all water comes from idling
(4) The Fixed Purchase is based on the assumption that 50,000 acre-feet of water is to be acquired in the Upstream from the Delta Region and 150,000 acre-feet of water is to be acquired in the export services areas, and all water comes from idling.

11.2.8 Cumulative Effects

11.2.8.1 Crop Idling

11.2.8.1.1 Upstream from the Delta Region

The timeframe for the EWA cumulative analysis extends through 2007. Water transfer programs that also consider crop idling in the Upstream from the Delta Region as a water acquisition method include the Dry Year Purchase Program, the Drought Risk Reduction Investment Program (DRRIP), the CVPIA Water Acquisition Program (WAP) and the CALFED Environmental Water Program (EWP). Transfers negotiated between CVP and SWP contractors and other water users, such as the Forbearance Agreement with Westlands Water District and the recent crop idling acquisition by Metropolitan WD from water agencies upstream from the Delta, are considered part of the Dry Year Program. Chapter 22 provides further explanation of the framework of the cumulative analysis and a summary of the programs considered.

Crop idling in each of these programs is on a voluntary and usually annual basis. Farmers can choose to offer their water for sale to any of the above programs during any season that the programs are in operation, subject to the conditions specified by the programs. The farmers can then decide to resume planting in the subsequent season. The Flexible Purchase Alternative analysis describes the economic effects of idling 20 percent of rice or cotton acres under the EWA on a yearly basis, both in the region and individual counties.

Under the cumulative condition, at the time of the water acquisition, the EWA agencies would consider other reasonably foreseeable transfers by all water transfer programs when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the rice land in a county, where this 20 percent would include the other, reasonably foreseeable transfers. If other water acquisition programs purchase more water through crop idling resulting in greater than 20 percent of rice acreage, those programs would be responsible for meeting Water Code requirements and addressing the subsequent cumulative effect. Table 11-44 presents the maximum rice idling acreages by county under 1995 to 1999 economic conditions.

Table 11-44 Acres of Rice Idled under Cumulative Condition	
Upstream from the Delta Region	**Acres idled under Cumulative Condition**
Butte	19,000 acres
Colusa	26,460 acres
Glenn	16,750 acres
Placer	3,280 acres
Sutter	19,340 acres
Yolo	4,770 acres
Total	89,600 acres

Source: DEIM 2002

Land use mitigation measures (discussed in Chapter 13) would limit EWA agencies from purchasing water through crop idling that would affect existing land classifications.

11.2.8.1.2 Export Service Area

Programs that consider crop idling in Export Service Areas cumulatively in conjunction with the EWA include the Dry Year Purchase Program, DRRIP, and the CVPIA WAP. Chapter 22 provides further explanation of the framework of the cumulative analysis and a summary of the programs considered. There are some farmland idling or retirement programs that are not coordinated with the EWA in the Export Service Area.

Under the cumulative condition, at the time of the water acquisition, the EWA agencies would consider other reasonably foreseeable transfers by all water transfer programs when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the cotton land in a county, where this 20 percent would include the other, reasonably foreseeable transfers. If other water acquisition programs purchase more water through crop idling resulting in greater than 20 percent of cotton acreage, those programs would be responsible for meeting Water Code requirements and addressing the subsequent cumulative effect. Table 11-45 presents the maximum crop idling acreages by county under 1995 to 1999 economic conditions.

Table 11-45 Acres of Cotton Idled under Cumulative Condition	
Export Service Area County	**Acres Idled under Cumulative Condition**
Fresno	70,500 acres
Kern	49,300 acres
Kings	44,500 acres
Tulare	18,500 acres
Total	182,800 acres

Source: DEIM 2002

The cumulative analysis also considers the Westlands Global Land Settlement Program. The program proposes to retire 200,000 acres of cropland in the Westlands Water District in western Fresno and Kings Counties. Currently, the program does not specify the types and locations of cropland intended for retirement. Westlands Water District issued a policy statement indicating that all sales would be voluntary and third party effects must be identified and addressed. Implementation of this program would change the baseline level of cropland available for idling for EWA Project Agencies. In this instance, EWA Project agencies would not purchase water via crop idling in areas where idling is already larger than historically normal. EWA would not acquire water from crop idling within an area with close economic ties to Westlands Water District until the local agricultural economy has adjusted to the Retirement program.

11.2.8.2 Groundwater Pumping Costs

Water purchases via groundwater substitution by other water acquisition programs, in addition to the EWA, would result in further declines of groundwater levels and higher extraction costs for third-party users. The EWA would continue to implement its groundwater mitigation measures.

11.2.8.3 Water Transfer Market

Growing environmental, municipal and agricultural needs are increasing the demands for water transfers and expanding the water transfers market. Any local or government-sponsored transfer program would contribute to the cumulative condition. More participants in the market might drive up the price of transfers. Increased prices should increase the long-run supply of water for transfer.

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Chapter 12
Agricultural Social Issues

California leads the nation in farm production and is a major contributor to the U.S. export trade, exporting more than $12 billion in agricultural products each year. According to the California Department of Food and Agriculture (CDFA 2001), every $1 billion in exports creates approximately 27,000 jobs. In 2000, the value of agriculture production in California exceeded $27 billion (CDFA 2001), and in 1999 the agriculture sector employed approximately 400,000 laborers (Regional Economic Information System[REIS] 1999). In addition to the labor supplied by direct farm employment, many supporting agribusinesses provide employment opportunities. These agribusinesses supply pre- and post-processing operations necessary for crop production, such as transport, storage, retail sales, and marketing. Idling of cropland reduces the employment needs of these businesses. (See Chapter 11 for discussion.)

The ability of a community to withstand the social effects of unemployment is a function of its social well-being. Social well-being involves both community stability issues and environmental justice issues. Although these two categories overlap in many ways, this document describes them separately. This chapter focuses on the effects of crop idling on farm labor and subsequent outcome on community stability. Indicators of community stability include income, poverty, unemployment, and job opportunities. Environmental Justice, Chapter 19, identifies whether Program operations would affect ethnic or low-income groups.

Environmental Water Account (EWA) acquisitions via crop idling could affect community stability. In an idling acquisition, a farmer/landowner would refrain from planting crops for a season and transfer to the EWA agencies the irrigation water normally required for consumptive use. This would reduce the demand for farm laborers. EWA Management Agencies would target rice and cotton for water acquisitions, which require few laborers and large amounts of water relative to other crops. (Refer to Section 19.1.)

12.1 Affected Environment/Existing Conditions

The Affected Environment/Existing Conditions section describes the area of analysis, as pertinent to agricultural social issues. The section then presents regional and county data on community stability measures, followed by specific characteristics of farm laborers. This analysis uses 1999 data to describe existing conditions because it was generally the most current data available.

12.1.1 Area of Analysis

The Agricultural Social Issues analysis divides the State into two regions: the Upstream from the Delta Region and the Export Service Area. The Upstream from the Delta Region comprises counties where potential rice idling may occur, including Butte, Colusa, Glenn, Placer, Yolo, and Sutter. The Export Service Area comprises

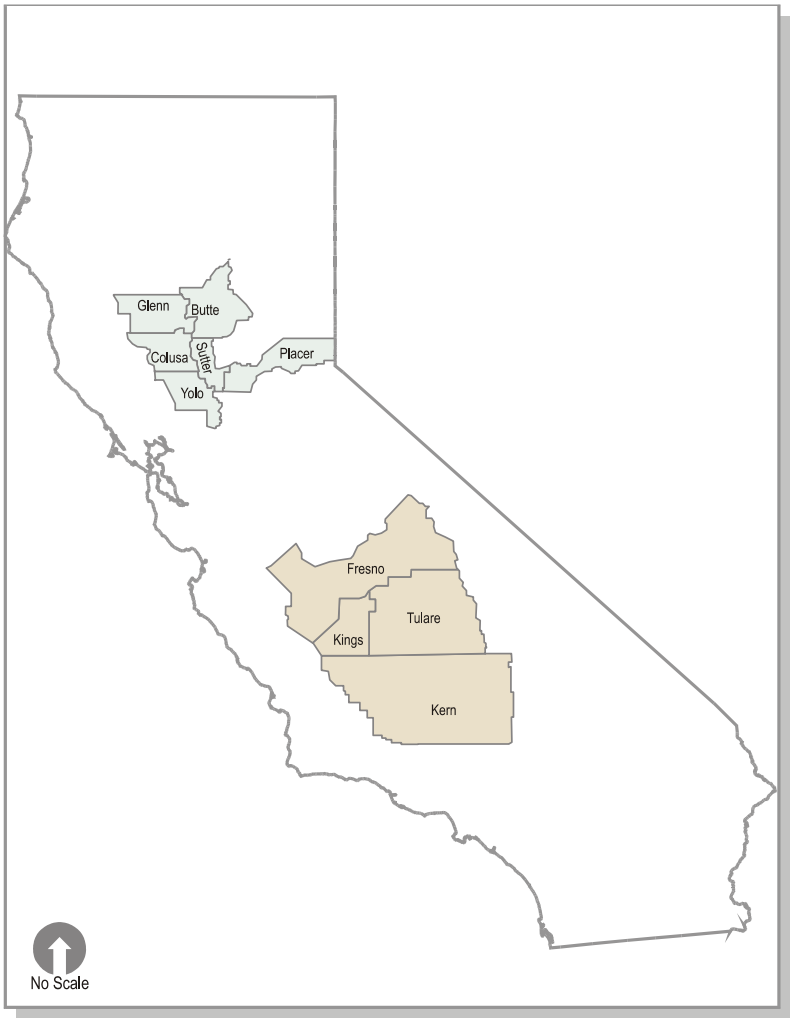


Figure 12-1
Agricultural Social Area of Analysis

counties where potential cotton idling may occur, including Fresno, Kern, Kings, and Tulare. The boundaries of each county in each region define the Upstream from the Delta Region and the Export Service Area. (Refer to Figure 12-1.) Counties selected for potential idling contain extensive rice or cotton acreage and irrigation districts that are willing to participate in the EWA Program. (Refer to Chapter 2 for further discussion.)

12.1.2 Community Stability

The ability of a county or community to absorb job losses is a function of its economic diversity and social well-being. Social well-being involves both community stability and environmental justice issues. Chapter 19 discusses Environmental Justice issues. The following discusses economic indicators of community stability.

Economic indicators of community stability include:

- Population
- Median income
- Per capita income
- Poverty rate
- Unemployment rate

Median family income[1] measures the annual income received by an average family living within a household. The larger the median family income of the county, the more income tax revenue is generated, which can be used to provide community

[1] The median level is the point for which one-half of the income observations are above and one-half of the income observations are below.

services for the unemployed. For example, the relatively high median incomes in Placer County provide taxes that help stabilize the community against unemployment effects. In 2000, Placer County's agricultural industry (generally a low-income industry) employed less than 3.5 percent of the civilian workforce, and trade and service industries (higher income industries) employed over 50 percent of the workforce (DOF 2000). Unemployment rate was a relatively low 3.2 percent (DOF 2000).

Per capita income is the total of all wages, interest, rents, and other incomes divided by the number of people in the county. In Yolo County, people earn high per capita incomes, relative to other counties in the Region. Again, taxes on higher incomes provide relatively more compensatory social services to offset unemployment effects and contribute to social stability.

The percentage of people living below poverty level is also a measure of community stability. Counties experiencing high poverty rates earn less revenue per capita than those with lower poverty rates. These counties must provide more services for the economically disadvantaged and have fewer resources.

The last economic indicator that influences community stability is unemployment rate. A high unemployment rate increases the demand for more social services, which the county is expected to supply. In Colusa County, the 1999 unemployment rate was relatively high (15.9 percent). Colusa's unemployment rate, coupled with its low per capita income, represents a less stable community structure that is less effective in buffering employment loss than other counties with lower employment rates (California Economic Development Department [EDD] 1999).

California has an infrastructure in place that buffers the needs of the unemployed. As shown in Tables 12-2 and 12-3, the average number of unemployed varies between each county. Programs offering services include, but are not limited to, *Experience Works* that provides training for mature workers, as well as public programs that include MediCal, CalWORKS, food stamps, regional occupational training programs, and others. These programs would likely offer services to individuals displaced by crop idling. Interviews with individuals involved with farm labor indicate that the services offered do not include affordable medical insurance coverage, and generally displaced farmworkers find it difficult to meet the most basic financial obligations of rent and utilities. Therefore, displaced farmworkers would most likely require financial supplements to cover fixed expenses and medical insurance (Quiroga-Valvodinos 2003; Clayton 2003).

Factors affecting social well-being of the unemployed also include steady employment and job guarantees. Job guarantees are influenced by seasonal and economic changes. Natural conditions can lengthen or shorten employment (e.g., water shortages can reduce the number of acres farmed). The effect of natural occurrences on farm labor in the past is a component of the assessment. (See Section 12.3.1 Assessment Methods.)

In general, stable communities are typically areas that collect sizable tax revenues and have large urban centers with broad-based economies more capable of providing an assortment of public services, including unemployment compensation. The large and diverse industries of urban centers provide job opportunities, income, and tax revenues that serve to stabilize the communities. These more stable communities are identified by sizeable median incomes, low unemployment, and the number of re-employment opportunities. Conversely, a less stable community would be a smaller county, city, or local government with smaller economic base, higher unemployment, fewer re-employment opportunities, limited social services, and fewer revenues. Unemployment has a larger effect on these communities.

12.1.3 Regional Community Stability

Community stability statistics help identify areas more sensitive to crop idling. Table 12-1 details regional economic indicators pertaining to community stability in the counties where crop idling may occur. The population in the Upstream from the Delta Region areas earns higher median and per capita incomes than those in the Export Service Area, which have greater poverty[2] and unemployment[3] rates than Upstream of the Delta Region.

Table 12-1
Existing Conditions: Regional Demographics and Economic Indicators of Social Well-Being

	Upstream of the Delta Region	***Export Service Area***
1999 Population[(1)]	713,873	1,887,275
Average Median Family Income[(2)]	$39,295	$34,975
Average Per Capita Income[(1)]	$24,891	$19,023
Average Poverty Rate[(3)]	15.6%	21.8%
1999 Average Unemployment Rate[(4)]	9.1. %	13.6%
Unemployment Range[(2)]	3.2% - 15.9%	11.4% - 16.5%

Counties in the Upstream from the Delta Region include Glenn, Colusa, Yolo, Butte, Sutter, and Placer; counties in the Export Service Area include Fresno, Kings, Kern, and Tulare.

(1) REIS, 1999
(2) U.S. Census Bureau,1999
(3) U.S. Census State and County QuickFacts, 1999
(4) 4 EDD, 1999

2 Poverty rates are expressed as a percentage of households in the county living at the poverty level or below. The U.S. Census Bureau defines poverty thresholds (levels of income) for families of various sizes and compositions. U.S. Census Bureau information for a family of five is consistent with data indicating that the majority of farmworkers' families are comprised of five individuals. In 1999, an annual income of $19,882 represented the U.S. Census Bureau poverty threshold for a family of five including three related children under 18 years of age; in California the poverty level for a family of five is a little higher, ranging between $22,940 and $24,160 (California Economic Development Department [EDD], 1999).

3 The U.S. Census Bureau defines the unemployment rate as the percent of the civilian labor force (all civilians 16 years of age and over) that is unemployed.

12.1.4 Environmental Measures Incorporated into the Project Description

In order to avoid or decrease adverse social effects on community stability, the EWA would incorporate the following measures as part of the program definition.

1) EWA agencies would not purchase water via crop idling if more than 20 percent of recent harvested rice or cotton acreage in the county would be idled through EWA water acquisitions. (Refer to Section 11.2.8 for discussion of additional water acquisition programs.) The EWA would idle less than 20 percent if other reasonably foreseeable transfers under other programs are idling land).

2) EWA agencies would also acquire less water by crop idling when the level of land idling is already larger than historically normal.

Social effects of land idling are exacerbated when an unusual amount of land is already being idled. Therefore, idling less land in a local area when the amount of land idling is already more than historically normal would lessen economic effects.

12.1.5 Upstream from the Delta Region

Rice crop idling in the Upstream from the Delta Region would generally occur during dry years, when the Delta has the capacity to transfer the water. Rice is a major commodity in the upstream from the Delta counties of Glenn, Butte, Placer, Colusa, and Yolo. In 2000, milled rice in Butte County contributed 18 percent to California's rice income (CAC 2000). Of the region's 713,873 people, approximately 23,900 (3.3 percent) are farm laborers (REIS 1999). Table 12-2 contains additional information about these counties. The number of farms in each county is given as a general indicator of potentially available farm labor opportunities.

Table 12-2
Upstream Counties- Population, Income, Employment, and Farms

County	Population [1]	Median Income [2]	Per Capita Income [1]	Poverty Rate [2]	Unemployment Rate [3]	Average Number Unemployed (1990-2001) [5]	Average Number of Farms between 1987-1997 [4]	Average Farm Acreage in County [4]
Butte	195,220	$31,924	$22,012	20.9%	6.8%	7,536	1,772	450,347
Colusa	18,844	$35,062	$23,085	18.1%	15.9%	1,589	803	445,820
Glenn	26,328	$32,107	$18,015	19.9%	11.2%	1,589	1,182	482,411
Placer	34,972	$57,535	$34,972	7.7%	3.2%	5,482	1,118	148,514
Sutter	78,423	$38,375	$24,223	17.2%	13.0%	5,477	1,371	340,826
Yolo	155,573	$40,769	$27,037	15.8%	4.3%	5,314	949	520,366

[1]REIS 1999
[2]U.S. Census Bureau, State and County QuickFacts 1999
[3]EDD Counties Report 400C Annual Averages 1999
[4]U.S. Department of Agriculture 1997
[5]EDD Labor Market Information, 1990-2001

12.1.6 Export Service Area

Cotton crop idling generally would occur more in the Export Service Area during wet years, due to decreased Delta transfer capacity. Cotton crop idling in the Export Service Area would occur in Fresno, Kings, Tulare, and Kern Counties. Fresno County contains some of the most productive agricultural land in the country and earns some of the highest dollar values in agriculture in the State of California. Of the region's 1,887,275 people, 12,320 (0.7percent) were farm laborers (REIS 1999). Table 12-3 contains additional information on these counties.

Table 12-3
Export Service Area Counties- Population, Income, Employment and Farms

County	Population [1]	Median Income [2]	Per Capita Income [1]	Poverty Rate [2]	Unemployment Rate [3]	Average Number of Farms between 1987-1997 [4]	Average Number of Farms between 1987-1997 [4]	Average Farm Acreage in County [4]
Fresno	763,069	$34,725	$21,146	25.6%	13.4%	50,792	7068	1,877,151
Kern	642,495	$35,446	$19,886	21.0%	11.4%	35,215	2082	2,909,354
Kings	123,365	$35,749	$15,732	23.6%	13.1%	8,178	1125	711,656
Tulare	358,470	$33,983	$19,329	27.9%	16.5%	34,723	5609	1,357,986

(1) REIS 1999
(2) U.S. Census Bureau, State and County QuickFacts 1999
(3) EDD Counties Report 400C Annual Averages 1999
(4) U.S. Department of Agriculture 1997
(5)EDD Labor Market Information, 1990-2001

12.1.7 Characteristics of Farm Laborers

The above information presents community stability measures of all sectors of the regional and county economies. Farmworker median incomes and per capita incomes typically represent a fraction of the values identified in Tables 12-1, 12-2 and 12-3. The following is a list of characteristics particular to farm laborers (Rosenberg, et al, 1998) that provide a better understanding of the potential agricultural social effects of crop idling.

- Nearly all farm laborers are foreign born and 93 percent are of Hispanic descent.
- Forty percent of farm laborers do not have legal authorization to work in the U.S.
- The average age of a farm laborer is 33.
- Sixty percent are married, and more than half have children. Farm laborers who are parents have an average of three children.
- Eighty-two percent of farm laborers are male and have a median education level equivalent to the sixth grade.
- Median annual total family income for California crop workers is between $7,500 and $10,000

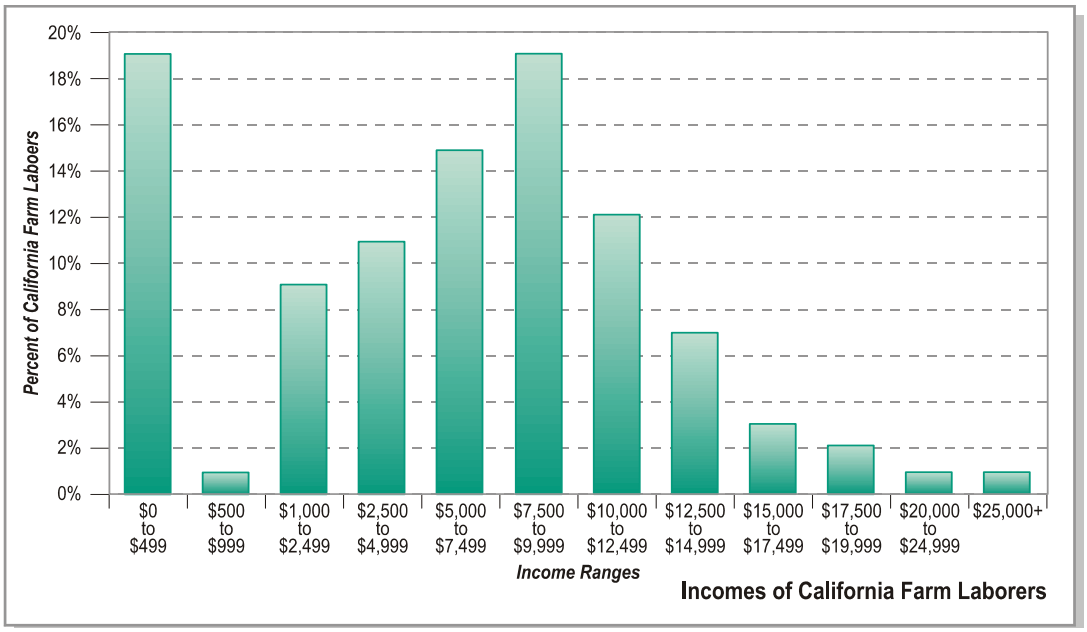
Anecdotal evidence gathered from the California Rice Commission and cotton farms (Schmidt 2002; McCorkle 2002; Davenport 2002) indicate that laborers possess mechanical skills and normally return every season. The laborers are stable employees who are generally not migrant in nature. Cotton farm laborers' annual income fluctuates about the poverty level, but may increase based upon employees'

skill level and desire to work. The cotton season runs between late March and November. The rice season begins in May and runs through November, unless workers remain employed until February to assist in exporting the rice crop.

12.1.7.1 Environmental Justice

The above information indicates that farm laborers are mainly low income and minority. Environmental Justice (Chapter 19) focuses on effects to the low income and minority population. A recent National Agricultural Workers Survey (Rosenberg 1998) provides a thumbnail sketch of California's agricultural workers and verifies that California is heavily dependent upon foreign workers, especially those from Mexico. According to the survey, 91percent of California's crop workers were born in Mexico, compared to 82 percent in 1990-91.

Surveyors use incrementally increasing income ranges to analyze farmworker wages, as shown on Figure 12-2. Survey results show that the median total family income for



(Rosenberg 1998)

Figure 12-2
Annual Incomes of California Farm Laborers

California farm laborers ranged from $7,500 to $10,000. Unauthorized workers earn a median income that ranges from $2,500 to $5,000. According to family size and income, 61 percent of California's farmworking families live in poverty – a percentage that is increasing (Rosenberg 1998). Because of the farmworker profile, crop idling could have disproportionate effects on low income and minority farmworkers. Rather than focusing on these issues, this agricultural social effects analysis focuses on the farm laborer population and employment opportunities. Chapter 19 contains a full explanation of EWA effects on low income and minority groups.

12.2 Environmental Consequences/Environmental Impacts

12.2.1 Assessment Methods

A number of factors affect the EWA agencies' ability to transfer water, i.e., price, water availability, and location affect contract negotiations with willing sellers. These limiting factors change from year to year; therefore, EWA Project Agencies may choose to vary their acquisition strategy annually. With the intent of providing the EWA Project Agencies the greatest flexibility, the following text describes the potential effects on farm laborers with maximum idling actions in both the Upstream from the Delta Region and Export Service Area.

This assessment compares the projected agricultural social effects of potential EWA actions to the Baseline Condition. The Baseline Condition description for this assessment employs 20 years of farm labor employment data (between 1980 and 1999) to identify farm labor employment trends. These employment patterns would likely continue into the future. The 20-year period of analysis incorporates variations in weather and economic conditions over time. Additionally, this analysis considers the effects of seasonal fluctuations at the general level, acknowledging that conditions that may affect one farm adversely may have minor or no effects on a neighboring crop.

This 20-year data analysis was also chosen to identify historic fluctuations in farm labor as a means of voluntarily assessing potential adverse effects, though neither 40 CFR 1505.2 nor 40 CFR 1508.14 require mitigation of adverse social effects. Although NEPA does require a discussion of social effects if they are related to the natural or physical environment, it does not require a threshold of significance. Similarly, CEQA does not consider project related economic or social changes as adverse effects on the environment that would require mitigation.

For consistency of analysis, 1999 conditions serve as the basis for impact determination throughout the analysis. An ordinary least square regression identifies each counties' farm labor employment trends[4]; and standard deviations[5] of the trend reflect annual, seasonal, and economic fluctuations. In counties that exhibit no increasing or decreasing farm labor employment trends, standard deviations of the historic average represent annual seasonal and economic fluctuations. Standard deviations derived for both trends and averages define the baseline against which to measure EWA –generated farm employment changes. This analysis uses average number of workers per 1,000 acres of idled crops to estimate the changes in

4 90 percent significance.

5 Standard deviations define the dispersion of data around the mean. Assuming data are normally distributed, 68 percent of the data will fall within one standard deviation of the mean.

employment that could be caused by EWA crop idling[6]. The comparison of EWA changes with the standard deviation of averages or standard deviation of the trends in the Baseline Condition determines whether crop idling produces unemployment beyond natural, seasonal, or economic-related actions.

The estimates of full-time farm worker jobs represent a portion of the total job loss calculated in Chapter 11. The balance of the jobs lost, as described in Chapter 11, would also affect job classifications other than farm workers.

12.2.2 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

The No Action/No Project Alternative describes future conditions during Stage 1 of CALFED, if the EWA did not exist. With the exception of Placer County, farmworker employment during this assessment period would either remain the same or increase. Farmers would continue to temporarily idle some land due to land practices and market issues, while other farmers would place previously idled land back into production. The continued rotation of these farming practices would cause some fluctuations in agricultural employment, but those changes would likely reflect that of the employment fluctuations described in the affected environment section.

Additionally, several CALFED and other government sponsored programs would idle land for restoration and habitat purposes. This would permanently take agricultural land out of production. (Refer to Section 12.2.6.)

The analysis of agricultural employment for Placer County indicates that a urbanization would result in a decline to 1240 farm laborers in 2004 from 1720 employed farmworkers in 1983 (REIS). The No Action/No Project alternative would not alter this trend and thus, would have no effect on agricultural social issues for the county. The No Action/No Project Alternative would have no bearing on positive farm labor employment trends in Colusa, Yolo, Butte, Sutter, Fresno, Kern, and Tulare counties. (Refer to Section 12.2.5.)

12.2.3 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers of 600,000 acre-feet and does not specify transfer limits in the Upstream from the Delta Region or in the Export Service Area. The potential for crop idling actions in the Upstream from the Delta Region is greater during dry years when Delta pumping availability allows EWA agencies

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[6] University of California Cooperative Extension Crop Budgets 1999 and 2001. Average number of full-time workers per 1,000 acres includes both machine and nonmachine labor. Because the forty-inch row alcala variety is more commonly planted than the thirty-inch row, the labor equation assumes that 66 percent of the cotton is of the 40-inch row variety, and 33 percent is the 30-inch row alcala variety. A weighted average of the two varieties establishes that 6.6 labor equivalents are required for every 1000 acres of cotton. Full time is assumed to be 2000 hours per year. Every 1000 acres of rice requires 2.7 full-time labor equivalents.

additional capacity for transfers. Crop idling in the Export Service Area would occur most during wet years or when stored/banked groundwater would not be available; however, purchases would be more expensive in the Export Service Area. The Flexible Purchase Alternative would rely more heavily on the Export Service Area during wet years due to limited Delta pump capacity. Transfers in this area could involve up to 540,000 AF and progressively decrease during dry conditions. Crop idling decisions also depend upon precipitation in the northern and southern State; precipitation would affect export pump availability and how the State Water Project (SWP) allocates existing resources.

EWA agencies would like the ability to extend annual crop idling contracts. Contracts for multi-year water transfers would be made with water agencies. Consistent with the project description, multi-year contracts would not result in idling more than 20 percent of available rice or cotton acreage in a county or region. These stipulations would maintain the current economic and social conditions.

Described below are the maximum effects on farm labor employment, if the EWA agencies acquire the maximum amount of water from crop idling. Exceeding historic unemployment levels could affect community stability. The basis for a worst-case scenario analysis is to identify all potential effects. Crop idling affecting fewer laborers than historic fluctuations under this alternative would affect even less with decreased crop idling.

12.2.3.1 Upstream from the Delta

Table 12-4 shows the maximum acreage that could be idled in each county under 1995 through 1999 economic conditions, according to the 20 percent measure incorporated into the project description. (See Section 11.2.3 for further discussion on the 20 percent crop idling measure.) Consistent with 1999 University of California Cooperative Extension Crop Budgets, 2.7 workers are required for every 1,000 acres of rice. The following analysis identifies the number of full-time farm workers that would be displaced by maximum crop idling in each county.

Table 12-4
Maximum Proposed Acreages for Rice Idling for Flexible Purchase Alternative

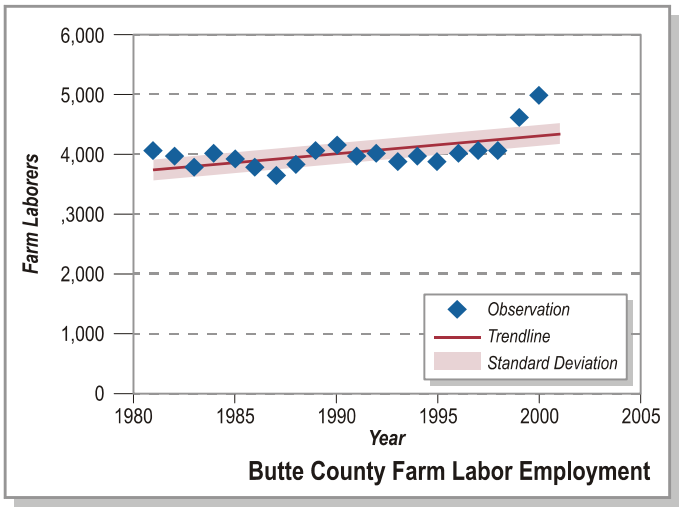
	Total Acres of Rice in County[(1)]	***Maximum Acreage Proposed for Idling in Dry Years***	***% of Total***
Butte	95,120	19,000	20.0%
Colusa	132,338	26,460	20.0%
Glenn	83,777	16,750	20.0%
Placer	16,379	3,280	20.0%
Sutter	96,722	19,340	20.0%
Yolo	23,822	4,770	20.0%
Total	448,158	89,600	20.0%

(1) The figures representing total rice acres within the counties are based on a five-year average to take into account any recent land trends in rice production. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

12.2.3.1.1 Butte County

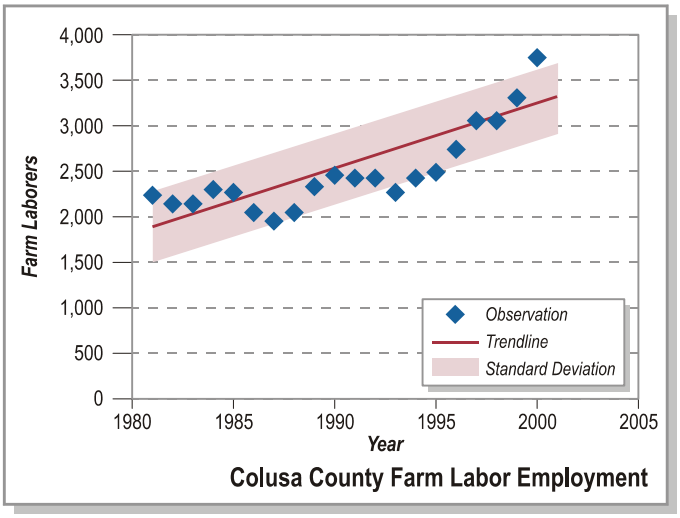
EWA acquisition of water through crop idling in Butte County would decrease farmworker employment. Idling 19,000 acres would displace 51 full-time laborer equivalents.

Analysis of data reveals Butte County is experiencing an increase in farm labor employment with annual seasonal and economic variations (standard deviation of the trend) of 170 laborers (Figure 12-3). EWA crop idling in Butte County would, however, affect fewer laborers than historic fluctuations.



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Figure 12-3
Butte County Farm Labor Trends



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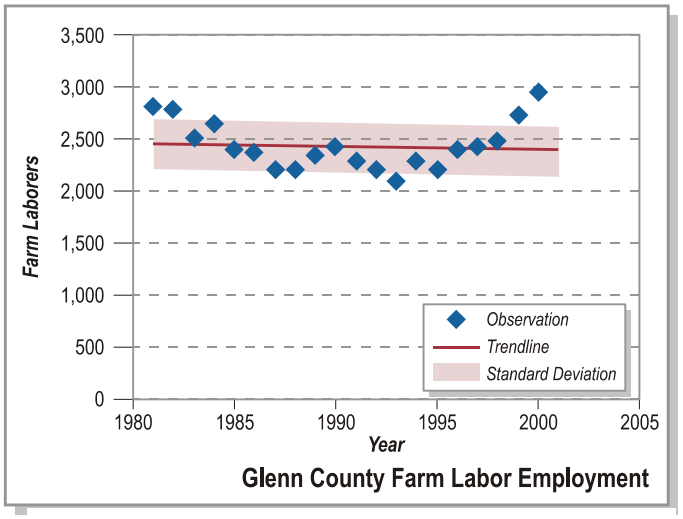
Figure 12-4
Colusa County Farm Labor Trends

12.2.3.1.2 Colusa County

EWA acquisition of water through crop idling in Colusa County would decrease farmworker employment. Idling 26,460 acres would displace 71 full-time laborer equivalents. Analysis of employment data reveals Colusa County is experiencing increasing levels of farm labor employment (Figure 12-4). Seasonal and economic changes in the Baseline Condition result in fluctuations (standard deviation on the trend) of 382 laborers. Crop idling in Colusa County would affect fewer laborers than historic fluctuations.

12.2.3.1.3 Glenn County

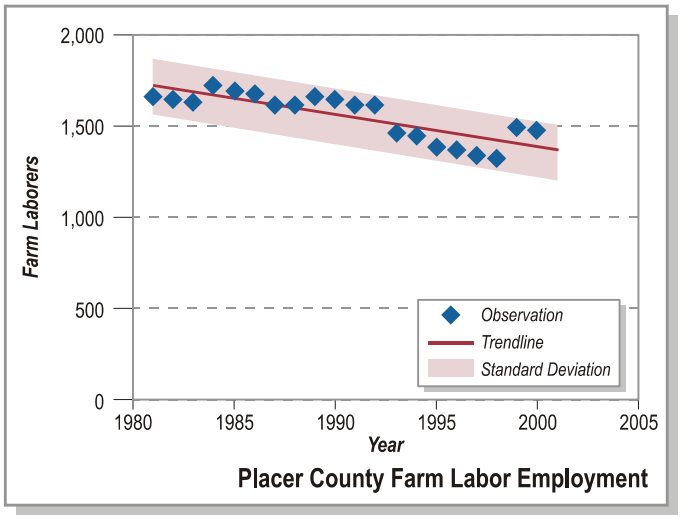
EWA acquisition of water through crop idling in Glenn County would decrease farmworker employment. Idling 16,750 acres would displace 45 full-time laborer equivalents (the equivalent of 45 full-time workers for 1 year). Analysis of employment data reveals no increasing or decreasing farm labor trends in Glenn County over the past 20 years, as shown



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Figure 12-5
Glenn County Farm Labor Trends

on Figure 12-5. Seasonal and economic changes in the Baseline Condition result in fluctuations (standard deviation of the average) of 237 laborers relative to the average number of employed farm laborers. Crop idling would affect farm laborers less than historic fluctuations.



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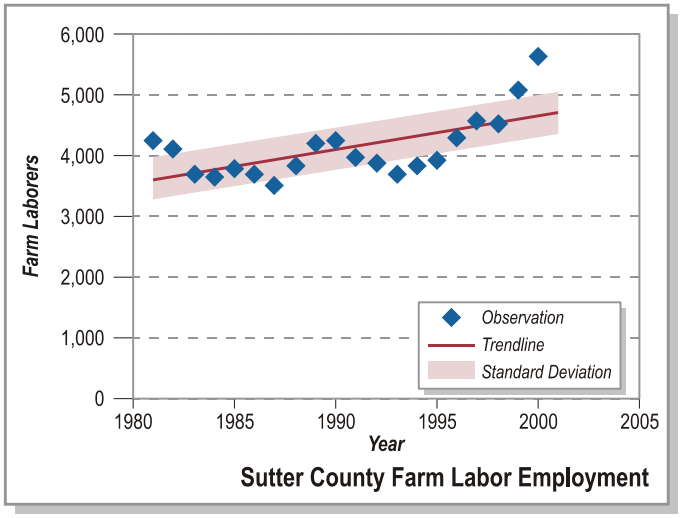
Figure 12-6
Placer County Farm Labor Trends

12.2.3.1.4 Placer County

EWA acquisition of water through crop idling in Placer County would decrease farmworker employment. Idling 3,280 acres would displace 9 full-time laborer equivalents. Analysis of 20 years of farm labor employment information reveals Placer County is experiencing decreasing farm labor employment with annual seasonal fluctuations (standard deviation of the trend) of 106 laborers (Figure 12-6). Crop idling in Placer County would affect fewer laborers than historic fluctuations.

12.2.3.1.5 Sutter County

EWA acquisition of water through crop idling in Sutter County would decrease farmworker employment. Idling 19,340 acres would displace 52 full-time laborer equivalents. Analysis of data reveals Sutter County is experiencing an increase in farm labor employment with annual seasonal and economic baseline variations (standard deviation of the trend) of 337 laborers (Figure 12-7). Crop idling in Sutter County would affect fewer laborers than historic fluctuations.

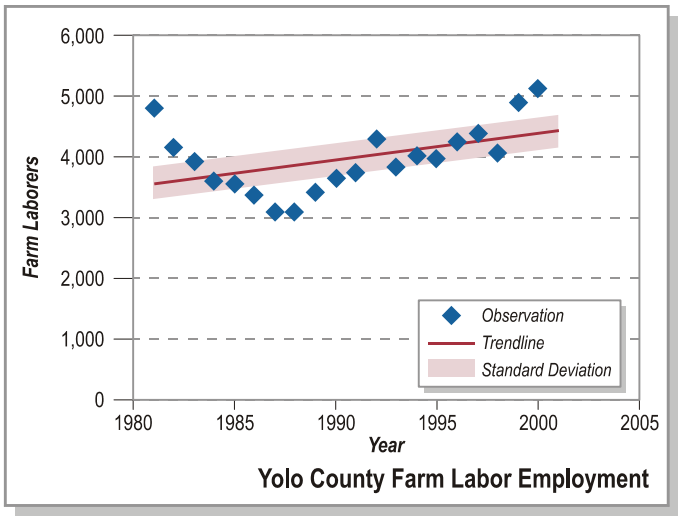


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Figure 12-7
Sutter County Farm Labor Trends

12.2.3.1.6 Yolo County

EWA acquisition of water through crop idling in Yolo County would decrease farmworker employment. Idling 4,770 acres would displace 13 full-time laborer equivalents. Analysis of data reveals Yolo County is experiencing increases in farm labor employment with annual seasonal and economic changes that result in variations of (standard deviations on the trend) 257 laborers (Figure 12-8). Crop idling in Yolo County would affect fewer laborers than historic fluctuations.



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Figure 12-8
Yolo County Farm Labor Trends

12.2.3.2 Export Service Area

Crop idling in the Export Service Area would occur in Kings, Tulare, Kern, and western Fresno Counties. Table 12-5 provides the maximum number of acres of cotton that is proposed for idling in these counties under 1995 through 1999 economic conditions. Refer to Chapter 11, Regional and Agricultural Economics, for further discussion on the development of these acreages. Consistent with 1999 University of California Cooperative Extension Crop Budgets, a weighted average of 6.6 full time job equivalents is required for every 1000 acres of cotton.

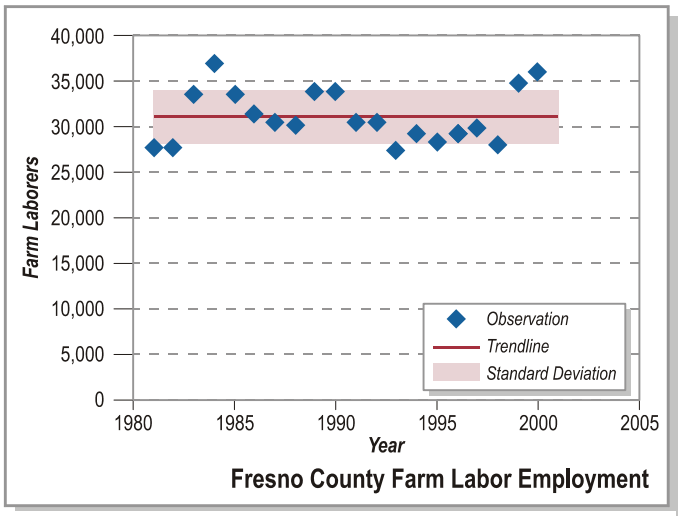
Table 12-5
Maximum Proposed Acreages for Cotton Idling for Flexible Purchase Alternative

	Total Acres of Cotton in County[1]	***Maximum Acreage Proposed for Idling in Dry Years***	***% of Total***
Fresno	352,880	70,500	20.0%
Kern	246,616	49,300	20.0%
Kings	222,543	44,500	20.0%
Tulare	92,680	18,500	20.0%

[1] The figures representing total cotton acres within the counties are based on a five-year average to take into account any recent land trends in rice production. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

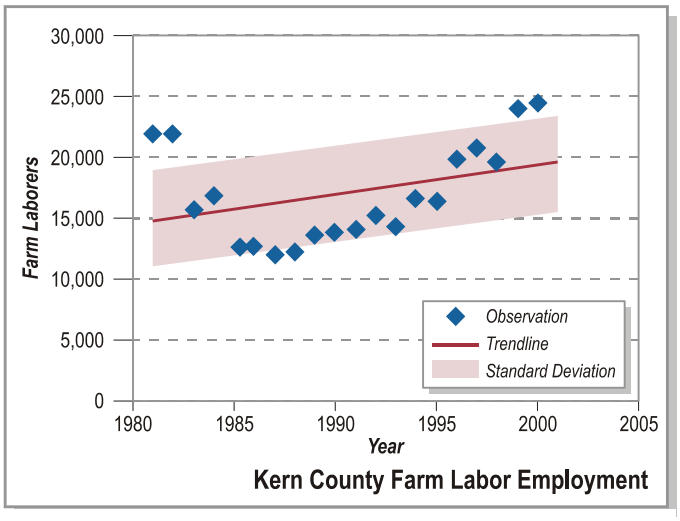
12.2.3.2.1 *Fresno County*

EWA acquisition of water through crop idling in Fresno County would decrease farmworker employment. Idling 70,500 acres would displace 465 full-time laborer equivalents. Analysis of farm labor data reveals Fresno's farm labor employment is neither increasing nor decreasing (Figure 12-9). Baseline farm employment fluctuates annually by (standard deviation of the average) 2,933 laborers. Crop idling in Fresno County would affect fewer laborers than historic fluctuations.



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Figure 12-9
Fresno County Farm Labor Trends



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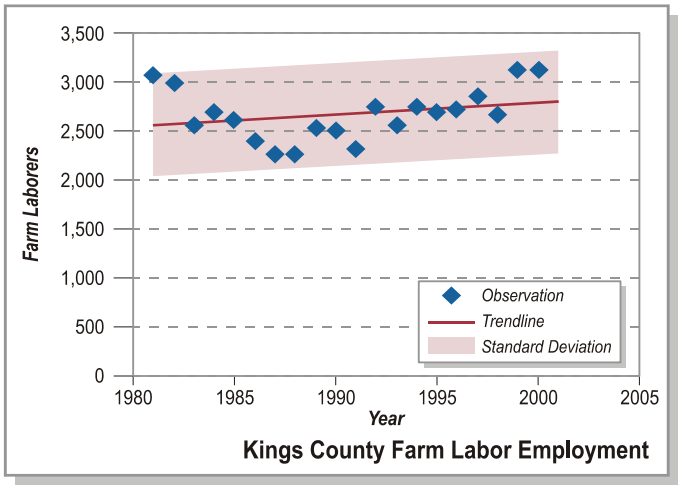
Figure 12-10
Kern County Farm Labor Employment

12.2.3.2.2 *Kern County*

EWA acquisition of water through crop idling in Kern County would decrease farmworker employment. Idling 49,300 acres would displace 325 full-time laborer equivalents. Analysis of farm labor data reveals increases in farm labor employment in Kern County (Figure 12-10). Baseline farm employment fluctuates annually by (standard deviation of the trend) 1,445 laborers. Crop idling in Kern County would affect fewer laborers than historic fluctuations.

12.2.3.2.3 *Kings County*

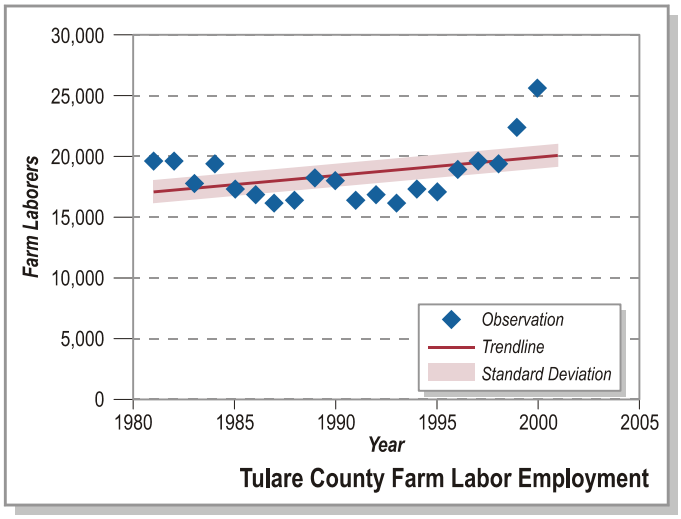
EWA acquisition of water through crop idling in Kings County would decrease farmworker employment. Idling 44,500 acres would displace 294 full-time laborer equivalents. Analysis of farm labor data reveals farm labor employment in Kings County is neither increasing nor decreasing (Figure 12-11). Baseline farm employment fluctuates annually by 530 laborers (standard deviation of the



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Figure 12-11
Kings County Farm Labor Trends

trend). Crop idling in Kings County would affect fewer laborers than historic fluctuations.



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Figure 12-12
Tulare County Farm Labor Trends

12.2.3.2.4 Tulare County

EWA acquisition of water through crop idling in Tulare County would decrease farmworker employment. Idling 18,500 acres would displace 122 full-time laborer equivalents. Analysis shows farm labor employment in Tulare County is increasing with seasonal variations of (standard deviation of trend) 922 laborers (Figure 12-12). Crop idling in Tulare County would affect fewer laborers than historic fluctuations.

EWA crop idling effects on farm labor do not exceed historic farm labor employment fluctuations in any county in the Upstream from the Delta Region or Export Service Area. Because crop idling does not exceed normal fluctuations induced by seasonal or economic changes, current components of community stability would not be disrupted by crop idling.

12.2.4 Environmental Consequences/Environmental Impacts of Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet in the Upstream from the Delta Region, and 150,000 acre-feet in the Export Service Area. While the amounts in each region are fixed, the acquisition types and sources could vary. To allow the EWA Project Agencies maximum flexibility when negotiating purchases with willing sellers, this section analyzes the effect of maximum crop idling in all regions in the same year. In all instances, water transfer requirements for the Fixed Purchase Alternative impose correspondingly fewer effects on labor in Butte, Colusa, Glenn, Sutter, and Fresno Counties. In Placer, Yolo, Kern, Kings, and Tulare counties, the effects remain the same (Table 12-6).

EWA agencies would like the ability to extend annual crop idling contracts for the Fixed Purchase Alternative. Consistent with the project description, multi-year contracts would not result in idling more than 20 percent of available rice or cotton acreage in a county or region. These stipulations would maintain the current economic and social conditions.

Table 12-6 describes proposed acreages for rice and cotton idling under the Fixed Alternative; effects are all less than normal historic fluctuations. Future projects that

would occur during No Project conditions would add to loss of farm laborer jobs, particularly in Fresno and Kings counties. (See Chapter 22, Cumulative Effects.)

Table 12-6
Proposed Acreage for Rice Idling for Fixed Purchase Alternative

Region	*County*	*Total Acres of Rice/ Cotton in County*[1]	*Maximum Acreage Proposed for Idling in Dry Years*	*Percent of Total Rice/ Cotton Acres to be Idled*	*Maximum Number of Jobs Lost*
Upstream from the Delta Region	Butte	95,120	10,600	11.1%	29
	Colusa	132,338	15,000	11.3%	41
	Glenn	83,777	15,000	17.9%	41
	Placer	16,379	3,280	20.0%	9
	Sutter	96,722	10,600	10.9%	29
	Yolo	23,822	4,770	20.0%	13
Export Service Area	Fresno	352,880	65,000	18.4%	429
	Kern	246,616	49,300	20.0%	325
	Kings	222,543	44,500	20.0%	294
	Tulare	92,680	18,500	20.0%	122

(1) The figures representing total acres within the counties are based on a five-year average to take into account any recent land trends. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

12.2.5 Comparative Analysis of Alternatives

12.2.5.1 Upstream from the Delta

The Flexible Purchase Alternative analyzed the effects of the "worst-case scenario" produced by idling the maximum allowable crop acreage in a single year. This approach ensures consideration of the full scope of maximum effects, while it provides the EWA Project Agencies flexibility when annually choosing acquisition options. Because of the variety of acquisition options, EWA Project Agencies would not rely solely on crop idling for maximum water purchases. This section provides information about how EWA would more likely operate in different year types.

Under the No Action/No Project Alternative, farm labor is generally increasing in the Upstream from the Delta counties of Colusa, Yolo, Butte, and Sutter. Urbanization in Placer County is resulting in a declining trend in farm labor employment levels. These trends are expected to continue during wet and dry years under No Action/No Project conditions.

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. In most years, this amount could be obtained from stored reservoir water purchases. In those years when surface water assets were not available (in part or in total), the EWA agencies would acquire water first from groundwater substitution and/or groundwater purchase, followed by crop idling. Because of other readily available water acquisition options in the Upstream from the Delta Region, it is unlikely that crop idling would take place under the Fixed Purchase Alternative.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources upstream from the Delta during dry years. EWA

agencies would prefer to purchase water from upstream sources because the water is generally less expensive. The amount that could be purchased would be limited by the excess capacity of the Delta export pumps to move the water to export areas south of the Delta. During wet years, excess pump capacity may be limited to as little as 50,000 acre-feet of EWA asset water because the pumps primarily would be used to export State and Federal Project water to Export Service Area users. During dry years, when there would be less Project water available for pumping (and therefore the pumps would have greater availability capacity), the EWA Project Agencies could acquire up to 600,000 acre-feet of water from all sources upstream from the Delta that could result in maximum crop idling.

The potential for agricultural social effects during wet years for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative. That is, during wet years, acquisitions would most likely be from stored water sources, and crop idling would not be exercised. However, as rainfall amounts for areas north of the Delta decrease, reflecting dry year conditions, the greater Delta export capacity could result in a heavier reliance on crop idling for EWA acquisitions. If the EWA Project Agencies were to acquire 600,000 acre-feet in the Upstream from the Delta Region, they would need to utilize the most available sources, which would include stored reservoir water, groundwater substitution, groundwater purchase, and crop idling. Crop idling in dry years would reflect the socioeconomic conditions described above produced by maximum crop idling.

12.2.5.2 Export Service Area

Under the No Action/No Project Alternative, farm labor is generally increasing in the Export Service Area counties of Fresno, Kern, and Tulare Counties, yet remains stable in Kings County. These trends are expected to continue during wet and dry years under No Action/No Project conditions.

EWA asset acquisitions in the Export Service Area under the Fixed Purchase Alternative would be limited to 150,000 acre-feet from stored groundwater and crop idling sources. The EWA agencies would purchase stored groundwater first, and then purchase water from crop idling if more is needed. Stored groundwater has finite availability, and 150,000 acre-feet would not likely be available in all years. In years with less stored groundwater availability, EWA agencies would turn to crop idling for the remaining water.

EWA asset acquisitions in the Export Service Area under the Flexible Purchase Alternative would be dependent on the water year type north of the Delta. Export pump capacity during wet years would limit the ability of the EWA Project Agencies to move assets through the Delta, increasing their reliance on purchases from Export Service Area sources. During wet years, acquisitions within the Export Service Area could involve up to 600,000 acre-feet of assets. Much of this water would be from crop idling; therefore, socioeconomic effects of the Flexible Purchase Alternative are likely to be greater than the Fixed Purchase Alternative.

Both the Fixed Purchase Alternative and Flexible Purchase Alternative would increase the water supply reliability from the Baseline Condition in the Export Service Area. Increased water supply reliability could result in a reduction of idled crops in dry years and increased crop idling during wet years (due to diminished Delta capacity). Extremes in farm labor employment levels could slightly diminish as a result of increasing the water supply reliability during dry years and increased crop idling during wet years.

Table 12-7 compares the percentages of the maximum number of jobs lost under the Fixed and Flexible Purchase Alternative crop idling scenarios. Job losses reflect maximum idling conditions in each county. The number of jobs affected under the Fixed Purchase Alternative is equal to or less than those produced by the Flexible Purchase Alternative. Table 12-8 compares the number of acres proposed for idling in each county and the number of jobs affected for each alternative.

EWA water acquisition effects on farm labor do not exceed historic farm labor employment fluctuations. Currently established unemployment programs within the State and county include, but are not limited to, MediCal, CalWORKS, food stamps, and regional occupational training programs that provide services for displaced workers. These established programs address individually displaced farmworkers' needs and serve to buffer most, but not all, of the direct effects of economic, seasonal, and hydrologic changes that contribute to changing employment levels. Services that cover medical insurance and living expenses are lacking.

Table 12-7
Maximum Number of Jobs Lost to Crop Idling Under Fixed Purchase and Flexible Purchase Alternative

Region	*County*	*Total Farm Employment*[1]	*Maximum Number of Farmworker Jobs Lost by Fixed Purchase Alternative*	*Percent of Total Farm Employment Affected Under Fixed Purchase Alternative*	*Maximum Number of Farmworker Jobs Lost by Flexible Purchase Alternative*	*Percent of Total Farm Employment Affected Under Flexible Purchase Alternative*
Upstream from the Delta Region	Butte	3,496	28	0.8%	51	1.5%
	Colusa	2,633	41	1.6%	71	2.7%
	Glenn	2,062	41	2.0%	45	2.2%
	Placer	1,032	9	0.9%	9	0.9%
	Sutter	3,937	29	0.7%	52	1.3%
	Yolo	3,576	13	0.4%	13	0.4%
	Total	16,736	161	1.0%	241	1.4%
Export Service Area	Fresno	25,161	429	1.7%	465	1.8%
	Kern	17,126	325	1.9%	325	1.9%
	Kings	4,361	294	6.7%	294	6.7%
	Tulare	17,982	122	0.7%	122	0.7%
	Total	64,630	1170	1.8%	1206	1.9%

(1) 1999 REIS county farm employment includes hired workers that include bookkeepers, secretaries, and mechanics. Philip Martin, Ph.D., UCD, nationally recognized local expert on farm labor issues, states as a general "rule of thumb" that 25-40 percent of people reported by agricultural employers do not work directly on the farm. Therefore, the farmworker column represents 70 percent of REIS farm employment.

Table 12-8
Comparison of Maximum Effects for Flexible and Fixed Purchase Alternatives on Agricultural Social Issues

Region		Asset Acquisition or Management	Result	Impacts	Flexible Alternative Change	Fixed Alternative Change
Upstream from the Delta Region	Butte	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in Butte County	Idle 19,000 acres of rice resulting in 51 lost farm laborer jobs	Idle 10,600 acres resulting in 29 lost farm laborer jobs
	Colusa	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in Colusa County	Idle 26,460 acres of rice resulting in 71 lost farm laborer jobs	Idle 15,000 acres of rice resulting in 41 lost farm laborer jobs
	Glenn	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in Glenn County	Idle 16,750 acres of rice resulting in 45 lost farm laborer jobs	Idle 15,000 acres of rice resulting in 41 lost farm laborer jobs
	Placer	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in Placer County	Idle 3,280 acres of rice resulting in 9 lost farm laborer jobs	Idle 3,280 acres of rice resulting in 9 lost farm laborer jobs
	Sutter	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in Sutter County	Idle 19,340 acres of rice resulting in 52 lost farm laborer jobs	Idle 10,600 acres resulting in 29 lost farm laborer jobs
	Yolo	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in Yolo County	Idle 4,770 acres of rice resulting in 13 lost farm laborer jobs	Idle 4,770 acres of rice resulting in 13 lost farm laborer jobs
Export Service Area	Fresno	Crop Idling	Temporary conversion of cotton crops to bare fields	Reduce cotton crop acreage in Fresno County	Idle 70,500 acres of cotton resulting in 465 lost farm laborer jobs	Idle 65,000 acres of cotton resulting in 429 lost farm laborer jobs
	Kern	Crop Idling	Temporary conversion of cotton crops to bare fields	Reduce cotton crop acreage in Kern County	Idle 49,300 acres of cotton resulting in 325 lost farm laborer jobs	Idle 49,300 acres of cotton resulting in 325 lost farm laborers
	Kings	Crop Idling	Temporary conversion of cotton crops to bare fields	Reduce cotton crop acreage in Kings County	Idle 44,500 acres of cotton resulting in 294 lost farm laborer jobs	Idle 44,500 acres of cotton resulting in 294 lost farm laborer jobs
	Tulare	Crop Idling	Temporary conversion of cotton crops to bare fields	Reduce cotton crop acreage in Tulare County	Idle 18,500 acres of cotton resulting in 122 lost farm laborer jobs	Idle 18,500 acres of cotton resulting in 122 lost farm laborer jobs

12.2.6 Cumulative Effects

Water acquisition programs considered for cumulative analysis include: 1) Sacramento Valley Water Management Agreement, 2) Dry Year Purchase Program, 3) Drought Risk Reduction Investment Program (DRRIP), 4) Central Valley Project Improvement Act (CVPIA) Water Acquisition Program (WAP), 5) Environmental Water Program, and the 6) CALFED Ecosystem Restoration Program (ERP). Chapter 22 presents details on each of these programs. Potential effects of these programs are described below. Of additional consideration are future crop idling programs such as the Westland Global Land Settlement Program and programs that arise in response to a reduction of Colorado River water.

Of the above mentioned water acquisition programs, those that can be eliminated from further analysis are those that do not use crop idling and those that will combine into a single program. At this time the Sacramento Valley Water Management Agreement does not include water acquisition via crop idling and are subsequently eliminated from further agricultural social issue analysis. In October 2004, with completion of a programmatic document, the Dry Year Purchase Program will be combined into the DRRIP (Jones 2002). Though the full scope is yet undetermined, it is possible that water acquisition via crop idling in the Export Service Area is entirely possible (Jones 2002). The Dry Year Purchase Program and DRRIP will be analyzed as one crop-idling acquisition program.

Cumulative effects would apply to those water acquisition programs purchasing water via crop idling in the Upstream from the Delta Region during dry years and in the Export Service Area. Crop idling would most likely occur in the Upstream from the Delta Region during dry years because capacity through the Delta increases. The programs that would exercise similar options are the CVPIA WAP, the EWP, the ERP, and DRRIP. CVPIA (WAP) purchases water from willing sellers given sufficient quantities are available (Jewel 2002). Water transfers through the Delta for the CVPIA (WAP) and DRRIP generally take priority over EWA, which reduce the potential for EWA crop idling. CALFED agencies developed the EWP to carry out flow-related goals of the ERP. The EWP on behalf of the ERP could purchase agricultural land in the Upstream from the Delta Region for habitat restoration and reduce the demand for farm labor.

Careful attention should be given to future projects underway in Kings and Fresno Counties. Although details are still under negotiation and the final outcome is unclear, Westland Water District is planning to permanently idle up to 200,000 acres of drainage-impaired land. Once details of Westland's proposed Global Land Settlement Program become available, it is assumed that there will be a transition period requiring coordination between water acquisition programs and farm labor before crop idling can occur. EWA agencies would maintain close contact with these counties to identify potential effects.

EWA agencies would avoid cumulative effects to farmworkers subsequent to these programs by conducting annual investigations of crop idling conditions in each county and water district before initiating further crop idling discussion. During such investigations the EWA agencies would consider other reasonably, foreseeable transfers by all water transfer programs when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the rice land in a county, where this 20 percent would include the other, reasonably foreseeable transfers. Information regarding the amount of idled crop acreage should come from DWR Land Use Surveys, the USDA, and county crop reports. Local Farm Bureaus, UCCE offices, Agricultural Commissioners Offices, or other crop specific authorities could verify the information. With careful coordination, data collection, and verification efforts, crop idling for the EWA would not cumulatively contribute adverse conditions on farm labor.

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Chapter 13
Agricultural Land Use

Converting farmland into homes and other urban uses is a public issue in most agricultural regions experiencing rapid urbanization. California's multi-billion dollar agricultural industry depends on a large supply of fertile farmland for both crop and animal production. California's growing population necessitates further development of land, threatening open space and agricultural lands. This elevating conflict has led to the development of several state and federal programs aimed towards protecting farmland. Crop idling would be the only EWA action that would directly affect land use in California. Implementation of the EWA would not interfere with any of the existing land protection programs, nor would it permanently alter current land use plans in the area of analysis.

13.1 Affected Environment/Existing Conditions

EWA water acquisitions from crop idling could alter agricultural land use conditions. This section discusses numerous State and Federal programs designed to protect agricultural and open space land. This section also describes the existing land use conditions and presents data on recent land use conversions in the counties potentially affect by EWA crop idling actions. Counties selected for inclusion in the areas of potential idling contain extensive rice or cotton acreage and have irrigation districts that have indicated a willingness to participate in the EWA Program.

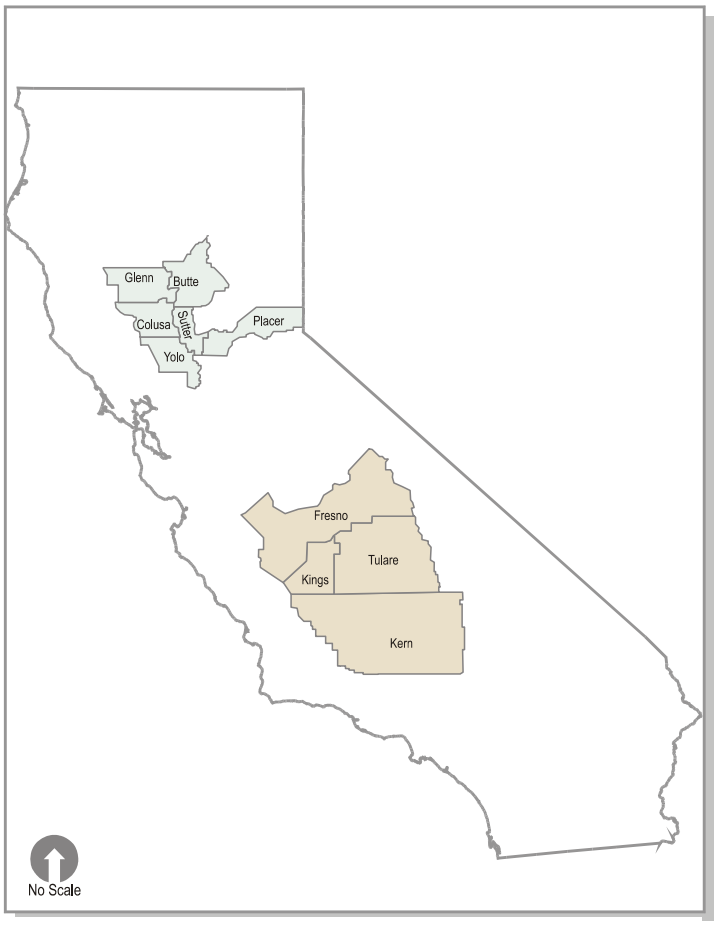


Figure 13-1
Agricultural Land Use Area of Analysis

13.1.1 Area of Analysis

This chapter divides California into two regions: the Upstream from the Delta Region and the Export Service Area. As noted above, the EWA agencies are considering rice idling in the upstream from the Delta counties of Butte, Colusa, Glenn, Placer, Yolo, and Sutter and cotton idling in the Export Service Area counties of Fresno, Kern, Kings, and Tulare. The boundaries of each county in each region define the Upstream from the Delta Region and the Export Service Area (Figure 13-1).

13.1.2 Land Resource Protection Programs

The following sections describe programs that exist to promote the preservation of open space and agricultural lands and wildlife habitat in the State.

13.1.2.1 Williamson Act

The California Land Conservation Act, better known as the Williamson Act, has been the State's premier agricultural land protection program since its enactment in 1965. The California Legislature passed the Williamson Act in 1965 to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The act creates an arrangement whereby private landowners contract with counties and cities to voluntarily restrict their land to agricultural and compatible open space uses. The vehicle for these agreements is a rolling term, 10-year contract (unless either party files a "notice of nonrenewal," the contract is automatically renewed for an additional year). In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather then potential market value. The Williamson Act also establishes a Farmland Security Zone, which introduces a 20-year contract between a private landowner and a county that restricts land to agricultural or open space uses.[1]

Table 13-1 displays farm acreage by county enrolled in the Williamson Act and Farmland Security Zone program in 2001.

Table 13-1
2001 Williamson Act and Farmland Security Zone Enrolled Acreages

	Land Conservation Act		*Farmland Security Zone*				*Other Enforceable Restriction Enrollment*	
			Urban		*Non-Urban*			
County	*Prime*	*Nonprime*	*Prime*	*Nonprime*	*Prime*	*Nonprime*		*Total*
Butte	109,579	101,667	-	-	-	-	-	211,245
Colusa	77,329	195,684	5,730	323	23,387	1,189	-	303,642
Glenn	64,575	266,345	8,977	1,260	51,381	1,608	-	394,147
Placer	16,351	28,395	-	-	-	-	-	44,745
Sutter	6,802	-	-	-	-	-	-	6,802
Yolo	253,165	185,261	-	-	-	-	61	438,486
Fresno	1,080,671	487,075	-	-	1,386	-	-	1,569,133
Kern	823,687	810,965	13,014	-	72,197	-	-	1,719,863
Kings	336,796	119,201	28,194	227	210,444	3,750	-	698,612
Tulare	594,218	511,697	8,348	-	-	-	686	1,114,948

Source: Division of Land Resource Protection 2002

[1] A farmland security zone is essentially an area created within an agricultural preserve by a board of supervisors (board) upon request by a landowner or group of landowners. An agricultural preserve defines the boundary of an area within which a city or county will enter into Williamson Act contracts with landowners. The boundary is designated by resolution of the board or city council having jurisdiction. Agricultural preserves must generally be at least 100 acres in size.

13.1.2.2 California Farmland Conservancy Program

The State California Farmland Conservancy Program (CFCP) is a voluntary program that seeks to encourage the long-term, private stewardship of agricultural lands through the use of agricultural conservation easements. The CFCP provides grant funding for projects that use and support agricultural conservation easements for protection of agricultural lands. An agricultural conservation easement is a voluntary, legally recorded deed restriction that is placed on a specific property used for agricultural production. The goal of an agricultural conservation easement is to maintain agricultural land in active production by removing the development pressures from the land. Such an easement prohibits practices that would damage or interfere with the agricultural use of the land. Because the easement is a restriction on the deed of the property, the easement remains in effect even when the land changes ownership.

13.1.2.3 Conservation Reserve Program

The Conservation Reserve Program (CRP) is a Federal program administered by the Farm Services Agency. The CRP is a voluntary program that offers annual rental payments, incentive payments, and annual maintenance payments for certain activities, and cost-share assistance to establish approved cover on eligible cropland. To be eligible for placement in the CRP, land must be (1) cropland that is planted or considered planted to an agricultural commodity 2 of the 5 most recent crop years (including field margins) and that is physically and legally capable of being planted in a normal manner to an agricultural commodity or (2) marginal pastureland that is either enrolled in the Water Bank Program or suitable for use as a riparian buffer to be planted to trees.

13.1.2.4 Wetlands Reserve Program

The Wetlands Reserve Program (WRP) is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property. The USDA Natural Resources Conservation Service (NRCS) provides technical and financial support to help landowners with their wetland restoration. The NRCS goal is to achieve the greatest wetland functions and values, along with optimum wildlife habitat, on every acre enrolled in the program. This program offers landowners an opportunity to establish long-term conservation and wildlife practices and protection. In California, the WRP has focused on the restoration of a variety of wetland types throughout the state, including seasonal wetlands, semi-permanent marsh, vernal pools along the perimeter of the Central Valley, riparian corridors, and tidally influenced wetlands.

13.1.2.5 CALFED Ecosystem Restoration Program

The goal of the CALFED Ecosystem Restoration Program (ERP) is to improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta system to support sustainable populations of diverse and valuable plant and animal species. The premise of the program is to improve the ecosystem health to

reduce the conflict between environmental water use and other beneficial uses and allow more flexibility in water management decisions.

Actions of the ERP include restoring habitat in the Delta, San Pablo Bay, Suisun Marsh, and Yolo Bypass. The program is also intended to establish wildlife-friendly agricultural lands. Through these objectives, the ERP may result in agricultural land being taken out of production.

13.1.2.6 Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 and produces maps and statistical data used for analyzing effects on California's agricultural resources. The maps are updated every 2 years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. The FMMP rates agricultural land according to soil quality and irrigation status and denotes the best quality land Prime Farmland. FMMP characterizes land use into the following categories:

- **Prime Farmland[2] –** Land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.

- **Farmland of Statewide Importance –** Land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.

- **Unique Farmland –** Lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the two update cycles prior to the mapping date.

- **Farmland of Local Importance –** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

- **Grazing Land –** Land on which the existing vegetation is suited to the grazing of livestock.

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[2] The term 'Prime' as it refers to rating for agricultural uses has two meanings in California. FMMP determines the location and extent of 'Prime Farmland' as described above; while under the state's Williamson Act, land may be enrolled under the 'Prime Land' designation if it meets certain economic or production criteria. See Section 11.1.4 for specific definition.

- **Urban and Built-Up Land –** Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to one 10-acre parcel.

- **Other Land –** Land that does not meet the criteria of any other category.

- **Water –** Water areas with an extent of at least 40 acres.

Interim Farmland Mapping Categories[3]

- **Irrigated Farmland** - Cropped land with a developed irrigation water supply that is dependable and of adequate quality. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Nonirrigated Farmland** - Land on which agricultural commodities are produced on a continuing or cyclic basis using stored soil moisture.

13.1.3 Upstream from the Delta

The following data were taken directly from the Department of Conservation FMMP 2002. The data inventories acreages of land in each of the above land use categories in 1998 and 2000. Each county has an individual definition for the category Farmland of Local Importance that is set by the county's local advisory committee and adopted by the board of supervisors. Definitions are indicated below.

13.1.3.1 Butte County

In 2000, Butte County had a population of 203,100. Projections forecast that by the year 2020, Butte County's total population will reach 308,900 people (EDD 2002). Although agriculture remains a mainstay of Butte County's economy, farmland is increasingly being converted to urban uses and a significant amount of farmland is being restored to natural uses. In 2000, of the 917,909 acres mapped in Butte County, 522,297 acres were in agricultural use, 40,185 acres were urbanized, 21,643 acres were water and 333,784 acres were "other." (FMMP 2002) Table 13-2 summarizes further land use classifications and net changes in categories from 1998 to 2000. Land use data for Butte County are in the interim stages because recent soil survey information is unavailable. Table 13-3 specifies land use conversions from one category to another.

[3] For farmed areas lacking modern soil survey information and for which there is expressed local concern on the status of farmland, Irrigated and Nonirrigated Farmland substitute for the categories of important farmland Only Butte and Kern counties continue to have Interim Farmland data.

Table 13-2
Butte County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage Changed	Net Acreage Changed
Land Use Category	1998	2000	(-)	(+)		
Irrigated Farmland	255,099	249,414	9,000	3,315	12,315	-5,685
Nonirrigated Farmland	9,372	7,901	1,664	193	1,857	-1,471
Interim Farmland Subtotal	264,471	257,315	10,664	3,508	14,172	-7,156
Grazing Land	264,778	264,982	3,090	3,294	6,384	204
Agricultural Land Subtotal	529,249	522,297	13,754	6,802	20,556	-6,952
Urban and Built-Up Land	39,243	40,185	1,147	2,089	3,236	942
Other Land	327,774	333,784	2,029	8,039	10,068	6,010
Water Area	21,643	21,643	0	0	0	0
Total Area Inventoried	917,909	917,909	16,930	16,930	33,860	0

Table 13-3
Land Use Conversion from 1998 to 2000, Butte County

From Land Use Category		To Irrigated Farmland	To Nonirrigated Farmland	Subtotal To Interim Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Irrigated Farmland [1]	to:	--	157	157	1,940	2,097	817	6,086	0	9,000
Nonirrigated Farmland	to:	208	--	208	643	851	2	811	0	1,664
Interim Farmland Subtotal		208	157	365	2,583	2,948	819	6,897	0	10,664
Grazing Land [2]	to:	1,642	15	1,657	--	1,657	604	829	0	3,090
Agricultural Land Subtotal		1,850	172	2,022	2,583	4,605	1,423	7,726	0	13,754
Urban and Built-Up Land [3]	to:	407	6	413	421	834	--	313	0	1,147
Other Land [2]	to:	1,058	15	1,073	290	1,363	666	--	0	2,029
Water Area	to:	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	3,315	193	3,508	3,294	6,802	2,089	8,039	0	16,930

(1) Conversion to Grazing Land and Other Land due to land left idle for three or more update cycles, newly identified ranchettes throughout the county, and expansion of the Llano Seco Rancho, Sacramento River and Upper Butte Basin Wildlife Areas.
(2) Conversion to Irrigated Farmland due to new orchards, rice fields, and irrigated pasture primarily in the western portion of the county.
(3) Conversions from Urban and Built-Up Land are primarily the result of refinements made to the urban boundary.

13.1.3.2 Colusa County

In 2000, Colusa County had a population of 18,800. Projections forecast that by the year 2020, Colusa County's total population will reach 39,200 (EDD 2002). In 2000, of the 740,392 acres mapped in Colusa County, 573,420 were in agricultural use, 4,257 acres were urbanized, 1,838 acres were water and 160,877 acres were "other." (FMMP 2002) Table 13-4 summarizes further land use classifications and net changes in land use categories. In Colusa County, Farmland of Local Importance includes all farmable lands with the county that do not meet the definitions of Prime, Statewide, or Unique, but are currently irrigated pasture or nonirrigated crops. The classification also includes nonirrigated land with soils qualifying for Prime farmland or Farmland of Statewide Importance and lands that would have Prime or Statewide designation and

have been improved for irrigation but are now idle. Table 13-5 specifies land use conversions from one category to another.

Table 13-4
Colusa County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage Changed	Net Acreage Changed
Land Use Category	1998	2000	(-)	(+)		
Prime Farmland	201,910	202,232	2,116	2,438	4,554	322
Farmland of Statewide Importance	1,746	1,811	30	95	125	65
Unique Farmland	125,083	125,497	2,861	3,275	6,136	414
Farmland of Local Importance	239,966	236,354	4,318	706	5,024	-3,612
Important Farmland Subtotal	568,705	565,894	9,325	6,514	15,839	-2,811
Grazing Land	7,684	7,526	164	6	170	-158
Agricultural Land Subtotal	576,389	573,420	9,489	6,520	16,009	-2,969
Urban and Built-Up Land	4,293	4,257	433	397	830	-36
Other Land	157,872	160,877	1,772	4,777	6,549	3,005
Water Area	1,838	1,838	0	0	0	0
Total Area Inventoried [1]	740,392	740,392	11,694	11,694	23,388	0

[1] Total area inventoried represents information for the new Colusa County soil survey area. Prior reports classified farmland use in Colusa County with the Interim mapping categories of Irrigated and Nonirrigated.

Table 13-5
Land Use Conversion from 1998 to 2000, Colusa County

From Land Use Category		To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland [1]	to:	--	0	3	507	510	0	510	229	1,377	0	2,116
Farmland of Statewide Importance	to:	0	--	0	28	28	0	28	0	2	0	30
Unique Farmland [1]	to:	3	0	--	110	113	6	119	30	2,712	0	2,861
Farmland of Local Importance [2]	to:	1,816	95	2,032	--	3,943	0	3,943	57	318	0	4,318
Important Farmland Subtotal		1,819	95	2,035	645	4,594	6	4,600	316	4,409	0	9,325
Grazing Land	to:	0	0	5	0	5	--	5	28	131	0	164
Agricultural Land Subtotal		1,819	95	2,040	645	4,599	6	4,605	344	4,540	0	9,489
Urban and Built-Up Land [3]	to:	148	0	26	22	196	0	196	--	237	0	433
Other Land [2]	to:	471	0	1,209	39	1,719	0	1,719	53	--	0	1,772
Water Area	to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	2,438	95	3,275	706	6,514	6	6,520	397	4,777	0	11,694

[1] Conversion to Other Land primarily due to boundary adjustments and identification of areas of native vegetation and wetlands throughout the County.
[2] Conversion to Prime Farmland and Unique Farmland due to new irrigated agriculture, primarily orchards, in the central portion of the county.
[3] Conversions from Urban and Built-Up Land primarily the result of refinements made to the urban boundary.

13.1.3.3 Glenn County

In 2000, Glenn County had a population of 26,400. Projections forecast that by the year 2020 Glenn County's total population will reach 46,500 people (EDD 2002). In 2000, of the 849,127 acres mapped in Glenn County, 583,974 were in agricultural use, 5,609

acres were urbanized, 5,759 acres were water, and 253,678 acres were "other." (FMMP 2002) Table 13-6 summarizes further land use classifications and net changes from 1998 to 2000. In Glenn County, Farmland of Local Importance includes all lands not qualifying for Prime, Statewide, or Unique farmland that are cropped on a continuing or cyclic basis (irrigation is not a consideration). The classification also includes all cropable land within the Glenn County water district boundaries not qualifying for the Prime, Statewide, or Unique designations. Table 13-7 specifies land use conversions from one category to another.

Table 13-6
Glenn County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage	Net Acreage
Land Use Category	1998	2000	(-)	(+)	Changed	Changed
Prime Farmland	168,217	166,549	3,217	1,549	4,766	-1,668
Farmland of Statewide Importance	88,648	87,784	1,489	625	2,114	-864
Unique Farmland	11,073	11,605	774	1,306	2,080	532
Farmland of Local Importance	140,078	141,965	2,475	4,362	6,837	1,887
Important Farmland Subtotal	408,016	407,903	7,955	7,842	15,797	-113
Grazing Land	176,296	176,071	264	39	303	-225
Agricultural Land Subtotal	584,312	583,974	8,219	7,881	16,100	-338
Urban and Built-Up Land	5,378	5,609	178	409	587	231
Other Land	253,678	253,785	611	718	1,329	107
Water Area	5,759	5,759	0	0	0	0
Total Area Inventoried [1]	849,127	849,127	9,008	9,008	18,016	0

[1] Refinements made to the Sacramento River boundary may result in different acreage totals for Water and adjacent land use categories than those in the 1996-98 report.

Table 13-7
Land Use Conversion from 1998 to 2000, Glenn County

From Land Use Category		To Prime Farm-land	To Farmland of Statewide Importance	To Unique Farm-land	To Farm-land of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricul-tural Land	To Urban and Built-Up Land	T0 Other Land	To Water Area	Total Converted to Another Use
Prime Farmland [1] [2]	to:	--	23	193	2,459	2,675	6	2,681	137	399	0	3,217
Farmland of Statewide Importance	to:	16	--	18	1,215	1,249	0	1,249	21	219	0	1,489
Unique Farmland [1] [2]	to:	100	16	--	590	706	10	716	24	34	0	774
Farmland of Local Importance	to:	931	452	871	--	2,254	23	2,277	178	20	0	2,475
Important Farmland Subtotal		1,047	491	1,082	4,264	6,884	39	6,923	360	672	0	7,955
Grazing Land	to:	22	17	167	37	243	--	243	0	21	0	264
Agricultural Land Subtotal		1,069	508	1,249	4,301	7,127	39	7,166	360	693	0	8,219
Urban and Built-Up Land [3]	to:	98	24	21	10	153	0	153	--	25	0	178
Other Land	to:	382	93	36	51	562	0	562	49	--	0	611
Water Area	to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	1,549	625	1,306	4,362	7,842	39	7,881	409	718	0	9,008

[1] Conversions between Important Farmland categories primarily due to corrections made to soil unit identification throughout the county.
[2] Conversion to Farmland of Local Importance primarily due to land left idle for three update cycles.
[3] Conversion from Urban and Built-Up Land primarily due to refinements made to the urban boundary.

13.1.3.4 Placer County

In 2000, Placer County had a population of 248,400. Projections forecast that by the year 2020, Placer County's total population will reach 406,900 (EDD 2002). Since the FMMP began tracking changes in 1984, there has been a 78 percent increase in urbanized land in Placer County, as more than 18,000 acres of farmland and grazing land have been converted. The acceleration of growth in western Placer has placed the county among the top 10 urbanizing counties statewide in terms of acreage developed since 1994 (DOC 2002). In 2000, of the 411,531 acres mapped in Placer County, 180,342 were in agricultural use, 41,448 acres were urbanized, 5,026 acres were water and 184,585 acres were "other." (FMMP 2002) Table 13-8 summarizes further land use classifications and net changes in land use conversions from 1998 to 2000. In Placer County, Farmland of Local Importance is defined as farmlands not covered by the categories of Prime, Statewide or Unique. Farmland of Local Importance include lands zoned for agriculture by County Ordinance and the California Williamson Act, as well as dry farmed lands, irrigated pasture lands, and other agricultural lands of significant economic importance to the county. Lands that have the potential for irrigation from Placer County water supplies are also included in the Farmland of Local Importance designation. Table 13-9 specifies land use conversions from one category to another.

Table 13-8
Placer County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage	Net Acreage
Land Use Category	1998	2000	(-)	(+)	Changed	Changed
Prime Farmland	9,750	9,901	696	847	1,543	151
Farmland of Statewide Importance	5,195	5,312	769	886	1,655	117
Unique Farmland	22,727	23,616	1,679	2,568	4,247	889
Farmland of Local Importance	114,452	111,987	4,920	2,455	7,375	-2,465
Important Farmland Subtotal	152,124	150,816	8,064	6,756	14,820	-1,308
Grazing Land	31,695	29,656	3,996	1,957	5,953	-2,039
Agricultural Land Subtotal	183,819	180,472	12,060	8,713	20,773	-3,347
Urban and Built-Up Land	37,608	41,448	2,633	6,473	9,106	3,840
Other Land	185,057	184,585	3,163	2,691	5,854	-472
Water Area	5,047	5,026	69	48	117	-21
Total Area Inventoried	411,531	411,531	17,925	17,925	35,850	0

Table 13-9
Land Use Conversion from 1998 to 2000, Placer County

From Land Use Category		*To Prime Farm-land*	*To Farm-land of Statewide Importance*	*To Unique Farm-land*	*To Farmland Of Local Importance*	*Subtotal Important Farmland*	*To Grazing Land*	*Total Agricul-tural Land*	*To Urban and Built-Up Land*	*To Other Land*	*To Water Area*	*Total Converted to Another Use*
Prime Farmland [1]	to:	--	28	130	447	605	0	605	52	39	0	696
Farmland of Statewide Importance [1]	to:	72	--	213	162	447	48	495	4	270	0	769
Unique Farmland [1] [2]	to:	99	259	--	1,100	1,458	2	1,460	12	207	0	1,679
Farmland of Local Importance [3]	to:	560	337	1,965	--	2,862	205	3,067	1,253	600	0	4,920
Important Farmland Subtotal		731	624	2,308	1,709	5,372	255	5,627	1,321	1,116	0	8,064
Grazing Land	to:	0	31	8	181	220	--	220	3,387	376	13	3,996
Agricultural Land Subtotal		731	655	2,316	1,890	5,592	255	5,847	4,708	1,492	13	12,060
Urban and Built-Up Land [4]	to:	4	10	23	122	159	1,281	1,440	--	1,193	0	2,633
Other Land	to:	112	221	229	443	1,005	358	1,363	1,765	--	35	3,163
Water Area [5]	to:	0	0	0	0	0	63	63	0	6	--	69
Total Acreage Converted	to:	847	886	2,568	2,455	6,756	1,957	8,713	6,473	2,691	48	17,925

[1] Conversions between Important Farmland categories primarily due to corrections made to soil unit identification throughout the county.
[2] Conversion to Farmland of Local Importance primarily due to land left idle for three update cycles and refinements to agricultural boundaries.
[3] Conversion to Unique Farmland primarily due to new irrigated agriculture and refinements to agricultural boundaries.
[4] Conversion from Urban and Built-Up Land primarily the result of refinements made to the urban boundary around Roseville, Rocklin and Lincoln.
[5] Conversion to Grazing Land primarily due to refinements made to North Fork Lake and Rock Creek Lake.

13.1.3.5 Sutter County

In 2000, Sutter County had a population of 78,900. Projections forecast that by the year 2020 Sutter County's total population will reach 115,600 people (EDD 2002). Since 1990, 9,333 acres of farmland have gone out of production in Sutter County, and 2,354 acres of new urban land have been created (DOC 2002). In 2000, of the 389,439 acres mapped in Sutter County, 352,187 were in agricultural use, 11,360 acres were urbanized, 1,848 acres were water, and 24,044 acres were "other." (FMMP 2002) Table 13-10 summarizes further land use classifications and net changes from 1998 to 2000. In Sutter County, the Board of Supervisors determined there would be no Farmland of Local Importance designation. Table 13-11 specifies land use conversions from one category to another.

Table 13-10
Sutter County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage	Net Acreage
Land Use Category	1998	2000	(-)	(+)	Changed	Changed
Prime Farmland	170,253	169,782	2,159	1,688	3,847	-471
Farmland of Statewide Importance	113,680	111,296	2,956	572	3,528	-2,384
Unique Farmland	22,234	20,213	2,376	355	2,731	-2,021
Farmland of Local Importance	0	0	0	0	0	0
Important Farmland Subtotal	306,167	301,291	7,491	2,615	10,106	-4,876
Grazing Land	49,753	50,896	2,229	3,372	5,601	1,143
Agricultural Land Subtotal	355,920	352,187	9,720	5,987	15,707	-3,733
Urban and Built-Up Land	10,668	11,360	226	918	1,144	692
Other Land	21,003	24,044	538	3,579	4,117	3,041
Water Area	1,848	1,848	0	0	0	0
Total Area Inventoried	389,439	389,439	10,484	10,484	20,968	0

Table 13-11
Land Use Conversion from 1998 to 2000, Sutter County

From Land Use Category		To Prime Farm-land	To Farmland of Statewide Importance	To Unique Farm-land	To Farm-land of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricul-tural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland	to:	--	43	21	0	64	901	965	235	959	0	2,159
Farmland of Statewide Importance [1]	to:	39	--	6	0	45	1,707	1,752	312	892	0	2,956
Unique Farmland [2] [3]	to:	222	0	--	0	222	602	824	0	1,552	0	2,376
Farmland of Local Importance	to:	0	0	0	--	0	0	0	0	0	0	0
Important Farmland Subtotal		261	43	27	0	331	3,210	3,541	547	3,403	0	7,491
Grazing Land	to:	1,228	349	232	0	1,809	--	1,809	253	167	0	2,229
Agricultural Land Subtotal		1,489	392	259	0	2,140	3,210	5,350	800	3,570	0	9,720
Urban and Built-Up Land [4]	to:	56	50	0	0	106	111	217	--	9	0	226
Other Land	to:	143	130	96	0	369	51	420	118	--	0	538
Water Area	to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	1,688	572	355	0	2,615	3,372	5,987	918	3,579	0	10,484

[1] Refinements made to the Feather River boundary may result in different acreage totals for Water and adjacent land use categories than those in the 1996-98 report.
[2] Conversion to Grazing Land primarily due to land left idle for three or more update cycles.
[3] Conversions between Prime Farmland and Unique Farmland primarily due to corrections made to soil unit identification on the Yuba City quadrangle.
[4] Conversion to Other Land primarily due to wetland areas, ranchettes and agricultural processing facilities identified throughout the county.
[5] Conversion to Prime Farmland primarily due to new orchards, irrigated pasture, and alfalfa near the Sutter Buttes and in the southeastern portion of the county.
[6] Conversion from Urban and Built-Up Land primarily due to urban line corrections and newly identified orchards.

13.1.3.6 Yolo County

In 2000, Yolo County had a population of 168,660. Forecasts show that by the year 2020 Yolo County's total population will reach 236,400 (EDD 2002). Yolo County's agricultural land will continue to face development pressure in the foreseeable future. Since 1990, 22,253 acres of farmland have gone out of production in Yolo County and 3,513 acres of new urban land have been created (DOC 2002). In 2000, of the 653,451 acres mapped in Yolo County, 553,536 were in agricultural use, 25,939 acres were urbanized, 7,399 acres were water, and 66,577 acres were "other." (FMMP 2002) Table 13-12 summarizes further land use classifications and net increases and reductions in categories from 1998 to 2000. In Yolo County, Farmland of Local Importance includes cultivated farmland having soils which meet the criteria for Prime or Statewide, except that the land is not presently irrigated, and other nonirrigated land. Table 13-13 specifies land use conversions from one category to another.

Table 13-12
Yolo County Land Use Summary and Change by Land Use Category

			1998-00 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage Changed	Net Acreage Changed
Land Use Category	1998	2000	(-)	(+)		
Prime Farmland	265,915	264,452	2,467	1,004	3,471	-1,463
Farmland of Statewide Importance	18,202	18,072	351	221	572	-130
Unique Farmland	55,243	54,390	1,390	537	1,927	-853
Farmland of Local Importance	74,303	71,927	3,835	1,459	5,294	-2,376
Important Farmland Subtotal	413,663	408,841	8,043	3,221	11,264	-4,822
Grazing Land	143,385	144,695	763	2,073	2,836	1,310
Agricultural Land Subtotal	557,048	553,536	8,806	5,294	14,100	-3,512
Urban and Built-Up Land	25,586	25,939	381	734	1,115	353
Other Land	63,446	66,577	624	3,755	4,379	3,131
Water Area	7,371	7,399	2	30	32	28
Total Area Inventoried	653,451	653,451	9,813	9,813	19,626	0

Table 13-13
Land Use Conversion from 1998 to 2000, Yolo County

From Land Use Category		To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland	to:	--	0	5	918	923	215	1,138	425	904	0	2,467
Farmland of Statewide Importance	to:	11	--	0	161	172	7	179	51	121	0	351
Unique Farmland [1]	to:	60	8	--	108	176	865	1,041	0	349	0	1,390
Farmland of Local Importance [2]	to:	612	165	313	--	1,090	617	1,707	186	1,942	0	3,835
Important Farmland Subtotal		683	173	318	1,187	2,361	1,704	4,065	662	3,316	0	8,043
Grazing Land	to:	45	27	205	83	360	--	360	29	344	30	763
Agricultural Land Subtotal		728	200	523	1,270	2,721	1,704	4,425	691	3,660	30	8,806
Urban and Built-Up Land [3]	to:	93	8	4	121	226	60	286	--	95	0	381
Other Land	to:	183	13	10	68	274	307	581	43	--	0	624
Water Area	to:	0	0	0	0	0	2	2	0	0	--	2
Total Acreage Converted	to:	1,004	221	537	1,459	3,221	2,073	5,294	734	3,755	30	9,813

[1] Conversion to Prime Farmland primarily due to a correction made to soil unit identification on the Rumsey quadrangle.
[2] Conversion to Other Land due to lands left idle for four or more update cycles, primarily adjacent to the Sacramento River deep water channel.
[3] Conversions from Urban and Built-Up Land primarily the result of the ability to obtain a more distinct urban boundary.

13.1.4 Export Service Area

The following data are taken from the Department of Conservation FMMP 2002.

13.1.4.1 Fresno County

In 2000, Fresno County had a population of 799,400. Forecasts show that by the year 2020 Fresno County's total population will be over 1.1 million (EDD 2002). In 2000, of the 1,123,197 acres mapped in Fresno County, 961,858 were in agricultural use, 97,002 acres were urbanized, 3,891 acres were water and 60,446 acres were "other." (FMMP 2002) Table 13-14 summarizes further land use classifications and net changes in land use categories. In Fresno County, Farmland of Local Importance includes all farmable lands within the county that do not meet the definitions of Prime, Statewide, or Unique. This includes land that is or has been used for irrigated pasture, dry land farming, confined livestock and dairy, poultry facilities, aquaculture, and grazing land. Table 13-15 specifies land use conversions from one category to another.

Table 13-14
Fresno County Land Use Summary and Change by Land Use Category

			1998-00 Acreage Changes			
	Total Acreage Inventoried		*Acres Lost*	*Acres Gained*	*Total Acreage*	*Net Acreage*
Land Use Category	*1998*	*2000*	*(-)*	*(+)*	*Changed*	*Changed*
Prime Farmland	367,196	363,758	3,649	211	3,860	-3,438
Farmland of Statewide Importance	141,046	139,546	1,905	405	2,310	-1,500
Unique Farmland	95,212	93,751	1,739	278	2,017	-1,461
Farmland of Local Importance	42,135	45,112	1,404	4,381	5,785	2,977
Important Farmland Subtotal	645,589	642,167	8,697	5,275	13,972	-3,422
Grazing Land	319,814	319,691	126	3	129	-123
Agricultural Land Subtotal	965,403	961,858	8,823	5,278	14,101	-3,545
Urban and Built-Up Land	93,309	97,002	16	3,709	3,725	3,693
Other Land	60,594	60,446	635	487	1,122	-148
Water Area	3,891	3,891	0	0	0	0
Total Area Inventoried	1,123,197	1,123,197	9,474	9,474	18,948	0

Table 13-15
Land Use Conversion from 1998 to 2000, Fresno County

From Land Use Category		*To Prime Farmland*	*To Farmland of Statewide Importance*	*To Unique Farmland*	*To Farmland of Local Importance*	*Subtotal Important Farmland*	*To Grazing Land*	*Total Agricultural Land*	*To Urban and Built-Up Land*	*To Other Land*	*To Water Area*	*Total Converted to Another Use*
Prime Farmland [2] [3]	to:	--	17	139	1,852	2,008	0	2,008	1,367	274	0	3,649
Farmland of Statewide Importance [3]	to:	28	--	29	1,393	1,450	0	1,450	369	86	0	1,905
Unique Farmland [2] [3]	to:	14	143	--	1,112	1,269	3	1,272	429	38	0	1,739
Farmland of Local Importance [2]	to:	113	228	62	--	403	0	403	937	64	0	1,404
Important Farmland Subtotal		155	388	230	4,357	5,130	3	5,133	3,102	462	0	8,697
Grazing Land	to:	40	17	34	4	95	--	95	6	25	0	126
Agricultural Land Subtotal		195	405	264	4,361	5,225	3	5,228	3,108	487	0	8,823
Urban and Built-Up Land	to:	9	0	5	2	16	0	16	--	0	0	16
Other Land	to:	7	0	9	18	34	0	34	601	--	0	635
Water Area	to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	211	405	278	4,381	5,275	3	5,278	3,709	487	0	9,474

(1) 1998 figures for Farmland of Local Importance, Other Land, and adjacent land use categories differ from those published in the 1996-98 report due to a revision of the Farmland of Local Importance definition to accommodate confined livestock and dairies, poultry facilities, and aquaculture.
(2) Conversions between Important Farmland categories primarily due to corrections made to soil unit identification throughout the county.
(3) Conversion to Farmland of Local Importance primarily due to land left idle for three or more update cycles, small feedlot expansions, and two newly identified fish farms.

13.1.4.2 Kern County

In 2000, Kern County had a population of 662,000. Forecasts show that by the year 2020, Kern County's total population will be almost 1.1 million (EDD 2002). Kern County's agricultural land will continue to face development pressure in the foreseeable future. In 2000, of the 2,550,619 acres mapped in Kern County, 1,595,146 were in agricultural use, 82,149 acres were urbanized, 973 acres were water, and 872,351 acres were "other." (FMMP 2002) Table 13-16 summarizes further land use classifications and net changes in land use categories. In Kern County, the Board of Supervisors determined that there would be no Farmland of Local Importance designation. Table 13-17 specifies land use conversions from one category to another.

Table 13-16
Kern County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage	Net Acreage
Land Use Category	1998	2000	(-)	(+)	Changed	Changed
Prime Farmland	537,043	531,205	12,458	6,620	19,078	-5,838
Farmland of Statewide Importance	112,258	109,622	4,117	1,481	5,598	-2,636
Unique Farmland	54,103	51,076	4,119	1,092	5,211	-3,027
Farmland of Local Importance	0	0	0	0	0	0
Important Farmland Subtotal	703,404	691,903	20,694	9,193	29,887	-11,501
Grazing Land	895,146	903,243	3,907	12,004	15,911	8,097
Agricultural Land Subtotal	1,598,550	1,595,146	24,601	21,197	45,798	-3,404
Urban and Built-Up Land	80,028	82,149	2,919	5,040	7,959	2,121
Other Land	871,068	872,351	9,300	10,583	19,883	1,283
Water Area	973	973	0	0	0	0
Total Area Inventoried	2,550,619	2,550,619	36,820	36,820	73,640	0

Table 13-17
Land Use Conversion from 1998 to 2000, Kern County

From Land Use Category		To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland [1]	to:	--	24	1	0	25	7,973	7,998	1,300	3,160	0	12,458
Farmland of Statewide Importance [1] [2]	to:	92	--	14	0	106	1,226	1,332	138	2,647	0	4,117
Unique Farmland [1] [2]	to:	1,248	0	--	0	1,248	1,635	2,883	0	1,236	0	4,119
Farmland of Local Importance	to:	0	0	0	--	0	0	0	0	0	0	0
Important Farmland Subtotal		1,340	24	15	0	1,379	10,834	12,213	1,438	7,043	0	20,694
Grazing Land [3] [4]	to:	1,217	176	427	0	1,820	--	1,820	487	1,600	0	3,907
Agricultural Land Subtotal		2,557	200	442	0	3,199	10,834	14,033	1,925	8,643	0	24,601
Urban and Built-Up Land [5]	to:	559	34	3	0	596	383	979	--	1,940	0	2,919
Other Land [6]	to:	3,504	1,247	647	0	5,398	787	6,185	3,115	--	0	9,300
Water Area	to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	6,620	1,481	1,092	0	9,193	12,004	21,197	5,040	10,583	0	36,820

[1] Conversion to Grazing Land and Other Land primarily due to land left idle for three update cycles and agricultural boundary adjustments. A portion of the Kern Water Bank accounted for ~3100 acres on the Tupman quadrangle.
[2] Conversions between Important Farmland categories due to corrections made to soil unit identification primarily on the Keene, Cummings Mountain and Tehachapi South quadrangles.
[3] Conversion to Prime Farmland due to new irrigated agriculture and agricultural boundary adjustments made throughout the county.
[4] Conversion to Other Land primarily due to oil field, mine and ranchette boundary adjustments made throughout the county.
[5] Conversions from Urban and Built-Up Land are primarily the result of the ability to obtain a more distinct urban boundary.
[6] Conversion to Prime Farmland and Farmland of Statewide Importance primarily due to newly irrigated agriculture in the Antelope Valley area and agricultural boundary adjustments made throughout the county.

13.1.4.3 Kings County

In 2000, Kings County had a population of 129,500 people. Forecasts show that by the year 2020 Kings County's total population will reach 198,700 (EDD 2002). In 2000, of the 890,786 acres mapped in Kings County, 845,802 were in agricultural use, 28,939 acres were urbanized, 66 acres were water, and 15,979 acres were "other." (FMMP 2002) Table 13-18 summarizes further land use classifications and net changes in land use categories. Kings County defines Farmland of Local Importance as land that supports the commercial activities of dairies, confined livestock, and poultry operations. Table 13-19 specifies land use conversions from one category to another.

Table 13-18
Kings County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage Changed	Net Acreage Changed
Land Use Category	1998	2000	(-)	(+)		
Prime Farmland	142,529	142,665	636	772	1,408	136
Farmland of Statewide Importance	429,172	433,245	2,091	6,164	8,255	4,073
Unique Farmland	24,494	24,740	278	524	802	246
Farmland of Local Importance	6,511	6,851	134	474	608	340
Important Farmland Subtotal	602,706	607,501	3,139	7,934	11,073	4,795
Grazing Land	244,175	238,301	6,787	913	7,700	-5,874
Agricultural Land Subtotal	846,881	845,802	9,926	8,847	18,773	-1,079
Urban and Built-Up Land	28,244	28,939	369	1,064	1,433	695
Other Land	15,595	15,979	150	534	684	384
Water Area	66	66	0	0	0	0
Total Area Inventoried	890,786	890,786	10,445	10,445	20,890	0

Table 13-19
Land Use Conversion from 1998 to 2000, Kings County

From Land Use Category		To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland [1]	to:	--	10	6	94	110	124	234	235	167	0	636
Farmland of Statewide Importance	to:	1	--	240	311	552	610	1,162	740	189	0	2,091
Unique Farmland	to:	21	17	--	22	60	166	226	17	35	0	278
Farmland of Local Importance	to:	31	48	0	--	79	12	91	0	43	0	134
Important Farmland Subtotal		53	75	246	427	801	912	1,713	992	434	0	3,139
Grazing Land [2]	to:	676	5,744	278	30	6,728	--	6,728	0	59	0	6,787
Agricultural Land Subtotal		729	5,819	524	457	7,529	912	8,441	992	493	0	9,926
Urban and Built-Up Land [3]	to:	0	325	0	2	327	1	328	--	41	0	369
Other Land	to:	43	20	0	15	78	0	78	72	--	0	150
Water Area	to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	772	6,164	524	474	7,934	913	8,847	1,064	534	0	10,445

[1] Conversion to Unique Farmland is due to a correction made to soil unit identification on the Westhaven quad near Lemoore NAS.
[2] Conversion to Farmland of Statewide Importance due to new irrigated agriculture, primarily alfalfa, identified on the Guernsey, Dudley Ridge, and Hacienda Ranch quads.
[3] Conversion to Farmland of Statewide Importance due to new irrigated agriculture found in two water control basins on the Stratford quad and refinements made to urban boundaries.

13.1.4.4 Tulare County

In 2000, Tulare County had a population of 368,000. Forecasts show that by the year 2020 Tulare County's total population will reach 570,900 (EDD 2002). In 2000, of the 1,585,871 acres mapped in Tulare County, 1,314,148 were in agricultural use, 49,378 acres were urbanized, 4,651 acres were water, and 217,694 acres were "other." (FMMP 2002) Table 13-20 summarizes further land use classifications and net changes in land use categories. Tulare County defines Farmland of Local Importance as: lands that produce dry land grains; lands that have physical characteristics that would qualify as Prime or Statewide farmlands except for the lack of irrigation waters; and lands that currently support confined livestock, poultry, or aquaculture operations. Table 13-21 specifies land use conversions from one category to another.

Table 13-20
Tulare County Land Use Summary and Change by Land Use Category

			1998 to 2000 Acreage Changes			
	Total Acreage Inventoried		Acres Lost	Acres Gained	Total Acreage	Net Acreage
Land Use Category	1998	2000	(-)	(+)	Changed	Changed
Prime Farmland	396,125	393,036	4,180	1,091	5,271	-3,089
Farmland of Statewide Importance	357,221	351,689	6,562	1,030	7,592	-5,532
Unique Farmland	11,792	11,749	183	140	323	-43
Farmland of Local Importance	110,042	117,741	1,856	9,555	11,411	7,699
Important Farmland Subtotal	875,180	874,215	12,781	11,816	24,597	-965
Grazing Land	439,955	439,933	153	131	284	-22
Agricultural Land Subtotal	1,315,135	1,314,148	12,934	11,947	24,881	-987
Urban and Built-Up Land	48,500	49,378	103	981	1,084	878
Other Land	217,607	217,694	487	574	1,061	87
Water Area	4,629	4,651	0	22	22	22
Total Area Inventoried	1,585,871	1,585,871	13,524	13,524	27,048	0

Table 13-21
Land Use Conversion from 1998 to 2000, Tulare County

From Land Use Category		To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland [2]	to:	--	0	1	3,373	3,374	2	3,376	592	212	0	4,180
Farmland of Statewide Importance [2]	to:	8	--	1	6,154	6,163	1	6,164	178	220	0	6,562
Unique Farmland	to:	1	4	--	6	11	120	131	1	51	0	183
Farmland of Local Importance	to:	903	861	1	--	1,765	5	1,770	41	45	0	1,856
Important Farmland Subtotal		912	865	3	9,533	11,313	128	11,441	812	528	0	12,781
Grazing Land	to:	1	0	87	1	89	--	89	21	43	0	153
Agricultural Land Subtotal		913	865	90	9,534	11,402	128	11,530	833	571	0	12,934
Urban and Built-Up Land	to:	45	34	0	21	100	0	100	--	3	0	103
Other Land	to:	133	131	50	0	314	3	317	148	--	22	487
Water Area	to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	to:	1,091	1,030	140	9,555	11,816	131	11,947	981	574	22	13,524

[1] Total area inventoried represents information for the new Western Tulare soil survey area (780,415 acres) as well as the Central Tulare area (805,452 acres). Prior reports classified farmland use in Western Tulare County with the Interim mapping categories of Irrigated and Nonirrigated. The County's Farmland of Local Importance definition contains more land use types than Nonirrigated Farmland, thus some Grazing and Other Land in Western Tulare was reclassified into Local.

[2] Conversion to Farmland of Local Importance primarily due to land left idle or utilized for dry grains for three or more update cycles.

13.2 Environmental Consequences/Environmental Impacts

13.2.1 Assessment Methods

Under each alternative, the EWA Project Agencies would negotiate contracts with willing sellers based on a number of factors, including price, water availability, and location. These factors would change from year to year; therefore, the EWA Project Agencies may choose to vary their acquisition strategy in each year. To provide maximum flexibility, this analysis includes many potential transfers when the EWA Project Agencies would not likely need all transfers in a given year. Chapter 2 defines the transfers that are included in the analysis. The primary potential effects of the EWA on agricultural land use relate to crop idling transfers.

Qualitative evaluations in this section discuss the potential changes in land use within the counties that could participate in the EWA. This analysis assesses any permanent conversions of agricultural land to other uses under program conditions relative to the Baseline Condition.

13.2.2 Significance Criteria

This analysis determines that EWA implementation would have significant effects to agricultural land use if an action resulted in:

- Substantial permanent reduction in agricultural acreage in a region or permanent conversion of any lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act.

- Substantial permanent conversion of lands under the Williamson Act or other land protection programs to an incompatible use.

13.2.3 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

Under the No Action/No Project Alternative, the trend of land conversion from agricultural uses to urbanization and non-agricultural uses would likely continue and possibly accelerate. Population growth is a major factor resulting in the reduction of agricultural lands. Metropolitan areas in the Central Valley, such as Sacramento, Stockton, Fresno, and Bakersfield are expected to expand with population growth, necessitating further development of land. Recently, farmers have also been affected by urbanization through the water transfer market. Urban water supply reductions and growing populations have increased urban water demand, and lower agricultural prices have increased farmers' willingness to sell.

Under the No Action/No Project Alternative, water transfers involving crop idling would likely continue at recent levels. Generally, water transfers would not affect land use because transfers are temporary. Farming patterns often change annually. If

single year water transfers are made, land use patterns would not vary substantially from normal farming practices. Farmers would also continue to idle some land temporarily depending on crop rotations and the agricultural market. Lands are temporarily removed from farm production for improvements such as land leveling and weed abatement. Farmers also rotate land to reduce pest problems and build soils. Farmers would continue to place back into production other previously-idled land. These continued farming practices would continue to cause some fluctuation in agricultural land use.

Under the No Action/No Project Alternative, statewide and Federal programs to preserve open space and agricultural lands would continue to be implemented. Several programs would also take agricultural land out of production. This would neither interfere with other land protection programs nor bring enrolled lands to an incompatible use. Any actions associated with the No Action/No Project Alternative would be less than significant.

13.2.4 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers up to 600,000 acre-feet and does not specify transfer limits from the Upstream from the Delta Region or the Export Service Area. The transfer from the Upstream from the Delta Region would vary between 50,000 and 600,000 acre-feet each year, limited by hydrologic year type and the availability of conveyance capacity through the Delta each year. Although all potential transfers would not occur within a single year, this section discusses the potential effects of all transfers to the EWA in order to provide an analysis of the maximum transfer scenario. Therefore, the crop idling acreages indicated in the analysis represent maximum crop idling actions and would not likely all occur within one year.

13.2.4.1 Upstream from the Delta

Table 13-22 shows the maximum acreage that could be idled in each county as defined under the project description. (See Chapter 11, Regional and Agricultural Economics for discussion.) EWA purchases through crop idling would not exceed 20 percents of baseline acreages in counties upstream from the Delta. EWA crop idling actions during a single year would likely affect less than the maximum acreages listed in Table 13-22.

Table 13-22
Proposed Maximum Acreages for Rice Idling

	Total Acres of Rice in County	*Acreage Proposed for Idling*	*% of Total*
Butte	95,120	19,000	20.0%
Colusa	132,338	26,460	20.0%
Glenn	83,777	16,750	20.0%
Placer	16,379	3,280	20.0%
Sutter	96,722	19,340	20.0%
Yolo	23,822	4,770	20.0%

Source: DEIM 2002

EWA acquisition of water through crop idling in counties in the Upstream from the Delta Region could permanently decrease the amount of lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act. For land to be categorized as Prime Farmland, Farmland of Statewide Importance or Unique Farmland under the FMMP, the land must have been used for production at some time during the two update cycles prior to the mapping date.[4] Under the Williamson Act, land must have grossed an identified economic value for three of five consecutive years. Crop idling actions by the EWA would not necessarily be done every year. Any crop idling actions would also be a temporary effect. Landowners would annually choose whether to idle their rice fields and could place the fields back into production the following season. Therefore, crops could be idled annually and continue to meet the criteria for Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act.

However, because each parcel has a different cropping history, the EWA Project Agencies could purchase water through crop idling and potentially change the classification of some farmland. This would result in a potentially significant effect. If idling the crops would change the classification to levels less than Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act, the EWA agencies could implement mitigation measures to avoid changing land classifications (See Section 13.2.8). Consequently, land use effects would be less than significant with mitigation.

EWA acquisition of water through crop idling in counties in the Upstream from the Delta Region could convert lands under the Williamson Act and other land resource programs to an incompatible use. As discussed above, crop idling under the EWA would be a temporary effect. Farmers could resume farming the following season after the idling. Therefore, the EWA would not result in any permanent changes to the land and land would not be converted to an incompatible use. Thus, any idling actions would not interfere with objectives of the Williamson Act and other agricultural easements to preserve open space land. In addition, increased net returns allowed by water transfers could help landowners avoid selling land for development and preserve farmland. Consequently, any potential effects to agricultural land use would be less than significant. No mitigation is required.

13.2.4.2 Export Service Area

The majority of cotton fields in the Export Service Area are in Kings, Tulare, Kern, and western Fresno Counties. Table 13-23 provides the maximum number of acres proposed for crop idling in these counties, though these actions would not likely occur in a single year. Refer to Chapter 11, Regional and Agricultural Economics, for further discussion on the development of these acreages.

[4] Each update cycle is two years.

Table 13-23 Proposed Maximum Acreages for Cotton Idling			
	Total Acres of Cotton in County	Acreage Proposed for Idling	% of Total
Fresno	352,880	70,500	20.0%
Kern	246,616	49,300	20.0%
Kings	222,543	44,500	20.0%
Tulare	92,680	18,500	20.0%

Source: DEIM 2002

EWA acquisition of water through crop idling in counties in the Export Service Area could permanently decrease the amount of lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act. Crop idling actions under the EWA would not occur every year. Any crop idling that would take place would be a temporary effect. Landowners could produce cotton in the subsequent season after a crop idling year. Because fields are idled annually, the cotton land could continue to meet the land classification criteria stated in the FMMP and Williamson Act, and permanent reduction to agricultural acreages would not occur.

Because each parcel has a different cropping history, the EWA Project Agencies could purchase water through crop idling and potentially change the classification of some farmland. This would be a potentially significant effect. If idling the crop would change land classification levels under the Williamson Act and FMMP, the EWA agencies could implement mitigation measures to avoid changing land classifications (See Section 13.2.8). Therefore, this effect is considered less than significant with mitigation.

EWA acquisition of water through crop idling in counties in the Export Service Area could convert lands under the Williamson Act and other land resource programs to an incompatible use. As discussed above, crop idling under the EWA would be a temporary effect. Farmers could resume farming the following season after the idling. Therefore, the EWA would not result in any permanent changes to the land and land would not be converted to an incompatible use. Thus, any idling actions would not interfere with objectives of the Williamson Act and other land protection programs to preserve agricultural and open space land. In addition, increased net returns allowed by water transfers could help farmers avoid selling land for development. Consequently, any potential effects to agricultural land use would be less than significant. No mitigation is required.

13.2.4.3 Multi-year Water Transfers

EWA Project Agencies could potentially negotiate multi-year water transfers, which would guarantee the sale of water for multiple years. Multi-year contracts would be negotiated with water districts. If water districts contracted for multi-year crop idling transfers, the EWA acquisitions could change the classification of land under the

FMMP and Williamson Act. This could be a potentially significant effect. The EWA agencies would implement mitigation measures if land classifications under the Williamson Act and FMMP should change. The multi-year contract would indicate land classification requirements and particular parcels would be idled accordingly. Therefore, with mitigation, FMMP and Williamson Act classifications would not be affected by multi-year contracts and the effect would be less than significant. In addition, EWA multi-year transfers would not result in agricultural land being permanently taken out of production or converted to an incompatible use. This effect of multi-year water transfers would be less than significant.

13.2.5 Environmental Consequences/Environmental Impacts of Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area. Although the amounts in each region would be fixed, the acquisition types and sources could vary. This section analyzes the effects of each potential transfer to allow the EWA Project Agencies maximum flexibility when negotiating purchases with willing sellers. These transfers would be the same actions as those described in the Flexible Purchase Alternative, but the amounts would be limited by the total acquisition amount in each region (35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area).

The Fixed Purchase Alternative would involve the same crop idling actions as the Flexible Purchase Alternative in areas where 20 percent idling of county rice and cotton acreage defines the limits of transfer acquisitions. This occurs in Placer, Yolo, Kern, Kings, and Tulare Counties.

Table 13-24 describes proposed maximum acreages for rice and cotton idling under the Fixed Purchase Alternative. Under the Fixed Purchase Alternative, the EWA would not result in any agricultural land being permanently taken out of production. The temporary idling of land would not also result in substantial permanent changes in land use classifications under the Williamson Act and FMMP. Consequently, the agricultural land use effects of the Fixed Purchase Alternative would be less than significant.

Table 13-24 Proposed Maximum Acreages for Rice/Cotton Idling for Fixed Alternative				
Region	**County**	**Total Acres of Rice/ Cotton in County**	**Acreage Proposed for Idling**	**Percent of Total Rice/ Cotton Acres to be Idled**
Upstream Region	Butte	95,120	10,600	11.1%
	Colusa	132,338	15,000	11.3%
	Glenn	83,777	15,000	17.9%
	Placer	16,379	3,280	20.0%
	Sutter	96,722	10,600	11.0%
	Yolo	23,822	4,770	20.0%
Export Service Area (Cotton)	Fresno	352,880	65,000	18.4%
	Kern	246,616	49,300	20.0%
	Kings	222,543	29,500	20.0%
	Tulare	92,680	18,500	20.0%

Source: DEIM 2002

13.2.6 Comparative Analysis of Alternatives

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area. While the amounts in each region would be fixed, the acquisition types and sources could vary. To allow the EWA project agencies maximum flexibility when negotiating purchases with willing sellers, this section analyzes the effects of each potential transfer. These transfers are the same actions as those described in the Flexible Purchase Alternative, but the amounts are limited by the total acquisition amount in each region (35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area).

Under the No Action/No Project Alternative, conversion of farmland to urban uses would continue under wet and dry years. Water transfers via crop idling would occur under other water acquisition programs. During dry years, crop idling would be utilized more as an acquisition method, relative to wet years.

13.2.6.1 Upstream from the Delta Region

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. In most years, this amount could be obtained from stored reservoir water purchases. In those years when surface water assets were not available (in part or in total), the EWA agencies would acquire water first from groundwater substitution and/or groundwater purchase, followed by crop idling. The Fixed Purchase Alternative would not be likely to involve acquisition of water from crop idling. Therefore, during wet and dry years, agricultural land use would not be affected under Fixed Purchase Alternative.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources upstream from the Delta. EWA agencies would prefer to purchase water from upstream sources because the water is generally less expensive.

The amount that could be purchased would be limited by the excess capacity of the Delta export pumps to move the water to export areas south of the Delta. During wet years, pump capacity may be available for as little as 50,000 acre-feet of EWA asset water because the pumps would be used primarily to move State and Federal project water to the Export Service Area. During dry years, when there would be less Project water available for pumping (and therefore the pumps would have greater available capacity), the EWA Project Agencies could acquire up to 600,000 acre feet of water from sources upstream of the Delta.

During wet years, the potential for land use effects upstream from the Delta for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative. During wet years, under both alternatives, acquisitions would most likely be from stored water sources and crop idling would not be exercised. There would thus be no land use effects during wet years. During dry year conditions, however, when the export pumps would have greater capacity to move EWA assets, crop idling would be used for additional EWA acquisitions. Consequently, during dry years, under the Flexible Purchase Alternative, EWA Project Agencies would acquire water through crop idling at much greater amounts than would be acquired under the Fixed Purchase Alternative.

13.2.6.2 Export Service Area

EWA asset acquisitions in the Export Service Area under the Fixed Purchase Alternative would be limited to 150,000 acre-feet from stored groundwater and crop idling sources. The EWA agencies would purchase stored groundwater first, then purchase water from crop idling if more were needed. Stored groundwater has finite availability, and 150,000 acre-feet would not likely be available in all years. In years with less stored groundwater availability, EWA agencies would turn to crop idling for the remaining acquisition needs.

EWA asset acquisitions in the Export Service Area under the Flexible Purchase Alternative would be dependent on the water year type upstream from of the Delta. Export pump capacity during wet years would limit the ability of the EWA Project Agencies to move assets through the Delta, requiring reliance on greater purchase amounts from export area sources. During wet years, acquisitions within the Export Service Area could involve up to 600,000 acre-feet of assets. Much of this water would be from crop idling; therefore, potential land use effects of the Flexible Purchase Alternative would be greater than for the Fixed Purchase Alternative.

Table 13-25 compares the potential effects of the Fixed Purchase and Flexible Purchase Alternatives.

Table 13-25
Comparison of Agricultural Land Use Effects for Flexible and Fixed Purchase Alternatives

Region	Asset Acquisition or Management	Result	Effects	Flexible Purchase Alternative Effects	Fixed Purchase Alternative Effects	Significance of Flexible Purchase Alternative	Significance of Fixed Purchase Alternative
Upstream from the Delta: Butte Colusa Glenn Placer Sutter Yolo	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in upstream of the Delta counties	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland.	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland.	Potentially Significant; Less than significant effect with mitigation	Potentially Significant; Less than significant effect with mitigation
				Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Less than significant effect, could reduce conversion	Less than significant effect, could reduce conversion
Export Service Area Fresno Kern Kings Tulare	Crop Idling	Temporary conversion of cotton crops to bare fields	Reduce cotton crop acreage in Export Service Area counties	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland	Potentially Significant; Less than significant effect with mitigation	Potentially Significant; Less than significant effect with mitigation
				Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Less than significant effect	Less than significant effect

13.2.7 Mitigation Measures

To decrease adverse land use effects, the EWA would consider the following measures:

- Water would not be acquired from a particular parcel of land if idling the land would result in a lower classification of the land as defined under the FMMP and Williamson Act. The EWA Project Agencies would gather accurate data regarding land classifications of cropland previously idled in participating counties. Data on recent idling history of specific parcels would be obtained from the seller.

13.2.8 Potentially Significant Unavoidable Impacts

There would be no potentially significant unavoidable agricultural land use effects.

13.2.9 Cumulative Effects

The timeframe for the EWA cumulative analysis extends through 2007. The cumulative effects analysis considers other water transfer programs that utilize crop idling and conservation programs that protect agricultural and open space land. These programs include the Dry Year Purchase Program, the Drought Risk Reduction Investment Program, CALFED Environmental Water Program and the CVPIA Water Acquisition Program. Chapter 22 explains the framework of the cumulative analysis and a summary of the programs considered.

Crop idling in these water acquisition programs is on a voluntary, year-by-year basis. Farmers can choose to offer their water for sale to any of the above programs during any season that the programs are in operation, subject to project conditions. The farmers can then decide to resume planting in the subsequent season. Therefore, crop idling would be a temporary effect and would not permanently alter any land use patterns. Water acquisition programs also would not result in any land being converted to incompatible uses. Land classifications could change under the cumulative condition if parcels are repeatedly idled under other programs. This is a potentially significant cumulative effect.

However, with the mitigation measures identified above, any EWA water acquisitions via crop idling would not decrease the amount of land categorized as Prime, Statewide Importance, or Unique under the FMMP and Prime Farmland under the Williamson Act. Therefore, EWA would not permanently change land use practices and would not contribute to any potential cumulative effects. Consequently, because crop idling is temporary and EWA actions would not result in any changes to land use classifications, any potential cumulative effects on agricultural land use by the EWA would be less than significant.

The Westlands Global Land Settlement Program is a land retirement program that proposes to permanently remove 200,000 acres of cropland from production in western Fresno and Kings Counties. Currently, the program does not specify the types and locations of cropland intended for retirement. Any land retired under the program would be used for wildlife habitat or dryland farming. The retirement program likely would change land classifications, depending on the location and current classification of the land. If changes occur, a cumulative effect could be considered significant. Environmental documentation for the program should address the potential cumulative effect. With the mitigation measures identified in this chapter, the EWA would not contribute to the cumulative effect.

13.3 References

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Chapter 14
Recreation Resources

Water-enhanced and water-dependent recreational activities, such as wildlife viewing, fishing, hunting, swimming, motor boating, sailing, and windsurfing, are popular throughout California. The quality of recreation at lakes and reservoirs depends largely on surface water levels. Rafting and boating are popular activities that are often dependent on high river flows/reservoir levels for maximum enjoyment. Enjoyment of water-enhanced activities, such as picnicking and hiking, can also be related to higher water levels.

This chapter discusses the effects of the Flexible Purchase and Fixed Purchase Alternatives on recreation resources. Section 14.1 presents the affected environment/existing conditions and Section 14.2 evaluates the No Action, Flexible Purchase, and Fixed Purchase Alternatives, including comparative analysis of the alternatives and cumulative impacts.

14.1 Affected Environment/Existing Conditions

14.1.1 Area of Analysis

Effects are assessed in the Upstream from the Delta Region, Delta Region, and in the Export Service Area. This discussion focuses on the areas where EWA actions would take place (Figure 14-1):

- Upstream from the Delta Region: Lake Shasta; Little Grass Valley and Sly Creek Reservoirs; Lake Oroville; New Bullards Bar Reservoir; French Meadows and Hell Hole Reservoirs; Folsom Lake; Lake McClure; Sacramento, Feather, Yuba, American, and Merced Rivers; Waterfowl hunting areas in Glenn, Colusa, Yolo, Sutter, Butte, and Placer Counties.

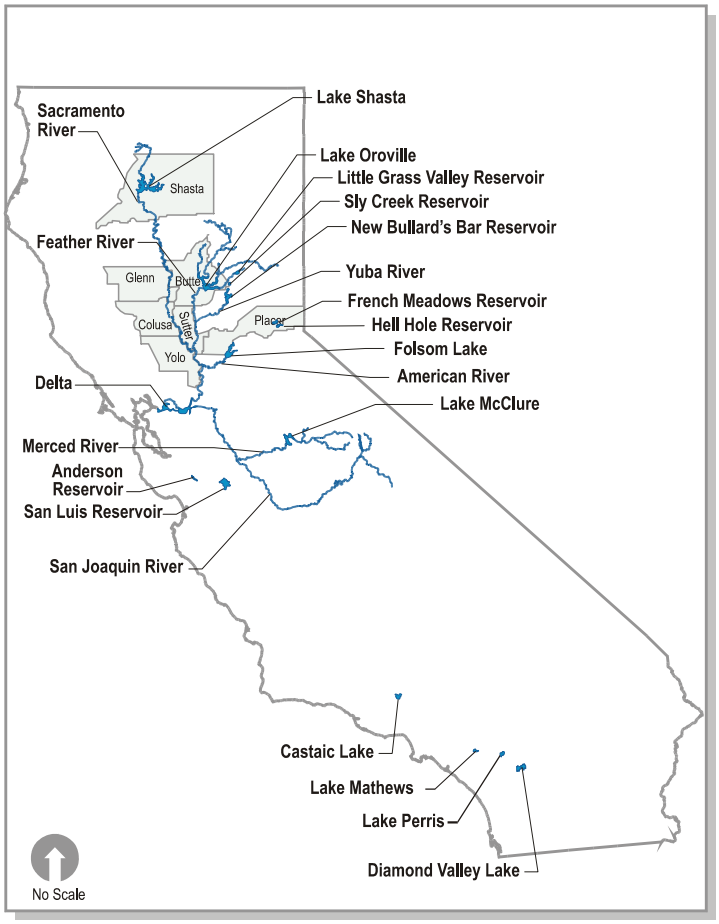


Figure 14-1
Recreation Area of Analysis

- Delta Region

- Export Service Area: Anderson Reservoir, San Luis Reservoir and O'Neill Forebay; Lake Perris; Castaic Lake; Diamond Valley Lake; Lake Mathews.

14.1.2 Upstream from the Delta Region

Major recreation areas in the Upstream from the Delta Region can be found at lakes and reservoirs, rivers and streams, federal wildlife refuges, and state wildlife management areas (WMAs). River flows and reservoir levels tend to be highest in late spring and early summer and taper off toward fall, somewhat reducing the quality or availability of recreational activities such as rafting and boating. Water-based and water-enhanced activities are more prevalent during the summer months when the air temperature is warm; however, fishing and wildlife viewing are year-round activities.

14.1.2.1 Hunting and Fishing

This discussion focuses on the types of hunting and fishing in areas where EWA actions could take place, including the reservoirs and rivers mentioned above and rice fields.

Many duck clubs are established on flooded rice fields during the winter because of the large number of waterfowl that flock to the rice fields for forage and habitat. In 2001, approximately 45,000 hunter visits to 11 sites within the EWA program area were reported by the Department of Fish and Game. Approximately two waterfowl (ducks, geese, or coots) were shot per hunter. Regulations vary by bird species; however, the hunting season generally spans from late October through January.

Reservoirs and rivers provide habitat for cold- and warm-water fish. Anglers fish for striped bass, salmon, sturgeon, steelhead, trout, Kokanee salmon, bass, crappie, bluegill, catfish, and others. The California Department of Fish and Game publishes a fishing regulation booklet each year that summarizes the allowable fishing season, take limit, and other guidelines specific to each species. Fishing is popular year-round; however, the species caught may vary during different times of the year. According to the California Department of Fish and Game, more than 2.2 million anglers purchase some type of fishing license each year.

14.1.2.2 Sacramento River

The upper Sacramento River and major upstream reservoirs (Shasta and Keswick) are important recreational resources for the Sacramento Valley and beyond. These resources support a broad range of water-dependent and water-enhanced recreation opportunities, including facilities for boating, fishing, swimming, and camping.

Fishing, rafting, canoeing, kayaking, swimming, and power boating are available along most of the upper Sacramento River. Whitewater rafting and other boating opportunities are dependent on river flows above 5,000 cubic feet per second (cfs).

Additional recreational activities along the Sacramento River include hiking, wildlife viewing, and camping.

Between Colusa and Sacramento, major recreational facilities exist at the Colusa-Sacramento River Recreation Area, Colusa Weir access, Tisdale Weir access, River Bend Boating Facility, Knights Landing, Sacramento Bypass, and Elkhorn Boating Facility. The Colusa-Sacramento River State Recreation Area provides 60 acres of riverfront recreation near the City of Colusa and contains the only public boat launch and landing facility in Colusa County. The park is at the north end of town where the river makes a wide easterly bend. Its key features are boat ramps, picnic sites, nature trails, and campsites. The river's width at the park provides room for a variety of water activities, including fishing, boating, and waterskiing.

Wildlife refuges along the Sacramento River provide fishing, hunting, and wildlife viewing opportunities. These refuges include Sacramento, Colusa, Sutter, and Delevan National Wildlife Refuges (NWRs) and Gray Lodge WMA. Gray Lodge WMA is the most popular of the five refuges in the region. Non-consumptive (photography and hiking) and consumptive (fishing and hunting) uses historically have been equally popular at the refuges, each accounting for approximately 50 percent of the total use. Sutter and Delevan NWRs are used almost exclusively for hunting.

The lower Sacramento River constitutes the reach between the American River confluence and the Delta. As a recreational resource, its use is associated closely with recreational use of Delta waterways. This lower reach of the river, influenced by tidal action like the Delta, is a popular boating and fishing area with dispersed public access, several private marinas, and extensive boat traffic, particularly in the summer.

14.1.2.2.1 Lake Shasta

The U.S. Forest Service administers Lake Shasta and Keswick Reservoir. The four large arms of Lake Shasta are the Pit River, Squaw Creek, McCloud River, and Sacramento River. Recreational facilities on Lake Shasta include 27 designated campgrounds, 4 picnic areas, 7 public boat ramps, and 11 private marina resorts. The boat ramps extend to varying elevations. For example, Bailey Cove boat ramp is available until 50 feet of drawdown occurs, whereas Jones Valley and Centimudi are available to 210 feet of drawdown. Low lake levels affect campsite accessibility before boat ramps are affected (Grigsby 2003). Recreation activities on Keswick Reservoir are primarily boating and fishing, with little development other than one boat ramp.

14.1.2.3 Feather River

Activities such as swimming, fishing, camping, bird watching, picnicking, and bicycling are popular along the Feather River. Rafting on the North and Middle Forks of the Feather River runs from January to April or May, depending on flow. Summer rafting and kayaking occurs on the North Fork depending on upstream PG&E reservoir operations, though lower flows in these reaches allows recreationists to use inner tubes to float down the river. The section of the Feather River between the

Thermalito Diversion Dam and Thermalito Afterbay outlet is commonly referred to as the Low Flow Channel of the Feather River (Figure 14-2). Fishermen, wildlife and birdwatchers, sightseers, hikers, and bicyclists enjoy recreation along the Low Flow Channel. The Brad P. Freeman Trail runs beside this section of river from the Diversion Dam to Highway 162. This section is an important recreational resource for the residents of Oroville and nearby areas. Based on California Department of Fish and Game regulations, the river is open for fishing north of the Table Mountain Bicycle Bridge. In the spring and fall, salmon are known to congregate at the Thermalito Afterbay outlet. In recent years, the Feather River has served as habitat to 40,000 Chinook salmon in the spring and fall. Downstream from the Thermalito Afterbay outlet, the river continues through the Oroville Wildlife Area. The Oroville Wildlife Area provides opportunities for bird watching, in-season hunting, fishing, swimming, and camping.

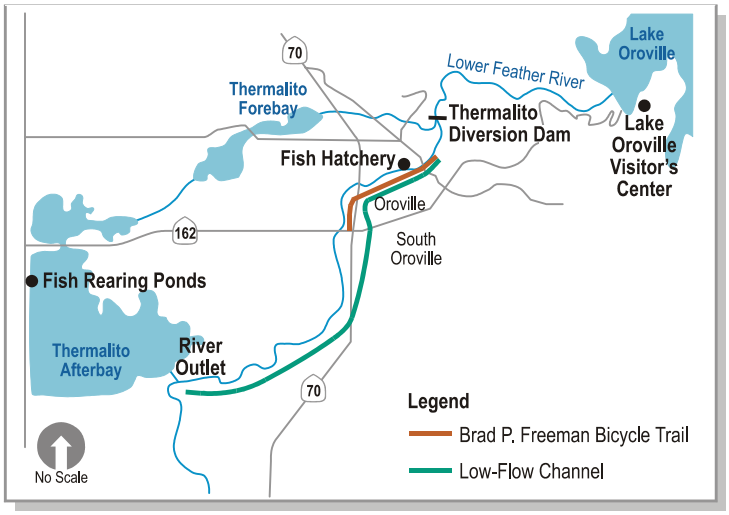


Figure 14-2
Lake Oroville and Vicinity

14.1.2.3.1 Little Grass Valley and Sly Creek Reservoirs

Little Grass Valley Recreation Area in the Plumas National Forest offers recreationists a wide variety of outdoor experiences, including camping, picnicking, fishing, waterskiing, swimming, boating, hunting, hiking, sightseeing, and winter sports such as snowmobiling and cross-country skiing. Camping is provided at Running Deer, Red Feather, Little Beaver, Wyandotte, Peninsula Tent, and Black Rock Campgrounds. Boat ramps include Maidu, Tooms, and Black Rock. The Maidu boat ramp is above water and usable when the reservoir is above 50,000 acre-feet. Tooms and Black Rock boat ramps are operable when reservoir levels are above 55,000 acre-feet (DWR 2000). Low reservoir levels affect use of boat ramps prior to affects on swimming beaches or campgrounds (Humphreys 2003). Blue Water and Pancake Beaches provide changing pavilions, restrooms, and parking. Trout varieties in the lake include brown and rainbow trout. Catfish and other warmwater species are also present.

Sly Creek Reservoir is in eastern Butte County, 35 miles east of Oroville. Recreation at Sly Creek Reservoir includes camping, hiking, picnicking, swimming, fishing, and boating. Mooreville boat ramp provides access to the reservoir and remains operable while water levels are above elevation 3,479 feet mean sea level (msl). The reservoir is managed to maintain elevations above 3,480 through July (Braxton 2002). Low

reservoir levels affect use of boat ramps prior to affects on swimming beaches or campgrounds (Humphreys 2003). The California Department of Fish and Game regularly stocks the reservoir with fish, including rainbow trout, brown trout, and Kokanee. Sly Creek and Strawberry campgrounds have a combined total of 40 campsites. These campgrounds were developed by Oroville Wyandotte Irrigation District (ID) and are operated by a Plumas National Forest concessionaire.

14.1.2.3.2 Lake Oroville

Lake Oroville is the second largest reservoir in California and is the keystone of the SWP. Lake Oroville, Thermalito Diversion Pool, Thermalito Forebay, Thermalito Afterbay, and the Oroville Wildlife Area all compose the Lake Oroville Complex that distributes water and electrical power to various destinations. Lake Oroville has two full-service marinas; nine parks provide facilities for baseball, tennis, swimming, and picnicking within the lake's vicinity. Figure 14-3 shows the major recreational areas and facilities at Lake Oroville. There are major boat launch ramps at Bidwell Canyon, Loafer Creek, and Lime Saddle (DWR 2001). The Spillway has an 8-lane and a 12-lane ramp in two stages. New extensions constructed in 2002 on boat ramps at Bidwell Canyon, the Spillway, and Lime Saddle allow the ramps to remain open when lake elevations remain above 700 feet msl (Knox 2003). Average water surface elevation in Lake Oroville has historically been between 817 feet msl and 787 feet msl between July and September, respectively. Although boat ramps remain usable, lower lake elevations can adversely affect swimming beaches and boat in campgrounds (Sherman 2003). The Lake Oroville State Recreation Area provides camping, picnicking, boating, fishing, hunting, horseback riding, hiking, bicycling, sightseeing, and a variety of other activities. Major facilities in the State Recreation Area include Loafer Creek, Bidwell Canyon, Spillway, Lime Saddle, Lake Oroville Visitor Center, and North and South Themalito Forebay. Additionally, the Recreation Area provides several less-developed car-top launching areas, 84 boat-in campsites, and 10 floating campsites on Lake Oroville. Nearby, DWR maintains three launch ramps and a day-use area at the Oroville Wildlife Area, which includes Thermalito Afterbay.

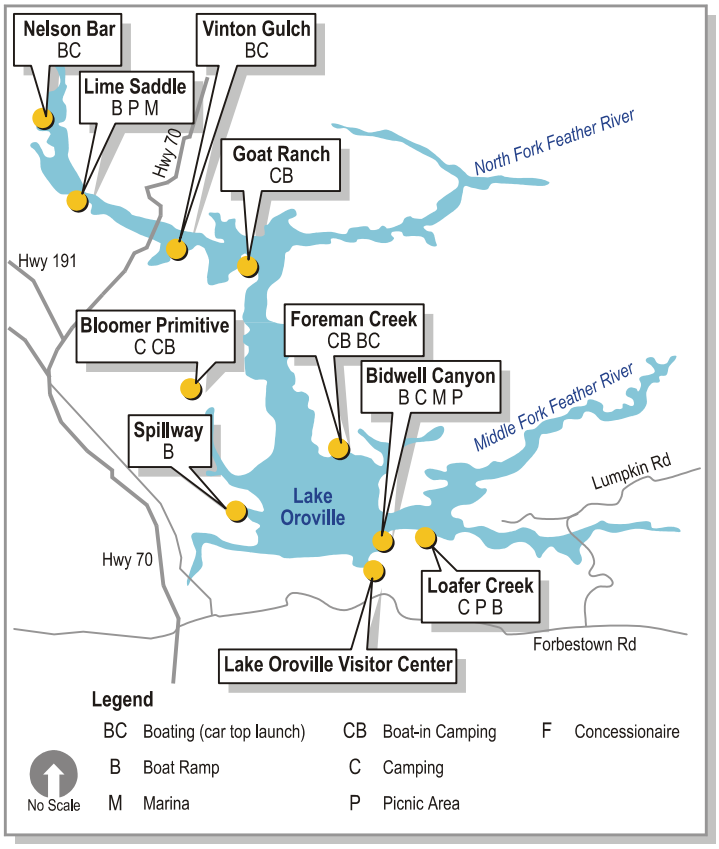


Figure 14-3
Major Recreational Areas at Lake Oroville

Water levels affect recreational opportunities. As water levels decrease, opportunities for operable boat launch ramps, car-top boat launches, swim beaches, and boat-in camps can decrease. Low water levels also impair boat access to Feather Falls, a spectacular attraction on the Fall River, a Feather River tributary.

14.1.2.4 Yuba River

Numerous rivers, creeks, tributaries, and reservoirs along the Yuba River offer recreation opportunities and receive extensive use. Boating in the Yuba River is limited because of poor access; boats must be hand-carried to the river. Where access is available, fishing, picnicking, rafting, tubing, and swimming are the dominant recreational uses. The Yuba River offers excellent American shad, Chinook salmon, and steelhead fishing.

14.1.2.4.1 New Bullards Bar Reservoir

New Bullards Bar Reservoir is approximately 21 miles north of Nevada City, in historic gold country. This reservoir is popular for boating, fishing, and camping. Over 20 miles of hiking and mountain biking trails exist in the area, including Bullards Bar Trail, which runs along the perimeter of the lake. Several campgrounds, including Schoolhouse and Dark Day, are in the vicinity. Some campgrounds around the reservoir, such as Madrone Cove and Garden Point, are accessible by boat only. Emerald Cove Resort and Marina is a floating marina that is operable at all lake levels. The marina offers a general store, pumping station, launch ramp, boat rentals, moorage, and annual slips. Boat access to the reservoir is provided by the Cottage Creek boat ramp (at Emerald Cove Marina) and Dark Day boat ramp. Cottage Creek boat ramp is unusable when the lake level falls below 1,822 feet mean sea level (msl), and Dark Day boat ramp becomes inoperable when the lake level falls below 1,798 feet msl (Onken 2003). Low reservoir levels affect day swimming areas and boat in campgrounds before boat ramps are affected. Fish species found in the reservoir include rainbow trout, brown trout, Kokanee salmon, smallmouth bass, largemouth bass, bluegill, crappie, and bullhead catfish. Some boat launchings occur year round; however, the typical boating season extends from about early May through mid October. The heaviest use of the ramps occurs on weekends and holidays from Memorial Day to Labor Day (U.S.D.A Forest Service 1999).

The Tahoe and Plumas National Forests total more than 56,000 acres of land in the Yuba River watershed. The forests offer hunting, fishing, camping, hiking, and other recreational opportunities. The 11,200-acre Spenceville Wildlife Area, managed by the California Department of Fish and Game, provides picnicking, fishing, hunting, and hiking.

14.1.2.5 American River

On the Middle Fork of the American River, commercial rafting is available upstream from the confluence of the North and Middle Forks. The minimum threshold for whitewater boating is 850 cfs (EDAW and SWRI 1999).

Recreation facilities on the lower American River are generally along the American River Parkway. The lower American River is the focus of the parkway that extends from Nimbus Dam to Discovery Park. The parkway consists of 14 interconnected parks, a continuous trail system, and contains 5,000 acres**.** The parkway is recognized as one of the Nation's premiere urban parkways (PCWA 2001). The most popular feature is the Jedediah Smith Memorial Bicycle Trail that extends approximately 32 miles from Discovery Park on the lower American River to Beal's Point at Folsom Reservoir.

Additional recreation facilities include pedestrian/equestrian trails and picnic areas throughout the parkway. Water-dependent facilities consist primarily of trailered-boat and car-top boat launching facilities. Fishing is permitted in the parkway year round except during fall and early winter, when portions of the river are closed to protect spawning fish. The parkway contains no commercial recreation facilities, although raft rental outfitters are located nearby. The boating and rafting season is generally between April and October, with peak raft rentals in June, July (highest use month), and August (PCWA 2001). The minimum/maximum flow range for adequate whitewater rafting and boating opportunities on the lower American River is 1,750 cfs to 6,000 cfs. The optimum range is slightly higher, 3,000 cfs to 6,000 cfs (EDAW and SWRI 1999). Owned and managed by the County of Sacramento, the parkway is linked to additional parklands from Nimbus Dam to Folsom Reservoir. The California Department of Parks and Recreation manages the latter parklands.

14.1.2.5.1 French Meadows and Hell Hole Reservoirs

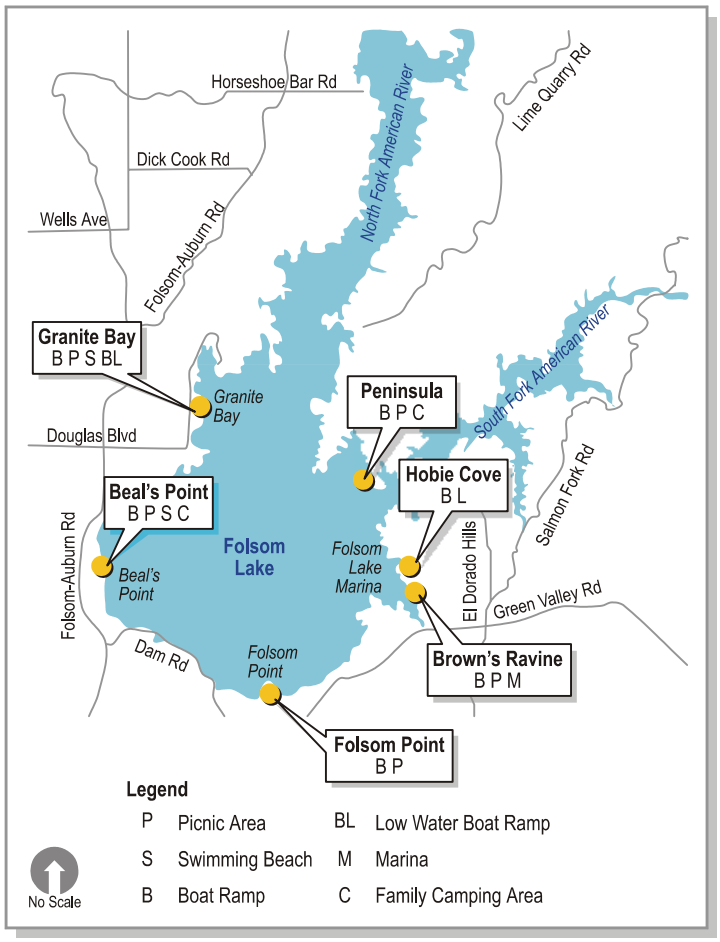
French Meadows Reservoir, which is on the Middle Fork of the American River, provides recreation opportunities for camping, boating, picnicking, horseback riding, and hiking. The reservoir provides boat access via two launch sites. The boat ramps become unusable when the storage drops below elevation 5,196 feet (Neary 2002). Low water levels affect boat ramps before beaches or boat-in campgrounds (Hill 2003). Fishing for rainbow and brown trout is a popular activity.

Hell Hole Reservoir is in the Eldorado National Forest on the Rubicon River, a tributary of the American River. The primary recreation activities on this reservoir are camping and fishing; a variety of trout are available in the lake. One boat launch ramp suitable for small craft is accessible when storage in the reservoir is above elevation 4,537 feet (Jones and Stokes 2001). Fifteen boat access sites (for small craft) are also available on the lake. Low water levels affect boat-in campgrounds before boat ramps are affected (Jue 2003).

14.1.2.5.2 Folsom Lake

Folsom Lake is in the Folsom Lake SRA, which is managed by the California Department Parks and Recreation. When full, Folsom Lake has about 11,900 surface-acres of water and extends nearly 15 miles up the North Fork of the American River and 10.5 miles up the South Fork. Folsom Lake has 75 miles of undeveloped shoreline, including many areas available for swimming. Summer surface water temperatures

are warmer than inflowing water or water released downstream to Lake Natoma, so the surface water becomes warm enough for comfortable swimming.



Source: EDAW and SWRI 1999

Figure 14-4
Folsom Lake SRA Facilities

Folsom Lake has recreation facilities for boat launching, mooring, swimming, hiking, bicycling, picnicking, camping, fishing, and nature study (Figure 14-4). A majority of the water-dependent recreational facilities are at Beal's Point, Granite Bay, Peninsula Campground, Brown's Ravine, and Folsom Point (formerly Dike 8). Approximately 80 miles of trails are available for hiking and horseback riding, including an 8-mile paved bicycle trail that connects with the American River Parkway's 26-mile Jedediah Smith Bicycle Trail (see below). Also of note is the 7.7 mile Darrington Mountain Bike Trail that follows the Folsom Lake shoreline from the South Fork of the American River to the Peninsula Campground.

The primary commercial recreational facility on Folsom Lake is the Folsom Lake Marina in Brown's Ravine. The only marina on the lake, Folsom Lake Marina provides approximately 685 wet slips and 45 dry slips for both sailboats and powerboats. The wet slips are operable when the lake level is at least 412 feet msl elevation (PCWA 2001). The slips can accommodate boats up to 28 feet in length. Small craft rental and supplies are also available at the marina. In addition, concessionaires operate snack bars and recreational equipment rentals at the Beal's Point and Granite Bay swimming beaches during the peak summer season.

The water surface elevation in Folsom Lake affects the availability of boat ramps, beaches, berth sites, and other facilities that depend largely on water depth or surface

area. Boat ramps and swimming beaches are affected simultaneously as water levels recede (Nakaji 2003).

14.1.2.6 Merced River

Recreational opportunities along the river are very limited (Stillwater Sciences and EDAW 2001). Most parks and recreation spots are located within agricultural and grazing land areas. Two percent of the land area in the Merced River corridor is publicly owned, although much of this land does not offer recreational opportunities or public access to the river (Stillwater Sciences 2002). There are five parks and public access points downstream from Crocker-Huffman Dam to the confluence with the San Joaquin River, Cuneo Fishing Access, Henderson County Park, McConnell SRA, Hagaman County Park, and George Hatfield SRA. Recreational opportunities at these parks include boating, canoeing, rafting, fishing, swimming, camping, and picnicking. Most of these activities occur primarily during the summer, typically May through September.

14.1.2.6.1 Lake McClure

Lake McClure offers boating and waterskiing, camping, fishing, and hiking. Barrett Cove Marina on Lake McClure is the largest recreational facility on the lake. It has year-round houseboat and patio boat rentals as well as rentals for other watercraft. McClure Point overlooks the largest span of Lake McClure, offering many water sports and activities. There is one boat ramp at McClure Point, two boat ramps at Barrett Cove, and one boat ramp at both Horseshoe Bend and Bagby recreation area. The boat ramps at lake McClure cease operation when the reservoir reaches elevation 793 feet (Bagby); 758 feet (Horseshoe Bend); 650 feet (McClure Point); 630 feet (southern Barrett Cove); 590 feet (northern Barrett Cove and Piney Creek) (San Joaquin River Group 1999). Low water levels affect boat ramps before swimming beaches (Latronica 2003).

14.1.3 Delta

Boating, hunting, sport fishing, and other water-based activities are the most important recreational activities in the Delta. The facilities available to boaters and other recreational users include marinas, city or county public access areas, and yacht or ski clubs. The increasing demand for Delta recreation opportunities spurred the state to establish Brannan Island SRA in 1965 and Franks Tract SRA in 1966.

Historically, year-round sport fishing from shore locations, piers, and boats has been a major activity in the Delta. According to the Delta Protection Commission, sport fishing tournaments are an important recreational activity that contribute to the local economy. Important sport fishing species include striped bass, shad, black bass, catfish, salmon, and steelhead.

Most of the navigable waterways in the Delta are public, and most of the land is private. The lack of public lands limits the use of the Delta for recreation. Public use of the Delta is concentrated in a few areas where marinas and other facilities provide recreational opportunities and access to the Delta waterways and at roadside areas

where public roads are adjacent to the waterways. There are few public parks. Some of the recreation areas in the Delta are accessible only by boat, thus limiting access to the Delta for some users, such as shore anglers.

About 120 marinas account for most of the recreational facilities in the Delta. In addition to berthing and boat fuel, marinas provide services including ski boat and houseboat rentals; boat services (such as boat launching) and marine supplies; camping and picnicking facilities; guest docks; and food and beverage services. Marinas are not equally distributed throughout the Delta but are concentrated in a handful of locations. The most heavily used areas include Bethel Island in Contra Costa County and Lower Andrus Island in Sacramento County. Bethel Island is very congested, with resorts and 33 marinas providing 1,185 berths. In addition to marina berths, the private facilities at Bethel Island include a large number of support and service facilities. Andrus Island is more rural but provides nearly 1,700 berths.

Popular access points for boating, waterskiing, and riding personal watercraft include Windmill Cove near SR 4; King Island; Paradise Point; Herman & Helens near Eight Mile Road; Tower Park near SR 12; and Del's Boat Harbor near the city of Tracy. Houseboating also is concentrated along Eight Mile Road. Windsurfing, a popular sport in the Delta, typically occurs along SR 160 between Sherman Island and Rio Vista and at Windy Cove. Windy Cove is a new facility constructed at Brannan Island SRA and is the only formal windsurfing site in the area.

Not all recreational activities in the Delta are associated with water. The more popular land-based recreation activities include hunting, camping, picnicking, walking for pleasure, bicycling, wildlife viewing, photographing wildlife, sightseeing (driving for pleasure), and attending special events. Waterfowl and pheasant are hunted at wildlife management areas including Grizzly Island, Joice Island, and Sherman Island, in addition to a variety of state cooperative hunting areas.

Much of the open space in the Delta is used for public parks and wildlife refuges. The California Department of Parks and Recreation owns 5,000 acres in the Delta, including Brannan Island, Franks Tract (flooded), Delta Meadows (a scenic waterway near Locke that is popular with boaters), and over 1,000 acres in the Stone Lakes NWR. State, Federal, and nonprofit agencies have purchased significant acreage in the Delta in recent years for enhancement and management as wildlife habitat. For example, California Department of Fish and Game owns 8,080 acres of land in the Delta, including underwater land in the Lower Sherman Island Wildlife Area, portions of the Yolo Bypass, Woodbridge Ecological Reserve, Calhoun Cut Ecological Reserve, and Webb Tract berms and islands.

14.1.4 Export Service Area

14.1.4.1 Anderson Reservoir

Santa Clara Valley Water District leases Anderson Reservoir to the Santa Clara County Parks and Recreation Department who maintain jurisdiction over the Anderson Reservoir County Park. The provisions of the lease provide the District

flexibility to operate Anderson Reservoir. District Resolution 605 establishes a minimum summer pool of 20,000 acre-feet for recreation. Anderson Lake Park has power and non-power boating, water skiing, picnic areas, and barbeque facilities. The 2,365-acre park also includes Coyote Creek multiple use trails, Jackson Ranch historic park site, Moses L. Rosendin Park, and the Burnett Park area. A new 60-foot wide, four-lane boat launch ramp (scheduled for completion in the fall of 2003) will replace the original boat ramp built in the mid-1950s.

14.1.4.2 San Luis Reservoir

San Luis Reservoir and O'Neill Forebay provide for activities such as boating, waterskiing, fishing, camping, and picnicking. San Luis Reservoir SRA is open year round. Boat access is available via one boat ramp at the Basalt area at the southeastern portion of the reservoir and at Dinosaur Point at the northwestern portion of the reservoir. The boat ramp at Basalt becomes difficult to use because of low reservoir levels at elevation 340 feet; the boat ramp at Dinosaur Point is difficult to access at elevation 360 feet (San Joaquin River Group 1999). There are no designated swimming areas or beaches at San Luis Reservoir, but O'Neill Forebay (with its stable surface elevation) has popular swimming, boating, fishing, and camping opportunities.

14.1.4.3 Lake Mathews

Lake Mathews is in Riverside County between Interstate 15 and Interstate 215. Metropolitan Water District (WD) completed Lake Mathews Reservoir in 1939 as the western terminus for the Colorado River Aqueduct. The Lake Mathews – Estelle Mountain Reserve, approximately 13,000 acres, surrounds the lake and is managed jointly by Metropolitan WD, the Riverside County Habitat Conservation Agency, U.S. Bureau of Land Management, and the California Department of Fish and Game. Public access on the Reserve is permitted only on non-Metropolitan WD lands and only by foot or horse travel; there is no public recreation on the lake.

14.1.4.4 Castaic Lake

Castaic Lake is in the Castaic Mountains in southern California and has 29 miles of shoreline. Castaic Lake and Lagoon provide many opportunities for recreation. With two boat launch ramps, the upper lake offers visitors a wide range of water sports, such as sailing, waterskiing, powerboating, and fishing. The east ramp is usable (above water) when the surface elevation is above elevation 1,325 feet msl. The west ramp becomes unusable earlier, at surface elevation 1,435 ft msl (Leahigh 2002). Table 14-1 lists potential recreation effects caused by low water levels that occur in many years. Castaic Lake supports largemouth bass, bluegill, trout, crappie, and catfish. Castaic Lagoon, south of Castaic Lake, serves as a recreation area and a groundwater recharge basin. Overnight camping is available at the lagoon, which features sandy beaches, grassy picnic areas, and a two-lane boat launching ramp. Boating in Castaic Lagoon is limited to non-power boats only; sailing, canoeing, and fishing are popular activities in this area.

Table 14-1 Potential Recreation Effects at Castaic Lake State Recreation Area due to Changes in Surface Water Level	
Lake Surface Water Level (feet)	**Potential Effects**
1,515	Maximum operating surface elevation.
1,495	Potential for significant propeller damage to boats from exposed hazards begins and increases rapidly as the water elevation drops farther.
1,490	Two of the largest boat-in picnic areas on the lake, Sharon's Rest and Laura's Landing, become inaccessible unless willing to climb very steep shoreline.
1,480	Surface area of the lake is decreased by over 10 percent. Existing conflicts between user groups during heavy use periods would be exacerbated. Waiting lines for launching, which frequently occur during heavy use periods even at full lake capacity, would increase.
1,460	The west boat launch ramp loses two of its six lanes.
1,456	Of approximately 25 mapped lake hazards, half would be exposed. Hazard areas are to be avoided when water levels are within 5 vertical feet of hazard elevation.
1,450	The east (main) launch ramp begins to lose lanes, adversely affecting concessionaire's rental boat operation.
1,435	The west boat launch ramp becomes completely unusable. Additional pressure is placed on the main launch ramp and the potential for waiting lines for launching boats is greatly increased.
1,428	Approximately 75 percent of lake hazard areas would be exposed.
1,280	Minimum operating surface elevation.
1,280	Dead pool surface elevation.

Source: Central Coast Water Authority 1995

14.1.4.5 Lake Perris

Lake Perris is southeast of Los Angeles and is the southern terminus for the State Water Project's East Branch of the California Aqueduct. The lake has 10 miles of shoreline that provides opportunities for swimming, boating, fishing, picnicking, bicycling, horse riding, waterskiing, scuba diving, rock climbing, and hunting. Elevations of the boat ramps on the lake are listed in Table 14-2.

Table 14-2 ***Lake Perris Boat Ramps***	
Boat Ramp	***Elevation (ft above msl)***
Ramps 1-4	No record
Ramp 5	1,554
Ramp 6	1,535
Ramp 7	1,566
Power Cove	1,579

Source (Leahigh 2002)

Swimming and playground facilities are available at the Moreno and Perris beaches. The Bernasconi Pass area has picnic facilities and camping sites. The "Big Rock" rock climbing area is also in this vicinity. Fish species in the lake include rainbow trout,

catfish, and Alabama spotted bass. The Lake Perris area also offers hunting for such upland game as valley quail, mourning dove, ducks, geese, and rabbits.

Stakeholders established a task force to manage needs regarding water supply, level, quality, and use at Lake Perris. Maintaining water levels to provide for adequate recreational opportunities was a priority for the Department of Parks and Recreation. The Department of Fish and Game, Riverside County Department of Health, Department of Water Resources, Metropolitan Water District, and the California Department of Boating and Waterways also have priorities for management of water coming into and out of Lake Perris. When water levels are low, recreational opportunities (such as for boating) can be reduced. Normal operations can trigger these low water levels. Also, water quality concerns arising from low water levels affects permitted use of the lake (Arroyo 2002). Table 14-3 lists potential recreation effects caused by low water levels.

Table 14-3 Potential Recreation Effects at Lake Perris State Recreation Area Due to Changes in Surface Water Level

Lake Surface Water Level (feet)	Potential Effects
1,588	Maximum operating surface elevation.
1,574	Guest boat slips at marina would not be usable.
1,573	Non-guest boat slips at marina would not be usable. Exposed hazards would begin to cause potential vessel damage. Increased safety risks to boating public and personal watercraft from reduced surface area and increased hazards.
1,570	Watercraft and windsurfing would be adversely affected as mud and silt layers are within the wading zone where users access the beach for launching. Swimming would be adversely affected by reduced aesthetics, odor, and unpleasant beach conditions, due to exposure of wading zone. Hazards from exposed clam bed and vegetation. Habitat and cover would be exposed and begin to affect sportfishing. Shore fishing would be affected due to increased difficulty of accessing the lake.
1,565	Exposure of numerous underwater hazards would result in 50 percent reduction in the area available for waterskiing and the recreational use of personal watercraft.
1,560	Launch ramp exposed. Most boat-in facilities would be unusable due to exposed mud, underwater vegetation, and hazards. Use conflicts would be significantly increased. Normal operating capacity of 500 vessels would be decreased due to reduced water surface area. Boater delays, which are currently up to four hours or more on weekends during May through October, would be increased.
1,544	Water intake for park's domestic water supply would become inoperable, affecting both park users and employees' residences.
1,540	Minimum operating surface elevation.
1,500	Dead pool surface elevation.

Source: Central Coast Water Authority 1995

14.1.4.6 Diamond Valley Lake

Diamond Valley Lake is between Temecula and Hemet and spans 4.5 miles. The lake has recently been filled; recreation facilities have not yet been constructed. Recreation may eventually include opportunities for biking, hiking, camping, fishing, sailing, boating, and golfing. Facilities at Diamond Valley Lake will likely also include special event areas and separate swimming pools and lagoons.

14.2 Environmental Consequences/Environmental Impacts

14.2.1 Assessment Methods

Under each alternative, the EWA Project Agencies would negotiate contracts with willing sellers based on a number of factors, including price, water availability, and location. These factors would change from year-to-year; therefore, the EWA Project Agencies may choose to vary their acquisition strategy in each year. Maximum flexibility is provided by including in this analysis many potential transfers when the EWA Project Agencies would likely not need all transfers in a given year. Chapter 2 defines the transfers that are included in this analysis.

The effects analysis uses both quantitative and qualitative methods to assess changes in recreational opportunities and use of affected facilities. Quantitative methods include consideration of thresholds at which recreational opportunities are affected (e.g., the reservoir level at which boat ramp use declines or boat ramps become unusable). The comparison of reservoir storage elevations and river flows uses median values over the period of record and current operating parameters as a baseline. This method supplies the most average result; 50 percent of the time actual reservoir and river levels will be higher and 50 percent of the time the actual levels will be lower than those used in the baseline. If the reservoir and river levels differ greatly from the historic level during a transfer year, the effects will also differ from those predicted by the analysis. If reservoir levels are higher than the historical average, the actual effects will be less than the predicted effects. If reservoir levels are lower than the historical average, the actual effects will be greater than the predicted effects. Attachment 1 describes the modeling efforts to quantify changes in reservoir storage, riverflows, and river temperatures. Qualitative methods used to assess recreation effects include consideration of potential effects on the availability, accessibility, and quality of recreation sites.

For each EWA action evaluated, the maximum amount of acre-feet that would potentially be transferred was analyzed. If there were no significant effects at this maximum amount, it is assumed that a transfer of less water would also produce no significant effects.

14.2.2 Significance Criteria

EWA actions would result in a potentially significant adverse effect on recreational resources if recreational opportunities at affected facilities were substantially reduced.

The criteria below are consistent with the CALFED Programmatic Environmental Impact Statement/Environmental Impact Report. An impact on a recreational resource was potentially significant if implementing an action would cause:

- Changes in reservoir water levels or river flows that result in a substantial reduction of recreational opportunities;
- Changes of river temperature that reduce recreational swimming, tubing, canoeing, kayaking, and rafting; or
- Changes in fish and wildlife populations that would reduce recreation opportunities.

Recreational opportunities at reservoirs are affected if reservoir levels decline such that boat ramps become unusable. Boat ramp usability is chosen as the limiting factor because it is a quantifiable measurement and lower reservoir levels would generally affect boat ramps prior to affecting other recreational activities (e.g., swimming or fishing). If boat ramps remain usable, it is assumed that there are sufficient water levels in the reservoir to sustain all other recreational activities. In those cases where boat ramp usability is not a good indicator of ability to use other recreational facilities, a qualitative discussion follows.

14.2.3 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

The analysis of the recreational facilities during the assessment period (Stage 1 phase of CALFED) indicated that there would be no changes in recreational opportunities from that described in the affected environment section, with the exception of the completion of Diamond Valley Lake. Once completed, this reservoir would supply additional recreational opportunities above those described in the affected environment section. No other changes to recreation are anticipated, including construction of new facilities or the removal of existing facilities. The reliability of water supply would be as it was without the EWA. The potential for the CVP/SWP to receive less water, and as a result reservoirs in the Export Service Area to receive less water, would remain. Any effects on recreation of lowered reservoir levels would be the same in the future. Therefore, the No Action/No Project Alternative reflects the affected environment description and both are termed Baseline Condition in the following sections.

14.2.4 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers up to 600,000 acre-feet and does not specify transfer limits from the Upstream from the Delta Region or the Export Service Area. Transfers from the Upstream from the Delta Region would range from 50,000 to 600,000 acre-feet, limited by hydrologic year and conveyance capacity through the Delta. Although all potential transfers would not occur in one year, this

section discusses all transfers (a transfer amount that would result in greater than 600,000 acre-feet) to provide an effect analysis of a maximum transfer scenario. Similarly, the evaluation includes an analysis of up to 540,000 acre-feet in the Export Service Area to cover a maximum transfer scenario for that region.

14.2.4.1 Upstream from the Delta Region

14.2.4.1.1 Hunting and Fishing

EWA acquisition of water in the Upstream from the Delta Region could alter the locations of hunting areas. Rice fields that are flooded during the winter provide habitat for waterfowl and therefore are common hunting areas. If rice acreage is idled, waterfowl may be found on different fields than previous years; therefore, hunters would need to travel to different locations. As stated in Chapter 10, waterfowl populations would not decrease. Birds may flock to different fields, but the total number of birds and, therefore, the population from which to hunt from, would not decrease. Although hunting locations would change, hunting opportunities would stay the same; therefore, the effect on recreation from idling rice fields would be less than significant.

EWA acquisition of water would change reservoir levels and river flows, potentially affecting fishing opportunities. Fishing in reservoirs and rivers is a popular recreational activity. The timing, flow, and volume changes that would occur in reservoirs and rivers would not affect fish populations (see Chapter 9). Because the same number of fish would be present under the Flexible Purchase Alternative compared to the Baseline Condition, there would be no effects on recreational fishing opportunities due to a decrease in fish population.

14.2.4.1.2 Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would decrease Sacramento River flows from Lake Shasta downstream to the point of diversion in June[1]. EWA acquisition of up to 120,000 acre-feet of water via groundwater substitution and up to 158,000 acre-feet from crop idling would decrease Sacramento River flows by 1,160 cfs in June. The reduction from 18,180 cfs to 17,020 cfs in June would not affect rafting or boating, which have a minimum threshold of 5,000 cfs. Thus, the decrease in median monthly flows during June is less than significant.

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change Sacramento River flows downstream from Lake Shasta in April through September. EWA acquisition of up to 120,000 acre-feet of water via groundwater substitution and up to 158,000 acre-feet from crop idling would increase Sacramento River flows by 240 cfs between Lake Shasta and the point of diversion in July. Flows in this reach would decrease 133 cfs and 111 cfs in August and September, respectively. Downstream from the diversion point, flows would increase by 289 cfs,

[1] Because of flow and temperature requirements in the Sacramento River, Lake Shasta would not be able to store EWA water from groundwater substitution and crop idling in April and May. During these months, flows in the Sacramento River would be the same as under the Baseline Condition. In some years, (depending on hydrologic conditions) Lake Shasta would store EWA water in June.

372 cfs, 429 cfs, 1,940 cfs, 777 cfs, and 157 cfs in April through September, respectively. This represents a 1 to 11 percent increase in flow. Such an incremental increase in flow is not associated with any reduction in recreational opportunities. The increases would not preclude any recreational activity (e.g., fishing, boating, or swimming) that occurred under the Baseline Condition. The flow increase would therefore have a less-than-significant effect on recreation along the Sacramento River.

The decrease in water released from Lake Shasta in June and the subsequent increase in water released July through September would not affect Sacramento River water temperature (see Table 14-4). Because there is no change in water temperature under the Flexible Purchase Alternative, there would be no temperature-related effect upon recreational users.

Table 14-4
Long-term Average Water Temperature in the Sacramento River below Keswick Dam Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (degrees F)		
	Baseline	Flexible Purchase Alt.	Difference
Oct	50.7	50.7	0.0
Nov	50.9	50.9	0.0
Dec	48.8	48.8	0.0
Jan	45.4	45.4	0.0
Feb	47.9	47.9	0.0
Mar	51.3	51.3	0.0
Apr	51.0	51.0	0.0
May	47.9	47.9	0.0
Jun	47.4	47.4	0.0
Jul	48.6	48.6	0.0
Aug	51.4	51.4	0.0
Sep	50.6	50.6	0.0

[1] Based on 69 years modeled.

Lake Shasta

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change the timing of releases from Lake Shasta. Lake Shasta would hold back at most 68,900 acre-feet that would have been released under the Baseline Condition. The lake level would decline faster in July and August compared to the Baseline Condition; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September (Figure 14-5). Lake Shasta elevation would be 1.1 feet lower in July, 0.5 of a foot lower in August, and equal to the Baseline Condition in September. The small change in elevation would not affect Bailey Cove boat ramp, which is available up to 50 feet of drawdown or Jones Valley and Centimudi, which are available up to 210 feet of drawdown. At Lake Shasta, low water levels affect campsites before boat ramps. Because the lake level decline is minimal however, access to campsites would not be adversely affected. The lower elevation in July and August would not adversely affect

recreational opportunities at the lake; therefore, the effect of this action would be less than significant.

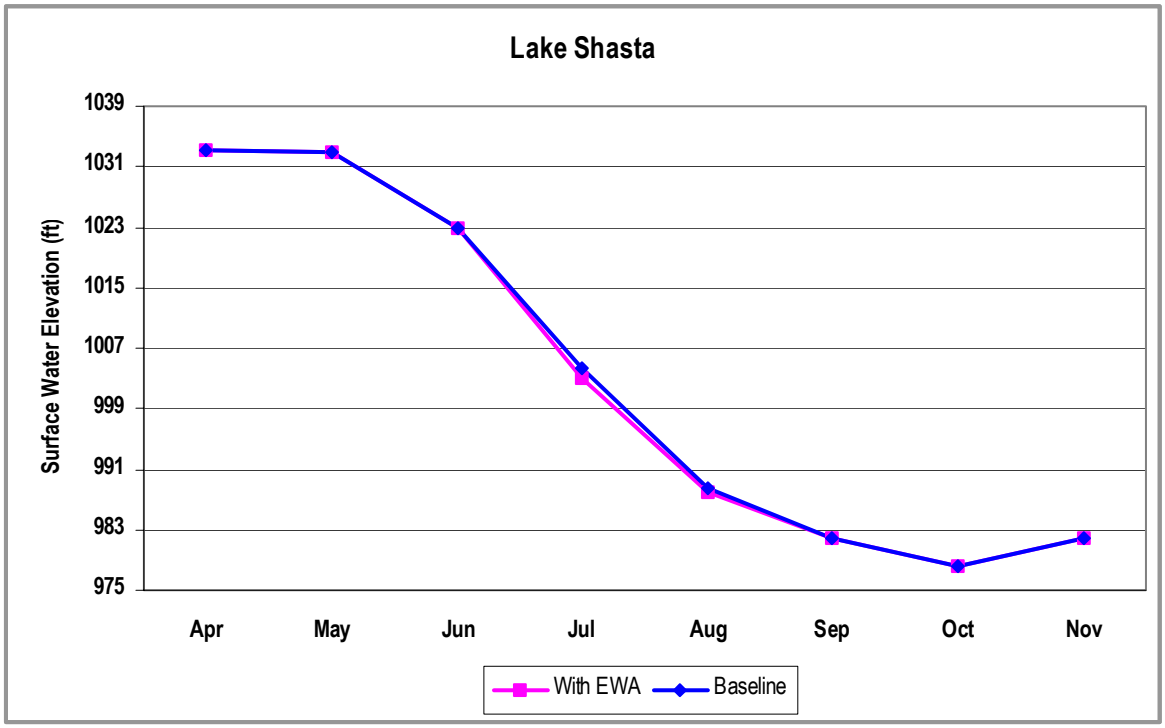


Figure 14-5
Changes in End of Month Surface Water Elevation in Lake Shasta

14.2.4.1.3 Feather River

EWA acquisition of water from Western Canal WD, Joint Water Districts, and Garden Highway MWC via crop idling and groundwater substitution would increase Feather River flows in July through September. In July through September, the Feather River would increase below the point of diversion by 2,105 cfs, 850 cfs, and 149 cfs in July, August, and September, respectively. This is an increase above the median monthly flow under the Baseline Condition of 36 percent, 19 percent, and 9 percent in July through September. The change in flow would not affect river temperature as shown in Table 14-5. The increase in flow because of increased releases is not associated with any reduction in recreational opportunities. The increases would not preclude any recreational activity (e.g., fishing, boating, or swimming) that occurred under the Baseline Condition. The flow increase would therefore have a less-than-significant effect on recreation along the Feather River.

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would increase Feather River flows below Sly Creek and Little Grass Valley Reservoirs to Lake Oroville in November and December. The water released from Little Grass Valley and Sly Creek Reservoirs into Lake Oroville would not affect Feather River water temperature. Water released from the reservoirs would get diverted through Woodleaf and Forbestown tunnels to

run through the corresponding power generation facilities and end up in Ponderosa Reservoir. Transfer water spills from Ponderosa Reservoir directly into Lake Oroville. Because the water transferred from Little Grass Valley and Sly Creek Reservoirs into Lake Oroville would almost entirely bypass the Feather River, there would be no temperature effects on recreation.

Table 14-5. Long-term Average Water Temperature in the Feather River below Thermalito Afterbay Under the Baseline Condition and Flexible Purchase Alterative

Month	Water Temperature[1] (degrees F)		
	Baseline	Flexible Purchase Alternative	Difference
Oct	59.6	59.6	0
Nov	53.0	53.0	0
Dec	46.4	46.4	0
Jan	45.3	45.3	0
Feb	49.0	49.0	0
Mar	52.7	52.7	0
Apr	57.0	57.0	0
May	62.4	62.4	0
Jun	66.2	66.2	0
Jul	70.1	70.1	0
Aug	69.2	69.2	0
Sep	64.7	64.7	0

[1] Based on 69 years modeled.

Little Grass Valley and Sly Creek

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would decrease surface water elevations from December until refill for Sly Creek and Little Grass Valley Reservoirs. Little Grass Valley and Sly Creek Reservoirs are upstream from Lake Oroville on the Feather River. These reservoirs would release a combined maximum of 15,000 acre-feet of water from November to December. Figures 14-6 and 14-7 show historic reservoir surface water elevations and the potential change due to EWA actions. A release of a maximum of 12,000 acre-feet from Little Grass Valley would reduce storage by 23 percent, an elevation change of approximately 12 feet. Sly Creek Reservoir would release a maximum of 5,000 acre-feet. This reduction would cause a 17-foot decrease in reservoir elevation. These reductions would not affect activities such as boating and swimming because these activities have low uses during the winter months, the timeframe of the transfer. Other recreational activities such as hunting, hiking, sightseeing, fishing, and winter sports such as snowmobiling and cross-country skiing would not be affected adversely by a decrease in reservoir levels.

The reservoirs would be refilled with rain/snowmelt over the winter and into the spring. In most dry or critically dry water years, Little Grass Valley and Sly Creek Reservoirs refill during the winter and spring to levels sufficient for recreation. In some cases, the reservoir refills during critical years as well (for example, Little Grass Valley refilled in 1976, 1988, 1990-92, and 1994). Because the reservoirs have

historically refilled in most years, it is anticipated that the reservoirs would also refill after selling water to the EWA. In the critically dry years when reservoir levels are extremely low, recreation would be affected regardless of whether Oroville-Wyandotte ID has sold water to the EWA. Therefore, the EWA acquisition of Oroville-Wyandotte ID stored reservoir water and effects on Sly Creek and Little Grass Valley reservoirs would be less than significant.

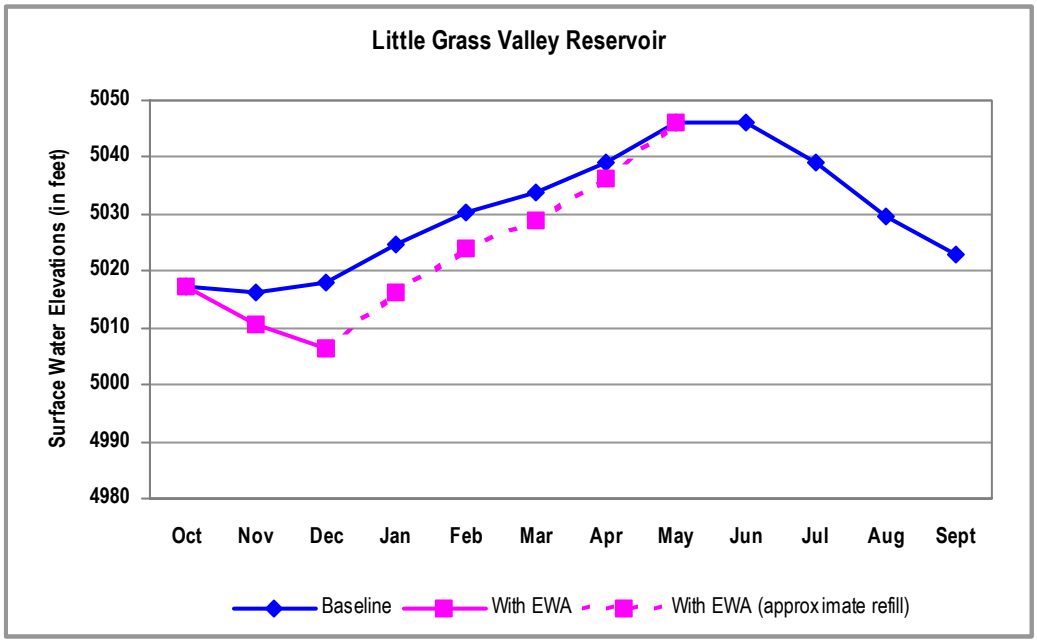


Figure 14-6
Changes in End of Month Surface Water Elevation in Little Grass Valley Reservoir

Note: It is anticipated that refill would occur as indicated in the above figure, depending on hydrologic conditions. However, if inflow were held by Little Grass Valley Reservoir at a time when the Delta was in balanced conditions, the water would be paid back to the Projects in a fashion similar to the original transfer.

According to the refill criteria (Section 4.2.3.1, Water Supply), Little Grass Valley and

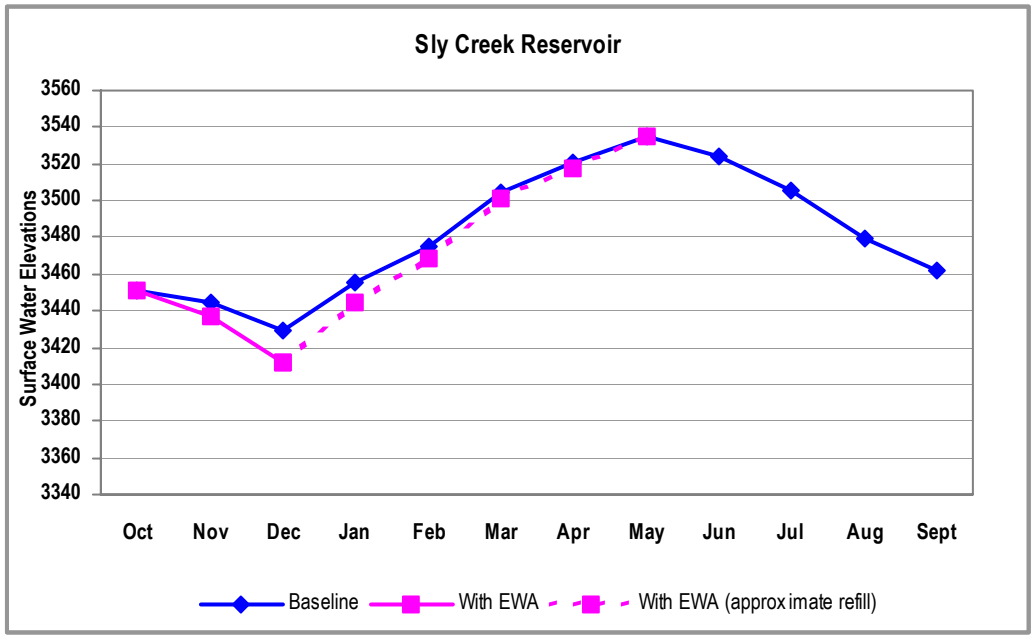


Figure 14-7
Changes in End of Month Surface Water Elevation in Sly Creek Reservoir

Note: It is anticipated that refill would occur as indicated in the above figure, depending on hydrologic conditions. However, if inflow were held by Sly Creek Reservoir at a time when the Delta was in balanced conditions, the water would be paid back to the Projects in a fashion similar to the original transfer.

Sly Creek Reservoirs would refill during the winter with runoff and snowmelt. If these reservoirs capture water while the Delta is not in excess conditions[2] (Section 4.1, Water Supply), the reservoirs will have to repay the water to the Projects the following summer. The water would be released on a similar schedule as the original EWA transfer and would have similar effects. The EWA agencies could enter into multi-year contracts with Oroville-Wyandotte ID, but would not purchase water a second year in a row if the reservoirs did not refill the previous year. The refill criteria are a part of the project; there would therefore be no significant effect on recreation.

Lake Oroville

EWA acquisition of water from Western Canal WD, Joint Water Districts, and Garden Highway MWC via crop idling and groundwater substitution would increase the surface water elevation April to June and decrease the surface water elevation in July and August in Lake Oroville compared to the Baseline Condition. EWA agencies would acquire 110,000 acre-feet through groundwater substitution and 126,550 acre-feet through

[2] Delta excess water conditions, also referred to as unbalanced conditions, are defined in the Coordinated Operation Agreement as "periods when it is agreed that releases from upstream reservoirs plus unregulated flow exceed Sacramento Valley in basin uses, plus exports."

crop idling. During April through June, Lake Oroville would hold back water that would have been released under the Baseline Condition. By the end of June, the surface water elevation in the reservoir would be, at most, 2 feet higher than under the Baseline Condition (Figure 14-8), resulting in a minor to modest positive effect on swimming and camping. Increased releases in July and August as the stored EWA water is released for cross-Delta transfer would cause the lake level to decline faster compared to the Baseline Condition; however, reduced releases in September would allow end of month elevation in September to be the same as the Baseline Condition. The small change in elevation would not affect the boat ramps, which are usable until the lake level falls below 700 msl. Low water levels affect boat-in campgrounds before boat ramps; however, the slight decrease in elevation (approximately 1.0 feet)

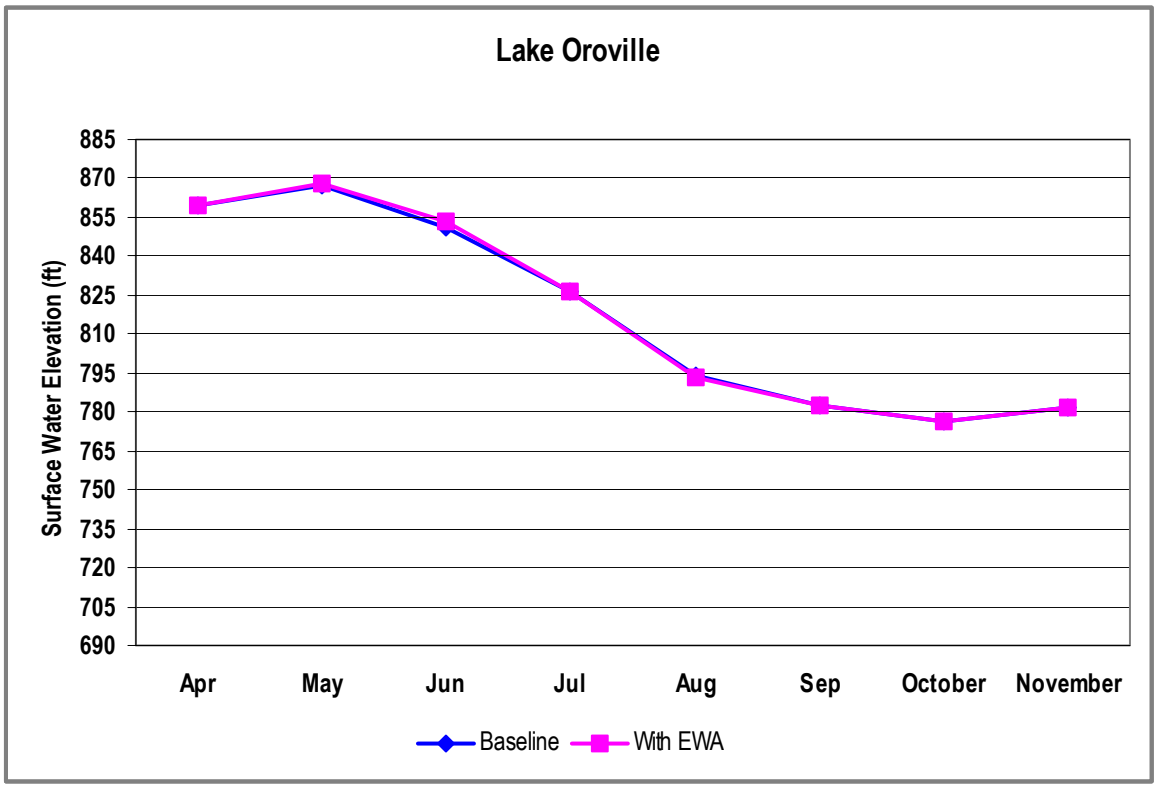


Figure 14-8
Changes in End of Month Surface Water Elevation in Lake Oroville

would not cause a decrease in use. The changes in surface water elevation would not affect fishing, swimming, and boating opportunities; therefore, the effects would be less than significant.

14.2.4.1.4 Yuba River

EWA acquisition of Yuba County WA water via groundwater substitution would decrease Yuba River flows from the power facility discharge upstream from Engelbright to the user's diversion points, typically at Englebright and Daguerre Point Dams from April to June. Yuba River flows would decrease at most by 239 cfs in late spring as farmers use groundwater for irrigation instead of surface water from New Bullards Bar Reservoir.

(A total of 12 to 19 percent reduction in April through June compared to the median flow under the Baseline Condition.) Because of limited river access, recreation is not common along the river. Fishing, however, does take place during this time of year. The decrease in flow would not affect fish population or decrease the quality of fishing. Fishing occurs year round when flows are less they would be with the EWA during April through June. The decrease in flows that would occur would not create a substantial loss of recreational opportunity; therefore, the effect would be less than significant.

EWA acquisition of Yuba County WA water via groundwater substitution and stored reservoir water would increase Yuba River flows downstream from Englebright July through September. Yuba River flows would increase at most by 1,005 cfs in July through September; approximately 60 percent above the Baseline Condition. The flow increase could affect recreational activities such as fishing. During July, August, and September, median flows are 1,791 cfs, 2,045 cfs, and 1,218 cfs, respectively. The flow increase of 1,005 cfs would increase river flows to levels that are fishable and that occur during other times of the year. For example, median flows in January through April are 2,405, 2,683, 3,177, and 2,022, respectively. These flows are comparable to flows that would occur with the EWA in July through September. Additionally, fishing reports indicate that the river is quite fishable at flows of 4,900 cfs and 5,500 cfs (substantially higher than flows with the EWA); however, wading should be undertaken cautiously (Bob's Fly Shack Fly Fishing Report 2003). The change in flow as a result of EWA actions would not increase flows beyond fishable levels. In fact, increased flow is beneficial to fish, which could lead to more favorable fishing conditions. The effect on recreation from increased flow would be less than significant.

Yuba River water temperatures would not be expected to fluctuate from the slower decrease of water from New Bullards Bar Reservoir in April through June. The release of stored reservoir water and groundwater substitution in July through September would decrease Yuba River water temperature. Changes in water temperatures were observed coincident with water transfers during 2001 (transfer of 172,000 acre-feet during July and August). For example, water temperatures at Highway 20 dropped from 73.4°F on July 3 to 62.6°F on July 8. Water temperatures at this site remained around 61°F until flows were reduced in late August, at which time the water temperatures increased with flow reduction. At the mouth of the Yuba River, water temperatures prior to the 2001 water transfers were approximately 73°F, compared to an average of 61°F after water transfers began. Although water temperatures would be substantially colder, recreational opportunities would not be substantially affected. The stretch of the Yuba River below Englebright is not a common recreation spot because of access limitations. The main recreational opportunities that exist are fishing, and swimming to a limited extent. The cooler water temperature is beneficial for fish, which could lead to more favorable fishing conditions. Recreational activities, including swimming, occur throughout the summer on the Sacramento and American Rivers, which have water temperatures ranging from 48°F to 66°F (see Sections 14.2.4.1.2 and 14.2.4.1.5). Yuba River water

temperature with the EWA would be within this range. Therefore, while the water temperature may not be as desirable as without the EWA, recreational users could partake in water dependent activities at lower river water temperatures as demonstrated by use of the American and Sacramento Rivers. The effect on recreation on the Yuba River from the purchase of stored reservoir water and groundwater substitution does not substantially affect recreational opportunities and would therefore be less than significant.

New Bullards Bar Reservoir

EWA acquisition of water from Yuba County Water Agency (Yuba County WA) via stored reservoir water and groundwater substitution would alter the surface water elevation April to refill at New Bullards Bar Reservoir. EWA agencies would acquire 85,000 acre-feet through groundwater substitution. During April through June, New Bullards Bar Reservoir would hold back water that would have been released under the Baseline Condition. By the end of June, the surface water elevation in the reservoir would be, at most, 5 feet higher than under the Baseline Condition (Figure 14-9). An increase in the surface water elevation would likely cause a net positive effect on recreational uses; fishing, swimming, and boating opportunities may be enhanced over the Baseline Condition.

Yuba County WA would not enter into a transfer agreement unless local needs, instream flows, and system demand requirements were met. If these elements were met, EWA agencies could acquire water during July through September. Releases from New Bullards Bar Reservoir would be, at a maximum, 100,000 acre-feet of water from stored reservoir water and 85,000 acre-feet from groundwater substitution. The combination of these releases would reduce lake levels compared to the Baseline Condition by 1 foot, 10 feet, and 24 feet in July, August, and September, respectively. This reduction would leave boat ramps operable into October. Dark Day boat ramp would become inoperable toward mid-October; Cottage Creek boat ramp would remain operable throughout the year. The water in New Bullards Bar Reservoir would decline below the end of the Dark Day boat ramp, but this would occur late in the recreational season. The number of boaters would be fewer than during the peak recreational season (Memorial Day through Labor Day) and the Cottage Creek boat ramp would still be operational; therefore, the recreational opportunity would not be substantially decreased.

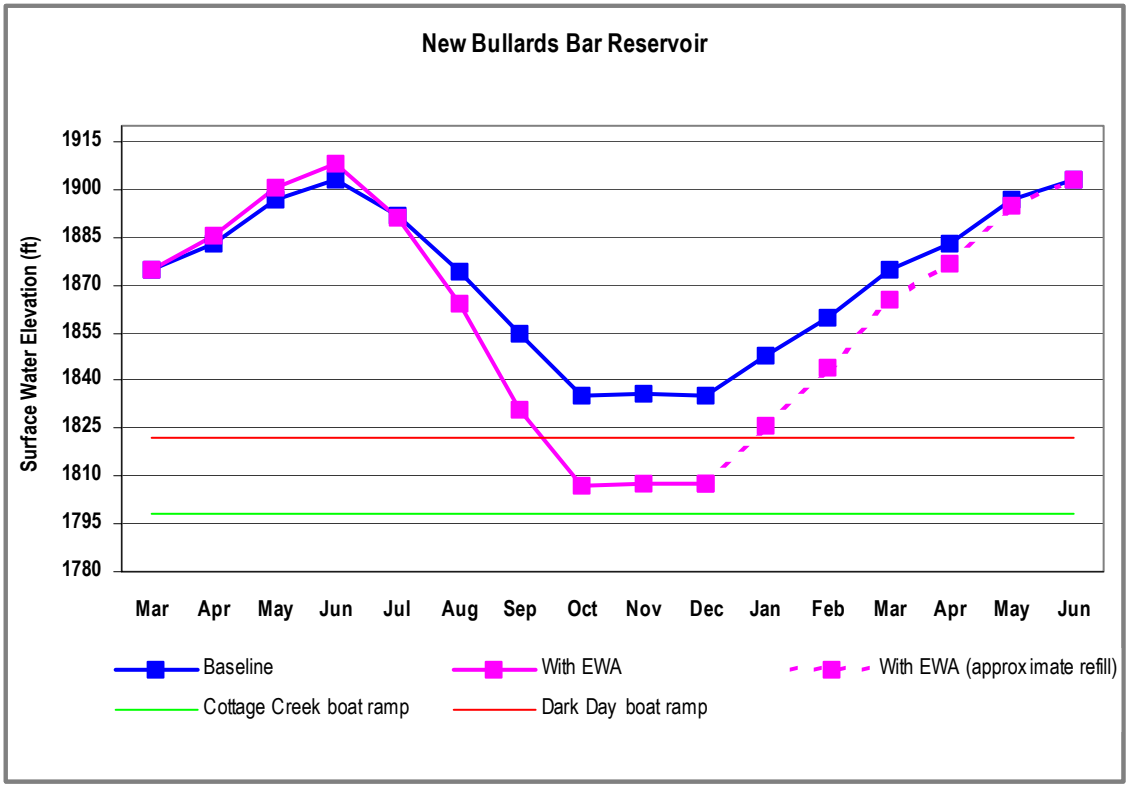


Figure 14-9
Changes in End of Month Surface Water Elevation in New Bullards Bar Reservoir

Note: It is anticipated that refill would occur as indicated in the above figure, depending on hydrologic conditions. However, if inflow were held by New Bullards Bar Reservoir at a time when the Delta was in balanced conditions, the water would be paid back to the Projects in a fashion similar to the original transfer.

Camping, also a popular activity at New Bullards Bar Reservoir, could be affected by a decrease in reservoir levels. Boat-in campgrounds become inaccessible as water levels recede, historically by mid-August (Chavez 2003). With the EWA, the boat-in campground would become inaccessible approximately 1 week earlier than the Baseline Condition because of lower water levels. While this is a decrease in recreational opportunity, it is not a substantial loss of opportunity. Additionally, camping (other than using the boat-in campground) is still available at campgrounds surrounding the reservoir. The overall effect on recreation from the purchase of stored reservoir water would be less than significant.

The EWA agencies and Yuba County WA could agree to transfer water under a multi-year contract. If full refill occurred, which it has for 85 percent of the past transfers, effects on recreation for subsequent years would be the same as described above. If full refill did not occur, Yuba County WA would consider selling less water the following year. The EWA agencies would not purchase water if the transfer would cause a significant effect on recreation.

14.2.4.1.5 American River

EWA acquisition of Placer County WA stored reservoir water would increase American River flows downstream from French Meadows Reservoir to Folsom Lake from June to October. Releases would increase relative to the Baseline Condition. Under the Baseline Condition, median flows downstream from Oxbow Power House on the Middle Fork[3] are 790 cfs, 793 cfs, and 776 cfs during June, July, and August, respectively. If flows increased during this time period, the releases would raise flow rates above the minimum-rafting threshold of 850 cfs, providing a beneficial effect on recreation resources.

EWA acquisition of Placer County WA stored reservoir water would decrease American River flows downstream from French Meadows Reservoir to Folsom Lake during refill of Hell Hole and French Meadows Reservoirs. River flows would decrease during the winter and early spring. During this time of year, recreational activities in and along the river are limited because of cold water and air temperatures. Hiking and wildlife viewing, common winter recreational activities, would not be adversely affected by a decrease in river flow. Fishing is not permitted in the river during winter through early spring. Thus, the EWA acquisition of Placer County WA stored reservoir water and the decrease in American River flows would be less than significant.

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase would increase American River flows downstream from Folsom Lake from June through December. A relatively small increase in flow is not usually associated with any reductions in recreational opportunities. The increases would not be to such a level as to prevent recreational use of the river (e.g., rafting, swimming). The effect on recreational flows on the American River due to groundwater purchase would be less than significant.

The lower American River is a common recreation area for swimmers and rafters. A change in river temperature could affect the enjoyment of recreational users. Table 14-6 shows the average water temperature under the Baseline Condition as well as under the Flexible Purchase Alternative. There are no substantial differences in water temperature; therefore, the effect on recreation on the American River due to groundwater purchase would be less than significant.

[3] Releases from Hell Hole and French Meadows Reservoirs would flow through tunnels for power generation; increases to river flow would not occur until below Oxbow Power House.

Table 14-6
Long-term Average Water Temperature in the American River Below Nimbus Dam Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (degrees F)		
	Baseline	Flexible Purchase Alt.	Difference
Oct	56.3	56.3	0.0
Nov	56.5	56.5	0.0
Dec	51.2	51.2	0.0
Jan	47.2	47.1	-0.1
Feb	47.8	47.8	0.0
Mar	50.3	50.4	0.1
Apr	53.7	53.8	0.1
May	56.5	56.6	0.1
Jun	59.6	59.6	0.0
Jul	64.3	64.3	0.0
Aug	64.5	64.6	0.1
Sep	65.9	66.1	0.2

[1] Based on 69 years modeled.

Hell Hole and French Meadows Reservoirs

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations June to refill at Hell Hole and/or French Meadows Reservoirs. Hell Hole Reservoir and French Meadows Reservoir would release a combined maximum of 20,000 acre-feet of water. The amount released from each reservoir would be at the discretion of Placer County WA. This analysis assumes that 61 percent of the transfer amount would be released from Hell Hole, and the remainder would be released from French Meadows.

French Meadows would release 7,800 acre-feet beginning as early as June and ending as late as October. This analysis assumes that the water would be released between July and September. By the end of the release, the reservoir water surface elevation would drop approximately 8 feet. Figure 14-10 shows the historic reservoir storage, the potential change in storage with the EWA, and the boat ramp elevation at French Meadows Reservoir. EWA releases could cause Hell Hole Reservoir boat ramps to be out of the water (unusable) at the end of October, whereas the boat ramps would be usable through November under the Baseline Condition. Typically boating continues through October or early November (around the time of the first snowfall). Boating/fishing in small craft that could be hand carried to the water's edge would continue to be possible though also somewhat more difficult. Because low water levels affect boat ramps prior to other recreational uses, no other water-dependent activities at French Meadows Reservoir would be affected before the end of October.

Although the boat ramps would be unusable earlier with the EWA than under the Baseline Condition, recreational use of the boat ramps under the Baseline Condition would have stopped at approximately the same time because of weather conditions.

There is no substantial loss of recreational opportunity; therefore, the EWA acquisition of stored reservoir water and the decrease in surface water elevation at French Meadows Reservoir would be less than significant.

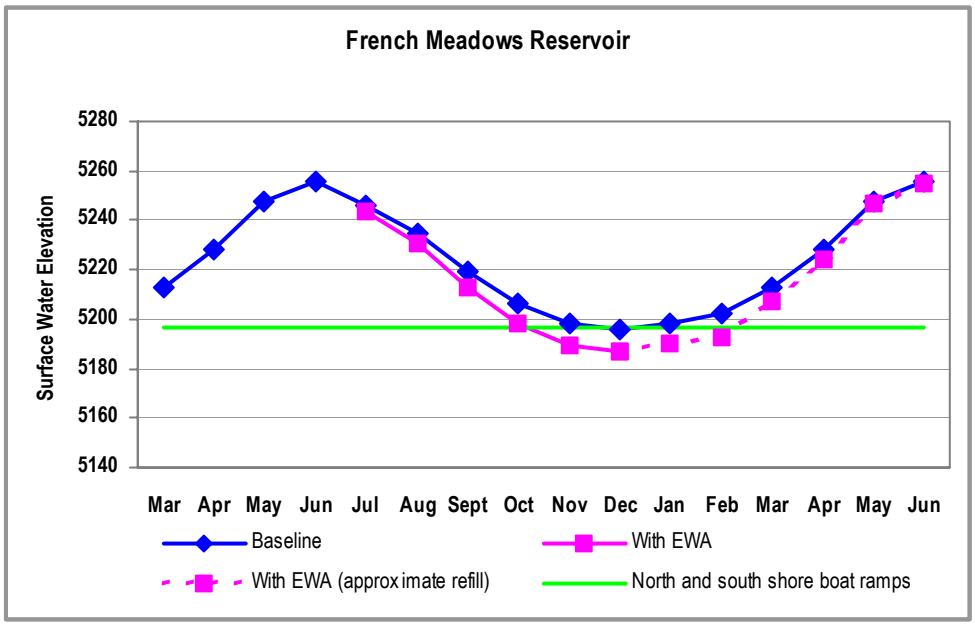


Figure 14-10
Changes in End of Month Surface Water Elevation in French Meadows Reservoir

Note: It is anticipated that refill would occur as indicated in the above figure, depending on hydrologic conditions. However, if inflow were held by French Meadows Reservoir at a time when the Delta was in balanced conditions, the water would be paid back to the Projects in a fashion similar to the original transfer.

Figure 14-11 shows the historic end-of-month storage at Hell Hole Reservoir and the end-of-month storage due to EWA actions during the transfer periods. The release of 12,200 acre-feet would reduce the water surface level by 14 feet. Camping and fishing are the major recreational activities on the reservoir, and these activities would not be significantly affected by a decrease in reservoir levels. As stated in Chapter 9, this change in reservoir level would not affect fish populations or the quality of fishing at the reservoir adversely. Historically, the boat ramp at Hell Hole Reservoir is unusable during winter because of low reservoir levels. Winter access would not change under the Flexible Purchase Alternative. Additionally, the boat ramp would remain usable during peak recreational months despite the decrease in reservoir levels. EWA releases could cause Hell Hole Reservoir boat ramps to be out of the water (unusable) at the end of October, whereas the boat ramps would be usable through November under the Baseline Condition. Typically boating continues through October or early November. After the first snowfall, access over the ridge becomes difficult. Boating/fishing in small craft that could be hand carried to the water's edge would continue to be possible though also somewhat more difficult. (Jue 2003) Therefore, although the boat ramps would be unusable earlier with the EWA than under the

Baseline Condition, recreational use of the boat ramps under the Baseline Condition would have stopped at approximately the same time because of weather conditions. There is no substantial loss of recreational opportunity; therefore, the EWA acquisition of stored reservoir water and the decrease in surface water elevation at Hell Hole Reservoir would be less than significant.

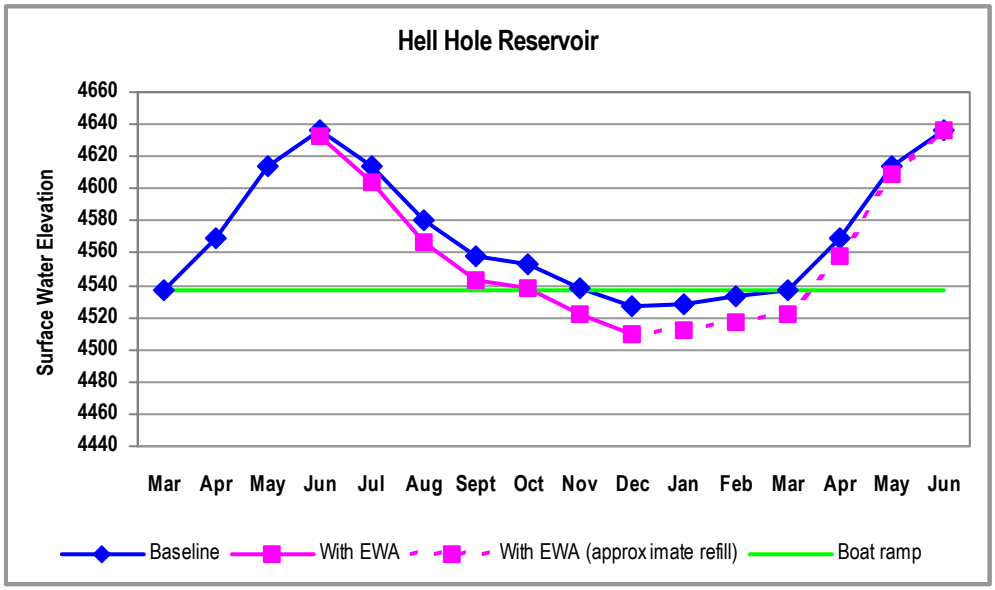


Figure 14-11
Changes in End of Month Surface Water Elevation in Hell Hole Reservoir

Note: It is anticipated that refill would occur as indicated in the above figure, depending on hydrologic conditions. However, if inflow were held by Hell Hole Reservoir at a time when the Delta was in balanced conditions, the water would be paid back to the Projects in a fashion similar to the original transfer.

According to the refill criteria (Section 4.2.3), Hell Hole and French Meadows Reservoirs would refill during the winter with runoff and snowmelt. If the reservoirs capture water while the Delta is not in excess conditions, water would be released and paid back to the Projects on a similar schedule as the original EWA transfer, and effects would be similar. If the EWA agencies acquired water through a multi-year contract with Placer County WA, water could be transferred during a second year, even if the reservoirs did not refill the year before, as long as the two reservoirs did not drop below a combined 50,000 acre-feet of storage (minimum operating levels). Thus, at a maximum, EWA actions could reduce storage at Hell Hole by 24,400 acre-feet (to 118,000 acre-feet) and at French Meadows by 15,600 acre-feet (to 67,000 acre-feet). This decrease in storage would be less than significant because the surface storage during peak recreation times would remain at or above minimum boat ramp operating levels.

Folsom Lake

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase and Placer County Water Agency's water via stored reservoir water would change surface water elevations in Folsom Lake. During July and August, the surface water elevation at Folsom Lake would be 0.8 of a foot lower than the Baseline Condition. The lake level would decline faster in July and August compared to Baseline Condition; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September (Figure 14-12). The small change in elevation would not affect the boat ramps, which are usable until the lake level falls below 412 feet msl. Lower lake elevations affect boat ramps and other water-dependent activities simultaneously. Because low water levels do not significantly affect boat ramps, other water-dependent activities would also not be significantly affected.

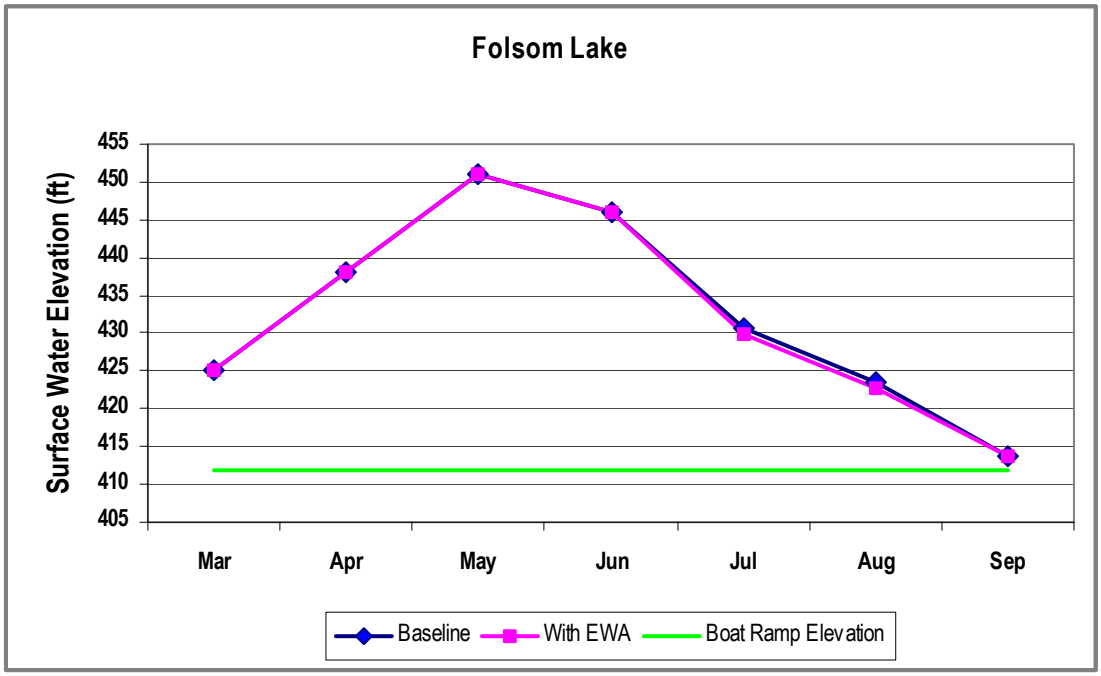


Figure 14-12
Change in End of Month Surface Water Elevation in Folsom Lake

14.2.4.1.6 Merced River

EWA acquisition of Merced ID water via groundwater substitution would decrease Merced River flows downstream from New Exchequer Dam to the point of diversion in April through June. Merced River flows in this reach would decrease by approximately 70 cfs (between 8 percent and 14 percent of monthly median flows). This reach of river has several dams and is not easily accessible for recreation. The recreational opportunities

that do exist on the river (e.g., fishing) would not be affected by the predicted decrease in flow. Flows with the EWA would be comparable to or higher than flows during the summer months under the Baseline Condition when the river is fishable. There would be no substantial loss of recreational opportunity on the Merced River as a result of groundwater substitution.

Lake McClure

EWA acquisition of Merced ID water via groundwater substitution would increase the water surface elevation in Lake McClure compared to the Baseline Condition. EWA agencies could acquire 25,000 acre-feet through groundwater substitution. During April through September, Lake McClure would hold back water that would have been released under the Baseline Condition. By the end of September, the surface water elevation in the reservoir would be, at most, 3 feet higher than the Baseline Condition (Figure 14-13). An increase in the surface water elevation would have a slightly beneficial effect on recreational uses; fishing, swimming, and boating opportunities would be slightly enhanced over the Baseline Condition. Under a multi-year transfer, effects on recreation from groundwater substitution would be same as described for a 1-year transfer.

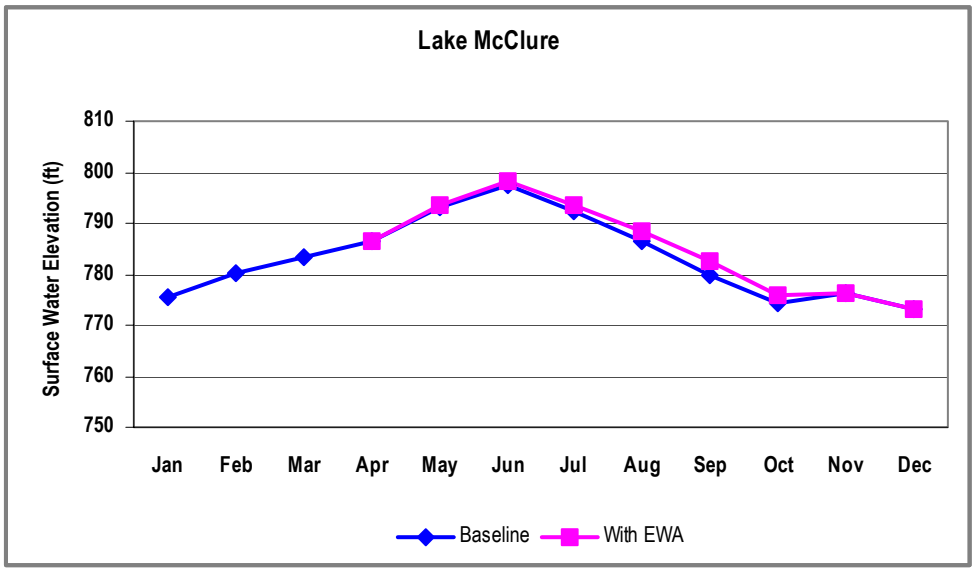


Figure 14-13
Changes in End of Month Surface Water Elevation in Lake McClure

14.2.4.2 Delta

There would be no decreases in Delta inflows from the Sacramento or San Joaquin Rivers under the Flexible Purchase Alternative. Because river water temperatures are not significantly affected in the Upstream from the Delta Region, there would be no adverse effect on recreation from changes in water temperature in the Delta. Therefore, no effects on recreation in the Delta would be anticipated.

14.2.4.3 Export Service Area

14.2.4.3.1 Anderson Reservoir

Source shifting at Anderson Reservoir would decrease the summer surface water elevation compared to the Baseline Condition. Anderson Reservoir would be used to compensate Santa Clara Valley Water District's delayed receipt of water from San Luis. A maximum of 20,000 acre-feet could be source shifted. Per District Resolution 605, the District would not draw down the reservoir below its minimum summer pool of 20,000 acre-feet, which is necessary to maintain recreational opportunities. Because the minimum storage would not be lowered with the EWA, there would be no significant effects on recreation.

14.2.4.3.2 San Luis Reservoir

Borrowing project water from San Luis Reservoir would decrease surface water elevations. Under the Baseline Condition, surface water elevations in San Luis Reservoir would begin to decrease in mid-April. At approximately 300,000 acre-feet, the "low-point problem" at San Luis Reservoir occurs, where warm-season algae growth and decreasing summer levels can affect the quality of the reservoir water and impair the ability of urban water agencies to treat the water adequately for municipal and industrial uses. EWA actions would be managed to prevent contributing to or aggravating the low point problem. (See Figure 2-13, Section 2.4.3.4.2.) Under the Baseline Condition, San Luis Reservoir is drawn down each summer; however, multi-stage boat ramps allow continued access to the reservoir during low water levels. Under the Flexible Purchase Alternative, there would be no significant change to recreational opportunities, including water-enhanced and water-based activities. Therefore, the effect of borrowing project water would be less than significant.

14.2.4.3.3 Lake Mathews, Lake Perris, Castaic Lake, and Diamond Valley Lake

Source shifting would decrease the summer surface water elevation of the targeted reservoirs. Metropolitan WD has many options for source shifting. These options include:

- **Lake Mathews, Lake Perris, Castaic Lake, and Diamond Valley Lake.** Metropolitan WD could delay delivery of SWP water and draw its supplies instead from these storage facilities and accept the SWP water deliveries at a later date.

- **Semitropic and Arvin Edison.** During wet years, Metropolitan WD could reduce deliveries when they would have otherwise delivered water to storage. Metropolitan WD could then deliver SWP water to Semitropic and Arvin Edison at a later date.

- **Hayfield (upstream aqueduct groundwater storage on the Colorado River).** Metropolitan WD could delay delivery of Colorado River water to Hayfield; the water would be delivered at a later date.

- **Change blend.** Metropolitan WD generally maximizes water sources and quality by blending Colorado River and SWP water 50:50. Metropolitan WD could change the blend to provide water for source shifting.

Lake Mathews
Because there is no public access to Lake Mathews and no recreational opportunities on the lake, there would be no effects on recreation.

Lake Perris and Castaic Lake
Metropolitan WD has rights to flexible storage in Castaic Lake and Lake Perris allowing the agency to borrow water from the lakes for up to 5 years, subject to DWR approval. The flexible storage in Castaic Lake is 153,940 acre-feet and 65,000 acre–feet in Lake Perris. The Monterey Agreement[4], signed in 1995, established these amounts of storage for Metropolitan WD. Metropolitan WD has exercised this storage several times, including in 2001 as part of the source shifting agreement in that year. The amount of water that could be source shifted under the EWA would fall within the recent operating parameters of both Castaic Lake and Lake Perris provided Lake Perris is not drawn more than 20,000 acre-feet below its full volume.

Operating within the limits of this flexible storage produces some adverse effects to recreation within the Baseline Condition. With the Flexible Purchase Alternative, however, effects on recreational facilities could occur more frequently compared to the Baseline Condition. Although no further drawdown of the reservoirs would occur beyond what is permitted as a part of the agency's flexible storage, the increased frequency of the drawdown would be a potentially significant impact. The mitigation measures listed in Section 14.2.7 would coordinate reservoir operations to reduce drawdown during peak recreational periods and therefore reduce the potentially significant impact to less than significant.

Diamond Valley Lake
At the development of this document, recreational facilities at Diamond Valley Lake were not complete; therefore, no analysis on the potential effects on those facilities is possible. Given the size of Diamond Valley, 800,000 acre-feet, the amount of water used for EWA assets would not likely have an adverse effect on recreation.

14.2.5 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet from the Upstream from the Delta Region, and 150,000 acre-feet from the Export Service Area. While the amounts in each region are fixed, the acquisition types and sources could vary. To allow the EWA Project Agencies maximum flexibility when negotiating purchases with willing sellers, this section analyzes the effects on each potential transfer. These transfers are the same actions as those described for the Flexible Purchase Alternative, but the amounts are limited by the total acquisition amount in each region (35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area).

[4] The Monterey Agreement, signed in 1994 by DWR and SWP water contractors, addresses water supply reliability problems, provides greater flexibility in water operations, and provides greater financial stability for SWP contractors.

14.2.5.1 Upstream from the Delta Region

14.2.5.1.1 Hunting and Fishing

EWA acquisition of water in the Upstream from the Delta Region could alter the locations of hunting areas. Rice fields that are flooded during the winter provide habitat for waterfowl and therefore are common hunting areas. If rice acreage is idled, waterfowl may be found on different fields than previous years; therefore, hunters would need to travel to different locations. As stated in Chapter 10, waterfowl populations would not decrease. Birds may flock to different fields, but the total number of birds and, therefore, the population from which to hunt from, would not decrease. Although hunting locations would change, hunting opportunities would stay the same; therefore, there would be no significant effect on recreation from idling rice fields.

EWA acquisition of water would change reservoir levels and river flows, potentially affecting fishing opportunities. Fishing in reservoirs and rivers is a popular recreational activity. The timing, flow, and volume changes that would occur in reservoirs and rivers would not affect fish populations (see Chapter 9). Because the same number of fish would be present under the Baseline Condition compared to with the EWA, there would be no significant effects on recreational fishing opportunities due to a decrease in fish population.

14.2.5.1.2 Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would decrease Sacramento River flows from Lake Shasta downstream to the point of diversion in June. EWA acquisition of up to 35,000 acre-feet of water via groundwater substitution or up to 35,000 acre-feet from crop idling would decrease monthly Sacramento River flows by 180 cfs in June. The reduction from 18,180 cfs to 18,000 cfs in June would not affect rafting or boating, which have a minimum threshold of 5,000 cfs. Thus, the decrease in median monthly flows during June would be less than significant.

Lake Shasta

The decrease in water released from Lake Shasta in June and the subsequent increase in water released July through August would not affect Sacramento River water temperature. (Table 14-4 shows changes in river temperature for the Flexible Purchase Alternative. Because there is no change in temperature under larger transfer amounts, there would be no temperature change for lesser transfer amounts under the Fixed Purchase Alternative.) Because there is no change in water temperature under the Fixed Purchase Alternative, there would be no effect to recreational users due to an increase or decrease in water temperature; the effect would be less than significant.

14.2.5.1.3 Feather River

EWA acquisition of water from Western Canal WD, Joint Water Districts, and Garden Highway MWC via crop idling and groundwater substitution would increase Feather River flows in July through September. A maximum of an additional 35,000 acre-feet would be released from Lake Oroville, which would increase flows on the Feather River below

the Thermalito Afterbay. The effects of these EWA actions are evaluated in Section 14.2.4.1.3, Feather River for the Flexible Purchase Alternative. The increase in flow on the Feather River would be greater under the Flexible Purchase Alternative than under the Fixed Purchase Alternative. There are no significant effects on recreation under the Flexible Purchase Alternative; therefore, there would no be significant effects on recreation under the Fixed Purchase Alternative.

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would increase Feather River flows below Sly Creek and Little Grass Valley Reservoirs to Lake Oroville in November and December. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 14.2.4.1.3, Feather River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative are less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

Sly Creek and Little Grass Valley Reservoirs

EWA acquisition of Oroville-Wyandotte Irrigation District (Oroville-Wyandotte ID) stored reservoir water would decrease surface water elevations December until refill for Sly Creek and Little Grass Valley Reservoirs. Little Grass Valley and Sly Creek Reservoirs are upstream from Lake Oroville on the Feather River. These reservoirs would release a combined maximum of 15,000 acre-feet of water from November to December. Figures 14-6 and 14-7 show historic reservoir surface water elevations and the potential change due to EWA actions. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 14.2.4.1.3, Feather River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative would be less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

Lake Oroville

EWA acquisition of water from Western Canal WD, Joint Water Districts, and Garden Highway MWC via crop idling and groundwater substitution would increase the surface water elevation April to June and decrease the surface water elevation in July and August in Lake Oroville compared to the Baseline Condition. EWA could acquire up to 35,000 acre-feet of water via groundwater substitution or up to 35,000 acre-feet from crop idling. Effects on Lake Oroville recreation from an increase (April through June) and decrease (July and August) in surface water elevation are evaluated in Section 14.2.4.1.3, Feather River for the Flexible Purchase Alternative. There would be less change in surface water elevation under the Fixed Purchase Alternative than under the Flexible Purchase Alternative. Because there were no significant effects under the Flexible Purchase Alternative, there would also be no significant effects under the Fixed Purchase Alternative.

14.2.5.1.4 Yuba River

EWA acquisition of Yuba County WA water via groundwater substitution would decrease Yuba River flows from April to June. Yuba River flows would decrease by 195 cfs in late

spring as farmers use groundwater for irrigation instead of surface water from New Bullards Bar Reservoir. Because of limited river access, recreation use is not common along the river. The slight decreases in flows (10 to 16 percent of the median monthly flow) that would occur would not adversely affect the few recreational users.

Yuba River water temperatures would not be expected to fluctuate from the slower release of water from New Bullards Bar Reservoir in April through June. In July through September, an additional release (195 cfs) would be released from New Bullards Bar Reservoir. The increased release could lower river temperature. The effects described in Section 14.2.4.1.4, Yuba River, under the Flexible Purchase Alternative analyzed effects on river temperature for a greater release. Because there were no significant effects under the Flexible Purchase Alternative, there would be no significant effects on recreation because of changes in river temperature under the Fixed Purchase Alternative.

New Bullards Bar Reservoir

EWA acquisition of Yuba County Water Agency (Yuba County WA) stored reservoir water would decrease surface water elevations July to refill at New Bullards Bar Reservoir. New Bullards Bar Reservoir would release, at a maximum, 35,000 acre-feet of water to be used as an EWA asset. Yuba County WA would not enter into a transfer agreement unless local needs, instream flows, and system demand requirements were met. If these elements were met, EWA agencies could acquire up to 35,000 acre-feet, decreasing the reservoir elevation 8 feet by September, from 1,855 msl to 1,847 feet msl. The Dark Day and Cottage Creek boat ramps would remain usable at this elevation; therefore, there would be no significant effects on recreation.

14.2.5.1.5 American River

EWA acquisition of Placer County WA stored reservoir water would increase American River flows downstream from French Meadows Reservoir to Folsom Lake from June to October. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 14.2.4.1.5, American River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative are beneficial; the effects of the Fixed Purchase Alternative are also beneficial.

EWA acquisition of Placer County WA stored reservoir water would decrease American River flows downstream from French Meadows Reservoir to Folsom Lake during refill of Hell Hole and French Meadows Reservoirs. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 14.2.4.1.5, American River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative would be less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase would increase American River flows downstream from Folsom Lake from June through December. The same amount of water could be transferred under the Fixed

Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 14.2.4.1.5, American River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative were less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

The lower American River is a common recreation area for swimmers and rafters. A change in river temperature could affect the enjoyment of recreational users. Table 14-5 shows the average water temperature under the Baseline Condition as well as under the Flexible Purchase Alternative. Because the amount of water transferred under the Flexible Purchase Alternative is the same as under the Fixed Purchase Alternative, the table is accurate for the Fixed Purchase Alternative as well. There would be no substantial differences in water temperature; therefore, the effect on recreation on the American River due to groundwater purchase would be less than significant.

Hell Hole and French Meadows Reservoirs
EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations June to refill at Hell Hole and/or French Meadows Reservoirs. Hell Hole Reservoir and French Meadows Reservoir would release a combined maximum of 20,000 acre-feet of water. An equivalent amount of water could be sold to the EWA agencies under the Fixed Purchase Alternative, as is described under the Flexible Purchase Alternative. Refer to Section 14.2.4.1.5, American River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative were less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

14.2.5.1.6 Merced River

EWA acquisition of Merced ID water via groundwater substitution would decrease Merced River flows downstream from New Exchequer Dam to the point of diversion in April through June. Merced River flows would decrease by approximately 70 cfs. An equivalent amount of water could be sold to the EWA agencies under the Fixed Purchase Alternative, as is described under the Flexible Purchase Alternative. Refer to Section 14.2.4.1.6, Merced River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative were less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

Lake McClure
EWA acquisition of Merced ID water via groundwater substitution would increase the water surface elevation in Lake McClure compared to the Baseline Condition. EWA agencies could acquire 25,000 acre-feet through groundwater substitution. As shown in Figure 14-11, water levels in Lake McClure would only increase. An increase in surface water elevation would have a less-than-significant effect on recreational use.

14.2.5.2 Delta

There would be no decreases in Delta inflows from the Sacramento or San Joaquin rivers under the Fixed Purchase Alternative. Because river water temperatures are

not significantly affected in the Upstream from the Delta Region, there would be no adverse effect on recreation from changes in water temperature in the Delta. Therefore, the effects on recreation in the Delta would be less than significant.

14.2.5.3 Export Service Area

14.2.5.3.1 Anderson Reservoir

Source shifting at Anderson Reservoir would decrease the summer surface water elevation compared to the Baseline Condition. Anderson Reservoir would be used to compensate Santa Clara Valley Water District's delayed receipt of water from San Luis. A maximum of 20,000 acre-feet could be source shifted. An equivalent amount of water could be sold to the EWA agencies under the Fixed Purchase Alternative, as is described under the Flexible Purchase Alternative. Refer to Section 14.2.4.3.1, Anderson Reservoir, for a discussion of potential effects. The effects of the Flexible Purchase Alternative were less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

14.2.5.3.2 Lake Mathews, Lake Perris, Castaic Lake, and Diamond Valley Lake

Source shifting would decrease the summer surface water elevation of the targeted reservoirs. Source shifting options by Metropolitan WD would be the same under the Fixed Purchase Alternative as those described under the Flexible Purchase Alternative. Metropolitan WD could source shift a maximum of 200,000 acre-feet using the options described in Section 14.2.4.3.2. The effects stated in Section 14.2.4.3.2 would be the same for the Fixed Purchase Alternative. The potentially significant impact would be reduced to less than significant with the implementation of the mitigation measures listed in Section 14.2.7.

Borrowing project water from San Luis Reservoir would decrease surface water elevations. Under the Baseline Condition, surface water elevations in San Luis Reservoir would begin to decrease in mid-April. At approximately 300,000 acre-feet, the low-point problem at San Luis Reservoir occurs, whereby warm-season algae growth and decreasing summer levels can affect the quality of the reservoir water and impair the ability of urban water agencies to treat the water adequately for municipal and industrial uses. EWA actions would be managed to prevent contributing to or aggravating the low point problem. (See Figure 2-13, Section 2.4.3.4.2.) Under the Baseline Condition, San Luis Reservoir is drawn down each summer; however, multi-stage boat ramps allow continued access to the reservoir during low water levels. Under the Fixed Purchase Alternative, there would be no change to recreational opportunities, including water-enhanced and water-based activities. Therefore, the effect of borrowing project water would be less than significant.

14.2.6 Comparative Analysis of Alternatives

This chapter has thus far analyzed the effects of many potential transfers, looking at the "worst-case scenario" that would occur if all acquisitions happened in the same year. This approach ensures that all effects of transfers are included and provides the EWA Project Agencies the flexibility to choose transfers that may be preferable in a given year. The EWA, however, would not actually purchase all of this water in the

same year. This section provides information about how EWA would more likely operate in different year types. A further comparison of the alternatives is listed in Table 14-7.

In the Upstream from the Delta Region, recreational opportunities under the No-Project Alternative would be affected by year type. During wet years, increased precipitation and runoff would cause water surface elevations in reservoirs to be higher, which is beneficial for recreation. Dry years would produce limited inflow, which could cause boat ramps, campgrounds, and beaches to become inaccessible. Effects would be the same in the Export Service Area.

The Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. This amount could typically be obtained from stored reservoir water purchases in most year types. In very dry years, stored reservoir water may not be available, and the EWA would need to look to other sources. However, because water acquisitions would most likely be from stored reservoir water, the effects from the transfers described in this Draft EIS/EIR for recreation resources most likely would occur each year.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources in the Upstream from the Delta Region. EWA agencies would prefer to purchase water from upstream sources because the water is generally less expensive. The amount that could be purchased would be limited by the capacity of the Delta export pumps to move the water to the Export Service Area. During wet years, excess pump capacity may be limited to as little as 50,000 to 60,000 acre-feet of EWA asset water because the pumps primarily would be used to export Project water to Export Service Area users. Effects during wet years would therefore be close to those described under the Fixed Purchase Alternative. During dry years, when there would be less Project water available for pumping (and therefore the pumps would have greater availability capacity), the EWA Project Agencies could acquire up to 600,000 acre-feet of water from sources in the Upstream from the Delta Region.

The EWA Project Agencies usually prefer to purchase stored reservoir water because it is the least expensive option. In dry years, they would likely purchase all stored reservoir water available, and then look to other options for the remainder of their purchases. Therefore, the effects during dry years would be similar to those described in this Draft EIS/EIR. The effects on recreational resources, even under a maximum purchase scenario, were determined to be less than significant. In wet years, a portion of the stored reservoir water available would likely provide the entire amount of water that could be moved through the Delta.

The EWA agencies could manage water through source shifting in the Export Service Area under the Flexible Purchase and Fixed Purchase Alternatives. Source shifting is not dependent on water year type, but is related to demand on San Luis Reservoir. The EWA agencies would implement source shifting more frequently under the Fixed Purchase Alternative than under the Flexible Purchase Alternative, which would

draw down the reservoirs more often. Mitigation measures would reduce the potential effects for both alternatives.

Table 14-7
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Recreation Resources

Region	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Change from the Baseline Condition*	*Fixed Purchase Alternative Change from the Baseline Condition*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*
Upstream from the Delta Region							
Sacramento River	Crop Idling	Rice acreage is idled.	Waterfowl may be found on different fields than in previous years.	Hunting locations would change, but the hunting opportunities would stay the same.	Hunting locations would change, but the hunting opportunities would stay the same.	LTS[5]	LTS
	Groundwater substitution/ Crop idling Flex: 225 TAF Fixed: 35 TAF	Water held in Lake Shasta in June.	Slower decrease in water levels in Lake Shasta in June, relative to the Baseline Condition.	Sacramento River decreases 1,160 cfs in June.	Sacramento River decreases 180 cfs.	LTS	LTS
				Lake Shasta contains as much as 68,900 acre-feet more compared to the Baseline Condition.	Lake Shasta contains as much as 9,000 acre-feet more compared to the Baseline Condition.	LTS	LTS
		Water released from Lake Shasta is not diverted.	Increase in Sacramento River flow compared to the Baseline Condition downstream from point of diversion in April through September (excluding June if water is held in June).	Sacramento River increases by as much as 1,940 cfs in July.	Sacramento River increases by 240 cfs.	LTS	LTS
Feather River	Crop Idling	Rice acreage is idled.	Waterfowl may be found on different fields than in previous years.	Hunting locations would change, but the hunting opportunities would stay the same.	Hunting locations would change, but the hunting opportunities would stay the same.	LTS	LTS

[5] LTS= Less than Significant

Table 14-7
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Recreation Resources

Region	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Change from the Baseline Condition*	*Fixed Purchase Alternative Change from the Baseline Condition*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*
Feather River	Stored reservoir water Flexible & Fixed: Sly Creek 5,000 acre-feet Little Grass Valley 12,000 acre-feet.	Water is released from Sly Creek and Little Grass Valley Reservoirs.	Sly Creek and Little Grass Valley Reservoirs are lower than the Baseline Condition from November until refill.	Sly Creek reduced by maximum of 5,000 acre-feet and 17 ft in elevation. Little Grass Valley reduced by maximum of 12,000 acre-feet and 23 ft in elevation.	Sly Creek reduced by maximum of 5,000 acre-feet and 17 ft in elevation. Little Grass Valley reduced by maximum of 12,000 acre-feet and 23 ft in elevation.	LTS	LTS
			Increased flows diverted through Woodleaf and Forbestown tunnels in November and December	No effect on recreation.	No effect on recreation.	No effect	No effect
	Groundwater substitution/ Crop idling Flexible: 236,500 acre-feet. Fixed: 35,000 acre-feet.	Water is held in Lake Oroville in April through June.	Slower decrease in water levels in Lake Oroville from April – June, relative to the Baseline Condition.	Lake Oroville would be at most, 2 feet higher than the Baseline Condition.	Lake Oroville contains as much as 17,900 acre-feet more than the Baseline Condition.	LTS	LTS
		Water is released from Lake Oroville	Feather River flows downstream from Lake Oroville increase July – September	Feather River increases by a maximum of 2,105 cfs.	Feather River increases by a maximum of 212 cfs.	LTS	LTS
Yuba River	Stored Reservoir Water and Groundwater Substitution Flexible: 100 TAF Fixed: 35 TAF	Water is held in New Bullards Bar Reservoir.	Yuba River flows decrease April – June	Yuba River flow decreases by 239 cfs	Yuba River flow decreases by 100 cfs	LTS	LTS
		Timing of water released from New Bullards Bar Reservoir is changed.	Slower decrease in water levels in New Bullards Bar Reservoir from April – September, relative to the Baseline Condition.	New Bullards Bar Reservoir is 5 ft higher in elevation compared to the Baseline Condition.	New Bullards Bar Reservoir is 2 ft higher in elevation compared to the Baseline Condition.	LTS	LTS
			Yuba River flows increase July – September.	Yuba River flows increase by 1,005 cfs.	Yuba River flows increase by 195 cfs	LTS	LTS
			New Bullards Bar water levels are lower than the Baseline Condition July – refill.	New Bullards Bar reduced by a maximum of 100,000 acre-feet and 24 ft in elevation.	New Bullards Bar reduced by a maximum of 35,000 acre-feet and 8 ft in elevation.	LTS	LTS

Table 14-7
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Recreation Resources

Region	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Change from the Baseline Condition*	*Fixed Purchase Alternative Change from the Baseline Condition*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*
American River	Crop Idling	Rice acreage is idled.	Waterfowl may be found on different fields than in previous years.	Hunting locations would change, but the hunting opportunities would stay the same.	Hunting locations would change, but the hunting opportunities would stay the same.	LTS	LTS
	Stored Reservoir Water Flexible & Fixed: 20,000 acre-feet	Water is released from French Meadows and Hell Hole Reservoirs	French Meadows and Hell Hole Reservoirs are lower than the Baseline Condition June – refill	French Meadows decreases by 7,800 acre-feet and 8 ft in elevation. Hell Hole decreases by 12,200 acre-feet and 14 ft in elevation.	French Meadows decreases by 7,800 acre-feet and 8 ft in elevation. Hell Hole decreases by 12,200 acre-feet and 14 ft in elevation.	LTS	LTS
			Flows in the American River between French Meadows/Hell Hole Reservoirs and Folsom Lake are increased July – September	American River flow increases.	American River flow increases.	LTS	LTS
	Stored Reservoir Water and Groundwater Purchase	Water is released from Folsom Lake.	American River flows downstream from Folsom Lake increase June – December	American River flow increases.	American River flow increases.	LTS	LTS
			Surface water elevation in Folsom Lake is lower than the Baseline Condition in July and August.	Surface water elevation in Folsom Lake is 0.8 foot lower than the Baseline Condition.	Surface water elevation in Folsom Lake is 0.8 foot lower than the Baseline Condition.	LTS	LTS

Table 14-7
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Recreation Resources

Region	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Change from the Baseline Condition*	*Fixed Purchase Alternative Change from the Baseline Condition*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*
Merced/San Joaquin River	Groundwater Substitution Flexible & Fixed: 25,000 acre-feet.	Water is held in Lake McClure	Slower decrease in water levels in Lake McClure in April through October, compared to the Baseline Condition.	Lake McClure surface water elevation increases by a maximum of 3 ft.	Lake McClure surface water elevation increases by a maximum of 3 ft.	LTS	LTS
			Merced River flows decrease April – October.	Merced River flow decreases by 70 cfs	Merced River flow decreases by 70 cfs	LTS	LTS
Export Service Area							
Export Service Area	Source Shifting	Water is drawn from Anderson Reservoir	Decreased water levels in Anderson Reservoir compared to the Baseline Condition.	Water levels decreased by a maximum of 20,000 acre-feet.	Water levels decreased by a maximum of 20,000 acre-feet.	LTS	LTS
		Water is drawn from Metropolitan WD storage in reservoirs	Decreased water levels in Castaic, Perris, Mathews, and Diamond Valley	Water levels decreased by 200,000 acre-feet.	Water levels decreased by 200,000 acre-feet.	PS; LTS with mitigation measures.	PS; LTS with mitigation measures.
	Borrowed Project Water	EWA water is released from San Luis Reservoir earlier in the year compared to the Baseline Condition.	Decreased water levels in San Luis Reservoir	Lower water levels in July and August	Lower water levels in July and August	LTS	LTS

14.2.7 Mitigation Measures

The following mitigation measures will be implemented for potential effects caused by source shifting at Lake Perris and Castaic Lake:

- Water storage will be maximized to the extent possible during peak recreation use periods, especially summer months; and

- For Lake Perris, the EWA agencies would include in source shifting contracts with Metropolitan WD a limitation on the amount of flexible storage that can be drawn from that source. The limit would be determined with input from officials at Lake Perris Recreation Area. For Castaic Lake, the input from recreation officials should be considered so that ongoing planning and management of the recreation facilities can be coordinated with reservoir operations. Once schedules are known,

recreation area operators should be notified as soon as possible, in order to maximize management efforts.

14.2.8 Potentially Significant Unavoidable Impacts

There are no potentially significant unavoidable impacts.

14.2.9 Cumulative Effects

14.2.9.1 Upstream from the Delta Region

The Sacramento Valley Water Management Agreement, Dry Year Purchase Program, Drought Risk Reduction Investment Program, CVPIA Water Acquisition Program, and Environmental Water Program include water acquisitions upstream from the Delta. These programs all include stored reservoir water, and many include other acquisition types such as groundwater substitution, groundwater purchase, and crop idling. These programs, in addition to the EWA, could magnify the effects described in Sections 14.2.4.1 - 14.2.4.3.

The Environmental Water Program would purchase water from different facilities than the EWA. Therefore, there is no potential for a cumulative decrease in surface water elevation in reservoirs resulting in a reduction of recreational opportunities. The Sacramento Valley Water Management Agreement, Dry Year Purchase Program, and Drought Risk Reduction Investment Program, as well as other potential water transfers, could purchase water from the same reservoirs as the EWA. Other programs in combination with the EWA that purchase water from the same agency could draw down reservoirs further than analyzed in this chapter. The additional water sold for other programs would reduce the Baseline Condition as described and could cause significant cumulative effects. A cumulative effect would only be significant if the combined actions were greater than the significance criteria (reduced recreational opportunities caused by a loss of boat ramps, reduction in fish or waterfowl populations, or decrease in river temperature). Therefore, although the EWA could contribute to a cumulative effect (e.g., a greater reduction in reservoir elevation), the EWA would not purchase water from an agency if the purchase would cause a cumulatively significant effect on recreation.

Actions such as groundwater substitution and crop idling in the Upstream from the Delta Region would potentially occur in four out of the five cumulative programs. These actions, in addition to the EWA, would create changes in the timing and quantity of water released from reservoirs, altering river flows. Water transfers from other agencies along the same rivers as in the EWA program area would also cause a cumulative effect on the change in river flow. The cumulative effect is not anticipated to cause a significant effect on recreation because recreational uses of the rivers, including fishing, swimming, and rafting, are possible within large fluctuations in flow. It is not anticipated that the river flow would change to such a level as to cause a cumulatively significant effect on recreation.

14.2.9.2 Export Service Area

Only the Drought Risk Reduction Investment Program and the CVPIA Water Acquisition Program operate in the Export Service Area. Effects from crop idling in this area are not associated with any decreases in recreational opportunity. Therefore, increased crop idling from various programs would not produce a cumulatively significant effect.

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Chapter 15
Flood Control

Floods can be very damaging and costly. In order to lessen the effects, numerous practices aim to reduce flood damages. The construction of levees, dams, and reservoirs are common methods of flood damage reduction in California. Levees confine the water flows within a channel. The integrity of a levee and its maximum design flow capacity, dictate the extent of a levee's effectiveness. Dams and reservoirs can be operated to reduce flows downstream by storing inflows and controlling releases.

Many agencies have a role in designing, constructing, and operating flood control facilities, such as the U.S. Bureau of Reclamation (Reclamation), the U.S. Army Corps of Engineers (USACE), the California Department of Water Resources (DWR), and the State Reclamation Board. The Federal Emergency Management Agency oversees the National Flood Insurance Program, which helps ensure protection from flood-related damages through the implementation of 3 main components: flood insurance program, floodplain management, and flood hazard mapping.

This chapter discusses the effects of the Flexible Purchase and Fixed Purchase Alternatives on flood control. Section 15.1 presents the affected environment/existing conditions and Section 15.2 evaluates the No Action, Flexible Purchase, and Fixed Purchase Alternatives, and a comparative analysis of the alternatives.

15.1 Affected Environment/Existing Conditions

This section describes the existing conditions in the study area. These conditions are current to 2003, where possible; otherwise, the latest available data have been used. This information serves as the reference conditions against which to compare program-induced effects.

15.1.1 Area of Analysis

Effects are assessed in the Upstream from the Delta Region, Delta Region, and in the Export Service Area. (See Figure 15-1.)

- **Upstream from the Delta Region**: Lake Shasta; Little Grass Valley and Sly Creek Reservoirs; Lake Oroville; New Bullards Bar Reservoir; French Meadows and Hell Hole Reservoirs; Folsom Lake; Lake McClure; Sacramento, Feather, Yuba, American, and Merced Rivers.

- **Delta Region**

- **Export Service Area**: Anderson Reservoir; Lake Perris; Castaic Lake; Diamond Valley Lake; California Aqueduct; and Tulare Lake Basin.

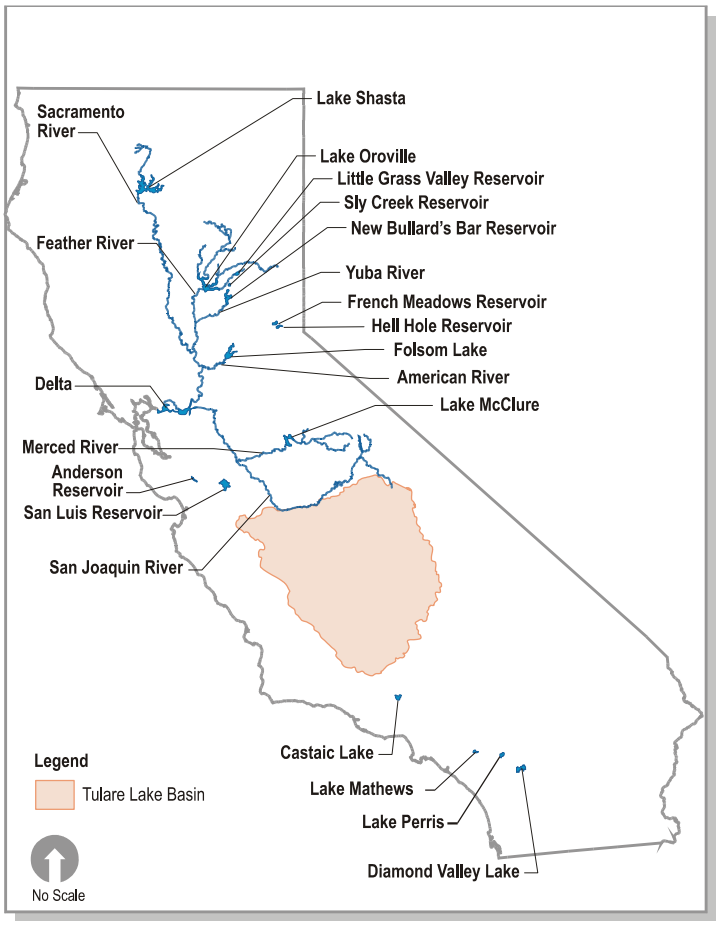


Figure 15-1
Flood Control Area of Analysis

15.1.2 Upstream from the Delta Region

In the Upstream from the Delta Region, a variety of infrastructure provides flood protection along the Sacramento and San Joaquin Rivers and their tributaries including the Yuba, Feather, American, and Merced rivers.

15.1.2.1 Reservoirs

Multi-purpose reservoirs and a system of weirs and bypasses contribute to the flood control system in the Upstream from the Delta Region by storing or diverting water around urban areas during periods of high runoff, thereby reducing the ultimate load placed on the levee system during floods. Very high inflows can reduce the ability of reservoirs to provide flood control. The amount of storage held in a reservoir at any point in time (conservation storage) is governed by the USACE criteria stated in flood control project's water control manual. Top of conservation storage can vary depending on time of year, upstream storage, and the type of storm (rain or snow) that is occurring. Top of conservation storage for each flood control project is also defined in each project's water control manual. The space between the top of conservation storage and the capacity of the reservoir is the required flood control space. This amount varies by flood control project. (The Resources Agency 1999)

15.1.2.2 Levees

Levees also provide flood control in the region. DWR defines warning stage for leveed rivers or channels as, "the stage at which patrol of flood control project levees becomes mandatory, or the stage at which flow occurs into bypass areas from project overflow weirs." Flood stage is defined in the DWR Flood Emergency Operations Manual as, "the stage at which the flow in a flood control project is at maximum design capacity." (The Resources Agency 1999).

Levee stability can be compromised because of any of the following (The Resources Agency 1997):

- **Overtopping:** Floodwater entering the channel is greater than its capacity, and water pours over the top of the levee.
- **Seepage and Piping:** Floodwater seeps through or under a levee and carries levee or foundation material with it. Some seepage through an earthen levee is common; however, if water creates a drainage path, or "pipe" through erodible material, material is gradually washed out through a "boil" on the landside of the levee.
- **Erosion:** High water velocity or wave action removes material from the levee or the streambank adjacent to the levee, leading to slope instability and increased seepage.
- **Sliding:** Seepage through the levee weakens the levee and/or foundation material to the point where the weight of soil exceeds the levee's internal strength and the levee slope slides.
- **Sloughing:** Seepage through the levee causes the outermost soil on the levee slope to slide down. Progressive sloughing causes increasingly heavy seepage until the levee gives way.

15.1.2.3 Sacramento River

Lake Shasta is the primary reservoir providing flood protection on the upper Sacramento River. With a storage capacity of 4.5 million acre-feet, Lake Shasta has a capacity equal to Folsom and Oroville reservoirs combined. Lake Shasta reserves 1.3 million acre-feet of storage for flood control. This flood control capacity must be available starting October 1st in anticipation of winter storms; the reservoir is managed for flood control (reservoir levels maintained below a certain level) through March. Shasta Dam can release 79,000 cubic feet per second (cfs) safely into the Sacramento River in non-emergency flood conditions; however, normal flood releases are usually much lower.

Reclamation's operational strategy for releases from Lake Shasta is to evaluate the forecasted tributary flows below Lake Shasta and reduce Keswick Dam releases during high flows in the tributaries. This operation normally prevents the

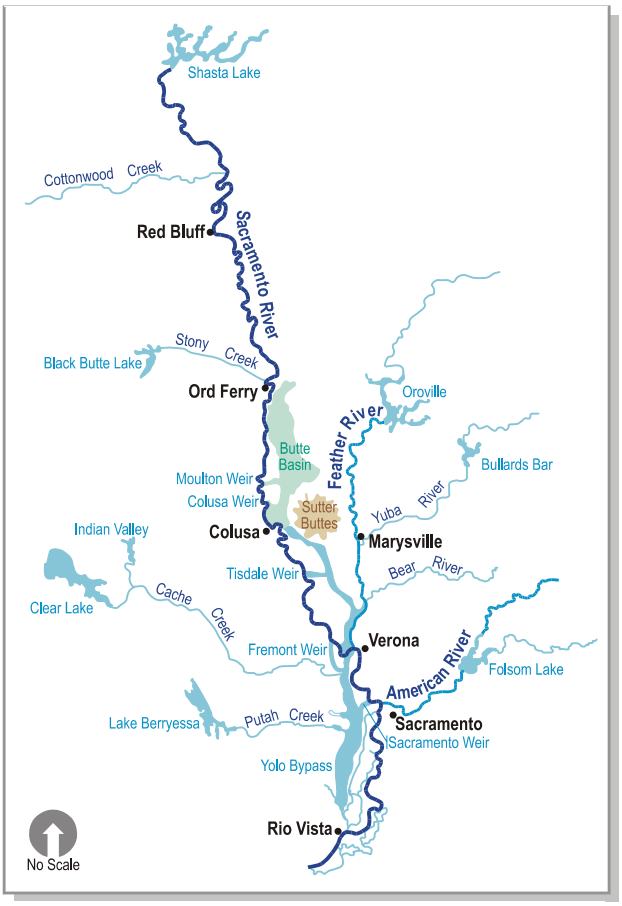


Figure 15-2
Sacramento River Flood Management System

Sacramento River flow at the Bend Bridge gage near Red Bluff from exceeding 100,000 cfs (The Resources Agency 1999).

The Sacramento River is leveed from Ord Ferry to the southern tip of Sherman Island in the Delta. Flood control on the Sacramento River is also managed by a system of weirs and bypasses constructed by the USACE (Figure 15-2). The system includes five bypasses: the Butte Basin, Sutter Bypass, Yolo Bypass, Tisdale Bypass, and Sacramento Bypass. Moulton and Colusa Weirs feed floodwaters into the Butte Basin Bypass, Tisdale Weir flows into Sutter Bypass, and Fremont Weir and Sacramento Bypass flow into the Yolo Bypass. The Yolo Bypass carries five-sixths of the volume of the Sacramento River at peak flood flows. The bypasses are large tracts of undeveloped or minimally-developed land. Development within the bypasses typically is limited to agricultural activities that require minimal infrastructure. Water released to the bypass system flows south into the Delta, in effect creating a short-term storage system for the floodwaters. Water released to the bypass system also infiltrates into the ground, recharging groundwater supplies, although this volume is small compared to the total volume of a flood. When flooding occurs, the weir and bypass system diverts water to protect the levee system and free flood storage capacity in the reservoirs. The bypasses also provide waterfowl habitat and portions of them are managed for wildlife.

The Sacramento River Flood Control Project (SRFCP), consisting of levees built by the USACE and turned over to the State for maintenance, provides flood protection for the lower reach of the Sacramento River and into the Delta. Since the authorization of the SRFCP in 1917, the effectiveness of the SRFCP has increased with the completion of multi-purpose reservoirs that provide flood control storage: Lake Shasta in 1945; Folsom Lake in 1956; Lake Oroville in 1968; and New Bullards Bar Reservoir in 1970 (State of California DWR 1998).

15.1.2.4 Feather River

Lake Oroville holds winter and spring runoff for release into the Feather River. During wet years, Lake Oroville aids in reducing downstream flooding. Up to 750,000 acre-feet of the 3.5 million acre-feet of storage capacity is maintained to capture inflows as required by the USACE. From October through March, between

2.8 and 3.2 million acre-feet of storage is the maximum allowable in order to reserve space for flood flows. From April through June, the storage limit increases, reflecting less need for flood storage space. The maximum allowed storage limit decreases again in September in preparation for the upcoming flood season. Flood control releases are made based on a release schedule and in consultation with the USACE. During times when flood control space is not required to accomplish flood control objectives, reservoir space can be used for storing water (State of California DWR 2001).

The Feather River is leveed from its confluence with the Sacramento River to Hamilton Bend near the City of Oroville on the east bank, and from the confluence to Honcut Creek on the west bank. The lower-most dam on the Feather River, Oroville Dam, regulates downstream flows, and is located at the confluence of the West Branch and the North, Middle, and South Forks of the Feather River, upstream from the Yuba and Bear tributaries.

15.1.2.5 Yuba River

New Bullards Bar Dam is operated by Yuba County Water Agency (WA). The reservoir has a maximum of 960,000 acre-feet of storage. New Bullards Bar Reservoir, on the North Fork of the Yuba River, is part of the Yuba River drainage basin. New Bullards Bar Reservoir provides flood control space between mid-September and the end of May each year. There are 170,000 acre-feet of flood control storage in New Bullards Bar Reservoir between the end of October and the end of March. The amount of flood control storage in the reservoir varies from mid September through October (depending on early season rainfall) and from the end of March through May (depending on the amount of snowfall in the watershed). This flood storage aids in keeping flows along the Yuba River within the designed capacity of its levees, 135,000 cfs.

Water released from the New Bullards Bar Reservoir joins flows from the Middle and South Forks of the Yuba River, which then passes the Englebright Dam and further downstream, the Daguerre Point Dam. The Englebright reservoir is not used for flood control or consumptive uses, but rather was built as a structure to prevent mining debris from continuing downstream. At a total capacity of 70,000 acre-feet, Englebright reservoir does not play a significant role in flood control. There are no large dams detaining flows on the Middle and South Forks of the Yuba River; New Bullards Bar Reservoir on the North Fork regulates only a third of the flow in the Yuba watershed (USACE 1999). As such, flood control has historically been a major problem downstream, at the confluence of the Yuba and Feather Rivers.

15.1.2.6 American River

Levees along the American River extend from the mouth of the River to the Mayhew Drain on the south bank. Non-Federal levees extend from this point to Sunrise Boulevard. On the north bank, Federal levees extend from the mouth to Carmichael Bluffs, constructed through the American River Flood Control Project.

There are several reservoirs along the American River; however, they are operated primarily for water supply and hydropower with the exception of Folsom Reservoir. The upstream reservoirs do not have dedicated space or physical structures for flood control, but they can be beneficial in reducing flows heading downstream towards Folsom Reservoir in some years. The three largest upstream reservoirs, French Meadows, Hell Hole, and Union Valley, can provide up to 200,000 acre-feet of usable flood storage capacity (Reclamation 2001).

Folsom Lake is the only reservoir operated for flood control on the American River. Folsom Dam and Reservoir provide flood protection for 350,000 residents and over $30 billion worth of damageable property that currently occupies the floodplain in the Sacramento metropolitan area (Reclamation 2001). Under the existing authorized operating criteria, 400,000 to 670,000 acre-feet of the total storage of 975,000 acre-feet in Folsom Reservoir is allocated to flood control during the flood control season (see fuller description in the following paragraph). The levees along the American River, constructed by the USACE in 1958, allow Folsom Reservoir to release water safely to a maximum design release of 115,000 cfs (Reclamation 2001).

The American River Watershed Investigation was created to evaluate existing flood control deficiencies after the 1986 flood along the American River. In response to the investigation's findings, a county-level joint agency was established with the long-term goal of providing urbanized sections of the Sacramento area with as much flood protection as possible. The agency, termed SAFCA, the Sacramento Area Flood Control Agency, has worked with the State of California, the USACE, and the Bureau of Reclamation to complete needed levee improvements and re-operate Folsom Dam to provide for further flood protection. In cooperation with SAFCA, Reclamation has changed to variable operating criteria, allowing as much as 670,000 acre-feet of flood control storage if 200,000 acre-feet of water supply are stored in the 3 largest upstream reservoirs.

15.1.2.7 San Joaquin River

Levees along the San Joaquin River are constructed from the Delta upstream to the mouth of the Merced River and along several San Joaquin River tributaries. In addition to levees, the San Joaquin River has a series of major flood control dams along the western slope of the southern Sierra Nevada. These include: Friant Dam on the San Joaquin River; New Exchequer Dam on the Merced River; Don Pedro Dam on the Tuolumne River; New Melones Dam on the Stanislaus River; and Camanche Reservoir on the Mokelumne River. (See Figure 15-3.)

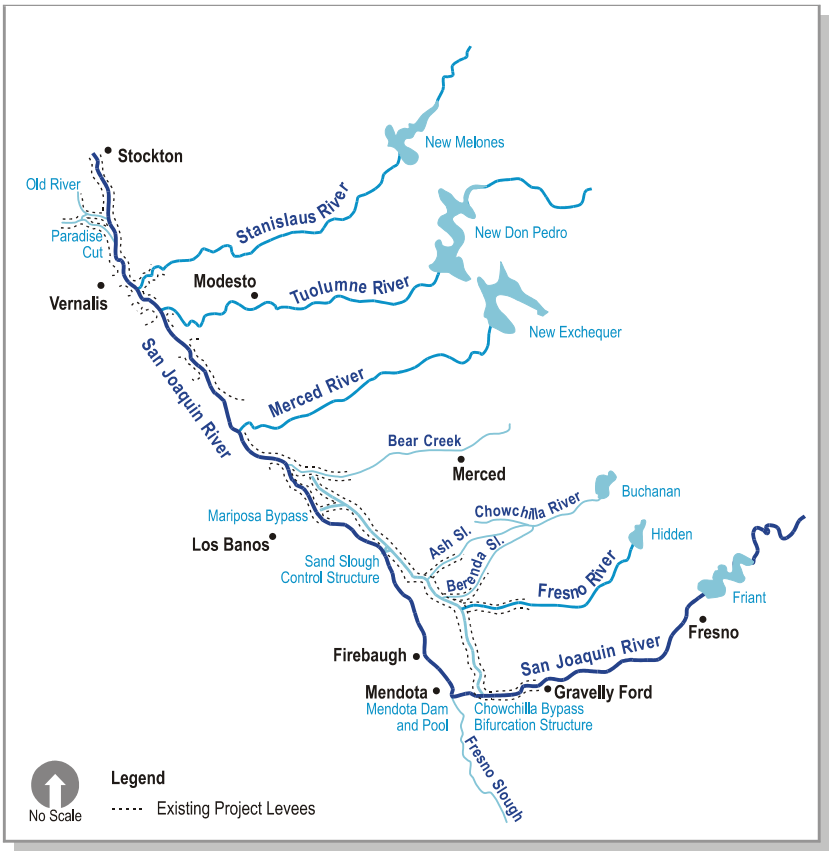


Figure 15-3
San Joaquin River Flood Management System

15.1.2.8 Merced River

The Merced River does not have a State or federal levee system, but it does contain a system of privately owned levee structures. Private landowners have maintained these levees in order to protect their agricultural lands and homes. Under USACE flood control operations rules, the New Exchequer Dam can release a maximum of 6,000 cfs from Lake McClure into the Merced River. Of a maximum capacity of just over one million acre-feet in Lake McClure, 350,000 acre-feet of storage space is reserved for flood control between mid-October and mid-March. A complete set of flood control operational guidelines as set by the USACE is contained in a document entitled, "New Exchequer Dam and Reservoir, Merced River, California – Water Control Manual"(Stillwater Sciences 2001).

15.1.3 Delta

Unlike the system of reservoirs and weirs that control the magnitude of flooding on the rivers upstream from the Delta, the flood control system in the Delta (with the exception of the Delta Cross Channel control gates) operates passively.

Since the construction of the Central Valley Project/State Water Project, and more importantly, the Yolo Bypass system, flood flows in the Delta have been more controlled. Flooding still occurs, but has been confined to the individual islands or

tracts and is due mostly to levee instability or overtopping. The major factors influencing Delta water levels include high flows, high tide, and wind. The highest water stages occur December - February when these factors are compounded.

15.1.4 Export Service Area

Complex systems, including reservoirs, levees, bypasses, and weirs provide flood protection to the lowlands in the Export Service Area. The Export Service Area includes Anderson Reservoir in Santa Clara Valley Water District, parts of the San Joaquin Valley including the Tulare Lake Basin, the California Aqueduct, the East and West Branches that convey water to Lake Perris, Diamond Valley Lake, and Castaic Lake, and the Colorado River Aqueduct that supplies water to Lake Mathews.

Anderson Reservoir is on Coyote Creek downstream from Coyote Reservoir in the Mt. Hamilton foothills. Water draining from the Mt. Diablo Range supplies Anderson Reservoir. Santa Clara Valley Water District operates the reservoir for 1) impounding local surface runoff, 2) providing incidental flood control benefits, 3) providing controlled releases of reservoir water to the Almaden Valley Pipeline via the Cross Valley Pipeline and for groundwater recharge, and 4) providing source water to water treatment plants under emergency conditions. Storage space is also maintained in Anderson Reservoir for excess flows from Coyote Reservoir via Coyote Creek. Maximum storage in Anderson Reservoir typically occurs in April; the District targets a reduction in storage to minimum levels to provide space for local runoff by December 1st. (Santa Clara Valley Water District 2002).

Operating rules at all Santa Clara Valley Water District reservoirs include limited provisions to release water to reduce flood probability. In 1997, the District adopted operating strategies for some reservoirs to reduce flood probability while minimizing any impacts on water supply. These strategies recognize that if the reservoir storage approaches full early enough in the rainfall season, some water can be released to create increased flood storage without significantly reducing the probability of filling the reservoir by the end of the season. The flood control rule curves identify reservoir storage for a given date from November 15th through April. If the actual storage on that date is above the curve, releases may be made to provide for potential flood peak attenuation. Releases to reach the rule curve are coordinated with the National Weather Service Quantitative Precipitation Forecasts to predict flowrates in the uncontrolled watershed downstream of the reservoirs. Releases are discontinued temporarily when predicted flowrates exceed a safe level. (Maher 2003).

The Tulare Lake Basin does not have an outlet to the ocean. Consequently, effective flood management is a key element in protecting downstream residences and resources. There are four major rivers in this basin, the Kings, Kaweah, Tule, and Kern Rivers. These rivers flow from the Sierra Nevada Mountains into the lowlands of the Tulare Lake Basin. An extensive system of levees and diversions in the lowlands provide protection from irrigation flows, minor flood flows, and surrounding uncontrolled local runoff. However, the operations of flood control reservoirs and

diversion structures upstream, along all four rivers, must be carefully coordinated to provide an adequate level of flood protection to the Tulare Lake lowlands.

Along the Kings River, a system of weirs are designed to divert flood flows through the Kings River North, James Bypass, Fresno Slough, and Mendota Pool system north into the San Joaquin River system. The Kern River Intertie may also be used to divert flood flows from the Kern River into the California Aqueduct.

The California Aqueduct is the main conveyance facility for the State Water Project, (SWP), conveying water from the Banks Pumping Plant to San Luis Reservoir and to SWP water contractors in the South Bay, San Joaquin Valley, and Southern California. This aqueduct divides into two branches, the East and West Branches in the Antelope Valley. (See Figure 15-4.) Water in the East Branch can be transported to Silverwood Lake and then conveyed into Lake Perris or directly to Diamond Valley Lake. The West Branch conveys water into Pyramid Lake in Los Angeles County, continues to Elderberry Forebay, ending at Castaic Lake.

There are no formal flood control allocations for Castaic Lake, Lake Perris, or Diamond Valley Lake. However, during a wet year, or if large storms are anticipated, up to 30,000 acre-feet can be reserved in Castaic Lake as flood control storage (Leahigh 2003). Local runoff from Elizabeth, Elderberry, Necktie, Fish, and Castaic Creeks enter Castaic Lake. Elizabeth Creek provides the largest inflow into Castaic Lake; all five creeks combined supply approximately 100 cfs inflow into Castaic Lake (Young 2003). Flood flows from the Tulare Lake Basin are released into the California Aqueduct and can be captured downstream by Castaic Lake. DWR is responsible for flood control operations.

A substantial amount of runoff does not enter Lake Perris or Diamond Valley Lake. These reservoirs do not provide substantive flood control benefit for the region or locally.

Lake Mathews, a terminal reservoir for the Colorado River Aqueduct, is owned by Metropolitan WD. There are no formal flood control operations on Lake Mathews.

15.2 Environmental Consequences/Environmental Impacts

15.2.1 Assessment Methods

Assessment methods are separated into two sections in this discussion: flood management operations and levee systems. The flood management operations analysis focuses on the flood control system's ability to handle flood flows under the program alternatives from a storage perspective. The analysis of the levee system focuses on the system's ability to handle the flood flows from a geotechnical perspective.

Flood control storage, reservoir operations, and channel capacity (information collected through literature review and personal communication as noted) are presented and compared to movement of water under EWA actions. Modeling results (see Appendix H) provide data regarding reservoir elevations and river flows for areas affected by EWA actions.

15.2.2 Significance Criteria

An effect on flood management operations is considered significant if the program would:

- Conflict with the flood control operation of a reservoir because of the presence of additional EWA water; or
- Increase river flows above channel capacity.

An effect on the levee system is considered potentially significant if the program would:

- Decrease levee stability through increased flood stages, excessive seepage and scour, or increased deposition.

15.2.3 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

Under the No Action/No Project Alternative, water transfers as part of the EWA would not occur. Reservoir operations, including carryover storage, flood storage capacity, and timing of releases would remain consistent with existing conditions. River channel capacities with regard to flood control would remain constant and would continue to be managed according to existing guidelines. The No Action/No Project Alternative reflects that of the existing conditions/affected environment description and is termed Baseline Condition in the following sections.

15.2.4 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers up to 600,000 acre-feet and does not specify transfer limits in the Upstream from the Delta Region or the Export Service Area. Transfers in the Upstream from the Delta Region would range from 50,000 to 600,000 acre-feet, limited by hydrologic year and conveyance capacity through the Delta. Although all potential transfers would not occur in one year, this section discusses all transfers (a transfer amount that would result in greater than 600,000 acre-feet) to provide an effects analysis of a maximum transfer scenario. Similarly, the evaluation includes an analysis of up to 540,000 acre-feet in the Export Service Area to cover the maximum transfer scenario for that region.

15.2.4.1 Upstream from the Delta Region

15.2.4.1.1 Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would increase Sacramento River flows in April through September. The Sacramento River would increase in flow downstream from the point of diversion as water released from Lake Shasta was not diverted. Flow is also increased below Keswick Dam because the release pattern is shifted from August and September to July to take advantage of Delta export capacity in July. The increase in flows would not occur during the flood season. River flows would be maintained well below the river channel carrying capacity during transfers. Table 15-1 shows the releases from Keswick Dam under the existing conditions and with the EWA.[1] The channel capacity below Keswick Dam is 79,000 cfs, much higher than the expected release with the EWA. Because the average Baseline Condition flows are substantially below the channel capacity, the additional flows with the EWA are only slightly greater than the Baseline Condition, and the increase in flows occurs during the irrigation season rather than the flood season, the EWA would not affect flood control.

The EWA would not affect levees because it would not substantially increase flows. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. There would be no effect on flood control from increased river flows.

The Feather, Yuba, and American Rivers contribute flows to the Sacramento River. EWA actions would not cause substantial increases in flow on these rivers compared to the Baseline Condition; therefore, EWA actions would not affect flood control on the lower Sacramento River. (See Sections 15.2.4.1.2 – 15.2.4.1.4.)

Table 15-1
Long-term Average Release from Keswick Dam

Month	Monthly Mean Flow (cfs)		Difference (cfs)
	Baseline	With EWA	
Oct	5,842	5,842	0
Nov	4,854	4,854	0
Dec	6,672	6,672	0
Jan	7,951	7,951	0
Feb	10,056	10,056	0
Mar	8,249	8,249	0
Apr	7,706	7,706	0
May	8,381	8,381	0
Jun	10,529	10,529	0
Jul	13,284	13,524	240
Aug	10,556	10,423	-133
Sep	7,278	7,167	-111

[1] Effects on flood control are analyzed based on the releases from Keswick Dam rather than Sacramento River flows at a point downstream from Keswick Dam. If EWA actions met release thresholds below Keswick Dam, EWA actions would also meet channel capacity thresholds further downstream.

15.2.4.1.2 Feather River

EWA acquisition of Oroville-Wyandotte Irrigation District (ID) stored reservoir water would cause the surface water elevation in Lake Oroville to be higher compared to the Baseline Condition from the November preceding likely fish actions until the following September. The EWA agencies would acquire stored reservoir water from Sly Creek Reservoir and Little Grass Valley Reservoir in November and December before fish actions are likely. Water released from the reservoirs would be stored in Lake Oroville until transfer the following summer. Because of the stored water, Lake Oroville's surface water elevation would be higher from November until the transfer the following summer compared to the Baseline Condition. The additional water held in Lake Oroville would be stored in the portion of the reservoir dedicated to water supply (the conservation pool). The amount of space between the top of conservation pool and the capacity of the reservoir (the space dedicated to flood control) would not change with the EWA. As long as the water levels in Lake Oroville were maintained below the dedicated flood control space, the addition of EWA water to Lake Oroville would not conflict with reservoir operations.

Under certain hydrologic conditions, high inflows to Lake Oroville could cause water levels to encroach on flood control space. The water control manual for Lake Oroville specifies release requirements necessary to reduce the lake elevation. The presence of the EWA water in the reservoir could cause required flood control releases to occur sooner than under the Baseline Condition. The addition of EWA water to Lake Oroville would not cause the operational guidelines of the lake regarding releases to be changed. Thus, the effects on flood control due to the acquisition of stored reservoir water from Oroville-Wyandotte ID would be less than significant.

EWA acquisition of Feather River contractor water via groundwater substitution and crop idling would create a higher water surface elevation in Lake Oroville from April through June compared to the Baseline Condition. Lake Oroville would not hold any EWA water during the flood season because of groundwater substitution or crop idling. There would be no effect on flood control from water held in Lake Oroville during April through September.

EWA acquisition of Feather River contractor water via groundwater substitution and crop idling would increase Feather River flows downstream from Lake Oroville in July and August. The Feather River would increase in flow downstream from the point of diversion as water held in Lake Oroville was released. Flow is also increased because the release pattern is shifted from August and September to July to take advantage of Delta export capacity in July. The increase in flows would not occur during the flood season. River flows would be maintained well below the river channel carrying capacity during transfers. Table 15-2 shows the releases from Lake Oroville under the existing conditions and with the EWA.[2] The channel capacity below Lake Oroville is

[2] Effects on flood control are analyzed based on the releases from Lake Oroville rather than Feather River flows at a point downstream from Lake Oroville. If EWA actions met release thresholds below Lake Oroville, EWA actions would also meet channel capacity thresholds further downstream.

210,000 cfs, much higher than the expected flows with the EWA. Because the average Baseline Condition flows are substantially below the channel capacity, the additional flows with the EWA are only slightly greater than the Baseline Condition, and the increase in flows occurs during the irrigation season rather than the flood season, there would not be an effect on flood control.

Table 15-2
Long-term Average Flow Below Thermalito Afterbay

Month	Monthly Mean Flow (cfs)		Difference (cfs)
	Baseline	With EWA	
Oct	2,441	2,441	0
Nov	2,301	2,301	0
Dec	3,984	3,984	0
Jan	5,005	5,005	0
Feb	5,930	5,930	0
Mar	6,144	6,144	0
Apr	3,416	3,416	0
May	3,826	3,604	-222
Jun	5,084	4,788	-296
Jul	5,896	6,497	601
Aug	4,434	4,515	81
Sep	1,600	1,421	-179

The EWA would not affect levees because it would not substantially increase flows. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. The EWA would have no effect on flood control from increased river flows.

EWA acquisition of Oroville-Wyandotte Irrigation District (ID) stored reservoir water would decrease the surface water elevation in Sly Creek and Little Grass Valley Reservoirs compared to the Baseline Condition from November until refill. Lower water surface elevation in Sly Creek and Little Grass Valley Reservoirs would incidentally provide space for flood control. A decrease in reservoir elevation in would increase the amount of inflow that could be captured during a flood event. This would be a potentially beneficial effect.

15.2.4.1.3 Yuba River

EWA acquisition of Yuba County WA water via groundwater substitution would create a higher water surface elevation in New Bullards Bar Reservoir from April through September compared to the Baseline Condition. The surface water elevation would be higher with the EWA compared to the Baseline Condition, from April through September. New Bullards Bar Reservoir would not hold any EWA water during the flood season. There would be no effect on flood control from water held in New Bullards Bar Reservoir during April through September because of groundwater substitution.

EWA acquisition of Yuba County WA stored reservoir water would decrease surface water elevations from July to refill at New Bullards Bar Reservoir. Entering the flood season, the surface elevation at New Bullards Bar Reservoir would be lower than the Baseline Condition. A reduction of water in New Bullards Bar Reservoir could lessen the number of flood releases and/or the amount of water needed to be released. As noted previously, the lack of major flood control dams on the Middle and South Forks of the Yuba River historically resulted in flood control problems at the confluence of the Yuba and Feather Rivers. The additional space made available in New Bullards Bar Reservoir because of the release of stored reservoir water would incidentally provide space for flood control. This would be a potentially beneficial effect.

EWA acquisition of Yuba County WA water via groundwater substitution and stored reservoir water would increase Yuba River flows in July through September. The Yuba River would increase in flow downstream from the point of diversion as water held in New Bullards Bar Reservoir was released. Flows would not increase during the flood season. River flows would be maintained well below the river channel carrying capacity during transfers. Flows below New Bullards Bar Reservoir would increase approximately 1,000 cfs. This increase, in addition to the average releases of 1,800, 2,000, and 1,200 cfs in July, August, and September respectively, would be well below the channel capacity of 120,000 cfs (USGS 2003). Because the average Baseline Condition flows are substantially below the channel capacity, the additional flows with the EWA are only slightly greater than the Baseline Condition, and the increase in flows occurs during the irrigation season rather than the flood season, the EWA would not affect flood control.

The EWA would not affect levees because it would not substantially increase flows. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. There would be no effect on flood control from increased river flows.

15.2.4.1.4 American River

EWA acquisition of Placer County WA water via stored groundwater purchase and stored reservoir water would create a higher water surface elevation in Folsom Lake from April through September compared to the Baseline Condition. Folsom Lake Reservoir would not hold any EWA water during the flood season. There would be no effect on flood control from water held in Folsom Lake during April through September because of stored groundwater purchase and stored reservoir water.

EWA acquisition of stored groundwater from Sacramento Groundwater Authority members and stored reservoir water would increase American River flows in July through September. The American River would increase in flow downstream from Folsom Lake as water was released. The increase in flows would occur between July and December. However, river flows would be maintained well below the river channel carrying capacity during transfers, as regulated by USACE flood control operations. Table 15-3 shows potential releases from Nimbus Dam under the Baseline Condition and with

the EWA.[3] The channel capacity below Folsom Lake is 115,000 cfs, much higher than the expected release with the EWA. The average Baseline Condition flows are substantially below the channel capacity and the additional flows with the EWA are only slightly greater than the Baseline Condition; there would be a less than significant effect on flood control.

Table 15-3
Long-term Average Release from Nimbus Dam

Month	Monthly Mean Flow (cfs)		Difference (cfs)
	Baseline	With EWA	
Jan	4,124	4,124	0
Feb	4,989	4,989	0
Mar	3,941	3,941	0
Apr	3,616	3,616	0
May	3,793	3,793	0
Jun	4,166	4,166	0
Jul	4,100	4,316	216
Aug	2,482	2,574	92
Sep	2,876	2,894	18

The EWA would not affect levees because it would not substantially increase flows. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. Therefore, the effects would be less than significant.

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations July to refill at Hell Hole and/or French Meadows reservoirs. The surface water elevation at Hell Hole and/or French Meadows Reservoir would be lower than the Baseline Condition from September until refill. Although not operated for flood control, the additional storage space would potentially attenuate flows entering Folsom Lake. This effect would be potentially beneficial.

15.2.4.1.5 Merced River

EWA acquisition of Merced ID water via groundwater substitution would increase surface water elevation in Lake McClure from April through November. Water held in Lake McClure would not be released until October and November. The additional water held in Lake McClure would be stored in the portion of the reservoir dedicated to water supply (the conservation pool). The amount of space between the top of conservation pool and the capacity of the reservoir (the space dedicated to flood control) would not change with the EWA. As long as the water levels in Lake McClure were maintained below the dedicated flood control space, the addition of EWA water to Lake McClure would not conflict with reservoir operations. As long as the water levels in Lake McClure were maintained below the dedicated flood control

[3] Effects on flood control are analyzed based on the releases from Nimbus Dam rather than American River flows at a point downstream from Nimbus Dam. If EWA actions met release thresholds below Nimbus Dam, EWA actions would also meet channel capacity thresholds further downstream.

space, the addition of EWA water to Lake McClure would not conflict with reservoir operations.

Under certain hydrologic conditions, high inflows to Lake McClure could cause water levels to encroach on flood control space. The water control manual for Lake McClure specifies release requirements necessary to reduce the lake elevation. The presence of the EWA water in the reservoir could cause required flood control releases to occur sooner than under the Baseline Condition. The addition of EWA water to Lake McClure would not cause the operational guidelines of the lake regarding releases to be changed. Thus, the effects on flood control due to the acquisition of water via groundwater substitution from Merced ID would be less than significant.

EWA acquisition of Merced ID water via groundwater substitution would increase Merced River flows downstream from the point of diversion in October and November. The Merced River would increase in flow downstream from Lake McClure as water was released. The increase in flows would occur during the start of the flood season. However, river flows would be maintained well below the river channel carrying capacity during transfers, as regulated by USACE flood control operations. Table 15-4 shows the releases from Lake McClure under the Baseline Condition and with the EWA. The New Exchequer Dam can release a maximum of 6,000 cfs from Lake McClure into the Merced River. The flows with the EWA would be much lower than the maximum.

Table 15-4
Long-term Average Flow Below Crocker-Huffman Dam

Month	Monthly Mean Flow (cfs)		Difference (cfs)
	Baseline	With EWA	
Oct	812	1,015	203
Nov	231	441	210
Dec	353	353	0
Jan	493	493	0
Feb	784	784	0
Mar	500	500	0
Apr	501	501	0
May	894	894	0
Jun	881	881	0
Jul	329	329	0
Aug	159	159	0
Sep	178	178	0

The EWA would not affect levees because it would not substantially increase flows. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. Therefore, the effects would be less than significant.

15.2.4.2 Delta Region

EWA acquisition of water in the Upstream from the Delta Region would increase inflows to the Delta. Flows in the Sacramento and San Joaquin Rivers would increase compared to the Baseline Condition, resulting in increased inflow to the Delta. Flow increases would occur at times of available pump capacity, predominantly July through September, with some increases earlier and later with crop idling, groundwater substitution, and Merced ID transfers. (See Tables 15-5 and 15-6.) The Sacramento River would contribute a greater percentage increase to flow compared to the San Joaquin River; 16 percent increase for the Sacramento River during July through September compared to 10 percent increase in October or November for the San Joaquin River. The flow increases on the Sacramento River would not take place during the flood control season. During July through September, overall Delta inflow is less, relative to Delta inflow during December through March. The Delta inflow on the San Joaquin River is also less, relative to the Delta inflow during January through June. Because the Delta annually receives higher inflows than would occur with the EWA, and the increases in inflow would not occur during the Delta's highest water stages, December through February, the effect on the Delta would be less than significant.

Table 15-5
Long-term Average Delta Inflow from the Sacramento River

Month	Monthly Mean Flow (cfs)		Difference (cfs)
	Baseline	Flexible Purchase Alternative	
Oct	12,029	12,117	88
Nov	14,866	14,881	15
Dec	26,703	26,708	5
Jan	39,355	39,358	3
Feb	48,222	48,223	1
Mar	40,247	40,249	2
Apr	26,707	27,188	481
May	19,808	20,160	352
Jun	18,256	18,605	349
Jul	17,824	20,996	3,142
Aug	13,839	16,006	2,167
Sep	13,847	14,491	644

Table 15-6 Long-term Average Delta Inflow from the San Joaquin River			
Month	Monthly Mean Flow (cfs)		Difference (cfs)
	Baseline	Flexible Purchase Alternative	
Oct	3,016	3,219	203
Nov	1,980	2,190	210
Dec	3,038	3,038	0
Jan	4,505	4,505	0
Feb	6,392	6,392	0
Mar	6,361	6,361	0
Apr	6,127	6,127	0
May	5,482	5,482	0
Jun	4,219	4,219	0
Jul	2,314	2,314	0
Aug	1,696	1,696	0
Sep	1,909	1,909	0

15.2.4.3 Export Service Area

EWA management of Santa Clara Valley WD water via predelivery could increase the surface water elevation in Anderson Reservoir in the months prior to the high point[4] in San Luis Reservoir. With the EWA, water would be transferred from San Luis Reservoir to Anderson Reservoir or groundwater storage facilities prior to the high point in San Luis Reservoir. Although the amount of water within Anderson Reservoir would increase compared to the Baseline Condition, flood storage capacity would be maintained to accept inflows from Coyote Creek based on the rule curve explained in Section 15.1.4. The presence of the EWA water in the reservoir could cause required flood control releases to occur sooner than under the Baseline Condition. In the event of a required flood release, the flood storage capacity in Anderson Reservoir would be equivalent to the capacity under the Baseline Condition; therefore, the effect on flood control would be less than significant.

Metropolitan WD management of EWA water provided as predelivery could increase the surface water elevation in Diamond Valley Lake, Lake Mathews, and other Metropolitan WD storage facilities. If Metropolitan WD were to accept predelivery water and use it to repay its flexible storage debt in Castaic Lake or Lake Perris, predelivery could affect the surface water elevations in those lakes as well. With the EWA, water could be transferred to Metropolitan WD at any of its turnouts and then to storage in Diamond Valley Lake, Lake Mathews, or other Metropolitan WD storage facilities, or used to repay flexible storage in Castaic Lake or Lake Perris. Although the amount of water within these facilities would increase compared to the Baseline Condition, flood storage capacity in

[4] High point is the value at which storage has peaked annually. In San Luis Reservoir, high point occurs approximately in mid-April.

Castaic Lake would be equivalent to the capacity under the Baseline Condition; therefore, the effect on flood control would be less than significant.

EWA management of Metropolitan WD water via source shifting could decrease surface water elevations in Castaic Lake, Lake Perris, Diamond Valley Lake, Lake Mathews, and Anderson Reservoir beginning in April and ending in December. Metropolitan WD could draw on their flexible storage in Castaic Lake or Lake Perris, draft storage in Diamond Valley Lake or Lake Mathews, or draw on other local sources in the April-September period. Santa Clara Valley WD would draw on Anderson Reservoir for local needs from April through September. Reservoir levels would be lower relative to the Baseline Condition from April until the source shift water was returned by the end of December. Lower water levels in Castaic Lake in October, November, and December could provide additional storage space for inflow from the California Aqueduct or local streams. If water were not repaid until the following year, continued lower water levels would provide space until refill. The effect on flood control would be potentially beneficial.

15.2.4.4 Multi-year Transfers

The analysis thus far has been based on a 1-year water transfer; however, the EWA agencies and willing sellers may agree to multi-year transfers. No effects as discussed would accumulate from one year to another. Therefore, the effects presented in Sections 15.2.4.1 through 15.2.4.3 would be the same whether agencies sold water for one or multiple years.

15.2.5 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet in the Upstream from the Delta Region, and 150,000 acre-feet in the Export Service Area. While the amounts in each region are fixed, the acquisition types and sources could vary. To allow the EWA Project Agencies maximum flexibility when negotiating purchases with willing sellers, this section analyzes the effects of each potential transfer. These transfers are the same actions as those described for the Flexible Purchase Alternative, but the amounts are limited by the total acquisition amount in each region (35,000 acre-feet in the Upstream from the Delta Region and 150,000 acre-feet in the Export Service Area).

15.2.5.1 Upstream from the Delta Region

As stated in the Modeling Technical Appendix (Attachment 1), the Fixed Purchase Alternative is not modeled because 35,000 acre-feet is too small an amount to model through the Delta. Any differences in the modeling output from the Baseline Condition would not represent meaningful differences. Therefore, the effects analysis for the Fixed Purchase Alternative is discussed qualitatively.

15.2.5.1.1 Sacramento River

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would increase Sacramento River flows in April through September. The Sacramento River would increase in flow downstream from the point of diversion as water released from Lake Shasta was not diverted. Flow is also increased below Keswick Dam because the release pattern is shifted from August and September to July to take advantage of Delta export capacity in July. The increase in flows would not occur during the flood season. River flows would be maintained well below the river channel carrying capacity during transfers. Levees would not be affected because flows would not be substantially increased. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. There would be no effect on flood control from increased river flows.

15.2.5.1.2 Feather River

EWA acquisition of Oroville-Wyandotte Irrigation District (ID) stored reservoir water would cause the surface water elevation in Lake Oroville to be higher compared to the Baseline Condition from the November preceding likely fish actions until the following September. The EWA agencies would acquire stored reservoir water from Sly Creek Reservoir and Little Grass Valley Reservoir in November and December before fish actions are likely. Water released from the reservoirs would be stored in Lake Oroville until transfer the following summer. Because of the stored water, Lake Oroville's surface water elevation would be higher from November until the transfer the following summer compared to the Baseline Condition. The additional water held in Lake Oroville would be stored in the portion of the reservoir dedicated to water supply (the conservation pool). The amount of space between the top of conservation pool and the capacity of the reservoir (the space dedicated to flood control) would not change with the EWA. As long as the water levels in Lake Oroville were maintained below the dedicated flood control space, the addition of EWA water to Lake Oroville would not conflict with reservoir operations.

Under certain hydrologic conditions, high inflows to Lake Oroville could cause water levels to encroach on flood control space. The water control manual for Lake Oroville specifies release requirements necessary to reduce the lake elevation. The addition of EWA water to Lake Oroville would not cause the operations of the lake regarding releases to be changed. The presence of the EWA water in the reservoir could cause required flood control releases to occur sooner than under the Baseline Condition. Thus, the effects on flood control due to the acquisition of stored reservoir water from Oroville-Wyandotte ID would be less than significant.

EWA acquisition of Feather River contractor water via groundwater substitution and crop idling would create a higher water surface elevation in Lake Oroville from April through June compared to the Baseline Condition. Lake Oroville would not hold any EWA water during the flood season because of groundwater substitution or crop idling. There would be no effect on flood control from water held in Lake Oroville during April through September.

EWA acquisition of Feather River contractor water via groundwater substitution and crop idling would increase Feather River flows downstream from Lake Oroville in July and August. The Feather River would increase in flow downstream from the point of diversion as water held in Lake Oroville was released. Flow is also increased because the release pattern is shifted from August and September to July to take advantage of Delta export capacity in July. The increase in flows would not occur during the flood season. River flows would be maintained well below the river channel carrying capacity during transfers. The channel capacity below Lake Oroville is 210,000 cfs, much higher than the expected release with the EWA. Levees would not be affected because flows would not be substantially increased. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. There would be no effect on flood control from increased river flows.

EWA acquisition of Oroville-Wyandotte Irrigation District (ID) stored reservoir water would decrease the surface water elevation in Sly Creek and Little Grass Valley Reservoirs compared to the Baseline Condition from November until refill. Lower water surface elevation in Sly Creek and Little Grass Valley Reservoirs would incidentally provide space for flood control. A decrease in reservoir elevation in would increase the amount of inflow that could be captured during a flood event. This would be a potentially beneficial effect.

15.2.5.1.3 Yuba River

EWA acquisition of Yuba County WA water via groundwater substitution would create a higher water surface elevation in New Bullards Bar Reservoir from April through September compared to the Baseline Condition. The surface water elevation would be higher with the EWA compared to the Baseline Condition from April through September. New Bullards Bar Reservoir would not hold any EWA water during the flood season. There would be no effect on flood control from water held in New Bullards Bar Reservoir during April through September because of groundwater substitution.

EWA acquisition of Yuba County WA stored reservoir water would decrease surface water elevations from July to refill at New Bullards Bar Reservoir. Entering the flood season, the surface elevation at New Bullards Bar Reservoir would be lower than the Baseline Condition. A reduction of water in New Bullards Bar Reservoir could lessen the number of flood releases and/or the amount of water needed to be released. As noted previously, the lack of major flood control dams on the Middle and South Forks of the Yuba River historically resulted in flood control problems at the confluence of the Yuba and Feather Rivers. The additional space made available in New Bullards Bar Reservoir because of the release of stored reservoir water would incidentally provide space for flood control. This would be a potentially beneficial effect.

EWA acquisition of Yuba County WA water via groundwater substitution and stored reservoir water would increase Yuba River flows in July through September. The Yuba River would increase in flow downstream from the point of diversion as water held in New Bullards Bar Reservoir was released. The increase in flows would not occur during the flood season. River flows would be maintained well below the river channel carrying capacity during transfers. Levees would not be affected because flows

would not be substantially increased. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. There would be no effect on flood control from increased river flows.

15.2.5.1.4 American River

EWA acquisition of Placer County WA water via stored groundwater purchase and stored reservoir water would create a higher water surface elevation in Folsom Lake from April through September compared to the Baseline Condition. Folsom Lake Reservoir would not hold any EWA water during the flood season. There would be no effect on flood control from water held in Folsom Lake during April through September because of stored groundwater purchase and stored reservoir water.

EWA acquisition of stored groundwater from Sacramento Groundwater Authority members and stored reservoir water would increase American River flows in July through December. The American River would increase in flow downstream from Folsom Lake as water was released. The increase in flows would occur between July and December. However, river flows would be maintained well below the river channel carrying capacity during transfers, as regulated by USACE flood control operations. The channel capacity below Folsom Lake is 115,000 cfs, much higher than the expected release with the EWA. Levees would not be affected because flows would not be substantially increased. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. Therefore, the effects would be less than significant.

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations July to refill at Hell Hole and/or French Meadows reservoirs. The surface water elevation at Hell Hole and/or French Meadows Reservoir would be lower than the Baseline Condition from July until refill. Although not operated for flood control, the additional storage space would potentially attenuate flows entering Folsom Lake. This effect would be potentially beneficial.

15.2.5.1.5 Merced River

EWA acquisition of Merced ID water via groundwater substitution would increase surface water elevation in Lake McClure from April through November. Water held in Lake McClure would not be released until October and November. The additional water held in Lake McClure would be stored in the portion of the reservoir dedicated to water supply (the conservation pool). The amount of space between the top of conservation pool and the capacity of the reservoir (the space dedicated to flood control) would not change with the EWA. As long as the water levels in Lake McClure were maintained below the dedicated flood control space, the addition of EWA water to Lake McClure would not conflict with reservoir operations.

Under certain hydrologic conditions, high inflows to Lake McClure could cause water levels to encroach on flood control space. The water control manual for Lake McClure specifies release requirements necessary to reduce the lake elevation. The addition of EWA water to Lake McClure would not cause the operations of the lake regarding releases to be changed. The presence of the EWA water in the reservoir could cause

required flood control releases to occur sooner than under the Baseline Condition Thus, the effects on flood control due to the acquisition of water via groundwater substitution from Merced ID would be less than significant.

EWA acquisition of Merced ID water via groundwater substitution would increase Merced River flows downstream from the point of diversion in October and November. The Merced River would increase in flow downstream from Lake McClure as water was released. The increase in flows would occur during the start of the flood season. However, river flows would be maintained well below the river channel carrying capacity during transfers, as regulated by USACE flood control operations. Under USACE flood control operations rules, the New Exchequer Dam can release a maximum of 6,000 cfs from Lake McClure into the Merced River. The flows with the EWA would be much lower than the maximum. Levees would not be affected because flow levels are below channel capacity. Therefore, no program-related effects to levee stability, such as erosion or seepage, would occur beyond the Baseline Condition. Therefore, the effects would be less than significant.

15.2.5.2 Delta Region

EWA acquisition of water in the Upstream from the Delta Region would increase inflows to the Delta. The greatest amount of water that could be conveyed through the Delta under the Fixed Purchase Alternative is 35,000 acre-feet. The increase in Delta inflow would take place predominantly in July through November, depending on transfer sources. As stated in the Modeling Technical Appendix (Attachment 1), the Fixed Purchase Alternative is not modeled because 35,000 acre-feet is too small an amount to model through the Delta. Any differences in the modeling output from the Baseline Condition would not represent meaningful differences. The Delta inflow with the EWA would be lower than Delta inflow during much of the year, and the increased inflow would not be during the Delta's highest water stages, December through February. The effect on the Delta would be less than significant.

15.2.5.3 Export Service Area

The effects of source shifting and predelivery under the Fixed Purchase Alternative are equivalent to the effects as described under the Flexible Purchase Alternative because the transfer amounts are the same under both Alternatives. Therefore, as stated in Section 15.2.4.3, the effect of source shifting on flood control would be potentially beneficial; the effect of predelivery on flood control would be less than significant.

15.2.5.4 Multi-year Transfers

The analysis thus far has been based on a 1-year water transfer; however, the EWA agencies and willing sellers may agree to multi-year transfers. No effects as discussed would accumulate from one year to another. Therefore, the effects presented in Sections 15.2.5.1 through 15.2.5.3 would be the same whether agencies sold water for one or multiple years.

15.2.6 Comparative Analysis of Alternatives

This section has thus far analyzed the effects of many potential transfers, looking at the "worst-case scenario" that would occur if all acquisitions happened in the same year. This approach ensures that all effects of transfers are included, and provides the EWA Project Agencies the flexibility to choose transfers that may be preferable in a given year. The EWA, however, would not actually purchase all of this water in the same year. This section provides information about how EWA would more likely operate in different year types.

The following discussion compares the actions taken under the Flexible and Fixed Purchase Alternatives during wet and dry years. A further comparison of the alternatives is listed in Table 15-7.

Table 15-7
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Flood Control

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Region	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Change from Baseline Condition*	*Fixed Purchase Alternative Change from Baseline Condition*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*
Sacramento River	Groundwater substitution/ Crop Idling	Water released from Lake Shasta in April through September is not diverted.	Increase in Sacramento River flow April through September.	Releases from Keswick Dam increase by a maximum of 240 cfs.	Releases from Keswick Dam increase.	No effect	No effect
Feather River	Stored reservoir water	Water is released from Sly Creek and Little Grass Valley Reservoirs.	Sly Creek and Little Grass Valley Reservoir levels decrease from December until refill.	A decrease in elevation in Sly Creek and Little Grass Valley Reservoirs would increase the amount of inflow that could be captured during a flood event	A decrease in elevation in Sly Creek and Little Grass Valley Reservoirs would increase the amount of inflow that could be captured during a flood event	Potential Beneficial Effect	Potential Beneficial Effect
			Stored reservoir water released from Little Grass Valley and Sly Creek Reservoirs is stored in Lake Oroville.	Lake Oroville's surface water elevation would increase compared to the Baseline Condition while holding the stored reservoir water	Lake Oroville's surface water elevation would increase compared to the Baseline Condition while holding the stored reservoir water	LTS	LTS
	Groundwater substitution/ Crop idling	Water is released from Lake Oroville	Increase in Feather River flow July through September.	Releases from Lake Oroville increase by a maximum of 600 cfs.	Releases from Lake Oroville increase.	No effect	No effect
Yuba River	Stored Reservoir Water	Water is released from New Bullards Bar Reservoir.	Increase in Yuba River flow July through September.	Yuba River flows increase by a maximum of 550 cfs..	Yuba River flows increase by a maximum of 190 cfs.	No effect	No effect

Table 15-7
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Flood Control

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Region	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Change from Baseline Condition*	*Fixed Purchase Alternative Change from Baseline Condition*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*
			New Bullards Bar water levels would be less than the Baseline Condition July – refill.	A decrease in elevation in New Bullards Bar Reservoir would increase the amount of inflow that could be captured during a flood event	A decrease in elevation in New Bullards Bar Reservoir would increase the amount of inflow that could be captured during a flood event	Potential Beneficial Effect	Potential Beneficial Effect
	Groundwater Substitution	Water is released from New Bullards Bar Reservoir.	Increase in Yuba River flow July through September.	Yuba River flow increases by a maximum of 460 cfs.	Yuba River flow increases by a maximum of 190 cfs.	No effect	No effect
American River	Stored Reservoir Water	Water is released from French Meadows and Hell Hole Reservoirs	French Meadows and Hell Hole Reservoir water levels would be less than the Baseline Condition July – refill.	A decrease in elevation in French Meadows and Hell Hole Reservoirs would increase the amount of inflow that could be captured during a flood event	A decrease in elevation in French Meadows and Hell Hole Reservoirs would increase the amount of inflow that could be captured during a flood event	Potential Beneficial Effect	Potential Beneficial Effect
	Stored Reservoir Water and Groundwater Purchase	Water is released from Folsom Lake.	Increase in American River flow July through December.	Releases from Folsom Lake increase.	Releases from Folsom Lake increase.	LTS	LTS
Merced/San Joaquin River	Groundwater substitution	Groundwater is used in lieu of surface water. Surface water is not released from Lake McClure.	Water from groundwater substitution is held in Lake McClure.	Lake McClure's surface water elevation would increase compared to the Baseline Condition.	Lake McClure's surface water elevation would increase compared to the Baseline Condition.	No effect	No effect
		Water is released from Lake McClure	Increase in Merced River flow in October and November.	Merced River flow increases by a maximum of 210 cfs	Merced River flow increases.	LTS	LTS
Delta Region	Crop idling, Groundwater substitution, Stored groundwater purchase, Stored reservoir water	Water is released from reservoirs	Increased Delta inflow July – November.	Delta inflow increases July-November, depending on sources, by a maximum of 3,100 cfs.	Delta inflow increases July-November, depending on sources.	LTS	LTS
Export Service Area	Source Shifting	MWD/Santa Clara Valley Water District draw on alternate sources including storage.	Decreased water levels in Castaic Lake, Lake Perris Diamond Valley Lake, and/or Anderson Reservoir.	A decrease in elevation in reservoirs would increase the amount of inflow that could be captured during a flood event	A decrease in elevation in reservoirs would increase the amount of inflow that could be captured during a flood event	Potential Beneficial Effect	Potential Beneficial Effect

Table 15-7
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Flood Control

Decreases are release to point of diversion. Below point of diversion there are no decreases.
Increases are below point of diversion. Increases are less above point of diversion.

Region	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Change from Baseline Condition*	*Fixed Purchase Alternative Change from Baseline Condition*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*
	Predelivery	Water is delivered early compared to the Baseline Condition.	Increased water levels in reservoirs.	Reservoir surface water elevation would increase compared to the Baseline Condition.	Reservoir surface water elevation would increase compared to the Baseline Condition.	LTS	LTS

In the Upstream from the Delta Region (as well as in the Delta and Export Service Area), under the No Project Alternative, reservoir operations would be same in all year types. Although the amount of water released would differ in wet and dry years, flood control requirements would regulate the reservoirs in the same manner regardless of water year type. Therefore, the effects on flood control would be the same in wet or dry years under the No Project Alternative.

The Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. This amount could typically be obtained from stored reservoir water purchases in most year types. This acquisition would have a beneficial effect if the purchase were from New Bullards Bar, Little Grass Valley, Sly Creek, Hell Hole, or French Meadows Reservoirs. The effect would be less than significant for the stored reservoir water held in Lake Oroville. Because the Flexible Purchase Alternative could acquire more water than the Fixed Purchase Alternative, and therefore acquire water from multiple reservoirs, there would be a greater potential for beneficial flood control effects with the Flexible Purchase Alternative.

In the Export Service Area, source shifting and predelivery would have the same effects under the Flexible and Fixed Purchase Alternatives. Predelivery would occur more often in wet years when there is greater potential for Delta export. Source shifting, which could create beneficial flood control effects, would occur in years when the low point problem was especially pronounced; source shifting is not directly tied to wet or dry year water types.

15.2.7 Mitigation Measures

There are no potentially significant impacts; therefore, no mitigation is required.

15.2.8 Potentially Significant Unavoidable Impacts

There are no potentially significant unavoidable impacts.

15.2.9 Cumulative Effects

There are no other programs that could store water in Lake Oroville between November and March. If DWR did allow such storage, the lake water surface would

be higher, and flood releases, if needed, would be initiated sooner. Flood control regulations would be followed regardless of the type of water stored in Lake Oroville. Therefore, the cumulative effects would be less than significant

The Sacramento Valley Water Management Agreement, Dry Year Purchase Program, DRRIP, and Central Valley Project Improvement Act Water Acquisition Program, in addition to the EWA, could purchase water through groundwater substitution. The Dry Year Purchase Program, DRRIP, and Central Valley Project Improvement Act Water Acquisition Program, as the well as the EWA, also acquire water through crop idling. Water held in reservoirs during April through June would be released during July through September. Agencies participating in groundwater substitution and crop idling with various programs would cause reservoirs to release more water during July through September than under the Baseline Condition. The USACE flood control guidelines limit releases such that the releases are within channel capacity. Additionally, the releases would be outside the flood season and therefore would not present a risk to flood control. The cumulative effects would be less than significant.

No other water transfer programs are currently managing water that involves early delivery of water, and none are likely to do so. Therefore, there would be no cumulative effects on flood control because of predelivery.

15.3 References

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Chapter 16
Power

Hydroelectric facilities are a part of the State Water Project (SWP) and Central Valley Project (CVP) facilities at dams and reservoirs. As water is released from Project reservoirs, the generation facilities produce power that is both used by the Projects and marketed to electric utilities, government and public installations, and commercial customers. Both Projects rely on their hydropower resources to reduce the cost of operations and maintenance and to repay the cost of Project facilities. Hydropower from the Projects is an important renewable energy and comprises approximately 36 percent of the online capacity of California hydroelectric facilities. Overall, CVP/SWP hydroelectric facilities are nearly seven percent of the total online capacity of California power plants.

The SWP uses its power primarily to run the pumps that move SWP water to farmlands and cities, where it can be applied to economically beneficial uses, and to provide peak power to California utilities. SWP long-term power contracts act as exchange agreements with utility companies. These exchange agreements allow the SWP and a utility to integrate the use of their individual power resources in a mutually beneficial manner. In these agreements the SWP provides on-peak energy to the utility in exchange for the return of a greater amount of mid-peak and off-peak energy. The SWP may also receive other compensation in the form of annual monetary payments and/or reduced transmission service rates for SWP facilities served by the utility. Except during surplus conditions in extremely wet years, all SWP power is used for peak power exchange agreements and to operate pumping facilities. In all years, the SWP must purchase additional power to meet pumping requirements.

CVP power is a source of electricity for CVP pumping facilities throughout the Central Valley and Sacramento-San Joaquin Delta, and for many of California's communities. The Western Area Power Administration (Western) sells excess CVP capacity and energy (supplementary to CVP internal needs) to municipal utilities, irrigation districts, and institutions and facilities such as wildlife refuges, schools, prisons, and military bases. Both CVP and SWP sell power at rates designed to recover costs. For the CVP these rates have been slightly below market rates historically. Revenue from Western power sales is an important funding source for the CVP Restoration Fund and for repaying Project debt incurred building the CVP.

EWA actions could change the pattern of power operations at SWP and CVP facilities compared to historical temporal patterns, alter the monthly and hourly (on/off-peak) load at SWP and CVP pumping facilities, affect demand for regional energy resources through increased local groundwater pumping, and affect the economic relationships associated with the temporal changes in SWP/CVP generation and pumping. Generation and groundwater pumping cost effects for non-CVP/SWP facilities (sellers) would be accounted for in the negotiated water price. In addition to these potential electric system effects, capacity and energy demands for increased pumping

could necessitate greater utilization of other power generation methods that may have more environmental effects than SWP/CVP hydroelectric power plants, resulting in indirect environmental effects.

16.1 Area of Analysis

The area of analysis for the evaluation of potential effects upon hydropower generation due to implementation of the Environmental Water Account (EWA) actions includes the power plants, pumping plants and associated facilities located along the SWP and CVP Projects of the Sacramento, Feather, Yuba, American and Merced river systems, as well as those of the Delta Region and Export Service Area. There are no hydroelectric facilities on the mainstem of the San Joaquin River. Also in the area of analysis are reservoirs, powerplants, and pumping plants not owned or operated as part of the SWP or CVP. The specific hydroelectric facilities evaluated are listed below and shown on Figure 16-1. These facilities include power and pumping plants potentially affected by EWA actions, as well as "pass-through facilities," through which EWA water would pass without affecting operations. These details are provided in the individual facility descriptions under Section 16.2, Affected Environment/Existing Conditions.

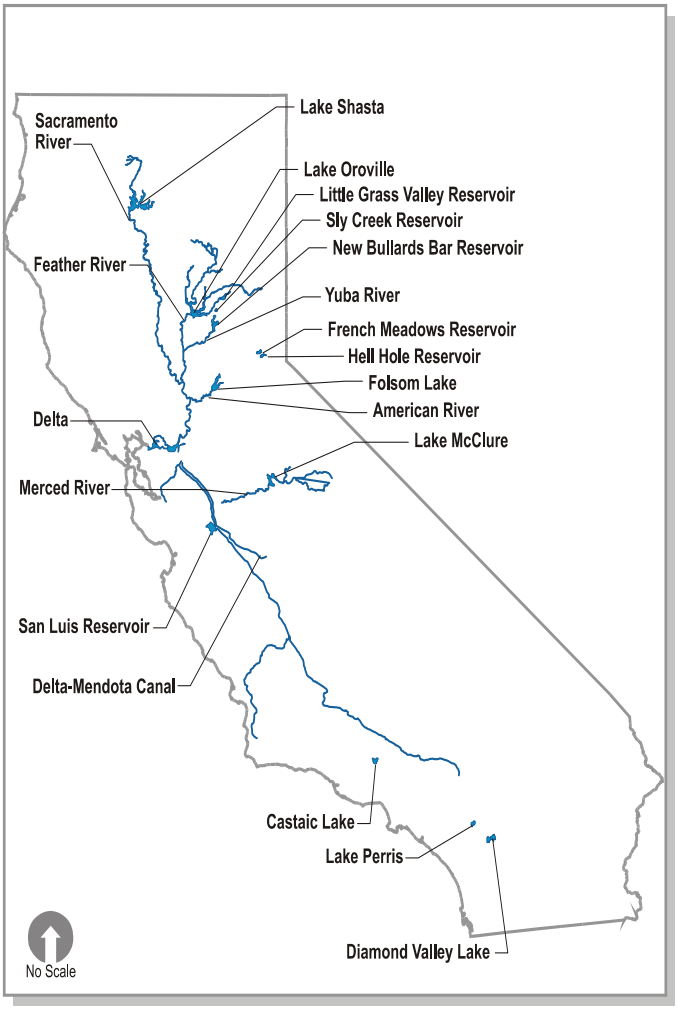


Figure 16-1
Power Area of Analysis

Hydroelectric Facilities by Region:

UPSTREAM FROM THE DELTA REGION

- Sacramento River
  - Central Valley Project
    - Shasta Power Plant
    - Keswick Power Plant
- Feather River

  - South Fork Project
    - Sly Creek Power Plant
    - Woodleaf Power Plant
    - Forbestown Power Plant
    - Kelly Ridge
  - State Water Project
    - Lake Oroville/Hyatt-Thermalito Power Plant Complex
- Yuba River
  - Yuba River Development Project
    - Colgate Power House
    - Englebright Reservoir/Narrows Power House I and Narrows Power House II
- American River
  - Middle Fork Project
    - French Meadows Power Plant
    - Hell Hole Power Plant
    - Lowell J. Stephensen Power Plant
    - Ralston Power Plant
    - Oxbow Power Plant
  - Central Valley Project – Lower American River
    - Folsom Reservoir/Power Plant
    - Lake Natoma/Nimbus Power Plant
- Merced River
  - Exchequer Power Plant
  - McSwain Power Plant

DELTA REGION

- Central Valley Project
  - Tracy Pumping Plant
- State Water Project
  - Harvey O. Banks Pumping Plant

EXPORT SERVICE AREA

- Central Valley Project
  - O'Neill Pumping-Generating Plant
- State Water Project
  - Edmonston Pumping Plant
  - Pyramid Lake/William E. Warne Power Plant
  - Castaic Power Plant
  - Silverwood Lake/Pearblossom Pumping Plant/Mojave Siphon Power Plant
  - San Luis Reservoir (joint Federal/State facility)/William R. Gianelli Pumping Plant
  - Dos Amigos Pumping Plant (joint Federal/State facility)
- Non-Project Facilities
  - Diamond Valley Reservoir/Hiram W. Wadsworth Pumping Plant.

16.2 Affected Environment/Existing Conditions

16.2.1 CVP Hydropower System

Hydropower generation at CVP facilities substantively contributes to the reliability of California's electrical power system. The CVP hydropower system consists of eight power plants and two pump-generating plants (Table 16-1). This system is fully integrated with the northern California power system and provides a significant portion of the hydropower available for use in northern and central California. The installed capacity of the system is 2,044,350 kilowatts (kW) (USBR 2001). In comparison, the combined capacity of the 368 operational hydroelectric power plants in California is 12,866,000 kW. The area's major power supplier, the Pacific Gas and Electric Company (PG&E), has a generating capacity from all sources of over 20,000,000 kW.

Table 16-1
Power Resources of the Central Valley Project

Unit	*Maximum Generating Capacity (kW)*
Sacramento River Service Area	
Carr[4]	184,000
Lewiston [1][4]	350
Keswick	105,000
Shasta	584,000
Spring Creek[4]	200,000
Trinity[4])	140,000
Subtotal	1,213,350
American River Service Area	
Folsom	215,000
Nimbus	17,000
Subtotal	232,000
Delta Export and San Joaquin Valley	
New Melones	383,000
O'Neill [2]	14,000
San Luis [2],[3]	202,000
Subtotal	599,000
TOTAL	2,044,350

Source: Reclamation 2001.
[1] Not marketed to CVP.
[2] Pump-generating plant.
[3] Jointly owned, pumping and generating facility, Federal share only.
[4]CVP power plants unaffected by EWA actions.

Power produced by the CVP hydropower system first meets Project water pumping loads, or "Project use power," at CVP pumping facilities (Table 16-2). Western markets power that is surplus to Project use as "commercial power" under long-term, firm contracts to municipal and governmental entities (preference customers[1]) at cost-based rates (based on generating/pumping costs). In an average year, preference customers buy 4,600 gigawatt hours (GWh) of energy and 1,700,000 kW of capacity at

[1] Preference customers are those who have contracts subject to the requirements of Reclamation law which provide that preference in the sale of Federal power shall be given to municipalities and other public corporations or agencies and also to cooperatives and other nonprofit organizations financed in whole or in part by loans made pursuant to the Rural Electrification Act of 1936 (Reclamation Project Act of 1939, Section 9(c), 43 U.S.C. 485h(c))

rates that recover the full cost of production and repayment obligations of Project investment with interest (Reclamation 2001). Western has completed and is in the process of implementing its post-2004 Marketing Plan for CVP hydropower resources that are surplus to Project use power needs after the long-term preference customer contracts expire in 2004.

Table 16-2
Major Pumping Plants of the Central Valley Project

Unit	*Capacity (cfs)*	*Average Annual Energy Use (kWh)*
American River Service Area		
Folsom Pumping Plant	350	1,041,000
Delta Export and San Joaquin Valley		
Contra Costa Canal	410	18,908,000
Dos Amigos[(1)]	13,200	180,146,000[(2)]
O'Neill	4,200	87,185,000
San Luis[(1)]	11,000	306,225,000[(2)]
Tracy	4,600	620,712,000

Source: Reclamation 2001.
[(1)] Joint State-Federal facility.
[(2)] Federal energy use.
kWh = kilowatthour

16.2.2 SWP Hydropower System

The primary purpose of the SWP power generation facilities is to meet energy requirements of the SWP pumping plants. To the extent possible, SWP pumping is scheduled during off-peak periods, and energy generation is scheduled during peak periods. Although the SWP uses more energy than it generates from its hydroelectric facilities, the Department of Water Resources (DWR) has exchange agreements with other utility companies and has developed other power resources. DWR sells surplus power, when it is available, to minimize the net cost of pumping energy. DWR first sold excess power commercially in 1968.

The SWP conveys an annual average of about 2.5 million acre-feet (AF) of water through its 17 pumping plants, 8 hydroelectric power plants, 32 storage facilities, and 660-plus miles of aqueduct and pipelines. Affordable hydroelectric generation provides the greatest share of SWP power resources. The combined 900-megawatt (MW) Hyatt Pumping-Generating Plant and Thermalito Pumping-Generating Plant (Hyatt-Thermalito) at Lake Oroville generate about 2,200 GWh of energy in a median water year, while the Thermalito Diversion Dam Power Plant (3,000 kW capacity)[2] adds another 24 GWh of energy per year. Generation at SWP plants, (Gianelli, Alamo, Devil Canyon, Warne, and Mojave Siphon), varies with the amount of water conveyed. These five plants generate about one-sixth of the total energy used by the SWP. The SWP Hydropower and Pumping Plants and their generating capacities are listed in Tables 16-3 and 16-4.

[2] Generating capacities listed in this chapter are installed capacities (the sums of rated capacities of plant generating units).

Table 16-3 Major Power Plants of the State Water Project	
Hydroelectric Power plant	**Generation Capability (kW)**
Thermalito	3,000
Hyatt-Thermalito	759,000
Gianelli	222,000
Alamo	17,000
Warne	74,000
Mojave Siphon	33,000
Devil Canyon	276,000

Source: California Department of Water Resources Bulletin 132-00 2001.

Table 16-4 Major Pumping Plants of the State Water Project	
Hydroelectric Power plant	**1999 Annual Energy Use (kWh)**
North Bay Interim	14,000
Cordelia	8,694,000
Barker Slough	7,925,000
South Bay	94,982,000
Del Valle	342,000
Banks	762,516,000
Buena Vista	285,669,000
Teerink	287,012,000
Chrisman	647,035,000
Edmonston	2,269,898,000
Pearblossom	339,027,000
Oso	107,796,000
Las Perillas	9,956,000
Badger Hill	26,232,000
Devil's Den	17,203,000
Bluestone	17,241,000
Polonio Pass	17,461,000

Source: DWR Bulletin 132-00 2001.

16.2.3 Other Hydroelectric Facilities

Other hydroelectric generation facilities in the area of analysis are owned by investor-owned utility companies, such as PG&E and Southern California Edison (SCE); by municipal agencies, such as the Sacramento Municipal Utility District (SMUD); and by several agencies. Larger facilities outside the CVP and SWP systems include PG&E's Upper North Fork Feather River System (approximately 340,000 kW capacity) in Plumas County; SMUD's Upper American River Project System (approximately 640,000 kW capacity) in El Dorado County; and the Yuba County Water Agency (YCWA) Yuba River Development Project (approximately 300,000 kW capacity) in Yuba County (CALFED 1999).

16.2.4 Seasonal Variation of Pumping and Generation

During the winter (December through February), Delta export and San Luis Reservoir pumping demands are high until San Luis Reservoir fills. San Luis Reservoir does not

fill every year. Power generation may increase beyond fall levels if flood control operations require additional releases from reservoirs. In a typical year, CVP generation is usually sufficient to satisfy Project use but insufficient to satisfy both Project pumping requirements and preference customer load requirements for the winter months, and Western must purchase additional energy from other sources in the winter. Generation from SWP hydropower facilities and the Reid Gardner coal-fired plant are sufficient to satisfy SWP pumping loads.

During the spring (March through May), exports from the Delta may be limited because San Luis Reservoir is full or because of Delta export limitations; thus, Project-pumping loads may be lower in spring than in winter. The need for late season rainfall and snowmelt flood releases also governs the timing of power generation. Spring is a transitional period for power, as the purchase of additional energy is sometimes, but not always, required for CVP pumping and preference load requirements. Generation from SWP hydropower facilities and the Reid Gardner coal-fired plant are sufficient to satisfy SWP pumping loads.

The system's water demands are highest during the summer (June through August). Releases to meet these demands produce energy at the upstream reservoirs and at the San Luis Reservoir. Although generation at CVP power plants is high because of releases for CVP water demands, pumping loads combined with high preference customer loads frequently require the import of additional energy from the Pacific Northwest. SWP generation at its hydropower facilities is also higher in response to increased releases; however, this generation coupled with Reid Gardner generation is typically insufficient to meet SWP loads. In the summer the SWP relies on its power exchange agreements and energy purchases (primarily from the Pacific Northwest) to meet its remaining energy requirements.

16.2.5 Upstream from the Delta Region

The power facility descriptions included below cover the major power and pumping plants potentially affected by the EWA Program, as well as any "pass-through facilities" through which EWA water would pass without affecting operations (e.g., Edmonston pumping plant, Lake Silverwood, Pyramid Lake). The pass-through facility descriptions are included here to provide representative information on system operations. Sections 16.2.5.1 through 16.2.5.5 present data for the Sacramento, Feather, Yuba, American, and Merced/San Joaquin river systems, respectively.

16.2.5.1 Sacramento River

16.2.5.1.1 Central Valley Project

Shasta

The Shasta Power Plant, constructed in 1944, is a CVP facility at the foot of Shasta Dam on the Sacramento River. Water from the dam is released through the 15-foot-diameter penstocks (power plant intake pipeline) leading to the five main generating units and two station service units. The Shasta Power Plant is a peaking plant - it produces power on a schedule corresponding to peak electrical system usage rather than at a constant rate 24 hours per day. Its power is dedicated first to meeting the requirements of the Project facilities. The plant's installed capacity is 629,000 kW,

and it has an annual average net generation of 2,466 GWh (Reclamation/Placer County Water Agency 2002). The energy remaining after meeting CVP Project use needs is marketed to various preference customers throughout California.

Keswick

The Keswick Power Plant, constructed in 1949, is a CVP facility just below Keswick Dam on the Sacramento River. Unlike Shasta, the Keswick Power Plant runs throughout the day at a constant rate, providing a uniform release to the Sacramento River. The Keswick Power Plant has three generating units with a combined capacity of 117,000 kW and an average annual net generation of 399.3 GWh (Reclamation 2002).

16.2.5.2 Feather River

16.2.5.2.1 South Fork Project

The South Fork Project, covering 82 square miles in three counties, consists of 8 dams, 17 tunnels, 21 miles of canals and conduits, 4 hydroelectric power plants and 21 miles of road. Oroville-Wyandotte Irrigation District (OWID) operates all four hydroelectric power plants (Sly Creek, Woodleaf, Forbestown, and Kelly Ridge), which have a combined generating capacity of more than 100,000 kW (Oroville-Wyandotte Irrigation District 2002b). OWID sells its electricity to PG&E wholesale; in exchange, PG&E pays for the operation and maintenance of the power facilities. OWID has partnered with PG&E since the late 1950s under an agreement that ends in 2009. The South Fork Project provides over 150,000 AF of water storage along with electricity. Although most of the hydropower produced goes to PG&E under contract, OWID also receives cash payments for power produced at its Sly Creek Power Plant.

16.2.5.2.2 Sly Creek

OWID owns the Sly Creek Power Plant located on the central portion of the South Fork Feather River at Sly Creek Reservoir. OWID moves water out of Sly Creek reservoir through the turbine-generator, which has a capacity of 15,000 kW. The generator at Sly Creek Reservoir nets an average 0.5 GWh of monthly generation (Oroville-Wyandotte Irrigation District 2002b).

16.2.5.2.3 Woodleaf

The Woodleaf Power Plant is on the South Fork Feather River just below Sly Creek Reservoir. At Lost Creek, OWID diverts water into the Woodleaf penstock. The Woodleaf Power Plant has a 62,000 kW generating capacity and produces an average of 6.9 GWh of electricity monthly (Oroville-Wyandotte Irrigation District 2002b). OWID moves water from the Woodleaf Power Plant through the Forbestown Diversion Dam.

16.2.5.2.4 Forbestown

The Forbestown Power Plant is on the South Fork Feather River below Ponderosa Dam. OWID transports water to the Forbestown Diversion Dam, then through the Forbestown Tunnel to the Forbestown Power Plant. The power plant has a generating

capacity of 39,000 kW and generates an average of 3.7 GWh monthly (Oroville-Wyandotte Irrigation District 2002b). From the Forbestown powerhouse, the water flows through a series of canals and tunnels into Miners Ranch Reservoir.

16.2.5.2.5 Kelly Ridge

The Kelly Ridge Power Plant, operated by OWID, is near the mouth of the South Fork Feather River. OWID sends water from the Miners Ranch Reservoir into the Kelly Ridge Tunnel, which leads to the power plant penstock. The power plant has a generating capacity of 10,000 kW and produces an average of 3.8 GWh of electricity monthly (Oroville-Wyandotte Irrigation District 2002b).

16.2.5.2.6 State Water Project

Oroville

DWR stores winter and spring runoff in Lake Oroville for release to the Feather River as necessary for Project purposes (water supply, power generation, flood protection, fish and wildlife enhancement, and recreation). These releases generate power at the Hyatt-Thermalito Power Plant Complex.

On a weekly basis, DWR schedules releases to accommodate water supply requirements, water quality and quantity requirements in the Delta, instream flow requirements in the Feather River, power requirements, and flood control. DWR updates this weekly plan as needed to respond to changing conditions.

DWR schedules hourly releases through the Edward Hyatt and Thermalito Pumping Generating plants to maximize the amount of energy produced when power values are highest. Because the downstream water supply is not dependent on hourly releases, and pumping of SWP water can occur at off-peak times; energy prices primarily dictate hourly operations for the power generation facilities.

Storage in Thermalito Forebay and Afterbay helps to maximize the value of Project energy and maintain uniform flows in the Feather River downstream from the Oroville facilities. The Thermalito Afterbay also provides storage for pump-back operations, which are designed to maximize profit from the power generation facilities. DWR releases water from Lake Oroville when power prices are high, then pumps water not needed to meet downstream requirements back into Lake Oroville from Thermalito Forebay and Afterbay when power prices are low. Because DWR operates the power plants to maximize weekday generation when power prices are highest, storage is usually higher in the Afterbay at the end of each week than at the beginning. Downstream releases during the weekend, or pumpback to Lake Oroville (to prepare for the following week's operation) lowers the water in the Afterbay.

16.2.5.3 Yuba River

16.2.5.3.1 Yuba River Development Project

The Yuba River Development Project, constructed by the YCWA, was completed in 1970 and provides flood control protection for Yuba and Sutter Counties, irrigation water for Yuba County agriculture, recreation, and hydropower generation. The

Yuba River Development Project comprises a system of three dams, three tunnels, and four power plants.

Colgate
Colgate Power House is at the convergence of the Middle and North Yuba rivers, at the upstream end of Englebright Reservoir. The Colgate Tunnel follows a path from New Bullards Bar Reservoir about 3 miles to the Colgate Power House. YCWA will operate this facility, which is under contract with PG&E, until 2016. This power plant has a capacity of 315,000 kW (Harper 2001). Average annual generation is 1,314 GWh (Yuba County Water Agency, http://www.ycwa.com/drdat.htm).

Englebright
Narrows Power House I and Narrows Power House II are at the outlet of Englebright Reservoir on the main Yuba River about 2 miles northeast of Smartville (Aikens 2001). PG&E operates the Narrows Power House I, and YCWA operates the Narrows Power House II. Narrows Power House I, with a capacity of 12,000 kW, produces an average 3.8 GWh of electricity monthly and Narrows Power House II, with a capacity of 49,000 kW, produces an average 6.3 GWh of electricity monthly (California Hydropower 1998).

16.2.5.4 American River

16.2.5.4.1 Middle Fork Project

The Middle Fork Project is a multipurpose project that uses the waters of the Middle Fork of the American River, the Rubicon River, and certain tributaries for irrigation, domestic, and commercial purposes and for the generation of electric energy. Principal features of the Middle Fork Project are two storage and five diversion dams, five power plants, diversion and water transmission facilities, five tunnels, and related facilities. The power plants have a combined generating capacity of 247,000 kW and include Hell Hole, French Meadows, Lowell J. Stephenson, Ralston, and Oxbow. The power division of Placer County Water Agency (PCWA) operates the Middle Fork Project.

French Meadows
The French Meadows Power Plant is at Hell Hole Reservoir south of the South Fork of the American River. PCWA diverts water from French Meadows Reservoir through the French Meadows Tunnel. The water passes through the Francis turbine at the power plant, which has a capacity of 15,300 kW (Placer County Water Agency 1967). French Meadows Power Plant generates an average of 5.2 GWh monthly. The water is then held in Hell Hole Reservoir.

Hell Hole
The Hell Hole Power Plant is on the Rubicon River at Hell Hole Reservoir. Water flows from the reservoir through the Hell Hole Dam to the Hell Hole Power Plant. The Hell Hole Power Plant has a capacity of 725 kW (Placer County Water Agency 1967) and generates an average of 0.19 GWh monthly. From the plant, the water flows through a tunnel to the Ralston Afterbay.

Lowell J. Stephenson
The Lowell J. Stephenson Power Plant is on the Middle Fork of the American River at the Middle Fork-Ralston Interbay. Water for the power plant comes from French Meadows Reservoir, through the French Meadows Tunnel, through Hell Hole Reservoir, and finally through the Middle Fork Tunnel. The water passes over the Impulse turbine at the power plant, which has a capacity of 116,100 kW (Placer County Water Agency 1967). The Lowell J. Stephenson Power Plant generates an average of 43.1 GWh monthly. The water flows from the power plant through the Ralston Tunnel.

Ralston
The Ralston Power Plant is on the Rubicon River at the Ralston Afterbay. Water for the Ralston Power Plant follows the same path as the water for the Lowell J. Stephenson Power Plant, through the Ralston Tunnel, to the Ralston Power Plant. The Ralston Power Plant has an Impulse turbine and a capacity of 79,200 kW (Placer County Water Agency 1967). The Ralston Power Plant generates an average of 31.2 GWh monthly. From the plant, the water flows back into the Ralston Tunnel, which continues to the Oxbow Power Plant (below).

Oxbow
The Oxbow Power Plant is on the Middle Fork of the American River at the Oxbow Bar. Water for the Oxbow Power Plant flows from the Ralston Power Plant through the Ralston Tunnel. The plant has a Francis turbine and a capacity of 6,128 kW (Placer County Water Agency 1967). From the power plant, the water continues to the Auburn Ravine and to the lower American River.

16.2.5.4.2 Central Valley Project - Lower American River

Folsom Reservoir and Lake Natoma
The Folsom Power Plant is at the foot of Folsom Dam on the north side of the American River. Its three generating units are tied into the CVP power system through the 20-mile-long Folsom-Elverta 230-kV transmission line. The Nimbus Power Plant is on the right abutment of Nimbus Dam (Lake Natoma) on the north side of the American River. The principal purpose of the Folsom and Nimbus power plants is to generate power using the water releases mandated for downstream appropriators, flood control, fish, and other uses.

The Folsom Power Plant has three generating units, with a combined capacity of 215,000 kW and a combined release capacity of approximately 8,600 cfs (Reclamation 2001). By design, the facility is operated as a peaking facility. Peaking plants schedule the daily water release volume during the peak energy demand hours to maximize generation at the time of greatest need. During other hours of the day, the plant may release little or no water, generating little or no power. The Folsom Power Plant generates an average annual 620 GWh.

To avoid fluctuations in flow in the lower American River, Nimbus Dam and Lake Natoma serve as a regulating facility. While the water surface elevation fluctuates, releases to the lower American River remain constant. The Nimbus Power Plant consists of two generating units with a release capacity of approximately 5,100 cfs

(Reclamation 2001). Electric generation from this facility is continuous throughout the day.

16.2.5.5 Merced/San Joaquin River

16.2.5.5.1 Merced River

Merced Irrigation District's (MID) plants at New Exchequer and McSwain Dams on the Merced River generate power that is sold to utility companies (most recently PG&E), which sell it to consumers. The power plant at the base of Exchequer Dam began operation in June 1926. Since 1967, when the McSwain and New Exchequer Dams were completed, MID has produced nearly 10,000 GWh of electricity, which is an average of nearly 325 GWh a year (Merced Irrigation District 2000). The New Exchequer Power Plant provides electric power to eastern Merced County. Under a long-term contract expiring in 2014, MID also sells electricity generated at its New Exchequer Power Plant to PG&E, for its customers in Northern California.

16.2.5.5.2 Exchequer

The Exchequer Power Plant is on the Merced River below Exchequer Dam. The plant has a capacity of 80,100 kW and an average monthly energy production of 26.3 GWh.

16.2.5.5.3 McSwain

The McSwain Power Plant is on the Merced River below McSwain Dam. The plant has a capacity of 9,000 kW and an average monthly energy production of 3.75 GWh.

16.2.5.5.4 San Joaquin River

No hydroelectric facilities are on the mainstem of the San Joaquin River.

16.2.6 Sacramento-San Joaquin Delta Region

The Delta facilities do not operate to generate power supply; instead, they consume large quantities of energy. Among the Delta facilities that need power to operate are the Tracy and Harvey O. Banks Pumping Plants, described below.

16.2.6.1 Central Valley Project

16.2.6.1.1 Tracy Pumping Plant

The U.S. Bureau of Reclamation (Reclamation) completed the Tracy Pumping Plant in 1951. The Tracy facilities include an inlet channel, pumping plant, and discharge pipes. The pumping plant lifts water 197 feet from the Delta into the Delta-Mendota Canal. Each of the six pumps at Tracy is powered by a 22,500-horsepower motor and is capable of pumping 767 cfs (Reclamation 2001). CVP power plants supply power to run the pumps. The water is pumped through three 15-foot-diameter discharge pipes and carried about 1 mile up to the Delta-Mendota Canal. The intake canal includes the Tracy Fish Screen, which was built to intercept downstream migrant fish so they may be returned to the main channel. The Tracy Pumping Plant is a "pass-through" facility relative to this analysis.

16.2.6.2 State Water Project

16.2.6.2.1 Harvey O. Banks Pumping Plant

The Harvey O. Banks Pumping Plant is on the southern edge of the Delta and can lift 21,000 AF/day of water 224 feet into the California Aqueduct. The Clifton Court Forebay, which precedes the Banks Pumping Plant, provides storage and regulation of flows into the Banks Pumping Plant. The construction of Banks Pumping Plant was completed in 1963, with seven pump units and a total pumping capacity of 6,400 cfs. In 1986, four additional pumps were installed in the plant, increasing its capacity to 10,670 cfs (California Department of Water Resources 2002). The Harvey O. Banks Pumping Plant is a "pass-through" facility relative to this analysis.

16.2.7 Export Service Area

16.2.7.1 Central Valley Project

16.2.7.1.1 O'Neill Pumping-Generating Plant

O'Neill Pumping-Generating Plant is on the Delta Mendota Canal in Merced County, 70 miles from the Tracy Pumping Plant and 12 miles west of Los Banos. O'Neill Dam and Forebay are joint Federal/State facilities on the San Luis Creek, 2.5 miles downstream from San Luis Dam. The O'Neill Pumping-Generating Plant is a conventional plant consisting of an intake channel leading off the Delta-Mendota Canal and six pump-generating units. Normally, these units operate as pumps to lift water 45 to 53 feet into the O'Neill Forebay. The forebay also releases water to the Delta-Mendota Canal. During releases to the Delta-Mendota Canal, the O'Neill plant generates electricity. When operating as pumps and motors, each unit, with a 6,000 horsepower motor, can discharge 700 cfs. When operating as turbines and generators, each unit has a generating capacity of about 4,200 kW (Reclamation 2001). The authorizing legislation for the plant states that power generated at the facility cannot be used for commercial purposes. O'Neill Forebay is a joint State and Federal facility, but O'Neill Pumping-Generating Plant only moves CVP water between the CVP Delta-Mendota Canal and O'Neill Forebay. No State water goes through the plant because the California Aqueduct flows by gravity into O'Neill Forebay.

16.2.7.2 Joint Central Valley Project/State Water Project

16.2.7.2.1 San Luis Reservoir

The State of California operates and maintains the William R. Gianelli Pumping Plant (formerly the San Luis Pumping Plant) under an agreement with Reclamation. The plant is in Merced County, on the San Luis Creek, 12 miles west of Los Banos. This joint Federal/State facility, at San Luis Dam, lifts water with pump turbines from the O'Neill Forebay into the San Luis Reservoir. During the irrigation season, water released from San Luis Reservoir generates energy as it flows back through the pump turbines to the forebay. Each of the eight pumping-generating units has a 63,000-horsepower motor and a capacity of 53,000 kW as a generator (Reclamation 2001). As a pumping plant to fill San Luis Reservoir, each unit lifts 1,375 cfs at a design dynamic head of 290. As a generating plant, each unit passes 2,120 cfs at a design dynamic head of 197 feet. The plant pumps CVP and SWP water for offstream storage.

16.2.7.2.2 Dos Amigos Pumping Plant

This joint Federal/State facility, 17 miles south of the forebay, is a relift plant in the San Luis Canal. The plant contains six pumping units, each with a 40,000-horsepower motor, capable of delivering 2,200 cfs at 125 feet of head (Reclamation 2001). The Dos Amigos Pumping Plant is a "pass-through" facility relative to this analysis.

16.2.7.3 State Water Project

16.2.7.3.1 Buena Vista Pumping Plant

Buena Vista Pumping Plant is located on the California Aqueduct about 24 miles southwest of Bakersfield in Kern County. The plant has an installed capacity of about 5,400 cfs and lifts water from about elevation 295 feet to 500 feet.

16.2.7.3.2 Teerink Pumping Plant

The John R. Teerink Wheeler Ridge Pumping Plant is located on the California Aqueduct about 27 miles downstream from the Buena Vista Pumping Plant. This plant lifts water from about elevation 492 feet to 725 feet.

16.2.7.3.3 Chrisman Pumping Plant

The Ira J. Chrisman Wind Gap Pumping Plant is located on the California Aqueduct about 1.6 miles downstream from the Teerink Pumping Plant. The plant lifts water approximately 515 feet.

16.2.7.3.4 Edmonston Pumping Plant

Water enters into the Edmonston Pumping Plant from the California Aqueduct. The Edmonston Pumping Plant lifts water 1,926 feet (the highest single lift in the world) to enter 8.5 miles of tunnels crossing the Tehachapi Mountains. From this point the water continues south through Quail Lake, Pyramid Lake, and finally to Castaic Lake. The Edmonston Pumping Plant has 14 pump units with a total plant capacity of 4,480 cfs (Castaic Lake Water Agency 2002). The Edmonston Pumping Plant is a "pass-through" facility relative to this analysis.

16.2.7.3.5 Pyramid Lake

The DWR owns and operates the William E. Warne power plant. Located on the Gorman Creek arm of Pyramid Lake, the power plant helps meet the SWP need for electricity. This plant has an installed capacity of 78,000 kW and generates up to 358 GWh a year (California Department of Water Resources 1997). Water flowing from Pyramid Lake through the 7.5-mile-long Angeles Tunnel spins the turbines in the Castaic Power Plant.

16.2.7.3.6 Castaic Power Plant

Elderberry Forebay, a small reservoir separated from Castaic Lake by Elderberry Forebay Dam, is at the upper end of Castaic Lake and provides regulating storage for the Castaic Power Plant. The Castaic Power Plant generates electricity during on-peak periods (weekday daylight hours) when extra power is needed in the Los Angeles area. During off-peak periods (nights and Sundays) when local power is less costly, the plant pumps water back into Pyramid Lake. This operation also reduces the cost

of power required to move SWP water from Northern to Southern California. Castaic Power Plant is a cooperative venture of DWR and the City of Los Angeles Department of Water and Power.

16.2.7.3.7 Silverwood Lake

Water reaches Silverwood Lake from the East Branch of the California Aqueduct. The Pearblossom Pumping Plant east of Palmdale pumps the water 542 feet from the Antelope Valley floor to an elevation of 3,479 feet. Flowing downhill through an open aqueduct, the water is then piped under the Mojave River bed through the 29.4 megawatt Mojave Siphon Power Plant and into Silverwood Lake (California Department of Water Resources 1997). Water released from the south end of Lake Silverwood flows through the 3.8-mile San Bernardino Tunnel, plunges 1,400 feet into Devil Canyon Power Plant, and then flows into Lake Perris via the Santa Ana Valley pipeline. These are "pass-through" facilities relative to this analysis.

16.2.7.4 Non-Project

16.2.7.4.1 Diamond Valley Lake

Diamond Valley Lake is located approximately four miles southwest of the City of Hemet and completed filling in December 2002. Water for the reservoir comes from the Colorado River Aqueduct, delivered through the San Diego Canal into the reservoir forebay and from the SWP via Lake Silverwood. This reservoir has a pumping plant consisting of twelve pumps, each with a 5,000-horsepower motor. The facilities also include a 1,000 cubic foot per second hydrologic control structure at the Colorado River Aqueduct (Temecula Valley 2000). Of the 12 pumps, four have been converted to pumping–generating units with a unit capacity of 3,000 kW. Additional pumps are planned for conversion at a later date. The Hiram W. Wadsworth Pumping Plant is a "pass-through" facility relative to this analysis.

16.2.8 Regulatory Setting

Western is the marketing agency for power generated at Reclamation's CVP facilities. Created in 1977 under the Department of Energy (DOE) Organization Act, Western markets and transmits electric power throughout 15 western states. Western's Sierra Nevada Customer Service Region (Sierra Nevada Region) annually markets approximately 8,000,000 kilowatthours (kWh), including 3,000,000 kWh produced by CVP generation and 5,000,000 kWh produced by other sources.

Western's mission is to sell and deliver electricity that is excess to Project use (power required for CVP Project operations). Western's power marketing responsibility includes managing the Federal transmission system and, as a Federal agency, ensuring that operations of the hydropower facilities are consistent with its regulatory responsibilities. Specifically, Western's capacity and energy sales must be in conformance with the laws that govern its sale of electrical power. The hydroelectric generation facilities of the CVP are operated by Reclamation. Reclamation manages and releases water in accordance with the various acts authorizing specific projects and in accordance with other laws and enabling legislation. Hydropower operations at each facility must comply with minimum and maximum flows and other

constraints set by Reclamation, U.S. Fish and Wildlife Service (USFWS), or other regulatory agencies, acting in accordance with law or policy.

Existing contracts for the sale of Sierra Nevada Region power resources expire December 31, 2004. Western has developed a marketing plan that defines the products to be offered and the eligibility and allocation criteria that would lead to allocations of CVP electric power resources beyond the year 2004.

16.3 Environmental Consequences/Environmental Impacts

16.3.1 Assessment Methods

The monthly gross CVP and SWP electrical generation and capacity for the various conditions simulated in this study were estimated using results from a CALSIM II simulation, utilizing several data post-processing tools. Assessment methods are described in detail in Attachment 1, Modeling Description. Differences in generation and capacity between alternative conditions were then evaluated to assess effects. Also evaluated were differences in the amount of energy needed to pump water at the Project pumping plants.

16.3.2 Significance Criteria

16.3.2.1 Hydropower

EWA actions would result in a potentially significant adverse effect on hydropower production if generation at affected facilities were substantially reduced. An effect on hydropower production was considered potentially significant if implementing an EWA action would cause:

- A decrease in surface-water elevations beyond optimum efficient levels in reservoirs within the area of analysis that would decrease the efficiency of the power generation facilities. Decreased efficiency would cause the power plant to produce less energy with the same amount of water release.

- A change in timing of reservoir releases, which could shift generation to a time of year when power has lower value. The value for power varies by season, typically with lower prices in the spring and somewhat higher prices in the late summer and early fall. The current open power market, however, is less predictable and may not follow this traditional pattern. Therefore, any change in timing is considered potentially significant.

Reduction in CVP/SWP generation could be a cost effect either because the entities would be precluded from selling excess energy or might be required to purchase additional energy for their own or customer's loads. Similarly, if capacity was reduced relative to the Baseline Condition, then a cost effect could be incurred.

16.3.2.1.1 Pumping Load

EWA actions would result in a potentially significant adverse impact on power if the timing of pumping was changed, or if energy consumed by the pumps would be substantially increased. An effect on power was considered potentially significant if implementing an action would cause:

- A change in timing of pumping, which could shift the load to a time of year when power has higher costs. Because of the uncertainty of the open power market, any change in timing is considered potentially significant.

- An increase in pumping energy requirements for purveyors who withdraw water from reservoirs. The energy requirements would increase if the reservoir levels decrease as a result of the EWA.

16.3.3 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

The No Action/No Project alternative reflects the condition for CVP/SWP power production should the EWA water acquisition strategy not be implemented. Releases and storage of EWA asset water would change the timing of generation at some facilities. Without the EWA water purchases, the Project power facilities would operate as under the affected environment/existing conditions setting. Under No Action/No Project, there would be no changes in CVP/SWP power production or usage, no new power facilities constructed/operated, and no facilities would be taken off-line because there would be no EWA. Therefore, no effects would be associated with the No Action/No Project Alternative.

As described in Section 3.4, the California Environmental Quality Act (CEQA) basis of comparison is the Affected Environment. The National Environmental Policy Act (NEPA) basis of comparison is the Future Conditions Without the Project. As described in the above paragraph, the Affected Environment and the Future Conditions Without the Project (No Action/No Project Alternative) are the same; therefore, they are collectively referred to as the Baseline Condition in the following sections.

16.3.4 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

For power resources, the environmental consequences of utilizing stored reservoir water, groundwater substitution, and crop idling vary by the specific water bodies affected, as discussed below. Environmental consequences of source shifting do not vary substantially by location; therefore, the effect analysis is grouped by acquisition type. In those cases where no environmental consequences to power resources have been associated with an acquisition type, the acquisition type is not discussed. All changes to surface-water elevations and flows are in comparison to the Baseline Condition. Only those power facilities that have the potential to be affected by the EWA Program are included below. The analysis of the Flexible Purchase Alternative

incorporates implementation of the Variable Assets described in Attachment 1, Modeling Description.

16.3.4.1 Upstream from the Delta Region

16.3.4.1.1 Sacramento River

EWA agencies' acquisition of Sacramento River Contractor water via groundwater substitution or crop idling would cause changes in the release pattern from Lake Shasta in June through September. EWA transfer water from idling or groundwater substitution could be temporarily stored in Lake Shasta and then released during July through September. The EWA would not change the amount of water that is released from Lake Shasta, but would alter the release pattern. Lake Shasta surface water elevation likely would be slightly lower than the Baseline Condition because of "borrowing" of Shasta storage for July pumping of EWA water prior to August/September crop idling water being available; reduced head (on average less than 0.3 foot) would therefore slightly decrease the head component of generation efficiency. Changes in the release patterns to facilitate pumping of EWA water of the crop idling water also alter the monthly generation efficiency; however, average annual Shasta/Keswick generation is insignificantly decreased by only 263 kWh (Table 16-5). As stated previously, the value of power fluctuates throughout the year. Typically, prices are higher in late summer and fall and lower in the spring. Groundwater substitution would have no effect on Shasta/Keswick generation, and crop-idling would create slightly increased generation in July and slightly less generation in August and September compared to the Baseline Condition. However, in an open market, seasonal price fluctuations may not always reflect the norm. These effects could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

Table 16-5
Shasta/Keswick Average Monthly Generation (kWh)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Baseline	193,762	227,992	210,737	203,075	230,313	265,015	306,337	237,885	147,652	131,929	111,254	161,237	2,427,188
FPA	193,762	227,992	210,737	203,075	230,313	265,015	308,873	236,328	146,410	131,929	111,254	161,237	2,426,924
Difference	0	0	0	0	0	0	2,535	(1,557)	(1,242)	0	0	0	(263)

FPA – Flexible Purchase Alternative

16.3.4.1.2 Feather River

Lake Oroville

EWA agencies' acquisition of Feather River Contractor water via groundwater substitution or crop idling would decrease the releases from Lake Oroville in May and June. Water acquired by the EWA agencies would be held in Lake Oroville in May and June and released during July through September. An increase in surface elevation compared to the Baseline Condition would increase the head and therefore the efficiency of power generation during May and June. Decreases in releases during May and June and pattern changes for July through September in response to pumping EWA water will temporally alter generation (Table 16-6). However, on an average annual basis, Oroville/Thermalito generation will increase by about 2,800 kWh.

Table 16-6
Oroville/Thermalito Average Monthly Generation (kWh)[(1)]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Baseline	174,284	202,551	216,738	201,680	248,429	305,033	295,319	251,909	120,963	97,946	80,266	139,954	2,335,071
FPA	176,165	202,851	216,856	199,946	238,885	292,568	323,923	254,344	114,009	97,946	80,266	140,122	2,337,881
Difference	1,881	300	118	(1,734)	(9,543)	(12,465)	28,605	2,435	(6,954)	0	0	168	2,810

FPA – Flexible Purchase Alternative
(1) Thermalito pumpback operations not included

Effects related to the value of power generated later in the summer could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

EWA agencies' acquisition of stored reservoir water would include release of water from Sly Creek and Little Grass Valley Reservoirs in November to be held in Lake Oroville until the following summer. This water would increase the head component of generation efficiency, creating slightly higher generation at Oroville in the November through April period, assuming that the water is not spilled by flood operations. Sly Creek and Little Grass Valley Reservoirs may refill during the winter and spring, potentially holding water that belongs to the CVP/SWP. If that water were owed to the Projects, it would be repaid the following summer. Refill by Sly Creek and Little Grass Valley Reservoirs would only capture up to the amount released in November to Lake Oroville. Therefore, Lake Oroville already would contain as much or more water than it is foregoing due to refill of Sly Creek and Little Grass Valley Reservoirs. Thus, there would be no effects on power production and energy from EWA acquisition of stored reservoir water from Little Grass Valley and Sly Creek.

16.3.4.1.3 Yuba River

EWA agencies' acquisition of YCWA stored reservoir water would result in releases from New Bullards Bar Reservoir in July, August, and September. The water released in July through September would produce increased power production compared to the Baseline Condition. Increased flows through Narrows Power House I and Narrows Power House II, downstream from New Bullards Bar Reservoir, would allow PG&E to produce more power. This is a potentially beneficial effect on power production and energy.

EWA agencies acquisition of water through groundwater substitution would decrease New Bullards Bar releases in April through June. Power generation along the Yuba River would be decreased while water was held in New Bullards Bar Reservoir and increased when released between July and September. Effects would be similar to those described above for groundwater substitution on the Sacramento and Feather Rivers. Effects related to the value of power generated later in the summer could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

16.3.4.1.4 American River

French Meadows and Hell Hole Reservoirs

EWA agencies' acquisition of PCWA stored reservoir water would result in releases from French Meadows and Hell Hole reservoirs in July, August, and September. The water released in July through September would generate increased power production relative to the Baseline Condition. Increased flows through the French Meadows and Hell Hole Power plants would allow PG&E to produce more power. This is a potentially beneficial effect on power production and energy.

Folsom Reservoir and Lake Natoma

EWA agencies' acquisition of Sacramento Groundwater Authority's stored groundwater and upstream stored reservoir water would change water levels in the reservoir during summer. Groundwater purchases, which are estimated to be small in magnitude, would be held in Folsom Reservoir until the time of EWA use, thereby increasing storage in Folsom. Increased generation would be available with this water, as it is presently being used upstream from Folsom Dam.

Upstream stored water purchases likely would take place over the July through September period, but some portion likely would be used for pumping EWA water in advance of upstream releases. This advanced use would require a "borrowing" of CVP storage in Folsom Reservoir during early summer, with payback completed by the end of September. Studies show that typically (72-year period of record), increased releases from Folsom Reservoir for pumping EWA water can cause a reduction in storage during July and August. Although storage is lower in these months, the increased release for pumping EWA water during July and August creates an increase in Folsom/Nimbus generation of about 2,600 kWh. During September there is decreased generation associated with the reduction in head (storage) at the beginning of the month; however, the additional release for pumping EWA water results in more generation, about 150 kWh, creating an increase in annual generation of 2,760 kWh *(*Table 16-7*)*. If upstream water purchases were completed prior to July, an increase in surface elevation compared to the Baseline Condition would increase the head and thus likely increase the efficiency of power generation, thereby creating an even greater net generation benefit at Folsom.

Table 16-7
Folsom/Nimbus Average Monthly Generation (kWh)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Baseline	70,534	76,780	69,458	65,509	73,438	77,230	75,421	45,465	49,251	29,517	41,982	59,709	734,295
FPA	70,534	76,780	69,458	65,509	73,438	77,230	77,259	46,235	49,403	29,517	41,982	59,709	737,055
Difference	0	0	0	0	0	0	1,838	770	152	0	0	0	2,760

FPA – Flexible Purchase Alternative

Upstream reservoirs would refill during the wet season under normal refill conditions and would be full at the beginning of the following season, thus resulting in no adverse power effects. During refill, however, the upstream reservoirs may utilize Project water. The water use would be calculated after the refill is complete. The water would then be slowly released from the upstream reservoirs during the late summer into Folsom Reservoir. During this time, Folsom Reservoir would have

lower elevations relative to the Baseline Condition, which would decrease the efficiency of power generation.

As described above for the Sacramento River, altering water release (power production) could produce positive or negative effects. EWA activities could temporally shift hydropower generation. This may result in a shift of generation from on-peak to off-peak periods, resulting in generation of lower economic value. In addition, the changes in water levels in Folsom Reservoir would alter the power needs for those agencies that pump directly out of the reservoir, which could potentially cause effects. Because the elevation differences are small, on average 0.4 foot or less, there would be little effect.

Effects related to the economic value of power generated or additional pumping costs experienced by agencies pumping water from Folsom Reservoir could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

Lake Natoma
EWA agencies' acquisition of American River Contractor water via groundwater purchase and upstream stored reservoir water purchase would increase flows through Nimbus Power Plant during summer and fall months. Generation at Lake Natoma is solely dependent upon flow, thus generation would increase. Therefore, the effects on power production would be considered less than significant.

16.3.4.1.5 Merced River

New Exchequer
EWA agencies' acquisition of Merced River Contractor water via groundwater substitution or crop idling would decrease the releases from New Exchequer and McSwain Dams from April through September. Water acquired by the EWA agencies would be held in New Exchequer Reservoir during the irrigation season and released during October through December. Fewer releases from April through September would result in less generation during that period. However, the increase in surface elevation during the summer months compared to the Baseline Condition would increase the head and therefore the efficiency of power generation. As described above for the Sacramento River, delaying water release (power production) until the fall could produce beneficial effects. Effects related to the value of power generated later in the fall could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

McSwain Dam
EWA agencies acquisition of Merced River Contractor water via groundwater substitution or crop idling would decrease the releases from McSwain Dam during the irrigation season. Power production at McSwain is regulated at the dam's gates and is minimally reliant on head. Decreased flows from McSwain would decrease energy generation. Effects related to the value of power generated later in the fall could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

16.3.4.2 Delta Region

16.3.4.2.1 Pumping Energy Cost Effects of the Flexible Purchase Alternative

The EWA Program would shift a portion of CVP and SWP Delta exports from December through June, to July through September, based on the timing of EWA fish actions and on replacement pumping. This would shift export pumping to the summer when recent information shows that electricity costs are greater.

Modeling of pumping operations under the Baseline Condition was conducted using CALSIMII. As described in Attachment 1, pumping operations reflecting EWA actions are not readily identifiable over the 70-year period of record; however, a 15-year period of record (1979 – 93) were developed for Delta fisheries and water quality analyses (see Attachment 1) reflecting two potential EWA scenarios, water acquisition at 600 TAF and a "Typical" water purchase scenario at between 200 and 300 TAF (refer to Section 2.4.3). These two 15-year scenarios are compared to the Baseline Condition using the post-processor tools to estimate the change in electricity use and associated economic cost.

Figure 16-2 shows the average combined monthly electricity usage at Tracy, O'Neill, and Banks Pumping Plants under the Baseline Condition and under the 600 TAF acquisition (Maximum Water Purchase) scenario. Electricity usage was calculated as 297 kWh/af for Banks pumping and 298 kWh/acre foot for the Tracy/O'Neill pumping. Relative to the Baseline, there are no pumping changes October through November, but there are decreases in Flexible Purchase Alternative pumping December through June in response to EWA fish actions and increases in Flexible Purchase Alternative pumping July through September for makeup pumping. Figure 16-3 shows a similar pumping pattern for the Baseline Condition and the "Typical" Water Purchase Scenario.

The amount of energy required to pump an acre-foot of water from the Delta does not vary during the year; however, the cost of electrical energy does vary from month to month. An estimate of export pumping costs must be made both in energy and dollars to fully analyze the effects of the Flexible Purchase Alternative. To do so requires data on the patterns of export pumping and energy costs.

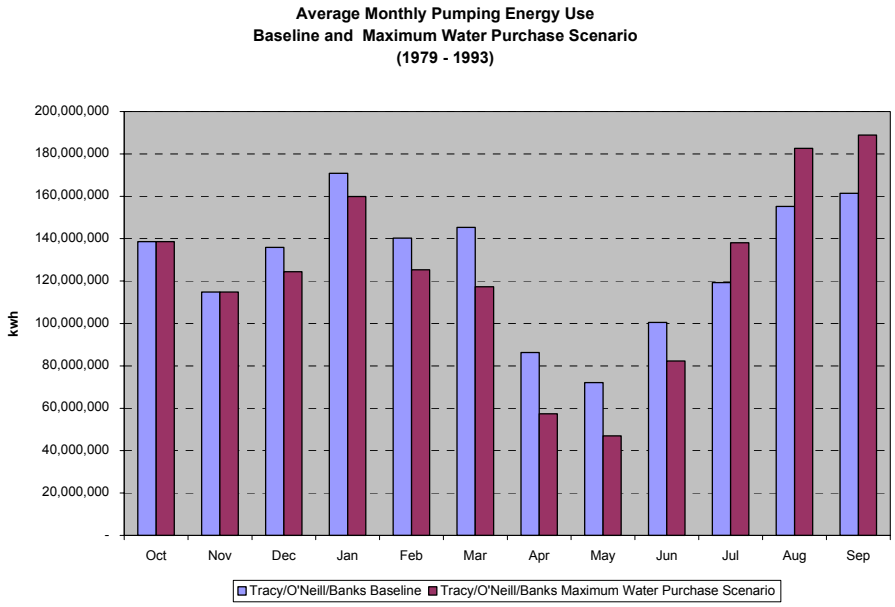


Figure 16-2
Average Monthly Pumping Load at Banks and Tracy/O'Neill Pumping Plants for Baseline and EWA at 600 TAF, 1979-93 Study Period of Record

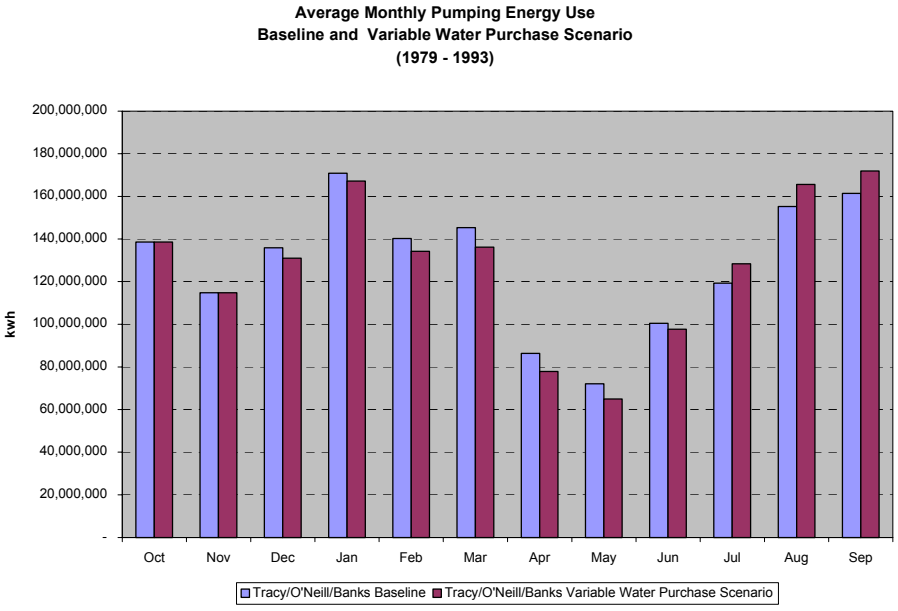


Figure 16-3
Average Monthly Pumping Load at Banks and Tracy/O'Neill Pumping Plants For Baseline and Typical EWA Scenario, 1979-93 Study Period of Record

Table 16-8 contains simulation data for monthly average Delta export pumping and estimated year 2005 on-peak electricity rates. The California Energy Commission "2002 – 2012 Electricity Outlook Report" dated February 2002 projects monthly average peak spot prices for 2005 in the $27 to $39/MWh range (Table 16-8). (See [Figure II-2-4] at http://www.energy.ca.gov/reports/2002-06-10_700-01-004F.PDF).

The monthly export data are used to calculate the energy results shown in Figures 16-2 and 16-3. It is notable that the total export pumping in the Flexible Purchase Alternative does not match the baseline total. This condition occurs when, in the 15-year studies, hydrology or operational constraints affect replacement pumping (see Attachment 1 for additional explanation for each year). For the purposes of this analysis, it is assumed that annual exports should be equal for the Baseline and Flexible Purchase Alternative; therefore, the water volume, labeled as Difference Water in Table 16-8, is assumed to be pumped sometime during the July through September period, which maximizes the energy costs of the scenarios.

Table 16-9 presents the estimated export pumping costs for the Baseline and Flexible Purchase Alternative. During the October through June months, export pumping is reduced by EWA actions and this is reflected by the lower average monthly pumping costs in the Flexible Purchase Alternative, compared to the Baseline Condition. Conversely, when replacement pumping occurs during the July through September months, pumping costs are higher with the Flexible Purchase Alternative.

Summing the entire year, and adding the additional cost of pumping the Difference Water, the water acquisitions at 600 TAF creates an additional average annual export pumping cost of $263,671. Analysis of the individual 15 years shows that the annual cost ranges between $525,000 and a savings of $6,000.

Summing the entire year, and adding the additional cost of for pumping the Difference Water, the Typical Water Purchase Scenario creates an additional average annual export pumping cost of $360,690. Analysis of the individual 15 years shows that the annual cost ranges between $1,665,000 and a savings of $950,000.

Table 16-8
Simulated Average Monthly Combined Export Pumping at Banks and Tracy (1979-93)
Estimated 2005 Monthly On-Peak Energy Rate

	Baseline TAF	600 TAF Purchase Scenario TAF	Typical EWA Purchase Scenario TAF	2005 On-Peak Spot Market Price ($/MWh)
October	466	466	466	$35
November	386	386	386	$39
December	457	418	424	$35
January	574	538	550	$31
February	472	422	431	$29
March	489	395	428	$29
April	290	193	226	$28
May	243	158	176	$27
June	338	277	281	$27
July	401	464	465	$27
August	522	614	609	$34
September	543	635	630	$31
Total	5,180	4,965	5,072	N/A
Difference Water	0	215	108	N/A

Table 16-9 *Simulated Average Combined Export Pumping Costs at Banks and Tracy (1979-93)*			
	Baseline $	**600 TAF Purchase Scenario $**	**Typical EWA Purchase Scenario $**
October	$ 4,851,084	$ 4,851,084	$ 4,851,084
November	$ 4,478,112	$ 4,478,112	$ 4,478,112
December	$ 4,756,842	$ 4,355,217	$ 4,585,492
January	$ 5,295,443	$ 4,957,285	$ 5,181,508
February	$ 4,067,828	$ 3,636,417	$ 3,891,662
March	$ 4,213,104	$ 3,402,164	$ 3,950,963
April	$ 2,416,067	$ 1,606,010	$ 2,180,282
May	$ 1,947,651	$ 1,267,680	$ 1,752,288
June	$ 2,711,502	$ 2,222,250	$ 2,637,936
July	$ 3,222,621	$ 3,728,936	$ 3,465,157
August	$ 5,277,254	$ 6,211,591	$ 5,631,478
September	$ 5,005,159	$ 5,857,054	$ 5,328,128
Total	$ 48,242,667	$ 46,573,799	$47,934,090
Total Comparison to Baseline	0	$ (1,668,868)	$ (308,577)
Cost to Pump Difference Water	0	$ 1,932,539	$ 669,267
Average Annual Cost	0	$ 263,671	$ 360,690

16.3.4.2.2 Pumping Energy Cost Effects of the Fixed Purchase Alternative

The Fixed Purchase Alternative described in Chapter 2 was not quantitatively analyzed in the EIS/EIR for each year of the modeled period of record. As is discussed in the resource areas, the Flexible Purchase Alternative scenarios with as much as 600 TAF of exports, impose a much larger burden on upstream release and Delta export facilities, and are more demanding of operational adjustments by the SWP and CVP than a 185 TAF project with only 35 TAF originating in the Upstream from the Delta Region.

In the worst case, assuming that all of the 35 TAF upstream from the Delta purchased is pumped in the least favorable time with respect to power prices, and, that the offsetting pumping curtailments occur at the time of lowest power prices, the cost differential of the 35 TAF would be about $73,000. Subtract from this $73,000 the savings associated with the other 150 TAF (185 – 35 = 150) of pumping foregone by EWA water purchases south of the Delta which do not need to be exported, there is a net power benefit. Assuming that the foregone pumping is 150 TAF, at a pumping energy rate of 298 kWh/AF, and a cost of $27.00/MWh, the annual savings are $1,205,000; creating an annual net benefit of $1,132,000 ($1,205,000 - $73,000 = $1,132,000).

16.3.5 Regional Water Purchase Areas

16.3.5.1 Effect of the Flexible Purchase Alternative on the Regional Electricity Market

The Flexible Purchase Alternative could affect the regional electricity market; although it is not anticipated to have a significant effect on generation from CVP or SWP hydroelectric power plants (see previous discussion in this chapter). However, the shift in timing of Delta exports would increase electric power demand during July, August, and September, the three months of the year with the smallest projected surplus in the California electricity market. The California Energy Commission "2002 Monthly Electricity Forecast: California Supply Demand Capacity Balances for May – December" projects a surplus of 3,400,000 to 3,900,000 kW per month for the July through September period ([Table 16-5] in http://www.energy.ca.gov/reports/700-02-003F/2002-05-10_700-02-003F.PDF). This projection applies to statewide electricity supplies and demands. The amount of supply in excess of demand would probably be less in the northern California region.

Shifting the timing of pumping also may shift the energy use from off-peak hours in the spring to on-peak hours during the summer at the export facilities. This shift from off- to on-peak is a potential problem from an economic standpoint because of the price differential between on- and off-peak power. Also, to the extent that additional on-peak load will be present, California's electrical capacity available during the most critical time of the year will be diminished. On some days it may be necessary to curtail EWA water purchase pumping in response to electrical system emergencies. In addition, discontinuation of the Western-PG&E contract could result in Independent System Operator scheduling costs for the CVP. During the term of the Western-PG&E contract, PG&E has carried the costs of scheduling CVP loads and likely could readily absorb fluctuations in CVP power operations within its much larger system. However, Reclamation/Western will become responsible for the timely declaration of loads and resources after 2004. To the extent that conveyance of EWA water purchases and EWA actions affect day-to-day CVP power scheduling, there may be additional costs borne by the CVP. These effects could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

16.3.5.1.1 EWA at 600 TAF Acquisitions (Maximum Water Purchase) Scenario

The EWA at 600 TAF would result in an average electricity increase of about 45,900,000 kWh per month at the Project pumps during July, August, and September. In addition, groundwater wells in the Sacramento Valley would increase their use of electricity for water supply replacement. The increased use of electricity by groundwater wells can be estimated in comparison to the incremental power consumed by the Project pumps. At most, the incremental amount of groundwater pumped by the wells would be 200 thousand acre-feet (TAF), which is the maximum volume thought to be available for purchase north of the Delta. The lift would be about one-eighth of the Delta lift; thus, an estimate of 36 kWh/af is assumed as the energy cost. This is based on an average groundwater lift of 30 feet compared to the

Project pumps lift of about 250 feet. Therefore, the groundwater wells, in aggregate, could increase electricity use by at most 7,200,000 kWh (200,000 af * 36 kWh/af = 7,200,000 kWh) or 2,400,000 kWh per month during these three months.

In total, EWA at 600 TAF is estimated additional July through September export pumping could increase electricity use by 45,900,000 kWh and groundwater wells could increase regional electricity use by 2,400,000 kWh for a combined average of 48,300,000 kWh per month. Assuming 24-hour operation throughout the month, the increased power demand would be 66,350 kW. This represents less than 2 percent of the projected statewide electrical surplus during these months.

16.3.5.1.2 Typical Water Purchase Scenario

The Typical Water Purchase Scenario would result in an average electricity increase of about 34,300,000 kWh per month at the Project pumps during July, August, and September. In addition, groundwater wells in the Sacramento Valley would increase their use of electricity for water supply replacement. The increased use of electricity by groundwater wells can be estimated in comparison to the incremental power consumed by the Project pumps. At most, the incremental amount of groundwater pumped by the wells would be 200 TAF, which is the maximum volume thought to be available for purchase north of the Delta. The lift would be about one-eighth of the Delta lift; thus, an estimate of 36 kWh/af is assumed as the energy cost. This is based on an average groundwater lift of 30 feet compared to the Project pumps lift of about 250 feet. Therefore, the groundwater wells, in aggregate, could increase electricity use by at most 7,200,000 kWh (200,000 af * 36 kWh/af = 7,200,000 kWh) or 2,400,000 kWh per month during these three months.

In total, the Typical Water Purchase Scenario is estimated additional July through September export pumping could increase electricity use by 34,300,000 kWh, and groundwater wells could increase regional electricity use by 2,400,000 kWh for a combined average of 36,700,000 kWh per month. Assuming 24-hour operation throughout the month, the increased power demand would be 49,850 kW. This represents about one and one-half percent of the projected statewide electrical surplus during these months.

16.3.6 Export Service Area

16.3.6.1 San Luis Reservoir

EWA export pumping restrictions in the spring would place an additional burden on San Luis Reservoir for meeting south of Delta water demands prior to EWA water purchases in the summer. As a consequence, San Luis Reservoir storage and water-surface elevations from April until September would be lower. From April through June, San Luis Reservoir releases would be slightly higher and generation would be slightly greater than under the Baseline Condition. From July through September, San Luis releases would be reduced, relative to the Baseline Condition, when EWA water purchases are made available from the Delta. As a result of reduced reservoir releases, generation at San Luis for this period would be less than that in the Baseline Condition.

Although the annual San Luis generation would be little changed, the change in generation from summer to spring could have an economic effect on power operations because of temporal price differences. These effects could be potentially significant. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

EWA agencies' acquisition of water via source shifting would delay deliveries from San Luis Reservoir to the Export Service Area until after San Luis reaches its lowpoint. EWA actions would cause pumping facilities in the Export Service Area, including Edmonston and Dos Amigos, to pump later in the year compared to the Baseline Condition. Electricity prices may be more expensive at the modified pumping times. This would cause potentially significant economic impacts. Mitigation measures listed in Section 16.3.9 would reduce these potentially significant effects on power production and energy to less than significant.

16.3.7 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative would involve the same actions as the Flexible Purchase Alternative, although to a lesser degree. The Fixed Purchase Alternative limits Upstream from the Delta Region transfers to 35 TAF and Export Service Area transfers to 150 TAF. The Flexible Purchase Alternative scenarios allow transfers up to 600 TAF and do not specify transfer limits in the Upstream from the Delta Region or Export Service Area. The effects described for the Flexible Purchase Alternative represent the effects on water supply and management for a maximum transfer amount; therefore, impacts considered less than significant under this alternative also would be considered less than significant for a lesser transfer amount (the Fixed Purchase Alternative). Analysis of the Fixed Purchase Alternative incorporates implementation of the Variable Assets described in Attachment 1, Modeling Description. Pumping energy cost effects of the Fixed Purchase Alternative are discussed in Section 16.3.4.2.2.

16.3.8 Comparative Analysis of Alternatives

16.3.8.1 Upstream from the Delta Region

As described above, the Fixed Purchase Alternative would limit Upstream from the Delta Region transfers to a maximum acquisition of 35 TAF from all water sources. In most years, this amount could be obtained from stored reservoir water purchases. In subsequent dry years, this amount could be less than 35 TAF and the same for the Flexible Purchase Alternative due to the limited availability of water from the Upstream from the Delta reservoirs. The Flexible Purchase Alternative would permit Upstream from the Delta Region transfers of up to 600 TAF. The changes in timing of releases from reservoirs that generate power and on the costs for pumping of water from the Delta under the Flexible Purchase Alternative would be substantially different from that of the Fixed Purchase Alternative. Although the Fixed Purchase Alternative is not expected to significantly effect power, the Flexible Purchase Alternative may due to the volume of water involved in the transfers.

16.3.8.2 Export Service Area

The effects of the two alternatives in the Export Service Area relate to the effects to power generation and pumping for San Luis Reservoir. Management of EWA assets may release water earlier from San Luis at a time when power is less expensive and cause pumping of refill water at a time when power is more expensive. The Flexible Purchase Alternative will involve the release and pumping of more EWA assets than the Fixed Alternative and therefore would have greater effects on power. As described under the Export Service Area analysis for the Flexible Purchase Alternative, any potentially significant impacts can be mitigated by implementation of the Mitigation Measures presented in Section 16.3.9. These measures would also be applied to the Fixed Purchase Alternative.

Table 16-10 summarizes the potential effects upon power for both alternatives.

16.3.9 Mitigation Measures

During times when acquisition of water for EWA would result in the value of power generated later in the summer being less than under the Baseline Condition, the EWA Program is responsible for covering those additional costs, as outlined in the CALFED Record of Decision, under the EWA Operating Principles Agreement. The agreement states:

> "EWA shall impose no net, increased incremental costs upon the Projects. The Management Agencies and Project Agencies shall develop a financing plan to cover all costs of the EWA from non-contractor funding sources. The plan shall address increased Project operating costs, both power and ancillary costs, of both the SWP and CVP resulting from implementation of the EWA; crediting the EWA as appropriate for reduced operating costs; crediting the EWA for certain power benefits; and revenues realized from the sale of EWA assets . . . . Considering the importance of acquiring water to the success of the EWA, the Project Agencies and Management Agencies shall meet and confer to develop alternatives for funding power and other incidental costs, if such costs interfere with the successful operation of the EWA."

According to this agreement, EWA shall mitigate any adverse economic, reliability, capacity or operational effects to CVP/SWP power operations or Project power users as a result of implementing the EWA Program.

16.3.10 Potentially Significant Unavoidable Impacts

The Flexible Purchase Alternative does not have any potentially unavoidable impacts. The adverse effects on Project power reduction and increased pumping costs caused by the shifting in the timing of releases of water from Project reservoirs can be mitigated through implementation of the mitigation measures provided in Section 16.3.9.

Table 16-10
Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives for Power Resources

Region	***Asset Acquisition or Management***	***Result***	***Effects***	***Flexible Purchase Alternative Change from Baseline***	***Fixed Purchase Alternative Change from Baseline***	***Significance of Flexible Purchase Alternative***	***Significance of Fixed Purchase Alternative***	***Comments***
Sacramento River Region	Groundwater substitution/crop idling. Flexible: 166,000 AF Fixed: 35,000 AF	Altered temporal distribution of Keswick Releases.	Altered Lake Shasta monthly storage, compared to non-EWA conditions, caused by inability to match timing of asset acquisition with release for Delta export.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation at CVP facilities. A change in timing of reservoir release, which could shift generation to a time of year when power has lower value.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation at CVP facilities. A change in timing of reservoir release, which could shift generation to a time of year when power has lower value.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	
Feather River Region	Stored Reservoir Water Flexible & Fixed: Sly Creek – 5,000 AF Little Grass Valley – 12,000 AF	Water released from Sly Creek and Little Grass Valley Reservoirs	Altered Sly Creek and Little Grass Valley Reservoir storage	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of power generation facilities. Potential change in timing of reservoir release, which could shift generation to a time of year when power has lower value.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of power generation facilities. Potential change in timing of reservoir release, which could shift generation to a time of year when power has lower value.	Less-than-significant impact.	Less-than-significant impact.	

Table 16-10
Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives for Power Resources

Region	*Asset Acquisition or Management*	*Result*	*Effects*	*Flexible Purchase Alternative Change from Baseline*	*Fixed Purchase Alternative Change from Baseline*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*	*Comments*
			Altered Lake Oroville monthly storage, compared to non-EWA conditions, caused by inability to match timing of asset acquisition with release for Delta export.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the SWP power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the SWP power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Mitigation measures would only be implemented if the value of power generated later in the summer was less than under the Baseline Condition.
	Groundwater Substitution/ Crop Idling Flexible: 230,000 AF Fixed: 35,000 AF	Altered temporal distribution of Oroville Releases	Altered Lake Oroville monthly storage, compared to non-EWA conditions, caused by inability to match timing of asset acquisition with release for Delta export.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the SWP power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the SWP power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	

Table 16-10
Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives for Power Resources

Region	***Asset Acquisition or Management***	***Result***	***Effects***	***Flexible Purchase Alternative Change from Baseline***	***Fixed Purchase Alternative Change from Baseline***	***Significance of Flexible Purchase Alternative***	***Significance of Fixed Purchase Alternative***	***Comments***
Yuba River Region	Flexible: 100,000 AF Fixed: 35,000 AF		Altered Bullards Bar monthly storage	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. Potential change in timing of reservoir release	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. Potential change in timing of reservoir release	Less-than-significant impact.	Less-than-significant impact.	No potential impacts to any entity other than seller.
	Groundwater Substitution Flexible: 85,000 AF Fixed: 35,000 AF	Water regulated at New Bullards Bar	Altered New Bullards Bar Reservoir monthly storage compared to non-EWA conditions	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. Potential change in reservoir release, which could shift generation to a time of year when power has lower value.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. Potential change in reservoir release, which could shift generation to a time of year when power has lower value.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	No potential impacts to any entity other than seller.

Table 16-10
Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives for Power Resources

Region	*Asset Acquisition or Management*	*Result*	*Effects*	*Flexible Purchase Alternative Change from Baseline*	*Fixed Purchase Alternative Change from Baseline*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*	*Comments*
American River Region	Stored Reservoir Water Flexible & Fixed: 20,000 AF	Water is released from French Meadows and Hell Hole Reservoirs	Altered French Meadows and Hell Hole Reservoir storage	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. Change in timing of reservoir release	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. Change in timing of reservoir release	Less-than-significant impact.	Less-than-significant impact.	No potential impacts to any entity other than seller.
	Stored Reservoir Water, Groundwater Purchase, and Crop Idling 41,000 AF	Water regulated at Folsom Lake	Altered Folsom Reservoir monthly storage compared to non-EWA conditions caused by inability to match timing of asset acquisition with release for Delta export.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value. An increase in pumping energy requirements for purveyors who withdraw water from reservoirs.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value. An increase in pumping energy requirements for purveyors who withdraw water from reservoirs.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Mitigation measures would be implemented if the economic value of power generated was less than under the Baseline Condition, or if additional pumping costs were experienced by agencies pumping water from Folsom Reservoir.

Table 16-10
Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives for Power Resources

Region	***Asset Acquisition or Management***	***Result***	***Effects***	***Flexible Purchase Alternative Change from Baseline***	***Fixed Purchase Alternative Change from Baseline***	***Significance of Flexible Purchase Alternative***	***Significance of Fixed Purchase Alternative***	***Comments***
Merced/San Joaquin River Regions	Stored groundwater Purchase Flexible & Fixed: 25,000 AF	Water regulated at Lake McClure	Alteration of monthly storage in New Exchequer and McSwain compared to non-EWA conditions	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	No decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	No potential impacts to any entity other than seller.
Delta Region	Crop Idling, Groundwater Substitution, Stored Groundwater Purchase, Stored Reservoir Water Purchase	Upstream from Delta reservoirs release water	Alteration of Delta exports	A change in timing of pumping, which could shift the load to a time of year when power has higher costs.	A change in timing of pumping, which could shift the load to a time of year when power has higher costs.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Mitigation measures would be implemented if the economic cost of Delta export pumping was greater than under the Baseline Condition.

Table 16-10
Potential Transfer Amounts and Comparison of the Flexible and Fixed Purchase Alternatives for Power Resources

Region	*Asset Acquisition or Management*	*Result*	*Effects*	*Flexible Purchase Alternative Change from Baseline*	*Fixed Purchase Alternative Change from Baseline*	*Significance of Flexible Purchase Alternative*	*Significance of Fixed Purchase Alternative*	*Comments*
Export Service Area	Source Shifting	Water is released from Metropolitan Water District reservoirs	Alteration of water levels in San Luis Reservoir	A change in timing of pumping, which could shift the load to a time of year when power has higher costs. An increase in pumping energy requirements for purveyors who withdraw water from reservoirs.	A change in timing of pumping, which could shift the load to a time of year when power has higher costs. An increase in pumping energy requirements for purveyors who withdraw water from reservoirs.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	
	Borrowed Project Water	Water is released from San Luis Reservoir	Alteration of water levels in San Luis Reservoir	A decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	A decrease in the surface water elevation beyond optimum efficient levels in reservoirs that would decrease the efficiency of the power generation facilities. A change in reservoir release, which could shift generation to a time of year when power has lower value.	Potentially significant impact; Less-than-significant impact with mitigation measures.	Potentially significant impact; Less-than-significant impact with mitigation measures.	

16.3.11 Cumulative Effects

There is a potential for cumulative effects to CVP/SWP power production for other water acquisition programs that alter the timing of water releases from Project reservoirs. In the past, these programs have included specific terms for use of Project power in contractual documents. Recent year EWA water purchases have been facilitated by terms of Interim Protocol documents. Because the other programs remain in the planning stages, or are subject to CVP/SWP policies that are evolving, operational details of the programs cannot be described. Any power effects of these programs would not constitute environmental effects, but rather economic losses. The Flexible Purchase Alternative could purchase up to 600 TAF upstream from the Delta; these transfers would use all the export capacity of the CVP/SWP pumps. Therefore, the analysis of 600 TAF also covers the effects of other water purchases or transfers that convey water through the Delta. Power effects in the cumulative condition would be essentially the same as those shown for the Flexible Purchase Alternative.

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Chapter 17
Cultural Resources

Native Americans initiated California's rich cultural heritage many generations before Europeans settled in the area. A third of all Native Americans within current U.S. boundaries lived in California. In the late 1600s, California's Hispanic forefathers began to build missions that attracted an influx of people from Europe, Africa, and many other countries. The 1849 Gold Rush initiated a significant migration of people from Africa, Chile, Mexico, China, France, England, Germany, Ireland, Australia, Hawaii, Philippines, and elsewhere (Starr 2000).

Preserving the culture and history of our nation's past are the goals of regulations that include the National Historic Preservation Act (NHPA), Antiquities Act of 1906, Archeological Resource Protection Act of 1979, and Historic Sites Act of 1935. The NHPA regulations (36CFR800) require that Federal agencies seek information, as appropriate, from the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, Indian tribes, and other individuals and organizations likely to have knowledge of, or concerns with, historic properties in the area of potential effect. These organizations and individuals are integral in identifying issues related to the Program's potential effects on historic properties. Similar State regulations[1] protect archeological, paleontological, and historical sites and specifically provide for identification and protection of traditional Native American gathering and ceremonial sites on State land.

Cultural resources defined within the framework of these regulations include archeological sites, historic sites, and traditional cultural properties associated with the values of Native Americans and other cultural groups. While studying cultural resources provides insight into the adaptation of early people and reveals important information, actions that physically disturb a site, alter its setting, or introduce elements out of character with the site may constitute an adverse effect. If a site is eligible for inclusion in the National Register of Historic Places (NRHP), any type of physical damage results in a permanent loss of information that reduces our understanding of the site's contribution to the past.

17.1 Affected Environment/Existing Conditions

Environmental Water Account (EWA) actions could result in both beneficial and adverse effects on cultural resources. A description of the relationship between EWA actions and cultural resources follows:

- Acquisition of stored reservoir water, which could draw down reservoirs below the Baseline Condition in the Upstream from the Delta Region. These lower reservoir levels could increase exposure of cultural resources to increased cycles of

[1] Including but not limited to Public Resources Code (PRC) Sections 5097-5097.6, 5020.10, 5020.5, 5024.4(6), 5079.60, 5079.61, 5079.63, and Senate Resolution Number 87.

inundation and drawdown potentially eroding the value and character of the historical resource.

- Groundwater substitution and crop idling would increase reservoir levels from the Baseline Condition, as increasing amounts of water remain in the reservoir. Surface elevations in Folsom Lake and Lake Oroville would be higher than the Baseline Condition in April, May and June; elevations in Lake Shasta could increase in June under certain hydrologic conditions[2].

  Release of the water to EWA during July through September would decrease surface elevations to low operating levels earlier than the Baseline Condition. Releases would not exceed normal operating levels in Lake Shasta, Folsom Lake, and Lake Oroville reservoirs. Therefore, groundwater substitution and crop idling releases would not expose previously submerged artifacts and would not affect cultural resources in these reservoirs.

  The pattern of water releases from these reservoirs would change, which would change the flows in the rivers downstream. The rivers, however, would not decrease below minimum flows, and would stay within historic channels. Groundwater substitution acquisitions and the water transfer process involving crop idling would not affect cultural resources in Lake Shasta, Folsom Lake, and Lake Oroville reservoirs. Therefore, cultural resources in these reservoirs will not be discussed further.

- Crop idling would have the potential to affect cultural resources if fugitive dust from idled fields (Chapter 8, Air Quality) interfered with the character of nearby cultural resources. Air quality and soil erosion mitigation measures outlined in Section 8.2.7 would reduce potential air quality effects on cultural resources and this issue is not addressed further in this chapter.

- Source shifting would delay the delivery of water to participating State Water Project (SWP) or Central Valley Project (CVP) contractors, and the contractors would use an alternate source of supply. If these alternate supplies were drawn from a surface water reservoir, these reservoirs could draw down earlier in the year. The surface elevations would remain within historic levels. Pre-delivery of water to reservoirs proposed for source shifting would increase surface water elevations earlier in the year. Operational changes subsequent to source shifting would have no effect on cultural resources.

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[2] Water from Lake Shasta is released in April and May to protect temperature and flow requirements on the Sacramento River. In some years, (depending on hydrologic conditions) Lake Shasta could store EWA water in June.

- The EWA actions will not make operational changes in the Delta that would affect cultural resources in the Delta region. Therefore the Delta is not an area of concern for cultural resources.

Section 7.11 of the Programmatic Environmental Impact Statement/Environmental Impact Report (CALFED PEIS/EIR) contains a general description of prehistoric resources, historic resources, traditional cultural properties, and Native American groups for each of the CALFED regions. The CALFED regions have different boundaries than the EWA regions, but they include the entire EWA study area (Chapter 3). The cultural resources information is incorporated by reference into this EIS/EIR; however, conclusions rely on information contained within this document.

The cultural resource descriptions in the CALFED PEIS/EIR do not include explanations of ethnographic resources because listings of properties with traditional cultural value are not always available through archeological, historical, or architectural surveys. For the purpose of this document ethnographic resources possess a dynamic, tangible relationship with traditional cultural properties. Traditional cultural properties are those eligible for inclusion in the National Register because of their association with cultural practices or beliefs of a living community that a) are rooted in that community's history, and b) are important in maintaining the continuing cultural identity of the community (Parker and King, 1998).

Because the CALFED PEIS/EIR provides general information on cultural resources, the following section focuses on tangible ethnographic resources in areas potentially affected by EWA water transfers and provides a general summary of historic resources in each river region. Identifying and maintaining traditional cultural properties and ethnographic resources is consistent with California guidance and U.S. Forest Service's California Native American policy.

This section describes existing cultural resources in regions affected by the EWA. The level of detail that is presented is proportional to the expected effect of EWA water transfers. The following description mainly focuses on areas potentially affected by acquisition of stored reservoir water and provides a less detailed analysis of areas proposed for source shifting.

17.1.1 Area of Analysis

Cultural resources analysis divides the study area into the Upstream from the Delta Region and the Export Service Area. Acquisitions that define the area of analysis include use of stored reservoir water and source shifting. In the Upstream from the Delta Region purchase of stored reservoir water could potentially affect cultural resources. Discussion will proceed from north to south along the Feather, Yuba, and American Rivers. There would be no acquisition of stored reservoir water from reservoirs on the Sacramento River. Reservoirs proposed for purchase of stored reservoir water along the Feather include Little Grass Valley and Sly Creek; New Bullards Bar on the Yuba; and French Meadows and Hell Hole reservoirs on the American River. The area of analysis includes a ¼ mile radius surrounding each reservoir.

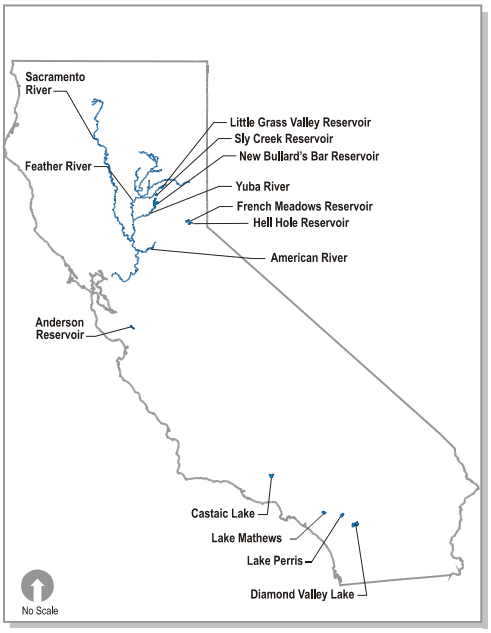


Figure 17-1
Cultural Resources Area of Analysis

Source shifting could potentially affect cultural resources in the Export Service Area. Reservoirs proposed for source shifting include Anderson Reservoir, Castaic Lake, Lake Perris, and Diamond Valley. (Please refer to Figure 17-1.)

17.1.2 Upstream from the Delta Region

Native American tribes that occupied the Upstream from the Delta Region at the time of contact included the Pit River Indians, Yana, Nisenan, Maidu, Konkow, and Sierra Miwok (Figure 17-2 and below). Evidence of the early human occupation along the headwaters of the Feather, Yuba, and American Rivers dates from 2000 B.C. or earlier to 500 A.D.

- Pit River Indians include the Achumawi and Atsugewi, whose traditional territory occupied areas within the northeastern part of California (Olmsted and Stewart 1978).

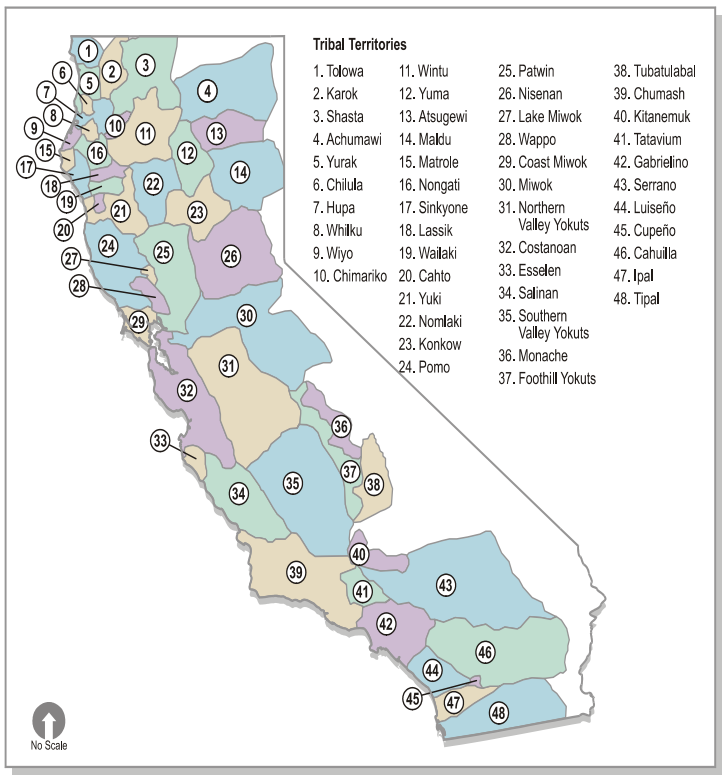


Figure 17-2
Linguistic Tribal Territories
(Native Web 2002)

- Yana traditionally occupied the northern portion of the Sierra Nevada. Yana territory extended from southwest of Mount Lassen to the upper reaches of the Sacramento River Valley (San Diego State University 2002).

- Valley Nisenan, sometimes referred to as Southern Maidu, had scattered villages along the margins of primary watercourses north of the Cosumnes River and were heavily dependent upon fish and acorns for subsistence. Hill and mountain Nisenan villages were on ridges adjacent to streams with a southern exposure or on terraces along rivers. Most Hill and mountain Nisenan villages had bedrock mortar grinding stations associated with them (Yuba County 1994). Maidu villages occupied knolls, terraces, and crests along drainages of the

Feather and American Rivers. The northeastern Maidu occupied the upper reaches of the North and Middle Forks of the Feather River (Kroeber 1925).

- The Konkow, also known as Northwestern Maidu, occupied territory below the high Sierra in the foothills where the south, middle, north, and west branches of the Feather River converge. Konkow territory included the upper Butte and Chico Creeks and part in the Sacramento Valley along the lower courses of the same streams (Kroeber 1925).

- Sierra Miwok territory extended over the Sierra Nevada foothills in the central part of California.

The climate and topography north of the Delta area supports a variety of forest, grassland, savannah, riparian, and wetland habitats. Native American groups that occupied the Yuba, American, and Feather River drainages survived on non-domesticated plants and animals that provided food and material for baskets, houses, and clothing. For generations, Native Californians created baskets from willows, sedge root, bulrush root and new shoots of the western redbud.

Some modern Native Americans maintain their culture by gathering vegetation and wildlife formerly used by their ancestors and performing traditional ceremonies. U.S. Forest Service policy encourages, protects, and perpetuates traditional tribal practices by reserving areas on Forest Service land for gathering basketry materials and practicing cultural traditions.

Historic properties include prehistoric and historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion in, the NRHP [36CFR800.16(l)1)]. Historic age cultural resources in the upstream region include those associated with California's gold rush, such as mining machinery, sluices, cabins, and mills. Other historic sites include those pertaining to cattle ranches and wagon trains.

The following sections provide information on traditional cultural properties, historic properties and ethnographic resources in the Upstream from the Delta Region. This discussion is organized by river, and lists for each river area: early human and Native American groups that lived in the area; cultural surveys performed at locations of archeological interest; and number and nature of sites of cultural or historical importance.

17.1.2.1 Feather River

The Maidu occupied areas near the Feather River headwaters, and Nisenan lived in the downstream areas south of the Middle Fork of the Feather River. Traditional cultural practices of the Maidu and Nisenan include weaving baskets and tule mats. Maidu and Nisenan would coil peeled willow and peeled and unpeeled redbud in a clockwise manner to form baskets. Baskets were made to hold water by overlaying hazel shoots, pine roots, and maidenhair fern shoots and covering with pitch

(Schwartz 1958). Maidu also wove tule mats that they used for seats, beds, camp roofing, and doors (Kroeber 1925).

Historical landmarks are sites, buildings, features, or events of statewide significance that have anthropological, cultural, military, political, architectural, economic, scientific, or technical, religious, experimental, or other value (Office of Historic Preservation 2002). Upstream historic landmarks include gold mining sites of Dogtown, Nugget and Oregon City, along with the original propagation site of the Thompson seedless grape. Oroville Lake now covers Bidwell's Bar, the second county seat of Butte County. Another area of historical importance is an 1863 Chinese Temple commissioned by the Emperor and Empress of China. There are eight historical landmarks in Butte County (location of Sly Creek Reservoir) and thirteen in Plumas County (location of Little Grass Valley Reservoir).

Little Grass Valley and Sly Creek Reservoirs are upstream of Lake Oroville on the Feather River. Both reservoirs are in areas considered highly sensitive for prehistoric, protohistoric, and/or historic cultural resources (Ledwith, L. and Frank Bayham 2002).

17.1.2.1.1 Little Grass Valley Reservoir

Surveys for cultural resources exist for the northern half of Little Grass Valley Reservoir. Surveyed areas also include about half of the southern portion, private land along the southern edge, a small peninsula, and the southeastern side. Eleven Native American sites exist along the banks of the reservoir. The majority of the sites are prehistoric lithic scatters (flaked stone debris). The sites around Little Grass Valley Reservoir include two possible Martis Complex occupation sites and several bedrock milling stations. One site, described as a Martis Campsite, is inundated by the reservoir. The Martis Complex is a culture that precedes the advent of the bow and arrow (Yuba County 1994). Two additional sites have not yet been formally recorded, but they are a lithic scatter and a prehistoric basalt quarry.

One historic site and ten prehistoric sites have been recorded within the Little Grass Valley Reservoir boundaries. One site within the area of potential effect contains both historic and prehistoric remains. Two historic mining complexes with mining machinery and refuse are about ½ mile away from the reservoir and are outside of the area of potential effect. Eight studies by various individuals contain the breadth of information on this reservoir. (Carter 1978; Day 1982; Davis 1982; Lowdermilk 1989; Peterson 1993; Steidl 1993; Peterson 1994; Whittier 1999).

17.1.2.1.2 Sly Creek Reservoir

Much of the land around Sly Creek Reservoir is privately owned and not fully inventoried; however, three recorded prehistoric sites are known within the reservoir. One site is a campsite, and the other two are possible bedrock mortars where Native Americans processed acorns and other foods. One of the sites is now submerged in

Sly Creek Reservoir. (Manning 1981; Helm 1999;Murphy 1981; Day 1981; Manning 1981; and Lopez 1989).

17.1.2.2 Yuba River

Maidu and Nisenan occupied the Yuba River Region. These groups practiced the same ethnographic life ways as those stated above.

17.1.2.2.1 New Bullards Bar Reservoir

Investigation of the area around New Bullards Bar Reservoir, which is on the North Fork of the Yuba River, revealed prehistoric evidence of the Northwestern Maidu settlements and earlier distinct Mesilla and Martis cultural complexes. The east side of New Bullards Bar Reservoir, which experienced a recent fire, was subject to an intense pedestrian survey of cultural resources; inventories of the reservoir's west side are few. The reservoir contains 12 recorded prehistoric sites, two of which are also historic sites. Ten of the sites are inundated. Nine studies comprise the body of literature pertaining to the area within reservoir boundaries. (Riddell and Olsen 1966; Humphreys 1969; Anonymous 1979; Budy 1976; Meals 1978; Deal 1980; Stevens 1982; O'Halloran 1992; Baldrica 2000).

Seven California Historical Landmarks exist in Yuba County. Landmarks include the Bok Kai Temple that commemorates the original site of an 1850s Chinese temple and the temporary detention camp for Japanese-Americans in Marysville. Additional historic properties include the settlements of Smartsville and Johnson's Ranch (CERES 2002).

17.1.2.3 American River

The southern Maidu or Nisenan inhabited the upper and lower reaches of the American River watershed and practiced relatively the same cultural traditions and basketry production, as their northern tribal family. Prehistoric sites on the upper reaches of the American River include midden deposits (loose, dark soil with organic debris containing burned food, charcoal, bone, and rock), lithic scatters, petroglyphs, settlements with house pits, rock shelters, and bedrock mortars. These sites were large and small villages, cemeteries, resource procurement and processing, quarries, and ceremonial sites, workshops, and temporary campsites. Prehistoric archeological sites exist throughout the region, except on extremely rugged terrain and in areas without water. Most prehistoric sites of cultural interest in the area are found on gentle to moderately sloping sites within 500 feet of surface water sources (Placer County 1994).

Twenty California Historical Landmarks exist in Placer County, but few early gold rush buildings remain because miners and immigrants generally lived outdoors in cloth tents. Historic gold mining sites include an abandoned kiln in the middle of the Black Oak Golf Course and the Sisley mine industrial mill outside Penryn. Additional historic properties include Stanford Ranch north of Roseville and numerous small Depression-era concrete bridges built by laborers from the Work Projects Administration (Placer County 1994).

French Meadows and Hell Hole Reservoirs are along the Middle Fork of the American River. EWA agencies propose using these reservoirs for purchase of stored reservoir water.

17.1.2.3.1 Hell Hole Reservoir

The area within the Hell Hole Reservoir has not been surveyed extensively; four surveys cover the area within ½ mile of the reservoir. One prehistoric site is recorded to be within ½ mile of the reservoir. Three studies constitute the body of literature that applies directly to Hell Hole Reservoir (Peterson et al 1993; Lasick 1997; Goddard 1985).

17.1.2.3.2 French Meadows Reservoir

Surveys for cultural and historic resources exist for approximately 99 percent of French Meadows Reservoir and identify only a few sites within ½ mile of the project area. 1953 topographic maps reveal that there may be some unrecorded historic resources that are now under water. One archeological study identified a small "campsite" at the upper end of the reservoir (Shapiro and Jackson 1994). Six studies comprise the breadth of information written on French Meadows (Miller 1990; Smith 1978; Demasi 1981; Baldrica 1989; Smith 1994; Brooke 1999).

17.1.3 Delta Region

The Delta Region is one of the most intensely investigated areas of California because of its high prehistoric population density and proximity to population centers. Although the bulk of sites were recorded prior to 1960, there has been little systematic inventory for cultural resources. Most of the early archeological work in the region focuses on prominent prehistoric mounds. Documentation of historic sites has largely occurred within the last 20-30 years.

Native Americans in the Delta at the time of European contact were Northern Valley Yokuts who were settled along the San Joaquin River. Plains Miwok people lived primarily in the north with territory extending nearly to Sacramento (DWR, Reclamation 1996). Wintun and Nisenan occupied areas on the north and northeastern Delta. Those in the south Delta proper were the Chulamni or Nochochomne.

Many cultural resources exist within the Delta region, as described in Section 7.11 of the CALFED PEIS/EIR. Because EWA water acquisitions would not affect cultural resources in the Delta, no further description of cultural resources or historic properties is included here.

17.1.4 Export Service Area

The original inhabitants of the Export Service Area include the Yokuts and the Costanoans. The Costanoans claimed the coastal region from the southern border of San Francisco Bay south to Point Sur; descendants of the Costanoans currently refer to themselves as Ohlone.

The Ohlone lived in autonomous triblets each with a permanent village surrounded by a number of temporary camps. Poles, brush, and tule matting formed their dwellings. Tule also formed their rafts, the only boat known to Costanoans (Kroeber 1925, p. 468). Little is known of Costanoan basketry.

The Yokuts once occupied nearly all of the Tulare Basin, as well as portions of the Sierra Nevada foothills south of the Fresno River. The Yokuts had three main divisions – Northern Valley, Southern Valley, and Foothill. Each division comprised sixty triblets, and each triblet contained from a few hundred to several thousand individuals. Traditional land of the Northern Valley Yokuts spanned the junction of Bear Creek and San Joaquin River to the north, south nearly to Fresno, the Diablo Range to the west, and the western Sierra Nevada foothills to the east. Traditional land of the Southern Valley Yokuts spanned the Tulare, Buena Vista, and Kern lakes, their connecting sloughs, and lower portions of Kings, Kaweah, Tule, and Kern rivers (Merced County 2001).

The Yokuts efficiently incorporated tule into tribal life. Tule or bulrush, an emergent, grows most abundantly in muddy substrates found along the shores of shallow lakes, ponds, sloughs, and marshes. Tribal members incorporated tule into their permanent dwellings, which they often built in a street-like setting. Yokuts also used bundles of tule for their canoes.

Coiled jar-like vessels with flat shoulders and constricted necks are distinguishing characteristics of Yokuts' basketry. Red and black bands of either diamonds or hexagons mark the traditional Yokuts basket pattern (Kroeber 1925).

The following discussion describes cultural resources near reservoirs proposed for source shifting (Anderson Reservoir Lake Mathews, Castaic Lake, Lake Perris, and Diamond Valley).

17.1.4.1 Anderson Reservoir

Anderson Reservoir is located on a fault zone approximately two miles northeast of Morgan Hill in the Mt. Hamilton foothills. This reservoir operates in series with Coyote Reservoir to minimize pressure along the Calaveras fault. Anderson Reservoir was designed to handle a capacity of 89,073 acre-feet of water.

Artifacts reveal that a hunter/gatherer group called the Costanoans inhabited the region between 5000 and 7000 years ago. The Costanoans, currently known as the Ohlone, depended upon acorns, land animals, and marine resources for their subsistence.

During the Mexican Period (1821-1848) the fertile land was sold in 500-acre lots to Euro-American settlers. The reservoir currently covers one such 500-acre plot and resides within the Anderson Lake County Park. One of the features of the park is the Jackson Ranch Historic park site (Santa Clara Valley Water District 2001)

17.1.4.2 Castaic Lake

Castaic Lake is a 324,000 acre-foot reservoir. Reservoir levels generally peak in March and decrease until reaching a low in October. The design for Castaic Lake Reservoir accommodates surface elevation fluctuations of 90 feet (Young 2002).

Few early and middle period prehistoric archeological sites have been reported in the vicinity of Castaic Lake. (Horne 2002). Native American groups that inhabited the region include the Tataviam and the Gabrielino. The Tataviam heavily relied on yucca, and the Gabrielino exploited a wide range of marine resources. Gabrielino basketry is similar to that described for the Cahuilla (Kroeber 1925, p. 628)

Historic remnants of the gold and copper era, oil boom, Union Pacific Railroad, and archeological evidence of the Chinese labor camp era remain (Scientific Resource Surveys, Inc. 1988).

17.1.4.3 Lake Mathews

Lake Matthews is located just 60 miles from downtown Los Angeles in Riverside County. Lake Mathews is a 182,000 acre-foot reservoir that receives water from the Colorado River through Lake Havasu. Surface water elevations in Lake Mathews generally peak in May or June and reach their lowest during the late fall.

Lake Mathews is located near the westernmost extent of traditional Cahuilla territory. Other tribes occupying the region include the Serrano and Luiseno (Applied EarthWorks, Inc. 2002). An area about twenty miles east of Lake Mathews contains deeply stratified cultural deposits composed of a few flaked stone tools and abundant faunal remains (Applied EarthWorks, Inc. January 2002).

The Cahuilla baskets were rather heavy, regularly coiled bundles of grass stems. At times sumac splints or J*uncos* rush wrapped the baskets (Kroeber 1925, p. 698, 651). Luiseno basketry took on similar form.

17.1.4.4 Lake Perris

Lake Perris is a 131,000 acre-foot reservoir in Riverside County. Lake Perris occupies the historic home of the Indian tribes of Cahuilla, Serrano, and Luiseno (basketry described above). An archeological survey performed for Lake Perris found residential base camps and temporary camps "almost everywhere suitable milling surfaces are afforded by outcrops of granitic bedrock." The sites appear to have been temporary and able to produce little or no survivable residues (Scientific Resource Surveys, Inc. 1988).

A records search indicated 46 prehistoric archeological sites within 1 mile of the Lake Perris area. Of the 46 sites, six are classified as residential bases, four as temporary field camps, 31 as resource acquisition sites, and four as isolated cultural features. Excavations exposed circular rock hearths, earthen ovens, cobble scatters, bedrock

mortars, grinding slicks, and stone stools such as scrapers, perforators, and drills. (Scientific Resource Surveys, Inc. 1988).

Historically, Lake Perris was part of the Spanish Rancho called the San Jacinto Nuevoy Potrero. Prior to 1880, a few Mexican and Spanish miners worked the gold deposits in the surrounding hills. Following construction of the California Southern Railroad in 1881, settlers began staking out homesteads on railroad land. Although Perris Valley has a rich history, there are no properties within the Lake Perris area that are listed on the National Register of Historic Places, the California Historical Landmarks, the California inventory of Historic Resources, or at the Riverside County Parks Department Historical Section. A review of the 1898 USGS Elsinore Quadrangle indicates that 12 early 20th Century homesites were in existence at the time of mapping (Scientific Resource Surveys, Inc. 1988).

17.1.4.5 Diamond Valley Lake

When full, Diamond Valley Lake Reservoir is an 800,000 acre-foot reservoir that recently filled in December 2000 and became fully operational in January 2003. Construction of the Diamond Valley dam uncovered artifacts from the valley's human inhabitants, as well as fossils of prehistoric animals such as mammoth, mastodons, and giant long-horned bison. Several thousand fossils and the largest mastodon known in the west were unearthed (Metropolitan Water District 1991).

Archeological surveys for Diamond Valley Lake Reservoir identified 305 prehistoric archeological sites within the reservoir project area (Metropolitan Water District of Southern California 2001). Sites include: stone quarries, where prehistoric people procured quartz, quartzites, and metasiltstones for stone tool manufacture or flaked and ground stone; artifact scatters; and bedrock outcrops used for grinding and pounding plant foods.

Large prehistoric villages were found adjacent to major creeks and springs in Diamond valley. These villages contain circular rock rings, which are likely remnants of house structures, small rock enclosures, rock acorn granaries, bedrock grinding stations, fire hearths, and roasting platforms. Sites also contain a wide variety of flaked stone tools, such as dart points and arrow tips, bifacial knives, drills, scrapers, and choppers. Artifacts in the vicinity include bone awls, needles, clay pipes, pottery vessels, and abundant animal bones. Radiocarbon dating indicates that the people inhabited the area for the past 8,000 to 9,000 years, and the most intensive period of prehistoric occupation appears to have been within the past 500-700 years (McDougall June 2002).

17.2 Environmental Consequences/Environmental Impacts

17.2.1 Assessment Methods

The proposed action constitutes a Federal undertaking that requires compliance with Section 106 of the National Historic Preservation Act [16 USC 470(f)]; therefore, Federal significance criteria apply. For projects deemed undertakings, cultural

resource significance is evaluated in terms of eligibility for listing in the NRHP. NRHP criteria for eligibility are defined as follows:

> The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association, and that:
>
> (a) are associated with events that have made a contribution to the broad pattern of our history;
>
> (b) are associated with the lives of people significant in our past;
>
> (c) embody the distinct characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) have yielded, or are likely to yield, information important in prehistory or history (36 CFR 60.4).

Identifying and mitigating cultural resources eligible or listed on the National Register of Historic Places, California Register of Historical Resources, and/or unique archeological resources involves the following process:

1. Incorporate by reference the existing conditions defined within the CALFED PEIS/EIR. (The CALFED PEIS/EIR provides an adequate definition of cultural resources for performing a preliminary analysis on the areas potentially affected by EWA acquisition options.)

2. In consultation with State Historic Preservation Officer (SHPO) or the Tribal Historic Preservation Officer (THPO), determine the area of potential effect (APE) of EWA acquisitions. The APE is influenced by the scale and nature of the water transfer and would correspond to surface elevations that exceed the historic lower bounds of normal operational levels.

3. Review existing information on cultural resources within the area to identify whether historic properties are present within the APE.

4. Seek information from consulting parties, organizations, tribes, and individuals that have knowledge of the area's cultural resources and/or properties with religious and cultural significance. EWA agencies will exert a reasonable and good faith effort in identifying cultural resources within the APE.

5. In consultation with SHPO/THPO evaluate the eligibility of cultural resources, traditional cultural properties, and unique archeological resources by applying qualifications and guidance associated with the National Register of Historic Places, California Register of Historical Resources, and California Public Resources Code 21083.2(g).

6. In consultation with SHPO/THPO determine whether there are potential adverse effects that diminish the integrity of the historic properties location, setting, feeling, or association [36CFR800.5(a)(1)] or renders a substantial adverse change to the significance of a historic resource [CEQA 15064.5(b)].

7. When effects on historic properties cannot be fully determined prior to approval of the water transfer, development of a Programmatic Agreement (PA) is appropriate.

8. In consultation with SHPO/THPO develop a PA that implements measures to mitigate the project's effects on historic properties and unique archeological resources. Mitigation measures would be consistent with Federal and State law and regulation as appropriate, Reclamation's Directives and Standards (LND02-01), the Secretary of Interior's Standards, and 36 CFR 800. Mitigation measures would be developed in consultation with the SHPO/THPO, the Advisory Council on Historic Preservation, affected tribes, and interested parties.

Impact assessment focuses on historic properties, or sites designated as either historic resources or unique archeological resources.[3] Under State law, the evaluation of impacts on historic resources parallels Federal law. Properties protected under the California Environmental Quality Act (CEQA) include those eligible for listing or listed in the California Register of Historical Resources. The CEQA Guidelines state that if a project follows the Secretary of Interior's Standards for the Treatment of Historic Properties, the impacts are considered "mitigated to a level of less than a significant impact" (CEQA 15064.5[b][3]).

The EWA would include acquisition of water through the purchase of stored reservoir water from French Meadows, Hell Hole, New Bullards Bar, Little Grass Valley, and Sly Creek reservoirs. Stored reservoir water acquisition has the potential to affect cultural resources, if acquisitions result in changing operations beyond the normal range. Reservoir surface water elevation changes could expose previously inundated cultural resources to vandalism and/or increased wave action and erosion. These reservoirs are within three national forests: the Plumas, Eldorado, and Tahoe. Each forest is subdivided into several forest districts that retain their own cultural information. A records search performed by the Native American Heritage Commission did not identify any sites on the Sacred Lands Inventory List.

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[3] As defined either in 36 Code of Federal Regulations (CFR) 800.16(l) for federal actions or in the State CEQA Public Resources Code (PRC) (21084.1 and 21083.2) and the CEQA Guidelines (15064.5[a])

The North Central Information Center (NCIC) and Northeast Central Information Centers (NEIC) are the State cultural resource information repositories for these reservoirs. The U.S.D.A. Forest Service maintains its own records. Each information center was provided USGS 7.5 minute topographic quadrangle maps delineating the reservoirs. The information centers provided existing prehistoric, historic, and archeological information from their archives. The Native American Heritage Commission noted that no locations of Native American cultural resources existed in the reservoir areas (Pilas-Treadway 2002).

Sources of NCIC information include the following:

- Office of Historic Preservation (OHP) Historic Property Directory;
- NCIC Resources Map;
- California Inventory (1976);
- California Department of Transportation Bridge Inventory (2000);
- California Historical Landmarks (1996);
- Points of Historical Interest (1992); and
- Historic Spots of California (1990).

NEIC literature included the information above and the following:

- National Register of Historic Places-Listed Properties and Determined Eligible Properties (1988, computer lists 1966 through 7-00 by National Park Service);
- California Register of Historic Resources (2002);
- Directory of Properties in the Historic Property Data File for Butte and Plumas Counties (2002);
- California Points of Historical Interest (1992);
- California Inventory of Historic Resources (1976);
- Historic Spots in California (1966); and
- Gold Districts of California (1970).

As the need arises, all available cultural information and reservoir surface elevation changes will be discussed with the SHPO to determine whether previous surveys adequately characterize cultural resources within the reservoirs, or whether data gaps exist. Since effects on cultural resources cannot be fully determined, a PA ((36 CFR 800.14(b)) will be completed to comply with NHPA Section 106. The PA may include land managing agencies, tribal entities, other interested parties as signatory, or concurring parties as appropriate.

The jurisdiction of applicable State and Federal laws that protect archeological and historical sites is contingent on several factors. Federal law applies to all Federal lands and to all projects sponsored, permitted, approved, or funded by Federal agencies. Private entities or State agencies receiving Federal funds for projects are required to comply with Federal law. State law applies to State agencies, city governments, or private entities implementing CALFED projects on private or State lands. The applicable laws are discussed in Chapter 1 of this document and in Section 7.11.4 of the CALFED PEIS/EIR.

17.2.2 Significance Criteria

Minor, moderate, or major effects on historic properties are potentially significant. Significant effects on important cultural resources require avoidance, mitigation measures, or consideration of alternative plans. The cultural resource effects assessment relies on the type of site, the type of effect, and the extent of the disturbance on historic properties (36 CFR 800.16(l)(1) or unique archeological resources (PRC Section 21083.2[g] and Section 21084.1). Direct effects are those that occur during program operations, such as reservoir surface elevation fluctuations that expose historic properties or increase the potential for their erosion.

Potentially significant adverse effects also can occur indirectly through the alteration of the character of the site setting and the introduction of visual, audible, or atmospheric elements that change the character of a site or its setting, which may affect the eligibility of the site for inclusion in the NRHP.

Significant impacts would be determined when operations:

- Expose previously submerged resources, increasing their vulnerability to vandalism and other factors; and
- Expose resources to increased cycles of inundation (erosion) and drawdown.

Studies of reservoir effects on cultural sites have shown that the greatest potential effects are from wave action, which erodes deposits and moves artifacts, and from cycles of inundation and drawdown, which also cause erosion and movement, in addition to repeated wetting and drying of the deposit (Foster, Bingham, Cart, Cooley-Reynolds, and Kelly 1977; Foster and Bingham 1978). The same authors suggest that sites that lie submerged permanently (e.g., within the deep pool of a reservoir), suffer much less damage than those within the drawdown zone. Sites at the present waterline (and that have not been subject to inundation before) would incur an adverse effect should water levels fluctuate.

17.2.3 Environmental Measures Incorporated into the Project Description

The following environmental measures are incorporated into the project description to reduce the EWA's potential effects on historic properties and unique archeological resources. Consistent with the NHPA, Reclamation will consult with SHPO and/or

THPO in identifying cultural resources in the area of potential effect and in identifying appropriate mitigation measures.

Acquisition of stored reservoir water from French Meadows, Hell Hole, New Bullards Bar, Little Grass Valley, and Sly Creek reservoirs that results in drawdown beyond baseline (historic) surface elevations exposing areas that have been unsurveyed for cultural resources would require further inventory and evaluation. Before completion of water acquisition contracts, consideration of cultural resources within the new drawdown zone would proceed as follows:

- Reclamation would forecast end of season reservoir levels to determine whether levels would exceed the normal historic operating range.
- If forecasts exceed historic operational water surface elevations, then Reclamation would request the transferring irrigation district or water agency to inventory and evaluate cultural resources within the added drawdown zone at end of season low points.
- Should the willing seller not agree to an inventory and evaluation of cultural resources, the transaction would proceed no further.

Historic lower bounds of surface elevations in each reservoir proposed for purchase of stored reservoir water are contained in Table 17-1. Provisions for exceeding these levels are contained within the Programmatic Agreement (36 CFR 800.14(b)) developed between Reclamation, SHPO, and other appropriate agencies.

Table 17-1
Historic Lower Bounds of Reservoir Surface Elevations

Reservoir	Historic end of month surface elevation feet mean sea level	Date Recorded
Little Grass Valley	3,462 feet	January 1985[(1)]
Sly Creek	3,355 feet	October 1976[(2)]
New Bullards Bar	1,711 feet	December 1980[(1)]
Hell Hole	4,416 feet	September 2001[(1)]
French Meadows	5,158 feet	October 1991[(1)]

Elevations do not reflect reservoir filling or levels associated with emptying for reservoir repair.
[(1)] CDEC 2002
[(2)] Petersen 2002

17.2.4 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

The analysis of cultural resources during the Stage 1 phase of CALFED plan implementation shows that the current practices would remain constant over the assessment period. In the No Action/No Project Alternative, surface water facilities

would continue to operate in the same manner as current operations, which would continue to inundate and expose cultural resources located within regularly exposed drawdown zones. The U.S. Forest Service would continue to manage and protect cultural resources associated with reservoirs on Forest Service property. Extreme seasonal changes in riverflows (e.g., floods flow that preclude access; droughts that diminish stream bank vegetation) could interfere with Native American cultural practices on Forest Service property in the same frequency as today. Other than in these extreme conditions, the No Action/No Project Alternative would have no effect on cultural resources or Native American traditional practices.

Water and irrigation districts would continue to operate their systems as in the Affected Environment, where they frequently move water between facilities. Cultural resources would be subject to current effects, and the No Action/No Project Alternative would reflect the system it is presently operating.

The National Environmental Policy Act (NEPA) basis of comparison is the Future Conditions Without the Project. As described in the above paragraphs, the Affected Environment and the Future Conditions Without the Project are the same; therefore, they are collectively referred to as the Baseline Condition in the following sections.

17.2.5 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers up to 600,000 acre-feet and does not specify transfer limits in the Upstream from the Delta Region or the Export Service Area. Transfers in the Upstream from the Delta Region would range from 50,000 to 600,000 acre-feet. Hydrologic conditions and conveyance capacity through the Delta limit actual acquisitions. This section discusses the maximum transfer of stored reservoir water. Similarly, the evaluation includes an analysis of up to 540,000 acre-feet in the Export Service Area to cover the maximum transfer scenario for that region.

Negotiations for stored reservoir water with Placer County WA, Yuba County Water Agency (WA), and Oroville-Wyandotte Irrigation District (ID) are based on a number of factors, including price, water availability, and location. Based on need and hydrologic conditions, these factors change from year to year; therefore, EWA Project Agencies may choose to vary acquisition strategy annually. With the intent of providing the EWA Project Agencies the greatest flexibility when negotiating transfers with willing sellers, the following text describes the extent of impact potentially produced by maximum acquisition of stored reservoir water.

17.2.5.1 Upstream from the Delta

Upstream asset acquisitions that could affect cultural resources are limited to purchase of stored reservoir water from reservoirs along the Feather, Yuba, and American Rivers.

17.2.5.1.1 Feather River

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would decrease surface water elevations October until refill for Sly Creek and Little Grass Valley Reservoirs. An initial 15,000 acre-foot transfer would likely draw between 10,000-12,000 acre-feet from Little Grass Valley Reservoir and between 3,000-5,000 acre-feet from Sly Creek Reservoir (Petersen 2002).

Little Grass Valley Reservoir

A 12,000 acre-foot withdrawal from Little Grass Valley Reservoir would result in a maximum decrease of 12 feet in surface elevation relative to baseline levels (represented by median monthly elevations over 40 years). Median surface elevations are the level at which 50% of the surface elevations are above and 50% are below that level. If hydrologic conditions result in elevations that fall below the median, the historically low surface elevation defines the lower bound limit of reservoir operations.

Oroville-Wyandotte ID maintains an average 48,000 acre-foot carryover storage in Little Grass Valley resulting in a baseline surface elevation of 5013 ft. Historic end of month surface elevations of Little Grass Valley range from 3,462 feet (January 1985) to 5,051 feet (May 1995) (California Data Exchange Center 2002). The decreased surface elevations could increase exposure of the 11 sites along the banks of Little Grass Valley Reservoir, yet would not bring attention to their locations nor subject them to additional wave action or erosion beyond naturally occurring reservoir fluctuations. Transfers that draw down surface elevations beyond historically low levels would result in a potentially significant effect. In such cases, Reclamation would require an inventory and evaluation of unsurveyed areas. Furthermore, Reclamation would consult with SHPO to identify appropriate mitigation measures that are found in Section 17.2.8, in accordance with the PA. Project proponents would coordinate cultural resource mitigation measures (Section 17.2.8) with Reclamation to reduce effects to less-than-significant levels.

Sly Creek Reservoir

A 5,000 acre-foot reduction of Sly Creek Reservoir would result in a maximum decrease of 17 feet of surface elevation relative to the Baseline Condition. Oroville-Wyandotte ID maintains an average 12,000 acre-foot carryover storage in Sly Creek results in a baseline surface elevation of 3,450 ft. Historic end of month surface elevations in Sly Creek range from 3,355 ft (October 1976) (Petersen 2002) to 3,539 feet (June 1978) (California Data Exchange Center 2002). The decreased surface levels could increase exposure of three sites in Sly Creek Reservoir, yet would not bring attention to their locations nor subject them to additional wave action or erosion beyond naturally occurring reservoir fluctuations. Transfers that draw down surface elevations beyond historically low levels would result in a potentially significant effect. In such cases, Reclamation would require inventory and evaluation of

unsurveyed areas. Furthermore, Reclamation would consult with SHPO to identify appropriate mitigation measures that are found in Section 17.2.8, in accordance with the PA. Project proponents and Reclamation would coordinate cultural resource mitigation measures to reduce effects to less-than-significant levels.

Surface elevations in these reservoirs are expected to refill in April, May, and June to within baseline parameters. The surface elevation fluctuations are potentially significant. Implementation of the mitigation measures described in Section 17.2.8 would reduce these effects to less-than-significant.

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would increase Feather River flows upstream from Lake Oroville from October through December, prior to transfer downstream, and would increase Feather River flows downstream from Lake Oroville from July to September. Flow releases would remain within historic channels and would not change the availability of or accessibility to resources pertinent to Native American cultural practices on U.S. Forest Service lands surrounding the Oroville-Wyandotte ID reservoirs and downstream reaches of the rivers. There are no significant effects associated with changes in flow patterns on the Feather River.

Multi-year transfers of stored reservoir water are contingent on refill during winter months. If Little Grass Valley and Sly Creek reservoirs do not refill, then EWA agencies would not purchase water from Oroville-Wyandotte ID the following year. The same mitigation measures would apply to multi-year transfers to maintain effects to a less-than-significant level.

17.2.5.1.2 Yuba River

EWA acquisition of Yuba County Water Agency (WA) stored reservoir water would decrease surface water elevations from July until refill for New Bullards Bar Reservoir. Yuba County WA would agree to water transfers only after local needs, instream flow requirements, and system demands are met. Given proper hydrologic conditions, however, the EWA could acquire up to 100,000 acre-feet of water from reservoir storage in New Bullards Bar Reservoir dropping the surface elevation 24 feet below baseline (represented by median monthly elevations over a 40 year study period). Median values are the level at which 50% of the surface elevations are above and 50% are below that value. If hydrologic conditions result in elevations that fall below the median, the historically low surface elevation defines the lower bound limit of reservoir operations.

The reservoir's monthly surface elevations range from 1,711 ft (December 1980) to 1966 ft (June 1982) (California Data Exchange Center 2002. The operational target storage for the end of September is 1,873 ft (705,000 acre-feet), when hydrologic conditions allow. Stored reservoir water transfers could expose the ten inundated sites, yet would not bring attention to their previously submerged locations or subject them to additional wave action or erosion beyond naturally occurring reservoir fluctuations. Transfers that draw down surface elevations beyond historically low levels would result in a potentially significant effect. In such cases, Reclamation would require inventory and evaluation of unsurveyed areas. Furthermore,

Reclamation would consult with SHPO to identify appropriate mitigation measures that are found in Section 17.2.8, in accordance with the PA. Reclamation and project proponents would coordinate cultural resource mitigation measures (Section 17.2.8) to reduce effects to less-than-significant levels.

Multi-year transfers of stored reservoir water with Yuba County WA are dependent upon refill during winter months. The amount of water available for transfer the second year would be dependent upon the amount the reservoir refills (Onken 2003). Before initiating multi-year transfers, Yuba County WA would evaluate and analyze potential effects on cultural resources and apply the same mitigation measures that pertain to single year transfers to maintain effects at a less-than-significant level.

EWA acquisition of Yuba County WA stored reservoir water would increase flows on the Yuba River downstream from Englebright Dam from July to September. Release flows would remain within historic channels and flow ranges and would not affect availability of or accessibility to Native American cultural resources on U.S. Forest Service lands surrounding the New Bullards Bar Reservoir and the Yuba River downstream. There are no significant effects associated with changes in flow patterns on the Yuba River.

17.2.5.1.3 American River

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations June to refill at Hell Hole and/or French Meadows reservoirs. The EWA agencies propose a 20,000 acre-foot acquisition of stored reservoir water in Hell Hole and French Meadows Reservoirs. Although the amount released from each reservoir would remain entirely at Placer County WA's discretion, this analysis assumes that 61 percent would be released from Hell Hole and the remainder from French Meadows. The acquisition would result in a 7,800 acre-foot reduction from French Meadows and a 12,200 acre-foot reduction from Hell Hole.

Hell Hole Reservoir

Surface elevations of Hell Hole range from 4,416 ft (September 2001) to 5,654 ft (May 1996) (California Data Exchange Center 2002). Hell Hole has an average 91,500 acre-foot carryover storage. A 12,200 acre-foot acquisition could result in a 14-foot reduction from median monthly surface elevations.

French Meadows

Surface elevations of French Meadows range from 5,158 ft (October 1991) to 5,261 (June 1982) (California Data Exchange Center 2002). French Meadows maintains an average 58,500 acre-foot carryover storage. A 7,800 acre-foot purchase of stored reservoir water from French Meadows would result in an 8-foot reduction in surface elevation.

Though both reservoirs are largely unsurveyed, decreased surface elevations could expose cultural resources, including the "campsite" at the top of French Meadows reservoir, yet would not bring attention to their locations nor subject them to additional wave action or erosion beyond naturally occurring reservoir fluctuations. Effects are less-than-significant. Transfers that draw down surface elevations beyond historically low levels would result in a potentially significant effect. In such cases, Reclamation would require inventory and evaluation of unsurveyed areas. Furthermore, Reclamation would consult with SHPO to identify appropriate mitigation measures that are found in Section 17.2.8, per the PA. Reclamation and project proponents would coordinate cultural resource mitigation measures found in Section 17.2.8 to reduce effects to less-than-significant levels.

Multi -year transfers of stored reservoir water from Placer County WA will proceed for as long as both Hell Hole and French Meadows Reservoirs do not drop below a combined 50,000 acre-feet of storage. Before initiating multi-year transfers, Placer County WA would evaluate and analyze potential effects on cultural resources and apply the same mitigation measures that pertain to single year transfers to maintain effects at a less-than-significant level.

EWA agencies acquisition of Placer County WA stored reservoir water would increase American River flows downstream from Ralston Afterbay to Folsom Lake from June to October. American River flows would decrease downstream from French Meadows to Folsom Lake during refill of Hell Hole and French Meadows reservoirs. Release flows would remain within historic channels and flow ranges. American River flows during reservoir refill are protected by instream flow requirements and power production requirements. There are no significant effects associated with changes in flow patterns on the American River.

17.2.5.2 Export Service Area

Source shifting and pre-delivery are the only operational tools that could involve cultural resources in the Export Service Area.

17.2.5.2.1 Export Service Area Reservoirs

Anderson Reservoir

A Santa Clara Valley Water District 20,000 AF source shift would change the pattern of surface water elevation changes at Anderson Reservoir. Source shifting would delay deliveries of SWP water to Santa Clara Valley Water District, which would alternatively cause Santa Clara Valley Water District (SCVWD) to deliver water from the Anderson Reservoir. Surface elevations would decline earlier than the Baseline Condition and more frequently approach the lower levels of normal operational parameters. Fluctuations in reservoir elevations range between 558 ft (20 TAF) and 625 ft (89 TAF), which correspond respectively with the minimum emergency reserve and reservoir capacity. Because the water levels would be within historic levels, source shifting would not expose any additional cultural resources. Cultural resources

would remain intact relative to the Baseline Condition; therefore, there would be no effects posed by EWA source shifting.

Castaic Lake

A Metropolitan Water District (WD) source shift would change the pattern of surface water elevation changes at Castaic Lake. Source shifting would delay deliveries of SWP water to Metropolitan WD, which could cause Metropolitan WD to use water from Castaic Lake. Although Metropolitan WD could exercise flexible storage rights in Castaic Lake to serve as an alternate water supply, Metropolitan WD has many other alternate supply sources, e.g., Lake Mathews, Hayfield Groundwater Storage, or it may reduce deliveries to Arvin-Edison Water Storage District (WSD) or Semitropic WSD. Alternatively, Metropolitan WD could change water blending strategies.

Use of Castaic Lake as an alternate supply source could cause surface water levels to decline earlier in the year than they would in the Baseline Condition and more frequently approach the lower levels of normal operational parameters. The changes in the pattern of surface elevations would remain within historic levels. Fluctuations of the reservoir range between their lowest in August 1984 (1,398 ft) and their highest in February 1986 (1,515 ft) (California Data Exchange Center 2002). Because the water levels would be within historic levels, source shifting would not expose any additional cultural resources. Cultural resources would remain intact relative to the Baseline Condition; therefore, there would be no effects posed by EWA source shifting.

Lake Perris

A Metropolitan WD source shift would change the pattern of surface water elevation changes at Lake Perris. Source shifting would delay deliveries of SWP water to Metropolitan WD, which could cause Metropolitan WD to use water from Lake Perris. Although Metropolitan WD could exercise flexible storage rights in Lake Perris that could serve as an alternate water supply, Metropolitan WD has multiple alternate supply sources (see above). Use of Lake Perris as an alternate supply source could cause surface water levels to decline earlier in the year than they would in the Baseline Condition, and surface elevations would more frequently approach the lower levels of normal operational parameters. The changes in the reservoir levels would remain within historic levels. Surface elevations in Lake Perris historically range from 1,564 ft msl (October 1977) to 1,588 ft msl (July 1999) (California Data Exchange Center 2002). Because the water levels would be within historic levels, source shifting would not expose any additional cultural resources. Cultural resources would remain intact relative to the Baseline Condition; therefore, there would be no effects posed by EWA source shifting.

Diamond Valley Lake

Source shifting from Metropolitan WD would decrease surface water elevations at Diamond Valley Lake. Source shifting would delay deliveries of SWP water to Metropolitan WD. Diamond Valley Lake is one of many alternate water supply sources available to Metropolitan WD. If Metropolitan WD elects to use this reservoir, surface elevations would decrease earlier in the year than they would in the Baseline Condition, and surface elevations would more frequently approach the lower levels of projected normal operational parameters. Because this 800,000 acre-foot reservoir recently filled in December 2002 and was fully operational by January 2003, normal operational parameters have yet to be established. Average surface elevations in Diamond Valley Lake are projected to fluctuate approximately 42 feet, with an additional 30 feet in dry years. During the second year of a drought, reservoir surface elevations would be approximately 100 feet below maximum elevation. While filling, the cultural resources within the reservoir footprint experienced periods of exposure, inundation, drawdown, and erosion that were identified and mitigated in the environmental document pertaining to this reservoir. EWA source shifting effects are less-than-significant.

17.2.6 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet in the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area. Cultural effects that would be less-than-significant for the Flexible Purchase Alternative would also be less-than-significant for the Fixed Purchase Alternative. These effects include:

- Increased surface elevations on non-Project reservoirs on the Feather, Yuba, and American Rivers.
- Increased flows on the Feather, Yuba, and American Rivers during release of stored reservoir water;
- Decreased flows on the Feather, Yuba, Rubicon, and Middle Fork of the American Rivers during refill of reservoirs;
- Decreasing reservoir elevations in Export Service Area reservoirs earlier in the season when compared to the Baseline Condition.

If transfers result in exceeding historically low elevations, then Reclamation would consult with SHPO and/or THPO and identify appropriate mitigation measures that would reduce effects to a less-than-significant level.

17.2.6.1 Upstream from the Delta Region

17.2.6.1.1 Feather River

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would decrease surface water elevations October until refill for Sly Creek and Little Grass Valley reservoirs. An

initial 15,000 acre-foot transfer would likely draw between 10,000 and 12,000 acre-feet from Little Grass Valley Reservoir and between 3,000 and5,000 acre-feet from Sly Creek Reservoir (Petersen 2002). These amounts are the same as those described for the Flexible Purchase Alternative. Similar to the Flexible Purchase Alternative, the decreased surface levels could expose cultural resources, yet would not bring attention to their previously submerged locations nor submit them to increased weathering beyond historic reservoir fluctuations. Transfers that draw down surface elevations beyond historically low levels would result in a potentially significant effect. In such cases, Reclamation would require inventory and evaluation of unsurveyed areas. Furthermore, Reclamation would consult with SHPO to identify other appropriate mitigation measures. Reclamation and project proponents will discuss protective mitigation measures described in Section 17.2.8, per the PA, to maintain less-than-significant effects on cultural resources.

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would increase Feather River flows upstream from Lake Oroville from October through December, prior to transfer downstream, and would increase Feather River flows downstream from Lake Oroville from July to September. The amount of water that would be transferred under the Flexible Purchase Alternative could be transferred under the Fixed Purchase Alternative. As stated above, there are no significant effects from decreased flows on the Feather River.

Multi-year transfers involving stored reservoir water with Oroville-Wyandotte Irrigation District are contingent on refill during winter months. If Little Grass Valley and Sly Creek reservoirs do not refill, then EWA agencies would not purchase water the following year. The same mitigation measures would apply to multi-year transfers to maintain effects at a less-than-significant level.

17.2.6.1.2 Yuba River

EWA acquisition of Yuba County Water Agency (WA) stored reservoir water would decrease surface water elevations from July until refill for New Bullards Bar Reservoir. EWA agencies could acquire a maximum 35,000 acre-foot transfer from New Bullards Bar Reservoir, dropping the surface elevation 8 feet below baseline. The reservoir's average monthly surface elevations range from 1758 ft (January 1981) and 1966 ft (June 1982) (California Data Exchange Center 2002). Decreased surface elevations could expose inundated sites, yet would not bring attention to their previously submerged site nor subject them to increased weathering beyond historic reservoir fluctuations. Transfers that draw down surface elevations beyond historically low levels would result in a potentially significant effect. In such cases, Reclamation would require inventory and evaluation of unsurveyed areas. Furthermore, Reclamation would consult with SHPO to identify appropriate mitigation measures that are found in Section 17.2.8, in accordance with the PA. Reclamation and project proponents would coordinate the implementation of mitigation measures to reduce effects to a less-than-significant level.

EWA acquisition of Yuba County WA stored reservoir water would increase flows on the Yuba River downstream from Englebright Dam from July to September. The amount of water that would be transferred under the Flexible Purchase Alternative could be transferred under the Fixed Purchase Alternative. As stated above, there are no significant effects from decreased flows on the Yuba River.

Multi-year transfers of stored reservoir water with Yuba County WA are dependent upon refill during winter months. The amount of water available for transfer the second year would be dependent upon the amount the reservoir refills (Onken 2003). Before initiating multi-year transfers, Yuba County WA would evaluate and analyze potential effects on cultural resources and apply the same mitigation measures that pertain to single year transfers to maintain effects at a less-than-significant level.

17.2.6.1.3 American River

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations June to refill at Hell Hole and/or French Meadows Reservoirs. The EWA agencies propose a maximum 20,000 acre-foot acquisition of excess stored reservoir water from Hell Hole and French Meadows Reservoirs. This amount is the same as described for the Flexible Purchase Alternative. Similar to the Flexible Purchase Alternative, decreased surface water elevations could expose cultural resources, yet would not bring attention to their previously submerged site nor subject them to increased weathering beyond historic reservoir fluctuations. Transfers that draw down surface elevations beyond historically low levels would result in a potentially significant effect. In such cases, Reclamation would require inventory and evaluation of unsurveyed areas. Furthermore, Reclamation would consult with SHPO to identify appropriate mitigation measures that are found in Section 17.2.8, in accordance with the PA. Project proponents and Reclamation would coordinate implementation and coordination of mitigation measures that would reduce effects to less-than-significant.

EWA agencies acquisition of Placer County WA stored reservoir water would increase American River flows downstream from Ralston Afterbay to Folsom Lake from June to October. American River flows would decrease downstream from French Meadows to Folsom Lake during refill of Hell Hole and French Meadows reservoirs. The amount of water that would be transferred under the Flexible Purchase Alternative could be transferred under the Fixed Purchase Alternative. As stated above, there are no significant effects from decreased flows on the American River.

Multi-year transfers of stored reservoir water from Placer County WA will proceed for as long as both Hell Hole and French Meadows reservoirs do not drop below a combined 50,000 acre-feet of storage. Before initiating multi-year transfers, Placer County WA would evaluate and analyze potential effects on cultural resources and apply the same mitigation measures that pertain to single year transfers to maintain effects at a less-than-significant level.

17.2.6.2 Export Service Area

A Metropolitan Water District (WD) source shift would change the pattern of surface water elevation changes at Castaic Lake, Diamond Valley Lake, and Lake Perris. The amount of

water that would be transferred under the Flexible Purchase Alternative could be transferred under the Fixed Purchase Alternative. Metropolitan WD could elect to use all the reservoirs for source shifting. Surface elevations in all reservoirs would decrease earlier in the season than in the Baseline Condition and more frequently approach the lower levels of normal operational parameters; however, elevations would remain within historic parameters. Cultural resources would remain intact relative to the Baseline Condition; therefore, there would be no effects posed by EWA source shifting.

17.2.6.2.1 Anderson Reservoir

A maximum 20,000 acre-foot Santa Clara Valley Water District source shift would change the pattern of surface water elevation changes at Anderson Reservoir. Source shifting would delay deliveries of SWP water to Santa Clara Valley Water District, which would alternatively cause SCVWD to deliver water from the Anderson Reservoir. Surface elevations would decline earlier than the Baseline Condition and more frequently approach the lower levels of operational parameters; however, surface elevations would remain within historic limits. Fluctuations in reservoir elevations range between 558 ft (20 TAF) and 626 ft (89 TAF), which correspond respectively to the minimum emergency reserve and reservoir capacity. Because the water levels would be within historic levels, source shifting would not expose any additional cultural resources. Cultural resources would remain intact relative to the Baseline Condition; therefore, there would be no effects posed by EWA source shifting.

17.2.7 Comparative Analysis of Alternatives

This section provides comparative effects analysis that would result from maximum stored reservoir water acquisitions. This addresses all possible effects, or a "worst-case scenario", that would occur should all acquisitions happened in the same year. The approach provides the EWA Project Agencies the flexibility to choose transfers that may be preferable in a given year. EWA agencies, however, would not actually purchase all of this water in the same year. This section provides information about how EWA agencies would more likely operate in different year types.

During No Project conditions, cultural resources within the program reservoirs experience exposure, inundation, and erosion that correspond to surface elevation fluctuations. During dry periods and extreme drought, cultural resources may become exposed, but locations remain unknown and protected. Wet hydrologic conditions inundate cultural resources and protect them from exposure. Surface elevation variations between the two hydrologic extremes result in wave action that could cause natural erosion in the Baseline Condition. Surface elevation changes associated with hydrologic cycles are unpredictable and difficult to differentiate between the effects caused by natural fluctuations and reservoir operations that occur in the Baseline Condition.

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum 35,000 acre-foot acquisition from all sources of water. This

amount could typically be obtained from stored reservoir water purchases in most year types. During wet years New Bullards Bar could facilitate the entire 35,000 acre-foot acquisition of stored reservoir water, yet distributing the purchase between the other candidate reservoirs would reduce potential exposure of cultural resources in all reservoirs. In very dry years, stored reservoir water may not be available, and the EWA agencies would need to look to other sources such as crop idling.

The Flexible Purchase Alternative could involve a maximum 600,000 acre-foot purchase from all sources in the Upstream from the Delta Region. EWA agencies would prefer to purchase reservoir water because the water is generally less expensive. The amount that could be purchased would be limited by the available capacity of the Delta export pumps to move the water to export areas south of the Delta. During wet years, excess pump capacity may be limited to as little as 60,000 acre-feet of EWA asset water because the pumps primarily would be used to export State and Federal Project water to Export Service Area users. Wet year acquisitions would need to rely more on crop idling in the Export Service Area, which would decrease the risk of affecting cultural resources in the non-Project reservoirs.

During dry years when there would be greater Delta pump capacity, the EWA Project Agencies could acquire up to 600,000 acre-feet of water from all sources in the Upstream from the Delta Region. Extending the drawdown zone beyond the historic Baseline Condition during dry years is dependent upon the availability of the less expensive water; however, it is likely that EWA Project Agencies would depend more upon stored reservoir water during dry years. Mitigation measures that would reduce potential effects to a less- than-significant level are discussed in Section 17.2.8 and would be implemented if transfers would exceed historic lower bound reservoir levels. Table 17-2 compares the Flexible and Fixed Purchase Alternatives to the Baseline Condition.

Table 17-2
Comparison of Impacts on Cultural Resources for Flexible and Fixed Purchase Alternatives

Region	*Sub-region*	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Alternative Change*	*Fixed Alternative Change*	*Significance of Flexible Alternative*	*Significance of Fixed Alternative*
Upstream from the Delta	Feather River	Stored Reservoir Water	Water released from Sly Creek and Little Grass Valley Reservoirs	Sly Creek and Grass Valley Reservoir levels decrease December until refill	Surface elevations in Sly Creek reduced by 17 feet and in Grass Valley surface by 12 feet	Surface elevations in Sly Creek reduced by 17 feet and in Grass Valley surface by 12 feet	Reservoir drawdown below historic elevations would be potentially significant. Appropriate mitigation measures produced through consultation would reduce effects to a less - than- significant level.	Reservoir drawdown below historic elevations would be potentially significant. Appropriate mitigation measures produced through consultation would reduce effects to a less - than- significant level.

Table 17-2
Comparison of Impacts on Cultural Resources for Flexible and Fixed Purchase Alternatives

Region	Sub-region	Asset Acquisition or Management	Result	Impacts	Flexible Alternative Change	Fixed Alternative Change	Significance of Flexible Alternative	Significance of Fixed Alternative
				Seasonal flow changes increase upstream from Oroville October through December	Flows increase upstream from Oroville October through December, yet remain within historic channels	Flows increase upstream from Oroville October through December, yet remain within historic channels	No significant effect	No significant effect
				Seasonal flow changes increase downstream from Oroville July to September	Flows increase downstream from Oroville October through December, yet remain within historic channels	Flows increase downstream of Oroville October through December, yet remain within historic channels		
			Sly Creek and Little Grass Valley reservoirs refill	Seasonal flow changes decrease upstream and downstream of Oroville during refill of Sly Creek and Little Grass Valley	Feather River flows decrease during refill, and are protected by instream flow and power production requirements	Feather River flows decrease during refill, and are protected by instream flow and power production requirements		
	Yuba River	Stored Reservoir Water	Water is released from New Bullards Bar	New Bullards Bar Reservoir levels decrease	Surface elevations in New Bullards Bar decrease up to 24 ft	Surface elevations in New Bullards Bar decrease up to 8 ft	Reservoir drawdown below historic elevations would be potentially significant. Appropriate mitigation measures produced through consultation would reduce effects to a less - than- significant level.	Reservoir drawdown below historic elevations would be potentially significant. Appropriate mitigation measures produced through consultation would reduce effects to a less - than- significant level.
			Water is released from New Bullards Bar	Yuba River flows increase	Yuba River flows increase during release, yet remain within historic river channels	Yuba River flows increase during release, yet remain within historic river channels	No significant effect	No significant effect
			New Bullards Bar refills	Yuba River flows decrease	Yuba River flows decrease during refill, but flows are protected by instream flow and power production requirements	Yuba River flows decrease during refill, but flows are protected by instream flow and power production requirements	No significant effect	No significant effect

Table 17-2
Comparison of Impacts on Cultural Resources for Flexible and Fixed Purchase Alternatives

Region	*Sub-region*	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Alternative Change*	*Fixed Alternative Change*	*Significance of Flexible Alternative*	*Significance of Fixed Alternative*
	American River	Stored Reservoir Water	Water is released from French Meadows and Hell Hole Reservoirs	French Meadows and Hell Hole Reservoir surface elevations decrease June until refill	Surface elevations decrease in French Meadows by 8 ft and in Hell Hole by 14 ft	Surface elevations decrease in French Meadows by 8 ft and in Hell Hole by 14 ft	Reservoir drawdown below historic elevations would be potentially significant. Appropriate mitigation measures produced through consultation would reduce effects to a less - than- significant level.	Reservoir drawdown below historic elevations would be potentially significant. Appropriate mitigation measures produced through consultation would reduce effects to a less - than- significant level.
			Water is released from French Meadows and Hell Hole Reservoirs	American River flows increase	Flows on American River increase June until October, yet flows remain within historic channels	Flows on American River increase June until October, yet flows remain within historic channels	No significant effect	No significant effect
			French Meadows and Hell Hole Reservoirs refill	Flows on the American River between French Meadows/Hell Hole Reservoirs and Folsom Lake are decreased during refill	Rubicon River flows decrease during refill of Hell Hole and flows on Middle Fork of American decrease during refill of French Meadows. Flows are protected by instream flow and power production requirements.	Rubicon River flows decrease during refill of Hell Hole and flows on Middle Fork of American River decrease during refill of French Meadows. Flows are protected by instream flow and power production requirements .	No significant effect	No significant effect
Export Service Area	Source Shifting	Source shifting in MWD reservoirs	Water is drawn from MWD reservoirs and from storage in SWP's Castaic Lake and Lake Perris	Transfers could change the pattern of surface water elevations	Maximum 200 TAF transfer could decrease surface elevations earlier in the year and more frequently approach the lower levels of normal operations	Maximum 200 TAF transfer could decrease surface elevations earlier in the year and more frequently approach the lower levels of normal operations	Less- than - significant effect	Less- than - significant effect
	Source Shifting	Source shifting in SCVWD reservoirs	Water is drawn from storage in Anderson Reservoir	Transfers could change the pattern of surface water elevations	Maximum 20,000 acre-foot transfer could decrease surface elevations earlier in the year and more frequently approach the lower levels of normal operations	Maximum 20,000 acre-foot transfer could decrease surface elevations earlier in the year and more frequently approach the lower levels of normal operations	Less- than - significant effect	Less- than - significant effect

17.2.8 Mitigation Measures

Stored reservoir water transfers from French Meadows, Hell Hole, New Bullards Bar, Little Grass Valley, and Sly Creek reservoirs could result in drawdown beyond historic operating levels and expose previously unsurveyed cultural resources. Stored reservoir water transfers that exceed the lower bounds of historic levels will require inventory and evaluation of unsurveyed areas. Consultation with SHPO would result in identifying appropriate mitigation measures that would reduce effects on cultural resources to a less-than-significant level.

Reclamation will forecast end of season reservoir levels to determine whether transfers would exceed normal historic operational levels and, where appropriate, transferring agencies would conduct inventory and evaluations of cultural resources in areas of potential effects. Appropriate mitigation measures would be identified in consultation with SHPO through the following process.

- If irrigation and water agencies proceed with cultural resource inventory and evaluation and find potential historic properties, a determination of effect document would be prepared.

- The results of the inventory, evaluation, and determination of effect would require Reclamation to consult through the PA with the SHPO, the U.S. Forest Service, other appropriate Federal and non-Federal agencies, and landowners (36 CFR 805.6) on the potential for adverse effects and to determine appropriate mitigation measures to historic properties. Mitigation measures included in the PA will comply with Section 106 of the National Historic Preservation Act.

- Historic property mitigation could involve research of historical records, previous cultural resources reports and data, and the detailed recording and/or excavation for data recovery. Additional measures may include protection or avoidance.

Impacts to resources covered under U.S. Forest Service's California Native American policy will require the EWA agencies to notify potentially affected Native Americans and to issue follow-up letters identifying potential impacts and appropriate mitigation measures.

17.2.9 Potentially Significant and Unavoidable Impacts

There are no expected significant and unavoidable effects on cultural resources. Mitigation measures (Section 17.2.8) would reduce potential effects to a less-than-significant level.

17.2.10 Cumulative Effects

Cumulative effects analysis for cultural resources focuses on those programs that potentially acquire water through stored reservoir water purchase and crop idling.

Other water acquisition programs include the Sacramento Valley Water Management Agreement, Dry Year Purchase Program, Drought Risk Reduction Investment Program (DRRIP), Central Valley Project Improvement Act Water Acquisition Program (WAP), and the Environmental Water Program. Although all programs include the option to purchase stored reservoir water during dry years, only the WAP and the Environmental Water Program would acquire reservoir water during wet years from upstream from the Delta reservoirs. The Environmental Water Program and the EWA would, however, purchase water from different facilities. Other future acquisition programs may also develop that adopt transactions involving stored reservoir water. All transfers that lower reservoirs could incrementally increase the drawdown zone to beyond the historic Baseline Condition. Cumulatively, this is a potentially significant effect. EWA agencies would mitigate EWA-produced effects to less-than-significant levels.

Mitigation would require cultural resource inventory and evaluation of property within the added drawdown zone and development of appropriate cultural resource protection. Cultural resource inventory and evaluation serve to adequately recover the scientifically consequential information from and about cultural resources, especially in terms of archeological resources. The intent of identifying potential archeological resources and historic properties is to identify appropriate mitigation measures that would avoid potential damage or destruction and reduce possible impacts to a less-than-significant level.

A cumulative effect would only be considered significant if the combined actions of all programs exceeded historic operational levels. In such conditions, the EWA would not contribute to a cumulative effect, as EWA agencies would not purchase water from an agency if the purchase would cause a cumulatively significant impact on cultural resources.

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Chapter 18
Visual Resources

Both natural and artificial landscape features contribute to perceived visual images and the aesthetic value of a view. The value is determined by contrasts, forms and textures exhibited by geology, hydrology, vegetation, wildlife, and man-made features. Individuals respond differently to changes in the physical environment, depending on prior experiences and expectations and proximity and duration of views. Therefore, visual effects analyses tend to be highly subjective in nature. The following sections describe the existing visual resource conditions of the areas that could be affected by water acquisitions and an analysis of potential effects.

18.1 Affected Environment/Existing Conditions

18.1.1 Area of Analysis

Effects are assessed in the Upstream from the Delta Region, Delta Region, and in the Export Service Area. This discussion focuses on the areas where EWA actions would take place (Figure 18-1):

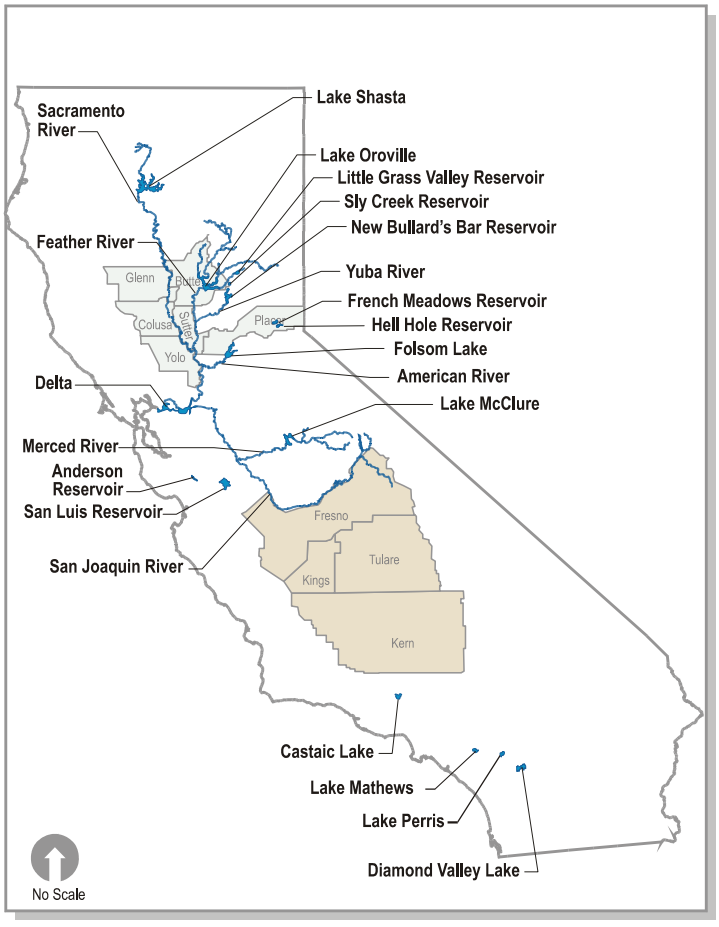


Figure 18-1
Visual Resources Area of Analysis

- Upstream from the Delta Region: Lake Shasta; Little Grass Valley and Sly Creek Reservoirs; Lake Oroville; New Bullards Bar Reservoir; French Meadows and Hell Hole Reservoirs; Folsom Lake; Lake McClure; Sacramento, Feather, Yuba, American, and Merced Rivers; crop idling areas in Glenn, Colusa, Yolo, Sutter, Butte, and Placer Counties.
- Delta Region
- Export Service Area: Anderson Reservoir; San Luis Reservoir and O'Neill Forebay; Lake Perris; Castaic Lake; Diamond Valley Lake; and Lake Mathews.

18.1.2 Upstream from the Delta Region

The Upstream from the Delta Region is bordered on the east by the Sierra Nevada, on the northwest by the Coast Ranges, and on the south by the northern extent of the San Joaquin River watershed. Agriculture in the Central Valley, forests in the upper watersheds, and grasslands and woodlands in the foothills characterize the region visually. Other low-elevation characteristics include occasional wetlands, vernal pools, and riparian areas. Much of the upper watershed on the east side of the Central Valley is forested, which limits views for motorists traveling through the area. Scenic stream corridors in the foothills include the Feather, Bear, Yuba, American, and Merced Rivers, and their smaller tributaries.

Historical changes from grasslands, floodplains, and extensive riparian areas to cropland, rice fields, and orchards have altered the visual variety in the Central Valley portion of the Upstream from the Delta Region. The valley floor is primarily irrigated agriculture that is Variety Class C – the least visually distinctive category (see Section 18.2.1 Assessment Methods for a description of the Variety Classes). Important (Variety Class A or B) visual resources on the valley floor include the Sacramento National Wildlife Refuge Complex, which contains the Sacramento National Wildlife Refuge (NWR), Colusa NWR, Delevan NWR, Sacramento River NWR, Sutter NWR, and Butte Sink NWR.

Reservoirs in the region increase the level of scenic attractiveness at their maximum operating levels. Reservoirs are generally Class A or B visual resources when their water surface elevations are near to or at their maximum. As drawdown occurs during the summer and fall, an increasing area of shoreline devoid of vegetation, commonly referred to as a "bathtub ring", appears in the area between the normal high water mark and the actual lake level. The exposed rock and soil of the drawdown zone contrasts with the vegetated areas above the high water level and with the lake's surface. As a consequence of reservoir operations, the level of scenic attractiveness tends to decline in July and August with increasing drawdown.

Seasonal variations in flow levels of the rivers within this region provide for a wide range of aesthetic opportunities. Most of the rivers in this region have low flow regulations in place. Flow requirements for the various rivers and streams may be found in State Water Resources Control Board water right permits or licenses, Federal Energy Regulatory Commission (FERC) hydropower licenses, and interagency agreements (White 2003). Because there are minimum flow requirements and the flows are managed, riparian vegetation along the rivers reflects the results of current management practices. These practices include levees for flood control, managed floodplains and overflow bypasses, and controlled releases from reservoirs and result in a narrow riparian corridor. None-the-less, riparian vegetation remains an important visual aspect to all streams and river corridors. Water, shade, and dense cover distinguish the riparian areas from the surrounding land. In addition, riparian areas are popular wildlife habitat as they offer food, water, and protection from both the sun and from large-scale human disturbance.

Highways with high viewer sensitivity in the area of analysis include: Interstate 5, Highway 99, and State Routes 70 and 20. Agricultural areas along these highways and other roads in the Central Valley are generally Class C. The following sections describe the visual character of water bodies in the Upstream from the Delta Region.

The only upland elevations in the northern Central Valley upstream from the Delta are 32,000 acres in the Sutter Buttes. Rising from the valley floor, the Sutter Buttes, generally a Class A visual resource, provide visual drama from a wide viewing area.

18.1.2.1 Sacramento River

The Sacramento River originates above Lake Shasta in the north and flows through the Sacramento Valley to the Delta. Agriculture, a Class C visual resource, dominates the land use near the River along the valley floor, while the upper watershed has retained its oak woodland, grasslands, forests, and rural character. Rice is one of the prominent crops grown in the Sacramento Valley and is visibly noticeable along the Interstate 5 corridor. The Sacramento Valley also has many acres of other field crops and orchards.

18.1.2.1.1 Lake Shasta

Lands adjacent to Lake Shasta consist primarily of steep slopes, upland vegetation, and coniferous forests (Class A and B visual resources). Shoreline areas are largely undeveloped and experience summer drawdown zones. The shorelines of Lake Shasta vary from steep and rocky banks to coves of wooded flats. During the summer months, Lake Shasta levels are drawn down creating a ring of bare soils along the lake's high water mark. The ring represents a negative visual feature that affects the overall visual quality of the area.

18.1.2.2 Feather River

The upper, middle, and lower forks of the Feather River originate in Plumas and Lassen Counties. The forks flow south/southwest and join in Lake Oroville, then continue south to the Feather River's confluence with the Sacramento River. Agricultural lands (Class C) are predominant near the Feather River in its lower reaches, while upper reaches of the three forks have visual resources typical of the Sierra foothills (Class A and B visual resources).

The lower Feather River terrain is generally flat. Riparian vegetation lines the river, with grassland and croplands in the adjacent agricultural areas. Along the southern portion of the Feather River, near Marysville, large areas of rice fields, as well as other field crops are located.

18.1.2.2.1 Little Grass Valley and Sly Creek Reservoirs

Little Grass Valley Reservoir, at an elevation of 5,046 feet in the Plumas National Forest, comprises 16 miles of shoreline. The shoreline offers a variety of wildlife viewing opportunities for birds and mammals. Sly Creek Reservoir is located in eastern Butte County, 35 miles east of Oroville. The area has a combination of coniferous and hardwood trees. Campgrounds, picnic areas, and other developed recreation areas all provide views to Little Grass Valley and Sly Creek Reservoirs.

During the summer months, the reservoir's levels are drawn down to create a ring of bare soils beneath the high water mark. The ring represents a negative visual feature that affects the overall visual quality of the area. In general; however, the Little Grass Valley and Sly Creek Reservoirs have both Class A and B visual resources.

18.1.2.2.2 Lake Oroville

Dams, reservoirs, and related facilities are among the most visually important elements within the Lake Oroville landscape and its vicinity. Although the scenery in the foothill region around the facilities is attractive, it is generally of local and regional importance, not state or national importance. The State recreation area at Lake Oroville has Class A and B visual resources.

The Lake Oroville Visitor Center, on the crest of Kelley Ridge, includes a 47-foot high observation tower designed to provide panoramic views of the dam and reservoir. Many of the most immediate views of the reservoir are from marinas, boat launch areas, campgrounds, picnic areas, and other developed recreation areas surrounding the reservoir. During the summer months, Lake Oroville levels are drawn down to create a ring of bare soils beneath the lake's high water mark. The ring represents a negative visual feature that affects the overall visual quality of the area.

18.1.2.3 Yuba River and New Bullards Bar Reservoir

The Yuba River's north, middle, and south forks originate in the Sierra Nevada. The north and middle forks of the Yuba River meet and join downstream of New Bullards Bar Reservoir, and the south fork joins just upstream of Englebright Lake. The confluence of the Yuba and Feather Rivers is near Marysville. The terrain along the north and south forks of the Yuba River consists of large areas of pine trees intermixed with small pockets of hardwood and barren land (Class A or B visual resources). The middle fork of the Yuba River has very similar terrain features, but small pockets of annual grassland are intermixed within the terrain. Grassland, agricultural fields, as well as some areas of barren land (Class C visual resources), surround the Lower Yuba River as it flows toward the Feather River near Marysville.

18.1.2.3.1 New Bullards Bar Reservoir

New Bullards Bar Reservoir is located on the north fork of the Yuba River, approximately 21 miles north of Nevada City. Conifers and mixed hardwoods surround the reservoir. Cliffs of red, clay-like soil are also found in areas around the reservoir. These variations offer the visitor a variety of landscape views. A marina, trail, and campgrounds provide public access and viewing opportunities. Adjacent county roads also provide viewing opportunities of New Bullards Bar Dam and Reservoir. During the summer months, New Bullards Bar Reservoir levels are drawn down to create a ring of bare soils below the reservoir's high water mark. The ring represents a negative visual feature that affects the overall visual quality of the area. In general, however, the reservoir has both Class A and B visual resources.

18.1.2.4 American River

18.1.2.4.1 Upper American River

The upper American River flows through steep valleys with large expanses of exposed granite found most often in higher elevations. Some of these canyon walls drop as much as 1,000 feet vertically in places. Most of the areas along the north fork of the American River are occupied by pine, with the some steep hillsides occupied by oak and chaparral communities (PCWA 2001). The north fork of the American River is a federally designated Wild and Scenic River, and is a Class A visual resource.

The environment at the confluence of the north and middle forks of the Upper American River is characterized by two canyons that converge into a single canyon. The river flows through the canyon about 2,000 to 4,000 feet below the rim. These features combine to create a landscape of high visual quality.

18.1.2.4.2 French Meadows and Hell Hole Reservoirs

French Meadows Reservoir, in Placer County, has a picturesque shoreline that consists of many varieties of trees and shrubs, as well as wildflowers. This vegetation provides suitable habitat for many wildlife species, and opportunities for wildlife viewing.



Source: SWRI

Figure 18-2
Hell Hole Reservoir

Hell Hole Reservoir is located in the Eldorado National Forest and has a 15-mile shoreline of rugged canyon walls that make it very picturesque, as shown in Figure 18-2. The reservoir's clear water adds to the visual character of the landscape and the shoreline is suitable for wildlife and bird viewing.

French Meadows and Hell Hole Reservoirs are both Class A and B visual resources. During the summer months, the water surface elevations in both French Meadows and Hell Hole Reservoirs are drawn down to create a ring of bare soil below the reservoir's high water mark. The ring represents a negative visual feature that affects the overall visual quality of the area.

18.1.2.4.3 Folsom Lake

Folsom Lake contrasts sharply with the nearby rolling grassland and wooded foothill landscapes. During the summer months, Folsom Lake levels are drawn down to create a ring of bare soils below the lake's high water mark. The ring represents a negative visual feature that affects the overall visual quality of the area. Folsom Lake, however, generally creates a pleasing visual setting for recreational uses (PCWA 2001). Lake Natoma, which is just downstream from Folsom Lake, is surrounded by

gravel banks, large boulders, and riparian vegetation that provide an attractive landscape for visitors. Folsom Lake and Lake Natoma have both Class A and B visual resources.

18.1.2.4.4 Lower American River

The lower American River provides a variety of visual experiences, including steep bluffs, terraces, islands, backwater areas, and riparian vegetation. The water surface, gravel banks, natural grasses, smaller plants, and a variety of trees along the river create a natural setting designated as a "protected area" in the American River Parkway Plan by Sacramento County for native plant restoration and habitat protection (PCWA 2001). The American River reach through Sacramento is a federally designated Wild and Scenic River.

The portion of the river from Nimbus Dam to the Gristmill Dam Recreation Area (approximately two miles upstream of the Watt Avenue Bridge) is viewed most frequently by passing motorists at bridge crossings. This unit is considered to be the most sensitive visual portion of the lower American River. The lower American River is generally considered a Class A visual resource.

18.1.2.5 Merced River

The south fork of the Merced River is a federally designated Wild and Scenic River and considered a Class A visual resource. It enters the mainstem of the Merced River near South Fork, CA. The mainstem of the Merced River then flows west, through Lake McClure, out of the foothills, and into the surrounding area consisting mainly of farmland (Class C).

Class C features along the Merced River corridor include field crops, fruit and nut trees, and vegetables. Other Class C agricultural land uses, such as dairies and poultry farms, are also scattered throughout the corridor.

18.1.2.5.1 Lake McClure

Lake McClure is located in the Sierra Nevada Foothills in Mariposa County. The lake has 80 miles of shoreline and is surrounded by pine and oak woodlands. Lake McClure has many areas suitable for bird and wildlife viewing. The reservoir typically has Class A and B visual resources. During the summer months, the lake is drawn down to create a ring of bare soils below the lake's high water mark. The ring is a negative visual feature of the lake.

18.1.3 Delta

A large portion of the Delta is devoted to farming. The region is interlaced with a network of waterways and levees designed to protect the Delta's islands and tracts. Major visual resources in the Delta Region include the state recreation areas of Franks Tract, Brannon Island, and Windy Cove; Stone Lakes NWR; the Consumnes-Mokelumne River confluence wildlife preserve; and several private marinas, camping, and fishing sites. SR 160 is a state-designated scenic highway from Antioch

to Freeport. Representative Scenic Classes A and B resources viewed from the Delta include Mount Diablo in Contra Costa County and the Vaca Range in Napa and Solano Counties.

The main roads from which travelers can view the Delta are State Route 160, 4, and 12. In many sections of State Route 4 and 12, it is impossible to view the Delta waterways, but elevated features such as Mount Diablo can be seen. Delta waterways including rivers, creeks, and sloughs are visible primarily from boats, which use the Delta for commerce and recreation.

18.1.4 Export Service Area

The Export Service Area encompasses the San Joaquin Valley, Santa Clara Valley, and southern California. The San Joaquin Valley is predominantly centered upon agriculture (cotton, dairy, safflower, wheat, and citrus orchards), urban environments (such as Fresno and Bakersfield), and mountainous terrain (Coastal Range, Tehachapi Mountains, and southern California Ranges). As with the Sacramento Valley, broad, sweeping panoramas of agricultural fields, interspersed with regional infrastructure (roads and canals) and a variety of urbanized areas characterize views within the San Joaquin Valley today. Highways in the surrounding areas with high viewer sensitivity include 152, 33, 5, 68, and 75. Many of these highways follow routes near the lakes and reservoirs within the area that are defined by the surrounding rolling hills such as those found in the Los Angeles National Forest.

Historical changes from grasslands and extensive marsh areas to cropland and orchards have changed the visual variety in the Central Valley. The valley floor is primarily irrigated agriculture that is a Class C visual resource. Important (Scenic Class A or B) visual resources on the valley floor include the San Luis National Wildlife Refuge Complex (the San Luis and Merced NWRs), which is located in the northern San Joaquin Valley in what is known as the Grasslands Ecological Area. This 160,000-acre area contains a third of the wetlands remaining in the Central Valley of California, and includes the Los Banos, Volta, and North Grasslands wildlife areas (California Dept. of Fish and Game), Great Valley Grasslands State Park (California Dept. of Parks and Recreation), and over 100 privately-owned duck clubs.

The Santa Clara Valley is a flat, gently sloping valley floor surrounded by the low, rolling to steep foothills of the Diablo Range to the east and the Santa Cruz Mountains and Gabilian Range to the west.

Southern California is characterized by urban areas such as Los Angeles and San Diego, the Mojave and other deserts, coastal scrub, and forested mountains. The topography ranges from sea level at the coast to almost 9,000 feet in the San Gabriel Mountains.

18.1.4.1 Anderson Reservoir

Anderson Reservoir is located in the Coyote Creek watershed of the Mt. Hamilton foothills just east of the City of Morgan Hill in Santa Clara County. The surrounding terrain is characterized by steep, undeveloped hillsides covered by a mix of grassland, oak, chaparral vegetation, with occasional pine trees. Land use is open space, public access parks, rangeland, and watershed. There are several residences within the immediate vicinity of the reservoir. Because the reservoir is used for water storage and flood control, it experiences seasonal changes in water levels creating a broad drawdown zone by early fall.

18.1.4.2 San Luis Reservoir

San Luis Reservoir is nestled in the grassy hills of the western San Joaquin Valley near historic Pacheco Pass. The reservoir's 23,551-acre recreation area provides boating, fishing, boardsailing, camping, and picnicking. In the spring the golden-brown hills surrounding the reservoir are coated with an ephemeral coating of green, highlighted by bursts of wildflower colors. A visitor center at the Romero Overlook offers information on the reservoir and provides telescopes for viewing the area around the reservoir. The groundwater recharge basins nearby, such as the San Luis Rey basin, provide habitat and viewing opportunities for waterfowl and water birds.

18.1.4.3 Diamond Valley Lake

Diamond Valley Lake, between Temecula and Hemet, is 4.5 miles wide. The lake has a 285-foot high dam on its west side and a 185-foot high dam on its east side. Public access to this lake begins in 2003 and will include picnic grounds, overlook sites, a trail for biking, hiking, and riding, and wildlife and vegetation viewing.

18.1.4.4 Lake Perris

Lake Perris, southeast of Los Angeles, has 10 miles of shoreline with picnic sites and trailheads that provide for hiking and viewing opportunities. Lake Perris also serves as a sanctuary to observe wildlife. Ducks and geese winter at the lake and shorebirds flock there most of the year. Birds of prey and upland birds inhabit the surrounding grasslands and mountains.

18.1.4.5 Castaic Lake

Castaic Lake is in the Castaic Mountains in southern California and comprises 29 miles of shoreline that supports a variety of tree, shrubs, and wildflower species. The 425-foot tall Castaic Dam attracts many visitors. Castaic Lagoon, south of Castaic Lake, features sandy beaches and grassy picnic areas.

18.1.4.6 Lake Mathews

Lake Mathews is in Riverside County and is part of the Estelle Mountain Reserve, which consists of approximately 4,000 acres formally designated as a State Ecological Reserve. The Reserve encompasses the largest block of open, natural and semi-natural land in western Riverside County (Center for Natural Lands Management 2003). Flat grasslands and sage scrub surround Lake Mathews; rolling hills, the Santa Ana mountains, and Monument Peak provide backdrop.

18.2 Environmental Consequences/Environmental Impacts

18.2.1 Assessment Methods

Under each alternative, the EWA agencies would negotiate contracts with willing sellers based on a number of factors, including price, water availability, and location. These factors would change from year-to-year; therefore, the EWA agencies may choose to vary the acquisition strategy in each year. To provide maximum flexibility, this analysis includes many potential transfers that the EWA agencies would not likely need in a given year. Chapter 2 defines the transfers that are included in this analysis.

Because the nature of landscape analysis is very subjective, visual resource analyses are generally qualitative. In this analysis, the assessment methods are guided by the Scenery Management System (SMS) developed by the United States Department of Agriculture, Forest Service (USDA FS) in 1995 and outlined in *Landscape Aesthetics: A Handbook for Scenery Management, Agriculture Handbook Number 701*. The SMS is an evolved and updated version of the Visual Management System. While the essence of the system remains unchanged, the SMS allows for improved integration of aesthetics with other biological, physical, and social/cultural resources in the planning process. This assessment describes the effects of EWA acquisitions on known sensitive visual resources and landscapes in the area of analysis. The analysis discusses the effects of stored reservoir water, groundwater substitution, source shifting, and crop shifting/idling. Effects are evaluated based on the significance criteria described in Section 18.2.2. The SMS is applied to the EWA program using the following steps:

- **Identify visually sensitive areas.** Sensitivity is considered highest for views seen by people driving to or from recreational activities, or along routes designated as scenic corridors. Views from relatively moderate to high-use recreation areas are also considered sensitive.

- **Define the landscape character.** Landscape character gives an area its visual and cultural image, and consists of the combination of physical, biological, and cultural attributes that make each landscape identifiable or unique. Landscape character refers to images of the landscape that can be defined with a list of scenic attributes. A description of landscape character is provided in Section 18.1, Affected Environment, for each of the visually sensitive areas identified.

- **Classify Scenic attractiveness.** Scenic attractiveness classifications are a key component of the SMS and are used to classify visual features into the following categories (USDA FS 1995):

    - Class A - "distinctive": Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

- Class B - "typical": Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes generally have positive, yet common, attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

- Class C – "indistinctive": Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rock form of any consequence are missing in Class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Class A and B resources typically include state or federal park, recreation, or wilderness areas. Rivers and reservoirs are typically considered Class A or B visual resources. Class C resources generally include areas that have low scenic quality and contain more common landscapes, such as agricultural lands. Landscape character is provided in Section 18.1, Affected Environment, for each of the visually sensitive areas identified.

18.2.2 Significance Criteria

Three significance criteria are used for this analysis. An impact on a visual resource would be potentially significant if implementing an action would:

1. Obstruct or permanently reduce visually important, Scenic Class A and B features that can be viewed from visually sensitive areas.

2. Result in long-term (that is, persisting for 5 years or more) adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity within 3 miles.

3. Adversely affect landscape character and scenic attractiveness of Class A and B visual resources.

A river would be adversely affected visually if the decrease in flow resulted in exposure of the riverbed, reduction of riparian vegetation along the banks, or changes to any important visual features of the river. An adverse visual effect to reservoirs would occur if surface water elevation levels decreased to a level such that shoreline riparian vegetation were reduced or the "bathtub" ring was substantially larger than under the existing conditions.

18.2.3 Environmental Consequences/ Environmental Impacts of the No Action/No Project Alternative

The analysis of the visual resources during the assessment period (Stage 1 phase of the CALFED plan) indicated that there would be no changes in visual resources from that described in the Affected Environment/Existing Conditions section. The No Action/No Project Alternative would not include construction action resulting from

not implementing the EWA. In addition, the No Action/No Project Alternative would not change ongoing Central Valley Project (CVP)/State Water Project (SWP) water delivery operations. Any effects on visual resources relating to lowered reservoir levels and decreased river flows would be the same under the future Project operations. Therefore, the No Action/No Project Alternative reflects that of the affected environment description and is termed Baseline Condition in the following sections. The No Action/No Project Alternative would have no effect on visual resources.

18.2.4 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The EWA does not involve construction, introduction of new scenic features, or activities that would visually change the landscape for more than one season. Therefore, there would not be any visual effects of EWA acquisitions relating to the first two significance criteria listed in Section 18.2.2. EWA actions, however, could result in temporary changes or seasonal changes in the landscape. Therefore, effects could occur relating to the third significance criteria in Section 18.2.2. This analysis describes these potential effects to landscape in the area of analysis.

The Flexible Purchase Alternative allows acquisitions of up to 600,000 acre-feet and does not specify limits for acquisitions from the Upstream from the Delta Region or the Export Service Area within the 600,000 acre-feet maximum. The maximum transfer from the Upstream from the Delta Region would be between 50,000 and 540,000 acre-feet (assuming carriage water loses), depending on hydrologic year and conveyance capacity through the Delta. Although the use of all potential acquisition methods would probably not occur in a single year, this section discusses all transfers to provide effects analysis of the maximum transfer scenario.

The environmental consequences on visual resources of stored reservoir water, groundwater substitution, crop idling, and source shifting are discussed by water body. If no visual environmental consequences have been associated with an acquisition type, the acquisition type is not discussed. All changes to surface water elevations and flows are in comparison to the Baseline Condition. Refer to Appendix H for modeling results.

EWA agencies could potentially negotiate multi-year transfers with willing water agencies. Multi-year transfers would have the same effects on visual resources as those described in the Flexible Purchase Alternative analysis.

18.2.4.1 Upstream from the Delta Region

EWA acquisition of water in Butte, Colusa, Glenn, Placer, Sutter, and Yolo Counties via crop idling would result in temporary conversion of lands from rice crops to dry fields during the summer growing season. A portion of this area's rice acreage, near Interstate 5 and Highway 99, are visible to large numbers of viewers. The specific locations where rice farmland idling will occur is not known so it is not known if the idled land will be visible to the general public. Rice acreage (agricultural land) is generally considered a

Class C visual resource. Each year, some portions of the existing rice acres are normally idled, creating a patchwork of flooded and dry fields. EWA crop idling actions would increase the amount of dried fields during the summer months to a maximum of 20 percent total rice acreage in each county, or 47,980 acres for the entire Upstream from the Delta Region. EWA actions would not affect the Class C rating of rice acreage because idling only changes the mosaic pattern of farmland practices and does not add a new visual feature to the landscape. Therefore, there would be no effect to the character of the landscape or visual attractiveness in the area, and the visual effect would be less than significant.

Waterfowl use flooded agricultural land during the summer for brood, cover, and rearing habitat and during migratory periods and winter for cover and forage. During the winter, large numbers of waterfowl can occasionally be observed in rice fields, increasing the visual attractiveness of the area. Because EWA actions would only occur during the summer months, and rice fields are normally flooded during late fall through early spring (due either to rainfall or site preparation flooding), EWA actions would not affect wildlife viewing opportunities. Furthermore, in the summer, the dry fields can create upland habitats suitable for raptors and their prey, increasing a potential for viewing different types of wildlife. Because crop idling is not a permanent practice, this effect would be less than significant. No mitigation is required.

18.2.4.1.1 Sacramento River

EWA acquisition of Sacramento River Contractor water via groundwater substitution and crop idling would decrease Sacramento River flows from Lake Shasta downstream to its diversion pumps in June[1]. EWA acquisition of up to 120,000 acre-feet of water via groundwater substitution and up to 158,000 acre-feet from crop idling would decrease flows by 1,160 cubic feet per second (cfs) in June. The reduction from 18,180 cfs to 17,020 cfs represents a minimal decrease in median monthly flow and would not result in a visual effect. The Sacramento River is generally considered a Class B visual resource. The decreases in flow would be insufficient to reduce the riparian vegetation corridor along the river. Therefore, because the minimal percent reduction of flow and the temporary nature of the decrease would not change the character of the landscape or detract from the overall scenic attractiveness of the Sacramento River, this effect would be less than significant. No mitigation is required.

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would increase Sacramento River flows downstream from Lake Shasta in July through September. EWA acquisition of up to 120,000 acre-feet of water via groundwater substitution and up to 158,000 acre-feet from crop idling would increase Sacramento River flows by 240 cfs between Lake Shasta and the point of diversion in July. Flows in this reach would decrease 133 cfs and 111 cfs in August and September, respectively. Downstream from the diversion point, flows would increase by 289 cfs,

[1] Because of flow and temperature requirements in the Sacramento River, Lake Shasta would not be able to store EWA water from groundwater substitution and crop idling in April and May. During these months, flows in the Sacramento River would be the same as under the Baseline Condition. In some years, (depending on hydrologic conditions) Lake Shasta would store EWA water in June.

372 cfs, 429, cfs, 1,940 cfs, 777 cfs, and 157 cfs April through September, respectively. This represents a 1 to 11 percent increase in flow. An increase in flow could contribute to the character of the landscape; therefore, there would be no adverse effect. No mitigation is required.

Lake Shasta

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change the timing of releases from Lake Shasta. Lake Shasta would hold back at most, 68,900 acre-feet of water that would have been released under the Baseline Condition. The lake level would decline faster in July and August compared to Baseline Conditions; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September. Lake Shasta elevation would be 1.1 feet lower in July, 0.5 of a foot lower in August, and equal to the Baseline Condition in September (Figure 14-5; Chapter 14). Differences of these magnitudes relative to the Baseline Condition would not change the character of the landscape or scenic attractiveness (Class A or B) of Lake Shasta. The existing "bathtub" rings, under the Baseline Condition would be large enough that an additional drop of less than 2 feet would not result in any significant visible effects. Reduction of surface water elevation also would have minimal effect on the visual features of riparian vegetation along the banks; therefore, this effect would be less than significant. No mitigation is required.

18.2.4.1.2 Feather River

Sly Creek and Little Grass Valley Reservoirs

EWA acquisition of Oroville-Wyandotte Irrigation District (ID) stored reservoir water would decrease surface water elevations from December until refill for Sly Creek and Little Grass Valley Reservoirs. EWA acquisition of up to 15,000 acre-feet of stored reservoir water would decrease surface water elevation by a maximum of 12 feet in Little Grass Valley Reservoir (Figure 14-6) and a maximum of 17 feet from December until refill of Sly Creek Reservoir (Figure 14-7). According to the refill criteria (Chapter 4), the reservoirs would refill in the wet season from December through May in most years, but some of that water would need to be released downstream during the late summer if the water used to refill has been used by the CVP/SWP downstream.

Under the Baseline Condition, median reservoir levels show that Sly Creek Reservoir fluctuates 106.3 feet, which creates a large "bathtub ring" when the reservoir is drawn down. Similarly, Little Grass Valley Reservoir fluctuates 30 feet under the Baseline Condition. The EWA would draw down the reservoirs past the Baseline Condition, causing the bathtub rings to be slightly larger during the early winter months. The existing rings; however, are large enough that an additional drop (17 feet and 12 feet) would not affect any Class A or B scenic features of Sly Creek and Little Grass Valley Reservoirs. The visual effects of the decrease in elevation would only be temporary and only apparent during the winter months because the reservoirs would refill within a few months of the transfer. Therefore, there would be little effect to Class A or B visual resources of the reservoirs and thus the effect would be less than significant. No mitigation is required.

Lake Oroville

EWA acquisition of water from Western Canal WD, Joint Water District Board, and Garden Highway MWC via crop idling and groundwater substitution would increase the surface water elevation from April to June and decrease the surface water elevation in July and August in Lake Oroville compared to the Baseline Condition. EWA agencies would acquire 110,000 acre-feet through groundwater substitution and 126,550 acre-feet through crop idling. During April through June, Lake Oroville would hold back water that would have been released under the Baseline Condition. By the end of June, the surface water elevation in the reservoir would be, at most, 2 feet higher than under the Baseline Condition (Figure 14-8; Chapter 14). Increased releases in July and August would cause the lake level to decline faster compared to the Baseline Condition; however, reduced releases in September would allow the end of month elevation in September to be the same as the Baseline Condition. Under the Baseline Condition, the "bathtub" ring of Lake Oroville is visually noticeable. The EWA would result in the "bathtub" ring becoming larger during July and August, although, by September the ring would be the same size as under the Baseline Condition. Therefore, there would be little visual effect to the "bathtub" ring or shoreline vegetation. Thus, there would be little effect to Class A or B visual resources of Lake Oroville and this effect would be less than significant. No mitigation is required.

18.2.4.1.3 Yuba River

EWA acquisition of Yuba River Contractor water via groundwater substitution would decrease Yuba River flows from April to June. EWA acquisition of water via groundwater substitution would decrease flows by 239 cfs from April to June between Yuba County WA's power facility discharge (just upstream of Englebright Reservoir) and the users' diversion points, typically at Englebright or Daguerre Point Dam). Because flow reductions below the Englebright Dam would be minor and temporary, the character of the landscape would not change and the overall scenic attractiveness of the Yuba River would remain intact. The visual character of riparian vegetation along the river corridor would not be affected, and a decrease in flow would cause little affect to Class A or B visual resources. This effect would be less than significant. No mitigation is required.

EWA acquisition of Yuba River Contractor water via groundwater substitution would increase Yuba River flows in June through September. Yuba River flows would increase at most by 1,005 cfs in July through September; approximately 60 percent above the Baseline Condition. An increase in flow would contribute to the character of the landscape of the resource; therefore, there would be adverse effect.

New Bullards Bar Reservoir

EWA acquisition of water from Yuba County Water Agency (Yuba County WA) via stored reservoir water and groundwater substitution would alter the surface water elevation from April to refill at New Bullards Bar Reservoir. EWA acquisition of up to 85,000 acre-feet of water from groundwater substitution would increase water levels in New Bullards Bar Reservoir while the water is held back until the Delta pumps are available. EWA acquisition of 100,000 acre-feet of stored reservoir water from New Bullards Bar Reservoir would decrease water levels, with the release of water starting at the same

time that the water from groundwater substitution is released. Figure 14-9 illustrates the combined effects of these two transfers on the reservoir. The combination of these releases would reduce lake levels compared to the Baseline Condition by 1 foot, 10 feet, and 24 feet in July, August, and September, respectively. In October, the drawdown zone would be greater than under the Baseline Condition, but not greater than the maximum potential drawdown zone. This visual effect would cause little affect to Class A or B scenic features of the Yuba River. Therefore, effects to visual resources would be less than significant. No mitigation is required.

18.2.4.1.4 American River

EWA acquisition of Placer County WA stored reservoir water would increase Middle Fork of the American River flows downstream from Oxbow Powerhouse to Folsom Lake from June through October. Releases would increase relative to the Baseline Condition. An increase in flow could contribute to the character of the landscape of the resource; therefore, there would be no adverse effect.

EWA acquisition of Placer County WA stored reservoir water would decrease American River flows downstream from French Meadows Reservoir to Folsom Lake during refill of Hell Hole and French Meadows Reservoirs. River flows would decrease during the winter and early spring. During the winter, the river is already at a time of high flows under the Baseline Condition. A decrease in flow that could occur under the EWA would not result in any change to Class A or B visual resources[2]. This area would not be considered visually sensitive because recreation is limited and many people would not view the area; therefore, this effect would be less than significant. No mitigation is required.

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase would increase American River flows downstream from Folsom Lake from June through December. The EWA agencies would help to determine when and at what rate this water would be released to provide instream fishery benefits as well as to transfer it across the Delta. An increase in flow would contribute to the landscape character of the resource; therefore, this effect would be less than significant. No mitigation is required.

Hell Hole and French Meadows Reservoirs

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations from June to refill at Hell Hole and/or French Meadows Reservoirs. EWA acquisition of up to 20,000 acre-feet of stored reservoir water would decrease surface water elevation by a maximum of approximately 8 feet in French Meadows Reservoir (Figure 14-10) and in Hell Hole Reservoir by a maximum of approximately 14 feet from July until refill (Figure 14-11). Under the Baseline Condition, median reservoir levels show that Hell Hole Reservoir fluctuates 110 feet, which creates a large "bathtub ring" when the reservoir is drawn down. Similarly, French Meadows Reservoir fluctuates 60 feet in a median year under the Baseline Condition. The EWA

[2] The decrease in flows cannot be predicted quantitatively because it is unknown how the reservoirs would refill.

would draw down the reservoirs past the average low level exhibited under the Baseline Condition, causing the bathtub rings to be more extensive. The existing rings; however, are large enough that an additional drop would not significantly alter the landscape character or detract from the scenic attractiveness of the reservoirs. There would be little change to Class A or B visual resources of Hell Hole and French Meadows Reservoirs; therefore, the effects to visual resources from the reservoir decreases would be less than significant. No mitigation is required.

Folsom Lake

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase and Placer County Water Agency's water via stored reservoir water would change surface water elevations in Folsom Lake. During July and August, the surface water elevation at Folsom Lake would be 0.8 of a foot lower than under the Baseline Condition. End of month elevation in September would be the same as under the Baseline Condition because of reduced releases during September (Figure 14-12; Chapter 14). The small changes in surface water elevation would have little affect on Class A or B visual resources of Folsom Lake; therefore, any visual effect would be less than significant. No mitigation is required.

18.2.4.1.5 Merced River

EWA acquisition of Merced ID water via groundwater substitution would decrease Merced River flows downstream from New Exchequer Dam to the point of diversion from April through September. Merced River flows in this reach would decrease by approximately 70 cfs. Long-term average Merced River flows below Crocker Huffman Dam under the Baseline Condition are 500 cfs, 894 cfs, and 881 cfs in April, May and June, respectively. A decrease of 70 cfs in flow would be insufficient to affect the visual character of riparian vegetation along the river corridor. Under the Baseline Condition, flows during July through September are less than 330 cfs. Therefore, a decrease of 70 cfs in flow would result in little change to Class A or B visual resources of the Merced River and the effect would be less than significant. No mitigation is required.

Lake McClure

EWA acquisition of Merced ID water via groundwater substitution would increase the water surface elevation in Lake McClure compared to the Baseline Condition. EWA agencies could acquire 25,000 acre-feet through groundwater substitution. During April through September, Lake McClure would hold back water that would have been released under the Baseline Condition. By the end of September, the surface water elevation in the reservoir would be, at most, 3 feet higher than under the Baseline Conditions (Figure 14-13). An increase in water surface elevations would improve the overall scenic attractiveness of Lake McClure and reduce the visibility and size of a "bathtub ring". Therefore, there would be no adverse effect. No mitigation is required.

18.2.4.2 Delta

There would be no decreases in Delta inflows from the Sacramento or San Joaquin Rivers under the Flexible Purchase Alternative; however, Delta exports would increase. EWA acquisition would not result in any effect to Class A or B visual

resources in the Delta. The character of the landscape and the level of scenic attractiveness would not change from the Baseline Conditions; therefore, the effect to visual resources would be less than significant. No mitigation is required.

18.2.4.3 Export Service Area

EWA acquisition of water in Fresno, Kern, Kings, and Tulare Counties via crop idling would result in temporary conversion of cotton fields to bare fields. A portion of the cotton acreage is near Interstate 5 and is visible to large numbers of viewers. Farmers rotate crops regularly, leaving a portion of the fields idle most years. EWA actions would increase



Source: CDM

Figure 18-3
Cotton Field Idled for Two Years with Regular Discing

the number of acres of idled land. Dust suppression measures, including use of a winter wheat cover crop, would reduce some of the visual change caused by cotton crop idling. The visual change from cotton land (Class C) to idled field (Class C, see Figure 18-3) would result in a minor visual change to a Class C resource (farmland). Because the character of the landscape would not change and the level of scenic attractiveness would remain as Class C, the effect to visual resources would be less than significant. No mitigation is required.

Anderson Reservoir

EWA source shifting of project water from San Luis Reservoir would decrease surface water elevations in Anderson Reservoir whereas EWA pre-delivery of water from San Luis Reservoir would increase surface water elevations. Santa Clara Valley Water District operates Anderson Reservoir for normal water supply, emergency water supply, and for flood control within the Coyote Creek drainage. The District maintains a minimum pool amount of 20,000-acre feet. The District would not be involved in any source shifting action that would decrease amounts to less than the minimum pool. Although source shifting may lower the surface elevation earlier than normal in a season, it would not cause a visual effect greater than that experienced as part of normal operations. Pre-delivery would result in an increased surface water elevation reducing the visual

effect of the drawdown zone. In either case, EWA source shifting or pre-delivery would have a less than significant effect on the visual quality of Anderson Reservoir.

San Luis Reservoir

EWA borrowed project water from San Luis Reservoir would decrease surface water elevations. Surface water levels in San Luis Reservoir would decrease earlier in the year. EWA actions may cause attaining low-point levels earlier in the year than under the Baseline Condition. The EWA assets would be managed to prevent the EWA action from causing or aggravating any low point problems in San Luis Reservoir. A decrease in surface water levels earlier in the year would not result in an adverse change to the existing landscape character or detract from the overall scenic attractiveness because the surface water levels in San Luis Reservoir typically vary during the summer under the Baseline Condition. EWA actions would not result in any change to Class A or B visual resources of San Luis Reservoir; thus, the effect to visual resources as a result of decrease in surface water levels would be less than significant. No mitigation is required.

Diamond Valley Lake, Lake Perris, Castaic Lake, and Lake Mathews

EWA Source shifting would decrease the summer surface water elevation at Diamond Valley Lake, Lake Perris, Castaic Lake, and Lake Mathews. Source shifting would not affect Class A or B visual resources because water levels in the reservoir would remain within the annual operating levels. Although source shifting may lower the surface elevation earlier than normal in a season, it would not cause a visual effect greater than that experienced as part of normal operations. EWA source shifting would have a less than significant effect on the visual quality of these reservoirs and is thus considered less than significant. No mitigation is required.

18.2.5 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet from the Upstream from the Delta Region, and 150,000 acre-feet from the Export Service Area. While the amounts in each region are fixed, the acquisition types and sources could vary. In this section, the effects of each potential transfer are analyzed to allow the EWA agencies maximum flexibility when negotiating purchases with willing sellers. These transfers are the same actions as those described for the Flexible Purchase Alternative, but the amounts are limited by the total acquisition amount in each region (35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area). The following sections evaluate the effects of the Fixed Purchase Alternative.

18.2.5.1 Upstream from the Delta Region

EWA acquisition of water in Butte, Colusa, Glenn, Placer, Sutter, and Yolo Counties via crop idling would result in temporary conversion of lands from rice crops to dry fields during the summer growing season. A portion of this area's rice acreage, near Interstate 5 and Highway 99, are visible to large numbers of viewers. The specific locations where rice farmland idling will occur is not known so it is not known if the idled land will be

visible to the general public. Rice acreage (agricultural land) is generally considered a Class C visual resource. Each year, some portions of the existing rice acres are normally idled, creating a patchwork of flooded and dry fields. EWA crop idling actions would increase the amount of dried fields during the summer months to a maximum of 20 percent total rice acreage in each county, or a maximum of 34,770 acres for the entire Upstream of the Delta Region. EWA actions would not affect the Class C rating of rice acreage because idling only changes the mosaic pattern of farmland practices and does not add a new visual feature to the landscape. Therefore, there would be no effect to the landscape character or visual attractiveness in the area, and the visual effect would be less than significant.

Waterfowl use flooded agricultural land during the summer for brood, cover, and rearing habitat and during migratory periods and winter for cover and forage. During the winter, large numbers of waterfowl can occasionally be observed in rice fields, increasing the visual attractiveness of the area. Because EWA actions would only occur during the summer months, and rice fields are normally flooded during late fall through early spring (due either to rainfall or site preparation flooding), EWA actions would not affect wildlife viewing opportunities. Furthermore, in the summer, the dry fields can create upland habitats suitable for raptors and their prey, increasing a potential for viewing different types of wildlife. Because crop idling is not a permanent practice, this effect would be less than significant. No mitigation is required.

18.2.5.1.1 Sacramento River

EWA acquisition of Sacramento River Contractor water via groundwater substitution and crop idling would decrease Sacramento River flows from Lake Shasta downstream to its diversion pumps in June. EWA acquisition of up to 35,000 acre-feet of water via groundwater substitution or up to 35,000 acre-feet from crop idling would decrease monthly Sacramento River flows by 180 cfs in June. The reduction from 18,180 cfs to 18,000 cfs in June would not result in affects to Class A or B visual resources and there would be no noticeable effect to Lake Shasta water levels. Crop idling would be limited to less than 20 percent of all rice farmland in each county. The effects to visual resources would therefore be less than significant. No mitigation is required.

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would increase Sacramento River flows downstream from Lake Shasta in July through September. EWA acquisition of up to 35,000 acre-feet of water via groundwater substitution and up to 35,000 acre-feet from crop idling would increase Sacramento River flows by 240 cfs between Lake Shasta and the point of diversion in July. An increase in flow could contribute to the character of the landscape; therefore, there would be no adverse effect.

Lake Shasta

EWA acquisition of Sacramento River contractor water via groundwater substitution and crop idling would change the timing of releases from Lake Shasta. Lake Shasta would hold back at most, 9,000 acre-feet of water that would have been released under the Baseline Condition. The lake level would decline faster in July and August compared to

Baseline Conditions; however, end of month elevation in September would be the same as the Baseline Condition because of reduced releases during September. Differences of these magnitudes relative to the Baseline Condition would not change the landscape character or scenic attractiveness (Class A or B) of Lake Shasta. Surface elevation reductions would not result in any significant visible effects on the existing "bathtub" rings. Reduction of surface water elevation also would have minimal effect on the visual features of riparian vegetation along the banks; therefore, this effect would be less than significant. No mitigation is required.

18.2.5.1.2 Feather River

Sly Creek and Little Grass Valley Reservoirs

EWA acquisition of Oroville-Wyandotte ID stored reservoir water would decrease surface water elevations from December until refill for Sly Creek and Little Grass Valley Reservoirs.. The EWA agencies would acquire stored reservoir water from Sly Creek Reservoir and Little Grass Valley Reservoir in November and December before fish actions are likely. An equivalent amount of water could be sold to the EWA agencies under the Fixed Purchase Alternative, as is described under the Flexible Purchase Alternative. Refer to Section 18.2.4.1.2, Feather River, for a discussion of potential effects on surface elevation fluctuations in Sly Creek and Little Grass Valley Reservoirs. Water acquisition requires no mitigation as there are potentially few effects to Class A and B scenic features. The effect on visual resources under the Flexible Purchase Alternative is less than significant; the effect is also less than significant for the Fixed Purchase Alternative.

EWA acquisition of water from Western Canal WD, Joint Water Districts, and Garden Highway MWC via crop idling and groundwater substitution would increase the surface water elevation from April to June and decrease the surface water elevation in July and August in Lake Oroville compared to the Baseline Condition. EWA would acquire up to 35,000 acre-feet of water via groundwater substitution or up to 35,000 acre-feet from crop idling. During April through June, Lake Oroville would hold back as much as 17,900 acre-feet of water that would have been released under the Baseline Condition. Surface elevations would increase during the holding time and decrease slower during release in July and August. Surface elevation fluctuations would not change the landscape character and would not detract from the scenic attractiveness of the visual resources around Lake Oroville. There would be less change in surface water elevation under the Fixed Purchase Alternative than under the Flexible Purchase Alternative. Because there were no significant effects under the Flexible Purchase Alternative, there would also be no significant effects under the Fixed Purchase Alternative.

18.2.5.1.3 Yuba River

EWA acquisition of Yuba River Contractor water via groundwater substitution would decrease Yuba River flows from April to June. Yuba River flows would decrease by 195 cfs in late spring as farmers use groundwater for irrigation instead of surface water from New Bullards Bar Reservoir. The decrease in flow would not affect the character of the landscape or overall scenic attractiveness of the land. A decrease in flow would

not affect Class A or B visual resources; therefore, the effect to visual resources would be less than significant. No mitigation is required.

EWA acquisition of Yuba River Contractor water via groundwater substitution would increase Yuba River flows in June through September. In June through September, flows would increase downstream from New Bullards Bar with an additional release of 195 cfs. An increase in flow could contribute to the character of the landscape; therefore, there would be no adverse effect. No mitigation is required.

New Bullards Bar

EWA acquisition of water from Yuba County WA via stored reservoir water and groundwater substitution would alter the surface water elevation from April to refill at New Bullards Bar Reservoir. Groundwater substitution would increase water levels in New Bullards Bar Reservoir while the water is held back until the Delta pumps are available. Beginning in June, New Bullards Bar would release, at a maximum, 35,000 acre-feet of water to be used as an EWA Asset. The release would reduce surface elevations by a maximum of 8 feet compared to the Baseline Condition. The fluctuations in surface water elevation at New Bullards Bar Reservoir would not be substantial enough to change the character of the landscape and would not detract from the scenic attractiveness. Therefore, the effect to the visual resources from EWA acquisition of Yuba County WA stored reservoir water would be less than significant. No mitigation is required.

18.2.5.1.3 American River

EWA acquisition of Placer County WA stored reservoir water would increase Middle Fork of the American River flows downstream from Oxbow Powerhouse to Folsom Lake from June through October. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 18.2.4.1.4 for a discussion of potential effects. An increase in flow could contribute to the character of the landscape of the resource; therefore, there would be no adverse effect. No mitigation is required.

EWA acquisition of Placer County WA stored reservoir water would decrease American River flows downstream from French Meadows Reservoir to Folsom Lake during refill of Hell Hole and French Meadows Reservoirs. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 18.2.4.1.4 for a discussion of potential effects. The effects of the Flexible Purchase Alternative would be less than significant; the effects of the Fixed Purchase Alternative would also be less than significant.

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase would increase American River flows downstream from Folsom Lake from June through December. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 18.2.4.1.4 for a discussion of potential effects. An increase in flow would contribute to the character of the landscape; therefore, there would be no adverse effect. No mitigation is required.

Hell Hole and French Meadows Reservoirs

EWA acquisition of Placer County WA stored reservoir water would decrease surface water elevations from June to refill at Hell Hole and/or French Meadows Reservoirs. EWA acquisition of up to 20,000 acre-feet of stored reservoir water would decrease surface water elevation by a maximum of approximately 8 feet in French Meadows Reservoir (Figure 14-10) and in Hell Hole Reservoir by a maximum of approximately 14 feet from July until refill (Figure 14-11). The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 18.2.4.1.4 for a discussion of potential effects. Effects to visual resources would be less than significant. No mitigation is required.

Folsom Lake

EWA acquisition of Sacramento Groundwater Authority's water via stored groundwater purchase and Placer County Water Agency's water via stored reservoir water would change surface water elevations in Folsom Lake. During July and August, the surface water elevation at Folsom Lake would be 0.8 of a foot lower than under the Baseline Condition. The same amount of water could be transferred under the Fixed Purchase Alternative as described in the Flexible Purchase Alternative. Refer to Section 18.2.4.1.4 for a discussion of potential effects. Effects to visual resources would be less than significant. No mitigation is required.

18.2.5.1.5 Merced/San Joaquin Rivers

EWA acquisition of Merced ID water via groundwater substitution would decrease Merced River flows downstream from New Exchequer Dam to the point of diversion from April through June. Merced River flows would decrease by approximately 70 cfs. An equivalent amount of water could be sold to the EWA agencies under the Fixed Purchase Alternative, as is described under the Flexible Purchase Alternative. Refer to Section 18.2.4.1.5, Merced River, for a discussion of potential effects. The effects of the Flexible Purchase Alternative would be less than significant; the effects of the Fixed Purchase Alternative also would be less than significant. No mitigation is required.

EWA acquisition of Merced ID water via groundwater substitution would increase the water surface elevation in Lake McClure compared to the Baseline Condition. EWA agencies could acquire 25,000 acre-feet through groundwater substitution. Lake McClure would hold back water and surface water elevation would increase. An increase would contribute to the character of the lake; therefore, there would be no adverse effect. No mitigation is required.

18.2.5.2 Delta

There would be no decreases in Delta inflows from the Sacramento or San Joaquin rivers under the Fixed Purchase Alternative; however, Delta exports would increase. There would be little effect to Class A or B visual resources of the Delta; therefore, this effect would be considered less than significant. No mitigation is required.

18.2.5.3 Export Service Area

EWA acquisition of water in Fresno, Kern, Kings, and Tulare Counties via crop idling would result in temporary conversion of cotton fields to bare fields. A portion of the cotton acreage is located near Interstate 5, and is visible to large numbers of viewers. Total crop idling would be limited to less than 20 percent of all cotton farmland in each county. The visual change from cotton land (Class C) to idled field (Class C, see Figure 18-2) would result in minor adverse visual changes to a Class C resource (farmland). Since the change in scenic attractiveness would be minimal, this effect would be less than significant. No mitigation is required.

Anderson Reservoir

EWA source shifting of project water from San Luis Reservoir would decrease surface water elevations in Anderson Reservoir whereas EWA pre-delivery of water from San Luis Reservoir would increase surface water elevations. Santa Clara Valley Water District operates Anderson Reservoir for normal water supply, emergency water supply, and for flood control within the Coyote Creek drainage. The District maintains a minimum pool amount of 20,000-acre feet. The District would not be involved in any source shifting action that would decrease amounts to less than the minimum pool. Although source shifting may lower the surface elevation earlier than normal in a season, it would not cause a visual effect greater than that experienced as part of normal operations. Pre-delivery would result in an increased surface water elevation reducing the visual effect of the drawdown zone. In either case, EWA source shifting or pre-delivery would have a less than significant effect on the visual quality of Anderson Reservoir.

San Luis Reservoir

EWA borrowed project water from San Luis Reservoir would decrease surface water elevations. Surface water levels in San Luis Reservoir would decrease earlier in the year. The existing "bathtub ring" would be large enough that an additional decrease would not detract from the overall scenic attractiveness of the reservoir. Furthermore, the reservoir levels typically vary during the summer under the Baseline Condition. Therefore, a decrease in surface water levels earlier in the year would not affect any Class A or B visual resources of San Luis Reservoir, and the effects would be less than significant. No mitigation is required.

Diamond Valley Lake, Lake Perris, Castaic Lake, and Lake Mathews

EWA source shifting would decrease the summer surface water elevation at Diamond Valley Lake, Lake Perris, Castaic Lake, and Lake Mathews. The effects as described for the Flexible Purchase Alternative in Section 18.2.4.3 for source shifting at these reservoirs would be the same as under the Fixed Purchase Alternative. Therefore, the effect on visual resources would be less than significant. No mitigation is required.

18.2.6 Comparative Analysis of Alternatives

This section has thus far analyzed the effects of many potential transfers, looking at the "worst-case scenario" that would occur if all acquisitions happened in the same year. This approach ensures that all effects of transfers are included, and provides the EWA Project Agencies the flexibility to choose transfers that may be preferable in a

given year. The EWA; however, would not actually purchase all of this water in the same year. This section provides information about how EWA would more likely operate in different year types.

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. This amount could typically be obtained from stored reservoir water purchases in most year types. In very dry years, stored reservoir water may not be available, and the EWA would need to look to other sources. These sources would probably be groundwater substitution first and crop idling second. Therefore, in most years under the Fixed Purchase Alternative, the primary visual resource effect would be at the reservoirs (Class A and B visual resources). In very few years would there be an agriculture (Class C visual resource) related visual effect.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources in the Upstream from the Delta Region. EWA agencies would prefer to purchase water from upstream sources because the water is generally less expensive. The amount that could be purchased would be limited by the capacity of the Delta export pumps to move the water to export areas south of the Delta. During wet years, excess pump capacity may be limited to as little as 60,000 acre-feet of EWA asset water because the pumps primarily would be used to export state and federal project water to export service area users. During dry years, when there would be less Project water available for pumping (and therefore the pumps would have greater available capacity), the EWA Project Agencies could acquire up to 600,000 acre-feet of water from sources in the Upstream from the Delta Region. Therefore, in dry years, EWA acquisitions by all methods would have a potential for affecting visual resources related to reservoirs (Class A and B) and agricultural land (Class C). Table 18-1 compares the Flexible and Fixed Purchase Alternatives to the Baseline Condition.

The EWA Project Agencies usually prefer to purchase stored reservoir water because it is the least expensive option. In dry years for the Fixed Purchase Alternative, EWA Project Agencies would likely purchase all stored reservoir water available, and then look to other options for the remainder of its purchases. The effects on visual resources would be greater during these years. In wet years, a portion of the stored reservoir water available would likely provide the entire amount of water that could be moved through the Delta. During these years the effects on visual resources would be less striking.

The potential for effects on visual resources during wet and dry years for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative because stored reservoir water would be utilized before any other assets.

Table 18-1
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Visual Resources

Region	***Asset Acquisition or Management***	***Result***	***Effects***	***Flexible Alternative Change from the Baseline Condition***	***Fixed Alternative Change from the Baseline Condition***	***Significance of Flexible Alternative***	***Significance of Fixed Alternative***
Sacramento River	Groundwater substitution/ Crop idling Flexible: 166 TAF Fixed: 35 TAF	Water held in Lake Shasta in June.	Slower decrease in water levels in Lake Shasta in June, compared to non-EWA conditions.	Sacramento River decreases 1,160 cfs.	Sacramento River decreases 180 cfs.	LTS	LTS
				Lake Shasta contains as much as 68,900 acre-feet more compared to the Baseline Condition.	Lake Shasta contains as much as 9,000 acre-feet more compared to the Baseline Condition.	LTS	LTS
		Water is released from Lake Shasta in July through September.	Increase in releases from Lake Shasta from July through September.	Sacramento River increases by as much as 1,940 cfs in July.	Sacramento River flows increase.	No effect	No effect
	Crop Idling	Conversion of rice fields to barren land	Reduced rice acreage in Glenn, Colusa and Yolo Counties	Idling a maximum of 47,980 acres	Idling a maximum of 34,770 acres	LTS	LTS

Table 18-1
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Visual Resources

Region	***Asset Acquisition or Management***	***Result***	***Effects***	***Flexible Alternative Change from the Baseline Condition***	***Fixed Alternative Change from the Baseline Condition***	***Significance of Flexible Alternative***	***Significance of Fixed Alternative***
Feather River	Stored reservoir water Flexible & Fixed: Sly Creek 5 TAF Little Grass Valley 12 TAF	Water is released from Sly Creek and Little Grass Valley Reservoirs.	Sly Creek and Little Grass Valley reservoir levels decrease from November until refill.	Sly Creek reduced by maximum of 5,000 acre-feet and 17 ft in elevation. Little Grass Valley reduced by maximum of 12,000 acre-feet and 12 ft in elevation.	Sly Creek reduced by maximum of 5,000 acre-feet and 17 ft in elevation. Little Grass Valley reduced by maximum of 12,000 acre-feet and 12 ft in elevation.	LTS	LTS
	Groundwater substitution/ Crop idling Flexible: 230 TAF Fixed: 35 TAF	Water is held in Lake Oroville in April through June	Slower decrease in water levels in Lake Oroville from April – September, compared Baseline Condition.	Lake Oroville contains as much as 120,600 acre-feet more than the Baseline Condition.	Lake Oroville contains as much as 17,900 acre-feet more than the Baseline Condition.	LTS	LTS
	Crop Idling	Conversion of rice fields to barren land	Reduced rice acreage in Butte and Sutter Counties	Idling a maximum of 38,340 acres	Idling a maximum of 21,200 acres	LTS	LTS

Table 18-1
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Visual Resources

Region	Asset Acquisition or Management	Result	Effects	Flexible Alternative Change from the Baseline Condition	Fixed Alternative Change from the Baseline Condition	Significance of Flexible Alternative	Significance of Fixed Alternative
Yuba River	Stored Reservoir Water/Ground-water substitution Flexible: 100 TAF Fixed: 35 TAF	Water is released from New Bullards Bar Reservoir.	Yuba River flows increase June through September.	Yuba River flows increase by 1,005 cfs;	Yuba River flows increase by 195 cfs	No effect	No effect
			New Bullards Bar water levels decrease April to refill	New Bullards Bar reduced by 100,000 acre-feet and 24 ft in elevation.	New Bullards Bar reduced by 35,000 acre-feet and 8 ft in elevation.	LTS	LTS
	Groundwater Substitution Flexible: 85 TAF Fixed: 35 TAF	Water is held in New Bullards Bar Reservoir.	Yuba River flows decrease April through June	Yuba River flow decreases by 239 cfs	Yuba River flow decreases by 100 cfs	LTS	LTS
American River	Stored Reservoir Water Flexible & Fixed: 20 TAF	Water is released from French Meadows and Hell Hole Reservoirs	French Meadows and Hell Hole Reservoir water levels decrease June to refill	FM decreases by 7,800 acre-feet and 8ft in elevation. HH decreases by 12,200 acre-feet and 14ft in elevation.	FM decreases by 7,800 acre-feet and 8ft in elevation. HH decreases by 12,200 acre-feet and 14ft in elevation.	LTS	LTS

Table 18-1
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Visual Resources

Region	Asset Acquisition or Management	Result	Effects	Flexible Alternative Change from the Baseline Condition	Fixed Alternative Change from the Baseline Condition	Significance of Flexible Alternative	Significance of Fixed Alternative
American River	Stored Reservoir Water Flexible & Fixed: 20 TAF	Water is released from French Meadows and Hell Hole Reservoirs	Flows in the American River between French Meadows/Hell Hole Reservoirs and Folsom Lake are increased July – September	American River flow increases.	American River flow increases.	No effect	No effect
		Water is held in French Meadows and Hell Hole Reservoirs	Flows in the American River would decrease downstream from French Meadows to Folsom Lake during refill	American River flows decrease.	American River flows decrease.	LTS	LTS
	Stored Reservoir Water and Groundwater Purchase	Water is released from Folsom Lake.	Surface water elevation in Folsom Lake is lower than the Baseline Condition in July and August.	Surface water elevation in Folsom Lake is 0.8 foot lower than the Baseline Condition.	Surface water elevation in Folsom Lake is 0.8 foot lower than the Baseline Condition.	LTS	LTS

Table 18-1
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Visual Resources

Region	Asset Acquisition or Management	Result	Effects	Flexible Alternative Change from the Baseline Condition	Fixed Alternative Change from the Baseline Condition	Significance of Flexible Alternative	Significance of Fixed Alternative
American River	Stored Reservoir Water and Groundwater Purchase	Water is released from Folsom Lake.	American River flows downstream of Folsom Lake increase June – December	American River flow increases.	American River flow increases.	No effect	No effect
	Crop Idling	Conversion of rice fields to barren land	Reduced rice acreage in Placer County	Idling a maximum of 3,280 acres	Idling a maximum of 3,280 acres	LTS	LTS
Merced/San Joaquin River	Stored groundwater Purchase Flexible & Fixed: 25 TAF	Water is held in Lake McClure	Slower decrease in water levels in Lake McClure in April through October, compared to non-EWA conditions.	Lake McClure increases by a maximum of 25,000 acre-feet	Lake McClure increases by a maximum of 25,000 acre-feet	LTS	LTS
			Merced River flows decrease April – October.	Merced River flow decreases by 70 cfs	Merced River flow decreases by 70 cfs	LTS	LTS
Delta Region	Crop idling, Groundwater substitution, Stored groundwater purchase, Stored reservoir water	Water is released from reservoirs	Increased Delta exports July – September	Delta exports increase by a maximum of 2,118 cfs.	Delta exports increase by a maximum of 245 cfs.	LTS	LTS

Table 18-1
Comparison of the Effects of the Flexible and Fixed Purchase Alternatives on Visual Resources

Region	Asset Acquisition or Management	Result	Effects	Flexible Alternative Change from the Baseline Condition	Fixed Alternative Change from the Baseline Condition	Significance of Flexible Alternative	Significance of Fixed Alternative
Export Service Area	Source Shifting	Water is drawn from SWP, SCVWD, and MWD reservoirs	Decreased water levels in Anderson, Castaic, Perris, Mathews and Diamond Valley	Water levels decreased by 200,000 acre-feet total for all reservoirs.	Water levels decreased by 200,000 acre-feet total for all reservoirs.	LTS	LTS
	Borrowed Project Water	Water is released from San Luis Reservoir	Decreased water levels in San Luis Reservoir	San Luis Reservoir water levels would reach the low point at the same time as under the Baseline Condition.	San Luis Reservoir water levels would reach the low point at the same time as under the Baseline Condition.	LTS	LTS
	Crop Idling	Conversion of cotton lands to barren fields	Reduced cotton acreage in the Export Service Area	Idling a maximum of 182,800 cotton acres	Idling a maximum of 177,300 cotton acres	LTS	LTS

18.2.7 Mitigation Measures

Under each of the acquisition types and alternatives no adverse effects would occur from the Fixed and Flexible Purchase Alternatives to the visual resources found within the area of analysis. Therefore, no mitigation measures would be required.

18.2.8 Potentially Significant Unavoidable Impacts

There would be no potentially significant unavoidable impacts associated with the Fixed Purchase Alternative and Flexible Purchase Alternative.

18.2.9 Cumulative Effects

18.2.9.1 Upstream from the Delta Region

The Sacramento Valley Water Management Agreement, Dry Year Purchase Program, Drought Risk Reduction Investment Program, CVP Improvement Act Water Acquisition Program, and Environmental Water Program include water acquisitions upstream from the Delta. These programs all include stored reservoir water, and many include other acquisition types such as groundwater substitution, groundwater purchase, and crop idling. These programs, in addition to the EWA, could magnify the effects described under the Flexible Purchase Alternative.

The Environmental Water Program would purchase water from different facilities than the EWA; therefore, there would be no potential for a cumulative decrease in surface water elevation in reservoirs resulting in adverse visual effects. The Sacramento Valley Water Management Agreement, Dry Year Purchase Program, and Drought Risk Reduction Investment Program, as well as other potential water transfers, could purchase water from the same reservoirs as the EWA. Other programs in combination with the EWA that purchase water from the same selling agency could draw down reservoirs further than analyzed in this chapter. The additional water sold for other programs would reduce the Baseline Condition as described and could cause significant effects. A cumulative effect would only be considered significant if the combined program acquisitions surpassed the significance criteria. If all water acquisition programs purchased water from the same source, a cumulative visual effect could occur. Because the Project Agencies would have some involvement in non-EWA water acquisition programs due to the need to use SCP and/or SWP facilities to export the water, EWA agencies would have the opportunity to assess cumulative effects and not purchase water from a water agency if a cumulative effect would occur. Therefore, EWA would not have an incremental effect to the cumulative condition.

Actions such as groundwater substitution and crop idling in the Upstream from the Delta Region would potentially occur in four out of the five cumulative programs. These actions, in addition to the EWA, would create changes in the timing and quantity of water released from reservoirs, altering river flows. Water transfers from other agencies along the same rivers as in the EWA program area could also contribute to a cumulative effect on the change in river flow. EWA agencies would

not purchase water from a water agency if a cumulative effect would occur. Therefore, EWA would not have an incremental effect to the cumulative condition.

18.2.9.2 Export Service Area

Only the Drought Risk Reduction Investment Program and the CVPIA Water Acquisition Program operate in the Export Service Area. Any water acquired through crop idling would not be a permanent action and would involve a Class C visual resource. Therefore, increased crop idling from various programs would not produce a cumulatively significant effect to visual resources.

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Chapter 19
Environmental Justice

The concept of environmental justice embraces two principles: 1) fair treatment of all people regardless of race, color, nation of origin, or income and 2) meaningful involvement of people in communities potentially affected by program actions. Executive Order 12898, Section 2-2, signed by President Clinton in 1994, requires all Federal agencies to conduct "programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons the benefits of, or subjecting persons to discrimination because of their race, color or national origin". Section 1-101 requires Federal agencies to identify and address, as appropriate, "disproportionately high and adverse human health or environmental effects" of programs on minority and low-income populations.

State law defines environmental justice in Government Code Section 65040.12(e) as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. Government Code Section 65040.12(a) designates the Governor's Office of Planning and Research (OPR) as the coordinating agency in State government for environmental justice programs, and requires OPR to develop guidelines for incorporating environmental justice into general plans.

The Bay Delta Public Advisory Committee (BDPAC) has an Environmental Justice Subcommittee composed of Federal and State agency representatives, tribal members, community-based organizations, advocacy groups, and others interested in achieving environmental justice. As set forth by the Record of Decision (ROD), CALFED agencies are committed to addressing environmental justice challenges related to water management in the Bay-Delta. The purpose of the BDPAC environmental justice subcommittee is to provide advice and guidance to BDPAC to ensure that implementation of the CALFED Bay-Delta Program actions provides benefits to minority, low-income, tribal or other potentially affected communities. The subcommittee works to meet its goal through the implementation of a strategy that requires collaboration and support from each CALFED Program Element. The subcommittee meets on a regular basis, at various locations throughout the State to provide meaningful public participation to interested communities, stakeholders, and others impacted by CALFED program activities.

EWA agencies could acquire water through stored groundwater, groundwater substitution, stored reservoir water, or through crop idling. Of these actions, only crop idling could affect farm labor employment and other individuals involved in farming (including farm supply companies, custom operators, and related businesses). The agribusiness industry employs wage earners of all income levels and of all ethnic compositions. The concern for environmental justice is that minority and low income persons would be disproportionately affected.

Crop idling would involve not irrigating crops for a season and transferring the unused irrigation water to the Environmental Water Account (EWA). Workers on the farms would need to find alternative employment - an effort that could be hampered by their level of education, English speaking ability, and unfamiliarity with local employment services.

Ninety-three percent of workers on farms are of Hispanic origin and earn a median annual personal income between $7,500 and $10,000. They typically possess a sixth grade education (Rosenberg et al 1998). These identifying factors place these workers into a low income, minority group that will represent the environmental justice community – a community who could bear the greatest burden of crop idling. The remainder of this chapter will focus on workers on farms whose jobs are lost by crop idling.

19.1 Affected Environment/Existing Conditions

EWA agencies incorporated rice and cotton for crop idling in the EWA project description for four basic reasons:

1) These crops require greater amounts of water per acre than most other crops;

2) There are adequate acreages of these crops that can provide the quantities of water needed by the EWA;

3) Farmers have expressed willingness to provide water and idle their land; and

4) These crops typically require less labor than other crops.

Table 19-1 shows the amount of labor required to grow 1000 acres of commonly grown, annual crops[1] and the amount of water required for each crop throughout the growing season. The amount of water is also referred to as the estimated evapotranspiration of applied water (ETAW). ETAWs change as the science for generating the values improves.

Wheat and various types of silages require less labor than either cotton or rice; however, acreages are not available in quantities that could supply the amount of water required by the EWA. Cotton in the Upstream from the Delta Region could also appear to be a potential selection; however, the number of acres devoted to this crop in the Upstream of the Delta Region limits the ability to make water transfers sufficiently large for the EWA.

[1] Potential crops for idling do not include orchards, pasture, or alfalfa crops because water consumption cannot be readily metered. Common crops in the program area are those with the largest amount of acreages within the counties. Full time labor equivalents represent the number of full time individuals required to produce 1000 acres of a crop throughout a season. Full time labor equivalents are determined by the amount of machine and nonmachine labor required for each crop.

Table 19-1
Labor and Water Requirements per Common Crop

Crop		*Full Time Labor Equivalents*	*ETAW*
Upstream from the Delta[1] (Butte, Colusa, Glenn, Placer, Sutter, and Yolo Counties)	Rice	2.7	3.3
	Cotton[2]	5.0	2.3
	Beans	5.9	1.5
	Corn	6.2	1.8
	Wheat	1.6	0.5
	Tomatoes	20.4	1.8
	Safflower	2.5	0.7
Export Service Area (Fresno, Kern, Kings, and Tulare counties)	Cotton	6.6	2.3
	Corn for Grain[3]	6.2	2.0
	Safflower	2.5	2.0
	Wheat	1.6	1.0
	Corn Silage	1.6	2.0
	Wheat Silage	1.2	1.2
	Carrots	5.5	1.4
	Cantaloupe	14.5	1.4
	Alfalfa Silage[4]	1.5	3.1
	Tomatoes	20.4	2.1

(1) ETAWS from Jerry Johns, DWR, January 5, 2002, Water Transfers Based on Crop Shifting and Crop Idling – How to Make Them Work
(2) Less than 11,000 acres of cotton available only in Colusa County.
(3) Scott Hayes, Land and Water Use Analyst, DWR, November 2002, 1995 DWR ETAWs. Less than 70,000 acres "field crops unspecified" (CAC 2002) available in Kings County only (Vernon, 2002)
(4) Less than 60,000 acres "silage" (CAC 2002) available in Tulare county (Schoenborn, 2002)

EWA water transfers are consistent with guidelines contained within the CALFED Water Transfer Program. The CALFED Water Transfer Program is a framework of actions, policies, and processes that facilitate, encourage, and streamline a properly regulated and protective water market which will allow water to move between users, including environmental uses, on a voluntary and compensated basis. The Water Transfer Program has a set of criteria that helps facilitate a protective market, or one that protects both those directly and indirectly involved in the water transfer transaction. Specifically, water transferees are encouraged to consider beneficial and adverse impacts on the fiscal integrity of districts and on the economy of agricultural communities in source and receiving areas. Policy-level recommendations of the CALFED Program are based upon the objectives and criteria of the Water Transfer Program.

EWA agencies factored into the project description the rationale for crop selection. Furthermore the project description limits EWA water acquisitions from idling to no more than 20 percent of recent harvested rice or cotton acreage in a county (refer to Section 11.2.8 for consideration of other water acquisition programs). EWA Project Agencies would gather accurate data regarding the amount of crop acreage previously harvested and idled in participating counties. The data are available from DWR Land Use Surveys, the USDA, and county crop reports. This information would be confirmed by the local Farm Bureau, local UCCE offices, the Agricultural Commissioners Office, or other crop specific authorities. Data collection and

confirmation strengthens the consistency between EWA and the Water Transfer Program.

The measures incorporated into the EWA project description are consistently applied in multi-year crop idling contracts. These stipulations would seek to maintain the current economic and social conditions.

The tables below provide background data on ethnic compositions (Table 19-2), and poverty and unemployment rates (Table 19-3) for counties in the Upstream from the Delta Region and the Export Service Area. Table 19-2 shows that on average, the Export Service Area is 44.2% Hispanic.

Table 19-2
Ethnicities by Region

	Upstream from the Delta Region	***Export Service Area***
Hispanic	24.1%	44.2%
White	74.1%	57%
Asian	5.3%	4.5%
African American	1.2%	5.3%
American Indian/Alaska Native	1.7%	1.6%
Native Hawaiian/Pacific Islander	0.2%	0.2%

Source: U.S. Census Bureau. Mapstats, 2000; values do not equal 100% due to multi-race reporting

Poverty rates are expressed as a percentage of households in the county living at the poverty level or below. The U.S. Census Bureau defines poverty thresholds (levels of income) for families of various sizes and compositions. Unemployment rates are expressed as the percent of the civilian labor force (all civilians 16 years of age and over) that is unemployed.

As shown in Table 19-3, U.S. Census data reveals that counties comprising the Export Service Area average a 24.5 percent poverty rate. In the Upstream from the Delta Region, the poverty rate is 16.6 percent[2]. Unemployment in Export Service Area counties in which EWA acquisitions could occur is 13.6%; unemployment in the Upstream from the Delta counties is 9.1%.

[2] The U.S. Census Bureau calculates information on poverty levels from forms requesting family size and income sent to one in every six households. In 1999, an annual income of $19,882 represented the U.S. Census Bureau poverty threshold for a family of five including three related children under 18 years of age; a single individual under 65 who earned $8,667 annually lived at the Federal poverty level. In California the poverty level for a family of five is a little higher, ranging between $22,940 and $24,160 (EDD 1999). Rosenberg, et al, (1998) describe average farmworkers as married with an average of 3 children, constituting a family of five.

Table 19-3 Average Poverty and Unemployment Levels		
	Upstream from the Delta Counties	Export Service Area
Poverty Rate[1]	16.6%	24.5%
Unemployment[2]	9.1%	13.6%

1 U.S. Census Bureau, 1999
2 EDD, 1999



Figure 19-1
Environmental Justice Area of Analysis

19.1.1 Area of Analysis

Consistent with corresponding portions in this EIS/EIR, the Environmental Justice Chapter divides the State into two regions: the Upstream from the Delta Region and the Export Service Area. EWA agencies are considering rice idling in Butte, Colusa, Glenn, Placer, Yolo, and Sutter in the Upstream from the Delta Region. They are also considering crop idling in Fresno, Kern, Kings, and Tulare in the Export Service Area. The boundaries of each county in each region define the Upstream from the Delta Region and the Export Service Area (refer to Figure 19-1).

19.1.2 Upstream from the Delta Region

Table 19-4 and 19-5 provide ethnic compositions, unemployment, and poverty rates for Upstream from the Delta counties.

Table 19-4 Ethnicities in Upstream from the Delta Counties						
County	Caucasian (%)	African-American (%)	American Indian/ Alaska Native (%)	Asian-American (%)	Native Hawaiian/ Pacific Islander (%)	Hispanic (%)
Butte	84.5	1.4	1.9	3.3	0.1	10.5
Colusa	64.3	0.5	2.3	1.2	0.4	46.5
Glenn	71.8	0.6	2.1	3.4	0.1	29.6
Placer	88.6	0.8	0.9	2.9	0.2	9.7
Sutter	67.5	1.9	1.6	11.3	0.2	22.2
Yolo	67.7	2.0	1.2	9.9	0.3	25.9

Source: U.S. Census Bureau, Mapstats, 2000; values do not equal 100% due to multi-race reporting

Table 19-5
County Demographics – Upstream from the Delta

County	*Population*[1]	*Portion of Total Hispanic Population that are Farmworkers*[2]	*Unemployment Rate*[3]	*Poverty Rate*[4]
Butte	195,220	23.4%	6.8%	20.9%
Colusa	18,844	43%	11.2%	19.9%
Glenn	26,328	37.6%	19.9%	11.2%
Placer	239,485	6.1%	3.2%	7.7%
Sutter	78,423	32.0%	4.3%	17.2%
Yolo	155,573	26.5%	4.3%	15.8%

(1) REIS, 1999
(2) U.S. Census Bureau, 2000 Mapstats
(3)EDD, 1999
(4) U.S. Census Bureau, 1999, State and County QuickFacts

References to demographic information sources are consistent throughout the chapter and will not be cited hereafter.

19.1.3 Export Service Area

Table 19-6 and 19-7 provide ethnic compositions, unemployment, poverty rates, and ethnic compositions for Export Service Area counties in which EWA acquisitions could occur.

Table 19-6
Ethnicities in Export Service Area

County	*Caucasian (%)*	*African-American (%)*	*American Indian/ Alaska Native (%)*	*Asian-American (%)*	*Native Hawaiian/ Pacific Islander (%)*	*Hispanic (%)*
Fresno	54.3	5.3	1.6	8.1	0.1	44.0
Kern	61.6	6.0	1.5	3.4	0.1	38.4
Kings	53.7	8.3	1.7	3.1	0.2	43.6
Tulare	58.1	1.6	1.6	3.3	0.1	50.8

Source: U.S. Census Bureau, Mapstats, 2000; values do not equal 100% due to multi-race reporting

Table 19-7
County Demographics – Export Service Area

County	*Population*[1]	*Portion of Total Hispanic Population that are Farmworkers*[2]	*Unemployment Rate*[3]	*Poverty Rate*[4]
Fresno	763,069	18.6%	13.4%	25.6%
Kern	642,495	9.6%	11.4%	21.0%
Kings	123,241	11.0%	13.1%	23.6%
Tulare	358,470	13.7%	16.5%	27.9%

(1)REIS, 1999
(2)U.S. Census Bureau, 2000 Mapstats
(3)EDD, 1999
(4)U.S. Census Bureau, 1999, State and County QuickFacts

19.2 Environmental Consequences/Environmental Impacts

Farmworkers affected by crop idling represent the community of concern for environmental justice in this analysis. This analysis defines disproportionate effects as effects that exceed a proportionate distribution of 50:50, which is defined as farmworker jobs affected over the total agricultural jobs affected by EWA. The remainder of this chapter discusses this relationship.

19.2.1 Assessment Methods

Although the environmental justice approaches contained within Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and California Government Code Section 65040.12 differ, the underlying intention of both regulations is the fair and equal treatment of all races, cultures, and incomes. The following text includes a statistical analysis that incorporates U.S. Census Bureau information, poverty rates, and ethnic compositions, as recommended by Executive Order 12898. The statistical analysis provides evidence of a social change associated with the EWA, yet the findings consider not only the statistical conclusions but also the more basic issue of whether the EWA Program is consistent with fair treatment of all races, cultures, and incomes.

This analysis assumes a worst-case scenario for crop idling conditions. In actual conditions, water contract negotiations would rely on a number of water acquisition options, as described in Chapter 2. Underlying each transaction is a number of factors that include price, water availability, and location. These factors change from year-to-year; therefore, the EWA Project Agencies would vary their acquisition strategy in each year. With the intent of providing the EWA Project agencies the greatest flexibility, the following text describes the maximum potential effect of idling in both the Upstream from the Delta Region and Export Service Area.

California Environmental Quality Act (CEQA) Guidelines provide guidance in determining Environmental Justice effects. CEQA Guidelines Section 15382 does not recognize an economic or social change as a significant effect, but social change may be considered as it relates to determining the significance of a physical change. For the purposes of this document, both quantitative and qualitative methods were used to evaluate whether the EWA Program would result in fair and equal treatment.

The analysis quantifies the effects on farmworkers using University of California Cooperative Extension (UCCE) crop budgets and county-level EWA crop idling acreage limits (Chapter 11). The UCCE crop budgets provide the number of full-time farmworkers needed for every 1,000 acres of productive rice and cotton farmland. The number is then multiplied by the number of acres that would be idled to provide an estimate of the maximum number of farmworkers displaced through EWA crop idling. The UCCE crop budgets do not count migrant workers; therefore, estimated labor effects may be conservative.

The findings of proportionality rely heavily on one main ratio:

> The total number of farmworkers and the total number of agriculturally-related jobs affected by EWA. (Chapter 11, Regional and Agricultural Economics, employs the IMPLAN model to derive the total number of jobs affected by EWA crop idling.)

This ratio is supported by the percentage of total farmworkers in the county affected by EWA, which is defined as total number of farmworker jobs lost by EWA of the total number of farmworkers in the county.

The total farmworker population, for the purposes of this analysis, uses the general "rule of thumb" adopted by local farm labor expert Phillip Martin, Ph.D., UCD, which states that between 25-30% of people reported by agricultural employers are not farmworkers. This analysis conservatively reports the number of farmworkers in each county as 70% of 1999 REIS farm employment.

19.2.2 Criteria for Determining Adverse Effects

The following factors will be considered in evaluating the environmental justice effects of the EWA Program:

- Whether there is or will be a direct or cumulative effect on the natural or physical environment that adversely affects a minority or low-income population that is proportionately high or adverse.

- Whether that effect on the natural or physical environment results in an effect on minority or low-income population that is disproportionately high, considering the population levels or income levels of all affected groups.

19.2.3 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

The No Action/No Project Alternative describes future conditions during Stage 1 of CALFED, if the EWA did not exist. With the exception of Placer County, the analysis of agricultural production during this assessment period shows that the current practices would remain constant. Farmers would continue to temporarily idle some land due to land practices and market issues, while other farmers would place previously idled land back into production. The continued rotation of these farming practices would cause some fluctuations in agricultural employment, but those changes would be expected to reflect that of the employment fluctuations described in the Affected Environment section.

Additionally, several CALFED and other government sponsored programs would idle land for restoration and habitat purposes. This would permanently take agricultural land out of production. (Refer to Chapter 22, Cumulative Analysis.)

The analysis of agricultural employment in Placer County indicates that urbanization would result in a decline to 1240 farm laborers in 2004 from 1720 employed

farmworkers in 1983 (REIS 1983). The No Action/No Project alternative would not alter this trend and thus, would have no effect on environmental justice issues in the county. The No Action/No Project alternative would have no bearing on positive farm labor employment trends in Colusa, Yolo, Butte, Sutter, Fresno, Kern, and Tulare counties.

19.2.4 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers of up to 600,000 acre-feet and does not specify transfer limits in the Upstream from the Delta Region or the Export Service Area. Crop idling potential in the Upstream from the Delta Region is greater during dry years when Delta availability allows EWA agencies additional capacity for transfers. Crop idling in the Export Service Area would most likely occur during wet years or when stored/banked groundwater would not be available; however, the purchases likely would be more expensive. The Flexible Purchase Alternative could limit crop idling transfers to between 540 and 550 TAF in the Export Service Area during wet years and progressively less during dry conditions. Crop idling decisions also depend upon precipitation in the north and south of the Delta that influence how the State Water Project (SWP) allocates existing resources.

Described below are the effects on farmworkers that may occur with maximum crop idling. The basis for a worst cast scenario analysis is to identify all potential effects and to provide EWA agencies flexibility in negotiating water transfer contracts with willing sellers.

19.2.4.1 Upstream from the Delta Region

Table 19-8 identifies the maximum amount of acreage that could be idled annually in each upstream county, as defined in Chapter 11 Regional and Agricultural Economics. As indicated, acreages represent the 20 percent of the county's rice acreage under 1995 through 1999 conditions.

Table 19-8
Proposed Acreages for Rice Idling –Upstream Areas
Flexible Purchase Alternative

County	*Total Acres of Rice in County*[1]	*Acreage Proposed for Idling*	*Percent of Total Rice Acres to be Idled*
Butte	95,120	19,000	20.0%
Colusa	132,338	26,460	20.0%
Glenn	83,777	16,750	20.0%
Placer	16,379	3,280	20.0%
Sutter	96,722	19,340	20.0%
Yolo	23,822	4,770	20.0%

(1) The figures representing total acres within the counties are based on a five-year average to take into account any recent land trends. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

Rice requires 2.7 full time farm labor equivalents for every 1000 acres (UCCE 1999). The total number of agribusiness laborers affected by crop idling[3] varies in each county. Chapter 11 Regional and Agricultural Economics contains a full account of the total number of agribusiness workers affected by crop idling. The total number of jobs affected in each county varies. The total number of jobs affected by crop idling in Butte County is 30 for every 1000 acres idled; in Colusa County it is 18 for every 1000 acres idled. (Refer to Table 11-30 in Chapter 11 Regional and Agricultural Economics.)

Table 19-9 compares the effects on the number of farmworkers who would lose jobs through EWA crop idling as a proportion of the total number of agribusiness jobs lost by EWA (various income levels and ethnicities comprise agribusiness workers). The table also provides the percentage that compares the total number of farmworkers in the county affected by EWA crop idling. The percentages vary with respect to the number of acres proposed for idling and the number of farmworkers in the county. The largest proportion of farmworkers affected in the Upstream of the Delta Region is in Colusa County where 15 percent of the EWA job losses affect farmworkers. These farmworkers represent 2.7 percent of the total farmworkers in Colusa County.

Table 19-9
EWA Labor Effects in Upstream from the Delta Counties
Flexible Purchase Alternative

County	*Number of County Farmworkers*[(1)]	*Number of Farmworkers' Jobs Lost by EWA*[(2)]	*Total Number of Jobs Lost by EWA*[(3)]	*Proportion of Jobs Affected by EWA that are Farmworkers (percent)*	*Percent of Total County Farm Labor Jobs Lost by EWA*
Butte	3,496	51	570	8.9	1.5
Colusa	2,633	71	476	14.9	2.7
Glenn	2,062	45	385	11.7	2.2
Placer	1,032	9	62	14.5	0.9
Sutter	3,937	52	425	12.2	1.3
Yolo	3,576	13	110	11.8	0.4

(1) REIS, 1999; county farm employment data incorporates Census of Agriculture, the Hired Farm Labor Survey from the National Agriculture Statistical Service (USDA), and Economic Research Service (USDA) wages. The Census of Agriculture offers the most complete geographic coverage of hired and contract farm labor use as measured by labor expenditures, and is currently the only national level data source that offers consistent farm labor information at the county and State level. The data includes hired workers on the farm, bookkeepers, secretaries, and mechanics who are generally not considered to be hired farmworkers. Philip Martin, Ph.D., UCD, nationally recognized local expert on farm labor issues, states as a "rule of thumb" that 25-30% of people reported by agricultural employers are not farmworkers. County Farmworker column represents 70% of REIS farm employment.
(2) Refer to Section 12.2.3
(3) Refer to Section 11.2.5.1.2

[3] Includes farmworkers, agribusiness workers, and others as calculated by the IMPLAN model (Chapter 11).

Crop idling in the Upstream from the Delta Region could contribute to disproportionate unemployment of low-income, minority farmworkers. Although crop idling does result in farmworker job loss, the majority of the loss affects agricultural services (a diverse and multi-faceted industry). Crop idling in the Upstream from the Delta Region results in no disproportionate effect.

19.2.4.2 Export Service Area

Table 19-10 identifies the maximum amount of cotton acreage that would be idled in each county in the Export Service Area.

Table 19-10
Proposed Acreages for Cotton Idling – Export Service Area
Flexible Purchase Alternative

County	*Total Acres of Cotton in County*[1]	*Acreage Proposed for Idling*	*Percent of Total Cotton Acres to be Idled*
Fresno	352,880	70,500	20.0%
Kern	246,616	49,300	20.0%
Kings	222,543	44,500	20.0%
Tulare	92,680	18,500	20.0%

(1) The figures representing total acres within the counties are based on a five-year average to take into account any recent land trends. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

Every 1000 acres of cotton requires 6.6 full time farm labor equivalents (UCCE 1999). Table 19-11 shows the total number of jobs lost and the number of farmworker jobs lost when maximum idling occurs in each Export Service Area county. The table also shows the percentage of all farm labor in each county that is affected by EWA crop idling. The largest proportion of farmworkers affected in the Export Service Area is in Kings County where job losses from EWA crop idling affect farmworkers 44.0 percent of the time. Of the 4,361 farmworkers in Kings County, EWA would affect 6.7 percent.

Crop idling in the Export Service Area could contribute to disproportionate unemployment of low-income, minority farmworkers. Although crop idling does result in farmworker job loss, the majority of the loss does not fall upon farmworkers. Crop idling in the Export Service Area results in no disproportionate effect.

Table 19-11
EWA Labor Effects Export Service Area Counties
Flexible Purchase Alternative

County	Number of County Farmworkers[1]	Number of Farmworkers' Jobs Lost by EWA[2]	Total Number of Jobs Lost by EWA[3]	Proportion of Jobs Affected by EWA that are Farmworkers (percent)	Percent of Total County Farm Labor Jobs Lost by EWA
Fresno	25,161	465	1127	41.2	1.8
Kern	17,126	325	740	43.9	1.9
Kings	4,361	294	668	44.0	6.7
Tulare	17,982	122	276	44.2	0.7

(1) REIS, 1999; county farm employment data incorporates Census of Agriculture, the Hired Farm Labor Survey from the National Agriculture Statistical Service (USDA), and Economic Research Service (USDA) wages. The Census of Agriculture offers the most complete geographic coverage of hired and contract farm labor use as measured by labor expenditures, and is currently the only national level data source that offers consistent farm labor information at the county and State level. The data includes hired workers on the farm, bookkeepers, secretaries, and mechanics who are generally not considered to be hired farmworkers. Philip Martin, Ph.D., UCD, nationally recognized local expert on farm labor issues, states as a "rule of thumb" that 25-30% of people reported by agricultural employers are not farmworkers. County Farmworker column represents 70% of REIS farm employment.
(2) Refer to Section 12.2.3
(3) Refer to Chapter 11.2.5.1.2

Though difficult to quantify and factor into the analysis, farmers would benefit by receiving a more reliable water supply, which could enhance their ability to plan for production. Any financial returns could be invested into various sectors of the agribusiness community, which may result in increased farmworker opportunities.

Public meetings introducing the EWA EIS/EIR will encourage open participation of people of all race, color, and national origin. Diverse involvement accommodates an equitable distribution of EWA benefits. Informational materials regarding EWA crop idling actions will be made accessible and understandable to farmworkers and all members of the public attending the meetings.

19.2.5 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative would involve the same actions as the Flexible Purchase Alternative, but to a lesser degree. The Fixed Purchase Alternative limits Upstream from the Delta transfers to 35,000 acre-feet and Export Service Area transfers to 150,000 acre-feet likely resulting in less idling upstream and in the Export Service Area. Although it is unlikely that the EWA agencies would rely entirely on crop idling because of other available options, this section discusses the maximum amount of crop idling that can occur in one year under the Fixed Purchase Alternative.

Table 19-12 shows the maximum idling acreages under the Fixed Purchase Alternative. Acreages are less than the Flexible Purchase Alternative in Butte, Sutter, and Fresno Counties. Acreages are consistent with those found in Chapter 11,

Regional and Agricultural Economics, and reflect idling associated with maximum Fixed Purchase Alternative transfers.

Table 19-12
Proposed Acreages for Rice/Cotton Idling for Fixed Purchase Alternative

Region	*County*	*Total Acres of Rice/ Cotton in County*[1]	*Acreage Proposed for Idling*	*Percent of Total Rice/ Cotton Acres to be Idled*
Upstream Region	Butte	95,120	10,600	11.1%
	Colusa	132,338	15,000	11.3%
	Glenn	83,777	15,000	17.9%
	Placer	16,379	3,280	20.0%
	Sutter	96,722	10,600	10.9%
	Yolo	23,822	4,770	20.0%
Export Service Area	Fresno	352,880	65,000	18.4%
	Kern	246,616	49,300	20.0%
	Kings	222,543	44,500	20.0%
	Tulare	92,680	18,500	20.0%

(1) The figures representing total acres within the counties are based on a five-year average to take into account any recent land trends. The data is taken from the County Agricultural Commissioners Reports from 1995 to 1999.

19.2.5.1 Upstream from the Delta Region

Table 19-13 shows the number of farmworker jobs lost with maximum crop idling proposed by the Fixed Purchase Alternative. The largest proportion of farmworkers affected in the Upstream from the Delta Region is in Colusa County where farmworkers lose 15.2 percent of the total EWA job loss. This number affects 1.6 percent of the total farmworkers in Colusa County.

Table 19-13
EWA Labor Effects in Upstream from the Delta Region

County	*Number of County Farmworkers*[1]	*Number of Farmworker Jobs Lost by EWA*[2]	*Total Number of Jobs Lost by EWA*[2]	*Proportion of Jobs Affected by EWA that are Farmworkers (percent)*	*Percent of Total County Farm Labor Jobs Lost by EWA*
Butte	3,496	29	318	9.1	0.8
Colusa	2,633	41	270	15.2	1.6
Glenn	2,062	41	345	11.9	2.0
Placer	1,032	9	62	14.5	0.9
Sutter	3,937	29	233	12.4	0.7
Yolo	3,576	13	110	11.8	0.4

(1) REIS, 1999; county farm employment data incorporates Census of Agriculture, the Hired Farm Labor Survey from the National Agriculture Statistical Service (USDA), and Economic Research Service (USDA) wages. The Census of Agriculture offers the most complete geographic coverage of hired and contract farm labor use as measured by labor expenditures, and is currently the only national level data source that offers consistent farm labor information at the county and State level. The data includes hired workers on the farm, bookkeepers, secretaries, and mechanics who are generally not considered to be hired farmworkers. Philip Martin, Ph.D., UCD, nationally recognized local expert on farm labor issues, states as a "rule of thumb" that 25-30% of people reported by agricultural employers are not farmworkers. County Farmworker column represents 70% of REIS farm employment.

(2) Refer to Section 12.2.4

(3) Refer to Section 11.2.7, Table 11-43

Crop idling in the Upstream from the Delta Region could contribute to disproportionate unemployment of low-income, minority farmworkers. Although crop idling does result in farmworker job loss, the majority of the loss affects agricultural services (a diverse and multi-faceted industry. Crop idling in the Upstream from the Delta Region results in no disproportionate effect.

19.2.5.2 Export Service Area

Table 19-14 shows the number of farmworker jobs lost with maximum crop idling in the Export Service Area. Farmworkers lose approximately 40 percent of the total EWA job loss. This job loss would affect between 0.7 and 6.7 percent of all farm labor in the region.

Table 19-14
EWA Labor Effects in Export Service Area

County	*Number of County Farmworkers*[1]	*Number of Farmworker Jobs Lost by EWA*[2]	*Total Number of Jobs Lost by EWA*[3]	*Proportion of Jobs Affected by EWA that are Farmworkers (percent)*	*Percent of Total County Farm Labor Jobs Lost by EWA*
Fresno	25,161	429	1038	41.3	1.7
Kern	17,126	325	752	43.2	1,9
Kings	4,361	294	668	44.0	6.7
Tulare	17,982	122	276	44.2	0.7

(1) REIS, 1999; county farm employment data incorporates Census of Agriculture, the Hired Farm Labor Survey from the National Agriculture Statistical Service (USDA), and Economic Research Service (USDA) wages. The Census of Agriculture offers the most complete geographic coverage of hired and contract farm labor use as measured by labor expenditures, and is currently the only national level data source that offers consistent farm labor information at the county and State level. The data includes hired workers on the farm, bookkeepers, secretaries, and mechanics who are generally not considered to be hired farmworkers. Philip Martin, Ph.D., UCD, nationally recognized local expert on farm labor issues, states as a "rule of thumb" that 25-30% of people reported by agricultural employers are not farmworkers. County Farmworker column represents 70% of REIS farm employment.

(2) Refer to Section 12.2.4

(3) Refer to Section 11.2.7, Table 11-43

Crop idling in the Export Service Area could contribute to disproportionate unemployment of low-income, minority farmworkers. Although crop idling does result in farmworker job loss, the majority of the loss affects agricultural services (a diverse and multi-faceted industry. Crop idling in the Export Service Area results in no disproportionate effect.

Though difficult to quantify and factor into the analysis, farmers would benefit by receiving a more reliable water supply, which could enhance their ability to plan for production. Any financial returns could be invested into various sectors of the agribusiness community, which may result in increased farmworker opportunities.

Public meetings introducing the EWA EIS/EIR will encourage open participation of people of all race, color, and national origin. Diverse involvement accommodates an equitable distribution of EWA benefits. Informational materials regarding EWA crop idling actions will be made accessible and understandable to farmworkers and all members of the public attending the meetings.

19.2.6 Comparative Analysis of Alternatives

19.2.6.1 Upstream from the Delta

This section provides an analysis of maximum effects on farmworkers produced by the Fixed and Flexible Purchase Alternatives. In each case, "worst-case scenarios" in a given year identified impacts of maximum reliance on crop idling for water acquisitions. This approach ensures that all effects of transfers are included, and provides the EWA Project Agencies the flexibility to choose transfers that may be preferable in a given year. The EWA, however, would not actually purchase all of this water in the same year. This section provides information about how EWA would more likely operate in different year types.

No Project conditions in the Upstream from the Delta Region indicate that farm labor employment is generally increasing in Colusa, Yolo, Butte, and Sutter counties. Urbanization in Placer County is resulting in a declining trend in farm labor employment levels. These trends are expected to continue during wet and dry years regardless of EWA. The Baseline Condition reflects no disproportionate affects on minority and low-income communities.

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. In most years, this amount could be obtained from stored reservoir water purchases. In those years when surface water assets were not available (in part or in total), the EWA agencies would acquire water first from groundwater substitution and/or groundwater purchase, followed by crop idling. Because of other available options, the Fixed Purchase Alternative would not likely require nor involve acquisition of water from crop idling; therefore it would not result in environmental justice effects. However, the analysis provides the maximum number of jobs lost via the Fixed Purchase Alternative, in the unlikely chance that crop idling was the only option available for provision of the entire 35,000 acre-feet of water.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources in the Upstream from the Delta Region. EWA agencies would prefer to purchase water from upstream sources because the water is generally less expensive. The amount that could be purchased would be limited by the availability of the Delta export pumps to move the water to export areas south of the Delta. During wet years, pump capacity availability may be limited to as little as 50,000 acre-feet of EWA asset water because the pumps primarily would be used to export State and Federal Project water to Export Service Area users. During dry years, when there would be less Project water available for pumping (and therefore the pumps would have greater availability capacity), the EWA Project Agencies could acquire up to 600,000 acre-feet of water in the Upstream from the Delta Region.

The potential for environmental justice effects during wet years for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative. That is, during wet years, acquisitions would most likely be from stored water sources and

crop idling would not be exercised. However, as rainfall amounts for areas north of the Delta decrease, reflecting dry year conditions, the greater capacity of the export pumps to move EWA assets could result in a greater reliance on crop idling for the additional EWA acquisitions. If the EWA Project Agencies were to acquire 600,000 acre-feet in the Upstream from the Delta Region, they would need to utilize most available sources, which would include stored reservoir water, groundwater substitution, groundwater purchase, and crop idling. Increased crop idling in dry years would increase agricultural worker unemployment in Butte, Colusa, Glenn, and Sutter counties.

19.2.6.2 Export Service Area

No Project conditions in the Export Service Area indicate that farm labor employment is generally increasing in Fresno, Kern, and Tulare counties, yet remains stable in Kings County. These trends are expected to continue during both wet and dry years regardless of EWA. No Project conditions reflect no disproportionate effects on minority and low-income communities.

EWA asset acquisitions in the Export Service Area under the Fixed Purchase Alternative would be limited to 150,000 acre-feet from stored groundwater and crop idling sources. The EWA agencies would purchase stored groundwater first, and then purchase water from crop idling if more is needed. Stored groundwater has finite availability, and 150,000 acre-feet would not likely be available in all years. In years with less stored groundwater availability, EWA agencies would turn to crop idling for the remaining water.

EWA asset acquisitions in the Export Service Area under the Flexible Purchase Alternative would be dependent on the water year type north of the Delta. Export pump availability during wet years would limit the ability of the EWA Project Agencies to move assets through the Delta, requiring reliance on greater purchase amounts from export area sources. During wet years, acquisitions within the Export Service Area could involve up to 600,000 acre-feet of assets. Much of this water would be from crop idling; therefore, environmental justice effects of the Flexible Purchase Alternative are likely to be greater than the Fixed Purchase Alternative, but still not significant.

Table 19-15 (below) reflects the effects on the number of farmworker jobs lost by the Fixed and Flexible Alternative transfers. Water transfers under the Fixed Alternative result in fewer job losses in Butte, Colusa, Glenn, Sutter, and Fresno, yet percentage of effects on farmworkers relatively remains the same.

Table 19-15
Comparison of the Flexible Purchase and Fixed Purchase Alternatives
Environmental Justice

Region	*County*	*Asset Acquisition or Management*	*Result*	*Impacts*	*Flexible Purchase Alternative Job Loss*	*Fixed Purchase Alternative Change*	*Significance of Effects for Flexible Purchase Alternative*	*Significance of Effects for Fixed Purchase Alternative*
Upstream from the Delta Region	Butte	Crop Idling	Conversion of rice crops to bare fields	Reduce rice crop acreage in Butte County	51 farmworker jobs lost; 570 total jobs	29 farmworker jobs lost; 318 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Colusa	Crop Idling	Conversion of rice crops to bare fields	Reduce rice crop acreage in Colusa County	71farmworker jobs lost; 476 total jobs lost	41 farmworker jobs lost; 270 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Glenn	Crop Idling	Conversion of rice crops to bare fields	Reduce rice crop acreage in Glenn County	45 farmworker jobs lost; 385 total jobs lost	41 farmworker jobs lost; 345 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Placer	Crop Idling	Conversion of rice crops to bare fields	Reduce rice crop acreage in Placer County	9 farmworker jobs lost; 62 total jobs lost	9 farmworker jobs lost; 62 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Sutter	Crop Idling	Conversion of rice crops to bare fields	Reduce rice crop acreage in Sutter County	52 farmworker jobs lost; 425 total jobs lost	29 farmworker jobs lost; 233 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Yolo	Crop Idling	Conversion of rice crops to bare fields	Reduce rice crop acreage in Yolo County	13 farmworker jobs lost; 110 total jobs lost	13 farmworker jobs lost; 110 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
Export Service Area	Fresno	Crop Idling	Conversion of cotton crops to bare fields	Reduce cotton crop acreage in Fresno County	465 farmworker jobs lost; 1127 total jobs lost	429 farmworker jobs lost; 1038 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Kern	Crop Idling	Conversion of cotton crops to bare fields	Reduce cotton crop acreage in Kern County	325 farmworker jobs lost; 752 total jobs lost	325 farmworker jobs lost; 752 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Kings	Crop Idling	Conversion of cotton crops to bare fields	Reduce cotton crop acreage in Kings County	294 farmworker jobs lost; 668 total jobs lost	294 farmwworker jobs lost; 668 total jobs lost	No disproportion-ate effect	No disproportion-ate effect
	Tulare	Crop Idling	Conversion of cotton crops to bare fields	Reduce cotton crop acreage in Tulare County	122 farmworker jobs lost; 276 total jobs lost	122 farmwworker jobs lost; 276 total jobs lost	No disproportion-ate effect	No disproportion-ate effect

19.2.7 Cumulative Effects

Programs cumulatively considered in conjunction with the EWA are: 1) Sacramento Valley Water Management Agreement, 2) Dry Year Purchase Program, 3) Drought Risk Reduction Investment Program (DRRIP), 4) Central Valley Project Improvement Act (CVPIA) Water Acquisition Program (WAP), 5) Environmental Water Program (EWP), and the Ecosystem Restoration Program (ERP). For details of each program, please see Chapter 22. At this time, the Sacramento Valley Water Management Agreement does not include water acquisition via crop idling and would not contribute to effects on low-income or minority people. The EWP retains the option to incorporate crop idling into the program. The Dry Year Purchase Program and DRIPP would combine into one program upon completion of a programmatic document in October 2004 (Jones 2002). Though the full scope is yet undetermined, it is possible that water acquisition via crop idling in the Export Service Area is possible (Jones 2002). Of additional consideration are future crop idling programs such as the

Westlands Global Land Settlement Program and programs that arise in response to a reduction of Colorado River water.

Cumulative effects analysis for environmental justice focuses on those water acquisition programs involving crop idling in the upstream region during dry years and in the Export Service Area. During dry years, the capacity to transfer water through the Delta increases. Programs that would exercise parallel options are the CVPIA (WAP), the ERP, the EWP, and DRRIP. CVPIA (WAP) purchases water from willing sellers given sufficient quantities are available (Jewel 2002). CALFED agencies developed the EWP to carry out flow-related goals of the ERP. The EWP on behalf of the ERP could purchase agricultural land in the Upstream from the Delta Region for habitat restoration and reduce the demand for farm labor.

Although details are still under negotiation and the final outcome is unclear, Westland Water District, under the Global Land Settlement Program, is planning to permanently idle up to 200,000 acres of drainage-impaired land. Once details of the proposed Global Land Settlement Program become available, it is assumed that there will be a transition period requiring coordination between water acquisition programs and farm labor. EWA agencies would maintain close contact with these counties to determine crop idling potential for the Westland Water District. If unemployment conditions are higher than the EWA baseline presented in this EIS/EIR, EWA agencies may choose to avoid crop idling in the district until unemployment conditions stabilize.

EWA agencies would avoid cumulative effects to farmworkers subsequent to these programs by conducting annual investigations of crop idling conditions in each county and water district before initiating further crop idling discussion. During such investigations the EWA agencies would consider other reasonably, foreseeable transfers by all water transfer programs when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the rice land in a county, where this 20 percent would include the other, reasonably foreseeable transfers. Information regarding the amount of idled crop acreage should come from DWR Land Use Surveys, the USDA, and county crop reports. Local Farm Bureaus, UCCE offices, Agricultural Commissioners Offices, or other crop specific authorities could verify the information. With careful coordination, data collection, and verification efforts, crop idling for the EWA would not cumulatively contribute adverse conditions on farm labor.

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Chapter 20
Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for federally-recognized Indian tribes or individual Indians. Land assets held in trust for individual Indians are more specifically referred to as allotments, or as in the case of allotments created out of public domain lands - Public Domain Allotments (PDAs). An Indian trust has three components: 1) the trustee, 2) the beneficiary, and 3) the trust asset. ITAs can include lands, minerals, federally reserved hunting and fishing rights, federally reserved water rights, and in-stream flows associated with a reservation, rancheria, or PDA. Beneficiaries of the Indian trust relationship are federally-recognized Indian tribes and individual Indians with trust land; the United States is the trustee.

By definition, ITAs cannot be sold, leased, or otherwise encumbered without approval of the United States. The definition and application of the U.S trust relationship has been defined by case law that supports Congressional acts, executive orders, and historic treaty provisions.

Consistent with President Clinton's April 29, 1994, Memorandum, CALFED agencies assess the effect of their programs on tribal trust resources and federally reserved tribal governmental rights and concerns. CALFED agencies are tasked to actively engage federally-recognized tribal governments and consult with such tribes on a government-to-government level. The Department of Interior Departmental Manual Part 512 Chapter 2, Departmental Responsibilities for Indian Trust Resources, ascribes the responsibility for ensuring protection and preservation of ITAs from loss, damage, and unlawful alienation, waste, and depletion to the heads of bureaus and offices. EWA agencies will be responsible for assessing whether Environmental Water Account (EWA) water acquisitions and management options have the potential for affecting ITAs.

It is the general policy of the Department of Interior to carry out activities in a manner that protects ITAs and avoids adverse effects whenever possible (Reclamation Indian Trust Asset Policy, July 2, 1993). EWA agencies have incorporated protective environmental measures into the project description and may invoke mitigation measures that reduce effects to a less than significant level. These measures would ensure compliance with threshold levels of significance documented within this Environmental Impact Statement/ Environmental Impact Report (EIS/EIR). In the event an effect is identified, consultation with affected federally recognized tribal governments proceeds through the EWA agencies, the Bureau of Indian Affairs, the Office of the Solicitor, and the Office of American Indian Trust.

EWA water acquisition and management options include groundwater substitution, stored reservoir water, crop idling, groundwater purchase, and source shifting. Water purchase agreements are structured to recognize local leadership and work cooperatively with water associations, local government, and local interests, including

tribes. Should tribes choose to supply water to the EWA, transactions will comply with procedures contained in the Department of Interior Department Manual Part 512, Chapter 2. These guidelines protect tribal resources and require approval of the Secretary of Interior before sale of land, natural resources, water, or other assets. Federally reserved water rights held in trust for tribes by the United States are ITAs that are restricted from being separated from tribes and individual Indians without the approval of the Secretary of the Interior.

20.1 Affected Environment/Existing Conditions

The EWA Study area comprises the Upstream from the Delta Region and the Export Service Area. Because there are no Indian trust lands located in the Delta, and no actions potentially affecting ITAs are planned in the Delta, this section eliminates this geographic area from further ITA impact analysis.

Areas for groundwater purchase and additional groundwater storage are limited to areas previously used for groundwater storage; therefore, any new sale of groundwater for EWA purposes can only occur from existing groundwater storage areas. Because these actions would not affect ITAs, this section eliminates such options from further analysis.

Exercising source shifting to protect against a low point problem in San Luis Reservoir involves increased use of water from Castaic Lake, Lake Perris, Lake Mathews, Anderson Reservoir, and Diamond Valley Lake. There is no direct overlap between these reservoirs and Indian land. The Soboba Reservation lies less than ten miles northeast of Diamond Valley (Welch 2003). This section will not include detailed effects analysis for source shifting because Indian trust land does not overlap reservoirs that are subject to source shifting and the nearest reservoir is ten miles north east of Diamond Valley Lake.

Acquiring EWA assets through increased use of stored reservoir water involves reservoirs on the Middle Fork of the Upper American River (French Meadows and Hell Hole), North Yuba River (New Bullards Bar), and South Fork of the Feather River (Little Grass Valley and Sly Creek). Based on GIS data, the nearest trust land is 9.2 miles away from the reservoirs in question (Welch 2003). It is presumed there are no off-reservation, federally-reserved hunting, fishing, or gathering rights near reservoirs proposed for stored reservoir water transfer[1].

Crop idling could produce fugitive dust that may affect adjacent land uses. Rainfall and rice production practices in upstream areas, and mitigation measures outlined in Section 8.2.7 would reduce potential effects to a less than significant level.

[1] Project proponents need to acquire enabling legislation that establishes Indian trust land and any off-reservation federally reserved rights.

Groundwater substitution could result in increased depth to groundwater in neighboring vicinities and/or increasing costs of groundwater pumping. This action could interfere with federally reserved water rights.

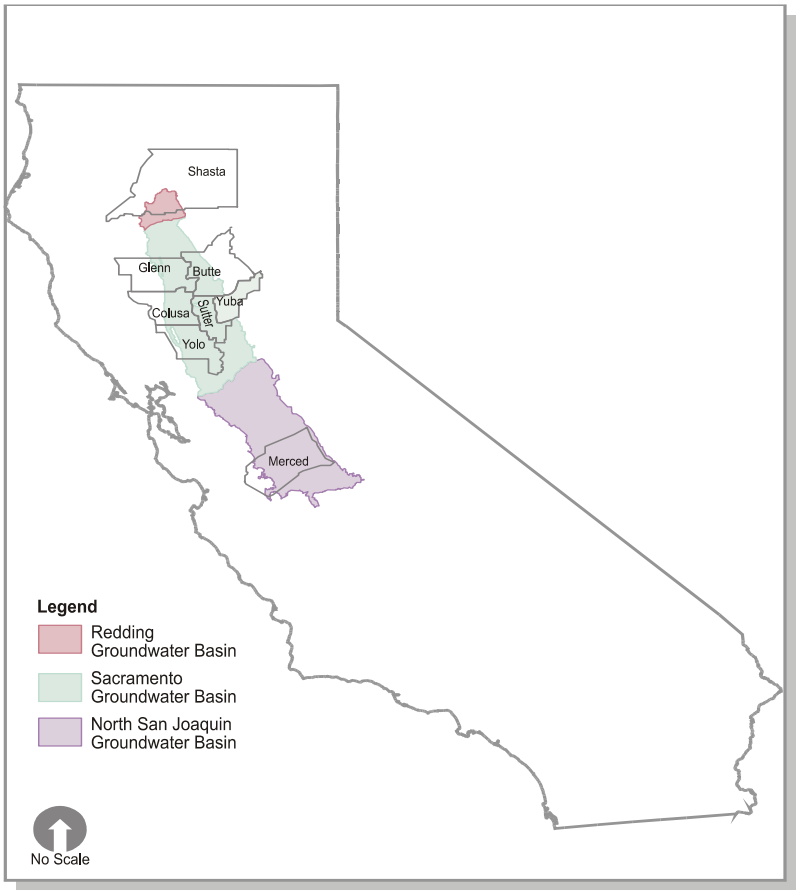


Figure 20-1
Indian Trust Assets Area of Analysis

20.1.1 Area of Analysis

Groundwater substitution is the only water acquisition option that could potentially affect ITAs. EWA agencies are proposing groundwater substitution in the Upstream from the Delta Region along the Sacramento, Feather, Yuba , and Merced Rivers (Figure 20-1). Discussion of ITAs proceeds from north to south along these river systems.

20.1.1.1 Upstream from the Delta Region

20.1.1.1.1 Sacramento River

The northernmost indigenous California people in the EWA project area were the Achowami, Atsugewi, Ajumawi, Wintun, Pit River, and the Yana (San Diego State University 2002). Descendants of these tribes live on the Big Bend, Burney Tract, Montgomery Creek, Redding, and Roaring Creek Rancherias in Shasta County. Shasta County also has 15 PDAs.

Maidu and Wintun people inhabited the downstream Colusa Basin section of the Sacramento River (CDM 1995; Glenn Colusa Irrigation District, California Department of Fish & Game, U.S. Bureau of Reclamation, U.S. Army Corps of Engineers 1998). The Wintun Tribe comprises three divisions: Patwin, Nomlaki, and Wintu. Present-day descendants of the Wintun live on the Colusa (Cachil Dehe) and Cortina Rancherias in Colusa County and Rumsey Rancheria in Yolo County. Wintun-Wailaki descendants in Glenn County live on the Grindstone Creek Rancheria. The Paskenta Band of Nomlaki Indians has a large tract of trust land in Glenn County, just northwest of Orland, near I-5. Colusa County has one PDA; there are no PDAs in Glenn and Yolo Counties.

20.1.1.1.2 Feather River

Evidence indicates that the Feather River region was inhabited by the Wintun and Maidu people for thousands of years. The Konkow, the northwestern branch of the Maidu nation, inhabited portions of the Central Valley and western slopes of the Sierra Nevada to the north and northeast of Sutter Buttes. The Konkow were bordered on the west by the Nomlaki (Wintun) and on the north by the Yana and Northeastern Maidu. The southernmost group of the Yana was the Yahi (City of Oroville 1995; Butte County 1998). The southernmost Maidu called themselves the Nisenan people, and occupied the drainages of the Yuba, Bear, and American Rivers, and the lower drainages of the Feather River (Sutter County 2001).

Major political Nisenan sites were along the mouths of the Feather, American, and Yuba Rivers. Abundant game, waterfowl, fish, and plant resources supported the entire region (Wilson and Towne 1978).

Descendants of the Maidu live on the Greenville Rancheria in Plumas County and on the Mooretown, Berry Creek, and Enterprise Rancherias in Butte County. The Mechoopda Indian Tribe of the Chico Rancheria (a federally-recognized Tribe) recently acquired 50 acres in fee status in Butte County. Fee land by definition is not held in trust by the United States.

Two PDAs exist in Butte County. Sutter County has no rancherias, reservations, or PDAs.

20.1.1.1.3 Yuba River

Native Americans indigenous to Yuba County are the Maidu. Southern Maidu occupied the Bullards Bar area. Valley Nisenan villages were generally located along watercourses (Yuba County 1994). Yuba County has no rancherias, reservations or PDAs.

20.1.1.1.4 Merced

Inhabited largely by the Yokuts Indian group, the San Joaquin Valley contained approximately 50 different Yokuts tribes. Tribes typically occupied areas along small creeks and streams where villagers could weave lodges out of the profusely growing tule. The Yokuts were nearly extinct by the 1800s due to diseases brought by missionaries and miners (Merced County 2001). Merced County contains no rancherias, reservations, or PDAs.

20.2 Environmental Consequences/Environmental Impacts

20.2.1 Assessment Methods

Under each alternative, the EWA Project Agencies would negotiate contracts with willing sellers based on a number of factors, including price, water availability, and location. These factors would change from year-to-year; therefore, the EWA Project Agencies may choose to vary their acquisition strategy in each year. For maximum

flexibility, this analysis includes many potential transfers when the EWA Project Agencies would likely not need all transfers in a given year. Chapter 2 defines the transfers that are included in this analysis.

Potential effects on ITAs stem from actions or activities that would affect Indian trust lands and federally reserved hunting, fishing, gathering, water, or other rights. Groundwater substitution could potentially affect ITAs. The first step of the impact analysis was to identify likely locations for EWA groundwater substitution transfers and their relationship to ITAs through the following process:

1) The Bureau of Indian Affairs 2000 Indian Trust Lands map was used to identify and eliminate tribal trust lands in the foothills of the Coast Range and Sierra Nevada, as groundwater transfers will not take place in these locations.
2) Indian trust lands located outside of groundwater basins (in areas of consolidated rock) and far from any EWA pumping in the Central Valley were eliminated (such as the Cortina and Table Mountain Rancherias). EWA groundwater substitution transfers would not occur in these areas.
3) Potentially affected ITAs in unconsolidated deposits of sands and gravels with major rivers and streams that act as recharge sources in the Central Valley include those associated with the:

    a. Redding Rancheria
    b. Colusa (Cachil Dehe) Rancheria
    c. Paskenta Band of Nomlaki Indians

4) Consistent and careful monitoring would ensure that groundwater transfers do not deplete riverflows.

If EWA agencies identify potential impacts to ITAs, tribal consultation will then precede any formal EWA groundwater transfer in the vicinity of the three identified tribes. Government–to-government consultation shall take place to determine interests, concerns, effects, and appropriate mitigation measures. (Refer to Figure 20-1.) Consultation may involve the EWA agencies, the Bureau of Indian Affairs, the Regional Solicitor's Office, and the California Department of Water Resources (DWR).

20.2.2 Significance Criteria

An effect is considered potentially significant if implementation of an EWA action would adversely affect ITAs. Direct effects are those that result from EWA acquisitions via groundwater substitution.

This analysis determines that groundwater substitution operations would have significant effects if the action:

- Interferes with the exercise of a federally reserved water right;

- Degraded water quality where there is a federally reserved water right;
- Adversely affects the health of the tribe by decreasing water supplies;
- Interferes with the use, occupancy, or character of Indian trust lands by decreasing groundwater tables;
- Adversely affects fish and wildlife where there is a federally reserved hunting, gathering, or fishing right.

20.2.3 Environmental Measures Incorporated into the Project Description

Consistent with the CALFED ROD and the Department of Interior Departmental Manual Part 512 Chapter 2, EWA agencies have adopted the following environmental measures into the project description to reduce the EWA's potential effects on ITAs.

1) If there is a potential effect to ITAs identified by the EWA agencies, then consultation will be initiated by the EWA agencies with the affected tribes in the groundwater sub-basin as defined in Bulletin 118 before groundwater substitution transfers are finalized and signed. The purpose of the tribal consultation will be to further identify the nature of the effect and to identify appropriate mitigation measures.

2) EWA agencies will discuss appropriate avoidance and/or mitigation strategies on a government-to-government basis. The tribal consultation process will take place with the affected federally-recognized Indian tribes and EWA agencies. Separate mitigation measures may be required for different types of trust assets, including federally reserved water, land, minerals, hunting, fishing, and gathering rights. Mitigation measures would ensure compliance with thresholds of significance documented within this EIS/EIR. Mitigation measures are found in Sections 4.2.8 (Surface Water Supply and Water Management), 7.2.7 (Geology and Soils), 8.2.7 (Air Quality), and 16.3.9 (Power Production).

20.2.4 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

In the No Action/No Project Alternative, ITAs would remain protected and intact. Water transfers from existing groundwater storage basins would continue to respect the integrity of federally protected lands, minerals, hunting and fishing rights, water rights, and in-stream flows associated with a reservation, rancheria, or PDA. The No Action/No Project Alternative would not affect water usage or availability. Land use, occupancy, and character of Indian trust lands would remain unaffected. The No Action/No Project Alternative, therefore, reflects the same conditions as the Affected Environment. The No Action/No Project Alternative would have no effect on ITAs.

Figure 20-2

The NEPA basis of comparison is the Future Conditions Without the Project. As described in the above paragraph, the Affected Environment and the Future Conditions Without the Project are the same; therefore, they are collectively referred to as the Baseline Condition in the following sections.

20.2.5 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers of up to 600,000 acre-feet and does not specify transfer limits in the Upstream from the Delta Region or the Export Service Area. Transfers that take place in the Upstream from the Delta Region would be between 50,000 and 600,000 acre-feet, limited by hydrologic year and conveyance capacity through the Delta. Although all potential transfers would not occur in one year, this section discusses potential impacts of maximizing groundwater substitution, although EWA agencies have a variety of available acquisition options that they may choose to vary according to hydrologic conditions and need. Because groundwater substitution would not occur in the Export Service Area, this EWA action would not affect the Export Service Area. The following impact analysis concentrates on the Upstream from the Delta Region.

20.2.5.1 Upstream from the Delta Region

The following impact analysis and discussion is not divided along rivers. The potential effects on ITAs due to groundwater substitution would not differ by county or river, except that the EWA agencies have not proposed groundwater substitution along the American River. Therefore, the effects of groundwater substitution on the remaining rivers are evaluated together.

20.2.5.1.1 Sacramento, Feather, Yuba, and Merced Rivers

EWA acquisition of water from Sacramento River Agencies, Feather River Agencies, Yuba County Water Agency, and Merced Irrigation District via groundwater substitution would decrease groundwater levels. Landowners and tribes in the vicinity of a groundwater substitution transfer could experience drawdown in wells relative to the Baseline Condition, which could increase costs of bringing the water to the surface or potentially dry out wells. Section 6.2.7, Groundwater Mitigation Measures, contains specifications for monitoring and mitigation plans that reduce potential third party effects. Water acquisitions shall require notification of the EWA agencies, and if potential effects to ITAs are identified, then consultation by EWA agencies with the affected federally-recognized Indian tribe will commence before the water acquisition is finalized in order for the EWA agencies to fully execute their Federal Indian trust responsibilities. The EWA agencies in consultation with affected tribes will identify tribal concerns, issues, tribal regulations, and recommendations that could further minimize effects to ITAs.

Multi-year contracts for sale of water to EWA agencies are contingent on the abovementioned groundwater mitigation measures. Transfers should:

- not exceed significance criteria found in Groundwater Section 6.2.2;
- assure that use of extraction wells minimizes risk to surface and groundwater quality;
- incorporate an adequate monitoring program; and
- proceed only after appropriate tribal consultation has been completed, if federally-recognized ITAs are potentially affected.

All groundwater mitigation measures must be implemented before the EWA agencies authorize a second year of groundwater acquisitions.

20.2.6 Environmental Consequences/Environmental Impacts of the Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet in the Upstream from the Delta Region and 150,000 acre-feet in the Export Service Area. While the amounts in each region are fixed, the acquisition types and sources could vary. To allow the EWA Project Agencies maximum flexibility when negotiating purchases with willing sellers, this section documents the effects of maximum groundwater substitution though the EWA agencies have various acquisition options.

20.2.6.1 Upstream from the Delta Region

The effects of groundwater transfers for the Flexible Purchase Alternative, which are decreased groundwater levels and increased groundwater pumping costs, are similar for the Fixed Purchase Alternative. However, groundwater transfers under the Fixed Purchase Alternative in the Upstream from the Delta Region are substantially less than those under the Flexible Alternative because purchases are limited to 35,000 acre-feet.

20.2.6.1.1 Sacramento, Feather, Yuba, and Merced Rivers

EWA acquisition of water from Sacramento River Agencies, Feather River Agencies, Yuba County Water Agency, and Merced Irrigation District via groundwater substitution would decrease groundwater levels. Landowners and tribes in the vicinity of a groundwater substitution transfer could experience drawdown in wells relative to the Baseline Condition, which could increase the costs of bringing the water to the surface or potentially dry out wells. Chapter 6, Groundwater Resources, contains specifications for monitoring and mitigation plans that reduce potential third party effects. Water acquisitions shall require notification of the EWA agencies, and if potential effects to ITAs are identified, then consultation with the affected federally-recognized Indian tribe by EWA agencies will commence before the water acquisition is finalized in order for the EWA agencies to fully execute their Federal Indian trust responsibilities.

Multi-year contracts for sale of water to EWA agencies are contingent on the abovementioned groundwater mitigation measures. Transfers should:

- not exceed significance criteria found in Groundwater Section 6.2.2;
- assure that use of extraction wells minimizes risk to surface and groundwater quality;
- incorporate an adequate monitoring program; and
- proceed only after appropriate tribal consultation has been completed, if federally-recognized ITAs are potentially affected.

All groundwater mitigation measures must be implemented before the EWA agencies would authorize a second year of groundwater acquisitions.

20.2.7 Comparative Analysis of Alternatives

This section analyzes the effects of maximum groundwater substitution transfers that could occur in 1 year for the Fixed and Flexible Purchase Alternatives. This "worst case" scenario approach ensures that all effects of transfers are identified and provides the EWA Project Agencies contract negotiation flexibility when choosing between acquisition options. EWA agencies, however, would not actually purchase all this water in the same year. This section provides information about how EWA agencies would more likely operate in different hydrologic years.

During No Project conditions, as well as with the project, federally reserved lands, minerals, hunting and fishing rights, water rights, and in-stream flows associated with a reservation, rancheria, or PDA remain protected. The No Action/No Project Alternative would not affect water usage or availability. Land use, occupancy, and the character of Indian trust lands would remain unaffected regardless of hydrologic conditions.

20.2.7.1 Upstream from the Delta Region

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. In most years, this amount could be obtained from surface water storage from non-Project reservoirs. The Fixed Purchase Alternative would not likely involve groundwater substitution transfers; therefore, it would not likely affect ITAs.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from multiple sources in the Upstream from the Delta Region. EWA agencies would prefer to purchase water from upstream sources because the water is generally less expensive. The amount that could be purchased would be limited by the available capacity of the Delta export pumps to move the water to export areas south of the Delta. During wet years, available pump capacity may be limited to as little as 50,000 to 60,000 acre-feet of EWA water because the pumps primarily would be used to export State and Federal Project water to Export Service Area users. During dry years, when less Project water would be available for pumping (and therefore the

pumps would have greater available capacity), the EWA Project Agencies could acquire up to 600,000 acre-feet of water in the Upstream from the Delta Region.

The potential for effects on ITAs during wet years for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative. That is, during wet years, acquisitions would most likely be from stored water sources, and the EWA agencies would not purchase water through groundwater substitution. As rainfall amounts for areas north of the Delta decrease, reflecting dry year conditions, the greater capacity of the export pumps to move EWA assets could result in a greater reliance on groundwater substitution transfers for the additional EWA acquisitions. If the EWA Project Agencies were to make a 600,000 acre-foot acquisition in the Upstream from the Delta Region, they would need to utilize most available sources, which would include stored reservoir water, groundwater substitution, groundwater purchase, and crop idling.

Although groundwater mitigation measures described in Section 6.2.7.2 would be employed to minimize potential impacts, the greater reliance on groundwater during dry years could result in the Flexible Purchase Alternative having a greater potential for effects on ITAs than the Fixed Purchase Alternative. The greatest potential for effects would be if there were several dry (drought) years in a row, a time period when other water users upstream of the Delta would also be relying on groundwater resources as a major portion of their water supply.

20.2.7.2 Export Service Area

The EWA agencies would acquire assets in the Export Service Area from stored groundwater and crop idling sources. Stored groundwater would be acquired from agencies that have previously stored water in the ground (e.g., Kern Water Bank, Santa Clara Valley Water District); therefore, there would be no effects on ITAs.

A summary of the effects of the Fixed Purchase and Flexible Purchase Alternatives are listed in Table 20-1.

Table 20-1
Comparison of Effects on Indian Trust Asset by Fixed vs. Flexible Purchase Alternatives

Region	*Asset Acquisition or Management*	*Result*	*Effects*	*Flexible Alternative Change*	*Fixed Alternative Change*	*Significance of Flexible Alternative*	*Significance of Fixed Alternative*
Sacramento, Feather, Yuba, and Merced Rivers	Groundwater substitution	Decrease ground-water levels beyond the Baseline Condition	Could increase pumping costs or dry out wells on property owned by tribes in vicinity of groundwater substitution transfer	Total 330 TAF groundwater substitution transfer in upstream region; no groundwater substitution in Export Service Area	Total 35 TAF groundwater substitution transfer in upstream region; no groundwater substitution in Export Service Area	Potentially affected trust lands warrant government-to-government consultation	Potentially affected trust lands warrant government-to-government consultation

20.2.8 Mitigation Measures

Groundwater substitution could result in increased depth to groundwater in neighboring vicinities and/or increasing costs of groundwater pumping. This action could interfere with federally reserved water rights. Groundwater transfers occurring within 1-2 miles of ITAs associated with the Redding Rancheria, Colusa Rancheria, or Paskenta Band of Nomlaki Indians would undergo consultation with affected federally recognized tribal governments, EWA agencies, the Bureau of Indian Affairs, the Office of the Solicitor, and the Office of American Indian Trust.

1) Consultation could identify any of the following mitigation measures as appropriate for reducing effects to a less than significant level:

   - more frequent groundwater monitoring
   - more detailed pre-purchase groundwater evaluation
   - estimates of potential interference with Indian wells
   - discontinuation of EWA groundwater pumping if groundwater levels are drawn down to a level of concern. (Refer to Section 6.2.7.2).

2) Mitigation measures necessary to reduce effects to a less than significant level will be developed in consultation with the affected federally recognized tribe(s), before implementation. Other mitigation measures will be used as determined appropriate through tribal consultation.

20.2.9 Potentially Significant and Unavoidable Impacts

There are no expected significant and unavoidable impacts to ITAs. The United States will consult with appropriate tribes to identify possible effects and avoid or mitigate adverse effects.

20.2.10 Cumulative Effects

Other water acquisition programs considered in the cumulative effects analysis include the Sacramento Valley Water Management Agreement, Dry Year Purchase Program, Drought Risk Reduction Investment Program (DRRIP), Central Valley Project Improvement Act (CVPIA) Water Acquisition Program (WAP), and Environmental Water Program (EWP). This ITA cumulative analysis focuses only on those programs that potentially pose incrementally detrimental effects through groundwater substitution in all areas of the State.

Groundwater substitution is a component of all the water acquisition programs. During wet years, the only groundwater substitution programs are EWA, EWP, and the CVPIA WAP. Recharge in wet years would decrease effects; however, they are

still considered potentially significant. Effects described in Chapter 6, Groundwater Resources, are potentially cumulatively significant in both wet and dry years without appropriate mitigation. Water transfers concerning the abovementioned water acquisition programs will be facilitated through CALFED's Water Transfer Program.

It is reasonable to assume that other groundwater usage programs could evolve in the foreseeable future. As discussed in Chapter 6, Groundwater Resources, all are required to have monitoring and mitigation plans that prevent third party effects, similar to those that apply to EWA actions. Careful monitoring and management is necessary to mitigate any potential effects to a less than significant level. Additionally, all EWA groundwater substitution acquisitions in the vicinity of an ITA require notification of the United States before such acquisitions are finalized in order for the United States to fully execute its Indian Trust responsibilities. After deliberation by subject matter experts and appropriate tribal consultation, mitigation would reduce effects to a less-than-significant level.

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Chapter 21
Growth Inducing Impacts

21.1 Introduction

The California Environmental Quality Act (CEQA) Guidelines, in Section 15126.2(d), require an environmental document to:

> *"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth..."*

The following brief discussion presents general factors that could result in growth inducing impacts. Also included thereafter is an analysis of the relationship between growth and the increased water supply reliability provided by the Environmental Water Account (EWA). This chapter provides an overall evaluation of the potential for regional growth inducement resulting from implementation of the EWA.

21.2 Growth Inducing Factors

In general, an action would be considered growth inducing if it caused or contributed to economic or population growth. Growth-inducing actions result in more economic or population growth than would have occurred otherwise from other factors. Thus, a growth-inducing action would promote or encourage growth beyond that which could be attributed to other factors known to have a significant relationship to economic or population growth.

Although a project may have growth inducing potential, it may not result in growth. Each municipality or county controls growth at the local level through land use policies in each jurisdiction. Decision-makers alone are able to transform growth-inducing potential or pressure, created by economic or social conditions, into actual growth (CALFED 2000a).

21.3 Current Growth

State and regional service and planning agencies, such as the California Department of Finance, Southern California Association of Governments, Bay Area Association of Governments, Sacramento Area Council of Governments, Council of Fresno County Governments, and the Butte County Association of Governments have prepared extensive studies and reports forecasting California's economy, population, and resources. These studies and reports have been approved and adopted by the respective agencies, in cooperation with local jurisdictions, as the most likely scenarios for growth in this region.

The primary objectives of these demographic projections, and the planning policies on which they are based, are to evaluate the potential social, economic, environmental,

and fiscal impacts that may result from this level of projected growth and to identify mitigation required to reduce or eliminate these impacts (MWD and BLM 2001).

These projections take into account the predicted adverse impacts of growth. In other words, state and regional planning agencies project growth to occur despite possible shortfalls in water supply, heavy traffic, and other factors that are sometimes assumed to be growth limiting. As it relates to this document, growth will occur with or without the EWA or CALFED programs. Table 21-1 indicates the South of Delta counties population forecast for year 2020, in five-year increments, determined by the California Department of Finance.

Table 21-1
South of the Delta Population Forecast

County	*2000*	*2005*	*2010*	*2015*	*2020*
Alameda	1,466,900	1,580,200	1,671,200	1,735,800	1,811,800
Calaveras	41,000	47,800	53,400	57,900	62,200
Contra Costa	963,000	1,021,400	1,071,400	1,108,100	1,152,900
Fresno	816,400	893,300	970,900	1,043,100	1,134,600
Imperial	149,000	182,500	217,500	252,000	294,200
Kern	678,500	771,300	871,600	972,700	1,088,600
Kings	134,500	149,600	165,300	180,800	198,700
Los Angeles	9,716,000	10,169,100	10,605,200	10,983,900	11,584,800
Madera	127,700	152,600	178,900	203,000	229,200
Mariposa	17,300	19,600	21,500	23,000	24,300
Merced	214,400	239,900	266,700	292,400	322,700
Monterey	408,700	450,300	493,100	535,700	590,700
Orange	2,893,100	3,099,700	3,266,700	3,384,300	3,541,700
Riverside	1,577,700	1,864,700	2,159,700	2,459,600	2,817,600
San Benito	54,500	63,600	72,000	79,100	86,800
San Bernardino	1,742,300	1,980,000	2,231,600	2,487,700	2,800,900
San Diego	2,856,300	3,149,900	3,388,400	3,591,300	3,863,500
San Joaquin	573,600	645,600	727,800	803,400	887,600
San Luis Obispo	249,900	287,000	323,100	357,000	390,900
San Mateo	717,900	765,800	794,600	809,100	834,500
Santa Barbara	406,100	434,400	467,700	505,200	552,700
Santa Clara	1,709,500	1,867,400	1,987,800	2,063,000	2,163,000
Santa Cruz	259,300	284,500	311,900	339,900	370,600
Stanislaus	454,600	522,700	587,600	646,800	712,100
Tulare	375,100	422,000	469,800	515,600	570,900
Tuolumne	55,200	62,200	68,200	72,800	77,200
Ventura	765,300	818,600	877,400	934,000	1,007,200

Source: California Department of Finance, Interim County Projections, Estimated July 1, 2000 and Projections for 2005, 2010, 2015, and 2020

21.4 The CALFED PEIS/EIR and Water Supply Reliability

The CALFED Bay-Delta Preferred Program Alternative is expected to result in an improvement in water supply reliability and availability for beneficial use in the Upstream from the Delta Region, Delta Region, and Export Service Area, within State Water Project (SWP) and Central Valley Project (CVP) Service Areas. Discussions of

whether additional water supplies and/or improvements in water supply reliability could induce growth often result in differences of opinion; therefore, this topic is considered an area of controversy as used in National Environmental Policy Act (NEPA) and CEQA. Because this issue cannot be predicted with certainty, the programmatic level of analysis in the CALFED PEIS/EIR made the assumption that any increase in water supplies and/or improvements in water supply reliability associated with the CALFED program would stimulate growth, as discussed in Section 5.1 of the CALFED PEIS. This assumption was made to disclose the environmental consequences associated with growth in the event that CALFED program actions ultimately lead to this type of change. Also considered in the formation of this assumption was the knowledge that the CALFED program is a long-term program, expected to continue 30 or more years (CALFED 2000a).

21.5 The EWA and Water Supply Reliability

The EWA's purpose within the CALFED program is to provide protection to the targeted at-risk fish species of the Bay-Delta estuary through environmentally beneficial changes in SWP/CVP operations. The EWA program includes commitments that improve the reliability of the water supply available from the Bay-Delta system (CALFED 2000b). In this way the EWA meets the two-fold purpose of the CALFED program: to "restore ecological health and improve water management for beneficial uses of the Bay-Delta system (from the CALFED program statement of purpose) (CALFED 2000b)."

It has not been determined whether an EWA should be a long-term program within the overall CALFED program. As described in Chapter 1 of this document, the CALFED Record of Decision (CALFFED ROD) identified an EWA during the first 4-years of the CALFED program. According to the EWA Operating Principles Agreement, the five EWA agencies are to review the effectiveness of the EWA after 4 years and decide whether to continue an EWA as implemented, address changes to the program, or seek a more permanent solution to water reliability issues. If the EWA agencies decide that an EWA should continue as described in this EIS/EIR, this document covers and analyzes the environmental effects of the EWA until the end of Stage 1 (until 2007).

The EWA Fixed and Flexible purchase alternatives would both help to ensure short-term increases in the reliability of water supply for all SWP and CVP users to the degree that they provide the Endangered Species Act (ESA) commitments to the SWP and CVP and do not allow jeopardy conditions or uncompensated Delta export pumping reductions to occur. However, the exact contribution of either alternative to water supply reliability is hard to estimate. Absent an EWA program, export reductions at the SWP and CVP pumps could occur when the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NOAA Fisheries), and California Department of Fish and Game (CDFG) determined that levels of fish take at the Delta export pumps had reached levels of concern as specified in the Biological Opinions or when the Projects voluntarily reduced pumping to avoid a potential jeopardy determination under the Endangered Species Act (ESA). Without the cooperative

forum provided by an EWA, the Bureau of Reclamation (Reclamation) and California Department of Water Resources (DWR) would resist implementing voluntary uncompensated pumping reductions and disagreements with USFWS, NOAA Fisheries, and CDFG could ultimately result in a solution that imposed a strict, prescriptive interpretation of the ESA. Mandatory reductions would then result in unexpected delivery interruptions to CVP and SWP water supply and reduce total water deliveries to SWP and CVP users. The Fixed or Flexible EWA alternatives would directly or indirectly contribute to water supply reliability through avoidance of the possible mandated pumping reductions or curtailments and their potential impacts to Project water supply. Voluntary pumping reductions under an operable EWA program do not affect water supply because all voluntary pumping reductions are replaced at a later time with an identical amount of EWA assets.

Because of the dynamic nature of fish populations and biology, the annual variation in California's hydrology, and the short time frame analyzed by this document (through 2007), it is impossible to predict the timing and magnitude (in lost water deliveries) of any uncompensated pumping reductions that might occur under baseline conditions or future No Project conditions. There is no model that can predict when pumping reductions would be required to prevent jeopardy to at-risk fish species in the Delta. Such a model would have to identify the timing, magnitude, and duration of these pumping reductions to identify the amount of water foregone by the Projects. The model would also have to simulate the allocation processes employed by both the CVP and SWP to determine the loss in deliveries in the affected year. Additionally, the model would have to predict and simulate how the Projects would employ other operational tools and flexibility to partially compensate for the lost pumping opportunities. Because no model exists or can realistically be developed, quantifying the actual amount of increased water supply and reliability under the Fixed or Flexible Purchase Alternatives is not possible at the present time.

Assuming mandatory pumping reductions occurred under the baseline condition, the Flexible Purchase Alternative would provide more protection and water supply reliability to the SWP and CVP than the Fixed Purchase Alternative if the larger quantity of EWA assets it entails were required to maintain ESA commitments and avoid uncompensated pumping reductions. If the Fixed purchase alternative allows the EWA Management Agencies sufficient EWA assets to provide the Projects with ESA commitments, then both the Fixed and Flexible purchase alternatives would result in the same net increase in water supply reliability through avoidance of uncompensated pumping reductions. The increase in amount of SWP and CVP water supply reliability would be measured by the amount of water saved and the frequency of such savings through avoidance of uncompensated pumping reductions mandated through regulatory or other means without the ESA commitments that an operable EWA provides to the Projects. The No Project alternative would not increase water supply reliability of the SWP and CVP. The No Project alternative could actually result in decreased water supply reliability if conditions occur that increase the conflicting pressures between CVP and SWP water deliveries and protection of targeted at-risk fish populations in the Delta through Project pumping reductions.

An EWA's potential to provide an additional amount of water to the SWP and CVP above the baseline amount, because ESA commitments provide that no uncompensated pumping reductions will occur, could indirectly relate to growth. Water supply could potentially remove an obstacle to growth, accommodate growth, or induce growth depending on site-specific factors individual to every local government jurisdiction and proposed development throughout the State. One factor of importance to consider is that EWA-related water supply reliability, in the face of mandated cuts, would benefit both urban and agricultural water contractors of the CVP and SWP. Therefore, not all of an EWA-related increase in water supply reliability would potentially accommodate, induce, or remove an obstacle to growth, but only that portion that provides reliability to urban service areas. Another major factor is that almost all local urban water agencies in the State rely on more than one source of water to provide a dependable supply to customers.

Water supply reliability alone is not the determinative factor causing, inducing, or accommodating growth in any region of California. Water supply reliability for urban population growth and development is taken into account to varying degrees by local planning agencies in General Plans and Water Supply Master Plans. The sophistication and complexity of this process has increased in the past decade as better predictive models and data have surfaced. Public attention has also focused on the recognition that water supply is one of the key factors to consider when planning new developments. Community planners, developers, industries, and others seeking to implement or realize urban growth in California are required to demonstrate a reliable water supply. Two bills enacted in 2001 by the California Legislature, SB 221 (Kuehl) and SB 610 (Costa), require cities and counties to look very closely at long-term water supply reliability when approving land development projects consisting of more than 500 housing units. SB 221 defines "sufficient water supply" as the "total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand." These recent laws reinforce and strengthen the need for proper water supply planning at local government levels. They also emphasize the need for accurate and careful information regarding reliable water supplies.

In May 2003 DWR published the first in a biannual series of State Water Project Reliability Reports to provide information on the "ability of the SWP to deliver water under existing and future development." The analysis and report assumed operation of an EWA similar to that in the CALFED ROD even though the EWA is currently short-term. This inclusion was only to simulate potential SWP and EWA operations and coordination and did not materially affect the final SWP water supply reliability analysis contained in the report because only voluntary pumping reductions were simulated, each of which was compensated using simulated EWA assets. The mandated pumping reductions that could occur absent an EWA, which would materially alter SWP reliability, were not included in the CALSIM II modeling conducted for the Reliability Report due to the aforementioned difficulty of generating and simulating them with a current model. Because of its inclusion in the Reliability Report, however, an EWA may be considered a long-term program by

some local planning agencies and they may rely on the Reliability Report without considering the potential impacts of uncompensated pumping reductions if an operable long-term EWA is not approved by all EWA agencies and ESA commitments are not granted to the CVP and SWP. Assuming that uncompensated pumping reductions would occur in some years under baseline conditions, there could be less water delivered by the SWP than now stated in the Reliability Report, but that amount is unknown. The Reliability Report cautions that not all model assumptions about the future operation of the SWP are accurate including those involving future hydrology, regulatory constraints, biology, and demographic patterns. Despite these cautions, some local agencies might rely on the inclusion of an operable EWA in the Reliability Report. Because the report contains no analysis concerning the quantity or frequency of uncompensated pumping reductions that could occur if ESA commitments were not provided through an operable EWA, an EWA program could be considered to affect local planning agency decisions on growth.

Many urban water agencies rely on water from multiple sources including groundwater, local storage projects, imported surface water, water from long-term or temporary transfers, reclamation programs, and conservation programs. These multiple sources create a "portfolio" of water management options and strategies. Taking their specific water sources into account, each local water purveyor individually analyzes and releases information on its own water supply reliability for use by local planning agencies. Because local agencies may incorporate the SWP Reliability Report in assessing the availability of water supplies for growth, the Reliability Report may be used by those agencies as one factor in assessing the reliability of water supplies when approving developments and growth. In this sense, the concept of an EWA and its benefits to reliability may be one of the pieces of information that a local planning agency or developer takes into account when considering a project and may remove an obstacle to growth. The Reliability Report, however, is not the only information, nor is it the final determination of water supply reliability for any area because the local water "portfolio" must be examined along with the local water supplier's own reliability data, which usually include more than strict annual reliance on SWP allocations.

It is unknown whether any growth would be denied by local agencies in the absence of the EWA, and it is too speculative to attempt such a determination in this document. There are no known current development projects awaiting EWA approval for final authorization at the local level. All decisions on development and growth are ultimately made at the responsible local agency level using a long-term planning horizon.

Growth and development are not inherently deleterious. Growth can be beneficial, benign, or cause adverse environmental impacts. There is no way to predict the size and location of any growth that might occur due to potential increased supply reliability of the SWP and CVP because of a short-term EWA. Each local government must evaluate each development plan within its purview, assess its environmental impacts, and ultimately approve or disapprove any growth. At this level of local specificity, environmental impacts would be identified to the public. It is the

responsibility of local agencies to choose whether to mitigate for any negative impacts of growth they have approved within their jurisdiction. There is no way that the EWA agencies can estimate the magnitude of growth, its location, or the level of significance of any direct, indirect, or cumulative impacts that may be caused by any growth based on the limited role that a short-term (through 2007) Fixed or Flexible EWA alternative may or may not play in local water supply assessments and local-decision making processes.

21.6 References

CALFED Bay-Delta Program. 2000a. *Final Programmatic Environmental Impact Statement/Environmental Impact Report*. Pp. 3-3, 4-7, 5.1-65, CR-69, and CR-70.

CALFED Bay-Delta Program. 2000b. *Programmatic Record of Decision*. Pp. 9, 57-58.

Department of Water Resources (DWR). 2000. *The State Water Project Reliability Report*. Accessed: 25 June 2003. Available from: http://swpdelivery.water.ca.gov.

Metropolitan Water District of Southern California (MWD) and U.S. Department of the Interior Bureau of Land Management (BLM). 2001. *Cadiz Groundwater Storage and Dry Year Supply Program Final Environmental Impact Report/ Environmental Impact Statement.* Accessed: 17 September 2002. Available from: http://www.mwd.dst.ca.us/mwdh2o/pages/news/cadiznet/index.htm.

Chapter 22
Cumulative Effects

Cumulative effects analyses are an important component of the environmental documentation and approval process and are required by both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Both CEQA and NEPA require the cumulative effects analysis to include future actions and projects that can be reasonably predicted to occur within the term of the proposed project. The cumulative effects analyses in this Environmental Impact Statement/Environmental Impact Report (EIS/EIR) evaluate the combined effects of the Environmental Water Account (EWA) and other water acquisition programs that could engage in water transfers similar to those of the EWA. The cumulative effects analyses also consider projects proposing physical changes to storage, export, or conveyance facilities in the Delta. The timeframe of the cumulative analyses extends through 2007, which coincides with the completion of Stage 1 of the CALFED Bay-Delta Program implementation.

Sequentially, this chapter first introduces the general methodology for evaluating cumulative effects to resources, then describes the additional future programs and projects considered in the cumulative analysis. The cumulative condition is then summarized as a whole in regards to water acquisition programs and Delta improvement projects. Each resource chapter includes a cumulative effects assessment that discusses the cumulative effects of the particular resource. Section 22.4 briefly summarizes these resource cumulative analyses.

22.1 Cumulative Effects Methodology

The major cumulative actions considered in the analysis fall into two categories:

- Water acquisition programs; and
- Water storage, conveyance, or export facility improvement projects, mainly concentrated in the Delta.

The sections below discuss the cumulative assessment methods for each category. Each resource chapter may discuss additional programs in the cumulative analysis section that pertain specifically to the resource. This chapter does not discuss these additional programs. In general, the cumulative effect analyses rely upon hydrologic modeling and other quantitative and qualitative assessments to determine the potential combined effect of the EWA and other related programs over the projected timeframe.

22.1.1 Other Water Acquisition Programs

The evaluation of the cumulative effects of all water acquisition programs considered addresses three primary issues:

1. *The effects of transferring the total quantity of water through the Delta that all programs may purchase.* The available capacity of the Central Valley Project (CVP) and State Water Project (SWP) Delta pumps to export water and the amount of water available for purchase would limit the total quantity of water for transfer.

   In most instances the cumulative analyses are similar to the Flexible Purchase Alternative analyses. The Flexible Purchase Alternative analyses examine a "worst–case scenario" that maximizes the utilization of available export capacity of Delta facilities that limits transfers for all the acquisition programs. As a consequence, implementation of one or more of the programs in conjunction with the EWA would alter the beneficiary of the transferred water, but the total supply of water from upstream sources would not be any greater than that analyzed for the Flexible Purchase Alternative.

2. *The interrelationship between the water purchase programs*. Some of the programs have higher priority for conveyance and/or pumping capacity than others. According to the 2003 Protocols for the Operation of the EWA, the following is the priority for pumping at SWP and CVP pumps (from highest to lowest priority):

   SWP:
   - SWP Pumping
   - Water transfers for SWP contractors
   - Joint Point of Diversion (JPOD) use for specific CVP contractors
   - Wheeling for CVP and EWA (split 50-50 between CVP and EWA/Refuge Level 4 purchases)[1]
   - Water transfers for others

   CVP:
   - CVP Pumping
   - Refuge Level 4
   - Cross Valley Canal
   - EWA
   - Water transfers for others

   Because of the relaxation of the Section 10 constraint of the River and Harbors Act, EWA has been dedicated 500 cfs of pumping capacity at Banks Pumping Plant in July to September. The conveyance capacity would yield approximately 50,000 – 60,000 acre-feet per year, depending on operational restrictions (refer to Chapter 2).

3. *The likely locations, types, and purchase amounts of the water transfers.* In some years, other water acquisition programs would compete with the EWA for water. The exact locations, type and amounts of other programs' transfers are not yet known, so the cumulative analysis examines these effects qualitatively.

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[1] Wheeling is defined as the transportation of water, as the result of ad hoc contracts or other arrangements, in conveyance facilities which the transferring party does not otherwise have the authority to use (Water Education Foundation 2000).

In general, EWA agencies are committed to reducing any potential cumulative effects. When possible, EWA agencies would work cooperatively with other acquisition programs to avoid water purchases if it would result in a cumulative effect. This coordination would take place through the CALFED Water Transfers Program.

22.1.2 Facility Improvement Projects

Another factor of the cumulative condition is that various proposed projects may alter current water storage, conveyance, or export abilities. Depending on the time needed to plan, design, and construct these facilities, they may affect the cumulative condition within the timeframe of the EWA. Therefore, this chapter (Section 22.2.3) includes with the project descriptions a qualitative assessment of the potential cumulative effects.

22.2 Cumulative Programs and Projects

This section describes future water acquisition programs and facility improvement projects considered in the cumulative analysis and their interrelationship with one another. Other water acquisition programs relevant to the analysis include:

- Sacramento Valley Water Management Agreement (SVWMA);
- Dry Year Water Purchase Program;
- The Governor's Drought Risk Reduction Investment Program (DRRIP);
- Central Valley Project Improvement Act (CVPIA) Water Acquisition Program (WAP); and
- Environmental Water Program (EWP).

Delta facility improvement projects relevant to the cumulative analysis include:

- South Delta Improvement Project (SDIP);
- North Delta Improvements Project (NDIP);
- In-Delta Storage Program; and
- SWP/CVP Intertie.

22.2.1 Other Water Acquisition Programs

The sections below summarize the program descriptions and relevance to the cumulative condition.

22.2.1.1 Sacramento Valley Water Management Agreement (Phase 8)

Over the past several years, the State Water Resources Control Board (SWRCB) has been engaged in seven phases of proceedings regarding the responsibility for meeting the flow-related water quality standards for the Delta established in the 1995 Delta Water Quality Control Plan (Delta WQCP), resulting in Decision 1641. The flow-related standards provide requirements for the amounts of water flowing out from the Delta into the San Francisco Bay to maintain quality parameters within the Delta. The SWRCB hearings have focused on which users should provide this water, and the eighth phase of these proceedings focused on the water users in the Sacramento Valley. Senior water rights holders and water users throughout the Sacramento Valley felt that water releases for Delta water quality could infringe upon their water rights.

In response, the Department of Water Resources (DWR), Bureau of Reclamation (Reclamation), Sacramento Valley water interests, and export water users entered the SVWMA in April 2001, providing an alternative to the Phase 8 proceedings. The SVWMA establishes a process by which local parties are to develop and implement a variety of local water management projects that will increase water supplies cumulatively, meeting both in-basin demands and the Delta water quality requirements set forth in the Delta WQCP. SVWMA proponents plan to implement the SVWMA in water year 2003. In 2005, Phase 8 upstream users are to provide 185,000 acre-feet of water to meet water quality standards through implementation of conjunctive management projects (SVWMA 2002). Current preparations are underway for an EIR/EIS for the program.

The agreement includes a series of work plans that are to be implemented over an 8--year period. Currently, the short-term work plan consists of over 50 locally managed, publicly funded projects that are to be initiated within the 2002-03 calendar years. These projects incorporate the following benefits:

- Facilitation of groundwater management and planning;
- Water conservation and efficiency through facility improvements;
- Fish passage improvements;
- Provisions for water transfers and exchanges;
- Flood protection;
- Conjunctive water management opportunities; and
- Environmental improvements (SVWMA 2002).

An offstream storage project north of the Delta is a key component of the long-term plan. This storage is intended to provide additional water quality benefits to the Delta and provide additional storage space with other environmental benefits.

SVWMA could contribute to the cumulative condition in normal, dry, and critical water years. Signatories to SVWMA would initially seek water during below normal, dry, and critically dry years from reservoirs, groundwater pumping, and groundwater substitution opportunities upstream from the Delta. SVWMA agreement would purchase up to 185,000 acre-feet (SVWMA 2002). SVMWA has conveyance capacity priority over the EWA program. In the long term (5 to 10 years), outside of the EWA program timeframe, the water for SVWMA would likely come from new facilities, eliminating potential conflicts with EWA acquisitions.

22.2.1.2 Dry Year Water Purchase Program

In mid-January 2001, several SWP and CVP contractors requested that DWR and Reclamation initiate planning for a dry year water acquisition program, based on the dry year hydrology to date. DWR announced the 2001 Dry Year Water Purchase Program (Dry Year Program) in March 2001. This program represented the first dry year acquisition program by DWR since the 1991, 1992, and 1994 Drought Bank programs. The Dry Year Program was implemented again in 2002 and 2003, and may be activated in the future to help public agencies throughout California supplement their water supplies in dry years.

The program intends to reduce the possibility of any hardship associated with water shortages through the facilitation of water transfers and is open to SWP contractors, CVP contractors, and third party users. In 2001, DWR provided 138,800 acre-feet of water from willing sellers in northern California to eight SWP contractors (DWR 2002). In 2002, DWR secured 22,000 acre-feet of water from willing sellers in Northern California and provided it to four water agencies throughout the State. In 2003, four public agencies and two private parties have requested a total of 63,000 acre-feet from the program (DWR 2002a). Transfers negotiated between CVP and SWP contractors and other water users, such as the Forbearance Agreement with Westlands Water District and the recent crop idling acquisition by Metropolitan WD from water agencies upstream from the Delta, are considered part of the Dry Year Program. The mandatory reduction in California's use of Colorado River water, discussed in Chapter 2, could increase demand for water upstream from the Delta and increase acquisitions under the Dry Year Program.

During dry years, DWR and Reclamation would likely initiate water acquisitions first from reservoirs upstream from the Delta, followed sequentially by groundwater substitution, crop substitution, and crop idling in areas upstream from the Delta. This acquisition sequence is expected to compete with other programs, including EWA, for available water and pumping capacity. In years that EWA and the Dry Year Program are active, the CALFED agencies would coordinate to provide the needed water amounts for both programs. Conveyance of the Dry Year Program acquisitions for SWP contractors has priority over EWA conveyance.

22.2.1.3 The Governor's Drought Risk Reduction Investment Program

As part of the implementation of the CALFED Plan, the Governor convened a panel to develop plans for California to respond to a future drought. In December 2000, the panel published its report, entitled the Critical Water Shortage Contingency Plan, which is now referred to as the DRRIP. The plan recommended a multi-pronged set of preparations and responses to future water shortages. The water acquisition element of the plan is the Critical Water Shortage Reduction Marketing Program, or CWSRMP. CWSRMP is an as-needed water purchasing and allocation program and is activated whenever parts of the State are suffering from critical water shortages.

The CWSRMP consists of the following three tiers that consider the severity of water shortages and a varying level of State response:

> **Tier 1** applies throughout CALFED Stage 1 and consists of water shortage preparedness activities undertaken by the State and local agencies. These activities would include State actions necessary to prepare for CWSRMP operation, including drafting a PEIS/EIR and developing contract formats for program water purchases. Local agency preparedness activities could include measures for water use efficiency, development of local facilities to enable water transfers, or development of local groundwater management programs. Members on the Governor's panel differed on whether DWR should operate a water purchasing program in Tier 1 (GADPP 2000).
>
> **Tier 2** applies in the early stages of a hydrologic drought or other critical water shortage and includes water transfers. Local agencies making a declaration of probable impending critical water shortages absent a program purchase, and demonstrating that they are maximizing use of their own resources, would be eligible to purchase water. Participants would then pay a price for the water that recovers program implementation costs, including costs for mitigating third-party impacts and environmental impacts identified through the CEQA process (GADPP 2000).
>
> **Tier 3** applies during the later stages of a hydrologic drought or during a water shortage emergency. The trigger for implementing Tier 3 would be a declaration of emergency by a water agency pursuant to Water Code Section 350, by a city or county, or by the Governor. State response to Tier 3 conditions would include continued implementation of Tier 2 actions, plus measures needed to protect public health and safety. These protection measures could include State financial assistance to small water systems for emergency water acquisitions, including water hauling, pipeline construction, or well drilling (GADPP 2000).

DRRIP is designed to reduce the impacts to agriculture and urban users during critical drought periods. DRRIP is expected to acquire water from the Upstream from the Delta Region and the Export Service Area during dry years by first seeking water from reservoirs, then by groundwater substitution, and lastly through crop idling

(DWR 2002). Although DRRIP has not yet defined the details of its water acquisition strategies, the schedule dictates implementation in the next severely dry year after 2002. The Dry Year Purchase Program and DRIPP could combine into one program upon completion of a programmatic document in October 2004 (Jones 2002).

The options are similar to--and potentially in conflict with--those available for EWA upstream water purchases. When both programs are active, the CALFED agencies would work together, seeking to provide the needed water amounts for both programs. DRRIP would have pumping/conveyance priorities similar to the Dry Year Acquisition Program.

22.2.1.4 CVPIA Water Acquisition Program

Section 3402 of the CVPIA identifies the purposes of the CVPIA as protection, restoration, and enhancement of fish, wildlife, and associated habitats in the Central Valley. A requirement of the CVPIA is the acquisition of water for protecting, restoring, and enhancing fish and wildlife populations. To meet water acquisition needs under CVPIA, the U.S. Department of the Interior (Interior) has developed a joint Reclamation and U.S. Fish and Wildlife Service (USFWS) Water Acquisition Program.

The CVPIA requires the provision of firm water supplies to specified National Wildlife Refuges, State Wildlife Areas, and private wetlands in the Grassland Resource Conservation District for the purpose of optimum habitat management on the refuge lands.[2] CVPIA Section 3406(d)(1) requires that the Secretary of the Interior immediately provide specific quantities of water to the refuges and indicates that long-term contractual agreements should be developed for water provided. These are referred to as "Level 2" supplies,[3] for which Reclamation and Interior entered into long-term water supply agreements/contracts with USFWS and California Department of Fish and Game (CDFG). The CVPIA requires delivery of this water in all year types except critically dry water year conditions, as determined by Reclamation for allocation of CVP water. In the case of a critically dry water year, the Secretary of the Interior may reduce Level 2 refuge water supplies by up to 25 percent (USFWS 1998).

Section 3406(d)(2) of the CVPIA refers to "Level 4" refuge water supplies, which are the quantities required for optimum habitat management of the existing refuge lands identified in the "1989 Report on Refuge Water Supply Investigations." The CVP must acquire the increment of water between Level 2 and Level 4 supplies from willing sellers. Section 3406(d)(2) requires that, upon enactment of the CVPIA, Level 4 water be provided in 10 percent cumulative increments per year with provision of full Level 4 supplies after 10 years. Reclamation has been acquiring Level 4 water on a short-term basis from willing sellers since 1992; 2002 is the first year that Reclamation is expected to provide full Level 4 supplies to the refuges. Level 4 water

[2] CVPIA Sections 3406(d)(1) and 3406(d)(2).
[3] See also Chapter 2.

supplies amount to an additional 163,259 acre-feet above Level 2 water supplies (USFWS 1998).

Like EWA acquisitions, CVPIA water acquisitions must not create an involuntary reallocation of CVP yield for refuges. Priority resources for water acquisitions are primarily reservoirs and secondarily groundwater substitution opportunities throughout the State. Idling is also a secondary source of water for CVPIA acquisitions. Strategies for water transfers include use of options, 1-year transfers, groundwater banking, and carryover into the San Luis Reservoir. The CVPIA will purchase up to 120,000 acre-feet from willing sellers during wet and dry years. CVPIA has higher pumping and conveyance capacity priority than the EWA at the CVP pumps, and capacity is shared equally at the SWP pumps (DWR 2002). Detailed coordination among the CVPIA Water Acquisition Program, the Environmental Water Program, and EWA requires Reclamation, USFWS, and other CALFED agencies to determine how to address individual program goals while pursuing joint acquisitions.

22.2.1.5 Environmental Water Program

CALFED agencies created the EWP to carry out flow-related goals of the Ecological Restoration Program (ERP) Plan. The EWP will acquire water from sources throughout the Bay-Delta watershed and provide flows to facilitate:

- Improvement in habitat conditions for fishery protection and recovery;
- Restoration of critical instream and channel-forming flows in Bay-Delta tributaries;
- Improvement in Delta outflow during critical periods; and
- Improvement of salmon spawning and juvenile survival in upstream tributaries as defined by the ERP and ERP Strategic Plan, by purchasing up to 100,000 acre-feet of water per year by the end of Stage 1.

Some of these EWP assets will compliment the EWA. While the EWP focuses on enhancing instream conditions, program managers would also consider potential benefits to offstream resources. The EWP intends to purchase water from willing sellers in its effort to meet program objectives. CALFED agencies intend to first try the program with pilot water acquisitions. CALFED agencies will then evaluate the results to determine the program effectiveness and to refine the EWP framework (CALFED 2002a). Once the CALFED agencies gather sufficient information, they will prepare an environmental document that covers full implementation of the EWP.

The EWP will be operational through the end of the 30-year CALFED Bay-Delta Program (CALFED 2002a). The EWP is designed to make long-term surface water purchases, while EWA is designed to make short-term water purchases from a variety of acquisition sources. It is anticipated that the EWP would focus water acquisitions on Central Valley rivers and streams, with reservoirs upstream from the Delta as

priority sources. Expansion of this geographic area is dependent upon coordination with the CALFED Science Program and other water acquisition programs.

The EWA and EWP programs plan to coordinate efforts to achieve mutual benefits with single acquisitions. These single acquisitions may include joint acquisitions, with funds contributed both by the EWA and EWP, as well as sequential acquisitions, in which assets acquired by one program are sold to the other after the assets have served the initial purpose. Of additional consideration is use of EWP funds to time EWA acquisitions so that water is transferred during ecologically beneficial periods. Additional strategies for water transfers include groundwater banking and long term purchases.

22.2.1.6 Water Acquisition Program Interrelationships

Implementation of the programs above represents the cumulative condition for water acquisitions through 2007. Several relationships among the programs are important to discuss. First, the major constraint on the cumulative condition is the limited Delta pumping capacity. Maximum transfers in the Upstream from the Delta Region by all water acquisition programs would be approximately 600,000 acre-feet in a dry year. Because of conveyance limitations, priority at the Project pumps becomes critical. Several programs, including SVWMA, the Dry Year Program, DRRIP, and, at times, CVPIA WAP, have pumping priority over EWA. If pumping capacity is not available for EWA purchases, the EWA agencies would acquire water from sources in the Export Service Area. Therefore, the location and type of acquisition becomes a factor for operation of these programs. Table 22-1 further illustrates the relationships among the programs.

Table 22-1
Summary of the Cumulative Condition of Water Acquisition Programs

Program	*Frequency/ Year Type for Implementation*	*Status*	*Location Relative to Delta*		*Potential Acquisition and Management Actions*					
			Upstream	*Export Service Area*	*Surface Water Purchase*	*Ground-water Purchase*	*Ground-water Substitution*	*Ground-water Storage*	*Crop Idling*	*Source Shifting*
EWA	Annual	Current	X	X	X	X	X	X	X	X
SVWMA	Critical, Dry, Below Normal	Future	X		X	X	X			
Dry Year Water Purchase Program	Critical, Dry	Current	X		X		X		X	
DRRIP	Critical	Future	X	X	X	X, *Export Service Area*	X		X	
CVPIA WAP	Annual	Current	X	X	X		X		X	
EWP	Annual	Future	X		X	X	X		X	

The preferred location and type of water acquisition is similar among most programs and is based mainly on costs. Water purchases in the Upstream from the Delta Region tend to be less expensive than purchases in the Export Service Area. Typically, the first acquisition priority would be non-Project surface water because

surface water is usually the least expensive source. When surface water is no longer available for purchase, the water acquisition programs would look to groundwater substitution and direct groundwater purchases to acquire water. Temporary crop idling would be the last water acquisition option utilized by most programs.

Furthermore, as indicated in Table 22-1, all the acquisition programs could be operated in a critical water year and most in a dry year. Because surface water transfers in the Upstream from the Delta Region are the least expensive, surface water supplies would not likely provide enough water for needs of all programs during a dry year. Other types of acquisitions, including crop idling, would likely be used. Thus, total water acquisitions from all programs would maximize pumping capacity in the Delta. Therefore, the potential for cumulative effects to occur during dry years is the greatest, as all programs seek to acquire water in the Upstream from the Delta Region through all acquisition types. The Flexible Purchase Alternative analysis evaluates this "worst-case" scenario.

In many instances, the same agencies (DWR and Reclamation) will be involved in the acquisitions or approval of the acquisitions; therefore, agencies would coordinate purchases. Coordination of the programs will be particularly crucial during critical and dry years, when all programs are in operation. Coordination would be facilitated through the CALFED Water Transfer Program.

22.2.2 Delta Facility Improvement Projects

The CALFED ROD identifies potential actions to be implemented or considered during Stage 1 to improve storage and conveyance. Several of the actions are included in the cumulative analysis. This section contains brief descriptions of the projects and their relevance to the cumulative condition.

22.2.2.1 South Delta Improvements Project

The CALFED ROD identifies the South Delta Improvements Project (SDIP) as a way to improve the use of the Delta for conveyance purposes. The intention of the SDIP is to increase conveyance capacity at the SWP Delta export facility to meet water supply demands in the Export Service Area. The SDIP includes several projects intended to maximize diversion capability into Clifton Court Forebay, while providing an adequate water supply for the South Delta Water Agency (SDWA) and reducing the effects of SWP exports on aquatic resources. The major components of the SDIP are:

- increasing the maximum allowable diversion capacity at the SWP Clifton Court Forebay;
- dredging a portion of Old River to improve conveyance capacity;
- constructing permanent operable barriers to improve water supply reliability and water quality;
- dredging local channels to reduce the frequency of barrier operations and to accommodate improvements to existing agriculture; and

- constructing a permanent operable fish control structure at the head of Old River to improve conditions for salmon migrating up and down the San Joaquin River.

CALFED agencies determined that the objectives outlined in the PEIS/EIR could not be met without some of these South Delta improvements (DWR and Reclamation 2002).

22.2.2.1.1 Banks Pumping Plant Increase to 8,500 cfs

This project would involve increasing SWP pumping at the Banks Pumping Plant from the current limit of 6,800 cfs to 8,500 cfs from March 15 to December 15 and modifying existing pumping criteria from December 15 to March 15 to allow greater use of SWP export capacity (CALFED 2000a). The proposed increase in export capacity to 8,500 cfs would allow more water to be moved through the Delta by all acquisition programs during the summer months. Because purchases in the Upstream from the Delta Region are less expensive per acre-foot than purchases in the Export Service Area, water programs could purchase more water with a fixed amount of money in the Upstream from the Delta Region.

Therefore, under the cumulative condition, if an EWA action reduces pumping, the lost opportunity for conveyance would be greater with the increased export capacity than it would be with the existing capacity. Because the EWA must repay export users for water that was not delivered during pumping reductions, EWA would have to repay more water if pumping were reduced from the higher capacity than it would if pumping were reduced at the existing capacity. However, because increased export capacity would be available, EWA agencies could purchase more water upstream from the Delta at lower costs. Presumably, on average, the cost savings available with less expensive upstream purchases would offset the costs of EWA repayments required when reducing pumping at the larger export capacity.

Though not a direct part of SDIP, the CALFED ROD discusses the potential to increase SWP pumping capacity to a maximum capability of 10,300 cfs. This action would be taken only after the increase to 8,500 cfs. The CALFED ROD identifies that new fish screens at the Clifton Court Forebay and Tracy pumping plants should accompany a capacity increase to 10,300 cfs. The ROD indicates 2006 as the starting year for operations and performance testing of the new screens. Pumping capacity would not likely increase to 10,300cfs within the timeframe of the EWA.

22.2.2.1.2 Constructing Permanent Operable Barriers

The SDIP also proposes to dredge and install permanent and operable barriers to ensure adequate quantity and quality to agricultural diverters within the South Delta. The existing temporary barriers have a limited ability to respond to the continually changing hydraulic and environmental conditions in Delta Channels. It is anticipated that if permanent barriers were installed and continuously operated to address Delta concerns, water supply and quality would be improved. If the barriers were in place, water could be transferred, lessening the potential to affect the water quantity, quality, and channel water level needs of water users in the South Delta. Export

capacity could not be increased to 8,500 cfs unless the channels in the South Delta are dredged and the permanent operable barriers are installed.

22.2.2.2 North Delta Improvements Project

The ROD includes components of the North Delta Improvements Project (NDIP) to address flood control, ecosystem restoration, water quality, fisheries, and water supply reliability concerns in the North Delta. Several parts of the CALFED Ecosystem Restoration Program highlight opportunities for ecosystem restoration and flood protection in the area. The North Delta (particularly along the Mokelumne River and Lost Slough) has a lack of river channel capacity for conveying flows from the Sierra Nevada watersheds safely through the North Delta to the San Joaquin River. The following NDIP actions have been identified to address these issues: 1) dredging and setback levees along the north and south forks of the Mokelumne River, 2) providing flood control and habitat restoration benefit on McCormack-Williamson Tract, 3) restoring wildlife and fisheries habitat along the Georgiana Slough, and 4) conducting a study of modifying operating rules for the Delta Cross Channel (DCC) and of the feasibility of constructing a zero to 4,000 cfs screened diversion in the Sacramento River. A project-level EIR/EIS will analyze the first three actions, which will be implemented as a single project. The fourth action will be addressed in a feasibility study (CALFED 2000).

The NDIP action to design and construct floodway improvements in the North Delta would provide conveyance, flood control, and ecosystem benefits. This action includes enlargement of the South Fork of the Mokelumne River to increase conveyance abilities in summer months when the DCC gates are open, enabling more water to be moved through the DCC without the potential of flooding. During periods of high exports, the DCC waters mix with and improve the quality of the San Joaquin flow. When the gates are closed, Delta water quality worsens (CALFED 2000).

This action could affect water acquisition program operations under the cumulative condition. For example, currently, the EWA is required to buy additional carriage water[4] to meet Delta water quality standards. If the Mokelumne River channel were enlarged, more water could move through the DCC, and the EWA would not be required to purchase additional carriage water to maintain water quality standards. EWA Management Agencies would be able to use the money saved from decreased carriage water acquisitions to purchase water for environmental and supply purposes.

22.2.2.3 In-Delta Storage Project

The CALFED agencies have researched various in-Delta storage projects. As part of the investigations, CALFED agencies have explored the lease or purchase of the Delta Wetlands Project, a private proposal by Delta Wetlands Properties Inc. to develop and market a water storage facility in the Delta. The Delta Wetlands Project includes 1) conversion of Webb Tract and Bacon Island into storage reservoirs, termed

[4] See Chapter 5, Water Quality.

"reservoir islands" and 2) conversion of Bouldin Island and Holland Tract into "habitat islands" for wetland and wildlife management and enhancement for environmental mitigation. The storage capacity of the "reservoir islands" is estimated to be 217,000 acre-feet, with a designated water surface elevation at 4 feet above mean sea level (CALFED 2002).

The purpose of in-Delta storage is to help meet the ecosystem needs of the Delta and EWA and CVPIA goals; to provide water for use within the Delta; and to increase reliability, operational flexibility, and water availability for the SWP and CVP water use south of the Delta water. Improved operational flexibility would be achieved by providing an opportunity to change the timing of Delta exports. In-Delta storage would provide a location to which water acquisition programs could convey and store water during pumping restrictions. The Delta Wetlands Project would divert water from the Delta to in-Delta storage during periods of high flow and low impacts on fish and create new points of diversion that could be used selectively to minimize impacts on aquatic resources. Any water stored in the Delta would be readily available for export when restrictions are relaxed.

The In-Delta Storage Program Draft Summary Report, completed in May 2002, evaluated the Delta Wetlands Project for technical and financial feasibility for public ownership. It was the conclusion of DWR that for ownership by DWR or Reclamation, the project as proposed by Delta Wetlands requires modification and additional analyses before it is appropriate to "initiate negotiation with Delta Wetland owners or other appropriate landowners for acquisition of necessary property" (CALFED 2000). The environmental review and documentation, necessary authorization, and funding are expected to be completed in 2005.[5]

The potential effects of the Delta Wetlands Project on water quality and water supply are unknown. Several water quality requirements in SWRCB Decision 1643 are intended to ensure that the Delta Wetlands Project will not create significant water quality impacts. Specific criteria were developed for total organic carbons (TOC), chloride, disinfection byproducts (DBPs), dissolved oxygen, and temperature (CALFED 2002). It is possible that TOCs could increase in the stored water above Delta quality standards and, therefore, constrain the supply available from the Delta Wetlands Project.

The actual operations of the project, including who would operate it and how, are still unspecified. Therefore, it is unknown how the Delta Wetlands Project would affect the cumulative condition. Any water exported through the pumps from the Delta Wetlands Project is expected to have lower priority than the EWA (CALFED 2002).

[5] The ROD deadlines for the In-Delta Storage Program no longer apply, because the CALFED agencies decided to pursue the Re-engineered Delta Wetlands Project instead of the Delta Wetlands Project as proposed by Delta Wetlands Properties, Inc.

22.2.2.4 SWP/CVP Intertie

The ROD identifies the construction of a number of interties and bypasses in the water system. A proposed intertie between the SWP and CVP facilities at or near Tracy could affect the cumulative condition. Currently, the CVP facility has a maximum pumping capacity of 4,600 cfs. The canal downstream from the pump narrows at the final pools, reducing the maximum capacity that can be delivered to O'Neill Forebay to 4,200 cfs. An intertie would be built between the project facilities to accommodate the additional 400 cfs that cannot be moved through the final pool of the canal. The canal would potentially increase export capacity for the programs. For example, if the CVP allocations to its contractors were less than 100 percent, unused capacity in the intertie could provide additional capacity for the EWA to move water through the Delta, assuming that the CVP is not using the capacity for its own purposes. This capacity would typically be available during summer months, but the exact amounts are unknown.

22.2.3 Delta Improvement Projects Interrelationships

The Delta Improvement Projects would facilitate movement of water through the Delta and increase export capacity at the Delta pumps. These projects could effectively increase the amount of water transfers possible for the water acquisition programs under the cumulative condition. Essentially, these programs would allow more purchases to occur than those described under the Flexible Purchase Alternative, which would increase the possibility that all water types would be acquired during all hydrologic conditions. The pumping capacity priorities discussed above would still apply.

Delta Improvement Projects would improve environmental conditions through various means. Increasing capacity at the SWP pumping plant would require new fish screens to be installed. In-Delta storage would provide an immediate water supply for fish actions. The NDIP would address the need for flood control solutions that are integrated with ecosystem improvements. These projects would improve the environment of the Delta, while also improving conveyance and storage capacity.

Cumulatively, the Delta improvement projects would improve water quality in the Delta and water supply to users south of the Delta. Because conveyance would increase, cumulative effects to fisheries could be possible. However, because the projects are in the planning stages, the potential cumulative effects to water supply, Delta water quality, and fisheries are unknown. The environmental documents for the Delta Improvement Projects must address the projects' contributions to increased water acquisition potentials for the EWA and the other water acquisition programs. Currently, no conclusion can be made regarding cumulative effects of the Delta Improvement Projects; therefore, individual resource cumulative analyses do not discuss cumulative effects of these projects.

22.3 Incremental Contribution of the EWA to the Cumulative Condition

Mitigation measures would minimize the potential for EWA acquisitions to significantly contribute to cumulative effects. Detailed coordination between the water acquisition programs, along with EWA implementation of the mitigation measures, would limit adverse cumulative effects. CALFED agencies must determine how individual program goals will be addressed in the pursuit of joint acquisitions. Coordination would occur through the CALFED Water Transfers Program.

22.4 Summary of Cumulative Effects for Individual Resource Areas

Each resource chapter includes an analysis of cumulative effects. The following sections summarize the resource cumulative analyses. Refer to associated chapter for complete discussion of cumulative effects.

22.4.1 Surface Water Supply and Management

Under the water transfer programs, water in the Upstream from the Delta Region would be purchased from stored reservoir surface water supplies, groundwater supplies, and through groundwater substitution and crop idling practices. It is possible that cumulative purchases could draw reservoirs down below the Baseline Condition, lessen the possibility of refill, and affect future users' water supply. It is anticipated, however, that districts selling water to the programs would manage their supplies responsibly so that SWP, CVP, and non-Project users would not be adversely affected. Therefore, no permanent cumulative effects to surface water supply reservoirs would occur.

Water acquisitions through groundwater substitution and crop idling would not result in flow changes that affect nonparticipating users' water supply; therefore, the acquisitions would not result in a significant cumulative effect.

22.4.2 Water Quality

The Flexible Purchase Alternative analysis evaluated the potential impacts to rivers and reservoirs as a percent change in flow, reservoir storage, and water surface elevation. If additional transfer programs draw reservoirs down or reduce riverflows below the acceptable criteria for water quality management, the effects could be cumulatively significant. To prevent cumulatively significant impacts, water agencies would have to cooperatively set release limits on reservoirs such that the reservoirs would not be drawn down below the levels required to maintain suitable water quality levels within the reservoirs, especially during the summer season when water levels are already low within the reservoirs.

River flow rate would most likely be governed by established regulatory requirements for anadromous and riverine fish, through such agencies as USFWS and

National Oceanic and Atmospheric Administration Fisheries, which would prevent flow rates from increasing or decreasing in a manner that would be considered harmful to the fisheries. The fluctuations in flow caused by the cumulative actions would most likely not increase or decrease flows to cause a cumulatively significant impact to water quality.

With regard to cumulative effects to water quality in the Sacramento-San Joaquin Delta Region, the analysis presented in Section 5.2.4.1.4 is not only an evaluation of the Flexible Purchase Alternative as compared to the Baseline Condition, but is also an evaluation of the Cumulative condition as compared to the Environmental Setting/No Action/No Project condition. Therefore, a cumulative effect would not occur.

In the Export Service Area, source shifting would not be expected to lower reservoir levels in Diamond Valley Lake, Castaic Lake, and Lake Perris beyond the levels of the Baseline Condition. Therefore, a cumulative effect would not occur.

22.4.3 Groundwater Resources

The cumulative effects analysis focuses on the regional programs that may affect groundwater rather than on local projects. Crop idling as a water acquisition method during dry years could result in lower groundwater levels because irrigation water would not percolate into the groundwater basin, resulting in adverse effects. However, the EWA agencies would consider other reasonably foreseeable transfers by all water transfer programs when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the rice land in a county, where this 20 percent would include the other, reasonably foreseeable transfers.

During dry years more groundwater substitution transfers may occur in the acquisition programs because there will be a greater capacity for transport at the pumps. These cumulative effects could be potentially significant if these programs are not coordinated. It is assumed that each program will institute similar groundwater mitigation measures as those stipulated under the EWA Program. The EWA's groundwater mitigation measures require a pre-purchase evaluation for areas in which groundwater levels (prior to the transfer) are sufficiently low to warrant potential regional adverse effects. If the evaluation shows that EWA extraction would likely result in regional adverse effects, the EWA Project Agencies would not purchase groundwater from the area of concern. The groundwater mitigation measures require that the local selling agencies establish monitoring and mitigation programs prior to EWA transfers.

Consequently, the coordinated implementation of the programs together with the mitigation measures stipulated under the EWA Program would minimize any adverse effects that the EWA Program may contribute to the cumulative effects of all the programs to less than significant.

22.4.4 Geology, Soils, and Seismicity

Water acquisitions through crop idling could potentially affect geology and soils. In the Upstream from the Delta Region, conditions (both existing management practices and weather conditions) are not favorable for erosion of soils. However, loss of surface soils through erosion of bare fields during crop idling is a concern for the Export Service Area where water acquisition programs may acquire water via cotton idling. EWA agencies will require a dust suppression plan to mitigate for significant impacts. Under the cumulative condition, EWA agencies would also require the dust suppression plan; therefore, any effects to the cumulative condition would be less than significant.

22.4.5 Air Quality

In the Upstream from the Delta Region, ozone attainment status is an issue of concern; additional emissions of ozone precursors from other programs would contribute to already high ozone concentration areas, creating a potential significant cumulative effect. Because the EWA is implementing mitigation measures to alleviate a potentially cumulative impact, the EWA's contribution is considered less than significant.

Counties in the Export Service Area are considered severe nonattainment areas for ozone. The production of ozone precursors by several programs could lead to a significant cumulative impact. However, the EWA is implementing mitigation measures listed in Section 8.2.7, which would also alleviate the cumulative impact. Therefore, EWA's contribution is not cumulatively considerable and thus not less than significant.

Crop idling causes increased fugitive dust emissions and associated PM_{10} emissions. Both fugitive dust and PM_{10} are currently at high concentrations in this region. The production of PM_{10} by cumulative crop idling transfers could lead to a potentially significant cumulative impact. However, Fresno, Kern, Kings, and Tulare Counties are within the San Joaquin Valley APCD. The APCD regulates fugitive dust emissions and requires adherence to mitigation measures in the form of a dust suppression plan. Any crop idling transfer program would be required to comply with the APCD regulations; therefore, after mitigation no cumulative impacts would occur.

22.4.6 Fisheries and Aquatic Ecosystems

The analysis of potential cumulative effects to fisheries and aquatic resources is based on a discussion of potential impacts resulting from the comparative analysis of the Flexible Purchase Alternative and the cumulative condition. Implementation of one or more of the water acquisition programs in conjunction with the EWA will not change the total supply of water from upstream sources from that analyzed for the Flexible Purchase Alternative. Because transfers under other programs are managed during the same time periods evaluated for the management of EWA assets, these

increases or decreases in flows would not change, relative to levels identified under the Flexible Purchase Alternative.

Water surface elevation and end-of-month storage levels would not be reduced further than those analyzed for the Flexible Purchase Alternative. Similarly, changes in flow and water temperatures in rivers potentially affected by the EWA cumulative condition also would be similar to those analyzed for the Flexible Purchase Alternative. In the Delta, potential impacts of the Flexible Purchase Alternative were determined by conducting an analysis based on the maximum utilization of available export capacity of Delta facilities, which is the limiting constraint on transfers for the water acquisition programs. Therefore, potential cumulative impacts to reservoir and riverine fisheries and habitats in the Upstream from the Delta Region would be less than significant.

In the Export Service Area, stored reservoir water is not available for purchase, and source shifting would only take place under the EWA Program. Source shifting would not result in reservoir water surface elevations in San Luis, Castaic, Perris, and Diamond Valley Reservoirs lower than those reached under the Baseline Condition. Therefore, potential cumulative impacts resulting from implementation of the Flexible Purchase Alternative in the Export Service Area would be less than significant.

22.4.7 Vegetation and Wildlife

All programs which participate in groundwater substitution will conduct groundwater actions based on individual environmental documents required for the use of CVP and SWP facilities. The oversight of water transfers by Reclamation and DWR would ensure that the effects because of groundwater substitution actions on wetlands and other vegetation communities would be avoided or minimized. Groundwater substitution actions undertaken by other water supply programs would also be limited by water transfer capacities and the same criteria applied to the EWA program. Therefore, groundwater substitution would not present a cumulative effect on vegetation and wildlife resources.

Crop idling by all acquisition programs, including EWA, would be limited by water export capacities. In addition, EWA agencies would consider other reasonable and foreseeable crop idling actions by other water acquisition programs before idling 20 percent of county rice or cotton acreage. These limitations and socioeconomic 20 percent crop idling measure would control the amount of cropland idled for water supply programs. In the Export Service Area, EWA crop idling actions affect cotton crops. Cotton does not provide habitat of value to wildlife; therefore idling of cotton crops under the EWA program would not affect vegetation and wildlife resources. Therefore, crop idling would not present any cumulative effects on vegetation and wildlife resources in both regions.

Stored reservoir water would potentially be purchased in all the cumulative programs. The EWA Flexible Purchase Alternative analysis includes the maximum amount of water available from each reservoir. Therefore, the amount for purchase

either by the EWA or in combination with other projects is the worst-case effect that could occur should all programs purchase stored reservoir water in any single year. Therefore, like the Flexible Purchase Alternative analysis, effects under the cumulative condition would be less than significant.

22.4.8 Regional and Agricultural Economics

Idling of rice fields in the Upstream from the Delta Region and cotton fields in the Export Service Area by all water acquisition programs could result in cumulative economic effects. At the time of the water acquisition, the EWA agencies would consider other reasonably foreseeable transfers when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the rice or cotton land. If other water acquisition programs purchase more water through crop idling resulting in greater than 20 percent of rice or cotton acreage, those programs would be responsible for meeting Water Code requirements and addressing the subsequent cumulative effect.

In addition to the EWA, water acquisition programs that purchase water via groundwater substitution would result in further declines of groundwater levels and higher extraction costs for third party users. The EWA would continue to implement its groundwater mitigation measures.

Demands for water transfers are expanding the water transfers market.
Any local or government sponsored transfer program would contribute to the cumulative condition. More participants in the market might drive up the price of transfers. Increased prices should increase the long-run supply of water for transfer.

22.4.9 Agricultural Social Issues

Water transfers via crop idling by all water acquisition programs could result in cumulative effects to farm labor. At the time of an EWA water acquisition, the EWA agencies would consider other reasonably foreseeable transfers when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the rice or cotton land. With careful coordination, data collection, and verification, crop idling for the EWA would cumulatively not adversely affect farm labor.

22.4.10 Agricultural Land Use

The cumulative effects analysis considers other water transfer programs that utilize crop idling, land retirement programs, and conservation programs that protect agricultural and open space land. Crop idling by these programs would be temporary and would not permanently alter any land use patterns. Furthermore, EWA land use mitigation measures would not decrease the amount of land categorized as prime, statewide important, or unique. Therefore, EWA would not permanently change land use practices and would not contribute to any cumulative effect. Consequently, because crop idling is temporary and EWA would not

contribute to any changes in land use classifications, any potential cumulative effects on agricultural land use would be less than significant.

22.4.11 Recreational Resources

Other programs in combination with the EWA that purchase water from the same agency could draw down reservoirs further than under the Flexible Purchase Alternative. The additional water sold for other programs would reduce the Baseline Condition described and could cause significant cumulative impacts. EWA Management Agencies would not purchase water from an agency if the purchase would cause a cumulatively significant impact on recreation.

Actions such as groundwater substitution and crop idling in the Upstream from the Delta Region would change in the timing and quantity of water released from reservoirs, altering riverflows. Water transfers from other acquisition programs along the same rivers as in the EWA program area could result in a cumulative effect on the change in riverflow. However, it is not anticipated that the riverflow would change to such a level as to cause a cumulatively significant impact on recreation.

22.4.12 Flood Control

There are no other programs that could store water in Lake Oroville between November and March. If DWR did allow such storage, the lake water surface would be higher, and flood releases, if needed, would be initiated sooner. Flood control regulations would be followed regardless of the type of water stored in Lake Oroville. Therefore, the cumulative effects are considered less than significant.

Agencies participating in groundwater substitution and crop idling with various programs would cause reservoirs to release more water than under the Baseline Condition. The USACE flood control guidelines would limit releases such that the releases were within channel capacity. The cumulative effects are considered less than significant.

No other water transfer programs are currently managing water that involves early delivery of water, and none are likely to do so. Therefore, there would be no cumulative effects on flood control because of predelivery.

22.4.13 Power Production

There is a potential for cumulative effects to CVP/SWP power production for other water acquisition programs that alter the timing of water releases from Project reservoirs. In the past, these programs have included specific terms for use of Project power in contractual documents. Recent year EWA water purchases have been facilitated by terms of Interim Protocol documents. Because the other programs remain in the planning stages, or are subject to CVP/SWP policies that are evolving, operational details of the programs cannot be described. Any power impacts of these programs would not constitute environmental effects, but rather economic losses. Power impacts in the cumulative condition are essentially the same as those shown for the Flexible Purchase Alternative and would be less than significant.

22.4.14 Cultural Resources

Cumulative effects analysis for cultural resources focuses on those programs that potentially acquire water through stored reservoir water purchase and crop idling. Cultural impacts in the cumulative condition are essentially the same as those shown for the Flexible Purchase Alternative and would be less than significant. If any additional water were transferred, mitigation would require a cultural resource inventory and evaluation of property within the added drawdown zone and development of appropriate cultural resource protection to reduce impacts to a less-than-significant level.

22.4.15 Visual Resources

Visual resource concerns stem from the early lowering of the water surface elevation within non-Project reservoirs, creating a larger exposed bank area of the reservoir during the summer recreation season. The EWA analyses address the maximum water available from each reservoir. Additionally, other crop idling programs are currently being implemented and may contribute to cumulative effects on visual resources. However, as previously noted, crop idling is a current agricultural practice that is not a permanent action. It is generally not possible to determine the difference between normal crop rotation and fallowing related to a water transfer. In addition, crop idling involves a Class C scenic area. Idling of rice land (seasonally flooded agriculture) will not affect wildlife viewing during the fall, winter, or spring. Rice land idling is a summer action not affecting migration and over-winter periods for migrating birds. Cumulatively there would be no additional visual resource impact than from that described under the EWA analyses.

22.4.16 Environmental Justice

Environmental justice effects stem from crop idling actions that result in the loss of low-income agricultural jobs (employment). The EWA program has selected two crops to idle, rice and cotton, which require fewer field workers than other crops. The other programs that involve crop idling (Dry Year, DRRIP, and the CVPIA WAP) would most likely also idle only rice and cotton. The EWA agencies would consider other reasonably foreseeable transfers when determining where to acquire water through crop idling. EWA agencies would then only purchase water from idling 20 percent of the rice or cotton land. The cumulative effects of these programs on environmental justice would therefore be the same as the effects described for the Flexible Purchase Alternative.

22.4.17 Indian Trust Assets

This ITA cumulative analysis focuses only on those programs that potentially pose incrementally detrimental effects through groundwater substitution in all areas of the State. As discussed in Chapter 6, Groundwater Resources, all are required to have monitoring and mitigation plans that prevent third party effects, similar to those that apply to EWA actions. Careful monitoring and management is necessary to mitigate any potential effects to a less than significant level. Additionally, all EWA

groundwater substitution acquisitions in the vicinity of an ITA require the United States to be notified before such acquisitions are finalized in order for the United States to fully execute its Indian Trust responsibilities. After deliberation by subject matter experts and appropriate tribal consultation, mitigation may reduce effects to a less-than-significant level.

22.5 Mitigation Measures

Refer to each individual resource chapter for a discussion of mitigation measures.

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Chapter 23
Consultation and Coordination

During the preparation of this Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR), the lead agencies, Bureau of Reclamation (Reclamation), and the Department of Water Resources (DWR), consulted with resource specialists, agencies with specific expertise in project issues, and members of the public. These consultations assisted the lead agencies in determining the scope of the DEIS/EIR, identifying the range of alternatives and environmental protection and mitigation measures, and defining impact significance. Consultation included informal agency communications, formal interagency meetings, and public meetings. The lead agencies will continue to solicit public and agency input on the project by encouraging review of this DEIS/EIR. This chapter summarizes agency consultations and public involvement efforts conducted during the project planning and environmental review process.

23.1 Fish And Wildlife Consultation

The U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NOAA Fisheries), and California Department of Fish and Game (CDFG) are CALFED agencies and are acting as cooperating agencies on the Environmental Water Account (EWA) DEIS/EIR. USFWS, NOAA Fisheries, and CDFG consultation is being undertaken consistent with the CALFED Plan as described in the following.

The CALFED Bay-Delta Program is a collaborative effort of 23 federal and state agencies that seek to resolve water supply conflicts in the Bay-Delta. The CALFED Programmatic Record of Decision (ROD) set forth a collaborative means for addressing the environmental effects (adverse and beneficial) of CALFED actions related to improving water supply reliability and recovery/restoration of the Delta environment and species dependent on the Delta. Through the implementation of the Multi-species Conservation Strategy (MSCS) process, the CALFED agencies assessed the effects of potential CALFED actions on targeted species, and then developed initial conservations measures that when implemented would meet the overall CALFED objectives.

One of the goals of the CALFED MSCS is to address combined compliance with the federal endangered species act (FESA), California endangered species act (CESA), and the California Natural Community Conservation Planning Act (NCCPA) requirements. The MSCS serves as the biological assessment of the programmatic CALFED actions. USFWS and NOAA Fisheries used the MSCS as the biological assessment to develop the programmatic biological opinions for the programmatic CALFED actions. CDFG used the MSCS for compliance with the CESA and NCCPA.

For second-tier CALFED project actions such as the EWA, an Action Specific Action Plan (ASIP) is required to address the FESA, CESA, and NCCPA consultation requirements of federal and state agencies. As a tiered document, the ASIP focuses on

issues specific to the EWA Proposed Actions. This ASIP therefore addresses the biological assessment requirements. The USFWS and NOAA Fisheries will use this ASIP to develop action-specific biological opinions relative to the EWA. The CDFG will use this ASIP to address compliance with the CESA and NCCPA.

23.1.1 Consultation To Date

As described above, Fish and wildlife consultation was conducted in coordination with the development of the ASIP. Issues pertaining to the ASIP have been discussed within an ASIP Team comprised of representatives from Reclamation, DWR, USFWS, CDFG, and NOAA Fisheries. The ASIP reports USFWS, NOAA Fisheries, and CDFG findings regarding impacts to identified endangered, threatened, and proposed or candidate species that may occur in the action area.

April 17, 2002---ASIP team discussed the Detailed Work Plan for Task 7 (Fish and Wildlife Consultation), the overall ASIP process and schedule, and the ASIP's relationship to the EWA.

May 1, 2002---ASIP team discussed crop idling and methodology for producing the species list.

May 6, 2002---Reclamation and DWR representatives discussed with CDFG impacts on water districts and clarify methodology for developing the species list.

May 22, 2002---CDFG and CALFED discussed an outline for the ASIP, impacts, water districts including Kern Water District, and general progress.

June 5, 2002---ASIP team discussed appropriate maps used to determine species distribution within the EWA action area.

July 23, 2002---Reclamation, CDFG, USFWS, Attorney General's Office, and CALFED discussed ASIP preparation. Discussion centers on methodologies for assessing impacts and geographical division on the project area.

September 11, 2002---ASIP team discussed the proposed document review process for September and October and the revised Table of Contents.

September 20, 2002---The ASIP team discussed the ASIP review process, a revised Table of Contents, the ESA definition of baseline, the species and Natural Community Conservation Plan (NCCP) Communities lists, the Crop Idling Impact Assessment Approach, and the ASIP settings. Also discussed at this meeting was whether the ASIP will be part of the EIS/EIR or act as a stand alone document and whether this is a Reclamation ESA consultation or whether all five agencies share joint responsibility for the consultation.

September 26, 2002---The ASIP team discussed the ASIP review process, Hydrologic Modeling for potential impact determination, thresholds of significance, the impact assessment approach for reservoir covered species, and indirect, interrelated, and

interdependent effects. The hydrologic modeling text was provided in advance for review during the meeting.

October 4, 2002---The ASIP team discussed structure, format, and content of the draft ASIP. Specifically the team discusses the hydrologic modeling section, Table of Contents, ESA Baseline, Impact Analysis, and Project Description.

October 10, 2002---Representatives from USFWS, CDFG, Reclamation and CALFED meet to discussed ESA baseline definitions and effects analysis approach, conservation measures, and content of draft ASIP.

23.2 Indian Trust Assets And Native American Consultation

EWA agencies are responsible for evaluating Indian Trust Assets (ITA) impacts. Section 20.3.3 contains avoidance criteria that reduce effects to a less than significant level. In the event an impact is identified, consultation with affected recognized tribal governments proceeds through the proponent agencies, the Bureau of Indian Affairs (BIA), the Office of the Solicitor, and the Office of American Indian Trust.

Tribal consultation would proceed any formal EWA groundwater transfer in the vicinity of potentially affected tribes. Government-to Government consultation shall take place to determine interests, concerns, impacts, applicable tribal regulations, and appropriate avoidance measures. Consultation may involve EWA agencies, BIA, and the Regional Solicitor's Office.

23.2.1 Consultation to Date

August 1, 2002---Representatives from Reclamation meet with BIA to introduce EWA and initiate discussion on possible hydrogeologic criteria that could identify potential impacts on ITAs. Potential impacts require Reclamation to notify and consult with trust land owner.

August 8, 2002---Reclamation and BIA met to continue discussion about establishing operating rules that would require Reclamation to initiate ITA consultation. Reclamation proposed a structure for the consultation process.

September 12, 2002 ---Representatives from Reclamation, CDM, and Public Affairs Management met to develop appropriate outreach involvement processes and material for the general public, farm labor, and Native Americans. Discussed issues related to Environmental Justice, tribal involvement, and Indian Trust Assets.

23.3 National Historic Preservation Act/State Historic Preservation Officer Consultation

The National Historic Preservation Act (NHPA) of 1966 (as amended in 1992) requires federal agencies to consult with the Advisory Council on Historic Preservation concerning potential effects of federal actions on historic properties. To comply with

the NHPA, notices of public meetings for this project have been sent to the State Historic Preservation Officer (SHPO), which acts as an intermediary for the Advisory Council on Historic Preservation. A copy of this DEIS/EIR has been sent to SHPO, as a unit of the California Department of Parks and Recreation, requesting its review and soliciting input on the project. Reclamation will continue to coordinate with the Advisory Council on Historic Preservation and SHPO, consistent with Section 106 of the National Historic Preservation Act.

23.3.1 Consultation To Date

Formal consultation with SHPO was initiated by a letter request from Reclamation dated February 5, 2003. In this letter, Reclamation recommended that due to the nature of the proposed EWA actions, a Programmatic Agreement would be the most appropriate vehicle for the treatment of historic properties. SHPO responded to Reclamation in a letter dated March 11, 2003. In this letter, SHPO stated its agreement that a Programmatic Agreement is the most appropriate approach for dealing with historic properties.

23.4 Environmental Justice

Executive Order 12898, Section 2-2, signed by President Clinton in 1994, requires all federal agencies to conduct programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons the benefits of, or subjecting persons to discrimination because of their race, color or national origin. Section 1-101 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations.

State law defines environmental justice in Government Code Section 65040.12(e) as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. Government Code Section 65040.12(a) designates the Governor's Office of Planning and Research (OPR) as the coordinating agency in state government for environmental justice programs, and requires OPR to develop guidelines for incorporating environmental justice into general plans.

The Bay-Delta Public Advisory Committee has an Environmental Justice Subcommittee composed of federal and state agency representatives, tribal members, community-based organizations, advocacy groups, and others interested in achieving environmental justice. As mandated by the ROD, CALFED agencies are committed to ensuring that all its programs and agencies are committed to seeking fair treatment of people of all races, cultures, and incomes, such that no segment of the population bears a disproportionately high and adverse health, environmental, social, or economic impact resulting from CALFED's programs, policies, or actions.

23.4.1 Consultation to Date

October 11, 2002 --- The EWA Actions were discussed at the CALFED Bay-Delta Public Advisory Committee Environmental Justice Subcommittee meeting. At this meeting, DWR requested input from conference members on development of a mechanism for a cost and reimbursement structure for compensating impacts on third party laborers potentially affected by water transfers.

23.5 Public Involvement

The following is a summary of the public involvement activities including public informational and environmental process scoping meetings for the project. Further discussion of these activities and the issues identified for evaluation in the EIS/EIR are presented in the July 2001 Public Scoping Summary Report, available through lead agency contacts. (See the Abstract for lead agency contacts.)

23.5.1 Environmental Impact Statement/Report Scoping

Reclamation published the Notice of Intent (NOI) to prepare an EIS and Notice of Public Scoping Meeting pursuant to the National Environmental Policy Act (NEPA) in the *Federal Register* on July 6, 2001. This notice was accompanied by a press release issued by CALFED announcing the public scoping meetings, which was mailed to approximately 500 interested individuals, stakeholders and organizations. In addition, DWR issued Notice of Preparation (NOP) of an EIR pursuant to the California Environmental Quality Act (CEQA) to resource agencies and interested members of the public on July 10, 2001. Copies of the NOI and NOP are included in Appendix F.

Public scoping meetings for EWA were held throughout the State of California to provide the public with an update on the status of the project and to identify additional significant issues to be addressed in the EIS/EIR. The public scoping meetings were held in Sacramento, CA, on July 19, 2001; Chico, CA, on July 19, 2001; Oakland, CA, on July 23, 2001; Tracy, CA, on July 24, 2001; Bakersfield, CA, on July 25, 2001; and Los Angeles, CA, on July 26, 2001. Attendees included agency staff members, local residents, representatives from various organizations, representatives from various federal, state, and local government agencies, and the media.

At each public scoping meeting, a project overview presentation and public comment session were provided. During the first portion of the meetings, representatives of the lead agencies, CDFG, and USFWS discussed the environmental documentation process and the elements of EWA. Agency representatives then presented a CALFED overview, including components of the CALFED program, description of tiered environmental documents, and an overview of EWA. A public comment session followed, at which time written comments were received and oral comments were recorded. A scoping report was prepared to summarize the public comments received at the scoping meetings.

23.5.2 Summary Of Public Concerns

The comments received at the public scoping meetings, as well as those received in response to the NOI and NOP, are summarized below by major topic. Consultations with resource agencies and the professional judgment of the specialists involved in preparation of the DEIS/EIR further defined the impact issues that are addressed in impact analyses in Chapters 4 through 20.

23.5.2.1 Resource Related Issues

23.5.2.1.1 Water Supply and Water Management

- Address the effects and limitation on Delta exports.
- EWA proposes increased exports, but decreased protection from those exports. The tidal barriers partially mitigate the export pumps' effects on water levels and quality. If barriers must be removed for increased exports, users will lose protection against exports in order that exporters may not be affected.
- The use of EWA to compensate for overages in the (b)(2) accounting procedures is risky and probably not feasible. EWA obligations may be extremely large, exceeding its ability to compensate for reduced deliveries. The EWA may not be able to acquire enough water through use of its variable assets to cover upstream fish protections formerly charged to (b)(2).
- EWA water from south of Delta purchases is of water previously exported in a manner that harms South Delta water levels, quantity and quality.
- DEIS/EIR must address how much less water is available downstream as well as when it is no longer available for each EWA purchase, and what the effects of such decreases are both individually and cumulatively.
- Model the effects of realistic increased EWA exports and identify when those opportunities for increased diversions may exist and what potential limitations may further affect the ability to accomplish such EWA exports.
- Mitigation for withholding water from human consumption for fish protection during or following successive drought years may be needed.
- The analysis must address how the program would function during multi-year droughts (e.g., 1928-1934).
- Where will the water come from without hurting non-state and federal water project users? What protections would be established.
- Will EWA effectively reduce food production in one area only to promote food production in another area?
- Do not send water south---south of the Delta is already over-committed.

- The statement that EWA water will be acquired in a manner that results in no adverse impacts on Central Valley Project (CVP) and State Water Project (SWP) contractors is incorrect in that the protection does not apply to CVP contractors other than export contractors.

- Analyze how purchases of stored water upstream of the Delta would affect Reclamation's ability to meet the Vernalis salinity standard, the amount of water available for CVP contractors from the subject reservoir, and the amount of water available for fisheries downstream of the subject reservoir.

- Since EWA does not rely on new water supplies, the purchases are only a reallocation of already insufficient supplies.

- EWA proposes to purchase water from suppliers who will substitute groundwater but have no less consumptive use. It also proposes to purchase water from diverters who will decrease their return flows to the waterways and/or capture more water than before. Each of these actions will have significant long-term effects on the water supplies and quality of waters in the Sacramento-San Joaquin system.

- Purchase of water from upstream of the Delta will necessarily adversely impact other water users because these purchases decrease the amount of water carried over in reservoirs. Reclamation is choosing to help its export contractors at the expense of its upstream contractors, what is the justification for taking water away from fish in one place to help fish in another?

- The barriers are mitigation for the export projects' adverse effects on South Delta water levels, quantity, quality, and circulation, and use of EWA will harm South Delta diverters. What is the basis for concluding that the existing regulatory actions are insufficient, and are the projects not currently mitigating their effects on fisheries? It is unclear whether the EWA, in combination with other protective mechanisms, will have enough "assets" to ensure the timely restoration and recovery of fish and wildlife.

23.5.2.1.2 Water Quality

- Address salinity levels.

- Address lack of ability to meet the Vernalis and three interior South Delta water quality objectives for agricultural beneficial uses.

- The EIS/EIR should address the interrelationship between EWA and (b)((2) releases, particularly as related to the releases from New Melones. Shift in releases of water affect the ability of New Melones to meet the Vernalis salinity standard.

- How will the timing and volume of asset movement affect water quality?

- Evaluate whether source shifting or other types of asset acquisition would have an impact on water quality.

23.5.2.1.3 Groundwater Resources

- Address groundwater supplies/overdraft in the San Joaquin Valley.
- Address overdraft of groundwater basins and supply for times of drought.
- The EIS/EIR should also analyze the cumulative effect on increasing the net long-term overdraft of groundwater. If water is shifted from food production to environmental use there will be an increase in groundwater overdraft in an attempt to maintain crop production where a shift from surface to groundwater is possible.

23.5.2.1.4 Fisheries and Aquatic Resources

- Identify species that have been impacted by EWA operations and the degree of significance to any impacts.
- Identify impacts of past operations on fisheries and what the likely adverse effects will be in the future.
- Include analysis regarding the effect of the EWA in reducing, stabilizing, or increasing Bay-Delta estuary fishery populations.
- Include all certain future water acquisitions, from either existing or new water sources, in the analysis.
- Identify methodology for determining which water users must pay for EWA benefits.
- Consider enhancement/restoration of flows in the Consumnes River for improved anadromous migration.
- How will the success or benefit of EWA, as a part of many actions taken to recover listed species, be measured? Include an analysis of EWA actions and expenditures to determine fishery benefits, not only to evaluate the program but also to help shape future actions.
- Explain how competing fish needs will be resolved [e.g., striped bass (predator target species), exotic species].
- Why worry about killing a few fish in the river when commercial harvest is so high, and new areas are soon to be opened up for additional commercial fishing?
- It has not been established that the water allocated to Tiers 2 and 3 of EWA will actually achieve fish recovery because CALFED scientists have not reviewed the scientific basis of the account. Not only has CALFED failed to show that the EWA will assist fish recovery, but also has failed to consider whether there are other non-flow practices that would be more beneficial to fish.

- Recognize and evaluate the interrelationship between the river and groundwater---to determine true impacts to fish and wildlife.

- It is unclear whether the EWA will have enough assets to ensure the timely restoration and recovery of fish and wildlife.

- Since it is not possible to predict exactly when fish most need either additional flow or reduced exports to maximize their probability for survival, it makes sense to monitor fish distributions and movements and, at least to some degree, to manage Delta flows and exports in response to these factors.

23.5.2.1.5 Agricultural Land and Water Use

- Address impacts to agricultural resources.

- Use the California Agricultural Land Evaluation and Site Assessment (LESA) model to assess impacts to agricultural resources.

- Submit CALFED's Land Use Checklist with the environmental documentation whenever agricultural resources are affected by programs and projects.

- Mitigation measures must be considered and consistent with measures identified in the CALFED Record of Decision (CALFED ROD).

- The conversion of agricultural water resources has significant direct, indirect, and cumulative impacts that must be considered in the EIR/EIS.

- The EIR/EIS should evaluate the loss of export capacity for north-Delta transfers by agricultural water users, and identify how purchases will impact the CVP and SWP and whether the EWA will disproportionately impact the CVP.

- Government agencies should not protect the production of food by export water users at the expense of decreasing crop production elsewhere.

- The EIS/EIR must analyze the extent to which water is now used for production of food will be acquired for EWA.

- Evaluate how the EWA may affect our net food supply.

23.5.2.1.6 Agricultural Economics

- Address impacts to agricultural production and the economy.

- Increases of the salinity above the salinity threshold for each crop cause a proportional decrease in crop production and results in harm to the diverter.

- The Farm Bureau believes that the CALFED Programmatic Environmental Impact Statement/Environmental Impact Report is legally inadequate, as CALFED insufficiently considered the impacts associated with the reallocation of agricultural

resources. To the extent that the future environmental review of the EWA tiers from the legally insufficient EIS/EIR, the environmental review of the EWA will be fatally flawed.

23.5.2.1.7 Power Production and Energy

- Include explanation of how adverse impacts to CVP water and power production customer deliveries, and costs will be avoided.
- How will asset management be coordinated with energy production?
- An analysis of the power costs and re-directed impacts related to power use and production must be conducted, including changes in on- and off-peak pumping.
- How will the change in management of power companies due to divestiture affect the availability and need for assets? Need to recognize that historic management of co-generation is changing and may affect the program.
- Power impacts need to be evaluated to determine the feasibility of an action.

23.5.2.2 Other Issues

23.5.2.2.1 Project Descriptions

- The EIR/EIS should clearly explain how decisions on acquisition of EWA assets are made, who makes them, where the funds come from to pay for them, and who benefits from the transactions.
- Project location must be more closely specified.
- Include specific criteria used to "target" water acquisitions.
- The EIR/EIS must address the project location and total quantities of water to be acquired through the annual and final implementation of the program.
- Determine what regions of the state will be the potential targets of redirected impacts.
- Include details of the process for extending the program.
- Specify duration of the program.
- Address cumulative effects of 4+-year purchase program.
- Address costs of water available for purchase.
- Address the effects and limitation on exports from the Delta.
- The purpose is to ensure there is no increase in consumptive use of water resulting from the transfer.

- Section 3405 specifically prevents transfers that result in a net increase in consumptive use.

23.5.2.2.2 Alternatives

- Desalination should be evaluated as a source of water for EWA.
- Include historic transfers and Delta operations in the No-Action Alternative.
- Describe how failure to acquire assets will be dealt with.
- Consider alternatives that encourage agricultural management practices.
- Alternatives should only include purchases of water made available from a decrease in consumptive use or a decrease in water previously lost to consumptive use.
- Alternatives should address priorities for access to project facilities.
- Evaluate various mixes of assets and how they may need to change over time.
- Give water districts opportunities to sell water that might otherwise spill.
- Consider other alternatives such as habitat modifications, changing fishing regulations, and utilizing EWA assets to modify other project operations (e.g., power plants) in the western Delta region.
- Consider alternatives that fund the account through volume-based user fees.
- The traditional regulatory approach should still be used to protect all life stages of fish, as well as their food base, low salinity habitat and other ecosystem elements.
- Identify a process where CALFED agencies can ensure that EWA and private water transfers are complementary and not competitive.
- Where will water come from to bank for the south?
- Create procedures for how and when it is appropriate to elevate the EWA to Tier 3.
- The EIS/EIR should consider how the EWA might be utilized in ways other than for augmenting stream flows and modifying/replacing exports. These alternatives could include habitat modifications, fishing regulation changes, and modifying other project operations in the Delta.

23.5.2.3 (b)(2) and CVPIA

- EWA and Central Valley Project Improvement Act (CVPIA) (b)(1) and (b)(2) are designed to provide for environmental benefits. How will these programs be

coordinated or integrated to achieve their purposes, and how will their implementation affect SWP and CVP operations?

23.5.2.4 Cost and Funding

- How much will this program cost taxpayers?
- A cost-benefit analysis should be conducted for the program.
- Willing sellers should not profit from the sale of water to the EWA, and purchase prices should reimburse sellers for actual costs.
- Value of water for sale should equal the cost associated with the permit or license pursuant to Water Code Section 1392 and 1629.
- Ensure cost of purchases are in accordance with market pricing.
- Consider alternatives that fund the account through volume-based user fees.
- Why should there be no uncompensated water cost to project users? Will all taxpayers pay for something that benefits project water users?
- In order to keep supplies to Kern County Water Agency (WA) at the current levels, the EWA buys back water from Kern County WA at a price that gives Kern County WA a substantial profit. Wouldn't it be cheaper to simply not deliver that amount of water to Kern County WA? Why is this paper exchange of water (but real exchange of money) not a gift of public funds?
- Analyze how regulatory baseline relates to project obligations to mitigate damages to fish and wildlife. Compare EWA baseline to obligation to mitigate impacts. Is EWA providing a benefit above the obligation?
- The EIR/EIS must first determine what the specific effects of the export projects are on fisheries in order to comply with Water Code Sections 11900 et seq. Those statutes require that the projects include as a reimbursable cost (paid by the contractors) amounts sufficient to pay for the preservation of fish and wildlife. Cost of enhancement of fish and wildlife are not reimbursable. Hence, the projects must first determine their effects on fish and wildlife and charge their contractors for the preservation thereof. Thereafter, actions/costs for the enhancement of fish and wildlife may be borne by programs such as the EWA. Absent this determination, expenditures to cover statutorily mandated reimbursable costs would be an illegal gift of public funds.
- The fact that the EWA does not provide benefits to all water users dependent on the watershed is another solid argument for user fees.
- Any program undertaken by state agencies to expend taxpayer funds to pay for costs which are statutorily allocated to private parties would constitute an illegal gift of public funds.

23.5.2.5 General

- How long would the program last? The duration of the program affects opportunities for the program and potential willing sellers.
- Will EWA operate similarly to a "bank account" carrying over from year to year?
- How will this document handle the impacts of an asset acquisition when the specifics of that acquisition are not known at this time?
- Consider lessons learned during the first year.
- Address ESA assurance: is EWA doing what it is supposed to do, i.e., 2001 short on assets, but still got assurances backstop protection, Tier 3 was not available.
- Is EWA large enough? Need to reevaluate the size of EWA on a regular basis.
- The programmatic document should be supplemented on an annual basis.
- CALFED must review the scientific justification for the amount of water already purchased and proposed to be purchase for the EWA.
- EWA water purchases are for recovery, not jeopardy, thus the water in this account is not water that necessarily would be taken through regulation if it were not purchased by the government. Moreover, even if this water were taken through regulation, it is not necessarily true that the water contractors would not be paid for the water, especially in light of the Tulare Lake Decision.
- The CALFED ROD states that the EWA is intended for "fishery protection and restoration/recovery needs as part of the overall Ecosystem Restoration Program." Thus, the EWA is a critical tool to achieving overall restoration goals. Indeed, this function is the only justification for any state or federal funding for the EWA. It is essential that planning for the EWA reflect these co-equal objectives of the EWA.
- The scope of the EWA must not be expanded without additional assets and careful evaluation of the ability of the EWA to meet any added burden.
- The cumulative effects of all acquisition programs need to be addressed.
- Provide for a technical peer review of the analysis of hydraulics of the Delta.
- Use PROSIM for the analysis because CALSIM is not fully trusted.
- EWA re-directs an impact related to use of barriers at the time EWA assets are in use---this must be evaluated in the environmental document.
- Evaluate the impacts associated with the proposed annual operational changes.

- If the EWA water allocation was based on computer modeling, the EIR/EIS should explain how the outcome of this modeling relates to the ultimate size of the EWA.
- Would the EWA program exert control of private property and water rights?
- How will instream flow transfers be addressed?
- The state and federal acquisition programs need to be coordinated.
- What is the scientific basis for and relationship between the Environmental Water Program and the EWA?
- The EWA would cause negative impacts to south-Delta agricultural contractors through competition for available transferable water. Impacts would include increased prices, decreased water supply of transferable water, decreased export capacity, increased fallowing, and increased groundwater pumping.
- Parties who are riparian to or permitted diverters from such channels are entitled to the natural flow. At any time that San Joaquin River flows are inadequate for Delta riparian or senior water holders needs, no party with junior appropriative rights on the Sacramento system can store or divert water necessary for those downstream riparians or permitted diverters. During the months of October to December, Middle River is sometimes dry. Any refill of upstream reservoirs during that time would therefore be depriving riparians and senior rights holders of the Middle River to water they are entitled to.
- Profit cannot be made of the transfer of any rights under a permit or license to divert water.
- The EIS/EIR should include scenarios in which the EWA, with and without Tier 3 protections, is inadequate to provide required fish protections and the environmental impacts of the reduced fishery protection, of any additional mitigation measures that could be required by the situation, and in curtailment of water project operations that may result.
- Individual water bank facilities, and more specifically the Kern Water Bank, should prepare supplemental environmental documentation regarding the substantial change to their individual operations as a result of this project.

23.5.2.5.1 Management of Assets

- Will surplus water be a source of EWA assets?
- Will the EIS/EIR describe how failure to acquire assets will be dealt with?
- What happens to EWA assets if the Coordination Operation Agreement or Operations Criteria and Procedures changes?
- How can we be assured that assets can be acquired this year and future years?

- How will the mix of assets need to change over time?
- Operational flexibility is a must.
- It doesn't make sense to buy from those who are not getting their full entitlement.
- Ensure that EWA assets are real.
- The EWA is not intended to be used to assure a given level of water diverters to any South-of-Delta water user that is not explicitly included in the EWA baseline.
- Define and provide the Tier 3 water supplies.

23.5.3 Public Review Of Draft EIS/EIR

The Public Draft EIS/EIR is available for review and comment for 60 days following filing of the Notice of Availability (NOA) of the EIS with the U. S. Environmental Protection Agency and the Notice of Completion (NOC) of the EIR with the California State Clearinghouse.

The NOA and notice of public hearing on the EIS were published in the *Federal Register*. The NOC was filed with the California State Clearinghouse.

The purpose for public review of the DEIS/EIR is to receive comments from interested parties on its completeness and adequacy in disclosing the environmental effects of the proposed project. Following the close of the DEIS/EIR public review period, a second document containing comments received on the DEIS/EIR and responses to the significant environmental points raised in those comments, will be prepared and published. Together, the DEIS/EIR and the responses to comments will constitute the Final EIS/EIR. Reclamation is responsible for adopting the EIS as adequate in compliance with NEPA, and DWR is responsible for certifying the EIR as adequate in compliance with CEQA. After adoption and certification, the agencies will use the EIS/EIR in making their determination whether to approve the project.

Chapter 24
List of Preparers and their Qualifications

Name/Professional Discipline	Expertise and Experience	Role in Preparation
EWAT Preparer		
Nina Bicknese Environmental Specialist Reclamation	20 years experience in biology, wetland ecology, NEPA/ESA	NEPA compliance, Purpose and Need statement, technical editing, ASIP preparation
Delores Brown CEQA Program Manager DWR	22 years consulting experience in public and private sectors	CEQA compliance, Project Objectives, guidance, review, and oversight
Scott Cantrell Staff Environmental Scientist Dept. of Fish & Game	18 years of experience in population and community ecology in the public sector	ASIP preparation; EIS/EIR project description, impact assessment methodology, coordination, and review
Jerry Johns, DWR EWA Coordinator DWR	28 years of public sector experience in water resources	coordination, oversight, and guidance
Brian Kinnear Protected Species Biologist National Marine Fisheries Service	31 years of public sector experience in fisheries biology and Section 7 Consultation	project description, plan formulation, alternative formulation, plan evaluation, preferred alternative identification, and alternative impact analysis
Sandy Osborn Project Manager Reclamation	22 years public sector experience in environmental planning and management	contract administrator and reviewer
Dave Robinson EWA Program Coordinator Reclamation	20 plus years experience in water and biological resources in the public and private sectors	guidance, coordination, and oversight
Tim Rust Interim Program Coordinator Reclamation	20 plus years experience in water resources planning and wastewater master plan development in the public and private sectors	oversight and review
Curtis Spencer Principal Engineer DWR	35 years public and private sector CEQA and NEPA experience in NEPA/CEQA documents, water resources planning and design	project description and review
Chuck Vogelsang Senior Environmental Scientist CALFED	26 years public sector experience in environmental planning for water resources	oversight and coordination
Hanspeter Walter Environmental Scientist DWR	5 years public sector experience in scientific research and analysis	impact analysis review and contribution
Jim White Environmental Scientist Dept. of Fish & Game	25 years public sector experience in Central Valley anadromous fish and water project operations	aquatic resource coordination, ASIP preparation, project description, plan formulation, alternative formulation, plan evaluation, preferred alternative identification, and alternative impact analysis
Victoria Poage Fish & Wildlife Biologist Fish & Wildlife Service	19 years public sector experience in fishery science	Delta fisheries coordination and review; ASIP preparation
Ryan Olah Fish & Wildlife Biologist Fish & Wildlife Service	5 years public sector experience in endangered species compliance	ASIP preparation, Delta fisheries review, Giant Garter Snake Initial Consultation

Name/Professional Discipline	Expertise and Experience	Role in Preparation
CDM Preparers		
Dave Auslam Senior Economist	20 years experience as resource economist and environmental consultant	economics and agricultural social guidance and review
Courtney Black Environmental Engineer	2 years experience in water quality/hydrologic engineering and wetlands studies	author groundwater resources
Coral Cavanagh Editing/Writing	14 years consulting experience; 12 as planner/engineer with CDM	technical review, editing, and writing
Melanie Craig Environmental Engineer	2 years experience in water resource consulting	author visual resources
Joel Elliston Environmental Technician	3 years experience in environmental consulting	author regional and agricultural socioeconomics, grow-inducing impacts, and institutional and legal framework
Sandra Lunceford Planner	6 years experience environmental consulting and environmental community relations	author Indian Trust Assets, agricultural social issues, cultural, and environmental justice
Carrie Metzger Task Manager	5 years experience in water resources consulting	author introduction and alternatives and proposed action; oversight; review
Patricia Reed Biologist	4 years experience environmental consulting	author vegetation and wildlife, ASIP production
Auturo Smith Senior Drafter	11 years experience engineering technician	drafting/graphics
Gina Veronese Planner	1 year experience in socioeconomic planning and environmental consulting	author regional and agricultural economics, fisheries and aquatic ecosystems, water quality, and cumulative impacts
Michelle Wilen Planner	3 years experience environmental consulting	author water supply and management; geology, soils, and seismicity; air quality; recreational resources; flood control; production
John Wondolleck Project Manager	25 years experience environmental resource management	guidance, oversight, and review
SWRI Preparers		
Meryka Atherstone Environmental Planner	1.5 years experience environmental consulting	author water quality, power production and energy, cumulative impacts, and visual resources
Paul Bratovich Principal Scientist	19 years fishery consulting experience	fisheries, ASIP, guidance and review
Allison Dvorak Associate Water Resource Scientist	3 years environmental consulting experience	CVP/SWP water supply modeling, instream temperature modeling, salmon mortality modeling, associated technical analyses
Jeanie Hinds Associate Environmental Scientist	1.3 years environmental consulting experience	author fisheries, ASIP
Patti Idlof Senior Environmental Planner	19 years experience environmental planning consulting experience	ASIP, resource agency coordination, ESA/NCCP compliance, document review
Carol Lazzarotto Task Manager	18 years experience in environmental consulting	introduction to environmental setting, impacts, and mitigation measures, document review
Jason Lemieux Associate Water Resources Scientist	5 years experience in water resources and fishery modeling	CVP/SWP water supply modeling, instream temperature modeling, salmon mortality modeling, associated technical analyses
Buzz Link Task Manager CALSIM Post-Processing Modeling	11 years consulting experience in water resources, modeling, and power operations	CALSIM post-processing, author power production, modeling

Name/Professional Discipline	Expertise and Experience	Role in Preparation
SWRI Preparers (cont'd)		
Allison Niggemyer Associate Environmental Scientist	1.5 years consulting experience in water quality and fisheries	Water quality analyses
Tami Mihm Senior Environmental Planner	15 years experience environmental and water resources consulting	CEQA/NEPA, permitting and regulatory compliance, water quality, ASIP, ESA/NCCP compliance, document review
Dave Schuster Project Manager	30 years experience environmental consulting	guidance, oversight, alternative formulation, delta fisheries evaluation, modeling, and document review
Dianne Simodynes Associate Environmental Scientist	9 years experience environmental consulting and watershed analysis	fisheries, ASIP
Nissa Wuench Planner	7 months of consulting experience	fisheries settings

ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT
STATEMENT/ENVRIONMENTAL IMPACT REPORT

ATTACHMENT 1

Modeling Appendix

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List of Acronyms

(AFRP) ..... Anadromous Fisheries Restoration Program
(ASIP) ..... Action Specific Implementation Plan
(ATSP) ..... Automated Temperature Selection Procedure
(CDFG) ..... California Department of Fish and Game
(CESA) ..... California Endangered Species Act
(COA) ..... Coordinated Operations Agreement
(CVP) ..... Central Valley Project
(DMC) ..... Delta-Mendota Canal
(DSA) ..... Depletion Study Area
(DSM2) ..... Delta Simulation Model II
(DWR) ..... California Department of Water Resources
(E/I) ..... Export/Inflow
(EIS/EIR) ..... Environmental Impact Statement/Environmental Impact Report
(ESA) ..... Federal Endangered Species Act
(EWA) ..... Environmental Water Account
(FERC) ..... Federal Energy Regulatory Commission
(FRSA) ..... Feather River Service Area
(GATAER) ..... Graphical and Tabular Analysis for Environmental Resources
(IMPLAN) ..... Impact Analysis for Planning
(I-O) ..... input-output
(JPOD) ..... Joint Point of Diversion
(KCWA) ..... Kern County Water Agency
(LOD) ..... level of development
(M&I) ..... municipal and industrial
(MAF) ..... million acre-feet
(MAF/Yr) ..... MAF per year
(MOU) ..... Memorandum of Understanding
(MWDSC) ..... Metropolitan Water District of Southern California
(NOAA Fisheries) ..... National Oceanic and Atmospheric Administration, National Marine Fisheries Service
(NWR) ..... national wildlife refuge
(OWID) ..... Oroville-Wyandotte Irrigation District
(PCWA) ..... Placer County Water Agency
(PG&E) ..... Pacific Gas and Electric Company
(Reclamation's) ..... U.S. Bureau of Reclamation's
(ROD) ..... Record of Decision
(RWQCB) ..... Regional Water Quality Control Board
(SWP) ..... State Water Project
(SWRCB) ..... State Water Resources Control Board
(TAF) ..... thousand acre-feet
(TCD) ..... Temperature Control Device
(TUs) ..... Temperature units
(UCCE) ..... University of California Cooperative Extension
(USFWS) ..... U.S. Fish and Wildlife Service
(YCWA) ..... Yuba County Water Agency

ATTACHMENT 1
MODELING DESCRIPTION

1.0 Introduction

The Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Environmental Water Account (EWA) Program includes an evaluation of potential impacts upon environmental resources that may result from the purchase, storage, and conveyance of EWA assets and the actions taken by the EWA to benefit fish populations. Flow-related impacts for the resource areas included for analysis in the EWA EIS/EIR are based upon the results of hydrologic modeling, including the CALSIM II 2001 benchmark study (BST_2001D10A), and other related studies as described in this attachment.

The EWA EIS/EIR provides an assessment of the Flexible Purchase Alternative, the Fixed Purchase Alternative, and the No Action/No Project Alternative. Under the Flexible Purchase Alternative, EWA agencies may purchase between 35 thousand acre-feet (TAF) and 600 TAF annually from areas in the Upstream from the Delta Region and the Export Service Area. The Fixed Purchase Alternative represents management of annual EWA water assets of 185 TAF from areas within the Upstream from the Delta Region and the Export Service Area, with a maximum of 35 TAF obtained from the Upstream from the Delta Region. The No Action/No Project Alternative is defined as the reasonable foreseeable future condition without the EWA, based on legal and regulatory constraints. Detailed descriptions of these alternatives are provided in Chapter 2 of the EWA EIS/EIR.

The resource impact analyses evaluate the potential effects of the Flexible Purchase Alternative in a quantitative manner, based on the hydrologic, water temperature, salmon mortality modeling, and the Central Valley Project (CVP) and State Water Project (SWP) pumping plants salvage calculations performed for the project, and described in this document. The Fixed Purchase Alternative is evaluated in a qualitative manner, although the data generated by the Flexible Purchase Alternative analysis is used to approximate the in-Delta fishery benefits produced by the EWA with implementation of the Fixed Purchase alternative. Overall, the water quality, fisheries, and power resources flow-related impacts considered less than significant for the Flexible Purchase Alternative also would be considered less than significant for the Fixed Purchase Alternative. Additionally, as described in Chapter 2 of the EWA EIS/EIR, the Baseline Condition basically represents the No Action/No Project Alternative; therefore, there would be no utility in developing an additional simulation and conducting such a comparison. Therefore, the No/Action/No Project alternative is not addressed further in this attachment.

This document provides detailed information regarding the hydrologic modeling tools, primary assumptions, model inputs, and methodologies used to evaluate potential environmental effects of the EWA Flexible Purchase Alternative upon the resource areas that may be affected by the coordinated operations of the SWP and CVP facilities (Projects) within the EWA area of analysis. The evaluation of potential impacts compares the effects of conveying water from the area of purchase to the Delta and the effect of pumping that water from the Delta via the California Aqueduct and the Delta Mendota Canal to O'Neill Forebay. The area of analysis

(study region or action area) for each resource topic is defined within the resource-specific chapter of the EWA EIS/EIR.

The impact assessments in the EWA EIS/EIR for water quality, fisheries, and power resources are based on comparisons made between computer model simulations developed to represent hydrologic, regulatory, structural and operational parameters for a Baseline Condition (existing, without project) and the Flexible Purchase Alternative (future, with project). Modeling tools used to simulate these conditions include the Department of Water Resource's (DWR's) CALSIM II (released July 23, 2002, with a 2001 level of development [LOD]) the U.S. Bureau of Reclamation's (Reclamation's) water temperature and salmon mortality models, as well as related pre- and post-processing applications utilized to develop the simulations and evaluate the Flexible Purchase Alternative relative to the Baseline Condition.

Because there can be no certainty in forecasting which combination of potential water assets will be available to the EWA Program on a year to year basis, the resource area analyses are subject to error regardless of the assets selected for evaluation. In an effort to capture the maximum effect of EWA purchases by resource area, multiple methods of simulation post processing were employed. Specifically, the first method describes the maximum effects on the locations of water purchase and the second method describes the maximum effects of utilizing the purchased water.

In the first method, four post-processing simulations were performed to identify regional effects of EWA water purchases. Each simulation utilized a single specific asset from the Upstream from the Delta Region (Sacramento River, Feather River, Yuba River, American River, and San Joaquin River) to meet the available July through September EWA export. The simulation was performed for each year of the modeling period of record. Since no single region has sufficient assets to meet a 600 TAF export need, there are many years when all of a region's assets are used but EWA exports are not met. For this methodology, however, regional upstream impacts to vegetation, wildlife, visual, recreation, and flood control resource areas are maximized (magnitude of reservoir drawdown, amount of idled acreage) due to the frequent and total use of the assets. Detailed results from these four simulations are provided in Appendix H, Summary and Technical Output for the Graphical and Tabular Analysis for Environmental Resources (GATAER), of the EWA EIS/EIR.

Because any single simulation in the first method cannot meet the total EWA export potential, a second method was used to maximize impacts associated with EWA exports. This second method was incorporated in a single simulation using all available EWA assets from the Upstream from the Delta Region to meet the maximum EWA export potential (limited to 600 TAF). The simulation was performed for each year of the modeling period of record. This methodology was used for the analysis of potential effects on fish, water quality, Project water supply and management, and power resource areas because it imposes the largest overall change to instream flows and Delta operations. Detailed results from this simulation are provided in Appendix H of the EWA EIS/EIR.

Additionally, two water purchase scenarios that are subsets of the second method described above were created to better evaluate potential effects on fish, water quality, and power resources within the Delta Region. The Delta assessment involved consideration of two separate EWA water purchase scenarios under the Flexible Purchase Alternative 1) Maximum

Water Purchase Scenario; and 2) Typical Water Purchase Scenario. The Typical Water Purchase Scenario assumes a range of EWA asset water purchases from the Upstream from the Delta Region depending upon water year type. Although referred to as a "typical" scenario, this scenario, like the Maximum Water Purchase Scenario, assumes that all unused Delta export pumping capacity for the summer months (July through September) would be available to the EWA Program. While this assumption permits evaluation of the potential worst-case for EWA export pumping, there are other water acquisition and transfer programs and SWP/CVP programs that have priority access to use this available pumping capacity. Therefore, this scenario does not necessarily represent the conditions that would be expected to occur for any given year of the program. Instead, this scenario may be considered to represent conditions that are more likely to occur than those assumed for the Maximum Water Purchase Scenario. The reasons for developing these two separate water purchase scenarios and the key assumptions for each are provided in Section 2.2.2.2.

This document also describes the evaluation assumptions and methodologies developed to determine the net benefit to Delta fish species of primary management concern based upon an assessment of anticipated reductions in fish salvage at the Projects' Delta facilities. The results of the Delta salvage evaluation are included in this document, as well as in Chapter 9 of the EWA EIS/EIR, and in Chapter 4 of the Action Specific Implementation Plan (ASIP). See Glossary of EWA EIR/EIS for definition of terms.

1.1 Purpose and Implementation of the EWA Program

The purpose of the EWA is to provide a highly flexible, immediately implementable, water management strategy with a primary focus of protecting at-risk native fish species affected by CVP/SWP operations and facilities through improvement of aquatic habitat conditions and contribution to the recovery of Delta-dependent native fish species of concern. The EWA is intended to improve aquatic habitat conditions primarily by using EWA assets to reduce CVP/SWP Delta export pumping during periods (months) critical to fish species listed as threatened, endangered or as candidate species under either the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA), or both. Additionally, the EWA Program is designed to provide for the timely management of water resources in response to changing environmental conditions and fish protection needs, delivery of reliable water supplies to south of Delta water users, and prevention of uncompensated water costs to the Projects' water users.

The Flexible Purchase Alternative would permit the purchase and acquisition of up to 600 TAF of water assets annually, to apply toward the attainment of CALFED goals and EWA objectives to reduce existing conflicts between the various uses of water resources in the Delta. Implementation of this alternative assumes maximum surface water contributions from identified available contributory sources (see EWA EIS/EIR, Chapter 2). Asset acquisition and water management under this alternative encompasses areas both in the Upstream from the Delta Region and the Export Service Area.

The EWA agencies can utilize variable operational assets and acquire fixed assets (assets), and then allocate water to improve targeted fisheries resources (fish actions or EWA actions). Variable operational assets include flexibility in regulatory requirements (relaxation of Export/Inflow (E/I) ratio for the purpose of providing benefits to fish) and SWP pumping of

instream improvement flows upstream from the Delta utilizing Central Valley Project Improvement Act (CVPIA) section 3406 b(2) and Ecosystem Restoration Program (ERP) water. Fixed assets are water purchased from willing sellers. The EWA agencies evaluate the available assets and select appropriate actions according to a monthly accounting system and practices as determined by the needs of the system and availability of water.

The CALFED agencies managing the EWA Program consider a variety of factors or variables in their decision-making process regarding water purchases prior to and during each water year. In this manner, the agencies must adaptively manage the program to ensure sufficient assets are acquired to enable the agencies to provide benefit to Delta fish resources. Several key factors that affect this decision-making process are listed below:

- The amount of funding available for that years water purchases.
- The amount of export capacity available to the EWA at the Banks and Tracy pumping plants during periods that the EWA must convey water through the Delta to O'Neill Forebay.
- The amount of water that will be purchased upstream of the Delta, which depends on the available export capacity, the amount of funds available for water purchases, the amount of EWA water required that year, and the amount of water available for purchase.
- The amount of variable assets that may be available in a specific year, especially with respect to the amount of water the EWA may gain through relaxation of the E/I ratio.
- The amount of CVPIA b(2) water available to support pumping reductions at the CVP's Tracy Pumping Plant.
- Unknown and variable hydrologic conditions.
- Unknown and variable climatic conditions, with ambient temperature being the most important climatic variable because of the affect of water temperature on fish migration, spawning, and other life stages.

2.0 Impact Analysis Framework

This section describes the impact analysis framework developed to evaluate potential flow-related impacts upon water quality, fisheries, and power resources due to implementation of the EWA Program. Specifically, the hydrologic and related modeling analyses (water temperature and salmon mortality) and post-processing applications were utilized to simulate the operations associated with the Flexible Purchase Alternative. The overall intent of the modeling simulation comparisons was to evaluate the potential effects of conveying EWA assets (water) from the area of purchase (Upstream from the Delta Region) to the Delta and the effects within the Delta associated with pumping the water from the Delta via the CVP and SWP facilities to the O'Neill Forebay. The results of the modeling simulation comparisons are presented in the EWA EIS/EIR, Chapter 5, Water Quality; Chapter 9, Fisheries and Aquatic Ecosystems; and Chapter 16, Power.

The impact analysis framework also describes the evaluation of the benefits realized for Delta-dependent fish species that result from the implementation of the EWA fish actions. The level of benefit derived from the Flexible Purchase Alternative is determined based upon calculations of anticipated reductions in fish salvage at the Projects' Delta pumping facilities. Reductions in fish salvage would occur due to implementation of the EWA fish actions that reduce export pumping volumes during months when fish species of concern are known to be present in the Delta. As discussed in Section 1.0, Introduction, the information generated by the Flexible Purchase Alternative is used to approximate the Fixed Purchase Alternative fishery benefits and effects due to pumping water purchased from the Upstream from the Delta Region at the CVP and SWP pumping plants. (Refer to Section 2.2.2.3.)

2.1 Models Used for the Hydrologic Impact Analysis

Computer simulation models of water systems provide a means for evaluating changes in system characteristics such as carryover storage, reservoir water elevation, river flow rate and power generation, as well as the effects of these changes on environmental parameters such as water temperature and early-lifestage Chinook salmon survival. The models used to simulate the Baseline Condition and Flexible Purchase Alternative include the following:

- DWR and Reclamation Simulation (CALSIM II) model of the integrated CVP and SWP system operations;
- Yuba River Basin Model (HEC-5) developed by Bookman-Edmonston Engineering, Inc. in collaboration with DWR;
- Post Processing Tool for the evaluation of EWA water purchases (EWA Water Purchases.xls);

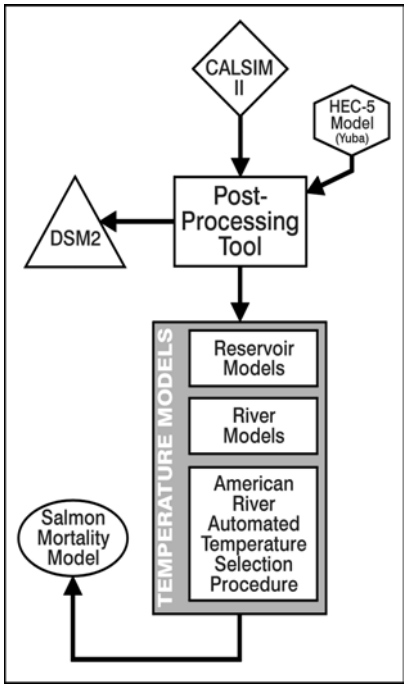


Figure 1
Schematic diagram of the hydrologic modeling process

- Post Processing Tool to route the EWA water purchases and produce the "virtual" CALSIM II output databases (EWA Routing.xls);
- Reclamation Trinity, Shasta, Whiskeytown, Oroville, and Folsom reservoir water temperature models;
- Reclamation American, Feather, and Sacramento river water temperature models;
- Reclamation American and Sacramento river early-lifestage Chinook salmon mortality models;
- GATAER Tool; and
- DWR Delta Simulation Model II (DSM2); the delta hydrodynamic and salinity model for water quality.

A schematic diagram illustrating the hydrologic modeling process is provided in Figure 1. CALSIM II provides a benchmark monthly simulation of the CVP and SWP water operations without any EWA actions. Output from CALSIM II and the HEC-5 model were then used as input to post-processing tools, EWA Water Purchase.xls and EWA Routing.xls, to develop the EWA Actions and the "virtual" CALSIM II output databases for the EWA

analysis. CALSIM II provides hydrologic information for the reservoirs (inflows, reservoir releases, and storage), rivers (flow), and other operating parameters (Project pumping). Many of these parameters are used as impact indicators in the EIS/EIR (see Chapters 5, 9, and 16 for additional detail; also see GATAER output in Appendix H of the EWA EIS/EIR).

The "virtual" CALSIM II output databases were then used to generate the inputs required for the DSM2 and temperature models. The temperature model output was then used to generate the inputs to the early lifestage Chinook salmon mortality models.

Finally, the GATAER tool was used to generate the information needed for the impact analysis in the form of tables and graphs for the outputs of the previous modeling.

These models and related post-processing tools are described in the following sections.

2.1.1 CALSIM II Model

CALSIM II is currently DWR's and Reclamation's primary operations and planning model for SWP and CVP project operations. The model simulates CVP and SWP system operations and the hydrologic effects of those operations within the geographical area affected by CVP and SWP facilities, including the Delta. The major Central Valley rivers, reservoirs and Project facilities are represented by a network of computation points or nodes.

CALSIM II uses a mass balance approach to simulate the occurrence, regulation, and movement of water from one river reach (computation point or node) to another. At each node, various physical processes (e.g., surface water inflow or accretion, flow from another node, groundwater accretion or depletion, and diversion) can be simulated or assumed. Operational constraints, such as reservoir size and seasonal storage limits or minimum flow requirements, also are defined for each node. The model uses a monthly time step. Accordingly, flows are specified as a mean flow for the month, and reservoir storage volumes are specified as end-of-month content.

CALSIM II simulates monthly operations of the following water storage and conveyance facilities:

- Trinity, Lewiston, Whiskeytown, and Shasta/Keswick reservoirs (CVP);
- Spring Creek and Clear Creek tunnels (CVP);
- Lake Oroville (SWP);
- Folsom Reservoir and Lake Natoma (CVP);
- New Melones Reservoir (CVP);
- Millerton Lake (CVP);
- Tracy (CVP), Contra Costa (CVP), and Banks (SWP) pumping plants;
- San Luis Reservoir (shared by CVP and SWP); and
- East Branch and West Branch SWP reservoirs.

To varying degrees, nodes also define SWP/CVP conveyance facilities including the Tehama-Colusa, Corning, Folsom-South, and Delta-Mendota Canals and the California Aqueduct.

Other non-SWP/CVP systems tributary to the Delta are also modeled in CALSIM II, including:

- New Don Pedro Reservoir;

- Lake McClure; and
- Eastman and Hensley Lakes.

The model simulates one month of operation at a time, sequentially from one month to the next, and from one year to the next for 72 years. Each decision that the model makes regarding stream flow regulation is the result of defined operational requirements and constraints (e.g., flood control storage limitations, minimum instream flow requirements, Delta outflow requirements, diversion assumptions) or operational rules (e.g., preference among reservoirs for releasing water). Certain decisions, such as the definition of water year type, are triggered once a year, which affects water delivery allocations and specific stream flow requirements. Other decisions, such as specific Delta outflow requirements, are dynamic from month-to-month. CALSIM II output is represented by flow or storage conditions at each node on a mean monthly basis.

Although a set of EWA actions is built into the CALSIM II model, the actions in the model do not match the EWA actions evaluated in the EWA EIS/EIR. Because the intent of the analysis performed in the EIS/EIR is specifically to evaluate the EWA Program, the modeling operations performed with CALSIM II were halted before the model encountered the conditions specific to EWA implementation. The CALSIM II benchmark study "wrapper" included regulatory constraints defined to include D-1485 through CVPIA b(2).

This was done so that the program conditions pertinent to the EWA Flexible Purchase Alternative would be analyzed separately from all of the other CALSIM II parameters. After the modeling process utilizing CALSIM II was halted, the post processing tools (EWA Water Purchase.xls and EWA Routing.xls) were used to evaluate the conditions specific to EWA and its implementation.

2.1.2 Yuba River Basin Model

The Yuba River Basin Model is a HEC-5 model that has been developed and maintained by Bookman-Edmonston Engineering, Inc. in cooperation with DWR. Bookman-Edmonston Engineering, Inc. continues to collaborate with DWR to refine the system's operating criteria and update information on facilities, inflows (unimpaired flows), demands, and fishery flow requirements (Bookman-Edmonston 2000). The original HEC-5 operational parameters and criteria were obtained from DWR's HEC-3 model and these assumptions have undergone periodic modifications to reflect operational changes within the system as they have occurred.

HEC-5 is a general purpose program that simulates the operation of flood control and water conservation systems. Like CALSIM II, it relies on mass balance reservoir routing logic to simulate the occurrence, regulation, and movement of water from one river reach (computation point or node) to another. Various physical processes (e.g., surface water inflow or accretion, evaporation rates, flow from another node, groundwater accretion or depletion, and diversions) are simulated or assumed. Operational constraints, such as reservoir size, seasonal storage limits, minimum power generation quotas, or minimum flow requirements, also are defined for each node. The HEC-5 model uses a monthly time-step and an upstream-to-downstream procedure to simulate the operations of major water facilities in the Yuba River Basin (Bookman-Edmonston 2000).

2.1.3 EWA Water Purchases.xls Post Processing Tool

The EWA Water Purchase.xls spreadsheet post-processing tool was developed to compute the magnitude and timing of potential EWA actions. Development of this tool was necessary because the CALSIM II model is presently incapable of simulating the range of EWA actions contemplated for the Flexible Purchase Alternative evaluated in the EWA EIS/EIR. Results obtained using EWA Water Purchase.xls post processing tool were then used in the EWA Routing.xls post processing tool. (Refer to Section 2.1.4.)

The EWA Water Purchases.xls spreadsheet post-processor tool was utilized to perform the following functions:

- Redistribute SWP and CVP Delta exports during July, August, and September;
- Identify EWA Delta export volumes for July, August, and September;
- Identify EWA upstream from the Delta water sources used for exports;
- Perform an initial upstream from the Delta routing to check operational constraints; and
- Identify carriage water requirements associated with the EWA actions.

These functions are described in greater detail in the following sections.

2.1.3.1 Redistribution of State Water Project/Central Valley Project Delta Exports

The CALSIM II simulation results include Delta export operations at the Banks and Tracy pumping plants. An examination of the pattern of SWP/CVP exports during the summer months (July through September) shows a model preference for using nearly all of the available Delta export capacity in September with decreasing usage in August and July. This export pattern makes it difficult or, in some cases, impossible to export EWA assets that are available in August and September. For example, EWA assets obtained from crop idling in August and September would be unusable by the EWA program if the water cannot be exported in those same months. Similarly, use of water assets obtained from groundwater substitution or surface water purchases would be limited to those months when Delta export capacity is available to the EWA Program at the Projects' pumps.

The EWA Water Purchase.xls Tool was utilized to redistribute SWP/CVP summer exports during the July through September period to provide for use of EWA assets throughout these months. This redistribution assumed that the total amount of SWP/CVP exports for the summer would not be altered from the amount in the CALSIM II simulation results (referred to as the unaltered condition) and that DWR and Reclamation would cooperatively resolve any issues that arise related to SWP/CVP Coordinated Operations Agreement (COA) responsibilities, as is done on a regular basis under current practices.

Because the redistribution of SWP/CVP Delta exports over the summer months would alter the timing of releases from upstream Project reservoirs, control was maintained on maximum and minimum releases. Redistribution of exports was not allowed to increase Keswick releases above 15,000 cubic feet per second (cfs), Oroville releases above 12,000 cfs, and Nimbus releases above 5,000 cfs. Minimum releases from the Project reservoirs were identified as those necessary for instream environmental requirements or diversion (Wilkins Slough). In the post processor tool, releases from the Project reservoirs for the summer period were temporally altered in response to the redistribution of exports, but were in total volume no more or less

than under the "unaltered condition". In real-time, however, DWR and Reclamation operators would have to approve this type of operation on a case-by-case basis.

2.1.3.2 EWA Delta Export Volumes (July through September)

Subsequent to the redistribution of SWP/CVP exports, the EWA Water Purchase.xls tool was used to determine the amount of export capacity available for EWA assets. These calculations were based on the unused Banks and Tracy pumping plant capacities and allowable E/I ratio, as described below.

The initial determination of export capacity available for EWA asset water was calculated for the Tracy Pumping Plant as the difference between the monthly CVP export (average flow rate) and the pumping plant capacity, 4,600 cfs. At the Banks Pumping Plant, the initial export capacity available for EWA asset water was calculated as half of the difference between the monthly SWP export (average flow rate) and the authorized pumping plant capacity, 6,680 cfs, plus, the EWA variable asset, 500 cfs. In instances where CVP pumping at the Banks Pumping Plant did not require half of the difference, the unused share of this capacity was available for EWA use (see EWA EIS/EIR, Chapter 2, Relaxation of the Section 10 Constraint).

SWP/CVP exports from the Delta are subject to restrictions imposed by the E/I ratio. EWA exports were assumed to comply with this ratio; therefore in some months, available EWA exports were further limited (or controlled) by the E/I ratio. Because increasing EWA exports above the E/I ratio to 0.65 during the July to September period would incur an immediate 35 percent (1.00 - 0.65) loss in EWA water entering the Delta, there was no attempt to maximize EWA exports with the E/I ratio controlled.

2.1.3.3 EWA Upstream from the Delta Region Water Sources

Potential upstream from the Delta EWA assets are described in Chapter 2 of the EWA EIS/EIR. Identifying the location, amount, and type of potential individual water purchases in the Upstream from the Delta Region is critical to determining the instream flow, water temperature, reservoir storage change, and potential water quality effects of the EWA Program. There are numerous possible combinations of water purchases in the Upstream from the Delta Region. Multiple studies to analyze all of the combinations were not feasible because of the time and cost of such an effort.

Because the assets are of varying quantity and type (surface water supplies and/or groundwater supplies), priorities should be assigned to the assets based on the ability of the source to effectively correspond with the temporal EWA export capability. To that end, as listed below, surface water supplies generally were given high priority because of their ability to be used at nearly any time; groundwater substitution supplies were assigned the next highest priority, and supplies made available from crop idling was given the lowest priority. In many years, some portion of all of the available asset types were used in order to maximize the amount of EWA export water.

The EWA agencies prioritized the types and amounts of water purchases in the Upstream from the Delta Region, as follows:

- Water will be purchased first from the Upstream from the Delta Region, limited by the available SWP and CVP export capacity, and second from sellers in the Export Service Area.

- Purchases from reservoir storage will be used before any other purchase option is pursued.

- Stored groundwater purchases will be pursued as a second option after all reservoir storage purchases have been utilized.

- Groundwater substitution purchases will occur if more water were needed than can be obtained from reservoir storage and stored groundwater purchases.

- Water purchases obtained from idling rice will be pursued as a final option if more water were required to satisfy EWA requirements.

- Idling rice in the Feather River Basin will be pursued before idling rice in the Sacramento River Basin because some water from Sacramento River purchases could not be stored in Lake Shasta during April, May, and June when instream water temperature obligations require the water to be released.

2.1.3.4 Upstream from the Delta Region EWA Water Routing

Once the Upstream from the Delta Region EWA assets were selected and total quantity assumed for the specific analysis for a given month, the water was routed through the system of reservoirs and rivers conveying the water to and through the Delta. This routing imposed the appropriate operational constraints and allowed for the computation of changes in reservoir storage resulting from the proposed EWA operations. Physical system limitations were complied with in all months that EWA assets were acquired or used.

Oroville Reservoir Storage

The following discussion on reservoir storage is specific to Oroville Reservoir and is presented to illustrate why there are monthly operational changes in upstream reservoirs caused by EWA purchases. A similar discussion would describe the conditions at Shasta Reservoir, although the actual net changes in reservoir storage would be less.

CVP/SWP monthly reservoir operations would be altered by the implementation of the EWA Flexible Purchase Alternative. Exactly how the reservoirs would be affected is a function of the monthly pattern of CVP/SWP Delta exports, which in turn dictates the availability of monthly export capacity for the EWA.

CALSIM II modeling of the Baseline Condition favors SWP Delta export pumping in September with less reliance on export pumping in August and July. Oroville releases for SWP export pumping also uses the same export-pumping pattern. As a consequence of the timing of releases for SWP export pumping, Oroville storage remains higher in July and August than it would be if SWP export pumping (and consequently releases) occurred more evenly throughout July through September.

To illustrate differences in monthly Oroville storage associated with alternative timing of SWP exports, the CALSIM II Baseline Condition was post-processed to simulate a more even

distribution of SWP exports from July through September. This post-processing did not alter the total July through September SWP export volume; it only changed the monthly pattern of export pumping. In the following discussion, this post-processed simulation is referred to as the "Alternative (Alt) Baseline."

Figure 2 illustrates the average Oroville end-of-month storage for the 1922-1993 modeling period for the Baseline Condition, Alt Baseline, and Flexible Purchase Alternative simulations. The end of June reservoir storages for the Baseline and Alt Baseline are identical as are the end of September storages for the Baseline and Alt Baseline. Only the July and August storages differ between these simulations, reflecting the alternative SWP Delta export patterns. As Figure 2 shows, SWP export pumping in September under the Baseline Condition simulation results in higher Oroville storage during July and August.

Also shown in Figure 2 is a trace of Oroville storage from the EWA Flexible Purchase Alternative simulation. This trace shows that Oroville storage at the end of June is higher than both of the Baseline and Alt Baseline Conditions because of the preservation of water from idled lands in months prior to July. In July and August, the Oroville storage under the Flexible Purchase Alternative falls below the Baseline Condition storage but is higher than the "Alt Baseline" storage. By the end of September, Oroville storage is essentially identical for all three simulations.

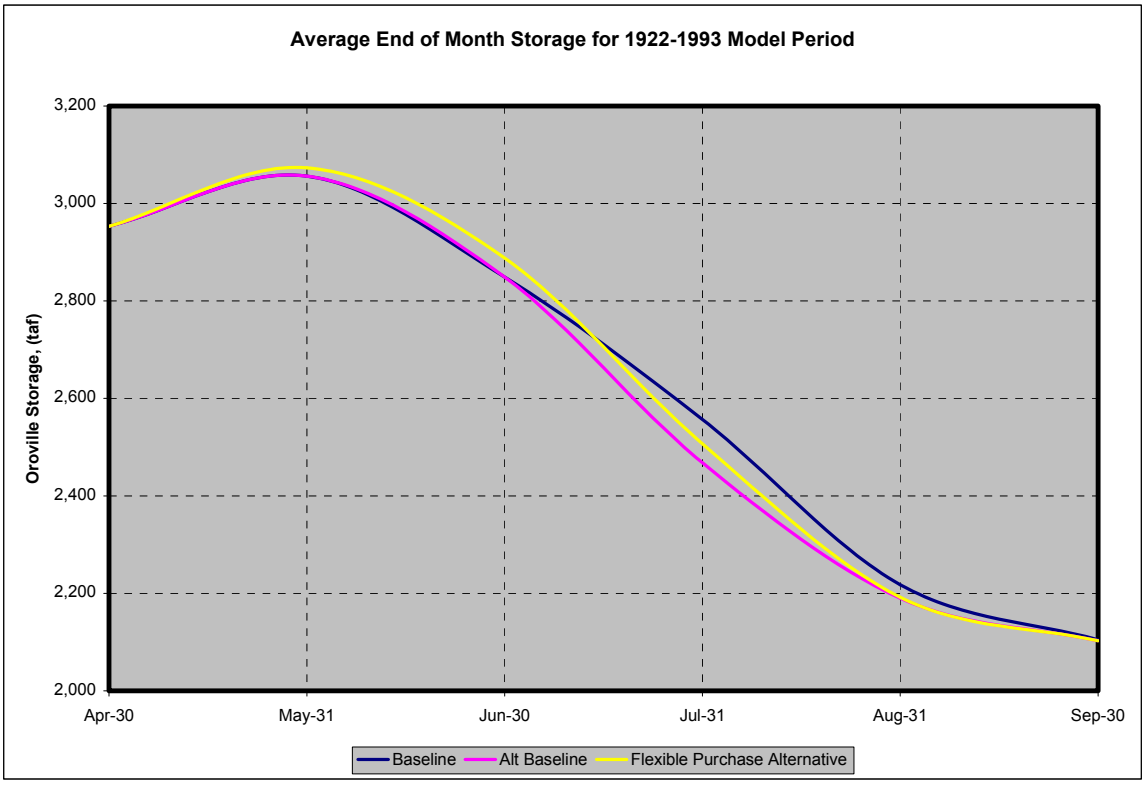


Figure 2 Average Oroville End-of-Month Storage for the 1922-1993 Model Period

Figure 3 illustrates the pattern of end-of-month water use by those entities idling land in the Feather River Region for the purpose of EWA sales. The general agricultural water use pattern,

without the EWA, is shown in the Figure 3 as Pre EWA Use. The Flexible Purchase Alternative in Figure 3 shows the water use pattern with EWA actions. The chart shows the periods when water purchased by the EWA would be released into the rivers. As shown in Figure 4, by the end of July and continuing through August, the cumulative (agriculture and EWA) water use by the Flexible Purchase Alternative exceeds the typical agricultural water use. However, agricultural water use (Pre EWA use) is greater than the Flexible Purchase Alternative use in September and the cumulative volume difference in water use of the purchased water nets to zero by the end of September.

In the instance of the Alt Baseline, there is a presumption that the SWP will alter its Delta export pumping from that assumed in the CALSIM II Baseline Condition simulation. If this were true, then the Flexible Purchase Alternative operation would result in comparatively higher Oroville reservoir storage in July and August. Alternatively, if the SWP maintains the pattern of Delta exports assumed in the Baseline Condition simulation, the Flexible Purchase Alternative would cause lower Oroville reservoir storage in July and August. The Project operators would determine if this pattern of use were acceptable on a real-time case-by-case basis.

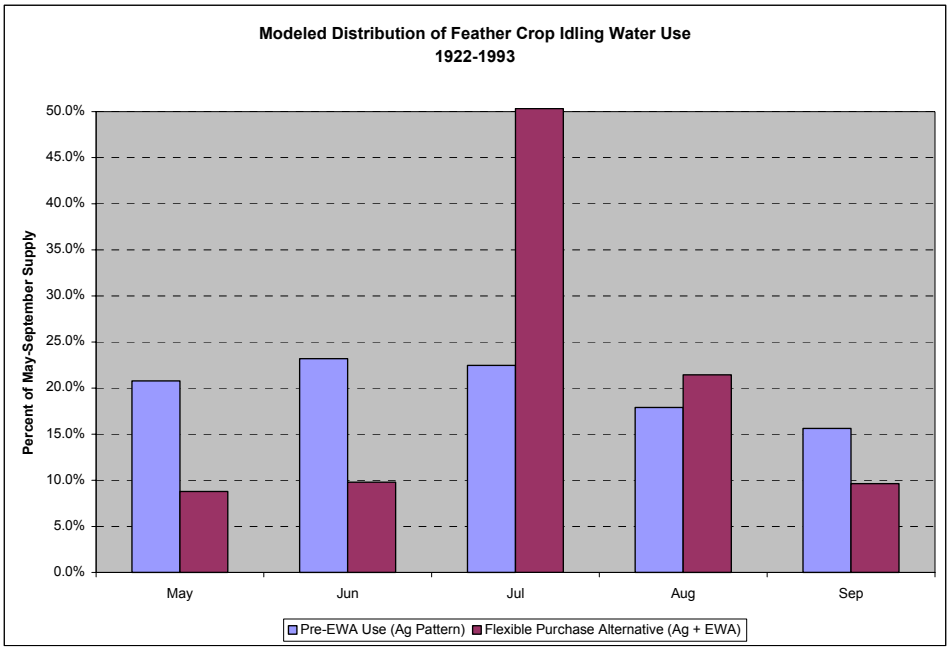


Figure 3
Modeled Distribution of Feather River Crop Idling Water Use (1922-1993)

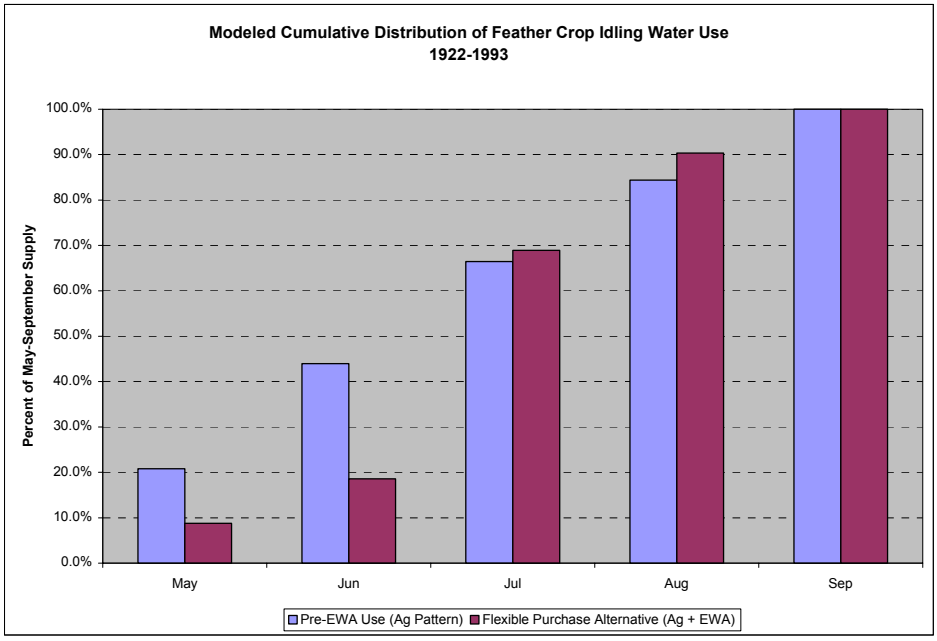


Figure 4
Modeled Cumulative Distribution of Feather River Crop Idling Water Use (1922-1993)

In order to not preclude any future operational flexibility by the SWP, it was determined that the EWA EIS/EIR should not suggest any change in the Baseline Condition during the July through September Project exports (no redistribution of SWP and CVP exports) presented in the CALSIM II simulation, which was provided by DWR. This determination is consistent with the full disclosure of potential effects of the proposed project and does not impose an obligation on the SWP to alter its own characterization of SWP operations. Also, throughout the analyses presented in the EIS/EIR, an assumption is made that presenting the worst-case condition is most defensible in identifying effects of the proposed project. In view of this conservative assumption, the effect of the Flexible Purchase Alternative on reservoir storage is identified as the comparison of the Flexible Purchase Alternative to the Baseline Condition. This assumption acknowledges worst-case conditions caused by the Flexible Purchase Alternative on reservoir fisheries and recreation.

2.1.3.5 Carriage Water

Exporting additional water from the Delta can adversely affect water quality in the Delta; therefore; the EWA routing procedure was developed to account for upstream river flows and Delta operations. Because additional Delta exports can have an adverse impact on water quality in the Delta, the routing procedure reflects the influence of increased exports on water quality. Carriage water is the term used for the amount of additional water assumed to be required as increased Delta inflow and outflow to maintain water quality standards in the Delta. Estimated carriage water costs associated with EWA exports range between 15 percent and 35 percent of the EWA share of Delta inflow. In application, if EWA exports were 150 TAF or less in a given month, EWA exports would be 85 percent (100 percent – 15 percent = 85 percent) of purchases, with the excess purchase going to Delta outflow. This percentage varied to 65 percent (100 percent – 35 percent = 65 percent) in months when the EWA export was greater than 400 TAF.

Carriage water is included in the EWA asset purchases and routed through the reservoir and river system in the same manner.

2.1.3.6 EWA Water Purchases.xls Post Processing Tool Output

The EWA Water Purchases.xls post processing tool provides the following output:

- Revised Shasta, Oroville, and Folsom storage;
- Revised flows for the Sacramento River at Keswick Reservoir, Feather River at Oroville Dam, and American River at Nimbus Reservoir;
- Revised flows for the Yuba River basin, Feather River basin, and Sacramento River basin; and
- Revised total Delta exports.

These outputs were then used in the EWA Routing.xls Tool (refer to Section 2.1.4) to produce the final "virtual" CALSIM II output database for use in the impact assessment.

2.1.4 EWA Routing.xls Post Processing Tool

This tool was developed to take the results of the CALSIM II Baseline Condition simulation and the EWA Water Purchases.xls tool (refer to Section 2.1.3), simulate or "route" the output (reservoir storage, releases, instream flows, etc.) through the Project system, and provide output (results) for a "virtual" CALSIM II output database.

The EWA Routing.xls tool has several basic functions:

- Final upstream of Delta Routing;
- Implementation of EWA fish actions in December through July;
- Final implementation of export shifting and additional EWA exports in July through September;
- Split of total Delta export into CVP and SWP exports (Tracy and Banks pumping plants);
- Full Delta routing; and
- "Virtual" CALSIM II output development.

2.1.4.1 Upstream from the Delta Routing

The EWA Routing.xls post processing tool involved determining and assigning the EWA assets to individual schematic nodes relative to the CALSIM II structure and calculating how the SWP and CVP system operations would change in response to a list of assumed EWA fish actions. Decisions were made regarding the location within a particular river basin (node) where individual fish actions would first influence system operations. Then, the initial results (reservoir storage, dam releases, and stream flows) from the CALSIM II benchmark study were recomputed from that location throughout the system upstream of the Delta. These assumptions are provided in Table 1. As shown in Table 1, the EWA asset actions that would take place within the Sacramento River Basin were split between two different nodes, 118 and 129.

Table 1 ***Assignment of EWA Asset Actions to CALSIM II Nodes***	
Description/EWA Asset Location	***CALSIM Schematic Node***
Shasta Reservoir Storage	4
Keswick Reservoir Release	6
Sacramento River Basin Assets (50 percent)	118
Sacramento River Basin Assets (50 percent)	129
Oroville Reservoir Storage	6
Oroville Reservoir Release	6
Yuba River Basin Assets	211
Feather River Basin Assets	223
Folsom Reservoir Storage	8
Nimbus Reservoir Release	9[a]
Lake McClure Storage	20
Lake McClure Release	20
[a] Includes flow modification upstream to Folsom (Node 8).	

2.1.4.2 Split of Total Delta Export Into CVP/SWP Exports

An intermediate step made by this tool evaluated and redistributed the total Delta exports relative to the CALSIM II Baseline Condition simulation results. During the summer months, if the total Delta export result obtained through post-processing was greater than the result in the CALSIM II Baseline Condition, the additional export amount was assigned first to the CVP Tracy Pumping Plant (up to a maximum of 4,600 cfs), then any remaining amount was assigned to the SWP Banks Pumping Plant. If the total Delta export result obtained through post-processing was less than the CALSIM II Baseline Condition simulation (e.g., winter/spring export curtailment months), then the baseline export values were recalculated. Reductions in exports were first applied to the SWP Banks Pumping Plant (maintaining a minimum diversion of 750 cfs), then any additional reductions were imposed at the CVP Tracy Pumping Plant.

2.1.4.3 Delta Routing

A final routing of the Delta was then done using Delta inflow values from the upstream routings and the final exports. Revised Delta Cross Channel flows, X2 location, and QWEST values were computed from the final routed values.

2.1.4.4 "Virtual" CALSIM II Output Creation

The EWA Routing.xls post processing tool was then used to create a "virtual" CALSIM II output database. This was accomplished by copying the CALSIM II baseline output database and saving the newly recomputed storages, flows, and exports from the spreadsheet into the database. This produces a CALSIM II output database with all revised values in it, which to the other post-processor tools appears to have come directly from a CALSIM II simulation. This allows other tools designed to work with CALSIM II simulation output to be used for output analysis and linkage to other models without modification.

2.1.5 Water Temperature Models

Reclamation has developed water temperature models for the Sacramento, Feather, and American Rivers. The models have both reservoir and river components to simulate water temperatures in five major reservoirs (Trinity, Whiskeytown, Shasta, Oroville, and Folsom); four downstream regulating reservoirs (Lewiston, Keswick, Thermalito, and Natoma); and three main river systems (Sacramento, Feather, and American).

These temperature models were designed to estimate water temperatures that would occur for conditions simulated by PROSIM, a Reclamation-developed operation model that is a predecessor to the CALSIM II model. They are used to assess changes in average monthly water temperature caused by changes in CVP/SWP operations. A spreadsheet post-processor tool was developed to allow use of CALSIM II-computed reservoir storage and stream flows to generate the required water temperature model inputs. There were no internal changes to any of the water temperature models.

The PROSIM operations model used a time period of 70 years from 1922 to 1991. Because the water temperature models were designed to operate using PROSIM results, and they operate on a calendar year, rather than on a water year basis, the period of record is 1922 to 1990 (69 years). Extension of the water temperature models to fully cover the CALSIM II time period of 1922 to 1993 (72 years) would have required extensive data development and model calibration effort and was not performed for this analysis.

Sections 2.1.5.1 and 2.1.5.2 provide additional detail regarding the reservoir and river components of the water temperature models, respectively. Additional details regarding Reclamation's water temperature models are well documented in the CVPIA *Draft Programmatic EIS (PEIS) Technical Appendix, Volume Nine*. These temperature models also are documented in the report titled: *U.S. Bureau of Reclamation Monthly Temperature Model Sacramento River Basin*, June 1990.

2.1.5.1 Reservoir Water Temperature Component

Reclamation's reservoir models simulate monthly water temperature profiles in five major reservoirs: Trinity, Whiskeytown, Shasta, Oroville, and Folsom. Vertical water temperature profile in a reservoir is simulated in one dimension using monthly storage, inflow and outflow water temperature and flow rate, evaporation, precipitation, solar radiation, and average air temperature. The models also compute the water temperatures of dam releases. Release water temperature control measures in reservoirs, such as the penstock shutters in Folsom Reservoir, the temperature control device in Lake Shasta, and the temperature curtains in Whiskeytown Reservoir are incorporated into the models.

Reservoir inflow, outflow, and end-of-month storage content as calculated by CALSIM II are input to the reservoir water temperature models. Additional input data include meteorological information and monthly water temperature targets that are used by the model to select the level from which reservoir releases are drawn. Model output includes water temperature at each level in the reservoir as well as temperature of the reservoir release. The reservoir release temperature is then used in the downstream river water temperature model, as described in the next section.

2.1.5.2 River Water Temperature Component

Reclamation's river water temperature models utilize the calculated temperatures of reservoir release, much of the same meteorological data used in the reservoir models (described in Section 2.1.5.1), and CALSIM II output on river flow rates, gains and diversions. Mean monthly water temperatures are calculated at multiple locations on the Sacramento, Feather, and American Rivers.

Release rate and water temperature of regulating reservoir storage serve as the boundary conditions for the river water temperature model. The river temperature model computes

water temperatures at 52 locations on the Sacramento River from Keswick Dam to Freeport, and at multiple locations on the Feather and American Rivers. The river temperature model also calculates water temperature within Lewiston, Keswick, Thermalito, and Natoma Reservoirs. This model is used to simulate water temperatures in these reservoirs because they are relatively small bodies of water with short residence times; thereby, on a monthly basis, the reservoirs act as if they have physical characteristics approximating those of riverine environments.

2.1.5.3 Automated Temperature Selection Procedure

The Folsom Reservoir and lower American River water temperature model components are utilized in an iterative manner referred to as the Automated Temperature Selection Procedure (ATSP). This procedure operates the reservoir and river water temperature models with the objective of achieving monthly target temperatures in the lower American River at Watt Avenue. The target water temperatures have been set by qualified fisheries biologists who have determined a range of water temperatures that are the most biologically favorable to the fish species that are present in the river, at any given time of year. Targets are achieved through a choice of reservoir levels from which the release is drawn. This modeling procedure is conducted for the purpose of allowing the most optimal utilization of the available coldwater pool in Folsom Lake and to ensure that the species-specific needs of anadromous fish in the river are met over the course of the entire year.

2.1.5.4 Folsom Reservoir Model Code Modifications

The Folsom Reservoir water temperature model component was modified to simulate a Temperature Control Device (TCD) for the Folsom Dam Pumping Plant. The TCD has been authorized by Congress and is expected to be in place in the next few years. The TCD was incorporated into the model by defining numerous levels from which Folsom Dam diversions could occur. The TCD is operated to maximize the use of warm water; thus, the diversion level is set as close to 25 feet below the reservoir water surface as possible.

2.1.6 Salmon Mortality Models

Water temperatures calculated for specific reaches of the Sacramento and American Rivers are used in Reclamation's Chinook salmon mortality models to estimate annual percentage mortality of early-lifestage Chinook salmon. Reclamation's Chinook salmon mortality models produce a single estimate of early life stage Chinook salmon mortality for each year of the simulation. This estimate consolidates calculations of salmon mortality for three separate early-life stages (1) pre-spawned eggs; (2) fertilized eggs; and (3) pre-emergent fry. For the Sacramento River, the model computes mortality for each of the four Chinook salmon runs: fall, late-fall, winter, and spring. For the American River, the model produces estimates of fall-run Chinook salmon mortality only. The mortality estimates are based on output temperatures from Reclamation's water temperature models. Temperature units (TUs), defined as the difference between river temperatures and 32°F, are accounted for on a daily basis by the mortality model, and are used to track life-stage development. For example, incubating eggs exposed to 42°F water for one day would experience 10 TUs. Eggs are assumed to hatch upon exposure to 750 TUs following fertilization. Similarly, the salmon mortality model assumes that fry emerge from the gravel after being exposed to 750 TUs following egg hatching into the pre-emergent fry stage.

2.1.7 Graphic and Tabular Analysis of Environmental Resources (GATAER) Tool

The GATAER tool produces figures and tables for the analysis of output from CALSIM II, the water temperature models, salmon mortality models, and other post-processing applications. Data is loaded from these models into a DSS database, which is then used as input to a series of spreadsheets, which generate the figures and tables for environmental resource analyses. The figures and tables generated for the evaluations of specific resource areas are included in Appendix H of the EWA EIS/EIR.

2.1.8 Delta Simulation Model II (DSM2)

DSM2 is the Delta hydrodynamic and salinity model currently in use by DWR. The model is capable of simulating physical conditions in riverine systems and estuaries, and the effects of land-based processes (agricultural runoff and consumptive use). These wide-ranging capabilities make it a valuable tool for analyzing the potential effects of proposed EWA actions in the Delta.

The hydrodynamic module simulates the channel flows, velocities, and water surface elevations in the Bay-Delta estuary. The water movement information developed by the hydrodynamic module is then used as input into the other two modules (water quality and particle-tracking), which can be used to determine the movement of constituents. The water quality module calculates the changes in water quality (primarily salinity) resulting from different source water qualities and from the mixing caused by water movement throughout the system. The particle-tracking module is used to evaluate mass transport processes.

DSM2 can calculate stages, flows, velocities, and many mass transport processes, including salts, multiple non-conservative constituents, and water temperature, and individual particles. For the EWA EIS/EIR, results from the EWA Routing.xls post processing tool (Section 2.1.4) provided input for the calculation of Delta export salinity and water level changes caused by the EWA actions.

Additional information on DSM2 model and documentation is publicly available from the DWR, Bay-Delta Office, Modeling Support Branch web site. A detailed discussion of the model and its assumptions are contained at this location: http://modeling.water.ca.gov/delta/models/dsm2/documentation.html.

2.1.9 Application of Hydrologic Modeling Output

The models and post-processing tools used in this analysis have been developed for comparative planning purposes, rather than for predicting actual reservoir or river conditions at specific locations at specific times. The 72-year and 69-year periods of record for CALSIM II and water temperature modeling, respectively, provide an index of the kinds of changes that would be expected to occur with implementation of a specified set of operational conditions. Reservoir storage, river flows, water temperature, and salmon mortality output for the period modeled should not be interpreted or used as definitive absolutes depicting actual conditions that will occur in the future. Rather, output for the Flexible Purchase Alternative can be compared to output for the Baseline Condition to determine:

- Whether reservoir storage or river flows and water temperatures would change with implementation of the alternative;

- The months in which potential reservoir storage and river flow and water temperatures changes could occur; and

- A relative index of the magnitude of change that could occur during specific months of particular water year types, and whether the relative magnitude would result in impacts to water quality, fish, or power resources within the area studied.

The models used, although mathematically precise, should be viewed as having reasonable detection limits. Establishing reasonable detection limits is useful to those using the modeling output for impact assessment purposes, and prevents making inferences beyond the capabilities of the models and beyond an ability to actually measure changes. Although data from the models are reported to the nearest 1) 1,000 acre-feet in reservoir storage; 2) foot in water surface elevation; 3) cubic foot per second in river flow; 4) 0.1 ^{o}F in water temperature; and 5) tenth of a percent in salmon mortality, these values were rounded when interpreting differences for a given parameter between two modeling simulations. For example, two simulations having river flows at a given location within one percent of each other were considered to be essentially equivalent (represent no measurable change). Because the models provide reservoir storage data on a monthly time-step, measurable differences in reservoir storage were evaluated on a similar basis. Similar rounding of modeled output was performed for other output parameters as well in order to assure the reasonableness of the impact assessments.

In-situ temperature loggers were used to collect water temperature data used for the model. These loggers typically have a precision of +/-0.36 ^{o}F, yielding a potential total error of 0.72 ^{o}F (Sacramento River Temperature Modeling Project 1997). Therefore, modeled differences in water temperature of 0.36 ^{o}F or less could not be consistently detected in the river by actual monitoring of water temperatures. In addition, as mentioned above, output from Reclamation's water temperature models provides a relative index of water temperatures under the various operational conditions modeled. Output values indicate whether the water temperatures would be expected to increase, remain unchanged, or decrease, and provide insight regarding the relative magnitude of potential changes under one operational condition compared to another. For the purposes of the EWA impact assessment, modeled water temperature changes that were within 0.3 ^{o}F between modeled simulations were considered to be essentially equivalent. A level of detection of measurable change of 0.3 ^{o}F was used because 1) model output is reported to 0.1 ^{o}F; 2) rounding the level of error associated with in-situ temperature loggers used for model temperature data up to 0.4 ^{o}F would eliminate the possibility of detecting measurable change between 0.36 ^{o}F and 0.4 ^{o}F; and 3) rounding the level of detection down to 0.3 ^{o}F is the more conservative approach in detecting a change in temperature between the modeling results. Temperature differences between modeling results of more than 0.3 ^{o}F were assessed for their biological significance. This approach is considered very rigorous, because it utilizes a more conservative threshold of detection for potential water temperature changes than used in other fisheries impact assessments. For example, USFWS and Reclamation, in the Trinity River Mainstem Fishery Restoration Draft EIS/EIR (USFWS *et al.* 1999), used a change in long-term average water temperature of 0.5 ^{o}F as a threshold of significance, and the Central Valley Regional Water Quality Control Board generally uses a change of 1.0 ^{o}F as a threshold of significance.

2.2 Model Simulations and Assumptions/Impact Analysis Approach

Modeling simulations were developed to evaluate potential environmental effects of the Flexible Purchase Alternative. Because there are no other known foreseeable State or private actions that would be implemented during the period of time defined by the EWA Program (2000-2007), a separate cumulative modeling run was not performed. Conditions under the cumulative condition would be the same as those that were modeled under the Flexible Purchase Alternative.

The development of the modeling simulations and consideration of available information or data resulted in the development of two different approaches to model and evaluate Upstream from the Delta Region and Delta Region effects of the Flexible Purchase Alternative on water quality, fisheries, and power resources. These two approaches are described in the following sections.

2.2.1 Upstream from the Delta Region

The hydrologic analysis performed for the Upstream from the Delta Region includes the CVP and SWP facilities on the Sacramento River (Shasta Reservoir, Keswick Reservoir), Feather River (Lake Oroville), and American River (Folsom Reservoir). The Delta Region analysis is evaluated with a separate set of simulations and assumptions as described in Section 2.2.2.

2.2.1.1 Upstream from the Delta Region - Baseline Condition Simulation

The CALSIM II benchmark study (BST_2001D10A_ANNBENCHMARK_1_2_B2_7-23-2002) was used as the basis for all hydrologic modeling presented in the EWA EIS/EIR. As described earlier, the CALSIM II simulation utilized the wrapper representing D-1485 through CVPIA b(2) regulatory constraints.

CALSIM II documentation is publicly available from the DWR, Bay-Delta Office, Modeling Support Branch web site. A detailed discussion of the model and its assumptions are contained in the document entitled "BST_2020D09D_ANNBENCHMARK_2_2, Benchmark Studies Assumptions and Appendices." This document includes the assumptions for the CALSIM II 2001 benchmark study (BST_2001D10A) identified above.

The Baseline Condition simulation represents the hydrologic conditions within the CVP/SWP system prior to CALFED Record of Decision (ROD) and implementation of the EWA Program (prior to 2001). As discussed in Chapter 2 of the EWA EIS/EIR, the No Action/No Project Alternative conditions are represented by the Baseline Condition. The simulation includes surface water diversion and operation practices and policies (such as minimum instream flows, flood control, and Delta water quality standards) of the CVP/SWP and assumptions associated with accretion and depletions from the system that incorporate the exercise of water rights by non-CVP/SWP users.

The modeling assumptions incorporated into the CALSIM II benchmark study and utilized in further development of the Baseline Condition simulation are summarized in Table 2. More detailed descriptions of these assumptions follow the table.

Table 2 ***EWA Modeling Assumptions Included in the CALSIM II Benchmark Study***	
Parameter	***Benchmark Study Assumption***
PERIOD OF RECORD	1922-1993 (72 years)
HYDROLOGY	
Level of Land Use	2001 Level, DWR Bulletin 160-98[1] 2020
DEMANDS	
North of Delta (excluding American River)	
CVP	Land Use based, limited by Full Contract
SWP (FRSA)	Land Use based, limited by Full Contract
non-Project	Land Use based
CVP Refuges	Firm Level 2
American River Basin Water Rights CVP	 2001[2] 2001[2]
San Joaquin River Basin Friant Unit Lower Basin Stanislaus River Basin	 Regression of historical Fixed annual demands New Melones Interim Operations Plan
South of Delta	
CVP	Full Contract
Contra Costa Water District	140 TAF/YR[3]
SWP (w/ North Bay Aqueduct)	3.0-4.1 MAF/YR
SWP Article 21 Demand	MWDSC up to 50 TAF/month, Dec-Mar, others up to 84 TAF/month
FACILITIES	**Existing Facilities (2001)**
RESERVOIR REFILL CRITERIA	Annual refill occurs
REGULATORY STANDARDS	
Trinity River	
Minimum Flow below Lewiston Dam	Trinity EIS Preferred Alternative (369-815 TAF/YR)
Trinity Reservoir End-of-September Minimum Storage	Trinity EIS Preferred Alternative (600 TAF as able)
Clear Creek	
Minimum Flow below Whiskeytown Dam	Downstream water rights, 1963 USBR Proposal to USFWS and NPS, and USFWS discretionary use of CVPIA 3406(b)(2)
Upper Sacramento River	
Shasta Lake End-of-September Minimum Storage	SWRCB WR 1993 Winter-run Biological Opinion (1900 TAF)
Minimum Flow below Keswick Dam	Flows for SWRCB WR 90-5 and 1993 Winter-run Biological Opinion temperature control, and USFWS discretionary use of CVPIA 3406(b)(2)
Feather River	
Minimum Flow below Thermalito Diversion Dam	1983 DWR, DFG Agreement; (600 cfs)
Minimum Flow below Thermalito Afterbay outlet	1983 DWR, DFG Agreement; (1000 – 1700 cfs)
Yuba River	
Minimum Flow below Englebright Dam (as measured at the Marysville and Smartville gauging stations)	2001 SWRCB decision D-1644; Interim (100-1500)
American River	
Minimum Flow below Nimbus Dam	SWRCB D-893 (see accompanying Operations Criteria), and USFWS discretionary use of CVPIA 3406(b)(2)
Minimum Flow at H Street Bridge	SWRCB D-893
Lower Sacramento River	
Minimum Flow near Rio Vista	SWRCB D-1641
Mokelumne River	
Minimum Flow below Camanche Dam	FERC 2916-029, 1996 (Joint Settlement Agreement); (100 – 325 cfs)
Minimum Flow below Woodbridge Diversion Dam	FERC 2916-029, 1996 (Joint Settlement Agreement); (25 – 300 cfs)
Stanislaus River	
Minimum Flow below Goodwin Dam	1987 USBR, DFG agreement, and USFWS discretionary use of CVPIA 3406(b)(2)
Minimum Dissolved Oxygen	SWRCB D-1422

Table 2 ***EWA Modeling Assumptions Included in the CALSIM II Benchmark Study***	
Parameter	***Benchmark Study Assumption***
Merced River	
Minimum Flow below Crocker-Huffman Diversion Dam	Davis-Grunsky (180 – 220 cfs, Nov – Mar), and Cowell Agreement;
Minimum Flow at Shaffer Bridge	FERC 2179; (25 – 100 cfs)
Tuolumne River	
Minimum Flow at Lagrange Bridge	FERC 2299-024, 1995 (Settlement Agreement) (94 – 301 TAF/YR)
San Joaquin River	
Maximum Salinity near Vernalis	SWRCB D-1641
Minimum Flow near Vernalis	SWRCB D-1641, and Vernalis Adaptive Management Program per San Joaquin River Agreement
Delta Outflow Index (Flow and Salinity)	
Delta Cross Channel Gate Operation	SWRCB D-1641
Delta Exports	SWRCB D-1641, USFWS discretionary use of CVPIA 3406(b)(2), and CALFED Fisheries Agencies discretionary use of EWA
OPERATIONS CRITERIA	
Upper Sacramento River	
Flow Objective for Navigation (Wilkins Slough)	Discretionary 3,500 – 5,000 cfs based on Lake Shasta storage condition
American River	
Folsom Dam Flood Control	SAFCA, Interim-Reoperation of Folsom Dam, Variable 400/670 (without outlet modifications)
Flow below Nimbus Dam	Discretionary operations criteria corresponding to SWRCB D-893 required minimum flow
Sacramento Water Forum Mitigation Water	None
Stanislaus River	
Flow below Goodwin Dam	1997 New Melones Interim Operations Plan
San Joaquin River	
Flow near Vernalis	San Joaquin River Agreement in support of the Vernalis Adaptive Management Program
System-wide	
CVP Water Allocation	
CVP Settlement and Exchange	100% (75% in Shasta Critical years)
CVP Refuges	100% (75% in Shasta Critical years)
CVP Agriculture	100% - 0% based on supply (reduced by 3406(b)(2) allocation)
CVP Municipal & Industrial	100% - 50% based on supply (reduced by 3406(b)(2) allocation)
SWP Water Allocation	
North of Delta (FRSA)	Contract specific
South of Delta	Based on supply; Monterey Agreement
CVP/SWP Coordinated Operations	
Sharing of Responsibility for In-Basin-Use	1986 Coordinated Operations Agreement
Sharing of Surplus Flows	1986 Coordinated Operations Agreement
Sharing of Restricted Export Capacity	Equal sharing of export capacity under SWRCB D-1641; use of CVPIA 3406(b)(2) only restricts CVP exports; EWA use restricts CVP and/or SWP as directed by CALFED Fisheries Agencies
CVPIA 3406(b)(2)	
Allocation	800 TAF/YR (600 TAF/YR in Shasta Critical years)
Actions	1995 WQCP (non-discretionary), Fish flow objectives (Oct-Jan), CVP export reduction (Dec-Jan), VAMP (Apr 15- May 16) CVP export restriction, 3000 cfs CVP export limit in May and June (D1485 Striped Bass continuation), Post (May 16-31) VAMP CVP export restriction, Ramping of CVP export (Jun), Pre (Apr 1-15) VAMP CVP export restriction, CVP export reduction (Feb-Mar), Upstream Releases (Feb-Sep)

Table 2 ***EWA Modeling Assumptions Included in the CALSIM II Benchmark Study***	
Parameter	***Benchmark Study Assumption***
Accounting Adjustments	Per February 2002 Interior Decision, no limit on responsibility for non-discretionary D1641 requirements, no Reset with the Storage metric and no Offset with the Release and Export metrics
1 2001 Level of Development defined by linearly interpolated values from the 1995 Level of Development and 2020 Level of Development from DWR Bulletin 160-98. 1 1998 Level Demands defined in Sacramento Water Forum's EIR with a few updated entries. 2 Delta diversions include operations of Los Vaqueros Reservoir operations.	

Period of Record

The period of record used in the hydrologic modeling (CALSIM II) extends from October 1922 through September 1993 (72 years). The period of record used for water temperature modeling and the associated simulations for early lifestage Chinook salmon mortality extends from 1922 through 1990 (69 years). These periods are considered representative of the natural variation in climate and hydrology experienced in the Central Valley during recent times, and include periods of extended drought, high precipitation and runoff, and variations in-between.

Hydrology/Level of Development

The hydrology used is based on DWR Bulletin 160-98. The assumptions used for land use result from aggregation of historical survey and projected data developed for the California Water Plan Update (Bulletin 160). The Baseline Condition uses a 2001 level of land use, estimated by DWR as a linear interpolation between 1995 and 2020 land uses. Because the timeframe for EWA is relatively short (2001 to 2007) compared to the future condition demands (2020) that are used by the model, there is little variation between 2001 demands and projected 2007 demands. As a result, the hydrology used by CALSIM II for the future condition (2007 system demands) is consistent with 2001 land use and development projections.

Demands

The following sections describe how CALSIM II represents water demands within the system represented by the model.

CALSIM II classifies demands for water diversions as CVP project, SWP project, or non-project demands. CVP project demands are separated into four classes based on contract type: agricultural, municipal and industrial (M&I), Settlement and Exchange contractors, and refuges. Demands also are designated by geographic location: Sacramento River Basin, Feather River Service Area (FRSA), American River Basin, San Joaquin River Basin, Delta, and south of the Delta. Demands may be represented as a time series, varying by month and year, or more simply as twelve repeating monthly values. CVP project demands are modeled based on the conditions that apply to the contract type. SWP demands are simulated as defined and referred to by DWR's Office of Planning.

Demands in the Sacramento River Basin, including the Feather River and American River basins, and the Delta are determined based on land use and vary by month and year according to hydrologic conditions. Demands in the East Side Streams area and San Joaquin River Basin are set to fixed values each year. CVP and SWP demands south of the Delta are based on contract amounts, CVP demands are constant each year, and SWP demands vary depending on a wetness index.

Demands Upstream from the Delta (Excluding the American River Basin)

Demands in the Sacramento River Basin, including the Feather River, are determined based on land use for each Depletion Study Area (DSA). The land use acreage used to develop water demands is based on the indicated LOD. A consumptive use model is used to estimate demands for each DSA.

Demands within each DSA must be disaggregated into CVP and/or SWP project and non-project demands. Project demands are subject to reduced water allocations based on contracts with the CVP and SWP, while non-project demands are satisfied from sources other than the CVP and SWP project facilities. Non-project demands can be associated with senior riparian water rights, groundwater pumping, or private storage projects. Releases from the CVP and SWP system are increased to satisfy project demands, but no additional releases are made to satisfy non-project demands.

Demands in the Sacramento River Basin are divided into project/non-project in CALSIM II using a GIS snapshot of the crop and urban acreage (based on county surveys done in the 1990's). CVP contracts in the Sacramento Valley, excluding the American River Basin, consist of Settlement contracts (approximately 2.2 million acre feet [MAF]) and agricultural service contracts (approximately 460 TAF). The FRSA demands are the only SWP demands north of the Delta. These users are entitled to approximately 1.0 MAF per year (MAF/Yr) diversion from the Feather River. Although diversion requirements for contractors north of the Delta are determined using the consumptive use model based on land use, CALSIM II limits their deliveries to the maximum amount under their contract.

CVP Refuges: Firm Level 2

Firm Level 2, current annual average, national wildlife refuge (NWR) water demands are used for the Sacramento, San Joaquin, and Tulare basins. The refuge demands are consistent with the Reclamation Report On Refuge Water Supply Investigations, Central Valley Hydrologic Basin, California - March 1989, with the exception of East Bear Creek Unit data that is from Reclamation's Draft Refuge Water Supply - Long Term Water Supply Agreements, San Joaquin River Basin - November 2000 (Table 1-1). The refuge water demand quantities presented in Table 3 represent the amount of water required to meet refuge demands at the refuge boundaries (firm) and include conveyance losses.

American River Basin

The Water Forum Agreement provides for surface diversion reductions from the American River in "dry" through "driest" years. "Driest" year diversions are no greater than the "1995 Baseline" defined by the Water Forum participants. A "dry" year is defined as a year in which the forecasted Folsom Unimpaired Inflow for March through November (modeled as March 1 through September 30 plus 60 TAF) is less than 950 TAF. A "driest" year is defined as a year in which the forecasted Folsom Unimpaired Inflow for March through November is less than 400 TAF. A summary of demands for the American River Basin is presented in Table 4.

Table 3 ***CVP Refuge Water Demand - Firm Level 2***			
Location	***Demand***	***Location***	***Demand***
Sacramento Basin	**Total (AF)**	**San Joaquin Basin**	**Total (AF)**
Sacramento NWR Complex		San Luis NWR Complex	
Sacramento NWR	61,867	San Luis Unit	17,800
Delevan NWR	29,267	West Bear Creek Unit	9,609
Colusa NWR	33,333	Kesterson Unit	7,647
Sutter NWR	26,111	Freitas Unit	4,702
Gray Lodge WMA	40,602	Merced Unit	13,500
Modoc NWR	23,752	East Bear Creek Unit	8,863
Total	214,932	Los Banos WMA	13,253
		Volta WA	13,000
		North Grassland WMA	
Tulare Basin	**Total (AF)**	China Island Unit	8,196
Pixley NWR	1,280	Salt Slough Unit	7,859
Kern NWR	11,437	Mendota WMA	27,594
Total	12,717	Grassland RCD	147,059
		Total	279,082
NWR–National Wildlife Refuge; WMA–Wildlife Management Area; WA–Wildlife Area; RCD–Resource Conservation District			

Table 4 ***American River Basin Demand Summary (TAF/Yr)***						
	CVP Agricultural Contracts	***CVP M&I Contracts***	***Water Rights/ non-Project***	***Total***	***Total "Driest" Year***	***Approximate "Driest" Year Reduction***
Total 2001 Level	0	65,850	231,350	297,200	0	0
Total 2020 Level	15,000	180,850	400,850	596,700	450,100	146,600

San Joaquin River Basin

Demands in the San Joaquin River Basin generally are set to fixed annual amounts rather than based on land use and hydrologic conditions as with the Sacramento Valley demands presented above. The operation of the Friant Unit is extracted from a SANJASM model simulation and is not operated in CALSIM II. Table 5 presents average annual diversions and fixed annual demands for projects in the San Joaquin River Basin. These demands are incorporated into the CALSIM II benchmark study used for the EWA EIS/EIR modeling.

Demands South of the Delta

CVP and SWP demands south of the Delta are based on contract amounts; SWP demands vary depending on a wetness index.

CVP South of the Delta

CVP demands south of the Delta include agricultural and M&I needs served from the San Luis Reservoir and San Felipe Unit, the Cross Valley Canal, the Delta-Mendota Canal (DMC) and Mendota Pool. CVP demands south of the Delta are always set to contract amount and do not vary based on hydrologic conditions. These demands also include Exchange Contractors, refuge water supplies and operational losses. CVP demands are aggregated based on contract type and the following geographic locations: Upper DMC, Lower DMC, Mendota Pool, San Felipe Unit, and California Aqueduct.

Table 5 ***San Joaquin River Basin Demand Assumptions***	
Location	***Demand (TAF)***
Friant-Kern Canal*	1,100
Madera Canal to Madera ID*	145
Madera Canal to Chowchilla ID*	98
Madera ID**	386
Chowchilla **	293
Merced ID **	620
Turlock ID **	733
Modesto ID **	417
Tri-dams**	574
*Annual average delivery **Fixed annual demand ID – Irrigation District	

Monthly demand patterns are determined for Exchange, M&I, and agricultural contractors based on recent historical CVP deliveries. Table 6 contains a summary of the total CVP demands south of the Delta, not including refuge demands.

Table 6 ***CVP South-of-Delta Contract-Based Demands***	
Contract Type	***Demand Amount (AF)***
Water Right	40,813
Project Agricultural	1,824,758
Exchange	840,000
M&I	154,150
Losses	183,700
Total	3,043,421

SWP South of the Delta

Twenty-nine agencies have contracts for a long-term water supply from the SWP totaling about 4.2 MAF annually, of which about 4.1 MAF are for contracting agencies with service areas south of the Delta. About 70 percent of this amount is the contract entitlement for urban users and the remaining 30 percent is for agricultural users.

Demands are set in accordance with the Monterey Agreement. They are calculated from the 1996 Table A entitlements. Aqueduct deliveries to San Joaquin Valley agricultural contractors are reduced in wetter years using a wetness index developed from annual Kern River inflows to Lake Isabella. Deliveries to the Metropolitan Water District of Southern California (MWDSC) are reduced in wetter years using the 10-station, two-year average precipitation index or based upon MWDSC integrated operations with Eastside Reservoir in future scenarios.

When available, Article 21 water is delivered to SWP south-of-Delta contractors in accordance with the Monterey Agreement. Article 21 water results from direct diversions from Banks Pumping Plant; it is not stored in San Luis Reservoir for later delivery to contractors. A contractor may accept Article 21 water in addition to its monthly scheduled entitlement water. Article 21 water deliveries do not impact Table A entitlement water allocations. If demand for Article 21 water is greater than supply in any month, the supply is allocated in proportion to the entitlements of those contractors requesting Article 21 water.

CVP and SWP Facilities and Operations

The major water storage and conveyance facilities included in CALSIM II, are identified in Table 7 and Table 8, respectively. Specific criteria have been defined for each of these facilities for incorporation into the model. Criteria include physical characteristics (storage and conveyance capacity), evaporation and loss estimates, regulatory and operational requirements, and incorporation of each facility into the overall system.

Table 7
Major Central Valley Project and State Water Project Storage Facilities Included in CALSIM II

Storage Facility	*Gross Storage Capacity (TAF)*
Sacramento Basin	
Trinity Reservoir	2447
Whiskeytown Reservoir	240
Lake Shasta	4552
Keswick Reservoir	24
Lake Oroville	3558
Thermalito Forebay	12
Folsom Lake	975
Lake Natoma	9
CVP/SWP South-of-Delta	
CVP San Luis Reservoir	972
SWP San Luis Reservoir	1067
Lake Del Valle	77
Silverwood Lake	75
Perris Lake	131
Pyramid Lake	171
Castaic Lake	324
San Joaquin River Basin	
Millerton Lake	521
Hensley Lake	90
Eastman Lake	151
Lake McClure	1024
New Don Pedro Reservoir	2030
New Melones Reservoir	2420
Tulloch Lake	67
New Hogan Reservoir	325
Pardee Reservoir	210
Camanche Reservoir	438

Table 8
Major Central Valley Project and State Water Project Conveyance Facilities Included in CALSIM II

Conveyance Facility	*Conveyance Capacity (cfs)*
Clear Creek Tunnel	3300
Spring Creek Tunnel	4200
California Aqueduct upstream of O'Neill Forebay	10000
California Aqueduct downstream of O'Neill Forebay	13100
California Aqueduct downstream of end of joint use reach	8100
California Aqueduct upstream of Cross Valley Canal	5950
California Aqueduct downstream of Cross Valley Canal	5350
California Aqueduct downstream of Wheeler Ridge Pump Plant	4600
California Aqueduct beginning of East Branch	3149
California Aqueduct beginning of West Branch	3129
San Luis Pumping Plant	11000
Delta Mendota Canal upstream of O'Neill Forebay	4200
Delta Mendota Canal downstream of O'Neill Forebay	3500
Delta Mendota Canal upstream of Delta Mendota Pool	3200

Regulatory Standards

The following sections describe the major CVP and SWP operations and regulatory constraints that are specific to, and occur within, the various regional river basins that are evaluated as part of the modeling applications and hydrologic analyses. These operational and regulatory conditions influence several aspects of water management and availability of water supplies (e.g., conveyance capacities) for the Baseline Condition.

Various laws and regulatory decisions provide for protection of environmental conditions. These protections include minimum instream flow requirements, minimum reservoir storage levels, and protection of the Delta against excessive salinity. Specifics regarding these requirements, including references to the regulatory documentation, are provided in the individual resource chapters of the EWA EIS/EIR. As an overview, Table 9 summarizes the locations and applicable regulatory conditions that are either incorporated directly into the model, pre- or post-processing applications, or used as evaluation criteria in interpreting the modeling results.

Table 9
Regulatory Standards and Modeling Applications

Location	***Regulatory Standard***	***Modeling Application***
Trinity River/Reservoir	Minimum instream flow requirements Minimum end-of-year reservoir storage	Both incorporated into CALSIM II
Clear Creek	Minimum instream flow requirements below Whiskeytown Reservoir	Incorporated into CALSIM II
Upper Sacramento River	Minimum end-of-year storage in Shasta Lake	Objective evaluated in interpretation of CALSIM II results
	Minimum instream flow requirements below Keswick Dam	Incorporated into CALSIM II
	Navigation flow requirement upstream of City of Sacramento (at Wilkins Slough-navigation control point)	Incorporated into CALSIM II
Feather River	Minimum instream flow requirements	Incorporated into CALSIM II
Yuba River*	Minimum instream flow requirements	Incorporated into CALSIM II
Lower American River	Minimum instream flow requirements (1) below Nimbus Dam and (2) for the reach from Nimbus Dam to the confluence with the Sacramento River	Incorporated into CALSIM II
Lower Sacramento River	Minimum instream flow requirements at (1) Freeport and (2) Rio Vista	Incorporated into CALSIM II
Mokelumne River*	Minimum release rates from Camanche Reservoir	Incorporated into CALSIM II
Stanislaus River	Minimum instream flows below Goodwin Dam	Incorporated into CALSIM II
Tuolumne River	Minimum instream flow requirements at LaGrange Bridge	Incorporated into CALSIM II
San Joaquin River	Minimum instream flow requirements at Vernalis	Incorporated into CALSIM II
Delta	Maximum salinity, minimum dissolved oxygen, minimum outflow, and maximum export	Incorporated into CALSIM II

* Regulatory standards for these rivers are included in pre-processed data. This output is then incorporated into CALSIM II as a single data point.

CVP and SWP Operation

The respective operations of the CVP and SWP are coordinated to manage stream flows in many Central Valley streams and the Delta. Many factors are considered in the operation of the CVP and SWP facilities. Releases from CVP and SWP reservoirs must be sufficient to achieve downstream environmental conditions; such as instream flow, water quality, and water

temperature objectives as required at various locations within the river systems and in the Delta.

Operators must meet environmental obligations and also attempt to meet competing demands for Project water. Considerations in determining the required releases include the diversions of CVP and SWP water contractors from the river system, diversions by non-CVP and SWP entities, the contribution of flow into the river system from streams not controlled by the CVP and SWP, the contribution of return flows into the system from agricultural drains and wastewater treatment plants, and operations of other projects.

Sacramento-San Joaquin Delta

Instream flow objectives for the Delta are governed by State and Federal laws and regulations established for the protection of fishery and aquatic resources. Requirements are defined in the following:

- SWRCB Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) (SWRCB 1995);
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) Winter-run Chinook Salmon Biological Opinion (NMFS 1995); and
- U.S. Fish and Wildlife Service (USFWS) Delta Smelt and Sacramento Splittail Biological Opinion (USFWS 1995).

The Bay-Delta Plan establishes measures to protect the beneficial uses of the Bay-Delta and includes objectives that influence the operations of the CVP and SWP. Some of these objectives (specific flow, water temperature, reservoir storage, and diversion requirements) in the Delta were developed through consultation with NOAA Fisheries for the Winter-run Chinook Salmon Biological Opinion. Reclamation operates the CVP in accordance with the terms and conditions in all the various water rights orders, permits, and licenses for the project. Reclamation and DWR both operate their respective facilities in a manner that is consistent with applicable Biological Opinions.

Sacramento River

In addition to the State and Federal laws and regulations governing instream flow objectives in the Delta, the following requirements have been established to protect the fisheries and aquatic resources in the Sacramento River:

- SWRCB water rights terms and conditions for instream flow and flow fluctuation for Keswick Dam and Red Bluff Diversion Dam (SWRCB 1995);
- Central Valley Regional Water Quality Control Board (RWQCB) Basin Plan Water Quality Objectives for temperature and water quality constituents established to maintain fishery uses as approved by the SWRCB under the Federal Clean Water Act (RWQCB 1998);
- Iron Mountain Mine Interim Superfund Site ROD and the Memorandum of Understanding (MOU) with Reclamation concerning dilution manipulation of Spring

Creek Debris Dam releases using Shasta Dam releases (EPA 1997; Reclamation *et al*. 1980);

- NOAA Fisheries Winter-run Chinook Salmon Biological Opinion (NMFS 1995);
- NOAA Fisheries Spring-run Chinook Salmon and Central Valley Steelhead Biological Opinion on interim operations of the CVP and SWP (NMFS 2001); and
- ROD for the Trinity River Restoration Project that contributes to the timing and amount of flow releases at Keswick Dam (USFWS 2000).

Feather River

DWR operates the Oroville Facilities to comply with current Federal Energy Regulatory Commission (FERC) license requirements and other environmental protection measures. These measures include the NOAA Fisheries, NMFS Spring-run Chinook Salmon and Central Valley Steelhead Biological Opinion on interim operations of the CVP and SWP. Instream flows and water quality are managed according to the terms of a 1983 agreement between DWR and the California Department of Fish and Game (CDFG). This agreement establishes criteria for flow and water temperatures in the low-flow channel (Feather River between the Fish Barrier Dam and Thermalito Afterbay outlet) of the Feather River and the reach of the Feather River below the Thermalito Afterbay outlet to the confluence with the Sacramento River. Water temperatures also are regulated under a 1999 agreement between the licensee (DWR) and Joint Water Districts in an effort to assist farmers in achieving agricultural production objectives that rely on warm water. The FERC license requires that DWR attempt to release water that is as close as possible to the maximum allowable under the 1983 DWR-CDFG agreement.

Yuba River

The Yuba River is subject to instream flow requirements according to SWRCB Decision 1644 (D-1644), which came into effect on March 1, 2001. The intent of these requirements is to provide protection for fishery resources and other issues relating to water use and diversion activities in the lower Yuba River (the Yuba River below Englebright Dam). D-1644 specifies new minimum flow requirements (interim and long-term) and flow fluctuation criteria for the lower Yuba River. Because several of the conditions specific to D-1644 are currently being contested and undergoing litigation, they may be subject to revision; SWRCB is soon expected to make a decision soon. Until those proceedings are finalized, the conditions described in D-1644 apply and are incorporated into the hydrologic modeling assumptions.

Additionally, Yuba River operations must comply with the conditions established in the Yuba County Water Agency Act, water rights permits and licenses administered by the SWRCB, FERC License #2246 for the Yuba River Development Project, FERC 1993 License to Pacific Gas and Electric Company (PG&E) for continued operation at the Narrows I Power House, Section 7 of the Flood Control Act of 1944 (at New Bullards Bar Dam and Reservoir), and the 1966 Power Purchase Contract between Yuba County Water Agency (YCWA) and PG&E (Bookman-Edmonston 2000).

Lower American River

Reclamation operates Folsom Reservoir and Dam to comply with the objectives and environmental obligations of the Bay-Delta Plan, NOAA Fisheries Winter-run Chinook Salmon

Biological Opinion, NOAA Fisheries Spring-run Chinook Salmon and Central Valley Steelhead Biological Opinion on interim operations of the CVP and SWP, USFWS Delta Smelt Biological Opinion; USFWS Splittail Biological Opinion, and the management of CVPIA (b)(2) water. Reclamation also operates Folsom Dam according to year round flow requirements established by SWRCB Decision 893 (D-893). When possible, CVP operations also try to meet the Anadromous Fisheries Restoration Program (AFRP) flow objective for the lower American River as set forth in the November 20, 1997 Department of the Interior Final Administrative Proposal on the Management of Section 3406(b)(2) Water.

CVP and SWP Allocation

Reclamation operates the CVP to balance many competing objectives including water quality, fish and wildlife protection, irrigation and domestic water supply, hydroelectric power production, and flood control. In some years, the demand for water exceeds available supplies or exceeds export or conveyance capacities and Reclamation must adjust its allocation of water among the uses. Authorizing legislation, statutes, regulations, and agreements guide Reclamation's decisions in determining water allocations. In a similar manner, DWR balances the SWP's many competing objectives.

One of the critical operating decisions for the CVP and SWP is the annual water supply allocation. When specific water supply indices indicate an insufficient amount of water supply to meet all demands, allocation deficiencies are imposed depending upon the contract type. The Settlement and Exchange Contractors and the CVP wildlife refuges receive either 100 percent (normal and wet years) or 75 percent (critical years) allocation based on the Shasta Index.

The remaining and majority of CVP contracts receive allocations on a sliding scale based on a comparison of forecast demand and supply for the March through September period. As the simulation is run, CALSIM II compares water demand and available water supply for the March through September period. If the supply is greater than the demand, a full allocation is made. If the supply is less than the demand, allocations are reduced incrementally in response to the severity of the simulated shortfall. CVP M&I contracts receive allocations ranging from 50 to 100 percent. CVP agricultural contracts receive allocations ranging from 0 to 100 percent. Agricultural allocations are reduced first and reductions to the M&I allocations start after the agricultural allocations have been reduced to 75 percent of the full contract allocation. SWP allocations impose deficiencies equally to agricultural and M&I water users.

2.2.1.2 Upstream from the Delta Region - Flexible Purchase Alternative Simulation

This section describes the assumptions applied to the CALSIM II modeling and pre- and post-processing applications to simulate implementation of the EWA water purchases and fish actions proposed to occur under the Flexible Purchase Alternative.

The Flexible Purchase Alternative simulation represents the conditions that would occur with implementation of the EWA Flexible Purchase Alternative. It is assumed that the EWA Program would be implemented between 2004 and 2007. Preliminary EWA activities occurred in water years 2000, 2001 and 2002, under a series of agreements executed by the Project Agencies to provide the required water for the EWA. (See EIS/EIR Executive Summary and http://wwwoco.water.ca.gov/calfedops/2001ops.html or http://wwwoco.water.ca.gov/calfedops/2002ops.html.)

Development of the Flexible Purchase Alternative simulation utilizes the CALSIM II benchmark study used in the Baseline Condition (refer to Section 2.2.1.1). The Flexible Purchase Alternative simulation, therefore, involves the same period of record and hydrology LOD. Because the timeframe for the EWA Program is relatively short (lasting only until 2007), relative to future condition demands (represented by 2020) that are used by CALSIM II, there is little variation between 2001 demands and projected 2007 demands. As a result, the hydrology used in the CALSIM II benchmark study (LOD 2001) was determined appropriate for use in the evaluation of "future" (2007) EWA conditions.

The modeling assumptions incorporated into the CALSIM II benchmark study and utilized in further development of the Flexible Purchase Alternative results are summarized in Table 2. The sections following Table 2 provide additional detailed explanation of these parameters and assumptions.

The Flexible Purchase Alternative would allow the EWA agencies to purchase up to 600 TAF of water and would not restrict acquisition quantities upstream from the Delta or within the Export Service Area. The EWA agencies could freely combine acquisition methods, water sources, and operational flexibilities to effectively respond to annual changes in hydrology and fish behavior in the Delta.

Although the flexibility in water acquisitions incorporated into the Flexible Purchase Alternative enables and enhances the success of the program, determining the appropriate manner in which to represent the various elements of the Flexible Purchase Alternative in the modeling effort becomes complicated. Because the program is designed to be highly responsive to different conditions that may occur in any given year, there are a number of unknowns associated with its implementation.

The following sections describe the assumptions and tools used to simulate the Flexible Purchase Alternative. These methods were developed with input from and through coordination with the Project Pgencies (DWR and Reclamation) and the Management Agencies (NOAA Fisheries, USFWS, and CDFG), and were determined to be the best approach considering available information or data sets and current modeling tools and applications.

Flexible Purchase Alternative Operations

The EWA Program allows for operational changes of the CVP and SWP facilities that benefit fish. Fish actions that could be implemented to protect and enhance fish species recovery include 1) reductions in Delta export pumping at the CVP and SWP pumping plants; 2) closure of the Delta Cross Channel Gates; 3) increases in instream flow; and 4) increases in Delta outflow. Additionally, EWA assets acquired by the Project Agencies will be used to repay CVP and SWP contractors for water used for fish actions that would have otherwise been delivered to the Export Service Area.

The Project Agencies determine the quantity of water that can be made available each year to agricultural and urban contractors within the Export Service Area. The agencies then move that amount of water, either from natural flows within the Sacramento River and San Joaquin River Basins or from Project reservoirs upstream from the Delta, through the Delta using the export pumping plants.

For the purposes of modeling and associated impact assessment of the Flexible Purchase Alternative water purchases on CVP and SWP operations, instream flows, and instream water temperatures of conveying the water from the area of water purchase to the Delta assumes 1) EWA would purchase 600 TAF[1] of water from the Upstream from the Delta Region in every year, limited only by the availability of CVP and SWP export capacity to pump the purchased water; and 2) the EWA would have up to 600 TAF of water available to implement EWA fishery protection and recovery actions in the Delta. The assumed acquisitions up to 600 TAF of EWA assets would be used solely to repay the CVP and SWP for water foregone due to export pumping reductions generally implemented during the December through July period.

The effect analyses for flow-related issues for water quality, fisheries, and power resources does not depend on the location of a particular seller but on the total amount of EWA water to be transferred via a particular tributary and receiving water body. Therefore, these resources were evaluated based on the largest amount of water that EWA agencies could manage for Delta fish actions (600 TAF), from the Upstream from the Delta Region, regardless of whether the specific water sellers could be identified at this time.

Water Purchases

The Flexible Purchase Alternative covers a range of EWA water purchases extending from a minimum of 75 TAF to a maximum of 600 TAF in the Upstream from the Delta Region. The actual water purchases in any given year to support the EWA would vary based on fisheries needs, budgetary constraints and other factors. The total amount of water available for purchase by the EWA Program as assets generally would be dependent upon water year type. Assumptions (transfer allocations) specific to each river, basin or seller were developed for the long-term hydrologic record, which represents a variety of water year types. Two scenarios were developed to aid in the evaluation of the Flexible Purchase Alternative water purchase and the potential effects upon environmental resources (water quality, fisheries, and power) affected by: 1) transfer of water assets from areas within the Upstream from the Delta Region and the Export Service Area to the Delta; and 2) modifications to pumping practices at the CVP and SWP pumping plants. Constraints on the scenarios include:

- The maximum volume of water that would be obtainable from all upstream contributing sources to support a 600 TAF export at the Delta.
- The minimum water volume available from any individual upstream contributing source is zero acre-feet.

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1 Although the Flexible Purchase Alternative calls for the purchase from the Upstream from the Delta Region of up to 600 TAF and that carriage water cost would be deducted from that quantity, for this scenario it was assumed that sufficient water would be purchased to allow the export of 600 TAF at the CVP and SWP pumping plants. See discussion of carriage water at Section 2.1.2.5. This is more water than the EWA would purchase under this alternative resulting in an impact analysis of potentially greater impacts than would occur under the Flexible Purchase Alternative. This was done so this analysis could also serve as the cumulative impact analysis. The cumulative case would be that the EWA and other water purchase programs would purchase the full 600 TAF when sufficient export capacity was available. In that case the other water purchasers would purchase sufficient water to allow the full 600 TAF to be exported at Banks and Tracy and, therefore, would purchase sufficient water to cover carriage water cost. This will require very few years during which more than the 650 TAF shown available in Table 10 will be purchased. To cover this shortage, annual crop idling was assumed to be as great as 250 TAF in both the Feather and Sacramento River regions to account for potential, presently unidentified, water purchase assets. These assumptions result in an evaluation of the worst possible case for environmental impact analysis.

The Flexible Purchase Alternative would utilize various combinations of the elements described in Chapter 2 of the EWA EIS/EIR as a means of achieving the desired water allocation. As shown in Table 10, each river system or potential selling entity may have a certain amount of water available to EWA; however, it may come from one individual source within the system or a combination of sources. As such, there could be no water available for purchase from any individual river or source for any given year. This analysis must consider the possibility of these situations because in any given year, a particular river, basin, or seller may provide no contribution to EWA. For the purpose of a comprehensive analysis, the minimum amount of purchased water that would be considered under the Flexible Purchase Alternative is zero acre-feet. However, to comply with CALFED ROD prescriptions for the minimum annual acquired surface water assets from the Upstream from the Delta Region, it is expected that a total quantity of 35 TAF will be exported, regardless of water year type. This volume of water is a relatively small amount that does not exceed the EWA's dedicated conveyance capacity in the Delta, even during wet years. The total may come from any individual river, basin, seller, or a combination of multiple sources.

Because of the uncertainty in where and what amounts water will be purchased for the EWA, it was determined that information and analyses provided in the EIS/EIR should encompass all reasonable actions. Two factors that affect the estimated EWA water purchases include 1) presently identified estimates of potential water assets (Table 10); and 2) the desire to purchase 600 TAF of water assets from the Upstream of the Delta region for the Flexible Purchase Alternative.

To compensate in part for the perpetual availability of maximum individual asset quantities, modeling performed for the Flexible Purchase Alternative, in some cases, used EWA asset quantities less than the maximum identified for a particular river, basin or seller. The result from this procedure identifies maximum EWA instream flow effects, but could misidentify maximum reservoir, landside, and economic effects. To ensure that the EWA EIS/EIR presents a thorough picture of reasonable effects in these non-instream flow areas, some analyses in the EIS/EIR take the additional step of looking at maximum utilization of identified assets. This two-level procedure guarantees that all of the effects of the EWA (instream, landside, and economic) are addressed. Identifying the location, amount, and type of potential individual water purchases in the Upstream from the Delta Region is critical to determining the instream flow, water temperature, reservoir storage change, and potential water quality effects of the EWA Program. There are numerous possible combinations of water purchases in the Upstream from the Delta Region. Multiple studies to analyze all of the combinations were not feasible because of the time and cost of such an effort. It was decided to design one set of assumptions that could be adjusted to account for all other potential water purchase combinations and allow for qualitative assessments of the potential environmental effects.

Table 10
Potential Range of EWA Asset Acquisitions for the Flexible Purchase Alternative

	Range of Possible Acquisitions (TAF)				***Management Actions (TAF)***		***Transfers (TAF)***	
CALFED Region	***Stored Reservoir Water***	***Groundwater Substitution***	***Crop Idling***	***Stored Groundwater Purchase***	***Source Shifting***	***Groundwater Storage Services***	***Maximum Transfer Volume***	***Probable Transfer Period***
Upstream North of Delta								
Sacramento River Region								
GCID		20-60	100				135	Jun-Sep
Reclamation District 108		5	45				20	Jun-Sep
Anderson Cottonwood ID		10-40					40	Jun-Sep
Natomas Central MWC		15					15	Jun-Sep
Other Sacramento River Contractors								
Feather River Region								
Oroville Wyandotte ID	10-15						15	Nov-Dec
Western Canal WD		10-35	70				50	Apr-Sep
Joint Water District Board		20-60	65				110	Apr-Sep
Garden Highway MWC		15					15	Jun-Sep
Other Feather River Contractors								
Yuba River Region								
Yuba County Water Agency	100						100	Jul-Sep
Yuba County Water Agency		85					85	May-Feb
American River Region								
Placer County Water Agency	20		10				30	Jul-Sep
Sacramento Groundwater Authority				10			10	Jul-Sep
Merced/San Joaquin Region								
Merced Irrigation District		10-25					25	Oct-Dec
Export Service Areas								
Tulare Lake Sub-Basin								
Kern County Water Agency (KCWA)			115	50-165	X	X	250	Jan-Dec
Semi-Tropic Water Storage District[1]						X	X	Jan-Dec
Arvin-Edison Water Storage District[1]						X	X	Jan-Dec
Westlands Water District			195				195	Apr-Sep
Tulare Lake Basin WSD			110				110	Apr-Sep
Southern California Region								
Metropolitan WD of Southern California					100-200		200	Jan-Dec

[1] Semi-Tropic WSD and Arvin-Edison WSD are within Kern County Water Agency. Their groundwater storage facilities are separate from the Agency, but they may participate in other programs that the agency helps administer, such as crop idling.

X = unknown quantity

The EWA agencies prioritized the types and amounts of water purchases in the Upstream from the Delta Region, as follows (water purchase decision priority):

- Water would be purchased first from the Upstream from the Delta Region, limited by the available SWP and CVP export capacity, and second from sellers in the Export Service Area.

- Purchases from reservoir storage would be used before any other purchase option is pursued.

- Stored groundwater purchases would be pursued as a second option after all reservoir storage purchases have been utilized.

- Groundwater substitution purchases would occur if more water were needed than can be obtained from reservoir storage and stored groundwater purchases.

- Water purchases obtained by idling rice would be pursued as a final option if more water were required to satisfy EWA requirements.

- Idling rice in the Feather River Basin would be pursued before idling rice in the Sacramento River Basin because some water from Sacramento River purchases could not be stored in Lake Shasta during April, May, and June when instream water temperature obligations require the water to be released.

These assumptions and priorities were utilized in the post-processing applications to develop model output results for the Flexible Purchase Alternative.

Fish Actions

The behavior of fish at the Delta pumps, such as the timing of their arrival (typically late winter /early spring) and the length of their stay, varies from year to year and cannot be predicted in advance. Years in which the fish arrive late and leave early may have fewer pumping reductions than other years and would have adequate assets to cover those reductions as well as providing water for upstream fish enhancements (increased instream flows).

EWA actions would be implemented primarily in the winter and spring months, which are months that the SWP and/or CVP would be required to reduce export pumping to protect and assist in restoration of listed and candidate fish species. The water supply lost due to pumping reductions during these months would be repaid in whole or in part during the summer by water acquired upstream from the Delta Region and pumped through the Delta to the downstream CVP/SWP water users. It is assumed that the water acquired reaches the Delta during July through September and is pumped at the Projects' pumping plants during that same period.

The CALSIM II benchmark study does not include the CALFED EWA actions, therefore, the post-processing tools, EWA Water Purchases.xls and EWA Routing.xls (Sections 2.1.3 and 2.1.4, respectively), were utilized to integrate the appropriate EWA actions into the modeling process to develop the Flexible Purchase Alternative simulation results used in the Upstream from the Delta Region impact analysis.

The EWA Water Purchases.xls post processing tool incorporates the assumed EWA Actions (export reductions) to simulate the CVP/SWP reservoirs changes and changes in their associated rivers in the Upstream from the Delta Region. The EWA water purchases used to represent the Flexible Purchase Alternative for this region are described in detail in Sections 2.2.1.2 and 2.2.2.2.

Delta Export Capacity

EWA asset management activities also involve use of the Delta pumps when capacity is available. Generally, drier water year types provide greater opportunities for conveyance of EWA water. In wet years, most of the Delta export conveyance is utilized by the SWP and CVP. During wet years, the Delta pumps export water at nearly 100 percent of their capacity during the summer transfer window, leaving minimal export capacity available for moving EWA assets. In drier years, the Delta export pumps are not running at capacity, leaving more capacity available to move EWA assets during the summer transfer window. During dry years, the EWA agencies would have fewer requirements to replace water lost during pumping reductions because the pumps would not have been operating at full capacity without the EWA. Therefore, the EWA project agencies may need to make fewer water acquisitions during dry years.

These EWA transfers require the utilization and implementation of various upstream combinations of groundwater substitution, stored reservoir water, and crop idling activities in order to achieve the maximum annual EWA purchase allowance (600 TAF) of effective water. Effective water is the total volume of water that is made available for export at the Delta pumping stations. To compensate for losses incurred through conveyance and the seasonality of crop idling activities, initial asset purchases may exceed 600 TAF. It is estimated that purchase losses may range between 20 to 50 percent of the initial acquisition. Table 10 considers these conditions by listing the range of the total purchases required to provide the maximum quantity (600 TAF) of water from EWA's suite of sources available for export at the Delta. In the Export Service Area, source shifting and borrowed project water also may be employed, in addition to groundwater substitution, stored reservoir water and crop idling activities.

The amount of water that would be purchased in the Upstream from the Delta Region was limited to that amount which could be exported by the SWP and CVP pumping plants after all project pumping requirements were fulfilled.

The EWA Water Purchases.xls and EWA Routing.xls post-processing tools were used to determine the amount of available Delta export capacity at the CVP and SWP pumping plants that was in excess of Project requirements and that could be used to transfer EWA assets purchased from the Upstream from the Delta Region. As discussed in Section 2.1.3.2, two limiting factors were considered in the assessment of the CALSIM II results: 1) unused export capacity (physical capacity); and 2) E/I ratio (using inflow to Delta and Delta export variables). Using pooled seasonal export capacities (July through September total), limited when necessary by the E/I ratio, from all years in the modeled period of record, the potential annual EWA export amounts ranges between 75 TAF and 600 TAF.

For modeling purposes, it was assumed that the EWA Program would have the ability to utilize the full available capacity. However, it is recognized that there are other programs with

authority to utilize Delta export capacity when it is available, and that the full amount likely would not be available to the EWA Program. Therefore, this assumption provides a conservative or worst-case representation of the impact associated with using this capacity, but the impacts would not be due solely to the EWA Program (see discussion of Cumulative Considerations below).

It is recognized that in real-time, there are a number of factors that would limit the ability of the EWA Program to utilize the full amount of export capacity including competing transfers, hydrology (including the timing of precipitation and runoff), facility outages, operational constraints, and other environmental factors and variables. Additionally, the CALFED ROD and the EWA 2003 Interim EWA Protocols establish priorities for determining and assigning the use of any excess capacity available at the CVP and SWP pumping plants. Those priorities are described below.

SWP pumping (from highest to lowest):

- First priority - SWP Pumping[2]
- Second priority - Water Transfers for SWP contractors
- Third priority - Joint Point of Diversion (JPOD) use for specific CVP Contractors (example: Cross Valley Canal)
- Fourth priority - Wheeling for CVP and EWA
- Fifth priority - Water transfers for others

CVP pumping (from highest to lowest):

- First priority - CVP Pumping[3]
- Second priority - Refuge Level IV
- Third priority - Cross Valley Canal
- Fourth priority - EWA water
- Fifth priority - Water transfers for others

Although estimates of the excess capacity that might remain for EWA purposes after other priority programs utilize what they need could be made, those estimates would not be absolutely correct in all years. If the estimates are high in any year, the potential effects of conveying EWA water from the areas where the water is purchased to, and through the Delta, could be underestimated. For this and other reasons it was assumed that all of the capacity available would be used by EWA and the resultant environmental effects analyzed for conveying the water purchased in the Upstream from the Delta Region and exporting that water. Therefore, any quantity of water purchased and utilized by the EWA and the environmental effects associated with such action would be analyzed in the EIS/EIR.

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[2] The water that will be produced by the Sacramento Valley Water Management Agreement will be used to meet D-1641 water flow requirements, which are now being met, by the CVP and SWP. This will result in the SWP dedicating less water to meeting D-1641 flow requirement and this "saved" water would be pumped as by the SWP to SWP contractors south of the Delta. Therefore, the analysis assumes that any water produced by the Sacramento Valley Water Management Agreement for the SWP would be considered as included in SWP pumping.

[3] The Sacramento Valley Water Management Agreement affects the CVP in the same way the agreement affects the SWP as explained in footnote #2. Therefore, the analysis assumes that the water produced by the Sacramento Valley Water Management Agreement for the CVP would be considered as included in CVP pumping.

Cumulative Considerations

The Flexible Purchase Alternative, as described for modeling and impact assessment purposes, represents a cumulative condition. Although it is recognized that the EWA program may not actually purchase and transfer 600 TAF in each year of the program, there are other water acquisition and transfer programs that would purchase water and utilize excess capacity at the Delta pumping facilities. Therefore, the evaluation of purchasing and transferring 600 TAF from the Upstream from the Delta Region to the Delta and the summer exports from the Delta to the Export Service Area represents a cumulative condition in addition to a year of maximum EWA purchases from the Upstream of the Delta Region.

The other programs considered as reasonably foreseeable future actions include: implementation of the Sacramento Valley Water Settlement Agreement, other water purchases by the SWP and CVP on behalf of the Projects' water contractors, and water purchases by SWP contractors.

The Sacramento Valley Water Management Agreement ultimately will require export of up to 185 TAF in critical, dry, below normal, and in some above normal water years. However, this agreement involves staged implementation, increasing the agreed upon water exports incrementally over time, and it is anticipated that the full 185 TAF would be required sometime after 2007 (which represents the end of the EWA study period for the EWA EIS/EIR).

Because the SWP is not capable of meeting the SWP contractors' water supply requirements in many years, the contractors purchase water from areas upstream of the Delta in critically dry, dry, and some below normal water years. The CVP will utilize its share of unused SWP pumping plant export pumping capacity to export CVP stored water to CVP water contractors, the CVP's share of the Sacramento Valley Water Management Agreement water, and water purchased by CVP water contractors.

Application of Analysis

The analysis of the Flexible Purchase Alternative is based on the maximum amount of purchases (600 TAF) that might occur Upstream from the Delta on a very infrequent basis (less than 15 percent of the time). As such, this analysis depicts the maximum EWA fishery benefits achievable as well as the maximum offsetting of those benefits due to summer pumping of the EWA water. The accompanying analysis of potential environmental effects provides the EWA Project Agencies the maximum decision-making flexibility for utilizing EWA assets of any amount up to 600 TAF of water, and the maximum flexibility for pumping water purchased from the Upstream from the Delta Region to O'Neill Forebay. It also provides for flexibility in making decisions regarding EWA fish actions, not only for reducing CVP and SWP export pumping from the Delta to improve aquatic habitat, but also to perform other identified EWA fish actions such as: closing the Delta Cross-Channel gates, increasing instream flows, increasing Delta outflow, or any other aquatic habitat improvements to benefit targeted fish resources.

The analysis of the Flexible Purchase Alternative assumes all unused Delta export capacity is used by EWA. The analysis provides an evaluation of maximum impacts within the Delta because the maximum level of pumping would occur during summer months. This pumping offsets the benefits to fish achieved at other times of year due to the pumping reductions

implemented under the fish actions, thereby lowering the overall benefits to fish that would be achieved with pump reductions alone. However, not all of the unused Delta export capacity would be available to the EWA Program, so overall, the fishery benefits associated with the Flexible Purchase Alternative likely are underestimated.

By providing an assessment of regulatory compliance with the maximum water purchase amount, the agencies are afforded greater latitude in making operational decisions to implement fish actions while also keeping the Project contractors whole. The alternative also provides greater opportunities for Delta outflow benefits and for upstream flow enhancements.

The analysis represents a worst-case simulation of effects that may occur in the Upstream from the Delta Region. Therefore, purchase and transfer of less than the maximum amount generally would be expected to result in reduced environmental effects.

This analysis also may prove useful to other agencies considering water transfer programs by providing an indication of potential effects related to individual project and cumulative conditions.

Impact Assessment Comparison – Upstream from the Delta Region
The Flexible Purchase Alternative simulation was compared to the Baseline Condition simulation to identify the potential changes in the CVP/SWP hydrologic conditions (e.g., instream flow, reservoir elevations, end-of-month storage, and water temperature) that could influence water quality, fisheries, and power resources. The evaluation of environmental effects was performed by considering the modeling results from the comparison in light of the impact indicators and evaluation criteria developed for the flow-related resource areas. The impact indicators and evaluation criteria are provided in the individual resource chapters of the Draft EIS/EIR and identify the parameters evaluated, including specific locations and seasonal considerations within the area of analysis specific to the resource being evaluated.

Due to the relatively short-term nature of the EWA Program, the Flexible Purchase Alternative includes all reasonably foreseeable future projects or actions that would typically be incorporated into a cumulative condition simulation, therefore, a separate modeling simulation for the cumulative condition was not performed. As described in the EIS/EIR (Chapter 3), the modeling for a cumulative impact assessment comparison would be the same as the assessment comparing the Flexible Purchase Alternative to the Baseline Condition. Similarly, the Baseline Condition represents existing conditions as well as future No Action/No Project conditions. Therefore, a separate modeling simulation was not developed for the No Action/No Project Alternative.

2.2.2 Delta Region Analysis

Separate modeling simulations and assumptions were developed for the evaluation of flow-related resource impacts for the Delta Region analysis. The following sections describe the approach utilized to assess water quality, fisheries and power resources in the Delta.

2.2.2.1 Delta Region - Baseline Condition Simulation

The Baseline Condition for the Delta Region analysis was developed using the same modeling tools and pre- and post-processing applications as described for the Upstream from the Delta Region (Section 2.2.1), with the exception of the hydrologic period of record. The hydrologic period of record for the Delta Region analysis extends over a 15-year period, from 1979 through

1993. Although not as extensive as the 72-year period utilized for the Upstream from the Delta Region simulations, the 15-year period of record encompasses a variety of water year types and is considered representative of conditions that may occur over the EWA Program period (2004 to 2007).

The 15-year period of record for the Delta Region analyses corresponds with the data available to conduct the Delta fish salvage modeling. (Refer to Section 3.0.) It was determined appropriate that the evaluation of flow-related issues within the Delta Region analyses be consistent for all impact indicators utilized for the water quality, fisheries, and power resources.

2.2.2.2 Delta Region - Flexible Purchase Alternative Simulation

The Flexible Purchase Alternative simulation for the Delta Region analysis was developed using the same modeling tools and pre- and post-processing applications as described for the Upstream from the Delta Region with some modifications. As for the Delta Region Baseline Condition, described above, the Flexible Purchase Alternative simulation used in the Delta Region analyses is based upon a 15-year period of record.

The Flexible Purchase Alternative incorporates a high amount of flexibility into the purchases; however, exact amounts of water to be purchased every year remain unknown. To account for variability from one year to the next, the modeling effort evaluated two scenarios. The first scenario, the Maximum Water Purchase Scenario, examined a worst case for environmental effects and a best case for fish benefits: the EWA project agencies purchased the maximum amount possible from the Upstream from the Delta Region. The second scenario, the Typical Water Purchase Scenario, examined a more typical year of operations to quantify adverse and beneficial effects. This scenario, however, like the Maximum Water Purchase Scenario, assumes that all unused Delta export pumping capacity for the summer months (July through September) would be available to the EWA Program. While this assumption permits evaluation of the potential worst-case for EWA export pumping, there are other water acquisition and transfer programs and SWP/CVP programs that have priority access to use this available pumping capacity. Therefore, this scenario does not necessarily represent the conditions that would be expected to occur for any given year of the program.

In effect, these two scenarios "bracket" the evaluation of water quality, fisheries, and power resources impacts related to changes in Delta pumping associated with implementation of the EWA Program. Assumptions specific to each scenario are described in the following sections.

<u>Maximum Water Purchase Scenario</u>

Operation of the Flexible Purchase Alternative under this scenario assumes 1) EWA would purchase 600 TAF of water from the Upstream from the Delta Region in every year, limited only by the availability of CVP and SWP export capacity to pump the purchased water; and 2) the EWA would have up to 600 TAF of water available to implement EWA fishery protection and recovery actions in the Delta. The assumed acquisitions of up to 600 TAF of EWA assets are used solely to repay the CVP and SWP for water not pumped during export pumping reductions (associated with EWA fish actions generally implemented during the December through July period).

Based on these assumptions, the results of this analysis describe the maximum adverse environmental effects within water bodies (reservoirs and river systems) in the Upstream from

the Delta Region because it assumes purchases from this region are based upon the maximum amount of water that that can be pumped from the Delta. This analysis also provides an analysis of the maximum potential fishery benefits that could be provided by the EWA Program under the Flexible Purchase Alternative because the maximum amount of water that could be transferred to the Delta would be purchased each year.

The modeling results for the Flexible Purchase Alternative assumes all unused Delta export capacity is used by EWA. The analysis provides an evaluation of maximum impacts within the Delta because the maximum level of pumping would occur during summer months. This pumping offsets the fishery benefits achieved at other times of year due to the pumping reductions implemented under the fish actions, thereby lowering the overall fishery benefit that would be achieved with pump reductions alone. However, not all of the unused Delta export capacity would be available to the EWA Program, so overall, the fishery benefits associated with the Flexible Purchase Alternative likely are underestimated.

The purchase of EWA assets is modeled assuming that the program would first obtain EWA variable assets such as relaxation of the allowable E/I ratio in the D-1641 water rights decision as allowed by that decision for fishery aquatic habitat improvement, then, additional purchases would be made from the Upstream from the Delta Region (to the extent that Delta export capacity is available).

Maximum Purchase Scenario - Specific EWA Fish Actions

The development of modeling assumptions for this scenario included the identification of potential specific EWA actions that would likely be imposed for the conditions represented by the historical hydrologic period of record, assuming current level of demand and regulatory conditions.

Because of the complexities inherent in developing a specific list of actions applied to historical conditions, it is possible that the EWA actions selected and used in the modeling of this scenario do not exactly reflect what the management and project agencies may decide each year. Still, the advantages of providing a quantitative evaluation of potential conditions outweighs the uncertainties associated with this method. A substantial amount of information and data are available and were utilized in the determination and assignment of specific actions for each of the study years (1979 to 1993). These sources include:

- CALFED agencies' staff and stakeholder representatives studied how the CVP and SWP would be operated to determine how EWA would have been implemented for the period 1981 to 1994. They used operations model output, fish salvage data, water temperature and turbidity data. This work was relied on heavily for the EWA EIS/EIR Delta Region analysis; in particular, to estimate the EWA asset requirements to allow the EWA management agencies to ensure provision of ESA commitments of the CVP and SWP. Additionally, review of these studies provides insight into the decision-making strategies developed by the agencies to determine the likely EWA actions that would occur and the priorities used by the management and project agencies to determine EWA assets when the total amount is insufficient to implement all EWA actions the if unlimited assets were available.

- The EWA management agencies implemented EWA actions over the past three years. (2001 through 2003), Actions were generally one-year water transfers with willing sellers approved under CEQA initial studies/negative declarations and NEPA environmental assessments/findings of no significant impact. Experience gained in making these purchase, water transfers and in implementing EWA fish actions provides valuable real-time information regarding the types of actions the agencies select with limited data during the year as well as some indication of how the fish may behave under various hydrologic and operational conditions.

- The historical fish salvage at the Tracy Pumping Plant and Banks Pumping Plant.

- Delta flow conditions available from CALSIM II.

- Delta water quality conditions available from DSM2 (using input data from the CALSIM II model).

The EWA actions and the purpose for selecting each action assumed in the Maximum Water Purchase Scenario are shown in Table 11. Export pumping of purchased water begins on July 1 unless an EWA action occurs in July or it is otherwise delayed if fish species of concern are observed in the Delta. Under such conditions, export pumping of purchased water would not start until the EWA action is completed.

Table 11
EWA Actions Simulated for the Maximum Water Purchase Scenario

Water Year	*Year Type*	*EWA Actions*	*Reason for Action*
1979	Below Normal	Dec – Reduce export pumping by 30 TAF	Export reductions required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan - Reduce export pumping by 30 TAF	Same as above
		Feb - Reduce export pumping by 30 TAF	Reduce spring and possibly winter-run Chinook salmon salvage. Also reduces adult delta smelt salvage.
		Mar -Reduce export pumping by 60 TAF	Reduce winter-run Chinook salmon salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping to 4,000 cfs.	Reduce delta smelt salvage going into VAMP. Also reduces steelhead, splittail, and salmon salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study.
		May 16th – May 31st - Reduce export pumping to 5,000 cfs.	Reduce delta smelt, steelhead, splittail, and salmon salvage.
		Jun - Reduce exports by 60 TAF	Reduce delta smelt and heavy splittail salvage.
1980	Above Normal	Dec – Reduce export pumping by 60 TAF	Export reductions required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage.
		Jan - Reduce export pumping by 30 TAF	Reduce spring-run Chinook salmon and splittail salvage.
		Feb - Reduce export pumping by 30 TAF	Reduce winter-run Chinook salmon, and adult delta smelt salvage.
		Mar -Reduce export pumping by 20 TAF	Reduce winter-run Chinook salmon salvage.

Table 11 *EWA Actions Simulated for the Maximum Water Purchase Scenario*			
Water Year	***Year Type***	***EWA Actions***	***Reason for Action***
		Apr. 1st – Apr. 14th –Reduce export pumping to 3,000 cfs.	Reduce delta smelt salvage going into VAMP. Also reduces splittail, and salmon salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs total pumping.	Implement VAMP study.
		Jun - Reduce Banks P.P. export pumping to 2,000 cfs.	Reduce delta smelt and heavy splittail salvage.
		Jul 1st – Jul 15th - Reduce export pumping by 1,500 cfs	Reduce salvage of delta smelt
1981	Dry	Dec – Reduce export pumping by 20 TAF	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Feb - Reduce export pumping by 20 TAF	Reduce winter/spring-run Chinook salmon, splittail, steelhead, and adult delta smelt salvage.
		Mar -Reduce export pumping by 200 TAF	Reduce winter-run Chinook salmon, steelhead, and adult delta smelt salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping to 4,000 cfs	Reduce delta smelt, steelhead, splittail, and salmon salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study.
		May 16th – 31st – Reduce export pumping to 2,500 cfs	Reduce delta smelt and heavy splittail salvage.
		Jun - Reduce export pumping by 30 TAF,	Reduce delta smelt and heavy splittail salvage
		Jul - Reduce export pumping by 90 TAF	Reduce delta smelt salvage
1982	Wet	Dec – Reduce export pumping by 40 TAF	Export reductions may be required in Dec to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan – Reduce export pumping by 40 TAF	Reduce spring-run salmon salvage
		Feb - Reduce export pumping by 60 TAF	Reduce winter-run salmon, splittail, steelhead, and adult delta smelt.
		Mar -Reduce export pumping by 60 TAF	Reduce salvage of winter/spring-run salmon, steelhead and adult delta smelt salvage.
		Apr –Reduce export pumping by 120 TAF	Reduce heavy salvage of steelhead and salmon salvage.
		May - Reduce export pumping by 120 TAF.	Reduce splittail, steelhead and salmon salvage.
		Jun - Reduce export pumping by 90 TAF,	Reduce delta smelt and splittail salvage
1983	Wet	Dec – Reduce export pumping by 150 TAF	Reduce heavy spring-run Chinook salmon salvage
		Jan – Reduce export pumping by 120 TAF	Reduce spring-run salmon and adult delta smelt salvage
		Feb - Reduce export pumping by 120 TAF	Reduce spring/winter-run salmon and adult delta smelt salvage.
		Mar -Reduce export pumping by 60 TAF	Reduce winter/spring-run salmon, steelhead, and adult delta smelt salvage.
		Apr –Reduce export pumping by 60 TAF.	Reduce salmon salvage and heavy splittail salvage.
		May - Reduce export pumping by 60 TAF.	Reduce heavy splittail and salvage of steelhead salvage.
		Jun - Reduce export pumping by 120 TAF,	Reduce delta smelt and splittail salvage.

Table 11
EWA Actions Simulated for the Maximum Water Purchase Scenario

Water Year	*Year Type*	*EWA Actions*	*Reason for Action*
1984	Wet	Feb - Reduce export pumping by 20 TAF	Reduce winter/spring-run Chinook salmon and splittail salvage.
		Mar -Reduce export pumping by 60 TAF	Reduce winter-run Chinook salmon salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping to 5,000 cfs.	Reduce splittail, and salmon salvage
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study.
		May 16th – May 31st - Reduce export pumping to 4,000 cfs.	Reduce delta smelt and splittail salvage.
		Jun 1st – Jun 15th - Reduce export pumping by 60 TAF.	Reduce delta smelt and splittail salvage.
1985	Dry	Dec – Reduce export pumping by 60 TAF.	Reduce spring run Chinook salmon salvage.
		Feb - Reduce export pumping by 20 TAF	Reduce winter/spring-run Chinook salmon and splittail salvage.
		Mar -Reduce export pumping by 60 TAF	Reduce winter-run Chinook salmon, steelhead and splittail salvage
		Apr. 1st – Apr. 14th –Reduce export pumping to 4,000 cfs	Reduce splittail and salmon salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study
		Jun 1st – Jun 20th - Reduce export pumping by 150 TAF.	Reduce heavy delta smelt and splittail salvage.
1986	Wet	Dec – Reduce export pumping by 30 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage.
		Jan - Reduce export pumping by 30 TAF.	Reduce spring-run Chinook salmon salvage.
		Feb - Reduce export pumping by 90 TAF	Reduce spring-run salmon and adult delta smelt salvage.
		Mar -Reduce export pumping by 150 TAF	Reduce splittail, steelhead, and winter-run salmon salvage.
		Apr - Reduce export pumping by 90 TAF.	Reduce salmon, delta smelt and splittail salvage.
		May - Reduce export pumping by 90 TAF.	Reduce delta smelt salvage and the heavy salvage of splittail.
		Jun - Reduce export pumping by 120 TAF.	Reduce delta smelt salvage and the heavy salvage of splittail.
1987	Dry	Dec – Reduce export pumping by 30 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan - Reduce export pumping by 30 TAF.	Same as above
		Feb - Reduce export pumping by 30 TAF	Reduce winter/spring-run Chinook salmon salvage
		Mar -Reduce export pumping by 200 TAF	Reduce salvage of winter-run Chinook salmon salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping to 3,000 cfs	Reduce steelhead, and salmon salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study.
		Jun 1st – Jun 20th - Reduce export pumping by 70 TAF.	Reduce delta smelt and splittail salvage.

Table 11 *EWA Actions Simulated for the Maximum Water Purchase Scenario*			
Water Year	***Year Type***	***EWA Actions***	***Reason for Action***
		Jul – Reduce export pumping by 30 TAF the first week of July.	Reduce delta smelt salvage
1988	Critical	Dec – Reduce export pumping by 120 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan - Reduce export pumping by 90 TAF.	Reduce spring-run Chinook salmon salvage.
		Feb - Reduce export pumping by 90 TAF	Reduce winter/spring-run Chinook salmon salvage.
		Apr 1st –Apr 14th – reduce export pumping to 3,500 cfs.	Reduce salmon, delta smelt, and splittail salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export	Implement VAMP study
		May 16th – May 31st - Reduce export pumping to 1,500 cfs.	Reduce delta smelt and splittail salvage
1989	Dry	Jan - Reduce export pumping by 30 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Feb - Reduce export pumping by 30 TAF	Reduce spring-run Chinook salmon and adult delta smelt salvage.
		Mar -Reduce export pumping by 90 TAF	Reduce winter/spring-run Chinook salmon and splittail salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export pumping.	Implement VAMP study.
		May 16th – May 31st - Reduce export pumping to 4,500 cfs.	Reduce delta smelt and splittail salvage
		Jun – Reduce export pumping by 30 TAF.	Reduce delta smelt and splittail salvage
		Jul - Reduce export pumping by 90 TAF	Reduce delta smelt and splittail salvage
1990	Critical	Dec – Reduce export pumping by 30 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan - Reduce export pumping by 90 TAF.	Same as above.
		Feb - Reduce export pumping by 90 TAF	Reduce winter/spring-run Chinook salmon salvage
		Mar -Reduce export pumping by 120 TAF	Reduce winter-run Chinook salmon, split, and adult delta smelt salvage
		Jun – Reduce export pumping to 1,500 cfs	Reduce delta smelt salvage.
1991	Critical	Mar -Reduce export pumping by 120 TAF	Reduce winter-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage.
		Apr 1st –Apr 14th – reduce export pumping to 1,500 cfs.	Reduce salmon, adult delta smelt, and splittail salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export	Implement VAMP study
		May 16th – May 31st - Reduce export pumping to 1,500 cfs.	Reduce delta smelt and splittail salvage

Table 11
EWA Actions Simulated for the Maximum Water Purchase Scenario

Water Year	*Year Type*	*EWA Actions*	*Reason for Action*
1992	Critical	Jan - Reduce export pumping by 30 TAF	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Feb - Reduce export pumping by 90 TAF	Reduce winter/spring-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage.
		Mar -Reduce export pumping by 120 TAF	Reduce winter-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage.
		Apr 1st –Apr 14th – reduce export pumping to 2,500 cfs.	Reduce salmon salvage
		Apr 15th – 30th – reduce export pumping to 1,500 cfs	Reduce salmon salvage
1993	Above Normal	Jan - Reduce export pumping by 30 TAF	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon, splittail, and steelhead salvage
		Feb - Reduce export pumping by 30 TAF	Reduce winter/spring-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage.
		Mar -Reduce export pumping by 90 TAF	Reduce winter-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage.
		Apr 1st –Apr 14th – reduce export pumping to 10,000 cfs.	Reduce salmon and steelhead salvage.
		Apr 15th – May15th - VAMP @ 1,500 cfs export.	Implement VAMP
		Jun 1st – 15th - Reduce export pumping to 6,000 cfs	Reduce delta smelt and splittail salvage

The Maximum Water Purchase Scenario assumes that up to 600 TAF of EWA assets are available each year and that those 600 TAF would be purchased from the Upstream from the Delta Region limited only by available Delta export pumping capacity at the CVP and SWP pumping plants. The EWA actions assumed to occur under the Maximum Water Purchase Scenario (Table 11) do not require 600 TAF of EWA assets in every year. In those years, the modeling assumes that only the amount of EWA assets required are purchased from the Upstream from the Delta Region or the amount of available export pumping capacity at the CVP and SWP pumping plants, whichever is less.

Calculations were performed to determine the amount of export reductions associated with the EWA actions assumed under the Maximum Water Purchase Scenario (Table 12), the EWA assets required to implement the EWA actions, and the amount of purchased water pumped at the Banks and Tracy pumping plants to CVP and SWP contractors during the July through September period for each of the 15 years studied in this analysis.

Table 12 Maximum Water Purchase Scenario - EWA Export Reductions, EWA Assets Required, and Water Purchase Pumping (TAF)			
Analysis Year	**EWA Export Reductions**	**EWA Assets Required**	**Pumping of EWA Water at Banks and/or Tracy Pumping Plants**
1979	604	484[a]	213
1980	674	534[a]	320
1981	623	623[b]	116
1982	530	0[c]	530[d]
1983	690	0	690[b]
1984	472	392[a]	234
1985	443	443	75
1986	600	600	455
1987	525	525	328
1988	406	406	444
1989	326	326	80
1990	376	376	360
1991	241	241	241
1992	258	258	258
1993	380	380	287

a San Luis Reservoir reaches full storage even with the EWA export reductions and with SWP Article 21 water deliveries.

b The amount of EWA cost over 600,000 acre-feet would be covered by available CVPIA (b)(2) water and/or Variable EWA assets.

c 1982 & 1983 were very wet years. The water loss due to EWA required export pumping curtailments can be recovered by export pumping of Delta surplus flows during the summer months. The loss of unused CVP and SWP export pumping during the summer months would not affect any other water user or the CVP because no water purchases of water from the Upstream from the Delta Region by SWP contractors, the CVP on behalf of the Project's contractors, or transfer of upstream CVP stored water would be done in these very wet water years.

d This is pumping of Delta surplus water and not purchased water.

As discussed in Section 1.1, EWA assets are made up of variable operational assets, water purchased from the Upstream from the Delta Region, and water purchased from the Export Service Area. The amount of variable operational assets available is not known, although some amount of variable operational assets will be available in almost every year. The problem of not knowing the quantity of variable operational assets available is handled in the Flexible Water Purchase Alterative analyses (Maximum Water Purchase Scenario and Typical Water Purchase Scenario) by assuming that all assets will be developed through water purchases. This means that the environmental effects of more water purchases than will actually occur are analyzed because the amount of water available from variable operational asset would reduce the assumed water purchases. For, example, Table 12 shows that in three years (1988, 1991, and 1992) all of the required EWA assets for those years are produced from purchases from the Upstream from the Delta Region. In real-time operation, the amount of water required to be purchased from the Upstream from the Delta Region would be reduced by the amount of water available from those years' variable operational assets.

Another use of the variable operational assets is shown in 1981. In that year more than the assumed 600 TAF of assets would be required to implement the EWA actions. The additional assets would come from that year's variable operational assets.

Typical Water Purchase Scenario

The Typical Water Purchase Scenario is intended to characterize more typical EWA purchases in contrast to the Maximum Water Purchase Scenario. However, this scenario, like the Maximum Water Purchase Scenario, assumes that all unused Delta export pumping capacity for

the summer months (July through September) would be available to the EWA Program. While this assumption permits evaluation of the potential worst-case for EWA export pumping, there are other water acquisition and transfer programs and SWP/CVP programs that have priority access to use this available pumping capacity. Therefore, this scenario does not necessarily represent the conditions that would be expected to occur for any given year of the program. The assumptions used in the Typical Water Purchase Scenario are as follows:

- It is anticipated that the EWA Program would only infrequently require 600 TAF of water to achieve fish protection objectives in the Delta.

- The EWA project agencies may not have the funding required in all years to develop 600 TAF of EWA assets.

- The actual purchases from the Upstream from the Delta Region are limited by available CVP and SWP unused export pumping capacity. The studies using the CALSIM II current demand benchmark studies (see Figure 1) show that the Projects have sufficient excess export capacity to pump 600 TAF only 15 percent of the time (based on an assessment of pooled seasonal export capacities for July through September for the years included in the study) during the 1922-1993 period of analysis, and that those occasions all occur in critically dry years. Studies also have shown that the EWA's greatest need for assets (from 400 TAF to 600 TAF) occurs during above normal and wet years and that during very dry years the EWA requires the least amount of water (200 TAF to 250 TAF) to achieve the fish protection objectives in the Delta. Therefore, it is more likely that the EWA need for as much as 600 TAF would occur when capability to export that water from the Delta is limited. Further, when the export capacity is available, the EWA would require a much smaller amount of water to achieve the EWA fish protection objectives in the Delta.

- Additionally, it is unlikely that all of the available unused CVP and SWP export pumping capacity would be available to the EWA Program as other projects and programs have priority access/use of the export capacity.

Assumptions for the Typical Water Purchase Scenario reflect EWA operations that are likely closer to how the EWA actually would be operated in the next few years. The water purchase assumptions for the Typical Water Purchase Scenario incorporate consideration of water year types, as listed shown below.

- In wet and above normal years, EWA assets would total 400 TAF. The amount of water purchased from the Upstream from the Delta Region and pumped at the CVP and SWP pumping plants would be either 400 TAF, or the total unused CVP and SWP export pumping capacity available in a specific water year, whichever is less.

- In below normal and dry years, except during the second dry year in a multi–year drought period, EWA assets would total 300 TAF. The amount of water purchased from the Upstream from the Delta Region and pumped at the CVP and SWP pumping plants would be either 300 TAF, or the total unused CVP and SWP export pumping capacity available in a specific water year, whichever is less.

- In the second dry year of a multi-year drought period and the first critical year to occur during a drought period, EWA assets would total 250 TAF. The amount of water purchased from the Upstream from the Delta Region and pumped at the CVP and SWP pumping plants would be either 250 TAF, or the total unused CVP and SWP export pumping capacity available in a specific water year, whichever is less.

- In critical water years that occur during drought periods other than the first critical year to occur in the drought, EWA assets would total 200 TAF. The amount of water purchased from the Upstream from the Delta Region and pumped at the CVP and SWP pumping plants would be either 200 TAF, or the total unused CVP and SWP export pumping capacity available in a specific water year, whichever is less.

The assumptions identified above will provide an estimate of the most likely fishery benefits that would be provided by the EWA Program considering implementation of EWA fish actions (generally between December and July) and summer pumping (July or August through September) of EWA water purchased from the Upstream from the Delta Region at the CVP and SWP pumping plants. The determination of net benefits considers the potential adverse effects of EWA exports during the summer that are then offset by the EWA fishery benefits achieved by pumping reductions during other times of the year.

Typical Water Purchase Scenario - Specific EWA Fish Actions

Table 13 shows the EWA actions and the reason for selecting each action assumed for the Typical Water Purchase Scenario.

Table 13
EWA Actions Simulated for the Typical Water Purchase Scenario

Water Year	***Year Type***	***EWA Actions***	***Reason for Action***
1979	Below Normal	Dec – Reduce export pumping by 10 TAF	Export reductions required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan - Reduce export pumping by 10 TAF	Same as above
		Feb - Reduce export pumping by 20 TAF	Reduce spring and possibly winter-run Chinook salmon salvage. Also reduces adult delta smelt salvage.
		Mar -Reduce export pumping by 40 TAF	Reduce salvage of winter-run Chinook salmon salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping by 30 TAF.	Reduce delta smelt salvage going into VAMP. Also reduces steelhead, splittail, and salmon salvage
		April 15th – May 15th – VAMP @ 3,200 cfs export.	Implement VAMP study.
		May 16th – May 31st – Reduce export pumping to 5,500 cfs	Reduce delta smelt and splittail salvage.
		Jun - Reduce exports by 60 TAF	Reduce delta smelt and heavy splittail salvage.
1980	Above Normal	Dec – Reduce export pumping by 60 TAF	Export reductions required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage. Same as above plus reduce adult delta smelt salvage
		Jan - Reduce export pumping by 30 TAF	Reduce winter/spring-run Chinook and splittail salvage
		Feb - Reduce export pumping by 30 TAF	Reduce winter-run Chinook salmon, and adult delta smelt salvage.

Table 13 ***EWA Actions Simulated for the Typical Water Purchase Scenario***			
Water Year	***Year Type***	***EWA Actions***	***Reason for Action***
		Mar -Reduce export pumping by 20 TAF	Reduce winter-run Chinook salmon salvage
		Apr. 1st – Apr. 14th –Reduce export pumping to 4,000 cfs.	Reduce delta smelt salvage going into VAMP. Also reduces splittail, and salmon salvage
		April 15th – May 15th – VAMP @ 3,200 cfs total pumping.	Implement VAMP study
		Jun - Reduce Banks P.P. export pumping to 1,500 cfs.	Reduce delta smelt and heavy splittail salvage
		Jul - Reduce export pumping by 1,500 cfs	Reduce delta smelt salvage
1981	Dry	Dec – Reduce export pumping by 20 TAF	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage.
		Feb - Reduce export pumping by 20 TAF	Reduce salvage of winter-run Chinook salmon, steelhead, and adult delta smelt salvage
		Mar -Reduce export pumping by 60 TAF	Reduce delta smelt, steelhead, splittail, and salmon salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping to 5,000 cfs.	Implement VAMP study
		April 15th – May 15th – VAMP @ 1,500 cfs export	Reduce delta smelt and heavy splittail salvage
		May 16th – 31st – Reduce export pumping to 4,000 cfs	Reduce delta smelt salvage
		Jun - Reduce export pumping by 30 TAF	Reduce delta smelt salvage
		Jul - Reduce export pumping by 30 TAF.	Reduce delta smelt salvage.
1982	Wet	Dec – Reduce export pumping by 40 TAF	Export reductions may be required in Dec to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan – Reduce export pumping by 40 TAF	Reduce spring-run salmon salvage.
		Feb - Reduce export pumping by 60 TAF	Reduce winter-run salmon, splittail, steelhead, and adult delta smelt salvage
		Mar -Reduce export pumping by 60 TAF	Reduce winter/spring-run salmon, steelhead and adult delta smelt salvage.
		Apr –Reduce export pumping by 120 TAF	Reduce heavy steelhead and salmon salvage
		May - Reduce export pumping by 120 TAF.	Reduce splittail, steelhead and salmon salvage
		Jun - Reduce export pumping by 90 TAF	Reduce delta smelt and splittail salvage
1983	Wet	Dec – Reduce export pumping by 150 TAF	Reduce heavy spring-run Chinook salmon salvage.
		Jan – Reduce export pumping by 120 TAF	Reduce spring-run salmon and adult delta smelt salvage
		Feb - Reduce export pumping by 120 TAF	Reduce run/winter-run salmon and adult delta smelt salvage
		Mar -Reduce export pumping by 60 TAF	Reduce winter/spring-run salmon, steelhead, and adult delta smelt salvage.
		Apr –Reduce export pumping by 60 TAF.	Reduce salmon salvage and heavy splittail salvage.
		May - Reduce export pumping by 60 TAF.	Reduce heavy splittail salvage and steelhead salvage.
		Jun - Reduce export pumping by 90 TAF	Reduce delta smelt and splittail salvage

Table 13 *EWA Actions Simulated for the Typical Water Purchase Scenario*			
Water Year	***Year Type***	***EWA Actions***	***Reason for Action***
1984	Wet	Feb - Reduce export pumping by 20 TAF	Reduce winter/spring-run Chinook salmon and splittail salvage
		Mar -Reduce export pumping by 60 TAF	Reduce winter-run Chinook salmon salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping to 6,000 cfs	Reduce splittail, and salmon salvage
		April 15th – May 15th – VAMP @ 3,200 cfs export	Implement VAMP study.
		May 16th – May 31st - Reduce export pumping to 4,000 cfs.	Reduce delta smelt and splittail salvage.
		Jun - Reduce export pumping by 90 TAF.	Reduce delta smelt and splittail salvage.
1985	Dry	Dec – Reduce export pumping by 30 TAF.	Reduce spring run Chinook salmon salvage
		Feb - Reduce export pumping by 20 TAF	Reduce winter/spring-run Chinook salmon and splittail salvage
		Mar -Reduce export pumping by 30 TAF	Reduce winter-run Chinook salmon, steelhead and splittail salvage.
		Apr. 1st – Apr. 14th –Reduce export pumping to 5,000 cfs	Reduce splittail and salmon salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study
		May 16th – May 31st - Reduce export pumping to 1,000 cfs	Reduce delta smelt and splittail salvage
		Jun 1st – Jun 15th - Reduce export pumping by 90 TAF.	Reduce heavy delta smelt and splittail salvage
1986	Wet	Dec – Reduce export pumping by 30 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage.
		Jan - Reduce export pumping by 30 TAF.	Reduce spring-run Chinook salmon salvage
		Feb - Reduce export pumping by 90 TAF	Reduce spring-run salmon and adult delta smelt salvage
		Mar -Reduce export pumping by 90 TAF	Reduce splittail, steelhead, and winter-run salmon salvage.
		Apr - Reduce export pumping by 90 TAF	Reduce salmon, delta smelt and splittail salvage
		May - Reduce export pumping by 60 TAF.	Reduce delta smelt salvage and the heavy splittail salvage.
		Jun - Reduce export pumping by 60 TAF	Reduce delta smelt salvage and the heavy splittail salvage.
1987	Dry	Dec – Reduce export pumping by 20 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Feb - Reduce export pumping by 20 TAF	Reduce winter/spring-run Chinook salmon salvage
		Mar -Reduce export pumping by 100 TAF	Reduce winter-run Chinook salmon salvage
		Apr. 1st – Apr. 14th –Reduce export pumping to 5,000 cfs	Reduce salvage of steelhead, and salmon salvage
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study
		Jun 1st – Jun 20th - Reduce export pumping by 70 TAF	Reduce delta smelt and splittail salvage
1988	Critical	Dec – Reduce export pumping by	Export reductions may be required to meet Delta

Table 13
EWA Actions Simulated for the Typical Water Purchase Scenario

Water Year	*Year Type*	*EWA Actions*	*Reason for Action*
		60 TAF.	water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan – Reduce export pumping by 30 TAF	Same as above
		Feb - Reduce export pumping by 30 TAF	Reduce winter/spring-run Chinook salmon salvage.
		Apr 1st –Apr 14th – reduce export pumping to 4,000 cfs.	Reduce salmon, delta smelt, and splittail salvage
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study
		May 16th – May 31st - Reduce export pumping to 1,500 cfs.	Reduce delta smelt and splittail salvage.
		Jun 1st – Jun 20th – Reduce export pumping by 30 TAF	Reduce delta smelt and splittail salvage.
1989	Dry	Dec – Reduce export pumping by 20 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan - Reduce export pumping by 30 TAF.	Same as above.
		Feb - Reduce export pumping by 30 TAF	Reduce spring-run Chinook salmon and adult delta smelt salvage.
		Mar -Reduce export pumping by 90 TAF	Reduce winter/spring-run Chinook salmon and splittail salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export pumping	Implement VAMP study
		May 16th – May 31st - Reduce export pumping to 4,500 cfs	Reduce delta smelt and splittail salvage
		Jun – Reduce export pumping by 30 TAF	Reduce delta smelt and splittail salvage
1990	Critical	Dec – Reduce export pumping by 30 TAF.	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Jan - Reduce export pumping by 30 TAF	Same as above
		Feb - Reduce export pumping by 30 TAF	Reduce winter/spring-run Chinook salmon salvage.
		Mar -Reduce export pumping by 60 TAF	Reduce winter-run Chinook salmon, splittail, and adult delta smelt salvage
		Jun – Reduce export pumping to 1,500 cfs	Reduce delta smelt salvage
		Jul 1st – 15th – Reduce export pumping to 1,500 cfs	Reduce delta smelt salvage
1991	Critical	Mar -Reduce export pumping by 60 TAF	Reduce winter-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage
		Apr 1st –Apr 14th – reduce export pumping to 1,500 cfs.	Reduce salmon, adult delta smelt, and splittail salvage.
		April 15th – May 15th – VAMP @ 1,500 cfs export.	Implement VAMP study
		May 16th – May 31st - Reduce export pumping to 2,500 cfs.	Reduce delta smelt and splittail salvage
		Jun – Reduce export pumping by 60 TAF	Reduce delta smelt and splittail salvage
1992	Critical	Jan - Reduce export pumping by	Export reductions may be required to meet Delta

Table 13 EWA Actions Simulated for the Typical Water Purchase Scenario			
Water Year	**Year Type**	**EWA Actions**	**Reason for Action**
		30 TAF	water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon salvage
		Feb - Reduce export pumping by 90 TAF	Reduce winter/spring-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage
		Mar -Reduce export pumping by 120 TAF	Reduce winter-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage.
		Apr 1st –Apr 14th – reduce export pumping to 2,500 cfs	Reduce salmon salvage
		Apr 15th – Apr 30th – reduce export pumping to 1,500 cfs	Reduce salmon salvage
1993	Above Normal	Jan - Reduce export pumping by 20 TAF	Export reductions may be required to meet Delta water quality standards when the Delta Cross Channel gates are closed for more than 45 days and for reduction of spring-run Chinook salmon, splittail, and steelhead salvage
		Feb - Reduce export pumping by 30 TAF	Reduce winter/spring-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage
		Mar -Reduce export pumping by 60 TAF	Reduce winter-run Chinook salmon, steelhead, adult delta smelt, and splittail salvage
		Apr 15th – May15th - VAMP @ 3,200 cfs export	Implement VAMP
		Jun 1st – 10th - Reduce export pumping to 6,000 cfs	Reduce delta smelt and splittail salvage

The Typical Water Purchase Scenario assumes that the EWA asset purchases would vary according to water year type and that those assets would be provided by water purchased from the Upstream from the Delta Region, limited only by available export pumping capacity at the CVP and SWP pumping plants. The export pumping of this purchased water starts on July 1st unless an EWA action occurs in July, or if it is determined that fish species of concern are observed within the Delta. In that case, export pumping of the purchased water does not start until the EWA action is completed. Table 14 displays the amount of export reductions due to the EWA actions shown in Table 13, the EWA cost due to the EWA actions, and the amount of purchased water pumped during the July through September period for each of the study year.

2.2.2.3 Delta Region - Fixed Purchase Alternative Simulation

EWA assets are made up of variable operational assets, water purchased from the Upstream from the Delta Region, and water purchased from the Export Service Area. The amount of variable operational assets available is not known although some amount of variable operational assets will be available in almost every year. Not knowing the quantity of variable operational assets available annually is not a problem in the Flexible Water Purchase Alterative analyses (Maximum Water Purchase Scenario and Typical Water Purchase Scenario) because the alternative assumes that all assets will be acquired through water purchases. The result is the amount of water purchases that are analyzed to determine environmental effects is greater than the amount of water that will actually have to be purchased because that amount will be reduced by the amount of variable operational assets available each year.

Table 14
Typical Water Purchase Scenario EWA Export Reductions, EWA Assets Required, and Water Purchase Pumping (TAF)

Analysis Year	Export Reductions	EWA Assets Required	Pumping of EWA Water at Banks and/or Tracy Pumping Plants
1979	341	271[a]	213
1980	560	430[a]	254
1981	348	348	116
1982	530	330[a]	282
1983	690	0[b]	690[c]
1984	370	290[4]	234
1985	326	326	75
1986	450	450	380
1987	290	290	290
1988	242	242	242
1989	256	256	120
1990	202	202	202
1991	210	210	210
1992	258	258	258
1993	242	242	242

a San Luis Reservoir reaches full storage even with the EWA export reductions and with SWP Article 21 water deliveries.
b 1982 & 1983 were very wet years. The water loss due to EWA required export pumping curtailments can be recovered by export pumping of Delta surplus flows during the summer months. The loss of unused CVP and SWP export pumping during the summer months would not affect any other water user or the CVP because no water purchases of water from the Upstream from the Delta Region by SWP contractors, the CVP on behalf of the Project's contractors, or transfer of upstream CVP stored water would be done in these very wet water years.
c This is pumping of Delta surplus water and not purchased water.

The Fixed Purchase Alternative requires a water purchase of 185 TAF every year, with 35 TAF purchased from the Upstream from the Delta Region and 150 TAF purchased from the Export Service Area. Therefore, the total amount of assets available for taking fish actions in the Delta is 185 TAF plus variable operational assets. The fact that the amount of variable operational assets is unknown becomes a problem for the Fixed Purchase Alternative. Not knowing the total annual assets available makes it impossible to do the same type of analysis done for the Maximum Water Purchase and Typical Water Purchase Scenarios under the Flexible Water Purchase Alternative. What is known is that the amount of EWA assets available annually for the Fixed Water Purchase Alternative will be less than the assets available for both the Maximum Water Purchase and Typical Water Purchase Scenarios in most years. The result is the amount of fishery benefits provided by implementing the Fixed Purchase Alternative EWA fish actions in the Delta will be less than calculated for the two water purchase scenarios under the Flexible Purchase Alternative. Also the total amount of water to be exported from the Delta during the July through September period will be 35 TAF every year and that amount is significantly less than the amount of water exported in the Maximum Water Purchase and Typical Water Purchase Scenarios. Therefore, the negative effects of increasing exports during the summer months would be much less than those calculated for the two water purchase scenarios under the Flexible Purchase Alternative. The qualitative conclusion that can be made is that the Fixed Purchase Alternative will provide less environmental benefits than the benefits resulting from implementation of the Flexible Purchase Alternative.

However, given that the majority of benefits provided by the EWA Program occur within the Delta due to fish actions (Delta export reductions), the process described below was used in an effort to reasonably approximate salvage-related effects under the Fixed Purchase Alternative.

It was estimated in the CALFED ROD that the average annual variable operational asset would be 70 TAF (CALFED ROD page 58). For this analysis it is assumed that the available Fixed Purchase Alternative annual assets will total 255 TAF (185 + 70 = 255 TAF). Using the results from the Typical Water Purchase Scenario, the EWA benefits measured in reduced fish salvaged at the CVP and SWP pumping plants during the December through June period for the Fixed Purchase Alternative are calculated by multiplying the annual benefits during the December through June period under the Typical Water Purchase Scenario by 255 TAF and dividing it by the assets available or used in that year under the Typical Water Purchase Scenario (see column (2), Tables 15 through 19). This calculation does not allow the ratio to exceed 1.0. The increase in fish salvage due to increased export of EWA water purchased from the Upstream from the Delta Region during the July through September period for the Fixed Water Purchase Alternative were calculated in a similar manner using a ratio of 35 TAF divided by the amount of water exported under the Typical Water Purchase Scenario during that period (see column (3), Tables 15 through 19). The results of the analysis using the above process to calculate the overall, net EWA benefits under the Fixed Water Purchase Alternative are shown in Tables 15 through 19.

Column (2), Dec–June, of the Tables 15 through 19 shows the decrease in the number of fish salvaged under the Typical Water Purchase Scenario due to the reduction of available assets under the Fixed Purchase Alternative. Column (3), Jul-Sept, shows the decrease in the number of fish salvaged under the Typical Water Purchase Scenario during the July through the September period. Column (4) is the sum of the Columns (1) and (2). Column (5) is the total reduction in salvage calculated for the Typical Water Purchase Scenario (refer to Section 3.2.6.2). Column (6) is the reduction in fish salvage for the Fixed Water Purchase Alternative calculated by adding Column (4) and Column (5).

Table 15
Chinook Salmon Salvage – Fixed Purchase Alternative

(1) Year	(2) Dec-Jun	(3) Jul-Sep	(4) Net	(5) Typical Water Purchase Scenario Annual Total	(6) Fixed Water Purchase Alternative Annual Total
1979	10,040	-1,305	8,735	-65,370	-56,635
1980	39,620	-445	39,175	-109,532	-70,357
1981	5,390	-10	5,380	-35,916	-30,536
1982	0	0	0	-103,945	-103,945
1983	0	0	0	-78,780	-78,780
1984	28,940	-115	28,825	-80,252	-51,427
1985	12,240	-15	12,225	-81,584	-69,359
1986	91,180	-715	90,465	-252,497	-162,032
1987	4,665	0	4,665	-31,120	-26,455
1988	0	-160	-160	-18,978	-19,138
1989	0	-5	-5	-9,753	-9,758
1990	0	0	0	-2,117	-2,117
1991	0	0	0	-10,581	-10,581
1992	0	0	0	-10,547	-10,547
1993	1,615	-15	1,600	-4,461	-2,861
Total	193,690	-2,785	190,905	-895,433	-704,528

Table 16 ***Splittail Salvage – Fixed Purchase Alternative***					
(1) **Year**	**(2)** **Dec-Jun**	**(3)** **Jul-Sep**	**(4)** **Net**	**(5)** **Typical Water Purchase Scenario Annual Total**	**(6)** **Fixed Water Purchase Alternative Annual Total**
1979	2,425	-3,215	-790	-12,351	-13,141
1980	29,040	-2,185	26,855	-78,134	-51,279
1981	1,740	-10	1,730	-11,600	-9,870
1982	0	0	0	-6,365	-6,365
1983	0	0	0	-46,251	-46,251
1984	3,960	-9,285	-5,325	-75	-5,400
1985	1,560	-255	1,305	-9,925	-8,620
1986	156,125	-22,225	133,900	-409,257	-275,357
1987	8,475	-145	8,330	-56,332	-48,002
1988	0	-665	-665	-3,147	-3,812
1989	0	-525	-525	-3,815	-4,340
1990	0	-645	-645	-230	-875
1991	0	-470	-470	-7,539	-8,009
1992	0	-45	-45	-1,487	-1,532
1993	3,840	-580	3,260	-10,088	-6,828
Total	207,165	-40,250	166,915	-656,596	-489,681

Table 17 ***Delta Smelt Salvage – Fixed Purchase Alternative***					
(1) **Year**	**(2)** **Dec-Jun**	**(3)** **Jul-Sep**	**(4)** **Net**	**(5)** **Typical Water Purchase Scenario Annual Total**	**(6)** **Fixed Water Purchase Alternative Annual Total**
1979	770	-2,235	-1,465	-2,489	-3,954
1980	5,995	-2,940	3,055	-13,121	-10,066
1981	3,990	-180	3,810	-26,355	-22,545
1982	0	0	0	-1,897	-1,897
1983	0	0	0	-2,458	-2,458
1984	1,535	-910	625	-3,496	-2,871
1985	1,185	-80	1,105	-7,765	-6,660
1986	270	-180	90	-561	-471
1987	1,705	-80	1,625	-11,279	-9,654
1988	0	-250	-250	-6,004	-6,254
1989	0	-390	-390	-543	-933
1990	0	-115	-115	-7,612	-7,727
1991	0	-1,810	-1,810	-1,582	-3,392
1992	0	0	0	-293	-293
1993	3,055	-220	2,835	-8,237	-5,402
Total	18,505	-9,390	9,115	-93,692	-84,577

Table 18 *Steelhead Salvage – Fixed Purchase Alternative*					
(1) Year	(2) Dec-Jun	(3) Jul-Sep	(4) Net	(5) Typical Water Purchase Scenario Annual Total	(6) Fixed Water Purchase Alternative Annual Total
1979	215	0	215	-1,428	-1,213
1980	390	0	390	-1,078	-688
1981	285	0	285	-1,903	-1,618
1982	0	0	0	-4,005	-4,005
1983	0	0	0	-887	-887
1984	65	0	65	-180	-115
1985	80	0	80	-532	-452
1986	265	0	265	-728	-463
1987	255	0	255	-1,695	-1,440
1988	0	0	0	-411	-411
1989	0	0	0	-1,573	-1,573
1990	0	0	0	-554	-554
1991	0	0	0	-1,224	-1,224
1992	0	0	0	-2,590	-2,590
1993	575	0	575	-1,597	-1,022
Total	2,130	0	2,130	-20,386	-18,255

Table 19 *Striped Bass Salvage – Fixed Purchase Alternative*					
(1) Year	(2) Dec-Jun	(3) Jul-Sep	(4) Net	(5) Typical Water Purchase Scenario Annual Total	(6) Fixed Water Purchase Alternative Annual Total
1979	50,955	-323,220	-272,265	36,142	-236,123
1980	386,345	-221,640	164,705	-815,454	-650,749
1981	121,305	-23,575	97,730	-775,017	-677,287
1982	0	0	0	-310,503	-310,503
1983	0	0	0	-53,238	-53,238
1984	477,485	-859,790	-382,305	-314,837	-697,142
1985	260,305	-43,735	216,570	-1,652,857	-1,436,287
1986	1,010,045	-255,920	754,125	6,616	760,741
1987	365,790	-25,725	340,065	-2,409,375	-2,069,310
1988	0	-370,825	-370,825	120,366	-250,459
1989	0	-120,310	-120,310	-1,350,455	-1,470,765
1990	0	-57,470	-57,470	-298,560	-356,030
1991	0	-67,250	-67,250	-276,432	-343,682
1992	0	-116,955	-116,955	75,195	-41,760
1993	334,970	-1,066,920	-731,950	310,131	-421,819
Total	3,007,200	-3,553,335	-546,135	-7,087,274	-7,633,409

The results verify the qualitative conclusion stated above related to the reduction in beneficial impacts under the Fixed Purchase Alternative in relation to the benefits provided under the Typical Water Purchase Scenario. The Typical Water Purchase Scenario has lower salvage estimates for all fish species except striped bass. Although the salvage reductions for the Fixed Purchase Alternative are less than the Typical Water Purchase Scenario, there is a net benefit in each year for each species analyzed under the Fixed Purchase Alternative. For striped bass, there are some years when implementation of the Fixed Purchase Alternative would not result in beneficial effects; however, the total fish salvage reduction for the entire study period would be 7,633,409 striped bass.

3.0 Sacramento-San Joaquin Delta – Fish Salvage/Benefit Analysis

The CVP and SWP facilities that pump water from the Delta can entrain and kill fish, some of which are Federally- and State-listed species. As described in Section 1, Introduction, of this document, the purpose of the EWA is to improve aquatic habitat conditions to protect and assist in the recovery of Delta-dependent fish species of concern through the management of EWA assets to reduce CVP/SWP Delta export pumping during periods critical to at-risk in-Delta fish species while also providing the CVP and SWP contractors and customers water supply reliability.

This section describes the methodology, assumptions, and results of the evaluation specifically developed to determine the potential benefits of implementing the EWA Flexible Purchase Alternative. This evaluation uses historical fish salvage data from the CVP and SWP pumping plants to evaluate the overall affect of 1) reducing Project exports on an annual basis, as determined appropriate during the months of December through June or July (EWA fish actions); and 2) changes in Delta exports (increased pumping) July through September to repay the Projects.

3.1 Salvage

Salvage is used as an indicator of fish loss resulting from SWP and CVP export operations from the south Delta. Salvage operations at the CVP and SWP export facilities (the John E. Skinner Fish Protection Facility and the Tracy Fish Collection Facility) are performed to reduce the number of fish adversely affected by entrainment (direct loss). Salvage estimates are defined as the number of fish entering a salvage facility and subsequently returned to the Delta through a trucking and release operation. Because survival of fish species sensitive to handling is believed to be low (delta smelt), increased salvage at these facilities is considered an adverse effect of an action or project upon fish resources.

3.2 Methodology

Salvage modeling was performed to develop an indication of the relative effect of the SWP and CVP pumping operations under the Baseline Condition and with implementation of the Flexible Purchase Alternative. The evaluation uses historical fish salvage data from the CVP and SWP pumping plants to quantify the effect of the Flexible Purchase Alternative upon specific fish species in the Delta.

3.2.1 Historical Data

Historical salvage records provide data for delta smelt, Chinook salmon, steelhead, splittail, and striped bass salvage for both the SWP and CVP facilities. These data were used to develop estimates of salvage loss. The salvage data prior to 1979 does not sufficiently identify the fish species salvaged to allow an estimate of benefits for the key species of concern. Since 1979 the salvage data provides daily densities, in numbers of fish salvage per 1,000 acre-feet pumped at the SWP Banks Pumping Plant and the CVP Tracy Pumping Plant, for Chinook salmon, steelhead, striped bass, Sacramento splittail, and delta smelt.

Data selected for use in these analyses extended over a 15-year period from 1979 to 1993. This period was selected based on consideration of the reliability of salvage data (e.g., accurate species identification, expansion calculations, etc.) and correspondence with the hydrologic model period used for the CALSIM II and related modeling applications that extends through 1993. This 15-year period also provides a range of water year conditions (e.g., wet, above normal, below normal, dry, and critical years).

3.2.2 Simulations/Assumptions

The CALSIM II study used for analyses in the EWA EIS/EIR provides an operational simulation of how the CVP and SWP would be operated if the historical hydrology were to repeat. The CALSIM II simulation encompasses the 1922 through 1993 period. Because usable historical salvage is only available beginning in 1979 and the last year of the CVP/SWP operational simulation is 1993, the study period for the Delta environmental effects analyses is necessarily 1979 to 1993.

Simulations are performed assuming 1) the 1979 through 1993 hydrologic period repeats; 2) the Projects are operated during this period utilizing the current system-wide water demand and regulatory requirements[4]; and 3) the historical fish salvage that occurred during this period would occur again. Further, as described in Section 2.2.1.1, the CALSIM II benchmark study includes 2001 LOD (demands, facilities, infrastructure) and water allocation/regulatory standards.

3.2.2.1 Baseline Condition

The Baseline Condition for the evaluation of Delta fish salvage is taken from the CALSIM II benchmark study and related post-processing tools used to create the "virtual" CALSIM II output database specifically for the 15-year period of record (1979 to 1993).

3.2.2.2 Flexible Purchase Alternative

The Flexible Purchase Alternative condition for the evaluation of Delta fish salvage is taken from the CALSIM II benchmark study as modified by post-processing applications to incorporate implementation of the EWA Program. Specifically, the 15-year period of record, 1979 to 1993 is used for the determination of EWA Program affects upon salvage.

As described in Section 2.2.2.2, EWA water asset acquisitions were examined under two different scenarios 1) Maximum Water Purchase Scenario; and 2) Typical Water Purchase Scenario.

3.2.3 Salvage Calculations

Calculations of salvage loss at the SWP and CVP, as a function of changes in the seasonal volume of water diverted, have been used as an indicator of potential effects resulting from changes in water project operations. The magnitude of direct losses resulting from export operations is a function of the magnitude of monthly water exports from each facility and the density (number per acre-foot) of fish vulnerable to entrainment at the facilities. Results of the hydrologic modeling performed for the Baseline Condition and the Flexible Purchase Alternative scenarios provide estimates of the average monthly Delta export operations for both the SWP and CVP. Salvage data are available on species-specific level at both the SWP and CVP

[4] CALSIM II assumptions and output.

facilities for use in estimating the risk of fishery loss. Average densities (number per acre-foot) were calculated monthly for both the SWP and CVP facilities for selected fish species over a 15-year period (1979 to 1993). Estimates of direct loss from SWP and CVP facilities were calculated for Chinook salmon, steelhead, delta smelt, splittail, and striped bass.

An index of salvage was developed for the purposes of evaluating the incremental effects of EWA operations on the direct losses at the Delta export facilities. The salvage index was derived using records of species-specific salvage data at the SWP and CVP to calculate average monthly density (number of fish per TAF), which could then be multiplied by the calculated SWP and CVP monthly exports (in TAF) obtained from the hydrologic modeling output. The salvage index was calculated separately for the SWP and CVP export operations under the Baseline Condition and Flexible Purchase Alternative. The resulting salvage index was then used to determine the incremental benefits (reduced salvage) and impacts (increased salvage) calculated to result from EWA operations.

Average monthly salvage densities for each species were calculated from daily salvage records over the period from 1979 through 2001 (R. Brown, unpublished data; CDFG, unpublished data). Based on the daily salvage, expanded for sub-sampling effort, a daily density estimate was calculated using the actual water volume diverted at each of the two export facilities. The daily density estimates were then averaged to calculate an average monthly density. For consistency, the average monthly density of each of the individual target species was then used to calculate the salvage index for the period from January 1979 through September 1993 using hydrologic modeling results for the Baseline Condition and Flexible Purchase Alternative. After calculating the monthly salvage index for each species, assuming EWA operations, the baseline estimate was subtracted from the monthly salvage index for each species to determine the net difference in salvage estimates (EWA operations - baseline estimate = net change) that are anticipated to occur with implementation of the Flexible Purchase Alternative. These calculations were performed for both the Maximum Water Purchase Scenario and the Typical Water Purchase Scenario.

3.2.4 Limitations

It is recognized that during the historical period, 1979 to 1993, the Projects were operated under Delta water quality, flow, and export constraint requirements that were much less stringent than the Delta requirements in place today. This suggests that the historical fish salvage was likely higher than it would be if the 1979 to 1993 period reoccurred with the Projects operated under today's Delta requirements, as assumed in this analysis. As a result, the Delta effects analyzed in this document likely will over-estimate the amount of EWA assets required to achieve the State and Federal fishery agencies' habitat conditions improvement goals.

The current populations of some of the listed species, such as winter-run Chinook salmon, are larger today than they were during the 1979 to 1993 period. Because of this, neither the timing, duration, nor the quantity of water needed for most operational curtailments can be accurately estimated until shortly before the action is scheduled. Differences in conditions between the historical 1979 to 1993 period and what would occur if that hydrologic period reoccurred today, indicate that the historical fish salvage at the Projects' pumping plants that occurred during the 1979 to 1993 period would not be the same today.

However, despite the inaccuracies within the analyses caused by assuming historical fish salvage at the pumping plants, the evaluations were performed to provide some approximate quantification of the overall potential EWA benefits that may be realized with implementation of the EWA program, using the best available data. Without some quantification, the discussion and analysis of benefits of the EWA and the cost of exporting water would have to be qualitative and based upon scientific opinion. Therefore, the results provided by the analyses must be considered as only part of the information (quantitative and qualitative) that should be used to evaluate the effects of implementing the EWA in the Delta.

3.2.5 Impact Analysis Comparisons

The results for the Maximum Water Purchase Scenario under the Flexible Purchase Alternative were compared to the Baseline Condition to determine the overall maximum net benefits that may result from implementation of the EWA program. These results are described in Section 3.2.6.1 and in Chapter 9 of the EWA EIS/EIR.

Additionally, the results for the Flexible Purchase Alternative, under the Typical Water Purchase Scenario were compared to the Baseline Condition to determine the overall, more likely, net benefits that may result from implementation of the EWA program. These results are described in Section 3.2.6.2 and in Chapter 9 of the EWA EIS/EIR.

3.2.6 Results

The results from the evaluation of each scenario, summarized in the following sections, indicate that implementation of the EWA fish actions would result in overall long-term net benefits to the fish species of concern in the Delta Region, relative to the Baseline Condition. A more detailed presentation of overall net benefits to the individual species is presented in Chapter 9 of the EWA EIS/EIR.

For the purposes of evaluating potential effects of the EWA program on fish salvage, the incremental difference in the annual salvage indices reflect the benefit (reduced salvage under the EWA Program) as a negative index and an incremental adverse impact (increased salvage under the EWA Program) as a positive index.

3.2.6.1 Maximum Water Purchase Scenario – EWA Benefits

The salvage modeling indicates that the Maximum Water Purchase Scenario would result in overall net benefits as determined by estimated reductions in salvage loss, as presented in Tables 20 through 34 for Chinook salmon, delta smelt, Sacramento splittail, striped bass, and steelhead. It is noted that the values provided in these tables indicate the maximum possible salvage benefits based on the assumptions for this scenario (described in Section 2.2.2.2). Therefore, these results represent an upper boundary for the level of benefit that could occur with implementation of the proposed EWA fish actions.

Three tables are shown for each species. The first table shows the salvage for the Baseline Condition, the second table is an intermediate step that shows the reduction in the base salvage after the assumed EWA pump reductions are implemented, and the third table shows the overall net result of the combined influences from the assumed EWA pump reductions and the increased summer Delta export pumping to repay SWP and CVP customers.

The EWA provides benefits to all fish species studied during the 1979 to 1993 study period. There are two years when the EWA does not result in a net decrease of salvage for listed species. However, it is noted that, in real-time operations, if fish species of concern were observed near the pumps, the Management Agencies could avoid impacts by delaying the start of summer export pumping until it is determined the fish are out of the area, or until the EWA fish action is completed.

Table 20
Delta Smelt Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				4,263	5,501	3,901	1,966	9,079	15,466	12,250	3,413	83	55,923
1980	25,751	1,300	0	6,540	5,479	10,622	2,307	989	19,170	15,604	11,530	2,251	101,543
1981	16,254	3,914	11,500	29,526	25,537	14,389	3,750	80,903	66,163	114,229	55,870	4,268	426,301
1982	2,757	9,008	1,356	12,822	12,371	5,945	297	529	2,946	868	2,380	1,907	53,188
1983	1,469	1,505	922	2,130	798	323	40	12	7,775	6,241	0	1,195	22,412
1984	0	0	426	0	74	1,005	125	15,533	9,276	2,762	875	48	30,125
1985	210	135	3,161	316	675	417	697	2,664	10,745	3,942	2,228	1,264	26,454
1986	77	0	569	1,688	3,276	928	720	137	198	265	1,366	0	9,225
1987	194	35	232	120	1,137	760	8,384	7,787	11,721	2,590	3,339	342	36,641
1988	54	31	8,533	7,077	335	15	0	7,901	7,452	658	0	0	32,056
1989	141	0	272	797	24	307	2,494	2,076	5,986	9,065	1,304	412	22,878
1990	109	138	0	256	204	173	952	2,706	23,168	3,393	28	0	31,126
1991	0	0	47	388	209	1,372	450	1,450	2,708	2,463	980	1,264	11,332
1992	101	0	0	99	871	636	101	494	637	17	0	0	2,954
1993	0	0	0	3,118	1,822	444	0	37,725	24,146	647	25	0	67,925
Total	47,119	16,065	27,018	69,141	58,312	41,236	22,283	169,983	207,557	174,996	83,339	13,034	930,082

Table 21
Change in Delta Smelt Salvage (EWA with Pump Reductions – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-125	-188	-337	-1,350	-3,121	-2,440	0	0	0	-7,561
1980	0	0	0	-188	-348	-408	-816	-238	-9,006	-4,752	0	0	-15,754
1981	0	0	-416	0	-1,128	-6,552	-1,522	-37,501	-3,836	-15,305	0	0	-66,261
1982	0	0	-63	-781	-1,257	-634	-73	-218	-36	0	0	0	-3,062
1983	0	0	-161	-862	-254	-61	-10	-8	-2,932	0	0	0	-4,288
1984	0	0	0	0	-2	-186	-50	-5,046	-1,553	0	0	0	-6,838
1985	0	0	-340	0	-30	-57	-282	-456	-7,955	0	0	0	-9,120
1986	0	0	-20	-71	-356	-241	-128	-26	-39	0	0	0	-881
1987	0	0	-22	-5	-53	-357	-3,402	-3,886	-5,925	-901	0	0	-14,552
1988	0	0	-1,337	-862	-100	0	0	-4,816	0	0	0	0	-7,115
1989	0	0	0	-44	-6	-32	-40	-366	-581	-1,884	0	0	-2,953
1990	0	0	0	-27	-80	-56	0	0	-7,656	0	0	0	-7,819
1991	0	0	0	0	0	-213	-121	-857	0	0	0	0	-1,191
1992	0	0	0	-10	-102	-164	-20	0	0	0	0	0	-295
1993	0	0	0	-89	-59	-49	0	-5,389	-1,681	0	0	0	-7,268
Total	0	0	-2,358	-3,063	-3,964	-9,347	-7,814	-61,929	-43,642	-22,842	0	0	-154,959

Table 22 *Change in Delta Smelt Salvage (EWA with Pump Reductions and Summer Export Pumping – Maximum Water Purchase Scenario)*													
Year	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Total**
1979				-125	-188	-337	-1,350	-3,121	-2,440	2,463	181	15	-4,902
1980	0	0	0	-188	-348	-408	-816	-238	-9,006	915	3,314	105	-6,668
1981	0	0	-416	0	-1,128	-6,552	-1,522	-37,501	-3,836	-15,305	235	24	-66,002
1982	0	0	-63	-781	-1,257	-634	-73	-218	-36	712	414	39	-1,897
1983	0	0	-161	-862	-254	-61	-10	-8	-2,932	852	0	245	-3,191
1984	0	0	0	0	-2	-186	-50	-5,046	-1,553	761	3	9	-6,065
1985	0	0	-340	0	-30	-57	-282	-456	-7,955	63	34	50	-8,973
1986	0	0	-20	-71	-356	-241	-128	-26	-39	112	166	0	-603
1987	0	0	-22	-5	-53	-357	-3,402	-3,886	-5,925	-892	75	150	-14,319
1988	0	0	-1,337	-862	-100	0	0	-4,816	0	418	0	0	-6,697
1989	0	0	0	-44	-6	-32	-40	-366	-581	-1,884	74	31	-2,848
1990	0	0	0	-27	-80	-56	0	0	-7,656	960	2	0	-6,857
1991	0	0	0	0	0	-213	-121	-857	0	880	261	448	398
1992	0	0	0	-10	-102	-164	-20	0	0	3	0	0	-293
1993	0	0	0	-89	-59	-49	0	-5,389	-1,681	293	5	0	-6,970
Total	0	0	-2,358	-3,063	-3,964	-9,347	-7,814	-61,929	-43,642	-9,651	4,763	1,117	-135,887

Table 23 *Steelhead Salvage (Baseline Condition)*													
Year	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Total**
1979				649	1,181	1,979	2,392	1,041	0	0	0	0	7,242
1980	0	16	33	519	911	173	966	897	108	0	0	0	3,623
1981	74	0	320	495	3,299	7,139	3,155	205	0	0	0	0	14,687
1982	0	0	686	1,691	2,040	1,027	10,063	7,644	1,647	0	0	0	24,799
1983	24	0	1,985	108	40	0	0	466	0	0	0	0	2,624
1984	0	36	0	0	0	184	400	66	0	0	0	0	685
1985	0	0	31	0	395	1,069	793	471	0	0	0	0	2,759
1986	0	0	0	21	932	257	2,095	711	34	32	0	0	4,082
1987	0	0	1,450	150	215	8,628	1,229	243	0	0	0	0	11,915
1988	0	0	589	363	485	179	1,097	686	2	0	0	0	3,401
1989	0	0	110	32	145	10,533	3,465	493	0	0	0	0	14,777
1990	0	0	0	0	1,472	2,228	196	82	0	0	0	0	3,979
1991	0	0	18	74	79	11,261	905	105	0	0	0	0	12,441
1992	25	292	0	4,550	7,920	4,869	342	14	0	0	0	0	18,011
1993	0	0	14	1,356	14,819	7,001	1,268	738	40	0	0	0	25,236
Total	123	344	5,235	10,008	33,933	56,527	28,364	13,861	1,832	32	0	0	150,260

Table 24
Change in Steelhead Salvage (EWA with Pump Reductions – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-34	-93	-260	-1,425	-775	0	0	0	0	-2,588
1980	0	0	-2	-15	-48	-7	-738	-671	-55	0	0	0	-1,536
1981	0	0	-12	0	-132	-2,397	-1,452	-92	0	0	0	0	-4,085
1982	0	0	-32	-65	-130	-90	-1,790	-1,526	-373	0	0	0	-4,005
1983	0	0	-755	-40	-16	0	0	-75	0	0	0	0	-887
1984	0	0	0	0	0	-24	-261	-8	0	0	0	0	-293
1985	0	0	-2	0	-18	-145	-353	-163	0	0	0	0	-682
1986	0	0	0	-2	-144	-71	-423	-182	0	0	0	0	-820
1987	0	0	-138	-9	-12	-2,715	-546	-81	0	0	0	0	-3,500
1988	0	0	-83	-55	-189	0	-164	-170	0	0	0	0	-661
1989	0	0	0	-2	-42	-1,464	-34	-26	0	0	0	0	-1,568
1990	0	0	0	0	-383	-846	0	0	0	0	0	0	-1,230
1991	0	0	0	0	0	-1,988	-206	-31	0	0	0	0	-2,225
1992	0	0	0	-289	-1,016	-1,247	-39	0	0	0	0	0	-2,590
1993	0	0	0	-39	-588	-928	-395	-314	0	0	0	0	-2,264
Total	0	0	-1,024	-550	-2,810	-12,182	-7,826	-4,114	-428	0	0	0	-28,934

Table 25
Change in Steelhead Salvage (EWA with Pump Reductions and Summer Export Pumping – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-34	-93	-260	-1,425	-775	0	0	0	0	-2,588
1980	0	0	-2	-15	-48	-7	-738	-671	-55	0	0	0	-1,536
1981	0	0	-12	0	-132	-2,397	-1,452	-92	0	0	0	0	-4,085
1982	0	0	-32	-65	-130	-90	-1,790	-1,526	-373	0	0	0	-4,005
1983	0	0	-755	-40	-16	0	0	-75	0	0	0	0	-887
1984	0	0	0	0	0	-24	-261	-8	0	0	0	0	-293
1985	0	0	-2	0	-18	-145	-353	-163	0	0	0	0	-682
1986	0	0	0	-2	-144	-71	-423	-182	0	5	0	0	-815
1987	0	0	-138	-9	-12	-2,715	-546	-81	0	0	0	0	-3,500
1988	0	0	-83	-55	-189	0	-164	-170	0	0	0	0	-661
1989	0	0	0	-2	-42	-1,464	-34	-26	0	0	0	0	-1,568
1990	0	0	0	0	-383	-846	0	0	0	0	0	0	-1,230
1991	0	0	0	0	0	-1,988	-206	-31	0	0	0	0	-2,225
1992	0	0	0	-289	-1,016	-1,247	-39	0	0	0	0	0	-2,590
1993	0	0	0	-39	-588	-928	-395	-314	0	0	0	0	-2,264
Total	0	0	-1,024	-550	-2,810	-12,182	-7,826	-4,114	-428	5	0	0	-28,928

Table 26 *Chinook Salmon Salvage (Baseline Condition)*													
Year	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Total**
1979				15,754	5,111	6,669	78,404	100,415	10,579	5,236	439	338	222,946
1980	2,244	6,431	6,700	8,308	470	498	119,475	93,503	40,724	1,976	32	1,690	282,050
1981	3,124	2,563	3,148	3,137	5,138	15,279	44,955	28,292	4,639	0	83	0	110,360
1982	6,466	5,712	33,275	25,872	42,724	34,027	31,819	290,241	137,177	1,643	224	0	609,180
1983	0	32,194	75,216	8,684	9,719	6,530	27,102	30,693	108,466	2,819	0	0	301,422
1984	3,695	1,095	51	219	175	8,615	82,697	95,424	75,191	1,019	536	0	268,716
1985	28,854	23,118	19,885	350	8,481	5,379	40,758	97,778	13,600	661	0	30	238,892
1986	8,953	4,225	6,249	3,707	541,376	92,284	286,376	260,372	196,795	7,221	0	0	1,407,557
1987	707	187	1,388	516	1,490	12,384	41,486	40,467	8,798	580	84	89	108,176
1988	3	17	32,416	7,207	3,037	633	15,334	36,453	2,425	363	18	9	97,915
1989	41	466	709	2,139	35	15,568	17,357	32,969	2,361	0	125	0	71,771
1990	24	254	63	2,817	464	2,282	1,796	18,052	4,116	6	0	0	29,873
1991	7	0	23	31	115	8,028	13,816	19,395	863	0	0	0	42,278
1992	18	4,990	138	1,315	13,624	21,902	17,320	2,621	0	0	0	6	61,934
1993	0	0	199	1,743	1,726	946	8,935	18,233	3,823	3	96	0	35,705
Total	54,135	81,253	179,459	81,799	633,686	231,025	827,631	1,164,908	609,555	21,526	1,637	2,161	3,888,774

Table 27 *Change in Chinook Salmon Salvage (EWA with Pump Reductions – Maximum Water Purchase Scenario)*													
Year	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Total**
1979				-586	-197	-700	-55,499	-55,646	-1,570	0	0	0	-114,198
1980	0	0	-466	-238	-27	-20	-86,314	-54,922	-16,405	-567	0	0	-158,960
1981	0	0	-102	0	-156	-5,630	-24,295	-15,608	-64	0	0	0	-45,854
1982	0	0	-2,161	-1,300	-3,084	-3,354	-6,557	-71,783	-15,742	0	0	0	-103,981
1983	0	0	-15,916	-3,451	-3,350	-1,593	-6,707	-19,821	-37,634	0	0	0	-88,473
1984	0	0	0	0	-6	-1,290	-45,834	-46,789	-16,714	0	0	0	-110,633
1985	0	0	-1,625	0	-362	-829	-16,828	-48,989	-10,555	0	0	0	-79,187
1986	0	0	-399	-190	-93,319	-25,239	-57,136	-86,099	-59,386	0	0	0	-321,769
1987	0	0	-94	-27	-78	-4,394	-16,697	-11,139	-4,062	0	0	0	-36,491
1988	0	0	-4,804	-1,015	-913	0	-1,902	-14,700	0	0	0	0	-23,333
1989	0	0	0	-118	-9	-2,071	-770	-6,591	-148	0	0	0	-9,706
1990	0	0	-51	-298	-164	-744	0	0	-1,273	0	0	0	-2,531
1991	0	0	0	0	0	-1,355	-3,919	-7,895	0	0	0	0	-13,169
1992	0	0	0	-108	-1,814	-5,750	-2,877	0	0	0	0	0	-10,548
1993	0	0	0	-51	-67	-122	-4,429	-4,236	-238	0	0	0	-9,144
Total	0	0	-25,617	-7,383	-103,545	-53,091	-329,762	-444,219	-163,792	-567	0	0	-1,127,976

Table 28
Change in Chinook Salmon Salvage (EWA with Pump Reductions and Summer Export Pumping – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-586	-197	-700	-55,499	-55,646	-1,570	1,450	75	28	-112,645
1980	0	0	-466	-238	-27	-20	-86,314	-54,922	-16,405	-567	10	519	-158,431
1981	0	0	-102	0	-156	-5,630	-24,295	-15,608	-64	0	14	0	-45,839
1982	0	0	-2,161	-1,300	-3,084	-3,354	-6,557	-71,783	-15,742	32	4	0	-103,945
1983	0	0	-15,916	-3,451	-3,350	-1,593	-6,707	-19,821	-37,634	284	0	0	-88,189
1984	0	0	0	0	-6	-1,290	-45,834	-46,789	-16,714	4	133	0	-110,496
1985	0	0	-1,625	0	-362	-829	-16,828	-48,989	-10,555	29	0	2	-79,156
1986	0	0	-399	-190	-93,319	-25,239	-57,136	-86,099	-59,386	1,244	0	0	-320,526
1987	0	0	-94	-27	-78	-4,394	-16,697	-11,139	-4,062	15	2	3	-36,471
1988	0	0	-4,804	-1,015	-913	0	-1,902	-14,700	0	248	21	2	-23,062
1989	0	0	0	-118	-9	-2,071	-770	-6,591	-148	0	6	0	-9,701
1990	0	0	-51	-298	-164	-744	0	0	-1,273	1	0	0	-2,529
1991	0	0	0	0	0	-1,355	-3,919	-7,895	0	0	0	0	-13,169
1992	0	0	0	-108	-1,814	-5,750	-2,877	0	0	0	0	0	-10,547
1993	0	0	0	-51	-67	-122	-4,429	-4,236	-238	2	21	0	-9,120
Total	0	0	-25,617	-7,383	-103,545	-53,091	-329,762	-444,219	-163,792	2,742	286	555	-1,123,826

Table 29
Striped Bass Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				242,154	82,046	23,569	26,235	58,215	1,959,554	2,026,399	526,751	71,859	5,016,782
1980	166,067	135,976	189,930	44,035	23,881	5,099	7,356	1,199	846,701	1,881,379	850,992	207,609	4,360,223
1981	107,324	238,780	290,128	137,698	56,062	22,057	14,773	1,267,489	7,213,100	3,361,943	290,194	78,327	13,077,876
1982	98,313	197,976	135,124	244,967	125,066	34,038	27,792	7,805	341,687	1,246,809	984,812	151,485	3,595,874
1983	92,043	203,851	254,721	22,453	24,653	3,052	3,027	14,357	43,930	85,697	166,869	30,734	945,388
1984	3,185	19,626	62,141	6,429	6,172	2,548	5,743	148,920	5,506,259	5,361,680	257,651	84,829	11,465,183
1985	421,024	348,165	296,582	76,178	32,832	9,201	6,277	275,666	3,433,935	1,841,540	238,752	43,827	7,023,979
1986	20,444	143,535	137,643	92,648	213,945	19,776	3,407	98,019	17,050,963	3,327,582	756,465	235,006	22,099,434
1987	136,948	145,481	81,285	72,932	56,532	13,515	5,754	1,018,431	5,513,292	1,829,075	42,238	31,361	8,946,842
1988	3,396	27,207	264,606	54,766	51,001	4,129	2,627	365,877	1,174,215	837,050	47,820	18,555	2,851,250
1989	7,199	66,151	132,283	37,705	8,681	24,407	5,959	1,274,764	12,192,492	3,205,444	251,708	28,037	17,234,830
1990	15,175	12,842	1,041	70,529	26,228	19,926	748	488,730	1,256,612	245,127	133,529	26,400	2,296,886
1991	6,325	28,712	13,931	15,171	14,486	37,059	7,587	65,804	1,789,117	673,308	187,012	49,739	2,888,251
1992	9,729	10,325	65,456	36,476	242,022	65,083	1,411	865,156	712,115	191,539	24,358	15,580	2,239,251
1993	32,100	32,968	62,084	419,563	157,521	41,890	3,783	1,204,700	17,005,251	3,217,700	479,204	73,617	22,730,381
Total	1,119,273	1,611,596	1,986,955	1,573,702	1,121,129	325,350	122,479	7,155,130	76,039,222	29,332,272	5,238,357	1,146,965	126,772,430

Table 30
Change in Striped Bass Salvage (EWA with Pump Reductions – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-8,826	-4,485	-4,242	-17,619	-22,746	-306,443	0	0	0	-364,361
1980	0	0	-13,204	-1,264	-1,435	-201	-4,872	-391	-340,030	-630,873	0	0	-992,269
1981	0	0	-9,691	0	-2,538	-11,056	-5,455	-573,284	-398,328	-690,377	0	0	-1,690,728
1982	0	0	-8,090	-15,566	-12,801	-3,561	-8,536	-2,940	-26,663	0	0	0	-78,157
1983	0	0	-51,197	-9,417	-7,039	-983	-749	-2,671	-13,244	0	0	0	-85,301
1984	0	0	0	0	-273	-321	-3,775	-9,699	-474,933	0	0	0	-489,001
1985	0	0	-24,799	0	-1,420	-1,473	-1,692	-11,193	-2,069,967	0	0	0	-2,110,544
1986	0	0	-6,065	-4,968	-37,481	-5,607	-853	-23,360	-5,474,745	0	0	0	-5,553,078
1987	0	0	-6,524	-3,749	-3,043	-6,896	-2,338	-74,155	-2,352,908	-446,785	0	0	-2,896,397
1988	0	0	-39,350	-7,649	-14,796	0	-332	-223,777	0	0	0	0	-285,904
1989	0	0	0	-2,615	-2,983	-3,636	-84	-334,230	-1,165,724	-671,695	0	0	-2,180,967
1990	0	0	-714	-7,899	-7,600	-7,801	0	0	-341,601	0	0	0	-365,615
1991	0	0	0	0	0	-8,009	-1,531	-40,828	0	0	0	0	-50,367
1992	0	0	0	-2,969	-40,625	-17,025	-183	0	0	0	0	0	-60,802
1993	0	0	0	-18,400	-6,587	-6,747	-577	-96	-994,599	0	0	0	-1,027,007
Total	0	0	-159,633	-83,323	-143,105	-77,559	-48,595	-1,319,370	-13,959,185	-2,439,729	0	0	-18,230,499

Table 31
Change in Striped Bass Salvage (EWA with Pump Reductions and Summer Export Pumping – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-8,826	-4,485	-4,242	-17,619	-22,746	-306,443	303,742	69,339	2,757	11,477
1980	0	0	-13,204	-1,264	-1,435	-201	-4,872	-391	-340,030	-377,333	217,262	40,460	-481,008
1981	0	0	-9,691	0	-2,538	-11,056	-5,455	-573,284	-398,328	-690,377	31,842	1,834	-1,657,052
1982	0	0	-8,090	-15,566	-12,801	-3,561	-8,536	-2,940	-26,663	230,894	139,488	18,278	310,503
1983	0	0	-51,197	-9,417	-7,039	-983	-749	-2,671	-13,244	10,617	15,353	2,781	-56,549
1984	0	0	0	0	-273	-321	-3,775	-9,699	-474,933	974,583	28,344	8,591	522,516
1985	0	0	-24,799	0	-1,420	-1,473	-1,692	-11,193	-2,069,967	72,709	8,370	1,442	-2,028,023
1986	0	0	-6,065	-4,968	-37,481	-5,607	-853	-23,360	-5,474,745	2,979,732	174,696	52,965	-2,345,686
1987	0	0	-6,524	-3,749	-3,043	-6,896	-2,338	-74,155	-2,352,908	-412,880	9,673	8,122	-2,844,697
1988	0	0	-39,350	-7,649	-14,796	0	-332	-223,777	0	588,763	52,364	8,873	364,096
1989	0	0	0	-2,615	-2,983	-3,636	-84	-334,230	-1,165,724	-671,695	12,286	2,032	-2,166,650
1990	0	0	-714	-7,899	-7,600	-7,801	0	0	-341,601	228,030	54,293	14,987	-68,306
1991	0	0	0	0	0	-8,009	-1,531	-40,828	0	948,362	80,261	15,094	993,350
1992	0	0	0	-2,969	-40,625	-17,025	-183	0	0	127,063	11,835	7,915	86,011
1993	0	0	0	-18,400	-6,587	-6,747	-577	-96	-994,599	1,351,688	93,979	6,148	424,808
Total	0	0	-159,633	-83,323	-143,105	-77,559	-48,595	-1,319,370	-13,959,185	5,663,898	999,384	192,277	-8,935,211

Table 32
Splittail Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				34	1,122	4,615	2,157	60,479	70,254	15,807	5,254	1,202	160,925
1980	72	86	1,310	56,194	61,187	1,621	6,020	140,563	187,723	45,984	9,770	1,318	511,847
1981	265	0	598	1,557	8,581	5,781	5,242	64,198	27,671	2,539	1,203	0	117,636
1982	0	290	1,577	32,429	44,207	13,705	5,413	45,730	169,164	193,840	121,238	4,172	631,762
1983	227	0	2,409	1,164	13,451	4,668	2,082	16,054	304,327	112,646	55,782	5,300	518,109
1984	1,477	36	63	96	3,945	7,479	5,640	9,307	56,464	46,887	10,337	1,060	142,790
1985	0	396	1,989	282	8,360	4,514	3,851	3,219	25,057	14,605	4,072	758	67,103
1986	286	1,103	0	246	2,281	7,461	74,203	971,878	1,095,083	29,690	14,404	7,452	2,204,087
1987	1,094	418	976	1,411	4,854	6,291	1,443	1,466	107,463	7,716	939	350	134,422
1988	34	13	3,581	23,499	3,589	638	1,901	2,999	2,434	1,268	20	168	40,145
1989	0	129	77	485	265	10,674	7,193	9,775	7,567	4,449	10,305	1,409	52,328
1990	49	48	7	1,279	1,932	3,197	322	3,224	11,623	1,071	0	0	22,752
1991	0	0	0	491	133	7,132	2,673	2,265	10,196	843	0	0	23,733
1992	78	0	25	485	4,324	3,247	181	244	2,508	0	88	3	11,183
1993	0	0	12	34,322	11,430	3,110	2,718	74,866	112,327	10,923	482	82	250,270
Total	3,581	2,519	12,623	153,974	169,661	84,134	121,038	1,406,268	2,189,862	488,266	233,894	23,273	4,889,093

Table 33
Change in Splittail Salvage (EWA with Pump Reductions – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-1	-38	-398	-1,479	-9,931	-10,819	0	0	0	-22,666
1980	0	0	-91	-1,613	-3,254	-69	-4,310	-23,974	-66,341	-6,029	0	0	-105,683
1981	0	0	-20	0	-299	-1,819	-2,823	-29,018	0	0	0	0	-33,980
1982	0	0	-73	-1,241	-3,442	-1,371	-1,274	-9,822	-23,597	0	0	0	-40,821
1983	0	0	-737	-497	-3,791	-1,437	-515	-8,712	-59,762	0	0	0	-75,452
1984	0	0	0	0	-218	-1,114	-2,807	-2,315	-3,868	0	0	0	-10,323
1985	0	0	-138	0	-371	-677	-1,662	-700	-14,563	0	0	0	-18,112
1986	0	0	0	-10	-356	-2,094	-16,567	-368,329	-339,879	0	0	0	-727,235
1987	0	0	-89	-74	-268	-2,357	-642	-373	-54,289	-666	0	0	-58,758
1988	0	0	-518	-2,602	-1,315	0	-259	-1,378	0	0	0	0	-6,072
1989	0	0	0	-32	-83	-1,351	-104	-2,308	-670	-994	0	0	-5,542
1990	0	0	-6	-132	-757	-1,192	0	0	0	0	0	0	-2,087
1991	0	0	0	0	0	-1,337	-648	-1,329	0	0	0	0	-3,314
1992	0	0	0	-35	-642	-839	-22	0	0	0	0	0	-1,537
1993	0	0	0	-1,439	-457	-448	-1,459	-2,489	-2,114	0	0	0	-8,407
Total	0	0	-1,673	-7,675	-15,292	-16,502	-34,572	-460,681	-575,902	-7,690	0	0	-1,119,988

Table 34
Change in Splittail Salvage (EWA with Pump Reductions and Summer Export Pumping – Maximum Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-1	-38	-398	-1,479	-9,931	-10,819	2,979	778	71	-18,838
1980	0	0	-91	-1,613	-3,254	-69	-4,310	-23,974	-66,341	46	2,198	341	-97,068
1981	0	0	-20	0	-299	-1,819	-2,823	-29,018	0	0	16	0	-33,963
1982	0	0	-73	-1,241	-3,442	-1,371	-1,274	-9,822	-23,597	13,903	20,387	166	-6,365
1983	0	0	-737	-497	-3,791	-1,437	-515	-8,712	-59,762	9,261	4,804	194	-61,192
1984	0	0	0	0	-218	-1,114	-2,807	-2,315	-3,868	8,776	1,941	208	603
1985	0	0	-138	0	-371	-677	-1,662	-700	-14,563	383	78	20	-17,630
1986	0	0	0	-10	-356	-2,094	-16,567	-368,329	-339,879	22,726	3,675	1,748	-699,086
1987	0	0	-89	-74	-268	-2,357	-642	-373	-54,289	-436	96	106	-58,326
1988	0	0	-518	-2,602	-1,315	0	-259	-1,378	0	1,178	24	47	-4,824
1989	0	0	0	-32	-83	-1,351	-104	-2,308	-670	-994	455	79	-5,008
1990	0	0	-6	-132	-757	-1,192	0	0	0	1,459	0	0	-628
1991	0	0	0	0	0	-1,337	-648	-1,329	0	459	0	0	-2,855
1992	0	0	0	-35	-642	-839	-22	0	0	0	55	0	-1,482
1993	0	0	0	-1,439	-457	-448	-1,459	-2,489	-2,114	675	89	16	-7,627
Total	0	0	-1,673	-7,675	-15,292	-16,502	-34,572	-460,681	-575,902	60,415	34,596	2,996	-1,014,290

3.2.6.2 Typical Water Purchase Scenario – EWA Benefits

The calculation of the EWA benefits for the Typical Water Purchase Scenario are shown in Tables 35 through 49 for delta smelt, steelhead, Chinook salmon, Sacramento splittail, and striped bass. Three tables are shown for each species. The first table shows the salvage under the Baseline Condition; the second table shows reduced base salvage after the assumed EWA pump reductions are implemented, and the third table shows the overall net affect on base salvage with the assumed EWA pump reduction and the increase in summer export pumping of the EWA assets. As indicated by these results for the analysis period, 1979 to 1993, the Typical Water Purchase Scenario would result in a net beneficial impact as measured by estimated annual net salvage data. These results indicate that the EWA provides net benefits to all fish species studied. Changes in salvage estimates are indicated for each year for each

species. Additional species-specific discussions of these results are provided in Chapter 9 of the EWA EIS/EIR.

Table 35
Delta Smelt Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				4,263	5,501	3,901	1,966	9,079	15,466	12,250	3,413	83	55,923
1980	25,751	1,300	0	6,540	5,479	10,622	2,307	989	19,170	15,604	11,530	2,251	101,543
1981	16,254	3,914	11,500	29,526	25,537	14,389	3,750	80,903	66,163	114,229	55,870	4,268	426,301
1982	2,757	9,008	1,356	12,822	12,371	5,945	297	529	2,946	868	2,380	1,907	53,188
1983	1,469	1,505	922	2,130	798	323	40	12	7,775	6,241	0	1,195	22,412
1984	0	0	426	0	74	1,005	125	15,533	9,276	2,762	875	48	30,125
1985	210	135	3,161	316	675	417	697	2,664	10,745	3,942	2,228	1,264	26,454
1986	77	0	569	1,688	3,276	928	720	137	198	265	1,366	0	9,225
1987	194	35	232	120	1,137	760	8,384	7,787	11,721	2,590	3,339	342	36,641
1988	54	31	8,533	7,077	335	15	0	7,901	7,452	658	0	0	32,056
1989	141	0	272	797	24	307	2,494	2,076	5,986	9,065	1,304	412	22,878
1990	109	138	0	256	204	173	952	2,706	23,168	3,393	28	0	31,126
1991	0	0	47	388	209	1,372	450	1,450	2,708	2,463	980	1,264	11,332
1992	101	0	0	99	871	636	101	494	637	17	0	0	2,954
1993	0	0	0	3,118	1,822	444	0	37,725	24,146	647	25	0	67,925
Total	47,119	16,065	27,018	69,141	58,312	41,236	22,283	169,983	207,557	174,996	83,339	13,034	930,082

Table 36
Change in Delta Smelt Salvage (EWA with Pump Reductions – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-42	-125	-225	-442	-1,874	-2,440	0	0	0	-5,148
1980	0	0	0	-188	-348	-408	-498	-127	-6,754	-8,217	0	0	-16,540
1981	0	0	-416	0	-1,128	-1,966	-1,036	-13,130	-3,836	-5,102	0	0	-26,614
1982	0	0	-63	-781	-1,257	-634	-73	-218	-36	0	0	0	-3,062
1983	0	0	-161	-862	-254	-61	-10	-8	-2,199	0	0	0	-3,555
1984	0	0	0	0	-2	-186	-21	-2,895	-1,165	0	0	0	-4,269
1985	0	0	-170	0	-30	-29	-255	-906	-6,524	0	0	0	-7,912
1986	0	0	-20	-71	-356	-145	-128	-18	-19	0	0	0	-756
1987	0	0	-15	0	-35	-208	-1,301	-3,886	-5,925	0	0	0	-11,371
1988	0	0	-668	-287	-35	0	0	-4,816	-487	0	0	0	-6,293
1989	0	0	-21	-44	-6	-32	-40	-366	-581	0	0	0	-1,090
1990	0	0	0	-9	-27	-28	0	-28	-7,656	0	0	0	-7,748
1991	0	0	0	0	0	-106	-121	-531	-2,708	0	0	0	-3,467
1992	0	0	0	-10	-102	-164	-20	0	0	0	0	0	-295
1993	0	0	0	-60	-59	-33	0	-7,318	-1,022	0	0	0	-8,491
Total	0	0	-1,533	-2,352	-3,765	-4,223	-3,945	-36,121	-41,354	-13,319	0	0	-106,611

Table 37
Change in Delta Smelt Salvage (EWA with Pump Reductions and Increased Summer Export Pumping – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-42	-125	-225	-442	-1,874	-2,440	2,463	181	15	-2,489
1980	0	0	0	-188	-348	-408	-498	-127	-6,754	-8,217	3,314	105	-13,121
1981	0	0	-416	0	-1,128	-1,966	-1,036	-13,130	-3,836	-5,102	235	24	-26,355
1982	0	0	-63	-781	-1,257	-634	-73	-218	-36	712	414	39	-1,897
1983	0	0	-161	-862	-254	-61	-10	-8	-2,199	852	0	245	-2,458
1984	0	0	0	0	-2	-186	-21	-2,895	-1,165	761	3	9	-3,496
1985	0	0	-170	0	-30	-29	-255	-906	-6,524	63	34	50	-7,765
1986	0	0	-20	-71	-356	-145	-128	-18	-19	91	104	0	-561
1987	0	0	-15	0	-35	-208	-1,301	-3,886	-5,925	-19	-21	132	-11,279
1988	0	0	-668	-287	-35	0	0	-4,816	-487	290	0	0	-6,004
1989	0	0	-21	-44	-6	-32	-40	-366	-581	441	74	31	-543
1990	0	0	0	-9	-27	-28	0	-28	-7,656	136	0	0	-7,612
1991	0	0	0	0	0	-106	-121	-531	-2,708	1,240	368	277	-1,582
1992	0	0	0	-10	-102	-164	-20	0	0	3	0	0	-293
1993	0	0	0	-60	-59	-33	0	-7,318	-1,022	250	5	0	-8,237
Total	0	0	-1,533	-2,352	-3,765	-4,223	-3,945	-36,121	-41,354	-6,036	4,711	928	-93,690

Table 38
Steelhead Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				649	1,181	1,979	2,392	1,041	0	0	0	0	7,242
1980	0	16	33	519	911	173	966	897	108	0	0	0	3,623
1981	74	0	320	495	3,299	7,139	3,155	205	0	0	0	0	14,687
1982	0	0	686	1,691	2,040	1,027	10,063	7,644	1,647	0	0	0	24,799
1983	24	0	1,985	108	40	0	0	466	0	0	0	0	2,624
1984	0	36	0	0	0	184	400	66	0	0	0	0	685
1985	0	0	31	0	395	1,069	793	471	0	0	0	0	2,759
1986	0	0	0	21	932	257	2,095	711	34	32	0	0	4,082
1987	0	0	1,450	150	215	8,628	1,229	243	0	0	0	0	11,915
1988	0	0	589	363	485	179	1,097	686	2	0	0	0	3,401
1989	0	0	110	32	145	10,533	3,465	493	0	0	0	0	14,777
1990	0	0	0	0	1,472	2,228	196	82	0	0	0	0	3,979
1991	0	0	18	74	79	11,261	905	105	0	0	0	0	12,441
1992	25	292	0	4,550	7,920	4,869	342	14	0	0	0	0	18,011
1993	0	0	14	1,356	14,819	7,001	1,268	738	40	0	0	0	25,236
Total	123	344	5,235	10,008	33,933	56,527	28,364	13,861	1,832	32	0	0	150,260

Table 39
Change in Steelhead Salvage (EWA with Pump Reductions – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-11	-62	-173	-707	-473	0	0	0	0	-1,428
1980	0	0	-2	-15	-48	-7	-507	-458	-41	0	0	0	-1,078
1981	0	0	-12	0	-132	-719	-1,016	-24	0	0	0	0	-1,903
1982	0	0	-32	-65	-130	-90	-1,790	-1,526	-373	0	0	0	-4,005
1983	0	0	-755	-40	-16	0	0	-75	0	0	0	0	-887
1984	0	0	0	0	0	-24	-151	-5	0	0	0	0	-180
1985	0	0	-1	0	-18	-73	-220	-221	0	0	0	0	-532
1986	0	0	0	-2	-144	-43	-423	-121	0	0	0	0	-732
1987	0	0	-92	0	-8	-1,213	-302	-81	0	0	0	0	-1,695
1988	0	0	-42	-18	-103	0	-78	-170	0	0	0	0	-411
1989	0	0	-5	-2	-42	-1,464	-34	-26	0	0	0	0	-1,573
1990	0	0	0	0	-128	-423	0	-3	0	0	0	0	-554
1991	0	0	0	0	0	-994	-206	-24	0	0	0	0	-1,224
1992	0	0	0	-289	-1,016	-1,247	-39	0	0	0	0	0	-2,590
1993	0	0	0	-26	-588	-618	-165	-200	0	0	0	0	-1,597
Total	0	0	-941	-468	-2,434	-7,088	-5,636	-3,407	-414	0	0	0	-20,389

Table 40
Change in Steelhead Salvage (EWA with Pump Reductions and Increased Summer Export Pumping – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-11	-62	-173	-707	-473	0	0	0	0	-1,428
1980	0	0	-2	-15	-48	-7	-507	-458	-41	0	0	0	-1,078
1981	0	0	-12	0	-132	-719	-1,016	-24	0	0	0	0	-1,903
1982	0	0	-32	-65	-130	-90	-1,790	-1,526	-373	0	0	0	-4,005
1983	0	0	-755	-40	-16	0	0	-75	0	0	0	0	-887
1984	0	0	0	0	0	-24	-151	-5	0	0	0	0	-180
1985	0	0	-1	0	-18	-73	-220	-221	0	0	0	0	-532
1986	0	0	0	-2	-144	-43	-423	-121	0	3	0	0	-728
1987	0	0	-92	0	-8	-1,213	-302	-81	0	0	0	0	-1,695
1988	0	0	-42	-18	-103	0	-78	-170	0	0	0	0	-411
1989	0	0	-5	-2	-42	-1,464	-34	-26	0	0	0	0	-1,573
1990	0	0	0	0	-128	-423	0	-3	0	0	0	0	-554
1991	0	0	0	0	0	-994	-206	-24	0	0	0	0	-1,224
1992	0	0	0	-289	-1,016	-1,247	-39	0	0	0	0	0	-2,590
1993	0	0	0	-26	-588	-618	-165	-200	0	0	0	0	-1,597
Total	0	0	-941	-468	-2,434	-7,088	-5,636	-3,407	-414	3	0	0	-20,386

Table 41
Chinook Salmon Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				15,754	5,111	6,669	78,404	100,415	10,579	5,236	439	338	222,946
1980	2,244	6,431	6,700	8,308	470	498	119,475	93,503	40,724	1,976	32	1,690	282,050
1981	3,124	2,563	3,148	3,137	5,138	15,279	44,955	28,292	4,639	0	83	0	110,360
1982	6,466	5,712	33,275	25,872	42,724	34,027	31,819	290,241	137,177	1,643	224	0	609,180
1983	0	32,194	75,216	8,684	9,719	6,530	27,102	30,693	108,466	2,819	0	0	301,422
1984	3,695	1,095	51	219	175	8,615	82,697	95,424	75,191	1,019	536	0	268,716
1985	28,854	23,118	19,885	350	8,481	5,379	40,758	97,778	13,600	661	0	30	238,892
1986	8,953	4,225	6,249	3,707	541,376	92,284	286,376	260,372	196,795	7,221	0	0	1,407,557
1987	707	187	1,388	516	1,490	12,384	41,486	40,467	8,798	580	84	89	108,176
1988	3	17	32,416	7,207	3,037	633	15,334	36,453	2,425	363	18	9	97,915
1989	41	466	709	2,139	35	15,568	17,357	32,969	2,361	0	125	0	71,771
1990	24	254	63	2,817	464	2,282	1,796	18,052	4,116	6	0	0	29,873
1991	7	0	23	31	115	8,028	13,816	19,395	863	0	0	0	42,278
1992	18	4,990	138	1,315	13,624	21,902	17,320	2,621	0	0	0	6	61,934
1993	0	0	199	1,743	1,726	946	8,935	18,233	3,823	3	96	0	35,705
Total	54,135	81,253	179,459	81,799	633,686	231,025	827,631	1,164,908	609,555	21,526	1,637	2,161	3,888,774

Table 42
Change in Chinook Salmon Salvage (EWA with Pump Reductions – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-195	-131	-467	-31,668	-32,892	-1,570	0	0	0	-66,923
1980	0	0	-466	-238	-27	-20	-60,802	-35,637	-12,304	-567	0	0	-110,061
1981	0	0	-102	0	-156	-1,689	-21,608	-12,312	-64	0	0	0	-35,930
1982	0	0	-2,161	-1,300	-3,084	-3,354	-6,557	-71,783	-15,742	0	0	0	-103,981
1983	0	0	-15,916	-3,451	-3,350	-1,593	-6,707	-19,821	-28,226	0	0	0	-79,064
1984	0	0	0	0	-6	-1,290	-24,188	-29,496	-25,410	0	0	0	-80,389
1985	0	0	-812	0	-362	-415	-13,751	-56,365	-9,911	0	0	0	-81,615
1986	0	0	-399	-190	-93,319	-15,144	-57,136	-57,399	-29,693	0	0	0	-253,281
1987	0	0	-63	0	-52	-2,167	-13,631	-11,139	-4,062	0	0	0	-31,114
1988	0	0	-2,402	-338	-320	0	-1,348	-14,700	-53	0	0	0	-19,162
1989	0	0	-52	-118	-9	-2,071	-770	-6,591	-148	0	0	0	-9,759
1990	0	0	-51	-99	-55	-372	0	-266	-1,273	0	0	0	-2,117
1991	0	0	0	0	0	-678	-3,919	-5,484	-500	0	0	0	-10,581
1992	0	0	0	-108	-1,814	-5,750	-2,877	0	0	0	0	0	-10,548
1993	0	0	0	-34	-67	-81	-1,957	-2,136	-205	0	0	0	-4,481
Total	0	0	-22,424	-6,073	-102,751	-35,090	-246,917	-356,022	-129,162	-567	0	0	-899,006

Table 43
Change in Chinook Salmon Salvage (EWA with Pump Reductions and Increased Summer Export Pumping – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-195	-131	-467	-31,668	-32,892	-1,570	1,450	75	28	-65,370
1980	0	0	-466	-238	-27	-20	-60,802	-35,637	-12,304	-567	10	519	-109,532
1981	0	0	-102	0	-156	-1,689	-21,608	-12,312	-64	0	14	0	-35,916
1982	0	0	-2,161	-1,300	-3,084	-3,354	-6,557	-71,783	-15,742	32	4	0	-103,945
1983	0	0	-15,916	-3,451	-3,350	-1,593	-6,707	-19,821	-28,226	284	0	0	-78,780
1984	0	0	0	0	-6	-1,290	-24,188	-29,496	-25,410	4	133	0	-80,252
1985	0	0	-812	0	-362	-415	-13,751	-56,365	-9,911	29	0	2	-81,584
1986	0	0	-399	-190	-93,319	-15,144	-57,136	-57,399	-29,693	784	0	0	-252,497
1987	0	0	-63	0	-52	-2,167	-13,631	-11,139	-4,062	-4	-1	-1	-31,120
1988	0	0	-2,402	-338	-320	0	-1,348	-14,700	-53	168	15	2	-18,978
1989	0	0	-52	-118	-9	-2,071	-770	-6,591	-148	0	6	0	-9,753
1990	0	0	-51	-99	-55	-372	0	-266	-1,273	0	0	0	-2,117
1991	0	0	0	0	0	-678	-3,919	-5,484	-500	0	0	0	-10,581
1992	0	0	0	-108	-1,814	-5,750	-2,877	0	0	0	0	0	-10,547
1993	0	0	0	-34	-67	-81	-1,957	-2,136	-205	2	18	0	-4,461
Total	0	0	-22,424	-6,073	-102,751	-35,090	-246,917	-356,022	-129,162	2,181	274	551	-895,433

Table 44
Striped Bass Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				242,154	82,046	23,569	26,235	58,215	1,959,554	2,026,399	526,751	71,859	5,016,782
1980	166,067	135,976	189,930	44,035	23,881	5,099	7,356	1,199	846,701	1,881,379	850,992	207,609	4,360,223
1981	107,324	238,780	290,128	137,698	56,062	22,057	14,773	1,267,489	7,213,100	3,361,943	290,194	78,327	13,077,876
1982	98,313	197,976	135,124	244,967	125,066	34,038	27,792	7,805	341,687	1,246,809	984,812	151,485	3,595,874
1983	92,043	203,851	254,721	22,453	24,653	3,052	3,027	14,357	43,930	85,697	166,869	30,734	945,388
1984	3,185	19,626	62,141	6,429	6,172	2,548	5,743	148,920	5,506,259	5,361,680	257,651	84,829	11,465,183
1985	421,024	348,165	296,582	76,178	32,832	9,201	6,277	275,666	3,433,935	1,841,540	238,752	43,827	7,023,979
1986	20,444	143,535	137,643	92,648	213,945	19,776	3,407	98,019	17,050,963	3,327,582	756,465	235,006	22,099,434
1987	136,948	145,481	81,285	72,932	56,532	13,515	5,754	1,018,431	5,513,292	1,829,075	42,238	31,361	8,946,842
1988	3,396	27,207	264,606	54,766	51,001	4,129	2,627	365,877	1,174,215	837,050	47,820	18,555	2,851,250
1989	7,199	66,151	132,283	37,705	8,681	24,407	5,959	1,274,764	12,192,492	3,205,444	251,708	28,037	17,234,830
1990	15,175	12,842	1,041	70,529	26,228	19,926	748	488,730	1,256,612	245,127	133,529	26,400	2,296,886
1991	6,325	28,712	13,931	15,171	14,486	37,059	7,587	65,804	1,789,117	673,308	187,012	49,739	2,888,251
1992	9,729	10,325	65,456	36,476	242,022	65,083	1,411	865,156	712,115	191,539	24,358	15,580	2,239,251
1993	32,100	32,968	62,084	419,563	157,521	41,890	3,783	1,204,700	17,005,251	3,217,700	479,204	73,617	22,730,381
Total	1,119,273	1,611,596	1,986,955	1,573,702	1,121,129	325,350	122,479	7,155,130	76,039,222	29,332,272	5,238,357	1,146,965	126,772,430

Table 45
Change in Striped Bass Salvage (EWA with Pump Reductions – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-2,942	-2,990	-2,828	-11,156	-13,337	-306,443	0	0	0	-339,696
1980	0	0	-13,204	-1,264	-1,435	-201	-3,373	-152	-255,023	-798,525	0	0	-1,073,176
1981	0	0	-9,691	0	-2,538	-3,317	-4,312	-160,382	-398,328	-230,126	0	0	-808,693
1982	0	0	-8,090	-15,566	-12,801	-3,561	-8,536	-2,940	-26,663	0	0	0	-78,157
1983	0	0	-51,197	-9,417	-7,039	-983	-749	-2,671	-9,933	0	0	0	-81,989
1984	0	0	0	0	-273	-321	-2,066	-7,543	-1,316,151	0	0	0	-1,326,354
1985	0	0	-12,399	0	-1,420	-737	-1,587	-93,218	-1,626,016	0	0	0	-1,735,378
1986	0	0	-6,065	-4,968	-37,481	-3,364	-853	-15,573	-2,737,372	0	0	0	-2,805,676
1987	0	0	-4,349	0	-2,029	-4,167	-1,004	-74,155	-2,352,908	0	0	0	-2,438,611
1988	0	0	-19,675	-2,550	-4,727	0	-132	-223,777	-59,966	0	0	0	-310,827
1989	0	0	-10,633	-2,615	-2,983	-3,636	-84	-334,230	-1,165,724	0	0	0	-1,519,906
1990	0	0	-714	-2,633	-2,533	-3,900	0	-16,422	-341,601	-13,978	0	0	-381,782
1991	0	0	0	0	0	-4,004	-1,531	-24,981	-946,451	0	0	0	-976,967
1992	0	0	0	-2,969	-40,625	-17,025	-183	0	0	0	0	0	-60,802
1993	0	0	0	-12,267	-6,587	-4,498	-254	-159,908	-746,963	0	0	0	-930,477
Total	0	0	-136,017	-57,191	-125,460	-52,543	-35,821	-1,129,290	-12,289,541	-1,042,628	0	0	-14,868,492

Table 46
Change in Striped Bass Salvage (EWA with Pump Reductions and Increased Summer Export Pumping – Typical Water Purchase Scenario)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				-2,942	-2,990	-2,828	-11,156	-13,337	-306,443	303,742	69,339	2,757	36,142
1980	0	0	-13,204	-1,264	-1,435	-201	-3,373	-152	-255,023	-798,525	217,262	40,460	-815,454
1981	0	0	-9,691	0	-2,538	-3,317	-4,312	-160,382	-398,328	-230,126	31,842	1,834	-775,017
1982	0	0	-8,090	-15,566	-12,801	-3,561	-8,536	-2,940	-26,663	230,894	139,488	18,278	310,503
1983	0	0	-51,197	-9,417	-7,039	-983	-749	-2,671	-9,933	10,617	15,353	2,781	-53,238
1984	0	0	0	0	-273	-321	-2,066	-7,543	-1,316,151	974,583	28,344	8,591	-314,837
1985	0	0	-12,399	0	-1,420	-737	-1,587	-93,218	-1,626,016	72,709	8,370	1,442	-1,652,857
1986	0	0	-6,065	-4,968	-37,481	-3,364	-853	-15,573	-2,737,372	2,620,207	148,024	44,061	6,616
1987	0	0	-4,349	0	-2,029	-4,167	-1,004	-74,155	-2,352,908	14,787	7,776	6,673	-2,409,375
1988	0	0	-19,675	-2,550	-4,727	0	-132	-223,777	-59,966	393,993	32,509	4,691	120,366
1989	0	0	-10,633	-2,615	-2,983	-3,636	-84	-334,230	-1,165,724	155,133	12,286	2,032	-1,350,455
1990	0	0	-714	-2,633	-2,533	-3,900	0	-16,422	-341,601	31,373	29,352	8,519	-298,560
1991	0	0	0	0	0	-4,004	-1,531	-24,981	-946,451	630,339	60,011	10,185	-276,432
1992	0	0	0	-2,969	-40,625	-17,025	-183	0	0	117,752	11,032	7,213	75,195
1993	0	0	0	-12,267	-6,587	-4,498	-254	-159,908	-746,963	1,155,044	80,270	5,294	310,131
Total	0	0	-136,017	-57,191	-125,460	-52,543	-35,821	-1,129,290	-12,289,541	5,682,524	891,257	164,809	-7,087,274

Table 47
Splittail Salvage (Baseline Condition)

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				34	1,122	4,615	2,157	60,479	70,254	15,807	5,254	1,202	160,925
1980	72	86	1,310	56,194	61,187	1,621	6,020	140,563	187,723	45,984	9,770	1,318	511,847
1981	265	0	598	1,557	8,581	5,781	5,242	64,198	27,671	2,539	1,203	0	117,636
1982	0	290	1,577	32,429	44,207	13,705	5,413	45,730	169,164	193,840	121,238	4,172	631,762
1983	227	0	2,409	1,164	13,451	4,668	2,082	16,054	304,327	112,646	55,782	5,300	518,109
1984	1,477	36	63	96	3,945	7,479	5,640	9,307	56,464	46,887	10,337	1,060	142,790
1985	0	396	1,989	282	8,360	4,514	3,851	3,219	25,057	14,605	4,072	758	67,103
1986	286	1,103	0	246	2,281	7,461	74,203	971,878	1,095,083	29,690	14,404	7,452	2,204,087
1987	1,094	418	976	1,411	4,854	6,291	1,443	1,466	107,463	7,716	939	350	134,422
1988	34	13	3,581	23,499	3,589	638	1,901	2,999	2,434	1,268	20	168	40,145
1989	0	129	77	485	265	10,674	7,193	9,775	7,567	4,449	10,305	1,409	52,328
1990	49	48	7	1,279	1,932	3,197	322	3,224	11,623	1,071	0	0	22,752
1991	0	0	0	491	133	7,132	2,673	2,265	10,196	843	0	0	23,733
1992	78	0	25	485	4,324	3,247	181	244	2,508	0	88	3	11,183
1993	0	0	12	34,322	11,430	3,110	2,718	74,866	112,327	10,923	482	82	250,270
Total	3,581	2,519	12,623	153,974	169,661	84,134	121,038	1,406,268	2,189,862	488,266	233,894	23,273	4,889,093

Table 48 Change in Splittail Salvage (EWA with Pump Reductions – Typical Water Purchase Scenario)													
Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				0	-26	-266	-474	-4,595	-10,819	0	0	0	-16,179
1980	0	0	-91	-1,613	-3,254	-69	-2,861	-12,446	-49,756	-10,584	0	0	-80,674
1981	0	0	-20	0	-299	-546	-2,541	-8,210	0	0	0	0	-11,616
1982	0	0	-73	-1,241	-3,442	-1,371	-1,274	-9,822	-23,597	0	0	0	-40,821
1983	0	0	-737	-497	-3,791	-1,437	-515	-8,712	-44,822	0	0	0	-60,511
1984	0	0	0	0	-218	-1,114	-1,615	-1,609	-6,445	0	0	0	-11,001
1985	0	0	-69	0	-371	-339	-963	-1,602	-7,063	0	0	0	-10,407
1986	0	0	0	-10	-356	-1,256	-16,567	-245,553	-169,939	0	0	0	-433,682
1987	0	0	-60	0	-178	-1,208	-389	-373	-54,289	0	0	0	-56,497
1988	0	0	-259	-867	-666	0	-136	-1,378	-614	0	0	0	-3,920
1989	0	0	-7	-32	-83	-1,351	-104	-2,308	-670	0	0	0	-4,555
1990	0	0	-6	-44	-252	-596	0	-111	0	-58	0	0	-1,068
1991	0	0	0	0	0	-668	-648	-825	-5,886	0	0	0	-8,028
1992	0	0	0	-35	-642	-839	-22	0	0	0	0	0	-1,537
1993	0	0	0	-959	-457	-298	-648	-6,489	-1,910	0	0	0	-10,763
Total	0	0	-1,322	-5,298	-14,036	-11,357	-28,759	-304,034	-375,810	-10,642	0	0	-751,259

Table 49 Change in Splittail Salvage (EWA with Pump Reductions and Increased Summer Export Pumping – Typical Water Purchase Scenario)													
Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1979				0	-26	-266	-474	-4,595	-10,819	2,979	778	71	-12,351
1980	0	0	-91	-1,613	-3,254	-69	-2,861	-12,446	-49,756	-10,584	2,198	341	-78,134
1981	0	0	-20	0	-299	-546	-2,541	-8,210	0	0	16	0	-11,600
1982	0	0	-73	-1,241	-3,442	-1,371	-1,274	-9,822	-23,597	13,903	20,387	166	-6,365
1983	0	0	-737	-497	-3,791	-1,437	-515	-8,712	-44,822	9,261	4,804	194	-46,251
1984	0	0	0	0	-218	-1,114	-1,615	-1,609	-6,445	8,776	1,941	208	-75
1985	0	0	-69	0	-371	-339	-963	-1,602	-7,063	383	78	20	-9,925
1986	0	0	0	-10	-356	-1,256	-16,567	-245,553	-169,939	19,755	3,198	1,472	-409,257
1987	0	0	-60	0	-178	-1,208	-389	-373	-54,289	13	63	89	-56,332
1988	0	0	-259	-867	-666	0	-136	-1,378	-614	724	16	32	-3,147
1989	0	0	-7	-32	-83	-1,351	-104	-2,308	-670	205	455	79	-3,815
1990	0	0	-6	-44	-252	-596	0	-111	0	780	0	0	-230
1991	0	0	0	0	0	-668	-648	-825	-5,886	490	0	0	-7,539
1992	0	0	0	-35	-642	-839	-22	0	0	0	50	0	-1,487
1993	0	0	0	-959	-457	-298	-648	-6,489	-1,910	585	76	14	-10,088
Total	0	0	-1,322	-5,298	-14,036	-11,357	-28,759	-304,034	-375,810	47,272	34,061	2,687	-656,597

4.0 Impact Assessment Approach for Non-Project Reservoirs

There are several non-Project reservoirs that could serve as potential water sources for the EWA. Because these non-Project reservoirs are not managed under the operations of either the CVP or SWP, they are not included in the modeling simulations described above. As such, another method of evaluating the potential effects from EWA actions was developed to analyze possible EWA-related effects on these non-Project reservoirs.

4.1 Assumptions for Non-Project Reservoirs

The following assumptions have been established with regard to the status and operation of the non-Project reservoirs. These assumptions were applied to the analysis for each of the non-Project reservoirs where the EWA could purchase water (see Chapter 2 of the EWA EIS/EIR).

- Non-project reservoir operations will continue to function under the same set of demands and assumptions that have previously been employed by each system in earlier years, including reservoir drawdown to targeted storage levels.

- Analysis relating to the timing, magnitude, and duration of water transport activities and their potential impacts on riverine flow processes will be developed using a monthly time-step, culminating at the end of the water year in late-September. Where applicable, the period of time that will be used to evaluate resource-specific impacts (e.g., fisheries, vegetation and wildlife) will concur with the timeframe associated with potential asset transfers, as identified in the modeling output.

- EWA asset availability from non-Project reservoirs and any associated potential impacts will be evaluated by reviewing hydrologic data and reservoir specific area-capacity curves to predict changes in surface water elevation and reservoir refill frequencies. This information will provide an indication of the target storage capacities, minimum pool volume, and range of surface water elevations under normal operating conditions, and the probability of annual refill for each reservoir. Estimations for flow changes will be translated into relative changes in surface water elevations and will be used to evaluate resource specific impacts.

Limitations have been placed on the maximum volume of water potentially available to EWA from each non-project reservoir, based upon reservoir size, operational constraints and the existing refill patterns within each basin. Additionally, EWA asset acquisitions must not result in a reduction of reservoir surface water elevation beyond the minimum reservoir drawdown levels as stated in the corresponding FERC license, where applicable. This documentation and any related materials would also be reviewed to ensure compliance with all appropriate regulatory requirements.

The following discussion describes how EWA actions are expected to utilize and influence storage capacities of the non-Project reservoirs. This discussion serves as a description of the most utilitarian implementation of non-project reservoir water supplies that could be used as potential EWA assets. It is intended to provide the set of conditions describing the relationships between each non-project reservoir and the Flexible Purchase Alternative, as applied in all resource-specific impact analyses.

4.1.1 Placer County Water Agency (PCWA) Non-Project Reservoirs

EWA assets may be acquired from two reservoirs under PCWA's management, French Meadows and Hell Hole Reservoirs. PCWA's ability to sell water to EWA is also dependent upon PG&E objectives and operations. The decision to sell water to the EWA is dependent upon two factors: 1) the normal combined operational drawdown level (typically 150 TAF) that is maintained for both reservoirs; and 2) FERC minimum requirements for combined carryover storage, which are stated as 50 TAF.

When available, EWA would only purchase 20 TAF annually from PCWA, with the assumption that reservoirs would be refilled on an annual basis. Under the most severe conditions, refill may not occur. In that event, 20 TAF may be purchased within two sequential years for a total asset acquisition of 40 TAF. With regard to French Meadows and Hell Hole Reservoirs, if both reservoirs had a combined water debt of 40 TAF, EWA would not purchase additional water

from PCWA until all or part of the 40 TAF was replenished. If only a portion of the 40 TAF were refilled, any new EWA acquisition that could be purchased would only be up to the volume of water refilled, not to exceed the original total of 40 TAF. Imposing a limit of a 40 TAF total reduction on EWA asset availability also serves as a conservation measure to ensure that reservoir storage is not depleted below historic levels.

4.1.2 Oroville-Wyandotte Irrigation District (OWID) Non-Project Reservoirs

Under normal operating conditions, combined winter baseline storage during November and December is around 60 TAF in Little Grass Valley and Sly Creek Reservoirs, with approximately 80 percent of storage (48 TAF) in Little Grass Valley Reservoir and 20 percent of storage (12 TAF) in Sly Creek Reservoir. Minimum reservoir storage for each water body is set at 500 AF, according to FERC requirements. There are refill criteria for this system. Although the reservoirs refill annually, a debt to the SWP could occur if the stored water could have been utilized by the SWP absent the EWA acquisition. OWID may have up to 15 TAF of water assets available to EWA from Little Grass Valley and Sly Creek Reservoirs.

4.1.3 Yuba County Water Agency (YCWA) Non-Project Reservoirs

YCWA may be able to provide EWA with up to 100 TAF of stored water from New Bullards Bar Reservoir. YCWA could sell stored reservoir water to the EWA as long as local needs, instream flows, and system demand requirements were met. This action would result in a reduction in the volume of stored water in New Bullards Bar Reservoir and would cause a decrease in surface water elevation of approximately 29 feet. Under the minimum surface water utilization scenario, New Bullards Bar Reservoir storage would be decreased by 30 TAF, thereby providing EWA with up to 30 TAF in asset acquisitions by the end of September.

Unlike the other non-Project reservoirs operated by PCWA and OWID, there is a possibility that YCWA transfers could result in an impact caused by changes in downstream operations. Depending upon Delta conditions and the effect of the transfer on Lake Oroville, there may be a need to increase releases from Lake Oroville in order to compensate for the reduced flows into the Delta during periods of time when New Bullards Bar Reservoir is being refilled upstream. Under these conditions, Oroville Reservoir operations may need to be altered to accommodate downstream demands in the Delta. While Lake Oroville surface water elevations would remain within the range of targeted storage levels, the operational response associated with releasing additional water might be regarded as a change in project operations. This response might be considered a result indirectly arising from EWA actions.

5.0 Project Hydropower Production and Pumping Loads

Chapter 16 of the EWA EIS/EIR presents an evaluation of power impacts that may result from implementation of the EWA Program. Power impacts were assessed using the LongTermGen Model, which is a CVP power model developed to estimate the CVP power generation, capacity, and project use based on the operations defined by a CALSIM II simulation. The model is a Microsoft Excel 2000 spreadsheet with extensive Visual Basic programming.

The LongTermGen Model computes monthly generation, capacity, and project use for each month of the CALSIM II simulation. Generation and capacity are not diminished by the EWA, only altered by the timing of production. Thus quantitative comparisons of generation were not performed.

Pumping of EWA water is a cost that will be assumed by the program. This cost is manifest both in the additional energy to pump the water and in the temporal value of energy moved between months. Information on the effects of EWA actions on pumping at Banks, Tracy and O'Neill pumping plants were calculated using a plant efficiency of 298 KWh/AF times the volume of water pumped at each facility. A discussion of the economic affects of temporal changes to pumping is included in Chapter 16.

6.0 Impact Analysis for Planning (IMPLAN) Economic Model

The EWA EIS/EIR provides a regional economic impact analysis developed through use of a regional input-output (I-O) model. I-O models analyze the relationships between various sectors of the economy through simulating how a change in one sector impacts the remainder of the system. In agricultural economics, I-O models often are used to examine the economic relationship between agricultural sectors, such as crops and livestock, and other sectors of the economy, such as manufacturing, services and retail trade. The specific I-O model used for the economic analysis was "Impact Analysis for Planning" (IMPLAN), developed by the University of Minnesota and owned by the Minnesota IMPLAN Group. The IMPLAN database includes 21 economic and demographic variables for 528 sectors covering every county in the United States. The data are taken from numerous State and Federal published sources. At least three limitations exist in I-O models:

- A simple application of I-O presumes that all inputs change with output according to their pre-existing average expenditure shares. The pattern of expenditure changes caused by land idling is the same as the pre-existing average. Economic theory suggests that farm expenditure does not decrease by an amount equal to the loss of crop sales, because the water transfer is temporary.

- I-O analysis includes only backward linkages. Forward linkages, economic effects from transportation, marketing, and processing of farm products, are not counted when the I-O model input is value of farm output.

- The readily available I-O models, including IMPLAN, use county level final demand and employment data with a national average technology matrix. This technology matrix may therefore not be representative of California conditions.

Modifications were made to the economic model to correct for these limitations. Expenditure data from the University of California Cooperative Extension (UCCE) were used to correct for two of the aforementioned limitations. These expenditure data, not the value of crop production, were input to the I-O model. Second, the UCCE data were incorporated into the model to more accurately represent the expenditure patterns for idled crops in the EWA Program area than the national average technical coefficients in IMPLAN. The use of UCCE crop budgets means the "first round" expenditure effects should be more accurate. The inaccuracy created by national average coefficients in second and subsequent rounds of regional expenditure still remain. Lastly, forward linkages were added to the I-O model. These linkages are included through considering the expenditure patterns of forward linked industries for transportation, storage, and rice milling.

Several economic assumptions are implicit in I-O analysis and were not considered by the analysis. These include no substitution of inputs (ratio of input used in production are fixed), constant returns to scale (the amount of production increases by about the same per unit of input regardless of initial amount of input), and fixed prices (prices do not change as quantity of demand changes).

Output reported by IMPLAN includes changes in total value of output, wages and salaries, value added, and number of jobs in each economic sector analyzed from land idling.

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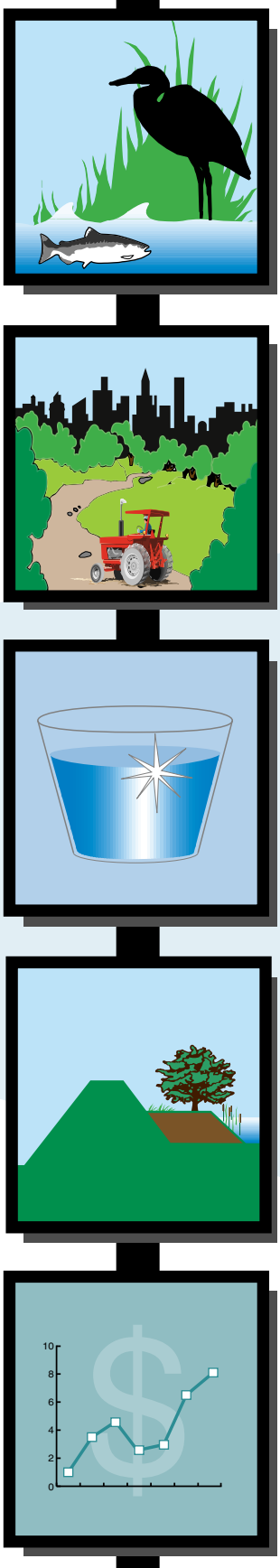
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ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX A

CALFED Bay-Delta Program Programmatic Record of Decision



CALFED
BAY-DELTA
PROGRAM

Programmatic Record of Decision

August 28, 2000

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1. INTRODUCTION

The CALFED Bay-Delta Program is an unprecedented effort to build a framework for managing California's most precious natural resource: water. California and the Federal government in partnership, are launching the largest, most comprehensive water management program in the world. This is the most complex and extensive ecosystem restoration project ever proposed. It is also one of the most intensive water conservation efforts ever attempted. It is the most far-reaching effort to improve the drinking water quality of millions of Californians as well as an unprecedented commitment to watershed restoration. And it is the most significant investment in storage and conveyance in decades. This document is the Record of Decision (ROD) for addressing these efforts through a sustained, long-term effort by the CALFED Agencies and stakeholder groups.

The CALFED Bay-Delta Program began in May 1995 to address the complex issues that surround the Bay-Delta. The CALFED Bay-Delta Program is a cooperative, interagency effort of 18 State and Federal agencies with management or regulatory responsibilities for the Bay-Delta. The CALFED Program is a collaborative effort including representatives of agricultural, urban, environmental, fishery, and business interests, Indian tribes and rural counties who have contributed to the process.

The San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) estuary is the largest estuary on the West Coast. It is a maze of tributaries, sloughs, and islands and a haven for plants and wildlife,

CALFED

State Agencies

Resources Agency of California*
- **Department of Water Resources**
- **Department of Fish and Game**
- **Reclamation Board**
- **Delta Protection Commission**

California Environmental Protection Agency
- **State Water Resources Control Board**

California Department of Food and Agriculture

Federal Agencies

U.S. Department of Interior
- **Bureau of Reclamation***
- **Fish and Wildlife Service***
- **Bureau of Land Management**
- **U. S. Geological Survey**

U.S. Army Corps of Engineers*

U.S. Environmental Protection Agency*

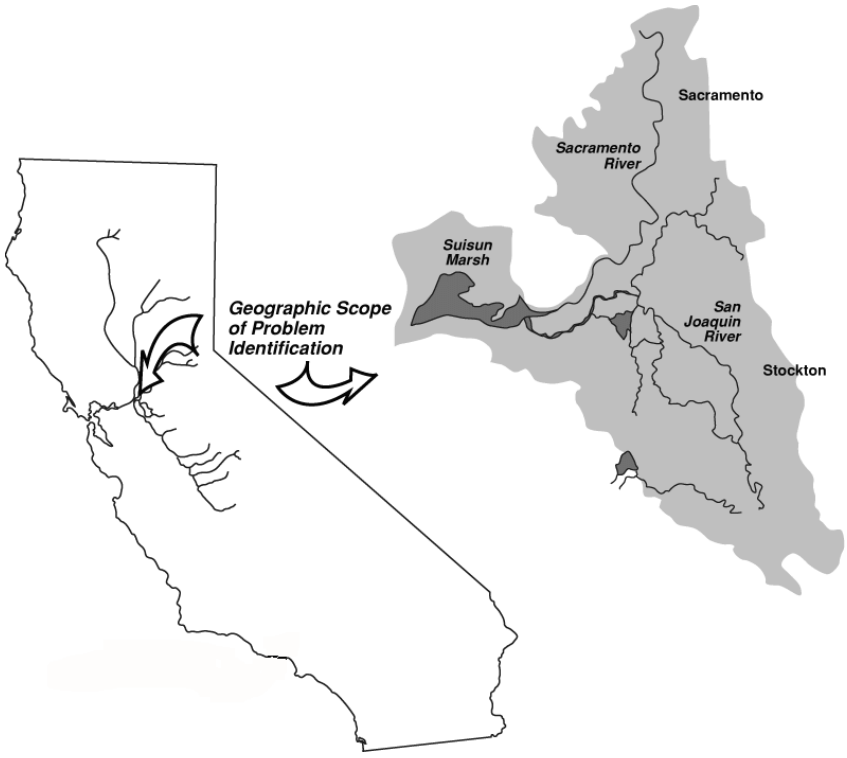
U.S. Department of Commerce, National Oceanic and Atmospheric Administration
- **National Marine Fisheries Service***

U.S. Department of Agriculture
- **Natural Resources Conservation Service***
- **U.S. Forest Service**

Western Area Power Administration

* Co-lead agencies for EIS/EIR

supporting over 750 plant and animal species. The Bay-Delta includes over 738,000 acres in five counties. The Bay-Delta is critical to California's economy, supplying drinking water for two-thirds of Californians and irrigation water for over 7 million acres of the most highly productive agricultural land in the world.



The Bay-Delta is also the hub of California's two largest water distribution systems - the Central Valley Project (CVP) operated by the U.S. Bureau of Reclamation (Reclamation) and the State Water Project (SWP) operated by the California Department of Water Resources (DWR). Together, these water development projects divert about 20 to 70 percent of the natural flow in the system depending on the amount of runoff available in a given year.

These diversions, along with the effects of increased population pressures throughout California, exotic species, water pollution, and numerous other factors have had a serious impact on the fish and wildlife resources in the Bay-Delta estuary. The drought of 1987-92 demonstrated just how vulnerable California is to water shortages. More recent conflicts between water quality, fish protection and water supply also demonstrate how little flexibility there is in the current system. With the State's population expected to grow from 34 million today to 59 million in 2040, the need to conserve, to build our capacity, and to manage our water system more efficiently is no longer just a goal, it is a reality.

Before CALFED, all agreed on the importance of the Bay-Delta estuary for both fish and wildlife habitat and as a reliable source of water, but few agreed on how to manage and protect this valuable resource. The CALFED Bay-Delta Program was established to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Over the last five years, hundreds of individuals have spent thousands of hours discussing and debating options for a long-term restoration and management plan for the Bay-Delta estuary. The task is fourfold: 1) to restore the ecological health of a fragile and depleted Bay-Delta estuary; 2) improve the water supply reliability for the State's farms and growing cities that draw water from the Delta and its tributaries, including 7 million acres of the world's most productive farmland; 3) protect the drinking water quality of the 22 million Californians who rely on the Delta for their supplies; and 4) protect the Delta levees that ensure its integrity as a conveyance and ecosystem. Through the Bay-Delta Advisory Council,

State and Federal agencies have worked with stakeholders and the public to shape these options into this framework for a comprehensive plan.

The CALFED Program and the CALFED Agencies have approached many ecosystem and water management issues from a regional perspective: what makes the most sense for the affected region. The regions, which include their respective watersheds, are the Sacramento Valley, the San Francisco Bay Area, the Delta, Westside San Joaquin Valley, San Joaquin River/South San Joaquin Valley, and Southern California. Although each region raises unique ecosystem and water management issues, each region's issues affect the health and function of the Bay-Delta system as a whole. Those regional issues nevertheless need regional solutions that contribute to overcoming the challenges facing the Bay-Delta system. In crafting regional solutions, the CALFED Program has also identified and considered the other, independent actions taken by Federal, State and local agencies operating outside the CALFED Program. In addition, CALFED has taken into account its obligations to comply with ongoing commitments, such as the commitments included in the State's area of origin laws.

Consistent with the stated purposes of the CALFED Bay-Delta Program since its outset in 1995, it is not the intent of this program to address or solve all of the water supply problems in California. The CALFED Program is directly or indirectly tied to a number of specific project proposals that would help toward meeting California's water needs for a wide variety of beneficial uses. CALFED is an important piece of a much larger picture that is the continuing responsibility of local, regional, State and Federal jurisdictions.

1.1 Overview

Following issuance of the Record of Decision, CALFED Agencies will proceed to Stage 1 implementation. Stage 1 covers the first seven years of a 30-year program and builds the foundation for long-term actions. This document sets out actions included in the Preferred Program Alternative for implementing Stage 1. These actions also depend upon subsequent project-specific environmental analyses as well as on subsequent review of financial and legislative proposals in this document by the State and Federal executive branches, Congress and the State Legislature.

The program components are as follows:

- Governance
- Ecosystem Restoration
- Watersheds
- Water Supply Reliability
- Storage
- Conveyance
- Environmental Water Account

- Water Use Efficiency (conservation and recycling)
- Water Quality
- Water Transfers
- Levees
- Science

These program components were recently described in the document entitled *California's Water Future: A Framework for Action*, issued on June 9, 2000. The document is referred to as "the Framework" in other locations in this ROD.

All aspects of the CALFED Program are interrelated and interdependent. Ecosystem restoration is dependent upon water supply and conservation. Water supply depends upon water use efficiency and consistency in regulation. Water quality depends upon improved conveyance, levee stability and healthy watersheds. The success of all of the elements depends upon expanded and more strategically managed storage.

California taxpayers, stakeholders and the Federal government will be called upon to invest billions of dollars over the next decade on CALFED programs. Expenditure of those funds must be based upon accountability and measurable progress being made on all elements of the Program. The project schedules described in this ROD depend upon certain assumptions about State and Federal budgets, optimized construction schedules, willing sellers, and other contingencies. These assumptions may change as the CALFED Program progresses and appropriate revisions to the Program may be necessary. Consistent with Federal law, nothing in this ROD constrains the discretion of the President or his successors to make whatever budgetary or legislative proposals he or his successors deem appropriate or desirable. The commitments of the United States and of the State of California under this ROD are necessarily contingent upon the availability of appropriated funds or upon enactment of authorizing legislation providing other sources of funding.

During implementation, the Program will incorporate both a high level of stakeholder participation and, as a central feature, science-based adaptive management. The Program includes a strong commitment to assure that its decisions and actions are based on sound science. To this end, the Program provides for comprehensive monitoring and data collection, and continuous and comprehensive scientific review of actions and decisions. The highest quality and credibility of science-based decision making will be assured by the integration in the Program of an independent board of scientific experts. In addition, the Program has hired a nationally-recognized scientist to coordinate the science effort, including related scientific studies conducted by CALFED Agencies.

Consistent with Proposition 204, prior to November 15, 2001 and each year thereafter, the CALFED Policy Group or its successor, in consultation with other interested persons and agencies, will review the CALFED Program's progress in meeting the implementation schedule in this ROD. The CALFED Policy Group or its successor will submit an annual report by December 15th to the Governor, the Secretary of the Interior, the State Legislature and the Congress that describes the status of implementation of all elements of the Program. The report will describe the status of all Stage 1 actions, including goals, schedules and financing agreements, taken to meet

CALFED objectives in the following areas:

- Completion of key projects and milestones identified in the Ecosystem Restoration Program.
- Development and implementation of local programs for watershed conservation and restoration.
- Progress in improving water supply reliability and implementing the Environmental Water Account (see section 2.2.7 for Environmental Water Account).
- Achievement of commitments under State and Federal Endangered Species Acts.
- Implementation of a comprehensive science program.
- Progress on storage projects, conveyance improvements, levee improvements, water quality projects, and water use efficiency programs.
- Progress toward acquisition of the State and Federal permits, including Clean Water Act Section 404 permits, for implementation of projects in all identified program areas.
- Progress in achieving benefits in all geographic regions covered by the Program.
- Legislative action on water transfer, groundwater management, water use efficiency and governance issues.
- Status of complementary actions.
- Status of mitigation measures.
- Revisions to funding commitments and program responsibilities.

If at the conclusion of each annual review, or if a timely annual review has not been issued, the Governor or the Secretary of the Interior determines that the schedule or objectives established in this ROD has not been substantially adhered to, the Governor and the Secretary, after notice to, and consultation with, State and Federal CALFED representatives, will prepare a revised schedule that ensures achievement of balanced solutions in all program areas consistent with the intent of this ROD and applicable regulatory compliance documents. Upon determination that the prior schedule has not been substantially adhered to, State funds, if the determination was made by the Governor, and Federal CALFED funds, if the determination was made by the Secretary of the Interior, will to the extent authorized be available for expenditure in the subsequent budget year only if a revised schedule has been developed within six months from the date on which the determination was made. Upon the submission of any revised schedule, funds will be expended in accordance with that revised schedule.

1.2 Purposes of This Record of Decision

This Record of Decision for the CALFED Bay-Delta Final Programmatic Environmental Impact Statement and Report (EIS/EIR) represents the culmination of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) processes. The ROD reflects a final selection of a long-term plan (Preferred Program Alternative), which includes specific actions, to fix the Bay-Delta, describes a strategy for implementing the plan, and identifies complementary actions the CALFED Agencies will also pursue.

For actions contained within the Preferred Program Alternative that are undertaken by a CALFED Agency or funded with money designated for meeting CALFED purposes, environmental review will tier from the Final Programmatic EIS/EIR. These actions will be carried out in a manner consistent with this ROD and incorporate the mitigation strategies contained in Appendix A to this ROD.

The Preferred Program Alternative is a set of programmatic actions, studies, and conditional decisions. It includes the broadly described actions that set the long-term overall direction of the Program. The description of the alternative is programmatic in nature, intended to help agencies and the public make decisions on the broad methods to meet program purposes. The Preferred Program Alternative description is an important legal element of compliance with CEQA and NEPA. The Preferred Program Alternative is not intended to define the site specific actions that will ultimately be implemented.

Whenever a broad environmental impact analysis has been prepared and a subsequent narrower analysis is then prepared on an action included within the entire program or policy, the subsequent analysis need only summarize the issues discussed in the broader analysis and incorporate discussions from the broader analysis by reference. This is known as tiering. Tiered documents focus on issues specific to the subsequent action and rely on the analysis of issues already decided in the broader programmatic review. Absent new information or substantially changed circumstances, documents tiering from the CALFED Final Programmatic EIS/EIR will not revisit the alternatives that were considered alongside CALFED's Preferred Program Alternative nor will they revisit alternatives that were rejected during CALFED's alternative development process.

Within the defined CALFED solution area, individual CALFED Agencies will implement actions that are part of CALFED's Preferred Program Alternative and will develop identified complementary actions, not part of the CALFED Program, which will help achieve CALFED goals and objectives. All actions will be subject to appropriate environmental review. Many of the complementary actions are not included in the CALFED Program because they were already underway when the CALFED effort was started in 1995. In those cases, CALFED programmatic actions have been designed to complement or supplement these existing actions and programs. Other actions will continue to be developed by individual CALFED Agencies over time. Because these new actions and programs are outside the programmatic analysis of impacts that CALFED has prepared, they are not the subject of final decision in this ROD. Implementation of all individual actions within the Preferred Program Alternative, complementary actions and new actions will be predicated on the appropriate level of environmental review, documentation and permitting.

In addition, many activities will be undertaken within the CALFED solution area by non-CALFED Agencies. By certifying the ROD, the CALFED Agencies do not intend to preclude implementation of projects not expressly evaluated in the CALFED Final Programmatic EIS/EIR. Nor do the CALFED Agencies intend to affect the ability of local communities to meet their individual water supply needs. Finally, nothing in this ROD is intended to, nor does, affect the regulatory responsibilities of individual CALFED Agencies.

This ROD recognizes that the CALFED Agencies have specific statutory and/or regulatory

authority and responsibilities, and that actions of these agencies must be consistent with applicable procedural and substantive requirements. Nothing in this ROD is intended to or shall have the effect of constraining or limiting any public entity in carrying out its statutory responsibilities. Nothing in this ROD constitutes an admission by any party as to the proper interpretation of any provision of law; nor is anything in this ROD intended to, nor shall it have the effect, of waiving or limiting any public entity's rights and remedies under any applicable law. Additionally, this document in no way supersedes the requirements of Executive Order 12322 or other Federal water policies and authorities.

The CALFED Agencies recognize that certain departments, boards, and commissions have adjudicative responsibilities with respect to contested matters that are brought before them. Such responsibilities include the requirement that the adjudicative entity and its members avoid bias, prejudice, or interest in the adjudicative matters before them; e.g., they cannot decide, before completion of any required hearing or equivalent proceeding, the outcome of a matter. Some such adjudicative entities exist within the undersigned CALFED Agencies. This ROD does not in any way require or commit an adjudicative entity to participate in proposing a project that will come before it for approval. Under this ROD, the role of adjudicative entities in connection with matters that may require an adjudicative decision is limited to promptly and diligently processing any applications, petitions, or other requests for approval. Nothing in this ROD commits an adjudicative entity to an approval or disapproval of any project subject to the authority of the adjudicative entity, nor to a term or condition in any approval of a project by the adjudicative entity.

1.3 Background/Historical Context

1.3.1 Bay-Delta Accord

Seeking solutions to the resource problems in the Bay-Delta, State and Federal agencies signed an agreement in June 1994 to (1) coordinate their actions to meet water quality standards to protect the Bay-Delta estuary; (2) coordinate the operation of the State Water Project (SWP); and the Central Valley Project (CVP) more closely with recent environmental mandates; and (3) develop a process to establish a long-term Bay-Delta solution to address four categories of problems; ecosystem quality, water quality, water supply reliability, and levee system vulnerability.

This agreement laid the foundation for the Bay-Delta Accord and CALFED. The Accord, formally called the Principles for Agreement on Bay-Delta Standards between the State of California and the Federal Government, detailed interim measures for both environmental protection and regulatory stability in the Bay-Delta. On December 15, 1994, the Accord was signed by State and Federal resource agencies, as well as by stakeholders representing many local water agencies and environmental organizations. Under the terms of a December 1999 extension, the Accord formally expires when this ROD is executed. Thereafter, the provisions in the Accord are replaced in their entirety by the provisions and agreements in this ROD and associated documents.

1.3.2 Mission Statement

Early in the Program development, CALFED Agencies developed and adopted the mission statement, objectives and solution principles to guide how the Program will be implemented. The mission statement, objectives and solution principles are shown in the following box. CALFED used these to shape the alternatives and will continue to use these objectives and principles as actions are implemented. Carrying out the mission, achieving the objectives, and adhering to the solution principles will ensure that CALFED fulfills its commitment to continuous improvement in all of the four problem areas.

MISSION STATEMENT

The mission of the CALFED Bay-Delta Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system.

OBJECTIVES

CALFED developed the following objectives for a solution:

- Provide good water quality for all beneficial uses.
- Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species.
- Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system.
- Reduce the risk to land use and associated economic activities, water supply, infrastructure and the ecosystem from catastrophic breaching of Delta levees.

SOLUTION PRINCIPLES

In addition, any CALFED solution must satisfy the following **solution principles**:

- ***Reduce Conflicts in the System*** Solutions will reduce major conflicts among beneficial uses of water.

- ***Be Equitable*** Solutions will focus on solving problems in all problem areas. Improvements for some problems will not be made without corresponding improvements for other problems.

- ***Be Affordable*** Solutions will be implementable and maintainable within the foreseeable resources of the Program and stakeholders.

- ***Be Durable*** Solutions will have political and economic staying power and will sustain the resources they were designed to protect and enhance.

- ***Be Implementable*** Solutions will have broad public acceptance and legal feasibility, and will be timely and relatively simple to implement compared with other alternatives.

- ***Have No Significant Redirected Impacts*** Solutions will not solve problems in the Bay-Delta system by redirecting significant negative impacts, when viewed in their entirety, within the Bay-Delta or to other regions of California.

1.3.3 Four Interrelated Program Objectives

The CALFED Program takes a broad approach to addressing the four problem areas of water quality, ecosystem quality, water supply reliability and levee system integrity, recognizing that many of the problems and solutions in the Bay-Delta system are interrelated. Problems in any one program area cannot be solved effectively without addressing problems in all four areas at once. This greatly increases the scope of efforts but will ultimately result in progress toward a lasting solution.

Thus, the single most important difference between the CALFED Bay-Delta Program and past efforts to solve the problems of the Bay-Delta is the comprehensive nature of CALFED's interrelated resource management strategies. A comprehensive CALFED solution will also be supported by governance mechanisms that overcome problem-specific or resource-specific limitations of previous, more narrowly focused, approaches.

1.3.4 Summary of Process

There are three phases to the CALFED Bay-Delta Program:

Phase I - In Phase I, completed in September 1996, CALFED identified the problems confronting the Bay-Delta, developed the mission statement and guiding principles, and devised three preliminary categories of solutions for Delta water conveyance. In addition, CALFED identified three preliminary alternatives, representing differing approaches to conveying water through the Delta, to be further analyzed in Phase II.

Phase II - In Phase II, CALFED has completed the Final Programmatic EIS/EIR and issued this ROD. This includes development of the Preferred Program Alternative and development of the Plan of Action (see Section 2.2) focusing on the first seven years (Stage 1) following issuance of this ROD.

Phase III - Implementation will begin in Phase III. This period will include project-specific environmental review and permitting, as necessary.

During Phase I, CALFED held scoping meetings, technical workshops, public information meetings, and public BDAC workgroup meetings. The commitment to active public involvement continued through Phase II with additional public meetings, presentations before interested groups, media outreach, special mailings of newsletters, regularly updated information on the Program's web site, and a toll-free public information telephone line.

2. DECISION

2.1 National Environmental Policy Act/California Environmental Quality Act Decision

After reviewing the alternatives discussed in the Final Programmatic EIS/EIR and their predicted environmental, economic and social consequences, the CALFED Agencies select the Preferred Program Alternative as the best alternative for meeting the Program purposes. The Preferred Program Alternative provides a long-term plan to improve water quality, stabilize Delta levees, restore the ecosystem and provide water supply reliability.

The alternatives considered in CALFED's Programmatic EIS/EIR represent a reasonable range of alternatives for meeting the program purposes. The Preferred Program Alternative includes a set of broadly described programmatic actions in eight program areas (see Section 2.1.3).

2.1.1 Discussion of Alternative Selection Process

In Phase I, CALFED initiated a lengthy, inclusive public process to develop alternatives in order to accomplish its mission. The Phase I process developed alternatives in six steps: identify problems, define objectives, identify actions, develop solution strategies, assemble alternatives, and refine alternatives. Early in Phase I, the Program identified 50 categories of actions to resolve Bay-Delta problems and achieve Program objectives. These action categories were drawn from existing literature and participation from CALFED agencies, the Bay Delta Advisory Council, and numerous workshops with stakeholders and the general public. Within these categories, hundreds of individual actions were defined. The action categories represent the building blocks of the alternatives. In other words, each alternative is a combination of action categories reflecting differing approaches to achieving Program objectives and addressing solution principles.

As a way to manage the number of alternatives while still representing the full range of approaches to resolving problems, CALFED focused on the critical conflicts in the Bay-Delta system to help define an initial set of alternatives. These conflicts included the relationships between:

- Fisheries and diversions
- Habitat and land use and flood protection
- Water supply availability and beneficial uses
- Water quality and land use

Approximately 100 initial alternatives resulted from this focus. The initial alternatives varied in the level of effort applied to actions related to water use efficiency, water quality, ecosystem quality, and levee system integrity components.

Following evaluations and comments received at public meetings, workshops, and in writing, CALFED reached a number of conclusions regarding the makeup of each alternative:

The best possible source water quality is of paramount importance to urban water supplies. Agencies that deliver drinking water were very concerned about the cost of meeting future drinking water quality standards, as well as the technical challenges associated with treating source water of degraded quality. This suggests strong pollutant source control measures in every alternative.

Delta levees will be needed to protect agriculture, infrastructure, and habitat no matter how water is conveyed in the Delta. Delta levees protect many valuable features, including farms, habitat, infrastructure, and Delta water quality. Even if a new conveyance facility is built that protects water quality for some export users, adequate levee integrity will still be required to protect water quality, facilities and property in the Delta. This argues for a similar level of Delta levee protection in each alternative.

Ecosystem actions in the Program needs a single coherent vision of ecosystem restoration. The restoration of ecosystem functions and the recovery of Bay-Delta species likely will require diverse actions that will be extensive in scope. There is really no alternative to a single comprehensive plan for restoring ecosystem health. Adaptive management will be vital in guiding efforts to improve ecosystem quality. It is this adaptive management that will provide the needed flexibility in the Ecosystem Restoration Program.

Water use efficiency must be strongly pursued in all the alternatives. Water use efficiency will maximize use of existing supply to meet all needs and reduce the need for new storage. This suggests that water use efficiency measures should be implemented at a substantially increased level among all the alternatives.

The Program then refined the alternatives, which led to selection of a set of Phase II alternatives that was large enough to offer a reasonable range of solutions while small enough to allow for detailed analysis. Three basic alternative approaches developed in Phase I of the Program were carried into Phase II. Seventeen alternative configurations of the three basic alternative approaches were developed to further explore potential refinements for storage and conveyance in Phase II. Of the seventeen configurations, five were eliminated from further evaluation, and the environmental consequences of twelve of these were evaluated in the March 1998 Draft Programmatic EIS/EIR.

Based on public and agency comments on the March 1998 Draft Programmatic EIS/EIR and additional technical analysis, the Program was able to further refine and narrow the number of alternative solutions to the four evaluated in the July 2000 Final Programmatic EIS/EIR. Reasons for the elimination or consolidation of alternatives included technical deficiencies, creation of conditions damaging to the aquatic environment, higher costs relative to similarly performing

alternatives, and the lack of a south Delta conveyance improvement element. The Program has determined that the Program objectives cannot be met without some south Delta conveyance improvements.

The four alternatives evaluated in the Final PEIS/EIR, Alternatives 1, 2 and 3 and the Preferred Program Alternative, vary primarily in their approach to water conveyance. Three basic alternative approaches were formed around different configurations of Delta conveyance: existing system conveyance, modified through-Delta conveyance, and dual-Delta conveyance. Each approach includes the same set of actions for water use efficiency, water quality, levee system integrity, ecosystem quality, water transfers, and watersheds. A range of storage options was evaluated for each alternative to support these programs and the Delta conveyance, and to seek a balance between attainment of Program objectives and cost effectiveness. For further discussion of these alternatives and the No Action Alternative and a comparison of each of the alternatives to the Preferred Program Alternative see section 2.1.4 below.

A detailed description of the program alternative selection process can be found in Section 1.4 and Response to Comment document of the Final Programmatic EIS/EIR.

2.1.2 Public Comments

Comments Received on June 1999 Draft EIS/EIR

CALFED received and considered a wide variety of comments on the June 1999 Draft Programmatic EIS/EIR. The comments included:

- Approximately 1,500 letters from individuals and organizations.
- Approximately 800 individuals testified at one or more of sixteen hearings held around the State.
- Approximately 2,400 pre-printed letters or postcards.

A total of approximately 11,000 individual comments were identified from these sources. CALFED Agencies prepared responses as part of the Final Programmatic EIS/EIR. A large percentage of the comments were general in nature and did not identify specific items from the Draft Programmatic EIS/EIR. Specific comments were categorized into 23 different areas of interest. Comments and responses can be found in the three volumes of the Response to Comments contained in the Final Programmatic EIS/EIR.

Comments Received on Final Programmatic EIS/EIR

Copies of the Final Programmatic EIS/EIR, including the responses to comments on the draft Programmatic EIS/EIR, were sent to all persons and public agencies who commented on the June 1999 Draft Programmatic EIS/EIR. As of August 28, 2000, CALFED received 411 letters on the Final Programmatic EIS/EIR. The decision makers have reviewed all of the letters commenting on the Final Programmatic EIS/EIR and considered this information as part of the process of preparing the ROD.

Many of the comments have been addressed in this ROD. For instance, the ROD addresses East Bay Municipal Utility District's comment on the source water for the Bay Area Blending Project and clearly articulates the CALFED Agencies' commitment that satisfactory resolution of fishery concerns is a prerequisite to implementation of a new Sacramento River diversion facility. The ROD also addresses the comment of Contra Costa Water District on implementation of Veale and Byron Tract projects in the South Delta. These are just a few examples of comments that have been addressed in the ROD.

Many comments repeat public comments on the Draft EIS/EIR that were addressed as part of the Response to Comments document in the Final Programmatic EIS/EIR. These included comments suggesting that the CALFED Program will forego or inappropriately influence existing regulatory processes. Several of the comments, similar to comments on the Draft EIS/EIR, reflect uncertainty/apprehension about the nature of some program element actions. As indicated in the Response to Comments document, these issues will be resolved as CALFED works with various stakeholders, agencies and local groups to further develop and implement the program element actions.

Several commenters asked for more time to provide additional comments on the Final Programmatic EIS/EIR and asked CALFED to hold a series of public hearings on the CALFED Program. The CALFED Agencies have accepted public comments on the Final Programmatic EIS/EIR from the date the Final Programmatic EIS/EIR was released to the public. This period will not be extended because of the desire to move forward into the project-specific implementation phase of the CALFED Program. Implementation of project-specific actions will involve additional environmental review as well as public involvement in the development of projects.

Many of the comments are project-specific; as such are beyond the level of detail of the Programmatic EIS/EIR and are not appropriate for a decision at this time. However, the concepts associated with the majority of the specific comments have been addressed in the Final Programmatic EIS/EIR and this ROD.

Comments indicated that local or directly affected individuals have not been given an adequate representation in the process and should be given opportunity to participate in all actions and shape decisions. The CALFED Program has been a collaborative effort. Public and agency involvement through outreach and education has been a focus of the CALFED Program since its

initial stages. These efforts have helped shape the CALFED Program, as well as develop the Programmatic EIS/EIR. For over five years, the Program has relied on continuous comments and involvement from individuals and groups who have a stake in finding long-term solutions for the problems affecting the Bay-Delta system. Participants representing rural, agricultural, municipal, and industrial water users; fishing interests; tribal governments; environmental organizations; businesses; and the general public have helped to define problems and evaluate alternatives to solve the challenges confronting the Bay-Delta system. To date, thousands of Californians have contributed to the Program by participating in public meetings and workshops—volunteering time, sharing expertise, and expressing ideas and opinions. Extensive opportunity for stakeholder participation, including participation by tribal governments, local government and affected individuals will continue to be provided as the Program moves forward.

CALFED's strategic approach for implementation includes working with stakeholders, agencies and local groups to further develop and implement the proposed actions. CALFED's strategic approach for implementation also includes staged implementation and staged decision making. The selection of a Preferred Program Alternative provides the broad resource framework and strategy for implementing a comprehensive Bay-Delta Program. The programmatic decision sets in motion the implementation of some actions, as well as additional planning and investigation to refine other actions. Throughout the implementation period, monitoring will provide information about conditions in the Bay-Delta and results of CALFED actions.

Many comments addressed the program plans released with the Final Programmatic EIS/EIR and not the environmental impact analysis contained within the Final Programmatic EIS/EIR. These comments were helpful in highlighting to the decision makers concerns commenters have about the program plans, but did not directly address the environmental impacts of the Program.

A comment regarding the Monterey Agreement questioned whether a response was misnumbered. The correct responses are IA-5.1-70, IA-5.1-128 and IA-2.2-5 rather than IA-5.1-108.

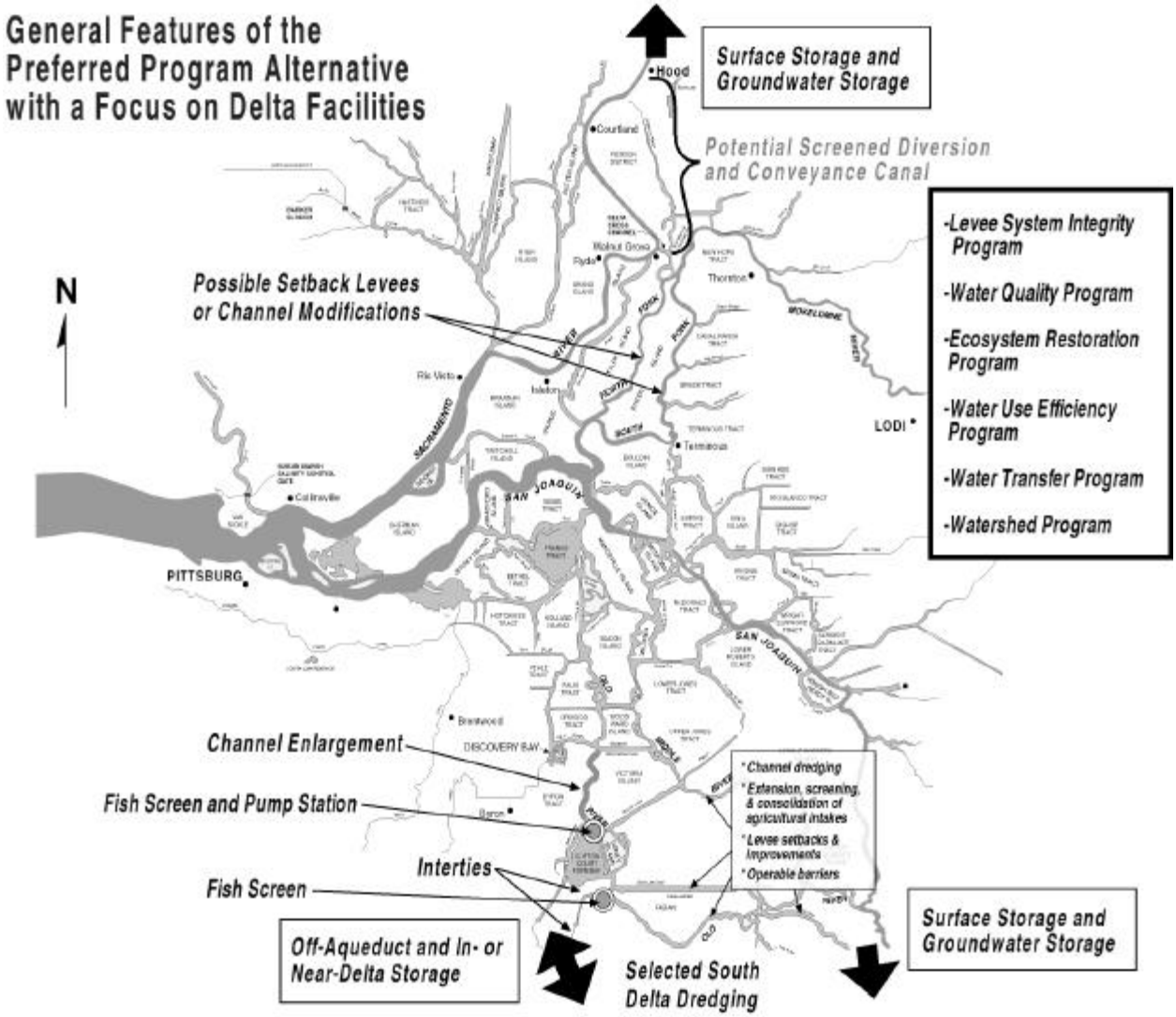
Lastly, several commenters indicated that the Framework contained activities not included in the Final Programmatic EIS/EIR and that the Framework should be integrated with the Final Programmatic EIS/EIR and the Record of Decision. The Framework described a strategy for implementing the Preferred Program Alternative and most actions described in the Framework are a part of the Preferred Program Alternative described in the Final Programmatic EIS/EIR. The Framework also identified complementary actions generally not analyzed in the Final Programmatic EIS/EIR intended to be pursued through further environmental review. Most actions. The complementary actions not analyzed in the Final Programmatic EIS/EIR are not subject to a final decision at this time. The Framework does not affect, in any way, the environmental analysis that was completed as part of the NEPA/CEQA process.

2.1.3 Preferred Program Alternative

The Preferred Program Alternative consists of a set of broadly described programmatic actions

which set the long-term, overall direction of the 30-year CALFED Program. The description is programmatic in nature, intended to help agencies and the public make decisions on broad methods to meet program purposes. The Preferred Program Alternative is made up of the Levee System Integrity Program, Water Quality Program, Ecosystem Restoration Program, Water Use Efficiency Program, Water Transfer Program, Watershed Program, Storage and Conveyance.

Actions described are intended to take place in an integrated framework and not independently of one another. While each program element is described individually, it is understood that only



through coordinated, linked, incremental investigation, analysis and implementation can we effectively resolve problems in the Bay-Delta system.

Levee System Integrity Program

The focus of the Levee System Integrity Program is to improve levee stability to benefit all users of Delta water and land. Actions described in this program element protect water supply reliability by maintaining levee and channel integrity. Levee actions will be designed to provide simultaneous improvement in habitat quality (consistent with the Ecosystem Restoration Program goals), which will indirectly improve water supply reliability. Levee actions also protect water quality, particularly during low flow conditions when a catastrophic levee breach would draw salt water into the Delta.

There are five main parts to the Levee System Integrity Program plus Suisun Marsh levee rehabilitation work:

- Delta Levee Base Level Protection Plan - Improve and maintain existing Delta levee system stability to meet the Army Corps of Engineers PL 84-99 levee standard.
- Delta Levee Special Improvement Projects - Enhance flood protection for key islands that provide statewide benefits to the ecosystem, water supply, water quality, economics, infrastructure, etc.
- Delta Levee Subsidence Control Plan - Implement current best management practices (BMPs) to correct subsidence adjacent to levees and coordinate research to quantify the effects and extent of inner-island subsidence.
- Delta Levee Emergency Management and Response Plan - The emergency management and response plan will build on existing State, Federal, and local agency emergency management programs.
- Delta Levee Risk Assessment - Perform a risk assessment to quantify the major risks to Delta resources from floods, seepage, subsidence and earthquakes, evaluate the consequences, and develop recommendations to manage the risk.
- Suisun Marsh Levees - Evaluate, and where appropriate, rehabilitate Suisun Marsh levees.

Water Quality Program

The CALFED Program is committed to achieving continuous improvement in the quality of the waters of the Bay-Delta system with the goal of minimizing ecological, drinking water and other water quality problems. Improvements in water quality will result in improved ecosystem health, with indirect improvements in water supply reliability. Improvements in water quality also increase the utility of water, making it suitable for more uses and reuses.

The Water Quality Program includes the following actions:

- Drinking water parameters - Reduce the loads and/or impacts of bromide, total organic carbon (TOC), pathogens, nutrients, salinity, and turbidity through a combination of measures that include source reduction, alternative sources of water, treatment, storage and if necessary, conveyance improvements such as a screened diversion structure (up to 4000

cfs) on the Sacramento River between Hood and Georgiana Slough. The Conveyance section of this document includes a discussion of this potential improvement.

- Pesticides - Reduce the impacts of pesticides through (1) development and implementation of BMPs, for both urban and agricultural uses; and (2) support of pesticide studies for regulatory agencies, while providing education and assistance in implementation of control strategies for the regulated pesticide users.
- Organochlorine pesticides - Reduce the load of organochlorine pesticides in the system by reducing runoff and erosion from agricultural lands through BMPs.
- Trace metals - Reduce the impacts of trace metals, such as copper, cadmium, and zinc, in upper watershed areas near abandoned mine sites. Reduce the impacts of copper through urban storm water programs and agricultural BMPs.
- Mercury - Reduce mercury levels in rivers and the estuary by source control at inactive and abandoned mine sites.
- Selenium - Reduce selenium impacts through reduction of loads at their sources and through appropriate land fallowing and land retirement programs.
- Salinity - Reduce salt sources in urban and industrial wastewater to protect drinking and agricultural water supplies, and facilitate development of successful water recycling, source water blending, and groundwater storage programs. Salinity in the Delta will be controlled both by limiting salt loadings from its tributaries, and through managing seawater intrusion by such means as using storage capability to maintain Delta outflow and to adjust timing of outflow, and by export management.
- Turbidity and sedimentation - Reduce turbidity and sedimentation, which adversely affect several areas in the Bay Delta and its tributaries.
- Low dissolved oxygen - Reduce the impairment of rivers and the estuary from substances that exert excessive demand on dissolved oxygen.
- Toxicity of unknown origin - Through research and monitoring, identify parameters of concern in the water and sediment and implement actions to reduce their impacts to aquatic resources.

Ecosystem Restoration Program

The goal of the Ecosystem Restoration Program is to improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta system to support sustainable populations of diverse and valuable plant and animal species. In addition, the Ecosystem Restoration Program, along with the water management strategy, is designed to achieve or contribute to the recovery of listed species found in the Bay-Delta and thus achieve goals of the Multi-Species Conservation Strategy (MSCS). Improvements in ecosystem health will reduce the conflict between environmental water use and other beneficial uses, and allow more flexibility in water management decisions.

The Ecosystem Restoration Program identifies programmatic actions designed to restore, rehabilitate, or maintain important ecological processes, habitats, and species within 14 ecological management zones. Implementation of these programmatic actions will be guided by

six goals presented in the Strategic Plan for Ecosystem Restoration. Nearly 100 restoration objectives have been developed which are directly linked to one of the six goals. Each objective further defines the restoration approach for each ecological process, habitat, species or ecosystem stressor. One to several restoration targets have been developed for each objective to set more specific or quantified restoration levels.

Long-term implementation of the Ecosystem Restoration Program will be guided by the adaptive management approach described in the Strategic Plan for Ecosystem Restoration. This approach to restoration will require review by an ecosystem restoration science review panel and will rely on information developed in the Science Program.

Representative Ecosystem Restoration Program actions include:

- Protecting, restoring, and managing diverse habitat types representative of the Bay-Delta and its watershed.
- Acquiring water from sources throughout the Bay-Delta's watershed to provide flows and habitat conditions for fishery protection and recovery.
- Restoring critical in-stream and channel-forming flows in Bay-Delta tributaries.
- Improving Delta outflow during key periods.
- Reconnecting Bay-Delta tributaries with their floodplains through the construction of setback levees, the acquisition of easements, and the construction and management of flood bypasses for both habitat restoration and flood protection.
- Developing assessment, prevention and control programs for invasive species.
- Restoring aspects of the sediment regime by relocating in-stream and floodplain gravel mining, and by artificially introducing gravels to compensate for sediment trapped by dams.
- Modifying or eliminating fish passage barriers, including the removal of some dams, construction of fish ladders, and construction of fish screens that use the best available technology.
- Targeting research to provide information that is needed to define problems sufficiently, and to design and prioritize restoration actions.

Water Use Efficiency Program

The Water Use Efficiency Program includes actions to assure efficient use of existing and any new water supplies developed by the Program. Efficiency actions can alter the pattern of water diversions and reduce the magnitude of diversions, providing ecosystem benefits. Efficiency actions can also result in reduced discharge of effluent or drainage, improving water quality.

The Water Use Efficiency Program will build on the work of the existing Agricultural Water Management Council and California Urban Water Conservation Council process, supporting and supplementing those processes through planning and technical assistance and through targeted financial incentives (both loans and grants). The Water Use Efficiency Program has identified

potential recovery of currently irrecoverable water losses of over 1.4 million acre-feet of water annually by 2020 as a result of CALFED actions. Early in Stage 1, CALFED will identify measurable goals and objectives for its urban and agricultural water conservation program, water reclamation programs and managed wetlands programs.

Water conservation-related actions include:

- Implement agricultural and urban conservation incentive programs to provide grant funding for water management projects that will provide multiple benefits which are cost-effective at the state-wide level, including improved water quality and reduced ecosystem impacts.
- Identify, in region-specific strategic plans for agricultural areas, quantifiable objectives to assure improvements in water management.
- Expand State and Federal programs to provide increased levels of planning and technical assistance to local water suppliers.
- Work with the Agricultural Water Management Council (AWMC) to identify appropriate agricultural water conservation measures, set appropriate levels of effort, and certify or endorse water suppliers that are implementing locally cost-effective feasible measures.
- Work with the California Urban Water Conservation Council (CUWCC) to establish an urban water conservation BMP certification process and set appropriate levels of effort in order to ensure that water suppliers are implementing cost-effective feasible measures.
- Help urban water suppliers comply with the Urban Water Management Planning Act.
- Identify and implement practices to improve water management for wildlife areas
- Gather better information on water use, identify opportunities to improve water use efficiency, and measure the effectiveness of conservation practices.
- Conduct directed studies and research to improve understanding of conservation actions.

Water recycling actions include:

- Help local and regional agencies comply with the water recycling provisions in the Urban Water Management Planning Act.
- Expand State and Federal recycling programs to provide increased levels of planning, technical, and financing assistance (both loans and grants) and to develop new ways of providing assistance in the most effective manner.
- Provide regional planning assistance that can increase opportunities for the use of recycled water.

Water Transfer Program

The Water Transfer Program proposes a framework of actions, policies, and processes that, collectively, will facilitate water transfers and the further development of a state-wide water transfer market. The framework also includes mechanisms to help provide protection from third party impacts. A transfers market can improve water availability for all types of uses, including the environment. Transfers can also help to match water demand with water sources of the appropriate quality, thus increasing the utility of water supplies.

The Water Transfer Program will include the following actions and recommendations:

- Establish a California Water Transfer Information Clearinghouse to provide a public informational role. The clearinghouse would 1) ensure that information regarding proposed transfers is publicly disclosed and, 2) perform on-going research and data collection functions to improve the understanding of water transfers and their potential beneficial and adverse effects.
- Require water transfer proposals submitted to the DWR, Reclamation, or the State Water Resources Control Board to include analysis of potential groundwater, socio-economic, or cumulative impacts as warranted by individual transfers.
- Streamline the water transfer approval process currently used by DWR, Reclamation, or the State Water Resources Control Board. This would include clarifying and disclosing current approval procedures and underlying policies as well as improving the communication between transfer proponents, reviewing agencies, and other potentially affected parties.
- Refine quantification guidelines used by water transfer approving agencies when they are reviewing a proposed water transfer. This will include resolving issues between stakeholders and approving agencies regarding the application of current agency-based quantification criteria.
- Improve the accessibility of State and Federal conveyance and storage facilities for the transport of approved water transfers.
- Clearly define carriage water requirements and resolve conflicts over reservoir refill criteria such that transfer proponents have a clear understanding of the implications of these requirements.
- Identify appropriate assistance for groundwater protection programs through interaction with CALFED Agencies, stakeholders, the Legislature and local agencies. This is intended to assist local agencies in the development and implementation of groundwater management programs that will protect groundwater basins in water transfer source areas.
- Establish new accounting, tracking, and monitoring methods to aid instream flow transfers under California Water Code Section 1707.

Watershed Program

The goal of the CALFED Watershed Program is to promote locally led watershed management activities and protections that contribute to the achievement of CALFED goals for ecosystem restoration, water quality improvement, and water supply reliability. The Program will accomplish these tasks by providing financial and technical assistance to local community watershed programs.

The Watershed Program includes the following elements:

- Build local community capacity to assess and manage watersheds affecting the Bay-Delta system.
- Develop local watershed assessment and management plans.
- Fund development and implementation of specific watershed conservation, maintenance, and restoration actions identified in these plans.
- Facilitate and improve coordination and assistance among government agencies and local watershed organizations.
- Develop watershed program performance measures and monitoring protocols consistent with the CALFED Science Program.
- Support resource conservation education at the local watershed level, and provide organizational and administrative support to watershed programs.
- Identify the watershed functions and processes that are relevant to CALFED goals and objectives, and provide examples of watershed activities that could improve these functions and processes.

Storage

Groundwater and surface water storage can be used to improve water supply reliability, provide water for the environment at times when it is needed most, provide flows timed to maintain water quality, and protect levees through coordinated operation with existing flood control reservoirs.

Decisions to construct groundwater or surface water storage will be predicated on compliance with all environmental review and permitting requirements, and maintaining balanced implementation of all Program elements. Subject to these conditions, new groundwater and surface water storage will be developed and constructed, together with aggressive implementation of water conservation, recycling, an improved water transfer market, and habitat restoration, as appropriate to meet CALFED Program goals. During Stage 1, through the water management strategy (including the Integrated Storage Investigation), CALFED will continue to evaluate surface water and groundwater storage, identify acceptable project-specific locations, and initiate permitting, NEPA and CEQA documentation, and construction if all conditions are satisfied.

The total volume of new or expanded surface water and groundwater storage evaluated in the Final Programmatic EIS/EIR ranges up to 6 million acre feet, and surface storage facility locations being considered are located in the Sacramento and San Joaquin Valley and in the Delta. Those surface storage sites that will be pursued in Stage 1 are discussed in Section 2.2.5. New groundwater programs could be implemented statewide.

Conveyance

The Preferred Program Alternative employs a through-Delta approach to conveyance. Modifications in the Delta conveyance will result in improved water supply reliability, protection and improvement of Delta water quality, improvements in ecosystem health, and reduced risk of supply disruption due to catastrophic breaching of Delta levees. The Preferred Program Alternative through-Delta conveyance facility actions include:

- Construction of a new screened intake at Clifton Court Forebay with protective screening criteria.
- Construction of either a new screened diversion at Tracy with protective screening criteria; and/or an expansion of the new diversion at Clifton Court Forebay to meet the Tracy Pumping Plant export capacity.
- Implementation of the Joint Point of Diversion (see EWA Operating Principles Agreement in Attachment 2) for the SWP and CVP, and construction of interties.
- Construction of an operable barrier at the head of Old River to improve conditions for salmon migrating up and down the San Joaquin River.
- Construction of operable barriers taking into account fisheries, water quality and water stage needs in the south Delta.
- Operational changes to the SWP operating rules to allow export pumping up to the current physical capacity of the SWP export facilities.

Under the Preferred Program Alternative, north Delta improvements include:

- Studying and evaluating a screened diversion facility on the Sacramento River with a range of diversion capacities up to 4,000 cfs as a measure to improve drinking water quality in the event that the Water Quality Program measures do not result in continuous improvements toward CALFED drinking water goals. Potential diversion sites between and including Hood and Georgiana Slough will be considered as part of this evaluation.

  The diversion facility on the Sacramento River likely would include a fish screen, pumps, and a channel between the Sacramento and Mokelumne Rivers. The diversion facility on the Sacramento River is an action to be considered only after three separate assessments are satisfactorily completed: first, a thorough assessment of Delta Cross Channel (DCC) operation strategies and confirmation of continued concern over water quality impacts from DCC operations; second, a thorough evaluation of the technical viability of a diversion facility; and third, satisfactory resolution of the fisheries concerns about a diversion facility. The assessments of the Delta Cross Channel and the diversion facility on the Sacramento River will be completed simultaneously. The results of all three of these evaluations will be shared with the Delta Drinking Water Council or its successor and the expert panel evaluating fish impacts of Delta conveyance. If these evaluations demonstrate that a diversion facility on the Sacramento River is necessary to address drinking water quality concerns and can be constructed without adversely affecting fish populations, initiate permit and environmental review to enable a decision on siting and construction of

a facility as a part of the Preferred Program Alternative.

- Pursue construction of new setback levees, dredge and/or improve existing levees along the channels of the lower Mokelumne River system from Interstate 5 downstream to the San Joaquin River.

The Preferred Program Alternative includes a process for determining the conditions under which any future additional conveyance facilities or water management actions would be taken. The process would include:

- An evaluation of how water suppliers can best provide a level of public health protection equivalent to Delta source water quality of 50 parts per billion (ppb) bromide and 3 parts per million (ppm) total organic carbon.

- An evaluation based on two independent expert panels' reports -- one on the Program's progress toward these measurable water quality goals and the second on CALFED's progress toward ecosystem restoration objectives, with particular emphasis on fisheries recovery.

2.1.4 Discussion of Alternatives and Comparison to Preferred Program Alternative

No Action Alternative

The No Action Alternative is a description of the anticipated physical, CVP/SWP operation, and regulatory environment that would be in place in 2020 if the Program is not approved and implemented. Impacts of alternatives considered are compared to the No Action Alternative in order to highlight the changes to the environment that would take place as a result of implementing various alternatives.

Compared to the No Action Alternative and existing conditions, the Preferred Program Alternative provides significant improvements in terms of its ecosystem quality, water quality, water supply reliability, and levee system integrity effects. Under the No Action Alternative, each of these four areas of critical concern would continue to deteriorate. In addition, the quality of both in-Delta and export water likely would decline under the No Action Alternative. This decline in water quality would adversely affect irrigated agriculture, ecosystem health, fisheries, and drinking water quality. With the continued decline of the ecosystem, interruptions of water deliveries also likely would occur because of constraints on export pumping to protect threatened and endangered species. Finally, under the No Action Alternative, the Delta levees would continue to be vulnerable to failure because of limited maintenance in some locations and the lack of a comprehensive plan for effective emergency response. The No Action Alternative fails to meet the Program objectives and would result in significant adverse impacts on the health of fisheries, endangered species, species of special concern and their habitat, water quality, and other Bay-Delta resources.

Alternative 1

Under Alternative 1, Delta channels would be maintained essentially in their existing configuration. Several improvements would be made in the south Delta similar to those in the Preferred Program Alternative. The Preferred Program Alternative includes these south Delta actions but also includes actions in the north Delta such as channel modifications for improved water conveyance and flood control and the possible construction of a diversion facility on the Sacramento River. If the diversion facility is not constructed, the Preferred Program Alternative would be the most similar to Alternative 1.

Alternative 1, lacking north Delta channel improvements, would not provide as much flood control benefit in the Delta. Alternative 1 also does not have the potential for water quality improvement provided by the Preferred Program Alternative. The water quality improvement strategy for the Preferred Program Alternative is to aggressively implement the common programs and south Delta improvements, in Stage 1 of implementation, as proposed for Alternative 1. If these water quality objectives are not achieved, the diversion facility on the Sacramento River could be implemented, pending demonstration of benefits for water quality and resolution of fisheries concerns. This contingent action would improve Delta outflow, and decrease salinity and bromide for in-Delta and export water quality.

Alternative 1 would create slightly fewer construction- and facility-related impacts on visual resources, cultural resources, geology and soils, transportation, and air quality compared to the Preferred Program Alternative. Since Alternative 1 does not include a diversion facility on the Sacramento River, it would avoid the associated impacts on fisheries. However, the diversion facility would only be constructed and operated if adverse impacts on fish populations could be avoided. Consequently, the Preferred Program Alternative will not have greater adverse impacts on fish populations than Alternative 1.

Alternative 1 provides less operational flexibility than the Preferred Program Alternative and accordingly could result in fewer benefits to water supply reliability, and water quality. While Alternative 1 would substantially meet the Program's goals and primary objectives, Alternative 1 provides less operational flexibility and is less effective in meeting the Program objectives for water quality, water supply reliability and flood control as compared to the Preferred Program Alternative.

Alternative 2

Alternative 2 would employ a modified through-Delta conveyance approach. Significant improvements to north Delta channels, including construction of setback levees and channel dredging, and construction of a 10,000 cfs diversion from the Sacramento River to the Mokelumne River and associated fish protection facilities, would accompany the south Delta improvements contemplated under Alternative 1 and the Preferred Program Alternative.

The diversion would send greater volume and better quality water from the Sacramento River into the north Delta and east Delta. The diverted water would improve net-Delta outflow which helps to isolate the south Delta pumps from salinity intrusion and reduces the entrainment of San Joaquin River fish. The quality of in-Delta and exported water quality and would improve as compared to the Preferred Program Alternative.

However, Alternative 2 could result in significant adverse impacts on fisheries from the 10,000 cfs diversion facility. Fish mortality would increase as a result of reduced flow on the Sacramento River downstream of the diversion and greater proportion of fish entering Georgianna Slough and the Mokelumne River. Fish mortality would also increase from entrainment at the diversion. There is substantial uncertainty whether a facility as large as 10,000 cfs could be operated and screened sufficiently to avoid or minimize significant adverse effects on fish populations.

While the Preferred Program Alternative incorporates many of the benefits of Alternative 2 derived from north Delta channel modifications, there is uncertainty and concern that objectives for export and in-Delta water quality can be achieved with the common program elements and these actions. If water quality objectives not be met, the Preferred Program Alternative includes a diversion facility on the Sacramento River as a contingent measure to improve export water quality. The facility would have a capacity no greater than 4000 cfs which would substantially reduce impacts on fisheries, and would provide similar, but less pronounced, water quality improvement as Alternative 2. The diversion facility would only be constructed if it is determined that significant adverse impacts on fish populations can be avoided. Alternative 2 does not include this option. While Alternative 2 could meet the Program's goals and primary objectives to some extent, the water quality benefits of Alternative 2 are outweighed by greater technological uncertainty and adverse impacts on fisheries as compared to the Preferred Program Alternative. Accordingly, Alternative 2 is less effective in meeting the Program objectives.

Alternative 3

Alternative 3 would employ a dual-conveyance approach employing a combination of through-Delta improvements similar to the Preferred Program Alternative and an isolated diversion facility on the Sacramento River to take water by canal to the export facilities in the south Delta.

Initially, the dual-Delta conveyance approach with an isolated facility appeared to provide greater technical performance than the other alternatives. Some of the preliminary scientific and engineering evidence suggests that a dual-Delta conveyance configuration may improve export water quality and achieve fish recovery most effectively. Relative to the Preferred Program Alternative, Alternative 3 would improve export water quality and improve Delta flow patterns for fish migration, including reduced incidence of reverse flow and entrainment in the south Delta pumps.

However, other evidence indicates that such a conveyance configuration can cause significant in-Delta water quality problems. The diversion would substantially reduce the flow of the

Sacramento River below the diversion and could aversely affect fish migration and survival. The isolate facility would have a capacity between 5,000 cfs and 10,000 cfs. Higher capacity diversion would pose problems similar to Alternative 2. Additionally, construction-related impacts, land conversion and impacts from operation of the isolated facility, such as seepage, would be substantially greater under the Preferred Program Alternative.

In addition, during scoping and public meetings, many stakeholders and agencies voiced numerous concerns, including the difficulty of in ensuring the appropriate operation of such a facility, fear that an isolated facility will decrease the incentive to manage the Delta as a "common pool" in which export water supply is coupled with the preservation of the Delta, that decreased dependence on a on a through-Delta approach could undermine the commitment for balanced solutions involving maintaining Delta levees, improving in-Delta quality and pursuing ecosystem restoration.

For these reasons, Alternative 3 presents the most serious challenges in terms of cost, scientific uncertainty, assurances and implementation. While Alternative 3 may technically perform better for certain resource areas than the Preferred Program Alternative, it is not clear that the additional cost and risk associated with the isolated facility would be worth the benefits. Years of scientific evaluation would be necessary to determine whether an isolated facility would be needed to meet water quality, water supply reliability and fisheries objectives. At the earliest, evaluation, design and permitting the facility would take ten years. Lastly, the isolated facility is so contentious that stakeholder support for the Program would be significantly eroded. Such lack of support could threaten the viability of the entire Program.

The Preferred Program Alternative has a high likelihood of success in a shorter time period. The Preferred Program Alternative also has lower risk, is less controversial, and would require less modification of the environment than Alternative 3. Alternative 3 is rejected as infeasible due to social and technical considerations, based in large part due to the contentiousness and time associated with an isolated conveyance facility and the uncertainty that it will achieve the Program objectives any better than the Preferred Program Alternative.

2.1.5 Environmentally Preferable/Superior Alternative

As described above, the Preferred Program Alternative adopts a set of programmatic actions designed to achieve the objectives for each of the resource areas while evaluating the effectiveness of those actions, and assessing whether modifications may be needed to meet Program goals and objectives. Accordingly, the Preferred Program Alternative is the "Environmentally Preferable Alternative" under NEPA and the "Environmentally Superior Alternative" under CEQA.

The problems and potential solutions facing the Bay-Delta involve a complex set of interrelated biological, chemical, and physical systems. This complexity, coupled with the broad scope and number of actions needed to implement the Program, the 30-year or more implementation period,

the need to test hypotheses, and resource limitations make it necessary to implement the Program in stages. Consequently, the Preferred Program Alternative provides for implementation of the Program in a staged manner and establishes mechanisms to obtain the necessary additional information to guide the next stage of decision making.

The Preferred Program Alternative consists of a through-Delta conveyance approach, coupled with ecosystem restoration, water quality improvements, levee system improvements, increased water use efficiency, improved water transfer opportunities, watershed restoration, and additional surface waters and groundwater storage. The Preferred Program Alternative meets the Program's multiple purposes, reduces adverse environmental effects, and provides a system of research and monitoring to determine whether modifications or additional actions are needed. It provides multiple benefits, including but not limited to:

- Modifying the timing and magnitude of flow to restore ecological processes and to improve conditions for fish, wildlife, and plants in the Bay-Delta system.
- Improving and increasing aquatic and terrestrial habitats.
- Modifying and eliminating fish passage barriers.
- Constructing fish screens that use the best available technology.
- Reducing the loads and impacts of bromide, total organic carbon, pathogens, nutrients, salinity, and turbidity.
- Reducing the impacts of pesticides.
- Reducing the impacts of trace metals, mercury, and selenium.
- Improving and maintaining the stability of the Delta levees and, after evaluation, appropriately improving and maintaining the Suisun Marsh levee system.
- Enhancing flood protection for key Delta islands.
- Expanding and implementing agricultural and urban conservation incentive programs.
- Implementing better water management for managed wetlands.
- Facilitating water transfers while protecting third parties from potentially significant adverse impacts.
- Supporting local watershed restoration, maintenance, and conservation activities.
- Developing appropriate groundwater and surface storage in conjunction with specified water conservation, recycling, and water transfer programs to provide water for the environment at times when it is needed most, and to improve water supply reliability.
- Modifying existing Delta conveyance systems for improved water supply reliability and water quality, improved ecosystem health, and reduced risk of supply disruption due to catastrophic breaching of Delta levees.

Although the CALFED Agencies did not rule out the possibility of constructing an isolated conveyance facility in the future, they were mindful that, even if approved immediately following the ROD, such a facility could not be studied, approved, funded, and constructed within Stage 1 of implementation.

In light of the technical and feasibility issues discussed above, the CALFED Agencies propose to begin with through-Delta modifications. As part of the Preferred Program Alternative, the Program also would:

- Continue to investigate storage opportunities in the context of the broader water management strategy.
- Evaluate and implement storage projects, predicated on complying with all environmental review and permitting requirements. These efforts will be coordinated under CALFED's Integrated Storage Investigation.
- Implement the Stage 1 of the Ecosystem Restoration, Water Quality, Water Use Efficiency, Water Transfers, Watershed, and Levee System Integrity Program Plans.
- Monitor the results of these actions to determine whether an isolated conveyance facility as part of a dual-Delta conveyance configuration is necessary to meet the Program objectives.

If the Program purposes cannot be fully achieved with the actions proposed in the Preferred Program Alternative, additional actions including an isolated conveyance facility will need to be considered in the future. Until additional information is available to determine whether water quality objectives and fish recovery goals can be met and which, if any, additional actions will be necessary to achieve the Program goals and objectives, the Preferred Program Alternative is the best alternative to achieve overall project purposes and provide significant beneficial improvements over the conditions anticipated under the No Action Alternative, while establishing a process for obtaining this additional information. Moreover, the way the alternatives are structured, going forward with the Preferred Program Alternative does not preclude the Program's ability to undertake additional conveyance actions in the future, subject to appropriate environmental review.

2.1.6 Mitigation

Mitigation Measures Adopted

The Final Programmatic EIS/EIR sets out many potential mitigation measures (see Appendix A to this ROD) to be used during project-specific planning where appropriate. The CALFED Agencies will consider and adopt these measures when conducting second-tier environmental review. In addition to the mitigation measures identified at the programmatic level, the CALFED Agencies will also consider and adopt feasible mitigation measures intended to address project-specific impacts.

In considering effects from the CALFED Program together with effects of other similar projects, the cumulative impact analysis did not identify any additional effects that individually would be minor, but collectively significant. As a result, the analysis of the CALFED Program's contribution to cumulative effects is very similar to the analysis of its long-term effects. The

mitigation strategies identified for the CALFED Program effects are also applicable to mitigate the CALFED Program's cumulative effects.

Mitigation Measures Not Adopted

Generally, mitigation measures were not adopted in this ROD where they were inappropriate or not practicable. Specifically, a measure was not adopted where a mitigation measure is similar to a measure incorporated, a measure is less effective than a measure incorporated, a measure is ineffective for mitigating an adverse effect, a measure is too project-specific for a programmatic document, a measure addresses an impact that is not caused by the CALFED Program, a measure does not address an environmental effect or a measure is not practicable.

Appendix B to this ROD, incorporated herein, contains a list of mitigation measures not adopted and includes reasons why specific measures were not adopted.

Mitigation Monitoring Plan

Projects and activities that implement the CALFED Preferred Program Alternative will be monitored to ensure that mitigation strategies developed in the Final Programmatic EIS/EIR are considered, adopted and implemented. CALFED Agencies will use this mitigation monitoring plan for projects that are within the scope of the Final Programmatic EIS/EIR and carried out or funded by CALFED Agencies as part of the CALFED Program. If and when a new governing agency with authority to carry out CALFED projects is created, this plan would apply to that new agency as well.

Projects and activities implementing the Preferred Program Alternative will undergo future environmental analysis tiering from the Final Programmatic EIS/EIR. In order to qualify for CALFED funding, any implementing project must demonstrate its compliance with this mitigation monitoring plan. As part of these second-tier environmental reviews, the lead agency for each of these projects will use the mitigation strategies (see Appendix A to this ROD) as a starting point to determine appropriate mitigation measures. Because all the potential actions and impacts for tiered projects cannot be anticipated at a programmatic level, each project needs to select those strategies and actions applicable to the specific location and type of action and to consider additional project-specific mitigation measures.

The mitigation monitoring plan includes review, guidance, and reporting components. The CALFED Agencies will prepare a checklist of the mitigation strategies (Appendix A to this ROD) to provide guidance to lead agencies preparing environmental documents that tier from the Final Programmatic EIS/EIR. The lead agencies for second tier documents will note which applicable programmatic mitigation strategies are being adopted and explain why others are not. They will provide a schedule for implementing the adopted mitigation measures, and for reviewing the implementation of those measures. The lead agencies will provide a written report periodically,

but at least once a year to the CALFED Agencies for programmatic review by the lead scientist as to the overall progress in implementing the mitigation measures and the efficacy thereof. A summary of this information will be included in the annual report described in Section 1.1.

2.2 Plan for Action

2.2.1 Governance

Through five years of planning, the CALFED *process* for implementing the Program has assumed an importance virtually equal to the CALFED *actions*. Stakeholders often raise concerns about their role in implementation or about how a particular action will be implemented. This section briefly describes the CALFED Agencies' plan for addressing interim as well as long-term governance issues.

Interim Process

The CALFED Agencies have executed a memorandum of understanding (Attachment 3 to this ROD) that establishes the process for governing implementation of the CALFED Program until the Legislature and Congress establish a new governing structure. The Implementation MOU does not create a new entity or modify existing agency authority. Instead, it identifies the agencies that will lead implementation of each Program element and establishes the CALFED Policy Group as the oversight and coordination body for CALFED implementation.

Long-Term Proposal

After nearly a decade of slow but tangible progress toward shared decision-making and funding, the CALFED Agencies will work with the State Legislature and the Congress to develop legislation for a permanent joint Federal-State commission with shared power to appoint commission members. This approach will require resolution of Federal Constitutional concerns. The new commission would provide direction and oversight in implementing the long-term plan described in this document and the Final Programmatic EIS/EIR. A joint commission made up of high-level appointees would maintain visibility inside and outside the government, assure agency coordination, help secure funding, and provide policy leadership and accountability.

Major responsibilities of the Commission would include: reviewing and approving program priorities and budget proposals; assessing and reporting on progress toward program goals; coordinating within CALFED and with related programs to maximize resources and reduce conflicts; resolving disputes among CALFED Agencies; and maintaining contact with and receiving communications from the public and the media, as well as Congress and the California Legislature. The overarching mandate of the Commission would be to assure effective, balanced

and coordinated implementation in all program areas.

The Commission should be composed of equal numbers of high level officials of the Federal and State agencies responsible for implementing CALFED programs and a similar number of stakeholder and tribal representatives. This structure is generally consistent with the recommendation of the Bay-Delta Advisory Council. For example, the Commission could have 12 members, as follows: four Federal members - from among the U.S. Environmental Protection Agency (EPA), Natural Resources Conservation Service (NRCS), U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS)/National Oceanic and Atmospheric Administration (NOAA), Reclamation, U.S. Fish and Wildlife Service (USFWS); four State members - California Department of Fish and Game (DFG), California Department of Water Resources (DWR), California Environmental Protection Agency (CalEPA), Resources Agency; and four other members, representing rural/agricultural water user communities, urban water user communities, environmental advocates and tribes. This structure would ensure a close relationship between the Commission, CALFED Agencies, and the stakeholder community.

As described in Attachment 3, the Commission would be assisted by an advisory committee whose members would include representatives of Indian tribes, local governments and stakeholder groups, including environmental justice representatives. The advisory committee members would be selected based on their experience and expertise in relevant fields, such as ecosystem restoration, agriculture, hydrology, urban water management, fishery biology, water quality, flood management, water conservation and recycling, and economics. Appointments would be made to assure that the advisory committee as a whole is both balanced and diverse. Representatives of CALFED Agencies would attend advisory committee meetings and provide information and updates to the committee.

Implementation Commitments

Local Leadership. The CALFED Agencies will rely on leadership in local communities across the State to provide advice and support for implementing CALFED projects affecting their communities.

Stakeholder Consultation. The CALFED Agencies will continue to solicit and incorporate diverse stakeholder perspectives into its decisions and actions as they implement the CALFED Program. The Secretary of the Interior will charter a new Federal advisory committee and will consult with the Governor regarding membership of the new committee.

Environmental Justice. Consistent with Federal and State authorities including Federal Executive Order 12898, Title VI of the Civil Rights Act of 1964 and recent State legislation, the CALFED Agencies are committed to addressing environmental justice challenges related to the management of water in the Bay-Delta watershed. For example, it is important to examine the potential effects of water management reforms on rural

communities and the public health and financial impacts of ERP and Water Quality Program actions on the large numbers of minorities and disadvantaged people living in urban as well as rural areas. The CALFED Program and its participating agencies are committed to seeking fair treatment of people of all races, cultures, and incomes, such that no segment of the population bears a disproportionately high or adverse health, environmental, social or economic impact resulting from CALFED's programs, policies, or actions. The CALFED Agencies will be responsible for ensuring this policy is carried out across all program areas through the development of environmental justice goals and objectives.

By the end of December 2000, the CALFED Agencies will collaborate with environmental justice and community stakeholders to develop a comprehensive environmental justice workplan across all program areas. This workplan will ensure that the CALFED Agencies develop the capacity and process to understand, monitor, and address environmental justice issues as the program moves into implementation, including identifying and developing specific methods to address and mitigate environmental justice impacts. This workplan should, at a minimum, include commitments such as the development of environmental justice goals and objectives for each program area, investments in staff and resources across program areas and agencies, development and implementation of an environmental justice education program for agency and program staff, collection and analysis of additional demographic information to assist in the identification of impacts, and actions to ensure effective participation on technical and advisory workgroups by those populations adversely impacted.

Tribal Consultation. Consistent with the President's April 29, 1994, Memorandum, the CALFED Agencies will assess the impact of CALFED project-specific plans, projects and activities on tribal trust resources and tribal government rights and concerns. The CALFED Agencies will actively engage federally recognized tribal governments in the planning and development of specific projects in their areas and will consult with such tribes on a government-to-government basis, to the greatest extent practicable and to the extent permitted by law, prior to taking actions that affect such tribal governments. At the request of any tribal government, the CALFED Agencies will enter into a Memorandum of Understanding with that tribal government or multiple tribal governments that will specify the process for how the federal, state and tribal governments will work together, on a government-to-government basis, in developing CALFED projects.

Land Acquisition. Successful implementation of the CALFED Program will affect some agricultural lands. As an important feature of the State's environment and economy, agricultural lands will be preserved during implementation of the Program in a manner consistent with meeting program goals, minimizing impacts to agriculture. Some of the land needed for program implementation is already owned by the Federal or State government and that land will be used to achieve program goals. Partnerships with landowners, including easements with willing landowners, will be pursued to obtain mutual benefits if public land is not available for the intended purpose. Acquisition of fee

title to land will be from willing sellers only, and will be used when neither available public land nor partnerships are appropriate or cost-effective for the specific need. Such acquisitions will consider the potential for third-party and redirected impacts. In addition, to the maximum extent possible, the CALFED Agencies will seek to implement the Program through technical and financial assistance to locally based, collaborative programs such as the Sacramento River Conservation Area/SB 1086 program.

CALFED Agency Coordination. The CALFED Bay-Delta Program has established an important precedent in coordinated and cooperative State and Federal agency relationships. These improved institutional relationships are expected to extend to other programs in which these agencies continue to have roles. Other programs include those developed to address statewide water supplies and demands.

Integration of Non-Signatory Agencies. The CALFED Agencies intend to work with Federal and State agencies that implement other programs that relate to CALFED's mission. While these agencies will not serve as part of the governing structure or incorporate their programs into CALFED, the CALFED Agencies will coordinate their implementation of the CALFED programs with these non-CALFED programs. The CALFED Executive Officer and staff will coordinate with the other agencies' programs and identify conflicts as soon as possible. In some cases, CALFED Agencies or a successor agency may establish contractual relationships with non-CALFED Agencies to implement certain CALFED programs.

Environmental Documentation. The CALFED Agencies will fulfill their respective legal responsibilities for environmental analysis, documentation and permitting pursuant to NEPA, CEQA and all other environmental laws. As indicated below, the CALFED Agencies and/or the new CALFED Commission will complete the necessary programmatic and project-specific analysis of programs and projects.

Permit Clearinghouse. The CALFED Agencies will establish a clearinghouse for obtaining the necessary permits and approvals for CALFED Program implementation. This permit clearinghouse will be established by December 2000.

Adaptive Management/Science. The CALFED Agencies will use science-based adaptive management in the implementation of the CALFED Program.

Beneficiaries Pay. A fundamental philosophy of the CALFED Program is that costs should, to the extent possible, be paid by the beneficiaries of the program actions.

Compliance With Water Rights Laws. The CALFED Agencies will comply with California's water rights laws, including area-of-origin statutes, applicable to their respective actions. Nothing in this ROD is intended to affect existing water rights or water right holders. In the few areas where CALFED Agencies may propose changes to California law (e.g., transfers, appropriate water use measurement), the CALFED

Agencies will work with all interested parties potentially affected by such changes in developing legislative proposals.

Project Operations. In order to promote more efficient water project operations, the operators of the State Water Project (SWP) and Central Valley Project (CVP) will continue to meet regularly with the fishery agencies through the CALFED Operations Group (Ops Group) which has been re-established in the Implementation MOU.

Coordinated Operation Agreement. DWR and Reclamation intend to modify the 1986 CVP/SWP Coordinated Operation Agreement (COA) in order to reflect the many changes in regulatory standards, operating conditions and the EWA. DWR and Reclamation will commence renegotiation of the COA by the middle of 2001.

2.2.2 Ecosystem Restoration

The CALFED Agencies will implement a comprehensive Ecosystem Restoration Program (ERP) throughout the Bay-Delta's watershed, consistent with the Strategic Plan for Ecosystem Restoration. The goal of the ERP is to improve aquatic and terrestrial habitats and natural processes to support stable, self-sustaining populations of diverse and valuable plant and animal species through an adaptive management process. Implementation of the ERP includes recovery of species listed under the State and Federal Endangered Species Acts.

Actions Included in the Programmatic EIS/EIR

To achieve its objectives, the ERP identifies over 600 programmatic actions in all the regions of the Bay-Delta watershed. CALFED's ERP will undertake the following actions using a science-based adaptive management framework, consistent with the ERP Strategic Plan and on-going scientific review. Additional information on the ERP Science Program can be found in the ERP Strategic Plan. The actions listed here are explained in greater detail in Volumes I and II of the ERP and in the ERP Strategic Plan. ERP actions include, but are not limited to:

- Implement large-scale restoration projects on selected streams and rivers including Clear Creek, Deer Creek, Cosumnes River, San Joaquin River and Tuolumne River, in cooperation with local participants.

- Improve fish passage through modifications or removal of the following locally owned dams: small diversion dams on Butte Creek; eight Pacific Gas & Electric Company diversion dams on Battle Creek; McCormick-Saeltzer Dam on Clear Creek; Woodbridge Dam on Mokelumne River; and Clough Dam on Mill Creek. CALFED Agencies will support studies to determine if introduction of wild chinook salmon and steelhead to the upper Yuba River watershed is biologically, environmentally, and socio-economically feasible over the long term and will recommend other fish passage projects through the

Integrated Storage Investigation (ISI). Local interests will participate in implementing these actions, with funding shared by CALFED Agencies and the local interests, based on individual circumstances.

- Restore habitat in the Delta, San Pablo Bay, Suisun Bay and Suisun Marsh, and Yolo Bypass including tidal wetlands and riparian habitat. In addition, 8,000 to 12,000 acres of wildlife-friendly agricultural lands will be established during Stage 1, in cooperation with local participants.

- Restore habitat and hydraulic needs on Frank's Tract in the Delta to optimize improvements in ecosystem restoration, levee stability, and Delta water quality. CALFED Agencies will decide the scope and feasibility of the project by 2002, and begin implementation by the end of Stage 1.

- Improve salmon spawning and juvenile survival in upstream tributaries as defined by the ERP and Strategic Plan**,** by purchasing up to 100 TAF per year by the end of Stage 1. Some of these ERP flows may contribute to the EWA.

- Complete protection and restoration of the Sacramento River meander corridor as part of the Sacramento River Conservation Area/SB 1086 program, including easement or purchase of an additional 15,000 acres, revegetation, and restoration of stream meander function by the end of Stage 1.

- Implement an invasive species program, including prevention, control and eradication.

- Assess the potential need for additional fish contamination monitoring and consumption advisories in the Bay-Delta watershed. If gaps are found, fund additional monitoring, testing, analysis, outreach, pollution prevention, and implementation of best management practices, as appropriate, by the end of Stage 1.

- Assist existing agency programs to reduce turbidity and sedimentation; reduce the impairment caused by low dissolved oxygen conditions; reduce the impacts of pesticides including organochlorine pesticides; reduce the impacts of trace metals; mercury; and selenium; reduce salt sources to protect water supplies; and increase understanding of toxicity of unknown origin.

- Improve dissolved oxygen conditions in the San Joaquin River near Stockton. The dissolved oxygen in the San Joaquin River, in the vicinity of Stockton, dips below State environmental criteria, causing a migratory block for salmon and threatening other fish. CALFED proposes simultaneous investigation of specific causes as well as investigation of innovative methods to reduce problem pollutants in the river. Proposition 13 includes $40 million to construct facilities as part of this effort. Actions include:

  S Finalize investigation of methods to reduce constituents that cause low dissolved

oxygen by the end of 2001 to be included in the Total Maximum Daily Load recommendation to the Central Valley Regional Water Quality Control Board (CVRWQCB).

- **S** Finalize State Basin Plan Amendment and Total Maximum Daily Load for constituents that cause low dissolved oxygen in the San Joaquin River by the end of June 2002.
- **S** Begin implementation of appropriate source controls and other controls as recommended in the Total Maximum Daily Load by the end of 2002.

Single Blueprint for Restoration and Recovery: MSCS-ERP Milestones

The CALFED Agencies will establish, through the ERP and the MSCS, a single blueprint for restoration and species recovery within the geographic scope of the CALFED ERP. The ERP is the Program's blueprint for restoration of the Bay-Delta. The MSCS is not a separate blueprint or supplemental restoration program and does not supplant the ERP. The measures and goals in the MSCS are derived from, or are consistent with, the ERP's measures and goals.

The ERP will be informed by the Science Program, which will monitor and evaluate the implementation of the ERP actions and conduct pertinent research. The ERP and the Science Program are important for Federal Endangered Species Act (FESA), California Endangered Species Act (CESA) and Natural Community Conservation Plan (NCCP) compliance, and are integral to the MSCS. To ensure that the ERP is implemented in a manner and to an extent sufficient to sustain programmatic FESA, CESA and NCCP compliance for all program elements, USFWS, NMFS, and DFG have developed MSCS-ERP Stage 1 Milestones. USFWS, NMFS, and DFG have concluded, based on the best information currently available, that the MSCS-ERP Milestones, if achieved as specified in the Programmatic Regulatory Determinations, define a manner and level of ERP implementation in Stage 1 sufficient to achieve the MSCS's species goals. USFWS, NMFS, and DFG expect and intend that the MSCS-ERP Milestones will be achieved with annual ERP funding of $150 million, as described below (see Funding).

To ensure that substantial progress in being made to achieve the MSCS-ERP Milestones, the USFWS, NMFS, and DFG will participate in an annual process with the ERP and Science Programs to: 1) develop annual and long-term ERP implementation priorities and strategies; 2) develop annual implementation plans; and 3) assess the implementation and performance of ERP actions, including measuring progress towards achieving the MSCS-ERP Milestones. USFWS, NMFS, and DFG expect that the MSCS-ERP Milestones may be revised to reflect new information derived in the process.

Funding

In Stage 1, CALFED plans to invest over $1 billion in ERP projects, in accordance with the priorities established in the Strategic Plan, in addition to funds necessary for the EWA. To be

successfully implemented, the ERP must have at least $150 million from dedicated funding sources annually through Stage 1. (There may be many ways to achieve this.) An additional $50 million will be required annually for the EWA for the first four years. It is anticipated that additional funding to support the EWA will be needed beyond the first four years. To the extent that the EWA acquires a share of new storage and conveyance projects, the need for EWA funding for annual acquisitions of water will be reduced. The level of assets required to support continuation of the EWA beyond the first four years will be evaluated and will be included in a revised biological opinion.

For the ERP, the CALFED Agencies propose a combination of State funding (including Proposition 204 funds), Federal funding, and user fees. Consistent with this proposal, the State has allocated over $173 million in FY 2000-2001, including $100 million from Proposition 204, $35 million from the general fund, $25 million from Proposition 13, and $13 million from Proposition 12. Additionally, through FY 2000, Federal funds in the amount of $190 million have been provided through Reclamation. During the first years, State and Federal funds would provide the bulk of funding, supplemented by approximately $15 million of Central Valley Project Improvement Act (CVPIA) Restoration Funds, and SWP contributions under the Four Pumps Agreement. Following issuance of this ROD, the CALFED Agencies will work with local interests to develop State legislation to create a broad-based user fee that will generate approximately $35 million annually. The CALFED Agencies also will consider the availability of Federal funds. By the end of Stage 1, CALFED will reevaluate the level of dedicated annual funding from State, Federal, and user sources to achieve the ERP goals.

Complementary Action

The Framework identified the following action which was not analyzed in the Final Programmatic EIS/EIR and will, therefore, require additional environmental review.

- Implement integrated flood management, ecosystem restoration and levee restoration under the Sacramento/San Joaquin River Basins Comprehensive Study being prepared by the USACE and California Reclamation Board. Significant elements of this Comprehensive Study, when implemented, will further the purposes of the ERP. The CALFED Agencies intend that final development and implementation of actions under the Comprehensive Study will be coordinated and consistent with the CALFED Bay-Delta Program.

In addition to the ERP actions funded through CALFED, ongoing State and Federal commitments to fish and wildlife restoration will continue and will supplement the achievement of the CALFED objectives and activities. These programs include CVPIA and Four Pumps Agreement among others.

2.2.3 Watersheds

The goal of the CALFED Watershed Program is to promote locally led watershed management activities and protections that contribute to the achievement of CALFED goals for ecosystem restoration, water quality improvement, and water supply reliability. The CALFED Agencies will encourage and support local efforts to resolve issues throughout watersheds in the solution area (both above and below the primary tributary dams). The CALFED Program will support local implementation with funding, coordination, and technical assistance. CALFED proposes investing $300 million in this watershed program in Stage 1.

Watershed plans and actions will be developed to achieve multiple objectives: improved water supply reliability, flood management, environmental restoration, and water quality. For example, the Watershed program anticipates providing assistance to community based organizations in the American River watershed. Current efforts underway in this watershed are focused on forest and fuels management issues, and reducing the threat of catastrophic wildfire. Addressing these issues on a watershed scale can result in reduced water quality impacts and increased aquatic and terrestrial habitats for important species of concern.

Actions Included in the Programmatic EIS/EIR

The major Stage 1 elements of the Watershed Program include:

- Establishing a grant program in the first year to solicit, evaluate and fund local projects that contribute to achieving CALFED goals. The watershed activities targeted by this program will:

  - Build local capacity to assess and manage watersheds affecting the Bay-Delta system.
  - Develop watershed assessments and management plans.
  - Fund development and implementation of specific watershed conservation, maintenance and restoration actions.

  The CALFED Watershed Program has designed a three-step process for soliciting, evaluating and selecting an initial set of demonstration watershed projects: 1) solicitation of watershed projects that meet Program's selection criteria; 2) further proposal development by CALFED staff, the Watershed Workgroup, and an Interagency Watershed Advisory Team; and 3) evaluation and selection of proposals. CALFED's criteria for selecting projects will be based on the following:

  - A balance of diverse watershed activities that demonstrate the potential to improve the Bay-Delta system.
  - Application to multiple CALFED objectives in an integrated fashion, with emphasis on water supply reliability, water quality, and levee stability.

- S A variety of watershed settings, such as forest lands, agricultural, urban, mixed, etc., are represented.
- S Geographical distribution throughout the CALFED solution area.
- S Project costs and anticipated results.

C Developing watershed program performance measures and monitoring protocols consistent with the CALFED Science Program by the end of 2002.

Local Leadership

Building local consensus about management of individual watersheds is particularly important to the watershed program. CALFED Agencies are therefore committed to fostering the development of local watershed groups that include adjacent landowners, community members (particularly representatives from traditionally under-represented groups), environmental advocacy groups and locally-involved public agencies (Federal, State and local).

2.2.4 Water Supply Reliability

One of the primary goals of CALFED is to improve the reliability of California's water supply within the context of unpredictable hydrology and the competing needs of fish and wildlife and water users. In addition to hydrology, actions taken in Stage 1 assume that water supply reliability is predicated upon the following factors:

C Clear and consistent implementation of all regulatory decisions and project operations.
C Flexibility, water use efficiency and interagency cooperation to avoid water supply/fish/water quality conflicts where possible.
C Investment in infrastructure to improve storage and conveyance capacity.

Actions Included in the Programmatic EIS/EIR

Actions initiated in the first four years of Stage 1 to improve storage and conveyance capacity (see following sections on Storage and Conveyance) will substantially increase water supply reliability in the later years, but these benefits will not be realized until the new facilities come on line. Similarly, it will take years to implement and fully realize the water supply benefits of water use efficiency, recycling and other conservation measures. Therefore the greatest challenge to improving water supply reliability lies in the first four years of Stage 1.

To address these water supply reliability challenges in this period, CALFED Agencies are taking the following actions in this ROD:

C Establishing an EWA with an average of 380 TAF of water set aside annually in the first years to provide additional water for fishery purposes beyond the regulatory baseline. Water assets will be acquired by CALFED Agencies, consistent with the goals of the

CALFED Water Transfer Program.

- Establishing a Regulatory Baseline by delineating existing regulatory requirements and clarifying implementation of specific regulatory actions (see EWA Section).
- Providing a commitment that there will be no reductions, beyond the baseline regulatory levels described below, in CVP or SWP Delta exports to State and Federal project water users resulting from measures to protect fish. This commitment will initially be provided for the first four years of Stage 1, as outlined in the MSCS Conservation Agreement (see Attachment 5 to this ROD).

In addition, CALFED Agencies will take the following actions in Stage 1:

- Seek SWRCB approval of Joint Point of Diversion and share water derived from Joint Point of Diversion between the CVP and the EWA.
- Implement conjunctive management projects, water conservation measures and water transfers, as described in the sections below.
- Allocate Proposition 13 funds dedicated to interim water supply reliability and water quality.

Proposition 13 contains over $630 million for these purposes, including the following:

- **S** $200 million for groundwater storage projects.
- **S** $250 million for Stage 1 water quality actions and water management actions.
- **S** $180 million for water supply and water quality infrastructure projects in areas that draw supplies from the Delta.

In the first four years of Stage 1, it is anticipated that water deliveries will remain at recent levels for most water users who depend upon water from the CVP, including Exchange Contractors, North of Delta CVP agricultural contractors, refuges, and M&I contractors, as well as for SWP contractors and non-project water users. It is also anticipated that implementation of Joint Point of Diversion, operational flexibility, interagency cooperation, EWA implementation, and other cooperative water management actions (some of which may require further specific environmental review) will result in normal years in an increase to CVP south-of-Delta agricultural water service contractors of 15 percent (or greater) of existing contract totals to 65 to 70 percent. This normal year supply improvement may not be achieved in all years due to annual hydrologic variability and its impact on carryover storage conditions. Substantial progress toward implementation of other program elements, such as development of EWA assets, is also necessary. Water supplies in dry years are likely to be less than the anticipated amounts and more in above normal years. As discussed in this ROD, CALFED Agencies are committed to working with local agencies to implement these regional supply actions and to support local water management actions including conservation and other local measures. Part of this effort will include development of a plan for alternative refuge supplies and conveyance.

The Secretary of the Interior is expected to make a decision later this year on Trinity River flows

pursuant to the original Trinity authorization, the Trinity Restoration Act of 1984, and the CVPIA. The substance of that decision is unknown and therefore cannot be addressed at this time. It is separate from and will not be affected by this ROD. Certain CALFED Agencies have considered the potential that the Trinity River decision may affect CVP allocation and have concluded that it will not affect the allocations to CVP south-of-Delta agricultural water service contractors described immediately above.

Complementary Action

The Framework identified the following action which was not analyzed in the Final Programmatic EIS/EIR.

- **Governor's Drought Contingency Plan.** CALFED Agencies recognize that in the next several years critical water shortages may occur that severely impact the health, welfare and economy of California. To avoid such serious impacts, the Governor has convened a panel, chaired by the Director of DWR, for the purpose of developing a contingency plan to reduce the impacts of critical water shortages primarily for agricultural and urban water users. The plan will identify all available resources (e.g., water transfers, water exchanges, groundwater programs, local partnerships), building upon the experience gained with Governor's Drought Water Bank, to minimize such shortages. The plan also will recommend appropriate funding mechanisms. In addition, CALFED Agencies commit to facilitate transfers of water and expedite regulatory processes to assist in implementation of the plan consistent with legal requirements. The Governor's Panel will submit the plan to the Governor by December 2000.

2.2.5 Storage

Expanding water storage capacity is critical to the successful implementation of all aspects of the CALFED Program. Not only is additional storage needed to meet the needs of a growing population but, if strategically located, it will provide much needed flexibility in the system to improve water quality and support fish restoration efforts. Water supply reliability depends upon capturing water during peak flows and during wet years, as well as more efficient water use through conservation and recycling.

Actions Included in the Programmatic EIS/EIR

The Program identified actions that will be pursued in Stage 1 to expand storage capacity at existing reservoirs and strategically located off-stream sites by approximately 950 TAF, and to implement a major expansion of more environmentally sensitive groundwater storage for an additional 500 TAF to 1 MAF. CALFED Agencies are committed to increasing storage through the development of acceptable projects described below. Storage projects are not developed in

isolation but rather as part of an overall water management strategy. As such, storage combined with other program actions such as conservation, transfers and habitat restoration will contribute to and be compatible with the water supply reliability, water quality and ecosystem restoration program objectives. For example, storage projects must be constructed and operated in a manner that is consistent with CALFED's water quality goal of continuous improvement in Delta water quality. Local agencies will continue to independently develop storage projects to meet local needs.

The Final Programmatic EIS/EIR identified 12 potential surface reservoir sites and many possible groundwater storage sites. Based upon the work of the Integrated Storage Investigation and previous studies, DWR and Reclamation will work with other CALFED Agencies to take the necessary steps to pursue expansion of two existing reservoirs and construction of a new offstream reservoir, with a combined capacity of 950 TAF and a major expansion of groundwater storage for an additional 500 TAF to 1 MAF. DWR and Reclamation will also study two potential storage projects through partnerships with local agencies. However, these two additional sites will require substantial technical work and further environmental review and development of cost-sharing agreements before decisions to pursue them as part of the CALFED Program.

Project	Potential Storage (acre-feet)
In-Delta Storage	250,000
Enlarged Shasta	300,000
Expanded Los Vaqueros	400,000
Groundwater/Conjunctive Use	500,000-1,000,000
TOTAL	1,450,000 - 1,950,000

The remaining potential reservoir sites in CALFED's screened list of 12 sites, as well as those sites previously screened out earlier during the site review process, appear to have less potential for providing benefits during Stage 1 or soon thereafter, either because of cost, extensive planning and analysis required, or other factors. Some of these sites may be retained solely for analysis purposes and could serve as alternatives to the above projects. Future progress and experience with implementation of other parts of the Program, such as the EWA or south Delta conveyance improvements, may better define potential benefits of these storage projects. CALFED does not plan to pursue implementation of any of these projects at this time.

The benefits of increased water supply reliability resulting from actions to provide expanded storage (as well as to provide conveyance improvements, described in section 2.2.6) will be available to be shared among beneficial uses as appropriate to the specific action. In evaluating and allocating costs and benefits of CALFED storage and conveyance projects, actions taken outside the CALFED Program will not provide entitlements or the justification for claims for any

parties or class of beneficial users to any particular allocation of storage and conveyance assets developed through the CALFED Program.

Surface Storage Projects To Be Pursued With Project-specific Study. The CALFED Final Programmatic EIS/EIR identified as a list of twelve potential surface storage projects for consideration. Further project-specific review, however, will be required. Actions taken in Stage 1 will focus on the necessary feasibility studies and environmental review for implementing or proceeding with three surface storage projects. In addition, two reservoirs will need further study before the CALFED Agencies or their successor decides whether to proceed with those projects.

- **In-Delta storage project (approximately 250 TAF).** An in-Delta storage facility can provide both fishery benefits and enhanced water project flexibility. CALFED will explore the lease or purchase of the Delta Wetlands project. CALFED also may initiate a new project, in the event that Delta Wetlands proves cost prohibitive or infeasible.

  - Make decision as to whether to seek authorization for a feasibility study of alternatives (Federal funds) by October 2000.
  - Select project alternative and initiate negotiation with Delta Wetlands owners or other appropriate landowners for acquisition of necessary property by December 2001.
  - Develop project plan that addresses local concerns about effects on neighboring lands and complete any additional needed environmental documentation by July 2002.
  - Complete environmental review and documentation, obtain necessary authorization and funding, and begin construction by the end of 2002.

- **Expand CVP storage in Shasta Lake by approximately 300 TAF.** Such an expansion will increase the pool of cold water available to maintain lower Sacramento River temperatures needed by certain fish and provide other water management benefits, such as water supply reliability.

  - Resolve legal issues to allow State agency cooperation by the end of 2000.
  - Complete feasibility study and preliminary design by the end of 2003.
  - Complete environmental review and documentation, obtain Federal authorization and funding, and begin construction by the end of 2004.

- **Expand Los Vaqueros Reservoir by up to 400 TAF with local partners as part of a Bay Area water quality and water supply reliability initiative.** As part of a Bay Area initiative, an expanded Los Vaqueros Reservoir would provide water quality and water supply reliability benefits to Bay Area water users. As an existing reservoir operated by the Contra Costa Water District (CCWD), the Los Vaqueros Reservoir is subject to a number of mandates and agreements. DWR and

Reclamation will work with CCWD and interested stakeholders to assure that previous commitments, including local voter approval required for expansion, are respected.

- S Identify potential local partners and develop agreement with CCWD and other partners as needed for necessary studies by March 2001.
- S Secure authorization and funding for feasibility studies by July 2001.
- S Begin feasibility study and environmental review July 2001, complete feasibility study by July 2002.
- S Complete environmental review, documentation, and preliminary design on a selected alternative by the end of 2003.
- S Finalize agreements with project participants by mid-2004.
- S Obtain necessary authorizations and funding (including local voter approval) by the end of 2004, and begin construction by the end of 2005.

Surface Projects Requiring Further Consideration. In addition to the projects described above, CALFED will join local partners in Stage 1 to evaluate two additional surface storage projects. While these projects require extensive technical work, significant additional environmental review and development of cost-sharing agreements before a decision to implement the project as part of the CALFED Program.

- C **Sites Reservoir.** This project, with a capacity of up to 1.9 million acre-feet, could enhance water management flexibility in the Sacramento Valley. By reducing water diversion on the Sacramento River during critical fish migration periods, this project can greatly increase reliability of supplies for a significant portion of the Sacramento Valley. It can also provide storage and operational benefits for other CALFED programs including Delta water quality and the EWA.

  - S Develop joint planning program through an MOU with local water interests by October 2000.
  - S Complete environmental review and planning documentation by August 2004.

- C **250-700 TAF of additional storage in the upper San Joaquin River watershed.** It would be designed to contribute to restoration of and improve water quality for the San Joaquin River and facilitate conjunctive water management and water exchanges that improve the quality of water deliveries to urban communities. Additional storage could come from enlargement of Millerton Lake at Friant Dam or a functionally equivalent storage program in the region.

  - S Begin comprehensive study of alternatives by the end of 2000.
  - S Begin feasibility study on selected project by the middle of 2001.
  - S Complete environmental review and planning documentation by the middle of 2006.

Groundwater Storage Projects. CALFED Agencies will facilitate and fund locally supported, managed and controlled groundwater and conjunctive use projects with a total of 500 TAF to 1 MAF of additional storage capacity by 2007. Groundwater/conjunctive use projects will be implemented through locally supported and managed projects or through partnerships with local and regional interests. It is CALFED's intent to support voluntary, locally controlled groundwater projects which are designed to address local water needs first, before considering regional or statewide benefits. Groundwater quality will be an important criterion in the selection, operation and management of any of these locally controlled groundwater storage sites. These projects will include a combination of purchase, lease or sharing storage space with others, and will include consideration of existing groundwater storage facilities. CALFED has identified projects in the Sacramento Valley, near the Delta, the San Joaquin Valley and Southern California that could provide 500 TAF to 1 MAF of storage.

Stage 1 actions will include:

- Finalize agreements with new local project proponents for joint planning and development by February 2001.
- Begin feasibility studies by March 2001 with funding through CALFED and Proposition 13.
- Report on the performance of feasibility studies, implementable projects, and potential benefits and beneficiaries by the end of 2002. The report will separately identify likely local benefits as well as opportunities to benefit statewide water supply reliability and the EWA.
- Implement early stages of the most promising projects by the end of 2004. Aggressively pursue implementation of additional projects by the end of Stage 1.

Groundwater Management. Effective groundwater management programs are essential to the success of groundwater and conjunctive use projects, as well as to other CALFED programs such as water transfers and water quality. Currently, groundwater is managed in some areas of the State through adjudicated basins and by local water districts and agencies. While many of these districts and agencies have developed effective local groundwater programs, most groundwater basins in California are not managed to obtain the benefits that could be gained through conjunctive management of both groundwater and surface water. These benefits can include increased local water supply reliability, water quality protection, reduced subsidence, and mitigation of overdraft. CALFED believes that groundwater management at the sub-basin level will better protect groundwater resources while increasing local benefits that could be gained from conjunctive management. CALFED defines sub-basins as a portion of a groundwater basin delineated to reflect hydrologic or political boundaries. The sub-basin management system also would encourage local agencies to coordinate and integrate stakeholder-driven sub-basin management objectives while keeping intact the goals and elements of local plans. These objectives should include compliance with existing county ordinances and AB 3030 plans.

Therefore, CALFED Agencies will support legislation that encourages groundwater management at the sub-basin level.

AB 3030, which authorizes local agencies to enact voluntary groundwater management plans within their boundaries, is an important foundation for comprehensive groundwater management in California. AB 3030 also allows agencies to enter into agreements to develop basin-wide plans but does not require such basin-wide plans to be developed. DWR will adopt regulations for expenditure of grant and loan funds that make funding contingent upon local agencies having an AB 3030 plan or a functional equivalent in place. CALFED will work with local governments and affected stakeholders to develop legislation to strengthen AB 3030 and provide technical and financial incentives to encourage more effective basin-wide groundwater management plans, in part by conditioning future State funding for water programs on the development of local groundwater management plans by 2004.

Funding

The financing strategy for individual storage projects will vary due to the design and planned operations of each project. Final cost allocations, however, will be made based on the principle of "beneficiaries pay." Generally, the planning and feasibility stages of surface storage projects will be pursued with State and Federal public funding. If a project is determined to be feasible, a cost allocation plan will be prepared as part of the design phase, preliminary cost allocations secured before construction begins, and final cost allocation agreements implemented prior to project completion. The expected total investments in storage during Stage 1 will be approximately $1.4 billion.

Regulatory Compliance

All of the projects described above, as well as many other CALFED program actions, will need to comply with applicable regulatory programs. Potential surface storage projects being evaluated by CALFED will need to comply with, among other things, the requirements of the State and Federal ESA, the Clean Water Act Section 401 certification process, and the USACE regulatory permit program. CALFED has taken a number of steps to assure that the regulatory review process for storage projects proceeds in a timely manner. These steps are discussed in more detail in Section 3.

2.2.6 Conveyance

As indicated in the Preferred Program Alternative, the CALFED Agencies have chosen to pursue a through-Delta conveyance strategy. The CALFED Agencies therefore will take all reasonable actions to optimize the use of the Delta as the means for conveyance of State and Federal project export water.

The CALFED goal for Delta conveyance is to identify and implement conveyance modifications that will improve water supply reliability for in-Delta and export users, support continuous improvement in drinking water quality, and complement ecosystem restoration. More specifically for export and environmental purposes, conveyance improvements are needed to improve the pumping capabilities of SWP export facilities to: (1) restore water project reliability and operational flexibility; (2) allow the EWA to transfer and store water; (3) allow a reliable water transfer market to function; (4) allow SWP facilities to convey larger amounts of water during periods of high quality water in the Delta to improve water quality for urban use; and (5) provide greater capability for SWP facilities to be used to improve the reliability of CVP supplies for both its water users and wildlife refuges. DWR, Reclamation and USACE will lead efforts to implement these conveyance projects.

DWR and Reclamation will work with the other CALFED Agencies to pursue significant improvements in the water conveyance facilities in the Delta in Stage 1, which will be pursued through project-specific environmental review and permitting.

Actions Included in the Programmatic EIS/EIR

The following projects and actions were analyzed on a programmatic basis in the Final Programmatic EIS/EIR. As CALFED Agencies pursue project-specific environmental study, additional project-specific mitigation may be necessary.

> **South Delta.** The specific actions listed below are components of, or are directly related to, the "South Delta Improvement Program" which has been under study and development for a number of years. The CALFED Agencies intend for these actions in the South Delta to address the needs of the export projects, the Delta ecosystem and local, in-Delta agricultural water users. These components will go forward following the completion of project-specific environmental review and permitting. DWR will lead the CALFED Agencies in implementing these south Delta actions. Environmental review will be completed by the end of 2002. These actions, related to providing for more reliable long-term export capability by the SWP and CVP and protection of local diversions in the Delta, are in addition to historic and current efforts (including annual installation of temporary barriers as well as current year local dredging and diversion improvements).

- **Increase SWP pumping from the current limit from March 15 to December 15 to 8,500 cfs; and modify existing pumping criteria from December 15 to March 15 to allow greater use of SWP export capacity.** Increased pumping can be used to increase water supplies through restoring the SWP's operational flexibility as well as allow diversion of a larger proportion of water supplies in the Delta during periods of good water quality. SWP facilities are used first for SWP purposes, as provided for in SWP water supply contracts. Increased pumping capabilities will also increase opportunities to convey water for the CVP, the EWA and water transfers, since the availability of pumping capacity for non-SWP purposes is expected to increase under this action. Such increased pumping is conditional upon avoiding adverse impacts to fishery protection and in-Delta water supply reliability.

  - Complete environmental review by the end of 2002.
  - Secure appropriate regulatory permits by the middle of 2003 to increase pumping up to 8,500 cfs during periods that are currently restricted. This includes completing a project-specific operations plan that addresses the potential impacts of increased pumping. The operations plan will be developed through an open CALFED process. This pumping increase will increase export capability by up to 100,000 acre-feet per month depending on hydrological conditions, fisheries conditions and availability of storage south of the Delta.
  - Full use of this increased pumping capability will require continued implementation of temporary barriers on an annual basis as well as project-specific actions to protect agricultural diversions and navigation in the South Delta.

- **Increase SWP pumping to the maximum capability of 10,300 cfs.** This is to be accomplished through two sets of specific actions set forth below. As the South Delta Improvement Program is fully implemented through the end of Stage 1, the SWP export capability will increase to 10,300 cfs, greatly expanding benefits for all purposes. Full use of this capacity will depend on protection of agricultural diversions and navigation in the South Delta, hydrologic conditions, fisheries conditions, availability of storage south of the Delta, and use for non-SWP purposes.

  - **Design and construct new fish screens at the Clifton Court Forebay and Tracy pumping plant facilities to allow the export facilities to pump at full capacity more regularly.**

    < Complete funding plan by early 2003.
    < Complete facilities design by the middle of 2004.
    < Seek funding and authority to complete initial fish screens, and begin operations and performance testing by the middle of 2006.

- **Dredge and install operable barriers to ensure water of adequate quantity and quality to agricultural diverters within the South Delta.** This will include installation of an operable Grant Line Canal barrier, which will be constructed and operated in accordance with conditions and directions specified by USFWS, DFG and NMFS. In the interim prior to installation of permanent operable barriers, DWR would continue to install temporary barriers on an annual basis.

  - Complete funding plan by early 2003.
  - Complete facilities design by the middle of 2005.
  - Seek funding and authority to complete Head of Old River barrier by the end of 2006.
  - Seek funding and authority to complete Middle River barrier, Tracy barrier and Grant Line Canal barrier by the end of 2007.

- **Design and construct floodway improvements on the lower San Joaquin River to provide conveyance, flood control and ecosystem benefits.** USACE and DWR will work with the other CALFED Agencies to assure that the Comprehensive Study is consistent with this project.

  - Complete environmental studies by early 2003.
  - Complete project design and funding plan by early 2004.
  - Begin construction by the middle of 2005.

- **Reduce agricultural drainage in the Delta.** Actions to reduce such drainage will include early implementation of projects on Veale and Byron tracts to reduce or relocate major sources of drainage into South Delta channels. The purpose of these projects is to minimize elevated salinity and other constituents of concern to drinking water at urban intakes in the South Delta. These projects will be completed prior to completion of the installation of permanent barriers in Old River near the San Joaquin River, Grant Line Canal, Old River near Tracy and Middle River and before SWP pumping can increase to its full capacity of 10,300 cfs during periods that are currently restricted.

North Delta. CALFED will improve flood protection and conveyance facilities in the North Delta for water quality and fishery improvements, and avoid water supply disruptions. The improvements include:

- **Evaluate and implement improved operational procedures for the Delta Cross Channel to address fishery and water quality concerns.** Reclamation will lead this effort, in cooperation with the other CALFED Agencies, particularly the fishery agencies.

- S Begin operational studies (such as more intense fish monitoring on both sides of the Cross Channel, opening and closing the gates on tidal cycles, etc.) by October 2000.
- S Complete studies and make specific recommendations by the end of 2003.

C **Simultaneously evaluate a screened through-Delta facility on the Sacramento River of up to 4,000 cfs.** The diversion facility on the Sacramento River is an action to be considered only after three separate assessments are satisfactorily completed: first, a thorough assessment of Delta Cross Channel (DCC) operation strategies and confirmation of continued concern over water quality impacts from DCC operations; second, a thorough evaluation of the technical viability of a diversion facility; and third, satisfactory resolution of the fisheries concerns about a diversion facility. The lead agencies for this effort are DWR and Reclamation, in cooperation with the other CALFED Agencies. The historic emphasis has been on a screened diversion at Hood on the Sacramento River. This and other potential sites between and including Hood and Georgiana Slough will be considered as part of this evaluation. (The water quality section below discusses other related water quality actions and how this facility could fit into the broader water quality strategy.)

- S Develop specific study plan by October 2000.
- S Fund and begin studies through CALFED Agency appropriations by October 2000.
- S Complete water quality and fish effects studies and develop recommendations, taking into consideration the results of the Delta Cross Channel operational study above and evaluation of water quality measures, by the end of 2003.
- S Complete environmental review of recommended program. If fish protection conditions are met and facility is found to be necessary, seek funding and authority to begin construction by the end of 2007.

C **Design and construct floodway improvements in the North Delta (such as on the lower Mokelumne River and Georgiana Slough) to provide conveyance, flood control and ecosystem benefits.** The CALFED Agencies intend that final development and implementation of actions under the Comprehensive Study will be coordinated and consistent with the CALFED Bay-Delta Program.

- S Complete environmental studies by early 2003.
- S Complete project design and funding plan by early 2004.
- S Make decision whether to seek funding and authority to begin construction by the middle of 2005.

Interties. The CALFED Agencies will pursue a number of interties and bypasses in the water system.

- **An intertie between the SWP and CVP facilities at or near Tracy.** This short channel between the State and Federal canals would allow operators to take advantage of fluctuations in Delta water quality at the two project intakes, delivering higher quality to either project canal.

  - Complete environmental work and project design by the middle of 2004.
  - Complete funding plan by the middle of 2004.
  - Make decision whether to seek funding and authority to begin construction by the end of 2004.
  - Assess the connection of the CVP to the SWP's Clifton Court Forebay with a corresponding increase in the Forebay's screened intake.

Complementary Actions

The Framework identified the following actions, which were not analyzed in the Final Programmatic EIS/EIR and will, therefore, require additional environmental review:

- **Install and operate temporary barriers in the south Delta until fully operable barriers are constructed as the South Delta Improvements Program is implemented.** The purpose of this program is to increase water levels in the south Delta for agricultural irrigators in the area to ensure they have an adequate water supply for diversion until such time as a permanent south Delta solution is provided through implementation of other conveyance facilities identified in the South Delta Improvements Program. The Temporary Barriers Program (TBP) has been in place through 1991-2000. One of the barriers in the TBP is the spring Head of Old River barrier which is a critical component of the Vernalis Adaptive Management Plan, an action which the CALFED Agencies have identified for immediate implementation. The TBP is an annual activity requiring the preparation of environmental documentation, securing required regulatory and access permits, interagency coordination, monitoring, modeling, installation, operation and removal. This is ongoing, beginning in FY 2000-2001.

- **Take actions to protect navigation and protect local diverters in the south Delta who are not adequately protected by the TBP.** Although the south Delta barriers provide adequate protection to much of the south Delta, there are still some diverters who suffer from low water levels because they are downstream or located too far away from the barriers. Actions which need to be taken to protect these diverters may include: installation and operation of portable pumps, limited project-specific dredging of existing intakes, and/or project-specific modification to existing diversion structures including the conversion of siphons to pumps. This action requires preparing detailed plans at each diversion location, preparing permit applications, preparation of environmental documentation (as needed), securing applicable permits and funding and finalizing agreements with the diverter as to the scope of work to be done and funding of the work.

This work is ongoing, as needed, beginning in FY 2000-2001.

- **A bypass canal to the San Felipe Unit at the San Luis Reservoir.** When operated in conjunction with local storage, this canal would allow Santa Clara Valley Water District to receive water directly from the Delta pumping facilities, thereby avoiding water quality problems associated with the "low point" water levels in San Luis Reservoir. Resolving this "low point" issue also will increase the effective storage capacity in San Luis Reservoir up to 200 TAF.

  - Fund studies of bypass canal and related expansion of local storage through Proposition 13, allocate funds to Santa Clara Valley Water District, the implementing agency, by October 2000.
  - Complete environmental review and documentation and preliminary design by the end of 2003.
  - Obtain necessary authorization and funding and begin construction by end of 2004.

- **Facilitate water quality exchanges and similar programs to make high quality Sierra Nevada water in the eastern San Joaquin Valley available to urban Southern California interests.** The Metropolitan Water District of Southern California and the Friant Water Users Authority and its member agencies have commenced preliminary discussions to accomplish these objectives, as well as improving water supply reliability for the agricultural districts. DWR and Reclamation will work with the other CALFED Agencies and these two non-CALFED Agencies to assure that these efforts do not adversely affect ongoing consensus efforts to restore the upper San Joaquin River.

  - Initiate evaluations and studies of potential infrastructure improvements by December 2000.
  - Complete feasibility studies and implement selected demonstration projects by the end of 2001.
  - Complete environmental review and begin implementation of a long-term program, including necessary infrastructure, by the end of 2004.

- **Sacramento and San Joaquin Comprehensive Study.** USACE and the Reclamation Board are currently implementing a Comprehensive Study of the Sacramento and San Joaquin River watersheds to improve flood control efforts out to San Francisco Bay. The Delta and its ability to convey flood waters play a crucial role in the Comprehensive Study. The CALFED Agencies intend that final development and implementation of actions under the Comprehensive Study will be coordinated and consistent with the CALFED Bay-Delta Program.

Funding

CALFED anticipates that the cost of implementing the conveyance program improvements in Stage 1 will be approximately $1 billion.

2.2.7 Environmental Water Account

An essential goal of the CALFED Program is to provide increased water supply reliability to water users while at the same time assuring the availability of sufficient water to meet fishery protection and restoration\recovery needs as part of the overall ERP. As a means to achieving this, the CALFED Agencies will provide commitments under FESA and CESA for the first four years of Stage 1, which will be based on the availability of water from existing regulation, an EWA combined with the ERP, and the ability to obtain additional assets should they be necessary.

The EWA focuses on resolving the fishery/water diversion conflict at the CVP/SWP Delta export pumps because, in recent years, these diversions have suffered the greatest fluctuations in water supply reliability due to conflicts with fishery needs. The CALFED Agencies will continue working with other diverters in the Delta watershed to resolve local fishery-diversion conflicts based on the project-specific needs and opportunities for each diversion. The CALFED Agencies have crafted the EWA so that it has no effect on the water rights of other water right holders in the watershed.

Overall Purpose, Framework and Administration

The EWA has been established to provide water for the protection and recovery of fish beyond water available through existing regulatory actions related to project operations. The EWA is a cooperative management program whose purpose is to provide protection to the fish of the Bay–Delta estuary through environmentally beneficial changes in SWP/CVP operations at no uncompensated water cost to the projects' water users. This approach to fish protection requires the acquisition of alternative sources of project water supply, called the "EWA assets," which will be used to augment streamflows, Delta outflows, to modify exports to provide fishery benefits and to replace the regular project water supply interrupted by the changes to project operations. The replacement water will compensate for reductions in deliveries relative to existing facilities, project operations and the regulatory baseline (as defined below) that result from EWA actions.

USFWS, NMFS, DFG, Reclamation and DWR have established the EWA by executing the Environmental Water Account Operating Principles Agreement contemporaneously with this ROD. This summary should be interpreted to be consistent with the EWA Operating Principles Agreement. To the extent that the EWA Operating Principles Agreement provides greater specificity than or may be inconsistent with this summary, the EWA Operating Principles Agreement controls.

The EWA will provide additional protection for fish and provide support for a commitment not to reduce south of Delta project deliveries. The CALFED Agencies intend to use EWA assets for, among other things, extending pumping curtailments during critical periods for fish. As currently designed, the EWA would not be used to supply water to meet any new regulatory requirements under statutes other than FESA and CESA (such as new Federal Energy Regulatory Commission (FERC) or SWRCB instream flow requirements).

The EWA will be funded jointly by the State and Federal governments and will be authorized to acquire, bank, transfer, sell and borrow water and arrange for its conveyance. EWA assets will be managed by the State and Federal fishery agencies (USFWS, NMFS, and DFG) in coordination with project operators and stakeholders, through the CALFED Operations Group. Initial acquisition of assets for the EWA will be made by Reclamation and DWR. Subsequently, it is anticipated that acquisitions will be made pursuant to a public process that may capitalize upon the ability of other agencies or third parties to acquire assets.

Baseline Level of Protection. The EWA will provide for fishery protection actions that are supplemental to a baseline level of protection established by an existing set of regulatory programs. The baseline level of protection, identified as Tier 1 in the EWA discussion below, consists of:

- **1993 Winter-run Biological Opinion (NMFS)**

- **1995 Delta Water Quality Control Plan (SWRCB)**. At this time, SWP and CVP are responsible for meeting flow related objectives contained in this plan. The CALFED Agencies recognize that the SWRCB may adjust or reallocate the responsibilities for meeting the 1995 Delta Water Quality Control Plan standards, as part of its ongoing Bay-Delta Water Rights Hearing. Adjustment of responsibility to meet the standards will not affect the baseline level of protection for purposes of the EWA.

  Appropriate CALFED Agencies will develop a strategy to deal with the rare circumstances when the CVP obligation under the Water Quality Control Plan exceeds the 450 TAF annual cap for use of CVPIA Section 3406(b)(2) water. In the strategy, to be developed in conjunction with the Governor's Drought Contingency Plan, the Agencies will use their available resources to create an insurance policy that will seek to eliminate impacts to water users, while not adversely affecting other uses.

- **1995 Delta Smelt Biological Opinion (USFWS).** The export curtailment contained in the 1995 Delta Smelt Biological Opinion (item 2 on page 19), commonly referred to as the " 2 to 1 Vernalis flow/export ratio", will be met by Section 3406(b)(2) of the CVPIA and/or EWA. This objective calls for the SWP and CVP to reduce combined exports, below what is allowed in the 1995 Water Quality Control Plan during a 31-day period in April and May. The 1995 WQCP

allows exports to be 100 percent of the base San Joaquin River flow at Vernalis during the April-May pulse period. The SWP will be reimbursed by the EWA for its participation in reducing exports pursuant to the 2 to 1 Vernalis flow/export ratio.

The CVP and SWP will be operated pursuant to the terms of the San Joaquin River Agreement (SJRA) through 2011. While the SJRA is in effect, the exports may be reduced beyond what is called for by the 2 to 1 Vernalis flow/export ratio and San Joaquin River flows may be augmented by water acquired from upstream sources during that same time period. Such an augmentation will not be included as part of the SWP share of Vernalis flow. While operating pursuant to the SJRA, the SWP and CVP will also receive reimbursement from the EWA or pursuant to Section 3406(b)(2) for the additional curtailment. If the SJRA is not implemented for any reason, the operations will default back to the biological opinion operation, pursuant to the terms of the SJRA.

- **Full Use of 800 TAF Supply of Water Pursuant to Section 3406(b)(2) of the CVPIA in accordance with Interior's October 5, 1999 Decision, clarified as follows:** *Water Resulting from Refill of Reservoirs ("Reset")*: Water which is available under the (b)(2) Policy as a result of refill of reservoirs following upstream releases ("reset") will not be used in a manner which results in increased export reductions. Upstream releases of (b)(2) water pumped by the SWP and made available to the EWA will not be subject to the "reset" provision.

  Export Curtailments which Result in Increased Storage ("Offset"): Where a prescribed (b)(2) export curtailment results in a reduction in releases from upstream reservoirs and hence increased storage, the charge to the (b)(2) account will be offset to the extent that the increased storage will result in increased delivery (beyond forecast delivery at the time of the export curtailment) to south-of-Delta CVP contractors in the remainder of the water year. If such deliveries cannot be increased in that water year, such additional water stored in upstream reservoirs shall be available for other (b)(2) uses without charge to the (b)(2) account. Where the delivery to export users in the remainder of the water year will not be increased and end-of-year storage will be increased, there will be no offset to the charge to the (b)(2) account.

Other Environmental Protections. The regulatory baseline above also assumes that other environmental protections contained in statutes remain in place. These other environmental protections include without limitation Level 2 refuge water supplies, as required by the CVPIA. The CVP will use its share of the benefits from Joint Point of Diversion, to the extent available, to provide water required by its Level 2 refuge water supply mandates, but using such benefits will not create any limitation on the Level 2 supply available for refuges.

Asset Development. Immediate development of assets for the first year is critical to EWA success. Initial water purchases and lease of groundwater storage will be secured from willing sellers by the end of 2000. In addition to assets to be acquired annually, as shown in the table below, an initial one-time deposit of water equivalent to 200 TAF of south-of-Delta storage will be acquired from a variety of sources to assure the effectiveness of the EWA and provide assurances for SWP and CVP water supply/deliveries.

Borrowing agreements will allow the EWA to borrow water from the Projects for necessary actions during a water year as long as the water can be repaid without affecting the following year's allocations. To the extent practicable, borrowing from the SWP and CVP will be equitably shared. The limitations on borrowing are described in the EWA Operating Principles Agreement attached to this document.

Source shifting agreements with south-of-Delta water providers for 100 TAF will be used to enhance the effectiveness of the EWA, and to help provide assurance that SWP and CVP water deliveries and operations will not be affected by EWA operations. As CALFED develops new water, the EWA will obtain an appropriate share in order to minimize the need for annual acquisitions and to maximize operational flexibility.

ESA Commitments

As part of the MSCS Conservation Agreement and the FWS and NMFS biological opinions, the CALFED Agencies have provided a commitment, subject to specified conditions and legal requirements, that for the first four years of Stage 1, there will be no reductions, beyond existing regulatory levels, in CVP or SWP Delta exports resulting from measures to protect fish under FESA and CESA. This commitment is based on the availability of three tiers of assets:

> **Tier 1** is baseline water, provided by existing regulation and operational flexibility as described above. The regulatory baseline consists of the biological opinions on winter-run salmon and delta smelt, 1995 Delta Water Quality Control Plan, and 800 TAF of CVP Yield pursuant to CVPIA Section 3406(b)(2).
>
> **Tier 2** consists of the assets in the EWA combined with the benefits of the ERP and is an insurance mechanism that will allow water to be provided for fish when needed without reducing deliveries to water users. These assets are shown in the table on the preceding page. Tier 1 and Tier 2 are, in effect, a water budget for the environment and will be used to avoid the need for Tier 3 assets as described below.

Action Description	Water Available Annually (Average)
SWP Pumping of (b)(2)/ERP Upstream Releases [1]	40,000 acre-feet[2]
EWA Use of Joint Point[3]	75,000 acre-feet
Export/Inflow Ratio Flexibility	30,000 acre-feet
500 cfs SWP Pumping Increase	50,000 acre-feet
Purchases - South of Delta	150,000 acre-feet
Purchases - North of Delta[4]	35,000 acre-feet
TOTAL	380,000 acre-feet

Tier 3 is based upon the commitment and ability of the CALFED Agencies to make additional water available should it be needed. It is unlikely that assets beyond those in Tier 1 and Tier 2 will be needed to meet ESA requirements. However, if further assets are needed in specific circumstances, the third tier will be provided. In considering the need for Tier 3 assets, the fishery agencies will consider the views of an independent science panel. Although the CALFED Agencies do not anticipate needing access to Tier 3 of water assets, the CALFED Agencies will prepare an implementation strategy for Tier 3 by August 2001, establishing a timely scientific panel process and identifying tools and funding should implementation of Tier 3 prove necessary.

Implementation of the EWA and associated ESA commitments is not intended to affect the rights or obligations of third parties.

[1] The EWA and the SWP will share equally the (b)(2) and ERP upstream releases pumped by the SWP after they have served their (b)(2) and ERP purposes.

[2] The amount of water derived from the first four actions will vary based on hydrologic conditions.

[3] The EWA will share access to Joint Point of Diversion, with the CVP receiving 50% of the benefits.

[4] This is the amount of water targeted for the first year; higher amounts are anticipated in subsequent years.

2.2.8 Water Use Efficiency

The goal of the Water Use Efficiency Program is to accelerate the implementation of cost-effective actions to conserve and recycle water throughout the State. Water use efficiency measures are included in the CALFED Program for many reasons, including (a) water use efficiency investments can yield real water supply benefits to urban and agricultural users in the short term, especially compared to surface storage and major conveyance improvements that will take at least 5 to 10 years to complete; and (b) water use efficiency investments can generate significant benefits in water quality and timing of instream flows, even where they may not generate a net increase in available consumptively used water. Water reclamation provides additional opportunities to reduce water demand in a relatively cost-effective and environmentally-benign manner, with multiple benefits for efficiency, dry year reliability and discharge water quality. CALFED Agencies anticipate that significant investments in water use efficiency and water reclamation will be necessary during Stage 1 and beyond to address water supply demands caused by a rapidly increasing population and increased environmental water needs. These savings will be accomplished through incentive-based water use efficiency programs.

Water use efficiency potential varies significantly in California, depending on the region of the State and the sector involved. Working with the stakeholder steering committees and other technical experts, CALFED Agencies have developed ranges of estimated water savings during Stage 1. These estimates include only water that is currently unavailable for other uses because it is lost to excessive evaporation or drains to the ocean or some other unusable destination. In addition, approximately 225 to 310 TAF of water can be made available through water reclamation projects. These water savings would be generated as follows:

- 520 to 688 TAF in the urban sector
- 260 to 350 TAF in the agricultural sector
- 225 to 310 TAF in water reclamation projects

These estimates are not intended as targets, and focusing on potential water savings alone ignores the substantial contribution that water use efficiency investments can make to other CALFED program goals. Water savings estimates for urban uses are greater because water conservation savings are more cost-effective (given the higher cost of most urban supplies). Agricultural conservation opportunities exist but are more limited by financial capability and by the fact that a higher percentage of agricultural return flows are used by downstream users and are therefore not included in conservation estimates.

Incentive-Based Program

The primary CALFED program tool for encouraging investments in water use efficiency will be a competitive grant/loan program. This program, under the leadership of DWR, Reclamation, the SWRCB and NRCS, will identify and provide grants or cooperative agreements (with local cost share) or loans to the most promising water use efficiency projects, including:

- Urban water use efficiency measures.
- Agricultural water use efficiency measures.
- Water reclamation/recycling projects.

CALFED Agencies will rely on a competitive grant/loan program as the best mechanism to assure cost-effective investments in water use efficiency. Under this program, CALFED Agency investments will be made in the most cost-effective water use efficiency measures first. Due to the regional differences in water use efficiency potential, the exact cost-effective measures will vary. For example, in some agricultural districts the cheapest improvements may be to install automated delivery systems, while other districts may find channel improvements or canal lining productive. Similarly, differences exist statewide in the urban sector. Some agencies may focus on low-flow device retrofits, while others may have substantial opportunities for using reclaimed water. CALFED Agencies anticipate that the competitive grant/loan program would allow participating entities to effectively respond to local conditions.

Each grant/loan package will include tailored requirements for performance and accountability. The program would be used primarily as a capitalization mechanism; the ongoing obligations for operation and maintenance would be assumed by the participating agency. By using a competitive grant/loan program approach, water users and the program can respond to changes in the water supply picture over time. As water demands increase in the State as anticipated, and the most cost effective water use efficiency measures have been implemented, water users and the grant/loan program would increasingly turn to the more expensive water use efficiency measures.

Two elements will be critical to the success of a CALFED grant/loan program:

- Water agencies must implement water use efficiency measures that are cost-effective and appropriate at the local level. This level of attainment will be defined by agency compliance with the AB 3616 Agricultural Water Management Plans (for agricultural districts) or implementation of applicable Urban Water Conservation Council "best management practices" (for urban districts). CALFED Agencies anticipate that State and Federal assistance to agencies to attain this base level of water use efficiency will generally be in the form of technical assistance and capitalization loans, not grants. In addition, access to further CALFED Water Use Efficiency Program benefits (e.g., grants) will be conditioned on agency implementation of the applicable water management plans.

- Additional CALFED investments in water use efficiency are premised on the fact that some water use efficiency measures may not be cost-efficient when viewed solely from a local perspective, but may be cost-effective when viewed from a statewide perspective, compared to other water supply reliability options. In this case, CALFED Agencies anticipate a larger State and Federal assistance share in the form of grants. CALFED Agencies' proposed grant/loan program will tailor specific grants or loans to reflect this distinction between local benefits and statewide benefits, and will adjust the required local cost-share requirements accordingly.

The CALFED Agencies will support water use efficiency actions that also provide economic and other benefits to disadvantaged communities by ensuring they have a role in implementing such programs, both in the agricultural and urban sectors. Examples include not only toilet retrofit programs such as those undertaken by community-based organizations in Los Angeles, but also toxics reduction and pollution prevention programs that are linked to water use efficiency and wastewater reduction, and multilingual irrigator training programs.

Actions Included in the Programmatic EIS/EIR

Stage 1 actions of the Water Use Efficiency Program include:

- CALFED Agencies will prepare a program implementation plan, including a proposed organizational structure consistent with the overall CALFED governance structure, responsibilities for technical assistance programs and the grant/loan program, and evaluation procedures, by December 2000. In developing the grant/loan program, CALFED Agencies will consider the particular circumstances of the different program elements, as well as the ongoing stakeholder forums. These forums include the Agricultural Water Management Council, California Urban Water Conservation Council, the steering committees providing guidance to CALFED Agencies in the agricultural, urban and recycling programs, as well as the public advisory committee described below. The program implementation plan will include:

    - Incentives in the agricultural sector that will consider several factors, including: (i) the potential for reducing irrecoverable water losses; (ii) potential for attaining environmental and/or water quality benefits from WUE measures; (iii) regional variation in water management options and opportunities; (iv) availability and cost of alternative water supplies; and (v) whether the water needs of the recipient area can be satisfied from existing sources. Many of these factors are included in the quantifiable objectives being developed in the CALFED process by the agricultural water use efficiency steering committee stakeholder process, and CALFED Agencies anticipate that these quantifiable objectives will be an important factor in prioritizing expenditures under the agricultural incentive program.

    - Incentives in the urban sector that will focus on implementing the urban MOU process and on identifying and implementing measures that are supplemental to BMPs and are cost effective from a statewide perspective.

    - Incentives in the water reclamation area that will recognize the importance of regional water recycling programs, such as the Bay Area regional water recycling program and the Southern California comprehensive water reclamation and reuse study. CALFED Agencies will work with stakeholders to create cost-effectiveness criteria, building on approaches that have been previously developed for regional water recycling programs, that will guide the incentive program for water

reclamation.

- **S** A recognition and plan for addressing the need to make financial allocations in the incentive programs in the early years of implementation, in advance of approvals and/or certifications by the applicable Urban or Agricultural sector councils.

- C Within one year from the adoption of this ROD, CALFED Agencies will establish specific milestones, and associated benefits, remedies and/or consequences to track and guide the implementation of the Agricultural Water Use Efficiency Program. CALFED Agencies will put in place a process, structured to include the involvement and buy-in of interested parties (stakeholder and agency), to accomplish this work. The process will build on the work already begun by the Agricultural Water Use Efficiency Steering Committee.

- C The CALFED Agencies will develop a detailed finance proposal for Stage 1, including an evaluation of local cost share potential, no later than July of 2001. Recognizing that funding for the Water Use Efficiency Program will necessarily come from many different State and Federal sources, CALFED Agencies will assure that the Water Use Efficiency Program has sufficient resources for vigorous programs in each of the agricultural, urban, and water reclamation sectors.

- C DWR and Reclamation will work with the Urban Water Conservation Council and Agricultural Water Management Council to provide technical assistance to urban agencies and agricultural districts developing management plans under the Urban Water Management Planning Act and the AB 3616 process. This effort, when combined with efforts of NRCS and California Department of Food and Agriculture, will in the first four years of Stage 1 provide $34 million in technical assistance to districts and agencies in meeting their Council-endorsed or certified management plans.

- C The Department of the Interior will create a public advisory committee, as part of the new FACA committee, to advise State and Federal agencies on structure and implementation of assistance programs, and to coordinate Federal, State, regional and local efforts for maximum effectiveness. We anticipate that this advisory committee will include representatives of the agricultural, urban, and recycling steering committees, local agencies, and local farmworker organizations. The advisory committee will be established by December 2000.

- C By the end of 2002, CALFED Agencies will implement a process for certification of water suppliers' compliance with the terms of the urban MOU, including implementation of best management practices for urban water conservation. CALFED Agencies will support ongoing efforts of the California Urban Water Conservation Council to address this issue.

- C In addition to the annual evaluations of program progress, by December of 2004 CALFED Agencies will conduct a comprehensive evaluation of the Program's first 4 years, and will make appropriate additional State and Federal investments and actions to assure continued

aggressive implementation of water use efficiency measures in the State.

Water Measurement and Transfer Incentive Actions

Diverse stakeholder groups have recognized the importance of, and need for, appropriate measurement of water deliveries. Measurement will provide better information on statewide and regional water use, enable water purveyors to charge for water according to the amount used, allow water users to demonstrate the effects of efficiency measures, and facilitate a water transfers market. CALFED Agencies have initiated a public process to add greater definition to "appropriate measurement":

- An independent review panel on appropriate measurement will be convened. This panel will provide guidance that will help define appropriate measurement as it relates to surface and groundwater usage. The panel will prepare a consensus definition of appropriate measurement by the end of 2001.

- At the completion of this stakeholder/technical process, CALFED Agencies will work with the California State Legislature to develop legislation for introduction and enactment in the 2003 legislative session requiring the appropriate measurement of all water uses in the State of California.

Complementary Actions

CALFED Agencies believe that in order to promote water use efficiency measures in the agricultural sector, end users need to be able to beneficially participate in an active water transfer market. CALFED Agencies recognize that one barrier to an effective water transfer market is the lack of incentive for individual landowners to utilize available water conservation technologies because any water savings frequently accrue not to the landowner but to the irrigation district or water supply agency. CALFED Agencies will develop and support proposals to remove this disincentive to voluntary implementation of water use efficiency improvements.

Funding

CALFED Agencies have worked with the stakeholder steering committees, technical experts and practitioners to develop cost estimates associated with water use efficiency measures and water reclamation. Based on this outreach effort and evaluation, CALFED Agencies have estimated that achieving the potential water savings above would require an investment by the State and Federal governments in the range of $1.5 to $2 billion over the seven years of Stage 1. These funds, which will be allocated to local entities in the form of grants and/or loans for water use efficiency projects, will be matched with local or private funds on a project-by-project basis. During the first four years of Stage 1, CALFED Agencies propose State and Federal government investment

of $500 million, with an additional $500 million coming from local matching funds. This cost share provides an overall Stage 1 allocation, but individual project cost-shares may vary depending on the detailed finance proposal being developed and the nature of the projects developed by local agencies.

A water use efficiency program of this magnitude is aggressive and unprecedented nationally. CALFED Agencies strongly endorse this aggressive program as part of a broad CALFED Program designed to address California's water supply needs for the future. At the same time, given the uncertainties of implementing such an ambitious program, CALFED Agencies believe it will be appropriate to carefully evaluate the ongoing progress of the Program as it gets off the ground. CALFED Agencies will require annual reports from implementing agencies describing the progress of implementation efforts. These reports should include an ongoing evaluation of the availability of local cost-share financing and program effectiveness, and should include recommendations on removing any impediments to aggressive program implementation. CALFED Agencies anticipate that these annual reports will serve as a guide to subsequent year investments and program refinements. In addition, at the end of the first four years of Stage 1, CALFED Agencies will prepare a more comprehensive evaluation of program implementation. At that time, it may increase or reduce the targeted conservation goals to reflect actual implementation experience, redirect investments within the Water Use Efficiency Program to achieve the most effective results, and/or introduce new programs as necessary and appropriate.

The Stage 1 investments reflect the fact that many of the water use efficiency measures can be brought on line in a relatively short time frame, so that both planning and construction/capital costs are included earlier in Stage 1. Comparing water use efficiency investments on an "annual cost basis" (that is, taking the capital costs and operating costs and amortizing them over the expected life of the project) is a common way to evaluate the cost-effectiveness of water management investments. For example, costs of most of the water use efficiency measures evaluated by CALFED Agencies in the urban sector range from $150 to $450 per acre-foot per year. Under the competitive grant/loan program, the cheaper measures would be employed first.

Initial State and Federal funding for Stage 1 water use efficiency programs outlined in this section are identified within Proposition 204, Proposition 13, the CVPIA, the Reclamation Reform Act, Title XVI of P.L. 102-575, and various accounts in the Federal Farm Bill and related NRCS appropriations. Funding for the completion of the Water Use Efficiency Program will be determined through the Legislative and Congressional budget processes. The CALFED governing body will determine additional funding needs by the middle of 2004, which will be based upon the results of the program review and stakeholder input. Future funding, if necessary, may be sought through a bond measure that may also fund other out-year costs of the CALFED Program.

2.2.9 Water Quality

CALFED's Water Quality Program goal is to provide good water quality for the millions of Californians who rely on the Delta for all or a part of their drinking water. Current drinking water quality problems vary significantly by water agencies, depending on the agency's particular water sources. For example, the Metropolitan Water District of Southern California (MWD) and other Southern California utilities obtain water from the Delta via the State Water Project. MWD also receives highly saline Colorado River water which is then blended with Delta water. High levels of salinity are a major water quality problem for MWD, as are elevated levels of bromide and organic carbon. Salinity makes water taste bad and inhibits effective water recycling programs. Bromides and organic carbon interact with disinfection agents used in water treatment to create hazardous "disinfection byproducts" with potential adverse health effects.

In comparison, the Santa Clara Valley Water District, which is connected to both the Federal project (at San Luis Reservoir) and the State Water Project (via the South Bay Aqueduct from Clifton Court) shares the MWD concerns about salinity in Delta water, but may be even more sensitive to algal problems caused by low water levels in the San Luis Reservoir. The Contra Costa Water District takes its water directly from the Delta, and is highly sensitive to variations in Delta water quality. The North Bay Aqueduct of the SWP suffers from water quality problems during winter runoff periods. East Bay Municipal Utility District (EBMUD) and San Francisco get most of their water from the Sierra Nevada mountains, so they are less affected by Delta water quality. These differing situations for different water agencies require multifaceted approaches to drinking water quality that involve combinations of source water improvement, innovative and collaborative water management, and treatment options.

CALFED Agencies have adopted a general target of continuously improving Delta water quality for all uses, including in-Delta environmental and agricultural uses. Program actions designed to improve water quality to protect environmental uses are generally included in the Ecosystem Restoration Program (ERP) discussed above. For the drinking water quality program, CALFED Agencies have developed a specific goal based upon extensive stakeholder and agency involvement. CALFED Agencies' target for providing safe, reliable, and affordable drinking water in a cost-effective way, is to achieve either: (a) average concentrations at Clifton Court Forebay and other southern and central Delta drinking water intakes of 50 ug/L bromide and 3.0 mg/L total organic carbon, or (b) an equivalent level of public health protection using a cost-effective combination of alternative source waters, source control and treatment technologies.

CALFED Agencies will aggressively pursue a mix of strategies in order to improve in-Delta water quality. Program actions to address the drinking water quality concerns of the more than 22 million Californians who rely on Delta water fall into four broad categories. These actions will:

- Enable users to capture higher quality Delta water for drinking water purposes.
- Reduce contaminants and salinity that impair Delta water quality.
- Evaluate alternative approaches to drinking water treatment to address growing concerns over disinfection byproducts and salinity.

- Enable voluntary exchanges or purchases of high quality source waters for drinking water uses.

None of these actions, by itself, can assure adequate supplies of good quality drinking water for California. They must all be pursued, in conjunction with other CALFED actions such as conveyance and storage improvements, to generate significant improvements in drinking water at the tap. The responsibility for drinking water protection in the Bay-Delta ecosystem is shared by the State Department of Health Services (DHS), CalEPA (including the State Water Resources Control Board and the CVRWQCB) and DWR, with EPA providing funding and technical assistance. In particular, the CVRWQCB, with support from the CALFED agencies and DHS, is currently developing a comprehensive drinking water policy for Delta and upstream tributaries. The CALFED agencies will continue to coordinate drinking water protection efforts, with particular attention to ensuring fair treatment for communities of color and of lower socio-economic status by engaging and supporting local communities and stakeholders who are actively seeking to address water quality issues through pollution prevention, monitoring, and education activities.

The CALFED Agencies will seek to maintain the quality of existing and potential sources of drinking water supply, both groundwater and surface water. Specifically, before any locally controlled groundwater storage facilities are slated for storage of water supplies for local drinking water use, the CALFED Agencies will work with those communities to identify the sites with the lowest possible level of contaminants of concern and to identify the best quality sources economically available.

In response to recent conflicts between Delta water quality, water supply and fishery protection measures, in February 2000, CALFED Agencies developed and implemented an operations management coordination process. As described in the governance section, CALFED Agencies will continue to apply that process to Delta operations. CALFED Agencies believe this process, using the Operations Group and Water Operations Management Team, will assure concurrent consideration of water quality, fisheries and water supply in water project operations.

Actions Included in the Programmatic EIS/EIR

The CALFED Agencies will implement the following major elements of the Water Quality Program:

C **Address drainage problems in the San Joaquin Valley to improve downstream water quality.** This will include implementing recommendations from the San Joaquin Valley Drainage Program, identifying and supporting innovative drainage management programs, and supporting voluntary land retirement programs for drainage impaired lands, with local sponsorship. This includes CALFED actions, which target approximately 35,000 acres of land retirement, as well as complementary land retirement actions under other programs such as CVPIA. Actions include:

- S Finalize State Basin Plan Amendment and Total Maximum Daily Load for salinity in the lower San Joaquin River by the end of 2001.
- S Begin implementation of appropriate source control measures (e.g., on farm and district actions, development of treatment technology, real-time management and reuse projects such as agroforestry) by the end of 2003.

Reclamation is responsible for providing drainage service as required by the San Luis Act for its San Luis Unit contractors on the westside of the San Joaquin Valley and will be considering a range of options for continued work to resolve the drainage issues in that area.

C **Implement source controls in the Delta and its tributaries.** The CALFED Agencies with the assistance of the Department of Health Services will coordinate a comprehensive source water protection program. This program will include identification and implementation of appropriate pollutant source control measures, focused regulatory and/or incentive programs targeting pollutants of concern, development of a monitoring and assessment program, and infrastructure improvements to separate drinking water intakes from irremediable sources of pollutants.

- S CVRWQCB, with support from the CALFED Agencies and DHS, will establish a comprehensive State drinking water policy for Delta and upstream tributaries by the end of 2004.
- S As part of the CALFED Science Program, develop a comprehensive monitoring and assessment program by the beginning of 2003.
- S Evaluate and determine whether additional protective measures (regulatory and/or incentive-based) are necessary to protect beneficial uses by the end of 2004.
- S Consistent with the above policy, CVRWQCB, with support from DWR and DHS, will begin implementation of appropriate source control measures (e.g., advanced wastewater treatment, local drainage management practices) by the end of 2006.

C **Support the ongoing efforts of the Delta Drinking Water Council or its successor** to develop recommendations to the CALFED Agencies on treatment, alternative water sources, conveyance improvements, storage and operations necessary to meet CALFED's goal of continuous improvement in Delta water quality for all uses. The Council will rely in part on the results of a nationwide multi-year, $200 million, multi-stakeholder evaluation program led by the EPA to determine future standards and cost-effective treatment technologies, as well as the findings of the Independent Science Board and science panels. The Council will advise the CALFED Agencies on the composition of science panels related to drinking water. Actions include:

- S Council will complete initial assessment of progress toward meeting CALFED water quality targets and alternative treatment technologies by the end of 2003.
- S Council will complete final assessment and submit final recommendations on

progress toward meeting CALFED water quality targets and alternative treatment technologies by the end of 2007.

C **Invest in Treatment Technology Demonstration.** Recent private sector efforts have generated substantial advances in treatment technologies. The CALFED Agencies will encourage these technologies by funding a demonstration project to design and operate an ultra-violet disinfection plant, as well as other demonstration projects to design and operate desalination facilities for agricultural drainage using membrane treatment technology and focusing on management of brines and on-site waste stream management. Other promising treatment technologies that arise during the Program may be funded as well.

- S Initiate UV disinfection plant demonstration project by the end of 2002.
- S Initiate regional desalination demonstration project by the end of 2002.
- S Evaluate practicability of and determine timelines for full-scale implementation by the beginning of 2007.

C **Control runoff into the California Aqueduct and other similar conveyances.** Much of the land surrounding the southern portions of the California Aqueduct is used for agriculture and grazing. A number of agricultural drains directly impact the Aqueduct, and large stretches of the Aqueduct are not adequately protected from stormwater runoff that is impaired by soil erosion or agricultural and livestock runoff. Other major drinking water conveyance channels have similar runoff problems. The CALFED Agencies will implement appropriate physical modifications and watershed programs to correct these problems.

- S Initiate comprehensive evaluation of necessary physical modifications (e.g., modifications to berms, bypasses, and stormdrains to divert stormwater away from and prevent its discharge into the Aqueduct and other similar conveyance channels) by the end of 2001.
- S Develop and implement watershed programs adjacent to appropriate conveyance channels by the beginning of 2004.
- S Identify and begin implementation of necessary physical improvements by the end of 2005.

C **Address water quality problems at the North Bay Aqueduct.** The North Bay Aqueduct suffers from high total organic carbon and turbidity from local watershed runoff. Ongoing studies are investigating land-use "best management practices" (BMPs).

- S Provide funding to implement BMPs to improve watershed runoff water quality by the end of 2002.
- S By the end of 2003, study feasibility of relocating North Bay Aqueduct intake.

- **Study recirculation of export water to reduce salinity and improve dissolved oxygen in the San Joaquin River.** Exporting water from the Delta through the CVP and SWP at volumes greater than what is needed can establish additional flows in the San Joaquin River that could be used for salinity reduction and improving dissolved oxygen in the river.

  - Develop a workplan by October 2000.
  - Initiate the feasibility study of recirculation of water exported from the Delta through State and Federal water projects by the end of 2000.
  - Provide a recommendation to the CALFED governing body on the use of recirculation to meet CALFED objectives by the end of 2002. The recommendation will include analysis of impacts and benefits, and recommendations on infrastructure improvements necessary to implement recirculation should it be appropriate.

Complementary Actions

The Framework identified the following actions which were not analyzed in the Final Programmatic EIS/EIR and will, therefore, require additional environmental review.

- **Establish a Bay Area Blending/Exchange project.** The CALFED Agencies will implement a project that enables Bay Area water districts to work cooperatively to address water quality and supply reliability concerns on a consensual basis. As noted above, water supply agencies in the Bay Area have different water sources and different water supply and water quality concerns. This is an "umbrella" project that will evaluate a range of potential changes to existing infrastructure and institutional arrangements to encourage a regional approach to water supply operations. An example is the possibility of building "interconnects" between agency supply aqueducts, so that water suppliers can take advantage of different sources when water quality is highest (e.g., existing and/or additional Sierra Nevada mountain sources). These interconnects could be more effective if used in conjunction with an expanded Los Vaqueros Reservoir, discussed above in the storage section. Another example is to arrange local water transfers, where one district pays for water conservation measures in another district in exchange for some or all of the saved, presumably higher quality water. Some reviews that may have relevance to a Bay Area Blending /Exchange project already are underway in different contexts. For example, a supplemental EIS is being prepared to analyze potential alternatives related to East Bay MUD's contract with the Bureau of Reclamation. The Bay Area Blending/Exchange project is complementary to actions in the CALFED programmatic documents, and would help achieve objectives for water quality and water supply reliability, consistent with the CALFED solution principle of no significant redirected impacts.

  - Identify potential local partners and develop agreements as needed for necessary studies by July 2001.
  - Secure authorization and funding for feasibility studies by July 2001.

- S Begin feasibility study and environmental review by July 2001, complete feasibility study by July 2002.
- S Complete environmental review, documentation and preliminary design on a selected alternative by the end of 2003.
- S Finalize agreements with project participants by mid-2004.
- S Obtain necessary authorizations and funding (including any required local voter approval) by the end of 2004, and begin construction by the end of 2005.

C **Facilitate water quality exchanges and similar programs.** The CALFED Agencies will support efforts, consistent with overall CALFED principles**,** to make high quality Sierra Nevada water in the eastern San Joaquin Valley (e.g., San Joaquin River, Kings River, Kern River, and/or their tributaries) available to urban Southern California interests. The Metropolitan Water District of Southern California and the Friant Water Users Authority and its member agencies have commenced discussions to explore ways to accomplish these objectives, as well as improving water supply reliability for the agricultural districts. The CALFED Agencies will work to assure that these efforts do not affect ongoing consensus efforts to restore the upper San Joaquin River.

- S Initiate evaluations and studies of current capabilities and potential infrastructure improvements by December 2000.
- S Complete feasibility studies and identify initial projects, if any, by the end of 2001.
- S If agreement is reached by the parties involved, complete environmental review and begin implementation of a long-term program, including necessary infrastructure, by the end of 2004.

C **Develop and implement within two years a plan to meet all existing water quality standards and objectives for which the State and Federal water projects have responsibility.**

Funding

CALFED Agencies propose investing approximately $950 million during Stage 1 in water quality programs. Of this investment, more than $500 million would come from State and Federal sources and the remainder from local sources. Sources of Federal funding, in addition to future direct appropriations, include State direction of a portion of its share of Federal Safe Drinking Water Act State Revolving Fund (SRF), Clean Water Act Section 319 funds, Clean Water Act SRF and other Federal grant programs under State control. The State may use these funding sources, as available, in accordance with applicable criteria. The State's budget for FY 2000-01 includes more than $68 million from the Proposition 13 Interim Reliable Water Supply and Water Quality Program for water quality improvement projects. Additional Proposition 13 funds will be available during Stage 1 from the Safe Drinking Water, Flood Protection Corridor, Urban Streams Restoration, Watershed Protection, Nonpoint Source Pollution Control, Clean Water, and Water Recycling programs to fund projects with water quality benefits.

2.2.10 Water Transfers

The transfer of water between willing sellers and buyers represents an economically and environmentally sound part of the State's water strategy. Voluntary water transfers provide an important water resource management tool by fostering efficient allocation of water resources throughout the State. In some areas, local water transfers are common and CALFED Agencies will continue to support such local transfers. The successful implementation of the CALFED Program depends upon access to California's major water transportation systems and removing other barriers to transfers: physical, institutional and legal. Therefore, the goal of the CALFED Water Transfer Program is to encourage the development of a more effective water transfer market that facilitates water transfers and streamlines the approval process while protecting water rights, environmental conditions, and local economic interests.

Actions Included in the Programmatic EIS/EIR

Success of the CALFED Water Transfer Program will require the adoption of a comprehensive and progressive water wheeling policy that will require the enactment of State legislation to establish clear and concise laws governing access to and the cost of conveyance facilities as well as providing clear definitions of applicable rules and regulations.

In order to facilitate an efficient water market, DWR, SWRCB and Reclamation will focus on implementing the following elements:

- **Increase the availability of existing facilities for water transfers.** It is necessary to encourage and promote water transfers by facilitating "wheeling" transactions. Such transactions are paramount to the ultimate success of CALFED. Therefore, if legislation is not enacted during the 2000 legislative year to clarify the State's wheeling laws, the State administration will sponsor legislation in 2001.

- **Lower transaction costs through permit streamlining**. The CALFED Agencies propose to develop streamlined transfer approval procedures for certain kinds of transactions (intra-regional transfers, short-term transfers, dry-year transfers). This streamlining would include "pre-certification" of certain classes of transfers (e.g. local transfers) and expedited environmental review procedures and may necessitate legislation to implement. Actions include:

    - Convene a panel of stakeholders, including both transfer supporters and community representatives with concerns about transfers, to draft recommendations for a streamlined transfer approval process by December 2000.
    - Introduce legislative changes by April 2001.

A more active water transfer market heightens concern about the clarity of policies and procedures and the potential for third-party impacts. To respond to this and other concerns regarding better access to market information, CALFED Agencies are developing the "On-Tap" on-line water transfer information source, which will clarify application of policies and procedures and provide up-to-date information about ongoing transfer activity. This increased market information will reduce applicant and regulatory confusion and will allow third parties, including local communities, to track water transfers that may affect them and identify related outcomes from those transfers. Milestones include:

- Provide operational On-Tap website by the end of 2000.
- Establish California Water Transfers Information Clearinghouse to disseminate information on groundwater impacts, cumulative impacts and local socioeconomic impacts of transfers by the end of 2001.

Complementary Action

The Framework identified the following action which was not analyzed in the Final Programmatic EIS/EIR and will, therefore, require additional environmental review.

CALFED Agencies believe that in order to promote water use efficiency measures in the agricultural sector, end users need to be able to beneficially participate in an active water transfer market. CALFED Agencies recognize that one barrier to an effective water transfer market is the lack of incentive for individual landowners to utilize available water conservation technologies because any water savings frequently accrue not to the landowner but to the irrigation district or water supply agency. CALFED Agencies will develop and support proposals to remove this disincentive to voluntary deployment of water use efficiency improvements.

2.2.11 Levees

The goal of the CALFED Levee System Integrity Program is to provide long-term protection for multiple Delta resources by maintaining and improving the integrity of the extensive Delta levees system. CALFED proposes investing a total of approximately $450 million in Stage 1.

The Delta covers 738,000 acres of productive farmland and wildlife habitat interlaced with hundreds of miles of waterways. Much of this land is below sea level. Eleven hundred miles of levees are needed to protect Delta land uses including 520,000 acres of farmland, the Mokelumne Aqueduct that crosses the Delta to serve water to the East Bay, three State highways, a railroad, natural gas and electric transmission facilities, and thousands of acres of habitat. Levees also protect water quality for Delta and export users. If a levee fails, salt water from the Bay can inundate land that is below sea level, which can seriously affect Delta water supplies for months.

The CALFED Agencies propose substantial efforts during Stage 1 to rebuild certain levees in

ways that encourage habitat for aquatic and terrestrial species. These efforts are being undertaken consistent with the Ecosystem Restoration Program and are discussed under that heading, as well as under the Conveyance Projects section. DWR and USACE will lead the CALFED Agencies in implementing the Levee System Integrity Program. Where necessary, the Reclamation and USACE will seek Congressional authorization for Delta levee improvements. The Levee System Integrity Program consists of these elements:

- **Base Level Protection.** The Program will provide base level funding to help local reclamation districts reconstruct all Delta levees to a base level of protection (the "PL 84-99 standard). Currently, about 520 out of 1,100 miles of Delta levees do not meet this standard. During Stage 1, about 200 additional miles of levee will be brought up to a base level of protection.

- **Special Improvement Projects.** This Program will enhance stability on levees that have particular importance in the system. Priorities include life and personal property (more than 400,000 people live in Delta towns and cities) water quality (preventing salinity intrusion), protecting agricultural production, and protecting ecosystems.

- **Levee Subsidence Control Plan.** Draining and cultivation of Delta marsh lands causes the peat soil to break down and compact. Over time, land has subsided from sea level so that today two-thirds of the Delta is below sea level and subject to flooding. Some points are now 21 feet below sea level. CALFED will develop "best management practices" to control and reverse subsidence and work with local districts and landowners to implement cost-effective measures.

- **Levee Emergency Response Plan.** This will enhance the ability of local, State, and Federal agencies to rapidly respond to levee emergencies.

Levees in the Suisun Marsh have been included within the scope of the Levee System Integrity Program for purposes of considering whether levees within the Suisun Marsh may need repair or improvement to accomplish other CALFED objectives (e.g., ecosystem restoration). However, the CALFED Agencies do not intend to accept any responsibility or provide any assurance for maintaining the stability of Suisun Marsh levees through their inclusion in the Levee System Integrity Program. This does not preclude any existing CALFED Agency agreements and commitments for Suisun Marsh levee maintenance.

While the CALFED Agencies may fund repairs or improvements for levees throughout the solution area, the CALFED Agencies do not intend that any levee not already deemed eligible for the non-Federal Flood Control Work rehabilitation program be converted into an eligible non-Federal Flood Control Work levee as a consequence of this ROD, and do not intend to seek legislation that would convert any existing levee into an eligible non-Federal Flood Control Work, as part of the CALFED Levee System Integrity Program. This does not constrain any CALFED Agency from implementing existing levee repair or improvement programs in the CALFED solution area.

Actions Included in the Programmatic EIS/EIR

Stage 1 actions for the CALFED Levee System Integrity Program include:

- Initiate actions to refine the Delta Emergency Management Plan by 2000.
- Develop a Delta Risk Management Strategy that identifies risks to Delta levees, evaluates consequences, and recommends actions by 2001.
- Develop Best Management Practices for the reuse of dredged materials by 2001.
- Institute a program for using bay and Delta dredge material to repair Delta levees and restore Delta habitat, targeting 2 million cubic yards of dredge material applied in Stage 1. This program must be coordinated with CVRWQCB and other interested agencies to assure that the dredge material reuse program adequately addresses concerns over salinity and the quality of dredge material. An aggressive protective dredge material reuse program will be critical to the success of both the base level program and special improvement projects.

Complementary Action

The Framework identified the following actions which was not analyzed in the Final Programmatic EIS/EIR and will, therefore, require additional environmental review.

- **Sacramento/San Joaquin River Comprehensive Study.** USACE is currently performing a Comprehensive Study of the Sacramento and San Joaquin River watersheds to improve flood control efforts. The Delta's levees play a crucial role in controlling floods and therefore in the Comprehensive Study. The CALFED Agencies intend that final development and implementation of actions under the Comprehensive Study will be coordinated and consistent with the CALFED Bay-Delta Program.

2.2.12 Science

This ROD establishes the CALFED Science Program, which will bring world-class science to all elements of the program; ecosystem restoration, water supply reliability, water use efficiency and conservation, water quality, and flood management (e.g., levee stability). Performance measures and indicators for each program element will track progress.

The purpose of the CALFED Science Program is to provide a comprehensive framework and develop new information and scientific interpretations necessary to implement, monitor, and evaluate the success of the CALFED Program (including all program components), and to communicate to managers and the public the state of knowledge of issues critical to achieving CALFED goals.

The Science Program will be developed and directed by an interim lead scientist, who will also serve in the role of lead scientist during the initial years of program implementation. Implementation of the CALFED Science Program includes implementation of the Comprehensive

Monitoring, Assessment and Research Program (CMARP), now under the direction of the interim lead scientist. The Science Program also has primary responsibility to establish the role of adaptive management in program implementation, implement strategies to reduce uncertainties that impede successful accomplishment of CALFED goals, provide programmatic review of overall implementation of mitigation measures and integrate the CALFED Science Program with existing/related agency science programs.

An overarching principle of the Science Program is adaptive management. Adaptive management is defined as using and treating actions as partnerships between scientists and managers, designing those actions as experiments with a level of risk commensurate with the status of those species involved, and bringing science to bear in evaluating the feasibility of those experiments. New information and scientific interpretations will be developed through adaptive management, as the programs progress, and will be used to confirm or modify problem definitions, conceptual models, research, and implementation actions.

In order to better integrate scientific review into the CALFED Program, the Governor and the Secretary of the Interior will appoint an independent science board to provide oversight and peer review for the overall program. Also, specific independent science panels may be convened as standing bodies or on an as needed basis. For example, the Science Program will assist with convening an independent science panel to review implementation and operation of the EWA. In addition, the existing ERP Interim Science Board will likely become the ERP Science Panel, and provide ongoing independent review of the ERP.

While much of the need for scientific review is often focused on habitat restoration efforts, the CALFED Science Program will cover all of the program components. Water supply reliability, water use efficiency and conservation, water quality, and flood management/levee stability can each benefit from the periodic review of an independent science panel to help ensure the best investments are being made and results are being achieved, as well as form strategies to reduce scientific uncertainties. The interim lead scientist will work with CALFED program managers and CALFED Agencies to develop priorities for these program areas.

In early Stage 1, the emphasis for the CALFED Science Program will be on ecosystem restoration activities, including design of effective monitoring, targeted research and development of priorities. These efforts will be based initially on the 12 uncertainties identified in the ERP Strategic Plan.

The Science Program will not be directly involved in making regulatory decisions, but rather in ensuring that CALFED, and the CALFED Agencies, are incorporating the best available knowledge into activities and decisions that are made, as well as continuously working toward narrowing scientific uncertainties, bettering knowledge, and advancing the debate. The CALFED Science Program will be conducted in an open and collaborative manner to allow and encourage involvement of stakeholder and academic science communities. The CALFED Science Program can serve as a science clearinghouse for the CALFED Agencies and identify and articulate areas of scientific uncertainty relevant to key issues.

Actions Included in the Programmatic EIS/EIR

The CALFED Science Program will accomplish the following in Stage 1:

- Appoint an independent science board for the CALFED Program as a whole by the middle of 2001.
- Appoint an independent science panel for the EWA by the middle of 2001.
- Coordinate existing monitoring and scientific research programs.
- Refine the set of ecological, operational and other predictive models that will be used in the evaluative process by the end of 2001.
- Establish performance measures and indicators, and a consistent strategy of on-going development of these, for each of the program areas.
- Develop an annual science report, format and content, which includes:
    - Status of the species and effectiveness of efforts to improve conditions, including EWA, ERP and water management strategies, and provide recommendations to maximize fishery benefits while minimizing impacts to water supply.
    - Assessment of progress and effectiveness of each program element as indicated by performance measures and indicators.
    - Complete feasibility study to establish and construct CALFED Science Center.
    - Recommended research and/or program adjustments.
- Prepare first annual report by the end of 2001.

CALFED intends to invest approximately $300 million in the science program during Stage 1.

3. PROGRAMMATIC ENVIRONMENTAL COMPLIANCE

3.1 Clean Water Act Section 404

The CALFED Preferred Program Alternative includes numerous activities that would involve the discharge of dredged or fill material to waters of the United States (including wetlands). As such, these activities require authorization under Section 404 of the Clean Water Act before they can proceed (Section 404 permits). Activities which would require Section 404 permits range from projects involving significant construction of new infrastructure (such as new surface water storage facilities) to ecosystem restoration projects (such as creating new wetland habitat by contouring land and changing local hydrology).

The USACE issues Section 404 permits. Before the USACE can issue a Section 404 permit for a project, it must determine, among other things, whether a proposed project complies with regulations issued by EPA pursuant to Section 404(b)(1) of the Clean Water Act Section 404(b)(1) Guidelines. The USACE cannot determine whether to issue a Section 404 permit for a particular project until a project-specific administrative record is developed to permit a determination as to whether the project complies with the Guidelines as well as other relevant regulatory requirements. Because project-specific evaluations for the CALFED Program will only be completed after the ROD for the Programmatic EIS/EIR, no project-specific Section 404 permits will be issued for Program projects at the time of this ROD. However, the USACE and EPA have developed a Memorandum of Understanding (MOU) to facilitate timely consideration of Section 404 permits for CALFED projects. See Attachment 4 to this ROD.

3.2 Multi-Species Conservation Strategy Conservation Agreement, Including the Federal Endangered Species Act/California Endangered Species Act/Natural Community Conservation Planning Act Commitments

While the ERP is the Program's blueprint for restoration and recovery, the MSCS is the Program's conservation and regulatory compliance strategy. The MSCS addresses the potential adverse and beneficial effects on plant and animal species of all Program actions, including ERP actions and other Program actions such as levee system integrity, water storage and water conveyance actions. Based in large part on the ERP, the MSCS' premise is that the Program as a whole, including all program elements, will improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta. The ERP, therefore, serves two purposes: 1) to achieve Program objectives for ecosystem restoration; and 2) to enable actions from all Program elements

to be completed in compliance with FESA, CESA and NCCPA.

To serve both of these purposes, ERP implementation must be informed by the best available scientific information and by information about the implementation of other program actions. Information about the implementation of other program actions is necessary to ensure that they do not conflict with or limit the success of the ERP. In addition, ERP restoration actions must be implemented concurrently, and at commensurate levels with the other Program actions. This will ensure that the Program as a whole continues to increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta. The MSCS-ERP Milestones identified by the USFWS, NMFS and DFG are intended to establish, based on the best information currently available, a group of actions derived from the ERP Plan that 1) establish an adequate level of ERP implementation during Stage 1, 2) for the first four years, can be implemented with annual ERP funding of $150 million, 3) would not be inhibited by proposed Stage 1 actions in other program elements, and 4) would enable proposed Stage 1 actions in other program elements to be completed in compliance with FESA, ESA and the NCCPA.

The CALFED Agencies' development of annual, near- and long-term ERP implementation priorities and strategies will be based on the goals and objectives of the ERP Strategic Plan, the MSCS, FESA recovery plans, and implementation plans developed for specific ecological management zones, and will be informed by the Science Program. The MSCS-ERP Milestones represent the USFWS', NMFS' and DFG's objectives for ERP implementation that would allow Covered Species to make significant progress toward restoration and recovery. As with ERP implementation priorities and strategies generally, USFWS, NMFS, and DFG intend that the Science Program will inform the MSCS-ERP Milestones. Specifically, USFWS, NMFS, and DFG will seek annual review within the Science Program of 1)whether other program elements conflict with ERP implementation priorities and strategies so as to limit the success of the ERP, and 2) whether the ERP implementation priorities and strategies will ensure that the Program as a whole continues to increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta. As the Science Program develops information about ERP implementation, USFWS, NMFS, and DFG will revise the MSCS-ERP Milestones as necessary, consistent with the FESA and NCCPA.

USFWS, NMFS and DFG will not approve revisions to the MSCS-ERP Milestones that would cause or allow an effect to Covered Species or critical habitat designated under FESA that was not considered in the programmatic regulatory determinations, or would otherwise require the re-initiation of formal consultation under 50 CFR section 402.16. Consequently, the USFWS and NMFS expect that their approved revisions to the MSCS-ERP Milestones can be incorporated in each agency's programmatic biological opinions through informal consultation, rather than formal consultation, under section 7 of FESA. DFG will incorporate its approved revisions to the MSCS-ERP Milestones by amending the "California Department of Fish and Game Approval and Supporting Findings for the CALFED Bay-Delta Program Multiple Species Conservation Strategy."

3.3 Programmatic Endangered Species Act Section 7 Biological Opinions

Federal agencies must achieve FESA compliance under Section 7 of the act. Section 7 states that any Federal agency that funds, authorizes, or carries out an action that may affect a listed species must consult with USFWS and/or NMFS. This programmatic consultation is to ensure that the action is not likely to jeopardize the continued existence of any endangered or threatened species, or to result in the destruction or adverse modification of habitat critical to such species. If the lead agency determines that an agency action is likely to affect a listed species or critical habitat, the agency taking the action must initiate formal consultation. This programmatic consultation does not authorize any incidental take for listed or proposed species.

Formal consultation begins when the Federal agency provides USFWS or NMFS a written biological assessment of the action. USFWS and/or NMFS review the biological assessment and other relevant information, then do the following:

- Determine the sufficiency of information for consultation.
- Provide a written biological opinion that details how the action will affect any endangered species, threatened species, or critical habitat.
- Develop reasonable and prudent alternatives to the action that will avoid jeopardizing the continued existence of such species.
- Develop reasonable and prudent measures to the action to minimize the effects of the incidental taking.

Reasonable and prudent alternatives and reasonable and prudent measures are non-discretionary in order to be exempt from the prohibitions of take under section 9 of the Act. If the action will cause incidental take of an endangered or threatened species, USFWS and/or NMFS will provide a statement of the level of take that is anticipated to occur from implementing the action. If the Federal agency or other entity carrying out the action implements the specified measures and does not exceed the level of take stated in the biological opinion, FESA does not prohibit the incidental take caused by the action.

The MSCS served as the biological assessment for CALFED and initiated a programmatic consultation under Section 7. USFWS and NMFS have prepared programmatic biological opinions for CALFED based on the MSCS and other relevant information. See Attachment 6 to this ROD. As CALFED actions or groups of actions requiring Section 7 consultations are identified and defined, Action Specific Implementation Plans (ASIPs) can be prepared that use information and analyses in the MSCS and the programmatic biological opinions. The ASIPs will serve as the biological assessment of the CALFED actions or groups of actions; they will provide necessary details about the actions and their impacts on MSCS evaluated species and NCCP communities. USFWS and NMFS will then use the ASIPs to develop action-specific biological opinions.

CALFED Program implementation, in conjunction with the MSCS and programmatic biological opinions, will provide benefits in subsequent project-specific consultations. Specifically, individual projects that qualify for consultation will be evaluated within the context of the Program as a whole, which includes major elements designed to improve the environmental baseline and lead to the recovery of targeted species. These major elements will be subject to on-going monitoring, evaluation, and the application of adaptive management. Project-specific biological opinions will take into account the environmental benefits that accrue from the CALFED Program. As a result, FWS and NMFS anticipate that implementation of the overall CALFED Program will streamline the ESA compliance process and, as actions are taken that benefit listed species, will reduce the need for additional provisions to satisfy legal requirements.

3.4 Natural Community Conservation Plan Determination

The NCCPA authorizes the preparation of Natural Community Conservation Plans (NCCPs). NCCPs provide the means for regional or areawide protection and perpetuation of natural wildlife diversity, while allowing compatible and appropriate development and growth. Federal, State, and local agencies may undertake natural community conservation planning independently or in cooperation with other persons. NCCPs must be approved by the DFG. DFG may authorize incidental take of identified species, including endangered and threatened species, whose conservation and management is provided for in an approved NCCP. Because NCCPA allows DFG to authorize incidental take of endangered and threatened species, an NCCP may be used to comply with CESA.

The MSCS has been submitted to DFG as a proposed programmatic NCCP. Based on the MSCS and other relevant information, DFG will determine whether the MSCS complies with NCCPA. If the MSCS complies with NCCPA, DFG will prepare an NCCP approval and issue supporting findings. As under FESA, when specific CALFED actions or groups of actions have been identified and defined, ASIPs that use information and analyses in the MSCS and the programmatic NCCP approval will provide necessary details about the actions and their impacts on MSCS evaluated species and NCCP communities. The ASIPs can then serve as project-specific NCCPs for CALFED actions or groups of actions. See Attachment 7 to this ROD.

3.5 Clean Water Act Section 401 Memorandum of Understanding

Under Section 401 of the CWA, the SWRCB and the RWQCBs certify whether or not federally licensed or funded projects are consistent with the maintenance or attainment of water quality requirements. The SWRCB and the RWQCBs for the San Francisco Bay and Central Valley Regions have signed a memorandum of understanding as to how they will process the Section 401 certification of the CALFED storage projects and other projects requiring such certification. See

Attachment 8 to this ROD.

3.6 Coastal Zone Management Act Programmatic Consistency Determination

Under the Coastal Zone Management Act (CZMA) of 1972, coastal states are required to develop Coastal Zone Management Programs, and Federal agencies are required to certify that any proposed activities in or affecting the coastal zone are consistent with the State's program. In California, the San Francisco Bay Conservation and Development Commission (BCDC) oversees the San Francisco Bay segment of California's Coastal Zone Management Program. Among other areas, BCDC also has permit jurisdiction over projects in certain waterways up to the Sacramento-San Joaquin Delta (east of Chipps Island) that empty into the Bay and in specific saltponds and managed wetlands.

The Program has prepared a Programmatic Coastal Zone Management Act Consistency Determination that documents the possible effects of the Preferred Program Alternative on coastal resources. See Attachment 9 to this ROD. The consistency determination documents the actions that the Program will take to ensure that the Preferred Program Alternative is carried out in a manner consistent, to the maximum extent practicable, with the CZMA and the California Coastal Act of 1976. BCDC has approved the consistency determination.

3.7 Permit Clearinghouse

The CALFED Agencies will establish a permit clearinghouse process to coordinate and expedite permit applications across all CALFED programs. This process will detailed in an MOU by December 2000. As part of the clearinghouse, the CALFED Agencies will provide:

- A permit handbook
- Permit tracking database that tracks milestones for CALFED actions
- A unified application format
- A non-binding dispute resolution process
- Annual reports and meetings to track progress
- Permit coordinators

The CALFED Agencies, working in regulatory and/or implementation roles, will do the following as part of the permit clearinghouse process:

- Participate in regular meetings and assist in preparation of annual reports to track progress on overall CALFED program implementation.
- Identify and pursue regional environmental permits, opportunities to group permits, a single

environmental review process for multiple projects, or other measures that increase the efficiency of environmental compliance efforts.

- Appoint a single point of contact for their agency and as appropriate, a single point of contact for regulatory compliance activities.
- Form multi-agency, multi-disciplinary teams to assist in project definition, impact analysis, identification of avoidance and mitigation measures, development of permit conditions and information necessary to comply with regulatory requirements.
- Develop standard guidance, study methodologies, and mitigation requirements as needed.
- Respond in a timely manner to environmental documents, permit applications, other regulatory requirements.
- Ensure that environmental considerations are an integral part of project formulation.
- Identify issues in dispute early, attempt to resolve those issues at the lowest level possible, and elevate those issues as needed in an orderly manner so that they can be resolved and not result in delays.

The permit clearinghouse concept does not provide CALFED projects with any higher priority than other projects submitted by non-CALFED Agencies. The CALFED Agencies will support increases in regulatory staff to assure all CALFED and non-CALFED projects submitted for permitting have equal priority and that the CALFED Program schedule will be met. In addition, the permit clearinghouse does not change the standard of review under statutes governing the review of each regulatory agency.

Having considered the contents of this document, its attachments and the documents supporting this decision, we hereby adopt this Record of Decision. By signing this Record of Decision together, we exercise our respective authorities over only those portions relevant to our authority.

Signed and dated:

United States of America

AUG 28 2000

Bruce Babbitt, Secretary
U.S. Department of the Interior

Date

AUG 28 2000

Carol M. Browner, Administrator
U.S. Environmental Protection Agency

Date

29 AUG 2000

Dr. Joseph W. Westphal, Assistant Secretary
of the Army for Civil Works

Date

8-28-00

Norman Y. Mineta, Secretary
U.S. Department of Commerce

Date

8.28.00

Richard E. Rominger, Deputy Secretary
U.S. Department of Agriculture

Date

Felicia Marcus, Regional Administrator
U.S. Environmental Protection Agency

8/28/00
Date

Brigadier General Peter T. Madsen, Commander
South Pacific Division
U.S. Army Corps of Engineers

28 Aug/00
Date

Jeffrey R. York, State Conservationist
Natural Resources Conservation Services

8-28-00
Date

Rebecca Lent, Ph.D., Regional Administrator
National Marine Fisheries Service

8/28/00
Date

Michael J. Spear, Manager
California-Nevada Operations
U.S. Fish and Wildlife Service

8/28/00
Date

Lester A. Snow, Director, Mid-Pacific Region
U.S. Bureau of Reclamation

8/28/00
Date

State of California

Mary D. Nichols, Secretary
California Resources Agency

8/23/00
Date

Winston H. Hickox, Secretary
California Environmental Protection Agency

8/28/00
Date

APPENDIX A

Mitigation Measures Adopted in the Record of Decision

Appendix A
Mitigation Measures Adopted in the Record of Decision

The CALFED Agencies commit to considering and adopting the following mitigation measures where appropriate in development and implementation of project specific actions. The mitigation measures address short-term, long-term and cumulative effects of the CALFED Program. The measures are grouped by section from the impact analysis chapters of the Final Programmatic EIS/EIR.

5.1 Water Supply and Water Management. Potentially significant effects of implementing the Preferred Program on water supply and water management include temporary local water supply interruptions due to turbidity of water during construction of Program facilities, levee construction and maintenance, and habitat restoration activities.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on water supply and water management:

1. Use best construction and drainage management practices to avoid transport of soils and sediments into waterways.
2. Use cofferdams to construct levees and channel modifications in isolation from existing waterways.
3. Use sediment curtains to contain turbidity plumes during dredging.
4. Schedule ground disturbing construction during the dry season.

5.3 Water Quality. Implementation of the Preferred Program Alternative may have several potentially significant effects on water quality. These effects include: (1) Releases of inorganic and organic suspended solids into the water column and turbidity resulting from increased erosion during construction, dredging, or drainage of flooded lands; (2) Releases of toxic substances, such as pesticides, selenium, and heavy metal residues, into the water column during construction and dredging and other Program actions; (3) Net increases in salinity if evaporation increases converting irrigated cropland to wetlands; (4) Increased electrical conductivity (a measure of salinity) of water in the Delta; (5) Increases of TOC in river water caused by the increased contact between flowing or ponded water and vegetation or peat soils that would result from conversion of agricultural lands to wetlands and from actions in other Program elements; (6) Increased water temperatures and resultant decreased dissolved oxygen concentrations due to the increased residence time of water in the Delta and from actions in various Program elements; (7) Decreases in in-stream water quality if water use efficiency measures or water transfers reduce diluting flows; (8) Increases in concentrations of constituents of concern if water transfers reduce in-stream flows and deplete river assimilative capacity; (9) Increase in methylation of mercury in constructed shallow-water habitat; (10) Degradation of surface water by the transfer of poorer quality groundwater; (11) Changes in natural flow regimes in areas where new surface storage is built; and (12) Surface storage innundation of toxic material.

The following mitigation measures will reduce potential effects of implementation of the Preferred

Program Alternative on water quality:

1. Improve treatment levels provided at municipal wastewater treatment plants to upgrade the quality of the constituents of concern discharged to receiving waters in order to compensate for the reduction in dilution caused by improved water use efficiency. Improved salt management of wastewater inputs to treatment plants could reduce salt concentrations in discharges.
2. Release additional water from enlarged or additional off-stream surface storage, or from additional groundwater storage.
3. Release additional water from storage in existing reservoirs or groundwater basins.
4. Treat wastewater at the source, such as Delta drains, upgrade water treatment processes at drinking water treatment plants and/or provide treatment at the point of use (consumer's tap).
5. Use innovative, cost-effective disinfection processes (for example, UV irradiation, and ozonation, in combination with other agents) that form fewer or less harmful DBPs.
6. Use existing river channels for water transfers and timing the transfers to avoid adverse water quality effects.
7. Use best construction and drainage management practices to avoid transport of soils and sediments into waterways.
8. Use cofferdams to construct levees and channel modifications in isolation from existing waterways.
9. Use sediment curtains to contain turbidity plumes during dredging.
10. Separate water supply intakes from discharges of agricultural and urban runoff.
11. Apply agricultural and urban BMPs, and treat drainage from lands with concentrations of potentially harmful constituents to reduce contaminants. Treat drainage from agricultural lands underlain by peat soils to remove TOC.
12. Relocate diversion intakes to locations with better source water quality.
13. Restore additional riparian vegetation to increase shading of channels and reduce evaporation.
14. Identify and investigate issues regarding beneficial reuse of dredged material, including conducting core sampling and analysis of proposed dredged areas, and implement engineering solutions to avoid or prevent environmental exposure to toxic substances after dredging.
15. Cap exposed toxic sediments with clean clay/silt and protective gravel.
16. Test for mercury in soils and locate constructed shallow-water habitat away from sources of mercury until methods for reducing mercury in water and sediments are implemented.
17. Operate storage facility operations to maintain the frequency, magnitude, and duration of flows necessary to maintain and restore downstream water quality and habitat.
18. Avoid innundation or design solutions to innundation of toxic materials, such as covering with an engineered cap.
19. Schedule ground disturbing construction during the dry season.
20. Follow established and proper procedures and regulations for identifying, removing and disposing of contaminated materials.
21. Utilize the criteria in the Water Transfer Program, in conjunction with existing legal constraints on water transfers, to protect against adverse effects due to water transfers.

The criteria for future water transfer proposals include:

- Water rights of all legal water users must not be impaired.
- Transfers must not harm fish and wildlife resources and their habitats.
- Transfers must not cause overdraft or degradation of groundwater basins, or impair correlative rights of overlying users.

22. Develop new groundwater basin management plans or expand existing groundwater basin management plans, including defining objectives, project boundaries, responsibilities, operation and maintenance specifications and procedures, and conditions under which corrective actions are taken.
23. Reduce or discontinue groundwater pumping.
24. Monitor and test groundwater wells and aquifers.
25. Continue the studies concerning reuse of beneficial Bay dredge material in the Delta for potential water quality impacts related to salinity, metals mobilization, and other environmental and health hazards.
26. Investigate all potential sources of borrow and the cost effectiveness of each source's use for levee rehabilitation and construction, including the use of sediment traps as a source of borrow.
27. Prepare a borrow plan that includes future costs and options for obtaining adequate quantities of borrow needed for implementation of the Levee System Integrity Plan.
28. Modify water conveyance operations, including DCC and south Delta operations. Program implementation will occur in phases to permit new information gained from studies and monitoring to influence changes in facility design and operations.

5.4 Groundwater. Implementation of the Preferred Program Alternative may have potentially significant effects on groundwater. These effects include: (1) Changes in groundwater levels; (2) Increased demand for groundwater supplies; (3) Increased groundwater overdraft; (4) Increased land subsidence; (5) Increased degradation of groundwater quality from contaminant movement, salt-water intrusion, or naturally poor-quality water drawn into the aquifer; and (6) Impacts from groundwater recharge and storage system operations.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on groundwater:

1. Create additional groundwater or surface water storage facilities to improve water supply reliability and decrease overdraft.
2. Support voluntary transfers of water from basins with excess supplies.
3. Purchase water rights from willing sellers (including transferring water rights between sectors—for example, from agricultural to municipal uses).
4. Support local groundwater management that reduces overdraft and third-party effects, including reduction or discontinuation of groundwater pumping.
5. Implement conservation measures to reduce demand.
6. Integrate the Ecosystem Restoration Program floodplain restoration efforts with setback levees.
7. Support local and regional efforts to increase water supplies from recycling.

8. Support increased regulations regarding new and existing domestic wells and septic systems.
9. Develop alternative water supplies.
10. Monitor and test groundwater wells and aquifers.
11. Limit new septic tank systems in vulnerable areas.
12. Allow water levels to increase periodically.
13. Import new soil (including dredged spoil) to raise land surface.
14. Support local projects to recharge aquifers.
15. Support local agencies in distributing groundwater pumping over a wide region rather than to a concentrated area to minimize drawdown of the aquifer.
16. Treat extracted groundwater at the well head.
17. Dilute poor-quality groundwater with higher quality water.
18. Support local agencies in developing new groundwater basin management plans or expanding existing groundwater basin management plans, including defining objectives, project boundaries, responsibilities, operation and maintenance specifications and procedures, and conditions under which corrective actions are taken.
19. Temporarily remove the recharge system from service to avoid effects associated with high water tables.
20. Monitor water-level conditions on islands adjacent to flooded Delta islands.
21. Install interception wells at in-Delta storage facilities to control seepage.
22. Line conveyance canals to prevent seepage.
23. Control seepage through pumping and other appropriate measures.
24. Design new levees and improve existing levees to withstand hydraulic stresses and seepage from flooding Delta islands.
25. Utilize the criteria and objectives in the Water Transfer Program, in conjunction with existing legal constraints on water transfers, to protect against adverse effects due to water transfers. The criteria for future water transfer proposals include:
    - Water rights of all legal water users must not be impaired.
    - Transfers must not cause overdraft or degradation of groundwater basins, or impair correlative rights of overlying users.

5.5 Geology and Soils. Implementation of the Preferred Program Alternative may have potentially significant effects on geology and soils. These effects may include: (1) Conversion of agricultural land soils for levee system construction and potential for erosion on outboard slope of levees; (2) Increases in local subsidence from potential increased reliance on groundwater use; (3) Increases in wind and soil erosion and in soil salinity due to fallowed agricultural lands; (4) Increased construction-related short-term soil erosion, and increased sediment deposition and soil compaction; (5) Potential changes in downstream geomorphology from enlarging existing storage facilities and other Program actions; and (6) Ground disturbance, inundation, seepage, and shoreline wind- and wave-generated erosion from new storage facilities and other Program actions.

The following mitigation measures will reduce potential effects of implementation of the Preferred

Program Alternative on geology and soils:

1. Monitor groundwater levels and subsidence in areas of increased reliance on groundwater resources and regulate withdrawal rates at levels below those that cause subsidence.
2. Minimize and avoid direct groundwater transfers or groundwater substitution transfers from regions: 1) experiencing long-term overdraft, 2) where subsidence historically has occurred, or 3) where local extensometers indicate that subsidence rates are increasing.
3. Protect flooded Delta island inboard levee slopes against wind and wave erosion with vegetation, soil matting, or rock.
4. Protect exposed soils with mulches, geotextiles, and vegetative ground covers during and after project construction activities in order to minimize soil loss.
5. Implement erosion control measures and bank stabilization projects.
6. Increase sediment deposition and provide substrate for new habitat by planting terrestrial and aquatic vegetation.
7. Measure channel morphology over time to monitor changes and implement erosion control measures where needed.
8. Re-use dredged materials to reduce or replace soil loss.
9. Leave crop stubble from previous growing season in place while fallowing and employ cultivation methods that will cause the least amount of disturbance in order to minimize erosion of surface soils.
10. Limit the salinity of replacement water, relative to local conditions, in water transfers.
11. Ensure that the volume of irrigation water used is sufficient to flush accumulated salts from the root zone.
12. Operate new storage facilities to minimize sediment trapping and increase sediment transport in rivers and tributaries.
13. Retrofit soil-comprised structures to seismic events with shock-absorbing devices and materials in areas of seismic vulnerability, wherever possible.
14. Prepare and implement best construction management plans.
15. Prepare and implement a water quality and soils monitoring program.
16. Prepare and implement construction mitigation plans.
17. Prepare and implement contingency plans for wetland and marshland restoration.
18. Modify storage facility operations to maintain the frequency, magnitude, and duration of flows necessary to maintain and restore downstream habitat.
19. Control boat traffic in order to reduce boat wakes to levels that will not cause levee or bank erosion.
20. Monitor water-level conditions on islands adjacent to in-Delta storage.
21. Install interception wells at in-Delta storage facilities to control seepage.
22. Line conveyance canals to prevent seepage.
23. Control seepage through pumping and other appropriate measures.
24. Design new levees and improve existing levees to withstand hydraulic stresses and seepage from flooding Delta islands.
25. Use cofferdams to construct levees and channel modifications in isolation from existing waterways.
26. Use sediment curtains to contain turbidity plumes during dredging.
27. Investigate the cost effectiveness and safety of using sediment traps as a source of borrow.

5.6 Noise. Implementation of the Preferred Program Alternative may have potentially significant effects on noise. These effects may include: (1) Increased noise from heavy equipment operation during construction; (2) Noise from construction-related traffic along major access and haul routes and construction labor force vehicle traffic; (3) Increased noise from facility operation of spillways, pumping generating plants, and switchyards; (4) Increased noise from automobile or boat traffic associated with recreational use at enlarged reservoirs; and (5) Increased traffic noise from permanently relocated roadways.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on noise:

1. Use electrically powered equipment instead of internal combustion equipment where feasible.
2. Locate staging and stockpile areas, and supply and construction vehicle routes as far away from sensitive receptors as possible.
3. Establish and enforce construction site and haul road speed limits.
4. Restrict the use of bells, whistles, alarms, and horns to safety warning purposes.
5. Design equipment to conform with local noise standards.
6. Locate equipment as far from sensitive receptors as possible.
7. Equip all construction vehicles and equipment with appropriate mufflers and air inlet silencers.
8. Restrict hours of construction to periods permitted by local ordinances.
9. Locate noisy equipment within suitable sound-absorbing enclosures.
10. Erect sound wall barriers or noise attenuation berms between noise generation sources and sensitive receptors.
11. Schedule construction activities to avoid breeding seasons of sensitive species and peak recreating use.
12. Locate redirected roadways away from sensitive receptors.
13. Encourage use of public transportation and carpooling for construction workers.
14. Restrict boating speeds or access to areas with sensitive receptors.
15. Conduct project-specific noise analyses for actions with noise impacts.

5.7 Transportation. Implementation of the Preferred Program Alternative may have potentially significant effects transportation. These effects may include: (1) Increasing local traffic flows as the public accesses recreational resources at new storage facilities; (2) Changing traffic flows as roads are temporarily rerouted around construction sites; (3) Relocating or permanently closing roads; (4) Delays and disruptions resulting from detouring traffic as new roadways and railroad bridges are constructed around storage and conveyance facilities; (5) Adding construction vehicles to existing traffic levels, especially on narrow, two-lane local roads with winding routes; (6) Closing two-lane roads to one lane in order to facilitate roadway improvements or relocations associated with the Watershed Program; (7) Impeding or blocking patrol or rescue boats in Delta channels where fish barriers and flow control structures are installed; and (8) Creating safety conflicts by operating large, slow-moving dredging equipment on Delta waterways.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on transportation:

1. Provide convenient and parallel detours to routes closed during construction.
2. Allow trains to use existing tracks while bridges are being built.
3. Encourage use of public transportation and carpooling for construction workers.
4. Clearly mark roadway intersections with warnings where visibility is poor in the project vicinity.
5. Provide boat portage or a stationary jib crane.
6. Relocate boat launch facilities.
7. Relocate emergency access roads.
8. Require contractors to follow appropriate state and federal safety protocols.
9. Coordinate dredging and safety precautions with state and local authorities.
10. Schedule construction at times and seasons to minimize delays.
11. Expand public transportation resources and local roadways.
12. Expand public transportation, roads, and highways.
13. Locate roadways in areas with fewer conflicts.
14. Design roadways to avoid or minimize traffic congestion.

5.8 Air Quality. Implementation of the Preferred Program Alternative may have potentially significant effects on air quality. These effects may include: (1) Direct, short-term air pollutant emissions during construction activities; (2) Fugitive emissions of wind-blown dust; (3) Emissions associated with prescribed burning programs; (4) Emissions from increases in equipment use and cultivation, agricultural chemical use, and crop shifting and burning; (5) Emissions if land use changes lead to higher recreational uses; and (6) Emissions from use of fossil fuels or other energy resources associated with pressurized irrigation systems; and (7) Indirect air quality impacts from increased power generation to meet Program energy consumption and changes in operation.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on air quality:

1. Set traffic limits on construction vehicles.
2. Maintain properly tuned equipment.
3. Limit the hours of operation or amount of equipment.
4. Limit the use of agricultural chemicals.
5. Coordinate prescribed burning programs with relevant air quality management agencies to ensure that the programs are accounted for in air quality management plans.
6. Regularly water construction sites to control levels of dust in the air.
7. Use soil stabilizers and dust suppressants on unpaved service roadways.
8. Conduct daily contained sweeping of paved surfaces.
9. Limit vehicle idling time.
10. Use alternatively fueled equipment.
11. Require selection of borrow sites that are closest to fill locations.
12. Implement construction practices that reduce generation of particulate matter.

13. Hydoseed and mulch exposed areas.
14. Use cultivation practices that minimize soil disturbance.
15. Follow air basin management plans to avoid or minimize vehicle-related emissions.
16. Restrict the kinds of recreational vehicles or the times of operation for certain off-road vehicles on fallowed agricultural land to limit the amount of fugitive dust.
17. Implement prescribed burning during favorable weather conditions.
18. Implement alternatives to crop burning including tilling and shallow flooding.
19. Coordinate crop stubble burning with relevant air quality management agencies to ensure that the programs are accounted for in air quality management plans.
20. Encourage use of public transportation and carpooling for construction workers.
21. Obtain replacement power from non-emitting sources such as other hydro, solar, and wind sources. This can occur through construction of, or the use of incentives to construct non-emitting power plants. This approach is consistent with state and federal policies related to promoting use of renewable resource type generation as expressed in Public Utility Code Section 381(c) (part of what is commonly referred to as AB 1890) and Executive Order 12902.
22. Utilize the best available control technology for new power production facilities.

6.1 Fisheries and Aquatic Systems. Implementation of the Preferred Program Alternative may have potentially significant effects on fisheries and aquatic systems. These effects may include: (1) Increased non-native species abundance and distribution to levels detrimental to native species from reestablishment of aquatic areas; (2) Blocked access to habitat and altered water quality and flow conditions from placement of barriers in the south Delta; (3) Altered natural ecosystem structure, removal of benthic communities, and creation of conditions that may damage habitat for desired species from dredging activities and other Program actions; (4) Release of toxic substances into surface waters; (5) Short-term disturbance of existing biological communities and species habitat, mobilized sediments, and input contaminants from construction activities; (6) Reduced streamflow and Delta outflow, changed seasonal flow and water temperature variability from water supply management, and changes in salinity associated with several Program elements resulting in reduced habitat abundance, impaired species movement, and increased loss of fish to diversions; (7) Increased entrainment loss of chinook salmon and other species from diversions to new off-stream and in-Delta storage; (8) Reduced frequency and magnitude of net natural flow conditions in the south and central Delta from Delta Cross Channel operations and south Delta barriers resulting in reduced system productivity, impaired species movement, and increased losses to diversions; (9) Reduced net flow conditions in the Sacramento River downstream of the diversion facility on the Sacramento River; (10) Increased fish mortality through abrasion, increased predation, and other factors from the new fish screen facility for the diversion facility on the Sacramento River; and (11) Delayed migration and reduced spawning success for adult fish moving from the Mokelumne River channels into the Sacramento River from fish screens and a diversion facility on the Sacramento River.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on fisheries and aquatic systems:

1. Implement BMPs, including a storm water pollution prevention plan, toxic materials control and spill response plan, and vegetation protection plan.
2. Limit construction activities to windows of minimal species vulnerability.
3. Create additional habitat for desired species, including increased aquatic area and structural diversity through construction of setback levees and channel islands.
4. Control undesirable non-native species.
5. Operate new and existing diversions to avoid and minimize effects on fish--avoid facility operations during periods of high species vulnerability.
6. Locate the diversion points to avoid primary distribution of desired species.
7. Control predators in the diversion facility (screen bays) and modify diversion facility structure and operations to minimize predator habitat.
8. Construct a barrier to fish movement on Georgiana Slough.
9. Coordinate and maximize water supply system operations flexibility consistent with seasonal flow and water temperature needs of desired species.
10. Identify and investigate issues regarding beneficial reuse of dredged material, including conducting core sampling and analysis of proposed dredged areas, and implement engineering solutions to avoid or prevent environmental exposure to toxic substances after dredging.
11. Cap exposed toxic sediments with clean clay/silt and protective gravel.
12. Locate constructed shallow-water habitat away from sources of mercury until methods for reducing mercury in water and sediment are implemented.
13. Use cofferdams to construct levees and channel modifications in isolation from existing waterways.
13. Use sediment curtains to contain turbidity plumes during dredging.
14. Schedule ground disturbing construction during the dry season.
15. Follow established and proper procedures and regulations for identifying, removing and disposing of contaminated materials.
16. Utilize the criteria and objectives in the Water Transfer Program, in conjunction with existing legal constraints on water transfers, to protect against adverse effects due to water transfers. The criteria for future water transfer proposals include:
    - Transfers must not harm fish and wildlife resources and their habitats.

6.2 Vegetation and Wildlife. Implementation of the Preferred Program Alternative may have potentially significant effects on vegetation and wildlife. These effects may include: (1) Temporary and permanent loss and degradation of wetland, riparian and other natural communities; (2) Substantial temporary or permanent loss and disturbance of wintering waterfowl foraging habitat; (3) Substantial decrease in important upland wildlife habitat and use areas; (4) Temporary and permanent fragmentation of riparian habitats and/or wildlife movement corridors; (5) Temporary or permanent loss of habitat or direct impacts on special-status species; (6) Loss of portions of rare natural communities and significant natural areas; (7) Temporary disturbance or mortality of special-status species due to construction and habitat management activities; (8) Permanent loss of incidental wetland and riparian habitats that depend on agricultural inefficiencies; and (9) Reduction in quantity or quality of forage for species of concern.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on vegetation and wildlife:

1. Avoid direct or indirect disturbance to wetland and riparian communities, special-status species habitat, rare natural communities, significant natural areas, and other sensitive habitat.
2. Restore and enhance sufficient in-kind wetland and riparian habitat or rare natural communities and significant natural areas at offsite locations (near project sites) before or at the time that project impacts are incurred. Replace not only acreage lost, but also habitat value loss.
3. Design Program features to permit on-site mitigation or nearby restoration of wetland, riparian habitat, special-status species habitat, rare natural communities, and significant natural areas that have been removed by permanent facilities.
4. Phase the implementation of Ecosystem Restoration Program habitat restoration to offset temporary habitat losses and to restore habitat (including special-status species habitat) before, or at the same time that, project impacts associated with the Ecosystem Restoration Program are incurred.
5. Restore wetland and riparian communities, special-status species habitat, and wildlife use areas temporarily disturbed by on-site construction activities immediately following construction. Example actions include direct planting of native plants, controlling non-native plants to improve conditions for reestablishing native plants, and enhancing and restoring the original site hydrology to allow for the natural reestablishment of the affected plant community.
6. Avoid creating wetlands in areas with high concentrations of mercury in sediments and anaerobic conditions.
7. Phase the implementation of modifications to levees that would be necessary to meet PL 84-99 standards in order to minimize the effects of fragmentation of riparian habitats and associated wildlife.
8. Implement BMPs such as avoiding disturbance to highly erodible soils and installing siltation barriers and detention basins to reduce the potential for siltation of nearby wetlands.
9. Maintain sufficient outflow downstream of constructed off-stream reservoirs to maintain existing downstream wetland riparian communities.
10. Restore or enhance sufficient waterfowl foraging habitat near existing use areas to offset impacts on the abundance, quality and availability of waterfowl forage. Restoration and enhancement actions include restoring and managing seasonal wetlands for wintering waterfowl, producing crops with high forage value (such as corn and rice), and modifying farming practices to increase forage availability (for example, leaving portions of forage crops unharvested through winter or shallowly flooding fields).
11. Avoid important wildlife habitat areas, such as critical deer winter range and fawning habitat.
12. Restore and enhance important wildlife habitat use areas temporarily disturbed by on-site construction activities by planting and maintaining native species immediately following construction.
13. Restore and enhance upland habitat areas within affected watersheds or in other watershed

if sufficient habitat enhancement is unavailable within the affected watershed. This could include modifying existing land management practices (for example, grazing and fire management practices) to improve conditions for the natural reestablishment and long-term maintenance of affected plant communities and habitats.

14. Avoid direct or indirect disturbance to areas occupied by special-status species.
15. Avoid construction or maintenance activities within or near occupied special-status species habitat areas or important wildlife use areas when species may be sensitive to disturbance, such as during the breeding season.
16. Restore habitat areas occupied by special-status species that are temporarily disturbed by on-site construction activities immediately following construction.
17. Restore and enhance suitable habitat areas that are occupied by, or are near and accessible to, special status species that have been affected by the permanent removal of occupied habitat areas.
18. Phase habitat restoration actions to restore sufficient suitable habitat to minimize the adverse affects of impacts on occupied special-status species habitats before impacts are incurred.
19. For species for which relocation or artificial propagation is feasible, establish additional populations of special-status species adversely affected by the Program in suitable habitat areas elsewhere within their historical range.
20. Provide incentives to alter agricultural practices to improve habitat conditions for affected special-status species that use agricultural lands. This could included planting and managing crops to increase the availability or quantity of forage for affected species.
21. Avoid direct or indirect disturbances to rare natural communities and significant natural areas.
22. Restore or enhance disturbed rare natural communities or significant natural areas at off-site locations before, or when, Program actions that could affect these communities are incurred.
23. Restore rare natural communities or significant natural areas at or near affected locations after Program activities are completed.
24. Manage recreation-related activities on lands managed under the Program to minimize or avoid potential adverse effects of recreation-related activities on sensitive habitats, important wildlife use areas, and special-status species.
25. Phase ERP to initially restore natural waterfowl foraging on agricultural lands with low forage value while restored habitat with high forage value develops.
26. Phase ERP to initially restore wetland habitat with high forage value to offset the loss of agricultural foraging habitat that may result from the ERP.
27. Restore riparian vegetation disturbed by on-site construction activities immediately following construction.
28. Restore or enhance sufficient in-kind riparian habitat at off-site locations, near project sites, in a manner that reduces the degree of existing habitat fragmentation before, or when, project impacts are incurred to offset habitat losses.
29. Restore habitat temporarily disturbed by on-site construction activities immediately following construction.
30. Restore rare natural communities, significant natural areas, and wildlife use areas

temporarily disturbed by on-site construction activities immediately following construction. Example actions include direct planting of native plants, controlling non-native plants to improve conditions for reestablishing native plants, and enhancing and restoring the original site hydrology to allow for the natural reestablishment of the affected plant community.

31. Restore and enhance suitable habitat areas that are occupied by, or are near and accessible to, special-status species that have been adversely affected by the permanent removal of occupied habitat areas.

7.1 Agricultural Land and Water Use. Implementation of the Preferred Program Alternative may have potentially significant effects on agricultural land and water use. These effects may include: (1) Conversion of prime, statewide important, and unique farmlands to project uses; (2) Conflicts with local government plans and policies; and (3) Conflicts with adjacent land uses.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on agricultural land and water use:

1. Site and align Program features to avoid or minimize effects on agriculture.
2. Examine structural and nonstructural alternatives to achieve project goals in order to avoid effects on agricultural land.
3. Implement features that are consistent with local and regional land use plans.
4. Involve all affected parties, especially landowners and local communities, in developing appropriate configurations to achieve the optimal balance between resource effects and benefits.
5. Retain water allocations from retired drainage-impaired lands within the existing water districts.
6. Support the testing and application of alternative crops to idled farmland (for example, agroforestry or energy crops).
7. Provide water supply reliability benefits to agricultural water users.
8. Support the California Farmland Conservancy Program in acquiring easements on agricultural land in order to prevent its conversion to urbanized uses and increase farm viability. Focus on lands in proximity to where any conversion effect takes place.
9. Restore existing degraded habitat as a priority before converting agricultural land.
10. Focus habitat restoration efforts on developing new habitat on public lands before converting agricultural land.
11. If public lands are not available for restoration efforts, focus restoration efforts on acquiring lands that can meet ecosystem restoration goals from willing sellers where at least part of the reason to sell is an economic hardship (for example, lands that flood frequently or where levees are too expensive to maintain).
12. Use farmer-initiated and developed restoration and conservation projects as a means of reaching Program goals.
13. Where small parcels of land need to be acquired for waterside habitat, seek out points of land on islands where the ratio of levee miles to acres farmed is high.
14. Obtain easements on existing agricultural land for minor changes in agricultural practices

(such as flooding rice fields after harvest) that would increase the value of the agricultural crop(s) to wildlife.

15. Include provisions in floodplain restoration efforts for compatible agricultural practices.
16. Purchase water for habitat purposes so that the same locality is not affected over the long term.
17. Use a planned or phased habitat development approach in concert with adaptive management.
18. Minimize the amount of water supply required to sustain habitat restoration acreage.
19. Develop buffers and other tangible support for remaining agricultural lands. Vegetation planted on these buffers should be compatible with farming and habitat objectives.
20. In implementing levee reconstruction measures, work with landowners to establish levee reconstruction methods that avoid or minimize the use of agricultural land.
21. Work with landowners to establish levee subsidence BMPs that avoid effects on land use practices. Through adaptive management, further modify BMPs to reduce effects on agricultural land.
22. Implement erosion control measures to the extent possible during and after project construction activities. These erosion control measures can include grading the site to avoid acceleration and concentration of overland flows, using silt fences or hay bales to trap sediment, and revegetation areas with native riparian plants and wet meadow grasses.
23. Protect exposed soils with mulches, geotextiles, and vegetative ground covers to the extent possible during and after project construction activities in order to minimize soil loss.
24. Use rotational fallowing to reduce selenium drainage.
25. When it appears that land within an agricultural preserve may be acquired from a willing seller by a State CALFED agency for a public improvement as used in Government Code Section 51920, advise the Director of Conservation and the local governing body responsible for the administration of the preserve of the proposal.
26. Limit the number of acres that can be fallowed (in order to produce transferrable water) in a given area (district or county) or the amount of water that can be transferred from a given area.
27. Support assistance programs to aid local entities in developing and implementing groundwater management programs in water transfer source areas.
28. Dredged materials will be analyzed, dredged and handled in accordance with permit requirements. Permits will incorporate mitigation strategies identified in Section 5.3 to prevent release of contaminants of concern.
29. Utilize the criteria and objectives in the Water Transfer Program, in conjunction with existing legal constraints on water transfers, to protect against adverse effects due to water transfers. The criteria for future water transfer proposals include:
    - Water transfers must be voluntary.
    - Water market transactions must result in the transfer or exchange of water that truly increases the utility of the supply, not water that a transferor has never used or water that would have been legally available for downstream use in the absence of a transfer.
    - Water rights of all legal water users must not be impaired.
    - Transfers must not cause overdraft or degradation of groundwater basins, or impair

correlative rights of overlying users.

- Entities receiving transferred water should be required to show that they are making efficient use of existing water supplies.
- Water rights holders (whether districts or individuals) must play a strong role in determining whether water to which they have a right is transferred.
- The beneficial and adverse impacts on fiscal integrity of the districts and on the economy of agricultural communities in source and receiving areas cannot be ignored.

30. Implement seepage control measures.
31. Support local groundwater management that reduces overdraft and third-party effects, including reduction or discontinuation of groundwater pumping.

7.4 Urban Land Use. Implementation of the Preferred Program Alternative may have potentially significant effects on urban land use. These effects may include: (1) Displacement of some existing commercial uses and residents from Program actions located in urban land use areas; (2) Physical disruption or division of established communities; and (3) Potential conflicts of habitat development and storage and conveyance facilities with general plan land use designations or zoning if located in urban use areas.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on urban land use:

1. Select and design program actions that minimize the displacement of existing residents.
2. Select and design Program actions that do not physically disrupt or divide established communities.
3. Select Program actions that are consistent with local and regional land use plans. This could include consulting and working with local jurisdictions affected by Program actions early in the planning and environmental review process.
4. Notify all affected persons (for example, residents, property owners, school officials, and business owners) in the project area of the construction plans and schedules. This could include arranging schedules for road detours with residents and businesses to maintain access to homes, schools, and businesses; as well as providing protection, relocation, or temporary disconnection of utility services.
5. Select and design Program actions that do not physically disrupt or divide established communities.
6. Minimize the amount of permanent easement required for construction of facilities and consult with property owners to select easement locations that would lessen property disruption and fragmentation.
7. Relocate roads and utilities prior to project construction to ensure continued access and utility service through the project area.
8. Prepare a detailed engineering and construction plan as part of the project design plans and specifications, and include procedures for rerouting and excavating, supporting, and filling areas around utility cables and pipes in this plan.
9. Verify utility locations through consultation with appropriate entities and field surveys

(such as probing and pot-holing).

10. Reconnect disconnected cables and lines promptly.

7.6 Utilities and Public Services. Implementation of the Preferred Program Alternative may have potentially significant effects on utilities and public services. These effects may include: (1) Need for relocation or modification of major infrastructure components; and (2) Increased risk of gas line rupture during construction.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on utilities and public services:

1. Site project facilities and transmission infrastructure to avoid existing infrastructure.
2. Construct overpasses, small bridges, or other structures to accommodate existing infrastructure.
3. Coordinate construction activities with utility providers.
4. Design and operate facilities to minimize the amount of energy required and to maximize the amount of energy created.
5. Design project facilities to avoid or minimize their effect on existing infrastructure.

7.7 Recreation. Implementation of the Preferred Program Alternative may have potentially significant effects on recreation. These effects may include: (1) Temporary closure of recreation areas during construction; (2) Decrease in recreation opportunities and increases in boat traffic in some areas due to speed zone restrictions or prohibition of motorized boating in some areas; (3) More stringent enforcement of boat discharges; (4) Temporary or permanent changes in boating access and navigation; (5) Permanent closure of recreation facilities; (6) Potential decrease in flooded lands suitable for wildlife, hunting, and fishing as a result of water use efficiency actions; (7) Reduced water-contact recreation quality from cold water reservoir releases; (8) Displacement of fish and wildlife and loss of terrestrial and loss of on-stream recreation from new off-stream or expanded on-stream reservoirs; (9) Potential for reduced access to recreation facilities and decreased recreation opportunities from changes in reservoir levels; and (10) Potential short-term construction effects of dredging, such as obstructing or closing channels and creating noise and visual effects.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on recreation:

1. Incorporate project-level recreation improvements and enhancements.
2. Work with recreational interests to protect and enhance recreation resources.
3. Conduct an analysis of boating circulation to ensure that appropriate alternative routes are identified and clearly marked if boating circulation in the Delta is to be modified due to temporary, seasonal, or permanent channel closures or to speed restrictions.
4. Identify and mark alternate boating routes.
5. Restoring and designing existing and new levees to accommodate vehicular access and parking for shoreline fishing, boat launching, swimming, hiking, bicycling, and wildlife

viewing where feasible.

6. Maintain boating access to prime areas.
7. Construct portage facilities.
8. Construct boat locks.
9. Provide public information regarding alternate access.
10. Avoid construction during peak-use seasons and times.
11. Post warning signs and buoys in channels.
12. Provide in-kind recreation facilities.
13. Maintain reservoir levels as high as feasible during the recreation season, given regulatory and other operational constraints.
14. Minimize water level fluctuation and establish minimum pool levels.
15. Coordinate operation of all reservoir facilities to minimize adverse reservoir fluctuations in any particular facility consistent with regulatory and other operational constraints.
16. Purchase trail rights-of-way or recreational easements.
17. Provide or improve vehicle access and parking for recreation areas.
18. Provide access to waterfront areas and island edges.
19. Create new day-use boating and camping areas.
20. Relocate or construct new recreation facilities and infrastructure.

7.8 Flood Control. Implementation of the Preferred Program Alternative may have potentially significant effects on flood control. These effects may include: (1) Effects on levee stability from levee and berm vegetation management practices for habitat purposes; (2) Reduced levee stability from habitat restoration using conservation easements along riparian corridors; (3) Increased seepage on adjacent islands, possibly leading to flooding from seepage-induced failure from shallow flooding of Delta islands susceptible to subsidence; (4) Increases in wind-fetched and wave erosion on landside levee slopes from island flooding; (5) Increased levels of flooding downstream of diversions after removal of diversion structures and other obstructions to flow in the Sacramento River tributaries; (6) Increased flood stages along small streams due to increases in the roughness of the stream channel from vegetation on stream banks; (7) Levee slumping and cracking caused by groundwater overdraft and subsidence; and (8) Increased stage upstream of and possible decreased stage downstream from gate structures located in channels that reduce the channel's flood flow conveyance.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on flood control:

1. Allow reasonable clearing of deep-rooted trees and shrubs from levee side slopes to support inspection, maintenance, repair, and emergency response, while preserving habitat values.
2. Permit clearing of deep-rooted shrubs and trees on levee side slopes. Trees and shrubs should be allowed to grow only on adjacent berms. If roots penetrate levees, fill materials should be added to levee landside slopes in order to construct a partial setback levee and increase stability.
3. Widen streams downstream of removed water diversion structure to increase conveyance

capacity.

4. Incorporate flood control criteria into the design of stream bank revegetation projects. For example, by increasing the width of vegetated sections to maintain conveyance capacity, the net effect of vegetation on flood control would be negligible.
5. Identify locations susceptible to seepage-induced failure on Delta islands that may be intentionally flooded for habitat.
6. Implement a seepage monitoring program on nonflooded islands adjacent to potential shallow-flooded islands.
7. Develop seepage control performance standards to be used during island flooding and storage periods to determine net seepage caused by shallow flooding.
8. Improve levees to withstand expected hydraulic stresses and seepage.
9. Design erosion protection measures to minimize or eliminate wave splash and run-up erosion.
10. Use rip rap or another suitable means of slope protection to dissipate wave force.
11. Construct large wind/wave breaks in the flooded islands to reduce wind-fetch and erosion potential.
12. Identify existing or planned wells that could affect groundwater and substrate conditions underlying nearby levees or flood control devices.
13. Provide incentives to terminate use of wells that can adversely affect levee stability, reduce their pumping volume to safe withdrawal levels as they affect substrate stability, or otherwise replace them with sources that could not affect levee stability.
14. Design structures to minimize the loss of channel conveyance at gate structures located in channels.
15. Install relief wells near the toes of existing levees on neighboring lands.
16. Construct toe berms with an internal drainage system on neighboring lands.
17. Lower the pool elevation on the storage islands.
18. Develop wetland easements adjacent to levees on neighboring islands.
19. Construct a combination of seep and interior ditches and increase pumping rates, install clay blankets, and install impervious cutoff walls through storage island levees.
20. Control boat traffic in order to reduce boat wakes to levels that will not cause levee or bank erosion.
21. Coordinate erosion protection measures and wave force dissipation measures with the Ecosystem Restoration Program to minimize adverse effects to revegetation efforts.
22. Implement flood management measures including dredging, levee maintenance, and snag removal.
23. Support local groundwater management that reduces overdraft and third-party effects, including reduction or discontinuation of groundwater pumping..
24. Support local agencies in distributing groundwater pumping over a wide region rather than to a concentrated area to minimize drawdown of the aquifer.

7.11 Cultural Resources. Implementation of the Preferred Program Alternative may have potentially significant effects on cultural resources. These effects may include: (1) Effects on cultural resources from construction, excavation, fill and flooding; and (2) Alteration of the

historic setting of a cultural resource.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on cultural resources:

1. Conduct cultural resource inventories.
2. Avoid sites through project redesign.
3. Map sites prior to undertaking actions that affect cultural resources.
4. Conduct surface collections.
5. Perform test excavations.
6. Probe for potentially buried sites.
7. Prepare reports to document mitigation work.
8. Conduct full-scale excavation of sites slated for destruction as a result of projects.
9. Prepare public interpretive documents.
10. Document historic structures by preparing Historic Engineering Records or Historic American Building Surveys.
11. Conduct ethnographic studies for traditional cultural properties.

7.12 Public Health and Environmental Hazards. Implementation of the Preferred Program Alternative may have potentially significant effects on public health and environmental hazards. These effects may include: (1) Short- and long-term increases in mosquito breeding habitat from wetland restoration activities and fluctuating water levels; (2) Increased risk of groundwater and surface water contamination from naturally occurring or spilled hazardous materials and from improper handling of hazardous materials; (3) Increased exposure to hazardous materials and waste from construction activities related to storage and conveyance projects and other Program elements; (4) Increases in water quality degradation, resuspension of contaminants, and exposure to hazardous materials from dredging activities; and (5) Increases in levels of methyl mercury released into the Bay-Delta ecosystem from wetland restoration, levee rehabilitation activities and conveyance actions.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on public health and environmental hazards:

1. Use various mosquito control methods, such as biological agents, chemical agents, and ecological manipulation of mosquito breeding habitat.
2. Support actions to establish or find funding for mosquito abatement activities.
3. Remove or disturb water that remains stagnant for more than 3 days at a construction site.
4. Limit construction to cool weather, when mosquito production is lowest.
5. Limit construction to periods of low precipitation to avoid pools of standing water.
6. Follow established and proper procedures and regulations for identifying, removing and disposing of contaminated materials.
7. Increase monitoring activities to ensure that groundwater pumping equipment is operating to existing standards.
8. Limit or coordinate construction activities to favorable weather conditions to forestall dispersing hazardous materials.

9. Conduct core sampling and analysis of proposed dredge areas and engineer solutions to avoid or prevent environmental exposure to toxic substances after dredging.
10. Modify engineering plans to minimize mercury related problems.
11. Cap exposed toxic sediments with clean clay/silt and protective gravel.
12. Locate constructed shallow-water habitat away from sources of mercury until methods for reducing mercury in water and sediment are implemented.
13. Use cofferdams to construct levees and channel modifications in isolation from existing waterways.
14. Use sediment curtains to contain turbidity plumes during dredging

7.13 Visual Resources. Implementation of the Preferred Program Alternative may have potentially significant effects on visual resources. These effects may include: (1) Long-term visual effects of new facilities or modified existing facilities; (2) Effects in visually sensitive areas from restoration actions; (3) Degraded watershed views from such actions as erosion control and fire management practices; (4) Creation of borrow pits or spoils material disposal sites associated with storage, conveyance, levee projects, and other Program actions; and (5) Long-term visual effects from construction activities extending more than 5 years.

The following mitigation measures will reduce potential effects of implementation of the Preferred Program Alternative on visual resources:

1. Time changes in flow regimes to minimize "bathtub ring" effects during times of peak recreation use.
2. Minimize construction activities during the peak-use recreation season.
3. Avoid unnecessary ground disturbance outside the necessary construction area.
4. Water areas where dust is generated, particularly along unpaved haul routes and during earth-moving activities, to reduce visual effects caused by dust.
5. Locate and direct exterior lighting for construction activities so that it is concealed to the extent practicable when viewed from local roads, nearby communities, and any recreation areas.
6. Site proposed reservoir(s), if possible, to minimize required cut and fill and locate the reservoir on the flattest topographic section of the site to minimize its visibility.
7. Construct facilities with earth-tone building materials or other visually aesthetic design materials.
8. Revegetate disturbed areas as soon as possible after construction.
9. Locate visually obtrusive features, such as burrow pits and dredged material disposal sites, outside visually sensitive areas and observation sites.
10. Select vegetation type, placement, and density to be compatible with patterns of existing vegetation where revegetation occurs in natural areas. Vegetation such as emergent marsh grasses that can tolerate periodic flooding and drying may be useful.
11. Install landscape screening, such as grouped plantings of trees and tall shrubs, to screen proposed facilities from nearby sensitive viewers.
12. Use native trees, bushes, shrubs, and ground-cover for landscaping, when appropriate, at facilities such as dams and pumping-generating plants, and along new and expanded canals

and conveyance channels, in a manner that does not compromise facility safety and access.

13. Create view opportunities of outstanding features through selective vegetation reduction or constructing roadside viewing areas.
14. Recontour and add vegetation to areas rated as “poor” in variety class.

APPENDIX B

Mitigation Measures Not Adopted in the Record of Decision

Appendix B
Mitigation Measures Not Adopted in the Record of Decision

The following mitigation measures recommended in comments on the Programmatic EIS/EIR are either (1) not adopted because they inappropriate, or (2) rejected as not practicable due to specific economic, technological, or other considerations. The measures are grouped by section from the impact analysis chapters of the Final Programmatic EIS/EIR. Parenthetical references are to the Response to Comments Volume III document appended to the Final Programmatic EIS/EIR.

5.2 Hydrodynamics and Hydraulics

- Provide mitigation strategies aimed at reducing significant impacts to Bay-Delta hydrodynamics and riverine hydraulics (e.g., unacceptable velocity increases) in Section 5.2. (1217-21)

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. Mitigation strategies are not included in Section 5.2 because the section deals only with hydrodynamic and hydraulic modeling. However, the environmental effects resulting from hydrodynamic and hydraulic changes are addressed in other sections of the Final Programmatic EIS/EIR in the context of each of the resources affected. For example, effects on water quality, soils, fisheries and aquatic ecosystems, and flood control and appropriate mitigation strategies are addressed in Sections 5.3, 5.5, 6.1, and 7.8, respectively.

5.3 Water Quality

- Implement source control and offset increasing loads to treatment plants due to water transfers and water conservation as a measure to reduce total dissolved solids (TDS). (1226-D-8)

- Include mitigation strategies for the potential increase in BOC, bacteria, and pathogens from the Ecosystem Restoration Program. (1217-30)

These mitigation measures were not adopted because they are similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. To the extent Program actions would result in increases of constituents of concern such as TDS, TOC and pathogens, mitigation strategies in Section 5.3, including treating wastewater at the source, upgrading water treatment processes, and applying agricultural and urban BMPs, will reduce these effects.

- Mitigate the selenium impacts of refineries and municipalities in the North Bay area by assisting with financing a drainage facility for San Joaquin Valley selenium loads. (1349-49)

This mitigation measure was not adopted because it addresses an environmental effect not caused by the CALFED Program. Selenium impacts are not caused by the CALFED Program. This comment addresses existing selenium impacts of refineries and municipal treatment facilities, not CALFED actions. However, CALFED includes actions such as agricultural land retirement in the western San Joaquin Valley to reduce the adverse effects of selenium in order to reach its primary objectives for water quality and ecosystem quality.

- Include mitigation measures to address bromide reduction to the State Water Project, such as real time operational flexibility of the export pumps as a means for reducing export of bromide and salinity. (1230-A-8)

This mitigation measure was not adopted because it addresses an environmental effect not caused by the CALFED Program. Bromide is an existing constituent of concern which enters the Delta through the intrusion of seawater through the Bay, not as a result of CALFED Program actions. However, CALFED includes actions such as real-time management of the export pumps to meet water quality objectives.

5.7 Transportation

- Require future EIRs and EISs for project-specific actions to include traffic assessments and analysis of traffic associated with increases in recreational opportunities resulting from new reservoirs, and other land conversions to recreational uses. (1217-32)

This mitigation measure was not adopted because it is ineffective in mitigating adverse environmental effects. All CALFED project specific actions will comply with the requirements of NEPA and CEQA. Traffic analyses do not mitigate transportation impacts, but they may be used to identify the need for site-specific mitigation measures. To the extent appropriate, traffic analyses may be required for certain project specific actions. However, not every action that increases recreational uses will require traffic analyses, making it inappropriate to adopt this mitigation measure at the programmatic level.

5.8 Air Quality

- Work with local and regional planning jurisdictions to identify areas subject to agricultural land conversion for advance planning for air quality impacts. (1217-33)

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. Mitigation strategies 4, 11, and 21 on page 7.1-2 in the Final Programmatic EIS/EIR address this suggestion.

6.2 Vegetation and Wildlife

- The mitigation strategies should discuss need for additional action at the site specific level if program actions disturb special-status species or protected habitats.

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. This recommendation is addressed by the adopted Mitigation Monitoring Plan discussed in Chapter 9 of the Final Programmatic EIS/EIR and in this ROD. CALFED will monitor all mitigation measures through the Science Program.

7.1 Agricultural Land and Water Use

- Meet Program goals by maintaining land in private ownership, rather than through government purchase.

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. Mitigation strategies 9, 10, and 14 on page 7.1-2 in the Final Programmatic EIS/EIR address this suggestion. (IA7.1.11-15)

- Work with local landowners and organizations in planning and developing projects.

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. Mitigation strategies 4, 11, and 21 on page 7.1-2 in the Final Programmatic EIS/EIR address this suggestion. (IA7.1.11-15)

- Maintain the productivity and flexibility of agricultural lands to the greatest extent practicable when implementing the entire Program.

This suggestion is too general to be an effective mitigation measure as defined by CEQA. However, several mitigation strategies in Section 7.1.11, such as “Restoring existing degraded habitat as a priority before converting agricultural land,” would assist in serving this purpose. (IA7.1.11-15) Therefore, this mitigation measure was not adopted.

- Require buffers when developing habitat projects adjacent to agricultural uses.

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. This recommendation is addressed by mitigation strategy 19 on page 7.1-3 in the Final Programmatic EIS/EIR. Specifics on buffer design must be developed at the site-specific level. (IA7.1.11-16)

- Establish an easement or transfer of development rights program.

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. Further, the State of California already has developed such a program, the California Farmland Conservancy Program that is administered by the Department of Conservation. This is addressed in mitigation strategy 8 on page 7.1-2 in the Final Programmatic EIS/EIR. (IA7.1.11-16)

- Phase implementation of specific Program components.

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. This is addressed by mitigation strategy 17 in Section 7.1.11. This strategy would allow implementation to proceed as needed, rather than happening all at once. (IA7.1.11-16)

- Establish an agricultural mitigation oversight entity to oversee implementation of mitigation by CALFED.

This mitigation measure was not adopted because it is similar to, and therefore duplicative of, mitigation measures already incorporated and adopted in this ROD. This recommendation is addressed by the adopted Mitigation Monitoring Plan discussed in Chapter 9 of the Final Programmatic EIS/EIR and this ROD. (IA7.1.11-15) CALFED will monitor all mitigation measures through the Comprehensive Monitoring, Assessment and Research Program.

- Implement a Planned Unit Development approach to habitat development.

This mitigation measure was not adopted because if is ineffective in mitigating adverse environmental effects. Planned Unit Developments are urban planning designations that allow large tracts of housing or commercial development to set their own development standards outside normal zoning ordinances. The comment provides insufficient information to evaluate how Planned Unit Developments could apply as a mitigation strategy. (IA7.1.11-16)

- Require comprehensive environmental evaluation for projects that will adversely affect agricultural lands, using the NRCS Land Evaluation and Site Assessment (LESA) system.

All CALFED project specific actions will comply with the requirements of NEPA and CEQA. LESA may be used by federal agencies, as appropriate for the scale of project, and can optionally be used by state agencies. LESA is designed to gauge the impacts of urban-type development and may be inappropriate for evaluation of other project specific actions. Therefore, the full or partial use of LESA may or may not be used at the project specific level but is not appropriate at the programmatic level. (IA7.1.11-15)

- Provide development agreements to support remaining agricultural lands when a project results in agricultural land conversion.

It is unclear what type of impact this measure would mitigate. It appears to be a separate

agreement to carry out mitigation measures at the site-specific level. Site-specific mitigation measures will be included in second-tier environmental documents, as appropriate, with the required measures, such as conditions of approval, to monitor such mitigation. It is unclear what purpose would be served by a second document memorializing these mitigations. (IA7.1.11-16)

- Develop specific mitigation measures for the Ecosystem Restoration Program.

This measure is too project-specific for a programmatic document. In developing project specific mitigation measures for project specific Ecosystem Restoration Program actions, CALFED agencies will continue to consider any appropriate measures that help avoid or reduce environmental effects. Because the Ecosystem Restoration Program Plan does not provide project specific information, more detailed mitigation measures for potential effects of project specific actions cannot be determined at this time. The EIS/EIR contains a large number of mitigation strategies for agricultural effects, which must be used by individual project lead agencies in determining mitigation measures for project specific actions. Section 7.1.11 includes 27 mitigation strategies for effects due to agricultural land conversion and local planning impacts; Sections 7.2 and 7.3 include an additional 19 mitigation strategies to reduce adverse agricultural economic and social effects. (IA7.1.11-21)

- Purchase flood easements and repair existing levees rather than developing setback levees.

Decisions on how best to increase flood protection for lands behind specific levees have not yet been made. The Long-Term Levee Protection Plan includes levee strengthening and setback levees as options. (IA7.1.11-16) The merits and liabilities of setting back levees will be closely scrutinized, and the use of setback levees may not be feasible or desirable in many cases. Landowners and other stakeholders will be consulted during project formulation. (LS-4.2-2.) At a programmatic level, the option to use setback levees is included in order to allow flexibility to achieve the primary objectives of ecosystem quality and levee system integrity, depending on the characteristics of the various second-tier levee projects.

- Direct habitat development to poorer quality agricultural soils.

Several mitigation strategies in Section 7.1.11, such as “restore existing degraded habitat as a priority before converting agricultural land,” “focus restoration efforts on public lands before converting agricultural land,” “focus restoration efforts on acquiring lands from willing sellers where part of the reason to sell is economic hardship,” and “use farmer-initiated and developed restoration projects,” would assist in serving this purpose. However, since the various habitat types have specific soils requirements, as do agricultural crops, this measure will not be appropriate for every habitat restoration action. While this measure will be considered for project specific actions, it is not appropriate to adopt this mitigation measure at the programmatic level.

- Reaffirm the state’s right-to-farm policy.

The right-to-farm statute was designed to prevent impacts on agriculture from encroaching

urbanization and generally does not apply to the CALFED Program actions. In addition, reaffirming an existing statute is not a mitigation measure. (IA7.1.11-15)

- Before implementing any action requiring additional water, develop the water source; if water is from former agricultural use, mitigate the significant environmental impact.

CALFED agencies will, by necessity, need to identify and purchase water for projects before that water is applied. That is not a mitigation measure but a practical reality given California's water rights laws. (IA7.1.11-15) Section 7.1 of the Final Programmatic EIS/EIR describes the existing environment as it pertains to agriculture. The environmental effects resulting from a change in water use are addressed in other sections of the Final Programmatic EIS/EIR in the context of each of the resources affected. For example, changes in water use leading to loss of agricultural land or impacts to groundwater levels, water quality or water supply are addressed in Sections 7.1, 5.4, 5.3 and 5.1, respectively. Loss or conversion of agricultural land is considered a significant and unavoidable impact of the Program even though all practicable mitigation measures were adopted to reduce this impact. Economic and social effects of water transfers and other Program actions and ways to reduce these effects are discussed in Sections 7.2 and 7.3, respectively.

- Develop an Agricultural Water Account to mitigate for agricultural water directed to CALFED uses.

While the CALFED Program does not include an Agricultural Water Account, the water supply reliability actions as outlined in Sections 2.2.4 and 2.2.5 of the ROD are intended to provide greater certainty of water supplies for agricultural and other users.

- Pay fair market values.

Payment of fair market values is incorporated as a standard Program policy to minimize economic effects. (See Page 7.2-23.) (IA7.1.11-19)

- Scheduling construction activities to allow harvests.

Scheduling construction activities to allow harvests is incorporated as a standard Program policy to minimize economic effects. (See Page 7.2-23.) (IA7.1.11-19)

- Establish Agricultural Exclusive zoning.

Establishing zoning is a local responsibility. CALFED has no authority to establish local zoning, even in conjunction with the Delta Protection Commission. (IA7.1.11-16) This mitigation measure is therefore not adopted for legal considerations.

- Increase subvention funding and property tax sharing and develop legislation for rural development zones.

Increased subvention funding and property tax sharing, and legislation for rural development zones are outside the abilities of the Program's lead agencies to implement. (IA7.1.11-19) These suggestions are more appropriately directed to the Legislature. This mitigation measure is therefore rejected for legal considerations.

- When conversion occurs, remove Class I and II soils from the habitat site to other agricultural locations.

This measure could hamper ecosystem restoration progress because habitat types have soil requirements similar to agricultural crops. For instance, valley oak woodlands would not grow on hard, poorly drained soils. The costs of moving vast amounts of soils may not be justified by the gains from the receiving parcels and could limit the ability to restore the land to agricultural purposes in the future. Further, additional regulatory hurdles, such as triggering the Surface Mining and Reclamation Act, could make this mitigation even less economically feasible. (IA7.1.11-18) This mitigation measure is therefore not adopted. for economic, legal and technological considerations and because it could cause new adverse environmental effects.

- Require 1 acre of farmland to be protected for every acre converted.

Protection of off-site lands to mitigate conversions of farmlands is addressed in mitigation strategy 8 of Section 7.1. However, the exact amounts to be protected would depend on the project specific effects of conversion, as measured in the second-tier environmental document. The feasibility of this mitigation strategy would also need to be evaluated at the project-specific level, and would depend on the number of voluntary participants in the easement program and the cost of acquiring the easements. (IA7.1.11-18). At a programmatic level, the feasibility of this measure is too uncertain. This mitigation measure is therefore not adopted for technical and economic considerations.

- Adopt a no-net-loss policy for agricultural land.

Because the Program will require agricultural lands in the Delta and elsewhere for Program purposes, a no-net-loss policy as suggested would require at least a 1:1 replacement as mitigation for any agricultural lands converted to Program purposes. This proposed mitigation is not practicable and is therefore not adopted. The cost of purchasing and providing land, irrigation infrastructure, and water as mitigation for agricultural land loss—which direct replacement would require—would make almost any project that is converting agricultural lands infeasible, whether for habitat or urban uses. In addition, irrigation of new lands can cause its own series of environmental effects. Section 7.1.12 describes farmland conversions caused by the Program as a potentially significant environmental effect at the programmatic level. (IA7.1.7-10) The Program objectives to improve and increase terrestrial habitats in order to support sustainable populations of diverse and valuable plant and animal species in the Bay-Delta cannot be achieved without some creation of habitat on land currently used for agriculture. (IA7.1.11-11)

7.12 Public Health

- CALFED must include mitigation to assure that urban water agencies can cost-effectively treat water from the Delta for public health protection since there are no definite plans to construct an isolated facility. (1230-A-3)

This mitigation measure was not adopted because it addresses an environmental impact not caused by the CALFED Program. CALFED actions will not reduce the quality of drinking water nor increase the cost of drinking water treatment. However, CALFED includes source control, water treatment facility improvements and other actions to protect public health.

ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX B

U.S. Fish & Wildlife Coordination Act Compliance

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Memorandum JUN 23 2003

To: Director, Mid-Pacific Region, Bureau of Reclamation, Sacramento, California

From: Acting Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Draft Fish and Wildlife Coordination Act Report on Implementation of the CALFED Bay-Delta Program, Environmental Water Account

This memorandum constitutes the Fish and Wildlife Service's (Service) draft Fish and Wildlife Coordination Act (FWCA) report, as provided for in section 2(b) of the FWCA (Public Law 85-624; 16 U.S.C. 661-667e), regarding proposed environmentally beneficial changes in operation of the State Water Project (SWP) and the Federal Central Valley Project (CVP). A final FWCA report will be prepared by the Service taking into consideration any new information, once a biological opinion pursuant to section 7 of the Endangered Species Act of 1973, as amended (ESA), has been completed. It is our intent to prepare a final FWCA report to be included in the final Environmental Impact Statement/Environmental Impact Report (EIS/EIR).

Project Description

The August 28, 2000, programmatic ROD for the CALFED Bay-Delta Program (CALFED) established the Environmental Water Account (EWA) as a 4-year cooperative water management program which could be extended by agreement of the participating agencies. The purpose of the EWA is to provide protection to fish species of the San Francisco/Sacramento/San Joaquin River Delta estuary, while simultaneously improving water quality and water supply reliability for water users. Any supplemental water-assets required by the program would be acquired, banked, transferred, or borrowed, substantially through voluntary purchases in the water transfer market, or by developing additional assets over time.

Three alternatives were evaluated in the EWA EIS/EIR: 1) No Action Alternative; 2) Flexible Purchase Alternative; and 3) Fixed Purchase Alternative. Protective measures identified by the proposed action (Flexible Purchase Alternative) range from augmenting instream flows and Delta outflows to reducing Delta export pumping. Changes in SWP and CVP operations to minimize impacts on various fish species residing in or migrating through the Delta could include modifications to the timing of some flow releases from storage and the timing of water exports from Delta pumping plants.

Responsibilities and Evaluation

The Bureau of Reclamation (Reclamation) is the lead Federal agency responsible for compliance with the National Environmental Policy Act (NEPA). Compliance with NEPA and California Environmental Quality Act has resulted in preparation of a draft EIS/EIR. Reclamation is also consulting with the Service pursuant to section 7 of the ESA.

The Service is a Cooperating Agency in the associated NEPA process and has been participating in the planning of this project for some time. As a result, we believe our need for surveys and investigations, as provided for under the FWCA, have been met through existing analyses, completed jointly by Reclamation and the Service. Further, we believe the existing NEPA document sufficiently evaluates the alternatives as presently identified. The Service continues to provide technical assistance to the EWA process through the EWA Environmental Sub-Team and the Action Specific Implementation Plan (ASIP) Technical Sub-Team. The Service has provided comments and recommendations to Reclamation regarding the EWA since September 30, 2002.

Recommendations/Conclusions

Of the three alternatives evaluated in the draft EIS/EIR, the Service supports adoption of the proposed action (Flexible Purchase Alternative). For a complete description of this alternative, refer to Section 2.4 of the EWA draft EIS/EIR.

The Service and Reclamation are continuing to discuss and resolve any remaining concerns prior to the release of the draft EIS/EIR. However, based on our review of documentation available at the time this memorandum was signed, several issues have yet to be fully addressed within the EIS/EIR. Therefore we recommend the draft EIR/EIS include the following:

1) Compliance and Project Monitoring: A brief but task-specific summary is needed describing the process by which EWA agencies will ensure that all contract provisions and conservation measures will be employed and evaluated. Coordination of water acquisitions, both with other CALFED programs and with non-project water agencies, is central to the success of the EWA program.

2) Effect Indicators and Evaluation Criteria: In order to assess whether or not the EWA will significantly affect species, evaluation criteria must be specific, objective, and grounded in sound science. We believe the EIS/EIR should more clearly and objectively discuss the links between the evaluation criteria and the project effect conclusions.

3) Future coordination under the FWCA should be completed as required for associated tier specific actions.

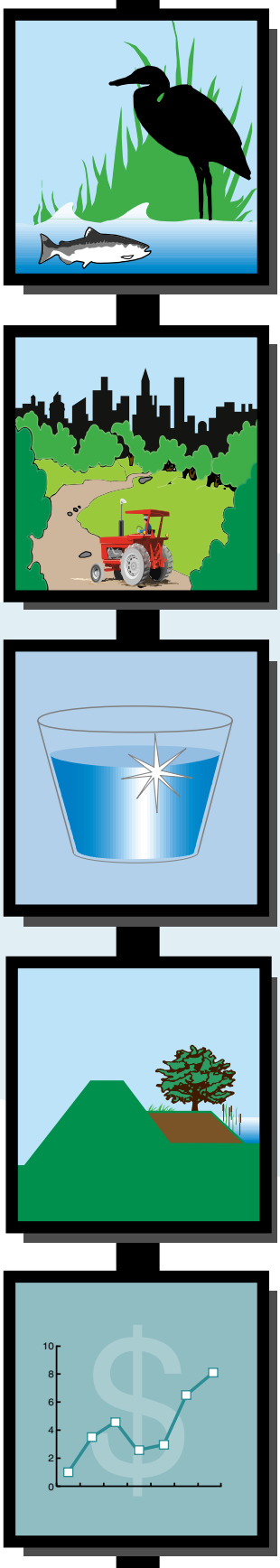
As required by the FWCA, this report will be coordinated with CDFG and NOAA Fisheries prior to being finalized. If formal comments are received from CDFG or NOAA Fisheries that differ from previous agency input or if the project changes in a way that would adversely affect fish and wildlife resources to an extent not previously analyzed, new analysis will be necessary and mitigation recommendations would provided.

If you have any questions regarding this report or other aspects of the FWCA, please contact Dave Harlow at (916) 414-6600.

cc:
USBR, Sacramento, California (Attn: Sandy Osborn)
CDFG, Sacramento, California (Attn: Diana Jacobs)
NOAA Fisheries, Sacramento, California (Attn: Michael Aceituno)
DWR, Sacramento, California (Attn: Jerry Johns)

APPENDIX C

Environmental Water Account
Operating Principles Agreement



CALFED
BAY-DELTA
PROGRAM

Attachment 2

Environmental Water Account Operating Principles Agreement

August 28, 2000

ENVIRONMENTAL WATER ACCOUNT

OPERATING PRINCIPLES AGREEMENT

The US Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS) and the California Department of Fish and Game (DFG) (collectively, the Management Agencies), and the US Bureau of Reclamation (Reclamation) and the California Department of Water Resources (DWR) (collectively, the Project Agencies) enter into this Environmental Water Account Operating Principles Agreement on the tools and operations principles for implementing the Environmental Water Account program (EWA) set forth herein and described in the Record of Decision (ROD) for the CALFED Bay-Delta Program to which this Agreement is attached.

Recitals

This Agreement establishes the Environmental Water Account (EWA) program, sets forth the EWA's general operating principles, and describes the tools which are available for use by the EWA. The EWA is a cooperative management program whose purpose is to provide protection to the fish of the Bay–Delta estuary through environmentally beneficial changes in the operations of the State Water Project (SWP) and federal Central Valley Project (CVP), at no uncompensated water cost to the projects' water users. The EWA is intended to provide sufficient water, combined with the Ecosystem Restoration Program and the regulatory baseline, to address CALFED's fishery protection and restoration/recovery needs. This approach to fish protection requires the acquisition of alternative sources of project water supply, called the "EWA assets," which will be used to augment streamflows, Delta outflows, to modify exports to provide fishery benefits and to replace the regular project water supply interrupted by the changes to project operations. The replacement water will compensate for reductions in deliveries relative to existing facilities, project operations and the regulatory baseline as defined in the CALFED Record of Decision that result from EWA actions.

These principles are intended to apply generally, but may not provide the necessary direction in all circumstances. Issues will be resolved as they arise by mutual agreement among all five signatory agencies.

The five state and federal agencies that execute this agreement will have responsibility for implementing the EWA. The Management Agencies will manage the EWA assets and will exercise their biological judgment to determine what SWP/CVP operational changes are beneficial to the Bay-Delta ecosystem and/or the long-term survival of fish species, including those listed under the State and Federal Endangered Species Acts. The Project Agencies will cooperate with the Management Agencies in administering the EWA, including banking, borrowing, and conveyance of EWA assets and making the operational changes proposed by the Management Agencies. The Project Agencies will also be responsible for acquiring EWA assets for the first year.

This Agreement is consistent with the regulatory responsibilities, statutory authorities, including CVP and SWP project purposes, of the five state and federal agencies. After the first year, acquisitions may be made pursuant to a public process that may employ other agencies or third parties to acquire assets.

Article I.
ESTABLISHMENT OF THE ENVIRONMENTAL WATER ACCOUNT PROGRAM

1. Establishment

The Management Agencies and Project Agencies hereby establish the Environmental Water Account program (EWA) to be implemented in accordance with the Operations Principles and using the Tools set forth hereunder. Each of the Management Agencies and Project Agencies will appoint an EWA coordinator.

2. Initial and Annual Assets

The Management Agencies and Project Agencies will take the following actions to acquire the initial assets for the EWA, and will take all necessary and appropriate steps to acquire them each year thereafter. Assets acquired under sub-articles a-d, below, will vary from year to year depending on hydrological and regulatory conditions, and are therefore not certain. The tools used to acquire the assets are described in Article III of this Agreement. Other tools may be developed as appropriate to acquire functionally equivalent assets

a. SWP Pumping of (b)(2)/ERP Upstream Releases

As provided in Article III.1.b.i, the current modeling indicates that the average annual value of this asset is approximately 40,000 acre-feet.

b. EWA Use of SWP Excess Capacity

As provided in Article III.1.b.ii, the current modeling indicates the average annual value of this asset is approximately 75,000 acre-feet.

c. Export/Inflow Ratio Flexibility

As provided in Article III.1.b.iv(B), the current modeling indicates the average annual value of this asset is approximately 30,000 acre-feet.

d. 500 cfs SWP Pumping Increase

As provided in Article III.1.b.iv(A), the current modeling indicates that the average annual value of this asset is approximately 50,000 acre-feet.

e. Water Purchases

The Project Agencies shall acquire from willing sellers each year 150,000 acre-feet of water from sources south of the Delta and at least 35,000 acre-feet of water from sources upstream of the Delta or their functional equivalents. The upstream-of-Delta purchases may grow in subsequent years. These purchases shall be arranged so that assets may be kept in storage for the entire water year, until such time as the EWA managers release the assets to compensate for an EWA action, or until they are transferred to other EWA storage facilities.

f. One-time Acquisition of Stored Water Equivalent

In order to launch the EWA and to provide sufficient collateral as defined in Article II.2.c.i of this Agreement for the EWA to function as intended, the Project Agencies shall acquire 200,000 acre-feet of stored water or its functional equivalent from south-of-Delta sources. This water is intended to be used as collateral for borrowing, and will be released only when all other assets have been expended. The related storage is intended to function as long-term storage space, including after the water has been released. Provided the asset's function is not impaired, the acquisition of this asset may take any number of forms, including without limitation such transactions as source shifting, or reductions in contractor deliveries.

g. Source Shifting Agreement

The Project Agencies shall arrange with one or more of their contractors to use water totaling at least 100,000 acre-feet from either an alternative source, or at a subsequent time, to allow for storage of the project water in San Luis Reservoir as an EWA asset or to enable an operational curtailment without causing a summer "low-point problem." The EWA will repay this water during the initial 4-year term of the EWA, unless other arrangements are made. Upon repayment, the opportunity to employ the source-shifting tool will become available again.

3. Definition of Operational EWA

As described in Endangered Species Act biological opinions, Conservation Agreement, Record of Decision , the Project contractors will receive certain commitments if, among other things, there is an operational EWA. The EWA shall be considered operational in any one year when the one-time 200,000 acre-feet of stored water equivalent has been acquired and when: 1) the EWA includes deposits of the 185,000 acre-feet of purchased water as described above; 2) a source-shifting agreement of at least 100,000 acre-feet; and 3) the variable tools (items 2a-d above) are all in place. The Management and Project Agencies shall make all attempts to have all items in place by December 31, 2000, so that ESA commitments may be provided to the water users.

4. Science Review Panel

The CALFED Science Program will convene a scientific panel familiar with the EWA and its operations. The Management Agencies and Project Agencies will keep this panel informed on a monthly basis through the CALFED Ops Group reporting process.

The panel will convene on an annual basis to review the EWA operations.

5. Term

The EWA shall expire on September 30, 2004 and any remaining assets shall revert to the Project Agencies, unless the EWA is extended by written agreement among the Management Agencies and Project Agencies and the assets remain in the EWA. The EWA may be terminated at any time if all five signatory agencies execute a written agreement to do so.

6. Continuation of EWA

Before the EWA expires, the Management Agencies and Project Agencies will assess the success of EWA operations and analyze the potential impacts from new facilities and expanded conveyance capacity. The Agencies will then determine the appropriate size and composition of an EWA, as well as the EWA's sharing in the benefits from new facilities, in the fifth and future years.

Article II
General Operational Principles

1. The Management Agencies and Project Agencies Shall Cooperate to Implement the EWA

a. Curtailments and Borrowing

The Project Agencies shall make the operational curtailments and agree to the borrowing transactions proposed by the Management Agencies that are consistent with these principles and this Agreement.

b. Acquisitions and Banking

The Project Agencies shall acquire the EWA assets from willing sellers in the first year. The Project Agencies and Management Agencies will establish EWA water banking and accounting mechanisms consistent with the intended EWA fishery benefits and ESA commitments.

i. Manner of Acquiring and Holding EWA Assets

The Project agencies shall, in consultation with the Management Agencies, acquire, hold, and deal with the EWA assets they acquire in a manner that serves the purposes of the EWA program.

ii. Release of Assets

The acquisition and banking arrangements made for EWA assets shall provide for their unconditional release to the Projects or to the Projects' designees upon approval by the Management Agencies.

c. Use of Project Water Rights

The Project Agencies shall use their respective water rights to acquire EWA assets to the greatest extent permitted by State and federal law, including California water rights law, and by the requirements of their respective water supply and other contracts. If changes to these or other water rights are needed to acquire, transfer, or release EWA assets, the Project Agencies shall take timely steps to secure those changes in accordance with State water law. The Project Agencies shall cooperate in all water rights actions and matters to optimize their flexibility in acquiring, conveying, storing and releasing EWA assets.

d. Use of CALFED Ops Group

The Management Agencies and the Project Agencies shall participate in the CALFED Ops Group to report regularly on the EWA's operations, to help resolve issues that may arise, and to communicate with stakeholders. Whenever issues affecting the interests of non-signatory parties arise, such parties shall be afforded the opportunity to fully participate in the resolution of those issues.

e. Exchange of EWA Assets

If the Management Agencies decide to do so, the Project Agencies may exchange EWA assets for assets of a character, such as location, seasonality or year-type, more suitable to EWA purposes.

f. Sale of EWA Assets

When storage capacity for EWA assets is not available or EWA assets are otherwise subject to loss, the Management Agencies may direct the Project Agencies to sell EWA assets which are not at that time pledged or identified for release under these Principles. No other benefits may be conferred to the EWA as a result of such sales. Any provisions for transfer or conveyance of assets sold or being sold shall not be governed by these principles. The proceeds of sale of EWA assets shall be accounted for and, to the extent provided by law, remain as EWA funds.

g. Coordination

The Management Agencies and the Project Agencies will hold regular meetings to share information and ideas and will coordinate their respective activities to optimize the implementation of the EWA.

h. Coordinated Operations Agreement

The Project Agencies shall continue to adhere to the general sharing principles contained in the 1986 Coordinated Operations Agreement (COA) as modified by interim operating agreements to reflect changes in regulatory standards, facilities, and operating conditions, including the EWA.

Implementation of the EWA shall not establish precedents for future negotiations or modifications of the COA. Future negotiations or modifications of the COA shall not inhibit effective EWA implementation.

2. EWA Shall Cause No Reduction in Project Deliveries

a. Except Where Contractor Agrees

The principles under this Article shall all be subject to the qualification that reductions in deliveries shall be allowed where the affected contractor or contractors agree to them, as in the case of source-shifting agreements.

b. No Harm To Deliveries Principle

The intent of the EWA is to provide substantive fishery protections by taking advantage of project flexibility. The use of EWA assets to compensate for operational curtailments shall not change the timing, location, or amount of water deliveries the projects would have made to its users operating under the Regulatory Baseline in the absence of the EWA. Reference in these Principles to "reductions in deliveries" shall include only uncompensated changes in timing, location, or amount of deliveries. In the operation of the EWA, it is the intent of the Project Agencies and Management Agencies to minimize water quality impacts associated with EWA operations.

i. "Operational Curtailment"

An operational change at the Delta CVP/SWP facilities, pursuant to the Management Agencies' request, that causes a reduction in Project south-of-Delta water exports beyond the regulatory baseline for existing facilities as established in the Record of Decision, is referred to in these Principles as an "operational curtailment."

ii. Identification of Asset For Release

At the time of every operational curtailment, the Management Agencies must identify an asset sufficient to provide replacement water for any potential reductions in deliveries to contractors. When necessary to ensure no reductions in deliveries, such EWA assets shall be released to the Projects to allow delivery in the same amount and at the same time and place as the foregone export.

iii. Time of Release of Asset

Except when project water is borrowed, the EWA asset identified for release to the affected project shall be released no later than the time the proposed operational curtailment is implemented. "Released" means that the asset becomes available to and the unconditional property of the affected project or its designee and is no longer held for EWA purposes.

iv. Delta Smelt Export/Flow Ratio

The reduced exports necessary to achieve the annual spring 2:1 Vernalis- flow-to-Project-export ratio required by the 1995 USFWS biological opinion for Delta smelt shall be provided from either EWA assets and/or CVPIA Section 3406(b)(2) yield dedication.

v. Cross Channel Gate Closure

Impacts on project deliveries of any closure of the Delta Cross Channel Gates pursuant to State Water Resources Control Board (SWRCB) Decision D-1641 or any future decision implementing those objectives in the SWRCB's 1995 Water Quality Control Plan allowing for discretionary Gate closure for fishery purposes shall be attributed to the Regulatory Baseline. Recognizing potential conflicts that may arise during dry conditions, the Project Agencies and the Management Agencies will ensure full consideration of all appropriate factors required for a decision based on the then-available best scientific data and evaluation, particularly including water supply, water quality, and endangered species as well as tradeoffs. The EWA shall compensate the Projects pursuant to these principles when the Management Agencies advise Reclamation to close the Gates for a time outside such regulatory baseline conditions and such closure leads to export reductions.

c. Borrowing; No Reduction in Deliveries

The EWA may borrow water from the SWP or CVP to achieve fishery protections upon their approval, provided that such borrowing will not result in any reduction in deliveries. Borrowing against EWA assets shall cause no reduction in deliveries in the year of borrowing or in the subsequent water year.

i. Identification and Pledge of Asset As Collateral

When the Management Agencies borrow project water to implement an EWA fishery action, they shall identify and pledge as a guaranty collateral sufficient to provide replacement water for any potential reductions in deliveries to contractors in the same amount and at the same time as the borrowed water would have been delivered.

ii. Sufficiency

The Project Agencies shall assess sufficiency of the collateral, in part, on the likelihood that the borrowed water will be replaced naturally by virtue of the wetness of the year. Thus, foreseeing favorable hydrology, collateral need not be in existence at the time of borrowing, but may consist of the EWA's ability to provide replacement water with later-acquired assets to assure no reduction in project deliveries should actual circumstances turn out to be different from those foreseen.

iii. Project Allocations and Deliveries

When project water has been borrowed from storage, project allocation and delivery decisions shall be made as if the water had not been borrowed.

iv. Disencumbering of Collateral or Release of Asset

Each borrowing transaction shall explicitly describe the conditions upon which the identified collateral will either be disencumbered or released to project water supply. "Disencumbered" means no longer serving as collateral subject to release under the borrowing transaction.

v. "Year"

Unless otherwise indicated, as used throughout these Principles, "year" means "water year", beginning on October 1 and ending on September 30.

vi. Project Borrowing From EWA

The projects may borrow from EWA assets on the condition the borrowed water shall be repaid when or before the EWA needs it to cover an operational curtailment.

d. Use of Excess Capacity

The EWA shall be entitled to use excess capacity in SWP or CVP conveyance facilities, on an equal priority with Level 4 acquisitions mandated by the CVPIA.

i. "Excess Capacity"

"Excess capacity" means capacity available after project operational requirements and contract commitments have been met. In the case of the SWP, it also means after any wheeling for SWP contractors and any wheeling of CVP water for delivery to federal contractors for whom the SWP has traditionally wheeled water: San Joaquin National Cemetery, Musco Olive Co. and the users of the Cross Valley Canal.

ii. Exception to the Principle

There is one exception to the general principle that the EWA shall cause no reduction in project deliveries, and to the specific principle that only the excess of the SWP's current conveyance capacity is available to the EWA: the SWP's equal sharing with the EWA of b(2) and ERP upstream releases that the SWP could otherwise have pumped and used itself. This sharing is one of the EWA tools.

e. Banking in Project Reservoirs

EWA assets may be stored, or "banked", in project reservoirs upstream of the Delta and in San Luis Reservoir, provided the Projects do not incur any additional adverse operational impacts.

i. Priority of EWA to Project Storage

Unless the Management Agencies and the Project Agencies make other arrangements, EWA assets will have a lower priority for storage space in project reservoirs than regular project storage and thus will be released first. Regular project storage includes reservoir operations for project purposes, such as flood control, downstream temperature control, minimum downstream flows for fish, regulatory requirements, and contract water supply including contractor carryover water.

SWP Use of Federal Share of San Luis. Pursuant to Supplemental Agreement No. 1 for the Operation of the San Luis Unit, during the term of this Principles Agreement, the CVP shall give precedence to EWA water for storage in the unused share of San Luis Reservoir. The CVP shall agree to allow the SWP to use its share of storage in San Luis Reservoir only to the extent that such use does not impair operation of the EWA.

ii. Protocols or Standards For Storage, Spill, and Loss of EWA Water In Upstream Project Reservoirs

In light of the difficulty and complexity of accounting for the storing of other than regular project water in a multi-purpose reservoir, the Project and Management Agencies shall jointly establish reasonable and practical standards or protocols for determining when an EWA asset may be stored and when it would spill or be lost from upstream project storage.

iii. Consequential EWA Upstream Storage

Where an EWA asset is used to pay for an operational curtailment limiting the export of project stored water, the project water that remains in storage as a consequence shall become an EWA asset. The conversion of project water to EWA water shall occur only to the extent that EWA storage could otherwise have taken place within the regular project operational and regulatory constraints of the reservoir, to be determined in accordance with the protocols and standards developed by the affected Project Agency.

f. Agreement on Further Conditions and Requirements; Water Accounting

The Project Agencies and the Management Agencies shall enter into an agreement that further specifies, to the greatest degree practicable, the conditions and requirements upon which: assets are to be released to the projects to compensate for operational curtailments; borrowing may occur; collateral for borrowing is to be disencumbered or released; and water transfers and exchanges may take place. Provisions for forecasting EWA actions, accounting for EWA assets and for all project water impacted by the EWA, including impacts to coordinated CVP/SWP operations, should be included in this agreement.

3. No Increased Costs

EWA shall impose no net, increased incremental costs upon the projects. The Management Agencies and Project Agencies shall develop a financing plan to cover all costs of the EWA from non-contractor funding sources. The plan may include the establishment of a revolving account with annual deposits to pay for fluctuating EWA costs. The plan shall address increased Project operating costs, both power and ancillary costs, of both the SWP and CVP resulting from implementation of the EWA; crediting the EWA as appropriate for reduced operating costs; crediting the EWA for certain power benefits; and revenues realized from the sale of EWA assets. The Management Agencies and Project Agencies shall develop and recommend this plan, including any necessary legislation, to the CALFED Policy Group within 90 days following the adoption of the ROD.

Considering the importance of acquiring water to the success of the EWA, the Project Agencies and Management Agencies shall meet and confer to develop alternatives for funding power and other incidental EWA costs, if such costs interfere with the successful operation of the EWA.

4. The EWA Shall Be Responsible For Mitigating Its Water Quality, Water Rights, and Environmental Impacts As Required By Law

Article III
Description of the EWA Tools

The following are the EWA tools for acquiring and using alternative sources of project water supply to offset the effects of operational curtailments imposed under the EWA program so that project deliveries will not be affected. While the requirements have been described in Article I (Establishment), any additional tools or arrangements that are determined to be beneficial to the EWA may be acquired at the discretion of the Management Agencies and Project Agencies.

1. Acquisition of Water for the EWA

a. Purchases

The Project Agencies (who are initially designated to undertake the purchases of EWA assets) will use EWA funds to purchase EWA assets from willing sellers both upstream and south of the Delta. "South of the Delta" means the export service areas served by the projects' Delta pumping plants, and may include Project contractors. "Upstream of the Delta" includes the legal Delta itself, as well as all tributaries to the Delta. Purchases can include leases, options, long-term agreements, and any other property or contractual transaction that makes alternative project water supplies available south of the Delta or available for conveyance to south of the Delta. In addition to direct diversion and stored water supplies, purchases will include the acquisition of storage space in both surface reservoirs and groundwater basins to bank EWA assets.

Explicit provision will be made in the purchase transaction for calling upon the asset and releasing it to provide water to replace project deliveries as needed to offset the impact of an EWA operational curtailment. The Agencies will coordinate EWA water acquisition with Level 4 refuge water acquisitions to ensure the priority accomplishment of both each year.

b. Delta Operations

There are four tools involving Delta project operations under which ESA water assets are to be acquired.

i. Sharing of b(2) and ERP Water Pumped by the SWP

The SWP and the EWA will share, on a 50-50 basis, water:

(1) which has been released from storage or is otherwise made available for upstream purposes

under either CVPIA Section 3406(b)(2) or the ERP and arrives in the Delta with no further ERP or b(2) purposes to serve;
(2) which exceeds the export capacity of the CVP Tracy pumping plant;
(3) for which the SWP and EWA both have demand south of the Delta; and
(4) which the SWP has capacity to pump.

Pumping of b(2) or ERP water where either the SWP or the ERP is demand-limited south of the Delta (i.e., there is no place for the water to go) will not count against the 50% share of the one which does have demand for the water.

ii. Joint Point: SWP Wheeling of CVP and EWA water

The SWP will use excess capacity it may have at its Banks pumping plant to pump water for both the CVP and the EWA, to be shared between them on a 50-50 basis. The CVP water could be either from storage or under its Delta water rights to divert unstored water. The EWA water could be either from non-project water acquired north of the Delta, or stored or unstored water pumped under CVP or SWP water rights. If either the CVP or EWA is demand-limited, the other's use of joint point will not count against its 50% share.

"Joint Point" is a term that is used in recent SWRCB Delta proceedings and decisions (e.g., WR 95-6; WR 98-9; D-1641) to refer to the ability of the SWP and CVP to utilize each other's point of diversion in the south Delta, i.e., their points of diversion may be used "jointly". It is used here, however, in a slightly different way, to refer to the use (mainly) of the SWP point of diversion *alone*; and, specifically, to the wheeling of EWA as well as CVP water.

Use of excess capacity for the EWA, CVP, and Level 4 refuge water will take precedence over all other non-project pumping, except, as noted above, for wheeling water to respond to facility outages and wheeling to supply CVP contractors for whom the SWP has traditionally wheeled CVP water, namely, San Joaquin National Cemetery, Musco Olive Co. and the users of the Cross Valley Canal.

iii. SWP Appropriation of Unregulated Flow

The SWP may use its own Delta diversion rights to pump water from the Delta for EWA purposes when the SWP has capacity but no demand. It would be used in cases where Joint Point could also be used but where it would be preferable to create EWA assets south of the Delta to offset SWP rather than CVP losses to operational curtailments. As an adjunct to Joint Point, it would simply utilize SWP rather than CVP water rights to pump excess flows for the EWA's share. It would not affect the CVP's own share of excess SWP capacity.

iv. Project Pumping Made Possible by Regulatory Relaxations

(A) Relaxation of the Section 10 Constraint

The SWP is limited under Section 10 of the Rivers and Harbors Act, pursuant to US Army Corps of Engineers (Corps) Public Notice 5820-A, to a three-day average rate of diversion of water into Clifton Court Forebay of 13,250 acre-feet per day. This is equal to

an average, around-the-clock diversion rate of 6,680 cfs. (That rate may be increased during winter months when the San Joaquin River flow is above 1,000 cfs.)

Permission has been obtained from the Corps to increase the base diversion rate by the equivalent of 500 cfs to 7,125 cfs for the months of July, August, and September, through 2002. This 500 cfs will be dedicated in its entirety to pumping for the EWA.

(B) Relaxation of the Export/Inflow Ratio

Under D-1641, and anticipated under the SWRCB order to be issued upon completion of the Bay-Delta water rights hearing, project exports are limited at different times of the year to a certain percentage of Delta inflow (usually either 35% or 65%). This limitation is called the Export/Inflow, or E/I, ratio. Both D-1641 and the 1995 Water Quality Control Plan, consistent with the 1994 Principles for Agreement (Bay-Delta Accord), allow for these ratios to be relaxed upon the meeting of certain requirements.

Relaxations of the E/I ratio will be sought as appropriate and used to create EWA assets south of the Delta.

2. Banking of EWA Assets

a. Generally

Generically, banking is the storing for later use of water that would otherwise be used or lost in the present. Water can be banked and used within the same water year or carried over for use in a subsequent water year. Even though the acquisition of stored water does not carry the idea of converting a transitory asset into a durable asset, it is included here as an EWA banking transaction as well as a species of EWA asset acquisition. Like the acquisition of assets, banking transactions must provide for access to and the release of the stored EWA assets to the projects.

Priority of EWA assets in storage generally will turn on the provisions of the banking document. Usually, if imported water is physically stored in a groundwater basin, it will have a first and exclusive right to the water stored. If EWA water is stored in a surface reservoir, it usually will be junior to other rights and will spill first.

Banking EWA water south of the Delta should have the highest priority in importance, in that it creates assets which are both durable and which may be released without the ability to move water from the Delta being an issue.

b. Banking in Project Reservoirs

EWA water may be stored in project reservoirs upstream of the Delta as well as in San Luis Reservoir, with a lower priority than regular project water. The EWA will share this storage priority with water acquired for Level 4 refuge needs.

c. Source-Shifting Agreements

The purpose of water banking is to have water available for use at a time other than its original availability. Source-shifting agreements fall under this functional definition of "banking". Source-shifting (or "demand-shifting") agreements are agreements with a water agency, like MWD, which are able, at certain times, to call on non-Delta sources of water to temporarily create an asset for use by the EWA. These assets can be used for EWA operational curtailments. Replacement of the source-shifted water occurs at an agreed-upon subsequent time without any incremental impacts to the Projects.

3. Borrowing

Borrowing of project water, specifically water in San Luis Reservoir, is a tool intended to enhance the effectiveness and use of EWA assets. Project water in San Luis Reservoir may be borrowed to support an operational curtailment in lieu of immediately releasing an EWA asset, where the borrowed water is not needed at that time to make project deliveries, to avoid water quality and supply problems associated with the San Luis low point, or to satisfy reasonable carryover storage objectives.

An appropriate EWA asset will be pledged to assure that, if the borrowed water is not otherwise made up, release of the pledged asset will cause project deliveries not to be affected by the borrowing transaction.

4. Transfers and Delta Conveyance

Transfers will be used mainly to create assets south of the Delta out of assets upstream of the Delta. They can also be used to make acquisitions south of the Delta suitable for release to project use, where a change in the legal place or purpose of use or point diversion of the water is needed.

IV.
Additional Provisions

1. Contingent on Appropriation or Allotment of Funds

The expenditure or advance of any money or the performance of any obligation of the United States or the State of California under this Agreement shall be contingent upon appropriation or allotment of funds. No liability shall accrue to the United States or the State of California for failure to perform any obligation under this Agreement in the event that funds are not appropriated.

The project schedules described in this document depend upon certain assumptions about state and federal budgets, optimized construction schedules, willing sellers and other contingencies. These assumptions may change as the CALFED Program progresses and appropriate revisions to

the CALFED Program may be necessary. Consistent with federal law, nothing in this document constrains the discretion of the President or his successor from making whatever budgetary or legislative proposals he or his successors deem appropriate or desirable.

2. Modification Only By Written Agreement

The terms of this EWA Operations Principles Agreement may be modified by written agreement executed by all parties.

Having considered the contents of this document, its attachments and the documents supporting this decision, we hereby adopt these Principles.

Signed and dated:

United States of America

Michael J. Spear, Manager
California-Nevada Operations
U.S. Fish and Wildlife Service

8/28/00
Date

Lester A. Snow, Director, Mid-Pacific Region
U.S. Bureau of Reclamation

8/28/00
Date

for Rebecca Lent, Ph.D., Regional Administrator
National Marine Fisheries Service

8/28/00
Date

State of California

Thomas M. Hannigan, Director
California Department of Water Resources

8/28/2000
Date

Robert C. Hight, Director
California Department of Fish and Game

6/28/00
Date

ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX D

Fish Decision Trees

Table 2 The Delta Smelt Decision Tree

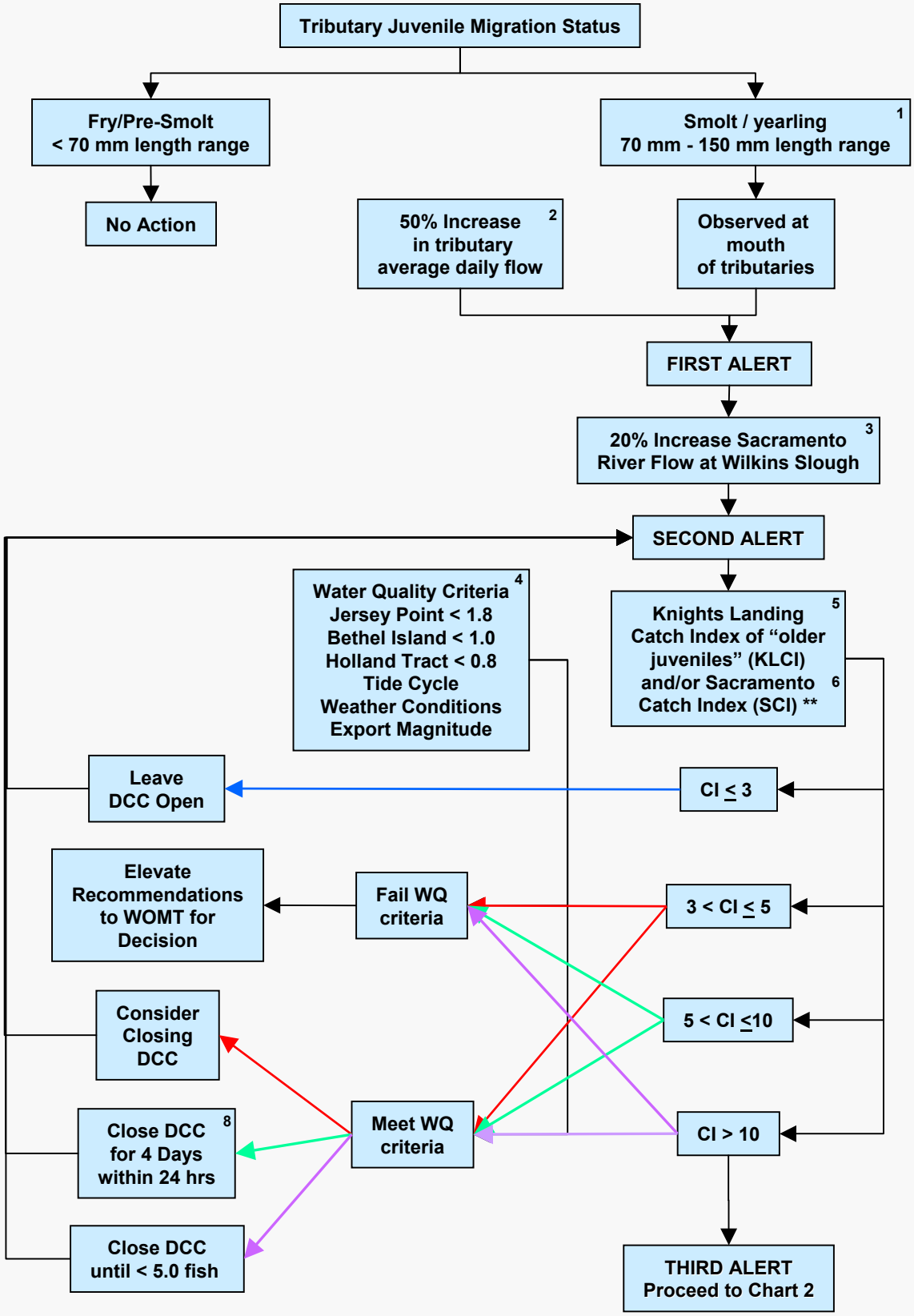
Life stage	Adults
Timing	Pre-VAMP (February 1 through April 15)
Concerns	1) High relative densities of adults in the south Delta are a concern due to the potential for increase entrainment at the SWP and CVP.
	2) High relative densities of delta smelt in the south Delta also suggest spawning may occur in the south Delta, increasing the chances for exceeding the red light level[a] of incidental take in the late spring and early summer.
Data of interest	Before pre-VAMP, consider fall midwater trawl indices
	Spring midwater trawl
	Salvage
	Beach seine
	Chipps Island trawl
	Hydrology (wet or dry year; placement of X2)
	Water quality conditions and water temperature
	Condition of the fish
Assessment of conditions	Adult distribution in Delta and downstream of the Delta
	Salvage levels/densities, yellow light
	Potential high numbers in juvenile salvage if high numbers of adults are concentrated in the south Delta
Tools for change	Reduction in exports, either concurrently at both facilities or at the facility that is salvaging the most fish
Biological questions using the available data	1) Is the adult distribution broad or not?
	2) Is salvage elevated or not?
	3) Is previous FMWT index high or low?
	4) Are water quality conditions (e.g. water temperatures) conducive to spawning?
	5) Are fish ripe for spawning? (Both of above may help determine if there will be a protracted spawn.)
Questions concerning operations	1) Is there a need to reduce exports at either or both facilities based on either the distribution of adults and/or an increase in the salvage of adult delta smelt?
	2) Is it likely to be a difficult spring or summer? That is, do we expect high levels of delta smelt salvage in the spring or summer?
Assessment of concern	I. If the stated recovery criteria index is lower than 239, then concern is high.
	II. If distribution information shows adults delta smelt are concentrated in the south and central Delta, then concern is high.
	III. If the observed or predicted salvage of adults increases sharply, then concern is high.
	IV. If fish at the salvage facilities are on the verge of spawning and temperatures are conducive to spawning, then concern is high.
Recommendations	A) If concern is high and salvage increases abruptly, then recommendations for action is likely.
	B) If the observed or predicted salvage is at or approaching the red light or at the yellow light, then a recommendation for action is likely.
	C) If assessments II and I are true, then we expect a difficult spring or summer (June and July).
Life stage	Larvae
Timing	VAMP (April 15 through May 15)
Concerns	High numbers of larvae in the south Delta will likely result in higher numbers of fish rearing to juvenile stages and higher levels of entrainment.
Data of interest	Light traps surveys
	20-mm survey[b]
	Water temperatures
	Salvage[c]
	Hydrology (wet or dry year; placement of X2)
Assessment of conditions	Spawning distribution
	Percent distribution

[a] Yellow light and red light as defined in the 1995 OCAP opinion.
[b] If fortnightly 20-mm survey is occurring and red light occurs, then effort will increase to weekly sampling.
[c] Salvage levels at this time will likely not reflect the number of delta smelt in the south Delta, since smelt begin to be counted at the salvage facilities at about 25 mm.
[d] The barriers shall be operated as stated in the USFWS biological opinion (1-1-96-F-53), April 26, 1996.
[e] Changes considered under “a” and “b” would aim to increase net positive flows in Old and Middle rivers downstream of the export facilities.

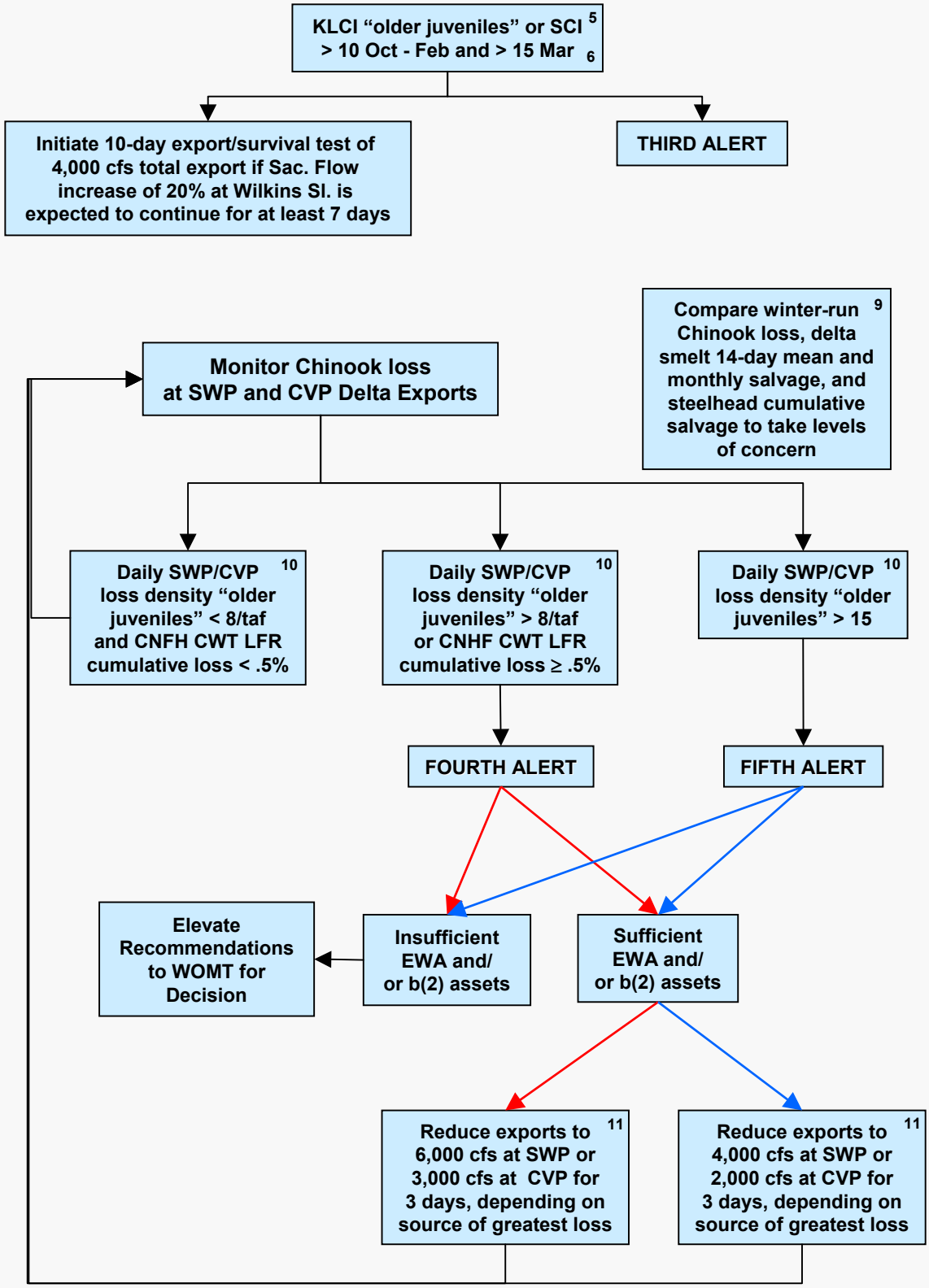
Table 2 The Delta Smelt Decision Tree (Continued)

Assessment of conditions (continued)	Timing: start and duration of spawning
	Implement model to predict future salvage (end of VAMP)
	Water quality conditions, water temperature
Tools for change	Change in San Joaquin River flows
	Change in export reductions (1–3 = net flow)
	Change in barrier operations
Biological questions using the available data	1) Is distribution of spawning broad or restricted?
	2) Is larval distribution broad or restricted?
	3) When does spawning start?
	4) Do we expect punctuated or protracted spawning?
	5) Do we expect SWP and CVP to reach red light salvage levels?
Questions concerning operations	Do we consider changing net flows in Old and Middle rivers?
Assessment of concern	I. If light trap results demonstrates that spawning has occurred in the south Delta, then concern is high
	II. If the 20-mm survey shows 50% of the delta smelt are in the zone of influence (e.g,. east of the confluence), then concern is high.
	III. If abundance in the 20-mm survey is low relative to other years, then concern is high.
	IV. If substantial larval recruitment is expected to occur in the south and central Delta post-VAMP, then concern is high
Recommendation	If concern is high and salvage is at or approaching red light or at yellow light, then recommendations to improve net flow in Old and Middle Rivers are likely. (This recommendation applies during VAMP and post-VAMP, although the tool used will vary.)
Life stage	Juveniles
Timing	Post-VAMP (May 15 through July 1)
Concerns	High numbers of delta smelt juveniles in the south and central Delta will likely result in increased entrainment when export levels increase at the end of VAMP
Data of interest	20-mm survey[b]
	Salvage
	Summer townet
	Hydrology (wet or dry year; placement of X2)
	Export rates
Assessment of conditions	Percent of the distribution outside the zone of influence (e.g., east and west of the confluence)
	Salvage level (number)
	Salvage density
Tools for change	Change in exports
	Change in agricultural barrier operations[d]
	Removal of HORB[d]
	Position of cross-channel gates
	Flow changes in San Joaquin, Old, and Middle rivers
Biological questions using the available data	1) What is the relative distribution in and outside the zone of influence (e.g. upstream and downstream of the confluence)?
	2) Is abundance high?
	3) Is salvage at or approaching red light or at yellow light?
	4) Are fish migrating west from the Delta?
Questions concerning operations	1) Do we consider changing exports?[e]
	2) Do we consider changing agricultural barrier/HORB operations?[e]
	3) Do we consider changing the position of the cross channel gates after May 20?
Assessment of concern	I. If the 20-mm survey shows 50% of the delta smelt are in the zone of influence (e.g. east of the confluence), then concern is high.
	II. If abundance in the 20-mm survey is low, relative to other years, then concern is high.
Recommendation	If concern is high and salvage is at or near red light, then recommendation for action is likely.

[a] Yellow light and red light as defined in the 1995 OCAP opinion.
[b] If fortnightly 20-mm survey is occurring and red light occurs, then effort will increase to weekly sampling.
[c] Salvage levels at this time will likely not reflect the number of delta smelt in the south Delta, since smelt begin to be counted at the salvage facilities at about 25 mm.
[d] The barriers shall be operated as stated in the USFWS biological opinion (1-1-96-F-53), April 26, 1996.
[e] Changes considered under "a" and "b" would aim to increase net positive flows in Old and Middle rivers downstream of the export facilities.



2002/2003 Chinook decision process October through March (Chart 1 of 2).



2002/2003 Chinook decision process October through March (Chart 2 of 2).

ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX E

2003 EWA Acquisition Strategy

EWA Acquisition Strategy For 2003

I. Executive Summary

The Environmental Water Account (EWA) will enter its third year of operation in 2003. The Management Agencies and Project Agencies, which jointly administer the EWA, are developing a formal strategy for the acquisition of assets for the program for 2003. This paper sets forth the proposed strategy.

The EWA will begin 2003 with 68 TAF of carryover assets from 2002 acquisitions. Of the total, there is 57 TAF in relatively assured storage for cross-Delta transfer (20 TAF in Oroville Reservoir, subject to Delta carriage losses) and direct pump-out (37 TAF in Kern Water Bank). An additional 11 TAF is currently stored in San Luis Reservoir in anticipation of early-2003 fish actions. These in-hand assets will help offset budget challenges and the potential need for additional amounts of water to offset reductions in CVPIA Section 3406 (b)(2) assets originally anticipated under Tier 1.

The EWA Project Agencies will continue a strategy of acquiring maximum water supplies and related assets at minimum cost. To implement this strategy, the concept of functional equivalency, as established in the CALFED Record of Decision (ROD), will be applied to help the EWA reduce its costs.

The concept of functional equivalency as applied to water acquisitions would be applied by maximizing water purchases upstream of the Delta consistent with the Projects' capability to convey EWA water across the Delta prior to the low point in San Luis Reservoir. Options would be employed for the upstream purchases with spring call dates, and the amount of the lower cost upstream-of-Delta purchases would reflect the approximate cross-Delta transfer capacity.

The balance of the water assets would be acquired south of the Delta (in the export service areas). Source shift agreements totaling at least 100 TAF would be negotiated and activated only as needed in 2003. Other services, including storage capability and predelivery arrangements to protect EWA assets in San Luis Reservoir at year-end would be negotiated as the budget permits.

Water needs for 2003 are developed from assumed fish actions (pumping curtailments) that will be implemented by the EWA agencies. Placeholders of 230-450 TAF have been assumed for potential fish actions in 2003, depending on hydrology. These placeholders have been increased to help offset, at least partially, the perceived loss of Delta export reduction capability available to the Fishery Agencies due to recent federal court decisions. The fish actions would be supported by purchases (Table 1, below);

variable assets (about 50 TAF or more expected); activation of the source shift agreements (up to 100 TAF); and borrowing from the CVP and SWP, if required.

Table 1 summarizes the proposed 2003 EWA acquisition program. The purchased water component of the EWA (Total Delivery Goal in Table 1) is higher than that established in the CALFED Record of Decision (ROD) to help offset the perceived loss of Delta export reduction capability available to the Management Agencies due to recent federal court decisions. The 2003 total purchase targets in the table are adjusted downward to account for 20 TAF of EWA 2002 carryover water in Oroville Reservoir and 37 TAF of EWA 2002 water in Kern Water Bank storage, which together will provide 53 TAF of available assets, adjusted for Delta carriage losses. Both quantities, plus an additional 11 TAF in San Luis, are available for 2003 fish actions.

Table 1
Summary of EWA 2003 Purchase Goals

Year Type	Approximate SWP Allocation	Total Delivery Goal[(1)]	UOD Pumped X-Delta	Usual UOD Purchases	Usual SOD Purchases	Minus Carryover From 2002	Total 2003 Purchase Target
Dry and Critical	< 50%	210	210	260	0	52	200
Below Normal	50-75%	240	115	145	125	52	215
Above Normal	75-90%	240	60	75	180	52	200
Wet	90-100%	240	60	75	180	52	200

(1) Goal for delivering purchased water assets to the projects to compensate for operational curtailments.

In addition to acquisitions, it is estimated that the EWA can rely on approximately 50 TAF of water under the Variable Assets provided in the ROD. The EWA may be able to gain additional variable assets in wetter years if San Luis Reservoir fills and spills EWA water debts, assuming relatively aggressive management of such debt. Also, the availability of additional capacity included in the ROD as part of the Variable Assets would be used to benefit the EWA.

The EWA Agencies would continue to coordinate acquisition activities with the USBR water acquisition programs for (b)(3) uses, instream purchases, and refuges. The program would also continue to be integrated with the DWR Dry Year Program and begin coordination with the Colorado River Contingency Program and Drought Risk Reduction Investment Program.

The EWA Agencies will use source-shifting arrangements to carry EWA debt above the delivery goals into the following year if it is needed. This 100 TAF of debt carryover capability is an important aspect of achieving the EWA flexibility envisioned in the

CALFED ROD because it can increase asset availability in some years and increase the potential for debt erasure in very wet years after San Luis Reservoir fills.

In 2003, the EWA will begin to work on longer-term agreements for assets and services as the EIS/EIR is completed. Longer-term arrangements are anticipated to provide the EWA with greater certainty, lower long-term costs, and enhanced flexibility and reliability.

The EWA is interested in diversifying its sources of assets to lessen its impact on the water market; provide opportunities for using multiple sources; minimize cost; coordinate with other transfer programs, including refuge programs; and maximize the effectiveness of CALFED Program investments. This diversification includes both SWP and CVP sources of replacement water south of the Delta. The EWA in 2002 made reductions in exports at both the CVP and SWP export facilities and will do so in the future. Partnerships between EWA and both CVP and SWP users south of the Delta ease the administrative tasks of replacing these water supplies for each project, respectively.

II. Introduction

The Environmental Water Account (EWA) is a cooperative management program whose purpose is to provide protection to the fish of the Bay/Delta Estuary through environmentally beneficial changes in the operations of the Central Valley Project (CVP) and the State Water Project (SWP) at no uncompensated water cost to the CVP and SWP project users. The EWA is a key component of CALFED's Water Management Strategy, funded through State and federal public funds to address declining fish populations and unreliable water supplies.

The EWA, when taken together with the other aspects of the CALFED Bay/Delta Program, provides part of the resources required for the protection and recovery of critical fish species of the Bay Delta Estuary and provides assurances that the water supplies of the CVP and SWP will not be reduced to provide that protection.

The Management Agencies, which are the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Game; and the Project Agencies, which are the U.S. Bureau of Reclamation and the California Department of Water Resources are jointly responsible for implementation of EWA. This document focuses on the acquisition of the EWA assets necessary to achieve its purpose and objectives.

III. Asset Acquisition Strategy: Goals and Objectives

This section of the document sets forth the proposed goals and objectives for the acquisition of assets for the EWA in 2003. It is intended as an overview of the

framework for the EWA acquisition program for 2003 and future years. It provides information on how the program expects to mature and develop long-term stability. Pursuit of some of these goals must await completion of the long-term EIS/EIR on the EWA Program. Implementation of other goals may require additional CEQA and NEPA coverage, including separate CEQA and NEPA actions by The Project Agencies, although the planning activities necessary to bring the goals forward to a decision may be initiated in the coming year. The asset acquisition program strategy for 2003 incorporates the following goals and objectives:

- Define the purchase strategy
  - Define clearly the placeholders necessary to meet the EWA's needs
  - Define clearly the asset purchase targets for 2003 by fall 2002 in conjunction with estimated needs for future years
  - Define clearly the concept of functional equivalency for EWA assets and adjust purchase targets appropriately
  - Identify participants, constraints, opportunities, and funding needs and sources
  - Define clearly the asset management strategy for various potential operational scenarios

- Acquire water at the most effective unit cost
  - Approach prospective sellers with clearly defined needs and clear understanding of adjusted targets that reflect functional equivalency
  - Purchase upstream-of-Delta water to the extent cross-Delta conveyance is assured in any hydrology
  - Negotiate options for additional amounts of lower-cost upstream-of-Delta water that can be exercised when additional cross-Delta conveyance is available in drier years
  - Negotiate SWP allocation triggers into south of the Delta (export service areas) purchases to provide the required balance of EWA assets when the EWA's cross-Delta transfer capacity is constrained in wet years
  - Coordinate the option and purchase agreements to maximize upstream-of-Delta purchases when Delta conveyance capacity will be available (in drier years), supplementing with south of the Delta purchases only to the degree necessary when transfer capacity is restricted, with decision dates late enough to assure meeting asset acquisition targets
  - Negotiate 2003 asset purchases in the fall of 2002 and executing contracts before 2002-2003 hydrology can become an issue
  - Structure agreements over longer terms, subject to funding commitment constraints and environmental coverage, to lock in pricing and simplify future negotiations
  - Negotiate a flexible option agreement for the source shift and exercise only when needed
  - Continue to pursue actively all opportunities to acquire variable assets

- Expand the asset base
  - Prepare and distribute formal notification of anticipated water needs to a larger audience of EWA interests
  - Request additional funding or modifications to “encumbrance” requirements to pursue more option agreements, and increase the ability to have numerous options without encumbering funds until required
  - Initiate negotiations with additional agencies to increase the competition for inclusion as a seller to the EWA program
  - Pursue acquisitions that can also provide flow increases, temperature modification, and other beneficial actions

- Improve flexibility
  - Pursue longer-term arrangements as soon as the EIS/EIR is completed and a decision is made regarding the future of the EWA Program beyond the four-year initial phase
  - Pursue the planning activities leading to an approval for the direct purchase of SWP and CVP entitlement water that would otherwise be put to beneficial use by the contracting agency, including carryover water, recognizing that additional CEQA and NEPA documentation will be required
  - Pursue participation in SWP programs such as Turn-Back Pools, recognizing that this will require SWP CEQA action
  - Negotiate purchases in both CVP and SWP service areas
  - Make the negotiation and contracting process as smooth and swift as possible
  - Increase borrowing from the SWP and CVP when prudent and appropriate

- Protect assets
  - Negotiate groundwater banking arrangements and south-of-Delta storage agreements, including pre-delivery and short term carryover, to protect EWA assets
  - Negotiate carryover clauses where appropriate to allow an asset to remain in place and be transferred in a future year

- Continue coordination with other water purchase programs
  - Coordinate with CVPIA Level 4 refuge purchases and in-stream flow purchases to ensure the priority accomplishment of both each year
  - Coordinate purchases for the EWA and dry year programs to mitigate competition between the programs and allow shifting of assets as needed
  - Coordinate purchases with other CALFED water purchase programs

- Maximize the effectiveness of CALFED Program investments
  - Enhance water bond grant selection criteria to encourage infrastructure that will support future EWA success
  - Propose EWA participation as potential partner with other applicants (combine existing funds with grant funding)

- o Propose EWA as independent applicant (enhance purchasing power of existing funds with additional grant funds)

IV. Supporting Analysis for the EWA Acquisition Strategy

This section provides the supporting analysis to define the rationale behind the acquisition strategy and provide background information on the EWA. A summary of 2001 and 2002 operations is presented in Section VI.

A. EWA Context

The EWA operates within the water right permits and operational aspects of the SWP and CVP. This special arrangement and the EWA's purchased and variable assets are specifically set forth in the EWA Operating Principles and the CALFED ROD signed by, among others, the Secretary of Interior and the Director of Water Resources who oversee the operation of these projects.

Even with EWA, the CVP and SWP continue to be operated fully within the constraints defined by D-1641, the applicable biological opinions, and all other regulatory requirements. Although an independent CALFED program, the EWA can be viewed as the reoperation of the CVP and SWP to provide protection and enhancement to sensitive fish species of the Bay/Delta estuary. As explicitly provided in the ROD, the SWP and CVP use their water rights as necessary to acquire EWA assets. These assets are to be stored and delivered through the SWP and CVP facilities. The ROD specifically allows EWA assets to be stored in project reservoirs to the extent that space is available, even though such services are unavailable to non-project entities. These provisions provide a special status to the EWA.

Currently, EWA water that is stored in facilities of the CVP and SWP is considered Project water with an EWA label. It cannot be viewed or treated in the same manner as water held by third parties that requires the use of project facilities or other project use benefits. Normal fees do not apply as they would to other third party users nor do third party users have free access to the operational flexibility afforded to the management of EWA assets. However, the EWA is subject to power and facility costs for the use of these facilities.

No CVP or SWP contractor or independent third party has this flexibility. External users cannot use the aspects of this strategy, the EWA Operating Principles, or the 2003 Interim Protocols for the Operation of the EWA as precedent for treatment similar to that of EWA.

Both SWP and CVP contractors and the environment benefit from the operation of EWA. A fully functional EWA provides commitments that there will be no additional reductions in project deliveries relative to the regulatory baseline as a result of the

needs to recover critical fish species. The water supply reliability afforded by EWA should be considered in overall costs for using such facilities. In addition, the contractors benefiting from such reliability should consider these benefits in their water supply and service arrangements with the EWA and should offer the EWA market arrangements that reflect the multiple benefits they receive.

Over the next year and a half several actions will affect the future direction of the EWA. These actions include:

- The review of the EWA prior to its scheduled expiration on September 30, 2004 as required in the CALFED Record of Decision (ROD);
- Expansion of permitted pumping capacity at the Banks Delta pumping plant from 6,680 cfs to 8,500 cfs;
- Availability of additional water to the projects due to the pending water right settlement of Phase 8 of the SWRCB's water right proceedings;
- Determination by the Department of Interior of its new policy for the appropriate accounting for CVPIA 3406 (b)(2) expenditures for fishery protection as directed by the courts;
- Completion of the EWA EIR/EIS in 2003
- Increased cross-Delta transfer activity related to Colorado River supply issues

B. EWA Strategy: Tie Water Purchases to Hydrologic Conditions to Minimize Costs

The CALFED Record of Decision establishes EWA purchased asset targets at 185 TAF with 35 TAF coming from sources upstream of the Delta and 150 TAF coming from sources south of the Delta or the functional equivalent of these assets. In contrast, there is more water available for transfer from areas upstream of the Delta, and at a lower cost, than from areas south of the Delta. Strict adherence to the 35/150 TAF ROD requirements has the potential to place an avoidable cost burden on the EWA. The EWA has taken advantage of the functional equivalence criteria to purchase a greater portion of the water from upstream sources and thereby acquire the purchased assets within the limitations of available EWA funding.

The amount of water available for transfer is typically greater from areas upstream of the Delta than areas south of the Delta, especially in dry years. This difference is reflected in the market rates received by willing sellers in these two areas. The differences in water prices upstream and south of the Delta are greater than simply the costs of transporting water across the delta. The differences reflect a structural difference in the water economies of these two areas.

One reason for the higher south-of-Delta cost is that the EWA's 2001 and 2002 water purchases in SWP service areas south of the Delta have been restricted to the relatively limited supply of previously banked groundwater. Banked groundwater has been purchased, transported, banked, and must then be pumped out to be delivered, and is

therefore more expensive than upstream sources. In addition, water prices south of the Delta reflect an economy that depends in a substantial part on water supplies imported into the region. These imported water supplies are more expensive than locally developed water supplies.

Initial EWA water purchases during 2001, the first year of operation, followed the general split of EWA purchases established in the CALFED ROD, although upstream-of-Delta purchases exceeded 35 TAF. However, in 2002 water purchases from upstream of Delta sources were increased beyond that established in the CALFED ROD to reduce the amount of south of the Delta purchases. The purchases provided the "functional equivalent" of the 150 TAF of EWA assets south of the Delta to offset EWA export reductions.

The EWA can become much more efficient and minimize its costs if it expands the concept of functional equivalency referenced in the ROD. The concept can be effectively applied to a water purchase strategy that maximizes water purchases upstream of the Delta consistent with the Project's capability to convey EWA water across the Delta. Water supplies need to be acquired and moved across the Delta prior to the low point in San Luis Reservoir, which typically occurs in August or September.

From a financial point of view EWA purchases should be focused on upstream of Delta areas to minimize costs. However, the EWA does not have secure pumping capacity available to convey all its water supply purchases across the Delta in all hydrologic conditions. Therefore, the EWA should pursue a strategy where it maximizes upstream of Delta purchases to the extent that it can convey water across the Delta.

Table 2 shows the cross-Delta conveyance capacity that the EWA Team will use to develop its water purchase and management strategy for 2003. The available capacity estimates include the 500 cfs summer capacity dedicated to the EWA. The EWA priority for pumping is set forth in the ROD and detailed in the 2003 Interim Protocols for the Operation of the EWA. An unknown factor is the extent that other SWP contractor water transfers will affect the EWA's access to SWP conveyance. An assumption has been made regarding the volume of SWP contractor transfers with a priority higher than the EWA that are likely in various SWP allocations based on recent experience.

If the amount of water being transferred for SWP contractors from upstream of the Delta increases, then the SWP's capacity to convey EWA water will decrease. In addition, the conveyance of the Phase 8 settlement water supplies for SWP contractors will also decrease the SWP's conveyance capacity for EWA water. Table 2 reflects these estimated Phase 8 settlement supplies in 2003 (50 TAF) and will be adjusted each year to reflect the best projection of the SWP's capacity to convey EWA water.

Table 2 shows that the EWA's capability to convey water through the SWP facilities decreases in normal and wet years, and is least when SWP allocations are 75% of requests and above. A marked transition occurs in dry to below normal years (SWP allocations between 35% and 70%). The EWA agencies will purchase water upstream

of the Delta consistent with this table up to the amount deemed necessary, allowing for carriage water losses.

Since it cannot be projected with certainty what the projected SWP allocation will be when contracts are negotiated, EWA contracts will use options for part of the purchases upstream of the Delta or contract provisions tied to SWP allocations to accommodate uncertainty over conveyance capacity. Water purchases south of the Delta can be tied directly to SWP allocations in many instances.

Table 2
Anticipated EWA Cross Delta Conveyance as a Function Of SWP Allocations in 2003

SWP Annual Allocation Percentage	EWA Cross-Delta Capacity TAF [(1)]
100	60
95	60
90	60
85	60
80	60
75	60
70	60
65	99
60	138
55	190
50	242
45	330
40	418
35	459
30	500
25	501
20	503

(1) Capacity computations assume use of the EWA's 500 cfs capacity in wetter years. Additional capacity becomes available in drier years, reduced by a modest Dry Year Water Acquisition Program and assumed SWP contractor transfers of 200 TAF

C. Coordination of EWA With CVPIA Section 3406 (b)(2) Assets

CVPIA Section 3406 (b)(2) provides that 800 TAF of CVP yield be dedicated to fishery benefits. The USBR has been operating the (b)(2) program for several years, and the Project Agencies have been coordinating its operation with the EWA. However, recent court decisions have found that the accounting mechanisms used to calculate (b)(2) expenditures needed modification. The court has ordered that new accounting methods be employed.

A new (b)(2) policy is under development and is expected to be completed in early 2003. This new policy will reflect the findings of the court and is expected to result in less flexibility for the use of (b)(2) assets and fewer fish actions. The potential for there to be less (b)(2) water available for use in the Delta was addressed last year by increasing EWA water purchases to partially offset the perceived reduction in the (b)(2) baseline.

Regardless of the policy decision on whether to offset (b)(2) losses with EWA assets, the EWA will continue to be coordinated with (b)(2). It will be critical to continue to coordinate the management of EWA assets with (b)(2) actions, as those actions will affect EWA water purchase needs and use of EWA funds. The EWA "gaming" that has been done for the EWA assumes that the two programs would be coordinated.

The EWA agencies will need to make a policy decision in 2003 on the extent that the EWA can and should be used to help offset the perceived losses of (b)(2) assets. This offset may require some EWA expenditures for in-stream actions upstream of the Delta.

In the past two years EWA assets have been used in limited ways upstream of the Delta. Actions have included bypassing the power plant with a portion of Folsom Reservoir releases in the late fall to draw upon the cold water pool deep in the reservoir. The cold releases help achieve improved temperature conditions for salmon spawning and outmigrating steelhead in the Lower American River. This action used EWA power credits; no EWA water was used. On the Yuba and Merced Rivers, releases of EWA assets were scheduled to support instream fishery benefits of the EWA water transfer.

The EWA budget is currently reserving about $1 million for federal power purposes. Some of this money may be used to purchase power lost by the Folsom bypass next fall and some may be used to offset the costs associated with pumping EWA water in the Delta in the summer to replace water forgone earlier at the Delta export facilities when those costs are greater than the power savings from the reduced pumping in the spring.

D. Continued Coordination of EWA Water Acquisitions with DWR Dry Year Program, USBR CVPIA Level 4 Wildlife Purchases and Instream Flow Purchases, and Other CALFED Water Purchase Programs

One of the major challenges of the EWA is to coordinate its water purchase actions with those of other CALFED programs. In 2002, DWR agreed to coordinate water purchases for the State's Dry Year Program with the EWA purchases. In extremely dry years, EWA water purchase needs will decrease while the needs of water users will likely increase. These somewhat offsetting demands and the general benefit that the EWA provides to all the contractors of both the SWP and CVP argue for this continued coordination. Where there is conflict between these two programs, EWA purchase needs should take priority so as to not jeopardize ESA commitments. However, conveyance of dry year water for SWP contractors takes priority over EWA conveyance under the established protocols.

The CVPIA also purchases water for instream uses for both the Vernalis Adaptive Management Program (VAMP) and for Level 4 wildlife refuge supplies. The VAMP needs do not compete with or conflict with the EWA. Also, most of the refuge supply needs occur in the fall at a time that that does not directly conflict with the EWA's need for export capacity. There may be opportunities for mutual benefits among these programs.

As discussed below, federal partners south of the Delta could be beneficial to the EWA. CVP contractors south of the Delta who have in the past partnered only with the refuge program have expressed some interest in selling water to the EWA. In 2002, actions have already begun to coordinate the refuge purchases with those of the EWA. Due to the offset in timing of needs and variable funding for the CVPIA refuge program, both programs could benefit from joint purchase contracts. The EWA would benefit by having additional markets south of the Delta to purchase water. The coordinated use of water between these two programs would be resolved during the contract process in a manner acceptable to both programs.

Other water purchase programs by CALFED agencies include the EWP, CVP's coordination of dry year purchases by its contractors, the Drought Risk Reduction Investment Program (DRIPP) currently under development by DWR, and the purchase of water made available by the Phase 8 water right settlement process. The EWP program is charged with purchasing up to 100 TAF of water per year to improve salmon spawning and juvenile survival in tributary streams upstream of the Delta by the end of CALFED Stage 1. Some of the ERP flows may contribute to EWA. The ERP does not currently target streams that would conflict with EWA purchases. However, as the EWP program develops there may be opportunities for joint EWP/EWA purchases where water is purchased specifically for upstream actions that will also augment Delta supplies at a time valuable to the EWA.

The DRIPP would only initiate water purchases in the event a drought occurs and buyers request supplemental supplies. Purchases will be made to satisfy those orders for water only. These purchases are likely to be initiated long after the EWA has identified its supply sources and negotiated purchase contracts. The coordination of this developing program with the EWA has not yet been addressed, and coordination will depend on how and when the water purchase aspects of the program are implemented.

The coordination of the Phase 8 settlement water purchases may take the form of joint contracts where part of the water will be made available for SWP and CVP contractors and if extra water supplies exist, water could be made available for the EWA and DWR's Dry Year Program. The price provisions of the Phase 8 water have already been negotiated and will likely be different from the market rates at which the EWA and the Dry Year Program will be able to purchase water.

E. EWA Acquisition Strategy: The Need to Set Water Purchase Targets

The CALFED Record of Decision establishes annual EWA water acquisition targets of at least 185 TAF. The EWA Team has interpreted the concept of functional equivalent as the ability to deliver an equal quantity of water south of the Delta to that which was used to protect fish at the time of an operational curtailment. Under this interpretation, EWA purchases of water upstream of the Delta need to include allowance for additional water to offset the carriage water and other system losses that are experienced moving this water to the pumping facilities in the Southern Delta. Conveyance losses in the San Joaquin River and its tributaries are estimated at 10%, while carriage water losses in the Sacramento River and its tributaries are estimated at 20% for planning purposes. Actual Delta carriage losses in 2001 were 15%, and in 2002 were 20%.

The EWA proposes to use this functional equivalent concept as a key aspect of its strategy to maximize upstream of Delta purchases consistent with cross-Delta conveyance capacity.

As discussed earlier, the flexibility to use (b)(2) assets in the Delta as part of the baseline level of protection was modified by the courts. A policy decision needed for 2003 is the extent the EWA water purchase targets should be increased above the 185 TAF to account for the changes in (b)(2) assets. The EWA purchased water in excess of the 185 TAF in 2002 that was used to support a CVP operational curtailment at a time when (b)(2) assets were exhausted (Section VI summarizes 2001 and 2002 EWA operations). Purchase targets are higher than the 185 TAF established in the ROD to help support similar actions in 2003 and to ensure that the EWA can provide the assets required to meet operational needs considering carriage losses and other variables.

Based on the use of this EWA purchase strategy, the EWA's expected budget, the prices for water and services that may be possible for the EWA in 2003, and the gaming

that has recently been completed, the recommended EWA delivery targets for purchased assets would increase from 185 TAF to 210 TAF in dry and critical years and 240 TAF in below normal and wetter years. This increase of EWA purchased assets should ensure that the ROD commitments are achieved and continue the trajectory toward recovery for fish species of the Bay/Delta estuary.

F. EWA Acquisition Strategy: Purchase Partners

The EWA needs to broaden its base of potential partners from which to purchase water. For the EWA to be an effective partner, it needs to understand the needs of the sellers, develop a clear understanding of the types of water it wishes to purchase, and communicate the conditions that will apply to transfers that require the use of project facilities to complete.

In 2002, the DWR developed a set of water transfer papers that explain current water transfer laws and the DWR's compliance with these laws related to the purchase of water for the EWA and other programs. These papers provide water sellers a set of tools they can use to develop mitigation measures that protect other legal users of water and fish and wildlife as they develop their water transfer proposals. These papers can be found at: http//www.watertransfers.water.ca.gov.

In addition, DWR and USBR will work with prospective sellers on issues related to compliance with CEQA and NEPA and the State and federal endangered species acts.

G. EWA Water Purchases Upstream of the Delta

As discussed above, water purchases upstream of the Delta are typically less expensive to the EWA that those south of the Delta. Table 2 shows the expected EWA cross-Delta capacity to move water from upstream to south of the Delta in the summer months. The EWA should maximize its purchases upstream of the Delta to the extent it needs the water and can effectively move this water through the Delta. The EWA could base these contracts on SWP capacity to convey this water for the EWA under its pumping priority. However, upstream of Delta sellers may be reluctant to base purchases on these allocations. If this proves to be the case the EWA could set up options to purchase water, as it has in the last two years. A small non-refundable option payment would be made and dates set for the call of the option. Once called, the water would be delivered and the strike price (remainder of payment) made to the seller.

Upstream-of-Delta purchase targets are determined by using the cross-Delta transfer capacity values in Table 2, allowing for 20% carriage losses. For SWP allocations of 65-100%, for example, the EWA would purchase 75 TAF and transfer 60 TAF, with 15 TAF comprising the carriage losses. The EWA would plan to purchase 75 TAF in all year types. As SWP allocations decrease below 60%, upstream-of-Delta options would be exercised to increase upstream-of-Delta purchases up to the expected cross-Delta

transfer capacity or the annual purchase target, whichever governs, allowing for the carriage losses.

Aggressive use of options upstream of the Delta would provide the EWA flexibility to deal with changing hydrologic conditions. One concern related to options is that in many cases the call dates needed by the sellers occur early in the year before much is known about the hydrologic conditions. The EWA will seek option call dates as late into the year as possible consistent with the needs of the sellers.

The EWA would take a small risk of stranding water upstream of the Delta if, after exercising its options, there are late storms and hydrology improves, and the EWA loses some of its projected transfer capacity. This situation could leave assets stranded upstream and subject to loss. The risk can be minimized with options that can be exercised late in the spring after the chance of significant additional rainfall is minimal. Also the EWA will likely not call on all the options if the year turns wet. Thus in some years the small option fee will be paid on water than will not be delivered from some contracts. These options are similar to insurance costs, and are part of the cost of obtaining lower cost water overall.

1. Transfer Types Upstream of the Delta

There are three basic ways in which water can be made available for transfer: from previously stored flows, through use of alternative supplies that would not otherwise be used, and from reductions in use. In any case, it must be demonstrated that the water is being made available from a legitimate alternative source and that there is no unreasonable harm to fish and wildlife.

Certain types of water transfers are easier to implement and manage than others, and are preferable to the EWA. Experience has shown that transfers of previously stored flows are the most flexible. If a willing seller owns a storage reservoir, they often have the flexibility to manage their facilities to make water available from supplies excess to their needs. To complete the transfer, they must demonstrate how they intend to make the water available, agree to a release pattern that at a minimum causes no harm to fish and wildlife resources, and enter into a re-fill agreement to prevent harm to other legal users of water.

Where applicable, option call dates are often in late spring, which provides the seller a better idea of the amount of water available to transfer. Reservoir storage transfers work to the EWA's advantage because the later call dates allow the scheduling of the releases with greater certainty that the EWA will have access to transport capacity in the Delta.

Groundwater substitution transfers are the next type of transfer used by the EWA. Such transfers involve the substitution of groundwater supplies for surface water diversions. The greatest flexibility is offered by willing sellers that have

flexibility to hold their surface diversions in an upstream reservoir for later release to the EWA. When this is not possible, the groundwater substitution pattern must coincide with the availability of export capacity in the Delta. Groundwater substitution transfers require a demonstration that the wells being used are not pumping surface water and if the transfer requires the use of Project facilities, monitoring and mitigation programs must be in place (see DWR's water transfer papers).

The third and least flexible type of transfer involves the idling of cropland to make water available for transfer. Crop idling transfers have been done historically in the Sacramento Valley in extremely dry years. The volume of water available for transfer is limited to that quantity that would have otherwise been consumed or lost to a saline sink. In locations where water deliveries are made directly from a reservoir to the water users (like the Feather River contractors) water not used for irrigation can be held in storage and released for the EWA at a time when it can moved through the Delta and exported with less impact on fish of the Delta.

However, in cases where the willing seller has direct diversion rights from a river, forgone consumptive use in April, May, and parts of June may not be effectively captured and exported by the Projects for the EWA. For this water to be captured, the Projects must have the capacity to convey water for the EWA when it is made available, or the Projects must have the ability to back these supplies into a CVP or SWP upstream storage reservoir. The increased flow due to the decrease in river depletions may not be able to be captured by the Projects for the EWA in the Delta due to export restrictions to protect fish at the Delta pumping plants during these months.

Backing the water into upstream reservoirs is rarely possible because of operational constraints or flow, temperature, or other regulatory requirements downstream from the reservoirs. Therefore, only the water supply that can be effectively captured by the Projects for the EWA as a result of idling accrues during part of June, July, and August, even though irrigators have not planted crops earlier in the year. Because the EWA could not capture the full amount of water potentially made available, the net costs could make this water more expensive and less desirable than other types for the EWA to purchase. In addition, the decision to exercise options for crop idling transfers must be made very early in the year (around February) to provide farmers enough time to plant crops if the option is not called. Crop idling transfers will likely only be used in extremely dry years for those areas not served directly from reservoirs.

2. Upstream of Delta Transfer Sources

Potential EWA partners for upstream of the Delta transfers include:

Yuba-Feather River

- Yuba County Water Agency (YCWA): Reservoir storage
- Member agencies of YCWA: Groundwater substitution with re-regulation by YCWA
- Browns Valley Irrigation District: Reservoir storage from Collins Lake and groundwater substitution with re-regulation by YCWA
- Oroville-Wyandotte Irrigation District: Reservoir storage
- Western Canal Water District: Crop substitution, crop idling
- Joint Water District Board: Crop substitution, crop idling

Sacramento River

- Glenn-Colusa Irrigation District, RD 108 and other sellers to the 2001 forbearance agreement: Groundwater substitution, crop idling

American River

- Placer County Water Agency: Reservoir releases
- Sacramento Groundwater Authority: Sale of banked groundwater by exchange, groundwater banking services

San Joaquin River

- Merced Irrigation District: Groundwater substitution with reservoir re-regulation, crop idling
- Other east side San Joaquin Reservoirs (specifics to be provided by EWA Team

H. EWA Water Purchases South of the Delta

The amount of water needed from areas south of the Delta increases in normal and wet years and is less in dry years when there is capacity available to move water from areas upstream of the Delta. The amount of water needed south of the Delta can be

determined by subtracting the upstream-of-Delta deliveries from the delivery target. The remainder is the south-of-Delta purchases. Table 1 provides a general illustration of this calculation for the proposed 2003 water purchases. Table 3 provides greater detail of the estimate of south-of-Delta purchases for 2003, based on cross-Delta transfer capacity available to the EWA in 2003. These capacity estimates assume a modest DWR Dry Year Water Purchase Program and cross-Delta transfers by SWP contractors of up to 200 TAF using their conveyance priority.

Table 3
Estimated South-of-Delta Water Purchases for 2003

SWP Allocation	Approximate Quantity, AF
50%	5,000
55%	30,000
60%	120,000
65%	145,000
70%	145,000
75%	145,000
80-100%	145,000

South-of-Delta purchases in the SWP service area can be tied directly to SWP allocations as was done in 2002 in the Kern County Water Agency contract. This provision has an advantage because the price of the water often decreases with the increase in the SWP allocation. Therefore, as the need for water for the EWA increases the price per acre-foot decreases. Contracts can be written to reflect this dynamic if the quantity and price are both tied to SWP allocations. If the contractor is a CVP contractor the same types of contracts might be possible.

South-of-Delta purchases will be sought from willing sellers in both the SWP and CVP service areas. It is administratively easier and often locally preferable to repay reductions in exports with water that was purchased from the respective service areas of these two projects. In dry years this is not so critical but in normal and wet years when most purchases are forced to be south of the Delta, a realistic split of purchases in these two service areas is desirable. In 2002 and in the future the EWA will take export reductions at both the CVP and SWP export facilities in the Delta. In 2002 the split of export reductions between the CVP and SWP was about 1/3 CVP to 2/3 SWP. This preliminary ratio will be used as a guide in conjunction with projected placeholders developed through coordination with implementation of (b)(2) in developing contracts for south of the Delta between water users in these two service areas in 2003.

1. Transfer Types South of the Delta

To date the EWA has pursued only the purchase of previously banked groundwater south of the Delta for the EWA from south of Delta sources. It is possible that the EWA will pursue crop idling transfers in this region, if environmental impacts and other issues can be successfully resolved.

Due to contract language in the SWP Long Term Water Supply Contracts, only previously banked groundwater or water that would otherwise be banked can be sold to others. This restriction limits the EWA's capability to purchase water south of the Delta. As explained above, south of Delta banked groundwater is more expensive than upstream of Delta purchases. In addition, there is a limited quantity of banked groundwater that can be purchased.

DWR staff is working with its contractors to determine ways this limitation might be resolved in the future. To the extent that the EWA purchases previously banked groundwater south of the Delta, negotiating a provision that allows the EWA to maintain this water in the bank for another year or more if it is not needed as initially anticipated would provide needed flexibility. Prior experience indicates that negotiating these terms can be complicated and would have an associated cost. However, this cost needs to be balanced against the potential consequences of extracting the water and then needing to protect it from loss if it is not needed for a fish action before San Luis Reservoir fills and this water is displaced.

2. South of Delta Transfer Sources

Potential partners in areas south of the Delta include:

East Bay Region

- Santa Clara Valley Water District (SCVWD): Local storage to provide flexibility for EWA: pre-delivery; source-shifting (deferred delivery); groundwater banking services (Semitropic Water Service District banking program); sale of CVP contract supply in wet periods

San Joaquin Valley

- SWP contractors including: Kern County Water Agency (KCWA), its member agencies, and regional banking agencies, including Semitropic Water Service District, Cawelo Water District, Tulare Irrigation District, Rosedale-Rio Bravo, Westside Mutual Water

Company, Tejon-Castac, Dudley Ridge: Sale of banked groundwater, by exchange or direct pump-in to aqueduct; groundwater banking services; surface water destined for recharge, by exchange; crop substitution, fallowing

- CVP contractors including users in the San Luis Unit, San Joaquin River exchange contractors and Cross Valley contractors

- Other San Joaquin Valley agencies: groundwater banking services; surface water destined for recharge, by exchange; crop substitution, fallowing

- Other agencies outside of the San Joaquin Valley that bank in the San Joaquin Valley, including SCVWD, Metropolitan Water District of Southern California (MWDSC), Mojave Water Agency

- Friant interests: Surface water by exchange

Southern California

- Mojave Water Agency: Sale of banked groundwater, by exchange; groundwater banking services

I. Variable Assets and Tools Needed

The ROD indicates an average of the purchased and variable assets for the EWA could be 380 TAF. This average includes 185 TAF in purchased assets, 70 TAF from relaxation of the E/I ratio and (b)(2) releases that reach the Delta, 500 cfs of dedicated capacity at Banks pumping plant (estimated at 50 TAF), and use of one-half of the excess capacity at Banks (estimated at 75 TAF).

The 380 TAF number contained in the ROD is potentially misleading because it includes both capacity and real water assets. These two categories cannot be added to provide a meaningful estimate of the average water budget. A more accurate reflection of the average quantity of water available would be to add only those assets that provide water. Table 4 shows the variable assets as defined in the ROD, highlights those that actually provide water, and quantifies the amount of water that has been obtained in 2001 and 2002.

The combination of purchased and variable assets was intended, on average, to provide sufficient assets to meet fish protection needs without reducing deliveries to the contractors. Under certain hydrological conditions, such as these past two dry years, some of the variable assets would not produce any water. In addition, variable tools

such as E/I relaxation produce water in relation to the management of this particular asset.

Table 4
Variable Assets in the CALFED ROD Compared to Actual EWA Benefits in 2001 and 2002

Variable Asset	CALFED ROD Average in TAF	2001 Actual in TAF	2002 Actual in TAF
Variation of E/I ratio	40	2	79
Half of (b)(2) releases that reach the Delta	30	46	3
500 CFS dedicated capacity at SWP Banks PP	55[1]	0 (Capacity only)	0 (Capacity only)
Joint Point Of Diversion (use of excess capacity at SWP Banks PP)	75[2]	0 (Capacity only	0 (Capacity only)
ROD Total	195		
Actual expected Water Total on Average	70	48	82 (20 was retained past San Luis High Point)

Based on this analysis of variable assets and the management of the variable tools during the last two dry years, the EWA can reliably expect to get limited utility from variable assets in years with hydrologic conditions similar to 2001 and 2002. More assets would be possible from the Joint Point of Diversion in wetter years or if the EWA (1) carried debt into the winter in San Luis Reservoir, or (2) had a reliable location south of the Delta where water could be temporarily stored and economically retrieved in the same or subsequent years. More assets could also be obtained as demonstrated with increased management of the E/I relaxation by the Management Agencies in 2002.

[1] Capacity - Represents a quantity expected to be moved using dedicated 500 cfs at Banks from the summer time capability above the 6,680 cfs that was provided in the COE permit until late 2003. A request to extend this capacity has been submitted to the COE by DWR.

[2] Capacity - Represents one half of the available excess capacity at the SWP Banks pumping plant. Under balanced conditions, this asset is only capacity and the EWA must supply water it has purchased or stored upstream to take advantage of this EWA asset. In normal and wet years this asset can result in water during excess conditions for EWA provided that EWA has an existing debt in San Luis or EWA has a location other than San Luis to store this water.

In the near future, acquisition of rights to additional short-term surface storage should be considered by the EWA to achieve this storage capability and protect assets from loss in wet periods. Groundwater storage costs are estimated at about $140 to place and retrieve water in addition to any costs of acquiring the water to be placed in storage and current offers do not allow the EWA to retrieve this stored water in years drier than 60 % SWP allocation years.

Another method to preserve a portion of variable assets is an unbalanced exchange as was done in 2002. In this case a 2 for 1 exchange was made where 2 units of EWA water were provided to SWP contractors prior to high point in San Luis and these users returned 1 unit of water to the EWA after high point. There was no out-of-pocket dollar cost to the EWA for this action, yet it provided "temporary storage" for 20,000 acre-feet, half the assets in San Luis at the time.

The Management Agencies are requesting "place holders" for about 150-300 TAF of fish actions before high point in San Luis Reservoir in most years. If these actions are taken and San Luis Reservoir fills and additional pumping capacity beyond SWP Article 21 demand is available, EWA debt would be extinguished in San Luis Reservoir to the extent of the additional pumping. In such an event, the EWA could gain additional assets at the rather modest cost of pumping the water from the Delta.

However, if San Luis Reservoir does not fill or there is no extra pumping capacity to extinguish the debt, as is most likely in the drier years, then the debt would not be extinguished and the EWA would not have gained any assets. However, experience over the past two years indicates that large placeholders in dry years may not be needed due to lower export rates in these years. For planning purposes, the estimation of variable assets needs to be keyed to the filling of San Luis Reservoir and the availability of pumping beyond the demand for Article 21 water by the SWP contractors in the wetter years. At present, it is unknown how much EWA can accrue.

Thus for the purposes of evaluating the EWA's ability to provide the assets that will be required to satisfy the assumed placeholders for fish actions, it is assumed that some benefits would accrue to the EWA from the extinguishment of debt in San Luis Reservoir in wetter years. In drier years, pumping is less, and therefore EWA placeholders are reduced, the need for large variable assets is less, and the ability to extinguish EWA water debt in San Luis Reservoir is also less (see section V).

J. The EWA Source Shift

Source shift arrangements are EWA assets that are required by the CALFED ROD. Source shifting is a way for the EWA to temporarily borrow water from a water user, while they draw on an alternative (often local) source of water and temporarily reduce their SWP or CVP deliveries. Source shifting is initiated in the spring and summer before San Luis low point, and completed by paying back the water after low point is no longer a concern.

The source shift is a valuable tool for EWA in some years. The largest use of the source shift is to allow the EWA to avoid aggravating water quality or water supply around the low point in San Luis that might otherwise occur if the EWA owed water to the projects at that time.

The source shift allows the EWA to shift demand around low point issues and to carry debt into the fall and winter. By avoiding the need to pay back previous operational curtailments prior to low point, source shifting allows the return of water to the SWP and CVP after August, allowing more efficient use of export capacity and providing extended instream fishery benefits. The source shift can be viewed as a "bridge loan" of water because it must be paid back within a specified period of time.

One issue with the source shift is that it has proven to be just as expensive as purchasing water upstream of the Delta. It cost as much to "rent" this water for four months in 2001 as it did to purchase an equivalent volume upstream of the Delta, but it had a separate purpose and in essence provided a different value to the EWA. Although the EWA will obtain the required contract each year and pay the option fee, the EWA will activate the source shift only when reasonable forecasts of the EWA's impact on San Luis Reservoir storage indicates storage levels of concern, or when the use of water for fishery actions has been unusually high and the EWA needs to carry debt into the following winter.

K. Borrowing and Long-Term Storage

The EWA may borrow water from the SWP or CVP to achieve fishery protections, provided that such borrowing will not result in any reduction in CVP or SWP deliveries. Borrowing is allowed if it will not cause a reduction in deliveries in the year of borrowing or in the subsequent water year. The EWA operating principles anticipate that an EWA asset will be in place as collateral to allow the borrowing of water both within and between years. The ROD specifies that a one-time asset of 200 TAF of stored water or its functional equivalent be provided from south-of Delta sources.

During the EWA "gaming" as much as 100 TAF of this collateral was used to pay back borrowing because there were not sufficient assets in the following year to pay back the EWA debt. Also, the water projects are allowed to borrow water from the EWA when it is agreeable to all parties. In both cases the same principles apply: A proposal is made that includes:(1) the quantity of water to be borrowed, (2) the term of the loan, and (3) specific criteria for repaying the water to the lender.

As stated above, the EWA Operating Principles provided that 200 TAF of stored water (or its functional equivalent) would be provided for the EWA. During the first year of EWA operation, insufficient funds were available to acquire both the 200 TAF of storage space and water. A decision was made in 2001 for the EWA to purchase more than 100 TAF of water above the 185 TAF target in the ROD. This additional water served as the functional equivalent of the 200 TAF of storage that year.

This use of functional equivalency in the first year of the EWA allowed the program to provide sufficient assets to obtain ESA commitments in the absence of long-term environmental documentation covering the acquisition and operation of stored assets, and to remain within the budget constraints of the EWA. In 2002, the EWA purchased approximately 242 TAF of water.

In 2002, the Project Agencies allowed borrowing that is functionally equivalent to this EWA asset and its prudent repayment under the following conditions. These conditions were established in the EWA protocols for 2002 and continue in subsequent years. These protocols provide that in any given year, up to 100 TAF may be borrowed against the subsequent year EWA assets provided the following:

1. The borrowed assets are paid back to the Projects. This occurs when:
   (1) variable assets are used to pay back the debt as they accrue during the next year, or
   (2) hydrology is sufficient to allow San Luis Reservoir to be filled to the level it would have been absent EWA actions that required borrowing.
2. The borrowed assets may be carried over into a subsequent year beyond 2003 if the Project Agencies determine such action:
   (1) will not impact CVP/SWP allocations in 2003 or
   (2) the EWA can provide sufficient source shifting to avoid impacting storage in San Luis Reservoir at its low point in 2003.
3. Sufficient funding must be provided to acquire the necessary purchased assets for 2003 (185 TAF) plus additional water to repay the amount borrowed. If funding is insufficient to acquire the necessary assets and repay debt, and it is not possible to carryover the debt to 2004, the Project Agencies and Management Agencies will meet to consider alternative repayment options. The objective for both the Project and Management Agencies is to ensure continued EWA operations.

This arrangement of functional equivalence for the 200 TAF of storage will be sought for 2003.

V. EWA Fish Actions: Placeholders for EWA Expenditures

Along with the targets for EWA purchased assets, a set of placeholders is necessary for expected expenditure of EWA assets on a monthly basis during the year. The schedule of expected expenditures allows the fishery agencies to assess their water spending during the year and to make decisions to conserve water for later periods based on expected needs.

The Management Agencies have developed placeholders for 2003 that recognize hydrologic variability, the uncertainty of the quantity of variable assets, and current

budget uncertainties. For a dry hydrology scenario, namely a 90 percent exceedance hydrology (that is a year that would be among the 10 percent of the driest years, where stream runoff would be equaled or exceeded 90 percent of the time), placeholders of 230 TAF have been assumed.

In wetter hydrologies, namely a 50 percent exceedance hydrology, placeholders of 450 TAF are identified. This level of assets can be provided by the EWA if San Luis Reservoir fills and spills EWA debt, as previously described.

This water acquisition strategy incorporates assumed placeholders for water expenditures based on the recommended increase in asset purchases, the recognition that variable assets do not in all cases provide water, and the use of the source shift agreements to carry debt from one year to the next. The placeholders are assumed to reflect the coordination with (b)(2) assets. The annual total placeholders for EWA in 2003 based on these assumptions are shown in Table 5. In addition to the placeholders shown, the projects may agree to allow the EWA to carry indebtedness to the projects into the following year with the expectation that the debt would be repaid without affecting project water supplies.

Table 5
EWA Place Holders for 2003 (in TAF)

Year Type	Purchased EWA Assets Delivered	Estimated Variable Assets	Source shift to carry Debt if needed	Total EWA Place Holders
Critical and Dry	210	50	100	230
Normal and Wet	240	50-150 (1)	100	450

(1) Based on extinguishing EWA debt in San Luis Reservoir in wetter years

VI. Recap of EWA in 2001 and 2002

In the first two years the concept of the EWA presented in the CALFED ROD has become a reality in providing additional protection to sensitive Bay/Delta fish species and obtaining the ESA commitments to stabilize the water supplies of the SWP and CVP. Even though 2002 was a dry year (almost a below normal year) both SWP and CVP allocations by late summer to their users south and west of the Delta were at least 70% of contractor requests. Although the EWA has faced many challenges over these past two years, it has been a success.

Table 6 summarizes the level of EWA purchases and variable assets that were obtained in 2001 and 2002 respectively. Table 7 is a summary of the EWA budget each year and the actual costs of implementing the EWA. In the first two years the EWA has achieved over 530 TAF of fishery actions to better protect fish and purchased over 550 TAF of water to replace the water lost from these actions at a cost of about $90 Million.

The average cost of water was about $179 per acre-foot in 2001, which was a dry year resulting in a 39% allocation by the SWP and a 49% allocation for CVP agricultural users south of Delta. In 2002, a wetter but still a dry-to-below-normal year when allocations of 70% were made by both the SWP and CVP, the average price paid for water was about $118 per acre-foot. The decrease in average price from 2001 to 2002 was likely a result of the wetter hydrologic conditions in 2002, more aggressive negotiations by water acquisition staff, and the fact that first year prices were higher simply because of the short timeline to implement the EWA and purchase large amounts of water. Future prices will reflect hydrologic conditions and competition for limited supplies of water as new buyers enter the market.

During 2002, the water purchase strategy reflected in this document was being developed which refocused the water-buying pattern from that established in the ROD in an effort to decrease costs. While costs for purchasing assets for the EWA has been within projections prepared in spring and summer of 2000, the approved EWA budget has not been what was requested. Nevertheless, the EWA has been able to stay within its budget each year and has achieved a window of peace in the constant conflict between increased protection of fish in the Bay/Delta Estuary and the reliability of supply of water for uses south and west of the Delta.

Table 6 - EWA in 2001 and 2002

ASSETS ACQUIRED	**2001 (TAF)**	**2002 (TAF)**
--Purchase UOD	105	145
• Conveyance and Carriage Costs	- 17	- 31
--Purchased SOD		
• State	+159	+ 37
• Federal (in kind in 2001)	+ 72	+ 60
SUB TOTAL	=319	=211
--Operational	+ 55	+ 20 (Net)
TOTAL	=374	=231
Fish Actions	- 290	- 248 (176 State/72 Fed)
Carryover from 2001		+ 84
Carryover to 2002	= 84	
Carryover to 2003		= 66
Source Shift Activation	50 of 100	0 of 100

Table 7
EWA BUDGET 2001 and 2002

Budgeted	**2001**	**2002**
• State	$ 57.5 M	$ 28.3 M
• Federal (01 in kind)	$ 10 M	$ 12.5 M
• Total	$ 67.5 M	$ 40.8 M
Actual		
• Fixed and Forward	$ 6.6 M	$1.0 M
• Water Purchase	$ 60.1 M	$28.5 M
• Acquisitions	336 TAF	242 TAF
• Average Price	$179/AF	$118/AF

APPENDIX F

Notice of Preparation/Notice of Intent

Appendix I

NOTICE OF PREPARATION

MAY 3 1 2002

To: _____

_____
(Address)

_____

From: California Department of Water Resources

Environmental Services Office
(Address)
3251 S Street, Sacramento, CA 95816

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

California Department of Water Resources will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Delores Brown, Environmental Program Manager at the address shown above. We will need the name for a contact person in your **agency**.

Project Title: Draft EIR/EIS for the Environmental Water Account

Project Applicant, if any: _____

Date May 24, 2002

Signature Delores Brown

Title Environmental Program Manager

Telephone 916 227-2407

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

05-28-02P02:37 RCVD

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Notice of Preparation, Revised

To: See attached distribution list

Subject: Revised Notice of Preparation of a Draft Environmental Impact Report/Environmental Impact Statement for the Environmental Water Account

Lead Agencies:

State Agency: Department of Water Resources
3251 S Street
Sacramento, CA 95816
Contact: Delores Brown
(916) 227-2407
delores@water.ca.gov

Federal Agency: Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825
Contact: Dave Robinson
(916) 978-5050
drobinson@mp.usbr.gov

On July 10, 2001, a Notice of Preparation of a Draft Environmental Impact Report/Environmental Impact Statement for the Environmental Water Account was filed with the State Clearinghouse (SCH No. 1996032083). Since that date, conditions that defined the baseline have changed. This revised Notice of Preparation reflects those changes, and clarifies that the purchase of Tier 3 assets will also be addressed as part of the environmental analysis.

Project Description

Pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), the California Department of Water Resources (DWR) and the Bureau of Reclamation (Reclamation) will prepare an EIR/EIS for implementing the Environmental Water Account (EWA) as described in the Programmatic Record of Decision for the CALFED Bay-Delta Program, dated August 28, 2000. A draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) is expected to be available in late summer 2002.

The CALFED Bay-Delta Program is a long-term comprehensive plan to restore ecological health and improve water management for beneficial uses in the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) estuary system. The agencies that signed the Record of Decision/Notice of Determination (ROD) for the *Final Programmatic Environmental Impact Statement/Environmental Impact Report* on August 28, 2000 committed to implement the CALFED Bay Delta Program. The Environmental Water Account (EWA) is one component of the long-term comprehensive plan adopted in the CALFED Bay-Delta Program ROD.

The EWA was established to provide a supplemental water supply for the protection and recovery of fish beyond what currently exists through the pre-CALFED Program environmental baseline (Tier 1). As part of the Multi-Species Conservation Strategy Conservation Agreement and the U.S. Fish and Wildlife Service and National Marine Fisheries Service biological opinions, the CALFED agencies have committed to specified conditions and legal requirements based on the availability of three tiers of assets or alternative sources of project water supply. The components of each tier are described below.

Tier 1, as defined in the ROD, included the following regulatory baseline programs to provide a level of fishery protection:

- 1993 Winter-run Biological Opinion (NMFS);
- 1995 Delta Water Quality Control Plan, State Water Resources Control Board (SWRCB);
- 1995 Delta Smelt Biological Opinion (USFWS);
- management of the full 800,000 acre-feet of CVP yield pursuant to Section 3406(b)(2) (or "(b)(2) Water") of the Central Valley Project Improvement Act (CVPIA); and
- other environmental protections, including Level 2 refuge water supplies as required by the CVPIA.

On March 20, 2002, the U.S. District Court for the Eastern District of California issued a final partial judgment concluding that the Department of Interior must modify components of its methodology for accounting for the 800,000 acre-feet of CVP water supplies dedicated to environmental purposes. While the judgment has been appealed, the Department of Interior (Interior) is considering how its accounting methods and certain changes may be made consistent with the final partial judgment. These possible changes will reduce Interior's flexibility in utilizing the 800,000 acre-feet in upstream reaches of CVP-controlled streams under some hydrologic conditions. A portion of some upstream releases may be charged against EWA variable assets included as part of Tier 2, described below. Also, EWA assets described below may be used to supplement fishery protection measures previously taken as part of Tier 1 operations that are no longer taken as a result of the new accounting methods. Incorporation of these methods into the Existing Conditions is necessary to accurately describe the potential use and impacts of the EWA in the EIR/EIS.

Tier 2 consists of the assets in the EWA combined with the benefits of the Ecosystem Restoration Program. The EWA is a cooperative management program whose purpose is to provide protection to the fish of the Bay-Delta estuary through environmentally beneficial changes in project operations at no uncompensated water cost to the projects' water users. The EWA involves five CALFED agencies that have shared responsibility for implementing the EWA. The three management agencies, the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Game (DFG) have responsibility for determining how to manage

the EWA assets to benefit long-term survival of fish species, including those listed under the State and Federal Endangered Species Acts. The two Project Agencies are DWR and Reclamation. The Project Agencies will cooperate with the Management Agencies in administering the EWA, will have primary responsibility for banking, borrowing, transferring, making operational changes, and arranging for the conveyance of EWA assets.

This approach to fish protection requires the acquisition of alternative sources of project water supply, called "EWA assets," which will be used to augment streamflows, Delta outflows, to modify exports to provide fishery benefits, and to replace the regular project water supply interrupted by the changes to project operations. The replacement water will compensate for reductions in deliveries relative to existing facilities, project operations and the regulatory baseline that result from EWA actions.

The EWA will be implemented over four years unless the Managing Agencies and Project Agencies decide the program should be extended to include future years. The initial EWA assets will be acquired to meet the overall objective of the ROD as identified in Table 1. Assets acquired for the EWA may vary from year to year depending on hydrologic and regulatory conditions, and are therefore not certain.

Table 1. EWA Assets In Accordance with the ROD

Action Description	Water Available Annually (Average)
SWP Pumping of (b)(2)/ERP Upstream Releases[1]	40,000 acre-feet[2]
EWA Use of Joint Point[3]	75,000 acre-feet
Export/Inflow Ratio Flexibility	30,000 acre-feet
500 cfs SWP Pumping Increase	50,000 acre-feet
Purchases – South of Delta	150,000 acre-feet
Purchases – North of Delta[4]	35,000 acre-feet
TOTAL	380,000 acre-feet
Storage acquisition	200,000 acre-feet of storage, filled; acquired in Year 1[5]
Source Shifting agreement	100,000 acre-feet

The EWA will rely on the operation of the SWP, CVP, and the facilities of certain local and regional water agencies to transport or store acquired EWA assets. Several processes

[1] The EWA and the SWP will share equally the (b)(2) and ERP upstream releases pumped by the SWP after they have served their (b)(2) and ERP purposes.
[2] The amount of water derived from the first four actions will vary based on hydrologic conditions.
[3] The EWA will share access to joint point, with the CVP receiving 50% of the benefits.
[4] This is the amount of water targeted for the first year; higher amounts are anticipated in subsequent years. North of Delta assets assume a twenty- percent carriage loss. The actual quantity of water acquired will be approximately 45,000 acre-feet.
[5] Of the 200,000, 100,000 acre-feet would be retrievable within the year.

may be used to acquire EWA assets and/or functional equivalent sources of project water supply to offset the effects of operational curtailments under the EWA program so that deliveries will not be affected. The EWA will acquire only the amount of water that is needed, and may not purchase all of the water that is offered in a given year. If the program is extended to include future years, then the agencies will determine the appropriate size and composition of the EWA, and the appropriate environmental review.

Tier 3 consists of the ability of the CALFED agencies to make additional water available as needed to meet Endangered Species Act requirements beyond those quantities specified in Tier 1 and Tier 2. Tier 3 has been designed to be used when Tier 1 and Tier 2 assets are insufficient or exhausted and the Management Agencies determine that jeopardy to the survival and recovery of an endangered or threatened species will occur unless additional measures are taken. The appropriate Management Agencies will make the determination that the proposed project operations would jeopardize the continued existence of the effected species. Under these circumstances, the EWA would purchase additional quantities of water to support operational curtailments necessary to avoid jeopardizing the species at risk.

Location of Project

The project is located within the state of California and may include any and all parties who meet criteria defined by the Project Agencies and Managing Agencies for meeting the objectives of the EWA

Alternative Measures

The ROD for the CALFED Bay Delta Program described broad actions to be taken as part of a long-term plan to fix the problems in the Delta: ecosystem quality, water quality, supply reliability, and levee system integrity. As described above, the EWA is one element of the long-term plan to which the signatory agencies have committed. This EIR/EIS will focus on a project specific evaluation of alternative strategies for meeting the objectives of the EWA, including purchasing variable quantities of water, banking, borrowing, transferring water, and using functional equivalent water assets to achieve the objectives of the EWA.

Probable Environmental Effects

It is generally recognized that certain types of water transfers can result in adverse, as well as beneficial impacts on the environment and certain local economic conditions. For example, fallowing may reduce the quantity of agricultural production in the source area and thereby affect the local economy, while groundwater transfers or transfers of surface water with groundwater replacement may result in lower groundwater levels, lower groundwater quality, and higher energy costs. The extent of these impacts will depend on

the amount and type of such transfers in a given area. This environmental document will evaluate potential project-specific and cumulative impacts, and identify and incorporate mitigation measures when impacts are identified.

Scoping Meetings

A series of public scoping meetings were held in late summer 2001 to solicit public input on alternatives, concerns, and issues to be addressed in the EIS/EIR. No additional scoping meetings are planned.

Written Comments

Within 30 days after receiving the Notice of Preparation, each Responsible Agency shall provide the Lead Agency with specific detail about the scope, significant environmental issues, reasonable alternatives, and mitigation measures related to the Responsible Agency's area of statutory responsibility that will need to be explored in the draft EIR.

Comments from individual respondents, including names and home addresses of respondents, will be made available for public review. Individual respondents may request that their home address be withheld from public disclosure, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold a respondent's identity from public disclosure, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public disclosure in their entirety.

Written comments on the scope of the EIR/EIS should be sent to Ms. Delores Brown, Department of Water Resources, 3251 S Street, Sacramento, CA 95816 or Mr. Dave Robinson, Bureau of Reclamation, 2800 Cottage Way, MP-700, Sacramento, CA 95825.

Barbara McDonnell

Barbara McDonnell
Chief, Environmental Services Office

Date May 28, 2002

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

Environmental Water Account, San Francisco Bay/Sacramento-San Joaquin Delta, CA

AGENCY: Bureau of Reclamation/ California Department of Water Resources, Interior.

ACTION: Notice of intent to prepare an environmental impact statement/ environmental impact report (EIS/EIR).

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), the Bureau of Reclamation (Reclamation) and the California Department of Water Resources (DWR) intend to prepare an EIS/EIR for implementing the Environmental Water Account (EWA) as described in the Programmatic Record of Decision for the CALFED Bay-Delta Program.

The EWA has been established to provide water for the protection and recovery of fish beyond water available through existing regulatory actions related to State Water Project/Central Valley Project operations. The EWA is a cooperative management program whose purpose is to provide protection to the fish of the Bay-Delta estuary through environmentally beneficial changes in project operations at no uncompensated water cost to the projects' water users. This approach to fish protection requires the acquisition of alternative sources of project water supply, called the "EWA assets," which will be used to augment streamflows, Delta outflows, to modify exports to provide fishery benefits, and to replace the regular project water supply interrupted by the changes to project operations. The replacement water will compensate for reductions in deliveries relative to existing facilities, project operations and the regulatory baseline that result from EWA actions.

Reclamation will be the lead federal agency; the U.S. Fish and Wildlife Service and National Marine Fisheries Service will be cooperating agencies for the EIS/EIR in accordance with NEPA. DWR will be the lead state agency; the Department of Fish and Game will be a responsible agency for the EIS/EIR in accordance with CEQA. A draft EIS/EIR is expected to be available in December 2001.

DATES: A series of public scoping meetings will be held to solicit public input on alternatives, concerns, and issues to be addressed in the EIS/EIR as follows:

- Thursday, July 19, 10–12 noon, Sacramento, CA.
- Thursday, July 19, 7–9 p.m., Chico, CA.
- Monday, July 23, 7–9 p.m., Oakland, CA.
- Tuesday, July 24, 7–9 p.m., Tracy, CA.
- Wednesday, July 25, 7–9 p.m., Bakersfield, CA.
- Thursday, July 26, 7–9 p.m., Los Angeles, CA.

Written comments on the scope of the EIS/EIR may be mailed to Reclamation at the address below by August 20, 2001.

ADDRESSES: The meeting locations are:

- Sacramento at Best Western Expo Inn, 1413 Howe Avenue.
- Chico at Chico Area Recreation District Community Center, 545 Vallambrosa.
- Oakland at the Federal Building, Room H, 5th Floor, North Tower.
- Tracy at the VFW Hall, 430 West Grant Line Road.
- Bakersfield at the Double Tree Inn, 3100 Camino Del Rio Court, Sierra Room.
- Los Angeles at the Los Angeles Convention Center, 1201 South Figueroa Street, Room 513.

Written comments on the scope of the EIS/EIR should be sent to Ms. Michelle Light, Bureau of Reclamation, 2800 Cottage Way, MP–700, Sacramento, CA 95825.

FOR FURTHER INFORMATION CONTACT: Ms. Light at the above address or by telephone at 916–978–5060 or TDD 1–800–735–2922; or Ms. Delores Brown, Department of Water Resources, 3251 S Street, Sacramento, CA 95816 or by telephone at 916–227–2407.

SUPPLEMENTARY INFORMATION:

Background

The CALFED Bay Delta Program is a long-term comprehensive plan to restore ecological health and improve water management for beneficial uses in the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) estuary system. The agencies that signed the Record of Decision/Notice of Determination (ROD) for the Final Programmatic Environmental Impact Statement/Environmental Impact Report on August 28, 2000, committed to implement the CALFED Bay Delta Program. The Environmental Water Account (EWA) is one component of the long-term comprehensive plan adopted in the CALFED Bay-Delta Program ROD.

To achieve the program purpose, the long-term plan addresses problems of the Bay-Delta system within each of four resource categories: ecosystem quality, water quality, water supply reliability, and levee system integrity. CALFED agencies identified a need in the ROD for additional fisheries protection measures above and beyond the existing baseline regulatory measures to speed recovery of listed fish species. The establishment of the EWA was a key component of this additional protection.

The EWA is a cooperative management program involving five CALFED agencies that have responsibility for implementing the EWA. The three management agencies, the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Game (DFG), have primary responsibility for determining how to manage the EWA assets to benefit long-term survival of fish species, including those listed under the State and Federal Endangered Species Acts. The two Project Agencies are Reclamation and the Department. The Project Agencies will cooperate with the Management Agencies in administering the EWA, including banking, borrowing, transferring, selling, making operational changes, and arranging for the conveyance of EWA assets.

Current Activities

Following the signing of the ROD in August of 2000, the California Department of Water Resources undertook the initial required acquisitions and one-year transfers. As of June 2001, 294,000 acre-feet had been acquired of which 281,000 acre-feet was used to protect threatened and endangered fish species. A critique and scientific review of the first year of EWA implementation will be conducted this summer, and the results will be used to help formulate strategies for managing the EWA in subsequent years.

Alternative Measures

The ROD for the CALFED Bay Delta Program described broad actions to be taken as part of a long-term plan to fix the problems in the Delta: ecosystem, water quality, water supply reliability and levee stability. As described above, the EWA is one element of the long-term plan to which the signatory agencies have committed. This EIS/EIR will focus on a project specific evaluation of the EWA including alternative strategies for banking, borrowing, transferring, and using water assets to achieve the EWA.

Our practice is to make comments, including names and home addresses of respondents, available for public review. Individual respondents may request that we withhold their home address from public disclosure, which

we will honor to the extent allowable by law. There also may be circumstances in which we would withhold a respondent's identity from public disclosure, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public disclosure in their entirety.

Dated: June 22, 2001.

Laura Allen,

Acting Regional Environmental Officer.

[FR Doc. 01–16928 Filed 7–5–01; 8:45 am]

BILLING CODE 4310–MN–P

INTERNATIONAL TRADE COMMISSION

[Investigations Nos. 731–TA–951 and 952 (Preliminary)]

Blast Furnace Coke From China and Japan

AGENCY: International Trade Commission.

ACTION: Institution of antidumping investigations and scheduling of preliminary phase investigations.

SUMMARY: The Commission hereby gives notice of the institution of investigations and commencement of preliminary phase antidumping investigations Nos. 731–TA–951 and 952 (Preliminary) under section 733(a) of tne Tariff Act of 1930 (19 U.S.C. 1673b(a)) (the Act) to determine whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from China and Japan of blast furnace coke provided for in statistical reporting numbers 2704.00.0025 and 2704.00.0050 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value. Unless the Department of Commerce extends the time for initiation pursuant to section 732(c)(1)(B) of the Act (19 U.S.C. 1673a(c)(1)(B)), the Commission must reach a preliminary determination in antidumping investigations in 45 days, or in this case by August 13, 2001. The Commission's views are due at Commerce within five business days thereafter, or by August 20, 2001.

For further information concerning the conduct of these investigations and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and B (19 CFR part 207).

EFFECTIVE DATE: June 29, 2001.

FOR FURTHER INFORMATION CONTACT: Fred Fischer (phone: 202–205–3179; e-mail: *ffischer@usitc.gov*), Office of Investigations, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000. General information concerning the Commission may also be obtained by accessing its internet server (*http://www.usitc.gov*). The public record for these investigations may be viewed on the Commission's electronic docket (EDIS–ON–LINE) at *http://dockets.usitc.gov/eol/public.*

SUPPLEMENTARY INFORMATION:

Background.—These investigations are being instituted in response to a petition filed on June 29, 2001, by (1) the Committee for Fair Coke Trade and its member producers: Acme Steel Co., Chicago, IL; DTE Energy Services Inc., Ann Arbor, MI; Koppers Industries, Inc., Pittsburgh, PA; and Shenango Inc., Pittsburgh, PA; and (2) the United Steelworkers of America, AFL–CIO, Pittsburgh, PA.

Participation in the investigations and public service list.—Persons (other than petitioners) wishing to participate in the investigations as parties must file an entry of appearance with the Secretary to the Commission, as provided in sections 201.11 and 207.10 of the Commission's rules, not later than seven days after publication of this notice in the **Federal Register**. Industrial users and (if the merchandise under investigation is sold at the retail level) representative consumer organizations have the right to appear as parties in Commission antidumping investigations. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to these investigations upon the expiration of the period for filing entries of appearance.

Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and BPI service list.—Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in these investigations available to authorized applicants representing interested parties (as defined in 19 U.S.C. 1677(9)) who are parties to the investigations under the APO issued in the investigations, provided that the application is made not later than seven days after the publication of this notice in the **Federal Register**. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Conference.—The Commission's Director of Operations has scheduled a conference in connection with these investigations for 9:30 a.m. on July 20, 2001, at the U.S. International Trade Commission Building, 500 E Street SW., Washington, DC. Parties wishing to participate in the conference should contact Fred Fischer (phone: 202–205–3179; e-mail: *ffischer@usitc.gov*) not later than July 16, 2001, to arrange for their appearance. Parties in support of the imposition of antidumping duties in these investigations and parties in opposition to the imposition of such duties will each be collectively allocated one hour within which to make an oral presentation at the conference. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the conference.

Written submissions.—As provided in sections 201.8 and 207.15 of the Commission's rules, any person may submit to the Commission on or before July 25, 2001, a written brief containing information and arguments pertinent to the subject matter of the investigations. Parties may file written testimony in connection with their presentation at the conference no later than three days before the conference. If briefs or written testimony contain BPI, they must conform with the requirements of sections 201.6, 207.3, and 207.7 of the Commission's rules. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means.

In accordance with sections 201.16(c) and 207.3 of the rules, each document filed by a party to the investigations must be served on all other parties to the investigations (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Authority: These investigations are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.12 of the Commission's rules.

ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX G

Water Quality Technical Appendix

Appendix G
Water Quality Technical Appendix

The Water Quality Technical Appendix supplements Chapter 5 Water Quality in the Environmental Water Account (EWA) Draft EIS/EIR. The sections below provide detailed information about constituents of concern listed in the Clean Water Act and beneficial uses of California waters defined in the California Water Code. The following sections discuss water quality in the San Joaquin-Sacramento Delta, and general water quality characteristics of reservoirs. The appendix ends with a detailed description of water quality effects in the Upstream from the Delta Region under the Flexible Purchase Alternative.

1.1 Constituents of Concern of 303(d) Listed Waterbodies

1.1.1 Cadmium

Cadmium is an element that occurs naturally in the earth's crust. Pure cadmium is a soft, silver-white metal; however cadmium is not usually found in the environment as a metal. It is usually found as a mineral combined with other elements such as oxygen (cadmium oxide), chlorine (cadmium chloride), or sulfur (cadmium sulfate, cadmium sulfide). These compounds are solids that may dissolve in water but do not evaporate or disappear from the environment. All soils and rocks, including coal and mineral fertilizers, have some cadmium in them. Cadmium is often found as part of small particles present in air. Most cadmium used in this country is extracted during the production of other metals such as zinc, lead, or copper. Cadmium has many uses in industry and consumer products, mainly batteries, pigments, metal coatings, and plastics (ATSDR 1999a).

Cadmium enters air from mining, industry, and burning coal and household wastes. Particles can travel long distances in the air before falling to the ground or water. Cadmium can also enter water and soil from waste disposal and spills or leaks at hazardous waste sites. Fish, plants, and animals take up cadmium from the environment. Cadmium stays in the body a very long time and can build up from many years of exposure to low levels. Exposure to cadmium can occur through breathing contaminated workplace air (battery manufacturing, metal soldering or welding); eating foods containing it; low levels in all foods (highest in shellfish, liver, and kidney meats); breathing cadmium in cigarette smoke (doubles the average daily intake); drinking contaminated water; and breathing contaminated air near the burning of fossil fuels or municipal waste.

Breathing high levels of cadmium severely damages the lungs and can cause death. Eating food or drinking water with very high levels severely irritates the stomach, leading to vomiting and diarrhea. Long-term exposure to lower levels of cadmium in air, food, or water leads to a buildup of cadmium in the kidneys and possible kidney disease. Other long-term effects are lung damage and fragile bones. Animals given

cadmium in food or water had high blood pressure, iron-poor blood, liver disease, and nerve or brain damage. Federal agencies have made several recommendations to protect human health, including:

- The EPA has set a limit of 5 parts of cadmium per billion parts of drinking water (5 ppb). The EPA doesn't allow cadmium in pesticides (ATSDR 1999a).
- The FDA limits the amount of cadmium in food colors to 15 parts per million (15 ppm) (ATSDR 1999a).
- The OSHA limits workplace air to 100 micrograms cadmium per cubic meter (100 $\mu g/m^3$) as cadmium fumes and 200 µg cadmium/m^3 as cadmium dust (ATSDR 1999a).

1.1.2 Chlorpyrifos

Chlorpyrifos is an insecticide that is a white crystal-like solid with a strong odor. It does not mix well with water, so it is usually mixed with oily liquids before it is applied to crops or animals. It may also be applied to crops in a capsule form. Chlorpyrifos has been widely used in homes and on farms. In the home, it is used to control cockroaches, fleas, and termites; it is also used in some pet flea and tick collars. On the farm, it is used to control ticks on cattle and as a spray to control crop pests (ATSDR 1997).

Chlorpyrifos enters the environment through direct application to crops, lawns, houses and other buildings. It may also enter the environment through volatilization, spills, and the disposal of chlorpyrifos waste. Chlorpyrifos sticks tightly to soil particles. As it does not mix well with water, it rarely enters local water systems. Once in the environment, it is broken down by sunlight, bacteria, or other chemical processes. Exposure to chlorpyrifos occurs when using it to control household pests such as termites, fleas or cockroaches; breathing air outside of homes or other buildings where chlorpyrifos was applied to the ground around the foundation to control termites; breathing air in a field where chlorpyrifos was sprayed on to crops; and, touching soil or crops in a field where it was sprayed or touching freshly sprayed areas in a house.

Breathing the air in an area in which chlorpyrifos has recently been sprayed may produce a variety of effects on the nervous system including headaches, blurred vision, watering of the eyes (called lacrimation), excessive salivation, runny nose, dizziness, confusion, muscle weakness or tremors, nausea, diarrhea, and sudden changes in heart rate. The effect depends on the amount in the air and length of time exposed. Federal agencies have made several recommendations to protect human health, including:

- The EPA requires that spills or accidental releases into the environment of 1 pound or more of chlorpyrifos be reported to the EPA (ATSDR 1997).

- The EPA also recommends that children not drink water with chlorpyrifos levels greater than 0.03 milligrams per liter (mg/L) of water (0.03 mg/L) for periods of 1–10 days (ATSDR 1997).

- The FDA has set tolerances for chlorpyrifos for agricultural products ranging from 0.05 to 15 parts chlorpyrifos per million parts of food (0.05–15 ppm) (ATSDR 1997).

1.1.3 Copper

Copper is a reddish metal that occurs naturally in rocks, soil, water, and air; and, also occurs naturally in plants and animals. Metallic copper can be easily molded or shaped. Metallic copper can be found in the U.S. penny, electrical wiring, and some water pipes. Metallic copper is also found in mixtures (called alloys) with other metals such as brass and bronze. Copper is also found as part of other compounds forming salts. Copper salts occur naturally, but are also manufactured. The most common copper salt is copper sulfate. Most copper compounds are blue-green in color. Copper compounds are commonly used in agriculture to treat plant diseases like mildew, for water treatment and, as preservatives for wood, leather, and fabrics (ATSDR 2002h).

Copper can enter the environment from the mining of copper and other metals and from factories that make or use metallic copper or copper compounds. It can also enter the environment through domestic waste water, combustion of fossil fuels and wastes, wood production, phosphate fertilizer production, and natural sources (e.g., windblown dust from soils, volcanoes, decaying vegetation, forest fires, and sea spray). Copper in soil strongly attaches to organic material and minerals, but does not break down in the environment. Copper that dissolves in water becomes rapidly bound to particles suspended in the water. Copper does not typically enter groundwater. Copper carried by particles emitted from smelters and ore processing plants is carried back to the ground by gravity or in rain or snow. Exposure to copper occurs through breathing air, drinking water, eating food, and by skin contact with soil, water, or other copper-containing substances. Plants and animals can take up some copper in the environment.

Copper is essential for good health, but high amounts can be harmful. Long-term exposure to copper dust can irritate the nose, mouth, and eyes, and cause headaches, dizziness, nausea, and diarrhea. Drinking water with higher than normal levels of copper may cause vomiting, diarrhea, stomach cramps, and nausea. Ingestion of large amounts of copper can cause liver and kidney damage and even death. Federal agencies made several recommendations to protect human health, including:

- The EPA has determined that drinking water should not contain more than 1.3 milligrams of copper per liter of water (1.3 mg/L) (ATSDR 2002h).

- The OSHA has set a limit of 0.1 mg per cubic meter (0.1 mg/m^3) of copper fumes (vapor generated from heating copper) and 1 mg/m^3 of copper dusts (fine metallic copper particles) and mists (aerosol of soluble copper) in workroom air during an 8-hour work shift, 40-hour workweek (ATSDR 2002h).

- The Food and Nutrition Board of the Institute of Medicine recommends dietary allowances (RDAs) of 340 micrograms (340 µ g) of copper per day for children aged 1-3 years, 440 g/day for children aged 4-8 years, 700 µg/day for children aged 9-13 years, 890 µg/day for children aged 14-18 years, and 900 g/day for adults (ATSDR 2002h).

1.1.4 DDT

- DDT (dichlorodiphenyltrichloroethane) is a pesticide once widely used to control insects in agriculture and insects that carry diseases such as malaria. DDT is a white, crystalline solid with no odor or taste. Its use in the U.S. was banned in 1972 because of damage to wildlife, but is still used in some countries. DDE (dichlorodiphenyldichloroethylene) and DDD (dichlorodiphenyldichloroethane) are chemicals similar to DDT that contaminate commercial DDT preparations (ATSDR 2002i).

- DDT entered the environment when it was used as a pesticide; it still enters the environment due to current use in other countries. DDT sticks strongly to soil; most DDT in soil is broken down slowly to DDE and DDD by microorganisms. Half the DDT in soil will break down in 2-15 years, depending on the type of soil. Only a small amount will go through the soil into groundwater; DDT does not dissolve easily in water. DDT, and especially DDE, build up in plants and in fatty tissues of fish, birds, and other animals. Exposure to DDT occurs through eating contaminated foods, such as root and leafy vegetable, fatty meat, fish, and poultry, but levels are very low; eating contaminated imported foods from countries that still allow the use of DDT to control pests; breathing contaminated air or drinking contaminated water near waste sites and landfills that may contain higher levels of these chemicals; infants fed on breast milk from mothers who have been exposed; and breathing or swallowing soil particles near waste sites or landfills that contain these chemicals.

- DDT affects the nervous system. People who accidentally swallowed large amounts of DDT became excitable and had tremors and seizures. These effects went away after the exposure stopped. No effects were seen in people who took small daily doses of DDT by capsule for 18 months. A study in humans showed that women who had high amounts of a form of DDE in their breast milk were unable to breast feed their babies for as long as women who had little DDE in the breast milk. Another study in humans showed that women who had high amounts of DDE in breast milk had an increased chance of having premature babies. In animals, short-term exposure to large amounts of DDT in food affected the nervous system, while long-term exposure to smaller amounts affected the

liver. Short-term oral exposure to small amounts of DDT or its breakdown products may also have harmful effects on animal reproduction. Federal agencies have made several recommendations to protect human health, including:

- The OSHA sets a limit of 1 milligram of DDT per cubic meter of air (1 mg/m^3) in the workplace for an 8-hour shift, 40-hour workweek (ATSDR 2002i).

- The FDA has set limits for DDT, DDE, and DDD in foodstuff at or above which the agency will take legal action to remove the products from the market (ATSDR 2002i).

1.1.5 Diazinon

Diazinon is the common name of an organophosphorus insecticide used to control pest insects in soil, on ornamental plants, and on fruit and vegetable field crops. It is also used to control household pests such as flies, fleas, and cockroaches. This chemical is manufactured and does not occur naturally in the environment. The pure chemical is a colorless and practically odorless oil. Most of the diazinon used is in liquid form, but it is possible to be exposed to the chemical in a solid form. Diazinon does not burn easily and does not dissolve easily in water (ATSDR. 1996a).

Most environmental diazinon contamination comes from agricultural and household application to control insects. Diazinon may also enter the environment during the manufacturing process. It is often sprayed on crops and plants, so small particles of the chemical may be carried away from the field or yard before falling to the ground. After diazinon has been applied, it may be present in the soil, surface waters, and on the surface of the plants. Diazinon on soil and plant surfaces may be washed into surface waters by rain. In the environment, diazinon is rapidly broken down into a variety of other chemicals. It can move through the soil and contaminate ground water. Diazinon is not likely to build up to high or dangerous levels in animal or plant foods. Exposure to diazinon occurs through contact with contaminated soils or contaminated runoff water or groundwater. People who work in the manufacture and professional application of diazinon have the most significant exposure to this insecticide.

Most cases of unintentional diazinon poisoning in people have resulted from short exposures to very high concentrations of the material. Diazinon affects the nervous system. Some mild symptoms include headache, dizziness, weakness, feelings of anxiety, constriction of the pupils of the eye, and not being able to see clearly. More severe symptoms include nausea and vomiting, abdominal cramps, slow pulse, diarrhea, pinpoint pupils, difficulty breathing, and coma. The EPA has developed 1- and 10-day health advisories (maximum recommended drinking water concentrations) for adults and children of 20 micrograms per liter of water (20 µg/L) (ATSDR 1996a).

1.1.6 Dioxin Compounds

The chlorinated dibenzo-p-dioxins (CDDs) are a class of compounds that are loosely referred to as dioxins. There are 75 possible dioxins. One of these compounds is called 2,3,7,8-TCDD. It is one of the most toxic of the CDDs and is the one most studied. In the pure form, CDDs are crystals or colorless solids. CDDs enter the environment as mixtures containing a number of individual components. 2,3,7,8-TCDD is odorless and the odors of the other CDDs are not known. CDDs are not intentionally manufactured by industry except for research purposes or as by-products. They (mainly 2,3,7,8-TCDD) may be formed during the chlorine bleaching process at pulp and paper mills. CDDs are also formed during chlorination by waste and drinking water treatment plants. They can occur as contaminants in the manufacture of certain organic chemicals. CDDs are released into the air in emissions from municipal solid waste and industrial incinerators (ATSDR 1998).

When released into the air, some CDDs may be transported long distances, even around the globe. When released in waste waters, some CDDs are broken down by sunlight, some evaporate to air, but most attach to soil and settle to the bottom sediment in water. CDD concentrations may build up in the food chain, resulting in measurable levels in animals. Eating food, primarily meat, dairy products, and fish, makes up more than 90% of the intake of CDDs for the general population. Exposure could also occur by breathing low levels in air and drinking low levels in water; skin contact with certain pesticides and herbicides; living near an uncontrolled hazardous waste site containing CDDs or incinerators releasing CDDs; and working in industries involved in producing certain pesticides containing CDDs as impurities, working at paper and pulp mills, or operating incinerators.

The most noted health effect in people exposed to large amounts of 2,3,7,8-TCDD is chloracne. Chloracne is a severe skin disease with acne-like lesions that occur mainly on the face and upper body. Other skin effects noted in people exposed to high doses of 2,3,7,8-TCDD include skin rashes, discoloration, and excessive body hair. Changes in blood and urine that may indicate liver damage also are seen in people. Exposure to high concentrations of CDDs may induce long-term alterations in glucose metabolism and subtle changes in hormonal levels. In certain animal species, 2,3,7,8-TCDD is especially harmful and can cause death after a single exposure. Exposure to lower levels can cause a variety of effects in animals, such as weight loss, liver damage, and disruption of the endocrine system. In many species of animals, 2,3,7,8-TCDD weakens the immune system and causes a decrease in the system's ability to fight bacteria and viruses. In other animal studies, exposure to 2,3,7,8-TCDD has caused reproductive damage and birth defects. The EPA has set a limit of 0.00003 micrograms of 2,3,7,8-TCDD per liter of drinking water (0.00003 µg/L) (ATSDR 1998). Discharges, spills, or accidental releases of 1 pound or more of 2,3,7,8-TCDD must be reported to EPA. The FDA recommends against eating fish and shellfish with levels of 2,3,7,8-TCDD greater than 50 parts per trillion (50 ppt) (ATSDR 1998).

1.1.7 Electrical Conductivity

Conductivity is the ability of water to conduct an electrical current. Dissolved ions in the water are conductors. The major positively charged ions are sodium, (Na^{+}) calcium (Ca^{+2}), potassium (K^{+}) and magnesium (Mg^{+2}). The major negatively charged ions are chloride (Cl^{-}), sulfate (SO_4^{-2}), carbonate (CO_3^{-2}), and bicarbonate (HCO_3^{-}). Nitrates (NO_3^{-2}) and phosphates (PO_4^{-3}) are minor contributors to conductivity, although very important biologically.

Salinity is a measure of the amount of salts in the water. Because dissolved ions increase salinity as well as conductivity, the two measures are related. Conductivity can affect the quality of water used for irrigation or drinking. Most aquatic biota tolerate a range of conductivity. However, the ionic composition of the water can be critical. For example, cladocerans (water fleas) are far more sensitive to potassium chloride than sodium chloride at the same concentration. Conductivity will vary with water source: groundwater, water drained from agricultural fields, municipal waste water, rainfall. Therefore, conductivity can indicate groundwater seepage or a sewage leak.

Conductivity is measured by an electronic probe which applies voltage between two electrodes. The drop in voltage is used to measure the resistance of the water, which is then converted to conductivity. Conductivity is the inverse of resistance and is measured in the amount of conductance over a certain distance. The units are mhos/cm, where mhos are the reciprocal of ohms. Salinity can be measured using a hydrometer or a refractometer. The hydrometer measures specific gravity, which can then be converted to salinity. The refractometer measures the ability of the water to refract light. Scientists also measure salinity by determining the amount of chlorine in seawater. Salinity is measured in grams/liter (g/l) or parts per thousand (ppt) in sea water.

In fresher waters, total dissolved solids is often measured instead of salinity. It is measured by filtering a sample, drying the water that has been filtered, and then weighing the remaining solids. TDS is the solid material left in the water after it has been dried and evaporated. The units of TDS are milligrams/liter (mg/l) or parts per million (ppm).

Several factors affect electrical conductivity in the water. Soil and rocks release ions into the waters that flow through or over them. The geology of a certain area will determine the amount and type of ions. The salinity and conductivity of coastal rivers is influenced by tides. Sea spray can carry salts into the air, which then fall back into the rivers with rainfall. The flow of rivers into estuaries can greatly affect salinity as well as the location of the estuarine mixing zone.

The water quality objectives for conductivity vary from region to region. Water quality objectives are included in the RWQCB Basin Plans. In some cases, there are no objectives for conductivity, but there are for total dissolved solids (TDS). Conductivity can be estimated from TDS values and vice versa.

1.1.8 Exotic Species

A species is a group of organisms all of which have a high degree of physical and genetic similarity, generally interbreed only among themselves, and show persistent differences from members of allied groups of organisms. An exotic species is defined as any species that is not native to a particular ecosystem, including its seeds, eggs, spores, or other biological material capable of propagating that species. Synonyms for exotic species include non-native species, nonindigenous species, and alien species. When an exotic species is introduced into a new ecosystem, there is potential for significant disruption of the balance among existing native and naturalized species, especially if the exotic species competes with native species for resources and no predators are able to control the population of the exotic species. When an exotic species does or is likely to cause economic or environmental harm, or harm to human health, it is known as an "invasive species." Yet another synonym for such an organism occurring in or near waters is "aquatic nuisance species," or ANS, as defined in the National Invasive Species Act (NISA). Competition with and predation by invasive species affects 49 percent of endangered or threatened species in the United States (Wilcove et al. 1998). About 42 percent of the species listed as endangered or threatened under the Endangered Species Act of 1973 are at risk primarily because of exotic species (Pimentel et al. 1999).

Although the effects of many exotic species introductions remain unmeasured, it is clear that some "invasive" exotic species, or ANS, are having significant economic and ecological impacts as well as human-health consequences. Today, the main method by which exotic species are transported between biogeographic regions of the Earth is moving species via ships on their exteriors or in their ballast water (SERC 2000). Ballast-mediated introductions such as the zebra mussel in the U.S. Great Lakes and toxic dinoflagellates in Australia have had tremendous ecological and economic impacts. Water-borne diseases such as cholera and hepatitis can be transported with ballast water (Knight 1999; Harvell et al. 1985). While the ship vector is probably the greatest source, there are other sources of exotic species to aquatic ecosystems, which include the aquaculture and baitfish industries, dumping of aquariums into surface waters, and intentional introductions.

1.1.9 Furan Compounds

The polychlorinated dibenzofurans (PCDFs) are a group of 135 halogenated uicyclic aromatic hydrocarbons with many structural, distribution, and toxicity similarities to the dioxins (polychlorinated dibenzodioxins, PCDDs). Very little is known about the individual furans because they typically occur as mixtures of different forms. For this reason, the sources, environmental fates, and health effects of the PCDFs will be discussed as a group, with mention of individual furans when appropriate.

PCDFs are not intentionally produced for any commercial purposes. PCDF contamination of products or processes has not caused the banning or restriction of use in the U.S. Just like the PCDDs, PCDFs are unwanted trace impurities of PCBs, chlorinated phenols such as hexachlorobenzene or pentachlorophenol, and phenoxy

herbicides. The production of many of these compounds has been restricted or banned (e.g., PCBs), but products containing them may still be in use (e.g., electrical transformers). Example concentrations are listed below:

- Phenoxy herbicides had 0.008-0.15 mg/kg PCDFs (Rappe et al. 1978 1979; Ah-ling et al. 1977).
- Pentachlorophenol has contained 59.8-790 mg/kg PCDFs (Rappe et al. 1979).
- Hexachiorobenzene was found to contain 0.35 to 58.3 mg/kg PCDFs (Villanueva et al. 1974).
- PCDF contaminants in polychiorinated biphenyls (PCBs) have been measured at levels of 0.8 to 13.6 mg/kg (CNRC 1978).
- Incineration of municipal and industrial wastes at too low a temperature (~800^{o} C) can produce PCDFs, which can be released to the environment either in flue gas or adsorbed to fly ash (U.S. EPA 1986).

The compound 2,3,7,8 TCDF is the only PCDF for which a number of physical and chemical properties have been determined. Based on these properties, and its structural similarity to the dioxin 2,3,7,8, TCDD, 2,3,7,8 TCDF is likely to be only slightly soluble in water and strongly absorb to soil. It also has a high potential for bioaccumulation (Hansch and Leo 1981). Because 2,3,7,8 TCDF strongly sorbs to sediments, it persists in soils and aquatic systems. Some photodegradation can occur with tetra- and penta-CDFs losing chlorine atoms and forming tri-CDFs. Very little is known about the biodegradation of PCDFs, but they are probably like the dioxins and relatively resistant to biodegradation (U.S. EPA 1986b).

Human exposure to PCDFs occurred in two major incidents when PCBs (containing a mixture of PCDFs) accidentally contaminated rice oil in Japan and China. The resulting symptoms (attributed to 2,3,4,7,8 PeCDF exposure) consisted of liver disturbances, skin lesions, excessive skin pigmentation, temporary blindness, numbness of feet and hands, and weakness (Kuratsune et al. 1972; Kuratsune 1975, 1980; Urabe and Asahi 1985; Lu and Wu 1985). Studies of potential carcinogenesis in humans are still ongoing. No tests have been conducted with animals (U.S. EPA 1986b). Reproductive effects include:

- 1,2,3,4,7,8 PeCDF, 1,2,3,7,8 PeCDF and 1,2,3,4,7,8 HxCDF can cause kidney damage and cleft palate in mouse fetuses (U.S. EPA 1986b).

The four PCDFs (2,8 DCDF; 3,6 DCDF; 2,3,7,8 TCDF; and OCDF) tested for mutagenicity in bacteria had negative results (U.S. EPA 1986b). The Toxicological Effects Indices are:

- Reference Dose (RfD), 2,3,7,8 TCDF: 2x10-5 CLg/kg/day (U.S. EPA 1986b).

- Reference Dose (RfD), 2,3,4,7,8 PeCDF: 3x10-6 t.tg/kg/day (U.S. EPA 1986b).

- Oral LD50 values for 2,3,7,8 TCDF: guinea pigs, 5-10 pg/kg; mice and rats, > 6000 PgAcg; rhesus monkey, 1000 pg/kg (U.S. EPA 1986b).

1.1.10 Group A Pesticides

1.1.10.1 Aldrin and Dieldrin

Aldrin and dieldrin are insecticides with similar chemical structures. They are discussed together in this fact sheet because aldrin quickly breaks down to dieldrin in the body and in the environment.

Pure aldrin and dieldrin are white powders with a mild chemical odor. The less pure commercial powders have a tan color. Neither substance occurs naturally in the environment. From the 1950s until 1970, aldrin and dieldrin were widely used pesticides for crops like corn and cotton. Because of concerns about damage to the environment and potentially to human health, EPA banned all uses of aldrin and dieldrin in 1974, except to control termites. In 1987, EPA banned all uses (ATSDR. 2002a).

Sunlight and bacteria change aldrin to dieldrin so that dieldrin is the compound more likely to be found in the environment. They bind tightly to soil and slowly evaporate to the air. Dieldrin in soil and water breaks down very slowly. Plants take in and store aldrin and dieldrin from the soil. Aldrin also rapidly changes to dieldrin in plants and animals. Dieldrin is stored in the fat and leaves the body very slowly. Dieldrin is everywhere in the environment, but at very low levels. Exposure could occur through eating food like fish or shellfish from lakes or streams contaminated with either chemical, or contaminated root crops, dairy products, or meats. Air, surface water, or soil near waste sites may contain higher levels.

People who have ingested large amounts of aldrin or dieldrin suffered convulsions and some died. Health effects may also occur after a longer period of exposure to smaller amounts because these chemicals build up in the body. Some workers exposed to moderate levels in the air for a long time had headaches, dizziness, irritability, vomiting, and uncontrolled muscle movements. Workers removed from the source of exposure rapidly recovered from most of these effects. Animals exposed to high amounts of aldrin or dieldrin also had nervous system effects. In animals, oral exposure to lower levels for a long period also affected the liver and decreased their ability to fight infections. Federal agencies have made several recommendations to protect human health, including:

- The EPA limits the amount of aldrin and dieldrin that may be present in drinking water to 0.001 and 0.002 mg/L of water, respectively, for protection against health effects other than cancer. The EPA has determined that a maximum concentration of aldrin and dieldrin of 0.0002 mg/L in drinking water limits the lifetime risk of developing cancer from exposure to each compound to 1 in 10,000 (ATSDR 2002a).

- The OSHA sets a maximum average of 0.25 milligrams of aldrin and dieldrin per cubic meter of air (0.25 mg/m^3) in the workplace during an 8-hour shift, 40-hour workweek. NIOSH also recommends a limit of 0.25 mg/m^3 for both compounds for up to a 10-hour work day, 40-hour week (ATSDR 2002a).

- The FDA regulates the residues of aldrin and dieldrin in raw foods. The allowable range is from 0 to 0.1 ppm, depending on the type of food product (ATSDR 2002a).

1.1.10.2 Endrin

Endrin is a solid, white, almost odorless substance that was used as a pesticide to control insects, rodents, and birds. Endrin has not been produced or sold for general use in the United States since 1986. Little is known about the properties of endrin aldehyde (an impurity and breakdown product of endrin) or endrin ketone (a product of endrin when it is exposed to light) (ATSDR 2002j).

Endrin does not dissolve very well in water. It has been found in groundwater and surface water, but only at very low levels. It is more likely to cling to the bottom sediments of rivers, lakes, and other bodies of water. Endrin is generally not found in the air except when it has been applied to fields during agricultural applications. The persistence of endrin in the environment depends highly on local conditions. Some estimates indicate that endrin can stay in soil for over 10 years. Endrin may also be broken down by exposure to high temperatures or light to form primarily endrin ketone and endrin aldehyde. It is not known what happens to endrin aldehyde or endrin ketone once they are released to the environment. However, the amount of endrin broken down to endrin aldehyde or endrin ketone is very small.

Humans may be exposed to endrin in air, water, or soil if living near a hazardous waste site. Humans may be exposed by eating foods that contain endrin. Children living near hazardous waste sites could be exposed to endrin in contaminated soils if they eat dirt. Endrin levels can build up in the tissues of organisms that live in water. Human breast milk may be a route of exposure for nursing infants.

Exposure to endrin can cause various harmful effects including death and severe central nervous system (brain and spinal cord) injury. Swallowing large amounts of endrin may cause convulsions and kill in a few minutes or hours. Symptoms that may result from endrin poisoning are headaches, dizziness, nervousness, confusion, nausea, vomiting, and convulsions. No long-term health effects have been noted in workers who have been exposed to endrin by breathing or touching it. The federal government has made several recommendations to protect human health, including:

- The EPA's maximum contaminant level (MCL) for endrin in drinking water is 0.0002 milligrams per liter (0.0002 mg/L) (ATSDR 2002j).

- The OSHA has established a limit of 0.1 mg endrin per cubic meter of air (0.1 mg/m^3) for an 8-hour day in a 40-hour workweek (ATSDR 2002j).

1.1.10.3 Chlordane

Chlordane is a manufactured chemical that was used as a pesticide in the United States from 1948 to 1988. Technically, chlordane is not a single chemical, but is actually a mixture of pure chlordane mixed with many related chemicals. It does not occur naturally in the environment. It is a thick liquid whose color ranges from colorless to amber. Chlordane has a mild, irritating smell. Some of its trade names are Octachlor and Velsicol 1068. Until 1983, chlordane was used as a pesticide on crops like corn and citrus and on home lawns and gardens. Because of concern about damage to the environment and harm to human health, the EPA banned all uses of chlordane in 1983 except to control termites. In 1988, EPA banned all uses (ATSDR 2002b).

Chlordane entered the environment through its use as a pesticide on and as termite control. Chlordane sticks strongly to soil particles at the surface and is not likely to enter groundwater. It can stay in the soil for over 20 years. Most chlordane leaves soil by evaporation to the air, where it breaks down very slowly. Chlordane doesn't dissolve easily in water. It builds up in the tissues of fish, birds, and mammals. Exposure to chlordane could occur by eating crops grown in soil that contains chlordane; eating fish or shellfish caught in water that is contaminated by chlordane; breathing air or touching soil near homes treated for termites with chlordane; and by breathing air or by touching soil near waste sites or landfills.

Chlordane affects the nervous system, the digestive system, and the liver in people and animals. Headaches, irritability, confusion, weakness, vision problems, vomiting, stomach cramps, diarrhea, and jaundice have occurred in people who breathed air containing high concentrations of chlordane or accidentally swallowed small amounts of chlordane. Large amounts of chlordane taken by mouth can cause convulsions and death in people. Federal agencies have made several recommendations to protect human health, including:

- The EPA recommends that a child should not drink water with more than 60 parts of chlordane per billion parts of drinking water (60 ppb) for longer than 1 day. EPA has set a limit in drinking water of 2 ppb.

- EPA requires spills or releases of chlordane into the environment of 1 pound or more to be reported to EPA (ATSDR 2002b).

- The FDA limits the amount of chlordane and its breakdown products in most fruits and vegetables to less than 300 ppb and in animal fat and fish to less than 100 ppb (ATSDR 2002b).

- The OSHA, the NIOSH, and the American Conference of Governmental Industrial Hygienists (ACGIH) set a maximum level of 0.5 milligrams of chlordane per cubic meter (mg/m^3) in workplace air for an 8-hour workday, 40-hour workweek. These agencies have advised that eye and skin contact should be avoided because this may be a significant route of exposure (ATSDR 2002b).

1.1.10.4 Heptachlor and Heptachlor Epoxide

Heptachlor is a manufactured chemical and does not occur naturally. Pure heptachlor is a white powder that smells like camphor (mothballs). The less pure grade is tan. Trade names include Heptagran®, Basaklor®, Drinox®, Soleptax®, Termide®, and Velsicol 104®. Heptachlor was used extensively in the past for killing insects in homes, buildings, and on food crops, especially corn. Use slowed in the 1970s and stopped in 1988. Heptachlor epoxide is also a white powder and is a breakdown product of heptachlor. The epoxide is more likely to be found in the environment than heptachlor (ATSDR 2002d).

Heptachlor doesn't dissolve easily in water; heptachlor epoxide dissolves more easily. Each form sticks strongly to soil particles and evaporates slowly to air. Heptachlor epoxide can stay in the soil and water for many years. Animals change heptachlor to the epoxide. Plants can take up heptachlor from the soil. Levels build up in the tissues of fish and cattle.

Heptachlor and Heptachlor Epoxide exposure may occur by eating crops grown in soil that contains heptachlor and by eating fish, dairy products, and fatty meats from animals exposed to heptachlor in their food. Humans can also be exposed by breathing air, drinking water, or experiencing skin contact with soil near waste sites or landfills. Breast milk (from mothers who had high exposures) can also transmit Heptachlor and Heptachlor Epoxide.

Heptachlor and heptachlor epoxide are clearly toxic to humans and animals and can damage the nervous system. There are some human data on brief exposures to high levels. A few reports showed that people who accidentally swallowed pesticides containing heptachlor, or who spilled pesticides on their clothes became dizzy, confused, or had convulsions. The Federal government has made several recommendations to protect human health, including:

- The EPA banned the sale of all heptachlor products and restricted the use of heptachlor to the control of fire ants in power transformers. EPA recommends a maximum of 2.78 parts of heptachlor and heptachlor epoxide per trillion parts of drinking water or seafood (2.78 ppt) to eat each day. For longer exposures, a child should not drink water with greater than 5,000 ppt heptachlor or 150 ppt heptachlor epoxide. Quantities greater than 1 pound of heptachlor or heptachlor epoxide that enter the environment must immediately be reported to the National Response Center (ATSDR 2002d).

- The FDA limits the amount of heptachlor and heptachlor epoxide on raw food crops and on edible seafood to 0-10 parts per billion (ppb), depending on the type of food product. The limit on edible seafood is 300 ppb, and for the fat of food-producing animals is 200 ppb (ATSDR 2002d).

- The American Conference of Governmental Industrial Hygienists (ACGIH) and the OSHA recommend a maximum in workplace air over an 8-hour workday for a

40-hour workweek of 0.5 milligrams of heptachlor per cubic meter (0.5 mg/m^3) (ATSDR 2002d).

1.1.10.5 Hexachlorocyclohexane (including lindane)

Hexachlorocyclohexanes (HCH) are a group of manufactured chemicals that do not occur naturally in the environment. HCH has eight chemical forms (called isomers). The four most common are alpha-, beta-, gamma, and delta-HCH. The most common of these is gamma-HCH (also known as lindane). Lindane is a white solid substance that may evaporate into the air as a colorless vapor with a slightly musty odor. It is the common form of hexachlorocyclohexane. Lindane was used as an insecticide on fruit and vegetable crops (including greenhouse vegetables and tobacco) and forest crops (including Christmas trees). It is still used in ointments to treat head and body lice, and scabies. Lindane has not been produced in the United States since 1977. It is still imported to and formulated in the United States (ATSDR 2002de).

In air, HCH can be present as a vapor or attached to small particles such as soil or dust. Lindane can remain in the air for up to 17 weeks and travel long distances. Particles with attached HCH may be removed from the air by rain. In soil, sediments, and water, it is broken down by algae, fungi, and bacteria to less harmful substances. HCH isomers are broken down quickly in water; lindane does not remain in water longer than 30 days. The length of time that HCH isomers remain in soil is not known. It can accumulate in the fatty tissue of fish.

Humans may be exposed to HCH by eating contaminated foods, such as plants, meat, and milk, or by breathing contaminated air in or near factories where products using HCH are made. Humans can also be exposed through skin when applied as a lotion or shampoo to control lice and scabie or by drinking contaminated water or breathing contaminated air near waste sites or landfills. Some people who breathed contaminated workplace air during the manufacturing of pesticides, including lindane, had blood disorders, dizziness, headaches, and changes in the levels of sex hormones. Some people who swallowed large amounts had seizures and sometimes died. The Federal government has made several recommendations to protect human health, including:

- The EPA has set a limit in drinking water of 0.2 parts of lindane per billion parts of water (0.2 ppb). The EPA requires that spills or accidental discharges of lindane into the environment of 1 pound or more must be reported to the EPA (ATSDR 2002de).

- The OSHA, the NIOSH, and the American Conference of Governmental Industrial Hygienists (ACGIH) recommend a maximum level of 0.5 milligrams lindane per cubic meter (0.5 mg/m^3) of workplace air for an 8-hour workday, 40-hour workweek. These agencies advise avoiding eye and skin contact because this may be a route of significant exposure (ATSDR 2002de).

1.1.10.6 Endosulfan

Endosulfan is a pesticide. It is a cream- to brown-colored solid that may appear in the form of crystals or flakes. It has a smell like turpentine, but does not burn. It does not occur naturally in the environment. Endosulfan is used to control insects on food and non-food crops and as a wood preservative (ATSDR 2002c).

Endosulfan enters the air, water, and soil during its manufacture and use. It is often sprayed onto crops and the spray may travel long distances before it lands on crops, soil, or water. Endosulfan on crops usually breaks down in a few weeks, but endosulfan sticks to soil particles and may take years to completely break down. Endosulfan does not dissolve easily in water. Endosulfan in surface water is attached to soil particles floating in water or attached to soil at the bottom. Endosulfan can build up in the bodies of animals that live in endosulfan-contaminated water.

Humans may be exposed to endosulfan by eating food contaminated with endosulfan, but levels in foods are very low. People working in industries involved in making endosulfan or working as pesticide applicators can also be exposed. Skin contact with soil containing endosulfan can also cause exposure.

Endosulfan affects the central nervous system and prevents it from working properly. Hyperactivity, nausea, dizziness, headache, or convulsions have been observed in adults exposed to high doses. Severe poisoning may result in death. The federal government has made several recommendations to protect human health, including:

- The EPA recommends that the amount of endosulfan in rivers, lakes, and streams should not be more than 74 parts per billion (74 ppb) (ATSDR 2002c).
- The FDA allows no more than 24 parts per million (24 ppm) endosulfan on dried tea (ATSDR 2002c).
- EPA allows no more than 0.1 to 2 ppm endosulfan on other raw agricultural products (ATSDR 2002c).

1.1.10.7 Toxaphene

Toxaphene is an insecticide containing over 670 chemicals. It is usually found as a solid or gas, and in its original form it is a yellow to amber waxy solid that smells like turpentine. It does not burn and evaporates when in solid form or when mixed with liquids. Toxaphene is also known as camphechlor, chlorocamphene, polychlorocamphene, and chlorinated camphene. Toxaphene was one of the most heavily used insecticides in the United States until 1982, when it was canceled for most uses; all uses were banned in 1990. It was used primarily in the southern United States to control insect pests on cotton and other crops. It was also used to control insect pests on livestock and to kill unwanted fish in lakes (ATSDR 2002f).

Toxaphene may enter the environment from hazardous waste sites. It may enter the air by evaporation. It does not dissolve well in water, so it is more likely to be found

in air, soil, or sediment at the bottom of lakes or streams, than in surface water. Toxaphene breaks down very slowly in the environment. Toxaphene accumulates in fish and mammals.

People who breathe air near a hazardous waste site where toxaphene was disposed could be exposed to it. Eating contaminated soil could expose infants or toddlers. People who eat large quantities of fish and shellfish, which were contaminated with toxaphene, could be exposed. People who drink water from wells containing toxaphene could also be exposed.

Breathing, eating, or drinking high levels of toxaphene could damage the lungs, nervous system, and kidneys, and can even cause death. However, since toxaphene is no longer used in the United States, most people would not be exposed to high levels of it. People could be exposed to low levels of it; however, there is no information on how low levels affect people. Federal agencies have made several recommendations to protect human health, including:

- The EPA has set a drinking water standard of 0.003 milligrams of toxaphene per liter of drinking water (0.003 mg/L) (ATSDR 2002f).
- The EPA also requires spills or accidental releases into the environment of 1 pound or more of toxaphene be reported.
- The OSHA has set a permissible exposure limit of 0.5 milligrams toxaphene per cubic meter of air (0.5 mg/m3) for an 8-hour workday, 40 hour workweek(ATSDR 2002f).
- NIOSH recommends that toxaphene levels should be as low as possible in the workplace due to its potential carcinogenicity (ATSDR 2002f).
- The American Conference of Governmental Industrial Hydienists (ACGIH) recommend 0.5 mg/m3 for an 8-hour workday, 40-hour workweek. They also recommend that 1 mg/m3 be considered a level that should not be exceeded in a 15-minute period.

1.1.11 Mercury

Mercury is a naturally occurring metal that has several forms. The metallic mercury is a shiny, silver-white, odorless liquid. If heated, it is a colorless, odorless gas. Mercury combines with other elements, such as chlorine, sulfur, or oxygen, to form inorganic mercury compounds or "salts," which are usually white powders or crystals. Mercury also combines with carbon to make organic mercury compounds. The most common one, methylmercury, is produced mainly by microscopic organisms in the water and soil. More mercury in the environment can increase the amounts of methylmercury that these small organisms make. Metallic mercury is used to produce chlorine gas and caustic soda, and is also used in thermometers,

dental fillings, and batteries. Mercury salts are sometimes used in skin lightening creams and as antiseptic creams and ointments (ATSDR 1999b).

Inorganic mercury (metallic mercury and inorganic mercury compounds) enters the air from mining ore deposits, burning coal and waste, and from manufacturing plants. It enters the water or soil from natural deposits, disposal of wastes, and volcanic activity. Methylmercury may be formed in water and soil by bacteria. Methylmercury builds up in the tissues of fish. Larger and older fish tend to have the highest levels of mercury. Exposure to mercury can occur through eating fish or shellfish contaminated with methylmercury; breathing vapors in air from spills, incinerators, and industries that burn mercury-containing fuels, release of mercury from dental work and medical treatments; and breathing contaminated workplace air or skin contact during use in the workplace (from businesses and industries that use mercury).

The nervous system is very sensitive to all forms of mercury. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems. Short-term exposure to high levels of metallic mercury vapors may cause effects including lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Federal agencies have made several recommendations to protect human health, including:

- The EPA has set a limit of 2 parts of mercury per billion parts of drinking water (2 ppb) (ATSDR 1999b).
- The FDA has set a maximum permissible level of 1 part of methylmercury in a million parts of seafood (1 ppm) (ATSDR 1999b).
- The OSHA has set limits of 0.1 milligram of organic mercury per cubic meter of workplace air (0.1 mg/m3) and 0.05 mg/m3 of metallic mercury vapor for 8-hour shifts and 40-hour workweeks (ATSDR 1999b).

1.1.12 PCBs

Polychlorinated biphenyls (PCBs) are mixtures of up to 209 individual chlorinated compounds (known as congeners). There are no known natural sources of PCBs. PCBs are either oily liquids or solids that are colorless to light yellow. Some PCBs can exist as a vapor in air. PCBs have no known smell or taste. Many commercial PCB mixtures are known in the U.S. by the trade name Aroclor (ATSDR 2000).

PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they don't burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977 because of evidence they build

up in the environment and can cause harmful health effects. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices containing PCB capacitors, and old microscope and hydraulic oils.

PCBs entered the air, water, and soil during their manufacture, use, and disposal; from accidental spills and leaks during their transport; and from leaks or fires in products containing PCBs. PCBs can still be released to the environment from hazardous waste sites; illegal or improper disposal of industrial wastes and consumer products; leaks from old electrical transformers containing PCBs; and burning of some wastes in incinerators. PCBs do not readily break down in the environment and thus may remain there for very long periods of time. PCBs can travel long distances in the air and be deposited in areas far away from where they were released. In water, a small amount of PCBs may remain dissolved, but most stick to organic particles and bottom sediments. PCBs also bind strongly to soil. PCBs are taken up by small organisms and fish in water. They are also taken up by other animals that eat these aquatic animals as food. PCBs accumulate in fish and marine mammals, reaching levels that may be many thousands of times higher than in water.

The most commonly observed health effects in people exposed to large amounts of PCBs are skin conditions such as acne and rashes. Studies in exposed workers have shown changes in blood and urine that may indicate liver damage. PCB exposures in the general population are not likely to result in skin and liver effects. Animals that ate food containing large amounts of PCBs for short periods of time had mild liver damage and some died. Animals that ate smaller amounts of PCBs in food over several weeks or months developed various kinds of health effects, including anemia; acne-like skin conditions; and liver, stomach, and thyroid gland injuries. Other effects of PCBs in animals include changes in the immune system, behavioral alterations, and impaired reproduction. Federal agencies have made several recommendations to protect human health, including

- The EPA has set a limit of 0.0005 milligrams of PCBs per liter of drinking water (0.0005 mg/L) (ATSDR 2002).
- Discharges, spills or accidental releases of 1 pound or more of PCBs into the environment must be reported to the EPA (ATSDR 2002).
- The FDA requires that infant foods, eggs, milk and other dairy products, fish and shellfish, poultry and red meat contain no more than 0.2-3 parts of PCBs per million parts (0.2-3 ppm) of food (ATSDR 2002).
- Many states also have established fish and wildlife consumption advisories for PCBs (ATSDR 2002).

1.1.13 Selenium

Selenium is a metal commonly found in rocks and soil. In the environment, selenium is not often found in the pure form. Much of the selenium in rocks is combined with

sulfide minerals or with silver, copper, lead, and nickel minerals. Selenium and oxygen combine to form several compounds. Selenium sulfide is a bright red-yellow powder used in anti-dandruff shampoo. Industrially produced hydrogen selenide is a colorless gas with a disagreeable odor. It is probably the only selenium compound that might pose a health concern in the workplace. Selenium dioxide is an industrially produced compound that dissolves in water to form selenious acid (ATSDR 1996a).

Small selenium particles in the air settle to the ground or are taken out of the air in rain. Soluble selenium compounds in agricultural fields can leave the field in irrigation drainage water. Selenium can collect in animals that live in water containing high levels of it. Exposure to selenium occurs by breathing air that contains it and by eating food, drinking water, or taking dietary supplements that contain it.

People exposed to very high levels of selenium have reported dizziness, fatigue, irritation, collection of fluid in the lungs, and severe bronchitis. The exact levels at which these effects occur are not known. Upon contact with skin, selenium compounds have caused rashes, swelling, and pain. Selenium compounds can be harmful at daily dietary levels 5–10 times higher than the daily requirement. Accidentally swallowing a large amount of selenium (for example, a very large quantity of selenium supplement pills) could be life-threatening without immediate medical treatment. If too much selenium is eaten over long periods of time, brittle hair and deformed nails can develop. People may also lose feeling and control in the arms and legs. Federal agencies have made several recommendations to protect human health, including:

- The EPA maximum contaminant level (MCL) for selenium in drinking water is 50 parts of selenium per billion parts of water (50 ppb) (ATSDR 1996a).

- The OSHA exposure limit for selenium compounds in workplace air is 0.2 milligrams of selenium per cubic meter of air (0.2 mg/m^3) for an 8-hour day over a 40-hour workweek (ATSDR 1996a).

1.1.14 Unknown Toxicity

An unknown toxicity is defined as a toxicity that has been found within a waterbody, but further testing has not been done to discover what the toxicity specifically is (N. Richard, pers. Comm., 2002). Unknown toxicities are found within waterbodies that have been monitored, tested, and sampled for toxicity in general and during testing, organism within the tested water have died.

1.1.15 Zinc

Zinc is one of the most common elements in the earth's crust. It is found in air, soil, and water, and is present in all foods. Pure zinc is a bluish-white shiny metal. Zinc has many commercial uses: as coatings to prevent rust, in dry cell batteries, and

mixed with other metals to make alloys like brass and bronze. Zinc combines with other elements to form zinc compounds. Common zinc compounds found at hazardous waste sites include zinc chloride, zinc oxide, zinc sulfate, and zinc sulfide. Zinc compounds are widely used in industry to make paint, rubber, dye, wood preservatives, and ointments (ATSDR 1994).

Zinc is released into the environment by natural processes, but most comes from activities of people like mining, steel production, coal burning, and burning of waste. It attaches to soil, sediments, and dust particles in the air. Zinc compounds can move into the groundwater and into lakes, streams, and rivers. Most of the zinc in soil stays bound to soil particles. It builds up in fish and other organisms, but not in plants. Exposure to zinc can occur through ingesting small amounts present in food and water; drinking contaminated water near manufacturing or waste sites; and breathing zinc particles in the air at manufacturing sites.

Zinc is an essential element in the diet. Too little zinc can cause health problems, but too much zinc is also harmful. Eating large amounts of zinc, even for a short time, can cause stomach cramps, nausea, and vomiting. Taken longer, it can cause anemia, pancreas damage, and lower levels of high-density lipoprotein cholesterol (the good form of cholesterol). Breathing large amounts of zinc (as dust or fumes) can cause a specific short-term disease called metal fume fever. Long-term effects are unknown. Federal agencies have made several recommendations to protect human health, including:

- EPA recommends that there be no more than 5 parts of zinc in 1 million parts of drinking water (5 ppm) because of taste. EPA also requires that releases of more than 1,000 (or in some cases 5,000) pounds of zinc or its compounds into the environment be reported (ATSDR 1994).

- OSHA has set a maximum concentration limit for zinc chloride fumes in workplace air of 1 milligram of zinc per cubic meter of air (1 mg/m^3) for an 8-hour workday over a 40-hour workweek and 5 mg/m^3 for zinc oxide fumes (ATSDR 1994).

- NIOSH has set the same standards for up to a 10-hour workday over a 40-hour workweek.

1.2.1 Beneficial Uses

State law defines beneficial uses of California's waters that may be protected against quality degradation to include (but not limited to) "...domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050(f)).

Beneficial use designation (and water quality objectives) must be reviewed at least once during each three-year period for the purpose of modification as appropriate (40

CFR 131.20). The beneficial uses, and abbreviations, listed below are standard basin plan designations (RWQCBCV 1998).

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

Agricultural Supply (AGR) - Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.

Areas of Special Biological Significance (ASBS) - Areas designated by the SWRCB. These include marine life refuges, and designated areas where the preservation and enhancement of natural resources requires special attention.

Industrial Service Supply (IND) - Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Industrial Process Supply (PRO) - Uses of water for industrial activities that depend primarily on water quality.

Ground Water Recharge (GWR) - Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

Freshwater Replenishment (FRSH) - Uses of water for natural or artificial maintenance of surface water quantity or quality.

Navigation (NAV) - Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

Hydropower Generation (POW) - Uses of water for hydropower generation.

Water Contact Recreation (REC-1) - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, canoeing, white water activities, fishing, or use of natural hot springs.

Non-contact Water Recreation (REC-2) - Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Commercial and Sport Fishing (COMM) - Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

Aquaculture (AQUA) - Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

Warm Freshwater Habitat (WARM) - Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Cold Freshwater Habitat (COLD) - Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Estuarine Habitat (EST) - Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).

Wetland Habitat (WET) - Uses of water that support wetland ecosystems, including, but not limited to, preservation or enhancement of wetland habitats, vegetation, fish shellfish, or wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.

Wildlife Habitat (WILD) - Uses of water that support terrestrial or wetland ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Preservation of Biological Habitats of Special Significance (BIOL) - Uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance, where the preservation or enhancement of natural resources requires special protection.

Rare, Threatened, or Endangered Species (RARE) - Uses of water that support aquatic habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under State or Federal law as rare, threatened or endangered.

Migration of Aquatic Organisms (MIGR) - Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

Spawning, Reproduction, and/or Early Development (SPWN) - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Shellfish Harvesting (SHELL) - Uses of water that support habitats suitable for the collection of filter feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sports purposes.

Marine Habitat (MAR) - Uses of water that support marine ecosystems, including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shore birds).

1.3 San Joaquin-Sacramento Delta Region Water Quality

1.3.1 Constituents of Concern

The Delta is currently listed as impaired under Section 303(d) of the CWA for the following constituents: unknown toxicity, mercury, pesticides, and organic enrichment/low dissolved oxygen. The following paragraphs describe Delta water quality conditions with regards to these constituents.

The major sources of metals include abandoned mines, agricultural drainage, and urban runoff. In May and September from 1975 through 1993, DWR measured concentrations of nine trace metals at 11 sampling stations in the Bay-Delta and in Suisun Bay from 1975-1993. Trace metals (most frequently copper) exceeded the guidelines for fresh-water acute and chronic toxicity on 34 occasions (CALFED 2000a). Marine acute and chronic toxicity guidelines were exceeded 181 times, with copper accounting for 160 of these exceedances (CALFED 2000a). The Delta is currently listed as impaired for unknown toxicity under Section 303(d) of the CWA and the unknown toxicity TMDL to protect beneficial uses is scheduled for development by 2011 (see Table 5-5). In addition to trace metals, mining-related activities are known to be a source of mercury in the Delta. The Coast Ranges, on the west side of the Sacramento Valley, contain a large deposit of cinnabar (mercury ore). The majorities of the mercury mines in the Coast Ranges are abandoned and remain unclaimed. During the late 1800s and early 1900s, mercury was intensively mined and refined in the Coast Ranges, and then transported across the Central Valley to the Sierra Nevada for use in placer gold mining operations. Studies conducted by UC Davis and USGS illustrate that the sediments mobilized by hydraulic mining were ultimately transported to the Bay-Delta, where they formed marshes and islands or were deposited in shallow water (CALFED 2000a). The Delta is currently listed as impaired for mercury under Section 303(d) of the CWA. The mercury TMDL to protect beneficial uses is scheduled for development by 2004 (see Table 5-5).

Organophosphate pesticides, such as diazinon and chlorpyrifos, are used in the Central Valley on orchard crops including almonds, peaches, and prunes. These pesticides are applied during the dormant spray season from December through

February. Diazinon and chlorpyrifos also are used by commercial applicators and home owners to control common pests. Diazinon and chlorpyrifos have been detected in surface water during winter and early spring from applications to orchards, in irrigation return water during summer, and in urban runoff samples during both winter and summer. Organochlorine pesticides such as DDT, toxaphene, dieldrin, and chlordane were widely used in the Central Valley until the 1970s and remain very persistent. Residues of these agents are still widespread in the Central Valley and are mobilized during winter storms, by irrigation and dredging, and by construction activities (CALFED 2000a). These more persistent chlorinated hydrocarbon pesticides are consistently found throughout the system at higher levels than the less persistent organophosphate compounds (SWRCB 1997). The Delta is currently listed as impaired for a variety of pesticides including chlorpyrifos, DDT, diazinon, and Group A pesticides under Section 303(d) of the CWA and TMDLs to protect beneficial uses are scheduled for development from 2004 to 2011, depending upon the constituent (see Table 5-5).

The most serious nutrient enrichment problems in the Delta are found along the lower San Joaquin River and in certain localized areas receiving waste discharges, but having little or no net freshwater flow. These conditions result in low dissolved oxygen levels, which occur mainly in the late-summer and coincide with low river flows and high water temperatures. Channel deepening for navigational purposes further aggravates dissolved oxygen problems. Warm, shallow, dead-end sloughs of the eastern Delta support objectionable populations of planktonic blue-green algae during summer months. Floating and semi-attached aquatic plants, such as water primrose and water hyacinths, frequently clog waterways in the lower San Joaquin River system during the summer. Extensive growths of these plants also have been observed in the waterways of the Delta. These plants interfere with the passage of small boat traffic and contribute to the total organic load in the Bay-Delta system as they break loose and move downstream in the fall and winter. Much of the water in the Delta system is turbid as a result of an abundance of suspended silts, clays, and organic matter. Most of these sediments enter the tidal system with the flow of the major tributary rivers. Some enriched areas are turbid as a result of planktonic algal populations, but inorganic turbidity tends to suppress nuisance algal populations in much of the Delta (SWRCB 1997). The Delta is currently listed as impaired for organic enrichment/low dissolved oxygen under Section 303(d) of the Clean Water Act and TMDLs to protect beneficial uses are scheduled for development by 2004 (see Table 5-5).

1.3.2 Delta Drinking Water Quality Concerns

1.3.2.1 Salinity

Excess salinity in Delta waters may affect agricultural, industrial, and municipal water supply beneficial uses, as well as habitat quality for aquatic biota in the Delta. Sources of salinity include sea-water intrusion, agricultural drainage, municipal wastewater, urban runoff, connate groundwater, and evapotranspiration of plants. Sea-water intrusion is the major source of salinity in the Delta (CALFED 2000a). With

the exception of monitoring stations that are under the direct influence of tidal action, data analyses quantifying the contribution of seawater intrusion to TDS concentrations are scarce (DWR 2001b). However, because the EC of seawater is approximately 50,000 µS/cm, which is approximately 70 to 80 times greater than the daily average EC ranges at Banks Pumping Plant that signals DWR to consider allowing more freshwater into the system, it takes relatively little seawater to increase TDS or EC levels (DWR 2001b). Agricultural drainage, particularly from the San Joaquin Valley, is another important source of salinity, especially in the south Delta (CALFED 2000a).

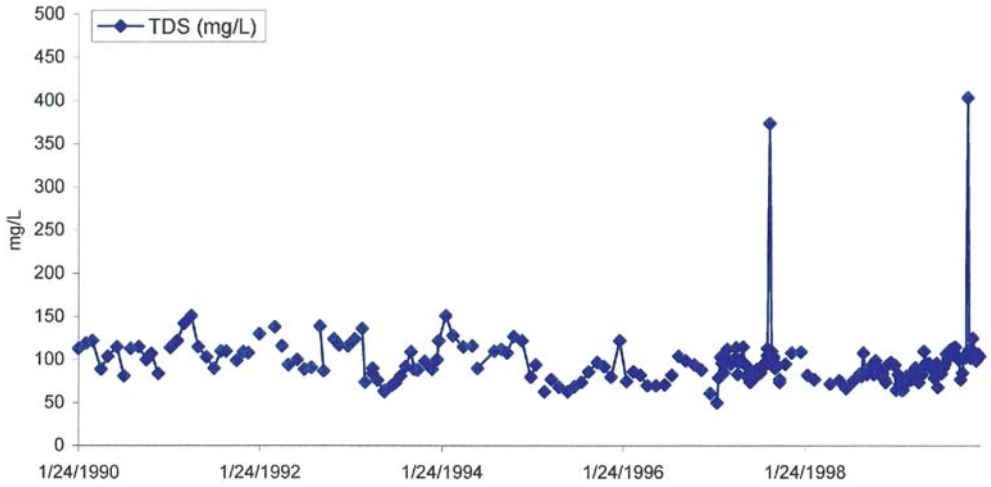
Salinity control is necessary because the Delta is influenced by the ocean, and Delta water channels are at or below sea level (SWRCB 1997). The Sacramento and San Joaquin rivers unite at the western end of the Sacramento-San Joaquin Delta at Suisun Bay. From Suisun Bay, water flows through the Carquinez Strait into San Pablo Bay, then south into San Francisco Bay and out to sea through the Golden Gate Bridge (SWRCB 1997). Unless repelled by continuous seaward flow of freshwater, sea water will advance up the Estuary and into the Delta and degrade water quality (SWRCB 1997). Salinity varies geographically within the Delta varies seasonally within the Delta, and varies depending upon water year type.

CVP/SWP exports and pumping patterns have the potential to influence the direction of flow at various locations throughout the Delta, and thereby potentially affect the salinity at export locations. Operation of the Banks Pumping Plant and Tracy Pumping Plant draws high quality Sacramento River water across the Delta and restricts the low quality area to the southeast corner (SWRCB 1997). Each portion of the Delta is dominated by different hydraulic variables and therefore salinity varies within different sections of the Delta.

The Sacramento and San Joaquin rivers contribute approximately 61 percent and 33 percent, respectively, to tributary inflow TDS concentrations within the Delta. The relative concentrations of TDS are low in the Sacramento River, but because of its large volumetric contribution, the river contributes the majority of the TDS load supplied by tributary inflow to the Delta (DWR 2001b). TDS monitoring in the Sacramento River at Greenes Landing/Hood, downstream of the City of Sacramento and downstream of the last urban discharge point, illustrates that TDS concentrations at this location are consistently below the secondary MCL of 500 mg/L (see Figure G-1). Although actual flow from the San Joaquin River is lower than the Sacramento River, the TDS concentrations in San Joaquin River water averages approximately seven times that of the Sacramento River, resulting in a net contribution of 33 percent of the TDS from tributary inflow to the Delta.

In addition to varying geographically within the Delta, salinity varies seasonally, depending on the quantity and quality of freshwater inflows. During winter and early-spring, flows through the Delta are usually above the minimum required to control salinity. At least for a few months in the summer and fall of most years, however, salinity must be carefully monitored and controlled (SWRCB 1997). During

the summer, salinity in the Delta may increase due to decreased inflows or increased salt loading resulting from agricultural runoff. Additionally, decreased inflow during the late summer increases the possibility that reverse flow would cause increased intrusion of saline water within the Delta. Salinity control and monitoring is provided by the CVP and SWP, and regulated by the SWRCB under its water rights authority. Salinity must be carefully monitored because water exported from the Delta for delivery to CVP and SWP contractors is used for a variety of municipal, industrial, and agricultural uses (SWRCB 1997, CALFED 2002a).



Source: DWR 2001b.

Figure G-1
TDS (mg/L) Sacramento River at Greenes Landing/Hood, 1990 to 1999

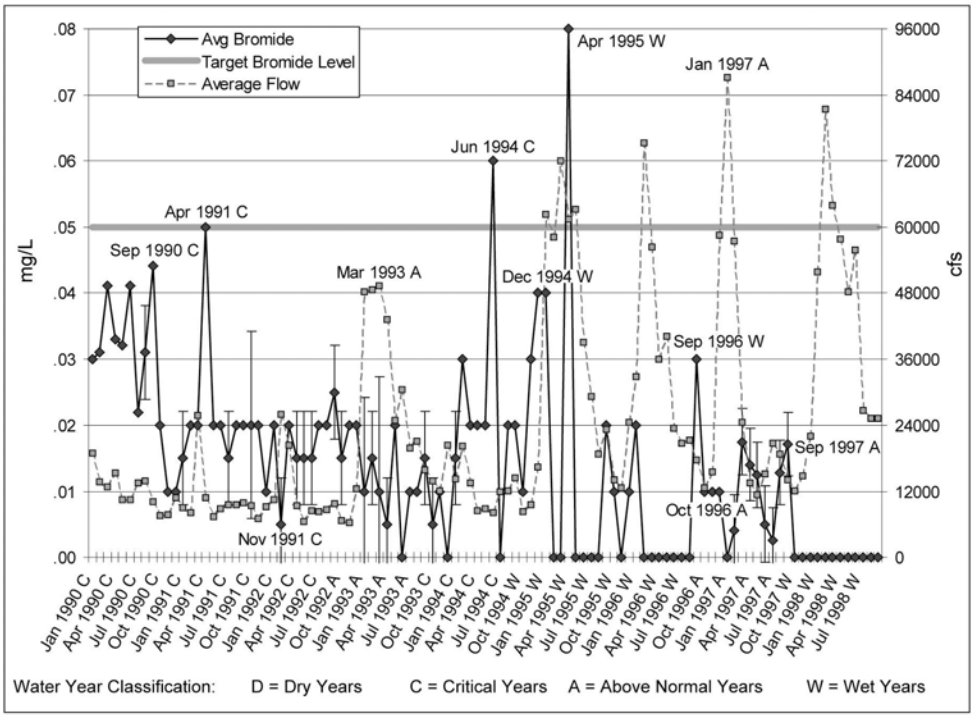
1.3.2.2 Bromide

Bromides are formed by the reaction of bromine or a bromide with another substance and are widely distributed in nature. The presence of bromide in source waters may shift the proportion of bromine containing DBPs (such as THMs) to higher levels (CALFED 2000b). The existing MRDL limits the sum of the four species, termed TTHMs, at 0.080 mg/L (see Table 5-1). Health effects potentially resulting from long-term ingestion of drinking water containing THMs in excess of EPA's standard may include problems with the liver, kidneys, or central nervous system, and long-term exposure may result in an increased risk of getting cancer (EPA 2003). Because disinfection with chlorine can result in formation of THMs, some wastewater treatment facilities are switching to ozone as a disinfectant. Use of ozone as a disinfectant has the advantage that it does not produce THMs (Sawyer et al. 1994). However, bromate is formed when ozone contacts water with bromide in it. Bromate also is regulated in drinking water because long-term exposure to bromate may result in an increased cancer risk (EPA 2003).

The primary source of bromide in Delta waters is sea-water intrusion (CALFED 2000a). DWR's Municipal Water Quality Investigations (MWQI) program investigated seawater intrusion at different geographic areas in the Delta: in the northern Delta on the Sacramento River at Greenes Landing/Hood, in the southern Delta in the San Joaquin River near Vernalis/Mossdale, and in the western Delta at Station 9 just upstream of Clifton Court Forebay (DWR 2001b). In addition, bromide levels were monitored at Banks Pumping Plant. Bromide data were collected from 1990 to 1998 at these four locations. In the northern Delta on the Sacramento River at Greenes Landing/Hood, 98 percent of the samples collected were below the CALFED target level of 0.05 mg/L. Although the Sacramento River contributes approximately 20 percent of the total bromide loading to the Delta, in terms of concentration, bromide levels in the Sacramento River are not a concern for drinking water purposes (DWR 2001b). The seasonal changes in bromide concentrations at three locations are illustrated in Figure G-2. As shown in Figure G-2, during eight years of quarterly monitoring, the proposed CALFED target level of 0.05 mg/L bromide was exceeded only three times at Greens Landing/Hood on the Sacramento River (DWR 2001b).

In contrast to the Sacramento River, 88 percent of the samples collected in the southern Delta (San Joaquin River near Vernalis/Mossdale) and 87 percent of the samples collected in the western Delta (Station 9) exceeded CALFED's recommended target level (DWR 2001b). Because seawater contains approximately 66.8 mg/L bromide, more than 1,300 times the 0.05 mg/L export target, it takes relatively little seawater to increase bromide levels (DWR 2001b). Approximately 90 percent of the samples at the Banks Pumping Plant exceeded the proposed target (DWR 2001b).

Overall, bromide patterns in the Delta are similar to salinity patterns in the Delta (DWR 2001b). Like salinity, bromide concentrations are highest in the west and south Delta channels affected by the San Joaquin River (DWR 2001b). Like salinity, bromide concentrations are higher in dry years than in wet years and bromide concentrations are higher during low Delta outflows as compared to medium or high flows (DWR 2001b). This pattern is not unexpected as chloride and bromide are generally co-located and would be expected to exhibit similar behavior (R. Breuer, DWR, pers. comm.).



Source: DWR 2001b.

Figure G-2
Sacramento River at Greenes Landing/Hood – Monthly Average Bromide Concentrations (±1 Standard Deviation) with Sacramento River Flow

1.4 Reservoir Water Quality

This section describes how lakes and reservoirs function, and the limnological processes that occur within them to provide a better understanding of water quality.

Physiochemical Reservoir Processes

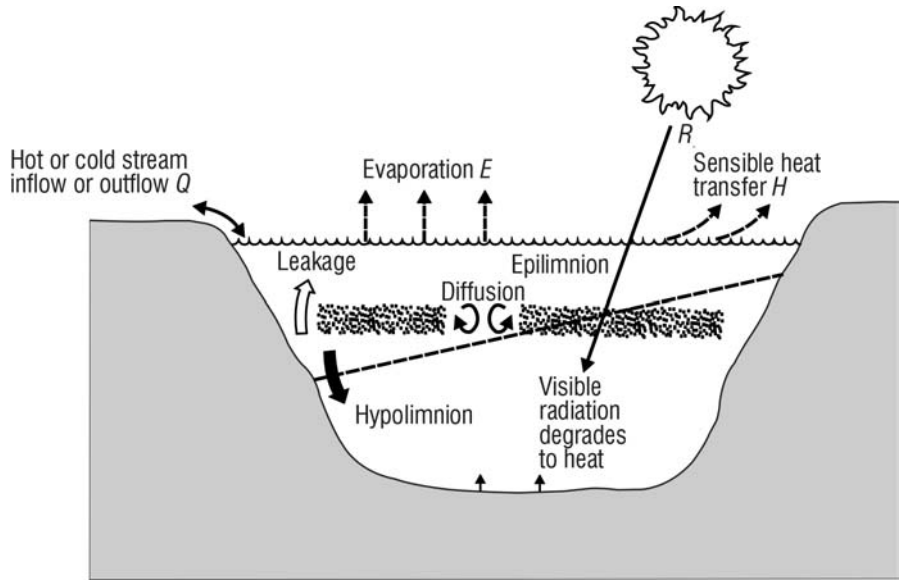
Certain physiochemical parameters (water temperature and dissolved oxygen) associated with lakes and reservoirs typically exhibit direct relationships to depth. Because water density changes with water temperature, most waterbodies have a temperature gradient that decreases with depth. In reservoirs, warmer water generally is found near the surface and the volume of warm water tends to gradually decrease down through the water column. Conversely, a greater volume of cold water is found near the bottom of the reservoir, and this is often known as the coldwater pool (Horne, A.J. and Goldman C.R. 1994; Wetzel, R.G. 1983; Moss, B. 1998).

Because the solubility of dissolved oxygen in water is related to changes in pressure and temperature, cold water generally contains a greater percentage of dissolved oxygen as compared to warm water. However, in most systems there are additional demands that may affect this relationship. Plant and animal respiration can consume large amounts of dissolved oxygen but the major consumption of oxygen in lakes and reservoirs is attributed to bacterial respiration associated with the decomposition of organic matter settling out of the water column. Additionally, wind action across the

surface of lakes promotes mixing, which generally results in greater dissolved oxygen concentrations near the surface (Horne and Goldman 1994, Wetzel 1983; Moss 1998).

Summer/Winter - Stratification/Mixing

In the spring and early summer, water near the lake surface begins to warm as it absorbs energy from increased solar radiation associated with longer daylight hours (Figure G-3). Because of the thermal properties associated with water, the warmer layers of water remain near the surface while denser, colder water sinks deeper into the water column. Over time, this creates distinct thermal layers (known as the epilimnion, metalimnion/thermocline and hypolimnion) within the water column. Once the spring thermocline is established, it is thermodynamically stable and usually can be destroyed only by cooling of the epilimnion. At this point, the hypolimnion is effectively isolated from the surface and dissolved oxygen cannot be replenished except by diffusion from the metalimnion, which is very slow (Horne and Goldman 1994; Wetzel 1983; Moss 1998).



Source: Horne, A.J. and Goldman C.R. 1994

Figure G-3
Horizontal Cross-Sectional View Of The Physiochemical Processes And Stratification Layers Occurring In Lakes And Reservoirs

In the fall, less solar radiation reaches the lake surface during the day, while heat losses at the surface of the water are greater at night than they are deeper in the water column. Cooling water at the surface is denser than warmer water below and so it sinks, causing the warmer water to rise up to the surface. These convective currents and wind-induced mixing begin to weaken the thermocline. The epilimnion increases in depth as water temperature decreases. Eventually the water temperature and density differences between adjacent water layers are so slight that a strong wind can

overcome the remaining resistance to mixing in the water column and the lake undergoes fall overturn, mixing from top to bottom. Fall overturn causes oxygen-saturated water at the surface to be distributed throughout the various depths of the epilimnetic and hypolimnetic layers. When circulation is complete, dissolved oxygen continues at saturation in accordance with solubility at existing temperatures. These mixing events are important because they enable low or depleted oxygen stores in the hypolimnion and near the lakebed to be replenished. This also ensures that aerobic activities associated with bacterial decomposition in and above the lake sediments continue to occur. Additionally, mixing distributes organic nutrients (e.g., nitrogen and phosphorous) which are accumulated at the bottom of the lake throughout the summer, through the water column (Horne and Goldman 1994; Wetzel 1983; Moss 1998).

Potential Lake Pollutants: Nutrients/Metals/Sedimentation

Healthy lake ecosystems contain small quantities of nutrients from natural sources. An increased or accelerated input of nutrients (primarily nitrogen and phosphorous) may disrupt the balance of lake ecosystems by altering physical, chemical and biological processes within the system. Excessive nutrients can stimulate increased productivity, which can lead to short-term population explosions of algae and aquatic macrophytes. Eventually the algae and other vegetation die off and sink to the bottom of the lake where it undergoes bacterial decomposition. As the bacteria continue to break down the organic matter, the decomposition process elicits a high biochemical oxygen demand, which can deplete dissolved oxygen in the water. At a substantial level, this may deprive fish and other aquatic organisms of oxygen, which in turn can lead to fish kills or produce foul odors in the water (Horne and Goldman 1994; Wetzel 1983; Moss 1998).

After nutrient loading, metals are typically the second most common lake pollutant of concern and are often found to accumulate in lake sediments. These substances are a concern because many of them are harmful to humans and aquatic organisms. While many metals become concentrated in the sediment, they generally remain there unless disturbed and re-suspended in the water column. Reservoir drawdown has the potential to alter the concentration and mobility of metals found in the sediment within and around the reservoir by reducing the volume of the storage pool. Additionally, exposing a greater amount of the shoreline acreage surrounding the waterbody could potentially lead to increased shoreline erosion, which may increase the amount of sediment loading and suspended solids within the reservoir. In addition to concerns associated with metals, increased sedimentation may reduce water clarity or impair physiological mechanisms associated with aquatic organisms (Horne and Goldman 1994; Wetzel 1983; Moss 1998).

Reservoir and river management objectives may have conflicting resource goals, which require management coordination to ensure that the needs of both resources are being adequately met. In some situations, trade-offs may need to occur between the upstream reservoir and river reaches downstream. Management actions may call for increased reservoir releases to provide for downstream requirements. Providing

downstream benefits (e.g., flow and habitat improvements for fish and wildlife, power generation, agricultural and municipal water diversions) from increases in reservoir flow releases may lead to reductions to reservoir storage and could negatively affect reservoir-related water quality parameters by resulting in: 1) lower surface water elevations within the reservoir; 2) reductions in the volume of the cold water pool; and 3) alteration of pollutant concentrations. Such changes to reservoir water quality could also result in direct and indirect affects to reservoir-dependent aquatic and human uses such as fisheries and primary and secondary contact recreational use.

1.5 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative in the Upstream from the Delta Region – Detailed Discussion

The following is a detailed analysis of the effects of the Flexible Purchase Alternative in the Upstream from the Delta Region. These effects are summarized in Chapter 5 of the EWA Draft EIS/EIR. Chapter 5 also includes a complete discussion of effects to the Delta Region and Export Service Area of EWA actions.

The analysis provides a program-specific evaluation of the Flexible Purchase Alternative as compared to the Baseline Condition. The anticipated change that would occur under each scenario is compared to the significance criteria to ascertain whether the EWA Program alternative would result in "*beneficial*," "*less-than-significant*," or "*significant*" impacts on water quality.

1.5.1 Stored Reservoir Water (Including Stored Water Acquired from Crop Idling and Groundwater Substitution)

1.5.1.1 CVP/SWP Reservoirs Within the Upstream from the Delta Region

Lake Shasta

EWA acquisition of Sacramento River contractor water via stored reservoir water, groundwater substitution and crop idling under the Flexible Purchase Alternative would alter surface water elevation and reservoir storage in Lake Shasta, relative to the Baseline Condition.

Under the Flexible Purchase Alternative, long-term average end-of-month water surface elevation in Lake Shasta would remain essentially equivalent to the Baseline Condition during every month of the year. The long-term average end-of-month water surface elevation in Lake Shasta would not decrease by more than 1 foot in any of the months included in the analysis. Long-term average end-of-month water surface elevation would decrease by 1 foot in August (Table G-1). Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Shasta would be essentially equivalent to or greater than the Baseline Condition for 831 months of the 864 months included in the analysis. In Lake Shasta, hydrologic conditions under the Flexible Purchase Alternative would result in reductions in the end-of-month water surface elevation from the months of July and August. Reductions in the end-

of-month water surface elevation would range from 5 feet in July to 4 feet in August [Appendix H, p. 181 to 192].

Table G-1
Long-term Average Lake Shasta End-of-Month Elevation Under the Baseline Condition and Flexible Purchase Alternative

Month	Average Elevation[1] (feet msl)		
	Baseline Condition	Flexible Purchase Alternative	Difference
Jan	998	998	0
Feb	1011	1011	0
Mar	1027	1027	0
Apr	1037	1037	0
May	1036	1036	0
Jun	1024	1024	0
Jul	1001	1001	0
Aug	984	983	-1
Sep	977	977	0
Oct	973	972	0
Nov	977	977	0
Dec	985	985	0

[1] Based on 72 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Shasta during critical years would be essentially equivalent to or greater than the Baseline Condition for 106 months of the 132 months included in the analysis. Within critical years, the long-term average end-of-month water surface elevation in Lake Shasta would not decrease or increase in any month of the year except during July through September. Within critical years, the long-term average end-of-month water surface elevation in Lake Shasta would increase in 2 of the 11 years included in the analysis in July and in 1 of the 11 years included in the analysis in September. The long-term average end-of-month water surface elevation increase during critical years would range from 0.4 feet in July to less than 0.1 feet in September, representing a 0.05 percent and 0.01 percent increase, respectively, as compared to the Baseline Condition. Decreases within critical years would occur in 9 of the 11 years included in the analysis in July, in 11 of the 11 years included in the analysis in August, and in 6 of the 11 years in the analysis in September. The long-term average end-of-month water surface elevation decrease during critical years would range from 2.3 feet in July to 0.1 feet in September, representing a 0.26 percent to 0.01 percent decrease during that period, as compared to the Baseline Condition [Appendix H, p. 1001].

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Shasta during dry years would be essentially equivalent to or greater than the Baseline Condition for 170 months of the 192 months included in the analysis. Within dry years, the long-term average end-of-month water surface elevation in Lake Shasta would not decrease or increase in any month of the year except during July through September. The increases would occur in 1 of the 16 years included in the analysis in July. The long-term average end-of-month water surface elevation increase during dry years would average 0.3 feet in July, representing up to a 0.03 percent increase, as

compared to the Baseline Condition. The decreases during dry years in the long-term average end-of-month water surface elevation would occur in 9 of the 16 years included in the analysis in July, in 10 of the 16 years included in the analysis in August, and in 3 of the 16 years in the analysis in September. The long-term average end-of-month water surface elevation decrease during dry years would be up to 1 foot in July and August, and 0.1 foot in September, representing a 0.02 to 0.11 percent decrease, as compared to the Baseline Condition [Appendix H, p. 1001].

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Shasta during below normal years would be essentially equivalent to or greater than the Baseline Condition for 153 months of the 168 months included in the analysis. During below normal years, the long-term average end-of-month water surface elevation in Lake Shasta would not decrease or increase in any month of the year except during July through September. The increases would occur in 2 of the 14 years included in the analysis in July, August, and September. The long-term average end-of-month water surface elevation increase during below normal years would range from 0.3 feet in July to 0.7 foot in August, representing a 0.03 percent and 0.07 percent increase, respectively, as compared to the Baseline Condition. The decreases during below normal years in the long-term average end-of-month water surface elevation would occur in 6 of the 14 years included in the analysis in July and August, and in 3 of the 14 years included in the analysis in September. The long-term average end-of-month water surface elevation decrease during below normal years would be up to 1.3 feet in both July and August, and 0.1 feet for September, representing a 0.13 percent decrease in July, a 0.07 percent decrease in August and a 0.01 percent decrease in September as compared to the Baseline Condition [Appendix H, p. 1001].

Additionally, long-term average end-of-month storage in Lake Shasta would remain essentially equivalent under the Flexible Purchase Alternative relative to the Baseline Condition. The long-term average end-of-month storage in Lake Shasta would not decrease by more than 0.6 percent in July, August, and September. Long-term average end-of-month storage would decrease by 0.6 percent in July and 0.4 percent in August (Table G-2). Under the Flexible Purchase Alternative, the end-of-month storage in Lake Shasta would be essentially equivalent to or greater than the Baseline Condition for 827 months of the 864 months included in the analysis. In Lake Shasta, hydrologic conditions under the Flexible Purchase Alternative would result in reductions in the end-of-month storage in the months of July and August. Reductions in the end-of-month storage would range from 5.9 percent in July to 4.3 percent in August [Appendix H, p. 97 to 108].

Under the Flexible Purchase Alternative, the end-of-month storage in Lake Shasta during critical years would be essentially equivalent to or greater than the Baseline Condition for 106 months of the 132 months included in the analysis. Within critical years, the long-term average end-of-month storage in Lake Shasta would not increase or decrease during any months of the year except during July through September. Within critical years, the long-term average end-of-month storage in Lake Shasta would increase in 2 of the 11 years included in the analysis in July and in 1 of the 11

years included in the analysis in September. The long-term average end-of-month storage increase during critical years would range from 4.4 thousand acre-feet (TAF) in July to 0.5 TAF in September, representing a 0.44 percent and 0.03 percent increase, respectively, as compared to the Baseline Condition. Decreases within critical years would occur in 9 of the 11 years included in the analysis in July, in 11 of the 11 years included in the analysis in August, and in 6 of the 11 years included in the analysis in September. The long-term average end-of-month storage decrease during critical years would range from 28 TAF in July to 0.5 TAF in September, representing a 2.6 percent to 0.06 percent decrease during that period, as compared to the Baseline Condition [Appendix H, p. 1000].

Table G-2
Long-term Average Lake Shasta End-of-Month Storage
Under the Baseline Condition and Flexible Purchase Alternative

	Average Storage[1] (TAF)		***Difference***	
Month	***Baseline Condition***	***Flexible Purchase Alternative***	***(TAF)***	***(%)[2]***
Jan	2914	2914	0	0.0
Feb	3184	3184	0	0.0
Mar	3544	3544	0	0.0
Apr	3793	3793	0	0.0
May	3780	3780	0	0.0
Jun	3495	3495	0	0.0
Jul	3018	2999	-19	-0.6
Aug	2655	2645	-10	-0.4
Sep	2511	2510	-1	0.0
Oct	2432	2432	0	0.0
Nov	2509	2509	0	0.0
Dec	2672	2672	0	0.0

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the end-of-month storage in Lake Shasta during dry years would be essentially equivalent to or greater than the Baseline Condition for 170 months of the 192 months included in the analysis. Within dry years, the long-term average end-of-month storage in Lake Shasta would not decrease or increase in any month of the year except during July through September. The increases would occur in 1 of the 16 years included in the analysis in July. The long-term average end-of-month storage increase during dry years would average 5 TAF in July, representing a 0.2 percent increase, as compared to the Baseline Condition. The decreases during dry years in the long-term average end-of-month storage would occur in 9 of the 16 years included in the analysis in July, in 10 of the 16 years included in the analysis in August, and in 3 of the 16 years included in the analysis in September. The long-term average end-of-month storage decrease during dry years would range from 15 TAF in July to 2 TAF in September, representing a 0.9 percent to 0.2 percent decrease during that period, as compared to the Baseline Condition [Appendix H, p. 1000].

Under the Flexible Purchase Alternative, the end-of-month storage in Lake Shasta during below normal years would be essentially equivalent to or greater than the Baseline Condition for 153 months of the 168 months included in the analysis. During below normal years, the long-term average end-of-month storage in Lake Shasta would not decrease or increase in any month of the year except during July through September. Increases would occur in 2 of the 14 years included in the analysis in each of July, August and September. The long-term average end-of-month storage increase during below normal years would range from 14 TAF in August to 0.4 TAF in September, representing up to a 0.6 increase during July through September, as compared to the Baseline Condition. The decreases during below normal years in the long-term average end-of-month storage would occur in 6 of the 14 years included in the analysis in July and August, and in 3 of the 14 years included in the analysis in September. The long-term average end-of-month storage decrease during below normal years would range from 30 TAF in July to 1 TAF in September, representing a 1 percent to 0.05 percent decrease, during that period, as compared to the Baseline Condition [Appendix H, p. 1000].

Overall, Lake Shasta end-of-month water surface elevation and reservoir storage under the Flexible Purchase Alternative would be essentially equivalent to or greater than end-of-month water surface elevation and reservoir storage under the Baseline Condition. Additionally, end-of-month water surface elevation under the Flexible Purchase Alternative would be essentially equivalent to or greater than the end-of-month water surface elevation under the Baseline Condition in 831 months of the 864 months analyzed, and end-of-month storage under the Flexible Purchase Alternative would be essentially equivalent to or greater than the end-of-month storage under the Baseline Condition in 827 months of the 864 months analyzed. Therefore, implementation of the Flexible Purchase Alternative would not be expected to adversely affect concentrations of water quality constituents or water temperatures in Lake Shasta. As a result, any differences in water surface elevation and reservoir storage would not be expected to be of sufficient magnitude and frequency to affect water quality in such a way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards or substantial degradation of water quality. Consequently, potential effects to water quality in Lake Shasta would be considered less than significant.

Lake Oroville

EWA acquisition of Feather River contractor water via stored reservoir water, groundwater substitution and crop idling under the Flexible Purchase Alternative would alter surface water elevations or reservoir storage in Lake Oroville, relative to the Baseline Condition.

Under the Flexible Purchase Alternative, the long-term average end-of-month water surface elevation in Lake Oroville would remain essentially equivalent to or greater than the Baseline Condition during most months of the year (Table G-3). In fact, the long-term average end-of-month water surface elevation in Lake Oroville would increase in May and June. Long-term average end-of-month water surface elevation would increase by 0.2 percent in May and 0.4 percent in June (Table G-3). Under the

Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Oroville would be essentially equivalent to or greater than the Baseline Condition for 762 months of the 864 months included in the analysis. In Lake Oroville, hydrologic conditions under the Flexible Purchase Alternative would result in reductions in the end-of-month water surface elevation in the months of July and August. Reductions in the end-of-month water surface elevation would range from 17 feet in July to 10 feet in August [Appendix H, p. 580-591].

Table G-3
Lake Oroville End-of-Month Elevation Under the Baseline Condition and Flexible Purchase Alternative

Month	Average Elevation[1] (feet msl)		
	Baseline Condition	Flexible Purchase Alternative	Difference
Jan	807	807	0
Feb	824	824	0
Mar	840	840	0
Apr	857	857	0
May	864	866	2
Jun	849	852	3
Jul	825	821	-4
Aug	794	791	-3
Sep	782	782	0
Oct	775	775	0
Nov	780	780	0
Dec	791	791	0

[1] During 72 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1, Assessment Methods.

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Oroville during critical years would be essentially equivalent to or greater than the Baseline Condition for 110 months of the 132 months included in the analysis. During critical years, the long-term average end-of-month water surface elevation in Lake Oroville would not decrease or increase in any month of the year except during May through September. Within critical years, the long-term average end-of-month water surface elevation in Lake Oroville would increase in 11 of the 11 years included in the analysis in May and June, in 5 of the 11 years included in the analysis in July, and in 3 of the 11 years in the analysis in September. The long-term average end-of-month water surface elevation increase during critical years would be up to 5 feet in May, 10 feet in June, 5 feet in July, and 0.1 feet in September, representing 0.6 percent, 1.3 percent, 0.7 percent, and 0.02 percent increase, respectively, as compared to the Baseline Condition. The decreases during critical years in the long-term average end-of-month water surface elevation would occur in 6 of the 11 years included in the analysis in July, in 11 of the 11 years included in the analysis in August, and in 5 of the 11 years included in the analysis in September. The long-term average end-of-month water surface elevation decrease during critical years would range from 7 feet in July to 1 foot in September, representing a 1 percent to 0.2 percent decrease during that period, as compared to the Baseline Condition [Appendix H, p. 1005].

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Oroville during dry years would be essentially equivalent to or greater than the Baseline Condition for 162 months of the 192 months included in the analysis. Within dry years, the long-term average end-of-month water surface elevation in Lake Oroville would not decrease or increase in any month of the year except May through September. The increases would occur in 10 of the 16 years included in the analysis in May and June, in 6 of the 16 years included in the analysis in July, and in 3 of the 16 years included in the analysis in September. The long-term average end-of-month water surface elevation increase during dry years would be up to 3 feet in May, 6 feet in June, 5 feet in July, and 0.1 feet in September, representing a 0.3 percent, 0.7 percent, 0.6 percent, and 0.01 percent increase, respectively, as compared to the Baseline Condition. The decreases during dry years in the long-term average end-of-month water surface elevation would occur in 10 of the 16 years included in the analysis in July, in 16 of the 16 years included in the analysis in August and in 4 of the 16 years included in the analysis in September. The long-term average end-of-month water surface elevation decrease during dry years would range from 5 feet in July, to 0.4 feet in September, representing a 0.6 percent to 0.06 percent decrease during that period, as compared to the Baseline Condition [Appendix H, p. 1005].

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Lake Oroville during below normal years would be essentially equivalent to or greater than the Baseline Condition for 134 months of the 168 months included in the analysis. During below normal years, the long-term average end-of-month water surface elevation in Lake Oroville would not decrease or increase in any month of the year except during May through September. The increases would occur in 6 of the 14 years included in the analysis in May and in 7 of the 14 years included in the analysis in June. The long-term average end-of-month water surface elevation increase during below normal years would range from 1 foot in May to 3 feet in June, representing a 0.2 percent and 0.3 percent increase, respectively, as compared to the Baseline Condition. The decreases during below normal years in the long-term average end-of-month water surface elevation would occur in 14 of the 14 years included in the analysis in July, in 11 of the 14 years included in the analysis in August, and in 7 of the 14 years included in the analysis in September. The long-term average end-of-month water surface elevation decrease during below normal years would range from 4 feet in July to 0.3 feet in September, representing a 0.5 percent to 0.04 percent decrease, during that period, as compared to the Baseline Condition [Appendix H, p. 1005].

Long-term average end-of-month storage in Lake Oroville under the Flexible Purchase Alternative would remain essentially equivalent to or greater than the Baseline Condition during most months of the year. The long-term average end-of-month storage in Lake Oroville would increase in May and June and decrease in July, August, and September. Long-term average end-of-month storage would increase by 0.6 percent in May and 1.4 percent in June and decrease by 2.0 percent in July, 1.2 percent in August, and 0.1 percent in September (Table G-4). Under the Flexible Purchase Alternative, the end-of-month storage in Lake Oroville would be essentially

equivalent to or greater than the Baseline Condition for 771 months of the 864 months included in the analysis. In Lake Oroville, hydrologic conditions under the Flexible Purchase Alternative would result in reductions in the end-of-month storage in the months of July, August, and September. Reductions in the end-of-month storage would be 9.3 percent in July, 6.1 percent in August, and 4.1 percent in September [Appendix H, p. 121-132].

Under the Flexible Purchase Alternative, the end-of-month storage in Lake Oroville during critical years would be essentially equivalent to or greater than the Baseline Condition for 110 months of the 132 months included in the analysis. Within critical years, the long-term average end-of-month storage in Lake Oroville would not decrease or increase in any month of the year except during May through September. Within critical years, the long-term average end-of-month storage in Lake Oroville would increase in 11 of the 11 years included in the analysis in May and June, in 5 of the 11 years included in the analysis in July, and in 3 of the 11 years included in the analysis in September. The long-term average end-of-month storage increase during critical years would range from 43 TAF in May, 92 TAF in June, 41 TAF in July, to 1 TAF in September, representing a 2.4 percent, 6.0 percent, 2.6 percent, and 0.1 percent increase, respectively, as compared to the Baseline Condition. The decreases during critical years in the long-term average end-of-month storage would occur in 6 of the 11 years included in the analysis in July, in 11 of the 11 years included in the analysis in August, and in 5 of the 11 years included in the analysis in September. The long-term average end-of-month storage decrease during critical years would range from 52 TAF in July to 3 TAF in September, representing a 4 percent to 1 percent decrease, during that period, as compared to the Baseline Condition [Appendix H, p. 1004].

Table G-4
Long-term Average Lake Oroville End of Month Storage Under the Baseline Condition and Flexible Purchase Alternative

	Average Storage[1] (TAF)		*Difference*	
Month	*Baseline Condition*	*Flexible Purchase Alternative*	*(TAF)*	*(%)[2]*
Jan	2350	2350	0	0.0
Feb	2525	2525	0	0.0
Mar	2704	2704	0	0.0
Apr	2953	2953	0	0.0
May	3056	3073	17	0.6
Jun	2849	2888	39	1.4
Jul	2557	2507	-50	-2.0
Aug	2218	2192	-26	-1.2
Sep	2105	2103	-2	-0.1
Oct	2047	2047	0	0.0
Nov	2099	2099	0	0.0
Dec	2199	2199	0	0.0

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the end-of-month storage in Lake Oroville during dry years would be essentially equivalent to or greater than the Baseline Condition for 158 months of the 192 months included in the analysis. Within dry years, the long-term average end-of-month storage in Lake Oroville would not decrease or increase in any month of the year except during May through September. The increases would occur in 10 of the 16 years included in the analysis in May and June, in 6 of the 16 years included in the analysis in July, and in 3 of the 16 years included in the analysis in September. The long-term average end-of-month storage increase during dry years would range from 37 TAF in May, 77 TAF in June, 52 TAF in July, to 1 TAF in September, representing a 1.4 percent, 3.1 percent, 2.5 percent, and 0.1 percent increase, respectively, as compared to the Baseline Condition. The decreases during dry years in the long-term average end-of-month storage would occur in 10 of the 16 years included in the analysis in July, in 16 of the 16 years included in the analysis in August, and in 4 of the 16 years included in the analysis in September. The long-term average end-of-month storage decrease during dry years would range from 50 TAF in July to 4 TAF in September, representing a 2.3 percent to 0.3 percent decrease, during that period, as compared to the Baseline Condition [Appendix H, p. 1004].

Under the Flexible Purchase Alternative, the end-of-month storage in Lake Oroville during below normal years would be essentially equivalent to or greater than the Baseline Condition for 136 months of the 168 months included in the analysis. During below normal years, the long-term average end-of-month storage in Lake Oroville would not decrease or increase in any month of the year except during May through September. The increases would occur in 6 of the 14 years included in the analysis in May and in 7 of the 14 years included in the analysis in June. The long-term average end-of-storage increase during below normal years would range from 20 TAF in May to 40 TAF in June, representing a 0.6 percent and 1.3 percent increase, respectively, as compared to the Baseline Condition. The decreases during below normal years in the long-term average end-of-month storage would occur in 14 of the 14 years included in the analysis in July and 11 of the 14 years included in the analysis in August and in 7 of the 14 years included in the analysis in September. The long-term average end-of-month storage decrease during below normal years would range from 53 TAF in July to 3 TAF in September, representing a 2.1 percent to 0.2 percent decrease, during that period, as compared to the Baseline Condition [Appendix H, p. 1004].

Overall, Lake Oroville end-of-month water surface elevation and reservoir storage under the Flexible Purchase Alternative would not be substantially less than end-of-month water surface elevation and reservoir storage under the Baseline Condition. Additionally, end-of-month water surface elevation under the Flexible Purchase Alternative would be essentially equivalent to or greater than the end-of-month water surface elevation under the Baseline Condition in 762 months of the 864 months analyzed, and end-of-month storage under the Flexible Purchase Alternative would be essentially equivalent to or greater than the end-of-month storage under the Baseline Condition in 771 months of the 864 months analyzed. Therefore, implementation of the Flexible Purchase Alternative would not be expected to

adversely affect concentrations of water quality constituents or water temperatures in Lake Oroville. As a result, any differences in water surface elevation and reservoir storage would not be expected to be of sufficient magnitude and frequency to affect water quality in such as way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards or substantial degradation of water quality. Consequently, potential effects to water quality would be considered less than significant.

Folsom Reservoir

EWA acquisition of American River contractor water via stored reservoir water, groundwater substitution and crop idling under the Flexible Purchase Alternative would alter surface water elevation and reservoir storage in Folsom Reservoir, relative to the Baseline Condition.

Under the Flexible Purchase Alternative, the long-term average end-of-month water surface elevation in Folsom Reservoir would remain essentially equivalent to the Baseline Condition during every month of the year. Long-term average end-of-month water surface elevation would decrease by 1 foot in July and 1 foot in August (Table G-5). Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Folsom Reservoir would be essentially equivalent to or greater than the Baseline Condition for 863 months of the 864 months included in the analysis. In Folsom Reservoir, hydrologic conditions under the Flexible Purchase Alternative would result in reductions in the end-of-month water surface elevation in the month of July. The greatest reductions in the end-of-month water surface elevation would be 2 feet in July [Appendix H, p. 193-204].

Table G-5
Long-term Average Folsom Reservoir End-of-Month Elevation Under the Baseline Condition and Flexible Purchase Alternative

	Average Elevation[1] (feet msl)		
Month	***Baseline Condition***	***Flexible Purchase Alternative***	***Difference***
Jan	411	411	0
Feb	414	414	0
Mar	425	425	0
Apr	438	438	0
May	449	449	0
Jun	444	444	0
Jul	428	427	-1
Aug	421	420	-1
Sep	411	411	0
Oct	409	409	0
Nov	407	407	0
Dec	408	408	0

[1] Based on 72 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Folsom Reservoir during critical years would be essentially equivalent to or greater than the Baseline Condition for 110 months of the 132 months included in the analysis. During critical years, the long-term average end-of-month water surface elevation in Folsom Reservoir would not increase during any month of the year and would decrease during July and August. Within critical years, the long-term average end-of-month water surface elevation in Folsom Reservoir would decrease in 11 of the 11 years included in the analysis in July and in August. The long-term average end-of-month water surface elevation decrease during critical years would be 1 foot in July and in August, representing a 0.2 percent decrease, each, as compared to the Baseline Condition [Appendix H, p. 1003].

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Folsom Reservoir during dry years would be essentially equivalent to or greater than the Baseline Condition for 160 months of the 192 months included in the analysis. Within dry years, the long-term average end-of-month water surface elevation in Folsom Reservoir would not increase in any month of the year and would decrease during July and August. The decreases would occur in 16 of the 16 years included in the analysis in July and in August. The long-term average end-of-month water surface elevation decrease during dry years would be 0.3 feet in July and 0.4 feet in August, representing a 0.1 percent decrease each, as compared to the Baseline Condition [Appendix H, p. 1003].

Under the Flexible Purchase Alternative, the end-of-month water surface elevation in Folsom Reservoir during below normal years would be essentially equivalent to or greater than the Baseline Condition for 140 months of the 168 months included in the analysis. During below normal years, the long-term average end-of-month water surface elevation in Folsom Reservoir would not increase in any month of the year and would decrease during July and August. The decreases would occur in 14 of the 14 years included in the analysis in July and in August. The long-term average end-of-month water surface elevation decrease during below normal years would be 0.4 feet in July and in August, representing a 0.1 percent decrease each, as compared to the Baseline Condition [Appendix H, p. 1003].

Additionally, long-term average end-of-month storage in Folsom Reservoir would remain essentially equivalent under the Flexible Purchase Alternative relative to the Baseline Condition. Long-term average end-of-month storage would decrease by 0.6 percent in July and 0.5 percent in August (Table G-6). Under the Flexible Purchase Alternative, the end-of-month storage in Folsom Reservoir would be essentially equivalent to or greater than the Baseline Condition for 851 months of the 864 months included in the analysis. In Folsom Reservoir, hydrologic conditions under the Flexible Purchase Alternative would result in reductions in the end-of-month storage from the months of July and August. Reductions in the end-of-month storage would range from 6 feet in July to 4 feet in August [Appendix H, p. 109-120].

Table G-6
Long-term Average Folsom Reservoir End-of-Month Storage
Under the Baseline Condition and Flexible Purchase Alternative

Month	Average Storage[1] (TAF)		Difference	
	Baseline Condition	Flexible Purchase Alternative	(TAF)	(%)[2]
Jan	473	473	0	0.0
Feb	495	495	0	0.0
Mar	584	584	0	0.0
Apr	703	703	0	0.0
May	815	815	0	0.0
Jun	769	769	0	0.0
Jul	626	622	-4	-0.6
Aug	568	565	-3	-0.5
Sep	488	488	0	0.0
Oct	469	469	0	0.0
Nov	451	451	0	0.0
Dec	457	457	0	0.0

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the end-of-month storage in Folsom Reservoir during critical years would be essentially equivalent to or greater than the Baseline Condition for 110 months of the 132 months included in the analysis. Within critical years, the long-term average end-of-month storage in Folsom Reservoir would not increase in any month of the year and would decrease during July and August. Within critical years, the long-term average end-of-month storage in Folsom Reservoir would decrease in 11 of the 11 years included in the analysis in July and in August. The long-term average end-of-month storage decrease during critical years would be 3 TAF in July and in August, representing a 1 percent decrease each, as compared to the Baseline Condition [Appendix H, p. 1002].

Under the Flexible Purchase Alternative, the end-of-month storage in Folsom Reservoir during dry years would be essentially equivalent to or greater than the Baseline Condition for 160 months of the 192 months included in the analysis. Within dry years, the long-term average end-of-month storage in Folsom Reservoir would not increase in any month of the year and would decrease during July and August. The decreases would occur in 16 of the 16 years included in the analysis in July and in August. The long-term average end-of-month storage decrease during dry years would be 2 TAF in July and 3 TAF in August, representing a 0.5 percent and 0.8 percent decrease, respectively, as compared to the Baseline Condition [Appendix H, p. 1002].

Under the Flexible Purchase Alternative, the end-of-month storage in Folsom Reservoir during below normal years would be essentially equivalent to or greater than the Baseline Condition for 140 months of the 168 months included in the analysis. During below normal years, the long-term average end-of-month storage in Folsom Reservoir would not increase in any month of the year and would decrease during July and August. The decreases would occur in 14 of the 14 years included in

the analysis in July and in August. The long-term average end-of-month decrease during below normal years would be 4 TAF in July and 3 TAF in August, representing a 0.6 percent decrease each, as compared to the Baseline Condition [Appendix H, p. 1002].

Overall, Folsom Reservoir end-of-month water surface elevation and reservoir storage under the Flexible Purchase Alternative would be essentially equivalent to or greater than end-of-month water surface elevation and reservoir storage under the Baseline Condition. Additionally, end-of-month water surface elevation under the Flexible Purchase Alternative would be essentially equivalent to or great than the end-of-month water surface elevation under the Baseline Condition in 863 months of the 864 months analyzed, and end-of-month storage under the Flexible Purchase Alternative would be essentially equivalent to or great than the end-of-month storage under the Baseline Condition in 851 months of the 864 months analyzed. Therefore, implementation of the Flexible Purchase Alternative would not be expected to adversely affect concentrations of water quality constituents or water temperatures in Folsom Reservoir. As a result, any differences in water surface elevation and reservoir storage would not be expected to be of sufficient magnitude and frequency to affect water quality in such as way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards or substantial degradation of water quality. Consequently, potential effects to water quality would be considered less than significant.

1.5.1.2 Non-Project Reservoirs Within the Upstream from the Delta Region

Little Grass Valley and Sly Creek Reservoirs

EWA acquisition of OWID stored reservoir water would reduce surface water elevation and reservoir storage in Little Grass Valley and Sly Creek reservoirs, relative to the Baseline Condition.

Table G-7 provides monthly median reservoir storage and water surface elevation for Little Grass Valley Reservoirs. In Little Grass Valley Reservoir, hydrologic conditions under the Flexible Purchase Alternative would result in reduction of median reservoir storage for the months of November through April as compared to the Baseline Condition. Reductions in median reservoir storage would range from 3 percent in April to 24 percent in December under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative would result in reduction of the median water surface elevation for the months of November through April as compared to the Baseline Condition. Reductions in median water surface elevation would range from 2 feet in April to 12 feet in December under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-7
Little Grass Valley Reservoir Monthly Median Storage, and Water Surface Elevation Under the Baseline Condition and Flexible Purchase Alternative

	Storage				Elevation		
Month	Baseline Condition (TAF)	Flexible Purchase Alternative (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	Flexible Purchase Alternative (ft msl)	Diff (ft msl)
Oct	52	52	0	0	5018	5018	0
Nov	50	44	-6	-12	5015	5010	-6
Dec	50	38	-12	-24	5016	5004	-12
Jan	57	48	-10	-17	5022	5013	-9
Feb	63	55	-7	-11	5027	5021	-6
Mar	70	65	-5	-7	5033	5029	-4
Apr	76	73	-2	-3	5037	5035	-2
May	86	86	0	0	5044	5044	0
Jun	86	86	0	0	5044	5044	0
Jul	76	76	0	0	5037	5037	0
Aug	66	66	0	0	5029	5029	0
Sep	58	58	0	0	5023	5023	0

Based on median monthly storage and flow over the historical record from 1970 to 2001.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

The monthly median storage and water surface elevation for Little Grass Valley Reservoir during critical and dry and below normal years are provided in Tables G-8 and G-9, respectively. In Little Grass Valley Reservoir, hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of median reservoir storage from the months of November through April as compared to the Baseline Condition. Reductions in median reservoir storage during critical years would range from 3 percent in April to 24 percent in December under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of the median water surface elevation from the months of November through April as compared to the Baseline Condition. Reductions in median water surface elevation during critical years would range from 2 feet in April to 12 feet in December under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-8
Little Grass Valley Reservoir Monthly Median Storage, Elevation, Elevation Change, and Release Under the Baseline Condition and Flexible Purchase Alternative During Critical Years

	Storage				Elevation		
Month	Baseline Condition (TAF)	Flexible Purchase Alternative (TAF)	Diff (TAF)	Diff (%))	Baseline Condition (ft msl)	Flexible Purchase Alternative (ft msl)	Diff (ft msl)
Oct	51	51	0	0	5016	5016	0
Nov	50	44	-6	-12	5016	5010	-6
Dec	48	36	-12	-24	5014	5002	-12
Jan	44	35	-10	-17	5010	5000	-10
Feb	47	40	-7	-11	5013	5006	-7
Mar	52	47	-5	-7	5018	5013	-4
Apr	60	57	-2	-3	5024	5022	-2
May	67	76	0	0	5030	5030	0
Jun	67	67	0	0	5030	5030	0
Jul	65	65	0	0	5029	5029	0
Aug	61	61	0	0	5025	5025	0
Sep	57	57	0	0	5022	5022	0

Based on median monthly storage and flow over the historical record from 1970 to 2001. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Table G-9
Little Grass Valley Reservoir Monthly Median Storage and Elevation Under the Baseline Condition and Flexible Purchase Alternative During Dry and Below Normal Years

	Storage				Elevation		
Month	Baseline Condition (TAF)	Flexible Purchase Alternative (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	Flexible Purchase Alternative (ft msl)	Diff (ft msl)
Oct	52	52	0	0	5018	5018	0
Nov	50	44	-6	-12	5015	5010	-6
Dec	49	37	-12	-24	5015	5002	-12
Jan	50	40	-10	-17	5015	5006	-9
Feb	55	47	-7	-11	5020	5013	-7
Mar	67	62	-5	-7	5030	5026	-4
Apr	76	74	-2	-3	5037	5035	-2
May	81	81	0	0	5040	5040	0
Jun	80	80	0	0	5040	5040	0
Jul	74	74	0	0	5035	5035	0
Aug	66	66	0	0	5029	5029	0
Sep	60	60	0	0	5025	5025	0

Based on median monthly storage and flow over the historical record from 1970 to 2001. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of median reservoir storage from the months of November through April as compared to the Baseline Condition. Reductions in median reservoir storage during dry and below normal years would range from 3 percent in April to 24 percent in December under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of the median water surface elevation for the months of November through April as

compared to the Baseline Condition. Reductions in median water surface elevation during dry and below normal years would range from 2 feet in April to 12 feet in December under the Flexible Purchase Alternative relative to the Baseline Condition.

In Sly Creek Reservoir, hydrologic conditions under the Flexible Purchase Alternative would result in reduction of median reservoir storage from the months of November through April as compared to the Baseline Condition (Table G-10). Reductions in median reservoir storage would range from 2 percent in April to 27 percent in December under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative would result in reduction of the median water surface elevation from the months of November through April as compared to the Baseline Condition. Reductions in median water surface elevation would range from 2 feet in April to 18 feet in December under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-10
Sly Creek Reservoir Monthly Median Storage and Elevation
Under the Baseline Condition and Flexible Purchase Alternative

	Storage				*Elevation*		
Month	*Baseline Condition (TAF)*	*Flexible Purchase Alternative (TAF)*	*Diff (TAF)*	*Diff (%)*	*Baseline Condition (ft msl)*	*Flexible Purchase Alternative (ft msl)*	*Diff (ft msl)*
Oct	22	22	0	0	3438	3438	0
Nov	21	18	-3	-12	3434	3425	-8
Dec	19	14	-5	-27	3427	3410	-18
Jan	27	23	-4	-15	3453	3441	-12
Feb	36	33	-3	-8	3476	3468	-8
Mar	48	46	-2	-4	3504	3500	-4
Apr	55	54	-1	-2	3521	3519	-2
May	62	62	0	0	3536	3536	0
Jun	58	58	0	0	3525	3525	0
Jul	48	48	0	0	3504	3504	0
Aug	33	33	0	0	3469	3469	0
Sep	25	25	0	0	3447	3447	0

Based on median monthly storage and flow over the historical record from 1970 to 2001. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

The monthly median storage and water surface elevation for Sly Creek Reservoir during critical and dry and below normal years are provided in Tables G-11 and G-12, respectively. In Sly Creek Reservoir, hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of median reservoir storage from the months of November through April as compared to the Baseline Condition. Reductions in median reservoir storage during critical years would range from 2 percent in April to 27 percent in December under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of the median water surface elevation from the months of November through April as compared to the Baseline Condition. Reductions in median water surface elevation during critical years would range from 2 feet in April to 18 feet in December under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-11
Sly Creek Reservoir Monthly Median Storage and Elevation
Under the Baseline Condition and Flexible Purchase Alternative During Critical Years

	Storage				Elevation		
Month	Baseline Condition (TAF)	Flexible Purchase Alternative (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	Flexible Purchase Alternative (ft msl)	Diff (ft msl)
Oct	28	28	0	0	3455	3455	0
Nov	19	17	-3	-12	3429	3421	-8
Dec	18	13	-5	-27	3425	3407	-18
Jan	18	14	-4	-15	3426	3412	-14
Feb	22	19	-3	-8	3437	3427	-10
Mar	36	34	-2	-4	3476	3471	-5
Apr	55	54	-1	-2	3520	3518	-2
May	58	58	0	0	3527	3527	0
Jun	48	48	0	0	3505	3505	0
Jul	38	38	0	0	3482	3482	0
Aug	28	28	0	0	3455	3455	0
Sep	23	23	0	0	3439	3439	0

Based on median monthly storage and flow over the historical record from 1970 to 2001. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Table G-12
Sly Creek Reservoir Monthly Median Storage and Elevation Under the
Baseline Condition and Flexible Purchase Alternative During Dry and Below Normal Years

	Storage				Elevation		
Month	No Action/ No Project Alternative (TAF)	Flexible Purchase Alternative (TAF)	Diff (TAF)	Diff (%)	No Action/ No Project Alternative (ft msl)	Flexible Purchase Alternative (ft msl)	Diff (ft msl)
Oct	19	19	0	0	3427	3427	0
Nov	15	12	-3	-12	3412	3403	-9
Dec	10	5	-5	-27	3395	3374	-21
Jan	14	10	-4	-15	3409	3394	-15
Feb	21	18	-3	-8	3435	3425	-10
Mar	36	34	-2	-4	3477	3472	-5
Apr	57	56	-1	-2	3523	3521	-2
May	62	62	0	0	3536	3536	0
Jun	57	57	0	0	3524	3524	0
Jul	46	46	0	0	3500	3500	0
Aug	37	37	0	0	3480	3480	0
Sep	33	33	0	0	3470	3470	0

Based on median monthly storage and flow over the historical record from 1970 to 2001. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of median reservoir storage for the months of November through April as compared to the Baseline Condition. Reductions in median reservoir storage during dry and below normal years would range from 2 percent in April to 27 percent in December under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of the median water surface elevation for the months of November through April as compared to the Baseline Condition. Reductions in median water surface elevation

during dry and below normal years would range from 2 feet in April to 21 feet in December under the Flexible Purchase Alternative relative to the Baseline Condition.

Overall, median water surface elevation and median reservoir storage under the Flexible Purchase Alternative would be decreased from November to April as compared to the Baseline Condition. Water temperatures during these months of the year would be expected to be at their lowest points during the annual cycle, and therefore the decrease in median reservoir storage and water surface elevation would not be expected to cause an increase in water temperature that would affect overall reservoir water quality. Additionally, because of the high quality of the water flowing into these reservoirs, the decrease in median reservoir storage and water surface elevation would not be expected to cause an increase in concentrations of water quality constituents that would affect overall reservoir water quality. As a result, any differences in median water surface elevation and reservoir storage would not be expected to be of sufficient magnitude and frequency to affect long-term water quality in such a way that would result in adverse effects to designated beneficial uses, exceedance of existing regulatory standards or substantial degradation of water quality. Consequently, potential effects to water quality would be considered less than significant.

New Bullards Bar Reservoir

EWA acquisition of Yuba County Water Agency via stored reservoir water and groundwater substitution would alter surface water elevation and reservoir storage in New Bullards Bar Reservoir, relative to the Baseline Condition.

Table G-13 provides monthly median reservoir storage and water surface elevation for New Bullards Bar Reservoir. In New Bullards Bar Reservoir, hydrologic conditions under the Flexible Purchase Alternative would result in reduction of median reservoir storage from the months of July through January as compared to the Baseline Condition. Reductions in median reservoir storage would range from 1 percent in July to 18 percent in October and November under the Flexible Purchase Alternative relative to the Baseline Condition. Additionally, median reservoir storage would increase by up to 5 percent between April and June. Hydrologic conditions under the Flexible Purchase Alternative would result in reduction of the median water surface elevation from the months of July through January as compared to the Baseline Condition. Reductions in median water surface elevation would range from 1 foot in July to 27 feet in October under the Flexible Purchase Alternative relative to the Baseline Condition. Additionally, median water surface elevation would increase by up to 5 feet between April and June.

Table G-13
New Bullards Bar Reservoir Monthly Median Storage and Elevation
Under the Baseline Condition and Flexible Purchase Alternative

	Storage				Elevation		
Month	Baseline Condition (TAF)	Flexible Purchase Alternative (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	Flexible Purchase Alternative (ft msl)	Diff (ft msl)
Oct	544	446	-98	-18	1838	1812	-27
Nov	546	449	-98	-18	1839	1812	-26
Dec	532	442	-90	-17	1835	1810	-25
Jan	593	578	-15	-3	1850	1847	-3
Feb	649	649	0	0	1862	1862	0
Mar	735	735	0	0	1878	1878	0
Apr	774	788	14	2	1884	1886	2
May	879	908	28	3	1899	1902	3
Jun	917	960	43	5	1903	1908	5
Jul	825	820	-5	-1	1892	1891	-1
Aug	713	660	-52	-7	1874	1864	-10
Sep	614	514	-100	-16	1855	1831	-24

Based on median monthly storage and flow over the historical record from 1970 to 2001. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Monthly median reservoir storage and water surface elevation for New Bullards Bar Reservoir during critical and dry and below normal years are provided in Table G-14 and Table G-15, respectively. In New Bullards Bar Reservoir, hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of median reservoir storage from the months of July through December as compared to the Baseline Condition. Reductions in median reservoir storage during critical years would range from 0.8 percent in July to 19 percent in September under the Flexible Purchase Alternative relative to the Baseline Condition. Additionally, median reservoir storage during critical years would increase by up to 7 percent in June. Hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of the median water surface elevation from the months of July through December as compared to the Baseline Condition. Reductions in median water surface elevation during critical years would range from 1 foot in July to 28 feet in September under the Flexible Purchase Alternative relative to the Baseline Condition. Additionally, median water surface elevation during critical years would increase by up to 8 feet in June.

Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of median reservoir storage from the months of July through January as compared to the Baseline Condition. Reductions in median reservoir storage during dry and below normal years would range from 0.6 percent in July to 17 percent in September under the Flexible Purchase Alternative relative to the Baseline Condition. Additionally, median reservoir storage during dry and below normal years would increase by up to 5 percent in June. Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of the median water surface elevation from the months of July through January as compared to the Baseline Condition. Reductions

in median water surface elevation during dry and below normal years would range from 1 foot in July to 25 feet in September under the Flexible Purchase Alternative relative to the Baseline Condition. Additionally, median water surface elevation during dry and below normal years would increase by up to 6 feet in June.

Table G-14
New Bullards Bar Reservoir Monthly Median Storage, Elevation, Elevation Change, and Release Under the Baseline Condition and Flexible Purchase Alternative During Critical Years

	Storage				*Elevation*		
Month	*Baseline Condition (TAF)*	*Flexible Purchase Alternative (TAF)*	*Diff (TAF)*	*Diff (%)*	*Baseline Condition (ft msl)*	*Flexible Purchase Alternative (ft msl)*	*Diff (ft msl)*
Oct	584	523	-62	-11	1848	1833	-15
Nov	562	518	-44	-8	1843	1832	-11
Dec	555	532	-23	-4	`841	1835	-6
Jan	519	519	0	0	1832	1832	0
Feb	546	546	0	0	1839	1839	0
Mar	640	640	0	0	1860	1860	0
Apr	714	728	14	2	1874	1877	2
May	681	709	28	4	1868	1874	5
Jun	634	677	43	7	1859	1868	8
Jul	589	584	-5	-0.8	1849	1848	-1
Aug	547	495	-52	-10	1839	1826	-14
Sep	534	434	-100	-19	1836	1808	-28

Based on median monthly storage and flow over the historical record from 1970 to 2001 Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Table G-15
New Bullards Bar Reservoir Monthly Median Storage and Elevation Under the Baseline Condition and Flexible Purchase Alternative During Dry and Below Normal Years

	Storage				*Elevation*		
Month	*Baseline Condition (TAF)*	*FPA (TAF)*	*Diff (TAF)*	*Diff (%)*	*Baseline Condition (ft msl)*	*FPA (ft msl)*	*Diff (ft msl)*
Oct	522	459	-63	-12	1833	1815	-17
Nov	485	443	-43	-9	1823	1811	-12
Dec	445	425	-20	-4	1811	1805	-6
Jan	436	431	-5	-1	1809	1807	-2
Feb	460	460	0	0	1816	1816	0
Mar	615	615	0	0	1855	1855	0
Apr	762	776	14	2	1882	1885	3
May	811	840	28	3	1890	1894	4
Jun	772	814	43	5	1884	1890	6
Jul	733	728	-5	-0.6	1878	1877	-1
Aug	648	596	-52	-8	1862	1851	-11
Sep	595	495	-100	-17	1850	1826	-25

Based on median monthly storage and flow over the historical record from 1970 to 2001 Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Overall, median water surface elevation and median reservoir storage under the Flexible Purchase Alternative would be decreased from July to January, but would increase from April through June as compared to the Baseline Condition. Water temperatures during the months of greatest reductions (September through

December) would be expected to be low enough that the decrease in median reservoir storage and water surface elevation would not cause an increase in water temperature that would affect overall reservoir water quality. Additionally, because of the high quality of the water flowing into this reservoir, the decrease in median reservoir storage and water surface elevation would not be expected to cause an increase in concentrations of water quality constituents that would affect overall reservoir water quality. As a result, any differences in median water surface elevation and reservoir storage would not be expected to be of sufficient magnitude and frequency to affect long-term water quality in such as way that would result in adverse effects to designated beneficial uses, exceedance of existing regulatory standards or substantial degradation of water quality. Consequently, potential effects to water quality would be considered less than significant.

French Meadows and Hell Hole Reservoirs

EWA acquisition of Placer County Water Agency-stored reservoir water would decrease surface water elevation and reservoir storage in French Meadows and Hell Hole reservoirs, relative to the Baseline Condition.

Table G-16 provides monthly median reservoir storage and water surface elevation for French Meadows Reservoir. In French Meadows Reservoir, hydrologic conditions under the Flexible Purchase Alternative would result in reduction of median reservoir storage from the months of July through January as compared to the Baseline Condition. Reductions in median reservoir storage would range from 2 percent in July to 12 percent in October under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative would result in reduction of the median water surface elevation from the months of July through January as compared to the Baseline Condition. Reductions in median water surface elevation would range from 2 feet in July to 8 feet in October under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-16
French Meadows Reservoir Monthly Median Storage, Elevation and Flow Below Ralston Afterbay Under the Baseline Condition and Flexible Purchase Alternative

	Storage				Elevation			Median Flow Below Ralston (1974-2001)			
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)	Base Cond. (cfs)	FPA (cfs)	Diff (cfs)	Diff (%)
Oct	67	59	-8	-12	5205	5197	-8	258	258	0	0
Nov	59	57	-3	-5	5197	5194	-3	488	275	-213	-43.6
Dec	56	53	-3	-5	5193	5189	-3	265	265	0	0
Jan	61	58	-2	-4	5198	5196	-3	281	266	-15	-5.3
Feb	61	61	0	0	5199	5199	0	437	325	-112	-25.6
Mar	75	75	0	0	5213	5213	0	615	615	0	0
Apr	93	93	0	0	5229	5229	0	554	554	0	0
May	116	116	0	0	5246	5246	0	656	656	0	0
Jun	129	129	0	0	5256	5256	0	631	698	67	10.7
Jul	113	111	-3	-2	5244	5242	-2	629	736	107	17.1
Aug	100	94	-5	-5	5234	5230	-4	666	773	107	16.1
Sep	82	74	-8	-9	5219	5212	-7	456	500	44	9.6

Based on median monthly storage and flow over the historical record from 1974 to 2001 with a maximum 20 TAF EWA Action on French Meadows and Hell Hole Reservoirs combined.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Monthly median reservoir storage and water surface elevation for French Meadows during critical and dry and below normal years are provided in Table G-17 and Table G-18, respectively. In French Meadows Reservoir, hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of median reservoir storage during the months of July through October as compared to the Baseline Condition. Reductions in median reservoir storage during critical years would range from 4 percent in July to 19 percent in September under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of the median water surface elevation from the months of July through October as compared to the Baseline Condition. Reductions in median water surface elevation during critical years would range from 2 feet in October to 11 feet in September under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-17
French Meadows Reservoir Monthly Median Storage, Elevation and Flow Below Ralston Afterbay Under the Baseline Condition and Flexible Purchase Alternative During Critical years

	Storage				Elevation			Median Flow Below Ralston (1974-2001)			
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)	Baseline Condition (cfs)	FPA (cfs)	Diff (cfs)	Diff (%)
Oct	55	53	-2	-4	5192	5190	-2	324	59	-265	-81.9
Nov	55	55	0	0	5192	5192	0	305	246	-59	-19.2
Dec	55	55	0	0	5193	5193	0	76	76	0	0
Jan	56	56	0	0	5194	5194	0	87	87	0	0
Feb	55	55	0	0	5192	5192	0	63	63	0	0
Mar	51	51	0	0	5187	5187	0	81	81	0	0
Apr	70	70	0	0	5208	5208	0	31	31	0	0
May	88	88	0	0	5225	5225	0	82	82	0	0
Jun	88	88	0	0	5224	5224	0	328	395	67	20.5
Jul	70	67	-3	-4	5208	5205	-3	456	563	107	23.5
Aug	51	46	-5	-10	5187	5181	-6	391	498	107	27.5
Sep	41	33	-8	-19	5175	5164	-11	328	372	44	13.3

Based on median monthly storage and flow over the historical record from 1974 to 2001 with a maximum 20 TAF EWA Action on French Meadows and Hell Hole Reservoirs combined.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Table G-18
French Meadows Reservoir Monthly Median Storage and Elevation Under the Baseline Condition and Flexible Purchase Alternative During Dry and Below Normal Years

	Storage				Elevation			Median Flow Below Ralston (1974-2001)			
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)	Baseline Condition (cfs)	FPA (cfs)	Diff (cfs)	Diff (%)
Oct	67	59	-8	-12	5202	5197	-8	164	164	0	0
Nov	62	62	0	0	5200	5200	0	551	218	-333	-60.4
Dec	58	58	0	0	5196	5196	0	305	305	0	0
Jan	57	57	0	0	5194	5194	0	301	301	0	0
Feb	59	59	0	0	5196	5196	0	236	236	0	0
Mar	72	72	0	0	5210	5210	0	208	208	0	0
Apr	98	98	0	0	5232	5232	0	208	208	0	0
May	110	110	0	0	5242	5242	0	232	232	0	0
Jun	112	112	0	0	5243	5243	0	408	408	67	16.5
Jul	101	98	-3	-3	5235	5233	-2	505	547	107	21.3
Aug	91	85	-5	-5	5227	5222	-4	592	634	107	18.1
Sep	80	72	-8	-10	5218	5211	-7	437	481	44	10.0

Based on median monthly storage and flow over the historical record from 1974 to 2001 with a maximum 20 TAF EWA Action on French Meadows and Hell Hole Reservoirs combined.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of median reservoir storage from the months of July through October as compared to the Baseline Condition. Reductions in median reservoir storage during dry and below normal years would range from 3 percent in July to 12 percent in October under the Flexible Purchase Alternative

relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of the median water surface elevation from the months of July through October as compared to the Baseline Condition. Reductions in median water surface elevation during dry and below normal years would range from 2 feet in July to 8 feet in October under the Flexible Purchase Alternative relative to the Baseline Condition.

In Hell Hole Reservoir, hydrologic conditions under the Flexible Purchase Alternative would result in reduction of median reservoir storage from the months of June through January as compared to the Baseline Condition (Table G-19). Reductions in median reservoir storage would range from 2 percent in June to 10 percent in September and October under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative would result in reduction of the median water surface elevation from the months of June through January as compared to the Baseline Condition. Reductions in median water surface elevation would range from 5 feet in June to 15 feet in September and October under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-19
Hell Hole Reservoir Monthly Median Storage and Elevation Under the Baseline Condition and Flexible Purchase Alternative

	Storage				*Elevation*		
Month	*Baseline Condition (TAF)*	*FPA (TAF)*	*Diff (TAF)*	*Diff (%)*	*Baseline Condition (ft msl)*	*FPA (ft msl)*	*Diff (ft msl)*
Oct	120	108	-12	-10	4555	4540	-15
Nov	110	106	-4	-4	4542	4536	-6
Dec	104	100	-4	-4	4534	4528	-6
Jan	102	98	-4	-4	4531	4525	-5
Feb	104	104	0	0	4533	4533	0
Mar	110	110	0	0	4542	4542	0
Apr	140	140	0	0	4578	4578	0
May	173	173	0	0	4616	4616	0
Jun	191	187	-4	-2	4637	4632	-5
Jul	168	160	-8	-5	4610	4601	-9
Aug	136	124	-12	-9	4573	4559	-14
Sep	121	109	-12	-10	4555	4540	-15

Based on median monthly storage and flow over the historical record from 1974 to 2001 with a maximum 20 TAF EWA Action on French Meadows and Hell Hole Reservoirs combined. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Monthly median reservoir storage and water surface elevation for Hell Hole during critical and dry and below normal years are provided in Table G-20 and Table G-21, respectively. In Hell Hole Reservoir, hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of median reservoir storage from the months of June through October as compared to the Baseline Condition. Reductions in median reservoir storage during critical years would range from 3 percent in June to 13 percent in September under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during critical years would result in reduction of the median water surface elevation from the months of June through October as compared to the Baseline Condition. Reductions in median water surface elevation

during critical years would range from 5 feet in June to 18 feet in September under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-20
Hell Hole Reservoir Monthly Median Storage and Elevation Under the Baseline Condition and Flexible Purchase Alternative During Critical Years

	Storage				Elevation		
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)
Oct	105	103	-2	-2	4536	4533	-3
Nov	98	98	0	0	4526	4526	0
Dec	85	85	0	0	4508	4508	0
Jan	85	85	0	0	4507	4507	0
Feb	84	84	0	0	4505	4505	0
Mar	96	96	0	0	4523	4523	0
Apr	112	112	0	0	4545	4545	0
May	129	129	0	0	4566	4566	0
Jun	121	117	-4	-3	4555	4550	-5
Jul	109	101	-8	-7	4540	4530	-11
Aug	101	89	-12	-12	4530	4514	-17
Sep	94	82	-12	-13	4520	4503	-18

Based on median monthly storage and flow over the historical record from 1974 to 2001 with a maximum 20 TAF EWA Action on French Meadows and Hell Hole Reservoirs combined. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Table G-21
Hell Hole Reservoir Monthly Median Storage and Elevation Under the Baseline Condition and Flexible Purchase Alternative During Dry and Below Normal Years

	Storage				Elevation		
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)
Oct	134	122	-12	-9	4571	4556	-14
Nov	112	112	0	0	4545	4545	0
Dec	101	101	0	0	4530	4530	0
Jan	97	97	0	0	4525	4525	0
Feb	97	97	0	0	4525	4525	0
Mar	111	111	0	0	4543	4543	0
Apr	144	144	0	0	4582	4582	0
May	172	172	0	0	4615	4615	0
Jun	162	158	-4	-2	4603	4598	-4
Jul	143	135	-8	-6	4582	4572	-9
Aug	129	117	-12	-9	4565	4550	-15
Sep	114	102	-12	-11	4547	4531	-16

Based on median monthly storage and flow over the historical record from 1974 to 2001 with a maximum 20 TAF EWA Action on French Meadows and Hell Hole Reservoirs combined. Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of median reservoir storage from the months of June through October as compared to the Baseline Condition. Reductions in median reservoir storage during dry and below normal years would range from 2 percent in June to 11 percent in September under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in reduction of the median water surface elevation from the months of June through October as compared to the Baseline Condition. Reductions in median water surface elevation

during dry and below normal years would range from 4 feet in June to 16 feet in September under the Flexible Purchase Alternative relative to the Baseline Condition.

Overall, median water surface elevation and median reservoir storage under the Flexible Purchase Alternative would decrease from June to January in Hell Hole Reservoir and from July to January in French Meadows Reservoir as compared to the Baseline Condition. Water temperatures during the months of greatest reduction (September and October) would be expected to be low enough, given the percentage reduction in median reservoir storage, that the decrease in median reservoir storage and water surface elevation would not be expected to cause an increase in water temperature that would affect overall reservoir water quality. Additionally, because of the high quality of the water flowing into these reservoirs, the decrease in median reservoir storage and water surface elevation would not be expected to cause an increase in concentrations of water quality constituents that would affect overall reservoir water quality. As a result, any differences in median water surface elevation and reservoir storage would not be expected to be of sufficient magnitude and frequency to affect long-term water quality in such as way that would result in adverse effects to designated beneficial uses, exceedance of existing regulatory standards or substantial degradation of water quality. Consequently, potential effects to water quality would be considered less than significant.

Lake McClure

EWA acquisition of Merced Irrigation District (MID) water via groundwater substitution would increase surface water elevation or reservoir storage in Lake McClure, relative to the Baseline Condition.

Table G-22 provides monthly median reservoir storage and water surface elevation for Lake McClure. In Lake McClure, hydrologic conditions under the Flexible Purchase Alternative would result in an increase in median reservoir storage from the months of May through October as compared to the Baseline Condition. Increases in median reservoir storage would range from 1 percent in May and June to 4 percent in September under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative would result in an increase in the median water surface elevation from the months of May through October as compared to the Baseline Condition. Increases in median water surface elevation would range from 1 foot in June and July to 3 feet in September under the Flexible Purchase Alternative relative to the Baseline Condition. No decreases in median reservoir storage or median water surface elevation would be expected in any month.

Table G-22
Lake McClure Monthly Median Storage and Elevation
Under the Baseline Condition and Flexible Purchase Alternative

	Storage				Elevation		
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)
Oct	598	611	13	2	778	779	2
Nov	590	590	0	0	777	777	0
Dec	581	581	0	0	776	776	0
Jan	584	584	0	0	776	776	0
Feb	627	627	0	0	781	781	0
Mar	656	656	0	0	784	784	0
Apr	683	687	3	0	787	787	0
May	774	781	8	1	793	794	0
Jun	865	877	13	1	798	799	1
Jul	774	792	18	2	793	794	1
Aug	682	703	22	3	787	788	2
Sep	615	640	25	4	780	783	3

Based on median monthly storage and flow over the historical record from 1970 to 2001.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Monthly median reservoir storage and water surface elevation for Lake McClure during critical and dry and below normal years are provided in Table G-23 and Table G-24, respectively. In Lake McClure, hydrologic conditions under the Flexible Purchase Alternative during critical years would result in no reductions of median reservoir storage for all months of the year as compared to the Baseline Condition. In fact, increases would occur in the median reservoir storage during the months of April through October. Increases in the median reservoir storage would range from 0.9 percent in April to 17 percent in September. Hydrologic conditions under the Flexible Purchase Alternative during critical years would result in no reductions of the median water surface elevation for all months of the year as compared to the Baseline Condition. Increase in median water surface elevation during critical years would range from 1 foot in April to 13 feet in September under the Flexible Purchase Alternative relative to the Baseline Condition.

Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in no reductions of median reservoir storage for all months of the year as compared to the Baseline Condition. In fact increase would occur in median reservoir storage during the months of April through October. Increases in median reservoir storage during dry and below normal years would range from 0.4 percent in April to 8 percent in September under the Flexible Purchase Alternative relative to the Baseline Condition. Hydrologic conditions under the Flexible Purchase Alternative during dry and below normal years would result in no reductions of the median water surface elevation for all months of the year as compared to the Baseline Condition. Increase in median water surface elevation during dry and below normal years would range from 3 feet in July to 22 feet in October under the Flexible Purchase Alternative relative to the Baseline Condition.

Table G-23
Lake McClure Monthly Median Storage and Elevation
Under the Baseline Condition and Flexible Purchase Alternative During Critical Years

	Storage				Elevation		
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)
Oct	242	255	13	5.3	687	692	5
Nov	229	229	0	0	681	681	0
Dec	218	218	0	0	677	677	0
Jan	213	213	0	0	674	674	0
Feb	210	210	0	0	673	673	0
Mar	231	231	0	0	683	683	0
Apr	317	320	3	0.9	716	717	1
May	347	354	8	2.3	725	728	3
Jun	358	371	13	3.6	729	733	4
Jul	271	289	18	6.6	699	706	7
Aug	181	202	22	12	659	669	11
Sep	148	173	25	17	655	655	13

Based on median monthly storage and flow over the historical record from 1970 to 2001.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Table G-24
Lake McClure Monthly Median Storage and Elevation Under the
Baseline Condition and Flexible Purchase Alternative During Dry and Below Normal Years

	Storage				Elevation		
Month	Baseline Condition (TAF)	FPA (TAF)	Diff (TAF)	Diff (%)	Baseline Condition (ft msl)	FPA (ft msl)	Diff (ft msl)
Oct	628	640	13	2	781	783	22
Nov	596	596	0	0	778	778	0
Dec	589	589	0	0	777	777	0
Jan	579	579	0	0	775	775	0
Feb	593	593	0	0	777	777	0
Mar	633	633	0	0	782	782	0
Apr	679	682	3	0.4	786	787	1
May	666	674	8	1.2	785	786	1
Jun	640	652	13	2	783	784	1
Jul	628	545	18	3.4	768	771	3
Aug	420	442	22	5.2	746	751	5
Sep	314	339	25	8	715	723	8

Based on median monthly storage and flow over the historical record from 1970 to 2001.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Overall, median water surface elevation and median reservoir storage under the Flexible Purchase Alternative would be increased from May to October and would remain essentially equivalent from June through September as compared to the Baseline Condition. Increases in median reservoir storage and median water surface elevation would be expected to benefit the water quality by providing additional water for dilution of constituents and by providing additional water to buffer water temperature increases. As a result, increases in median water surface elevation and reservoir storage would not be expected to be of sufficient magnitude and frequency to affect long-term water quality in such as way that would result in adverse effects to designated beneficial uses, exceedance of existing regulatory standards or substantial

degradation of water quality. Consequently, potential effects to water quality would be considered less than significant.

1.4.1.3 Rivers Within the Upstream from the Delta Region

Sacramento River

EWA acquisition of Sacramento River contractor water via stored reservoir water, groundwater substitution, and crop idling under the Flexible Purchase Alternative would not substantially decrease Sacramento River flow, relative to the Baseline Condition.

The long-term average flow in the Sacramento River below Keswick Dam would decrease by less than 0.8 percent under the Flexible Purchase Alternative, compared to the Baseline Condition, during all months of the year as shown in Table G-25. In fact, long-term average Sacramento River flow below Keswick Dam under the Flexible Purchase Alternative would not decrease in comparison to flows under the Baseline Condition in any month except August and September, when the long-term average decrease in flow would be 0.5 and 0.8 percent, respectively. Long-term average flows would increase by 0.9 percent in July. Further, in 828 out of 864 months simulated, Sacramento River flow below Keswick Dam under the Flexible Purchase Alternative would be essentially equivalent to or greater than flow under the Baseline Condition. The maximum flow reduction in any month would be 6.2 percent [Appendix H, p. 349-360].

Table G-25
Long-term Average Release From Keswick Dam
Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	Flexible Purchase Alternative	(cfs)	(%)[2]
Oct	5842	5842	0	0.0
Nov	4854	4854	0	0.0
Dec	6672	6672	0	0.0
Jan	7951	7951	0	0.0
Feb	10,056	10,056	0	0.0
Mar	8249	8249	0	0.0
Apr	7706	7706	0	0.0
May	8381	8381	0	0.0
Jun	10,529	10,529	0	0.0
Jul	13,284	13,398	114	0.9
Aug	10,556	10,498	-58	-0.5
Sep	7278	7222	-56	-0.8

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the long-term average flow in the Sacramento River below Keswick Dam during critical years would be essentially equivalent to or greater than the Baseline Condition for 113 months of the 132 months included in the analysis. Within critical years, the long-term average flow in the Sacramento River below Keswick Dam would decrease in 8 of the 11 years included

in the analysis in August and in 11 of the 11 years included in the analysis in September. The long-term average flow decrease during critical years would average 170 cfs in August and 187 cfs in September, representing a 2.0 percent decrease in August and a 3.5 percent decrease in September compared to the Baseline Condition [Appendix H, p. 1006].

Under the Flexible Purchase Alternative, the long-term average flow in the Sacramento River below Keswick Dam during dry years would be essentially equivalent to or greater than the Baseline Condition for 180 months of the 192 months included in the analysis. The decreases would occur in 1 of the 16 years included in the analysis in July, in 4 of the 16 years included in the analysis in August, and in 7 of the 16 years included in the analysis in September. The long-term average flow decrease during dry years would average 17 cfs in July, 42 cfs in August, and 87 cfs in September, representing a 0.1 percent, 0.5 percent, 0.5 percent, and 1.7 percent decrease, respectively, compared to the Baseline Condition [Appendix H, p. 1006].

Under the Flexible Purchase Alternative, the long-term average flow in the Sacramento River below Keswick Dam during below normal years would be essentially equivalent to or greater than the Baseline Condition for 166 months of the 168 months included in the analysis. The decreases would occur in 1 of the 14 years included in the analysis in August and in 1 of the 14 years in September. The long-term average flow decrease during below normal years would average 445 cfs in August and 319 cfs in September, representing a 4.4 and 4.9 percent decrease for August and September, respectively, compared to the Baseline Condition [Appendix H, p. 1006].

The long-term average flow in the Sacramento River at Freeport would not decrease under the Flexible Purchase Alternative as compared to the Baseline Condition, during any month of the year as shown in Table G-26. In fact, long-term average flows in the Sacramento River at Freeport would increase by more than one percent from April through September under the Flexible Purchase Alternative as compared to the Baseline Condition. Long-term average flow at Freeport under the Flexible Purchase Alternative would increase by 1.9 percent in April, 1.8 percent in May, 1.9 percent in June, 17.7 percent in July, 15.7 percent in August, and 4.7 percent in September compared to the Baseline Condition. Furthermore, in 864 of 864 months simulated, Sacramento River flow at Freeport would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 385-396]. Therefore, under the Flexible Purchase Alternative, flow in the Sacramento River at Freeport during critical, dry, and below normal years would be essentially equivalent to or greater than the Baseline Condition for all months included in the analysis.

Table G-26
Long-term Average Sacramento River Flow at Freeport
Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	Flexible Purchase Alternative	(cfs)	(%)[2]
Oct	11956	12044	88	0.7
Nov	14769	14783	14	0.1
Dec	24922	24927	5	0.0
Jan	33069	33071	2	0.0
Feb	39225	39226	1	0.0
Mar	34296	34299	3	0.0
Apr	25184	25665	481	1.9
May	19724	20076	352	1.8
Jun	18183	18533	350	1.9
Jul	17777	20919	3142	17.7
Aug	13762	15929	2167	15.7
Sep	13729	14373	644	4.7

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Overall, under the Flexible Purchase Alternative, Sacramento River flow at Keswick Dam and Freeport would be essentially equivalent to or greater than the flows under the Baseline Condition. Increases in Sacramento River flow at Freeport during summer months would allow dilution of water quality constituents, including pesticides and fertilizers present in agricultural run-off. As a result, any differences in flow under the Flexible Purchase Alternative would not be expected to be of sufficient frequency and magnitude to affect water quality in a way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Therefore, potential flow-related changes to water quality under the Flexible Purchase Alternative would be considered less than significant.

EWA acquisition of Sacramento River contractor water via stored reservoir water, groundwater substitution, and crop idling under the Flexible Purchase Alternative would not substantially increase Sacramento River water temperature, relative to the Baseline Condition.

Under the Flexible Purchase Alternative, long-term average water temperature in the Sacramento River at Bend Bridge would not differ during any month of the year, relative to the Baseline Condition (Table G-27). Moreover, under the Flexible Purchase Alternative, water temperatures in the Sacramento River at Bend Bridge would be essentially equivalent to or less than water temperatures under the Baseline Condition in 826 out of 828 months included in the analysis. Water temperature increases in 2 of 828 months modeled at Bend Bridge would range from 0.1 to 0.5°F [Appendix H, p. 469-480].

Table G-27 ***Long-term Average Water Temperature in the Sacramento River at Bend Bridge Under the Baseline Condition and Flexible Purchase Alternative***			
	Water Temperature[1] (ºF)		
Month	***Baseline Condition***	***Flexible Purchase Alternative***	***Difference (ºF)***
Oct	53.6	53.6	0.0
Nov	51.0	51.0	0.0
Dec	47.0	47.0	0.0
Jan	44.9	44.9	0.0
Feb	48.3	48.3	0.0
Mar	52.1	52.1	0.0
Apr	54.5	54.5	0.0
May	54.6	54.6	0.0
Jun	54.6	54.6	0.0
Jul	54.6	54.6	0.0
Aug	56.8	56.8	0.0
Sep	55.8	55.8	0.0

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the long-term average water temperature in the Sacramento River at Bend Bridge during critical years would be essentially equivalent to or less than the Baseline Condition for 132 months of the 132 months included in the analysis [Appendix H, p. 1008]. Under the Flexible Purchase Alternative, the long-term average water temperature in the Sacramento River at Bend Bridge during dry years would be essentially equivalent to or less than the Baseline Condition for 192 months of the 192 months included in the analysis [Appendix H, p. 1008].

Under the Flexible Purchase Alternative, the long-term average water temperature in the Sacramento River at Bend Bridge during below normal years would be essentially equivalent to or less than the Baseline Condition for 166 months of the 168 months included in the analysis. The increases would occur in 2 of the 14 years included in the analysis in September. The long-term average water temperature increase during below normal years would average 0.3°F in September, representing up to a 0.5 percent increase compared to the Baseline Condition [Appendix H, p. 1008].

Under the Flexible Purchase Alternative, long-term average water temperature in the Sacramento River at Freeport would not differ from long-term average water temperatures under the Baseline Condition by more than 0.1°F during any month, as shown in Table G-28. Additionally, water temperature in the Sacramento River at Freeport would be essentially equivalent to or less than water temperatures under the Baseline Condition in 828 out of 828 months included in the analysis [Appendix H, p. 481-492]. Therefore, under the Flexible Purchase Alternative, water temperature in the Sacramento River at Freeport during critical, dry, and below normal years would be essentially equivalent to or less than the Baseline Condition for all months included in the analysis.

Table G-28
Long-term Average Water Temperature in the Sacramento River at Freeport Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (ºF)		
	Baseline Condition	FPA	Difference (ºF)
Oct	60.1	60.1	0.0
Nov	52.5	52.5	0.0
Dec	46.0	45.9	-0.1
Jan	44.8	44.8	0.0
Feb	49.3	49.3	0.0
Mar	53.9	53.9	0.0
Apr	59.5	59.6	0.1
May	64.9	65.0	0.1
Jun	69.0	69.1	0.1
Jul	71.6	71.6	0.0
Aug	71.6	71.5	-0.1
Sep	68.4	68.3	-0.1

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Overall, water temperature in the Sacramento River at Bend Bridge and Freeport under the Flexible Purchase Alternative would be essentially equivalent to or less than water temperatures relative to the Baseline Condition. Any differences in water temperature would not be expected to be of sufficient frequency and magnitude to affect water quality in such as way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Consequently, potential water temperature-related changes to water quality would be less than significant.

Lower Feather River

EWA acquisition of Feather River contractor water via stored reservoir water, groundwater substitution and crop idling under the Flexible Purchase Alternative would not substantially decrease Feather River flow, relative to the Baseline Condition.

The long-term average flow in the Feather River below the Thermalito Afterbay would not decrease under the Flexible Purchase Alternative as compared to the Baseline Condition, during any month of the year as shown in Table G-29. In fact, long-term average flows in the lower Feather River below the Thermalito Afterbay would increase by more than one percent from April through October under the Flexible Purchase Alternative as compared to the Baseline Condition. Long-term average flow below the Thermalito Afterbay under the Flexible Purchase Alternative would increase by 9.3 percent in April, 3.7 percent in May, 2.1 percent in June, 22.3 percent in July, 29.4 percent in August, 23.6 percent in September, and 2.8 percent in October (Table G-29), compared to the Baseline Condition. Furthermore, in 857 of 864 months simulated, Feather River flow below the Thermalito Afterbay would be essentially equivalent to or greater than flow under the Baseline Condition. The decrease in flow would occur in the month of July, when the long-term average flow would decrease by 3.9 percent [Appendix H, p. 892-903].

Table G-29
Long-term Average lower Feather River Flow Below Thermalito Afterbay Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	FPA	(cfs)	(%)[2]
Oct	2441	2509	68	2.8
Nov	2301	2315	14	0.6
Dec	3984	3989	5	0.1
Jan	5005	5007	2	0.0
Feb	5930	5931	1	0.0
Mar	6144	6146	2	0.0
Apr	3416	3734	318	9.3
May	3826	3969	143	3.7
Jun	5084	5192	108	2.1
Jul	5896	7210	1314	22.3
Aug	4434	5737	1303	29.4
Sep	1600	1977	377	23.6

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the long-term average flows in the Feather River below Thermalito Afterbay during critical years would be essentially equivalent to or greater than the Baseline Condition for 101 months of the 132 months included in the analysis. Within critical years, the long-term average flow in the Feather River below Thermalito Afterbay would decrease in 11 of the 11 years included in the analysis each in May and June, in 4 of the 11 years included in the analysis in February, and 1 of the 11 years included in the analysis in March and October through January. The long-term average flow decrease during critical years would average 1 cfs or less for all months, representing a 0.1 percent or less decrease, compared to the Baseline Condition [Appendix H, p. 1019].

Under the Flexible Purchase Alternative, the long-term average flow in the Feather River below Thermalito Afterbay during dry years would be essentially equivalent to or greater than the Baseline Condition for 128 months of the 192 months included in the analysis. Within dry years, the long-term average flow in the Feather River below Thermalito Afterbay would decrease in 16 of the 16 years included in the analysis in May and June, in 6 of the 16 years included in the analysis in February and April, in 4 of the 16 years included in the analysis in July, in 3 of the 16 years included in the analysis in January, March, and October through December, and in 1 of the 16 years included in the analysis in September. The long-term average flow decrease during dry years would average 163 cfs in July and 3 cfs or less for all other months, representing a 2 percent decrease in July and 0.2 percent or smaller decrease for all other months, compared to the Baseline Condition [Appendix H, p. 1019].

Under the Flexible Purchase Alternative, the long-term average flow in the Feather River below Thermalito Afterbay during below normal years would be essentially

equivalent to or greater than the Baseline Condition for 94 of the 168 months included in the analysis. Within below normal years, the long-term average flow in the Feather River below Thermalito Afterbay would decrease in 14 of the 14 years included in the analysis in June, in 13 of the 14 years included in the analysis in May, in 7 of the 14 years included in the analysis in April, in 6 of the 14 years included in the analysis in February and September, in 5 of the 14 years included in the analysis in March and October through January, and in 3 of the 14 years included in the analysis in July. The long-term average flow decrease for below normal years would average 252 cfs in July and 4 cfs or less for all other months, representing a 3 percent decrease in July and 0.1 percent or less for all other months, compared to the Baseline Condition [Appendix H, p. 1019].

The long-term average flow at the mouth of the Feather River would not decrease under the Flexible Purchase Alternative as compared to the Baseline Condition, during any month of the year, as shown in Table G-30. In fact, flows in the Feather River at the mouth would increase by more than one percent from April through October under the Flexible Purchase Alternative, compared to the Baseline Condition. Long-term average flow at the mouth of the Feather River under the Flexible Purchase Alternative would increase by 3.3 percent in April, 1.8 percent in May, 1.4 percent in June, 34.6 percent in July, 33.4 percent in August, 13.2 percent in September, and 2.1 percent in October, compared to the Baseline Condition. Furthermore, in 864 of 864 months simulated, Feather River flow at the mouth would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 868-879]. Therefore, under the Flexible Purchase Alternative, flow at the mouth of the Feather River during critical, dry, and below normal years would be essentially equivalent to or greater than the Baseline Condition for all months included in the analysis.

Table G-30
Long-term Average Feather River Flow at the Mouth
Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	FPA	(cfs)	(%)[2]
Oct	3284	3352	68	2.1
Nov	3482	3496	14	0.4
Dec	6227	6232	5	0.1
Jan	11355	11357	2	0.0
Feb	13096	13097	1	0.0
Mar	13182	13184	2	0.0
Apr	9518	9836	318	3.3
May	7735	7877	142	1.8
Jun	7647	7755	108	1.4
Jul	6311	8497	2186	34.6
Aug	4881	6512	1631	33.4
Sep	3404	3852	448	13.2

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Overall, under the Flexible Purchase Alternative, Feather River flow below the Thermalito Afterbay and at the mouth would be essentially equivalent to or greater than the flows under the Baseline Condition. Increases in Feather River flow below Thermalito Afterbay and at the mouth during summer months would allow dilution of water quality constituents, including pesticides and fertilizers present in agricultural run-off. As a result, any differences in flow would not be expected to be of sufficient frequency and magnitude to affect water quality in a way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Therefore, potential flow-related changes to water quality under the Flexible Purchase Alternative would be less than significant.

EWA acquisition of Feather River contractor water via stored reservoir water, groundwater substitution, and crop idling under the Flexible Purchase Alternative would not substantially increase Feather River water temperature, relative to the Baseline Condition. Under the Flexible Purchase Alternative, long-term average water temperature in the Feather River at the Fish Barrier Dam would not differ during any month of the year, relative to the Baseline Condition (Table G-31). Moreover, under the Flexible Purchase Alternative, water temperatures in the Feather River at the Fish Barrier Dam would be essentially equivalent to water temperatures under the Baseline Condition in 828 out of 828 months included in the analysis [Appendix H, p. 940-951].

Table G-31
Long-term Average Water Temperature in the Feather River Below the Fish Barrier Dam Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (ºF)		
	Baseline Condition	FPA	Difference (ºF)
Oct	54.0	54.0	0.0
Nov	52.4	52.4	0.0
Dec	48.0	48.0	0.0
Jan	46.0	46.0	0.0
Feb	47.1	47.1	0.0
Mar	49.0	49.0	0.0
Apr	51.0	51.0	0.0
May	55.3	55.3	0.0
Jun	57.4	57.4	0.0
Jul	61.6	61.6	0.0
Aug	60.8	60.8	0.0
Sep	56.5	56.5	0.0

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, long-term average water temperature in the Feather River below Thermalito Afterbay would not differ from long-term average temperatures under the Baseline Condition during any month of the year, as shown in Table G-32. Additionally, water temperature in the Feather River below the Thermalito Afterbay would be essentially equivalent to water temperatures under the Baseline Condition in 827 out of 828 months included in the analysis. The greatest decrease in temperature would be 0.1°F, occurring in July during a wet year

[Appendix H, p. 916-927]. Therefore, under the Flexible Purchase Alternative, water temperature below the Thermalito Afterbay in the Feather River during critical, dry, and below normal years would be essentially equivalent to or less than the Baseline Condition for all months included in the analysis.

Table G-32
Long-term Average Water Temperature in the Feather River Below Thermalito Afterbay Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (ºF)		
	No Action/No Project Alternative	FPA	Difference (ºF)
Oct	59.6	59.6	0.0
Nov	53.0	53.0	0.0
Dec	46.4	46.4	0.0
Jan	45.3	45.3	0.0
Feb	49.0	49.0	0.0
Mar	52.7	52.7	0.0
Apr	57.0	57.0	0.0
May	62.4	62.4	0.0
Jun	66.2	66.2	0.0
Jul	70.1	70.1	0.0
Aug	69.2	69.2	0.0
Sep	64.7	64.7	0.0

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, long-term average water temperature at the mouth of the Feather River would not increase from the long-term average water temperature under the Baseline Condition by more than 0.2°F during any month, as shown in Table G-33. Additionally, water temperature at the mouth of the Feather River would be essentially equivalent to or less than water temperatures under the Baseline Condition in 796 out of 828 months included in the analysis. Water temperature increases in 32 of 828 months modeled would range from 0.4 to 0.7°F [Appendix H, p. 928-939].

Table G-33
Long-term Average Water Temperature at the Mouth of the Feather River Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (ºF)		
	Baseline Condition	FPA	Difference (ºF)
Oct	61.3	61.3	0.0
Nov	52.4	52.4	0.0
Dec	45.9	45.9	0.0
Jan	45.3	45.3	0.0
Feb	49.6	49.6	0.0
Mar	54.2	54.2	0.0
Apr	59.8	59.9	0.1
May	65.5	65.6	0.1
Jun	70.0	70.2	0.2
Jul	73.6	73.6	0.0
Aug	72.2	71.8	-0.4
Sep	69.7	69.2	-0.5

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the long-term average water temperature at the mouth of the Feather River during critical years would be essentially equivalent to or less than the Baseline Condition for 113 months of the 132 months included in the analysis. Within critical years, the long-term average water temperature in the Feather River at the mouth would not decrease in all months of the year except during July through September and May, and increases in the long-term average water temperature would occur in all months of the year except during November through March and August. The increases would occur in 1 of the 11 years included in the analysis in October and September, in 9 of the 11 years included in the analysis in April, in 8 of the 11 years included in the analysis in May, in 6 of the 11 years included in the analysis in June, and in 4 of the 11 years included in the analysis in July. The greatest long-term average water temperature increase during critical years would occur in May. During May, the long-term average water temperature would increase by 0.35ºF, representing up to a 0.5 percent increase compared to the Baseline Condition [Appendix H, p. 1018].

Under the Flexible Purchase Alternative, the long-term average water temperature in the Feather River at the mouth during dry years would be essentially equivalent to or less than the Baseline Condition for 164 months of the 192 months included in the analysis. Within dry years, the long-term average water temperature at the mouth of the Feather River would not decrease in any months of the year except July through September. Increases would occur in all months of the year except during November through March and September. The increases would occur in 4 of the 16 years included in the analysis in October, and would range from 3 to 10 of the 16 years included in the analysis during April through August. The greatest long-term average water temperature increase during dry years would occur during May. During May, the long-term average water temperature would increase by 0.33ºF, representing up to a 0.5 percent increase compared to the Baseline Condition [Appendix H, p. 1018].

Under the Flexible Purchase Alternative, the long-term average water temperature at the mouth of the Feather River during below normal years would be essentially equivalent to or less than the Baseline Condition for 141 months of the 168 months included in the analysis. During below normal years, the long-term average water temperature at the mouth of the Feather River would not decrease in any month of the year except during July through September, and increases would occur in all months of the year except during October through March and September. The increases would range from 2 to 7 years of the 14 years included in the analysis in April through August. The greatest long-term average water temperature increase during below normal years would occur during June. During June, the long-term average water temperature would increase by 0.24ºF, representing up to a 0.3 percent increase compared to the Baseline Condition [Appendix H, p. 1018].

Overall, water temperature in the Feather River below the Thermalito Afterbay, and at the mouth under the Flexible Purchase Alternative would infrequently be increased

by up to 0.7°F and would otherwise be essentially equivalent to or less than water temperatures relative to the Baseline Condition. Any differences in water temperature would not be expected to be of sufficient frequency and magnitude to affect water quality in a way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Consequently, potential water temperature-related changes to water quality would be less than significant.

Lower Yuba River

EWA acquisition of lower Yuba River contractor water via stored reservoir water, groundwater substitution and crop idling under the Flexible Purchase Alternative would alter lower Yuba River flow, relative to the Baseline Condition.

The Yuba River is one of many Central Valley rivers that have been utilized in water transfer projects for a number of years. In 2001, Yuba County Water Agency (YCWA) and other local water agencies initiated water transfers from New Bullards Bar Reservoir through the Yuba River in order to satisfy a variety of downstream needs. The total water transfer consisted of approximately 172,000 acre-feet of water, including 114,052 acre-feet utilized by DWR. The water transfers occurred approximately between July 1, 2001 and October 14, 2001. The water transfers increased flows by about 1,200 cfs in the lower Yuba River through late August. Yuba River water transfers also occurred during 2002. Yuba County Water Agency transferred a total of 162,050 acre-feet of water for downstream needs (157,050 acre-feet allocated to DWR, and 5,000 acre-feet to the Contra Costa Water District) from approximately mid-June through September, 2002.

Recent historic flows in the Yuba River below Englebright Dam during June through October, the typical time period for water transfers, have been between approximately 600 and 2,500 cfs. Preliminary hydrologic modeling output for flows under the Baseline Condition (without EWA transfer) below Englebright Reservoir would range between approximately 1,000 and 1,800 cfs during June, July, and most of August, ramp down in late August and early September to 500 cfs to 900 cfs, and remain relatively constant at 600 to 900 cfs for October and November until the wet season, at which time unregulated winter storm and snowmelt flows affect the lower Yuba River hydrology. Below Daguerre Point Dam, baseline flows could range from approximately 245 to 800 cfs in June, and from 100 to 250 cfs during July, August, and September. Flows below Daguerre Point Dam in the first two weeks in October could be about 320 to 400 cfs and increase to 400 to 500 cfs for the last two weeks of October through the time period in the winter when runoff from winter storms significantly affect river flows.

Under the maximum transfer scenario of the Flexible Purchase Alternative, the proposed transfer of 185,000 acre-feet to the EWA is expected to take place mainly in July and August, with some water potentially released between June 1 and July 31, and between September 1 and October 31. During late June, July, and August, flow rates would be relatively constant, at up to 1,200 to 1,500 cfs above Yuba River

instream flow and diversion delivery requirements. Under the variable transfer scenario of the Flexible Purchase Alternative, the expected amount of water to be transferred to the EWA is 30,000 acre-feet. As with the maximum transfer, the delivery of this water would take place mainly in July and August, with some water released between September 1 and October 31. Releases of transfer water would start in June or early July and would depend on Delta conditions and the SWP's ability to pump the water. During late June, July, and August, flow rates would be relatively constant, at up to 500 cfs above Yuba River instream flow and diversion delivery requirements. This maximum flow rate would occur if all of the transfer water were to be delivered in one month. Transfers under either scenario could affect water levels in Lake Oroville only if DWR released stored water to compensate for reduced flows to the Delta during the period when New Bullards Bar Reservoir was being refilled by the additional amount of evacuated storage resulting from the transfer. The need for increased releases from Lake Oroville resulting from reduced releases from New Bullards Bar Reservoir and thus reduced Yuba River outflow would occur only under certain hydrologic conditions.

Overall, under the Flexible Purchase Alternative, lower Yuba River flow would be greater than the flows under the Baseline Condition, based on data from previous water transfers. Increases in lower Yuba River flow would allow dilution of water quality constituents, including pesticides and fertilizers present in agricultural run-off. As a result, increases in flow would not be expected to be of sufficient frequency and magnitude to affect water quality in such as way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Therefore, potential flow-related changes to water quality under the Flexible Purchase Alternative would be less than significant.

EWA acquisition of lower Yuba River contractor water via stored reservoir water, groundwater substitution and crop idling under the Flexible Purchase Alternative would alter lower Yuba River water temperature, relative to the Baseline Condition.

Monitoring of lower Yuba River water temperatures during past water transfers showed that water temperatures at the mouth of the Yuba River (Highway 70 Bridge) were approximately 73°F prior to the 2001 water transfers. At the same time, similar water temperatures were observed on the Feather River, one kilometer above its confluence with the Yuba River. After the initiation of the 2001 water transfers, water temperatures at the mouth of the Yuba River dropped to an average of 61°F for the remainder of the month (CDFG, unpublished data). Water temperatures at this site remained around 61°F until flows were reduced in late August, at which time the water temperatures increased coincident with flow reduction. Although an evaluation of the numerous variables (e.g., ambient air temperature, cloud cover, diversion rates) which may influence instream water temperatures has not yet been conducted, changes in Yuba River water temperatures were observed coincident with the water transfers.

Overall, under the Flexible Purchase Alternative, lower Yuba River water temperatures would be less than the water temperatures under the Baseline Condition, based on data from previous water transfers. Decreases in Yuba River water temperature with implementation of the Flexible Purchase Alternative would not be of sufficient frequency and magnitude to affect water quality in such as way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Consequently, potential water temperature-related changes to water quality would be less than significant.

Middle Fork American River

EWA acquisition of American River contractor water via stored reservoir water and crop idling under the Flexible Purchase Alternative would alter Middle Fork American River flow, relative to the Baseline Condition.

The median flow in the Middle Fork American River below Ralston Afterbay would not decrease under the Flexible Purchase Alternative, compared to the Baseline Condition, during nine months of the year as shown in Table G-16. In fact, the median flow in the Middle Fork American River below Ralston Afterbay under the Flexible Purchase Alternative would increase in comparison to flows under the Baseline Condition in June through September. Flows would increase 10.7 percent in June, 17.1 percent in July, 16.1 percent in August, and 9.6 percent in September. However, median flow in the Middle Fork American River would decrease under the Flexible Purchase Alternative, compared to the Baseline Condition, during November, January and February. Median flow in the Middle Fork American River would decrease by 43.6 percent in November, 5.3 percent in January, and 25.6 percent in February.

The median flow in the Middle Fork American River below Ralston Afterbay during critical, dry, and below normal years under the Flexible Purchase Alternative, compared to the Baseline Condition are shown in Table G-17 and Table G-18. The median flow in the Middle Fork American River below Ralston Afterbay under the Flexible Purchase Alternative during critical years would increase in comparison to flows under the Baseline Condition in June through September. Flows during critical years would increase 20.5 percent in June, 23.5 percent in July, 27.5 percent in August, and 13.3 percent in September. However, median flow in the Middle Fork American River during critical years would decrease under the Flexible Purchase Alternative, compared to the Baseline Condition, during October and November. Median flow in the Middle Fork American River during critical years would decrease by 81.9 percent in October and 19.2 percent in November.

The median flow in the Middle Fork American River below Ralston Afterbay under the Flexible Purchase Alternative during dry and below normal years would increase in comparison to flows under the Baseline Condition in June through September. Flows during dry and below normal years would increase 16.5 percent in June, 21.3 percent in July, 18.1 percent in August, and 10.0 percent in September. However,

median flow in the Middle Fork American River during dry and below normal years would decrease under the Flexible Purchase Alternative, compared to the Baseline Condition, during November. Median flow in the Middle Fork American River during dry and below normal years would decrease by 60 percent in November.

Overall, under the Flexible Purchase Alternative, Middle Fork American River median flow below Ralston Afterbay would be essentially equivalent to greater than flows under the Baseline Condition in nine months out of the year. Median flow in the Middle Fork American River would decrease in November, January, and February under the Flexible Purchase Alternative as compared to the Baseline Condition. Increases in Middle Fork American River flow below Ralston Afterbay in June, July, August, and September would allow dilution of water quality constituents. Decreased flows during the months of greatest flow reduction (November and February) would not be expected to cause an increase in water quality constituents that would result in adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality because the water quality in the Middle Fork American River is of high quality and concentrations of constituents are generally low. Consequently, potential flow-related effects to water quality would be considered less than significant.

Lower American River

EWA acquisition of stored groundwater from Sacramento Groundwater Authority members, stored reservoir water, and water obtained through Placer Country Water Agency crop idling and retained in Folsom Reservoir under the Flexible Purchase Alternative would increase lower American River flow, relative to the Baseline Condition.

The long-term average flow in the lower American River below Nimbus Dam would not decrease under the Flexible Purchase Alternative, compared to the Baseline Condition, during all months of the year as shown in Table G-34. In fact, long-term average lower American River flow below Nimbus Dam under the Flexible Purchase Alternative would increase by 2.6 percent in July, 1.9 percent in August, and 2.6 percent in September, compared to the Baseline Condition. Further, in 864 out of 864 months simulated, lower American River flow below Nimbus Dam under the Flexible Purchase Alternative would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 313-324]. Therefore, under the Flexible Purchase Alternative, flow in the lower American River below Nimbus Dam during critical, dry, and below normal years would be essentially equivalent to or greater than the Baseline Condition for all months included in the analysis [Appendix H, p. 1015].

Table G-34
Long-term Average Release to the Lower American River From Nimbus Dam Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	Flexible Purchase Alternative	(cfs)	(%)[2]
Oct	1678	1678	0	0.0
Nov	2502	2502	0	0.0
Dec	3498	3498	0	0.0
Jan	4124	4124	0	0.0
Feb	4989	4989	0	0.0
Mar	3941	3941	0	0.0
Apr	3616	3616	0	0.0
May	3793	3793	0	0.0
Jun	4166	4166	0	0.0
Jul	4100	4208	108	2.6
Aug	2482	2528	46	1.9
Sep	2876	2885	9	2.6

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

The long-term average lower American River flow at Watt Avenue would not decrease under the Flexible Purchase Alternative as compared to the Baseline Condition, during any month of the year as shown in Table G-35. In fact, long-term average flow at Watt Avenue under the Flexible Purchase Alternative would increase by 2.9 percent in July and 2.1 percent in August, compared to the Baseline Condition. Furthermore, in 864 of 864 months simulated, lower American River flow at Watt Avenue would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 325-336]. Therefore, under the Flexible Purchase Alternative, flow at Watt Avenue in the lower American River during critical, dry, and below normal years would be essentially equivalent to or greater than the Baseline Condition for all months included in the analysis.

The long-term average flow at the mouth of the American River would not decrease under the Flexible Purchase Alternative as compared to the Baseline Condition, during any month of the year as shown in Table G-36. In fact, long-term average flow at the mouth of the American River under the Flexible Purchase Alternative would increase by 2.8 percent in July and 2.0 percent in August, compared to the Baseline Condition. Furthermore, in 864 of 864 months simulated, American River flow at the mouth would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 361-372]. Therefore, under the Flexible Purchase Alternative, flow at the mouth of the American River during critical, dry, and below normal years would be essentially equivalent to or greater than the Baseline Condition for all months included in the analysis.

Table G-35 ***Long-term Average Flow at Watt Avenue*** ***Under the Baseline Condition and Flexible Purchase Alternative***				
	Monthly Mean Flow[1] (cfs)		***Difference***	
Month	***Baseline Condition***	***Flexible Purchase Alternative***	***(cfs)***	***(%)[2]***
Oct	1507	1507	0	0.0
Nov	2385	2385	0	0.0
Dec	3402	3402	0	0.0
Jan	4038	4038	0	0.0
Feb	4906	4906	0	0.0
Mar	3861	3861	0	0.0
Apr	3428	3428	0	0.0
May	3531	3531	0	0.0
Jun	3814	3814	0	0.0
Jul	3729	3837	108	2.9
Aug	2148	2194	46	2.1
Sep	2633	2642	9	0.3

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Table G-36 ***Long-term Average Flow at the Mouth of the lower American River*** ***Under the Baseline Condition and Flexible Purchase Alternative***				
	Monthly Mean Flow[1] (cfs)		***Difference***	
Month	***Baseline Condition***	***Flexible Purchase Alternative***	***(cfs)***	***(%)[2]***
Oct	1557	1557	0	0.0
Nov	2426	2426	0	0.0
Dec	3441	3441	0	0.0
Jan	4077	4077	0	0.0
Feb	4949	4949	0	0.0
Mar	3902	3902	0	0.0
Apr	3518	3518	0	0.0
May	3632	3632	0	0.0
Jun	3936	3936	0	0.0
Jul	3851	3958	107	2.8
Aug	2253	2299	46	2.0
Sep	2707	2716	9	0.3

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1, Assessment Methods.

Overall, under the Flexible Purchase Alternative, lower American River flow below Nimbus Dam, at Watt Avenue, and at the mouth would be essentially equivalent to or greater than the flows under the Baseline Condition. Increases in lower American River flow at all three locations during July and August and during September at Nimbus Dam would allow dilution of water quality constituents, including pesticides and fertilizers present in agricultural run-off. As a result, any differences in flow would not be expected to be of sufficient frequency and magnitude to affect water quality in a way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial

degradation of water quality. Therefore, potential flow-related changes to water quality under the Flexible Purchase Alternative would be considered less than significant.

EWA acquisition of stored groundwater from Sacramento Groundwater Authority members, stored reservoir water, and water obtained through Placer Country Water Agency crop idling and retained in Folsom Reservoir under the Flexible Purchase Alternative would not substantially increase American River water temperature, relative to the Baseline Condition. Under the Flexible Purchase Alternative, long-term average water temperature in the American River below Nimbus Dam would not differ by more than 0.2ºF during any month of the year, relative to the Baseline Condition (Table G-37). Moreover, under the Flexible Purchase Alternative, water temperatures in the American River below Nimbus Dam would be essentially equivalent to or less than water temperatures under the Baseline Condition in 805 out of 828 months included in the analysis. Water temperature increases in 23 of 828 months modeled below Nimbus Dam would range from 0.4 to 1.0°F [Appendix H, p. 409-420].

Table G-37
Long-term Average Water Temperature in the American River Below Nimbus Dam Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (ºF)		
	Baseline Condition	Flexible Purchase Alternative	Difference (ºF)
Oct	56.3	56.3	0.0
Nov	56.5	56.5	0.0
Dec	51.2	51.2	0.0
Jan	47.2	47.1	-0.1
Feb	47.8	47.8	0.0
Mar	50.3	50.4	0.1
Apr	53.7	53.8	0.1
May	56.5	56.6	0.1
Jun	59.6	59.6	0.0
Jul	64.3	64.3	0.0
Aug	64.5	64.6	0.1
Sep	65.9	66.1	0.2

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1, Assessment Methods.

Under the Flexible Purchase Alternative, the long-term average water temperature in the American River below Nimbus Dam during critical years would be essentially equivalent to or less than the Baseline Condition for 121 months of the 132 months included in the analysis. Within critical years, the long-term average water temperature in the American River below Nimbus Dam would not decreases in any months of the year except during November through January, April and September, and increases in the long-term average water temperature would occur all months of the year except during December and January. The increases would occur in 6 of the 11 years included in the analysis in October, in 3 of the 11 years included in the analysis in February, in 7 of the 11 years included in the analysis in November, March, June, and September, in 5 of the 11 years included in the analysis in April and August, in 4 of the 11 years included in the analysis in May, and in 1 of the 11 years

included in the analysis in July. The greatest long-term average water temperature increase during critical years would occur during September. During September, the long-term average water temperature would increase by 0.36°F, representing up to a 0.5 percent increase compared to the Baseline Condition [Appendix H, p. 1016].

Under the Flexible Purchase Alternative, the long-term average water temperature in the American River below Nimbus Dam during dry years would be essentially equivalent to or less than the Baseline Condition for 161 months of the 192 months included in the analysis. Within dry years, the long-term average water temperature in the American River below Nimbus Dam would decrease during all months of the year except during March through April and July through September. Increases would occur during all months of the year except during December and January. The increases would occur in 5 of the 16 years included in the analysis in October, in 3 of the 16 years included in the analysis in November, and would range from 2 to 13 of the 16 years included in the analysis in February through September. The greatest long-term average water temperature increase during dry years would occur during September. During September, the long-term average water temperature would increase by 0.27°F, representing up to a 0.5 percent increase compared to the Baseline Condition [Appendix H, p. 1016].

Under the Flexible Purchase Alternative, the long-term average water temperature in the American River below Nimbus Dam during below normal years would be essentially equivalent to or less than the Baseline Condition for 144 months of the 168 months included in the analysis. During below normal years, the long-term average water temperature in the American River below Nimbus Dam would decrease in all months of the year except during March through April, and increases would occur all months of the year except during December through January. The increases would range from 5 to 6 years of the 14 years included in the analysis in October through November and would range from 2 to 13 of the 14 years included in the analysis in February through September. The greatest long-term average temperature increase during below normal years would occur during October. During October, the long-term average water temperature would increase by 0.25°F, representing up to a 0.4 percent increase compared to the Baseline Condition [Appendix H, p. 1016].

Under the Flexible Purchase Alternative, long-term average water temperature in the American River at Watt Avenue would not differ from long-term average water temperatures under the Baseline Condition by more than 0.1°F during any month, as shown in Table G-38. Additionally, water temperature in the American River at Watt Avenue would be essentially equivalent to or less than water temperatures under the Baseline Condition in 815 out of 828 months included in the analysis. Water temperature increases in 13 of 828 months modeled would range from 0.4 to 0.7°F [Appendix H, p. 421-432].

Under the Flexible Purchase Alternative, the long-term average water temperature in the American River at Watt Avenue during critical years would be essentially equivalent to or less than the Baseline Condition for 124 months of the 132 months

included in the analysis. Within critical years, the long-term average water temperature in the American River at Watt Avenue would not decrease in any months of the year except during November through January, and increases in the long-term average water temperature would occur all months of the year except during December through January. The increases would occur in 4 of the 11 years included in the analysis in October, April, and September, in 2 of the 11 years included in the analysis in February, in 5 of the 11 years included in the analysis in March, in 6 of the 11 years included in the analysis in November and June, in 3 of the 11 years included in the analysis in May and August, and in 1 of the 11 years included in the analysis in July. The greatest long-term average water temperature increase during critical years would occur during September. During September, the long-term average water temperature would increase by 0.33ºF, representing up to a 0.5 percent increase compared to the Baseline Condition [Appendix H, p. 1014].

Table G-38
Long-term Average Water Temperature in the American River at Watt Avenue Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (ºF)		
	Baseline Condition	Flexible Purchase Alternative	Difference (ºF)
Oct	57.7	57.7	0.0
Nov	55.8	55.8	0.0
Dec	50.2	50.2	0.0
Jan	46.7	46.7	0.0
Feb	48.2	48.2	0.0
Mar	51.2	51.3	0.1
Apr	55.1	55.2	0.1
May	58.7	58.7	0.0
Jun	62.0	62.0	0.0
Jul	66.2	66.2	0.0
Aug	66.9	66.9	0.0
Sep	66.8	66.8	0.0

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the long-term average water temperature in the American River at Watt Avenue during dry years would be essentially equivalent to or less than the Baseline Condition for 167 months of the 192 months included in the analysis. Within dry years, the long-term average water temperature in the American River at Watt Avenue would not decrease in any months of the year except during October through February. Increases would occur all months of the year except during December through January. The increases would occur in 5 of the 16 years included in the analysis in October, in 3 of the 16 years included in the analysis in November, and would range from 2 to 12 of the 16 years included in the analysis during February through September. The greatest long-term average water temperature increase during dry years would occur during July, August, and September. During these months the long-term average water temperature would increase by 0.20ºF, representing up to a 0.3 percent increase compared to the Baseline Condition [Appendix H, p. 1014].

Under the Flexible Purchase Alternative, the long-term average water temperature in the American River at Watt Avenue during below normal years would be essentially equivalent to or less than the Baseline Condition for 147 months of the 168 months included in the analysis. During below normal years, the long-term average water temperature in the American River at Watt Avenue would decrease in all months of the year except during March through May, and increases would occur in all months of the year except during December and January. The increases would occur in 5 of the 14 years included in the analysis in October, 3 of the 14 years included in the analysis in November, and would range from 2 to 8 of the 14 years included in the analysis during February through September. The greatest long-term average water temperature increase during below normal years would occur during November. During November, the long-term average water temperature would increase by 0.23°F, representing up to a 0.4 percent increase compared to the Baseline Condition [Appendix H, p. 1014].

Under the Flexible Purchase Alternative, long-term average water temperature at the mouth of the American River would not differ from long-term average temperatures under the Baseline Condition by more than 0.1°F during any month, as shown in Table G-39. Additionally, water temperature in the American River at the mouth would be essentially equivalent to or less than water temperatures under the Baseline Condition in 821 out of 828 months included in the analysis. Water temperature increases in 9 of 828 months modeled would range from 0.4 to 0.6°F [Appendix H, p. 433-444].

Table G-39
Long-term Average Water Temperature at the Mouth of the American River Under the Baseline Condition and Flexible Purchase Alternative

Month	Water Temperature[1] (°F)		
	Baseline Condition	Flexible Purchase Alternative	Difference (°F)
Oct	58.4	58.4	0.0
Nov	55.5	55.5	0.0
Dec	49.7	49.6	-0.1
Jan	46.5	46.5	0.0
Feb	48.5	48.5	0.0
Mar	51.7	51.8	0.1
Apr	55.8	55.9	0.1
May	59.7	59.8	0.1
Jun	63.2	63.3	0.1
Jul	67.2	67.2	0.0
Aug	68.1	68.1	0.0
Sep	67.3	67.3	0.0

[1] Based on 69 years modeled.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Under the Flexible Purchase Alternative, the long-term average water temperature at the mouth of the American River during critical years would be essentially equivalent to or less than the Baseline Condition for 115 months of the 132 months included in the analysis. Within critical years, the long-term average water temperature in the

American River at the mouth would decrease in all months of the year except during March through June and October. Increases in the long-term average water temperature would occur all months of the year except during December and January. The increases would range from 3 to 4 of the 11 years included in the analysis in October through November and would range from 2 to 7 of the 11 years included in the analysis in February through September. The greatest long-term average water temperature increase during critical years would occur during September. During September, the long-term average water temperature would increase by 0.45°F, representing up to a 0.7 percent increase compared to the Baseline Condition [Appendix H, p. 1012].

Under the Flexible Purchase Alternative, the long-term average water temperature at the mouth of the American River during dry years would be essentially equivalent to or less than the Baseline Condition for 159 months of the 192 months included in the analysis. Within dry years, the long-term average water temperature in the American River at the mouth would decrease in all months of the year except during March and April. Increases would occur in all months of the year except during December and January. The increases would occur in 4 of the 16 years included in the analysis in October, August, and September, in 3 of the 16 years included in the analysis in November and July, and would range from 1 to 13 of the 16 years included in the analysis during February through June. The greatest long-term average water temperature increase during dry years would occur during July. During July, the long-term average water temperature would increase by 0.20°F, representing up to a 0.3 percent increase compared to the Baseline Condition [Appendix H, p. 1012].

Under the Flexible Purchase Alternative, the long-term average water temperature at the mouth of the American River during below normal years would be essentially equivalent to or less than the Baseline Condition for 147 months of the 168 months included in the analysis. During below normal years, the long-term average water temperature at the mouth of the American River would decrease in all months of the year except during March through June, and increases would occur in all months of the year except during December, January, and July. The increases would occur in 5 of the 14 years included in the analysis in October and June, in 2 of the 14 years included in the analysis in November and September, in 1 of the 14 years included in the analysis in August, and would range from 3 to 10 of the 14 years included in the analysis in February through May. The greatest long-term average water temperature increase during below normal years would occur during November. During November, the long-term average water temperature would increase by 0.25°F, representing up to a 0.5 percent increase compared to the Baseline Condition [Appendix H, p. 1012].

Overall, water temperature in the American River below Nimbus Dam, at Watt Avenue and at the mouth under the Flexible Purchase Alternative would infrequently be increased by up to 1.0°F and would otherwise be essentially equivalent to or less than water temperatures relative to the Baseline Condition. Any differences in water temperature would not be of sufficient frequency and magnitude to affect water

quality in such as way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Consequently, potential water temperature-related changes to water quality would be less than significant.

Merced River

EWA acquisition of Merced River contractor water via groundwater substitution under the Flexible Purchase Alternative would increase Merced River flow, relative to the Baseline Condition.

The long-term average flow in the Merced River below Crocker-Huffman Dam would not decrease under the Flexible Purchase Alternative, compared to the Baseline Condition, during any month of the year as shown in Table G-40. In fact, long-term average Merced River flow below Crocker Huffman Dam under the Flexible Purchase Alternative would increase in comparison to the Baseline Condition in October and November, when the long-term average flow would increase 25.0 percent and 90.9 percent, respectively. Further, in 864 out of 864 months simulated, Merced River flow below Crocker-Huffman Dam under the Flexible Purchase Alternative would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 964-975].

Table G-40
Long-term Average Flow Below Crocker-Huffman Dam
Under the Baseline Condition and Flexible Purchase Alternative

	Monthly Mean Flow[1] (cfs)		***Difference***	
Month	***Baseline Condition***	***Flexible Purchase Alternative***	***(cfs)***	***(%)[2]***
Oct	812	1015	203	25.0
Nov	231	441	210	90.9
Dec	353	353	0	0.0
Jan	493	493	0	0.0
Feb	784	784	0	0.0
Mar	500	500	0	0.0
Apr	501	501	0	0.0
May	894	894	0	0.0
Jun	881	881	0	0.0
Jul	329	329	0	0.0
Aug	159	159	0	0.0
Sep	178	178	0	0.0

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

The long-term average flow at the mouth of the Merced River would not decrease under the Flexible Purchase Alternative as compared to the Baseline Condition, during any month of the year as shown in Table G-41. In fact, flows in the Merced River at the mouth would increase in October and November under the Flexible Purchase Alternative as compared to the Baseline Condition. Long-term average flow at the mouth of the Merced River under the Flexible Purchase Alternative would

increase by 23.2 percent in October and 73.3 percent in November compared to the Baseline Condition. Furthermore, in 864 of 864 months simulated, Merced River flow at the mouth would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 976-987].

Table G-41
Long-term Average Flow at the Mouth of the Merced River
Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	Flexible Purchase Alternative	(cfs)	(%)[2]
Oct	881	1085	204	23.2
Nov	288	499	211	73.3
Dec	438	438	0	0.0
Jan	596	596	0	0.0
Feb	936	936	0	0.0
Mar	654	654	0	0.0
Apr	517	517	0	0.0
May	865	865	0	0.0
Jun	827	827	0	0.0
Jul	333	333	0	0.0
Aug	189	189	0	0.0
Sep	193	193	0	0.0

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

Overall, under the Flexible Purchase Alternative, Merced River flow below Crocker-Huffman Dam and at the mouth would be essentially equivalent to or greater than the flows under the Baseline Condition. Increases in Merced River flow at Crocker-Huffman Dam and at the mouth during October and November would allow dilution of water quality constituents. As a result, any differences in flow would not be expected to be of sufficient frequency and magnitude to affect water quality in such a way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Therefore, potential flow-related changes to water quality under the Flexible Purchase Alternative would be less than significant.

San Joaquin River

EWA acquisition of Merced River contractor water via groundwater substitution under the Flexible Purchase Alternative would increase San Joaquin River flow, relative to the Baseline Condition.

The long-term average flow in the San Joaquin River below the confluence with the Merced River would not decrease under the Flexible Purchase Alternative, compared to the Baseline Condition, during any month of the year as shown in Table G-42. In fact, long-term average San Joaquin River flow below the confluence with the Merced River under the Flexible Purchase Alternative would increase in comparison to flows under the Baseline Condition in October and November, when the long-term average flow would increase by 14.6 percent and 28.8 percent, respectively. Further, in 864

out of 864 months simulated, San Joaquin River flow below the confluence with the Merced River under the Flexible Purchase Alternative would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 988-999].

Table G-42
Long-term Average San Joaquin River Flow Below the Merced River Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	Flexible Purchase Alternative	(cfs)	(%)[2]
Oct	1391	1594	203	14.6
Nov	729	939	210	28.8
Dec	1138	1138	0	0.0
Jan	1648	1648	0	0.0
Feb	2381	2381	0	0.0
Mar	2066	2066	0	0.0
Apr	1739	1739	0	0.0
May	2236	2236	0	0.0
Jun	1997	1997	0	0.0
Jul	830	830	0	0.0
Aug	575	575	0	0.0
Sep	774	774	0	0.0

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

The long-term average flow at Vernalis in the San Joaquin River (for this analysis, also referred to as the long-term average Delta inflow from the San Joaquin River) would not decrease under the Flexible Purchase Alternative as compared to the Baseline Condition, during any month of the year as shown in Table G-43. In fact, long-term average flows in the San Joaquin River at Vernalis under the Flexible Purchase Alternative would increase by 6.7 percent in October and 10.6 percent in November compared to the Baseline Condition. Furthermore, in 864 of 864 months simulated, San Joaquin River flow at Vernalis would be essentially equivalent to or greater than flow under the Baseline Condition [Appendix H, p. 73-84].

Overall, under the Flexible Purchase Alternative, San Joaquin River flow below the confluence with the Merced River and at Vernalis would be essentially equivalent to or greater than the flows under the Baseline Condition. Increases in San Joaquin River flow at both locations during October and November would allow dilution of water quality constituents, including pesticides and fertilizers present in agricultural run-off. As a result, any differences in flow would not be expected to be of sufficient frequency and magnitude to affect water quality in such as way that would result in long-term adverse effects to designated beneficial uses, exceedance of existing regulatory standards, or substantial degradation of water quality. Therefore, potential flow-related changes to water quality under the Flexible Purchase Alternative would be less than significant.

Table G-43
Long-term Average Delta Inflow from the San Joaquin River
Under the Baseline Condition and Flexible Purchase Alternative

Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline Condition	Flexible Purchase Alternative	(cfs)	(%)[2]
Oct	3016	3219	203	6.7
Nov	1980	2190	210	10.6
Dec	3038	3038	0	0.0
Jan	4505	4505	0	0.0
Feb	6392	6392	0	0.0
Mar	6361	6361	0	0.0
Apr	6127	6127	0	0.0
May	5482	5482	0	0.0
Jun	4219	4219	0	0.0
Jul	2314	2314	0	0.0
Aug	1696	1696	0	0.0
Sep	1909	1909	0	0.0

[1] Based on 72 years modeled.
[2] Relative difference of the monthly long-term average.
Note: For a further description of the methodology used for the data assessment, please refer to Section 5.2.1 Assessment Methods.

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ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX H

Graphical and Tabular Analysis of Environmental Resources

CD containing the
Graphical and Tabular Analysis
of Environmental Resources
is located on the back cover of the binder

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Draft Environmental Impact Statement
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Appendix H: Technical Output for GATAER Process

July 2003

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All Technical Appendix Output Are Found in the Tech Appendix.xls workbook.

Delta EI Ratio

October					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	63%	63%	0%	0%
	1981	64%	64%	0%	0%
	1982	59%	59%	0%	0%
	1983	31%	31%	0%	0%
	1984	22%	22%	0%	0%
	1985	60%	60%	0%	0%
	1986	62%	62%	0%	0%
	1987	65%	65%	0%	0%
	1988	38%	38%	0%	0%
	1989	40%	40%	0%	0%
	1990	59%	59%	0%	0%
	1991	39%	39%	0%	0%
	1992	36%	36%	0%	0%
	1993	44%	44%	0%	0%
Mean:		49%	49%	0%	0%
Median:		51%	51%	0%	0%
Min:		22%	22%	0%	0%
Max:		65%	65%	0%	0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

November					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	56%	56%	0%	0%
	1981	57%	57%	0%	0%
	1982	31%	31%	0%	0%
	1983	23%	23%	0%	0%
	1984	8%	8%	0%	0%
	1985	37%	37%	0%	0%
	1986	55%	55%	0%	0%
	1987	55%	55%	0%	0%
	1988	47%	47%	0%	0%
	1989	46%	46%	0%	0%
	1990	34%	34%	0%	0%
	1991	33%	33%	0%	0%
	1992	41%	41%	0%	0%
	1993	27%	27%	0%	0%
	Mean:	39%	39%	0%	0%
	Median:	39%	39%	0%	0%
	Min:	8%	8%	0%	0%
	Max:	57%	57%	0%	0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

December					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	54%	49%	-5%	-9%
	1981	55%	53%	-2%	-3%
	1982	10%	10%	-1%	-7%
	1983	11%	8%	-3%	-24%
	1984	3%	3%	0%	0%
	1985	46%	42%	-4%	-9%
	1986	51%	48%	-2%	-5%
	1987	51%	48%	-4%	-7%
	1988	59%	49%	-10%	-18%
	1989	47%	47%	0%	0%
	1990	8%	3%	-5%	-65%
	1991	27%	27%	0%	0%
	1992	32%	32%	0%	0%
	1993	61%	61%	0%	0%
	Mean:	37%	34%	-3%	-10%
	Median:	46%	44%	-2%	-6%
	Min:	3%	3%	-10%	-65%
	Max:	61%	61%	0%	0%
Difference =	0			5	5
Difference >	0			0	0
Difference <	0			9	9
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

January					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	44%	42%	-2%	-4%
	1980	11%	11%	0%	-4%
	1981	44%	44%	0%	0%
	1982	14%	13%	-1%	-6%
	1983	4%	3%	-2%	-40%
	1984	8%	8%	0%	0%
	1985	63%	63%	0%	0%
	1986	37%	35%	-2%	-5%
	1987	61%	58%	-3%	-5%
	1988	38%	33%	-5%	-13%
	1989	55%	52%	-4%	-7%
	1990	55%	48%	-7%	-13%
	1991	38%	38%	0%	0%
	1992	53%	49%	-4%	-8%
	1993	17%	16%	-1%	-4%
	Mean:	36%	34%	-2%	-7%
	Median:	38%	38%	-2%	-5%
	Min:	4%	3%	-7%	-40%
	Max:	63%	63%	0%	0%
Difference =	0			4	4
Difference >	0			0	0
Difference <	0			11	11
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

February					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	21%	20%	-1%	-5%
	1980	7%	6%	0%	-6%
	1981	29%	27%	-1%	-4%
	1982	11%	10%	-1%	-8%
	1983	4%	3%	-1%	-32%
	1984	17%	16%	-1%	-5%
	1985	45%	43%	-2%	-4%
	1986	6%	5%	-1%	-13%
	1987	45%	43%	-2%	-5%
	1988	32%	22%	-9%	-29%
	1989	18%	12%	-5%	-31%
	1990	34%	25%	-9%	-27%
	1991	23%	23%	0%	0%
	1992	32%	27%	-4%	-14%
	1993	20%	19%	-1%	-4%
	Mean:	23%	20%	-3%	-13%
	Median:	21%	20%	-1%	-6%
	Min:	4%	3%	-9%	-32%
	Max:	45%	43%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

March					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	20%	18%	-2%	-12%
	1980	12%	12%	-1%	-4%
	1981	25%	15%	-10%	-39%
	1982	11%	10%	-1%	-10%
	1983	2%	1%	0%	-25%
	1984	19%	17%	-2%	-12%
	1985	35%	30%	-5%	-15%
	1986	6%	4%	-2%	-27%
	1987	34%	22%	-12%	-36%
	1988	11%	11%	0%	0%
	1989	22%	19%	-3%	-13%
	1990	35%	22%	-13%	-37%
	1991	32%	26%	-5%	-17%
	1992	35%	26%	-9%	-26%
	1993	23%	20%	-3%	-13%
	Mean:	21%	17%	-5%	-19%
	Median:	22%	18%	-3%	-15%
	Min:	2%	1%	-13%	-39%
	Max:	35%	30%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

April					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	28%	11%	-18%	-63%
	1980	22%	8%	-14%	-63%
	1981	25%	14%	-11%	-45%
	1982	6%	4%	-1%	-23%
	1983	5%	4%	-1%	-21%
	1984	25%	13%	-13%	-50%
	1985	24%	16%	-9%	-36%
	1986	21%	16%	-5%	-22%
	1987	23%	13%	-10%	-45%
	1988	23%	20%	-3%	-14%
	1989	20%	20%	0%	-2%
	1990	8%	8%	0%	0%
	1991	13%	10%	-3%	-25%
	1992	16%	14%	-2%	-13%
	1993	16%	12%	-4%	-25%
	Mean:	18%	12%	-6%	-30%
	Median:	21%	13%	-4%	-25%
	Min:	5%	4%	-18%	-63%
	Max:	28%	20%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

May					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	25%	14%	-11%	-44%
	1980	19%	10%	-10%	-51%
	1981	29%	14%	-15%	-52%
	1982	14%	10%	-3%	-25%
	1983	5%	3%	-1%	-26%
	1984	28%	15%	-13%	-46%
	1985	18%	12%	-6%	-34%
	1986	21%	14%	-7%	-32%
	1987	13%	9%	-4%	-29%
	1988	24%	13%	-11%	-47%
	1989	23%	18%	-5%	-21%
	1990	21%	21%	0%	0%
	1991	27%	14%	-13%	-50%
	1992	11%	11%	0%	0%
	1993	16%	12%	-4%	-28%
	Mean:	20%	13%	-7%	-32%
	Median:	21%	13%	-6%	-32%
	Min:	5%	3%	-15%	-52%
	Max:	29%	21%	0%	0%
Difference =	0			2	2
Difference >	0			0	0
Difference <	0			13	13
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

June					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	29%	25%	-5%	-16%
	1980	35%	25%	-10%	-29%
	1981	35%	32%	-3%	-8%
	1982	28%	23%	-4%	-16%
	1983	8%	5%	-2%	-28%
	1984	35%	30%	-5%	-14%
	1985	35%	19%	-16%	-45%
	1986	35%	26%	-9%	-26%
	1987	23%	16%	-8%	-34%
	1988	14%	14%	0%	0%
	1989	35%	32%	-3%	-8%
	1990	30%	24%	-6%	-20%
	1991	21%	21%	0%	0%
	1992	9%	9%	0%	0%
	1993	31%	30%	-1%	-4%
	Mean:	27%	22%	-5%	-16%
	Median:	30%	24%	-4%	-16%
	Min:	8%	5%	-16%	-45%
	Max:	35%	32%	0%	0%
Difference =	0			3	3
Difference >	0			0	0
Difference <	0			12	12
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

July					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	44%	46%	3%	6%
	1980	35%	36%	1%	3%
	1981	50%	43%	-7%	-15%
	1982	33%	38%	4%	13%
	1983	24%	25%	2%	7%
	1984	37%	40%	3%	7%
	1985	54%	54%	1%	1%
	1986	27%	35%	8%	30%
	1987	41%	44%	3%	7%
	1988	14%	29%	15%	105%
	1989	51%	44%	-7%	-14%
	1990	14%	26%	12%	81%
	1991	11%	21%	10%	93%
	1992	18%	27%	10%	56%
	1993	34%	38%	4%	13%
	Mean:	32%	36%	4%	26%
	Median:	34%	38%	3%	7%
	Min:	11%	21%	-7%	-15%
	Max:	54%	54%	15%	105%
Difference =	0			0	0
Difference >	0			13	13
Difference <	0			2	2
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

August					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	62%	63%	2%	3%
	1980	61%	64%	3%	4%
	1981	58%	60%	2%	3%
	1982	61%	63%	2%	3%
	1983	50%	52%	2%	4%
	1984	57%	59%	2%	4%
	1985	61%	61%	1%	1%
	1986	60%	63%	3%	5%
	1987	53%	58%	4%	8%
	1988	24%	38%	14%	56%
	1989	60%	61%	1%	2%
	1990	29%	40%	10%	35%
	1991	37%	45%	8%	21%
	1992	27%	36%	9%	31%
	1993	61%	63%	2%	3%
	Mean:	51%	55%	4%	12%
	Median:	58%	60%	2%	4%
	Min:	24%	36%	1%	1%
	Max:	62%	64%	14%	56%
Difference =	0			0	0
Difference >	0			15	15
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

September					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)[1]
	1979	65%	65%	0%	0%
	1980	62%	65%	3%	4%
	1981	65%	65%	0%	0%
	1982	49%	52%	3%	5%
	1983	26%	29%	2%	8%
	1984	65%	65%	0%	0%
	1985	65%	65%	0%	0%
	1986	62%	65%	3%	5%
	1987	62%	65%	3%	6%
	1988	53%	60%	7%	13%
	1989	65%	65%	0%	0%
	1990	47%	55%	7%	16%
	1991	54%	59%	5%	8%
	1992	52%	57%	5%	9%
	1993	65%	65%	0%	0%
	Mean:	57%	60%	2%	5%
	Median:	62%	65%	3%	5%
	Min:	26%	29%	0%	0%
	Max:	65%	65%	7%	16%
Difference =	0			0	0
Difference >	0			13	13
Difference <	0			2	2
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

October					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1979		N/A	N/A	N/A	N/A
1980		-47	-47	0	0%
1981		3	3	0	0%
1982		-80	-80	0	0%
1983		721	721	0	0%
1984		844	844	0	0%
1985		-65	-65	0	0%
1986		-136	-136	0	0%
1987		-71	-71	0	0%
1988		90	90	0	0%
1989		119	119	0	0%
1990		-96	-96	0	0%
1991		52	52	0	0%
1992		92	92	0	0%
1993		20	20	0	0%
Mean:		103	103	0	0%
Median:		12	12	0	0%
Min:		-136	-136	0	0%
Max:		844	844	0	0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

November					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	-126	-126	0	0%
	1981	-96	-96	0	0%
	1982	-204	-204	0	0%
	1983	347	347	0	0%
	1984	1,223	1,223	0	0%
	1985	-44	-44	0	0%
	1986	-47	-47	0	0%
	1987	-77	-77	0	0%
	1988	-2	-2	0	0%
	1989	-41	-41	0	0%
	1990	62	62	0	0%
	1991	93	93	0	0%
	1992	32	32	0	0%
	1993	127	127	0	0%
	Mean:	89	89	0	0%
	Median:	-21	-21	0	0%
	Min:	-204	-204	0	0%
	Max:	1,223	1,223	0	0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

December					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	-226	-166	60	-27%
	1981	-115	-95	20	-17%
	1982	212	252	40	19%
	1983	1,412	1,562	150	11%
	1984	2,245	2,245	0	0%
	1985	-163	-103	60	-37%
	1986	-243	-213	30	-12%
	1987	-27	3	30	-110%
	1988	16	136	120	731%
	1989	-21	-21	0	0%
	1990	204	234	30	15%
	1991	-3	-3	0	0%
	1992	53	53	0	0%
	1993	-208	-208	0	0%
Mean:		224	263	39	41%
Median:		-12	0	30	0%
Min:		-243	-213	0	-110%
Max:		2,245	2,245	150	731%
Difference =	0			5	5
Difference >	0			9	4
Difference <	0			0	5
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

January					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	57	87	30	53%
	1980	1,214	1,244	30	2%
	1981	-196	-196	0	0%
	1982	767	807	40	5%
	1983	2,203	2,323	120	5%
	1984	1,138	1,138	0	0%
	1985	-175	-175	0	0%
	1986	-105	-75	30	-29%
	1987	-215	-185	30	-14%
	1988	-277	-187	90	-33%
	1989	-183	-153	30	-16%
	1990	-298	-208	90	-30%
	1991	64	64	0	0%
	1992	-94	-64	30	-32%
	1993	608	638	30	5%
Mean:		301	337	37	-6%
Median:		-94	-64	30	0%
Min:		-298	-208	0	-33%
Max:		2,203	2,323	120	53%
Difference =	0			4	4
Difference >	0			11	5
Difference <	0			0	6
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

February					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	404	434	30	7%
	1980	1,566	1,596	30	2%
	1981	-190	-170	20	-11%
	1982	1,048	1,108	60	6%
	1983	2,579	2,699	120	5%
	1984	500	520	20	4%
	1985	-156	-136	20	-13%
	1986	1,906	1,996	90	5%
	1987	-213	-183	30	-14%
	1988	-84	6	90	-107%
	1989	88	118	30	34%
	1990	-93	-3	90	-97%
	1991	1	1	0	0%
	1992	-110	-20	90	-82%
	1993	302	332	30	10%
	Mean:	503	553	50	-17%
	Median:	88	118	30	2%
	Min:	-213	-183	0	-107%
	Max:	2,579	2,699	120	34%
Difference =	0			1	1
Difference >	0			14	8
Difference <	0			0	6
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

March					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1979		459	519	60	13%
1980		973	993	20	2%
1981		53	253	200	378%
1982		1,459	1,519	60	4%
1983		3,682	3,742	60	2%
1984		239	299	60	25%
1985		-26	34	60	-229%
1986		1,925	2,075	150	8%
1987		-143	57	200	-139%
1988		87	87	0	0%
1989		-62	28	90	-144%
1990		-89	31	120	-136%
1991		-170	-50	120	-71%
1992		-109	11	120	-110%
1993		196	286	90	46%
Mean:		565	659	94	-23%
Median:		87	253	90	2%
Min:		-170	-50	0	-229%
Max:		3,682	3,742	200	378%
Difference =	0			1	1
Difference >	0			14	8
Difference <	0			0	6
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

April					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	202	469	267	132%
	1980	291	514	223	77%
	1981	67	195	128	193%
	1982	2,001	2,121	120	6%
	1983	1,665	1,725	60	4%
	1984	89	275	186	210%
	1985	24	113	88	364%
	1986	432	522	90	21%
	1987	-35	73	107	-309%
	1988	3	27	24	820%
	1989	-33	-28	5	-16%
	1990	94	94	0	0%
	1991	109	139	30	28%
	1992	56	74	18	32%
	1993	206	316	111	54%
	Mean:	345	442	97	108%
	Median:	94	195	90	32%
	Min:	-35	-28	0	-309%
	Max:	2,001	2,121	267	820%
Difference =	0			1	1
Difference >	0			14	12
Difference <	0			0	2
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

May					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1979		72	229	157	219%
1980		114	261	147	129%
1981		17	152	135	788%
1982		844	964	120	14%
1983		1,619	1,679	60	4%
1984		41	187	146	359%
1985		-12	52	64	-528%
1986		173	263	90	52%
1987		35	63	28	79%
1988		-39	43	82	-212%
1989		-88	-37	51	-58%
1990		-11	-11	0	0%
1991		-29	62	91	-315%
1992		13	13	0	0%
1993		139	239	100	72%
Mean:		193	277	85	40%
Median:		35	152	90	14%
Min:		-88	-37	0	-528%
Max:		1,619	1,679	157	788%
Difference =	0			2	2
Difference >	0			13	9
Difference <	0			0	4
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

June					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1979		-70	-10	60	-85%
1980		146	265	119	82%
1981		-103	-73	30	-29%
1982		335	425	90	27%
1983		2,106	2,226	120	6%
1984		-39	21	60	-155%
1985		-90	60	150	-167%
1986		161	281	120	74%
1987		5	75	70	1304%
1988		36	36	0	0%
1989		-104	-74	30	-29%
1990		35	80	46	131%
1991		44	44	0	0%
1992		101	101	0	0%
1993		-279	-259	20	-7%
Mean:		152	213	61	77%
Median:		35	60	60	0%
Min:		-279	-259	0	-167%
Max:		2,106	2,226	150	1304%
Difference =	0			3	3
Difference >	0			12	6
Difference <	0			0	6
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

July					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1979		-189	-319	-130	69%
1980		36	-2	-38	-105%
1981		-272	-182	90	-33%
1982		62	-109	-171	-274%
1983		903	778	-124	-14%
1984		-111	-254	-142	128%
1985		-312	-357	-45	14%
1986		17	-260	-277	-1636%
1987		-151	-264	-113	74%
1988		-20	-291	-271	1381%
1989		-315	-225	90	-29%
1990		6	-213	-219	-3718%
1991		106	-76	-183	-172%
1992		60	-110	-171	-283%
1993		-40	-212	-172	432%
Mean:		-15	-140	-125	-278%
Median:		-20	-213	-142	-29%
Min:		-315	-357	-277	-3718%
Max:		903	778	90	1381%
Difference =	0			0	0
Difference >	0			2	6
Difference <	0			13	9
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

August					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	-284	-414	-130	46%
	1980	-274	-506	-231	84%
	1981	-232	-338	-106	46%
	1982	-263	-435	-171	65%
	1983	-142	-266	-124	88%
	1984	-193	-335	-142	74%
	1985	-274	-319	-45	16%
	1986	-277	-554	-277	100%
	1987	-176	-392	-216	123%
	1988	-44	-315	-271	619%
	1989	-276	-349	-73	27%
	1990	8	-211	-219	-2624%
	1991	4	-179	-183	-4980%
	1992	77	-93	-171	-220%
	1993	-285	-457	-172	60%
	Mean:	-175	-344	-169	-432%
	Median:	-232	-338	-171	60%
	Min:	-285	-554	-277	-4980%
	Max:	77	-93	-45	619%
Difference =	0			0	0
Difference >	0			0	12
Difference <	0			15	3
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

September					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	-218	-348	-130	60%
	1980	-274	-506	-231	84%
	1981	-230	-336	-106	46%
	1982	-263	-435	-171	65%
	1983	115	-9	-124	-108%
	1984	-193	-335	-142	74%
	1985	-228	-273	-45	20%
	1986	-277	-554	-277	100%
	1987	-159	-375	-216	136%
	1988	-44	-315	-271	619%
	1989	-212	-285	-73	35%
	1990	8	-211	-219	-2624%
	1991	-71	-254	-183	257%
	1992	77	-93	-171	-220%
	1993	-230	-402	-172	75%
	Mean:	-147	-315	-169	-92%
	Median:	-212	-335	-171	65%
	Min:	-277	-554	-277	-2624%
	Max:	115	-9	-45	619%
Difference =	0			0	0
Difference >	0			0	12
Difference <	0			15	3
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

October					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		N/A	N/A	N/A	N/A
1980		614	614	0	0%
1981		678	678	0	0%
1982		519	519	0	0%
1983		677	677	0	0%
1984		474	474	0	0%
1985		603	603	0	0%
1986		601	601	0	0%
1987		677	677	0	0%
1988		273	273	0	0%
1989		233	233	0	0%
1990		493	493	0	0%
1991		224	224	0	0%
1992		205	205	0	0%
1993		252	252	0	0%
Mean:		466	466	0	0%
Median:		506	506	0	0%
Min:		205	205	0	0%
Max:		678	678	0	0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

November				
	Baseline	FP Alt		
Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979	N/A	N/A	N/A	N/A
1980	496	496	0	0%
1981	431	431	0	0%
1982	651	651	0	0%
1983	650	650	0	0%
1984	400	400	0	0%
1985	651	651	0	0%
1986	419	419	0	0%
1987	409	409	0	0%
1988	282	282	0	0%
1989	278	278	0	0%
1990	212	212	0	0%
1991	171	171	0	0%
1992	212	212	0	0%
1993	142	142	0	0%
Mean:	386	386	0	0%
Median:	405	405	0	0%
Min:	142	142	0	0%
Max:	651	651	0	0%
Difference = 0			14	14
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

December					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		N/A	N/A	N/A	N/A
1980		691	631	-60	-9%
1981		577	557	-20	-3%
1982		615	575	-40	-7%
1983		628	478	-150	-24%
1984		276	276	0	0%
1985		693	633	-60	-9%
1986		615	585	-30	-5%
1987		417	387	-30	-7%
1988		684	564	-120	-18%
1989		322	322	0	0%
1990		46	16	-30	-65%
1991		134	134	0	0%
1992		161	161	0	0%
1993		538	538	0	0%
Mean:		457	418	-39	-10%
Median:		557	508	-30	-6%
Min:		46	16	-150	-65%
Max:		693	633	0	0%
Difference =	0			5	5
Difference >	0			0	0
Difference <	0			9	9
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

January					
		Baseline	FP Alt		
	Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
	1979	772	742	-30	-4%
	1980	783	753	-30	-4%
	1981	714	714	0	0%
	1982	708	668	-40	-6%
	1983	299	179	-120	-40%
	1984	377	377	0	0%
	1985	605	605	0	0%
	1986	640	610	-30	-5%
	1987	600	570	-30	-5%
	1988	696	606	-90	-13%
	1989	457	427	-30	-7%
	1990	695	605	-90	-13%
	1991	176	176	0	0%
	1992	389	359	-30	-8%
	1993	707	677	-30	-4%
	Mean:	574	538	-37	-7%
	Median:	640	605	-30	-5%
	Min:	176	176	-120	-40%
	Max:	783	753	0	0%
Difference =	0			4	4
Difference >	0			0	0
Difference <	0			11	11
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

February					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		619	589	-30	-5%
1980		518	488	-30	-6%
1981		476	456	-20	-4%
1982		708	648	-60	-8%
1983		373	253	-120	-32%
1984		440	420	-20	-5%
1985		458	438	-20	-4%
1986		707	617	-90	-13%
1987		560	530	-30	-5%
1988		305	215	-90	-29%
1989		98	68	-30	-31%
1990		332	242	-90	-27%
1991		131	131	0	0%
1992		645	555	-90	-14%
1993		704	674	-30	-4%
Mean:		472	422	-50	-13%
Median:		476	456	-30	-6%
Min:		98	68	-120	-32%
Max:		708	674	0	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

March					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		508	448	-60	-12%
1980		479	459	-20	-4%
1981		510	310	-200	-39%
1982		604	544	-60	-10%
1983		244	184	-60	-25%
1984		517	457	-60	-12%
1985		405	345	-60	-15%
1986		551	401	-150	-27%
1987		553	353	-200	-36%
1988		70	70	0	0%
1989		686	596	-90	-13%
1990		325	205	-120	-37%
1991		694	574	-120	-17%
1992		470	350	-120	-26%
1993		712	622	-90	-13%
Mean:		489	395	-94	-19%
Median:		510	401	-90	-15%
Min:		70	70	-200	-39%
Max:		712	622	0	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

April					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		426	159	-267	-63%
1980		354	131	-223	-63%
1981		287	159	-128	-45%
1982		513	393	-120	-23%
1983		291	231	-60	-21%
1984		372	186	-186	-50%
1985		247	159	-88	-36%
1986		405	315	-90	-22%
1987		238	131	-107	-45%
1988		169	145	-24	-14%
1989		296	291	-5	-2%
1990		62	62	0	0%
1991		120	89	-30	-25%
1992		135	117	-18	-13%
1993		436	325	-111	-25%
Mean:		290	193	-97	-30%
Median:		291	159	-90	-25%
Min:		62	62	-267	-63%
Max:		513	393	0	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

May					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		361	203	-157	-44%
1980		288	141	-147	-51%
1981		259	124	-135	-52%
1982		472	352	-120	-25%
1983		231	171	-60	-26%
1984		318	172	-146	-46%
1985		189	124	-64	-34%
1986		280	190	-90	-32%
1987		97	69	-28	-29%
1988		174	92	-82	-47%
1989		238	187	-51	-21%
1990		124	124	0	0%
1991		183	92	-91	-50%
1992		65	65	0	0%
1993		361	261	-100	-28%
Mean:		243	158	-85	-32%
Median:		238	141	-90	-32%
Min:		65	65	-157	-52%
Max:		472	352	0	0%
Difference =	0			2	2
Difference >	0			0	0
Difference <	0			13	13
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

June					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		385	325	-60	-16%
1980		415	296	-119	-29%
1981		354	324	-30	-8%
1982		576	486	-90	-16%
1983		424	304	-120	-28%
1984		437	377	-60	-14%
1985		336	186	-150	-45%
1986		469	349	-120	-26%
1987		207	137	-70	-34%
1988		111	111	0	0%
1989		370	340	-30	-8%
1990		223	177	-46	-20%
1991		121	121	0	0%
1992		62	62	0	0%
1993		576	556	-20	-4%
Mean:		338	277	-61	-16%
Median:		370	304	-60	-16%
Min:		62	62	-150	-45%
Max:		576	556	0	0%
Difference =	0			3	3
Difference >	0			0	0
Difference <	0			12	12
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

July					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		536	608	71	13%
1980		401	422	21	5%
1981		620	530	-90	-15%
1982		388	481	94	24%
1983		670	738	68	10%
1984		562	640	78	14%
1985		688	713	25	4%
1986		294	445	152	52%
1987		409	470	62	15%
1988		92	241	148	161%
1989		662	572	-90	-14%
1990		102	222	120	118%
1991		81	181	100	124%
1992		112	206	93	83%
1993		400	494	94	24%
Mean:		401	464	63	41%
Median:		401	481	78	15%
Min:		81	181	-90	-15%
Max:		688	738	152	161%
Difference =	0			0	0
Difference >	0			13	13
Difference <	0			2	2
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

August					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
1979		691	762	71	10%
1980		689	816	127	18%
1981		611	669	58	9%
1982		688	782	94	14%
1983		674	742	68	10%
1984		590	668	78	13%
1985		686	711	25	4%
1986		688	840	152	22%
1987		459	577	118	26%
1988		143	292	148	103%
1989		646	686	40	6%
1990		180	300	120	67%
1991		223	323	100	45%
1992		170	263	93	55%
1993		688	782	94	14%
Mean:		522	614	92	28%
Median:		646	686	94	14%
Min:		143	263	25	4%
Max:		691	840	152	103%
Difference =	0			0	0
Difference >	0			15	15
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

September					
		Baseline	FP Alt		
	Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)[1]
	1979	652	723	71	11%
	1980	663	790	127	19%
	1981	649	707	58	9%
	1982	663	757	94	14%
	1983	549	617	68	12%
	1984	659	737	78	12%
	1985	660	684	25	4%
	1986	663	814	152	23%
	1987	471	590	118	25%
	1988	331	479	148	45%
	1989	581	621	40	7%
	1990	262	382	120	46%
	1991	351	451	100	28%
	1992	325	418	93	29%
	1993	663	757	94	14%
	Mean:	543	635	92	20%
	Median:	649	684	94	14%
	Min:	262	382	25	4%
	Max:	663	814	152	46%
Difference =	0			0	0
Difference >	0			15	15
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta X2 Position

October				
		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		N/A	N/A	N/A
1980		86.6	85.9	-0.7
1981		84.5	83.5	-0.9
1982		86.4	85.7	-0.7
1983		78.7	78.2	-0.5
1984		68.9	68.8	-0.2
1985		86.7	85.9	-0.8
1986		85.8	85.5	-0.3
1987		84.1	83.0	-1.1
1988		89.3	88.0	-1.3
1989		89.2	87.6	-1.6
1990		86.2	85.7	-0.6
1991		89.3	87.9	-1.3
1992		89.7	88.6	-1.1
1993		89.2	88.2	-1.0
Mean:		85.3	84.5	-0.9
Median:		86.5	85.8	-0.8
Min:		68.9	68.8	-1.6
Max:		89.7	88.6	-0.2
Difference =	0			0
Difference >	0			0
Difference <	0			14
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

November			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	N/A	N/A	N/A
1980	85.7	85.5	-0.2
1981	84.9	84.6	-0.3
1982	85.4	85.2	-0.2
1983	70.8	70.6	-0.2
1984	67.2	67.1	-0.1
1985	84.6	84.3	-0.2
1986	85.6	85.5	-0.1
1987	85.4	85.0	-0.4
1988	84.9	84.4	-0.4
1989	87.3	86.8	-0.5
1990	86.2	86.0	-0.2
1991	87.6	87.2	-0.4
1992	87.0	86.6	-0.4
1993	88.4	88.1	-0.3
Mean:	83.6	83.4	-0.3
Median:	85.5	85.3	-0.3
Min:	67.2	67.1	-0.5
Max:	88.4	88.1	-0.1
Difference = 0			0
Difference > 0			0
Difference < 0			14
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

December			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	N/A	N/A	N/A
1980	84.0	83.9	-0.1
1981	85.6	85.5	-0.1
1982	72.8	72.7	-0.1
1983	64.7	64.6	-0.1
1984	57.9	57.9	0.0
1985	74.7	74.6	-0.1
1986	84.5	84.5	0.0
1987	85.7	85.6	-0.1
1988	85.5	85.4	-0.1
1989	86.1	85.9	-0.2
1990	84.0	84.0	-0.1
1991	86.3	86.1	-0.1
1992	87.2	87.1	-0.1
1993	85.8	85.7	-0.1
Mean:	80.3	80.2	-0.1
Median:	85.0	85.0	-0.1
Min:	57.9	57.9	-0.2
Max:	87.2	87.1	0.0
Difference = 0			0
Difference > 0			0
Difference < 0			14
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

January			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	85.0	85.0	0.0
1980	79.5	78.7	-0.8
1981	82.7	82.3	-0.4
1982	59.0	58.9	-0.1
1983	56.5	56.2	-0.2
1984	49.4	49.4	0.0
1985	74.0	73.4	-0.6
1986	79.7	79.3	-0.4
1987	84.3	83.6	-0.7
1988	82.1	80.2	-1.9
1989	85.0	84.9	-0.1
1990	81.3	80.8	-0.5
1991	85.4	85.4	0.0
1992	86.2	86.1	0.0
1993	84.3	84.2	0.0
Mean:	76.9	76.6	-0.4
Median:	82.1	80.8	-0.2
Min:	49.4	49.4	-1.9
Max:	86.2	86.1	0.0
Difference = 0			1
Difference > 0			0
Difference < 0			14
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

February				
		Baseline	FP Alt	
	Water Year	Position (km)	Position (km)	Absolute Difference (taf)
	1979	74.9	74.7	-0.2
	1980	59.8	59.5	-0.3
	1981	75.4	75.2	-0.1
	1982	55.3	55.2	-0.1
	1983	51.7	51.5	-0.2
	1984	53.1	53.1	0.0
	1985	79.8	79.6	-0.2
	1986	72.7	72.4	-0.3
	1987	82.8	82.0	-0.8
	1988	73.5	72.3	-1.2
	1989	83.4	82.8	-0.6
	1990	78.6	77.3	-1.3
	1991	85.7	85.7	0.0
	1992	84.3	83.6	-0.7
	1993	65.1	65.0	-0.1
	Mean:	71.7	71.3	-0.4
	Median:	74.9	74.7	-0.2
	Min:	51.7	51.5	-1.3
	Max:	85.7	85.7	0.0
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

March				
		Baseline	FP Alt	
	Water Year	Position (km)	Position (km)	Absolute Difference (taf)
	1979	64.6	64.4	-0.2
	1980	51.4	51.2	-0.1
	1981	70.7	70.5	-0.2
	1982	51.8	51.7	-0.1
	1983	46.5	46.3	-0.2
	1984	58.7	58.6	-0.1
	1985	77.9	77.5	-0.3
	1986	52.2	52.0	-0.2
	1987	77.1	76.5	-0.6
	1988	74.8	73.4	-1.4
	1989	80.7	80.0	-0.7
	1990	76.4	74.9	-1.4
	1991	82.0	82.0	0.0
	1992	71.6	71.0	-0.7
	1993	59.9	59.8	-0.1
	Mean:	66.4	66.0	-0.4
	Median:	70.7	70.5	-0.2
	Min:	46.5	46.3	-1.4
	Max:	82.0	82.0	0.0
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

April				
		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		63.7	63.4	-0.3
1980		55.2	55.1	-0.1
1981		67.9	66.9	-1.0
1982		52.4	52.2	-0.1
1983		42.0	42.0	-0.1
1984		61.5	61.2	-0.2
1985		75.5	74.8	-0.7
1986		48.0	47.8	-0.2
1987		72.7	71.1	-1.5
1988		77.9	77.5	-0.5
1989		67.7	67.2	-0.5
1990		77.8	75.7	-2.0
1991		71.6	71.1	-0.6
1992		72.5	71.3	-1.2
1993		60.8	60.4	-0.3
Mean:		64.5	63.8	-0.6
Median:		67.7	66.9	-0.5
Min:		42.0	42.0	-2.0
Max:		77.9	77.5	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

May				
		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		68.6	66.7	-1.9
1980		64.4	63.0	-1.3
1981		71.9	70.4	-1.5
1982		48.4	48.3	-0.1
1983		48.7	48.6	-0.1
1984		67.9	66.5	-1.4
1985		75.8	74.5	-1.2
1986		60.4	59.9	-0.5
1987		74.6	72.9	-1.6
1988		79.2	78.7	-0.6
1989		69.5	69.3	-0.2
1990		77.2	76.5	-0.7
1991		74.2	73.7	-0.5
1992		75.1	74.5	-0.6
1993		61.5	61.0	-0.5
Mean:		67.8	67.0	-0.9
Median:		69.5	69.3	-0.6
Min:		48.4	48.3	-1.9
Max:		79.2	78.7	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

June				
		Baseline	FP Alt	
	Water Year	Position (km)	Position (km)	Absolute Difference (taf)
	1979	71.1	69.2	-1.9
	1980	68.6	67.1	-1.4
	1981	77.5	75.0	-2.5
	1982	55.7	55.3	-0.4
	1983	51.9	51.7	-0.1
	1984	73.5	71.4	-2.0
	1985	76.0	74.8	-1.1
	1986	68.4	67.5	-0.9
	1987	78.4	77.4	-1.0
	1988	81.0	79.4	-1.6
	1989	74.1	73.5	-0.7
	1990	80.5	80.3	-0.2
	1991	80.1	78.2	-1.9
	1992	80.4	80.2	-0.2
	1993	63.7	63.1	-0.6
	Mean:	72.0	70.9	-1.1
	Median:	74.1	73.5	-1.0
	Min:	51.9	51.7	-2.5
	Max:	81.0	80.3	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

July				
		Baseline	FP Alt	
	Water Year	Position (km)	Position (km)	Absolute Difference (taf)
	1979	74.4	73.1	-1.3
	1980	75.2	73.1	-2.1
	1981	81.0	79.6	-1.4
	1982	64.1	63.4	-0.6
	1983	52.4	52.1	-0.2
	1984	76.5	75.0	-1.5
	1985	81.0	77.8	-3.2
	1986	74.1	72.4	-1.7
	1987	80.5	78.9	-1.6
	1988	81.0	80.5	-0.5
	1989	78.7	78.0	-0.8
	1990	85.0	83.6	-1.4
	1991	84.9	84.2	-0.6
	1992	81.0	80.9	-0.1
	1993	68.3	68.0	-0.3
	Mean:	75.9	74.7	-1.2
	Median:	78.7	77.8	-1.3
	Min:	52.4	52.1	-3.2
	Max:	85.0	84.2	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

August				
		Baseline	FP Alt	
	Water Year	Position (km)	Position (km)	Absolute Difference (taf)
	1979	79.3	78.6	-0.7
	1980	78.0	77.2	-0.7
	1981	83.5	81.0	-2.4
	1982	74.3	73.8	-0.5
	1983	60.2	60.1	-0.1
	1984	76.3	75.6	-0.7
	1985	83.5	82.3	-1.2
	1986	77.6	76.6	-1.0
	1987	83.3	82.5	-0.8
	1988	85.2	84.1	-1.0
	1989	82.7	80.5	-2.2
	1990	84.9	83.8	-1.0
	1991	83.0	82.4	-0.6
	1992	85.2	84.6	-0.6
	1993	75.7	75.3	-0.4
	Mean:	79.5	78.6	-0.9
	Median:	82.7	80.5	-0.7
	Min:	60.2	60.1	-2.4
	Max:	85.2	84.6	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

September			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	84.6	84.0	-0.7
1980	84.0	83.0	-1.0
1981	85.8	84.7	-1.1
1982	83.0	82.3	-0.7
1983	73.3	73.1	-0.3
1984	83.6	82.9	-0.7
1985	85.3	84.7	-0.5
1986	84.1	82.8	-1.2
1987	86.9	85.9	-1.1
1988	86.4	85.2	-1.2
1989	85.5	84.5	-1.0
1990	86.7	85.6	-1.1
1991	88.0	87.1	-1.0
1992	86.5	85.8	-0.7
1993	83.4	82.7	-0.7
Mean:	84.5	83.6	-0.9
Median:	85.3	84.5	-1.0
Min:	73.3	73.1	-1.2
Max:	88.0	87.1	-0.3
Difference = 0			0
Difference > 0			0
Difference < 0			15
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta Outflow

October					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	4,728	4,728	0	0.0%
	1981	4,786	4,786	0	0.0%
	1982	4,875	4,875	0	0.0%
	1983	23,788	23,788	0	0.0%
	1984	25,089	25,089	0	0.0%
	1985	5,501	5,501	0	0.0%
	1986	4,662	4,662	0	0.0%
	1987	4,438	4,438	0	0.0%
	1988	5,953	5,953	0	0.0%
	1989	4,277	4,277	0	0.0%
	1990	4,373	4,373	0	0.0%
	1991	4,143	4,143	0	0.0%
	1992	4,595	4,595	0	0.0%
	1993	3,705	3,705	0	0.0%
	Mean:	7,494	7,494	0	0.0%
	Median:	4,695	4,695	0	0.0%
	Min:	3,705	3,705	0	0.0%
	Max:	25,089	25,089	0	0.0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

November					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	5,723	5,723	0	0.0%
	1981	4,500	4,500	0	0.0%
	1982	24,242	24,242	0	0.0%
	1983	37,332	37,332	0	0.0%
	1984	77,661	77,661	0	0.0%
	1985	18,362	18,362	0	0.0%
	1986	5,285	5,285	0	0.0%
	1987	4,500	4,500	0	0.0%
	1988	4,500	4,500	0	0.0%
	1989	4,648	4,648	0	0.0%
	1990	5,797	5,797	0	0.0%
	1991	4,603	4,603	0	0.0%
	1992	3,961	3,961	0	0.0%
	1993	5,087	5,087	0	0.0%
	Mean:	14,729	14,729	0	0.0%
	Median:	5,186	5,186	0	0.0%
	Min:	3,961	3,961	0	0.0%
	Max:	77,661	77,661	0	0.0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

December					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	N/A	N/A	N/A	N/A
	1980	9,534	10,510	976	10.2%
	1981	6,708	7,034	325	4.8%
	1982	85,783	86,434	651	0.8%
	1983	84,450	86,889	2,440	2.9%
	1984	158,275	158,275	0	0.0%
	1985	13,183	14,159	976	7.4%
	1986	9,534	10,022	488	5.1%
	1987	5,498	5,985	488	8.9%
	1988	7,282	9,233	1,952	26.8%
	1989	5,118	5,118	0	0.0%
	1990	7,552	8,040	488	6.5%
	1991	4,860	4,860	0	0.0%
	1992	4,583	4,583	0	0.0%
	1993	5,525	5,525	0	0.0%
	Mean:	29,135	29,762	627	5.2%
	Median:	7,417	8,637	488	3.9%
	Min:	4,583	4,583	0	0.0%
	Max:	158,275	158,275	2,440	26.8%
Difference =	0			5	5
Difference >	0			9	9
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

January					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	18,004	18,492	488	2.7%
	1980	103,304	103,792	488	0.5%
	1981	15,463	15,463	0	0.0%
	1982	76,537	77,187	651	0.8%
	1983	110,215	112,167	1,952	1.8%
	1984	68,052	68,052	0	0.0%
	1985	6,000	6,000	0	0.0%
	1986	19,212	19,700	488	2.5%
	1987	6,237	6,725	488	7.8%
	1988	19,277	20,741	1,464	7.6%
	1989	5,955	6,443	488	8.2%
	1990	9,551	11,015	1,464	15.3%
	1991	4,500	4,500	0	0.0%
	1992	5,597	6,085	488	8.7%
	1993	63,149	63,637	488	0.8%
	Mean:	35,403	36,000	596	3.8%
	Median:	18,004	18,492	488	1.8%
	Min:	4,500	4,500	0	0.0%
	Max:	110,215	112,167	1,952	15.3%
Difference =	0			4	4
Difference >	0			11	11
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

February					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	45,386	45,926	540	1.2%
	1980	132,898	133,438	540	0.4%
	1981	20,793	21,153	360	1.7%
	1982	103,475	104,555	1,080	1.0%
	1983	178,503	180,664	2,161	1.2%
	1984	38,384	38,744	360	0.9%
	1985	9,835	10,195	360	3.7%
	1986	207,358	208,978	1,621	0.8%
	1987	12,363	12,903	540	4.4%
	1988	11,188	12,809	1,621	14.5%
	1989	7,961	8,502	540	6.8%
	1990	11,400	13,021	1,621	14.2%
	1991	7,411	7,411	0	0.0%
	1992	26,977	28,597	1,621	6.0%
	1993	54,923	55,463	540	1.0%
	Mean:	57,924	58,824	900	3.9%
	Median:	26,977	28,597	540	1.2%
	Min:	7,411	7,411	0	0.0%
	Max:	207,358	208,978	2,161	14.5%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

March					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	32,845	33,820	976	3.0%
	1980	56,371	56,697	325	0.6%
	1981	24,519	27,772	3,253	13.3%
	1982	83,108	84,083	976	1.2%
	1983	253,714	254,690	976	0.4%
	1984	33,961	34,937	976	2.9%
	1985	12,379	13,354	976	7.9%
	1986	149,948	152,388	2,440	1.6%
	1987	17,364	20,617	3,253	18.7%
	1988	7,895	7,895	0	0.0%
	1989	38,738	40,201	1,464	3.8%
	1990	8,642	10,593	1,952	22.6%
	1991	24,384	26,336	1,952	8.0%
	1992	13,969	15,920	1,952	14.0%
	1993	39,201	40,664	1,464	3.7%
	Mean:	53,136	54,665	1,529	6.8%
	Median:	32,845	33,820	1,464	3.7%
	Min:	7,895	7,895	0	0.0%
	Max:	253,714	254,690	3,253	22.6%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

April					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	16,477	20,963	4,487	27.2%
	1980	19,954	23,710	3,756	18.8%
	1981	12,849	15,008	2,159	16.8%
	1982	141,658	143,675	2,017	1.4%
	1983	87,807	88,815	1,008	1.1%
	1984	16,617	19,743	3,126	18.8%
	1985	10,794	12,281	1,487	13.8%
	1986	24,693	26,206	1,513	6.1%
	1987	11,193	12,994	1,801	16.1%
	1988	7,641	8,048	407	5.3%
	1989	17,494	17,584	90	0.5%
	1990	9,850	9,850	0	0.0%
	1991	11,191	11,700	509	4.5%
	1992	10,366	10,671	306	3.0%
	1993	37,004	38,861	1,857	5.0%
	Mean:	29,039	30,674	1,635	9.2%
	Median:	16,477	17,584	1,513	5.3%
	Min:	7,641	8,048	0	0.0%
	Max:	141,658	143,675	4,487	27.2%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

May					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	14,875	17,435	2,560	17.2%
	1980	17,130	19,520	2,390	14.0%
	1981	7,435	9,625	2,190	29.5%
	1982	46,437	48,388	1,952	4.2%
	1983	77,657	78,633	976	1.3%
	1984	10,506	12,881	2,375	22.6%
	1985	10,632	11,673	1,041	9.8%
	1986	14,769	16,233	1,464	9.9%
	1987	7,377	7,832	455	6.2%
	1988	6,388	7,718	1,330	20.8%
	1989	10,335	11,164	830	8.0%
	1990	6,257	6,257	0	0.0%
	1991	5,829	7,309	1,480	25.4%
	1992	5,772	5,772	0	0.0%
	1993	28,526	30,145	1,619	5.7%
	Mean:	17,995	19,372	1,377	11.6%
	Median:	10,506	11,673	1,464	9.8%
	Min:	5,772	5,772	0	0.0%
	Max:	77,657	78,633	2,560	29.5%
Difference =	0			2	2
Difference >	0			13	13
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

June					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	10,622	11,630	1,008	9.5%
	1980	8,616	10,616	2,000	23.2%
	1981	5,926	6,430	504	8.5%
	1982	21,338	22,850	1,513	7.1%
	1983	83,153	85,170	2,017	2.4%
	1984	8,964	9,972	1,008	11.2%
	1985	5,560	8,081	2,521	45.3%
	1986	9,904	11,921	2,017	20.4%
	1987	6,611	7,788	1,176	17.8%
	1988	6,897	6,897	0	0.0%
	1989	6,929	7,433	504	7.3%
	1990	4,000	4,767	767	19.2%
	1991	4,000	4,000	0	0.0%
	1992	6,730	6,730	0	0.0%
	1993	17,258	17,598	340	2.0%
	Mean:	13,767	14,792	1,025	11.6%
	Median:	6,929	8,081	1,008	8.5%
	Min:	4,000	4,000	0	0.0%
	Max:	83,153	85,170	2,521	45.3%
Difference =	0			3	3
Difference >	0			12	12
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

July

Water Year	Baseline Monthly Mean Flow (cfs)	FP Alt Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1979	6,500	6,731	231	3.6%
1980	8,000	8,067	67	0.8%
1981	5,000	6,464	1,464	29.3%
1982	8,000	8,305	305	3.8%
1983	30,507	30,728	221	0.7%
1984	10,516	10,769	253	2.4%
1985	5,000	5,080	80	1.6%
1986	8,000	8,493	493	6.2%
1987	5,000	5,200	200	4.0%
1988	4,000	4,482	482	12.1%
1989	5,000	6,464	1,464	29.3%
1990	4,945	5,336	390	7.9%
1991	6,255	6,580	325	5.2%
1992	4,000	4,304	304	7.6%
1993	8,000	8,306	306	3.8%
Mean:	7,915	8,354	439	7.9%
Median:	6,255	6,580	305	4.0%
Min:	4,000	4,304	67	0.7%
Max:	30,507	30,728	1,464	29.3%
Difference = 0			0	0
Difference > 0			15	15
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

August					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	4,000	4,231	231	5.8%
	1980	4,109	4,521	412	10.0%
	1981	4,084	4,272	189	4.6%
	1982	4,000	4,305	305	7.6%
	1983	7,732	7,953	221	2.9%
	1984	4,000	4,253	253	6.3%
	1985	4,387	4,468	80	1.8%
	1986	4,000	4,493	493	12.3%
	1987	3,500	3,885	385	11.0%
	1988	4,069	4,552	482	11.9%
	1989	4,119	4,249	130	3.2%
	1990	3,865	4,255	390	10.1%
	1991	3,000	3,325	325	10.8%
	1992	4,014	4,318	304	7.6%
	1993	4,000	4,306	306	7.7%
	Mean:	4,192	4,492	301	7.6%
	Median:	4,000	4,305	305	7.6%
	Min:	3,000	3,325	80	1.8%
	Max:	7,732	7,953	493	12.3%
Difference =	0			0	0
Difference >	0			15	15
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

September					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
	1979	3,902	4,141	239	6.1%
	1980	4,992	5,418	426	8.5%
	1981	4,169	4,364	195	4.7%
	1982	10,135	10,450	315	3.1%
	1983	23,916	24,145	229	1.0%
	1984	3,684	3,945	262	7.1%
	1985	4,436	4,519	83	1.9%
	1986	5,259	5,769	509	9.7%
	1987	3,000	3,398	398	13.3%
	1988	3,000	3,499	499	16.6%
	1989	4,238	4,372	135	3.2%
	1990	3,000	3,403	403	13.4%
	1991	3,000	3,336	336	11.2%
	1992	3,000	3,314	314	10.5%
	1993	3,874	4,191	317	8.2%
	Mean:	5,574	5,884	311	7.9%
	Median:	3,902	4,191	315	8.2%
	Min:	3,000	3,314	83	1.0%
	Max:	23,916	24,145	509	16.6%
Difference =	0			0	0
Difference >	0			15	15
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

[1] Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

October					
		Baseline	FP Alt		
Water Year		Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979		N/A	N/A	N/A	N/A
1980		63%	63%	0%	0%
1981		64%	64%	0%	0%
1982		59%	59%	0%	0%
1983		31%	31%	0%	0%
1984		22%	22%	0%	0%
1985		60%	60%	0%	0%
1986		62%	62%	0%	0%
1987		65%	65%	0%	0%
1988		38%	38%	0%	0%
1989		40%	40%	0%	0%
1990		59%	59%	0%	0%
1991		39%	39%	0%	0%
1992		36%	36%	0%	0%
1993		44%	44%	0%	0%
Mean:		49%	49%	0%	0%
Median:		52%	52%	0%	0%
Min:		22%	22%	0%	0%
Max:		65%	65%	0%	0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

November					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
	1979	N/A	N/A	N/A	N/A
	1980	56%	56%	0%	0%
	1981	57%	57%	0%	0%
	1982	31%	31%	0%	0%
	1983	23%	23%	0%	0%
	1984	8%	8%	0%	0%
	1985	37%	37%	0%	0%
	1986	55%	55%	0%	0%
	1987	55%	55%	0%	0%
	1988	47%	47%	0%	0%
	1989	46%	46%	0%	0%
	1990	34%	34%	0%	0%
	1991	33%	33%	0%	0%
	1992	41%	41%	0%	0%
	1993	27%	27%	0%	0%
	Mean:	39%	39%	0%	0%
	Median:	39%	39%	0%	0%
	Min:	8%	8%	0%	0%
	Max:	57%	57%	0%	0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

December					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
	1979	N/A	N/A	N/A	N/A
	1980	54%	49%	-5%	-9%
	1981	55%	53%	-2%	-3%
	1982	10%	10%	-1%	-7%
	1983	11%	8%	-3%	-24%
	1984	3%	3%	0%	0%
	1985	46%	44%	-2%	-4%
	1986	51%	48%	-2%	-5%
	1987	51%	49%	-2%	-5%
	1988	59%	54%	-5%	-9%
	1989	47%	44%	-3%	-6%
	1990	8%	3%	-5%	-65%
	1991	27%	27%	0%	0%
	1992	32%	32%	0%	0%
	1993	61%	61%	0%	0%
	Mean:	37%	35%	-2%	-10%
	Median:	46%	44%	-2%	-5%
	Min:	3%	3%	-5%	-65%
	Max:	61%	61%	0%	0%
Difference =	0			4	4
Difference >	0			0	0
Difference <	0			10	10
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

January

		Baseline	FP Alt		
Water Year		Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979		44%	43%	-1%	-1%
1980		11%	11%	0%	-4%
1981		44%	44%	0%	0%
1982		14%	13%	-1%	-6%
1983		4%	3%	-2%	-40%
1984		8%	8%	0%	0%
1985		63%	63%	0%	0%
1986		37%	35%	-2%	-5%
1987		61%	61%	0%	0%
1988		38%	37%	-2%	-4%
1989		55%	52%	-4%	-7%
1990		55%	52%	-2%	-4%
1991		38%	38%	0%	0%
1992		53%	49%	-4%	-8%
1993		17%	16%	0%	-3%
Mean:		36%	35%	-1%	-5%
Median:		38%	38%	-1%	-4%
Min:		4%	3%	-4%	-40%
Max:		63%	63%	0%	0%
Difference =	0			5	5
Difference >	0			0	0
Difference <	0			10	10
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

February

		Baseline	FP Alt		
Water Year		Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979		21%	20%	-1%	-3%
1980		7%	6%	0%	-6%
1981		29%	27%	-1%	-4%
1982		11%	10%	-1%	-8%
1983		4%	3%	-1%	-32%
1984		17%	16%	-1%	-5%
1985		45%	43%	-2%	-4%
1986		6%	5%	-1%	-13%
1987		45%	43%	-2%	-4%
1988		32%	29%	-3%	-10%
1989		18%	12%	-5%	-31%
1990		34%	31%	-3%	-9%
1991		23%	23%	0%	0%
1992		32%	27%	-4%	-14%
1993		20%	19%	-1%	-4%
Mean:		23%	21%	-2%	-10%
Median:		21%	20%	-1%	-6%
Min:		4%	3%	-5%	-32%
Max:		45%	43%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

March

		Baseline	FP Alt		
Water Year		Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979		20%	18%	-2%	-8%
1980		12%	12%	-1%	-4%
1981		25%	22%	-3%	-12%
1982		11%	10%	-1%	-10%
1983		2%	1%	0%	-25%
1984		19%	17%	-2%	-12%
1985		35%	32%	-3%	-7%
1986		6%	5%	-1%	-16%
1987		34%	28%	-6%	-18%
1988		11%	11%	0%	0%
1989		22%	19%	-3%	-13%
1990		35%	29%	-6%	-18%
1991		32%	29%	-3%	-9%
1992		35%	26%	-9%	-26%
1993		23%	21%	-2%	-8%
Mean:		21%	19%	-3%	-12%
Median:		22%	19%	-2%	-12%
Min:		2%	1%	-9%	-26%
Max:		35%	32%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

April

		Baseline	FP Alt		
Water Year		Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979		28%	20%	-8%	-28%
1980		22%	13%	-9%	-40%
1981		25%	16%	-9%	-35%
1982		6%	4%	-1%	-23%
1983		5%	4%	-1%	-21%
1984		25%	18%	-7%	-28%
1985		24%	18%	-6%	-25%
1986		21%	16%	-5%	-22%
1987		23%	18%	-5%	-22%
1988		23%	22%	-1%	-6%
1989		20%	20%	0%	-2%
1990		8%	8%	0%	0%
1991		13%	10%	-3%	-25%
1992		16%	14%	-2%	-13%
1993		16%	14%	-2%	-10%
Mean:		18%	14%	-4%	-20%
Median:		21%	16%	-3%	-22%
Min:		5%	4%	-9%	-40%
Max:		28%	22%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

May

		Baseline	FP Alt		
Water Year		Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979		25%	19%	-6%	-25%
1980		19%	13%	-7%	-33%
1981		29%	19%	-10%	-34%
1982		14%	10%	-3%	-25%
1983		5%	3%	-1%	-26%
1984		28%	19%	-8%	-30%
1985		18%	9%	-9%	-51%
1986		21%	16%	-4%	-21%
1987		13%	9%	-4%	-29%
1988		24%	13%	-11%	-47%
1989		23%	18%	-5%	-21%
1990		21%	20%	0%	-2%
1991		27%	18%	-9%	-32%
1992		11%	11%	0%	0%
1993		16%	13%	-3%	-21%
Mean:		20%	14%	-5%	-27%
Median:		21%	13%	-5%	-26%
Min:		5%	3%	-11%	-51%
Max:		29%	20%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

June

		Baseline	FP Alt		
Water Year		Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979		29%	25%	-5%	-16%
1980		35%	27%	-8%	-22%
1981		35%	32%	-3%	-8%
1982		28%	23%	-4%	-16%
1983		8%	6%	-2%	-21%
1984		35%	28%	-7%	-21%
1985		35%	26%	-9%	-27%
1986		35%	31%	-4%	-13%
1987		23%	16%	-8%	-34%
1988		14%	10%	-4%	-27%
1989		35%	32%	-3%	-8%
1990		30%	24%	-6%	-20%
1991		21%	10%	-10%	-50%
1992		9%	9%	0%	0%
1993		31%	31%	-1%	-2%
Mean:		27%	22%	-5%	-19%
Median:		30%	25%	-4%	-20%
Min:		8%	6%	-10%	-50%
Max:		35%	32%	0%	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

July				
	Baseline	FP Alt		
Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
1979	44%	46%	3%	6%
1980	35%	27%	-8%	-23%
1981	50%	48%	-2%	-5%
1982	33%	38%	4%	13%
1983	24%	25%	2%	7%
1984	37%	40%	3%	7%
1985	54%	54%	1%	1%
1986	27%	34%	7%	25%
1987	41%	46%	5%	13%
1988	14%	27%	13%	89%
1989	51%	53%	1%	2%
1990	14%	19%	5%	35%
1991	11%	20%	10%	90%
1992	18%	27%	10%	56%
1993	34%	38%	4%	13%
Mean:	32%	36%	4%	22%
Median:	34%	38%	4%	13%
Min:	11%	19%	-8%	-23%
Max:	54%	54%	13%	90%
Difference = 0			0	0
Difference > 0			13	13
Difference < 0			2	2
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

August					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
	1979	62%	63%	2%	3%
	1980	61%	64%	3%	4%
	1981	58%	60%	2%	3%
	1982	61%	63%	2%	3%
	1983	50%	52%	2%	4%
	1984	57%	59%	2%	4%
	1985	61%	61%	1%	1%
	1986	60%	63%	3%	5%
	1987	53%	58%	4%	8%
	1988	24%	36%	12%	48%
	1989	60%	61%	1%	2%
	1990	29%	38%	9%	30%
	1991	37%	45%	7%	20%
	1992	27%	36%	9%	31%
	1993	61%	63%	2%	3%
	Mean:	51%	55%	4%	11%
	Median:	58%	60%	2%	4%
	Min:	24%	36%	1%	1%
	Max:	62%	64%	12%	48%
Difference =	0			0	0
Difference >	0			15	15
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta EI Ratio

September					
		Baseline	FP Alt		
	Water Year	Export/Inflow (%)	Export/Inflow (%)	Absolute Difference (%)	Relative Difference (%)1
	1979	65%	66%	1%	2%
	1980	62%	65%	3%	4%
	1981	65%	66%	1%	2%
	1982	49%	52%	3%	5%
	1983	26%	29%	2%	8%
	1984	65%	67%	2%	2%
	1985	65%	66%	1%	1%
	1986	62%	64%	3%	4%
	1987	62%	65%	3%	6%
	1988	53%	59%	6%	11%
	1989	65%	66%	1%	1%
	1990	47%	53%	6%	13%
	1991	54%	58%	4%	8%
	1992	52%	57%	5%	9%
	1993	65%	67%	2%	3%
	Mean:	57%	60%	3%	5%
	Median:	62%	65%	3%	4%
	Min:	26%	29%	1%	1%
	Max:	65%	67%	6%	13%
Difference =	0			0	0
Difference >	0			15	15
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

October					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		N/A	N/A	N/A	N/A
1980		-47	-47	0	0%
1981		3	3	0	0%
1982		-80	-80	0	0%
1983		721	721	0	0%
1984		844	844	0	0%
1985		-65	-65	0	0%
1986		-136	-136	0	0%
1987		-71	-71	0	0%
1988		90	90	0	0%
1989		119	119	0	0%
1990		-96	-96	0	0%
1991		52	52	0	0%
1992		92	92	0	0%
1993		20	20	0	0%
Mean:		103	103	0	0%
Median:		12	12	0	0%
Min:		-136	-136	0	0%
Max:		844	844	0	0%
Difference =	0			13	13
Difference >	0			0	1
Difference <	0			1	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979	N/A	N/A	N/A	N/A
1980	-126	-126	0	0%
1981	-96	-96	0	0%
1982	-204	-204	0	0%
1983	347	347	0	0%
1984	1,223	1,223	0	0%
1985	-44	-44	0	0%
1986	-47	-47	0	0%
1987	-77	-77	0	0%
1988	-2	-2	0	0%
1989	-41	-41	0	0%
1990	62	62	0	0%
1991	93	93	0	0%
1992	32	32	0	0%
1993	127	127	0	0%
Mean:	89	89	0	0%
Median:	-21	-21	0	0%
Min:	-204	-204	0	0%
Max:	1,223	1,223	0	0%
Difference = 0			14	14
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

December					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		N/A	N/A	N/A	N/A
1980		-226	-166	60	-27%
1981		-115	-95	20	-17%
1982		212	252	40	19%
1983		1,412	1,562	150	11%
1984		2,245	2,245	0	0%
1985		-163	-133	30	-18%
1986		-243	-213	30	-12%
1987		-27	-7	20	-73%
1988		16	76	60	366%
1989		-21	-1	20	-97%
1990		204	234	30	15%
1991		-3	-3	0	0%
1992		53	53	0	0%
1993		-208	-208	0	0%
Mean:		224	257	33	12%
Median:		-12	-2	25	0%
Min:		-243	-213	0	-97%
Max:		2,245	2,245	150	366%
Difference =	0			4	4
Difference >	0			10	4
Difference <	0			0	6
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

January					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		57	67	10	18%
1980		1,214	1,244	30	2%
1981		-196	-196	0	0%
1982		767	807	40	5%
1983		2,203	2,323	120	5%
1984		1,138	1,138	0	0%
1985		-175	-175	0	0%
1986		-105	-75	30	-29%
1987		-215	-215	0	0%
1988		-277	-247	30	-11%
1989		-183	-153	30	-16%
1990		-298	-268	30	-10%
1991		64	64	0	0%
1992		-94	-64	30	-32%
1993		608	628	20	3%
Mean:		301	325	25	-4%
Median:		-94	-64	30	0%
Min:		-298	-268	0	-32%
Max:		2,203	2,323	120	18%
Difference =	0			5	5
Difference >	0			10	5
Difference <	0			0	5
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

February					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		404	424	20	5%
1980		1,566	1,596	30	2%
1981		-190	-170	20	-11%
1982		1,048	1,108	60	6%
1983		2,579	2,699	120	5%
1984		500	520	20	4%
1985		-156	-136	20	-13%
1986		1,906	1,996	90	5%
1987		-213	-193	20	-9%
1988		-84	-54	30	-36%
1989		88	118	30	34%
1990		-93	-63	30	-32%
1991		1	1	0	0%
1992		-110	-20	90	-82%
1993		302	332	30	10%
Mean:		503	544	41	-8%
Median:		88	118	30	2%
Min:		-213	-193	0	-82%
Max:		2,579	2,699	120	34%
Difference =	0			1	1
Difference >	0			14	8
Difference <	0			0	6
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

March

	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979	459	499	40	9%
1980	973	993	20	2%
1981	53	113	60	113%
1982	1,459	1,519	60	4%
1983	3,682	3,742	60	2%
1984	239	299	60	25%
1985	-26	4	30	-115%
1986	1,925	2,015	90	5%
1987	-143	-43	100	-70%
1988	87	87	0	0%
1989	-62	28	90	-144%
1990	-89	-29	60	-68%
1991	-170	-110	60	-35%
1992	-109	11	120	-110%
1993	196	256	60	31%
Mean:	565	625	61	-23%
Median:	87	113	60	2%
Min:	-170	-110	0	-144%
Max:	3,682	3,742	120	113%
Difference = 0			1	1
Difference > 0			14	8
Difference < 0			0	6
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

April					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		202	322	120	59%
1980		291	432	142	49%
1981		67	167	101	151%
1982		2,001	2,121	120	6%
1983		1,665	1,725	60	4%
1984		89	193	104	117%
1985		24	85	61	250%
1986		432	522	90	21%
1987		-35	17	52	-149%
1988		3	13	10	349%
1989		-33	-28	5	-16%
1990		94	94	0	0%
1991		109	139	30	28%
1992		56	74	18	32%
1993		206	249	44	21%
Mean:		345	408	64	61%
Median:		94	167	60	28%
Min:		-35	-28	0	-149%
Max:		2,001	2,121	142	349%
Difference =	0			1	1
Difference >	0			14	12
Difference <	0			0	2
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

May

		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		72	163	91	127%
1980		114	210	96	85%
1981		17	104	87	510%
1982		844	964	120	14%
1983		1,619	1,679	60	4%
1984		41	136	95	234%
1985		-12	84	96	-790%
1986		173	233	60	35%
1987		35	63	28	79%
1988		-39	43	82	-212%
1989		-88	-37	51	-58%
1990		-11	-9	2	-19%
1991		-29	30	59	-205%
1992		13	13	0	0%
1993		139	214	75	54%
Mean:		193	259	67	-10%
Median:		35	104	75	14%
Min:		-88	-37	0	-790%
Max:		1,619	1,679	120	510%
Difference =	0			1	1
Difference >	0			14	9
Difference <	0			0	5
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

June

		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		-70	-10	60	-85%
1980		146	235	89	61%
1981		-103	-73	30	-29%
1982		335	425	90	27%
1983		2,106	2,196	90	4%
1984		-39	51	90	-232%
1985		-90	0	90	-100%
1986		161	221	60	37%
1987		5	75	70	1304%
1988		36	66	30	82%
1989		-104	-74	30	-29%
1990		35	80	46	131%
1991		44	104	60	137%
1992		101	101	0	0%
1993		-279	-266	13	-5%
Mean:		152	209	57	87%
Median:		35	75	60	4%
Min:		-279	-266	0	-232%
Max:		2,106	2,196	90	1304%
Difference =	0			1	1
Difference >	0			14	8
Difference <	0			0	6
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

July					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		-189	-319	-130	69%
1980		36	128	92	256%
1981		-272	-242	30	-11%
1982		62	-109	-171	-274%
1983		903	778	-124	-14%
1984		-111	-254	-142	128%
1985		-312	-357	-45	14%
1986		17	-215	-232	-1367%
1987		-151	-368	-216	143%
1988		-20	-242	-222	1133%
1989		-315	-388	-73	23%
1990		6	-78	-84	-1429%
1991		106	-70	-177	-166%
1992		60	-110	-171	-283%
1993		-40	-212	-172	432%
Mean:		-15	-137	-123	-90%
Median:		-20	-215	-142	14%
Min:		-315	-388	-232	-1429%
Max:		903	778	92	1133%
Difference =	0			0	0
Difference >	0			2	8
Difference <	0			13	7
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979	-284	-414	-130	46%
1980	-274	-506	-231	84%
1981	-232	-338	-106	46%
1982	-263	-435	-171	65%
1983	-142	-266	-124	88%
1984	-193	-335	-142	74%
1985	-274	-319	-45	16%
1986	-277	-509	-232	83%
1987	-176	-392	-216	123%
1988	-44	-266	-222	508%
1989	-276	-349	-73	27%
1990	8	-171	-180	-2150%
1991	4	-173	-177	-4814%
1992	77	-93	-171	-220%
1993	-285	-457	-172	60%
Mean:	-175	-335	-160	-398%
Median:	-232	-338	-171	60%
Min:	-285	-509	-232	-4814%
Max:	77	-93	-45	508%
Difference = 0			0	0
Difference > 0			0	12
Difference < 0			15	3
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Q-West Flow

September					
		Baseline	FP Alt		
	Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
	1979	-218	-348	-130	60%
	1980	-274	-506	-231	84%
	1981	-230	-336	-106	46%
	1982	-263	-435	-171	65%
	1983	115	-9	-124	-108%
	1984	-193	-335	-142	74%
	1985	-228	-273	-45	20%
	1986	-277	-509	-232	83%
	1987	-159	-375	-216	136%
	1988	-44	-266	-222	508%
	1989	-212	-285	-73	35%
	1990	8	-171	-180	-2150%
	1991	-71	-248	-177	249%
	1992	77	-93	-171	-220%
	1993	-230	-402	-172	75%
	Mean:	-147	-306	-160	-70%
	Median:	-212	-335	-171	65%
	Min:	-277	-509	-232	-2150%
	Max:	115	-9	-45	508%
Difference =	0			0	0
Difference >	0			0	12
Difference <	0			15	3
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

October				
	Baseline	FP Alt		
Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979	N/A	N/A	N/A	N/A
1980	614	614	0	0%
1981	678	678	0	0%
1982	519	519	0	0%
1983	677	677	0	0%
1984	474	474	0	0%
1985	603	603	0	0%
1986	601	601	0	0%
1987	677	677	0	0%
1988	273	273	0	0%
1989	233	233	0	0%
1990	493	493	0	0%
1991	224	224	0	0%
1992	205	205	0	0%
1993	252	252	0	0%
Mean:	466	466	0	0%
Median:	506	506	0	0%
Min:	205	205	0	0%
Max:	678	678	0	0%
Difference = 0			14	14
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

November				
	Baseline	FP Alt		
Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979	N/A	N/A	N/A	N/A
1980	496	496	0	0%
1981	431	431	0	0%
1982	651	651	0	0%
1983	650	650	0	0%
1984	400	400	0	0%
1985	651	651	0	0%
1986	419	419	0	0%
1987	409	409	0	0%
1988	282	282	0	0%
1989	278	278	0	0%
1990	212	212	0	0%
1991	171	171	0	0%
1992	212	212	0	0%
1993	142	142	0	0%
Mean:	386	386	0	0%
Median:	405	405	0	0%
Min:	142	142	0	0%
Max:	651	651	0	0%
Difference = 0			14	14
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

December					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979		N/A	N/A	N/A	N/A
1980		691	631	-60	-9%
1981		577	557	-20	-3%
1982		615	575	-40	-7%
1983		628	478	-150	-24%
1984		276	276	0	0%
1985		693	663	-30	-4%
1986		615	585	-30	-5%
1987		417	397	-20	-5%
1988		684	624	-60	-9%
1989		322	302	-20	-6%
1990		46	16	-30	-65%
1991		134	134	0	0%
1992		161	161	0	0%
1993		538	538	0	0%
Mean:		457	424	-33	-10%
Median:		557	508	-25	-5%
Min:		46	16	-150	-65%
Max:		693	663	0	0%
Difference =	0			4	4
Difference >	0			0	0
Difference <	0			10	10
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

January

		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979		772	762	-10	-1%
1980		783	753	-30	-4%
1981		714	714	0	0%
1982		708	668	-40	-6%
1983		299	179	-120	-40%
1984		377	377	0	0%
1985		605	605	0	0%
1986		640	610	-30	-5%
1987		600	600	0	0%
1988		696	666	-30	-4%
1989		457	427	-30	-7%
1990		695	665	-30	-4%
1991		176	176	0	0%
1992		389	359	-30	-8%
1993		707	687	-20	-3%
Mean:		574	550	-25	-5%
Median:		640	610	-30	-4%
Min:		176	176	-120	-40%
Max:		783	762	0	0%
Difference =	0			5	5
Difference >	0			0	0
Difference <	0			10	10
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

February					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979		619	599	-20	-3%
1980		518	488	-30	-6%
1981		476	456	-20	-4%
1982		708	648	-60	-8%
1983		373	253	-120	-32%
1984		440	420	-20	-5%
1985		458	438	-20	-4%
1986		707	617	-90	-13%
1987		560	540	-20	-4%
1988		305	275	-30	-10%
1989		98	68	-30	-31%
1990		332	302	-30	-9%
1991		131	131	0	0%
1992		645	555	-90	-14%
1993		704	674	-30	-4%
Mean:		472	431	-41	-10%
Median:		476	456	-30	-6%
Min:		98	68	-120	-32%
Max:		708	674	0	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

March

		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979		508	468	-40	-8%
1980		479	459	-20	-4%
1981		510	450	-60	-12%
1982		604	544	-60	-10%
1983		244	184	-60	-25%
1984		517	457	-60	-12%
1985		405	375	-30	-7%
1986		551	461	-90	-16%
1987		553	453	-100	-18%
1988		70	70	0	0%
1989		686	596	-90	-13%
1990		325	265	-60	-18%
1991		694	634	-60	-9%
1992		470	350	-120	-26%
1993		712	652	-60	-8%
Mean:		489	428	-61	-12%
Median:		510	457	-60	-12%
Min:		70	70	-120	-26%
Max:		712	652	0	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

April					
		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979		426	306	-120	-28%
1980		354	213	-142	-40%
1981		287	186	-101	-35%
1982		513	393	-120	-23%
1983		291	231	-60	-21%
1984		372	268	-104	-28%
1985		247	186	-61	-25%
1986		405	315	-90	-22%
1987		238	186	-52	-22%
1988		169	159	-10	-6%
1989		296	291	-5	-2%
1990		62	62	0	0%
1991		120	89	-30	-25%
1992		135	117	-18	-13%
1993		436	392	-44	-10%
Mean:		290	226	-64	-20%
Median:		291	213	-60	-22%
Min:		62	62	-142	-40%
Max:		513	393	0	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

May

		Baseline	FP Alt		
Water Year		Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979		361	270	-91	-25%
1980		288	192	-96	-33%
1981		259	172	-87	-34%
1982		472	352	-120	-25%
1983		231	171	-60	-26%
1984		318	222	-95	-30%
1985		189	93	-96	-51%
1986		280	220	-60	-21%
1987		97	69	-28	-29%
1988		174	92	-82	-47%
1989		238	187	-51	-21%
1990		124	122	-2	-2%
1991		183	124	-59	-32%
1992		65	65	0	0%
1993		361	286	-75	-21%
Mean:		243	176	-67	-27%
Median:		238	172	-75	-26%
Min:		65	65	-120	-51%
Max:		472	352	0	0%
Difference =	0			1	1
Difference >	0			0	0
Difference <	0			14	14
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

June

	Baseline	FP Alt		
Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979	385	325	-60	-16%
1980	415	326	-89	-22%
1981	354	324	-30	-8%
1982	576	486	-90	-16%
1983	424	334	-90	-21%
1984	437	347	-90	-21%
1985	336	246	-90	-27%
1986	469	409	-60	-13%
1987	207	137	-70	-34%
1988	111	81	-30	-27%
1989	370	340	-30	-8%
1990	223	177	-46	-20%
1991	121	61	-60	-50%
1992	62	62	0	0%
1993	576	563	-13	-2%
Mean:	338	281	-57	-19%
Median:	370	325	-60	-20%
Min:	62	61	-90	-50%
Max:	576	563	0	0%
Difference = 0			1	1
Difference > 0			0	0
Difference < 0			14	14
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

July				
	Baseline	FP Alt		
Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979	536	608	71	13%
1980	401	309	-92	-23%
1981	620	590	-30	-5%
1982	388	481	94	24%
1983	670	738	68	10%
1984	562	640	78	14%
1985	688	713	25	4%
1986	294	421	127	43%
1987	409	527	118	29%
1988	92	214	122	132%
1989	662	702	40	6%
1990	102	148	46	45%
1991	81	178	97	119%
1992	112	206	93	83%
1993	400	494	94	24%
Mean:	401	465	63	35%
Median:	401	494	78	24%
Min:	81	148	-92	-23%
Max:	688	738	127	132%
Difference = 0			0	0
Difference > 0			13	13
Difference < 0			2	2
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

August				
	Baseline	FP Alt		
Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979	691	762	71	10%
1980	689	816	127	18%
1981	611	669	58	9%
1982	688	782	94	14%
1983	674	742	68	10%
1984	590	668	78	13%
1985	686	711	25	4%
1986	688	815	127	18%
1987	459	577	118	26%
1988	143	265	122	85%
1989	646	686	40	6%
1990	180	279	98	55%
1991	223	319	97	43%
1992	170	263	93	55%
1993	688	782	94	14%
Mean:	522	609	87	25%
Median:	646	686	94	14%
Min:	143	263	25	4%
Max:	691	816	127	85%
Difference = 0			0	0
Difference > 0			15	15
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Total Delta Export (Banks + Tracy)

September				
	Baseline	FP Alt		
Water Year	Export (taf)	Export (taf)	Absolute Difference (taf)	Relative Difference (%)1
1979	652	723	71	11%
1980	663	790	127	19%
1981	649	707	58	9%
1982	663	757	94	14%
1983	549	617	68	12%
1984	659	737	78	12%
1985	660	684	25	4%
1986	663	789	127	19%
1987	471	590	118	25%
1988	331	452	122	37%
1989	581	621	40	7%
1990	262	360	98	38%
1991	351	448	97	28%
1992	325	418	93	29%
1993	663	757	94	14%
Mean:	543	630	87	18%
Median:	649	684	94	14%
Min:	262	360	25	4%
Max:	663	790	127	38%
Difference = 0			0	0
Difference > 0			15	15
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta X2 Position

October			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	N/A	N/A	N/A
1980	86.6	85.9	-0.7
1981	84.5	83.4	-1.1
1982	86.4	85.9	-0.6
1983	78.7	78.2	-0.5
1984	68.9	68.8	-0.2
1985	86.7	85.9	-0.8
1986	85.8	85.5	-0.3
1987	84.1	83.2	-0.9
1988	89.3	88.0	-1.3
1989	89.2	87.8	-1.3
1990	86.2	85.8	-0.4
1991	89.3	88.2	-1.1
1992	89.7	88.5	-1.2
1993	89.2	88.2	-1.0
Mean:	85.3	84.5	-0.8
Median:	86.5	85.9	-0.8
Min:	68.9	68.8	-1.3
Max:	89.7	88.5	-0.2
Difference = 0			0
Difference > 0			0
Difference < 0			14
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

November

		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		N/A	N/A	N/A
1980		85.7	85.5	-0.2
1981		84.9	84.6	-0.3
1982		85.4	85.3	-0.2
1983		70.8	70.6	-0.2
1984		67.2	67.1	-0.1
1985		84.6	84.3	-0.2
1986		85.6	85.5	-0.1
1987		85.4	85.1	-0.3
1988		84.9	84.4	-0.4
1989		87.3	86.9	-0.4
1990		86.2	86.1	-0.1
1991		87.6	87.3	-0.4
1992		87.0	86.6	-0.4
1993		88.4	88.1	-0.3
Mean:		83.6	83.4	-0.3
Median:		85.5	85.4	-0.3
Min:		67.2	67.1	-0.4
Max:		88.4	88.1	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			14
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

December			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	N/A	N/A	N/A
1980	84.0	83.9	-0.1
1981	85.6	85.4	-0.1
1982	72.8	72.8	-0.1
1983	64.7	64.6	-0.1
1984	57.9	57.9	0.0
1985	74.7	74.6	-0.1
1986	84.5	84.5	0.0
1987	85.7	85.6	-0.1
1988	85.5	85.4	-0.1
1989	86.1	86.0	-0.1
1990	84.0	84.0	0.0
1991	86.3	86.2	-0.1
1992	87.2	87.1	-0.1
1993	85.8	85.7	-0.1
Mean:	80.3	80.3	-0.1
Median:	85.0	85.0	-0.1
Min:	57.9	57.9	-0.1
Max:	87.2	87.1	0.0
Difference = 0			0
Difference > 0			0
Difference < 0			14
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

January				
		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		85.0	85.0	0.0
1980		79.5	78.7	-0.8
1981		82.7	82.3	-0.4
1982		59.0	58.9	-0.1
1983		56.5	56.2	-0.2
1984		49.4	49.4	0.0
1985		74.0	73.7	-0.3
1986		79.7	79.3	-0.4
1987		84.3	83.8	-0.5
1988		82.1	81.1	-1.0
1989		85.0	84.4	-0.5
1990		81.3	80.8	-0.5
1991		85.4	85.4	0.0
1992		86.2	86.1	0.0
1993		84.3	84.2	0.0
Mean:		76.9	76.6	-0.3
Median:		82.1	81.1	-0.3
Min:		49.4	49.4	-1.0
Max:		86.2	86.1	0.0
Difference =	0			1
Difference >	0			0
Difference <	0			14
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

February				
		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		74.9	74.9	-0.1
1980		59.8	59.5	-0.3
1981		75.4	75.2	-0.1
1982		55.3	55.2	-0.1
1983		51.7	51.5	-0.2
1984		53.1	53.1	0.0
1985		79.8	79.7	-0.1
1986		72.7	72.4	-0.3
1987		82.8	82.7	-0.2
1988		73.5	72.9	-0.5
1989		83.4	82.6	-0.8
1990		78.6	78.1	-0.5
1991		85.7	85.7	0.0
1992		84.3	83.6	-0.7
1993		65.1	65.0	-0.1
Mean:		71.7	71.5	-0.3
Median:		74.9	74.9	-0.2
Min:		51.7	51.5	-0.8
Max:		85.7	85.7	0.0
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

March				
		Baseline	FP Alt	
	Water Year	Position (km)	Position (km)	Absolute Difference (taf)
	1979	64.6	64.5	-0.1
	1980	51.4	51.2	-0.1
	1981	70.7	70.5	-0.2
	1982	51.8	51.7	-0.1
	1983	46.5	46.3	-0.2
	1984	58.7	58.6	-0.1
	1985	77.9	77.6	-0.3
	1986	52.2	52.0	-0.2
	1987	77.1	76.9	-0.3
	1988	74.8	74.3	-0.5
	1989	80.7	79.9	-0.8
	1990	76.4	75.8	-0.5
	1991	82.0	82.0	0.0
	1992	71.6	71.0	-0.7
	1993	59.9	59.8	-0.1
	Mean:	66.4	66.1	-0.3
	Median:	70.7	70.5	-0.2
	Min:	46.5	46.3	-0.8
	Max:	82.0	82.0	0.0
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

April				
		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		63.7	63.5	-0.2
1980		55.2	55.1	-0.1
1981		67.9	67.5	-0.4
1982		52.4	52.2	-0.1
1983		42.0	42.0	-0.1
1984		61.5	61.2	-0.2
1985		75.5	75.1	-0.4
1986		48.0	47.8	-0.1
1987		72.7	71.9	-0.8
1988		77.9	77.8	-0.2
1989		67.7	67.1	-0.5
1990		77.8	76.8	-1.0
1991		71.6	71.3	-0.3
1992		72.5	71.3	-1.2
1993		60.8	60.5	-0.2
Mean:		64.5	64.1	-0.4
Median:		67.7	67.1	-0.2
Min:		42.0	42.0	-1.2
Max:		77.9	77.8	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

May

		Baseline	FP Alt	
Water Year		Position (km)	Position (km)	Absolute Difference (taf)
1979		68.6	67.7	-0.9
1980		64.4	63.5	-0.9
1981		71.9	70.9	-1.1
1982		48.4	48.3	-0.1
1983		48.7	48.6	-0.1
1984		67.9	67.0	-0.8
1985		75.8	74.9	-0.8
1986		60.4	59.9	-0.5
1987		74.6	73.7	-0.8
1988		79.2	79.0	-0.2
1989		69.5	69.3	-0.2
1990		77.2	76.9	-0.3
1991		74.2	73.8	-0.4
1992		75.1	74.5	-0.6
1993		61.5	61.3	-0.2
Mean:		67.8	67.3	-0.5
Median:		69.5	69.3	-0.5
Min:		48.4	48.3	-1.1
Max:		79.2	79.0	-0.1
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta X2 Position

June			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	71.1	70.0	-1.0
1980	68.6	67.6	-1.0
1981	77.5	75.8	-1.7
1982	55.7	55.3	-0.4
1983	51.9	51.7	-0.1
1984	73.5	72.1	-1.3
1985	76.0	74.6	-1.3
1986	68.4	67.8	-0.7
1987	78.4	77.6	-0.7
1988	81.0	79.5	-1.5
1989	74.1	73.5	-0.7
1990	80.5	80.4	-0.1
1991	80.1	78.7	-1.3
1992	80.4	80.2	-0.2
1993	63.7	63.3	-0.4
Mean:	72.0	71.2	-0.8
Median:	74.1	73.5	-0.7
Min:	51.9	51.7	-1.7
Max:	81.0	80.4	-0.1
Difference = 0			0
Difference > 0			0
Difference < 0			15
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

July			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	74.4	73.4	-1.0
1980	75.2	73.7	-1.5
1981	81.0	79.8	-1.2
1982	64.1	63.4	-0.6
1983	52.4	52.2	-0.2
1984	76.5	74.9	-1.6
1985	81.0	78.7	-2.3
1986	74.1	73.1	-1.0
1987	80.5	79.0	-1.5
1988	81.0	80.0	-1.0
1989	78.7	78.0	-0.8
1990	85.0	83.6	-1.4
1991	84.9	82.7	-2.2
1992	81.0	80.9	-0.1
1993	68.3	68.1	-0.2
Mean:	75.9	74.8	-1.1
Median:	78.7	78.0	-1.0
Min:	52.4	52.2	-2.3
Max:	85.0	83.6	-0.1
Difference = 0			0
Difference > 0			0
Difference < 0			15
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

August			
	Baseline	FP Alt	
Water Year	Position (km)	Position (km)	Absolute Difference (taf)
1979	79.3	78.7	-0.6
1980	78.0	76.1	-1.8
1981	83.5	82.4	-1.1
1982	74.3	73.8	-0.5
1983	60.2	60.1	-0.1
1984	76.3	75.6	-0.7
1985	83.5	82.6	-0.9
1986	77.6	76.9	-0.7
1987	83.3	82.2	-1.1
1988	85.2	84.1	-1.1
1989	82.7	82.3	-0.4
1990	84.9	84.2	-0.7
1991	83.0	81.9	-1.1
1992	85.2	84.6	-0.6
1993	75.7	75.3	-0.4
Mean:	79.5	78.7	-0.8
Median:	82.7	81.9	-0.7
Min:	60.2	60.1	-1.8
Max:	85.2	84.6	-0.1
Difference = 0			0
Difference > 0			0
Difference < 0			15
0.0% > Rel Dif >= -1.0%			
-1.0% > Rel Dif >= -5.0%			
-5.0% > Rel Dif >= -10.0%			
-10.0% > Rel Dif >= -20.0%			
-20.0% > Rel Dif >= -30.0%			
-30.0% > Rel Dif >= -40.0%			
Rel Dif < -40.0%			

Delta X2 Position

September				
		Baseline	FP Alt	
	Water Year	Position (km)	Position (km)	Absolute Difference (taf)
	1979	84.6	84.0	-0.6
	1980	84.0	82.6	-1.3
	1981	85.8	85.1	-0.7
	1982	83.0	82.3	-0.7
	1983	73.3	73.1	-0.3
	1984	83.6	82.9	-0.7
	1985	85.3	84.9	-0.4
	1986	84.1	83.1	-1.0
	1987	86.9	85.8	-1.1
	1988	86.4	85.4	-1.1
	1989	85.5	85.1	-0.4
	1990	86.7	85.9	-0.8
	1991	88.0	86.9	-1.1
	1992	86.5	85.8	-0.7
	1993	83.4	82.8	-0.7
	Mean:	84.5	83.7	-0.8
	Median:	85.3	84.9	-0.7
	Min:	73.3	73.1	-1.3
	Max:	88.0	86.9	-0.3
Difference =	0			0
Difference >	0			0
Difference <	0			15
0.0% > Rel Dif >=	-1.0%			
-1.0% > Rel Dif >=	-5.0%			
-5.0% > Rel Dif >=	-10.0%			
-10.0% > Rel Dif >=	-20.0%			
-20.0% > Rel Dif >=	-30.0%			
-30.0% > Rel Dif >=	-40.0%			
Rel Dif <	-40.0%			

Delta Outflow

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979	N/A	N/A	N/A	N/A
1980	4,728	4,728	0	0.0%
1981	4,786	4,786	0	0.0%
1982	4,875	4,875	0	0.0%
1983	23,788	23,788	0	0.0%
1984	25,089	25,089	0	0.0%
1985	5,501	5,501	0	0.0%
1986	4,662	4,662	0	0.0%
1987	4,438	4,438	0	0.0%
1988	5,953	5,953	0	0.0%
1989	4,277	4,277	0	0.0%
1990	4,373	4,373	0	0.0%
1991	4,143	4,143	0	0.0%
1992	4,595	4,595	0	0.0%
1993	3,705	3,705	0	0.0%
Mean:	7,494	7,494	0	0.0%
Median:	4,695	4,695	0	0.0%
Min:	3,705	3,705	0	0.0%
Max:	25,089	25,089	0	0.0%
Difference = 0			14	14
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

November

Water Year		Baseline Monthly Mean Flow (cfs)	FP Alt Monthly Mean Flow (cfs)	FP Alt Absolute Difference (cfs)	FP Alt Relative Difference (%)1
1979		N/A	N/A	N/A	N/A
1980		5,723	5,723	0	0.0%
1981		4,500	4,500	0	0.0%
1982		24,242	24,242	0	0.0%
1983		37,332	37,332	0	0.0%
1984		77,661	77,661	0	0.0%
1985		18,362	18,362	0	0.0%
1986		5,285	5,285	0	0.0%
1987		4,500	4,500	0	0.0%
1988		4,500	4,500	0	0.0%
1989		4,648	4,648	0	0.0%
1990		5,797	5,797	0	0.0%
1991		4,603	4,603	0	0.0%
1992		3,961	3,961	0	0.0%
1993		5,087	5,087	0	0.0%
Mean:		14,729	14,729	0	0.0%
Median:		5,186	5,186	0	0.0%
Min:		3,961	3,961	0	0.0%
Max:		77,661	77,661	0	0.0%
Difference =	0			14	14
Difference >	0			0	0
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

December					
		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		N/A	N/A	N/A	N/A
1980		9,534	10,510	976	10.2%
1981		6,708	7,034	325	4.8%
1982		85,783	86,434	651	0.8%
1983		84,450	86,889	2,440	2.9%
1984		158,275	158,275	0	0.0%
1985		13,183	13,671	488	3.7%
1986		9,534	10,022	488	5.1%
1987		5,498	5,823	325	5.9%
1988		7,282	8,258	976	13.4%
1989		5,118	5,443	325	6.4%
1990		7,552	8,040	488	6.5%
1991		4,860	4,860	0	0.0%
1992		4,583	4,583	0	0.0%
1993		5,525	5,525	0	0.0%
Mean:		29,135	29,669	534	4.3%
Median:		7,417	8,149	407	4.3%
Min:		4,583	4,583	0	0.0%
Max:		158,275	158,275	2,440	13.4%
Difference =	0			4	4
Difference >	0			10	10
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

January

Water Year		Baseline Monthly Mean Flow (cfs)	FP Alt Monthly Mean Flow (cfs)	FP Alt Absolute Difference (cfs)	FP Alt Relative Difference (%)1
1979		18,004	18,167	163	0.9%
1980		103,304	103,792	488	0.5%
1981		15,463	15,463	0	0.0%
1982		76,537	77,187	651	0.8%
1983		110,215	112,167	1,952	1.8%
1984		68,052	68,052	0	0.0%
1985		6,000	6,000	0	0.0%
1986		19,212	19,700	488	2.5%
1987		6,237	6,237	0	0.0%
1988		19,277	19,765	488	2.5%
1989		5,955	6,443	488	8.2%
1990		9,551	10,039	488	5.1%
1991		4,500	4,500	0	0.0%
1992		5,597	6,085	488	8.7%
1993		63,149	63,474	325	0.5%
Mean:		35,403	35,805	401	2.1%
Median:		18,004	18,167	488	0.8%
Min:		4,500	4,500	0	0.0%
Max:		110,215	112,167	1,952	8.7%
Difference =	0			5	5
Difference >	0			10	10
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

February

		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		45,386	45,746	360	0.8%
1980		132,898	133,438	540	0.4%
1981		20,793	21,153	360	1.7%
1982		103,475	104,555	1,080	1.0%
1983		178,503	180,664	2,161	1.2%
1984		38,384	38,744	360	0.9%
1985		9,835	10,195	360	3.7%
1986		207,358	208,978	1,621	0.8%
1987		12,363	12,723	360	2.9%
1988		11,188	11,729	540	4.8%
1989		7,961	8,502	540	6.8%
1990		11,400	11,940	540	4.7%
1991		7,411	7,411	0	0.0%
1992		26,977	28,597	1,621	6.0%
1993		54,923	55,463	540	1.0%
Mean:		57,924	58,656	732	2.5%
Median:		26,977	28,597	540	1.2%
Min:		7,411	7,411	0	0.0%
Max:		207,358	208,978	2,161	6.8%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

March

		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		32,845	33,495	651	2.0%
1980		56,371	56,697	325	0.6%
1981		24,519	25,495	976	4.0%
1982		83,108	84,083	976	1.2%
1983		253,714	254,690	976	0.4%
1984		33,961	34,937	976	2.9%
1985		12,379	12,867	488	3.9%
1986		149,948	151,412	1,464	1.0%
1987		17,364	18,991	1,626	9.4%
1988		7,895	7,895	0	0.0%
1989		38,738	40,201	1,464	3.8%
1990		8,642	9,618	976	11.3%
1991		24,384	25,360	976	4.0%
1992		13,969	15,920	1,952	14.0%
1993		39,201	40,176	976	2.5%
Mean:		53,136	54,123	987	4.1%
Median:		32,845	33,495	976	2.9%
Min:		7,895	7,895	0	0.0%
Max:		253,714	254,690	1,952	14.0%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

April

		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		16,477	18,489	2,012	12.2%
1980		19,954	22,337	2,383	11.9%
1981		12,849	14,541	1,692	13.2%
1982		141,658	143,675	2,017	1.4%
1983		87,807	88,815	1,008	1.1%
1984		16,617	18,369	1,752	10.5%
1985		10,794	11,815	1,021	9.5%
1986		24,693	26,206	1,513	6.1%
1987		11,193	12,061	867	7.7%
1988		7,641	7,815	173	2.3%
1989		17,494	17,584	90	0.5%
1990		9,850	9,850	0	0.0%
1991		11,191	11,700	509	4.5%
1992		10,366	10,671	306	3.0%
1993		37,004	37,736	732	2.0%
Mean:		29,039	30,111	1,072	5.7%
Median:		16,477	17,584	1,008	4.5%
Min:		7,641	7,815	0	0.0%
Max:		141,658	143,675	2,383	13.2%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

May

		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		14,875	16,354	1,479	9.9%
1980		17,130	18,698	1,567	9.1%
1981		7,435	8,851	1,416	19.0%
1982		46,437	48,388	1,952	4.2%
1983		77,657	78,633	976	1.3%
1984		10,506	12,058	1,552	14.8%
1985		10,632	12,189	1,557	14.6%
1986		14,769	15,745	976	6.6%
1987		7,377	7,832	455	6.2%
1988		6,388	7,718	1,330	20.8%
1989		10,335	11,164	830	8.0%
1990		6,257	6,291	34	0.5%
1991		5,829	6,793	964	16.5%
1992		5,772	5,772	0	0.0%
1993		28,526	29,749	1,222	4.3%
Mean:		17,995	19,082	1,087	9.1%
Median:		10,506	12,058	1,222	8.0%
Min:		5,772	5,772	0	0.0%
Max:		77,657	78,633	1,952	20.8%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

June

		Baseline	FP Alt		
Water Year		Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979		10,622	11,630	1,008	9.5%
1980		8,616	10,116	1,500	17.4%
1981		5,926	6,430	504	8.5%
1982		21,338	22,850	1,513	7.1%
1983		83,153	84,666	1,513	1.8%
1984		8,964	10,476	1,513	16.9%
1985		5,560	7,073	1,513	27.2%
1986		9,904	10,913	1,008	10.2%
1987		6,611	7,788	1,176	17.8%
1988		6,897	7,401	504	7.3%
1989		6,929	7,433	504	7.3%
1990		4,000	4,767	767	19.2%
1991		4,000	5,008	1,008	25.2%
1992		6,730	6,730	0	0.0%
1993		17,258	17,484	227	1.3%
Mean:		13,767	14,718	950	11.8%
Median:		6,929	7,788	1,008	9.5%
Min:		4,000	4,767	0	0.0%
Max:		83,153	84,666	1,513	27.2%
Difference =	0			1	1
Difference >	0			14	14
Difference <	0			0	0
0.0% > Rel Dif >=	-1.0%				
-1.0% > Rel Dif >=	-5.0%				
-5.0% > Rel Dif >=	-10.0%				
-10.0% > Rel Dif >=	-20.0%				
-20.0% > Rel Dif >=	-30.0%				
-30.0% > Rel Dif >=	-40.0%				
Rel Dif <	-40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

July

Water Year	Baseline Monthly Mean Flow (cfs)	FP Alt Monthly Mean Flow (cfs)	FP Alt Absolute Difference (cfs)	FP Alt Relative Difference (%)1
1979	6,500	6,731	231	3.6%
1980	8,000	9,500	1,500	18.7%
1981	5,000	5,488	488	9.8%
1982	8,000	8,305	305	3.8%
1983	30,507	30,728	221	0.7%
1984	10,516	10,769	253	2.4%
1985	5,000	5,080	80	1.6%
1986	8,000	8,412	412	5.2%
1987	5,000	5,385	385	7.7%
1988	4,000	4,396	396	9.9%
1989	5,000	5,130	130	2.6%
1990	4,945	5,095	150	3.0%
1991	6,255	6,569	314	5.0%
1992	4,000	4,304	304	7.6%
1993	8,000	8,306	306	3.8%
Mean:	7,915	8,280	365	5.7%
Median:	6,255	6,569	305	3.8%
Min:	4,000	4,304	80	0.7%
Max:	30,507	30,728	1,500	18.7%
Difference = 0			0	0
Difference > 0			15	15
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979	4,000	4,231	231	5.8%
1980	4,109	4,521	412	10.0%
1981	4,084	4,272	189	4.6%
1982	4,000	4,305	305	7.6%
1983	7,732	7,953	221	2.9%
1984	4,000	4,253	253	6.3%
1985	4,387	4,468	80	1.8%
1986	4,000	4,412	412	10.3%
1987	3,500	3,885	385	11.0%
1988	4,069	4,465	396	9.7%
1989	4,119	4,249	130	3.2%
1990	3,865	4,184	320	8.3%
1991	3,000	3,314	314	10.5%
1992	4,014	4,318	304	7.6%
1993	4,000	4,306	306	7.7%
Mean:	4,192	4,476	284	7.1%
Median:	4,000	4,305	305	7.6%
Min:	3,000	3,314	80	1.8%
Max:	7,732	7,953	412	11.0%
Difference = 0			0	0
Difference > 0			15	15
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Outflow

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)1
1979	3,902	4,141	239	6.1%
1980	4,992	5,418	426	8.5%
1981	4,169	4,364	195	4.7%
1982	10,135	10,450	315	3.1%
1983	23,916	24,145	229	1.0%
1984	3,684	3,945	262	7.1%
1985	4,436	4,519	83	1.9%
1986	5,259	5,685	426	8.1%
1987	3,000	3,398	398	13.3%
1988	3,000	3,409	409	13.6%
1989	4,238	4,372	135	3.2%
1990	3,000	3,331	331	11.0%
1991	3,000	3,325	325	10.8%
1992	3,000	3,314	314	10.5%
1993	3,874	4,191	317	8.2%
Mean:	5,574	5,867	293	7.4%
Median:	3,902	4,191	315	8.1%
Min:	3,000	3,314	83	1.0%
Max:	23,916	24,145	426	13.6%
Difference = 0			0	0
Difference > 0			15	15
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				
-1.0% > Rel Dif >= -5.0%				
-5.0% > Rel Dif >= -10.0%				
-10.0% > Rel Dif >= -20.0%				
-20.0% > Rel Dif >= -30.0%				
-30.0% > Rel Dif >= -40.0%				
Rel Dif < -40.0%				

1 Relative difference, mean, median, min and max calculated using the 15 years relative difference.

Delta Inflow, Sacramento River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	12367	12366	-1	0.0
1923	11134	11274	140	1.3
1924	10264	10340	76	0.7
1925	7613	7800	187	2.5
1926	9197	9322	125	1.4
1927	9751	9938	187	1.9
1928	10326	10421	95	0.9
1929	12022	12175	153	1.3
1930	7828	8015	187	2.4
1931	9137	9264	127	1.4
1932	7797	7984	187	2.4
1933	9268	9455	187	2.0
1934	7799	7986	187	2.4
1935	7799	7986	187	2.4
1936	12330	12390	60	0.5
1937	11579	11684	105	0.9
1938	10746	10933	187	1.7
1939	15682	15847	165	1.1
1940	9967	10020	53	0.5
1941	12133	12133	0	0.0
1942	13174	13348	174	1.3
1943	13176	13314	138	1.0
1944	11389	11439	50	0.4
1945	10531	10531	0	0.0
1946	10951	10951	0	0.0
1947	10402	10402	0	0.0
1948	10566	10566	0	0.0
1949	12276	12276	0	0.0
1950	9536	9624	88	0.9
1951	11447	11447	0	0.0
1952	11759	11758	-1	0.0
1953	16485	16499	14	0.1
1954	13661	13726	65	0.5
1955	13509	13514	5	0.0
1956	9242	9399	157	1.7
1957	14266	14389	123	0.9
1958	15388	15447	59	0.4
1959	17075	17163	88	0.5
1960	11674	11674	0	0.0
1961	9242	9367	125	1.4
1962	13110	13139	29	0.2
1963	33235	33235	0	0.0
1964	13757	13860	103	0.7
1965	10785	10785	0	0.0
1966	10730	10750	20	0.2
1967	12827	12827	0	0.0
1968	17929	17929	0	0.0
1969	12495	12496	1	0.0
1970	16711	16898	187	1.1
1971	9955	10015	60	0.6
1972	14293	14293	0	0.0
1973	11563	11586	23	0.2
1974	12897	12976	79	0.6
1975	16504	16648	144	0.9
1976	20002	20129	127	0.6
1977	7853	8012	159	2.0
1978	6048	6235	187	3.1
1979	10386	10527	141	1.4
1980	11644	11658	14	0.1
1981	10193	10310	117	1.1
1982	12056	12056	0	0.0
1983	20585	20720	135	0.7
1984	19582	19611	29	0.1
1985	12325	12344	19	0.2
1986	13369	13369	0	0.0
1987	11491	11678	187	1.6
1988	9962	10087	125	1.3
1989	7846	8033	187	2.4
1990	12233	12233	0	0.0
1991	7801	7988	187	2.4
1992	7677	7864	187	2.4
1993	7743	7930	187	2.4
Mean:	12029	12117	88	0.9
Median:	11527	11622	88	0.7
Min:	6048	6235	-1	0.0
Max:	33235	33235	187	3.1
Difference = 0			16	20
Difference > 0			54	52
Difference < 0			2	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	10779	10779	0	0.0
1923	12980	13005	25	0.2
1924	9219	9235	16	0.2
1925	7709	7734	25	0.3
1926	8513	8538	25	0.3
1927	23790	23816	26	0.1
1928	16698	16718	20	0.1
1929	11865	11890	25	0.2
1930	7242	7267	25	0.3
1931	9066	9092	26	0.3
1932	7135	7160	25	0.4
1933	8545	8571	26	0.3
1934	7247	7272	25	0.3
1935	11283	11308	25	0.2
1936	9497	9509	12	0.1
1937	10362	10384	22	0.2
1938	24616	24641	25	0.1
1939	13929	13954	25	0.2
1940	8530	8541	11	0.1
1941	12055	12055	0	0.0
1942	13606	13631	25	0.2
1943	17201	17226	25	0.1
1944	9517	9528	11	0.1
1945	14015	14015	0	0.0
1946	13534	13534	0	0.0
1947	10911	10911	0	0.0
1948	10355	10355	0	0.0
1949	9739	9739	0	0.0
1950	9543	9562	19	0.2
1951	41970	41970	0	0.0
1952	13632	13632	0	0.0
1953	12310	12313	3	0.0
1954	18093	18107	14	0.1
1955	13659	13660	1	0.0
1956	11664	11689	25	0.2
1957	12943	12968	25	0.2
1958	14684	14697	13	0.1
1959	12523	12542	19	0.2
1960	8536	8536	0	0.0
1961	11543	11569	26	0.2
1962	10108	10114	6	0.1
1963	16063	16063	0	0.0
1964	26272	26294	22	0.1
1965	14372	14372	0	0.0
1966	18033	18037	4	0.0
1967	15042	15042	0	0.0
1968	14612	14612	0	0.0
1969	12234	12235	1	0.0
1970	14051	14076	25	0.2
1971	17173	17186	13	0.1
1972	13679	13679	0	0.0
1973	18426	18431	5	0.0
1974	58503	58519	16	0.0
1975	14620	14645	25	0.2
1976	16537	16562	25	0.2
1977	7793	7818	25	0.3
1978	7149	7175	26	0.4
1979	9858	9884	26	0.3
1980	12849	12852	3	0.0
1981	10747	10772	25	0.2
1982	32681	32681	0	0.0
1983	36711	36736	25	0.1
1984	66561	66567	6	0.0
1985	26319	26323	4	0.0
1986	10715	10715	0	0.0
1987	10368	10393	25	0.2
1988	8525	8550	25	0.3
1989	8775	8800	25	0.3
1990	8891	8891	0	0.0
1991	7230	7255	25	0.3
1992	7215	7240	25	0.3
1993	7236	7261	25	0.3
Mean:	14866	14881	15	0.1
Median:	12145	12145	19	0.1
Min:	7135	7160	0	0.0
Max:	66561	66567	26	0.4
Difference = 0			18	27
Difference > 0			54	45
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	17526	17526	0	0.0
1923	31264	31272	8	0.0
1924	10234	10239	5	0.0
1925	12719	12727	8	0.1
1926	9726	9734	8	0.1
1927	19464	19472	8	0.0
1928	15423	15429	6	0.0
1929	12215	12224	9	0.1
1930	18258	18267	9	0.0
1931	9932	9940	8	0.1
1932	20218	20226	8	0.0
1933	10116	10124	8	0.1
1934	14488	14496	8	0.1
1935	9983	9991	8	0.1
1936	12813	12817	4	0.0
1937	12903	12911	8	0.1
1938	56278	56286	8	0.0
1939	14757	14765	8	0.1
1940	10847	10850	3	0.0
1941	41560	41560	0	0.0
1942	69558	69566	8	0.0
1943	29052	29060	8	0.0
1944	10436	10440	4	0.0
1945	16356	16356	0	0.0
1946	67052	67052	0	0.0
1947	15240	15240	0	0.0
1948	9823	9823	0	0.0
1949	12755	12755	0	0.0
1950	9318	9324	6	0.1
1951	87086	87086	0	0.0
1952	40836	40836	0	0.0
1953	45191	45192	1	0.0
1954	15217	15221	4	0.0
1955	21163	21164	1	0.0
1956	83376	83384	8	0.0
1957	11685	11693	8	0.1
1958	23874	23878	4	0.0
1959	12593	12599	6	0.0
1960	11629	11629	0	0.0
1961	15768	15776	8	0.1
1962	16422	16424	2	0.0
1963	27315	27315	0	0.0
1964	13732	13739	7	0.1
1965	70565	70565	0	0.0
1966	15464	15465	1	0.0
1967	37626	37626	0	0.0
1968	16237	16237	0	0.0
1969	24153	24153	0	0.0
1970	59812	59820	8	0.0
1971	59519	59523	4	0.0
1972	16448	16448	0	0.0
1973	23023	23024	1	0.0
1974	70393	70398	5	0.0
1975	16488	16496	8	0.0
1976	15946	15954	8	0.1
1977	9195	9203	8	0.1
1978	14439	14447	8	0.1
1979	9184	9192	8	0.1
1980	18556	18557	1	0.0
1981	14878	14886	8	0.1
1982	91590	91590	0	0.0
1983	69587	69595	8	0.0
1984	131775	131776	1	0.0
1985	22125	22126	1	0.0
1986	17330	17330	0	0.0
1987	11173	11181	8	0.1
1988	17335	17343	8	0.0
1989	9602	9610	8	0.1
1990	8075	8075	0	0.0
1991	6716	6724	8	0.1
1992	6878	6886	8	0.1
1993	12291	12299	8	0.1
Mean:	26703	26707	5	0.0
Median:	16092	16096	6	0.0
Min:	6716	6724	0	0.0
Max:	131775	131776	9	0.1
Difference = 0			19	49
Difference > 0			53	23
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	15805	15805	0	0.0
1923	28943	28947	4	0.0
1924	12138	12141	3	0.0
1925	12031	12035	4	0.0
1926	17886	17890	4	0.0
1927	31363	31367	4	0.0
1928	22690	22694	4	0.0
1929	12839	12843	4	0.0
1930	21778	21782	4	0.0
1931	13141	13145	4	0.0
1932	20233	20237	4	0.0
1933	14578	14582	4	0.0
1934	19516	19520	4	0.0
1935	30041	30045	4	0.0
1936	39331	39333	2	0.0
1937	12845	12849	4	0.0
1938	31208	31212	4	0.0
1939	13636	13640	4	0.0
1940	34059	34061	2	0.0
1941	98924	98924	0	0.0
1942	75985	75989	4	0.0
1943	76517	76521	4	0.0
1944	14053	14055	2	0.0
1945	13067	13067	0	0.0
1946	49845	49845	0	0.0
1947	11202	11202	0	0.0
1948	16859	16859	0	0.0
1949	11328	11328	0	0.0
1950	20678	20681	3	0.0
1951	63456	63456	0	0.0
1952	82961	82961	0	0.0
1953	102508	102508	0	0.0
1954	33045	33047	2	0.0
1955	19167	19167	0	0.0
1956	152125	152129	4	0.0
1957	15690	15694	4	0.0
1958	38797	38799	2	0.0
1959	36050	36053	3	0.0
1960	11611	11611	0	0.0
1961	11670	11674	4	0.0
1962	11365	11366	1	0.0
1963	15683	15683	0	0.0
1964	22261	22265	4	0.0
1965	114880	114879	-1	0.0
1966	31427	31427	0	0.0
1967	47166	47166	0	0.0
1968	29830	29830	0	0.0
1969	101300	101299	-1	0.0
1970	186981	186984	3	0.0
1971	49442	49444	2	0.0
1972	17492	17492	0	0.0
1973	82143	82143	0	0.0
1974	126551	126553	2	0.0
1975	15420	15424	4	0.0
1976	13593	13597	4	0.0
1977	8119	8123	4	0.0
1978	64916	64920	4	0.0
1979	22105	22109	4	0.0
1980	93357	93357	0	0.0
1981	23794	23798	4	0.0
1982	71299	71299	0	0.0
1983	81261	81265	4	0.0
1984	56744	56744	0	0.0
1985	13392	13393	1	0.0
1986	25116	25116	0	0.0
1987	14005	14009	4	0.0
1988	27809	27813	4	0.0
1989	12026	12030	4	0.0
1990	19104	19104	0	0.0
1991	6460	6464	4	0.1
1992	10500	10504	4	0.0
1993	58448	58452	4	0.0
Mean:	39355	39358	2	0.0
Median:	22476	22480	3	0.0
Min:	6460	6464	-1	0.0
Max:	186981	186984	4	0.1
Difference = 0			23	71
Difference > 0			47	1
Difference < 0			2	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	35931	35930	-1	0.0
1923	14791	14795	4	0.0
1924	15768	15767	-1	0.0
1925	66630	66634	4	0.0
1926	42270	42275	5	0.0
1927	125450	125454	4	0.0
1928	24783	24780	-3	0.0
1929	15861	15865	4	0.0
1930	18094	18098	4	0.0
1931	10349	10354	5	0.0
1932	15863	15862	-1	0.0
1933	11768	11773	5	0.0
1934	14699	14703	4	0.0
1935	13115	13119	4	0.0
1936	63307	63302	-5	0.0
1937	35090	35094	4	0.0
1938	122012	122016	4	0.0
1939	11601	11605	4	0.0
1940	58399	58394	-5	0.0
1941	115825	115825	0	0.0
1942	136312	136316	4	0.0
1943	52515	52520	5	0.0
1944	24288	24284	-4	0.0
1945	47212	47212	0	0.0
1946	24407	24407	0	0.0
1947	17766	17766	0	0.0
1948	14585	14581	-4	0.0
1949	11828	11828	0	0.0
1950	35569	35573	4	0.0
1951	65873	65873	0	0.0
1952	75840	75833	-7	0.0
1953	23141	23141	0	0.0
1954	64086	64088	2	0.0
1955	15170	15170	0	0.0
1956	79446	79443	-3	0.0
1957	32761	32766	5	0.0
1958	177241	177242	1	0.0
1959	52915	52918	3	0.0
1960	30108	30099	-9	0.0
1961	29243	29248	5	0.0
1962	46213	46214	1	0.0
1963	73440	73440	0	0.0
1964	15774	15769	-5	0.0
1965	32353	32353	0	0.0
1966	25473	25474	1	0.0
1967	56019	56018	-1	0.0
1968	63416	63407	-9	0.0
1969	110026	110026	0	0.0
1970	81429	81433	4	0.0
1971	27249	27251	2	0.0
1972	24413	24405	-8	0.0
1973	87302	87303	1	0.0
1974	41551	41554	3	0.0
1975	63137	63141	4	0.0
1976	13453	13453	0	0.0
1977	7277	7281	4	0.1
1978	51988	51993	5	0.0
1979	42056	42060	4	0.0
1980	112952	112944	-8	0.0
1981	26772	26777	5	0.0
1982	94987	94987	0	0.0
1983	142205	142209	4	0.0
1984	34228	34221	-7	0.0
1985	15369	15370	1	0.0
1986	182377	182376	-1	0.0
1987	19880	19885	5	0.0
1988	15716	15714	-2	0.0
1989	8291	8296	5	0.1
1990	15615	15615	0	0.0
1991	9045	9049	4	0.0
1992	33378	33376	-2	0.0
1993	56687	56692	5	0.0
Mean:	48222	48223	1	0.0
Median:	33803	33799	1	0.0
Min:	7277	7281	-9	0.0
Max:	182377	182376	5	0.1
Difference = 0			14	70
Difference > 0			38	2
Difference < 0			20	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	29938	29938	0	0.0
1923	14052	14056	4	0.0
1924	10200	10203	3	0.0
1925	25647	25651	4	0.0
1926	13430	13434	4	0.0
1927	44022	44026	4	0.0
1928	102451	102454	3	0.0
1929	11080	11085	5	0.0
1930	32302	32306	4	0.0
1931	7397	7401	4	0.1
1932	13050	13054	4	0.0
1933	13331	13335	4	0.0
1934	12400	12404	4	0.0
1935	26533	26538	5	0.0
1936	28564	28566	2	0.0
1937	39763	39766	3	0.0
1938	138564	138567	3	0.0
1939	13654	13658	4	0.0
1940	98782	98783	1	0.0
1941	88482	88482	0	0.0
1942	25095	25099	4	0.0
1943	68985	68989	4	0.0
1944	20257	20258	1	0.0
1945	22085	22085	0	0.0
1946	20442	20442	0	0.0
1947	20279	20279	0	0.0
1948	15440	15440	0	0.0
1949	47437	47437	0	0.0
1950	19903	19907	4	0.0
1951	28448	28448	0	0.0
1952	59125	59125	0	0.0
1953	21418	21418	0	0.0
1954	50560	50562	2	0.0
1955	11563	11563	0	0.0
1956	38056	38060	4	0.0
1957	46912	46916	4	0.0
1958	91380	91382	2	0.0
1959	21930	21933	3	0.0
1960	21865	21865	0	0.0
1961	18798	18802	4	0.0
1962	27114	27115	1	0.0
1963	31571	31571	0	0.0
1964	11885	11888	3	0.0
1965	22990	22990	0	0.0
1966	28793	28794	1	0.0
1967	57320	57320	0	0.0
1968	35907	35906	-1	0.0
1969	50086	50085	-1	0.0
1970	35295	35299	4	0.0
1971	49934	49936	2	0.0
1972	35341	35341	0	0.0
1973	55625	55626	1	0.0
1974	108278	108280	2	0.0
1975	86189	86193	4	0.0
1976	15120	15124	4	0.0
1977	7427	7431	4	0.1
1978	62668	62672	4	0.0
1979	29870	29874	4	0.0
1980	48855	48856	1	0.0
1981	27993	27997	4	0.0
1982	68303	68303	0	0.0
1983	202639	202642	3	0.0
1984	35540	35541	1	0.0
1985	15741	15742	1	0.0
1986	127243	127243	0	0.0
1987	23990	23994	4	0.0
1988	8759	8763	4	0.0
1989	46676	46681	5	0.0
1990	13093	13093	0	0.0
1991	31927	31931	4	0.0
1992	19034	19038	4	0.0
1993	42924	42928	4	0.0
Mean:	40247	40249	2	0.0
Median:	28679	28680	3	0.0
Min:	7397	7401	-1	0.0
Max:	202639	202642	5	0.1
Difference = 0			19	70
Difference > 0			51	2
Difference < 0			2	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	24079	24798	719	3.0
1923	24297	24643	346	1.4
1924	8251	9364	1113	13.5
1925	22368	22966	598	2.7
1926	24303	25416	1113	4.6
1927	46063	46497	434	0.9
1928	26890	27723	833	3.1
1929	7677	8791	1114	14.5
1930	13053	13666	613	4.7
1931	8771	9884	1113	12.7
1932	12491	13604	1113	8.9
1933	11030	12143	1113	10.1
1934	11751	12865	1114	9.5
1935	48491	48766	275	0.6
1936	22317	22800	483	2.2
1937	23539	24653	1114	4.7
1938	60871	61807	936	1.5
1939	10650	10888	238	2.2
1940	68119	68119	0	0.0
1941	70869	71874	1005	1.4
1942	47985	48689	704	1.5
1943	26638	26868	230	0.9
1944	10168	10168	0	0.0
1945	12556	12556	0	0.0
1946	12011	12011	0	0.0
1947	14387	14387	0	0.0
1948	27335	27335	0	0.0
1949	12941	13344	403	3.1
1950	19839	19839	0	0.0
1951	15369	15369	0	0.0
1952	61497	61559	62	0.1
1953	16503	16797	294	1.8
1954	40575	40597	22	0.1
1955	13011	13875	864	6.6
1956	19445	20025	580	3.0
1957	20973	21244	271	1.3
1958	82995	83398	403	0.5
1959	10809	10809	0	0.0
1960	11242	11841	599	5.3
1961	13558	13692	134	1.0
1962	12625	12625	0	0.0
1963	85682	86153	471	0.5
1964	15717	15717	0	0.0
1965	41161	41252	91	0.2
1966	13731	13731	0	0.0
1967	42491	42491	0	0.0
1968	15574	15582	8	0.1
1969	42009	43122	1113	2.6
1970	16460	16735	275	1.7
1971	22232	22232	0	0.0
1972	12599	12704	105	0.8
1973	17759	18119	360	2.0
1974	65758	66517	759	1.2
1975	22911	23522	611	2.7
1976	9797	10677	880	9.0
1977	8859	9972	1113	12.6
1978	32608	33331	723	2.2
1979	17418	17480	62	0.4
1980	18644	19180	536	2.9
1981	14597	14596	-1	0.0
1982	117165	117842	677	0.6
1983	68124	68255	131	0.2
1984	18271	18361	90	0.5
1985	12879	12879	0	0.0
1986	19842	20956	1114	5.6
1987	14921	15524	603	4.0
1988	10207	11320	1113	10.9
1989	22390	22390	0	0.0
1990	11134	12247	1113	10.0
1991	12283	13396	1113	9.1
1992	12184	13297	1113	9.1
1993	39167	39679	512	1.3
Mean:	26707	27188	481	3.0
Median:	18015	18240	419	1.4
Min:	7677	8791	-1	0.0
Max:	117165	117842	1114	14.5
Difference = 0			16	17
Difference > 0			55	55
Difference < 0			1	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	47838	48775	937	2.0
1923	16759	17211	452	2.7
1924	7650	8389	739	9.7
1925	15431	15509	78	0.5
1926	13323	14063	740	5.6
1927	25664	26232	568	2.2
1928	17318	17697	379	2.2
1929	8195	8935	740	9.0
1930	12853	12950	97	0.8
1931	8129	8869	740	9.1
1932	13298	14038	740	5.6
1933	6516	7256	740	11.4
1934	7935	8675	740	9.3
1935	23739	23739	0	0.0
1936	15917	15917	0	0.0
1937	17168	17908	740	4.3
1938	55653	56867	1214	2.2
1939	10990	10990	0	0.0
1940	19449	19449	0	0.0
1941	39406	40710	1304	3.3
1942	32511	33428	917	2.8
1943	18575	18575	0	0.0
1944	11504	11504	0	0.0
1945	14126	14126	0	0.0
1946	14513	14513	0	0.0
1947	12120	12120	0	0.0
1948	29045	29045	0	0.0
1949	13083	13083	0	0.0
1950	17762	17762	0	0.0
1951	18762	18762	0	0.0
1952	59670	59751	81	0.1
1953	23983	24368	385	1.6
1954	24605	24605	0	0.0
1955	11690	12109	419	3.6
1956	37126	37884	758	2.0
1957	16638	16638	0	0.0
1958	43703	44231	528	1.2
1959	12835	12835	0	0.0
1960	12356	12435	79	0.6
1961	10450	10450	0	0.0
1962	12652	12652	0	0.0
1963	29778	30393	615	2.1
1964	11237	11237	0	0.0
1965	23165	23164	-1	0.0
1966	14791	14791	0	0.0
1967	43839	43838	-1	0.0
1968	11232	11232	0	0.0
1969	48252	49695	1443	3.0
1970	11391	11391	0	0.0
1971	25442	25442	0	0.0
1972	11533	11533	0	0.0
1973	16916	17387	471	2.8
1974	22875	23863	988	4.3
1975	27467	28265	798	2.9
1976	7425	7865	440	5.9
1977	6648	7388	740	11.1
1978	20454	20693	239	1.2
1979	16191	16191	0	0.0
1980	16013	16013	0	0.0
1981	10193	10193	0	0.0
1982	36029	36911	882	2.4
1983	57161	57332	171	0.3
1984	12677	12677	0	0.0
1985	12708	12708	0	0.0
1986	12099	12839	740	6.1
1987	9688	9771	83	0.9
1988	9888	10628	740	7.5
1989	15505	15505	0	0.0
1990	8209	8949	740	9.0
1991	9012	9752	740	8.2
1992	8359	9099	740	8.9
1993	29037	29708	671	2.3
Mean:	19808	20160	352	2.4
Median:	15468	15507	90	0.7
Min:	6516	7256	-1	0.0
Max:	59670	59751	1443	11.4
Difference = 0			30	32
Difference > 0			40	40
Difference < 0			2	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	36078	37157	1079	3.0
1923	17859	17859	0	0.0
1924	9378	10231	853	9.1
1925	12936	13026	90	0.7
1926	13100	13953	853	6.5
1927	20668	20667	-1	0.0
1928	13658	14096	438	3.2
1929	12095	12947	852	7.0
1930	14184	14295	111	0.8
1931	9645	10497	852	8.8
1932	14482	15335	853	5.9
1933	10058	10911	853	8.5
1934	11230	12083	853	7.6
1935	21710	21710	0	0.0
1936	18554	18554	0	0.0
1937	18574	19427	853	4.6
1938	35172	36572	1400	4.0
1939	12560	12560	0	0.0
1940	17534	17534	0	0.0
1941	20979	21671	692	3.3
1942	26635	27692	1057	4.0
1943	16992	16992	0	0.0
1944	15254	15254	0	0.0
1945	17468	17468	0	0.0
1946	17212	17212	0	0.0
1947	14586	14586	0	0.0
1948	21610	21610	0	0.0
1949	16519	16519	0	0.0
1950	20712	20712	0	0.0
1951	13302	13302	0	0.0
1952	37948	38043	95	0.3
1953	24424	24868	444	1.8
1954	13700	13700	0	0.0
1955	15737	16221	484	3.1
1956	20278	21152	874	4.3
1957	16719	16719	0	0.0
1958	30502	31110	608	2.0
1959	18100	18100	0	0.0
1960	13762	13853	91	0.7
1961	13118	13118	0	0.0
1962	15245	15245	0	0.0
1963	20708	20707	-1	0.0
1964	13999	13999	0	0.0
1965	13453	13453	0	0.0
1966	16294	16294	0	0.0
1967	37212	37212	0	0.0
1968	17476	17475	-1	0.0
1969	21610	23274	1664	7.7
1970	15365	15365	0	0.0
1971	20311	20311	0	0.0
1972	20132	20132	0	0.0
1973	20455	20454	-1	0.0
1974	22246	22574	328	1.5
1975	23034	23954	920	4.0
1976	11766	12274	508	4.3
1977	11710	12563	853	7.3
1978	16916	17191	275	1.6
1979	19114	19114	0	0.0
1980	12809	12808	-1	0.0
1981	15184	15184	0	0.0
1982	23542	24560	1018	4.3
1983	55711	55909	198	0.4
1984	17479	17479	0	0.0
1985	14312	14312	0	0.0
1986	14701	15554	853	5.8
1987	13208	13304	96	0.7
1988	11763	12616	853	7.3
1989	16339	16339	0	0.0
1990	11231	12084	853	7.6
1991	8552	9404	852	10.0
1992	11157	12010	853	7.6
1993	26339	27112	773	2.9
Mean:	18256	18605	350	2.3
Median:	16619	16619	45	0.2
Min:	8552	9404	-1	0.0
Max:	55711	55909	1664	10.0
Difference = 0			31	36
Difference > 0			36	36
Difference < 0			5	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	18843	22180	3337	17.7
1923	17350	21358	4008	23.1
1924	11687	16763	5076	43.4
1925	15753	20009	4256	27.0
1926	15071	19159	4088	27.1
1927	20253	23512	3259	16.1
1928	19316	24367	5051	26.1
1929	8505	13712	5207	61.2
1930	16772	20884	4112	24.5
1931	14472	19247	4775	33.0
1932	10767	15795	5028	46.7
1933	8996	14334	5338	59.3
1934	9796	14041	4245	43.3
1935	18804	21896	3092	16.4
1936	18357	22588	4231	23.0
1937	14741	20276	5535	37.5
1938	17173	20674	3501	20.4
1939	17857	20425	2568	14.4
1940	22147	22720	573	2.6
1941	17648	22811	5163	29.3
1942	18391	21417	3026	16.5
1943	20339	23358	3019	14.8
1944	19037	19754	717	3.8
1945	20699	21351	652	3.1
1946	19981	20921	940	4.7
1947	19854	20089	235	1.2
1948	20683	21511	828	4.0
1949	16089	20328	4239	26.3
1950	20785	22029	1244	6.0
1951	22528	24311	1783	7.9
1952	19329	20813	1484	7.7
1953	20448	22840	2392	11.7
1954	21761	23225	1464	6.7
1955	14735	19457	4722	32.0
1956	18031	21691	3660	20.3
1957	21036	23393	2357	11.2
1958	18037	21036	2999	16.6
1959	21203	22512	1309	6.2
1960	16932	21078	4146	24.5
1961	18826	21324	2498	13.3
1962	21413	22573	1160	5.4
1963	19193	23260	4067	21.2
1964	19981	20217	236	1.2
1965	21477	24776	3299	15.4
1966	20181	21145	964	4.8
1967	15419	16438	1019	6.6
1968	19939	22090	2151	10.8
1969	16977	19760	2783	16.4
1970	23405	26873	3468	14.8
1971	23064	24067	1003	4.3
1972	19296	21912	2616	13.6
1973	19928	22994	3066	15.4
1974	18650	22395	3745	20.1
1975	18623	21510	2887	15.5
1976	18633	24689	6056	32.5
1977	15476	20573	5097	32.9
1978	17722	22997	5275	29.8
1979	18976	21805	2829	14.9
1980	15363	20550	5187	33.8
1981	18923	20401	1478	7.8
1982	16279	19396	3117	19.1
1983	26652	27133	481	1.8
1984	22529	25078	2549	11.3
1985	19702	19950	248	1.3
1986	17452	22998	5546	31.8
1987	15490	19725	4235	27.3
1988	9054	14561	5507	60.8
1989	20571	20953	382	1.9
1990	10185	15765	5580	54.8
1991	12273	17663	5390	43.9
1992	8945	13878	4933	55.1
1993	18532	22239	3707	20.0
Mean:	17824	20966	3142	20.5
Median:	18642	21338	3188	16.5
Min:	8505	13712	235	1.2
Max:	26652	27133	6056	61.2
Difference = 0			0	0
Difference > 0			72	72
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	13732	16389	2657	19.3
1923	14111	15855	1744	12.4
1924	7114	10530	3416	48.0
1925	11385	14346	2961	26.0
1926	11442	14694	3252	28.4
1927	14572	17157	2585	17.7
1928	13280	16533	3253	24.5
1929	9580	12655	3075	32.1
1930	14784	17854	3070	20.8
1931	8739	12113	3374	38.6
1932	10047	13290	3243	32.3
1933	8582	12137	3555	41.4
1934	9459	12723	3264	34.5
1935	14765	17196	2431	16.5
1936	14644	17398	2754	18.8
1937	14064	17368	3304	23.5
1938	13811	16707	2896	21.0
1939	14384	16337	1953	13.6
1940	15633	17385	1752	11.2
1941	12428	14727	2299	18.5
1942	13934	16608	2674	19.2
1943	14516	16697	2181	15.0
1944	13814	15455	1641	11.9
1945	15855	16909	1054	6.6
1946	15568	16980	1412	9.1
1947	17130	18574	1444	8.4
1948	16612	17504	892	5.4
1949	13393	15692	2299	17.2
1950	16637	17682	1045	6.3
1951	15978	17180	1202	7.5
1952	14710	16377	1667	11.3
1953	14803	16785	1982	13.4
1954	13955	15993	2038	14.6
1955	11285	14606	3321	29.4
1956	15090	16753	1663	11.0
1957	13621	16307	2686	19.7
1958	15572	16510	938	6.0
1959	15897	17280	1383	8.7
1960	15001	17416	2415	16.1
1961	17128	18922	1794	10.5
1962	16062	17568	1506	9.4
1963	14833	17037	2204	14.9
1964	17207	18646	1439	8.4
1965	15516	16763	1247	8.0
1966	14979	16842	1863	12.4
1967	16418	17226	808	4.9
1968	14138	15502	1364	9.6
1969	11007	13912	2905	26.4
1970	14811	16757	1946	13.1
1971	16339	17127	788	4.8
1972	15209	16914	1705	11.2
1973	14853	16924	2071	13.9
1974	14530	16978	2448	16.8
1975	14295	16468	2173	15.2
1976	9918	12303	2385	24.0
1977	9068	11942	2874	31.7
1978	15407	17147	1740	11.3
1979	15779	17038	1259	8.0
1980	15242	16899	1657	10.9
1981	15164	16773	1609	10.6
1982	14938	16457	1519	10.2
1983	18946	20120	1174	6.2
1984	13893	15977	2084	15.0
1985	16716	17595	879	5.3
1986	14344	17025	2681	18.7
1987	12204	14572	2368	19.4
1988	9442	12595	3153	33.4
1989	16402	18040	1638	10.0
1990	9351	12577	3226	34.5
1991	7748	11236	3488	45.0
1992	9610	12794	3184	33.1
1993	14979	17052	2073	13.8
Mean:	13839	16006	2167	17.5
Median:	14608	16755	2079	14.8
Min:	7114	10530	788	4.8
Max:	18946	20120	3555	48.0
Difference = 0			0	0
Difference > 0			72	72
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, Sacramento River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	14316	14726	410	2.9
1923	14872	14872	0	0.0
1924	7305	8163	858	11.7
1925	10482	10899	417	4.0
1926	9379	11428	2049	21.8
1927	14812	15185	373	2.5
1928	12888	12912	24	0.2
1929	7228	8336	1108	15.3
1930	10066	10616	550	5.5
1931	7309	8497	1188	16.3
1932	10064	11106	1042	10.4
1933	7315	7733	418	5.7
1934	7874	9701	1827	23.2
1935	12359	12563	204	1.7
1936	13281	13396	115	0.9
1937	12183	12654	471	3.9
1938	16261	17147	886	5.4
1939	11493	12572	1079	9.4
1940	12643	12763	120	0.9
1941	17521	18316	795	4.5
1942	17677	18504	827	4.7
1943	14192	14520	328	2.3
1944	13570	14415	845	6.2
1945	14091	14137	46	0.3
1946	14188	14232	44	0.3
1947	12857	13016	159	1.2
1948	15271	15228	-43	-0.3
1949	11710	11775	65	0.6
1950	15024	15152	128	0.9
1951	14971	14995	24	0.2
1952	21711	22708	997	4.6
1953	19407	20159	752	3.9
1954	14618	15301	683	4.7
1955	10998	11502	504	4.6
1956	18634	19436	802	4.3
1957	14651	15295	644	4.4
1958	20519	21711	1192	5.8
1959	14303	14718	415	2.9
1960	9965	11089	1124	11.3
1961	11856	12491	635	5.4
1962	14452	15282	830	5.7
1963	14721	14864	143	1.0
1964	11926	12162	236	2.0
1965	14109	14207	98	0.7
1966	13119	13894	775	5.9
1967	21929	22434	505	2.3
1968	14484	15073	589	4.1
1969	20442	22020	1578	7.7
1970	14663	15060	397	2.7
1971	19714	20206	492	2.5
1972	10967	11384	417	3.8
1973	14355	14998	643	4.5
1974	20799	21970	1171	5.6
1975	19841	20887	1046	5.3
1976	11511	11524	13	0.1
1977	7549	8906	1357	18.0
1978	15944	17016	1072	6.7
1979	14449	14775	326	2.3
1980	14449	15056	607	4.2
1981	14575	15076	501	3.4
1982	17057	18054	997	5.8
1983	26891	29382	2491	9.3
1984	14205	14205	0	0.0
1985	14863	15344	481	3.2
1986	15203	16189	986	6.5
1987	11066	12074	1008	9.1
1988	9102	9786	684	7.5
1989	13155	13742	587	4.5
1990	8046	8576	530	6.6
1991	9714	10169	455	4.7
1992	9003	10262	1259	14.0
1993	14785	14785	0	0.0
Mean:	13847	14491	644	5.2
Median:	14199	14468	569	4.5
Min:	7228	7733	-43	-0.3
Max:	26891	29382	2491	23.2
Difference = 0			3	3
Difference > 0			68	68
Difference < 0			1	1
0.0% > Rel Dif >= -1.0%				1.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2294	2497	203	8.8
1923	4235	4439	204	4.8
1924	2283	2486	203	8.9
1925	1664	1867	203	12.2
1926	1911	2114	203	10.6
1927	1696	1899	203	12.0
1928	1833	2036	203	11.1
1929	1898	2102	204	10.7
1930	1438	1641	203	14.1
1931	1630	1834	204	12.5
1932	1252	1456	204	16.3
1933	1984	2187	203	10.2
1934	1387	1591	204	14.7
1935	1296	1499	203	15.7
1936	1798	2001	203	11.3
1937	2491	2695	204	8.2
1938	3333	3537	204	6.1
1939	8904	9107	203	2.3
1940	2051	2255	204	9.9
1941	2585	2788	203	7.9
1942	4727	4930	203	4.3
1943	5600	5803	203	3.6
1944	3472	3675	203	5.8
1945	2230	2434	204	9.1
1946	3569	3772	203	5.7
1947	2365	2568	203	8.6
1948	1757	1960	203	11.6
1949	1938	2141	203	10.5
1950	1723	1926	203	11.8
1951	1715	1918	203	11.8
1952	2458	2661	203	8.3
1953	8198	8401	203	2.5
1954	2242	2446	204	9.1
1955	2193	2396	203	9.3
1956	1596	1799	203	12.7
1957	4869	5072	203	4.2
1958	2352	2555	203	8.6
1959	6036	6239	203	3.4
1960	1882	2086	204	10.8
1961	1606	1810	204	12.7
1962	1464	1668	204	13.9
1963	1688	1891	203	12.0
1964	2069	2272	203	9.8
1965	1729	1932	203	11.7
1966	2398	2601	203	8.5
1967	2142	2345	203	9.5
1968	5716	5920	204	3.6
1969	2065	2268	203	9.8
1970	8528	8732	204	2.4
1971	2439	2642	203	8.3
1972	2161	2365	204	9.4
1973	1917	2121	204	10.6
1974	2439	2642	203	8.3
1975	3710	3913	203	5.5
1976	4333	4536	203	4.7
1977	3239	3443	204	6.3
1978	1520	1723	203	13.4
1979	4666	4869	203	4.4
1980	2530	2733	203	8.0
1981	5285	5488	203	3.8
1982	2139	2342	203	9.5
1983	12664	12868	204	1.6
1984	12411	12614	203	1.6
1985	2391	2594	203	8.5
1986	2230	2433	203	9.1
1987	3727	3930	203	5.4
1988	1709	1912	203	11.9
1989	1606	1809	203	12.6
1990	1379	1583	204	14.8
1991	1441	1644	203	14.1
1992	1427	1630	203	14.2
1993	1488	1691	203	13.6
Mean:	3016	3219	203	9.1
Median:	2177	2381	203	9.4
Min:	1252	1456	203	1.6
Max:	12664	12868	204	16.3
Difference = 0			0	0
Difference > 0			72	72
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1826	2036	210	11.5
1923	1814	2024	210	11.6
1924	1607	1817	210	13.1
1925	1464	1674	210	14.3
1926	1476	1686	210	14.2
1927	1908	2118	210	11.0
1928	1965	2175	210	10.7
1929	1486	1696	210	14.1
1930	1265	1476	211	16.7
1931	1268	1478	210	16.6
1932	1304	1514	210	16.1
1933	1495	1705	210	14.0
1934	1275	1485	210	16.5
1935	1444	1654	210	14.5
1936	1539	1749	210	13.6
1937	1624	1834	210	12.9
1938	1705	1915	210	12.3
1939	1890	2100	210	11.1
1940	1576	1786	210	13.3
1941	1874	2085	211	11.3
1942	1926	2136	210	10.9
1943	2161	2371	210	9.7
1944	1959	2169	210	10.7
1945	2036	2246	210	10.3
1946	2099	2309	210	10.0
1947	2026	2237	211	10.4
1948	1431	1641	210	14.7
1949	1497	1707	210	14.0
1950	1485	1695	210	14.1
1951	3917	4127	210	5.4
1952	1857	2067	210	11.3
1953	1912	2122	210	11.0
1954	1658	1868	210	12.7
1955	1583	1793	210	13.3
1956	1466	1677	211	14.4
1957	1688	1898	210	12.4
1958	1725	1935	210	12.2
1959	2289	2499	210	9.2
1960	1422	1632	210	14.8
1961	1356	1566	210	15.5
1962	1312	1522	210	16.0
1963	1462	1672	210	14.4
1964	1778	1988	210	11.8
1965	1711	1921	210	12.3
1966	3120	3330	210	6.7
1967	1706	1916	210	12.3
1968	1940	2150	210	10.8
1969	1649	1859	210	12.7
1970	2047	2257	210	10.3
1971	1933	2143	210	10.9
1972	1624	1834	210	12.9
1973	1548	1758	210	13.6
1974	1704	1914	210	12.3
1975	1835	2045	210	11.4
1976	1779	1989	210	11.8
1977	2164	2374	210	9.7
1978	1410	1620	210	14.9
1979	1616	1826	210	13.0
1980	1783	1993	210	11.8
1981	1723	1933	210	12.2
1982	1797	2007	210	11.7
1983	8354	8564	210	2.5
1984	13852	14063	211	1.5
1985	1995	2205	210	10.5
1986	1755	1966	211	12.0
1987	1740	1950	210	12.1
1988	1394	1604	210	15.1
1989	1266	1476	210	16.6
1990	1303	1513	210	16.1
1991	1245	1456	211	16.9
1992	1272	1482	210	16.5
1993	1416	1627	211	14.9
Mean:	1980	2190	210	12.4
Median:	1705	1915	210	12.3
Min:	1245	1456	210	1.5
Max:	13852	14063	211	16.9
Difference = 0			0	0
Difference > 0			72	72
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2883	2883	0	0.0
1923	5596	5596	0	0.0
1924	1707	1707	0	0.0
1925	1460	1460	0	0.0
1926	1542	1542	0	0.0
1927	2042	2042	0	0.0
1928	2362	2362	0	0.0
1929	1530	1530	0	0.0
1930	1235	1235	0	0.0
1931	1232	1232	0	0.0
1932	3295	3295	0	0.0
1933	1484	1484	0	0.0
1934	1402	1402	0	0.0
1935	1518	1518	0	0.0
1936	1651	1651	0	0.0
1937	1853	1853	0	0.0
1938	5604	5604	0	0.0
1939	2173	2173	0	0.0
1940	1593	1593	0	0.0
1941	3280	3280	0	0.0
1942	5149	5149	0	0.0
1943	4044	4044	0	0.0
1944	2036	2036	0	0.0
1945	2015	2015	0	0.0
1946	6062	6062	0	0.0
1947	2258	2258	0	0.0
1948	1351	1351	0	0.0
1949	1464	1464	0	0.0
1950	1454	1454	0	0.0
1951	9527	9527	0	0.0
1952	3229	3229	0	0.0
1953	2965	2965	0	0.0
1954	1700	1700	0	0.0
1955	1694	1694	0	0.0
1956	12034	12034	0	0.0
1957	1836	1836	0	0.0
1958	1807	1807	0	0.0
1959	2558	2558	0	0.0
1960	1396	1396	0	0.0
1961	1414	1414	0	0.0
1962	1312	1312	0	0.0
1963	1426	1426	0	0.0
1964	1789	1789	0	0.0
1965	4940	4940	0	0.0
1966	5684	5684	0	0.0
1967	2986	2986	0	0.0
1968	2646	2646	0	0.0
1969	2020	2020	0	0.0
1970	3765	3765	0	0.0
1971	3225	3225	0	0.0
1972	1850	1850	0	0.0
1973	1554	1554	0	0.0
1974	2638	2638	0	0.0
1975	1989	1989	0	0.0
1976	1874	1874	0	0.0
1977	1746	1746	0	0.0
1978	1578	1578	0	0.0
1979	1847	1847	0	0.0
1980	1908	1908	0	0.0
1981	1852	1852	0	0.0
1982	1926	1926	0	0.0
1983	20158	20158	0	0.0
1984	23109	23109	0	0.0
1985	2039	2039	0	0.0
1986	1822	1822	0	0.0
1987	1766	1766	0	0.0
1988	1338	1338	0	0.0
1989	1362	1362	0	0.0
1990	1223	1223	0	0.0
1991	1192	1192	0	0.0
1992	1192	1192	0	0.0
1993	1541	1541	0	0.0
Mean:	3038	3038	0	0.0
Median:	1851	1851	0	0.0
Min:	1192	1192	0	0.0
Max:	23109	23109	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2950	2950	0	0.0
1923	7784	7784	0	0.0
1924	1671	1671	0	0.0
1925	1337	1337	0	0.0
1926	1365	1365	0	0.0
1927	1846	1846	0	0.0
1928	2228	2228	0	0.0
1929	1491	1491	0	0.0
1930	1343	1343	0	0.0
1931	1214	1214	0	0.0
1932	3550	3550	0	0.0
1933	1685	1685	0	0.0
1934	1399	1399	0	0.0
1935	3793	3793	0	0.0
1936	2014	2014	0	0.0
1937	2621	2621	0	0.0
1938	6667	6667	0	0.0
1939	2335	2335	0	0.0
1940	4245	4245	0	0.0
1941	5565	5565	0	0.0
1942	8721	8721	0	0.0
1943	13392	13392	0	0.0
1944	2060	2060	0	0.0
1945	1916	1916	0	0.0
1946	4933	4933	0	0.0
1947	2013	2013	0	0.0
1948	1245	1245	0	0.0
1949	1350	1350	0	0.0
1950	2155	2155	0	0.0
1951	10599	10599	0	0.0
1952	7630	7630	0	0.0
1953	6821	6821	0	0.0
1954	1759	1759	0	0.0
1955	1993	1993	0	0.0
1956	18581	18581	0	0.0
1957	1812	1812	0	0.0
1958	2083	2083	0	0.0
1959	2226	2226	0	0.0
1960	1456	1456	0	0.0
1961	1269	1269	0	0.0
1962	1261	1261	0	0.0
1963	1926	1926	0	0.0
1964	1757	1757	0	0.0
1965	11140	11140	0	0.0
1966	4887	4887	0	0.0
1967	3655	3655	0	0.0
1968	2117	2117	0	0.0
1969	15486	15486	0	0.0
1970	18810	18810	0	0.0
1971	2685	2685	0	0.0
1972	1795	1795	0	0.0
1973	2681	2681	0	0.0
1974	5978	5978	0	0.0
1975	2038	2038	0	0.0
1976	1776	1776	0	0.0
1977	1366	1366	0	0.0
1978	3787	3787	0	0.0
1979	5704	5704	0	0.0
1980	13704	13704	0	0.0
1981	2234	2234	0	0.0
1982	8538	8538	0	0.0
1983	25214	25214	0	0.0
1984	14805	14805	0	0.0
1985	1855	1855	0	0.0
1986	2263	2263	0	0.0
1987	1736	1736	0	0.0
1988	1339	1339	0	0.0
1989	1259	1259	0	0.0
1990	1266	1266	0	0.0
1991	1050	1050	0	0.0
1992	1277	1277	0	0.0
1993	7878	7878	0	0.0
Mean:	4505	4505	0	0.0
Median:	2136	2136	0	0.0
Min:	1050	1050	0	0.0
Max:	25214	25214	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	8693	8693	0	0.0
1923	6594	6594	0	0.0
1924	1913	1913	0	0.0
1925	3140	3140	0	0.0
1926	2121	2121	0	0.0
1927	5352	5352	0	0.0
1928	2581	2581	0	0.0
1929	1902	1902	0	0.0
1930	1678	1678	0	0.0
1931	1424	1424	0	0.0
1932	7688	7688	0	0.0
1933	1990	1990	0	0.0
1934	1982	1982	0	0.0
1935	3495	3495	0	0.0
1936	12062	12062	0	0.0
1937	16024	16024	0	0.0
1938	23103	23103	0	0.0
1939	3138	3138	0	0.0
1940	5982	5982	0	0.0
1941	14821	14821	0	0.0
1942	9463	9463	0	0.0
1943	11555	11555	0	0.0
1944	3362	3362	0	0.0
1945	6961	6961	0	0.0
1946	5259	5259	0	0.0
1947	2825	2825	0	0.0
1948	1436	1436	0	0.0
1949	1763	1763	0	0.0
1950	2916	2916	0	0.0
1951	10159	10159	0	0.0
1952	6837	6837	0	0.0
1953	4982	4982	0	0.0
1954	2371	2371	0	0.0
1955	2054	2054	0	0.0
1956	12297	12297	0	0.0
1957	2698	2698	0	0.0
1958	4042	4042	0	0.0
1959	5031	5031	0	0.0
1960	2303	2303	0	0.0
1961	1438	1438	0	0.0
1962	5834	5834	0	0.0
1963	3582	3582	0	0.0
1964	1733	1733	0	0.0
1965	7025	7025	0	0.0
1966	4928	4928	0	0.0
1967	3421	3421	0	0.0
1968	4154	4154	0	0.0
1969	26556	26556	0	0.0
1970	9689	9689	0	0.0
1971	2760	2760	0	0.0
1972	2321	2321	0	0.0
1973	8955	8955	0	0.0
1974	5521	5521	0	0.0
1975	6462	6462	0	0.0
1976	2157	2157	0	0.0
1977	1472	1472	0	0.0
1978	7958	7958	0	0.0
1979	10540	10540	0	0.0
1980	21313	21313	0	0.0
1981	2660	2660	0	0.0
1982	14669	14669	0	0.0
1983	33352	33352	0	0.0
1984	9966	9966	0	0.0
1985	2354	2354	0	0.0
1986	19750	19750	0	0.0
1987	2124	2124	0	0.0
1988	1385	1385	0	0.0
1989	1442	1442	0	0.0
1990	1495	1495	0	0.0
1991	1191	1191	0	0.0
1992	2432	2432	0	0.0
1993	5576	5576	0	0.0
Mean:	6392	6392	0	0.0
Median:	3812	3812	0	0.0
Min:	1191	1191	0	0.0
Max:	33352	33352	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	8532	8532	0	0.0
1923	3061	3061	0	0.0
1924	1709	1709	0	0.0
1925	2571	2571	0	0.0
1926	1808	1808	0	0.0
1927	3846	3846	0	0.0
1928	6592	6592	0	0.0
1929	1727	1727	0	0.0
1930	1962	1962	0	0.0
1931	1304	1304	0	0.0
1932	4641	4641	0	0.0
1933	2092	2092	0	0.0
1934	1698	1698	0	0.0
1935	3727	3727	0	0.0
1936	5831	5831	0	0.0
1937	12092	12092	0	0.0
1938	29661	29661	0	0.0
1939	3919	3919	0	0.0
1940	9923	9923	0	0.0
1941	11997	11997	0	0.0
1942	6136	6136	0	0.0
1943	19379	19379	0	0.0
1944	3557	3557	0	0.0
1945	8269	8269	0	0.0
1946	4633	4633	0	0.0
1947	1993	1993	0	0.0
1948	1936	1936	0	0.0
1949	2857	2857	0	0.0
1950	2441	2441	0	0.0
1951	5887	5887	0	0.0
1952	13000	13000	0	0.0
1953	3260	3260	0	0.0
1954	2751	2751	0	0.0
1955	1830	1830	0	0.0
1956	6509	6509	0	0.0
1957	4369	4369	0	0.0
1958	9909	9909	0	0.0
1959	3261	3261	0	0.0
1960	1906	1906	0	0.0
1961	1331	1331	0	0.0
1962	4674	4674	0	0.0
1963	2850	2850	0	0.0
1964	1740	1740	0	0.0
1965	4937	4937	0	0.0
1966	3506	3506	0	0.0
1967	7662	7662	0	0.0
1968	3355	3355	0	0.0
1969	18633	18633	0	0.0
1970	7910	7910	0	0.0
1971	3501	3501	0	0.0
1972	1895	1895	0	0.0
1973	8790	8790	0	0.0
1974	7860	7860	0	0.0
1975	9823	9823	0	0.0
1976	1845	1845	0	0.0
1977	1333	1333	0	0.0
1978	9615	9615	0	0.0
1979	9451	9451	0	0.0
1980	13803	13803	0	0.0
1981	3816	3816	0	0.0
1982	16797	16797	0	0.0
1983	40978	40978	0	0.0
1984	6301	6301	0	0.0
1985	2323	2323	0	0.0
1986	24371	24371	0	0.0
1987	2085	2085	0	0.0
1988	1326	1326	0	0.0
1989	1733	1733	0	0.0
1990	1420	1420	0	0.0
1991	2624	2624	0	0.0
1992	2013	2013	0	0.0
1993	5139	5139	0	0.0
Mean:	6361	6361	0	0.0
Median:	3772	3772	0	0.0
Min:	1304	1304	0	0.0
Max:	40978	40978	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	7081	7081	0	0.0
1923	6294	6294	0	0.0
1924	1786	1786	0	0.0
1925	4649	4649	0	0.0
1926	3578	3578	0	0.0
1927	5887	5887	0	0.0
1928	5881	5881	0	0.0
1929	2446	2446	0	0.0
1930	2274	2274	0	0.0
1931	1453	1453	0	0.0
1932	4828	4828	0	0.0
1933	2534	2534	0	0.0
1934	1739	1739	0	0.0
1935	6552	6552	0	0.0
1936	7078	7078	0	0.0
1937	9227	9227	0	0.0
1938	17661	17661	0	0.0
1939	4654	4654	0	0.0
1940	6900	6900	0	0.0
1941	10292	10292	0	0.0
1942	7138	7138	0	0.0
1943	7936	7936	0	0.0
1944	5352	5352	0	0.0
1945	7007	7007	0	0.0
1946	6046	6046	0	0.0
1947	2595	2595	0	0.0
1948	3979	3979	0	0.0
1949	3672	3672	0	0.0
1950	3660	3660	0	0.0
1951	5653	5653	0	0.0
1952	9959	9959	0	0.0
1953	4848	4848	0	0.0
1954	4968	4968	0	0.0
1955	2574	2574	0	0.0
1956	6127	6127	0	0.0
1957	4617	4617	0	0.0
1958	16015	16015	0	0.0
1959	4266	4266	0	0.0
1960	2564	2564	0	0.0
1961	1596	1596	0	0.0
1962	4791	4791	0	0.0
1963	6106	6106	0	0.0
1964	2485	2485	0	0.0
1965	7101	7101	0	0.0
1966	4153	4153	0	0.0
1967	13580	13580	0	0.0
1968	4427	4427	0	0.0
1969	18677	18677	0	0.0
1970	5882	5882	0	0.0
1971	4602	4602	0	0.0
1972	2589	2589	0	0.0
1973	6834	6834	0	0.0
1974	9177	9177	0	0.0
1975	7187	7187	0	0.0
1976	2534	2534	0	0.0
1977	1754	1754	0	0.0
1978	13012	13012	0	0.0
1979	6430	6430	0	0.0
1980	7835	7835	0	0.0
1981	4518	4518	0	0.0
1982	25597	25597	0	0.0
1983	20486	20486	0	0.0
1984	5649	5649	0	0.0
1985	3331	3331	0	0.0
1986	12119	12119	0	0.0
1987	2549	2549	0	0.0
1988	1782	1782	0	0.0
1989	1779	1779	0	0.0
1990	1631	1631	0	0.0
1991	2307	2307	0	0.0
1992	1992	1992	0	0.0
1993	4878	4878	0	0.0
Mean:	6127	6127	0	0.0
Median:	4863	4863	0	0.0
Min:	1453	1453	0	0.0
Max:	25597	25597	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	7314	7314	0	0.0
1923	5376	5376	0	0.0
1924	1636	1636	0	0.0
1925	4138	4138	0	0.0
1926	3112	3112	0	0.0
1927	5008	5008	0	0.0
1928	4183	4183	0	0.0
1929	2257	2257	0	0.0
1930	2050	2050	0	0.0
1931	1228	1228	0	0.0
1932	4000	4000	0	0.0
1933	2320	2320	0	0.0
1934	1540	1540	0	0.0
1935	5645	5645	0	0.0
1936	5411	5411	0	0.0
1937	9048	9048	0	0.0
1938	21403	21403	0	0.0
1939	4033	4033	0	0.0
1940	5472	5472	0	0.0
1941	8914	8914	0	0.0
1942	6544	6544	0	0.0
1943	7172	7172	0	0.0
1944	4834	4834	0	0.0
1945	5582	5582	0	0.0
1946	5317	5317	0	0.0
1947	2421	2421	0	0.0
1948	3617	3617	0	0.0
1949	3369	3369	0	0.0
1950	3268	3268	0	0.0
1951	5302	5302	0	0.0
1952	13314	13314	0	0.0
1953	4490	4490	0	0.0
1954	4403	4403	0	0.0
1955	2455	2455	0	0.0
1956	5361	5361	0	0.0
1957	4534	4534	0	0.0
1958	12429	12429	0	0.0
1959	3274	3274	0	0.0
1960	2343	2343	0	0.0
1961	1399	1399	0	0.0
1962	3959	3959	0	0.0
1963	5384	5384	0	0.0
1964	2309	2309	0	0.0
1965	5618	5618	0	0.0
1966	3392	3392	0	0.0
1967	13334	13334	0	0.0
1968	3348	3348	0	0.0
1969	23543	23543	0	0.0
1970	5419	5419	0	0.0
1971	4401	4401	0	0.0
1972	2492	2492	0	0.0
1973	5601	5601	0	0.0
1974	6287	6287	0	0.0
1975	5987	5987	0	0.0
1976	2339	2339	0	0.0
1977	1628	1628	0	0.0
1978	11054	11054	0	0.0
1979	5677	5677	0	0.0
1980	6231	6231	0	0.0
1981	3689	3689	0	0.0
1982	16246	16246	0	0.0
1983	19889	19889	0	0.0
1984	5251	5251	0	0.0
1985	3534	3534	0	0.0
1986	7856	7856	0	0.0
1987	2362	2362	0	0.0
1988	1650	1650	0	0.0
1989	1497	1497	0	0.0
1990	1378	1378	0	0.0
1991	1769	1769	0	0.0
1992	1407	1407	0	0.0
1993	4689	4689	0	0.0
Mean:	5482	5482	0	0.0
Median:	4447	4447	0	0.0
Min:	1228	1228	0	0.0
Max:	23543	23543	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	12006	12006	0	0.0
1923	2715	2715	0	0.0
1924	1287	1287	0	0.0
1925	2195	2195	0	0.0
1926	1600	1600	0	0.0
1927	2403	2403	0	0.0
1928	1908	1908	0	0.0
1929	1375	1375	0	0.0
1930	1320	1320	0	0.0
1931	1127	1127	0	0.0
1932	2033	2033	0	0.0
1933	1311	1311	0	0.0
1934	1112	1112	0	0.0
1935	3022	3022	0	0.0
1936	2397	2397	0	0.0
1937	2682	2682	0	0.0
1938	19564	19564	0	0.0
1939	1930	1930	0	0.0
1940	2697	2697	0	0.0
1941	6467	6467	0	0.0
1942	5429	5429	0	0.0
1943	3214	3214	0	0.0
1944	2356	2356	0	0.0
1945	2745	2745	0	0.0
1946	2685	2685	0	0.0
1947	1740	1740	0	0.0
1948	2323	2323	0	0.0
1949	1833	1833	0	0.0
1950	1820	1820	0	0.0
1951	2589	2589	0	0.0
1952	13637	13637	0	0.0
1953	2472	2472	0	0.0
1954	2032	2032	0	0.0
1955	1763	1763	0	0.0
1956	5577	5577	0	0.0
1957	2451	2451	0	0.0
1958	10077	10077	0	0.0
1959	1747	1747	0	0.0
1960	1528	1528	0	0.0
1961	1451	1451	0	0.0
1962	1756	1756	0	0.0
1963	3036	3036	0	0.0
1964	1489	1489	0	0.0
1965	3042	3042	0	0.0
1966	1876	1876	0	0.0
1967	16340	16340	0	0.0
1968	1798	1798	0	0.0
1969	24730	24730	0	0.0
1970	2644	2644	0	0.0
1971	2330	2330	0	0.0
1972	1613	1613	0	0.0
1973	2315	2315	0	0.0
1974	3539	3539	0	0.0
1975	4985	4985	0	0.0
1976	1551	1551	0	0.0
1977	1275	1275	0	0.0
1978	11392	11392	0	0.0
1979	2273	2273	0	0.0
1980	5883	5883	0	0.0
1981	1801	1801	0	0.0
1982	10018	10018	0	0.0
1983	34904	34904	0	0.0
1984	2761	2761	0	0.0
1985	1785	1785	0	0.0
1986	6863	6863	0	0.0
1987	1592	1592	0	0.0
1988	1334	1334	0	0.0
1989	1336	1336	0	0.0
1990	1223	1223	0	0.0
1991	1201	1201	0	0.0
1992	1150	1150	0	0.0
1993	3319	3319	0	0.0
Mean:	4219	4219	0	0.0
Median:	2319	2319	0	0.0
Min:	1112	1112	0	0.0
Max:	34904	34904	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2288	2288	0	0.0
1923	2194	2194	0	0.0
1924	1223	1223	0	0.0
1925	1854	1854	0	0.0
1926	1428	1428	0	0.0
1927	1952	1952	0	0.0
1928	1720	1720	0	0.0
1929	1297	1297	0	0.0
1930	1242	1242	0	0.0
1931	896	896	0	0.0
1932	1811	1811	0	0.0
1933	1128	1128	0	0.0
1934	1013	1013	0	0.0
1935	2131	2131	0	0.0
1936	2015	2015	0	0.0
1937	2183	2183	0	0.0
1938	3673	3673	0	0.0
1939	1838	1838	0	0.0
1940	2193	2193	0	0.0
1941	2494	2494	0	0.0
1942	2902	2902	0	0.0
1943	2668	2668	0	0.0
1944	2280	2280	0	0.0
1945	2431	2431	0	0.0
1946	2316	2316	0	0.0
1947	1661	1661	0	0.0
1948	1867	1867	0	0.0
1949	1781	1781	0	0.0
1950	1683	1683	0	0.0
1951	1969	1969	0	0.0
1952	3386	3386	0	0.0
1953	2036	2036	0	0.0
1954	1984	1984	0	0.0
1955	1684	1684	0	0.0
1956	2473	2473	0	0.0
1957	1957	1957	0	0.0
1958	2777	2777	0	0.0
1959	1694	1694	0	0.0
1960	1401	1401	0	0.0
1961	1094	1094	0	0.0
1962	1625	1625	0	0.0
1963	2277	2277	0	0.0
1964	1387	1387	0	0.0
1965	2165	2165	0	0.0
1966	1838	1838	0	0.0
1967	9186	9186	0	0.0
1968	1753	1753	0	0.0
1969	4227	4227	0	0.0
1970	2106	2106	0	0.0
1971	2074	2074	0	0.0
1972	1565	1565	0	0.0
1973	2071	2071	0	0.0
1974	2307	2307	0	0.0
1975	2471	2471	0	0.0
1976	1469	1469	0	0.0
1977	921	921	0	0.0
1978	2628	2628	0	0.0
1979	1983	1983	0	0.0
1980	4042	4042	0	0.0
1981	1759	1759	0	0.0
1982	3879	3879	0	0.0
1983	17960	17960	0	0.0
1984	2358	2358	0	0.0
1985	1670	1670	0	0.0
1986	2503	2503	0	0.0
1987	1553	1553	0	0.0
1988	1172	1172	0	0.0
1989	1357	1357	0	0.0
1990	1213	1213	0	0.0
1991	1112	1112	0	0.0
1992	1221	1221	0	0.0
1993	2146	2146	0	0.0
Mean:	2314	2314	0	0.0
Median:	1963	1963	0	0.0
Min:	896	896	0	0.0
Max:	17960	17960	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2169	2169	0	0.0
1923	2106	2106	0	0.0
1924	1001	1001	0	0.0
1925	1720	1720	0	0.0
1926	1005	1005	0	0.0
1927	1779	1779	0	0.0
1928	1640	1640	0	0.0
1929	893	893	0	0.0
1930	856	856	0	0.0
1931	834	834	0	0.0
1932	1688	1688	0	0.0
1933	1053	1053	0	0.0
1934	741	741	0	0.0
1935	1822	1822	0	0.0
1936	1843	1843	0	0.0
1937	1955	1955	0	0.0
1938	2335	2335	0	0.0
1939	1792	1792	0	0.0
1940	2108	2108	0	0.0
1941	2280	2280	0	0.0
1942	2424	2424	0	0.0
1943	2356	2356	0	0.0
1944	2207	2207	0	0.0
1945	2340	2340	0	0.0
1946	2233	2233	0	0.0
1947	1082	1082	0	0.0
1948	1760	1760	0	0.0
1949	1718	1718	0	0.0
1950	1636	1636	0	0.0
1951	1836	1836	0	0.0
1952	2279	2279	0	0.0
1953	1937	1937	0	0.0
1954	1900	1900	0	0.0
1955	1166	1166	0	0.0
1956	2126	2126	0	0.0
1957	1836	1836	0	0.0
1958	2379	2379	0	0.0
1959	1625	1625	0	0.0
1960	877	877	0	0.0
1961	849	849	0	0.0
1962	1551	1551	0	0.0
1963	1929	1929	0	0.0
1964	981	981	0	0.0
1965	1908	1908	0	0.0
1966	1772	1772	0	0.0
1967	2186	2186	0	0.0
1968	1677	1677	0	0.0
1969	2244	2244	0	0.0
1970	2032	2032	0	0.0
1971	1982	1982	0	0.0
1972	1516	1516	0	0.0
1973	1980	1980	0	0.0
1974	2101	2101	0	0.0
1975	2164	2164	0	0.0
1976	1457	1457	0	0.0
1977	717	717	0	0.0
1978	1956	1956	0	0.0
1979	1886	1886	0	0.0
1980	2100	2100	0	0.0
1981	1692	1692	0	0.0
1982	2273	2273	0	0.0
1983	2148	2148	0	0.0
1984	2254	2254	0	0.0
1985	1594	1594	0	0.0
1986	2264	2264	0	0.0
1987	1445	1445	0	0.0
1988	736	736	0	0.0
1989	851	851	0	0.0
1990	756	756	0	0.0
1991	943	943	0	0.0
1992	862	862	0	0.0
1993	1949	1949	0	0.0
Mean:	1696	1696	0	0.0
Median:	1829	1829	0	0.0
Min:	717	717	0	0.0
Max:	2424	2424	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Delta Inflow, San Joaquin River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2102	2102	0	0.0
1923	2022	2022	0	0.0
1924	1136	1136	0	0.0
1925	1760	1760	0	0.0
1926	1283	1283	0	0.0
1927	1735	1735	0	0.0
1928	1651	1651	0	0.0
1929	1153	1153	0	0.0
1930	1138	1138	0	0.0
1931	1015	1015	0	0.0
1932	1733	1733	0	0.0
1933	1176	1176	0	0.0
1934	1000	1000	0	0.0
1935	1883	1883	0	0.0
1936	1906	1906	0	0.0
1937	2015	2015	0	0.0
1938	3013	3013	0	0.0
1939	1692	1692	0	0.0
1940	2063	2063	0	0.0
1941	2108	2108	0	0.0
1942	2313	2313	0	0.0
1943	2324	2324	0	0.0
1944	1979	1979	0	0.0
1945	2127	2127	0	0.0
1946	2081	2081	0	0.0
1947	1337	1337	0	0.0
1948	1778	1778	0	0.0
1949	1716	1716	0	0.0
1950	1684	1684	0	0.0
1951	1965	1965	0	0.0
1952	2701	2701	0	0.0
1953	1837	1837	0	0.0
1954	1806	1806	0	0.0
1955	1327	1327	0	0.0
1956	2507	2507	0	0.0
1957	1810	1810	0	0.0
1958	2588	2588	0	0.0
1959	1645	1645	0	0.0
1960	1210	1210	0	0.0
1961	1207	1207	0	0.0
1962	1632	1632	0	0.0
1963	1935	1935	0	0.0
1964	1253	1253	0	0.0
1965	1957	1957	0	0.0
1966	1709	1709	0	0.0
1967	3327	3327	0	0.0
1968	1665	1665	0	0.0
1969	2974	2974	0	0.0
1970	2043	2043	0	0.0
1971	1838	1838	0	0.0
1972	1564	1564	0	0.0
1973	2006	2006	0	0.0
1974	2171	2171	0	0.0
1975	2213	2213	0	0.0
1976	1330	1330	0	0.0
1977	1045	1045	0	0.0
1978	2718	2718	0	0.0
1979	1976	1976	0	0.0
1980	2985	2985	0	0.0
1981	1668	1668	0	0.0
1982	4330	4330	0	0.0
1983	6728	6728	0	0.0
1984	2090	2090	0	0.0
1985	1645	1645	0	0.0
1986	2284	2284	0	0.0
1987	1265	1265	0	0.0
1988	1105	1105	0	0.0
1989	1226	1226	0	0.0
1990	1143	1143	0	0.0
1991	1087	1087	0	0.0
1992	1148	1148	0	0.0
1993	1862	1862	0	0.0
Mean:	1909	1909	0	0.0
Median:	1808	1808	0	0.0
Min:	1000	1000	0	0.0
Max:	6728	6728	0	0.0
Difference = 0			72	72
Difference > 0			0	0
Difference < 0			0	0
0.0% > Rel Dif >= -1.0%				0.0
-1.0% > Rel Dif >= -5.0%				0.0
-5.0% > Rel Dif >= -10.0%				0.0
-10.0% > Rel Dif >= -20.0%				0.0
-20.0% > Rel Dif >= -30.0%				0.0
-30.0% > Rel Dif >= -40.0%				0.0
Rel Dif < -40.0%				0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1850	1850	0	0.0
1923	1662	1662	0	0.0
1924	1076	1076	0	0.0
1925	396	396	0	0.0
1926	807	807	0	0.0
1927	727	727	0	0.0
1928	1474	1474	0	0.0
1929	1407	1407	0	0.0
1930	1000	1000	0	0.0
1931	823	823	0	0.0
1932	410	410	0	0.0
1933	567	567	0	0.0
1934	500	500	0	0.0
1935	313	313	0	0.0
1936	648	648	0	0.0
1937	725	725	0	0.0
1938	871	871	0	0.0
1939	1850	1850	0	0.0
1940	1300	1300	0	0.0
1941	1565	1565	0	0.0
1942	1850	1850	0	0.0
1943	1850	1850	0	0.0
1944	1699	1699	0	0.0
1945	1319	1319	0	0.0
1946	1291	1291	0	0.0
1947	1481	1481	0	0.0
1948	1180	1180	0	0.0
1949	1258	1258	0	0.0
1950	1288	1288	0	0.0
1951	1282	1282	0	0.0
1952	1619	1619	0	0.0
1953	1850	1850	0	0.0
1954	1850	1850	0	0.0
1955	1767	1767	0	0.0
1956	1344	1344	0	0.0
1957	1850	1850	0	0.0
1958	1850	1850	0	0.0
1959	1850	1850	0	0.0
1960	1301	1301	0	0.0
1961	1154	1154	0	0.0
1962	1300	1300	0	0.0
1963	1354	1354	0	0.0
1964	1801	1801	0	0.0
1965	1300	1300	0	0.0
1966	1778	1778	0	0.0
1967	1787	1787	0	0.0
1968	1850	1850	0	0.0
1969	1430	1430	0	0.0
1970	1850	1850	0	0.0
1971	1408	1408	0	0.0
1972	1850	1850	0	0.0
1973	1628	1628	0	0.0
1974	1850	1850	0	0.0
1975	1850	1850	0	0.0
1976	1850	1850	0	0.0
1977	1268	1268	0	0.0
1978	389	389	0	0.0
1979	1357	1357	0	0.0
1980	1373	1373	0	0.0
1981	1673	1673	0	0.0
1982	1410	1410	0	0.0
1983	1850	1850	0	0.0
1984	1850	1850	0	0.0
1985	1687	1687	0	0.0
1986	1300	1300	0	0.0
1987	1365	1365	0	0.0
1988	963	963	0	0.0
1989	921	921	0	0.0
1990	948	948	0	0.0
1991	733	733	0	0.0
1992	642	642	0	0.0
1993	689	689	0	0.0
Mean:	1336	1336	0	0.0
Median:	1361	1361	0	0.0
Min:	313	313	0	0.0
Max:	1850	1850	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1837	1837	0	0.0
1923	1648	1648	0	0.0
1924	1056	1056	0	0.0
1925	471	471	0	0.0
1926	801	801	0	0.0
1927	883	883	0	0.0
1928	1532	1532	0	0.0
1929	1398	1398	0	0.0
1930	974	974	0	0.0
1931	808	808	0	0.0
1932	388	388	0	0.0
1933	565	565	0	0.0
1934	492	492	0	0.0
1935	378	378	0	0.0
1936	637	637	0	0.0
1937	708	708	0	0.0
1938	1012	1012	0	0.0
1939	1850	1850	0	0.0
1940	1275	1275	0	0.0
1941	1561	1561	0	0.0
1942	1850	1850	0	0.0
1943	1850	1850	0	0.0
1944	1694	1694	0	0.0
1945	1336	1336	0	0.0
1946	1331	1331	0	0.0
1947	1490	1490	0	0.0
1948	1182	1182	0	0.0
1949	1265	1265	0	0.0
1950	1270	1270	0	0.0
1951	1397	1397	0	0.0
1952	1640	1640	0	0.0
1953	1845	1845	0	0.0
1954	1850	1850	0	0.0
1955	1803	1803	0	0.0
1956	1343	1343	0	0.0
1957	1850	1850	0	0.0
1958	1850	1850	0	0.0
1959	1850	1850	0	0.0
1960	1278	1278	0	0.0
1961	1148	1148	0	0.0
1962	1294	1294	0	0.0
1963	1406	1406	0	0.0
1964	1850	1850	0	0.0
1965	1300	1300	0	0.0
1966	1850	1850	0	0.0
1967	1850	1850	0	0.0
1968	1850	1850	0	0.0
1969	1440	1440	0	0.0
1970	1850	1850	0	0.0
1971	1528	1528	0	0.0
1972	1850	1850	0	0.0
1973	1653	1653	0	0.0
1974	1850	1850	0	0.0
1975	1849	1849	0	0.0
1976	1850	1850	0	0.0
1977	1248	1248	0	0.0
1978	420	420	0	0.0
1979	1339	1339	0	0.0
1980	1423	1423	0	0.0
1981	1650	1650	0	0.0
1982	1653	1653	0	0.0
1983	1850	1850	0	0.0
1984	1850	1850	0	0.0
1985	1815	1815	0	0.0
1986	1280	1280	0	0.0
1987	1344	1344	0	0.0
1988	940	940	0	0.0
1989	962	962	0	0.0
1990	944	944	0	0.0
1991	719	719	0	0.0
1992	631	631	0	0.0
1993	649	649	0	0.0
Mean:	1353	1353	0	0.0
Median:	1398	1398	0	0.0
Min:	378	378	0	0.0
Max:	1850	1850	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1839	1839	0	0.0
1923	1651	1651	0	0.0
1924	1041	1041	0	0.0
1925	512	512	0	0.0
1926	820	820	0	0.0
1927	1078	1078	0	0.0
1928	1550	1550	0	0.0
1929	1389	1389	0	0.0
1930	1000	1000	0	0.0
1931	799	799	0	0.0
1932	388	388	0	0.0
1933	563	563	0	0.0
1934	501	501	0	0.0
1935	415	415	0	0.0
1936	640	640	0	0.0
1937	693	693	0	0.0
1938	1232	1232	0	0.0
1939	1850	1850	0	0.0
1940	1300	1300	0	0.0
1941	1700	1700	0	0.0
1942	1850	1850	0	0.0
1943	1850	1850	0	0.0
1944	1689	1689	0	0.0
1945	1401	1401	0	0.0
1946	1522	1522	0	0.0
1947	1502	1502	0	0.0
1948	1174	1174	0	0.0
1949	1269	1269	0	0.0
1950	1261	1261	0	0.0
1951	1655	1655	0	0.0
1952	1787	1787	0	0.0
1953	1850	1850	0	0.0
1954	1850	1850	0	0.0
1955	1850	1850	0	0.0
1956	1651	1651	0	0.0
1957	1849	1849	0	0.0
1958	1850	1850	0	0.0
1959	1841	1841	0	0.0
1960	1252	1252	0	0.0
1961	1237	1237	0	0.0
1962	1326	1326	0	0.0
1963	1580	1580	0	0.0
1964	1850	1850	0	0.0
1965	1836	1836	0	0.0
1966	1850	1850	0	0.0
1967	1850	1850	0	0.0
1968	1850	1850	0	0.0
1969	1500	1500	0	0.0
1970	1850	1850	0	0.0
1971	1659	1659	0	0.0
1972	1850	1850	0	0.0
1973	1762	1762	0	0.0
1974	1850	1850	0	0.0
1975	1850	1850	0	0.0
1976	1850	1850	0	0.0
1977	1231	1231	0	0.0
1978	619	619	0	0.0
1979	1335	1335	0	0.0
1980	1477	1477	0	0.0
1981	1681	1681	0	0.0
1982	1850	1850	0	0.0
1983	1850	1850	0	0.0
1984	1850	1850	0	0.0
1985	1850	1850	0	0.0
1986	1281	1281	0	0.0
1987	1331	1331	0	0.0
1988	1109	1109	0	0.0
1989	966	966	0	0.0
1990	935	935	0	0.0
1991	702	702	0	0.0
1992	627	627	0	0.0
1993	672	672	0	0.0
Mean:	1400	1400	0	0.0
Median:	1512	1512	0	0.0
Min:	388	388	0	0.0
Max:	1850	1850	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1836	1836	0	0.0
1923	1668	1668	0	0.0
1924	1000	1000	0	0.0
1925	564	564	0	0.0
1926	821	821	0	0.0
1927	1186	1186	0	0.0
1928	1607	1607	0	0.0
1929	1385	1385	0	0.0
1930	1007	1007	0	0.0
1931	808	808	0	0.0
1932	400	400	0	0.0
1933	560	560	0	0.0
1934	563	563	0	0.0
1935	456	456	0	0.0
1936	754	754	0	0.0
1937	684	684	0	0.0
1938	1329	1329	0	0.0
1939	1861	1861	0	0.0
1940	1465	1465	0	0.0
1941	1900	1900	0	0.0
1942	1900	1900	0	0.0
1943	1900	1900	0	0.0
1944	1692	1692	0	0.0
1945	1455	1455	0	0.0
1946	1653	1653	0	0.0
1947	1494	1494	0	0.0
1948	1357	1357	0	0.0
1949	1262	1262	0	0.0
1950	1278	1278	0	0.0
1951	1745	1745	0	0.0
1952	1846	1846	0	0.0
1953	1900	1900	0	0.0
1954	1900	1900	0	0.0
1955	1868	1868	0	0.0
1956	1900	1900	0	0.0
1957	1847	1847	0	0.0
1958	1900	1900	0	0.0
1959	1900	1900	0	0.0
1960	1251	1251	0	0.0
1961	1269	1269	0	0.0
1962	1330	1330	0	0.0
1963	1621	1621	0	0.0
1964	1900	1900	0	0.0
1965	1900	1900	0	0.0
1966	1900	1900	0	0.0
1967	1900	1900	0	0.0
1968	1900	1900	0	0.0
1969	1644	1644	0	0.0
1970	1900	1900	0	0.0
1971	1894	1894	0	0.0
1972	1900	1900	0	0.0
1973	1900	1900	0	0.0
1974	1900	1900	0	0.0
1975	1873	1873	0	0.0
1976	1861	1861	0	0.0
1977	1212	1212	0	0.0
1978	1020	1020	0	0.0
1979	1357	1357	0	0.0
1980	1706	1706	0	0.0
1981	1788	1788	0	0.0
1982	1900	1900	0	0.0
1983	1900	1900	0	0.0
1984	1900	1900	0	0.0
1985	1876	1876	0	0.0
1986	1399	1399	0	0.0
1987	1341	1341	0	0.0
1988	1178	1178	0	0.0
1989	979	979	0	0.0
1990	994	994	0	0.0
1991	691	691	0	0.0
1992	635	635	0	0.0
1993	734	734	0	0.0
Mean:	1460	1460	0	0.0
Median:	1633	1633	0	0.0
Min:	400	400	0	0.0
Max:	1900	1900	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1850	1850	0	0.0
1923	1691	1691	0	0.0
1924	1000	1000	0	0.0
1925	835	835	0	0.0
1926	965	965	0	0.0
1927	1424	1424	0	0.0
1928	1716	1716	0	0.0
1929	1401	1401	0	0.0
1930	1106	1106	0	0.0
1931	827	827	0	0.0
1932	422	422	0	0.0
1933	560	560	0	0.0
1934	653	653	0	0.0
1935	540	540	0	0.0
1936	889	889	0	0.0
1937	688	688	0	0.0
1938	1485	1485	0	0.0
1939	1875	1875	0	0.0
1940	1791	1791	0	0.0
1941	2000	2000	0	0.0
1942	2000	2000	0	0.0
1943	2000	2000	0	0.0
1944	1735	1735	0	0.0
1945	1621	1621	0	0.0
1946	1708	1708	0	0.0
1947	1546	1546	0	0.0
1948	1371	1371	0	0.0
1949	1294	1294	0	0.0
1950	1326	1326	0	0.0
1951	1966	1966	0	0.0
1952	2000	2000	0	0.0
1953	2000	2000	0	0.0
1954	2000	2000	0	0.0
1955	1897	1897	0	0.0
1956	2000	2000	0	0.0
1957	2000	2000	0	0.0
1958	2011	2011	0	0.0
1959	2000	2000	0	0.0
1960	1385	1385	0	0.0
1961	1491	1491	0	0.0
1962	1464	1464	0	0.0
1963	1916	1916	0	0.0
1964	1947	1947	0	0.0
1965	1991	1991	0	0.0
1966	1968	1968	0	0.0
1967	2000	2000	0	0.0
1968	2000	2000	0	0.0
1969	1769	1769	0	0.0
1970	2000	2000	0	0.0
1971	2000	2000	0	0.0
1972	2000	2000	0	0.0
1973	2000	2000	0	0.0
1974	2000	2000	0	0.0
1975	1970	1970	0	0.0
1976	1894	1894	0	0.0
1977	1205	1205	0	0.0
1978	1205	1205	0	0.0
1979	1411	1411	0	0.0
1980	2000	2000	0	0.0
1981	1927	1927	0	0.0
1982	2000	2000	0	0.0
1983	2000	2000	0	0.0
1984	1998	1998	0	0.0
1985	1915	1915	0	0.0
1986	1884	1884	0	0.0
1987	1418	1418	0	0.0
1988	1258	1258	0	0.0
1989	996	996	0	0.0
1990	1014	1014	0	0.0
1991	700	700	0	0.0
1992	774	774	0	0.0
1993	873	873	0	0.0
Mean:	1563	1563	0	0.0
Median:	1752	1752	0	0.0
Min:	422	422	0	0.0
Max:	2011	2011	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1900	1900	0	0.0
1923	1751	1751	0	0.0
1924	997	997	0	0.0
1925	970	970	0	0.0
1926	1079	1079	0	0.0
1927	1602	1602	0	0.0
1928	1923	1923	0	0.0
1929	1449	1449	0	0.0
1930	1222	1222	0	0.0
1931	884	884	0	0.0
1932	574	574	0	0.0
1933	677	677	0	0.0
1934	809	809	0	0.0
1935	601	601	0	0.0
1936	1006	1006	0	0.0
1937	793	793	0	0.0
1938	1746	1746	0	0.0
1939	1977	1977	0	0.0
1940	2093	2093	0	0.0
1941	2100	2100	0	0.0
1942	2078	2078	0	0.0
1943	2100	2100	0	0.0
1944	1803	1803	0	0.0
1945	1674	1674	0	0.0
1946	1837	1837	0	0.0
1947	1667	1667	0	0.0
1948	1396	1396	0	0.0
1949	1510	1510	0	0.0
1950	1448	1448	0	0.0
1951	2069	2069	0	0.0
1952	2100	2100	0	0.0
1953	2100	2100	0	0.0
1954	2100	2100	0	0.0
1955	1923	1923	0	0.0
1956	2100	2100	0	0.0
1957	2100	2100	0	0.0
1958	2100	2100	0	0.0
1959	2100	2100	0	0.0
1960	1563	1563	0	0.0
1961	1619	1619	0	0.0
1962	1540	1540	0	0.0
1963	1994	1994	0	0.0
1964	1990	1990	0	0.0
1965	2064	2064	0	0.0
1966	2100	2100	0	0.0
1967	2100	2100	0	0.0
1968	2100	2100	0	0.0
1969	1930	1930	0	0.0
1970	2100	2100	0	0.0
1971	2100	2100	0	0.0
1972	2100	2100	0	0.0
1973	2100	2100	0	0.0
1974	2100	2100	0	0.0
1975	2100	2100	0	0.0
1976	1946	1946	0	0.0
1977	1191	1191	0	0.0
1978	1492	1492	0	0.0
1979	1560	1560	0	0.0
1980	2100	2100	0	0.0
1981	2053	2053	0	0.0
1982	2100	2100	0	0.0
1983	2100	2100	0	0.0
1984	2100	2100	0	0.0
1985	1962	1962	0	0.0
1986	2100	2100	0	0.0
1987	1621	1621	0	0.0
1988	1333	1333	0	0.0
1989	1339	1339	0	0.0
1990	1091	1091	0	0.0
1991	772	772	0	0.0
1992	910	910	0	0.0
1993	1244	1244	0	0.0
Mean:	1680	1680	0	0.0
Median:	1912	1912	0	0.0
Min:	574	574	0	0.0
Max:	2100	2100	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1998	1998	0	0.0
1923	1865	1865	0	0.0
1924	980	980	0	0.0
1925	1267	1267	0	0.0
1926	1288	1288	0	0.0
1927	1830	1830	0	0.0
1928	2069	2069	0	0.0
1929	1468	1468	0	0.0
1930	1330	1330	0	0.0
1931	916	916	0	0.0
1932	664	664	0	0.0
1933	823	823	0	0.0
1934	905	905	0	0.0
1935	815	815	0	0.0
1936	1167	1167	0	0.0
1937	1013	1013	0	0.0
1938	2054	2054	0	0.0
1939	2053	2053	0	0.0
1940	2300	2300	0	0.0
1941	2300	2300	0	0.0
1942	2271	2271	0	0.0
1943	2281	2281	0	0.0
1944	1840	1840	0	0.0
1945	1808	1808	0	0.0
1946	2059	2059	0	0.0
1947	1752	1752	0	0.0
1948	1568	1568	0	0.0
1949	1769	1769	0	0.0
1950	1603	1603	0	0.0
1951	2248	2248	0	0.0
1952	2300	2300	0	0.0
1953	2300	2300	0	0.0
1954	2300	2300	0	0.0
1955	1966	1966	0	0.0
1956	2300	2300	0	0.0
1957	2210	2210	0	0.0
1958	2300	2300	0	0.0
1959	2272	2272	0	0.0
1960	1682	1682	0	0.0
1961	1763	1763	0	0.0
1962	1766	1766	0	0.0
1963	2262	2262	0	0.0
1964	2023	2023	0	0.0
1965	2299	2299	0	0.0
1966	2300	2300	0	0.0
1967	2211	2211	0	0.0
1968	2202	2202	0	0.0
1969	2266	2266	0	0.0
1970	2165	2165	0	0.0
1971	2282	2282	0	0.0
1972	2247	2247	0	0.0
1973	2288	2288	0	0.0
1974	2300	2300	0	0.0
1975	2216	2216	0	0.0
1976	2032	2032	0	0.0
1977	1000	1000	0	0.0
1978	1692	1692	0	0.0
1979	1686	1686	0	0.0
1980	2260	2260	0	0.0
1981	2160	2160	0	0.0
1982	2300	2300	0	0.0
1983	2300	2300	0	0.0
1984	2215	2215	0	0.0
1985	2108	2108	0	0.0
1986	2228	2228	0	0.0
1987	1774	1774	0	0.0
1988	1419	1419	0	0.0
1989	1533	1533	0	0.0
1990	1125	1125	0	0.0
1991	828	828	0	0.0
1992	1139	1139	0	0.0
1993	1439	1439	0	0.0
Mean:	1830	1830	0	0.0
Median:	2028	2028	0	0.0
Min:	664	664	0	0.0
Max:	2300	2300	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2046	2046	0	0.0
1923	1798	1798	0	0.0
1924	895	895	0	0.0
1925	1252	1252	0	0.0
1926	1168	1168	0	0.0
1927	1821	1821	0	0.0
1928	2004	2004	0	0.0
1929	1484	1484	0	0.0
1930	1217	1217	0	0.0
1931	868	868	0	0.0
1932	687	687	0	0.0
1933	795	795	0	0.0
1934	873	873	0	0.0
1935	836	836	0	0.0
1936	1097	1097	0	0.0
1937	1162	1162	0	0.0
1938	2229	2229	0	0.0
1939	1939	1939	0	0.0
1940	2236	2236	0	0.0
1941	2420	2420	0	0.0
1942	2330	2330	0	0.0
1943	2172	2172	0	0.0
1944	1879	1879	0	0.0
1945	1772	1772	0	0.0
1946	2054	2054	0	0.0
1947	1645	1645	0	0.0
1948	1562	1562	0	0.0
1949	1776	1776	0	0.0
1950	1591	1591	0	0.0
1951	2179	2179	0	0.0
1952	2412	2412	0	0.0
1953	2259	2259	0	0.0
1954	2272	2272	0	0.0
1955	1948	1948	0	0.0
1956	2402	2402	0	0.0
1957	2227	2227	0	0.0
1958	2420	2420	0	0.0
1959	2171	2171	0	0.0
1960	1627	1627	0	0.0
1961	1733	1733	0	0.0
1962	1688	1688	0	0.0
1963	2301	2301	0	0.0
1964	1875	1875	0	0.0
1965	2213	2213	0	0.0
1966	2312	2312	0	0.0
1967	2333	2333	0	0.0
1968	2094	2094	0	0.0
1969	2420	2420	0	0.0
1970	2073	2073	0	0.0
1971	2332	2332	0	0.0
1972	2185	2185	0	0.0
1973	2353	2353	0	0.0
1974	2400	2400	0	0.0
1975	2329	2329	0	0.0
1976	1970	1970	0	0.0
1977	941	941	0	0.0
1978	1709	1709	0	0.0
1979	1748	1748	0	0.0
1980	2173	2173	0	0.0
1981	2066	2066	0	0.0
1982	2311	2311	0	0.0
1983	2420	2420	0	0.0
1984	2178	2178	0	0.0
1985	1983	1983	0	0.0
1986	2122	2122	0	0.0
1987	1713	1713	0	0.0
1988	1343	1343	0	0.0
1989	1426	1426	0	0.0
1990	1067	1067	0	0.0
1991	840	840	0	0.0
1992	1106	1106	0	0.0
1993	1621	1621	0	0.0
Mean:	1818	1818	0	0.0
Median:	1959	1959	0	0.0
Min:	687	687	0	0.0
Max:	2420	2420	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2041	2041	0	0.0
1923	1634	1634	0	0.0
1924	835	835	0	0.0
1925	1141	1141	0	0.0
1926	1068	1068	0	0.0
1927	1849	1849	0	0.0
1928	1858	1858	0	0.0
1929	1415	1415	0	0.0
1930	1163	1163	0	0.0
1931	842	842	0	0.0
1932	698	698	0	0.0
1933	913	913	0	0.0
1934	834	834	0	0.0
1935	841	841	0	0.0
1936	1052	1052	0	0.0
1937	1200	1200	0	0.0
1938	2174	2174	0	0.0
1939	1823	1823	0	0.0
1940	2105	2105	0	0.0
1941	2447	2447	0	0.0
1942	2402	2402	0	0.0
1943	2104	2104	0	0.0
1944	1816	1816	0	0.0
1945	1680	1680	0	0.0
1946	1944	1944	0	0.0
1947	1586	1586	0	0.0
1948	1597	1597	0	0.0
1949	1692	1692	0	0.0
1950	1573	1573	0	0.0
1951	2039	2039	0	0.0
1952	2447	2447	0	0.0
1953	2352	2352	0	0.0
1954	2147	2147	0	0.0
1955	1889	1889	0	0.0
1956	2321	2321	0	0.0
1957	2147	2147	0	0.0
1958	2431	2431	0	0.0
1959	2010	2010	0	0.0
1960	1601	1601	0	0.0
1961	1730	1730	0	0.0
1962	1626	1626	0	0.0
1963	2188	2188	0	0.0
1964	1804	1804	0	0.0
1965	2155	2155	0	0.0
1966	2248	2248	0	0.0
1967	2434	2434	0	0.0
1968	1966	1966	0	0.0
1969	2349	2349	0	0.0
1970	1956	1956	0	0.0
1971	2347	2347	0	0.0
1972	2089	2089	0	0.0
1973	2244	2244	0	0.0
1974	2396	2396	0	0.0
1975	2447	2447	0	0.0
1976	1874	1874	0	0.0
1977	902	902	0	0.0
1978	1665	1665	0	0.0
1979	1716	1716	0	0.0
1980	2063	2063	0	0.0
1981	1991	1991	0	0.0
1982	2179	2179	0	0.0
1983	2447	2447	0	0.0
1984	2072	2072	0	0.0
1985	1892	1892	0	0.0
1986	1972	1972	0	0.0
1987	1564	1564	0	0.0
1988	1316	1316	0	0.0
1989	1307	1307	0	0.0
1990	1079	1079	0	0.0
1991	830	830	0	0.0
1992	1033	1033	0	0.0
1993	1716	1716	0	0.0
Mean:	1768	1768	0	0.0
Median:	1866	1866	0	0.0
Min:	698	698	0	0.0
Max:	2447	2447	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1928	1928	0	0.0
1923	1431	1431	0	0.0
1924	728	728	0	0.0
1925	1023	1023	0	0.0
1926	965	965	0	0.0
1927	1728	1728	0	0.0
1928	1705	1705	0	0.0
1929	1286	1286	0	0.0
1930	1080	1080	0	0.0
1931	740	740	0	0.0
1932	667	667	0	0.0
1933	836	836	0	0.0
1934	732	732	0	0.0
1935	749	749	0	0.0
1936	962	962	0	0.0
1937	1112	1112	0	0.0
1938	2142	2142	0	0.0
1939	1641	1641	0	0.0
1940	1894	1894	0	0.0
1941	2270	2270	0	0.0
1942	2270	2270	0	0.0
1943	1960	1960	0	0.0
1944	1648	1648	0	0.0
1945	1536	1536	0	0.0
1946	1752	1752	0	0.0
1947	1460	1460	0	0.0
1948	1471	1471	0	0.0
1949	1548	1548	0	0.0
1950	1450	1450	0	0.0
1951	1892	1892	0	0.0
1952	2270	2270	0	0.0
1953	2270	2270	0	0.0
1954	2011	2011	0	0.0
1955	1719	1719	0	0.0
1956	2204	2204	0	0.0
1957	2003	2003	0	0.0
1958	2270	2270	0	0.0
1959	1780	1780	0	0.0
1960	1443	1443	0	0.0
1961	1591	1591	0	0.0
1962	1485	1485	0	0.0
1963	2044	2044	0	0.0
1964	1639	1639	0	0.0
1965	2020	2020	0	0.0
1966	2108	2108	0	0.0
1967	2270	2270	0	0.0
1968	1757	1757	0	0.0
1969	2225	2225	0	0.0
1970	1752	1752	0	0.0
1971	2270	2270	0	0.0
1972	1880	1880	0	0.0
1973	2106	2106	0	0.0
1974	2270	2270	0	0.0
1975	2270	2270	0	0.0
1976	1655	1655	0	0.0
1977	797	797	0	0.0
1978	1581	1581	0	0.0
1979	1609	1609	0	0.0
1980	1941	1941	0	0.0
1981	1809	1809	0	0.0
1982	2063	2063	0	0.0
1983	2270	2270	0	0.0
1984	1938	1938	0	0.0
1985	1714	1714	0	0.0
1986	1756	1756	0	0.0
1987	1382	1382	0	0.0
1988	1198	1198	0	0.0
1989	1154	1154	0	0.0
1990	985	985	0	0.0
1991	738	738	0	0.0
1992	943	943	0	0.0
1993	1693	1693	0	0.0
Mean:	1632	1632	0	0.0
Median:	1710	1710	0	0.0
Min:	667	667	0	0.0
Max:	2270	2270	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1805	1805	0	0.0
1923	1216	1216	0	0.0
1924	561	561	0	0.0
1925	924	924	0	0.0
1926	859	859	0	0.0
1927	1615	1615	0	0.0
1928	1554	1554	0	0.0
1929	1164	1164	0	0.0
1930	959	959	0	0.0
1931	571	571	0	0.0
1932	626	626	0	0.0
1933	735	735	0	0.0
1934	566	566	0	0.0
1935	707	707	0	0.0
1936	861	861	0	0.0
1937	998	998	0	0.0
1938	2041	2041	0	0.0
1939	1486	1486	0	0.0
1940	1746	1746	0	0.0
1941	2150	2150	0	0.0
1942	2150	2150	0	0.0
1943	1841	1841	0	0.0
1944	1499	1499	0	0.0
1945	1418	1418	0	0.0
1946	1624	1624	0	0.0
1947	1311	1311	0	0.0
1948	1359	1359	0	0.0
1949	1432	1432	0	0.0
1950	1331	1331	0	0.0
1951	1757	1757	0	0.0
1952	2150	2150	0	0.0
1953	2150	2150	0	0.0
1954	1901	1901	0	0.0
1955	1558	1558	0	0.0
1956	2114	2114	0	0.0
1957	1885	1885	0	0.0
1958	2150	2150	0	0.0
1959	1549	1549	0	0.0
1960	1296	1296	0	0.0
1961	1476	1476	0	0.0
1962	1377	1377	0	0.0
1963	1921	1921	0	0.0
1964	1498	1498	0	0.0
1965	1915	1915	0	0.0
1966	1954	1954	0	0.0
1967	2150	2150	0	0.0
1968	1595	1595	0	0.0
1969	2109	2109	0	0.0
1970	1584	1584	0	0.0
1971	2150	2150	0	0.0
1972	1765	1765	0	0.0
1973	1983	1983	0	0.0
1974	2150	2150	0	0.0
1975	2150	2150	0	0.0
1976	1444	1444	0	0.0
1977	572	572	0	0.0
1978	1471	1471	0	0.0
1979	1486	1486	0	0.0
1980	1821	1821	0	0.0
1981	1681	1681	0	0.0
1982	1948	1948	0	0.0
1983	2150	2150	0	0.0
1984	1825	1825	0	0.0
1985	1547	1547	0	0.0
1986	1527	1527	0	0.0
1987	1195	1195	0	0.0
1988	1079	1079	0	0.0
1989	1034	1034	0	0.0
1990	877	877	0	0.0
1991	699	699	0	0.0
1992	837	837	0	0.0
1993	1582	1582	0	0.0
Mean:	1502	1502	0	0.0
Median:	1548	1548	0	0.0
Min:	561	561	0	0.0
Max:	2150	2150	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1686	1686	0	0.0
1923	1100	1100	0	0.0
1924	432	432	0	0.0
1925	823	823	0	0.0
1926	745	745	0	0.0
1927	1503	1503	0	0.0
1928	1439	1439	0	0.0
1929	1047	1047	0	0.0
1930	845	845	0	0.0
1931	488	488	0	0.0
1932	585	585	0	0.0
1933	572	572	0	0.0
1934	394	394	0	0.0
1935	668	668	0	0.0
1936	749	749	0	0.0
1937	886	886	0	0.0
1938	1975	1975	0	0.0
1939	1339	1339	0	0.0
1940	1591	1591	0	0.0
1941	1975	1975	0	0.0
1942	1975	1975	0	0.0
1943	1725	1725	0	0.0
1944	1354	1354	0	0.0
1945	1303	1303	0	0.0
1946	1511	1511	0	0.0
1947	1167	1167	0	0.0
1948	1266	1266	0	0.0
1949	1318	1318	0	0.0
1950	1189	1189	0	0.0
1951	1642	1642	0	0.0
1952	1975	1975	0	0.0
1953	1975	1975	0	0.0
1954	1794	1794	0	0.0
1955	1418	1418	0	0.0
1956	1975	1975	0	0.0
1957	1776	1776	0	0.0
1958	1975	1975	0	0.0
1959	1333	1333	0	0.0
1960	1182	1182	0	0.0
1961	1333	1333	0	0.0
1962	1264	1264	0	0.0
1963	1804	1804	0	0.0
1964	1362	1362	0	0.0
1965	1808	1808	0	0.0
1966	1848	1848	0	0.0
1967	1975	1975	0	0.0
1968	1455	1455	0	0.0
1969	1975	1975	0	0.0
1970	1436	1436	0	0.0
1971	1975	1975	0	0.0
1972	1647	1647	0	0.0
1973	1872	1872	0	0.0
1974	1975	1975	0	0.0
1975	1975	1975	0	0.0
1976	1303	1303	0	0.0
1977	488	488	0	0.0
1978	1387	1387	0	0.0
1979	1374	1374	0	0.0
1980	1706	1706	0	0.0
1981	1515	1515	0	0.0
1982	1832	1832	0	0.0
1983	1975	1975	0	0.0
1984	1713	1713	0	0.0
1985	1403	1403	0	0.0
1986	1388	1388	0	0.0
1987	1000	1000	0	0.0
1988	958	958	0	0.0
1989	926	926	0	0.0
1990	761	761	0	0.0
1991	659	659	0	0.0
1992	720	720	0	0.0
1993	1532	1532	0	0.0
Mean:	1376	1376	0	0.0
Median:	1396	1396	0	0.0
Min:	394	394	0	0.0
Max:	1975	1975	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2671	2671	0	0.0
1923	2718	2718	0	0.0
1924	2105	2105	0	0.0
1925	550	550	0	0.0
1926	1885	1885	0	0.0
1927	1768	1768	0	0.0
1928	3057	3057	0	0.0
1929	2538	2538	0	0.0
1930	1605	1605	0	0.0
1931	1899	1899	0	0.0
1932	550	550	0	0.0
1933	735	735	0	0.0
1934	650	650	0	0.0
1935	550	550	0	0.0
1936	1696	1696	0	0.0
1937	1984	1984	0	0.0
1938	1932	1932	0	0.0
1939	3250	3250	0	0.0
1940	1868	1868	0	0.0
1941	2611	2611	0	0.0
1942	3250	3250	0	0.0
1943	3250	3250	0	0.0
1944	3033	3033	0	0.0
1945	2500	2500	0	0.0
1946	2942	2942	0	0.0
1947	2679	2679	0	0.0
1948	2189	2189	0	0.0
1949	3172	3172	0	0.0
1950	2760	2760	0	0.0
1951	2885	2885	0	0.0
1952	2677	2677	0	0.0
1953	3250	3250	0	0.0
1954	3250	3250	0	0.0
1955	2873	2873	0	0.0
1956	2500	2500	0	0.0
1957	3250	3250	0	0.0
1958	3229	3229	0	0.0
1959	3250	3250	0	0.0
1960	2032	2032	0	0.0
1961	2403	2403	0	0.0
1962	2376	2376	0	0.0
1963	3246	3246	0	0.0
1964	3250	3250	0	0.0
1965	2250	2250	0	0.0
1966	3021	3021	0	0.0
1967	2466	2466	0	0.0
1968	3250	3250	0	0.0
1969	2522	2522	0	0.0
1970	3250	3250	0	0.0
1971	2487	2487	0	0.0
1972	3250	3250	0	0.0
1973	2762	2762	0	0.0
1974	2952	2952	0	0.0
1975	3250	3250	0	0.0
1976	3250	3250	0	0.0
1977	2547	2547	0	0.0
1978	550	550	0	0.0
1979	3143	3143	0	0.0
1980	2797	2797	0	0.0
1981	2919	2919	0	0.0
1982	2471	2471	0	0.0
1983	3250	3250	0	0.0
1984	3250	3250	0	0.0
1985	2981	2981	0	0.0
1986	2307	2307	0	0.0
1987	2635	2635	0	0.0
1988	1919	1919	0	0.0
1989	1326	1326	0	0.0
1990	2208	2208	0	0.0
1991	1492	1492	0	0.0
1992	1054	1054	0	0.0
1993	650	650	0	0.0
Mean:	2432	2432	0	0.0
Median:	2623	2623	0	0.0
Min:	550	550	0	0.0
Max:	3250	3250	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2658	2658	0	0.0
1923	2790	2790	0	0.0
1924	2038	2038	0	0.0
1925	666	666	0	0.0
1926	1945	1945	0	0.0
1927	2252	2252	0	0.0
1928	3252	3252	0	0.0
1929	2506	2506	0	0.0
1930	1540	1540	0	0.0
1931	1901	1901	0	0.0
1932	550	550	0	0.0
1933	727	727	0	0.0
1934	645	645	0	0.0
1935	650	650	0	0.0
1936	1690	1690	0	0.0
1937	1871	1871	0	0.0
1938	2495	2495	0	0.0
1939	3169	3169	0	0.0
1940	1833	1833	0	0.0
1941	2617	2617	0	0.0
1942	3252	3252	0	0.0
1943	3252	3252	0	0.0
1944	3031	3031	0	0.0
1945	2708	2708	0	0.0
1946	3231	3231	0	0.0
1947	2759	2759	0	0.0
1948	2248	2248	0	0.0
1949	3163	3163	0	0.0
1950	2671	2671	0	0.0
1951	3252	3252	0	0.0
1952	2853	2853	0	0.0
1953	3252	3252	0	0.0
1954	3252	3252	0	0.0
1955	3007	3007	0	0.0
1956	2536	2536	0	0.0
1957	3153	3153	0	0.0
1958	3252	3252	0	0.0
1959	3182	3182	0	0.0
1960	2004	2004	0	0.0
1961	2540	2540	0	0.0
1962	2414	2414	0	0.0
1963	3252	3252	0	0.0
1964	3252	3252	0	0.0
1965	2429	2429	0	0.0
1966	3252	3252	0	0.0
1967	2847	2847	0	0.0
1968	3163	3163	0	0.0
1969	2597	2597	0	0.0
1970	3252	3252	0	0.0
1971	2991	2991	0	0.0
1972	3144	3144	0	0.0
1973	3054	3054	0	0.0
1974	3252	3252	0	0.0
1975	3166	3166	0	0.0
1976	3252	3252	0	0.0
1977	2595	2595	0	0.0
1978	553	553	0	0.0
1979	3153	3153	0	0.0
1980	2972	2972	0	0.0
1981	2894	2894	0	0.0
1982	3252	3252	0	0.0
1983	3252	3252	0	0.0
1984	3252	3252	0	0.0
1985	3252	3252	0	0.0
1986	2343	2343	0	0.0
1987	2604	2604	0	0.0
1988	1928	1928	0	0.0
1989	1547	1547	0	0.0
1990	2251	2251	0	0.0
1991	1470	1470	0	0.0
1992	996	996	0	0.0
1993	650	650	0	0.0
Mean:	2509	2509	0	0.0
Median:	2734	2734	0	0.0
Min:	550	550	0	0.0
Max:	3252	3252	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2739	2739	0	0.0
1923	2928	2928	0	0.0
1924	1994	1994	0	0.0
1925	771	771	0	0.0
1926	1996	1996	0	0.0
1927	2758	2758	0	0.0
1928	3332	3332	0	0.0
1929	2503	2503	0	0.0
1930	2180	2180	0	0.0
1931	1888	1888	0	0.0
1932	757	757	0	0.0
1933	715	715	0	0.0
1934	779	779	0	0.0
1935	702	702	0	0.0
1936	1698	1698	0	0.0
1937	1846	1846	0	0.0
1938	3310	3310	0	0.0
1939	3276	3276	0	0.0
1940	2021	2021	0	0.0
1941	3293	3293	0	0.0
1942	3316	3316	0	0.0
1943	3356	3356	0	0.0
1944	3016	3016	0	0.0
1945	3023	3023	0	0.0
1946	3265	3265	0	0.0
1947	2850	2850	0	0.0
1948	2290	2290	0	0.0
1949	3182	3182	0	0.0
1950	2609	2609	0	0.0
1951	3322	3322	0	0.0
1952	3306	3306	0	0.0
1953	3345	3345	0	0.0
1954	3271	3271	0	0.0
1955	3296	3296	0	0.0
1956	3252	3252	0	0.0
1957	3148	3148	0	0.0
1958	3338	3338	0	0.0
1959	3204	3204	0	0.0
1960	2000	2000	0	0.0
1961	3002	3002	0	0.0
1962	2694	2694	0	0.0
1963	3349	3349	0	0.0
1964	3270	3270	0	0.0
1965	3252	3252	0	0.0
1966	3359	3359	0	0.0
1967	3335	3335	0	0.0
1968	3211	3211	0	0.0
1969	2938	2938	0	0.0
1970	3317	3317	0	0.0
1971	3319	3319	0	0.0
1972	3273	3273	0	0.0
1973	3346	3346	0	0.0
1974	3267	3267	0	0.0
1975	3283	3283	0	0.0
1976	3316	3316	0	0.0
1977	2607	2607	0	0.0
1978	998	998	0	0.0
1979	3141	3141	0	0.0
1980	3137	3137	0	0.0
1981	3001	3001	0	0.0
1982	3276	3276	0	0.0
1983	3328	3328	0	0.0
1984	3285	3285	0	0.0
1985	3360	3360	0	0.0
1986	2508	2508	0	0.0
1987	2605	2605	0	0.0
1988	2449	2449	0	0.0
1989	1674	1674	0	0.0
1990	2258	2258	0	0.0
1991	1472	1472	0	0.0
1992	1007	1007	0	0.0
1993	896	896	0	0.0
Mean:	2672	2672	0	0.0
Median:	3080	3080	0	0.0
Min:	702	702	0	0.0
Max:	3360	3360	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2842	2842	0	0.0
1923	3136	3136	0	0.0
1924	2058	2058	0	0.0
1925	905	905	0	0.0
1926	2045	2045	0	0.0
1927	3306	3306	0	0.0
1928	3602	3602	0	0.0
1929	2568	2568	0	0.0
1930	2409	2409	0	0.0
1931	1967	1967	0	0.0
1932	914	914	0	0.0
1933	746	746	0	0.0
1934	1090	1090	0	0.0
1935	1003	1003	0	0.0
1936	2321	2321	0	0.0
1937	1826	1826	0	0.0
1938	3668	3668	0	0.0
1939	3391	3391	0	0.0
1940	2908	2908	0	0.0
1941	3317	3317	0	0.0
1942	3389	3389	0	0.0
1943	3541	3541	0	0.0
1944	3088	3088	0	0.0
1945	3214	3214	0	0.0
1946	3622	3622	0	0.0
1947	2862	2862	0	0.0
1948	2861	2861	0	0.0
1949	3198	3198	0	0.0
1950	2888	2888	0	0.0
1951	3624	3624	0	0.0
1952	3604	3604	0	0.0
1953	3366	3366	0	0.0
1954	3552	3552	0	0.0
1955	3440	3440	0	0.0
1956	3252	3252	0	0.0
1957	3251	3251	0	0.0
1958	3531	3531	0	0.0
1959	3648	3648	0	0.0
1960	2222	2222	0	0.0
1961	3212	3212	0	0.0
1962	2753	2753	0	0.0
1963	3514	3514	0	0.0
1964	3696	3696	0	0.0
1965	3368	3368	0	0.0
1966	3725	3725	0	0.0
1967	3551	3551	0	0.0
1968	3449	3449	0	0.0
1969	3358	3358	0	0.0
1970	3252	3252	0	0.0
1971	3515	3515	0	0.0
1972	3680	3680	0	0.0
1973	3552	3552	0	0.0
1974	3252	3252	0	0.0
1975	3420	3420	0	0.0
1976	3386	3386	0	0.0
1977	2660	2660	0	0.0
1978	2914	2914	0	0.0
1979	3300	3300	0	0.0
1980	3528	3528	0	0.0
1981	3309	3309	0	0.0
1982	3616	3616	0	0.0
1983	3371	3371	0	0.0
1984	3650	3650	0	0.0
1985	3459	3459	0	0.0
1986	3083	3083	0	0.0
1987	2733	2733	0	0.0
1988	2896	2896	0	0.0
1989	1809	1809	0	0.0
1990	2505	2505	0	0.0
1991	1496	1496	0	0.0
1992	1069	1069	0	0.0
1993	1560	1560	0	0.0
Mean:	2914	2914	0	0.0
Median:	3252	3252	0	0.0
Min:	746	746	0	0.0
Max:	3725	3725	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3210	3210	0	0.0
1923	3264	3264	0	0.0
1924	2267	2267	0	0.0
1925	2191	2191	0	0.0
1926	2772	2772	0	0.0
1927	3462	3462	0	0.0
1928	4067	4067	0	0.0
1929	2763	2763	0	0.0
1930	2796	2796	0	0.0
1931	2058	2058	0	0.0
1932	1052	1052	0	0.0
1933	786	786	0	0.0
1934	1428	1428	0	0.0
1935	1345	1345	0	0.0
1936	3209	3209	0	0.0
1937	1919	1919	0	0.0
1938	3560	3560	0	0.0
1939	3505	3505	0	0.0
1940	3252	3252	0	0.0
1941	3423	3423	0	0.0
1942	3516	3516	0	0.0
1943	3848	3848	0	0.0
1944	3395	3395	0	0.0
1945	3948	3948	0	0.0
1946	3631	3631	0	0.0
1947	3130	3130	0	0.0
1948	2759	2759	0	0.0
1949	3393	3393	0	0.0
1950	3305	3305	0	0.0
1951	3794	3794	0	0.0
1952	3739	3739	0	0.0
1953	3697	3697	0	0.0
1954	3661	3661	0	0.0
1955	3498	3498	0	0.0
1956	3288	3288	0	0.0
1957	3675	3675	0	0.0
1958	3252	3252	0	0.0
1959	3777	3777	0	0.0
1960	2951	2951	0	0.0
1961	3914	3914	0	0.0
1962	3675	3675	0	0.0
1963	3944	3944	0	0.0
1964	3801	3801	0	0.0
1965	3789	3789	0	0.0
1966	4037	4037	0	0.0
1967	3920	3920	0	0.0
1968	3654	3654	0	0.0
1969	3480	3480	0	0.0
1970	3431	3431	0	0.0
1971	3726	3726	0	0.0
1972	3979	3979	0	0.0
1973	3636	3636	0	0.0
1974	3694	3694	0	0.0
1975	3936	3936	0	0.0
1976	3507	3507	0	0.0
1977	2657	2657	0	0.0
1978	3567	3567	0	0.0
1979	3659	3659	0	0.0
1980	3292	3292	0	0.0
1981	3725	3725	0	0.0
1982	3530	3530	0	0.0
1983	3252	3252	0	0.0
1984	4005	4005	0	0.0
1985	3632	3632	0	0.0
1986	3252	3252	0	0.0
1987	3082	3082	0	0.0
1988	2866	2866	0	0.0
1989	1946	1946	0	0.0
1990	2528	2528	0	0.0
1991	1468	1468	0	0.0
1992	1741	1741	0	0.0
1993	2311	2311	0	0.0
Mean:	3184	3184	0	0.0
Median:	3447	3447	0	0.0
Min:	786	786	0	0.0
Max:	4067	4067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3592	3592	0	0.0
1923	3385	3385	0	0.0
1924	2257	2257	0	0.0
1925	2417	2417	0	0.0
1926	2965	2965	0	0.0
1927	4094	4094	0	0.0
1928	3965	3965	0	0.0
1929	2940	2940	0	0.0
1930	3296	3296	0	0.0
1931	2227	2227	0	0.0
1932	1478	1478	0	0.0
1933	1367	1367	0	0.0
1934	1705	1705	0	0.0
1935	1749	1749	0	0.0
1936	3557	3557	0	0.0
1937	2570	2570	0	0.0
1938	3416	3416	0	0.0
1939	3906	3906	0	0.0
1940	3435	3435	0	0.0
1941	3940	3940	0	0.0
1942	3846	3846	0	0.0
1943	4118	4118	0	0.0
1944	3706	3706	0	0.0
1945	4258	4258	0	0.0
1946	4027	4027	0	0.0
1947	3651	3651	0	0.0
1948	3072	3072	0	0.0
1949	4071	4071	0	0.0
1950	3753	3753	0	0.0
1951	4237	4237	0	0.0
1952	4022	4022	0	0.0
1953	4197	4197	0	0.0
1954	4106	4106	0	0.0
1955	3645	3645	0	0.0
1956	4012	4012	0	0.0
1957	4129	4129	0	0.0
1958	3416	3416	0	0.0
1959	3953	3953	0	0.0
1960	3651	3651	0	0.0
1961	4280	4280	0	0.0
1962	4175	4175	0	0.0
1963	4094	4094	0	0.0
1964	3864	3864	0	0.0
1965	3848	3848	0	0.0
1966	4229	4229	0	0.0
1967	4033	4033	0	0.0
1968	4248	4248	0	0.0
1969	4030	4030	0	0.0
1970	4084	4084	0	0.0
1971	3873	3873	0	0.0
1972	4249	4249	0	0.0
1973	4162	4162	0	0.0
1974	3416	3416	0	0.0
1975	3756	3756	0	0.0
1976	3723	3723	0	0.0
1977	2660	2660	0	0.0
1978	4000	4000	0	0.0
1979	4175	4175	0	0.0
1980	4030	4030	0	0.0
1981	4256	4256	0	0.0
1982	3953	3953	0	0.0
1983	3417	3417	0	0.0
1984	4246	4246	0	0.0
1985	3843	3843	0	0.0
1986	3534	3534	0	0.0
1987	3827	3827	0	0.0
1988	2955	2955	0	0.0
1989	3350	3350	0	0.0
1990	2780	2780	0	0.0
1991	1920	1920	0	0.0
1992	2209	2209	0	0.0
1993	3791	3791	0	0.0
Mean:	3544	3544	0	0.0
Median:	3835	3835	0	0.0
Min:	1367	1367	0	0.0
Max:	4280	4280	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	4011	4011	0	0.0
1923	3628	3628	0	0.0
1924	1954	1954	0	0.0
1925	3014	3014	0	0.0
1926	3220	3220	0	0.0
1927	4552	4552	0	0.0
1928	4412	4412	0	0.0
1929	2966	2966	0	0.0
1930	3405	3405	0	0.0
1931	1972	1972	0	0.0
1932	1618	1618	0	0.0
1933	1357	1357	0	0.0
1934	1710	1710	0	0.0
1935	2745	2745	0	0.0
1936	3727	3727	0	0.0
1937	3152	3152	0	0.0
1938	4058	4058	0	0.0
1939	3704	3704	0	0.0
1940	4103	4103	0	0.0
1941	4456	4456	0	0.0
1942	4438	4438	0	0.0
1943	4520	4520	0	0.0
1944	3722	3722	0	0.0
1945	4387	4387	0	0.0
1946	4215	4215	0	0.0
1947	3784	3784	0	0.0
1948	3903	3903	0	0.0
1949	4375	4375	0	0.0
1950	4031	4031	0	0.0
1951	4322	4322	0	0.0
1952	4290	4290	0	0.0
1953	4495	4495	0	0.0
1954	4546	4546	0	0.0
1955	3696	3696	0	0.0
1956	4463	4463	0	0.0
1957	4123	4123	0	0.0
1958	4173	4173	0	0.0
1959	3957	3957	0	0.0
1960	3818	3818	0	0.0
1961	4319	4319	0	0.0
1962	4430	4430	0	0.0
1963	4137	4137	0	0.0
1964	3604	3604	0	0.0
1965	4500	4500	0	0.0
1966	4552	4552	0	0.0
1967	4479	4479	0	0.0
1968	4183	4183	0	0.0
1969	4434	4434	0	0.0
1970	4016	4016	0	0.0
1971	4341	4341	0	0.0
1972	4373	4373	0	0.0
1973	4390	4390	0	0.0
1974	4289	4289	0	0.0
1975	4299	4299	0	0.0
1976	3787	3787	0	0.0
1977	2411	2411	0	0.0
1978	4552	4552	0	0.0
1979	4305	4305	0	0.0
1980	4272	4272	0	0.0
1981	4399	4399	0	0.0
1982	4094	4094	0	0.0
1983	4074	4074	0	0.0
1984	4336	4336	0	0.0
1985	3964	3964	0	0.0
1986	3790	3790	0	0.0
1987	3588	3588	0	0.0
1988	2918	2918	0	0.0
1989	3713	3713	0	0.0
1990	2578	2578	0	0.0
1991	2083	2083	0	0.0
1992	2471	2471	0	0.0
1993	4375	4375	0	0.0
Mean:	3793	3793	0	0.0
Median:	4084	4084	0	0.0
Min:	1357	1357	0	0.0
Max:	4552	4552	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	4150	4150	0	0.0
1923	3348	3348	0	0.0
1924	1591	1591	0	0.0
1925	3025	3025	0	0.0
1926	3063	3063	0	0.0
1927	4552	4552	0	0.0
1928	4277	4277	0	0.0
1929	2820	2820	0	0.0
1930	3305	3305	0	0.0
1931	1656	1656	0	0.0
1932	1807	1807	0	0.0
1933	1417	1417	0	0.0
1934	1545	1545	0	0.0
1935	2987	2987	0	0.0
1936	3556	3556	0	0.0
1937	3214	3214	0	0.0
1938	4545	4545	0	0.0
1939	3502	3502	0	0.0
1940	4014	4014	0	0.0
1941	4552	4552	0	0.0
1942	4552	4552	0	0.0
1943	4490	4490	0	0.0
1944	3647	3647	0	0.0
1945	4377	4377	0	0.0
1946	4135	4135	0	0.0
1947	3472	3472	0	0.0
1948	4215	4215	0	0.0
1949	4375	4375	0	0.0
1950	3932	3932	0	0.0
1951	4321	4321	0	0.0
1952	4552	4552	0	0.0
1953	4552	4552	0	0.0
1954	4272	4272	0	0.0
1955	3788	3788	0	0.0
1956	4552	4552	0	0.0
1957	4355	4355	0	0.0
1958	4552	4552	0	0.0
1959	3742	3742	0	0.0
1960	3826	3826	0	0.0
1961	4344	4344	0	0.0
1962	4335	4335	0	0.0
1963	4392	4392	0	0.0
1964	3468	3468	0	0.0
1965	4418	4418	0	0.0
1966	4414	4414	0	0.0
1967	4552	4552	0	0.0
1968	4052	4052	0	0.0
1969	4552	4552	0	0.0
1970	3880	3880	0	0.0
1971	4552	4552	0	0.0
1972	4255	4255	0	0.0
1973	4364	4364	0	0.0
1974	4463	4463	0	0.0
1975	4552	4552	0	0.0
1976	3657	3657	0	0.0
1977	2253	2253	0	0.0
1978	4552	4552	0	0.0
1979	4351	4351	0	0.0
1980	4191	4191	0	0.0
1981	4245	4245	0	0.0
1982	4271	4271	0	0.0
1983	4552	4552	0	0.0
1984	4298	4298	0	0.0
1985	3716	3716	0	0.0
1986	3727	3727	0	0.0
1987	3287	3287	0	0.0
1988	2876	2876	0	0.0
1989	3473	3473	0	0.0
1990	2680	2680	0	0.0
1991	2027	2027	0	0.0
1992	2253	2253	0	0.0
1993	4539	4539	0	0.0
Mean:	3780	3780	0	0.0
Median:	4171	4171	0	0.0
Min:	1417	1417	0	0.0
Max:	4552	4552	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3872	3872	0	0.0
1923	3082	3082	0	0.0
1924	1146	1146	0	0.0
1925	2777	2777	0	0.0
1926	2709	2709	0	0.0
1927	4262	4262	0	0.0
1928	3899	3899	0	0.0
1929	2574	2574	0	0.0
1930	2932	2932	0	0.0
1931	1325	1325	0	0.0
1932	1627	1627	0	0.0
1933	1282	1282	0	0.0
1934	1129	1129	0	0.0
1935	2692	2692	0	0.0
1936	3306	3306	0	0.0
1937	3051	3051	0	0.0
1938	4460	4460	0	0.0
1939	3034	3034	0	0.0
1940	3672	3672	0	0.0
1941	4488	4488	0	0.0
1942	4459	4459	0	0.0
1943	4239	4239	0	0.0
1944	3429	3429	0	0.0
1945	4141	4141	0	0.0
1946	3786	3786	0	0.0
1947	3278	3278	0	0.0
1948	4223	4223	0	0.0
1949	4050	4050	0	0.0
1950	3585	3585	0	0.0
1951	3953	3953	0	0.0
1952	4404	4404	0	0.0
1953	4500	4500	0	0.0
1954	4061	4061	0	0.0
1955	3503	3503	0	0.0
1956	4378	4378	0	0.0
1957	4155	4155	0	0.0
1958	4500	4500	0	0.0
1959	3203	3203	0	0.0
1960	3528	3528	0	0.0
1961	3986	3986	0	0.0
1962	4000	4000	0	0.0
1963	4235	4235	0	0.0
1964	3281	3281	0	0.0
1965	4107	4107	0	0.0
1966	3828	3828	0	0.0
1967	4500	4500	0	0.0
1968	3555	3555	0	0.0
1969	4396	4396	0	0.0
1970	3608	3608	0	0.0
1971	4500	4500	0	0.0
1972	3718	3718	0	0.0
1973	4010	4010	0	0.0
1974	4330	4330	0	0.0
1975	4429	4429	0	0.0
1976	3200	3200	0	0.0
1977	1641	1641	0	0.0
1978	4232	4232	0	0.0
1979	3841	3841	0	0.0
1980	3864	3864	0	0.0
1981	3615	3615	0	0.0
1982	4092	4092	0	0.0
1983	4500	4500	0	0.0
1984	4035	4035	0	0.0
1985	3296	3296	0	0.0
1986	3363	3363	0	0.0
1987	2734	2734	0	0.0
1988	2394	2394	0	0.0
1989	3157	3157	0	0.0
1990	2449	2449	0	0.0
1991	1765	1765	0	0.0
1992	1800	1800	0	0.0
1993	4500	4500	0	0.0
Mean:	3495	3495	0	0.0
Median:	3752	3752	0	0.0
Min:	1129	1129	0	0.0
Max:	4500	4500	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3458	3380	-78	-2.3
1923	2627	2627	0	0.0
1924	759	714	-45	-5.9
1925	2291	2296	5	0.2
1926	2261	2223	-38	-1.7
1927	3828	3774	-54	-1.4
1928	3294	3256	-38	-1.2
1929	2145	2146	1	0.0
1930	2438	2438	0	0.0
1931	847	815	-32	-3.8
1932	1293	1251	-42	-3.2
1933	918	925	7	0.8
1934	710	687	-23	-3.2
1935	2326	2327	1	0.0
1936	2765	2739	-26	-0.9
1937	2695	2590	-105	-3.9
1938	4103	4023	-80	-1.9
1939	2464	2445	-19	-0.8
1940	3174	3163	-11	-0.3
1941	4186	4126	-60	-1.4
1942	4184	4125	-59	-1.4
1943	3742	3699	-43	-1.1
1944	2962	2948	-14	-0.5
1945	3578	3572	-6	-0.2
1946	3339	3336	-3	-0.1
1947	2675	2675	0	0.0
1948	3850	3864	14	0.4
1949	3442	3442	0	0.0
1950	3163	3151	-12	-0.4
1951	3319	3311	-8	-0.2
1952	4089	4080	-9	-0.2
1953	4179	4150	-29	-0.7
1954	3460	3460	0	0.0
1955	2947	2942	-5	-0.2
1956	4044	4025	-19	-0.5
1957	3632	3592	-40	-1.1
1958	4184	4150	-34	-0.8
1959	2663	2663	0	0.0
1960	2943	2941	-2	-0.1
1961	3297	3297	0	0.0
1962	3461	3435	-26	-0.8
1963	3768	3758	-10	-0.3
1964	2737	2737	0	0.0
1965	3505	3505	0	0.0
1966	3200	3200	0	0.0
1967	4146	4150	4	0.1
1968	2998	2998	0	0.0
1969	3984	3937	-47	-1.2
1970	2952	2952	0	0.0
1971	4089	4092	3	0.1
1972	3168	3168	0	0.0
1973	3433	3412	-21	-0.6
1974	4124	4061	-63	-1.5
1975	4193	4145	-48	-1.1
1976	2719	2686	-33	-1.2
1977	773	753	-20	-2.6
1978	3652	3638	-14	-0.4
1979	3309	3309	0	0.0
1980	3417	3417	0	0.0
1981	3010	3010	0	0.0
1982	3761	3750	-11	-0.3
1983	4132	4132	0	0.0
1984	3428	3428	0	0.0
1985	2783	2774	-9	-0.3
1986	2956	2909	-47	-1.6
1987	2248	2245	-3	-0.1
1988	1920	1903	-17	-0.9
1989	2555	2555	0	0.0
1990	1932	1907	-25	-1.3
1991	1477	1429	-48	-3.2
1992	1280	1266	-14	-1.1
1993	3894	3894	0	0.0
Mean:	3018	2999	-19	-0.8
Median:	3187	3184	-11	-0.3
Min:	710	687	-105	-5.9
Max:	4193	4150	14	0.8
Years Rel Diff >= -1.0%				49

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2995	2961	-34	-1.1
1923	2289	2289	0	0.0
1924	598	580	-18	-3.0
1925	1981	1953	-28	-1.4
1926	1900	1863	-37	-1.9
1927	3392	3368	-24	-0.7
1928	2889	2877	-12	-0.4
1929	1803	1784	-19	-1.1
1930	2083	2082	-1	0.0
1931	635	619	-16	-2.5
1932	960	919	-41	-4.3
1933	675	649	-26	-3.9
1934	565	547	-18	-3.2
1935	1891	1906	15	0.8
1936	2298	2291	-7	-0.3
1937	2249	2200	-49	-2.2
1938	3716	3693	-23	-0.6
1939	2048	2036	-12	-0.6
1940	2777	2769	-8	-0.3
1941	3707	3692	-15	-0.4
1942	3714	3697	-17	-0.5
1943	3325	3306	-19	-0.6
1944	2618	2610	-8	-0.3
1945	3151	3148	-3	-0.1
1946	2934	2932	-2	-0.1
1947	2221	2221	0	0.0
1948	3475	3489	14	0.4
1949	3053	3053	0	0.0
1950	2744	2736	-8	-0.3
1951	2913	2911	-2	-0.1
1952	3704	3699	-5	-0.1
1953	3707	3700	-7	-0.2
1954	3169	3169	0	0.0
1955	2573	2566	-7	-0.3
1956	3712	3699	-13	-0.4
1957	3257	3234	-23	-0.7
1958	3709	3700	-9	-0.2
1959	2282	2282	0	0.0
1960	2547	2547	0	0.0
1961	2723	2723	0	0.0
1962	3049	3034	-15	-0.5
1963	3461	3453	-8	-0.2
1964	2332	2332	0	0.0
1965	3183	3183	0	0.0
1966	2837	2837	0	0.0
1967	3695	3700	5	0.1
1968	2737	2737	0	0.0
1969	3609	3582	-27	-0.7
1970	2657	2657	0	0.0
1971	3695	3700	5	0.1
1972	2820	2820	0	0.0
1973	3101	3080	-21	-0.7
1974	3716	3697	-19	-0.5
1975	3714	3699	-15	-0.4
1976	2620	2609	-11	-0.4
1977	550	547	-3	-0.5
1978	3316	3313	-3	-0.1
1979	2964	2964	0	0.0
1980	3072	3072	0	0.0
1981	2625	2625	0	0.0
1982	3457	3455	-2	-0.1
1983	3700	3700	0	0.0
1984	3120	3120	0	0.0
1985	2416	2408	-8	-0.3
1986	2685	2674	-11	-0.4
1987	2013	2012	-1	0.0
1988	1572	1544	-28	-1.8
1989	2221	2221	0	0.0
1990	1627	1602	-25	-1.5
1991	1182	1163	-19	-1.6
1992	842	823	-19	-2.3
1993	3569	3569	0	0.0
Mean:	2655	2645	-10	-0.6
Median:	2799	2795	-8	-0.3
Min:	550	547	-49	-4.3
Max:	3716	3700	15	0.8
Years Rel Diff >= -1.0%				58

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2774	2771	-3	-0.1
1923	2169	2169	0	0.0
1924	550	550	0	0.0
1925	1887	1886	-1	-0.1
1926	1795	1795	0	0.0
1927	3145	3144	-1	0.0
1928	2705	2704	-1	0.0
1929	1689	1690	1	0.1
1930	1984	1984	0	0.0
1931	550	550	0	0.0
1932	804	801	-3	-0.4
1933	650	650	0	0.0
1934	551	550	-1	-0.2
1935	1736	1736	0	0.0
1936	2131	2131	0	0.0
1937	2038	2036	-2	-0.1
1938	3400	3400	0	0.0
1939	1931	1931	0	0.0
1940	2676	2675	-1	0.0
1941	3402	3400	-2	-0.1
1942	3400	3400	0	0.0
1943	3151	3151	0	0.0
1944	2542	2542	0	0.0
1945	2983	2983	0	0.0
1946	2793	2793	0	0.0
1947	2161	2161	0	0.0
1948	3368	3368	0	0.0
1949	2941	2941	0	0.0
1950	2622	2622	0	0.0
1951	2779	2779	0	0.0
1952	3400	3400	0	0.0
1953	3400	3400	0	0.0
1954	3033	3033	0	0.0
1955	2525	2525	0	0.0
1956	3400	3400	0	0.0
1957	3105	3103	-2	-0.1
1958	3400	3400	0	0.0
1959	2232	2232	0	0.0
1960	2475	2475	0	0.0
1961	2637	2637	0	0.0
1962	2855	2853	-2	-0.1
1963	3363	3363	0	0.0
1964	2266	2266	0	0.0
1965	3086	3086	0	0.0
1966	2619	2619	0	0.0
1967	3400	3400	0	0.0
1968	2570	2570	0	0.0
1969	3402	3400	-2	-0.1
1970	2500	2500	0	0.0
1971	3400	3400	0	0.0
1972	2751	2751	0	0.0
1973	2932	2931	-1	0.0
1974	3403	3400	-3	-0.1
1975	3403	3400	-3	-0.1
1976	2598	2598	0	0.0
1977	550	550	0	0.0
1978	3247	3247	0	0.0
1979	2798	2798	0	0.0
1980	2991	2991	0	0.0
1981	2466	2466	0	0.0
1982	3377	3377	0	0.0
1983	3400	3400	0	0.0
1984	3006	3006	0	0.0
1985	2381	2381	0	0.0
1986	2657	2657	0	0.0
1987	2016	2016	0	0.0
1988	1463	1463	0	0.0
1989	2154	2154	0	0.0
1990	1583	1582	-1	-0.1
1991	1085	1084	-1	-0.1
1992	748	748	0	0.0
1993	3372	3372	0	0.0
Mean:	2511	2510	0	0.0
Median:	2667	2666	0	0.0
Min:	550	550	-3	-0.4
Max:	3403	3400	1	0.1
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	449	449	0	0.0
1923	571	571	0	0.0
1924	555	555	0	0.0
1925	229	229	0	0.0
1926	443	443	0	0.0
1927	394	394	0	0.0
1928	559	559	0	0.0
1929	409	409	0	0.0
1930	352	352	0	0.0
1931	406	406	0	0.0
1932	189	189	0	0.0
1933	474	474	0	0.0
1934	300	300	0	0.0
1935	166	166	0	0.0
1936	551	551	0	0.0
1937	543	543	0	0.0
1938	591	591	0	0.0
1939	636	636	0	0.0
1940	355	355	0	0.0
1941	443	443	0	0.0
1942	634	634	0	0.0
1943	629	629	0	0.0
1944	552	552	0	0.0
1945	387	387	0	0.0
1946	526	526	0	0.0
1947	451	451	0	0.0
1948	355	355	0	0.0
1949	589	589	0	0.0
1950	461	461	0	0.0
1951	597	597	0	0.0
1952	450	450	0	0.0
1953	648	648	0	0.0
1954	629	629	0	0.0
1955	447	447	0	0.0
1956	423	423	0	0.0
1957	649	649	0	0.0
1958	572	572	0	0.0
1959	625	625	0	0.0
1960	247	247	0	0.0
1961	376	376	0	0.0
1962	231	231	0	0.0
1963	720	720	0	0.0
1964	591	591	0	0.0
1965	389	389	0	0.0
1966	549	549	0	0.0
1967	374	374	0	0.0
1968	643	643	0	0.0
1969	393	393	0	0.0
1970	647	647	0	0.0
1971	404	404	0	0.0
1972	630	630	0	0.0
1973	445	445	0	0.0
1974	529	529	0	0.0
1975	632	632	0	0.0
1976	679	679	0	0.0
1977	328	328	0	0.0
1978	90	90	0	0.0
1979	584	584	0	0.0
1980	487	487	0	0.0
1981	629	629	0	0.0
1982	364	364	0	0.0
1983	720	720	0	0.0
1984	720	720	0	0.0
1985	537	537	0	0.0
1986	376	376	0	0.0
1987	624	624	0	0.0
1988	327	327	0	0.0
1989	106	106	0	0.0
1990	414	414	0	0.0
1991	345	345	0	0.0
1992	343	343	0	0.0
1993	90	90	0	0.0
Mean:	469	469	0	0.0
Median:	456	456	0	0.0
Min:	90	90	0	0.0
Max:	720	720	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	411	411	0	0.0
1923	534	534	0	0.0
1924	520	520	0	0.0
1925	263	263	0	0.0
1926	352	352	0	0.0
1927	552	552	0	0.0
1928	575	575	0	0.0
1929	401	401	0	0.0
1930	330	330	0	0.0
1931	393	393	0	0.0
1932	171	171	0	0.0
1933	326	326	0	0.0
1934	290	290	0	0.0
1935	191	191	0	0.0
1936	512	512	0	0.0
1937	482	482	0	0.0
1938	575	575	0	0.0
1939	567	567	0	0.0
1940	317	317	0	0.0
1941	390	390	0	0.0
1942	575	575	0	0.0
1943	575	575	0	0.0
1944	530	530	0	0.0
1945	482	482	0	0.0
1946	575	575	0	0.0
1947	465	465	0	0.0
1948	395	395	0	0.0
1949	566	566	0	0.0
1950	443	443	0	0.0
1951	382	382	0	0.0
1952	488	488	0	0.0
1953	575	575	0	0.0
1954	575	575	0	0.0
1955	449	449	0	0.0
1956	409	409	0	0.0
1957	563	563	0	0.0
1958	575	575	0	0.0
1959	570	570	0	0.0
1960	249	249	0	0.0
1961	388	388	0	0.0
1962	240	240	0	0.0
1963	575	575	0	0.0
1964	575	575	0	0.0
1965	432	432	0	0.0
1966	565	565	0	0.0
1967	429	429	0	0.0
1968	566	566	0	0.0
1969	424	424	0	0.0
1970	575	575	0	0.0
1971	551	551	0	0.0
1972	561	561	0	0.0
1973	513	513	0	0.0
1974	575	575	0	0.0
1975	566	566	0	0.0
1976	575	575	0	0.0
1977	310	310	0	0.0
1978	96	96	0	0.0
1979	566	566	0	0.0
1980	520	520	0	0.0
1981	525	525	0	0.0
1982	549	549	0	0.0
1983	573	573	0	0.0
1984	377	377	0	0.0
1985	575	575	0	0.0
1986	436	436	0	0.0
1987	539	539	0	0.0
1988	338	338	0	0.0
1989	204	204	0	0.0
1990	433	433	0	0.0
1991	326	326	0	0.0
1992	312	312	0	0.0
1993	90	90	0	0.0
Mean:	451	451	0	0.0
Median:	485	485	0	0.0
Min:	90	90	0	0.0
Max:	575	575	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	480	480	0	0.0
1923	575	575	0	0.0
1924	492	492	0	0.0
1925	308	308	0	0.0
1926	281	281	0	0.0
1927	575	575	0	0.0
1928	575	575	0	0.0
1929	400	400	0	0.0
1930	457	457	0	0.0
1931	366	366	0	0.0
1932	279	279	0	0.0
1933	227	227	0	0.0
1934	367	367	0	0.0
1935	213	213	0	0.0
1936	480	480	0	0.0
1937	431	431	0	0.0
1938	575	575	0	0.0
1939	502	502	0	0.0
1940	299	299	0	0.0
1941	555	555	0	0.0
1942	575	575	0	0.0
1943	575	575	0	0.0
1944	518	518	0	0.0
1945	564	564	0	0.0
1946	575	575	0	0.0
1947	478	478	0	0.0
1948	384	384	0	0.0
1949	563	563	0	0.0
1950	429	429	0	0.0
1951	305	305	0	0.0
1952	575	575	0	0.0
1953	575	575	0	0.0
1954	523	523	0	0.0
1955	530	530	0	0.0
1956	531	531	0	0.0
1957	494	494	0	0.0
1958	575	575	0	0.0
1959	504	504	0	0.0
1960	248	248	0	0.0
1961	400	400	0	0.0
1962	272	272	0	0.0
1963	575	575	0	0.0
1964	537	537	0	0.0
1965	364	364	0	0.0
1966	575	575	0	0.0
1967	575	575	0	0.0
1968	521	521	0	0.0
1969	505	505	0	0.0
1970	575	575	0	0.0
1971	575	575	0	0.0
1972	571	571	0	0.0
1973	575	575	0	0.0
1974	575	575	0	0.0
1975	540	540	0	0.0
1976	504	504	0	0.0
1977	240	240	0	0.0
1978	245	245	0	0.0
1979	547	547	0	0.0
1980	575	575	0	0.0
1981	446	446	0	0.0
1982	370	370	0	0.0
1983	573	573	0	0.0
1984	329	329	0	0.0
1985	569	569	0	0.0
1986	538	538	0	0.0
1987	467	467	0	0.0
1988	389	389	0	0.0
1989	251	251	0	0.0
1990	399	399	0	0.0
1991	284	284	0	0.0
1992	290	290	0	0.0
1993	172	172	0	0.0
Mean:	457	457	0	0.0
Median:	503	503	0	0.0
Min:	172	172	0	0.0
Max:	575	575	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	525	525	0	0.0
1923	575	575	0	0.0
1924	467	467	0	0.0
1925	315	315	0	0.0
1926	223	223	0	0.0
1927	575	575	0	0.0
1928	575	575	0	0.0
1929	381	381	0	0.0
1930	533	533	0	0.0
1931	372	372	0	0.0
1932	390	390	0	0.0
1933	169	169	0	0.0
1934	468	468	0	0.0
1935	330	330	0	0.0
1936	575	575	0	0.0
1937	409	409	0	0.0
1938	575	575	0	0.0
1939	457	457	0	0.0
1940	572	572	0	0.0
1941	575	575	0	0.0
1942	572	572	0	0.0
1943	565	565	0	0.0
1944	506	506	0	0.0
1945	575	575	0	0.0
1946	571	571	0	0.0
1947	456	456	0	0.0
1948	476	476	0	0.0
1949	539	539	0	0.0
1950	575	575	0	0.0
1951	320	320	0	0.0
1952	575	575	0	0.0
1953	574	574	0	0.0
1954	537	537	0	0.0
1955	575	575	0	0.0
1956	393	393	0	0.0
1957	453	453	0	0.0
1958	575	575	0	0.0
1959	565	565	0	0.0
1960	290	290	0	0.0
1961	384	384	0	0.0
1962	293	293	0	0.0
1963	554	554	0	0.0
1964	575	575	0	0.0
1965	360	360	0	0.0
1966	575	575	0	0.0
1967	571	571	0	0.0
1968	534	534	0	0.0
1969	550	550	0	0.0
1970	387	387	0	0.0
1971	575	575	0	0.0
1972	572	572	0	0.0
1973	567	567	0	0.0
1974	495	495	0	0.0
1975	544	544	0	0.0
1976	433	433	0	0.0
1977	199	199	0	0.0
1978	569	569	0	0.0
1979	575	575	0	0.0
1980	433	433	0	0.0
1981	432	432	0	0.0
1982	392	392	0	0.0
1983	564	564	0	0.0
1984	338	338	0	0.0
1985	529	529	0	0.0
1986	559	559	0	0.0
1987	429	429	0	0.0
1988	487	487	0	0.0
1989	291	291	0	0.0
1990	421	421	0	0.0
1991	241	241	0	0.0
1992	271	271	0	0.0
1993	571	571	0	0.0
Mean:	473	473	0	0.0
Median:	527	527	0	0.0
Min:	169	169	0	0.0
Max:	575	575	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	575	575	0	0.0
1923	575	575	0	0.0
1924	497	497	0	0.0
1925	561	561	0	0.0
1926	392	392	0	0.0
1927	562	562	0	0.0
1928	575	575	0	0.0
1929	432	432	0	0.0
1930	572	572	0	0.0
1931	399	399	0	0.0
1932	575	575	0	0.0
1933	143	143	0	0.0
1934	552	552	0	0.0
1935	435	435	0	0.0
1936	570	570	0	0.0
1937	575	575	0	0.0
1938	575	575	0	0.0
1939	454	454	0	0.0
1940	559	559	0	0.0
1941	574	574	0	0.0
1942	563	563	0	0.0
1943	537	537	0	0.0
1944	575	575	0	0.0
1945	565	565	0	0.0
1946	519	519	0	0.0
1947	548	548	0	0.0
1948	424	424	0	0.0
1949	549	549	0	0.0
1950	572	572	0	0.0
1951	341	341	0	0.0
1952	574	574	0	0.0
1953	568	568	0	0.0
1954	575	575	0	0.0
1955	501	501	0	0.0
1956	391	391	0	0.0
1957	571	571	0	0.0
1958	565	565	0	0.0
1959	575	575	0	0.0
1960	575	575	0	0.0
1961	444	444	0	0.0
1962	575	575	0	0.0
1963	475	475	0	0.0
1964	534	534	0	0.0
1965	377	377	0	0.0
1966	575	575	0	0.0
1967	560	560	0	0.0
1968	554	554	0	0.0
1969	535	535	0	0.0
1970	380	380	0	0.0
1971	539	539	0	0.0
1972	575	575	0	0.0
1973	563	563	0	0.0
1974	480	480	0	0.0
1975	575	575	0	0.0
1976	409	409	0	0.0
1977	174	174	0	0.0
1978	557	557	0	0.0
1979	575	575	0	0.0
1980	390	390	0	0.0
1981	457	457	0	0.0
1982	338	338	0	0.0
1983	551	551	0	0.0
1984	360	360	0	0.0
1985	574	574	0	0.0
1986	357	357	0	0.0
1987	475	475	0	0.0
1988	437	437	0	0.0
1989	352	352	0	0.0
1990	403	403	0	0.0
1991	220	220	0	0.0
1992	450	450	0	0.0
1993	555	555	0	0.0
Mean:	495	495	0	0.0
Median:	550	550	0	0.0
Min:	143	143	0	0.0
Max:	575	575	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	674	674	0	0.0
1923	572	572	0	0.0
1924	387	387	0	0.0
1925	483	483	0	0.0
1926	429	429	0	0.0
1927	661	661	0	0.0
1928	638	638	0	0.0
1929	512	512	0	0.0
1930	672	672	0	0.0
1931	461	461	0	0.0
1932	627	627	0	0.0
1933	211	211	0	0.0
1934	611	611	0	0.0
1935	551	551	0	0.0
1936	667	667	0	0.0
1937	675	675	0	0.0
1938	674	674	0	0.0
1939	542	542	0	0.0
1940	618	618	0	0.0
1941	672	672	0	0.0
1942	633	633	0	0.0
1943	618	618	0	0.0
1944	675	675	0	0.0
1945	659	659	0	0.0
1946	621	621	0	0.0
1947	674	674	0	0.0
1948	476	476	0	0.0
1949	675	675	0	0.0
1950	672	672	0	0.0
1951	587	587	0	0.0
1952	674	674	0	0.0
1953	639	639	0	0.0
1954	672	672	0	0.0
1955	485	485	0	0.0
1956	527	527	0	0.0
1957	667	667	0	0.0
1958	671	671	0	0.0
1959	583	583	0	0.0
1960	669	669	0	0.0
1961	473	473	0	0.0
1962	617	617	0	0.0
1963	582	582	0	0.0
1964	519	519	0	0.0
1965	509	509	0	0.0
1966	563	563	0	0.0
1967	642	642	0	0.0
1968	646	646	0	0.0
1969	645	645	0	0.0
1970	594	594	0	0.0
1971	663	663	0	0.0
1972	660	660	0	0.0
1973	669	669	0	0.0
1974	606	606	0	0.0
1975	674	674	0	0.0
1976	421	421	0	0.0
1977	163	163	0	0.0
1978	623	623	0	0.0
1979	672	672	0	0.0
1980	602	602	0	0.0
1981	571	571	0	0.0
1982	581	581	0	0.0
1983	622	622	0	0.0
1984	589	589	0	0.0
1985	651	651	0	0.0
1986	570	570	0	0.0
1987	586	586	0	0.0
1988	428	428	0	0.0
1989	611	611	0	0.0
1990	487	487	0	0.0
1991	446	446	0	0.0
1992	532	532	0	0.0
1993	621	621	0	0.0
Mean:	584	584	0	0.0
Median:	618	618	0	0.0
Min:	163	163	0	0.0
Max:	675	675	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	800	800	0	0.0
1923	800	800	0	0.0
1924	398	398	0	0.0
1925	745	745	0	0.0
1926	742	742	0	0.0
1927	800	800	0	0.0
1928	800	800	0	0.0
1929	549	549	0	0.0
1930	780	780	0	0.0
1931	472	472	0	0.0
1932	683	683	0	0.0
1933	325	325	0	0.0
1934	519	519	0	0.0
1935	800	800	0	0.0
1936	800	800	0	0.0
1937	800	800	0	0.0
1938	800	800	0	0.0
1939	596	596	0	0.0
1940	800	800	0	0.0
1941	800	800	0	0.0
1942	800	800	0	0.0
1943	800	800	0	0.0
1944	651	651	0	0.0
1945	754	754	0	0.0
1946	800	800	0	0.0
1947	668	668	0	0.0
1948	800	800	0	0.0
1949	800	800	0	0.0
1950	800	800	0	0.0
1951	800	800	0	0.0
1952	800	800	0	0.0
1953	785	785	0	0.0
1954	800	800	0	0.0
1955	552	552	0	0.0
1956	712	712	0	0.0
1957	672	672	0	0.0
1958	800	800	0	0.0
1959	632	632	0	0.0
1960	679	679	0	0.0
1961	500	500	0	0.0
1962	800	800	0	0.0
1963	800	800	0	0.0
1964	588	588	0	0.0
1965	800	800	0	0.0
1966	709	709	0	0.0
1967	800	800	0	0.0
1968	701	701	0	0.0
1969	800	800	0	0.0
1970	615	615	0	0.0
1971	759	759	0	0.0
1972	765	765	0	0.0
1973	776	776	0	0.0
1974	800	800	0	0.0
1975	756	756	0	0.0
1976	450	450	0	0.0
1977	164	164	0	0.0
1978	800	800	0	0.0
1979	742	742	0	0.0
1980	780	780	0	0.0
1981	624	624	0	0.0
1982	800	800	0	0.0
1983	800	800	0	0.0
1984	758	758	0	0.0
1985	745	745	0	0.0
1986	800	800	0	0.0
1987	598	598	0	0.0
1988	476	476	0	0.0
1989	800	800	0	0.0
1990	546	546	0	0.0
1991	546	546	0	0.0
1992	475	475	0	0.0
1993	800	800	0	0.0
Mean:	703	703	0	0.0
Median:	771	771	0	0.0
Min:	164	164	0	0.0
Max:	800	800	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	975	975	0	0.0
1923	975	975	0	0.0
1924	394	394	0	0.0
1925	975	975	0	0.0
1926	696	696	0	0.0
1927	975	975	0	0.0
1928	904	904	0	0.0
1929	636	636	0	0.0
1930	782	782	0	0.0
1931	496	496	0	0.0
1932	904	904	0	0.0
1933	459	459	0	0.0
1934	486	486	0	0.0
1935	946	946	0	0.0
1936	975	975	0	0.0
1937	975	975	0	0.0
1938	975	975	0	0.0
1939	598	598	0	0.0
1940	975	975	0	0.0
1941	975	975	0	0.0
1942	975	975	0	0.0
1943	957	957	0	0.0
1944	718	718	0	0.0
1945	975	975	0	0.0
1946	975	975	0	0.0
1947	641	641	0	0.0
1948	975	975	0	0.0
1949	956	956	0	0.0
1950	975	975	0	0.0
1951	975	975	0	0.0
1952	975	975	0	0.0
1953	962	962	0	0.0
1954	828	828	0	0.0
1955	653	653	0	0.0
1956	975	975	0	0.0
1957	962	962	0	0.0
1958	975	975	0	0.0
1959	587	587	0	0.0
1960	703	703	0	0.0
1961	505	505	0	0.0
1962	885	885	0	0.0
1963	975	975	0	0.0
1964	661	661	0	0.0
1965	947	947	0	0.0
1966	689	689	0	0.0
1967	975	975	0	0.0
1968	685	685	0	0.0
1969	975	975	0	0.0
1970	727	727	0	0.0
1971	975	975	0	0.0
1972	866	866	0	0.0
1973	975	975	0	0.0
1974	975	975	0	0.0
1975	975	975	0	0.0
1976	475	475	0	0.0
1977	164	164	0	0.0
1978	975	975	0	0.0
1979	975	975	0	0.0
1980	962	962	0	0.0
1981	581	581	0	0.0
1982	975	975	0	0.0
1983	975	975	0	0.0
1984	975	975	0	0.0
1985	743	743	0	0.0
1986	975	975	0	0.0
1987	558	558	0	0.0
1988	396	396	0	0.0
1989	819	819	0	0.0
1990	570	570	0	0.0
1991	612	612	0	0.0
1992	376	376	0	0.0
1993	975	975	0	0.0
Mean:	815	815	0	0.0
Median:	957	957	0	0.0
Min:	164	164	0	0.0
Max:	975	975	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	975	975	0	0.0
1923	975	975	0	0.0
1924	341	341	0	0.0
1925	857	857	0	0.0
1926	562	562	0	0.0
1927	975	975	0	0.0
1928	849	849	0	0.0
1929	571	571	0	0.0
1930	676	676	0	0.0
1931	422	422	0	0.0
1932	916	916	0	0.0
1933	454	454	0	0.0
1934	376	376	0	0.0
1935	975	975	0	0.0
1936	975	975	0	0.0
1937	941	941	0	0.0
1938	975	975	0	0.0
1939	525	525	0	0.0
1940	904	904	0	0.0
1941	975	975	0	0.0
1942	975	975	0	0.0
1943	971	971	0	0.0
1944	640	640	0	0.0
1945	937	937	0	0.0
1946	864	864	0	0.0
1947	600	600	0	0.0
1948	975	975	0	0.0
1949	813	813	0	0.0
1950	975	975	0	0.0
1951	912	912	0	0.0
1952	975	975	0	0.0
1953	975	975	0	0.0
1954	728	728	0	0.0
1955	595	595	0	0.0
1956	975	975	0	0.0
1957	910	910	0	0.0
1958	975	975	0	0.0
1959	503	503	0	0.0
1960	600	600	0	0.0
1961	492	492	0	0.0
1962	862	862	0	0.0
1963	975	975	0	0.0
1964	626	626	0	0.0
1965	975	975	0	0.0
1966	600	600	0	0.0
1967	975	975	0	0.0
1968	600	600	0	0.0
1969	975	975	0	0.0
1970	673	673	0	0.0
1971	975	975	0	0.0
1972	657	657	0	0.0
1973	806	806	0	0.0
1974	975	975	0	0.0
1975	975	975	0	0.0
1976	431	431	0	0.0
1977	119	119	0	0.0
1978	975	975	0	0.0
1979	782	782	0	0.0
1980	975	975	0	0.0
1981	531	531	0	0.0
1982	975	975	0	0.0
1983	975	975	0	0.0
1984	889	889	0	0.0
1985	600	600	0	0.0
1986	975	975	0	0.0
1987	461	461	0	0.0
1988	348	348	0	0.0
1989	623	623	0	0.0
1990	509	509	0	0.0
1991	638	638	0	0.0
1992	309	309	0	0.0
1993	975	975	0	0.0
Mean:	769	769	0	0.0
Median:	863	863	0	0.0
Min:	119	119	0	0.0
Max:	975	975	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	825	819	-6	-0.7
1923	818	813	-5	-0.6
1924	277	273	-4	-1.4
1925	671	670	-1	-0.1
1926	413	411	-2	-0.5
1927	802	796	-6	-0.7
1928	600	596	-4	-0.7
1929	465	464	-1	-0.2
1930	476	474	-2	-0.4
1931	328	325	-3	-0.9
1932	750	747	-3	-0.4
1933	344	341	-3	-0.9
1934	307	305	-2	-0.7
1935	799	795	-4	-0.5
1936	817	813	-4	-0.5
1937	753	748	-5	-0.7
1938	910	905	-5	-0.5
1939	418	414	-4	-1.0
1940	704	704	0	0.0
1941	828	824	-4	-0.5
1942	858	853	-5	-0.6
1943	807	801	-6	-0.7
1944	521	518	-3	-0.6
1945	758	756	-2	-0.3
1946	668	667	-1	-0.1
1947	459	458	-1	-0.2
1948	810	808	-2	-0.2
1949	600	597	-3	-0.5
1950	808	804	-4	-0.5
1951	685	681	-4	-0.6
1952	924	923	-1	-0.1
1953	898	893	-5	-0.6
1954	579	576	-3	-0.5
1955	486	484	-2	-0.4
1956	845	840	-5	-0.6
1957	714	711	-3	-0.4
1958	919	914	-5	-0.5
1959	242	239	-3	-1.2
1960	472	470	-2	-0.4
1961	300	296	-4	-1.3
1962	646	641	-5	-0.8
1963	787	782	-5	-0.6
1964	483	482	-1	-0.2
1965	794	788	-6	-0.8
1966	450	448	-2	-0.4
1967	950	950	0	0.0
1968	419	414	-5	-1.2
1969	831	828	-3	-0.4
1970	465	461	-4	-0.9
1971	831	831	0	0.0
1972	450	446	-4	-0.9
1973	600	595	-5	-0.8
1974	933	929	-4	-0.4
1975	877	872	-5	-0.6
1976	369	364	-5	-1.4
1977	90	87	-3	-3.3
1978	815	810	-5	-0.6
1979	600	595	-5	-0.8
1980	837	832	-5	-0.6
1981	368	365	-3	-0.8
1982	913	908	-5	-0.5
1983	841	842	1	0.1
1984	663	660	-3	-0.5
1985	468	466	-2	-0.4
1986	788	783	-5	-0.6
1987	372	368	-4	-1.1
1988	256	254	-2	-0.8
1989	456	454	-2	-0.4
1990	408	405	-3	-0.7
1991	555	551	-4	-0.7
1992	214	212	-2	-0.9
1993	869	864	-5	-0.6
Mean:	626	622	-3	-0.6
Median:	666	664	-4	-0.6
Min:	90	87	-6	-3.3
Max:	950	950	1	0.1
Years Rel Diff >= -1.0%				65

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	774	771	-3	-0.4
1923	757	754	-3	-0.4
1924	230	228	-2	-0.9
1925	600	597	-3	-0.5
1926	408	405	-3	-0.7
1927	750	746	-4	-0.5
1928	505	502	-3	-0.6
1929	390	387	-3	-0.8
1930	415	413	-2	-0.5
1931	255	253	-2	-0.8
1932	628	625	-3	-0.5
1933	304	300	-4	-1.3
1934	219	217	-2	-0.9
1935	677	674	-3	-0.4
1936	758	755	-3	-0.4
1937	690	686	-4	-0.6
1938	800	798	-2	-0.3
1939	338	335	-3	-0.9
1940	687	683	-4	-0.6
1941	765	762	-3	-0.4
1942	800	798	-2	-0.3
1943	771	768	-3	-0.4
1944	522	519	-3	-0.6
1945	706	703	-3	-0.4
1946	646	642	-4	-0.6
1947	380	377	-3	-0.8
1948	741	738	-3	-0.4
1949	536	533	-3	-0.6
1950	765	761	-4	-0.5
1951	646	643	-3	-0.5
1952	769	767	-2	-0.3
1953	800	798	-2	-0.3
1954	534	531	-3	-0.6
1955	432	430	-2	-0.5
1956	800	798	-2	-0.3
1957	633	630	-3	-0.5
1958	778	776	-2	-0.3
1959	216	213	-3	-1.4
1960	413	412	-1	-0.2
1961	224	221	-3	-1.3
1962	588	585	-3	-0.5
1963	721	718	-3	-0.4
1964	406	403	-3	-0.7
1965	770	767	-3	-0.4
1966	405	401	-4	-1.0
1967	800	800	0	0.0
1968	414	411	-3	-0.7
1969	794	791	-3	-0.4
1970	467	464	-3	-0.6
1971	792	792	0	0.0
1972	425	422	-3	-0.7
1973	592	589	-3	-0.5
1974	800	798	-2	-0.3
1975	800	798	-2	-0.3
1976	348	345	-3	-0.9
1977	90	88	-2	-2.2
1978	760	758	-2	-0.3
1979	595	592	-3	-0.5
1980	800	798	-2	-0.3
1981	318	315	-3	-0.9
1982	800	798	-2	-0.3
1983	800	803	3	0.4
1984	665	662	-3	-0.5
1985	408	405	-3	-0.7
1986	747	745	-2	-0.3
1987	324	322	-2	-0.6
1988	172	169	-3	-1.7
1989	378	375	-3	-0.8
1990	392	389	-3	-0.8
1991	502	499	-3	-0.6
1992	128	126	-2	-1.6
1993	800	797	-3	-0.4
Mean:	568	565	-3	-0.6
Median:	614	611	-3	-0.5
Min:	90	88	-4	-2.2
Max:	800	803	3	0.4
Years Rel Diff >= -1.0%				66

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	598	598	0	0.0
1923	592	592	0	0.0
1924	211	211	0	0.0
1925	553	553	0	0.0
1926	416	416	0	0.0
1927	584	584	0	0.0
1928	444	444	0	0.0
1929	387	387	0	0.0
1930	458	458	0	0.0
1931	237	237	0	0.0
1932	578	578	0	0.0
1933	300	300	0	0.0
1934	207	207	0	0.0
1935	614	614	0	0.0
1936	630	630	0	0.0
1937	609	609	0	0.0
1938	650	650	0	0.0
1939	344	344	0	0.0
1940	623	623	0	0.0
1941	650	650	0	0.0
1942	650	650	0	0.0
1943	587	587	0	0.0
1944	412	412	0	0.0
1945	547	547	0	0.0
1946	490	490	0	0.0
1947	300	300	0	0.0
1948	612	612	0	0.0
1949	488	488	0	0.0
1950	606	606	0	0.0
1951	480	480	0	0.0
1952	650	650	0	0.0
1953	650	650	0	0.0
1954	480	480	0	0.0
1955	461	461	0	0.0
1956	650	650	0	0.0
1957	572	572	0	0.0
1958	650	650	0	0.0
1959	233	233	0	0.0
1960	414	414	0	0.0
1961	222	222	0	0.0
1962	501	501	0	0.0
1963	600	600	0	0.0
1964	419	419	0	0.0
1965	608	608	0	0.0
1966	408	408	0	0.0
1967	650	650	0	0.0
1968	420	420	0	0.0
1969	650	650	0	0.0
1970	400	400	0	0.0
1971	650	650	0	0.0
1972	464	464	0	0.0
1973	523	523	0	0.0
1974	650	650	0	0.0
1975	650	650	0	0.0
1976	327	327	0	0.0
1977	90	90	0	0.0
1978	650	650	0	0.0
1979	485	485	0	0.0
1980	650	650	0	0.0
1981	322	322	0	0.0
1982	650	650	0	0.0
1983	650	650	0	0.0
1984	545	545	0	0.0
1985	385	385	0	0.0
1986	650	650	0	0.0
1987	337	337	0	0.0
1988	90	90	0	0.0
1989	404	404	0	0.0
1990	380	380	0	0.0
1991	393	393	0	0.0
1992	90	90	0	0.0
1993	600	600	0	0.0
Mean:	488	488	0	0.0
Median:	512	512	0	0.0
Min:	90	90	0	0.0
Max:	650	650	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2540	2540	0	0.0
1923	2976	2976	0	0.0
1924	2234	2234	0	0.0
1925	1328	1328	0	0.0
1926	1932	1932	0	0.0
1927	1633	1633	0	0.0
1928	2549	2549	0	0.0
1929	1806	1806	0	0.0
1930	1352	1352	0	0.0
1931	1849	1849	0	0.0
1932	992	992	0	0.0
1933	1674	1674	0	0.0
1934	1502	1502	0	0.0
1935	1090	1090	0	0.0
1936	1505	1505	0	0.0
1937	2175	2175	0	0.0
1938	1995	1995	0	0.0
1939	3163	3163	0	0.0
1940	1017	1017	0	0.0
1941	1871	1871	0	0.0
1942	3163	3163	0	0.0
1943	3104	3104	0	0.0
1944	2515	2515	0	0.0
1945	1666	1666	0	0.0
1946	2016	2016	0	0.0
1947	2012	2012	0	0.0
1948	1157	1157	0	0.0
1949	1787	1787	0	0.0
1950	1583	1583	0	0.0
1951	2210	2210	0	0.0
1952	2414	2414	0	0.0
1953	3163	3163	0	0.0
1954	3108	3108	0	0.0
1955	1860	1860	0	0.0
1956	1714	1714	0	0.0
1957	3031	3031	0	0.0
1958	2306	2306	0	0.0
1959	3163	3163	0	0.0
1960	1422	1422	0	0.0
1961	1514	1514	0	0.0
1962	915	915	0	0.0
1963	1967	1967	0	0.0
1964	2520	2520	0	0.0
1965	1283	1283	0	0.0
1966	2821	2821	0	0.0
1967	1535	1535	0	0.0
1968	3162	3162	0	0.0
1969	1667	1667	0	0.0
1970	3162	3162	0	0.0
1971	1827	1827	0	0.0
1972	2800	2800	0	0.0
1973	2134	2134	0	0.0
1974	2262	2262	0	0.0
1975	3163	3163	0	0.0
1976	3140	3140	0	0.0
1977	1392	1392	0	0.0
1978	30	30	0	0.0
1979	2795	2795	0	0.0
1980	2237	2237	0	0.0
1981	2772	2772	0	0.0
1982	1666	1666	0	0.0
1983	3149	3149	0	0.0
1984	3163	3163	0	0.0
1985	2390	2390	0	0.0
1986	1147	1147	0	0.0
1987	2460	2460	0	0.0
1988	1057	1057	0	0.0
1989	1177	1177	0	0.0
1990	1487	1487	0	0.0
1991	1318	1318	0	0.0
1992	1492	1492	0	0.0
1993	1200	1200	0	0.0
Mean:	2047	2047	0	0.0
Median:	1950	1950	0	0.0
Min:	30	30	0	0.0
Max:	3163	3163	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2546	2546	0	0.0
1923	3027	3027	0	0.0
1924	2174	2174	0	0.0
1925	1373	1373	0	0.0
1926	1960	1960	0	0.0
1927	1947	1947	0	0.0
1928	2706	2706	0	0.0
1929	1766	1766	0	0.0
1930	1332	1332	0	0.0
1931	1802	1802	0	0.0
1932	996	996	0	0.0
1933	1649	1649	0	0.0
1934	1462	1462	0	0.0
1935	1138	1138	0	0.0
1936	1413	1413	0	0.0
1937	2071	2071	0	0.0
1938	2174	2174	0	0.0
1939	3163	3163	0	0.0
1940	914	914	0	0.0
1941	1875	1875	0	0.0
1942	3163	3163	0	0.0
1943	3085	3085	0	0.0
1944	2557	2557	0	0.0
1945	1739	1739	0	0.0
1946	2103	2103	0	0.0
1947	2079	2079	0	0.0
1948	1133	1133	0	0.0
1949	1771	1771	0	0.0
1950	1591	1591	0	0.0
1951	2777	2777	0	0.0
1952	2471	2471	0	0.0
1953	3163	3163	0	0.0
1954	3115	3115	0	0.0
1955	1883	1883	0	0.0
1956	1694	1694	0	0.0
1957	3115	3115	0	0.0
1958	2351	2351	0	0.0
1959	3163	3163	0	0.0
1960	1320	1320	0	0.0
1961	1550	1550	0	0.0
1962	854	854	0	0.0
1963	2094	2094	0	0.0
1964	2695	2695	0	0.0
1965	1297	1297	0	0.0
1966	2943	2943	0	0.0
1967	1645	1645	0	0.0
1968	3162	3162	0	0.0
1969	1727	1727	0	0.0
1970	3162	3162	0	0.0
1971	2092	2092	0	0.0
1972	2892	2892	0	0.0
1973	2295	2295	0	0.0
1974	2788	2788	0	0.0
1975	3163	3163	0	0.0
1976	3163	3163	0	0.0
1977	1306	1306	0	0.0
1978	52	52	0	0.0
1979	2853	2853	0	0.0
1980	2294	2294	0	0.0
1981	2797	2797	0	0.0
1982	2597	2597	0	0.0
1983	2981	2981	0	0.0
1984	2950	2950	0	0.0
1985	2598	2598	0	0.0
1986	1075	1075	0	0.0
1987	2550	2550	0	0.0
1988	1086	1086	0	0.0
1989	1339	1339	0	0.0
1990	1502	1502	0	0.0
1991	1271	1271	0	0.0
1992	1438	1438	0	0.0
1993	1152	1152	0	0.0
Mean:	2099	2099	0	0.0
Median:	2086	2086	0	0.0
Min:	52	52	0	0.0
Max:	3163	3163	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2544	2544	0	0.0
1923	2922	2922	0	0.0
1924	2040	2040	0	0.0
1925	1418	1418	0	0.0
1926	1960	1960	0	0.0
1927	1935	1935	0	0.0
1928	2699	2699	0	0.0
1929	1760	1760	0	0.0
1930	1955	1955	0	0.0
1931	1694	1694	0	0.0
1932	958	958	0	0.0
1933	1672	1672	0	0.0
1934	1474	1474	0	0.0
1935	1203	1203	0	0.0
1936	1221	1221	0	0.0
1937	1859	1859	0	0.0
1938	2867	2867	0	0.0
1939	3163	3163	0	0.0
1940	827	827	0	0.0
1941	2386	2386	0	0.0
1942	2788	2788	0	0.0
1943	2966	2966	0	0.0
1944	2555	2555	0	0.0
1945	1907	1907	0	0.0
1946	2751	2751	0	0.0
1947	2169	2169	0	0.0
1948	1059	1059	0	0.0
1949	1785	1785	0	0.0
1950	1584	1584	0	0.0
1951	2866	2866	0	0.0
1952	2788	2788	0	0.0
1953	2918	2918	0	0.0
1954	3163	3163	0	0.0
1955	1976	1976	0	0.0
1956	2788	2788	0	0.0
1957	3163	3163	0	0.0
1958	2571	2571	0	0.0
1959	3163	3163	0	0.0
1960	1104	1104	0	0.0
1961	1644	1644	0	0.0
1962	941	941	0	0.0
1963	2460	2460	0	0.0
1964	2742	2742	0	0.0
1965	2788	2788	0	0.0
1966	2946	2946	0	0.0
1967	2014	2014	0	0.0
1968	3141	3141	0	0.0
1969	1949	1949	0	0.0
1970	2806	2806	0	0.0
1971	2508	2508	0	0.0
1972	3015	3015	0	0.0
1973	2573	2573	0	0.0
1974	2800	2800	0	0.0
1975	3163	3163	0	0.0
1976	3163	3163	0	0.0
1977	1114	1114	0	0.0
1978	256	256	0	0.0
1979	2911	2911	0	0.0
1980	2417	2417	0	0.0
1981	2926	2926	0	0.0
1982	2788	2788	0	0.0
1983	2930	2930	0	0.0
1984	2788	2788	0	0.0
1985	2760	2760	0	0.0
1986	1142	1142	0	0.0
1987	2569	2569	0	0.0
1988	1421	1421	0	0.0
1989	1435	1435	0	0.0
1990	1595	1595	0	0.0
1991	1261	1261	0	0.0
1992	1446	1446	0	0.0
1993	1316	1316	0	0.0
Mean:	2199	2199	0	0.0
Median:	2439	2439	0	0.0
Min:	256	256	0	0.0
Max:	3163	3163	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2677	2677	0	0.0
1923	2976	2976	0	0.0
1924	2093	2093	0	0.0
1925	1557	1557	0	0.0
1926	2100	2100	0	0.0
1927	2237	2237	0	0.0
1928	2874	2874	0	0.0
1929	1811	1811	0	0.0
1930	2235	2235	0	0.0
1931	1828	1828	0	0.0
1932	1162	1162	0	0.0
1933	1774	1774	0	0.0
1934	1700	1700	0	0.0
1935	1436	1436	0	0.0
1936	1732	1732	0	0.0
1937	1900	1900	0	0.0
1938	2924	2924	0	0.0
1939	3134	3134	0	0.0
1940	1332	1332	0	0.0
1941	2788	2788	0	0.0
1942	2788	2788	0	0.0
1943	2788	2788	0	0.0
1944	2657	2657	0	0.0
1945	2069	2069	0	0.0
1946	3007	3007	0	0.0
1947	2234	2234	0	0.0
1948	1372	1372	0	0.0
1949	1838	1838	0	0.0
1950	1866	1866	0	0.0
1951	2846	2846	0	0.0
1952	2788	2788	0	0.0
1953	2809	2809	0	0.0
1954	2918	2918	0	0.0
1955	2104	2104	0	0.0
1956	2788	2788	0	0.0
1957	3116	3116	0	0.0
1958	2860	2860	0	0.0
1959	2978	2978	0	0.0
1960	1229	1229	0	0.0
1961	1758	1758	0	0.0
1962	1064	1064	0	0.0
1963	2760	2760	0	0.0
1964	2895	2895	0	0.0
1965	2788	2788	0	0.0
1966	3015	3015	0	0.0
1967	2650	2650	0	0.0
1968	2922	2922	0	0.0
1969	2788	2788	0	0.0
1970	2787	2787	0	0.0
1971	2882	2882	0	0.0
1972	3088	3088	0	0.0
1973	2788	2788	0	0.0
1974	2870	2870	0	0.0
1975	3163	3163	0	0.0
1976	3163	3163	0	0.0
1977	1095	1095	0	0.0
1978	1162	1162	0	0.0
1979	3111	3111	0	0.0
1980	2813	2813	0	0.0
1981	2947	2947	0	0.0
1982	2943	2943	0	0.0
1983	2854	2854	0	0.0
1984	3091	3091	0	0.0
1985	2852	2852	0	0.0
1986	1467	1467	0	0.0
1987	2584	2584	0	0.0
1988	1670	1670	0	0.0
1989	1501	1501	0	0.0
1990	1729	1729	0	0.0
1991	1259	1259	0	0.0
1992	1485	1485	0	0.0
1993	1897	1897	0	0.0
Mean:	2350	2350	0	0.0
Median:	2719	2719	0	0.0
Min:	1064	1064	0	0.0
Max:	3163	3163	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2813	2813	0	0.0
1923	3089	3089	0	0.0
1924	2277	2277	0	0.0
1925	2172	2172	0	0.0
1926	2600	2600	0	0.0
1927	2788	2788	0	0.0
1928	3053	3053	0	0.0
1929	1927	1927	0	0.0
1930	2458	2458	0	0.0
1931	1953	1953	0	0.0
1932	1347	1347	0	0.0
1933	1862	1862	0	0.0
1934	1850	1850	0	0.0
1935	1631	1631	0	0.0
1936	2509	2509	0	0.0
1937	2071	2071	0	0.0
1938	2788	2788	0	0.0
1939	3163	3163	0	0.0
1940	2322	2322	0	0.0
1941	2788	2788	0	0.0
1942	2806	2806	0	0.0
1943	2890	2890	0	0.0
1944	2826	2826	0	0.0
1945	2673	2673	0	0.0
1946	3064	3064	0	0.0
1947	2511	2511	0	0.0
1948	1429	1429	0	0.0
1949	1919	1919	0	0.0
1950	2327	2327	0	0.0
1951	2925	2925	0	0.0
1952	2832	2832	0	0.0
1953	3059	3059	0	0.0
1954	2903	2903	0	0.0
1955	2192	2192	0	0.0
1956	2788	2788	0	0.0
1957	2847	2847	0	0.0
1958	2788	2788	0	0.0
1959	2839	2839	0	0.0
1960	1828	1828	0	0.0
1961	2057	2057	0	0.0
1962	1634	1634	0	0.0
1963	3057	3057	0	0.0
1964	3027	3027	0	0.0
1965	2997	2997	0	0.0
1966	3100	3100	0	0.0
1967	2951	2951	0	0.0
1968	2962	2962	0	0.0
1969	2788	2788	0	0.0
1970	2787	2787	0	0.0
1971	3162	3162	0	0.0
1972	3058	3058	0	0.0
1973	2788	2788	0	0.0
1974	3009	3009	0	0.0
1975	2884	2884	0	0.0
1976	3162	3162	0	0.0
1977	1078	1078	0	0.0
1978	1677	1677	0	0.0
1979	2843	2843	0	0.0
1980	2788	2788	0	0.0
1981	3075	3075	0	0.0
1982	2987	2987	0	0.0
1983	2788	2788	0	0.0
1984	3078	3078	0	0.0
1985	3043	3043	0	0.0
1986	2788	2788	0	0.0
1987	2745	2745	0	0.0
1988	1744	1744	0	0.0
1989	1641	1641	0	0.0
1990	1807	1807	0	0.0
1991	1263	1263	0	0.0
1992	1746	1746	0	0.0
1993	2408	2408	0	0.0
Mean:	2525	2525	0	0.0
Median:	2788	2788	0	0.0
Min:	1078	1078	0	0.0
Max:	3163	3163	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2922	2922	0	0.0
1923	3163	3163	0	0.0
1924	2236	2236	0	0.0
1925	2326	2326	0	0.0
1926	2892	2892	0	0.0
1927	2999	2999	0	0.0
1928	2797	2797	0	0.0
1929	2064	2064	0	0.0
1930	2924	2924	0	0.0
1931	2154	2154	0	0.0
1932	1670	1670	0	0.0
1933	1823	1823	0	0.0
1934	2124	2124	0	0.0
1935	1907	1907	0	0.0
1936	2912	2912	0	0.0
1937	2423	2423	0	0.0
1938	2788	2788	0	0.0
1939	3133	3133	0	0.0
1940	2788	2788	0	0.0
1941	2918	2918	0	0.0
1942	3058	3058	0	0.0
1943	2937	2937	0	0.0
1944	3067	3067	0	0.0
1945	2966	2966	0	0.0
1946	3063	3063	0	0.0
1947	2840	2840	0	0.0
1948	1626	1626	0	0.0
1949	2206	2206	0	0.0
1950	2770	2770	0	0.0
1951	3105	3105	0	0.0
1952	2988	2988	0	0.0
1953	3059	3059	0	0.0
1954	2943	2943	0	0.0
1955	2319	2319	0	0.0
1956	3018	3018	0	0.0
1957	2990	2990	0	0.0
1958	2788	2788	0	0.0
1959	3054	3054	0	0.0
1960	2393	2393	0	0.0
1961	2317	2317	0	0.0
1962	1983	1983	0	0.0
1963	2927	2927	0	0.0
1964	3154	3154	0	0.0
1965	3096	3096	0	0.0
1966	3163	3163	0	0.0
1967	2847	2847	0	0.0
1968	3036	3036	0	0.0
1969	3027	3027	0	0.0
1970	3163	3163	0	0.0
1971	3162	3162	0	0.0
1972	3163	3163	0	0.0
1973	2951	2951	0	0.0
1974	2788	2788	0	0.0
1975	2833	2833	0	0.0
1976	3163	3163	0	0.0
1977	1073	1073	0	0.0
1978	2570	2570	0	0.0
1979	3001	3001	0	0.0
1980	3028	3028	0	0.0
1981	3024	3024	0	0.0
1982	2936	2936	0	0.0
1983	2788	2788	0	0.0
1984	3120	3120	0	0.0
1985	3117	3117	0	0.0
1986	2788	2788	0	0.0
1987	3053	3053	0	0.0
1988	1835	1835	0	0.0
1989	2788	2788	0	0.0
1990	2066	2066	0	0.0
1991	1651	1651	0	0.0
1992	1990	1990	0	0.0
1993	2964	2964	0	0.0
Mean:	2704	2704	0	0.0
Median:	2920	2920	0	0.0
Min:	1073	1073	0	0.0
Max:	3163	3163	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3446	3446	0	0.0
1923	3459	3459	0	0.0
1924	2185	2185	0	0.0
1925	2615	2615	0	0.0
1926	3348	3348	0	0.0
1927	3396	3396	0	0.0
1928	3223	3223	0	0.0
1929	2102	2102	0	0.0
1930	3213	3213	0	0.0
1931	2075	2075	0	0.0
1932	1790	1790	0	0.0
1933	1888	1888	0	0.0
1934	2098	2098	0	0.0
1935	2916	2916	0	0.0
1936	3302	3302	0	0.0
1937	2803	2803	0	0.0
1938	3277	3277	0	0.0
1939	3036	3036	0	0.0
1940	3238	3238	0	0.0
1941	3334	3334	0	0.0
1942	3281	3281	0	0.0
1943	3350	3350	0	0.0
1944	3208	3208	0	0.0
1945	3201	3201	0	0.0
1946	3372	3372	0	0.0
1947	2930	2930	0	0.0
1948	2283	2283	0	0.0
1949	2513	2513	0	0.0
1950	3262	3262	0	0.0
1951	3327	3327	0	0.0
1952	3452	3452	0	0.0
1953	3284	3284	0	0.0
1954	3292	3292	0	0.0
1955	2425	2425	0	0.0
1956	3427	3427	0	0.0
1957	2948	2948	0	0.0
1958	3235	3235	0	0.0
1959	3116	3116	0	0.0
1960	2579	2579	0	0.0
1961	2372	2372	0	0.0
1962	2440	2440	0	0.0
1963	3180	3180	0	0.0
1964	2984	2984	0	0.0
1965	3354	3354	0	0.0
1966	3459	3459	0	0.0
1967	3236	3236	0	0.0
1968	3001	3001	0	0.0
1969	3470	3470	0	0.0
1970	3047	3047	0	0.0
1971	3433	3433	0	0.0
1972	3321	3321	0	0.0
1973	3250	3250	0	0.0
1974	3292	3292	0	0.0
1975	3270	3270	0	0.0
1976	3076	3076	0	0.0
1977	932	932	0	0.0
1978	3083	3083	0	0.0
1979	3144	3144	0	0.0
1980	3282	3282	0	0.0
1981	3187	3187	0	0.0
1982	3303	3303	0	0.0
1983	3208	3208	0	0.0
1984	3280	3280	0	0.0
1985	3265	3265	0	0.0
1986	3135	3135	0	0.0
1987	2891	2891	0	0.0
1988	1866	1866	0	0.0
1989	3170	3170	0	0.0
1990	2020	2020	0	0.0
1991	1847	1847	0	0.0
1992	2126	2126	0	0.0
1993	3456	3456	0	0.0
Mean:	2953	2953	0	0.0
Median:	3205	3205	0	0.0
Min:	932	932	0	0.0
Max:	3470	3470	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3538	3538	0	0.0
1923	3538	3538	0	0.0
1924	2107	2150	43	2.0
1925	2744	2787	43	1.6
1926	3169	3212	43	1.4
1927	3538	3538	0	0.0
1928	3109	3152	43	1.4
1929	2081	2124	43	2.1
1930	3286	3329	43	1.3
1931	2028	2071	43	2.1
1932	2119	2162	43	2.0
1933	2024	2067	43	2.1
1934	2026	2069	43	2.1
1935	3256	3278	22	0.7
1936	3482	3521	39	1.1
1937	3141	3184	43	1.4
1938	3538	3538	0	0.0
1939	2825	2844	19	0.7
1940	3304	3304	0	0.0
1941	3538	3538	0	0.0
1942	3538	3538	0	0.0
1943	3498	3517	19	0.5
1944	3382	3382	0	0.0
1945	3456	3456	0	0.0
1946	3521	3521	0	0.0
1947	2727	2727	0	0.0
1948	2745	2745	0	0.0
1949	2712	2744	32	1.2
1950	3483	3483	0	0.0
1951	3538	3538	0	0.0
1952	3538	3538	0	0.0
1953	3538	3538	0	0.0
1954	3050	3052	2	0.1
1955	2604	2648	44	1.7
1956	3538	3538	0	0.0
1957	3231	3253	22	0.7
1958	3538	3538	0	0.0
1959	3073	3073	0	0.0
1960	2678	2721	43	1.6
1961	2434	2445	11	0.5
1962	2613	2613	0	0.0
1963	3538	3538	0	0.0
1964	3025	3025	0	0.0
1965	3396	3404	8	0.2
1966	3304	3304	0	0.0
1967	3538	3538	0	0.0
1968	3090	3091	1	0.0
1969	3538	3538	0	0.0
1970	3092	3114	22	0.7
1971	3538	3538	0	0.0
1972	3375	3384	9	0.3
1973	3538	3538	0	0.0
1974	3538	3538	0	0.0
1975	3538	3538	0	0.0
1976	2949	2992	43	1.5
1977	826	870	44	5.3
1978	3385	3428	43	1.3
1979	3426	3431	5	0.1
1980	3465	3508	43	1.2
1981	3168	3168	0	0.0
1982	3538	3538	0	0.0
1983	3538	3538	0	0.0
1984	3423	3431	8	0.2
1985	3058	3058	0	0.0
1986	3213	3256	43	1.3
1987	2761	2804	43	1.6
1988	1853	1896	43	2.3
1989	3014	3014	0	0.0
1990	2033	2076	43	2.1
1991	1976	2020	44	2.2
1992	2010	2053	43	2.1
1993	3538	3538	0	0.0
Mean:	3056	3073	17	0.7
Median:	3271	3291	2	0.1
Min:	826	870	0	0.0
Max:	3538	3538	44	5.3
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3538	3538	0	0.0
1923	3166	3197	31	1.0
1924	1904	1995	91	4.8
1925	2647	2738	91	3.4
1926	2785	2876	91	3.3
1927	3391	3430	39	1.2
1928	2758	2849	91	3.3
1929	1862	1954	92	4.9
1930	2966	3057	91	3.1
1931	1863	1954	91	4.9
1932	2089	2180	91	4.4
1933	1976	2068	92	4.7
1934	1845	1936	91	4.9
1935	2865	2911	46	1.6
1936	3306	3389	83	2.5
1937	2806	2897	91	3.2
1938	3538	3538	0	0.0
1939	2510	2551	41	1.6
1940	2954	2954	0	0.0
1941	3294	3342	48	1.5
1942	3538	3538	0	0.0
1943	3274	3314	40	1.2
1944	3065	3065	0	0.0
1945	3149	3149	0	0.0
1946	3163	3163	0	0.0
1947	2428	2428	0	0.0
1948	2898	2898	0	0.0
1949	2317	2385	68	2.9
1950	3195	3195	0	0.0
1951	3377	3377	0	0.0
1952	3538	3538	0	0.0
1953	3538	3538	0	0.0
1954	2826	2830	4	0.1
1955	2253	2344	91	4.0
1956	3538	3538	0	0.0
1957	2995	3042	47	1.6
1958	3538	3538	0	0.0
1959	2659	2659	0	0.0
1960	2404	2495	91	3.8
1961	2225	2248	23	1.0
1962	2455	2455	0	0.0
1963	3204	3247	43	1.3
1964	2739	2739	0	0.0
1965	3453	3469	16	0.5
1966	2905	2905	0	0.0
1967	3538	3538	0	0.0
1968	2717	2719	2	0.1
1969	3538	3538	0	0.0
1970	2746	2793	47	1.7
1971	3538	3538	0	0.0
1972	3006	3024	18	0.6
1973	3080	3112	32	1.0
1974	3377	3425	48	1.4
1975	3538	3538	0	0.0
1976	2660	2752	92	3.5
1977	517	609	92	17.8
1978	3319	3411	92	2.8
1979	3036	3047	11	0.4
1980	3425	3516	91	2.7
1981	2809	2809	0	0.0
1982	3538	3538	0	0.0
1983	3538	3538	0	0.0
1984	3093	3108	15	0.5
1985	2651	2651	0	0.0
1986	2992	3083	91	3.0
1987	2430	2521	91	3.7
1988	1675	1766	91	5.4
1989	2551	2551	0	0.0
1990	1835	1926	91	5.0
1991	1918	2010	92	4.8
1992	1817	1909	92	5.1
1993	3538	3538	0	0.0
Mean:	2849	2888	39	1.8
Median:	2960	2989	27	1.0
Min:	517	609	0	0.0
Max:	3538	3538	92	17.8
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	3479	3314	-165	-4.7
1923	2829	2773	-56	-2.0
1924	1655	1602	-53	-3.2
1925	2061	2223	162	7.9
1926	2415	2372	-43	-1.8
1927	3213	3082	-131	-4.1
1928	2499	2422	-77	-3.1
1929	1646	1709	63	3.8
1930	2409	2469	60	2.5
1931	1490	1465	-25	-1.7
1932	1937	1959	22	1.1
1933	1820	1824	4	0.2
1934	1692	1688	-4	-0.2
1935	2382	2302	-80	-3.4
1936	2950	2876	-74	-2.5
1937	2700	2579	-121	-4.5
1938	3597	3438	-159	-4.4
1939	2096	2018	-78	-3.7
1940	2355	2355	0	0.0
1941	3205	3189	-16	-0.5
1942	3485	3338	-147	-4.2
1943	3017	2929	-88	-2.9
1944	2583	2522	-61	-2.4
1945	2581	2571	-10	-0.4
1946	2614	2613	-1	0.0
1947	1898	1867	-31	-1.6
1948	2395	2383	-12	-0.5
1949	2023	2029	6	0.3
1950	2643	2634	-9	-0.3
1951	2848	2824	-24	-0.8
1952	3563	3542	-21	-0.6
1953	3322	3235	-87	-2.6
1954	2412	2338	-74	-3.1
1955	1968	2025	57	2.9
1956	3416	3304	-112	-3.3
1957	2688	2616	-72	-2.7
1958	3526	3487	-39	-1.1
1959	2155	2112	-43	-2.0
1960	2052	2059	7	0.3
1961	1904	1828	-76	-4.0
1962	2035	1959	-76	-3.7
1963	3031	2906	-125	-4.1
1964	2203	2171	-32	-1.5
1965	3144	3094	-50	-1.6
1966	2452	2382	-70	-2.9
1967	3525	3538	13	0.4
1968	2349	2269	-80	-3.4
1969	3495	3432	-63	-1.8
1970	2357	2294	-63	-2.7
1971	3013	3023	10	0.3
1972	2679	2626	-53	-2.0
1973	2802	2691	-111	-4.0
1974	3486	3349	-137	-3.9
1975	3422	3288	-134	-3.9
1976	2163	2005	-158	-7.3
1977	291	264	-27	-9.3
1978	3233	3114	-119	-3.7
1979	2712	2650	-62	-2.3
1980	3341	3247	-94	-2.8
1981	2323	2281	-42	-1.8
1982	3600	3487	-113	-3.1
1983	3561	3546	-15	-0.4
1984	2654	2624	-30	-1.1
1985	2092	2067	-25	-1.2
1986	2907	2721	-186	-6.4
1987	1987	1940	-47	-2.4
1988	1434	1489	55	3.8
1989	2041	1979	-62	-3.0
1990	1610	1631	21	1.3
1991	1697	1651	-46	-2.7
1992	1580	1639	59	3.7
1993	3394	3243	-151	-4.4
Mean:	2557	2507	-50	-1.8
Median:	2540	2496	-52	-2.2
Min:	291	264	-186	-9.3
Max:	3600	3546	162	7.9
Years Rel Diff >= -1.0%				23

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2980	2941	-39	-1.3
1923	2383	2360	-23	-1.0
1924	1452	1414	-38	-2.6
1925	2036	2004	-32	-1.6
1926	2039	1947	-92	-4.5
1927	2690	2663	-27	-1.0
1928	2123	2087	-36	-1.7
1929	1536	1495	-41	-2.7
1930	1998	1981	-17	-0.9
1931	1222	1189	-33	-2.7
1932	1848	1823	-25	-1.4
1933	1685	1633	-52	-3.1
1934	1420	1378	-42	-3.0
1935	1895	1847	-48	-2.5
1936	2439	2410	-29	-1.2
1937	2168	2135	-33	-1.5
1938	3187	3165	-22	-0.7
1939	1529	1462	-67	-4.4
1940	1913	1913	0	0.0
1941	3166	3148	-18	-0.6
1942	3108	3087	-21	-0.7
1943	2545	2531	-14	-0.6
1944	2113	2071	-42	-2.0
1945	2124	2124	0	0.0
1946	2184	2184	0	0.0
1947	1406	1401	-5	-0.4
1948	1968	1957	-11	-0.6
1949	1727	1704	-23	-1.3
1950	2226	2226	0	0.0
1951	2412	2412	0	0.0
1952	3549	3537	-12	-0.3
1953	3114	3105	-9	-0.3
1954	2072	2027	-45	-2.2
1955	1870	1851	-19	-1.0
1956	2968	2947	-21	-0.7
1957	2319	2282	-37	-1.6
1958	3500	3481	-19	-0.5
1959	1686	1659	-27	-1.6
1960	1669	1667	-2	-0.1
1961	1385	1339	-46	-3.3
1962	1503	1462	-41	-2.7
1963	2546	2518	-28	-1.1
1964	1707	1695	-12	-0.7
1965	2803	2792	-11	-0.4
1966	2023	1977	-46	-2.3
1967	3490	3505	15	0.4
1968	1991	1953	-38	-1.9
1969	3444	3402	-42	-1.2
1970	1956	1916	-40	-2.0
1971	2744	2758	14	0.5
1972	2271	2240	-31	-1.4
1973	2350	2304	-46	-2.0
1974	3356	3320	-36	-1.1
1975	3300	3261	-39	-1.2
1976	1729	1689	-40	-2.3
1977	66	62	-4	-6.1
1978	2770	2737	-33	-1.2
1979	2293	2266	-27	-1.2
1980	2865	2850	-15	-0.5
1981	1919	1887	-32	-1.7
1982	3356	3337	-19	-0.6
1983	3538	3544	6	0.2
1984	2398	2393	-5	-0.2
1985	1577	1554	-23	-1.5
1986	2394	2350	-44	-1.8
1987	1481	1430	-51	-3.4
1988	1308	1285	-23	-1.8
1989	1546	1505	-41	-2.7
1990	1440	1409	-31	-2.2
1991	1565	1541	-24	-1.5
1992	1398	1390	-8	-0.6
1993	2926	2890	-36	-1.2
Mean:	2218	2192	-26	-1.4
Median:	2118	2079	-27	-1.2
Min:	66	62	-92	-6.1
Max:	3549	3544	15	0.5
Years Rel Diff >= -1.0%				29

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	2941	2935	-6	-0.2
1923	2316	2314	-2	-0.1
1924	1324	1324	0	0.0
1925	1972	1972	0	0.0
1926	1753	1753	0	0.0
1927	2601	2601	0	0.0
1928	1989	1985	-4	-0.2
1929	1425	1426	1	0.1
1930	1916	1917	1	0.1
1931	1087	1086	-1	-0.1
1932	1763	1763	0	0.0
1933	1604	1603	-1	-0.1
1934	1201	1199	-2	-0.2
1935	1703	1698	-5	-0.3
1936	2337	2337	0	0.0
1937	2050	2050	0	0.0
1938	3195	3195	0	0.0
1939	1228	1228	0	0.0
1940	1871	1871	0	0.0
1941	3142	3142	0	0.0
1942	3082	3082	0	0.0
1943	2501	2501	0	0.0
1944	1830	1830	0	0.0
1945	2025	2025	0	0.0
1946	2095	2095	0	0.0
1947	1196	1196	0	0.0
1948	1865	1865	0	0.0
1949	1633	1633	0	0.0
1950	2160	2160	0	0.0
1951	2367	2367	0	0.0
1952	3350	3350	0	0.0
1953	3079	3079	0	0.0
1954	1925	1923	-2	-0.1
1955	1788	1789	1	0.1
1956	2956	2956	0	0.0
1957	2293	2289	-4	-0.2
1958	3350	3350	0	0.0
1959	1605	1602	-3	-0.2
1960	1565	1565	0	0.0
1961	1138	1138	0	0.0
1962	1301	1297	-4	-0.3
1963	2515	2515	0	0.0
1964	1463	1463	0	0.0
1965	2768	2768	0	0.0
1966	1774	1774	0	0.0
1967	3350	3350	0	0.0
1968	1751	1749	-2	-0.1
1969	3166	3162	-4	-0.1
1970	1835	1835	0	0.0
1971	2733	2733	0	0.0
1972	2181	2181	0	0.0
1973	2240	2234	-6	-0.3
1974	3307	3301	-6	-0.2
1975	3254	3249	-5	-0.2
1976	1528	1521	-7	-0.5
1977	74	71	-3	-4.1
1978	2773	2773	0	0.0
1979	2186	2183	-3	-0.1
1980	2797	2797	0	0.0
1981	1707	1705	-2	-0.1
1982	3349	3351	2	0.1
1983	3351	3351	0	0.0
1984	2340	2340	0	0.0
1985	1317	1315	-2	-0.2
1986	2438	2429	-9	-0.4
1987	1204	1199	-5	-0.4
1988	1223	1223	0	0.0
1989	1466	1460	-6	-0.4
1990	1360	1360	0	0.0
1991	1506	1506	0	0.0
1992	1198	1199	1	0.1
1993	2867	2862	-5	-0.2
Mean:	2105	2103	-1	-0.1
Median:	1981	1979	0	0.0
Min:	74	71	-9	-4.1
Max:	3351	3351	2	0.1
Years Rel Diff >= -1.0%				71

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	217	217	0	0.0
1923	217	217	0	0.0
1924	217	217	0	0.0
1925	180	180	0	0.0
1926	217	217	0	0.0
1927	217	217	0	0.0
1928	217	217	0	0.0
1929	217	217	0	0.0
1930	217	217	0	0.0
1931	217	217	0	0.0
1932	180	180	0	0.0
1933	217	217	0	0.0
1934	217	217	0	0.0
1935	180	180	0	0.0
1936	217	217	0	0.0
1937	217	217	0	0.0
1938	217	217	0	0.0
1939	217	217	0	0.0
1940	217	217	0	0.0
1941	217	217	0	0.0
1942	217	217	0	0.0
1943	217	217	0	0.0
1944	217	217	0	0.0
1945	217	217	0	0.0
1946	217	217	0	0.0
1947	217	217	0	0.0
1948	217	217	0	0.0
1949	217	217	0	0.0
1950	217	217	0	0.0
1951	217	217	0	0.0
1952	217	217	0	0.0
1953	217	217	0	0.0
1954	217	217	0	0.0
1955	217	217	0	0.0
1956	217	217	0	0.0
1957	217	217	0	0.0
1958	217	217	0	0.0
1959	217	217	0	0.0
1960	217	217	0	0.0
1961	217	217	0	0.0
1962	217	217	0	0.0
1963	217	217	0	0.0
1964	217	217	0	0.0
1965	217	217	0	0.0
1966	217	217	0	0.0
1967	217	217	0	0.0
1968	217	217	0	0.0
1969	217	217	0	0.0
1970	217	217	0	0.0
1971	217	217	0	0.0
1972	217	217	0	0.0
1973	217	217	0	0.0
1974	217	217	0	0.0
1975	217	217	0	0.0
1976	217	217	0	0.0
1977	217	217	0	0.0
1978	180	180	0	0.0
1979	217	217	0	0.0
1980	217	217	0	0.0
1981	217	217	0	0.0
1982	217	217	0	0.0
1983	217	217	0	0.0
1984	217	217	0	0.0
1985	217	217	0	0.0
1986	217	217	0	0.0
1987	217	217	0	0.0
1988	217	217	0	0.0
1989	217	217	0	0.0
1990	217	217	0	0.0
1991	217	217	0	0.0
1992	217	217	0	0.0
1993	217	217	0	0.0
Mean:	215	215	0	0.0
Median:	217	217	0	0.0
Min:	180	180	0	0.0
Max:	217	217	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	206	206	0	0.0
1923	206	206	0	0.0
1924	206	206	0	0.0
1925	194	194	0	0.0
1926	206	206	0	0.0
1927	206	206	0	0.0
1928	206	206	0	0.0
1929	206	206	0	0.0
1930	206	206	0	0.0
1931	206	206	0	0.0
1932	180	180	0	0.0
1933	206	206	0	0.0
1934	206	206	0	0.0
1935	191	191	0	0.0
1936	206	206	0	0.0
1937	206	206	0	0.0
1938	206	206	0	0.0
1939	206	206	0	0.0
1940	206	206	0	0.0
1941	206	206	0	0.0
1942	206	206	0	0.0
1943	206	206	0	0.0
1944	206	206	0	0.0
1945	206	206	0	0.0
1946	206	206	0	0.0
1947	206	206	0	0.0
1948	206	206	0	0.0
1949	206	206	0	0.0
1950	206	206	0	0.0
1951	206	206	0	0.0
1952	206	206	0	0.0
1953	206	206	0	0.0
1954	206	206	0	0.0
1955	206	206	0	0.0
1956	206	206	0	0.0
1957	206	206	0	0.0
1958	206	206	0	0.0
1959	206	206	0	0.0
1960	206	206	0	0.0
1961	206	206	0	0.0
1962	206	206	0	0.0
1963	206	206	0	0.0
1964	206	206	0	0.0
1965	206	206	0	0.0
1966	206	206	0	0.0
1967	206	206	0	0.0
1968	206	206	0	0.0
1969	206	206	0	0.0
1970	206	206	0	0.0
1971	206	206	0	0.0
1972	206	206	0	0.0
1973	206	206	0	0.0
1974	206	206	0	0.0
1975	206	206	0	0.0
1976	206	206	0	0.0
1977	206	206	0	0.0
1978	181	181	0	0.0
1979	206	206	0	0.0
1980	206	206	0	0.0
1981	206	206	0	0.0
1982	206	206	0	0.0
1983	206	206	0	0.0
1984	206	206	0	0.0
1985	206	206	0	0.0
1986	206	206	0	0.0
1987	206	206	0	0.0
1988	206	206	0	0.0
1989	206	206	0	0.0
1990	206	206	0	0.0
1991	206	206	0	0.0
1992	206	206	0	0.0
1993	206	206	0	0.0
Mean:	205	205	0	0.0
Median:	206	206	0	0.0
Min:	180	180	0	0.0
Max:	206	206	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	206	206	0	0.0
1923	206	206	0	0.0
1924	206	206	0	0.0
1925	206	206	0	0.0
1926	206	206	0	0.0
1927	206	206	0	0.0
1928	206	206	0	0.0
1929	206	206	0	0.0
1930	206	206	0	0.0
1931	206	206	0	0.0
1932	180	180	0	0.0
1933	204	204	0	0.0
1934	206	206	0	0.0
1935	194	194	0	0.0
1936	202	202	0	0.0
1937	206	206	0	0.0
1938	206	206	0	0.0
1939	206	206	0	0.0
1940	206	206	0	0.0
1941	206	206	0	0.0
1942	206	206	0	0.0
1943	206	206	0	0.0
1944	206	206	0	0.0
1945	206	206	0	0.0
1946	206	206	0	0.0
1947	206	206	0	0.0
1948	206	206	0	0.0
1949	206	206	0	0.0
1950	206	206	0	0.0
1951	206	206	0	0.0
1952	206	206	0	0.0
1953	206	206	0	0.0
1954	206	206	0	0.0
1955	206	206	0	0.0
1956	206	206	0	0.0
1957	206	206	0	0.0
1958	206	206	0	0.0
1959	206	206	0	0.0
1960	206	206	0	0.0
1961	206	206	0	0.0
1962	206	206	0	0.0
1963	206	206	0	0.0
1964	206	206	0	0.0
1965	206	206	0	0.0
1966	206	206	0	0.0
1967	206	206	0	0.0
1968	206	206	0	0.0
1969	206	206	0	0.0
1970	206	206	0	0.0
1971	206	206	0	0.0
1972	206	206	0	0.0
1973	206	206	0	0.0
1974	206	206	0	0.0
1975	206	206	0	0.0
1976	206	206	0	0.0
1977	206	206	0	0.0
1978	206	206	0	0.0
1979	206	206	0	0.0
1980	206	206	0	0.0
1981	206	206	0	0.0
1982	206	206	0	0.0
1983	206	206	0	0.0
1984	206	206	0	0.0
1985	206	206	0	0.0
1986	206	206	0	0.0
1987	206	206	0	0.0
1988	206	206	0	0.0
1989	206	206	0	0.0
1990	206	206	0	0.0
1991	206	206	0	0.0
1992	206	206	0	0.0
1993	206	206	0	0.0
Mean:	205	205	0	0.0
Median:	206	206	0	0.0
Min:	180	180	0	0.0
Max:	206	206	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	206	206	0	0.0
1923	206	206	0	0.0
1924	206	206	0	0.0
1925	206	206	0	0.0
1926	206	206	0	0.0
1927	206	206	0	0.0
1928	206	206	0	0.0
1929	206	206	0	0.0
1930	206	206	0	0.0
1931	206	206	0	0.0
1932	185	185	0	0.0
1933	206	206	0	0.0
1934	206	206	0	0.0
1935	206	206	0	0.0
1936	206	206	0	0.0
1937	206	206	0	0.0
1938	206	206	0	0.0
1939	206	206	0	0.0
1940	206	206	0	0.0
1941	206	206	0	0.0
1942	206	206	0	0.0
1943	206	206	0	0.0
1944	206	206	0	0.0
1945	206	206	0	0.0
1946	206	206	0	0.0
1947	206	206	0	0.0
1948	206	206	0	0.0
1949	206	206	0	0.0
1950	206	206	0	0.0
1951	206	206	0	0.0
1952	206	206	0	0.0
1953	206	206	0	0.0
1954	206	206	0	0.0
1955	206	206	0	0.0
1956	206	206	0	0.0
1957	206	206	0	0.0
1958	206	206	0	0.0
1959	206	206	0	0.0
1960	206	206	0	0.0
1961	206	206	0	0.0
1962	206	206	0	0.0
1963	206	206	0	0.0
1964	206	206	0	0.0
1965	206	206	0	0.0
1966	206	206	0	0.0
1967	206	206	0	0.0
1968	206	206	0	0.0
1969	206	206	0	0.0
1970	206	206	0	0.0
1971	206	206	0	0.0
1972	206	206	0	0.0
1973	206	206	0	0.0
1974	206	206	0	0.0
1975	206	206	0	0.0
1976	206	206	0	0.0
1977	206	206	0	0.0
1978	206	206	0	0.0
1979	206	206	0	0.0
1980	206	206	0	0.0
1981	206	206	0	0.0
1982	206	206	0	0.0
1983	206	206	0	0.0
1984	206	206	0	0.0
1985	206	206	0	0.0
1986	206	206	0	0.0
1987	206	206	0	0.0
1988	206	206	0	0.0
1989	206	206	0	0.0
1990	206	206	0	0.0
1991	206	206	0	0.0
1992	206	206	0	0.0
1993	206	206	0	0.0
Mean:	206	206	0	0.0
Median:	206	206	0	0.0
Min:	185	185	0	0.0
Max:	206	206	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	206	206	0	0.0
1923	206	206	0	0.0
1924	206	206	0	0.0
1925	206	206	0	0.0
1926	206	206	0	0.0
1927	206	206	0	0.0
1928	206	206	0	0.0
1929	206	206	0	0.0
1930	206	206	0	0.0
1931	206	206	0	0.0
1932	191	191	0	0.0
1933	206	206	0	0.0
1934	206	206	0	0.0
1935	206	206	0	0.0
1936	206	206	0	0.0
1937	206	206	0	0.0
1938	206	206	0	0.0
1939	206	206	0	0.0
1940	206	206	0	0.0
1941	206	206	0	0.0
1942	206	206	0	0.0
1943	206	206	0	0.0
1944	206	206	0	0.0
1945	206	206	0	0.0
1946	206	206	0	0.0
1947	206	206	0	0.0
1948	206	206	0	0.0
1949	206	206	0	0.0
1950	206	206	0	0.0
1951	206	206	0	0.0
1952	206	206	0	0.0
1953	206	206	0	0.0
1954	206	206	0	0.0
1955	206	206	0	0.0
1956	206	206	0	0.0
1957	206	206	0	0.0
1958	206	206	0	0.0
1959	206	206	0	0.0
1960	206	206	0	0.0
1961	206	206	0	0.0
1962	206	206	0	0.0
1963	206	206	0	0.0
1964	206	206	0	0.0
1965	206	206	0	0.0
1966	206	206	0	0.0
1967	206	206	0	0.0
1968	206	206	0	0.0
1969	206	206	0	0.0
1970	206	206	0	0.0
1971	206	206	0	0.0
1972	206	206	0	0.0
1973	206	206	0	0.0
1974	206	206	0	0.0
1975	206	206	0	0.0
1976	206	206	0	0.0
1977	206	206	0	0.0
1978	206	206	0	0.0
1979	206	206	0	0.0
1980	206	206	0	0.0
1981	206	206	0	0.0
1982	206	206	0	0.0
1983	206	206	0	0.0
1984	206	206	0	0.0
1985	206	206	0	0.0
1986	206	206	0	0.0
1987	206	206	0	0.0
1988	206	206	0	0.0
1989	206	206	0	0.0
1990	206	206	0	0.0
1991	206	206	0	0.0
1992	206	206	0	0.0
1993	206	206	0	0.0
Mean:	206	206	0	0.0
Median:	206	206	0	0.0
Min:	191	191	0	0.0
Max:	206	206	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	217	217	0	0.0
1923	217	217	0	0.0
1924	217	217	0	0.0
1925	217	217	0	0.0
1926	217	217	0	0.0
1927	217	217	0	0.0
1928	217	217	0	0.0
1929	217	217	0	0.0
1930	217	217	0	0.0
1931	217	217	0	0.0
1932	214	214	0	0.0
1933	217	217	0	0.0
1934	217	217	0	0.0
1935	217	217	0	0.0
1936	217	217	0	0.0
1937	217	217	0	0.0
1938	217	217	0	0.0
1939	217	217	0	0.0
1940	217	217	0	0.0
1941	217	217	0	0.0
1942	217	217	0	0.0
1943	217	217	0	0.0
1944	217	217	0	0.0
1945	217	217	0	0.0
1946	217	217	0	0.0
1947	217	217	0	0.0
1948	217	217	0	0.0
1949	217	217	0	0.0
1950	217	217	0	0.0
1951	217	217	0	0.0
1952	217	217	0	0.0
1953	217	217	0	0.0
1954	217	217	0	0.0
1955	217	217	0	0.0
1956	217	217	0	0.0
1957	217	217	0	0.0
1958	217	217	0	0.0
1959	217	217	0	0.0
1960	217	217	0	0.0
1961	217	217	0	0.0
1962	217	217	0	0.0
1963	217	217	0	0.0
1964	217	217	0	0.0
1965	217	217	0	0.0
1966	217	217	0	0.0
1967	217	217	0	0.0
1968	217	217	0	0.0
1969	217	217	0	0.0
1970	217	217	0	0.0
1971	217	217	0	0.0
1972	217	217	0	0.0
1973	217	217	0	0.0
1974	217	217	0	0.0
1975	217	217	0	0.0
1976	217	217	0	0.0
1977	217	217	0	0.0
1978	217	217	0	0.0
1979	217	217	0	0.0
1980	217	217	0	0.0
1981	217	217	0	0.0
1982	217	217	0	0.0
1983	217	217	0	0.0
1984	217	217	0	0.0
1985	217	217	0	0.0
1986	217	217	0	0.0
1987	217	217	0	0.0
1988	217	217	0	0.0
1989	217	217	0	0.0
1990	217	217	0	0.0
1991	217	217	0	0.0
1992	217	217	0	0.0
1993	217	217	0	0.0
Mean:	217	217	0	0.0
Median:	217	217	0	0.0
Min:	214	214	0	0.0
Max:	217	217	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	240	240	0	0.0
1923	240	240	0	0.0
1924	240	240	0	0.0
1925	240	240	0	0.0
1926	240	240	0	0.0
1927	240	240	0	0.0
1928	240	240	0	0.0
1929	240	240	0	0.0
1930	240	240	0	0.0
1931	240	240	0	0.0
1932	226	226	0	0.0
1933	240	240	0	0.0
1934	240	240	0	0.0
1935	240	240	0	0.0
1936	240	240	0	0.0
1937	240	240	0	0.0
1938	240	240	0	0.0
1939	240	240	0	0.0
1940	240	240	0	0.0
1941	240	240	0	0.0
1942	240	240	0	0.0
1943	240	240	0	0.0
1944	240	240	0	0.0
1945	240	240	0	0.0
1946	240	240	0	0.0
1947	240	240	0	0.0
1948	240	240	0	0.0
1949	240	240	0	0.0
1950	240	240	0	0.0
1951	240	240	0	0.0
1952	240	240	0	0.0
1953	240	240	0	0.0
1954	240	240	0	0.0
1955	240	240	0	0.0
1956	240	240	0	0.0
1957	240	240	0	0.0
1958	240	240	0	0.0
1959	240	240	0	0.0
1960	240	240	0	0.0
1961	240	240	0	0.0
1962	240	240	0	0.0
1963	240	240	0	0.0
1964	240	240	0	0.0
1965	240	240	0	0.0
1966	240	240	0	0.0
1967	240	240	0	0.0
1968	240	240	0	0.0
1969	240	240	0	0.0
1970	240	240	0	0.0
1971	240	240	0	0.0
1972	240	240	0	0.0
1973	240	240	0	0.0
1974	240	240	0	0.0
1975	240	240	0	0.0
1976	240	240	0	0.0
1977	240	240	0	0.0
1978	240	240	0	0.0
1979	240	240	0	0.0
1980	240	240	0	0.0
1981	240	240	0	0.0
1982	240	240	0	0.0
1983	240	240	0	0.0
1984	240	240	0	0.0
1985	240	240	0	0.0
1986	240	240	0	0.0
1987	240	240	0	0.0
1988	240	240	0	0.0
1989	240	240	0	0.0
1990	240	240	0	0.0
1991	240	240	0	0.0
1992	240	240	0	0.0
1993	240	240	0	0.0
Mean:	240	240	0	0.0
Median:	240	240	0	0.0
Min:	226	226	0	0.0
Max:	240	240	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	240	240	0	0.0
1923	240	240	0	0.0
1924	240	240	0	0.0
1925	240	240	0	0.0
1926	240	240	0	0.0
1927	240	240	0	0.0
1928	240	240	0	0.0
1929	240	240	0	0.0
1930	240	240	0	0.0
1931	240	240	0	0.0
1932	234	234	0	0.0
1933	240	240	0	0.0
1934	240	240	0	0.0
1935	240	240	0	0.0
1936	240	240	0	0.0
1937	240	240	0	0.0
1938	240	240	0	0.0
1939	240	240	0	0.0
1940	240	240	0	0.0
1941	240	240	0	0.0
1942	240	240	0	0.0
1943	237	237	0	0.0
1944	240	240	0	0.0
1945	237	237	0	0.0
1946	240	240	0	0.0
1947	240	240	0	0.0
1948	240	240	0	0.0
1949	239	239	0	0.0
1950	240	240	0	0.0
1951	240	240	0	0.0
1952	240	240	0	0.0
1953	240	240	0	0.0
1954	240	240	0	0.0
1955	240	240	0	0.0
1956	240	240	0	0.0
1957	240	240	0	0.0
1958	240	240	0	0.0
1959	240	240	0	0.0
1960	240	240	0	0.0
1961	238	238	0	0.0
1962	237	237	0	0.0
1963	240	240	0	0.0
1964	240	240	0	0.0
1965	240	240	0	0.0
1966	236	236	0	0.0
1967	240	240	0	0.0
1968	240	240	0	0.0
1969	240	240	0	0.0
1970	239	239	0	0.0
1971	240	240	0	0.0
1972	240	240	0	0.0
1973	240	240	0	0.0
1974	240	240	0	0.0
1975	240	240	0	0.0
1976	240	240	0	0.0
1977	240	240	0	0.0
1978	240	240	0	0.0
1979	240	240	0	0.0
1980	240	240	0	0.0
1981	240	240	0	0.0
1982	240	240	0	0.0
1983	240	240	0	0.0
1984	236	236	0	0.0
1985	240	240	0	0.0
1986	239	239	0	0.0
1987	240	240	0	0.0
1988	240	240	0	0.0
1989	239	239	0	0.0
1990	240	240	0	0.0
1991	240	240	0	0.0
1992	240	240	0	0.0
1993	240	240	0	0.0
Mean:	240	240	0	0.0
Median:	240	240	0	0.0
Min:	234	234	0	0.0
Max:	240	240	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	240	240	0	0.0
1923	240	240	0	0.0
1924	240	240	0	0.0
1925	240	240	0	0.0
1926	240	240	0	0.0
1927	240	240	0	0.0
1928	240	240	0	0.0
1929	240	240	0	0.0
1930	240	240	0	0.0
1931	240	240	0	0.0
1932	240	240	0	0.0
1933	240	240	0	0.0
1934	240	240	0	0.0
1935	240	240	0	0.0
1936	240	240	0	0.0
1937	240	240	0	0.0
1938	240	240	0	0.0
1939	240	240	0	0.0
1940	240	240	0	0.0
1941	240	240	0	0.0
1942	240	240	0	0.0
1943	240	240	0	0.0
1944	240	240	0	0.0
1945	240	240	0	0.0
1946	240	240	0	0.0
1947	240	240	0	0.0
1948	240	240	0	0.0
1949	240	240	0	0.0
1950	240	240	0	0.0
1951	240	240	0	0.0
1952	240	240	0	0.0
1953	240	240	0	0.0
1954	240	240	0	0.0
1955	240	240	0	0.0
1956	240	240	0	0.0
1957	240	240	0	0.0
1958	240	240	0	0.0
1959	240	240	0	0.0
1960	240	240	0	0.0
1961	240	240	0	0.0
1962	240	240	0	0.0
1963	240	240	0	0.0
1964	240	240	0	0.0
1965	240	240	0	0.0
1966	240	240	0	0.0
1967	240	240	0	0.0
1968	240	240	0	0.0
1969	240	240	0	0.0
1970	240	240	0	0.0
1971	240	240	0	0.0
1972	240	240	0	0.0
1973	240	240	0	0.0
1974	240	240	0	0.0
1975	240	240	0	0.0
1976	240	240	0	0.0
1977	240	240	0	0.0
1978	239	239	0	0.0
1979	240	240	0	0.0
1980	240	240	0	0.0
1981	240	240	0	0.0
1982	240	240	0	0.0
1983	240	240	0	0.0
1984	240	240	0	0.0
1985	240	240	0	0.0
1986	240	240	0	0.0
1987	240	240	0	0.0
1988	240	240	0	0.0
1989	240	240	0	0.0
1990	240	240	0	0.0
1991	240	240	0	0.0
1992	240	240	0	0.0
1993	240	240	0	0.0
Mean:	240	240	0	0.0
Median:	240	240	0	0.0
Min:	239	239	0	0.0
Max:	240	240	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	240	240	0	0.0
1923	240	240	0	0.0
1924	240	240	0	0.0
1925	240	240	0	0.0
1926	240	240	0	0.0
1927	240	240	0	0.0
1928	240	240	0	0.0
1929	240	240	0	0.0
1930	240	240	0	0.0
1931	240	240	0	0.0
1932	240	240	0	0.0
1933	240	240	0	0.0
1934	240	240	0	0.0
1935	240	240	0	0.0
1936	240	240	0	0.0
1937	240	240	0	0.0
1938	240	240	0	0.0
1939	240	240	0	0.0
1940	240	240	0	0.0
1941	240	240	0	0.0
1942	240	240	0	0.0
1943	240	240	0	0.0
1944	240	240	0	0.0
1945	240	240	0	0.0
1946	240	240	0	0.0
1947	240	240	0	0.0
1948	240	240	0	0.0
1949	240	240	0	0.0
1950	240	240	0	0.0
1951	240	240	0	0.0
1952	240	240	0	0.0
1953	240	240	0	0.0
1954	240	240	0	0.0
1955	240	240	0	0.0
1956	240	240	0	0.0
1957	240	240	0	0.0
1958	240	240	0	0.0
1959	240	240	0	0.0
1960	240	240	0	0.0
1961	240	240	0	0.0
1962	240	240	0	0.0
1963	240	240	0	0.0
1964	240	240	0	0.0
1965	240	240	0	0.0
1966	240	240	0	0.0
1967	240	240	0	0.0
1968	240	240	0	0.0
1969	240	240	0	0.0
1970	240	240	0	0.0
1971	240	240	0	0.0
1972	240	240	0	0.0
1973	240	240	0	0.0
1974	240	240	0	0.0
1975	240	240	0	0.0
1976	240	240	0	0.0
1977	240	240	0	0.0
1978	240	240	0	0.0
1979	240	240	0	0.0
1980	240	240	0	0.0
1981	240	240	0	0.0
1982	240	240	0	0.0
1983	240	240	0	0.0
1984	240	240	0	0.0
1985	240	240	0	0.0
1986	240	240	0	0.0
1987	240	240	0	0.0
1988	240	240	0	0.0
1989	240	240	0	0.0
1990	240	240	0	0.0
1991	240	240	0	0.0
1992	240	240	0	0.0
1993	240	240	0	0.0
Mean:	240	240	0	0.0
Median:	240	240	0	0.0
Min:	240	240	0	0.0
Max:	240	240	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	240	240	0	0.0
1923	240	240	0	0.0
1924	180	180	0	0.0
1925	240	240	0	0.0
1926	240	240	0	0.0
1927	240	240	0	0.0
1928	240	240	0	0.0
1929	240	240	0	0.0
1930	240	240	0	0.0
1931	202	202	0	0.0
1932	240	240	0	0.0
1933	240	240	0	0.0
1934	180	180	0	0.0
1935	240	240	0	0.0
1936	240	240	0	0.0
1937	240	240	0	0.0
1938	240	240	0	0.0
1939	240	240	0	0.0
1940	240	240	0	0.0
1941	240	240	0	0.0
1942	240	240	0	0.0
1943	240	240	0	0.0
1944	240	240	0	0.0
1945	240	240	0	0.0
1946	240	240	0	0.0
1947	240	240	0	0.0
1948	240	240	0	0.0
1949	240	240	0	0.0
1950	240	240	0	0.0
1951	240	240	0	0.0
1952	240	240	0	0.0
1953	240	240	0	0.0
1954	240	240	0	0.0
1955	240	240	0	0.0
1956	240	240	0	0.0
1957	240	240	0	0.0
1958	240	240	0	0.0
1959	240	240	0	0.0
1960	240	240	0	0.0
1961	240	240	0	0.0
1962	240	240	0	0.0
1963	240	240	0	0.0
1964	240	240	0	0.0
1965	240	240	0	0.0
1966	240	240	0	0.0
1967	240	240	0	0.0
1968	240	240	0	0.0
1969	240	240	0	0.0
1970	240	240	0	0.0
1971	240	240	0	0.0
1972	240	240	0	0.0
1973	240	240	0	0.0
1974	240	240	0	0.0
1975	240	240	0	0.0
1976	240	240	0	0.0
1977	191	191	0	0.0
1978	240	240	0	0.0
1979	240	240	0	0.0
1980	240	240	0	0.0
1981	240	240	0	0.0
1982	240	240	0	0.0
1983	240	240	0	0.0
1984	240	240	0	0.0
1985	240	240	0	0.0
1986	240	240	0	0.0
1987	240	240	0	0.0
1988	240	240	0	0.0
1989	240	240	0	0.0
1990	240	240	0	0.0
1991	240	240	0	0.0
1992	240	240	0	0.0
1993	240	240	0	0.0
Mean:	237	237	0	0.0
Median:	240	240	0	0.0
Min:	180	180	0	0.0
Max:	240	240	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Whiskeytown Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	235	235	0	0.0
1923	235	235	0	0.0
1924	180	180	0	0.0
1925	235	235	0	0.0
1926	235	235	0	0.0
1927	235	235	0	0.0
1928	235	235	0	0.0
1929	235	235	0	0.0
1930	235	235	0	0.0
1931	180	180	0	0.0
1932	235	235	0	0.0
1933	235	235	0	0.0
1934	180	180	0	0.0
1935	235	235	0	0.0
1936	235	235	0	0.0
1937	235	235	0	0.0
1938	235	235	0	0.0
1939	235	235	0	0.0
1940	235	235	0	0.0
1941	235	235	0	0.0
1942	235	235	0	0.0
1943	235	235	0	0.0
1944	235	235	0	0.0
1945	235	235	0	0.0
1946	235	235	0	0.0
1947	235	235	0	0.0
1948	235	235	0	0.0
1949	235	235	0	0.0
1950	235	235	0	0.0
1951	235	235	0	0.0
1952	235	235	0	0.0
1953	235	235	0	0.0
1954	235	235	0	0.0
1955	235	235	0	0.0
1956	235	235	0	0.0
1957	235	235	0	0.0
1958	235	235	0	0.0
1959	235	235	0	0.0
1960	235	235	0	0.0
1961	235	235	0	0.0
1962	235	235	0	0.0
1963	235	235	0	0.0
1964	235	235	0	0.0
1965	235	235	0	0.0
1966	235	235	0	0.0
1967	235	235	0	0.0
1968	235	235	0	0.0
1969	235	235	0	0.0
1970	235	235	0	0.0
1971	235	235	0	0.0
1972	235	235	0	0.0
1973	235	235	0	0.0
1974	235	235	0	0.0
1975	235	235	0	0.0
1976	235	235	0	0.0
1977	180	180	0	0.0
1978	235	235	0	0.0
1979	235	235	0	0.0
1980	235	235	0	0.0
1981	235	235	0	0.0
1982	235	235	0	0.0
1983	235	235	0	0.0
1984	235	235	0	0.0
1985	235	235	0	0.0
1986	235	235	0	0.0
1987	235	235	0	0.0
1988	235	235	0	0.0
1989	235	235	0	0.0
1990	235	235	0	0.0
1991	235	235	0	0.0
1992	235	235	0	0.0
1993	235	235	0	0.0
Mean:	232	232	0	0.0
Median:	235	235	0	0.0
Min:	180	180	0	0.0
Max:	235	235	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Elevation

October					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2332	0	2332	0	0
1923	2316	-2	2316	-2	0
1924	2264	-2	2264	-2	0
1925	2161	-7	2161	-7	0
1926	2231	-2	2231	-2	0
1927	2220	-2	2220	-2	0
1928	2300	-2	2300	-2	0
1929	2295	-3	2295	-3	0
1930	2255	-5	2255	-5	0
1931	2234	-3	2234	-3	0
1932	2164	-16	2164	-16	0
1933	2196	-3	2196	-3	0
1934	2183	-15	2183	-15	0
1935	2145	-16	2145	-16	0
1936	2209	-3	2209	-3	0
1937	2220	-3	2220	-3	0
1938	2240	-2	2240	-2	0
1939	2332	-11	2332	-11	0
1940	2286	-3	2286	-3	0
1941	2308	-2	2308	-2	0
1942	2332	-11	2332	-11	0
1943	2332	-11	2332	-11	0
1944	2319	-2	2319	-2	0
1945	2287	-3	2287	-3	0
1946	2285	-1	2285	-1	0
1947	2301	-3	2301	-3	0
1948	2274	1	2274	1	0
1949	2282	-1	2282	-1	0
1950	2285	-3	2285	-3	0
1951	2284	9	2284	9	0
1952	2313	-2	2313	-2	0
1953	2332	-11	2332	-11	0
1954	2332	-11	2332	-11	0
1955	2325	-2	2325	-2	0
1956	2289	-6	2289	-6	0
1957	2332	-11	2332	-11	0
1958	2332	6	2332	6	0
1959	2332	-11	2332	-11	0
1960	2286	-3	2286	-3	0
1961	2271	-3	2271	-3	0
1962	2286	-3	2286	-3	0
1963	2290	8	2290	8	0
1964	2328	0	2328	0	0
1965	2286	-5	2286	-5	0
1966	2326	-3	2326	-3	0
1967	2327	-5	2327	-5	0
1968	2332	-11	2332	-11	0
1969	2297	-2	2297	-2	0
1970	2332	-11	2332	-11	0
1971	2295	-2	2295	-2	0
1972	2332	-11	2332	-11	0
1973	2313	-2	2313	-2	0
1974	2332	-2	2332	-2	0
1975	2332	-11	2332	-11	0
1976	2332	-11	2332	-11	0
1977	2283	-3	2283	-3	0
1978	2160	-20	2160	-20	0
1979	2290	-3	2290	-3	0
1980	2292	0	2292	0	0
1981	2317	-3	2317	-3	0
1982	2295	-9	2295	-9	0
1983	2332	2	2332	2	0
1984	2332	-11	2332	-11	0
1985	2318	-2	2318	-2	0
1986	2286	-9	2286	-9	0
1987	2291	-2	2291	-2	0
1988	2251	-4	2251	-4	0
1989	2246	-4	2246	-4	0
1990	2249	2	2249	2	0
1991	2221	-4	2221	-4	0
1992	2208	-3	2208	-3	0
1993	2215	-4	2215	-4	0
Mean:	2283	-5	2283	-5	0
Median:	2291	-3	2291	-3	0
Min:	2145	-20	2145	-20	0
Max:	2332	9	2332	9	0
Increase > 20		0		0	
Decrease > 9		17		17	
Decrease > 10		17		17	
Decrease > 15		3		3	
X > 2310	27		27		
X > 2295	31		31		
X > 2170	68		68		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

November					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2331	-1	2331	-1	0
1923	2315	-1	2315	-1	0
1924	2261	-2	2261	-2	0
1925	2177	15	2177	15	0
1926	2231	-1	2231	-1	0
1927	2242	22	2242	22	0
1928	2305	5	2305	5	0
1929	2294	-1	2294	-1	0
1930	2252	-3	2252	-3	0
1931	2232	-2	2232	-2	0
1932	2160	-5	2160	-5	0
1933	2196	0	2196	0	0
1934	2181	-2	2181	-2	0
1935	2158	13	2158	13	0
1936	2207	-2	2207	-2	0
1937	2217	-2	2217	-2	0
1938	2256	16	2256	16	0
1939	2332	0	2332	0	0
1940	2283	-2	2283	-2	0
1941	2308	0	2308	0	0
1942	2332	0	2332	0	0
1943	2332	0	2332	0	0
1944	2319	0	2319	0	0
1945	2289	1	2289	1	0
1946	2288	3	2288	3	0
1947	2302	1	2302	1	0
1948	2274	0	2274	0	0
1949	2283	1	2283	1	0
1950	2283	-2	2283	-2	0
1951	2294	10	2294	10	0
1952	2314	2	2314	2	0
1953	2332	0	2332	0	0
1954	2332	0	2332	0	0
1955	2328	3	2328	3	0
1956	2289	0	2289	0	0
1957	2332	0	2332	0	0
1958	2332	0	2332	0	0
1959	2332	0	2332	0	0
1960	2284	-2	2284	-2	0
1961	2271	-1	2271	-1	0
1962	2285	-1	2285	-1	0
1963	2295	4	2295	4	0
1964	2332	4	2332	4	0
1965	2286	0	2286	0	0
1966	2332	6	2332	6	0
1967	2332	5	2332	5	0
1968	2332	0	2332	0	0
1969	2298	1	2298	1	0
1970	2332	0	2332	0	0
1971	2305	10	2305	10	0
1972	2332	0	2332	0	0
1973	2316	2	2316	2	0
1974	2332	0	2332	0	0
1975	2332	0	2332	0	0
1976	2332	0	2332	0	0
1977	2281	-2	2281	-2	0
1978	2166	6	2166	6	0
1979	2289	-2	2289	-2	0
1980	2296	4	2296	4	0
1981	2315	-2	2315	-2	0
1982	2316	21	2316	21	0
1983	2332	0	2332	0	0
1984	2332	0	2332	0	0
1985	2329	11	2329	11	0
1986	2284	-2	2284	-2	0
1987	2289	-2	2289	-2	0
1988	2248	-3	2248	-3	0
1989	2251	5	2251	5	0
1990	2249	0	2249	0	0
1991	2219	-2	2219	-2	0
1992	2206	-1	2206	-1	0
1993	2209	-6	2209	-6	0
Mean:	2284	2	2284	2	0
Median:	2294	0	2294	0	0
Min:	2158	-6	2158	-6	0
Max:	2332	22	2332	22	0
Increase > 20		2		2	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 2310	28		28		
X > 2295	34		34		
X > 2170	69		69		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

December					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2331	0	2331	0	0
1923	2315	0	2315	0	0
1924	2260	-2	2260	-2	0
1925	2185	8	2185	8	0
1926	2233	3	2233	3	0
1927	2264	22	2264	22	0
1928	2307	2	2307	2	0
1929	2293	-1	2293	-1	0
1930	2255	3	2255	3	0
1931	2230	-1	2230	-1	0
1932	2160	0	2160	0	0
1933	2196	0	2196	0	0
1934	2183	2	2183	2	0
1935	2165	8	2165	8	0
1936	2208	0	2208	0	0
1937	2215	-2	2215	-2	0
1938	2279	23	2279	23	0
1939	2332	0	2332	0	0
1940	2286	2	2286	2	0
1941	2320	12	2320	12	0
1942	2332	0	2332	0	0
1943	2332	0	2332	0	0
1944	2319	0	2319	0	0
1945	2294	5	2294	5	0
1946	2304	16	2304	16	0
1947	2303	1	2303	1	0
1948	2273	-1	2273	-1	0
1949	2283	0	2283	0	0
1950	2282	-1	2282	-1	0
1951	2316	22	2316	22	0
1952	2327	12	2327	12	0
1953	2332	0	2332	0	0
1954	2332	0	2332	0	0
1955	2332	4	2332	4	0
1956	2315	26	2315	26	0
1957	2332	0	2332	0	0
1958	2332	0	2332	0	0
1959	2331	-1	2331	-1	0
1960	2281	-3	2281	-3	0
1961	2280	9	2280	9	0
1962	2288	3	2288	3	0
1963	2309	15	2309	15	0
1964	2332	0	2332	0	0
1965	2331	45	2331	45	0
1966	2332	0	2332	0	0
1967	2332	0	2332	0	0
1968	2332	0	2332	0	0
1969	2303	5	2303	5	0
1970	2332	0	2332	0	0
1971	2316	11	2316	11	0
1972	2332	0	2332	0	0
1973	2325	9	2325	9	0
1974	2332	0	2332	0	0
1975	2332	0	2332	0	0
1976	2332	0	2332	0	0
1977	2279	-2	2279	-2	0
1978	2205	38	2205	38	0
1979	2289	0	2289	0	0
1980	2301	5	2301	5	0
1981	2318	3	2318	3	0
1982	2332	17	2332	17	0
1983	2332	0	2332	0	0
1984	2332	0	2332	0	0
1985	2332	3	2332	3	0
1986	2284	0	2284	0	0
1987	2288	-1	2288	-1	0
1988	2267	19	2267	19	0
1989	2251	0	2251	0	0
1990	2248	-1	2248	-1	0
1991	2216	-3	2216	-3	0
1992	2206	-1	2206	-1	0
1993	2212	3	2212	3	0
Mean:	2289	5	2289	5	0
Median:	2304	0	2304	0	0
Min:	2160	-3	2160	-3	0
Max:	2332	45	2332	45	0
Increase > 20		6		6	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 2310	33		33		
X > 2295	39		39		
X > 2170	70		70		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

January					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2331	0	2331	0	0
1923	2317	1	2317	1	0
1924	2255	-5	2255	-5	0
1925	2196	11	2196	11	0
1926	2233	0	2233	0	0
1927	2275	11	2275	11	0
1928	2312	5	2312	5	0
1929	2293	0	2293	0	0
1930	2256	1	2256	1	0
1931	2232	1	2232	1	0
1932	2162	3	2162	3	0
1933	2195	-1	2195	-1	0
1934	2195	13	2195	13	0
1935	2174	8	2174	8	0
1936	2224	16	2224	16	0
1937	2214	-1	2214	-1	0
1938	2288	9	2288	9	0
1939	2333	1	2333	1	0
1940	2300	14	2300	14	0
1941	2337	17	2337	17	0
1942	2337	4	2337	4	0
1943	2337	4	2337	4	0
1944	2319	0	2319	0	0
1945	2299	5	2299	5	0
1946	2315	11	2315	11	0
1947	2302	-1	2302	-1	0
1948	2291	17	2291	17	0
1949	2282	-1	2282	-1	0
1950	2284	2	2284	2	0
1951	2323	8	2323	8	0
1952	2332	5	2332	5	0
1953	2337	4	2337	4	0
1954	2337	4	2337	4	0
1955	2334	2	2334	2	0
1956	2337	21	2337	21	0
1957	2332	0	2332	0	0
1958	2337	4	2337	4	0
1959	2337	5	2337	5	0
1960	2281	0	2281	0	0
1961	2283	3	2283	3	0
1962	2288	0	2288	0	0
1963	2313	3	2313	3	0
1964	2337	4	2337	4	0
1965	2337	5	2337	5	0
1966	2337	4	2337	4	0
1967	2337	4	2337	4	0
1968	2337	4	2337	4	0
1969	2315	12	2315	12	0
1970	2337	4	2337	4	0
1971	2336	20	2336	20	0
1972	2337	4	2337	4	0
1973	2337	12	2337	12	0
1974	2337	4	2337	4	0
1975	2334	2	2334	2	0
1976	2333	1	2333	1	0
1977	2277	-2	2277	-2	0
1978	2257	53	2257	53	0
1979	2291	2	2291	2	0
1980	2320	19	2320	19	0
1981	2327	9	2327	9	0
1982	2337	4	2337	4	0
1983	2337	4	2337	4	0
1984	2337	4	2337	4	0
1985	2334	2	2334	2	0
1986	2294	10	2294	10	0
1987	2289	1	2289	1	0
1988	2274	7	2274	7	0
1989	2253	1	2253	1	0
1990	2254	7	2254	7	0
1991	2215	-2	2215	-2	0
1992	2207	1	2207	1	0
1993	2221	9	2221	9	0
Mean:	2295	6	2295	6	0
Median:	2314	4	2314	4	0
Min:	2162	-5	2162	-5	0
Max:	2337	53	2337	53	0
Increase > 20		2		2	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 2310	38		38		
X > 2295	41		41		
X > 2170	71		71		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

February					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2332	1	2332	1	0
1923	2319	2	2319	2	0
1924	2255	0	2255	0	0
1925	2235	40	2235	40	0
1926	2251	18	2251	18	0
1927	2296	22	2296	22	0
1928	2321	9	2321	9	0
1929	2294	1	2294	1	0
1930	2267	11	2267	11	0
1931	2234	3	2234	3	0
1932	2167	4	2167	4	0
1933	2195	0	2195	0	0
1934	2209	14	2209	14	0
1935	2191	17	2191	17	0
1936	2242	18	2242	18	0
1937	2214	1	2214	1	0
1938	2301	13	2301	13	0
1939	2334	1	2334	1	0
1940	2327	28	2327	28	0
1941	2354	18	2354	18	0
1942	2354	18	2354	18	0
1943	2354	18	2354	18	0
1944	2322	4	2322	4	0
1945	2313	14	2313	14	0
1946	2320	5	2320	5	0
1947	2306	4	2306	4	0
1948	2292	1	2292	1	0
1949	2285	3	2285	3	0
1950	2288	4	2288	4	0
1951	2342	19	2342	19	0
1952	2354	22	2354	22	0
1953	2354	18	2354	18	0
1954	2354	18	2354	18	0
1955	2336	2	2336	2	0
1956	2354	18	2354	18	0
1957	2354	22	2354	22	0
1958	2346	9	2346	9	0
1959	2354	18	2354	18	0
1960	2293	12	2293	12	0
1961	2302	19	2302	19	0
1962	2300	11	2300	11	0
1963	2338	25	2338	25	0
1964	2340	4	2340	4	0
1965	2344	8	2344	8	0
1966	2342	6	2342	6	0
1967	2354	18	2354	18	0
1968	2354	18	2354	18	0
1969	2325	11	2325	11	0
1970	2354	18	2354	18	0
1971	2354	18	2354	18	0
1972	2354	18	2354	18	0
1973	2354	18	2354	18	0
1974	2354	18	2354	18	0
1975	2342	8	2342	8	0
1976	2336	3	2336	3	0
1977	2276	-1	2276	-1	0
1978	2277	19	2277	19	0
1979	2295	5	2295	5	0
1980	2354	34	2354	34	0
1981	2339	12	2339	12	0
1982	2354	18	2354	18	0
1983	2354	18	2354	18	0
1984	2345	8	2345	8	0
1985	2338	3	2338	3	0
1986	2335	41	2335	41	0
1987	2296	6	2296	6	0
1988	2282	8	2282	8	0
1989	2254	2	2254	2	0
1990	2257	2	2257	2	0
1991	2216	1	2216	1	0
1992	2227	20	2227	20	0
1993	2240	19	2240	19	0
Mean:	2307	12	2307	12	0
Median:	2324	12	2324	12	0
Min:	2167	-1	2167	-1	0
Max:	2354	41	2354	41	0
Increase > 20		8		8	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 2310	41		41		
X > 2295	47		47		
X > 2170	71		71		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

March					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2336	4	2336	4	0
1923	2324	5	2324	5	0
1924	2255	0	2255	0	0
1925	2252	16	2252	16	0
1926	2264	13	2264	13	0
1927	2311	15	2311	15	0
1928	2338	18	2338	18	0
1929	2298	4	2298	4	0
1930	2278	12	2278	12	0
1931	2242	8	2242	8	0
1932	2198	31	2198	31	0
1933	2213	18	2213	18	0
1934	2232	22	2232	22	0
1935	2202	11	2202	11	0
1936	2256	13	2256	13	0
1937	2229	15	2229	15	0
1938	2323	22	2323	22	0
1939	2343	9	2343	9	0
1940	2350	23	2350	23	0
1941	2350	-4	2350	-4	0
1942	2349	-5	2349	-5	0
1943	2350	-4	2350	-4	0
1944	2328	6	2328	6	0
1945	2317	5	2317	5	0
1946	2331	11	2331	11	0
1947	2317	10	2317	10	0
1948	2294	2	2294	2	0
1949	2303	18	2303	18	0
1950	2298	10	2298	10	0
1951	2349	7	2349	7	0
1952	2350	-4	2350	-4	0
1953	2350	-4	2350	-4	0
1954	2350	-4	2350	-4	0
1955	2338	2	2338	2	0
1956	2350	-4	2350	-4	0
1957	2350	-4	2350	-4	0
1958	2350	5	2350	5	0
1959	2350	-4	2350	-4	0
1960	2308	15	2308	15	0
1961	2313	11	2313	11	0
1962	2306	6	2306	6	0
1963	2344	7	2344	7	0
1964	2344	4	2344	4	0
1965	2348	4	2348	4	0
1966	2350	8	2350	8	0
1967	2350	-4	2350	-4	0
1968	2350	-4	2350	-4	0
1969	2339	14	2339	14	0
1970	2350	-4	2350	-4	0
1971	2350	-4	2350	-4	0
1972	2350	-4	2350	-4	0
1973	2350	-4	2350	-4	0
1974	2350	-4	2350	-4	0
1975	2350	8	2350	8	0
1976	2340	4	2340	4	0
1977	2275	-1	2275	-1	0
1978	2302	25	2302	25	0
1979	2308	13	2308	13	0
1980	2350	-4	2350	-4	0
1981	2348	9	2348	9	0
1982	2350	-4	2350	-4	0
1983	2350	-4	2350	-4	0
1984	2350	6	2350	6	0
1985	2342	4	2342	4	0
1986	2350	15	2350	15	0
1987	2313	17	2313	17	0
1988	2289	7	2289	7	0
1989	2289	35	2289	35	0
1990	2265	8	2265	8	0
1991	2226	10	2226	10	0
1992	2245	18	2245	18	0
1993	2280	40	2280	40	0
Mean:	2314	8	2314	8	0
Median:	2337	7	2337	7	0
Min:	2198	-5	2198	-5	0
Max:	2350	40	2350	40	0
Increase > 20		7		7	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 2310	46		46		
X > 2295	53		53		
X > 2170	72		72		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

April					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2345	8	2345	8	0
1923	2334	10	2334	10	0
1924	2253	-2	2253	-2	0
1925	2283	31	2283	31	0
1926	2285	21	2285	21	0
1927	2331	19	2331	19	0
1928	2349	10	2349	10	0
1929	2300	2	2300	2	0
1930	2288	10	2288	10	0
1931	2245	4	2245	4	0
1932	2211	13	2211	13	0
1933	2234	21	2234	21	0
1934	2244	12	2244	12	0
1935	2233	31	2233	31	0
1936	2273	17	2273	17	0
1937	2256	27	2256	27	0
1938	2348	24	2348	24	0
1939	2348	5	2348	5	0
1940	2368	18	2368	18	0
1941	2368	18	2368	18	0
1942	2359	10	2359	10	0
1943	2360	10	2360	10	0
1944	2331	3	2331	3	0
1945	2329	11	2329	11	0
1946	2348	17	2348	17	0
1947	2324	7	2324	7	0
1948	2308	15	2308	15	0
1949	2325	22	2325	22	0
1950	2311	13	2311	13	0
1951	2358	10	2358	10	0
1952	2368	18	2368	18	0
1953	2368	18	2368	18	0
1954	2368	18	2368	18	0
1955	2342	4	2342	4	0
1956	2368	18	2368	18	0
1957	2356	6	2356	6	0
1958	2368	18	2368	18	0
1959	2360	9	2360	9	0
1960	2318	10	2318	10	0
1961	2325	12	2325	12	0
1962	2325	19	2325	19	0
1963	2359	14	2359	14	0
1964	2346	2	2346	2	0
1965	2361	13	2361	13	0
1966	2368	18	2368	18	0
1967	2356	6	2356	6	0
1968	2356	5	2356	5	0
1969	2359	20	2359	20	0
1970	2354	3	2354	3	0
1971	2360	10	2360	10	0
1972	2358	8	2358	8	0
1973	2360	10	2360	10	0
1974	2368	18	2368	18	0
1975	2357	6	2357	6	0
1976	2347	6	2347	6	0
1977	2255	-20	2255	-20	0
1978	2319	17	2319	17	0
1979	2318	11	2318	11	0
1980	2359	9	2359	9	0
1981	2354	6	2354	6	0
1982	2368	18	2368	18	0
1983	2368	18	2368	18	0
1984	2356	6	2356	6	0
1985	2351	9	2351	9	0
1986	2357	7	2357	7	0
1987	2326	13	2326	13	0
1988	2296	7	2296	7	0
1989	2305	16	2305	16	0
1990	2269	3	2269	3	0
1991	2234	8	2234	8	0
1992	2270	25	2270	25	0
1993	2297	17	2297	17	0
Mean:	2327	12	2327	12	0
Median:	2347	11	2347	11	0
Min:	2211	-20	2211	-20	0
Max:	2368	31	2368	31	0
Increase > 20		8		8	
Decrease > 9		1		1	
Decrease > 10		1		1	
Decrease > 15		1		1	
X > 2310	52		52		
X > 2295	57		57		
X > 2170	72		72		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

May					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2347	3	2347	3	0
1923	2328	-6	2328	-6	0
1924	2243	-10	2243	-10	0
1925	2281	-1	2281	-1	0
1926	2273	-12	2273	-12	0
1927	2330	-1	2330	-1	0
1928	2345	-3	2345	-3	0
1929	2301	1	2301	1	0
1930	2278	-10	2278	-10	0
1931	2240	-5	2240	-5	0
1932	2214	3	2214	3	0
1933	2230	-4	2230	-4	0
1934	2240	-4	2240	-4	0
1935	2236	3	2236	3	0
1936	2266	-7	2266	-7	0
1937	2272	16	2272	16	0
1938	2357	9	2357	9	0
1939	2340	-8	2340	-8	0
1940	2358	-11	2358	-11	0
1941	2368	0	2368	0	0
1942	2363	3	2363	3	0
1943	2354	-6	2354	-6	0
1944	2335	3	2335	3	0
1945	2326	-3	2326	-3	0
1946	2348	0	2348	0	0
1947	2315	-9	2315	-9	0
1948	2308	0	2308	0	0
1949	2326	1	2326	1	0
1950	2310	-1	2310	-1	0
1951	2355	-4	2355	-4	0
1952	2368	-1	2368	-1	0
1953	2359	-9	2359	-9	0
1954	2359	-9	2359	-9	0
1955	2341	-2	2341	-2	0
1956	2367	-1	2367	-1	0
1957	2357	1	2357	1	0
1958	2368	0	2368	0	0
1959	2354	-5	2354	-5	0
1960	2313	-5	2313	-5	0
1961	2322	-3	2322	-3	0
1962	2318	-7	2318	-7	0
1963	2361	2	2361	2	0
1964	2334	-12	2334	-12	0
1965	2356	-5	2356	-5	0
1966	2362	-6	2362	-6	0
1967	2363	7	2363	7	0
1968	2350	-6	2350	-6	0
1969	2368	9	2368	9	0
1970	2349	-5	2349	-5	0
1971	2363	3	2363	3	0
1972	2355	-3	2355	-3	0
1973	2364	4	2364	4	0
1974	2367	-1	2367	-1	0
1975	2363	6	2363	6	0
1976	2342	-4	2342	-4	0
1977	2248	-7	2248	-7	0
1978	2320	1	2320	1	0
1979	2324	5	2324	5	0
1980	2354	-5	2354	-5	0
1981	2349	-5	2349	-5	0
1982	2362	-7	2362	-7	0
1983	2368	0	2368	0	0
1984	2354	-2	2354	-2	0
1985	2344	-7	2344	-7	0
1986	2352	-6	2352	-6	0
1987	2321	-5	2321	-5	0
1988	2289	-6	2289	-6	0
1989	2296	-9	2296	-9	0
1990	2263	-6	2263	-6	0
1991	2236	2	2236	2	0
1992	2267	-3	2267	-3	0
1993	2313	15	2313	15	0
Mean:	2325	-2	2325	-2	0
Median:	2342	-3	2342	-3	0
Min:	2214	-12	2214	-12	0
Max:	2368	16	2368	16	0
Increase > 20		0		0	
Decrease > 9		5		5	
Decrease > 10		3		3	
Decrease > 15		0		0	
X > 2310	52		52		
X > 2295	56		56		
X > 2170	72		72		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

June					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2347	0	2347	0	0
1923	2314	-14	2314	-14	0
1924	2235	-8	2235	-8	0
1925	2270	-11	2270	-11	0
1926	2263	-10	2263	-10	0
1927	2332	2	2332	2	0
1928	2333	-12	2333	-12	0
1929	2295	-6	2295	-6	0
1930	2272	-5	2272	-5	0
1931	2236	-3	2236	-3	0
1932	2216	2	2216	2	0
1933	2245	15	2245	15	0
1934	2235	-5	2235	-5	0
1935	2236	1	2236	1	0
1936	2261	-5	2261	-5	0
1937	2276	4	2276	4	0
1938	2354	-3	2354	-3	0
1939	2330	-10	2330	-10	0
1940	2351	-7	2351	-7	0
1941	2370	2	2370	2	0
1942	2367	4	2367	4	0
1943	2351	-4	2351	-4	0
1944	2329	-5	2329	-5	0
1945	2318	-8	2318	-8	0
1946	2340	-8	2340	-8	0
1947	2310	-5	2310	-5	0
1948	2311	3	2311	3	0
1949	2319	-7	2319	-7	0
1950	2309	-2	2309	-2	0
1951	2347	-7	2347	-7	0
1952	2370	2	2370	2	0
1953	2364	5	2364	5	0
1954	2353	-7	2353	-7	0
1955	2336	-5	2336	-5	0
1956	2362	-5	2362	-5	0
1957	2353	-4	2353	-4	0
1958	2369	1	2369	1	0
1959	2346	-9	2346	-9	0
1960	2311	-2	2311	-2	0
1961	2322	0	2322	0	0
1962	2313	-5	2313	-5	0
1963	2355	-6	2355	-6	0
1964	2328	-6	2328	-6	0
1965	2353	-3	2353	-3	0
1966	2358	-4	2358	-4	0
1967	2369	6	2369	6	0
1968	2342	-8	2342	-8	0
1969	2364	-4	2364	-4	0
1970	2341	-8	2341	-8	0
1971	2364	1	2364	1	0
1972	2350	-5	2350	-5	0
1973	2358	-6	2358	-6	0
1974	2367	0	2367	0	0
1975	2370	7	2370	7	0
1976	2334	-8	2334	-8	0
1977	2244	-4	2244	-4	0
1978	2316	-4	2316	-4	0
1979	2321	-3	2321	-3	0
1980	2348	-6	2348	-6	0
1981	2344	-4	2344	-4	0
1982	2355	-7	2355	-7	0
1983	2370	2	2370	2	0
1984	2349	-6	2349	-6	0
1985	2336	-8	2336	-8	0
1986	2343	-9	2343	-9	0
1987	2308	-13	2308	-13	0
1988	2287	-2	2287	-2	0
1989	2286	-10	2286	-10	0
1990	2264	1	2264	1	0
1991	2235	-1	2235	-1	0
1992	2259	-8	2259	-8	0
1993	2321	8	2321	8	0
Mean:	2321	-4	2321	-4	0
Median:	2334	-5	2334	-5	0
Min:	2216	-14	2216	-14	0
Max:	2370	15	2370	15	0
Increase > 20		0		0	
Decrease > 9		7		7	
Decrease > 10		4		4	
Decrease > 15		0		0	
X > 2310	51		51		
X > 2295	54		54		
X > 2170	72		72		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

July					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2339	-8	2339	-8	0
1923	2297	-17	2297	-17	0
1924	2220	-15	2220	-15	0
1925	2258	-12	2258	-12	0
1926	2251	-12	2251	-12	0
1927	2322	-10	2322	-10	0
1928	2320	-13	2320	-13	0
1929	2284	-11	2284	-11	0
1930	2264	-8	2264	-8	0
1931	2222	-15	2222	-15	0
1932	2211	-4	2211	-4	0
1933	2236	-9	2236	-9	0
1934	2221	-14	2221	-14	0
1935	2223	-13	2223	-13	0
1936	2251	-10	2251	-10	0
1937	2267	-9	2267	-9	0
1938	2353	-2	2353	-2	0
1939	2314	-15	2314	-15	0
1940	2336	-15	2336	-15	0
1941	2359	-10	2359	-10	0
1942	2359	-8	2359	-8	0
1943	2342	-9	2342	-9	0
1944	2315	-14	2315	-14	0
1945	2306	-12	2306	-12	0
1946	2324	-16	2324	-16	0
1947	2299	-11	2299	-11	0
1948	2300	-11	2300	-11	0
1949	2307	-12	2307	-12	0
1950	2298	-10	2298	-10	0
1951	2336	-11	2336	-11	0
1952	2359	-10	2359	-10	0
1953	2359	-5	2359	-5	0
1954	2346	-7	2346	-7	0
1955	2321	-14	2321	-14	0
1956	2356	-6	2356	-6	0
1957	2345	-8	2345	-8	0
1958	2359	-9	2359	-9	0
1959	2326	-19	2326	-19	0
1960	2298	-13	2298	-13	0
1961	2310	-12	2310	-12	0
1962	2301	-12	2301	-12	0
1963	2347	-8	2347	-8	0
1964	2314	-14	2314	-14	0
1965	2346	-7	2346	-7	0
1966	2351	-7	2351	-7	0
1967	2359	-10	2359	-10	0
1968	2324	-18	2324	-18	0
1969	2357	-7	2357	-7	0
1970	2324	-17	2324	-17	0
1971	2359	-4	2359	-4	0
1972	2335	-15	2335	-15	0
1973	2351	-7	2351	-7	0
1974	2359	-7	2359	-7	0
1975	2359	-10	2359	-10	0
1976	2316	-19	2316	-19	0
1977	2230	-14	2230	-14	0
1978	2309	-7	2309	-7	0
1979	2312	-9	2312	-9	0
1980	2340	-8	2340	-8	0
1981	2329	-15	2329	-15	0
1982	2348	-6	2348	-6	0
1983	2359	-10	2359	-10	0
1984	2340	-9	2340	-9	0
1985	2321	-15	2321	-15	0
1986	2324	-18	2324	-18	0
1987	2293	-15	2293	-15	0
1988	2276	-11	2276	-11	0
1989	2271	-15	2271	-15	0
1990	2253	-11	2253	-11	0
1991	2222	-13	2222	-13	0
1992	2248	-10	2248	-10	0
1993	2319	-2	2319	-2	0
Mean:	2310	-11	2310	-11	0
Median:	2321	-11	2321	-11	0
Min:	2211	-19	2211	-19	0
Max:	2359	-2	2359	-2	0
Increase > 20		0		0	
Decrease > 9		46		46	
Decrease > 10		37		37	
Decrease > 15		7		7	
X > 2310	43		43		
X > 2295	53		53		
X > 2170	72		72		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

August					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2328	-10	2328	-10	0
1923	2278	-19	2278	-19	0
1924	2195	-25	2195	-25	0
1925	2246	-11	2246	-11	0
1926	2239	-12	2239	-12	0
1927	2312	-10	2312	-10	0
1928	2307	-13	2307	-13	0
1929	2272	-12	2272	-12	0
1930	2250	-14	2250	-14	0
1931	2197	-25	2197	-25	0
1932	2206	-6	2206	-6	0
1933	2221	-14	2221	-14	0
1934	2196	-25	2196	-25	0
1935	2217	-6	2217	-6	0
1936	2239	-12	2239	-12	0
1937	2255	-12	2255	-12	0
1938	2347	-5	2347	-5	0
1939	2301	-13	2301	-13	0
1940	2323	-13	2323	-13	0
1941	2353	-6	2353	-6	0
1942	2353	-6	2353	-6	0
1943	2332	-10	2332	-10	0
1944	2302	-13	2302	-13	0
1945	2296	-10	2296	-10	0
1946	2313	-11	2313	-11	0
1947	2287	-13	2287	-13	0
1948	2291	-9	2291	-9	0
1949	2297	-10	2297	-10	0
1950	2288	-10	2288	-10	0
1951	2324	-11	2324	-11	0
1952	2353	-6	2353	-6	0
1953	2353	-6	2353	-6	0
1954	2337	-9	2337	-9	0
1955	2307	-14	2307	-14	0
1956	2351	-5	2351	-5	0
1957	2335	-10	2335	-10	0
1958	2353	-6	2353	-6	0
1959	2307	-20	2307	-20	0
1960	2285	-12	2285	-12	0
1961	2301	-10	2301	-10	0
1962	2292	-9	2292	-9	0
1963	2338	-9	2338	-9	0
1964	2302	-12	2302	-12	0
1965	2338	-8	2338	-8	0
1966	2341	-10	2341	-10	0
1967	2353	-6	2353	-6	0
1968	2311	-14	2311	-14	0
1969	2351	-6	2351	-6	0
1970	2310	-14	2310	-14	0
1971	2353	-6	2353	-6	0
1972	2325	-10	2325	-10	0
1973	2344	-7	2344	-7	0
1974	2353	-6	2353	-6	0
1975	2353	-6	2353	-6	0
1976	2298	-18	2298	-18	0
1977	2197	-33	2197	-33	0
1978	2300	-9	2300	-9	0
1979	2301	-10	2301	-10	0
1980	2330	-10	2330	-10	0
1981	2318	-11	2318	-11	0
1982	2341	-8	2341	-8	0
1983	2353	-6	2353	-6	0
1984	2330	-10	2330	-10	0
1985	2307	-14	2307	-14	0
1986	2305	-19	2305	-19	0
1987	2276	-17	2276	-17	0
1988	2264	-12	2264	-12	0
1989	2259	-13	2259	-13	0
1990	2241	-12	2241	-12	0
1991	2216	-6	2216	-6	0
1992	2236	-13	2236	-13	0
1993	2310	-9	2310	-9	0
Mean:	2299	-11	2299	-11	0
Median:	2307	-10	2307	-10	0
Min:	2195	-33	2195	-33	0
Max:	2353	-5	2353	-5	0
Increase > 20		0		0	
Decrease > 9		47		47	
Decrease > 10		34		34	
Decrease > 15		9		9	
X > 2310	31		31		
X > 2295	47		47		
X > 2170	72		72		
# Years Diff >= -1 ft					72

Trinity Reservoir End of Month Elevation

September					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	2318	-10	2318	-10	0
1923	2266	-12	2266	-12	0
1924	2169	-26	2169	-26	0
1925	2234	-13	2234	-13	0
1926	2223	-16	2223	-16	0
1927	2303	-9	2303	-9	0
1928	2297	-10	2297	-10	0
1929	2260	-12	2260	-12	0
1930	2237	-13	2237	-13	0
1931	2180	-17	2180	-17	0
1932	2200	-6	2200	-6	0
1933	2197	-24	2197	-24	0
1934	2161	-35	2161	-35	0
1935	2212	-6	2212	-6	0
1936	2223	-16	2223	-16	0
1937	2242	-13	2242	-13	0
1938	2343	-4	2343	-4	0
1939	2289	-12	2289	-12	0
1940	2310	-13	2310	-13	0
1941	2343	-10	2343	-10	0
1942	2343	-10	2343	-10	0
1943	2322	-10	2322	-10	0
1944	2290	-12	2290	-12	0
1945	2286	-10	2286	-10	0
1946	2304	-10	2304	-10	0
1947	2273	-14	2273	-14	0
1948	2283	-8	2283	-8	0
1949	2287	-10	2287	-10	0
1950	2275	-13	2275	-13	0
1951	2315	-10	2315	-10	0
1952	2343	-10	2343	-10	0
1953	2343	-10	2343	-10	0
1954	2327	-9	2327	-9	0
1955	2296	-12	2296	-12	0
1956	2343	-8	2343	-8	0
1957	2326	-9	2326	-9	0
1958	2343	-10	2343	-10	0
1959	2288	-18	2288	-18	0
1960	2274	-11	2274	-11	0
1961	2288	-12	2288	-12	0
1962	2282	-10	2282	-10	0
1963	2328	-10	2328	-10	0
1964	2291	-12	2291	-12	0
1965	2329	-9	2329	-9	0
1966	2332	-9	2332	-9	0
1967	2343	-10	2343	-10	0
1968	2299	-12	2299	-12	0
1969	2343	-8	2343	-8	0
1970	2297	-12	2297	-12	0
1971	2343	-10	2343	-10	0
1972	2315	-10	2315	-10	0
1973	2334	-9	2334	-9	0
1974	2343	-10	2343	-10	0
1975	2343	-10	2343	-10	0
1976	2286	-12	2286	-12	0
1977	2180	-17	2180	-17	0
1978	2293	-7	2293	-7	0
1979	2292	-9	2292	-9	0
1980	2320	-10	2320	-10	0
1981	2304	-14	2304	-14	0
1982	2331	-10	2331	-10	0
1983	2343	-10	2343	-10	0
1984	2321	-10	2321	-10	0
1985	2294	-12	2294	-12	0
1986	2293	-12	2293	-12	0
1987	2255	-21	2255	-21	0
1988	2250	-14	2250	-14	0
1989	2247	-12	2247	-12	0
1990	2225	-16	2225	-16	0
1991	2210	-6	2210	-6	0
1992	2219	-17	2219	-17	0
1993	2305	-4	2305	-4	0
Mean:	2287	-12	2287	-12	0
Median:	2294	-10	2294	-10	0
Min:	2161	-35	2161	-35	0
Max:	2343	-4	2343	-4	0
Increase > 20		0		0	
Decrease > 9		56		56	
Decrease > 10		33		33	
Decrease > 15		11		11	
X > 2310	26		26		
X > 2295	35		35		
X > 2170	70		70		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

October					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	992	0	992	0	0
1923	994	-2	994	-2	0
1924	962	-4	962	-4	0
1925	834	0	834	0	0
1926	949	0	949	0	0
1927	943	-2	943	-2	0
1928	1009	-4	1009	-4	0
1929	986	-7	986	-7	0
1930	932	-6	932	-6	0
1931	950	-5	950	-5	0
1932	834	0	834	0	0
1933	855	-7	855	-7	0
1934	846	0	846	0	0
1935	834	0	834	0	0
1936	939	-2	939	-2	0
1937	955	-8	955	-8	0
1938	952	-6	952	-6	0
1939	1017	-7	1017	-7	0
1940	948	-4	948	-4	0
1941	989	-3	989	-3	0
1942	1017	-7	1017	-7	0
1943	1017	-7	1017	-7	0
1944	1007	-5	1007	-5	0
1945	984	-2	984	-2	0
1946	1004	-2	1004	-2	0
1947	992	-5	992	-5	0
1948	967	2	967	2	0
1949	1014	-9	1014	-9	0
1950	996	-8	996	-8	0
1951	1001	11	1001	11	0
1952	992	-4	992	-4	0
1953	1017	-7	1017	-7	0
1954	1017	-7	1017	-7	0
1955	1001	-7	1001	-7	0
1956	984	-1	984	-1	0
1957	1017	-7	1017	-7	0
1958	1016	5	1016	5	0
1959	1017	-7	1017	-7	0
1960	958	-11	958	-11	0
1961	979	-4	979	-4	0
1962	977	-13	977	-13	0
1963	1017	17	1017	17	0
1964	1017	-5	1017	-5	0
1965	970	-1	970	-1	0
1966	1007	-3	1007	-3	0
1967	982	-7	982	-7	0
1968	1017	-7	1017	-7	0
1969	985	-2	985	-2	0
1970	1017	-7	1017	-7	0
1971	983	-1	983	-1	0
1972	1017	-7	1017	-7	0
1973	996	0	996	0	0
1974	1004	1	1004	1	0
1975	1017	-7	1017	-7	0
1976	1017	-7	1017	-7	0
1977	986	-2	986	-2	0
1978	834	0	834	0	0
1979	1012	-5	1012	-5	0
1980	997	0	997	0	0
1981	1003	-3	1003	-3	0
1982	982	0	982	0	0
1983	1017	-6	1017	-6	0
1984	1017	-7	1017	-7	0
1985	1005	-1	1005	-1	0
1986	973	-4	973	-4	0
1987	990	-1	990	-1	0
1988	951	-5	951	-5	0
1989	912	-10	912	-10	0
1990	968	3	968	3	0
1991	924	-7	924	-7	0
1992	888	-3	888	-3	0
1993	846	-10	846	-10	0
Mean:	973	-4	973	-4	0
Median:	990	-4	990	-4	0
Min:	834	-13	834	-13	0
Max:	1017	17	1017	17	0
Increase > 20		0		0	
Decrease > 9		4		4	
Decrease > 10		2		2	
Decrease > 15		0		0	
X > 1020	0		0		
X > 1017	0		0		
X > 995	31		31		
X > 980	45		45		
X > 973	47		47		
X > 955	53		53		
X > 951	55		55		
X > 943	59		59		
X > 941	60		60		
X > 924	62		62		
X > 918	63		63		
X > 876	65		65		
X > 856	65		65		
X > 848	66		66		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

November					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	991	-1	991	-1	0
1923	997	3	997	3	0
1924	958	-4	958	-4	0
1925	848	14	848	14	0
1926	953	3	953	3	0
1927	970	27	970	27	0
1928	1017	8	1017	8	0
1929	984	-2	984	-2	0
1930	927	-5	927	-5	0
1931	950	0	950	0	0
1932	834	0	834	0	0
1933	854	-1	854	-1	0
1934	846	-1	846	-1	0
1935	846	12	846	12	0
1936	938	0	938	0	0
1937	948	-6	948	-6	0
1938	984	32	984	32	0
1939	1013	-4	1013	-4	0
1940	946	-2	946	-2	0
1941	989	0	989	0	0
1942	1017	0	1017	0	0
1943	1017	0	1017	0	0
1944	1007	0	1007	0	0
1945	993	9	993	9	0
1946	1016	13	1016	13	0
1947	996	3	996	3	0
1948	970	3	970	3	0
1949	1013	0	1013	0	0
1950	992	-4	992	-4	0
1951	1017	16	1017	16	0
1952	1000	8	1000	8	0
1953	1017	0	1017	0	0
1954	1017	0	1017	0	0
1955	1006	6	1006	6	0
1956	986	2	986	2	0
1957	1013	-4	1013	-4	0
1958	1017	1	1017	1	0
1959	1014	-3	1014	-3	0
1960	956	-2	956	-2	0
1961	986	7	986	7	0
1962	979	2	979	2	0
1963	1017	0	1017	0	0
1964	1017	0	1017	0	0
1965	980	10	980	10	0
1966	1017	10	1017	10	0
1967	999	17	999	17	0
1968	1013	-4	1013	-4	0
1969	989	3	989	3	0
1970	1017	0	1017	0	0
1971	1006	22	1006	22	0
1972	1012	-5	1012	-5	0
1973	1008	13	1008	13	0
1974	1017	13	1017	13	0
1975	1013	-4	1013	-4	0
1976	1017	0	1017	0	0
1977	988	2	988	2	0
1978	835	1	835	1	0
1979	1013	0	1013	0	0
1980	1005	8	1005	8	0
1981	1001	-1	1001	-1	0
1982	1017	34	1017	34	0
1983	1017	0	1017	0	0
1984	1017	0	1017	0	0
1985	1017	12	1017	12	0
1986	975	2	975	2	0
1987	989	-1	989	-1	0
1988	952	0	952	0	0
1989	928	16	928	16	0
1990	970	2	970	2	0
1991	922	-2	922	-2	0
1992	882	-6	882	-6	0
1993	846	0	846	0	0
Mean:	977	4	977	4	0
Median:	995	0	995	0	0
Min:	834	-6	834	-6	0
Max:	1017	34	1017	34	0
Increase > 20		4		4	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 1020	0		0		
X > 1017	0		0		
X > 995	36		36		
X > 980	47		47		
X > 973	50		50		
X > 955	55		55		
X > 951	57		57		
X > 943	60		60		
X > 941	60		60		
X > 924	63		63		
X > 918	64		64		
X > 876	65		65		
X > 856	65		65		
X > 848	66		66		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

December					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	995	4	995	4	0
1923	1003	6	1003	6	0
1924	955	-2	955	-2	0
1925	859	11	859	11	0
1926	956	3	956	3	0
1927	996	25	996	25	0
1928	1020	3	1020	3	0
1929	984	0	984	0	0
1930	966	39	966	39	0
1931	949	-1	949	-1	0
1932	857	23	857	23	0
1933	853	-1	853	-1	0
1934	860	14	860	14	0
1935	852	5	852	5	0
1936	939	0	939	0	0
1937	947	-1	947	-1	0
1938	1020	36	1020	36	0
1939	1018	5	1018	5	0
1940	957	11	957	11	0
1941	1019	29	1019	29	0
1942	1020	3	1020	3	0
1943	1022	5	1022	5	0
1944	1007	-1	1007	-1	0
1945	1007	14	1007	14	0
1946	1018	1	1018	1	0
1947	1000	4	1000	4	0
1948	972	2	972	2	0
1949	1014	1	1014	1	0
1950	989	-3	989	-3	0
1951	1020	3	1020	3	0
1952	1019	20	1019	20	0
1953	1021	4	1021	4	0
1954	1018	1	1018	1	0
1955	1019	13	1019	13	0
1956	1017	31	1017	31	0
1957	1012	0	1012	0	0
1958	1021	4	1021	4	0
1959	1015	1	1015	1	0
1960	956	0	956	0	0
1961	1006	20	1006	20	0
1962	993	13	993	13	0
1963	1021	4	1021	4	0
1964	1018	1	1018	1	0
1965	1017	37	1017	37	0
1966	1022	5	1022	5	0
1967	1021	21	1021	21	0
1968	1015	2	1015	2	0
1969	1003	15	1003	15	0
1970	1020	3	1020	3	0
1971	1020	14	1020	14	0
1972	1018	6	1018	6	0
1973	1021	13	1021	13	0
1974	1018	1	1018	1	0
1975	1018	5	1018	5	0
1976	1020	3	1020	3	0
1977	989	1	989	1	0
1978	882	48	882	48	0
1979	1012	-1	1012	-1	0
1980	1012	7	1012	7	0
1981	1006	5	1006	5	0
1982	1018	1	1018	1	0
1983	1020	3	1020	3	0
1984	1018	1	1018	1	0
1985	1022	5	1022	5	0
1986	985	9	985	9	0
1987	989	0	989	0	0
1988	981	30	981	30	0
1989	937	9	937	9	0
1990	970	0	970	0	0
1991	922	0	922	0	0
1992	883	1	883	1	0
1993	872	26	872	26	0
Mean:	985	9	985	9	0
Median:	1010	4	1010	4	0
Min:	852	-3	852	-3	0
Max:	1022	48	1022	48	0
Increase > 20		11		11	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 1020	8		8		
X > 1017	28		28		
X > 995	44		44		
X > 980	52		52		
X > 973	52		52		
X > 955	58		58		
X > 951	59		59		
X > 943	61		61		
X > 941	61		61		
X > 924	63		63		
X > 918	64		64		
X > 876	66		66		
X > 856	70		70		
X > 848	72		72		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

January					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	999	4	999	4	0
1923	1012	9	1012	9	0
1924	959	4	959	4	0
1925	873	14	873	14	0
1926	958	3	958	3	0
1927	1019	24	1019	24	0
1928	1032	12	1032	12	0
1929	987	3	987	3	0
1930	979	13	979	13	0
1931	954	5	954	5	0
1932	874	16	874	16	0
1933	856	3	856	3	0
1934	892	32	892	32	0
1935	883	31	883	31	0
1936	974	35	974	35	0
1937	946	-1	946	-1	0
1938	1035	16	1035	16	0
1939	1023	5	1023	5	0
1940	1002	45	1002	45	0
1941	1020	1	1020	1	0
1942	1023	3	1023	3	0
1943	1030	8	1030	8	0
1944	1010	3	1010	3	0
1945	1015	8	1015	8	0
1946	1033	15	1033	15	0
1947	1000	1	1000	1	0
1948	1000	28	1000	28	0
1949	1015	1	1015	1	0
1950	1001	12	1001	12	0
1951	1033	13	1033	13	0
1952	1032	13	1032	13	0
1953	1022	1	1022	1	0
1954	1030	12	1030	12	0
1955	1025	6	1025	6	0
1956	1017	0	1017	0	0
1957	1017	4	1017	4	0
1958	1029	8	1029	8	0
1959	1034	19	1034	19	0
1960	968	13	968	13	0
1961	1015	9	1015	9	0
1962	995	3	995	3	0
1963	1028	7	1028	7	0
1964	1036	18	1036	18	0
1965	1022	5	1022	5	0
1966	1037	16	1037	16	0
1967	1030	9	1030	9	0
1968	1026	10	1026	10	0
1969	1022	18	1022	18	0
1970	1017	-3	1017	-3	0
1971	1028	9	1028	9	0
1972	1036	18	1036	18	0
1973	1030	9	1030	9	0
1974	1017	-1	1017	-1	0
1975	1024	6	1024	6	0
1976	1023	3	1023	3	0
1977	991	2	991	2	0
1978	1002	120	1002	120	0
1979	1019	7	1019	7	0
1980	1029	17	1029	17	0
1981	1019	13	1019	13	0
1982	1033	15	1033	15	0
1983	1022	2	1022	2	0
1984	1034	16	1034	16	0
1985	1026	4	1026	4	0
1986	1010	25	1010	25	0
1987	994	6	994	6	0
1988	1002	20	1002	20	0
1989	945	8	945	8	0
1990	984	14	984	14	0
1991	924	2	924	2	0
1992	890	6	890	6	0
1993	929	57	929	57	0
Mean:	998	13	998	13	0
Median:	1017	9	1017	9	0
Min:	856	-3	856	-3	0
Max:	1037	120	1037	120	0
Increase > 20		9		9	
Decrease > 9		0		0	
Decrease > 10		0		0	
Decrease > 15		0		0	
X > 1020	30		30		
X > 1017	34		34		
X > 995	51		51		
X > 980	56		56		
X > 973	58		58		
X > 955	61		61		
X > 951	62		62		
X > 943	64		64		
X > 941	64		64		
X > 924	65		65		
X > 918	66		66		
X > 876	69		69		
X > 856	71		71		
X > 848	72		72		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

February					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	1015	16	1015	16	0
1923	1018	6	1018	6	0
1924	971	12	971	12	0
1925	967	94	967	94	0
1926	996	38	996	38	0
1927	1026	7	1026	7	0
1928	1050	18	1050	18	0
1929	996	8	996	8	0
1930	997	18	997	18	0
1931	959	5	959	5	0
1932	888	14	888	14	0
1933	860	4	860	4	0
1934	919	27	919	27	0
1935	913	30	913	30	0
1936	1015	41	1015	41	0
1937	951	5	951	5	0
1938	1030	-5	1030	-5	0
1939	1028	5	1028	5	0
1940	1017	15	1017	15	0
1941	1024	5	1024	5	0
1942	1028	6	1028	6	0
1943	1042	12	1042	12	0
1944	1023	13	1023	13	0
1945	1045	30	1045	30	0
1946	1033	0	1033	0	0
1947	1012	12	1012	12	0
1948	996	-4	996	-4	0
1949	1023	8	1023	8	0
1950	1019	18	1019	18	0
1951	1040	7	1040	7	0
1952	1038	6	1038	6	0
1953	1036	14	1036	14	0
1954	1035	5	1035	5	0
1955	1028	3	1028	3	0
1956	1019	2	1019	2	0
1957	1035	18	1035	18	0
1958	1017	-12	1017	-12	0
1959	1039	5	1039	5	0
1960	1004	36	1004	36	0
1961	1044	29	1044	29	0
1962	1035	40	1035	40	0
1963	1045	17	1045	17	0
1964	1040	4	1040	4	0
1965	1040	18	1040	18	0
1966	1049	11	1049	11	0
1967	1044	14	1044	14	0
1968	1034	9	1034	9	0
1969	1027	5	1027	5	0
1970	1025	8	1025	8	0
1971	1037	9	1037	9	0
1972	1047	11	1047	11	0
1973	1034	4	1034	4	0
1974	1036	19	1036	19	0
1975	1045	21	1045	21	0
1976	1028	5	1028	5	0
1977	991	0	991	0	0
1978	1031	28	1031	28	0
1979	1035	16	1035	16	0
1980	1019	-10	1019	-10	0
1981	1037	18	1037	18	0
1982	1029	-4	1029	-4	0
1983	1017	-5	1017	-5	0
1984	1047	13	1047	13	0
1985	1033	7	1033	7	0
1986	1017	7	1017	7	0
1987	1010	15	1010	15	0
1988	1000	-1	1000	-1	0
1989	953	8	953	8	0
1990	986	1	986	1	0
1991	922	-2	922	-2	0
1992	941	51	941	51	0
1993	973	45	973	45	0
Mean:	1011	13	1011	13	0
Median:	1026	9	1026	9	0
Min:	860	-12	860	-12	0
Max:	1050	94	1050	94	0
Increase > 20		13		13	
Decrease > 9		2		2	
Decrease > 10		1		1	
Decrease > 15		0		0	
X > 1020	40		40		
X > 1017	44		44		
X > 995	58		58		
X > 980	60		60		
X > 973	60		60		
X > 955	64		64		
X > 951	65		65		
X > 943	66		66		
X > 941	66		66		
X > 924	67		67		
X > 918	69		69		
X > 876	71		71		
X > 856	72		72		
X > 848	72		72		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

March					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	1032	17	1032	17	0
1923	1023	5	1023	5	0
1924	970	-1	970	-1	0
1925	979	13	979	13	0
1926	1005	8	1005	8	0
1927	1051	25	1051	25	0
1928	1046	-4	1046	-4	0
1929	1003	8	1003	8	0
1930	1019	22	1019	22	0
1931	969	10	969	10	0
1932	923	35	923	35	0
1933	915	54	915	54	0
1934	939	20	939	20	0
1935	942	29	942	29	0
1936	1030	15	1030	15	0
1937	987	36	987	36	0
1938	1024	-6	1024	-6	0
1939	1044	16	1044	16	0
1940	1025	8	1025	8	0
1941	1045	21	1045	21	0
1942	1042	13	1042	13	0
1943	1051	10	1051	10	0
1944	1037	13	1037	13	0
1945	1056	11	1056	11	0
1946	1048	15	1048	15	0
1947	1034	23	1034	23	0
1948	1009	14	1009	14	0
1949	1050	27	1050	27	0
1950	1038	19	1038	19	0
1951	1056	16	1056	16	0
1952	1048	10	1048	10	0
1953	1054	18	1054	18	0
1954	1051	16	1051	16	0
1955	1034	6	1034	6	0
1956	1048	29	1048	29	0
1957	1052	17	1052	17	0
1958	1024	7	1024	7	0
1959	1046	6	1046	6	0
1960	1034	30	1034	30	0
1961	1057	13	1057	13	0
1962	1054	18	1054	18	0
1963	1051	5	1051	5	0
1964	1042	2	1042	2	0
1965	1042	2	1042	2	0
1966	1055	7	1055	7	0
1967	1048	4	1048	4	0
1968	1056	22	1056	22	0
1969	1048	21	1048	21	0
1970	1050	25	1050	25	0
1971	1043	5	1043	5	0
1972	1056	10	1056	10	0
1973	1053	19	1053	19	0
1974	1024	-12	1024	-12	0
1975	1039	-6	1039	-6	0
1976	1037	9	1037	9	0
1977	991	0	991	0	0
1978	1047	17	1047	17	0
1979	1054	19	1054	19	0
1980	1048	30	1048	30	0
1981	1056	19	1056	19	0
1982	1046	17	1046	17	0
1983	1024	7	1024	7	0
1984	1056	9	1056	9	0
1985	1042	8	1042	8	0
1986	1029	12	1029	12	0
1987	1041	31	1041	31	0
1988	1004	4	1004	4	0
1989	1021	68	1021	68	0
1990	997	11	997	11	0
1991	951	29	951	29	0
1992	968	27	968	27	0
1993	1040	66	1040	66	0
Mean:	1027	16	1027	16	0
Median:	1042	15	1042	15	0
Min:	915	-12	915	-12	0
Max:	1057	68	1057	68	0
Increase > 20		20		20	
Decrease > 9		1		1	
Decrease > 10		1		1	
Decrease > 15		0		0	
X > 1020	55		55		
X > 1017	56		56		
X > 995	61		61		
X > 980	63		63		
X > 973	64		64		
X > 955	67		67		
X > 951	67		67		
X > 943	68		68		
X > 941	69		69		
X > 924	70		70		
X > 918	71		71		
X > 876	72		72		
X > 856	72		72		
X > 848	72		72		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

April					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	1048	16	1048	16	0
1923	1033	11	1033	11	0
1924	953	-17	953	-17	0
1925	1007	27	1007	27	0
1926	1016	11	1016	11	0
1927	1067	16	1067	16	0
1928	1062	16	1062	16	0
1929	1005	1	1005	1	0
1930	1024	5	1024	5	0
1931	954	-14	954	-14	0
1932	933	10	933	10	0
1933	914	-1	914	-1	0
1934	939	0	939	0	0
1935	995	53	995	53	0
1936	1037	7	1037	7	0
1937	1013	25	1013	25	0
1938	1049	25	1049	25	0
1939	1037	-7	1037	-7	0
1940	1051	26	1051	26	0
1941	1064	18	1064	18	0
1942	1063	21	1063	21	0
1943	1066	14	1066	14	0
1944	1037	1	1037	1	0
1945	1061	5	1061	5	0
1946	1055	7	1055	7	0
1947	1040	5	1040	5	0
1948	1044	35	1044	35	0
1949	1061	11	1061	11	0
1950	1048	10	1048	10	0
1951	1059	3	1059	3	0
1952	1058	10	1058	10	0
1953	1065	11	1065	11	0
1954	1067	16	1067	16	0
1955	1036	2	1036	2	0
1956	1064	16	1064	16	0
1957	1052	0	1052	0	0
1958	1053	29	1053	29	0
1959	1046	0	1046	0	0
1960	1041	6	1041	6	0
1961	1059	1	1059	1	0
1962	1063	9	1063	9	0
1963	1052	2	1052	2	0
1964	1032	-10	1032	-10	0
1965	1065	23	1065	23	0
1966	1067	12	1067	12	0
1967	1064	16	1064	16	0
1968	1054	-2	1054	-2	0
1969	1063	14	1063	14	0
1970	1048	-2	1048	-2	0
1971	1059	17	1059	17	0
1972	1061	4	1061	4	0
1973	1061	8	1061	8	0
1974	1058	33	1058	33	0
1975	1058	19	1058	19	0
1976	1040	2	1040	2	0
1977	979	-12	979	-12	0
1978	1067	20	1067	20	0
1979	1058	5	1058	5	0
1980	1057	9	1057	9	0
1981	1062	5	1062	5	0
1982	1051	5	1051	5	0
1983	1050	26	1050	26	0
1984	1059	3	1059	3	0
1985	1046	4	1046	4	0
1986	1040	11	1040	11	0
1987	1032	-10	1032	-10	0
1988	1002	-2	1002	-2	0
1989	1037	16	1037	16	0
1990	988	-9	988	-9	0
1991	961	9	961	9	0
1992	983	15	983	15	0
1993	1061	21	1061	21	0
Mean:	1037	10	1037	10	0
Median:	1051	9	1051	9	0
Min:	914	-17	914	-17	0
Max:	1067	53	1067	53	0
Increase > 20		12		12	
Decrease > 9		5		5	
Decrease > 10		3		3	
Decrease > 15		1		1	
X > 1020	57		57		
X > 1017	57		57		
X > 995	62		62		
X > 980	65		65		
X > 973	66		66		
X > 955	67		67		
X > 951	69		69		
X > 943	69		69		
X > 941	69		69		
X > 924	71		71		
X > 918	71		71		
X > 876	72		72		
X > 856	72		72		
X > 848	72		72		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

May					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	1053	5	1053	5	0
1923	1021	-12	1021	-12	0
1924	931	-22	931	-22	0
1925	1007	0	1007	0	0
1926	1009	-7	1009	-7	0
1927	1067	0	1067	0	0
1928	1057	-5	1057	-5	0
1929	998	-6	998	-6	0
1930	1019	-4	1019	-4	0
1931	936	-18	936	-18	0
1932	945	12	945	12	0
1933	918	4	918	4	0
1934	928	-12	928	-12	0
1935	1005	11	1005	11	0
1936	1030	-7	1030	-7	0
1937	1015	3	1015	3	0
1938	1067	17	1067	17	0
1939	1028	-9	1028	-9	0
1940	1048	-3	1048	-3	0
1941	1067	3	1067	3	0
1942	1067	4	1067	4	0
1943	1065	-1	1065	-1	0
1944	1034	-3	1034	-3	0
1945	1061	0	1061	0	0
1946	1052	-3	1052	-3	0
1947	1027	-13	1027	-13	0
1948	1055	11	1055	11	0
1949	1061	0	1061	0	0
1950	1045	-4	1045	-4	0
1951	1059	0	1059	0	0
1952	1067	9	1067	9	0
1953	1067	2	1067	2	0
1954	1057	-10	1057	-10	0
1955	1040	3	1040	3	0
1956	1067	3	1067	3	0
1957	1060	8	1060	8	0
1958	1067	14	1067	14	0
1959	1038	-8	1038	-8	0
1960	1041	0	1041	0	0
1961	1060	1	1060	1	0
1962	1059	-3	1059	-3	0
1963	1061	9	1061	9	0
1964	1026	-6	1026	-6	0
1965	1062	-3	1062	-3	0
1966	1062	-5	1062	-5	0
1967	1067	3	1067	3	0
1968	1049	-5	1049	-5	0
1969	1067	4	1067	4	0
1970	1043	-5	1043	-5	0
1971	1067	8	1067	8	0
1972	1056	-4	1056	-4	0
1973	1060	-1	1060	-1	0
1974	1064	6	1064	6	0
1975	1067	9	1067	9	0
1976	1035	-5	1035	-5	0
1977	970	-9	970	-9	0
1978	1067	0	1067	0	0
1979	1060	2	1060	2	0
1980	1054	-3	1054	-3	0
1981	1056	-5	1056	-5	0
1982	1057	6	1057	6	0
1983	1067	17	1067	17	0
1984	1058	-1	1058	-1	0
1985	1037	-9	1037	-9	0
1986	1037	-2	1037	-2	0
1987	1019	-13	1019	-13	0
1988	1001	-2	1001	-2	0
1989	1027	-10	1027	-10	0
1990	992	4	992	4	0
1991	957	-3	957	-3	0
1992	970	-12	970	-12	0
1993	1067	6	1067	6	0
Mean:	1036	-1	1036	-1	0
Median:	1054	-1	1054	-1	0
Min:	918	-22	918	-22	0
Max:	1067	17	1067	17	0
Increase > 20		0		0	
Decrease > 9		9		9	
Decrease > 10		7		7	
Decrease > 15		2		2	
X > 1020	55		55		
X > 1017	57		57		
X > 995	63		63		
X > 980	64		64		
X > 973	64		64		
X > 955	67		67		
X > 951	67		67		
X > 943	68		68		
X > 941	68		68		
X > 924	71		71		
X > 918	71		71		
X > 876	72		72		
X > 856	72		72		
X > 848	72		72		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

June					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	1043	-10	1043	-10	0
1923	1010	-12	1010	-12	0
1924	898	-33	898	-33	0
1925	996	-11	996	-11	0
1926	993	-15	993	-15	0
1927	1057	-10	1057	-10	0
1928	1044	-13	1044	-13	0
1929	988	-11	988	-11	0
1930	1003	-16	1003	-16	0
1931	911	-24	911	-24	0
1932	934	-11	934	-11	0
1933	908	-10	908	-10	0
1934	896	-32	896	-32	0
1935	993	-13	993	-13	0
1936	1019	-11	1019	-11	0
1937	1008	-7	1008	-7	0
1938	1064	-3	1064	-3	0
1939	1008	-20	1008	-20	0
1940	1035	-13	1035	-13	0
1941	1065	-2	1065	-2	0
1942	1064	-3	1064	-3	0
1943	1056	-9	1056	-9	0
1944	1025	-9	1025	-9	0
1945	1052	-8	1052	-8	0
1946	1040	-12	1040	-12	0
1947	1018	-8	1018	-8	0
1948	1055	0	1055	0	0
1949	1049	-12	1049	-12	0
1950	1031	-13	1031	-13	0
1951	1046	-13	1046	-13	0
1952	1062	-5	1062	-5	0
1953	1065	-2	1065	-2	0
1954	1049	-8	1049	-8	0
1955	1028	-12	1028	-12	0
1956	1061	-6	1061	-6	0
1957	1053	-7	1053	-7	0
1958	1065	-2	1065	-2	0
1959	1015	-23	1015	-23	0
1960	1029	-12	1029	-12	0
1961	1047	-13	1047	-13	0
1962	1047	-12	1047	-12	0
1963	1056	-6	1056	-6	0
1964	1018	-8	1018	-8	0
1965	1051	-11	1051	-11	0
1966	1041	-21	1041	-21	0
1967	1065	-2	1065	-2	0
1968	1030	-19	1030	-19	0
1969	1061	-6	1061	-6	0
1970	1032	-11	1032	-11	0
1971	1065	-2	1065	-2	0
1972	1037	-19	1037	-19	0
1973	1048	-13	1048	-13	0
1974	1059	-5	1059	-5	0
1975	1063	-4	1063	-4	0
1976	1015	-20	1015	-20	0
1977	935	-35	935	-35	0
1978	1056	-11	1056	-11	0
1979	1042	-18	1042	-18	0
1980	1042	-12	1042	-12	0
1981	1033	-23	1033	-23	0
1982	1051	-6	1051	-6	0
1983	1065	-2	1065	-2	0
1984	1049	-9	1049	-9	0
1985	1019	-18	1019	-18	0
1986	1022	-16	1022	-16	0
1987	995	-24	995	-24	0
1988	978	-23	978	-23	0
1989	1013	-14	1013	-14	0
1990	981	-11	981	-11	0
1991	942	-15	942	-15	0
1992	944	-26	944	-26	0
1993	1065	-1	1065	-1	0
Mean:	1024	-12	1024	-12	0
Median:	1039	-11	1039	-11	0
Min:	896	-35	896	-35	0
Max:	1065	0	1065	0	0
Increase > 20		0		0	
Decrease > 9		46		46	
Decrease > 10		43		43	
Decrease > 15		18		18	
X > 1020	46		46		
X > 1017	50		50		
X > 995	58		58		
X > 980	63		63		
X > 973	64		64		
X > 955	64		64		
X > 951	64		64		
X > 943	65		65		
X > 941	66		66		
X > 924	68		68		
X > 918	68		68		
X > 876	72		72		
X > 856	72		72		
X > 848	72		72		
# Years Diff >= -1 ft					72

Shasta Reservoir End of Month Elevation

July					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	1026	-17	1023	-20	-3
1923	990	-20	990	-20	0
1924	857	-40	853	-45	-4
1925	972	-24	973	-24	1
1926	971	-23	968	-25	-3
1927	1041	-16	1039	-17	-2
1928	1019	-25	1017	-27	-2
1929	964	-24	964	-23	0
1930	981	-22	981	-22	0
1931	867	-45	863	-48	-4
1932	909	-25	906	-28	-3
1933	874	-34	875	-34	1
1934	852	-44	850	-46	-2
1935	974	-18	974	-18	0
1936	996	-24	995	-25	-1
1937	993	-15	988	-20	-5
1938	1051	-13	1048	-16	-3
1939	982	-25	981	-27	-1
1940	1014	-22	1013	-22	-1
1941	1054	-11	1052	-13	-2
1942	1054	-10	1052	-12	-2
1943	1038	-18	1036	-19	-2
1944	1004	-20	1004	-21	0
1945	1031	-21	1031	-21	0
1946	1021	-19	1021	-19	0
1947	992	-26	992	-26	0
1948	1042	-13	1042	-13	0
1949	1025	-24	1025	-24	0
1950	1013	-18	1013	-19	0
1951	1020	-26	1020	-26	0
1952	1050	-11	1050	-12	0
1953	1054	-11	1053	-13	-1
1954	1026	-23	1026	-23	0
1955	1004	-24	1004	-24	0
1956	1049	-12	1048	-13	-1
1957	1033	-19	1032	-21	-1
1958	1054	-11	1053	-13	-1
1959	991	-23	991	-23	0
1960	1004	-25	1003	-25	-1
1961	1019	-28	1019	-28	0
1962	1026	-21	1025	-22	-1
1963	1039	-17	1039	-17	0
1964	995	-24	995	-24	0
1965	1028	-23	1028	-23	0
1966	1015	-26	1015	-26	0
1967	1052	-13	1053	-13	1
1968	1006	-24	1006	-24	0
1969	1047	-15	1045	-16	-2
1970	1004	-29	1004	-29	0
1971	1050	-15	1051	-15	1
1972	1013	-24	1013	-24	0
1973	1025	-23	1024	-24	-1
1974	1052	-7	1049	-10	-3
1975	1054	-8	1052	-10	-2
1976	994	-21	992	-22	-2
1977	859	-76	857	-78	-2
1978	1034	-21	1034	-22	0
1979	1019	-22	1019	-22	0
1980	1024	-18	1024	-18	0
1981	1006	-26	1006	-26	0
1982	1039	-12	1038	-12	-1
1983	1052	-13	1052	-13	0
1984	1025	-24	1025	-24	0
1985	997	-22	996	-23	-1
1986	1004	-18	1002	-20	-2
1987	970	-25	970	-25	0
1988	951	-27	950	-28	-1
1989	987	-26	987	-26	0
1990	952	-29	951	-31	-1
1991	923	-20	919	-23	-4
1992	908	-36	907	-37	-1
1993	1043	-22	1043	-22	0
Mean:	1001	-22	1001	-23	-1
Median:	1015	-22	1014	-23	0
Min:	852	-76	850	-78	-5
Max:	1054	-7	1053	-10	1
Increase > 20		0		0	
Decrease > 9		70		72	
Decrease > 10		69		70	
Decrease > 15		56		59	
X > 1020	31		31		
X > 1017	35		34		
X > 995	48		47		
X > 980	57		57		
X > 973	58		58		
X > 955	62		62		
X > 951	63		62		
X > 943	64		64		
X > 941	64		64		
X > 924	64		64		
X > 918	65		65		
X > 876	67		67		
X > 856	71		70		
X > 848	72		72		
# Years Diff >= -1 ft					52

Shasta Reservoir End of Month Elevation

August					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	1006	-20	1004	-18	-2
1923	972	-18	972	-18	0
1924	841	-17	839	-14	-2
1925	955	-18	953	-19	-2
1926	950	-20	948	-20	-2
1927	1023	-18	1022	-17	-1
1928	1001	-18	1001	-16	0
1929	945	-19	944	-21	-1
1930	961	-20	960	-20	-1
1931	845	-22	843	-20	-2
1932	878	-31	874	-32	-4
1933	849	-25	846	-29	-3
1934	837	-16	834	-16	-3
1935	950	-25	950	-24	0
1936	973	-23	972	-22	-1
1937	970	-23	967	-21	-3
1938	1037	-14	1036	-12	-1
1939	959	-24	958	-23	-1
1940	996	-17	996	-17	0
1941	1037	-17	1036	-16	-1
1942	1037	-17	1036	-15	-1
1943	1020	-18	1019	-17	-1
1944	989	-15	989	-15	0
1945	1013	-19	1012	-18	-1
1946	1003	-18	1003	-18	0
1947	968	-24	968	-24	0
1948	1027	-15	1027	-15	0
1949	1008	-17	1008	-17	0
1950	995	-18	995	-18	0
1951	1002	-18	1002	-17	0
1952	1037	-14	1036	-14	-1
1953	1037	-17	1036	-16	-1
1954	1013	-13	1013	-13	0
1955	988	-16	987	-16	-1
1956	1037	-12	1036	-12	-1
1957	1017	-16	1016	-16	-1
1958	1037	-17	1036	-16	-1
1959	972	-20	972	-20	0
1960	986	-17	986	-17	0
1961	994	-25	994	-25	0
1962	1008	-18	1008	-17	0
1963	1026	-13	1026	-13	0
1964	975	-20	975	-20	0
1965	1014	-14	1014	-14	0
1966	999	-16	999	-16	0
1967	1036	-16	1036	-16	0
1968	995	-11	995	-11	0
1969	1032	-14	1031	-14	-1
1970	991	-13	991	-13	0
1971	1036	-14	1036	-14	0
1972	998	-15	998	-15	0
1973	1010	-14	1010	-14	0
1974	1037	-15	1036	-13	-1
1975	1037	-17	1036	-16	-1
1976	990	-4	989	-3	-1
1977	834	-25	834	-23	0
1978	1020	-15	1020	-14	0
1979	1004	-15	1004	-15	0
1980	1009	-15	1009	-15	0
1981	990	-17	990	-17	0
1982	1026	-13	1026	-13	0
1983	1036	-16	1036	-16	0
1984	1011	-13	1011	-13	0
1985	979	-17	979	-17	0
1986	992	-12	992	-10	0
1987	957	-13	956	-13	-1
1988	930	-22	928	-23	-2
1989	968	-18	968	-18	0
1990	934	-18	932	-19	-2
1991	901	-22	899	-20	-2
1992	866	-42	864	-43	-2
1993	1031	-13	1031	-13	0
Mean:	984	-18	983	-17	-1
Median:	997	-17	997	-16	0
Min:	834	-42	834	-43	-4
Max:	1037	-4	1036	-3	0
Increase > 20		0		0	
Decrease > 9		71		71	
Decrease > 10		71		70	
Decrease > 15		48		46	
X > 1020	18		18		
X > 1017	20		20		
X > 995	37		37		
X > 980	47		47		
X > 973	49		49		
X > 955	58		58		
X > 951	59		59		
X > 943	62		62		
X > 941	62		62		
X > 924	64		64		
X > 918	64		64		
X > 876	66		65		
X > 856	67		67		
X > 848	68		67		
# Years Diff >= -1 ft					59

Shasta Reservoir End of Month Elevation

September					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	996	-10	996	-8	0
1923	965	-7	965	-7	0
1924	834	-7	834	-5	0
1925	949	-5	949	-4	0
1926	944	-6	944	-4	0
1927	1012	-11	1012	-10	0
1928	993	-8	993	-7	0
1929	938	-6	938	-5	0
1930	955	-6	955	-6	0
1931	834	-10	834	-9	0
1932	862	-16	862	-12	0
1933	846	-3	846	0	0
1934	834	-2	834	0	0
1935	941	-9	941	-10	0
1936	963	-9	963	-9	0
1937	958	-12	958	-9	0
1938	1023	-14	1023	-13	0
1939	952	-7	952	-6	0
1940	992	-4	992	-4	0
1941	1024	-13	1023	-13	-1
1942	1023	-14	1023	-13	0
1943	1013	-8	1013	-7	0
1944	986	-3	986	-3	0
1945	1005	-7	1005	-7	0
1946	997	-6	997	-6	0
1947	965	-3	965	-3	0
1948	1022	-5	1022	-5	0
1949	1004	-5	1004	-5	0
1950	990	-5	990	-5	0
1951	996	-6	996	-6	0
1952	1023	-13	1023	-13	0
1953	1023	-13	1023	-13	0
1954	1007	-6	1007	-6	0
1955	985	-2	985	-2	0
1956	1023	-14	1023	-13	0
1957	1011	-7	1011	-6	0
1958	1023	-13	1023	-13	0
1959	969	-3	969	-3	0
1960	983	-4	983	-4	0
1961	990	-4	990	-4	0
1962	1000	-8	1000	-8	0
1963	1022	-4	1022	-4	0
1964	971	-4	971	-4	0
1965	1010	-4	1010	-4	0
1966	989	-9	989	-9	0
1967	1023	-13	1023	-13	0
1968	987	-7	987	-7	0
1969	1023	-9	1023	-8	0
1970	984	-7	984	-7	0
1971	1023	-13	1023	-13	0
1972	995	-3	995	-3	0
1973	1003	-7	1003	-6	0
1974	1024	-14	1023	-13	-1
1975	1024	-14	1023	-13	-1
1976	989	-1	989	0	0
1977	834	0	834	0	0
1978	1017	-3	1017	-3	0
1979	997	-7	997	-7	0
1980	1006	-3	1006	-3	0
1981	982	-8	982	-8	0
1982	1022	-3	1022	-3	0
1983	1023	-13	1023	-13	0
1984	1006	-5	1006	-5	0
1985	977	-2	977	-2	0
1986	991	-1	991	-1	0
1987	957	0	957	0	0
1988	922	-8	922	-6	0
1989	965	-4	965	-4	0
1990	930	-3	930	-1	0
1991	891	-10	891	-8	0
1992	856	-10	856	-8	0
1993	1022	-9	1022	-9	0
Mean:	977	-7	977	-7	0
Median:	992	-7	992	-6	0
Min:	834	-16	834	-13	-1
Max:	1024	0	1023	0	0
Increase > 20		0		0	
Decrease > 9		19		15	
Decrease > 10		15		13	
Decrease > 15		1		0	
X > 1020	17		17		
X > 1017	17		17		
X > 995	33		33		
X > 980	47		47		
X > 973	48		48		
X > 955	56		56		
X > 951	58		58		
X > 943	60		60		
X > 941	60		60		
X > 924	63		63		
X > 918	64		64		
X > 876	65		65		
X > 856	66		66		
X > 848	67		67		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

October					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	409	0	409	0	0
1923	424	-3	424	-3	0
1924	422	-5	422	-5	0
1925	373	4	373	4	0
1926	408	-14	408	-14	0
1927	402	-3	402	-3	0
1928	422	-3	422	-3	0
1929	404	-4	404	-4	0
1930	395	-6	395	-6	0
1931	403	-6	403	-6	0
1932	364	-11	364	-11	0
1933	412	-13	412	-13	0
1934	387	0	387	0	0
1935	358	-11	358	-11	0
1936	421	-8	421	-8	0
1937	420	-11	420	-11	0
1938	426	-2	426	-2	0
1939	432	-2	432	-2	0
1940	396	2	396	2	0
1941	408	-22	408	-22	0
1942	432	-2	432	-2	0
1943	431	-3	431	-3	0
1944	422	-4	422	-4	0
1945	401	-3	401	-3	0
1946	418	-3	418	-3	0
1947	409	-5	409	-5	0
1948	396	9	396	9	0
1949	426	-3	426	-3	0
1950	410	-3	410	-3	0
1951	427	-1	427	-1	0
1952	409	-4	409	-4	0
1953	433	0	433	0	0
1954	431	-3	431	-3	0
1955	409	-4	409	-4	0
1956	406	-5	406	-5	0
1957	433	0	433	0	0
1958	424	0	424	0	0
1959	430	-3	430	-3	0
1960	377	3	377	3	0
1961	399	-5	399	-5	0
1962	374	2	374	2	0
1963	441	26	441	26	0
1964	426	-1	426	-1	0
1965	401	-4	401	-4	0
1966	421	-7	421	-7	0
1967	399	-5	399	-5	0
1968	433	-1	433	-1	0
1969	402	-3	402	-3	0
1970	433	0	433	0	0
1971	403	0	403	0	0
1972	431	-2	431	-2	0
1973	408	-2	408	-2	0
1974	419	1	419	1	0
1975	431	-2	431	-2	0
1976	437	4	437	4	0
1977	391	0	391	0	0
1978	330	0	330	0	0
1979	425	-8	425	-8	0
1980	413	0	413	0	0
1981	431	-3	431	-3	0
1982	397	7	397	7	0
1983	441	8	441	8	0
1984	441	8	441	8	0
1985	420	-1	420	-1	0
1986	399	-2	399	-2	0
1987	430	-3	430	-3	0
1988	391	-2	391	-2	0
1989	337	7	337	7	0
1990	404	1	404	1	0
1991	394	-6	394	-6	0
1992	394	-8	394	-8	0
1993	330	0	330	0	0
Mean:	409	-2	409	-2	0
Median:	410	-3	410	-3	0
Min:	330	-22	330	-22	0
Max:	441	26	441	26	0
Increase > 20		1		1	
Decrease > 9		6		6	
Decrease > 10		6		6	
Decrease > 15		1		1	
X > 466	0		0		
X > 455	0		0		
X > 435	4		4		
X > 420	29		29		
X > 412	34		34		
X > 405	44		44		
X > 395	58		58		
X > 375	65		65		
X > 360	68		68		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

November					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	404	-5	404	-5	0
1923	419	-4	419	-4	0
1924	418	-4	418	-4	0
1925	380	7	380	7	0
1926	395	-13	395	-13	0
1927	421	19	421	19	0
1928	424	2	424	2	0
1929	403	-1	403	-1	0
1930	392	-4	392	-4	0
1931	402	-2	402	-2	0
1932	359	-5	359	-5	0
1933	391	-21	391	-21	0
1934	385	-2	385	-2	0
1935	365	7	365	7	0
1936	417	-5	417	-5	0
1937	413	-8	413	-8	0
1938	424	-2	424	-2	0
1939	423	-8	423	-8	0
1940	390	-6	390	-6	0
1941	401	-7	401	-7	0
1942	424	-7	424	-7	0
1943	424	-7	424	-7	0
1944	419	-3	419	-3	0
1945	413	12	413	12	0
1946	424	6	424	6	0
1947	411	2	411	2	0
1948	402	6	402	6	0
1949	423	-3	423	-3	0
1950	408	-2	408	-2	0
1951	400	-27	400	-27	0
1952	414	5	414	5	0
1953	424	-9	424	-9	0
1954	424	-7	424	-7	0
1955	409	0	409	0	0
1956	404	-2	404	-2	0
1957	423	-11	423	-11	0
1958	424	0	424	0	0
1959	424	-7	424	-7	0
1960	377	0	377	0	0
1961	401	2	401	2	0
1962	376	2	376	2	0
1963	424	-17	424	-17	0
1964	424	-2	424	-2	0
1965	407	5	407	5	0
1966	423	2	423	2	0
1967	406	7	406	7	0
1968	423	-10	423	-10	0
1969	406	4	406	4	0
1970	424	-9	424	-9	0
1971	421	18	421	18	0
1972	423	-9	423	-9	0
1973	417	8	417	8	0
1974	424	6	424	6	0
1975	423	-8	423	-8	0
1976	424	-13	424	-13	0
1977	389	-3	389	-3	0
1978	333	3	333	3	0
1979	423	-2	423	-2	0
1980	417	4	417	4	0
1981	418	-13	418	-13	0
1982	421	24	421	24	0
1983	424	-17	424	-17	0
1984	400	-42	400	-42	0
1985	424	5	424	5	0
1986	407	8	407	8	0
1987	420	-11	420	-11	0
1988	393	2	393	2	0
1989	368	31	368	31	0
1990	407	2	407	2	0
1991	391	-3	391	-3	0
1992	389	-5	389	-5	0
1993	330	0	330	0	0
Mean:	407	-2	407	-2	0
Median:	414	-2	414	-2	0
Min:	330	-42	330	-42	0
Max:	424	31	424	31	0
Increase > 20		2		2	
Decrease > 9		11		11	
Decrease > 10		10		10	
Decrease > 15		5		5	
X > 466	0		0		
X > 455	0		0		
X > 435	0		0		
X > 420	27		27		
X > 412	38		38		
X > 405	46		46		
X > 395	55		55		
X > 375	67		67		
X > 360	69		69		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

December					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	413	9	413	9	0
1923	424	5	424	5	0
1924	414	-3	414	-3	0
1925	388	8	388	8	0
1926	384	-12	384	-12	0
1927	424	3	424	3	0
1928	424	0	424	0	0
1929	403	0	403	0	0
1930	410	18	410	18	0
1931	398	-4	398	-4	0
1932	383	24	383	24	0
1933	373	-18	373	-18	0
1934	398	13	398	13	0
1935	370	5	370	5	0
1936	413	-4	413	-4	0
1937	406	-6	406	-6	0
1938	424	0	424	0	0
1939	415	-8	415	-8	0
1940	387	-3	387	-3	0
1941	422	20	422	20	0
1942	424	0	424	0	0
1943	424	0	424	0	0
1944	417	-1	417	-1	0
1945	423	10	423	10	0
1946	424	0	424	0	0
1947	412	2	412	2	0
1948	401	-1	401	-1	0
1949	423	0	423	0	0
1950	406	-2	406	-2	0
1951	388	-13	388	-13	0
1952	424	11	424	11	0
1953	424	0	424	0	0
1954	418	-6	418	-6	0
1955	419	10	419	10	0
1956	419	15	419	15	0
1957	414	-9	414	-9	0
1958	424	0	424	0	0
1959	416	-8	416	-8	0
1960	377	0	377	0	0
1961	403	1	403	1	0
1962	382	6	382	6	0
1963	424	0	424	0	0
1964	420	-5	420	-5	0
1965	397	-9	397	-9	0
1966	424	1	424	1	0
1967	424	18	424	18	0
1968	418	-6	418	-6	0
1969	416	10	416	10	0
1970	424	0	424	0	0
1971	424	3	424	3	0
1972	424	1	424	1	0
1973	424	8	424	8	0
1974	424	0	424	0	0
1975	420	-3	420	-3	0
1976	416	-9	416	-9	0
1977	376	-13	376	-13	0
1978	377	44	377	44	0
1979	421	-2	421	-2	0
1980	424	7	424	7	0
1981	408	-10	408	-10	0
1982	398	-23	398	-23	0
1983	424	0	424	0	0
1984	392	-8	392	-8	0
1985	424	-1	424	-1	0
1986	420	13	420	13	0
1987	411	-9	411	-9	0
1988	401	8	401	8	0
1989	378	10	378	10	0
1990	403	-4	403	-4	0
1991	384	-7	384	-7	0
1992	385	-3	385	-3	0
1993	359	29	359	29	0
Mean:	408	1	408	1	0
Median:	416	0	416	0	0
Min:	359	-23	359	-23	0
Max:	424	44	424	44	0
Increase > 20		3		3	
Decrease > 9		6		6	
Decrease > 10		5		5	
Decrease > 15		2		2	
X > 466	0		0		
X > 455	0		0		
X > 435	0		0		
X > 420	25		25		
X > 412	41		41		
X > 405	47		47		
X > 395	56		56		
X > 375	69		69		
X > 360	71		71		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

January					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	418	5	418	5	0
1923	424	0	424	0	0
1924	411	-3	411	-3	0
1925	389	1	389	1	0
1926	372	-12	372	-12	0
1927	424	0	424	0	0
1928	424	0	424	0	0
1929	400	-3	400	-3	0
1930	419	9	419	9	0
1931	399	1	399	1	0
1932	401	18	401	18	0
1933	358	-14	358	-14	0
1934	411	13	411	13	0
1935	392	22	392	22	0
1936	424	12	424	12	0
1937	404	-3	404	-3	0
1938	424	0	424	0	0
1939	410	-5	410	-5	0
1940	424	37	424	37	0
1941	424	3	424	3	0
1942	424	0	424	0	0
1943	423	-1	423	-1	0
1944	416	-2	416	-2	0
1945	424	1	424	1	0
1946	424	0	424	0	0
1947	410	-3	410	-3	0
1948	412	11	412	11	0
1949	420	-3	420	-3	0
1950	424	18	424	18	0
1951	390	2	390	2	0
1952	424	0	424	0	0
1953	424	0	424	0	0
1954	420	2	420	2	0
1955	424	6	424	6	0
1956	402	-17	402	-17	0
1957	409	-5	409	-5	0
1958	424	0	424	0	0
1959	423	8	423	8	0
1960	385	8	385	8	0
1961	401	-2	401	-2	0
1962	386	4	386	4	0
1963	422	-3	422	-3	0
1964	424	5	424	5	0
1965	397	-1	397	-1	0
1966	424	0	424	0	0
1967	424	0	424	0	0
1968	419	2	419	2	0
1969	421	6	421	6	0
1970	401	-23	401	-23	0
1971	424	0	424	0	0
1972	424	0	424	0	0
1973	423	-1	423	-1	0
1974	414	-10	414	-10	0
1975	420	1	420	1	0
1976	407	-9	407	-9	0
1977	366	-9	366	-9	0
1978	424	47	424	47	0
1979	424	3	424	3	0
1980	407	-18	407	-18	0
1981	407	-2	407	-2	0
1982	402	3	402	3	0
1983	423	-1	423	-1	0
1984	393	1	393	1	0
1985	419	-5	419	-5	0
1986	422	3	422	3	0
1987	406	-5	406	-5	0
1988	413	12	413	12	0
1989	386	8	386	8	0
1990	405	3	405	3	0
1991	376	-8	376	-8	0
1992	382	-4	382	-4	0
1993	424	64	424	64	0
Mean:	411	2	411	2	0
Median:	419	0	419	0	0
Min:	358	-23	358	-23	0
Max:	424	64	424	64	0
Increase > 20		4		4	
Decrease > 9		6		6	
Decrease > 10		5		5	
Decrease > 15		3		3	
X > 466	0		0		
X > 455	0		0		
X > 435	0		0		
X > 420	30		30		
X > 412	40		40		
X > 405	50		50		
X > 395	60		60		
X > 375	69		69		
X > 360	71		71		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

February					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	424	6	424	6	0
1923	424	0	424	0	0
1924	415	4	415	4	0
1925	423	33	423	33	0
1926	402	30	402	30	0
1927	423	-2	423	-2	0
1928	424	0	424	0	0
1929	407	6	407	6	0
1930	424	5	424	5	0
1931	403	4	403	4	0
1932	424	23	424	23	0
1933	351	-7	351	-7	0
1934	421	10	421	10	0
1935	407	15	407	15	0
1936	424	-1	424	-1	0
1937	424	20	424	20	0
1938	424	0	424	0	0
1939	409	0	409	0	0
1940	422	-2	422	-2	0
1941	424	0	424	0	0
1942	423	-1	423	-1	0
1943	420	-3	420	-3	0
1944	424	9	424	9	0
1945	423	-1	423	-1	0
1946	417	-6	417	-6	0
1947	421	11	421	11	0
1948	406	-6	406	-6	0
1949	421	1	421	1	0
1950	424	0	424	0	0
1951	394	3	394	3	0
1952	424	0	424	0	0
1953	423	-1	423	-1	0
1954	424	5	424	5	0
1955	415	-9	415	-9	0
1956	402	0	402	0	0
1957	424	15	424	15	0
1958	423	-1	423	-1	0
1959	424	1	424	1	0
1960	424	39	424	39	0
1961	408	8	408	8	0
1962	424	39	424	39	0
1963	412	-10	412	-10	0
1964	419	-5	419	-5	0
1965	400	3	400	3	0
1966	424	0	424	0	0
1967	422	-1	422	-1	0
1968	422	3	422	3	0
1969	419	-2	419	-2	0
1970	400	-1	400	-1	0
1971	420	-4	420	-4	0
1972	424	0	424	0	0
1973	423	0	423	0	0
1974	413	-2	413	-2	0
1975	424	4	424	4	0
1976	404	-3	404	-3	0
1977	360	-7	360	-7	0
1978	422	-1	422	-1	0
1979	424	0	424	0	0
1980	401	-5	401	-5	0
1981	410	3	410	3	0
1982	393	-9	393	-9	0
1983	421	-2	421	-2	0
1984	397	4	397	4	0
1985	424	6	424	6	0
1986	396	-26	396	-26	0
1987	412	6	412	6	0
1988	407	-6	407	-6	0
1989	396	10	396	10	0
1990	403	-2	403	-2	0
1991	371	-5	371	-5	0
1992	409	27	409	27	0
1993	422	-2	422	-2	0
Mean:	414	3	414	3	0
Median:	421	0	421	0	0
Min:	351	-26	351	-26	0
Max:	424	39	424	39	0
Increase > 20		6		6	
Decrease > 9		2		2	
Decrease > 10		1		1	
Decrease > 15		1		1	
X > 466	0		0		
X > 455	0		0		
X > 435	0		0		
X > 420	38		38		
X > 412	46		46		
X > 405	56		56		
X > 395	67		67		
X > 375	69		69		
X > 360	70		70		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

March					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	437	12	437	12	0
1923	424	0	424	0	0
1924	401	-14	401	-14	0
1925	413	-10	413	-10	0
1926	406	5	406	5	0
1927	435	12	435	12	0
1928	432	8	432	8	0
1929	417	10	417	10	0
1930	436	12	436	12	0
1931	410	8	410	8	0
1932	431	6	431	6	0
1933	369	18	369	18	0
1934	429	7	429	7	0
1935	421	14	421	14	0
1936	436	12	436	12	0
1937	437	12	437	12	0
1938	437	12	437	12	0
1939	420	11	420	11	0
1940	430	7	430	7	0
1941	436	12	436	12	0
1942	432	9	432	9	0
1943	430	10	430	10	0
1944	437	12	437	12	0
1945	435	12	435	12	0
1946	430	13	430	13	0
1947	437	16	437	16	0
1948	412	6	412	6	0
1949	437	16	437	16	0
1950	436	12	436	12	0
1951	426	32	426	32	0
1952	437	12	437	12	0
1953	432	9	432	9	0
1954	436	12	436	12	0
1955	413	-2	413	-2	0
1956	418	17	418	17	0
1957	436	12	436	12	0
1958	436	13	436	13	0
1959	425	1	425	1	0
1960	436	12	436	12	0
1961	412	4	412	4	0
1962	430	5	430	5	0
1963	425	13	425	13	0
1964	417	-2	417	-2	0
1965	416	17	416	17	0
1966	423	-1	423	-1	0
1967	433	10	433	10	0
1968	433	11	433	11	0
1969	433	14	433	14	0
1970	427	27	427	27	0
1971	435	15	435	15	0
1972	435	10	435	10	0
1973	436	13	436	13	0
1974	428	16	428	16	0
1975	437	12	437	12	0
1976	405	2	405	2	0
1977	357	-3	357	-3	0
1978	430	8	430	8	0
1979	436	12	436	12	0
1980	428	26	428	26	0
1981	424	14	424	14	0
1982	425	32	425	32	0
1983	430	9	430	9	0
1984	426	29	426	29	0
1985	434	9	434	9	0
1986	424	27	424	27	0
1987	426	14	426	14	0
1988	406	-1	406	-1	0
1989	429	33	429	33	0
1990	413	10	413	10	0
1991	408	37	408	37	0
1992	419	10	419	10	0
1993	430	8	430	8	0
Mean:	425	11	425	11	0
Median:	430	12	430	12	0
Min:	357	-14	357	-14	0
Max:	437	37	437	37	0
Increase > 20		8		8	
Decrease > 9		2		2	
Decrease > 10		1		1	
Decrease > 15		0		0	
X > 466	0		0		
X > 455	0		0		
X > 435	18		18		
X > 420	53		53		
X > 412	62		62		
X > 405	68		68		
X > 395	70		70		
X > 375	70		70		
X > 360	71		71		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

April					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	449	12	449	12	0
1923	449	25	449	25	0
1924	402	1	402	1	0
1925	443	31	443	31	0
1926	443	37	443	37	0
1927	449	14	449	14	0
1928	449	17	449	17	0
1929	421	4	421	4	0
1930	447	11	447	11	0
1931	412	1	412	1	0
1932	438	7	438	7	0
1933	391	22	391	22	0
1934	417	-11	417	-11	0
1935	449	27	449	27	0
1936	449	13	449	13	0
1937	449	12	449	12	0
1938	449	12	449	12	0
1939	427	7	427	7	0
1940	449	19	449	19	0
1941	449	13	449	13	0
1942	449	17	449	17	0
1943	449	19	449	19	0
1944	434	-3	434	-3	0
1945	444	10	444	10	0
1946	449	19	449	19	0
1947	436	-1	436	-1	0
1948	449	37	449	37	0
1949	449	12	449	12	0
1950	449	13	449	13	0
1951	449	23	449	23	0
1952	449	12	449	12	0
1953	447	15	447	15	0
1954	449	13	449	13	0
1955	422	8	422	8	0
1956	440	22	440	22	0
1957	436	1	436	1	0
1958	449	13	449	13	0
1959	431	6	431	6	0
1960	437	1	437	1	0
1961	415	3	415	3	0
1962	449	19	449	19	0
1963	449	24	449	24	0
1964	426	9	426	9	0
1965	449	33	449	33	0
1966	440	17	440	17	0
1967	449	16	449	16	0
1968	439	6	439	6	0
1969	449	16	449	16	0
1970	429	3	429	3	0
1971	445	10	445	10	0
1972	445	11	445	11	0
1973	446	11	446	11	0
1974	449	21	449	21	0
1975	445	8	445	8	0
1976	409	4	409	4	0
1977	357	0	357	0	0
1978	449	19	449	19	0
1979	443	7	443	7	0
1980	447	19	447	19	0
1981	430	6	430	6	0
1982	449	24	449	24	0
1983	449	19	449	19	0
1984	445	19	445	19	0
1985	444	10	444	10	0
1986	449	25	449	25	0
1987	427	1	427	1	0
1988	412	6	412	6	0
1989	449	20	449	20	0
1990	421	7	421	7	0
1991	421	12	421	12	0
1992	412	-7	412	-7	0
1993	449	19	449	19	0
Mean:	438	13	438	13	0
Median:	446	12	446	12	0
Min:	357	-11	357	-11	0
Max:	449	37	449	37	0
Increase > 20		13		13	
Decrease > 9		1		1	
Decrease > 10		1		1	
Decrease > 15		0		0	
X > 466	0		0		
X > 455	0		0		
X > 435	52		52		
X > 420	63		63		
X > 412	65		65		
X > 405	69		69		
X > 395	70		70		
X > 375	71		71		
X > 360	71		71		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

May					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	466	17	466	17	0
1923	466	17	466	17	0
1924	402	-1	402	-1	0
1925	466	22	466	22	0
1926	439	-4	439	-4	0
1927	466	17	466	17	0
1928	459	10	459	10	0
1929	432	11	432	11	0
1930	447	0	447	0	0
1931	415	3	415	3	0
1932	459	21	459	21	0
1933	410	19	410	19	0
1934	413	-4	413	-4	0
1935	463	14	463	14	0
1936	466	17	466	17	0
1937	466	17	466	17	0
1938	466	17	466	17	0
1939	427	0	427	0	0
1940	466	17	466	17	0
1941	466	17	466	17	0
1942	466	17	466	17	0
1943	464	15	464	15	0
1944	441	7	441	7	0
1945	466	21	466	21	0
1946	466	17	466	17	0
1947	433	-3	433	-3	0
1948	466	17	466	17	0
1949	464	15	464	15	0
1950	466	17	466	17	0
1951	466	17	466	17	0
1952	466	17	466	17	0
1953	465	17	465	17	0
1954	452	3	452	3	0
1955	434	12	434	12	0
1956	466	26	466	26	0
1957	465	28	465	28	0
1958	466	17	466	17	0
1959	426	-6	426	-6	0
1960	439	2	439	2	0
1961	416	1	416	1	0
1962	457	8	457	8	0
1963	466	17	466	17	0
1964	435	9	435	9	0
1965	463	14	463	14	0
1966	438	-2	438	-2	0
1967	466	17	466	17	0
1968	438	-1	438	-1	0
1969	466	17	466	17	0
1970	442	13	442	13	0
1971	466	21	466	21	0
1972	455	10	455	10	0
1973	466	19	466	19	0
1974	466	17	466	17	0
1975	466	21	466	21	0
1976	412	3	412	3	0
1977	357	0	357	0	0
1978	466	17	466	17	0
1979	466	23	466	23	0
1980	465	18	465	18	0
1981	425	-5	425	-5	0
1982	466	17	466	17	0
1983	466	17	466	17	0
1984	466	21	466	21	0
1985	443	0	443	0	0
1986	466	17	466	17	0
1987	422	-5	422	-5	0
1988	402	-10	402	-10	0
1989	451	2	451	2	0
1990	424	3	424	3	0
1991	429	8	429	8	0
1992	399	-13	399	-13	0
1993	466	17	466	17	0
Mean:	449	11	449	11	0
Median:	464	17	464	17	0
Min:	357	-13	357	-13	0
Max:	466	28	466	28	0
Increase > 20		9		9	
Decrease > 9		2		2	
Decrease > 10		1		1	
Decrease > 15		0		0	
X > 466	0		0		
X > 455	42		42		
X > 435	53		53		
X > 420	63		63		
X > 412	66		66		
X > 405	68		68		
X > 395	71		71		
X > 375	71		71		
X > 360	71		71		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

June					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	466	0	466	0	0
1923	466	0	466	0	0
1924	394	-8	394	-8	0
1925	454	-11	454	-11	0
1926	423	-16	423	-16	0
1927	466	0	466	0	0
1928	454	-5	454	-5	0
1929	424	-8	424	-8	0
1930	437	-10	437	-10	0
1931	405	-9	405	-9	0
1932	460	1	460	1	0
1933	409	-1	409	-1	0
1934	399	-14	399	-14	0
1935	466	3	466	3	0
1936	466	0	466	0	0
1937	463	-3	463	-3	0
1938	466	0	466	0	0
1939	418	-9	418	-9	0
1940	459	-7	459	-7	0
1941	466	0	466	0	0
1942	466	0	466	0	0
1943	465	1	465	1	0
1944	432	-9	432	-9	0
1945	462	-4	462	-4	0
1946	455	-11	455	-11	0
1947	427	-5	427	-5	0
1948	466	0	466	0	0
1949	450	-14	450	-14	0
1950	466	0	466	0	0
1951	460	-6	460	-6	0
1952	466	0	466	0	0
1953	466	1	466	1	0
1954	442	-10	442	-10	0
1955	427	-7	427	-7	0
1956	466	0	466	0	0
1957	460	-5	460	-5	0
1958	466	0	466	0	0
1959	415	-10	415	-10	0
1960	427	-12	427	-12	0
1961	414	-2	414	-2	0
1962	455	-2	455	-2	0
1963	466	0	466	0	0
1964	431	-4	431	-4	0
1965	466	3	466	3	0
1966	427	-11	427	-11	0
1967	466	0	466	0	0
1968	427	-10	427	-10	0
1969	466	0	466	0	0
1970	436	-5	436	-5	0
1971	466	0	466	0	0
1972	434	-21	434	-21	0
1973	449	-16	449	-16	0
1974	466	0	466	0	0
1975	466	0	466	0	0
1976	406	-5	406	-5	0
1977	342	-15	342	-15	0
1978	466	0	466	0	0
1979	447	-19	447	-19	0
1980	466	1	466	1	0
1981	419	-6	419	-6	0
1982	466	0	466	0	0
1983	466	0	466	0	0
1984	457	-8	457	-8	0
1985	427	-16	427	-16	0
1986	466	0	466	0	0
1987	410	-12	410	-12	0
1988	395	-7	395	-7	0
1989	430	-21	430	-21	0
1990	416	-8	416	-8	0
1991	432	3	432	3	0
1992	388	-11	388	-11	0
1993	466	0	466	0	0
Mean:	444	-5	444	-5	0
Median:	455	-5	455	-5	0
Min:	342	-21	342	-21	0
Max:	466	3	466	3	0
Increase > 20		0		0	
Decrease > 9		19		19	
Decrease > 10		15		15	
Decrease > 15		6		6	
X > 466	0		0		
X > 455	35		35		
X > 435	45		45		
X > 420	58		58		
X > 412	63		63		
X > 405	66		66		
X > 395	68		68		
X > 375	71		71		
X > 360	71		71		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

July					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	451	-15	451	-15	0
1923	451	-15	450	-16	-1
1924	383	-11	382	-11	-1
1925	436	-18	436	-18	0
1926	404	-18	404	-19	0
1927	449	-17	448	-17	-1
1928	427	-26	427	-27	0
1929	411	-13	411	-13	0
1930	412	-25	412	-25	0
1931	391	-14	391	-14	0
1932	444	-16	444	-16	0
1933	394	-15	394	-16	0
1934	388	-11	388	-12	0
1935	449	-17	448	-17	-1
1936	451	-15	450	-16	-1
1937	444	-18	444	-19	0
1938	459	-6	459	-7	0
1939	405	-13	404	-14	-1
1940	440	-19	440	-19	0
1941	452	-14	451	-15	-1
1942	454	-11	454	-12	0
1943	449	-16	449	-16	0
1944	418	-15	417	-15	-1
1945	445	-17	445	-18	0
1946	436	-19	436	-19	0
1947	410	-17	410	-18	0
1948	450	-16	450	-16	0
1949	427	-23	427	-23	0
1950	450	-16	449	-17	-1
1951	438	-22	437	-22	-1
1952	461	-5	461	-5	0
1953	458	-7	458	-8	0
1954	425	-17	424	-17	-1
1955	413	-13	413	-14	0
1956	453	-13	453	-13	0
1957	441	-19	440	-19	-1
1958	460	-5	460	-6	0
1959	376	-39	376	-40	0
1960	412	-16	411	-16	-1
1961	387	-27	386	-28	-1
1962	433	-22	432	-22	-1
1963	448	-18	447	-19	-1
1964	413	-18	413	-18	0
1965	448	-18	448	-18	0
1966	409	-18	409	-19	0
1967	463	-2	463	-2	0
1968	405	-22	404	-23	-1
1969	452	-14	452	-14	0
1970	411	-26	410	-26	-1
1971	452	-14	452	-14	0
1972	409	-26	408	-26	-1
1973	427	-22	427	-23	0
1974	462	-4	461	-5	-1
1975	456	-10	456	-10	0
1976	398	-8	397	-9	-1
1977	330	-12	328	-13	-2
1978	450	-16	450	-16	0
1979	427	-20	427	-20	0
1980	452	-13	452	-14	0
1981	398	-21	398	-21	0
1982	460	-6	459	-6	-1
1983	453	-13	453	-13	0
1984	435	-22	435	-23	0
1985	411	-16	411	-17	0
1986	448	-18	447	-19	-1
1987	399	-12	398	-12	-1
1988	379	-16	378	-16	-1
1989	410	-21	409	-21	-1
1990	404	-12	403	-13	-1
1991	422	-10	421	-11	-1
1992	370	-19	369	-19	-1
1993	456	-10	455	-11	-1
Mean:	428	-16	427	-16	0
Median:	436	-16	436	-16	0
Min:	330	-39	328	-40	-2
Max:	463	-2	463	-2	0
Increase > 20		0		0	
Decrease > 9		64		64	
Decrease > 10		61		63	
Decrease > 15		40		43	
X > 466	0		0		
X > 455	9		8		
X > 435	36		36		
X > 420	44		44		
X > 412	47		47		
X > 405	56		56		
X > 395	63		63		
X > 375	70		70		
X > 360	71		71		
# Years Diff >= -1 ft					71

Folsom Reservoir End of Month Elevation

August					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	446	-5	446	-5	0
1923	445	-6	444	-6	-1
1924	374	-9	373	-9	-1
1925	427	-9	427	-9	0
1926	404	-1	403	-1	-1
1927	444	-5	444	-5	0
1928	416	-12	415	-12	-1
1929	401	-9	401	-9	0
1930	405	-7	404	-8	-1
1931	379	-13	378	-13	-1
1932	431	-13	431	-13	0
1933	388	-7	387	-7	-1
1934	371	-17	371	-17	0
1935	437	-12	436	-12	-1
1936	445	-6	445	-6	0
1937	438	-6	438	-6	0
1938	449	-11	449	-10	0
1939	393	-12	393	-12	0
1940	438	-2	438	-2	0
1941	445	-6	445	-6	0
1942	449	-6	449	-5	0
1943	446	-3	446	-3	0
1944	418	0	417	0	-1
1945	440	-5	439	-5	-1
1946	433	-3	433	-3	0
1947	400	-10	400	-10	0
1948	443	-7	443	-7	0
1949	420	-8	419	-8	-1
1950	445	-4	445	-4	0
1951	433	-5	433	-5	0
1952	446	-15	446	-15	0
1953	449	-9	449	-9	0
1954	419	-6	419	-6	0
1955	407	-7	406	-7	-1
1956	449	-4	449	-4	0
1957	431	-9	431	-9	0
1958	447	-14	447	-13	0
1959	370	-6	370	-6	0
1960	404	-7	404	-7	0
1961	372	-15	371	-15	-1
1962	426	-7	425	-7	-1
1963	441	-6	441	-6	0
1964	403	-9	403	-10	0
1965	446	-2	446	-2	0
1966	403	-6	403	-6	0
1967	449	-15	449	-15	0
1968	404	-1	404	0	0
1969	448	-4	448	-4	0
1970	411	0	411	0	0
1971	448	-4	448	-4	0
1972	406	-3	405	-3	-1
1973	426	-1	426	-1	0
1974	449	-13	449	-13	0
1975	449	-7	449	-7	0
1976	395	-4	394	-3	-1
1977	330	0	329	1	-1
1978	445	-5	445	-5	0
1979	427	-1	426	0	-1
1980	449	-4	449	-3	0
1981	390	-8	389	-8	-1
1982	449	-11	449	-11	0
1983	449	-4	449	-4	0
1984	435	0	435	0	0
1985	404	-7	403	-8	-1
1986	444	-4	443	-4	-1
1987	391	-8	390	-8	-1
1988	359	-20	359	-20	0
1989	400	-10	399	-10	-1
1990	402	-2	401	-2	-1
1991	415	-6	415	-6	0
1992	345	-25	344	-25	-1
1993	449	-7	449	-6	0
Mean:	421	-7	420	-7	0
Median:	429	-6	429	-6	0
Min:	330	-25	329	-25	-1
Max:	449	0	449	1	0
Increase > 20		0		0	
Decrease > 9		17		18	
Decrease > 10		15		14	
Decrease > 15		3		3	
X > 466	0		0		
X > 455	0		0		
X > 435	31		31		
X > 420	40		40		
X > 412	45		45		
X > 405	48		47		
X > 395	59		59		
X > 375	65		65		
X > 360	69		69		
# Years Diff >= -1 ft					72

Folsom Reservoir End of Month Elevation

September					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	427	-19	427	-19	0
1923	426	-18	426	-18	0
1924	369	-4	369	-4	0
1925	422	-6	422	-5	0
1926	405	1	405	1	0
1927	425	-19	425	-18	0
1928	408	-8	408	-7	0
1929	401	0	401	0	0
1930	410	5	410	6	0
1931	375	-4	375	-3	0
1932	425	-6	425	-6	0
1933	387	-1	387	0	0
1934	368	-3	368	-2	0
1935	429	-8	429	-7	0
1936	431	-14	431	-13	0
1937	429	-10	429	-9	0
1938	434	-15	434	-15	0
1939	394	1	394	1	0
1940	430	-8	430	-7	0
1941	434	-12	434	-12	0
1942	434	-15	434	-15	0
1943	426	-20	426	-20	0
1944	404	-14	404	-13	0
1945	421	-19	421	-19	0
1946	414	-19	414	-19	0
1947	387	-13	387	-13	0
1948	429	-14	429	-14	0
1949	414	-6	414	-6	0
1950	428	-17	428	-17	0
1951	413	-20	413	-20	0
1952	434	-12	434	-12	0
1953	434	-15	434	-15	0
1954	413	-7	413	-6	0
1955	410	3	410	4	0
1956	434	-15	434	-15	0
1957	424	-7	424	-7	0
1958	434	-13	434	-13	0
1959	374	4	374	5	0
1960	404	0	404	0	0
1961	372	0	372	0	0
1962	415	-11	415	-10	0
1963	427	-14	427	-14	0
1964	405	2	405	2	0
1965	428	-18	428	-17	0
1966	404	0	404	1	0
1967	434	-15	434	-15	0
1968	405	1	405	1	0
1969	434	-15	434	-14	0
1970	403	-8	403	-8	0
1971	434	-15	434	-15	0
1972	411	5	411	5	0
1973	418	-9	418	-8	0
1974	434	-15	434	-15	0
1975	434	-15	434	-15	0
1976	391	-3	391	-3	0
1977	330	0	330	1	0
1978	434	-11	434	-11	0
1979	413	-14	413	-13	0
1980	434	-15	434	-15	0
1981	391	1	391	1	0
1982	434	-15	434	-15	0
1983	434	-15	434	-16	0
1984	421	-15	421	-14	0
1985	401	-3	401	-2	0
1986	434	-10	434	-10	0
1987	393	2	393	3	0
1988	330	-29	330	-29	0
1989	403	3	403	4	0
1990	400	-2	400	-1	0
1991	402	-13	402	-13	0
1992	330	-15	330	-14	0
1993	427	-21	427	-21	0
Mean:	411	-9	411	-9	0
Median:	417	-11	417	-11	0
Min:	330	-29	330	-29	0
Max:	434	5	434	6	0
Increase > 20		0		0	
Decrease > 9		39		38	
Decrease > 10		37		36	
Decrease > 15		11		12	
X > 466	0		0		
X > 455	0		0		
X > 435	0		0		
X > 420	35		35		
X > 412	42		42		
X > 405	46		46		
X > 395	58		58		
X > 375	64		64		
X > 360	69		69		
# Years Diff >= -1 ft					72

French Meadows Reservoir End of Month Elevation

October				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

November				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

December				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

January				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

February				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

March				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

April				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

May				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

June				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

July				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

August				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

French Meadows Reservoir End of Month Elevation

September				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	5098	5098	0	0.0
1923	5098	5098	0	0.0
1924	5098	5098	0	0.0
1925	5098	5098	0	0.0
1926	5098	5098	0	0.0
1927	5098	5098	0	0.0
1928	5098	5098	0	0.0
1929	5098	5098	0	0.0
1930	5098	5098	0	0.0
1931	5098	5098	0	0.0
1932	5098	5098	0	0.0
1933	5098	5098	0	0.0
1934	5098	5098	0	0.0
1935	5098	5098	0	0.0
1936	5098	5098	0	0.0
1937	5098	5098	0	0.0
1938	5098	5098	0	0.0
1939	5098	5098	0	0.0
1940	5098	5098	0	0.0
1941	5098	5098	0	0.0
1942	5098	5098	0	0.0
1943	5098	5098	0	0.0
1944	5098	5098	0	0.0
1945	5098	5098	0	0.0
1946	5098	5098	0	0.0
1947	5098	5098	0	0.0
1948	5098	5098	0	0.0
1949	5098	5098	0	0.0
1950	5098	5098	0	0.0
1951	5098	5098	0	0.0
1952	5098	5098	0	0.0
1953	5098	5098	0	0.0
1954	5098	5098	0	0.0
1955	5098	5098	0	0.0
1956	5098	5098	0	0.0
1957	5098	5098	0	0.0
1958	5098	5098	0	0.0
1959	5098	5098	0	0.0
1960	5098	5098	0	0.0
1961	5098	5098	0	0.0
1962	5098	5098	0	0.0
1963	5098	5098	0	0.0
1964	5098	5098	0	0.0
1965	5098	5098	0	0.0
1966	5098	5098	0	0.0
1967	5098	5098	0	0.0
1968	5098	5098	0	0.0
1969	5098	5098	0	0.0
1970	5098	5098	0	0.0
1971	5098	5098	0	0.0
1972	5098	5098	0	0.0
1973	5098	5098	0	0.0
1974	5098	5098	0	0.0
1975	5098	5098	0	0.0
1976	5098	5098	0	0.0
1977	5098	5098	0	0.0
1978	5098	5098	0	0.0
1979	5098	5098	0	0.0
1980	5098	5098	0	0.0
1981	5098	5098	0	0.0
1982	5098	5098	0	0.0
1983	5098	5098	0	0.0
1984	5098	5098	0	0.0
1985	5098	5098	0	0.0
1986	5098	5098	0	0.0
1987	5098	5098	0	0.0
1988	5098	5098	0	0.0
1989	5098	5098	0	0.0
1990	5098	5098	0	0.0
1991	5098	5098	0	0.0
1992	5098	5098	0	0.0
1993	5098	5098	0	0.0
Mean:	5098.0	5098.0	0.0	0.0
Median:	5098.0	5098.0	0.0	0.0
Min:	5098.0	5098.0	0.0	0.0
Max:	5098.0	5098.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

October				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

November				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

December				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

January				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

February				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

March				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

April				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

May				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

June				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

July				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

August				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Hell Hole Reservoir End of Month Elevation

September				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	4321	4321	0	0.0
1923	4321	4321	0	0.0
1924	4321	4321	0	0.0
1925	4321	4321	0	0.0
1926	4321	4321	0	0.0
1927	4321	4321	0	0.0
1928	4321	4321	0	0.0
1929	4321	4321	0	0.0
1930	4321	4321	0	0.0
1931	4321	4321	0	0.0
1932	4321	4321	0	0.0
1933	4321	4321	0	0.0
1934	4321	4321	0	0.0
1935	4321	4321	0	0.0
1936	4321	4321	0	0.0
1937	4321	4321	0	0.0
1938	4321	4321	0	0.0
1939	4321	4321	0	0.0
1940	4321	4321	0	0.0
1941	4321	4321	0	0.0
1942	4321	4321	0	0.0
1943	4321	4321	0	0.0
1944	4321	4321	0	0.0
1945	4321	4321	0	0.0
1946	4321	4321	0	0.0
1947	4321	4321	0	0.0
1948	4321	4321	0	0.0
1949	4321	4321	0	0.0
1950	4321	4321	0	0.0
1951	4321	4321	0	0.0
1952	4321	4321	0	0.0
1953	4321	4321	0	0.0
1954	4321	4321	0	0.0
1955	4321	4321	0	0.0
1956	4321	4321	0	0.0
1957	4321	4321	0	0.0
1958	4321	4321	0	0.0
1959	4321	4321	0	0.0
1960	4321	4321	0	0.0
1961	4321	4321	0	0.0
1962	4321	4321	0	0.0
1963	4321	4321	0	0.0
1964	4321	4321	0	0.0
1965	4321	4321	0	0.0
1966	4321	4321	0	0.0
1967	4321	4321	0	0.0
1968	4321	4321	0	0.0
1969	4321	4321	0	0.0
1970	4321	4321	0	0.0
1971	4321	4321	0	0.0
1972	4321	4321	0	0.0
1973	4321	4321	0	0.0
1974	4321	4321	0	0.0
1975	4321	4321	0	0.0
1976	4321	4321	0	0.0
1977	4321	4321	0	0.0
1978	4321	4321	0	0.0
1979	4321	4321	0	0.0
1980	4321	4321	0	0.0
1981	4321	4321	0	0.0
1982	4321	4321	0	0.0
1983	4321	4321	0	0.0
1984	4321	4321	0	0.0
1985	4321	4321	0	0.0
1986	4321	4321	0	0.0
1987	4321	4321	0	0.0
1988	4321	4321	0	0.0
1989	4321	4321	0	0.0
1990	4321	4321	0	0.0
1991	4321	4321	0	0.0
1992	4321	4321	0	0.0
1993	4321	4321	0	0.0
Mean:	4321.0	4321.0	0.0	0.0
Median:	4321.0	4321.0	0.0	0.0
Min:	4321.0	4321.0	0.0	0.0
Max:	4321.0	4321.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

October						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	7297	0	7297	0	0	0.0
1923	8418	-511	8418	-511	0	0.0
1924	8274	-622	8274	-622	0	0.0
1925	4669	340	4669	340	0	0.0
1926	7240	-1019	7240	-1019	0	0.0
1927	6788	-202	6788	-202	0	0.0
1928	8313	-535	8313	-535	0	0.0
1929	6930	-323	6930	-323	0	0.0
1930	6354	-365	6354	-365	0	0.0
1931	6901	-481	6901	-481	0	0.0
1932	3998	-847	3998	-847	0	0.0
1933	7530	-954	7530	-954	0	0.0
1934	5692	0	5692	0	0	0.0
1935	3496	-756	3496	-756	0	0.0
1936	8234	-683	8234	-683	0	0.0
1937	8166	-957	8166	-957	0	0.0
1938	8602	-311	8602	-311	0	0.0
1939	9025	-216	9025	-216	0	0.0
1940	6342	129	6342	129	0	0.0
1941	7242	-1762	7242	-1762	0	0.0
1942	9003	-237	9003	-237	0	0.0
1943	8958	-282	8958	-282	0	0.0
1944	8249	-619	8249	-619	0	0.0
1945	6725	-232	6725	-232	0	0.0
1946	8010	-566	8010	-566	0	0.0
1947	7318	-355	7318	-355	0	0.0
1948	6362	596	6362	596	0	0.0
1949	8586	-432	8586	-432	0	0.0
1950	7405	-256	7405	-256	0	0.0
1951	8664	-316	8664	-316	0	0.0
1952	7311	-272	7311	-272	0	0.0
1953	9128	-113	9128	-113	0	0.0
1954	8962	-278	8962	-278	0	0.0
1955	7280	-301	7280	-301	0	0.0
1956	7063	-343	7063	-343	0	0.0
1957	9138	-102	9138	-102	0	0.0
1958	8429	-4	8429	-4	0	0.0
1959	8925	-316	8925	-316	0	0.0
1960	4990	237	4990	237	0	0.0
1961	6623	-356	6623	-356	0	0.0
1962	4717	181	4717	181	0	0.0
1963	9794	2018	9794	2018	0	0.0
1964	8610	-334	8610	-334	0	0.0
1965	6746	-274	6746	-274	0	0.0
1966	8218	-776	8218	-776	0	0.0
1967	6611	-313	6611	-313	0	0.0
1968	9086	-155	9086	-155	0	0.0
1969	6780	-250	6780	-250	0	0.0
1970	9119	-122	9119	-122	0	0.0
1971	6883	37	6883	37	0	0.0
1972	8969	-271	8969	-271	0	0.0
1973	7265	-171	7265	-171	0	0.0
1974	8036	57	8036	57	0	0.0
1975	8989	-252	8989	-252	0	0.0
1976	9410	169	9410	169	0	0.0
1977	6022	13	6022	13	0	0.0
1978	2091	0	2091	0	0	0.0
1979	8554	-687	8554	-687	0	0.0
1980	7650	19	7650	19	0	0.0
1981	8965	-276	8965	-276	0	0.0
1982	6460	510	6460	510	0	0.0
1983	9778	537	9778	537	0	0.0
1984	9778	537	9778	537	0	0.0
1985	8111	-189	8111	-189	0	0.0
1986	6608	-101	6608	-101	0	0.0
1987	8914	-327	8914	-327	0	0.0
1988	6018	-118	6018	-118	0	0.0
1989	2393	236	2393	236	0	0.0
1990	6979	71	6979	71	0	0.0
1991	6268	-388	6268	-388	0	0.0
1992	6277	-505	6277	-505	0	0.0
1993	2091	2	2091	2	0	0.0
Mean:	7345	-219	7345	-219	0	0.0
Median:	7362	-264	7362	-264	0	0.0
Min:	2091	-1762	2091	-1762	0	0.0
Max:	9794	2018	9794	2018	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	68		68			
X < 8224	44		44			
X < 7614	38		38			
X < 7074	29		29			
X < 6301	13		13			
X < 4805	7		7			
X < 3783	4		4			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

November						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	6943	-354	6943	-354	0	0.0
1923	8085	-333	8085	-333	0	0.0
1924	7955	-319	7955	-319	0	0.0
1925	5303	634	5303	634	0	0.0
1926	6401	-839	6401	-839	0	0.0
1927	8373	1585	8373	1585	0	0.0
1928	8458	146	8458	146	0	0.0
1929	6860	-70	6860	-70	0	0.0
1930	6044	-310	6044	-310	0	0.0
1931	6782	-119	6782	-119	0	0.0
1932	3589	-408	3589	-408	0	0.0
1933	6163	-1367	6163	-1367	0	0.0
1934	5568	-123	5568	-123	0	0.0
1935	3958	462	3958	462	0	0.0
1936	7878	-356	7878	-356	0	0.0
1937	7600	-566	7600	-566	0	0.0
1938	8458	-143	8458	-143	0	0.0
1939	8387	-638	8387	-638	0	0.0
1940	5889	-453	5889	-453	0	0.0
1941	6752	-491	6752	-491	0	0.0
1942	8458	-545	8458	-545	0	0.0
1943	8458	-500	8458	-500	0	0.0
1944	8047	-202	8047	-202	0	0.0
1945	7723	998	7723	998	0	0.0
1946	8458	448	8458	448	0	0.0
1947	7442	124	7442	124	0	0.0
1948	6825	464	6825	464	0	0.0
1949	8373	-213	8373	-213	0	0.0
1950	7239	-165	7239	-165	0	0.0
1951	6680	-1984	6680	-1984	0	0.0
1952	7660	349	7660	349	0	0.0
1953	8466	-661	8466	-661	0	0.0
1954	8458	-504	8458	-504	0	0.0
1955	7295	15	7295	15	0	0.0
1956	6928	-135	6928	-135	0	0.0
1957	8365	-774	8365	-774	0	0.0
1958	8458	29	8458	29	0	0.0
1959	8416	-508	8416	-508	0	0.0
1960	5003	13	5003	13	0	0.0
1961	6735	112	6735	112	0	0.0
1962	4866	150	4866	150	0	0.0
1963	8795	-999	8795	-999	0	0.0
1964	8458	-151	8458	-151	0	0.0
1965	7189	443	7189	443	0	0.0
1966	8364	147	8364	147	0	0.0
1967	7206	595	7206	595	0	0.0
1968	8372	-714	8372	-714	0	0.0
1969	7096	316	7096	316	0	0.0
1970	8462	-656	8462	-656	0	0.0
1971	8259	1376	8259	1376	0	0.0
1972	8329	-641	8329	-641	0	0.0
1973	7891	626	7891	626	0	0.0
1974	8458	422	8458	422	0	0.0
1975	8380	-609	8380	-609	0	0.0
1976	8631	-779	8631	-779	0	0.0
1977	5814	-208	5814	-208	0	0.0
1978	2207	116	2207	116	0	0.0
1979	8377	-177	8377	-177	0	0.0
1980	7947	297	7947	297	0	0.0
1981	8001	-964	8001	-964	0	0.0
1982	8660	2200	8660	2200	0	0.0
1983	8783	-995	8783	-995	0	0.0
1984	7619	-2159	7619	-2159	0	0.0
1985	8458	347	8458	347	0	0.0
1986	7276	668	7276	668	0	0.0
1987	8123	-790	8123	-790	0	0.0
1988	6139	121	6139	121	0	0.0
1989	4270	1877	4270	1877	0	0.0
1990	7154	175	7154	175	0	0.0
1991	6006	-262	6006	-262	0	0.0
1992	5832	-445	5832	-445	0	0.0
1993	2091	0	2091	0	0	0.0
Mean:	7228	-116	7228	-116	0	0.0
Median:	7692	-158	7692	-158	0	0.0
Min:	2091	-2159	2091	-2159	0	0.0
Max:	8795	2200	8795	2200	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	72		72			
X < 8224	45		45			
X < 7614	34		34			
X < 7074	25		25			
X < 6301	16		16			
X < 4805	5		5			
X < 3783	3		3			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

December						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	7584	641	7584	641	0	0.0
1923	8458	373	8458	373	0	0.0
1924	7698	-258	7698	-258	0	0.0
1925	5823	520	5823	520	0	0.0
1926	5463	-938	5463	-938	0	0.0
1927	8458	85	8458	85	0	0.0
1928	8458	0	8458	0	0	0.0
1929	6846	-13	6846	-13	0	0.0
1930	7561	1517	7561	1517	0	0.0
1931	6512	-270	6512	-270	0	0.0
1932	5525	1936	5525	1936	0	0.0
1933	4825	-1338	4825	-1338	0	0.0
1934	6554	985	6554	985	0	0.0
1935	4364	406	4364	406	0	0.0
1936	7579	-299	7579	-299	0	0.0
1937	7127	-473	7127	-473	0	0.0
1938	8458	0	8458	0	0	0.0
1939	7782	-605	7782	-605	0	0.0
1940	5675	-214	5675	-214	0	0.0
1941	8452	1700	8452	1700	0	0.0
1942	8458	0	8458	0	0	0.0
1943	8458	0	8458	0	0	0.0
1944	7935	-112	7935	-112	0	0.0
1945	8357	635	8357	635	0	0.0
1946	8458	0	8458	0	0	0.0
1947	7569	127	7569	127	0	0.0
1948	6694	-132	6694	-132	0	0.0
1949	8346	-27	8346	-27	0	0.0
1950	7114	-126	7114	-126	0	0.0
1951	5833	-847	5833	-847	0	0.0
1952	8458	798	8458	798	0	0.0
1953	8458	-8	8458	-8	0	0.0
1954	7978	-481	7978	-481	0	0.0
1955	8041	746	8041	746	0	0.0
1956	8053	1125	8053	1125	0	0.0
1957	7714	-651	7714	-651	0	0.0
1958	8458	0	8458	0	0	0.0
1959	7803	-614	7803	-614	0	0.0
1960	4990	-12	4990	-12	0	0.0
1961	6859	124	6859	124	0	0.0
1962	5411	544	5411	544	0	0.0
1963	8458	-337	8458	-337	0	0.0
1964	8111	-347	8111	-347	0	0.0
1965	6515	-674	6515	-674	0	0.0
1966	8458	94	8458	94	0	0.0
1967	8458	1252	8458	1252	0	0.0
1968	7957	-415	7957	-415	0	0.0
1969	7815	719	7815	719	0	0.0
1970	8458	-4	8458	-4	0	0.0
1971	8458	199	8458	199	0	0.0
1972	8424	95	8424	95	0	0.0
1973	8458	568	8458	568	0	0.0
1974	8458	0	8458	0	0	0.0
1975	8133	-246	8133	-246	0	0.0
1976	7803	-828	7803	-828	0	0.0
1977	4982	-833	4982	-833	0	0.0
1978	5044	2837	5044	2837	0	0.0
1979	8204	-173	8204	-173	0	0.0
1980	8458	511	8458	511	0	0.0
1981	7274	-727	7274	-727	0	0.0
1982	6570	-2091	6570	-2091	0	0.0
1983	8440	-343	8440	-343	0	0.0
1984	6071	-1548	6071	-1548	0	0.0
1985	8401	-58	8401	-58	0	0.0
1986	8118	842	8118	842	0	0.0
1987	7466	-658	7466	-658	0	0.0
1988	6747	608	6747	608	0	0.0
1989	5082	812	5082	812	0	0.0
1990	6840	-314	6840	-314	0	0.0
1991	5505	-501	5505	-501	0	0.0
1992	5577	-256	5577	-256	0	0.0
1993	3612	1521	3612	1521	0	0.0
Mean:	7292	63	7292	63	0	0.0
Median:	7793	-6	7793	-6	0	0.0
Min:	3612	-2091	3612	-2091	0	0.0
Max:	8458	2837	8458	2837	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	72		72			
X < 8224	48		48			
X < 7614	33		33			
X < 7074	25		25			
X < 6301	16		16			
X < 4805	2		2			
X < 3783	1		1			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

January

	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	7994	410	7994	410	0	0.0
1923	8458	0	8458	0	0	0.0
1924	7465	-232	7465	-232	0	0.0
1925	5875	52	5875	52	0	0.0
1926	4674	-789	4674	-789	0	0.0
1927	8458	0	8458	0	0	0.0
1928	8458	0	8458	0	0	0.0
1929	6663	-183	6663	-183	0	0.0
1930	8075	515	8075	515	0	0.0
1931	6555	43	6555	43	0	0.0
1932	6926	1401	6926	1401	0	0.0
1933	3543	-1283	3543	-1283	0	0.0
1934	7690	1137	7690	1137	0	0.0
1935	6562	2198	6562	2198	0	0.0
1936	8458	879	8458	879	0	0.0
1937	6933	-194	6933	-194	0	0.0
1938	8458	0	8458	0	0	0.0
1939	7373	-410	7373	-410	0	0.0
1940	9012	3337	9012	3337	0	0.0
1941	8458	7	8458	7	0	0.0
1942	8431	-28	8431	-28	0	0.0
1943	8366	-92	8366	-92	0	0.0
1944	7820	-115	7820	-115	0	0.0
1945	8458	101	8458	101	0	0.0
1946	8422	-37	8422	-37	0	0.0
1947	7364	-204	7364	-204	0	0.0
1948	7678	985	7678	985	0	0.0
1949	8125	-221	8125	-221	0	0.0
1950	8458	1345	8458	1345	0	0.0
1951	5930	97	5930	97	0	0.0
1952	8458	0	8458	0	0	0.0
1953	8449	-9	8449	-9	0	0.0
1954	8112	134	8112	134	0	0.0
1955	8458	417	8458	417	0	0.0
1956	6782	-1271	6782	-1271	0	0.0
1957	7330	-384	7330	-384	0	0.0
1958	8458	0	8458	0	0	0.0
1959	8369	567	8369	567	0	0.0
1960	5616	626	5616	626	0	0.0
1961	6689	-170	6689	-170	0	0.0
1962	5615	204	5615	204	0	0.0
1963	8265	-193	8265	-193	0	0.0
1964	8458	347	8458	347	0	0.0
1965	6407	-108	6407	-108	0	0.0
1966	8458	0	8458	0	0	0.0
1967	8422	-37	8422	-37	0	0.0
1968	8077	120	8077	120	0	0.0
1969	8228	413	8228	413	0	0.0
1970	6726	-1732	6726	-1732	0	0.0
1971	8458	0	8458	0	0	0.0
1972	8434	10	8434	10	0	0.0
1973	8385	-74	8385	-74	0	0.0
1974	7721	-737	7721	-737	0	0.0
1975	8172	39	8172	39	0	0.0
1976	7151	-652	7151	-652	0	0.0
1977	4197	-784	4197	-784	0	0.0
1978	9949	4905	9949	4905	0	0.0
1979	8458	254	8458	254	0	0.0
1980	7150	-1308	7150	-1308	0	0.0
1981	7141	-133	7141	-133	0	0.0
1982	6785	215	6785	215	0	0.0
1983	8357	-83	8357	-83	0	0.0
1984	6145	74	6145	74	0	0.0
1985	8038	-363	8038	-363	0	0.0
1986	8311	193	8311	193	0	0.0
1987	7117	-349	7117	-349	0	0.0
1988	7763	1016	7763	1016	0	0.0
1989	5612	530	5612	530	0	0.0
1990	7050	210	7050	210	0	0.0
1991	4933	-572	4933	-572	0	0.0
1992	5327	-250	5327	-250	0	0.0
1993	10735	7123	10735	7123	0	0.0
Mean:	7526	235	7526	235	0	0.0
Median:	8016	0	8016	0	0	0.0
Min:	3543	-1732	3543	-1732	0	0.0
Max:	10735	7123	10735	7123	0	0.0
X > 11268	0		0			
X > 10638	1		1			
X < 9319	70		70			
X < 8224	42		42			
X < 7614	30		30			
X < 7074	22		22			
X < 6301	11		11			
X < 4805	3		3			
X < 3783	1		1			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

February						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	8458	465	8458	465	0	0.0
1923	8458	0	8458	0	0	0.0
1924	7742	276	7742	276	0	0.0
1925	8803	2928	8803	2928	0	0.0
1926	7728	3054	7728	3054	0	0.0
1927	8339	-120	8339	-120	0	0.0
1928	8458	0	8458	0	0	0.0
1929	7210	547	7210	547	0	0.0
1930	8431	355	8431	355	0	0.0
1931	6862	307	6862	307	0	0.0
1932	8662	1736	8662	1736	0	0.0
1933	3103	-440	3103	-440	0	0.0
1934	8245	554	8245	554	0	0.0
1935	7305	744	7305	744	0	0.0
1936	8412	-46	8412	-46	0	0.0
1937	8458	1525	8458	1525	0	0.0
1938	8458	0	8458	0	0	0.0
1939	7342	-31	7342	-31	0	0.0
1940	8311	-701	8311	-701	0	0.0
1941	8449	-9	8449	-9	0	0.0
1942	8348	-83	8348	-83	0	0.0
1943	8108	-258	8108	-258	0	0.0
1944	8458	639	8458	639	0	0.0
1945	8366	-92	8366	-92	0	0.0
1946	7939	-483	7939	-483	0	0.0
1947	8210	846	8210	846	0	0.0
1948	7071	-607	7071	-607	0	0.0
1949	8216	92	8216	92	0	0.0
1950	8431	-28	8431	-28	0	0.0
1951	6180	250	6180	250	0	0.0
1952	8449	-9	8449	-9	0	0.0
1953	8394	-55	8394	-55	0	0.0
1954	8458	346	8458	346	0	0.0
1955	7774	-684	7774	-684	0	0.0
1956	6761	-20	6761	-20	0	0.0
1957	8422	1092	8422	1092	0	0.0
1958	8366	-92	8366	-92	0	0.0
1959	8458	89	8458	89	0	0.0
1960	9219	3603	9219	3603	0	0.0
1961	7335	646	7335	646	0	0.0
1962	9158	3543	9158	3543	0	0.0
1963	7537	-728	7537	-728	0	0.0
1964	8085	-374	8085	-374	0	0.0
1965	6610	203	6610	203	0	0.0
1966	8458	0	8458	0	0	0.0
1967	8320	-101	8320	-101	0	0.0
1968	8265	188	8265	188	0	0.0
1969	8090	-138	8090	-138	0	0.0
1970	6653	-74	6653	-74	0	0.0
1971	8125	-333	8125	-333	0	0.0
1972	8458	24	8458	24	0	0.0
1973	8348	-37	8348	-37	0	0.0
1974	7583	-138	7583	-138	0	0.0
1975	8458	286	8458	286	0	0.0
1976	6926	-225	6926	-225	0	0.0
1977	3647	-551	3647	-551	0	0.0
1978	8293	-1656	8293	-1656	0	0.0
1979	8458	0	8458	0	0	0.0
1980	6754	-396	6754	-396	0	0.0
1981	7374	233	7374	233	0	0.0
1982	6224	-561	6224	-561	0	0.0
1983	8237	-120	8237	-120	0	0.0
1984	6407	262	6407	262	0	0.0
1985	8454	416	8454	416	0	0.0
1986	6450	-1861	6450	-1861	0	0.0
1987	7537	420	7537	420	0	0.0
1988	7191	-572	7191	-572	0	0.0
1989	6364	752	6364	752	0	0.0
1990	6872	-177	6872	-177	0	0.0
1991	4546	-386	4546	-386	0	0.0
1992	7805	2478	7805	2478	0	0.0
1993	8274	-2461	8274	-2461	0	0.0
Mean:	7724	198	7724	198	0	0.0
Median:	8227	-5	8227	-5	0	0.0
Min:	3103	-2461	3103	-2461	0	0.0
Max:	9219	3603	9219	3603	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	72		72			
X < 8224	36		36			
X < 7614	25		25			
X < 7074	16		16			
X < 6301	5		5			
X < 4805	3		3			
X < 3783	2		2			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

March

	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	9371	912	9371	912	0	0.0
1923	8432	-26	8432	-26	0	0.0
1924	6725	-1017	6725	-1017	0	0.0
1925	7613	-1191	7613	-1191	0	0.0
1926	7150	-578	7150	-578	0	0.0
1927	9251	912	9251	912	0	0.0
1928	9039	580	9039	580	0	0.0
1929	7879	669	7879	669	0	0.0
1930	9352	921	9352	921	0	0.0
1931	7441	580	7441	580	0	0.0
1932	8936	274	8936	274	0	0.0
1933	4357	1254	4357	1254	0	0.0
1934	8788	543	8788	543	0	0.0
1935	8237	932	8237	932	0	0.0
1936	9306	894	9306	894	0	0.0
1937	9380	921	9380	921	0	0.0
1938	9371	912	9371	912	0	0.0
1939	8151	809	8151	809	0	0.0
1940	8855	544	8855	544	0	0.0
1941	9352	903	9352	903	0	0.0
1942	8996	648	8996	648	0	0.0
1943	8855	746	8855	746	0	0.0
1944	9380	921	9380	921	0	0.0
1945	9234	868	9234	868	0	0.0
1946	8884	945	8884	945	0	0.0
1947	9371	1160	9371	1160	0	0.0
1948	7546	475	7546	475	0	0.0
1949	9380	1164	9380	1164	0	0.0
1950	9352	921	9352	921	0	0.0
1951	9113	2933	9113	2933	0	0.0
1952	9371	921	9371	921	0	0.0
1953	9047	653	9047	653	0	0.0
1954	9352	894	9352	894	0	0.0
1955	7632	-142	7632	-142	0	0.0
1956	8156	1395	8156	1395	0	0.0
1957	9306	884	9306	884	0	0.0
1958	9343	977	9343	977	0	0.0
1959	8535	77	8535	77	0	0.0
1960	9325	105	9325	105	0	0.0
1961	7518	183	7518	183	0	0.0
1962	8848	-310	8848	-310	0	0.0
1963	8525	988	8525	988	0	0.0
1964	7940	-145	7940	-145	0	0.0
1965	8096	1486	8096	1486	0	0.0
1966	8349	-110	8349	-110	0	0.0
1967	9076	755	9076	755	0	0.0
1968	9114	849	9114	849	0	0.0
1969	9103	1013	9103	1013	0	0.0
1970	9000	2347	9000	2347	0	0.0
1971	9269	1144	9269	1144	0	0.0
1972	9242	783	9242	783	0	0.0
1973	9325	977	9325	977	0	0.0
1974	8744	1161	8744	1161	0	0.0
1975	9371	912	9371	912	0	0.0
1976	7039	114	7039	114	0	0.0
1977	3463	-184	3463	-184	0	0.0
1978	8901	608	8901	608	0	0.0
1979	9352	894	9352	894	0	0.0
1980	8937	2183	8937	2183	0	0.0
1981	8421	1047	8421	1047	0	0.0
1982	9042	2818	9042	2818	0	0.0
1983	8891	654	8891	654	0	0.0
1984	9137	2730	9137	2730	0	0.0
1985	9163	709	9163	709	0	0.0
1986	8911	2461	8911	2461	0	0.0
1987	8558	1020	8558	1020	0	0.0
1988	7106	-85	7106	-85	0	0.0
1989	9400	3036	9400	3036	0	0.0
1990	7670	798	7670	798	0	0.0
1991	8740	4193	8740	4193	0	0.0
1992	8059	253	8059	253	0	0.0
1993	8882	608	8882	608	0	0.0
Mean:	8588	864	8588	864	0	0.0
Median:	8924	889	8924	889	0	0.0
Min:	3463	-1191	3463	-1191	0	0.0
Max:	9400	4193	9400	4193	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	55		55			
X < 8224	18		18			
X < 7614	10		10			
X < 7074	4		4			
X < 6301	2		2			
X < 4805	2		2			
X < 3783	1		1			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

April						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	10349	978	10349	978	0	0.0
1923	10531	2099	10531	2099	0	0.0
1924	6841	116	6841	116	0	0.0
1925	10023	2410	10023	2410	0	0.0
1926	9997	2847	9997	2847	0	0.0
1927	10420	1169	10420	1169	0	0.0
1928	10531	1493	10531	1493	0	0.0
1929	8214	336	8214	336	0	0.0
1930	10202	850	10202	850	0	0.0
1931	7511	70	7511	70	0	0.0
1932	9458	522	9458	522	0	0.0
1933	6468	2112	6468	2112	0	0.0
1934	7945	-843	7945	-843	0	0.0
1935	10531	2294	10531	2294	0	0.0
1936	10385	1079	10385	1079	0	0.0
1937	10344	964	10344	964	0	0.0
1938	10349	978	10349	978	0	0.0
1939	8653	502	8653	502	0	0.0
1940	10531	1677	10531	1677	0	0.0
1941	10358	1006	10358	1006	0	0.0
1942	10531	1535	10531	1535	0	0.0
1943	10531	1677	10531	1677	0	0.0
1944	9197	-183	9197	-183	0	0.0
1945	10039	805	10039	805	0	0.0
1946	10531	1647	10531	1647	0	0.0
1947	9321	-49	9321	-49	0	0.0
1948	10531	2985	10531	2985	0	0.0
1949	10344	964	10344	964	0	0.0
1950	10358	1006	10358	1006	0	0.0
1951	10531	1418	10531	1418	0	0.0
1952	10349	978	10349	978	0	0.0
1953	10397	1350	10397	1350	0	0.0
1954	10358	1006	10358	1006	0	0.0
1955	8250	618	8250	618	0	0.0
1956	9716	1560	9716	1560	0	0.0
1957	9347	41	9347	41	0	0.0
1958	10363	1020	10363	1020	0	0.0
1959	8982	447	8982	447	0	0.0
1960	9405	81	9405	81	0	0.0
1961	7765	247	7765	247	0	0.0
1962	10531	1683	10531	1683	0	0.0
1963	10531	2006	10531	2006	0	0.0
1964	8581	642	8581	642	0	0.0
1965	10531	2436	10531	2436	0	0.0
1966	9696	1347	9696	1347	0	0.0
1967	10531	1456	10531	1456	0	0.0
1968	9613	499	9613	499	0	0.0
1969	10531	1428	10531	1428	0	0.0
1970	8830	-170	8830	-170	0	0.0
1971	10066	797	10066	797	0	0.0
1972	10130	889	10130	889	0	0.0
1973	10179	854	10179	854	0	0.0
1974	10531	1787	10531	1787	0	0.0
1975	10006	635	10006	635	0	0.0
1976	7303	264	7303	264	0	0.0
1977	3480	17	3480	17	0	0.0
1978	10531	1631	10531	1631	0	0.0
1979	9906	553	9906	553	0	0.0
1980	10351	1414	10351	1414	0	0.0
1981	8906	485	8906	485	0	0.0
1982	10531	1490	10531	1490	0	0.0
1983	10531	1640	10531	1640	0	0.0
1984	10143	1005	10143	1005	0	0.0
1985	10000	837	10000	837	0	0.0
1986	10531	1621	10531	1621	0	0.0
1987	8668	110	8668	110	0	0.0
1988	7550	444	7550	444	0	0.0
1989	10531	1132	10531	1132	0	0.0
1990	8187	517	8187	517	0	0.0
1991	8190	-550	8190	-550	0	0.0
1992	7537	-522	7537	-522	0	0.0
1993	10531	1649	10531	1649	0	0.0
Mean:	9586	998	9586	998	0	0.0
Median:	10161	978	10161	978	0	0.0
Min:	3480	-843	3480	-843	0	0.0
Max:	10531	2985	10531	2985	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	20		20			
X < 8224	12		12			
X < 7614	7		7			
X < 7074	3		3			
X < 6301	1		1			
X < 4805	1		1			
X < 3783	1		1			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

May

	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	11171	823	11171	823	0	0.0
1923	11171	640	11171	640	0	0.0
1924	6784	-57	6784	-57	0	0.0
1925	11171	1149	11171	1149	0	0.0
1926	9516	-482	9516	-482	0	0.0
1927	11171	751	11171	751	0	0.0
1928	10752	220	10752	220	0	0.0
1929	9018	803	9018	803	0	0.0
1930	10024	-178	10024	-178	0	0.0
1931	7734	223	7734	223	0	0.0
1932	11054	1596	11054	1596	0	0.0
1933	7589	1121	7589	1121	0	0.0
1934	7640	-305	7640	-305	0	0.0
1935	11002	471	11002	471	0	0.0
1936	11171	787	11171	787	0	0.0
1937	11171	827	11171	827	0	0.0
1938	11171	823	11171	823	0	0.0
1939	8673	20	8673	20	0	0.0
1940	11171	640	11171	640	0	0.0
1941	11171	813	11171	813	0	0.0
1942	11171	640	11171	640	0	0.0
1943	11066	535	11066	535	0	0.0
1944	9754	557	9754	557	0	0.0
1945	11171	1132	11171	1132	0	0.0
1946	11171	640	11171	640	0	0.0
1947	9101	-221	9101	-221	0	0.0
1948	11171	640	11171	640	0	0.0
1949	11059	715	11059	715	0	0.0
1950	11171	813	11171	813	0	0.0
1951	11171	640	11171	640	0	0.0
1952	11171	823	11171	823	0	0.0
1953	11096	699	11096	699	0	0.0
1954	10299	-59	10299	-59	0	0.0
1955	9173	923	9173	923	0	0.0
1956	11194	1478	11194	1478	0	0.0
1957	11634	2287	11634	2287	0	0.0
1958	11171	808	11171	808	0	0.0
1959	8571	-411	8571	-411	0	0.0
1960	9596	190	9596	190	0	0.0
1961	7811	47	7811	47	0	0.0
1962	10639	107	10639	107	0	0.0
1963	11171	640	11171	640	0	0.0
1964	9255	674	9255	674	0	0.0
1965	11006	475	11006	475	0	0.0
1966	9470	-226	9470	-226	0	0.0
1967	11171	640	11171	640	0	0.0
1968	9440	-173	9440	-173	0	0.0
1969	11171	640	11171	640	0	0.0
1970	9862	1032	9862	1032	0	0.0
1971	11171	1106	11171	1106	0	0.0
1972	10522	391	10522	391	0	0.0
1973	11171	992	11171	992	0	0.0
1974	11171	640	11171	640	0	0.0
1975	11171	1166	11171	1166	0	0.0
1976	7537	234	7537	234	0	0.0
1977	3472	-8	3472	-8	0	0.0
1978	11171	640	11171	640	0	0.0
1979	11171	1266	11171	1266	0	0.0
1980	11095	745	11095	745	0	0.0
1981	8511	-395	8511	-395	0	0.0
1982	11171	640	11171	640	0	0.0
1983	11171	640	11171	640	0	0.0
1984	11171	1029	11171	1029	0	0.0
1985	9793	-207	9793	-207	0	0.0
1986	11171	640	11171	640	0	0.0
1987	8298	-370	8298	-370	0	0.0
1988	6810	-740	6810	-740	0	0.0
1989	10247	-285	10247	-285	0	0.0
1990	8415	229	8415	229	0	0.0
1991	8796	606	8796	606	0	0.0
1992	6629	-908	6629	-908	0	0.0
1993	11171	640	11171	640	0	0.0
Mean:	10087	501	10087	501	0	0.0
Median:	11063	640	11063	640	0	0.0
Min:	3472	-908	3472	-908	0	0.0
Max:	11634	2287	11634	2287	0	0.0
X > 11268	1		1			
X > 10638	42		42			
X < 9319	19		19			
X < 8224	9		9			
X < 7614	6		6			
X < 7074	4		4			
X < 6301	1		1			
X < 4805	1		1			
X < 3783	1		1			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

June

Water Year	Baseline		FP Alt			
	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	11171	0	11171	0	0	0.0
1923	11171	0	11171	0	0	0.0
1924	6258	-526	6258	-526	0	0.0
1925	10470	-702	10470	-702	0	0.0
1926	8613	-902	8613	-902	0	0.0
1927	11171	0	11171	0	0	0.0
1928	10423	-329	10423	-329	0	0.0
1929	8423	-595	8423	-595	0	0.0
1930	9396	-628	9396	-628	0	0.0
1931	7051	-683	7051	-683	0	0.0
1932	10822	-232	10822	-232	0	0.0
1933	7344	-245	7344	-245	0	0.0
1934	6628	-1013	6628	-1013	0	0.0
1935	11171	169	11171	169	0	0.0
1936	11171	0	11171	0	0	0.0
1937	10969	-203	10969	-203	0	0.0
1938	11171	0	11171	0	0	0.0
1939	8001	-672	8001	-672	0	0.0
1940	10752	-419	10752	-419	0	0.0
1941	11171	0	11171	0	0	0.0
1942	11171	0	11171	0	0	0.0
1943	11149	83	11149	83	0	0.0
1944	9182	-571	9182	-571	0	0.0
1945	10947	-224	10947	-224	0	0.0
1946	10513	-658	10513	-658	0	0.0
1947	8689	-412	8689	-412	0	0.0
1948	11171	0	11171	0	0	0.0
1949	10209	-850	10209	-850	0	0.0
1950	11171	0	11171	0	0	0.0
1951	10799	-372	10799	-372	0	0.0
1952	11171	0	11171	0	0	0.0
1953	11171	75	11171	75	0	0.0
1954	9701	-598	9701	-598	0	0.0
1955	8662	-511	8662	-511	0	0.0
1956	11171	-23	11171	-23	0	0.0
1957	10787	-848	10787	-848	0	0.0
1958	11171	0	11171	0	0	0.0
1959	7793	-778	7793	-778	0	0.0
1960	8897	-699	8897	-699	0	0.0
1961	7695	-116	7695	-116	0	0.0
1962	10498	-141	10498	-141	0	0.0
1963	11171	0	11171	0	0	0.0
1964	8958	-297	8958	-297	0	0.0
1965	11171	165	11171	165	0	0.0
1966	8846	-624	8846	-624	0	0.0
1967	11171	0	11171	0	0	0.0
1968	8834	-607	8834	-607	0	0.0
1969	11171	0	11171	0	0	0.0
1970	9380	-482	9380	-482	0	0.0
1971	11171	0	11171	0	0	0.0
1972	9284	-1238	9284	-1238	0	0.0
1973	10166	-1005	10166	-1005	0	0.0
1974	11171	0	11171	0	0	0.0
1975	11171	0	11171	0	0	0.0
1976	7128	-409	7128	-409	0	0.0
1977	2667	-805	2667	-805	0	0.0
1978	11171	0	11171	0	0	0.0
1979	10024	-1147	10024	-1147	0	0.0
1980	11171	76	11171	76	0	0.0
1981	8057	-453	8057	-453	0	0.0
1982	11171	0	11171	0	0	0.0
1983	11171	0	11171	0	0	0.0
1984	10662	-510	10662	-510	0	0.0
1985	8944	-850	8944	-850	0	0.0
1986	11171	0	11171	0	0	0.0
1987	7406	-892	7406	-892	0	0.0
1988	6338	-471	6338	-471	0	0.0
1989	9079	-1168	9079	-1168	0	0.0
1990	7851	-565	7851	-565	0	0.0
1991	9034	239	9034	239	0	0.0
1992	5848	-782	5848	-782	0	0.0
1993	11171	0	11171	0	0	0.0
Mean:	9733	-353	9733	-353	0	0.0
Median:	10506	-313	10506	-313	0	0.0
Min:	2667	-1238	2667	-1238	0	0.0
Max:	11171	239	11171	239	0	0.0
X > 11268	0		0			
X > 10638	35		35			
X < 9319	27		27			
X < 8224	14		14			
X < 7614	9		9			
X < 7074	6		6			
X < 6301	3		3			
X < 4805	1		1			
X < 3783	1		1			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

July						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	10279	-892	10279	-892	0	0.0
1923	10237	-934	10237	-934	0	0.0
1924	5412	-847	5412	-847	0	0.0
1925	9363	-1107	9363	-1107	0	0.0
1926	6970	-1643	6970	-1643	0	0.0
1927	10141	-1030	10141	-1030	0	0.0
1928	8944	-1479	8944	-1479	0	0.0
1929	7448	-975	7448	-975	0	0.0
1930	7855	-1542	7855	-1542	0	0.0
1931	6180	-870	6180	-870	0	0.0
1932	9834	-988	9834	-988	0	0.0
1933	6328	-1016	6328	-1016	0	0.0
1934	5818	-809	5818	-809	0	0.0
1935	10123	-1048	10123	-1048	0	0.0
1936	10234	-937	10234	-937	0	0.0
1937	9852	-1117	9852	-1117	0	0.0
1938	10784	-387	10784	-387	0	0.0
1939	7009	-992	7009	-992	0	0.0
1940	9562	-1190	9562	-1190	0	0.0
1941	10298	-873	10298	-873	0	0.0
1942	10478	-693	10478	-693	0	0.0
1943	10171	-978	10171	-978	0	0.0
1944	7957	-1225	7957	-1225	0	0.0
1945	9883	-1064	9883	-1064	0	0.0
1946	9345	-1169	9345	-1169	0	0.0
1947	7387	-1301	7387	-1301	0	0.0
1948	10190	-981	10190	-981	0	0.0
1949	8944	-1265	8944	-1265	0	0.0
1950	10177	-995	10177	-995	0	0.0
1951	9448	-1351	9448	-1351	0	0.0
1952	10869	-303	10869	-303	0	0.0
1953	10713	-459	10713	-459	0	0.0
1954	8819	-883	8819	-883	0	0.0
1955	7634	-1028	7634	-1028	0	0.0
1956	10400	-771	10400	-771	0	0.0
1957	9623	-1163	9623	-1163	0	0.0
1958	10838	-333	10838	-333	0	0.0
1959	5392	-2401	5392	-2401	0	0.0
1960	7509	-1388	7509	-1388	0	0.0
1961	5925	-1770	5925	-1770	0	0.0
1962	9215	-1283	9215	-1283	0	0.0
1963	10057	-1114	10057	-1114	0	0.0
1964	7610	-1348	7610	-1348	0	0.0
1965	10095	-1077	10095	-1077	0	0.0
1966	7309	-1537	7309	-1537	0	0.0
1967	11023	-149	11023	-149	0	0.0
1968	7020	-1814	7020	-1814	0	0.0
1969	10315	-856	10315	-856	0	0.0
1970	7740	-1640	7740	-1640	0	0.0
1971	10315	-856	10315	-856	0	0.0
1972	7434	-1849	7434	-1849	0	0.0
1973	8944	-1223	8944	-1223	0	0.0
1974	10924	-247	10924	-247	0	0.0
1975	10588	-583	10588	-583	0	0.0
1976	6564	-564	6564	-564	0	0.0
1977	2089	-578	2089	-578	0	0.0
1978	10218	-953	10218	-953	0	0.0
1979	8944	-1081	8944	-1081	0	0.0
1980	10349	-823	10349	-823	0	0.0
1981	6552	-1506	6552	-1506	0	0.0
1982	10804	-368	10804	-368	0	0.0
1983	10373	-799	10373	-799	0	0.0
1984	9321	-1341	9321	-1341	0	0.0
1985	7468	-1475	7468	-1475	0	0.0
1986	10060	-1111	10060	-1111	0	0.0
1987	6585	-822	6585	-822	0	0.0
1988	5164	-1175	5164	-1175	0	0.0
1989	7360	-1719	7360	-1719	0	0.0
1990	6921	-929	6921	-929	0	0.0
1991	8273	-762	8273	-762	0	0.0
1992	4661	-1186	4661	-1186	0	0.0
1993	10543	-629	10543	-629	0	0.0
Mean:	8683	-1050	8683	-1050	0	0.0
Median:	9333	-1022	9333	-1022	0	0.0
Min:	2089	-2401	2089	-2401	0	0.0
Max:	11023	-149	11023	-149	0	0.0
X > 11268	0		0			
X > 10638	7		7			
X < 9319	35		35			
X < 8224	28		28			
X < 7614	24		24			
X < 7074	16		16			
X < 6301	8		8			
X < 4805	2		2			
X < 3783	1		1			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

August						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	9978	-301	9978	-301	0	0.0
1923	9876	-361	9876	-361	0	0.0
1924	4756	-655	4756	-655	0	0.0
1925	8780	-584	8780	-584	0	0.0
1926	6916	-54	6916	-54	0	0.0
1927	9833	-309	9833	-309	0	0.0
1928	7813	-1130	7813	-1130	0	0.0
1929	6750	-698	6750	-698	0	0.0
1930	6987	-868	6987	-868	0	0.0
1931	5159	-1021	5159	-1021	0	0.0
1932	9111	-724	9111	-724	0	0.0
1933	5734	-594	5734	-594	0	0.0
1934	4724	-1095	4724	-1095	0	0.0
1935	9401	-722	9401	-722	0	0.0
1936	9885	-349	9885	-349	0	0.0
1937	9476	-376	9476	-376	0	0.0
1938	10132	-652	10132	-652	0	0.0
1939	6279	-730	6279	-730	0	0.0
1940	9451	-111	9451	-111	0	0.0
1941	9923	-375	9923	-375	0	0.0
1942	10132	-346	10132	-346	0	0.0
1943	9958	-213	9958	-213	0	0.0
1944	7971	14	7971	14	0	0.0
1945	9575	-309	9575	-309	0	0.0
1946	9133	-212	9133	-212	0	0.0
1947	6663	-725	6663	-725	0	0.0
1948	9783	-407	9783	-407	0	0.0
1949	8103	-841	8103	-841	0	0.0
1950	9921	-256	9921	-256	0	0.0
1951	9165	-283	9165	-283	0	0.0
1952	9946	-923	9946	-923	0	0.0
1953	10132	-581	10132	-581	0	0.0
1954	8080	-738	8080	-738	0	0.0
1955	7145	-489	7145	-489	0	0.0
1956	10132	-268	10132	-268	0	0.0
1957	9140	-484	9140	-484	0	0.0
1958	10002	-836	10002	-836	0	0.0
1959	4491	-901	4491	-901	0	0.0
1960	6970	-539	6970	-539	0	0.0
1961	4771	-1154	4771	-1154	0	0.0
1962	8577	-638	8577	-638	0	0.0
1963	9664	-393	9664	-393	0	0.0
1964	6901	-708	6901	-708	0	0.0
1965	9955	-140	9955	-140	0	0.0
1966	6889	-420	6889	-420	0	0.0
1967	10132	-891	10132	-891	0	0.0
1968	6976	-43	6976	-43	0	0.0
1969	10094	-221	10094	-221	0	0.0
1970	7466	-274	7466	-274	0	0.0
1971	10084	-231	10084	-231	0	0.0
1972	7077	-358	7077	-358	0	0.0
1973	8619	-324	8619	-324	0	0.0
1974	10132	-792	10132	-792	0	0.0
1975	10132	-457	10132	-457	0	0.0
1976	6265	-300	6265	-300	0	0.0
1977	2091	2	2091	2	0	0.0
1978	9895	-323	9895	-323	0	0.0
1979	8642	-301	8642	-301	0	0.0
1980	10132	-217	10132	-217	0	0.0
1981	5907	-644	5907	-644	0	0.0
1982	10132	-672	10132	-672	0	0.0
1983	10132	-241	10132	-241	0	0.0
1984	9287	-34	9287	-34	0	0.0
1985	6920	-549	6920	-549	0	0.0
1986	9818	-242	9818	-242	0	0.0
1987	5993	-591	5993	-591	0	0.0
1988	3935	-1228	3935	-1228	0	0.0
1989	6647	-713	6647	-713	0	0.0
1990	6772	-150	6772	-150	0	0.0
1991	7788	-485	7788	-485	0	0.0
1992	2770	-1891	2770	-1891	0	0.0
1993	10132	-411	10132	-411	0	0.0
Mean:	8169	-515	8169	-515	0	0.0
Median:	8946	-439	8946	-439	0	0.0
Min:	2091	-1891	2091	-1891	0	0.0
Max:	10132	14	10132	14	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	41		41			
X < 8224	32		32			
X < 7614	27		27			
X < 7074	24		24			
X < 6301	13		13			
X < 4805	7		7			
X < 3783	2		2			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Surface Area

September						
	Baseline		FP Alt			
Water Year	Surface Area (acres)	Change from Previous Month (acres)	Surface Area (acres)	Change from Previous Month (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	8929	-1049	8929	-1049	0	0.0
1923	8897	-979	8897	-979	0	0.0
1924	4329	-427	4329	-427	0	0.0
1925	8259	-521	8259	-521	0	0.0
1926	6990	74	6990	74	0	0.0
1927	8848	-985	8848	-985	0	0.0
1928	7253	-560	7253	-560	0	0.0
1929	6719	-30	6719	-30	0	0.0
1930	7382	396	7382	396	0	0.0
1931	4845	-314	4845	-314	0	0.0
1932	8484	-627	8484	-627	0	0.0
1933	5692	-43	5692	-43	0	0.0
1934	4252	-472	4252	-472	0	0.0
1935	8917	-484	8917	-484	0	0.0
1936	9123	-762	9123	-762	0	0.0
1937	8912	-564	8912	-564	0	0.0
1938	9241	-891	9241	-891	0	0.0
1939	6213	-66	6213	-66	0	0.0
1940	9004	-447	9004	-447	0	0.0
1941	9241	-683	9241	-683	0	0.0
1942	9241	-891	9241	-891	0	0.0
1943	8868	-1090	8868	-1090	0	0.0
1944	6957	-1014	6957	-1014	0	0.0
1945	8576	-998	8576	-998	0	0.0
1946	7673	-1460	7673	-1460	0	0.0
1947	5766	-897	5766	-897	0	0.0
1948	9018	-765	9018	-765	0	0.0
1949	7660	-442	7660	-442	0	0.0
1950	8980	-940	8980	-940	0	0.0
1951	7583	-1582	7583	-1582	0	0.0
1952	9241	-705	9241	-705	0	0.0
1953	9241	-891	9241	-891	0	0.0
1954	7581	-499	7581	-499	0	0.0
1955	7406	260	7406	260	0	0.0
1956	9241	-891	9241	-891	0	0.0
1957	8434	-706	8434	-706	0	0.0
1958	9241	-761	9241	-761	0	0.0
1959	4753	262	4753	262	0	0.0
1960	6979	9	6979	9	0	0.0
1961	4536	-235	4536	-235	0	0.0
1962	7777	-801	7777	-801	0	0.0
1963	8944	-721	8944	-721	0	0.0
1964	7019	118	7019	118	0	0.0
1965	8993	-962	8993	-962	0	0.0
1966	6924	35	6924	35	0	0.0
1967	9241	-891	9241	-891	0	0.0
1968	7031	54	7031	54	0	0.0
1969	9241	-854	9241	-854	0	0.0
1970	6846	-620	6846	-620	0	0.0
1971	9241	-844	9241	-844	0	0.0
1972	7436	359	7436	359	0	0.0
1973	7980	-640	7980	-640	0	0.0
1974	9241	-891	9241	-891	0	0.0
1975	9241	-891	9241	-891	0	0.0
1976	6009	-256	6009	-256	0	0.0
1977	2091	0	2091	0	0	0.0
1978	9241	-654	9241	-654	0	0.0
1979	7631	-1011	7631	-1011	0	0.0
1980	9241	-891	9241	-891	0	0.0
1981	5950	43	5950	43	0	0.0
1982	9241	-891	9241	-891	0	0.0
1983	9241	-891	9241	-891	0	0.0
1984	8300	-986	8300	-986	0	0.0
1985	6709	-211	6709	-211	0	0.0
1986	9241	-578	9241	-578	0	0.0
1987	6137	143	6137	143	0	0.0
1988	2157	-1779	2157	-1779	0	0.0
1989	6908	261	6908	261	0	0.0
1990	6656	-116	6656	-116	0	0.0
1991	6782	-1006	6782	-1006	0	0.0
1992	2089	-682	2089	-682	0	0.0
1993	8944	-1188	8944	-1188	0	0.0
Mean:	7587	-582	7587	-582	0	0.0
Median:	7879	-683	7879	-683	0	0.0
Min:	2089	-1779	2089	-1779	0	0.0
Max:	9241	396	9241	396	0	0.0
X > 11268	0		0			
X > 10638	0		0			
X < 9319	72		72			
X < 8224	37		37			
X < 7614	32		32			
X < 7074	26		26			
X < 6301	14		14			
X < 4805	7		7			
X < 3783	3		3			

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13662	13662	0	0.0
1923	12779	12779	0	0.0
1924	9433	9433	0	0.0
1925	4651	4651	0	0.0
1926	7639	7639	0	0.0
1927	7100	7100	0	0.0
1928	11792	11792	0	0.0
1929	11417	11417	0	0.0
1930	8940	8940	0	0.0
1931	7747	7747	0	0.0
1932	4768	4768	0	0.0
1933	6004	6004	0	0.0
1934	5500	5500	0	0.0
1935	4004	4004	0	0.0
1936	6562	6562	0	0.0
1937	7086	7086	0	0.0
1938	8073	8073	0	0.0
1939	13648	13648	0	0.0
1940	10811	10811	0	0.0
1941	12318	12318	0	0.0
1942	13648	13648	0	0.0
1943	13648	13648	0	0.0
1944	12947	12947	0	0.0
1945	10920	10920	0	0.0
1946	10759	10759	0	0.0
1947	11833	11833	0	0.0
1948	10082	10082	0	0.0
1949	10565	10565	0	0.0
1950	10739	10739	0	0.0
1951	10711	10711	0	0.0
1952	12581	12581	0	0.0
1953	13648	13648	0	0.0
1954	13648	13648	0	0.0
1955	13253	13253	0	0.0
1956	11061	11061	0	0.0
1957	13648	13648	0	0.0
1958	13625	13625	0	0.0
1959	13648	13648	0	0.0
1960	10819	10819	0	0.0
1961	9918	9918	0	0.0
1962	10811	10811	0	0.0
1963	11141	11141	0	0.0
1964	13403	13403	0	0.0
1965	10813	10813	0	0.0
1966	13301	13301	0	0.0
1967	13341	13341	0	0.0
1968	13648	13648	0	0.0
1969	11542	11542	0	0.0
1970	13648	13648	0	0.0
1971	11419	11419	0	0.0
1972	13648	13648	0	0.0
1973	12623	12623	0	0.0
1974	13625	13625	0	0.0
1975	13648	13648	0	0.0
1976	13648	13648	0	0.0
1977	10629	10629	0	0.0
1978	4603	4603	0	0.0
1979	11133	11133	0	0.0
1980	11220	11220	0	0.0
1981	12828	12828	0	0.0
1982	11431	11431	0	0.0
1983	13625	13625	0	0.0
1984	13648	13648	0	0.0
1985	12890	12890	0	0.0
1986	10813	10813	0	0.0
1987	11178	11178	0	0.0
1988	8687	8687	0	0.0
1989	8406	8406	0	0.0
1990	8585	8585	0	0.0
1991	7136	7136	0	0.0
1992	6518	6518	0	0.0
1993	6836	6836	0	0.0
Mean:	10778.6	10778.6	0.0	0.0
Median:	11159.5	11159.5	0.0	0.0
Min:	4004.0	4004.0	0.0	0.0
Max:	13662.0	13662.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13566	13566	0	0.0
1923	12715	12715	0	0.0
1924	9312	9312	0	0.0
1925	5243	5243	0	0.0
1926	7600	7600	0	0.0
1927	8156	8156	0	0.0
1928	12118	12118	0	0.0
1929	11361	11361	0	0.0
1930	8759	8759	0	0.0
1931	7650	7650	0	0.0
1932	4588	4588	0	0.0
1933	5984	5984	0	0.0
1934	5409	5409	0	0.0
1935	4536	4536	0	0.0
1936	6488	6488	0	0.0
1937	6970	6970	0	0.0
1938	9022	9022	0	0.0
1939	13625	13625	0	0.0
1940	10666	10666	0	0.0
1941	12283	12283	0	0.0
1942	13625	13625	0	0.0
1943	13625	13625	0	0.0
1944	12925	12925	0	0.0
1945	11019	11019	0	0.0
1946	10997	10997	0	0.0
1947	11881	11881	0	0.0
1948	10093	10093	0	0.0
1949	10607	10607	0	0.0
1950	10642	10642	0	0.0
1951	11390	11390	0	0.0
1952	12688	12688	0	0.0
1953	13601	13601	0	0.0
1954	13625	13625	0	0.0
1955	13412	13412	0	0.0
1956	11054	11054	0	0.0
1957	13625	13625	0	0.0
1958	13625	13625	0	0.0
1959	13623	13623	0	0.0
1960	10685	10685	0	0.0
1961	9885	9885	0	0.0
1962	10777	10777	0	0.0
1963	11409	11409	0	0.0
1964	13625	13625	0	0.0
1965	10813	10813	0	0.0
1966	13625	13625	0	0.0
1967	13625	13625	0	0.0
1968	13625	13625	0	0.0
1969	11602	11602	0	0.0
1970	13625	13625	0	0.0
1971	12096	12096	0	0.0
1972	13625	13625	0	0.0
1973	12747	12747	0	0.0
1974	13625	13625	0	0.0
1975	13622	13622	0	0.0
1976	13625	13625	0	0.0
1977	10509	10509	0	0.0
1978	4841	4841	0	0.0
1979	11030	11030	0	0.0
1980	11503	11503	0	0.0
1981	12724	12724	0	0.0
1982	12801	12801	0	0.0
1983	13625	13625	0	0.0
1984	13625	13625	0	0.0
1985	13467	13467	0	0.0
1986	10694	10694	0	0.0
1987	11062	11062	0	0.0
1988	8532	8532	0	0.0
1989	8683	8683	0	0.0
1990	8562	8562	0	0.0
1991	7046	7046	0	0.0
1992	6447	6447	0	0.0
1993	6568	6568	0	0.0
Mean:	10867.5	10867.5	0.0	0.0
Median:	11375.5	11375.5	0.0	0.0
Min:	4536.0	4536.0	0.0	0.0
Max:	13625.0	13625.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13574	13574	0	0.0
1923	12730	12730	0	0.0
1924	9207	9207	0	0.0
1925	5567	5567	0	0.0
1926	7726	7726	0	0.0
1927	9459	9459	0	0.0
1928	12219	12219	0	0.0
1929	11314	11314	0	0.0
1930	8933	8933	0	0.0
1931	7585	7585	0	0.0
1932	4593	4593	0	0.0
1933	5968	5968	0	0.0
1934	5481	5481	0	0.0
1935	4804	4804	0	0.0
1936	6509	6509	0	0.0
1937	6865	6865	0	0.0
1938	10477	10477	0	0.0
1939	13625	13625	0	0.0
1940	10817	10817	0	0.0
1941	13023	13023	0	0.0
1942	13625	13625	0	0.0
1943	13625	13625	0	0.0
1944	12899	12899	0	0.0
1945	11386	11386	0	0.0
1946	12074	12074	0	0.0
1947	11950	11950	0	0.0
1948	10043	10043	0	0.0
1949	10631	10631	0	0.0
1950	10584	10584	0	0.0
1951	12807	12807	0	0.0
1952	13382	13382	0	0.0
1953	13625	13625	0	0.0
1954	13625	13625	0	0.0
1955	13625	13625	0	0.0
1956	12795	12795	0	0.0
1957	13619	13619	0	0.0
1958	13625	13625	0	0.0
1959	13583	13583	0	0.0
1960	10533	10533	0	0.0
1961	10436	10436	0	0.0
1962	10963	10963	0	0.0
1963	12387	12387	0	0.0
1964	13625	13625	0	0.0
1965	13935	13935	0	0.0
1966	13625	13625	0	0.0
1967	13625	13625	0	0.0
1968	13625	13625	0	0.0
1969	11937	11937	0	0.0
1970	13625	13625	0	0.0
1971	12829	12829	0	0.0
1972	13625	13625	0	0.0
1973	13252	13252	0	0.0
1974	13625	13625	0	0.0
1975	13625	13625	0	0.0
1976	13625	13625	0	0.0
1977	10402	10402	0	0.0
1978	6410	6410	0	0.0
1979	11007	11007	0	0.0
1980	11810	11810	0	0.0
1981	12871	12871	0	0.0
1982	13664	13664	0	0.0
1983	13625	13625	0	0.0
1984	13625	13625	0	0.0
1985	13625	13625	0	0.0
1986	10703	10703	0	0.0
1987	10988	10988	0	0.0
1988	9660	9660	0	0.0
1989	8709	8709	0	0.0
1990	8499	8499	0	0.0
1991	6925	6925	0	0.0
1992	6421	6421	0	0.0
1993	6726	6726	0	0.0
Mean:	11146.5	11146.5	0.0	0.0
Median:	12012.0	12012.0	0.0	0.0
Min:	4593.0	4593.0	0.0	0.0
Max:	13935.0	13935.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13560	13560	0	0.0
1923	12811	12811	0	0.0
1924	8938	8938	0	0.0
1925	5976	5976	0	0.0
1926	7733	7733	0	0.0
1927	10143	10143	0	0.0
1928	12528	12528	0	0.0
1929	11289	11289	0	0.0
1930	8981	8981	0	0.0
1931	7645	7645	0	0.0
1932	4690	4690	0	0.0
1933	5941	5941	0	0.0
1934	5964	5964	0	0.0
1935	5128	5128	0	0.0
1936	7280	7280	0	0.0
1937	6809	6809	0	0.0
1938	10995	10995	0	0.0
1939	13674	13674	0	0.0
1940	11775	11775	0	0.0
1941	13850	13850	0	0.0
1942	13850	13850	0	0.0
1943	13850	13850	0	0.0
1944	12914	12914	0	0.0
1945	11685	11685	0	0.0
1946	12796	12796	0	0.0
1947	11903	11903	0	0.0
1948	11178	11178	0	0.0
1949	10588	10588	0	0.0
1950	10687	10687	0	0.0
1951	13170	13170	0	0.0
1952	13606	13606	0	0.0
1953	13850	13850	0	0.0
1954	13850	13850	0	0.0
1955	13707	13707	0	0.0
1956	13903	13903	0	0.0
1957	13613	13613	0	0.0
1958	13850	13850	0	0.0
1959	13850	13850	0	0.0
1960	10519	10519	0	0.0
1961	10626	10626	0	0.0
1962	10979	10979	0	0.0
1963	12600	12600	0	0.0
1964	13850	13850	0	0.0
1965	13850	13850	0	0.0
1966	13850	13850	0	0.0
1967	13850	13850	0	0.0
1968	13850	13850	0	0.0
1969	12746	12746	0	0.0
1970	13850	13850	0	0.0
1971	13860	13860	0	0.0
1972	13850	13850	0	0.0
1973	13850	13850	0	0.0
1974	13850	13850	0	0.0
1975	13728	13728	0	0.0
1976	13674	13674	0	0.0
1977	10281	10281	0	0.0
1978	9086	9086	0	0.0
1979	11137	11137	0	0.0
1980	13096	13096	0	0.0
1981	13346	13346	0	0.0
1982	13850	13850	0	0.0
1983	13850	13850	0	0.0
1984	13850	13850	0	0.0
1985	13743	13743	0	0.0
1986	11405	11405	0	0.0
1987	11045	11045	0	0.0
1988	10075	10075	0	0.0
1989	8790	8790	0	0.0
1990	8893	8893	0	0.0
1991	6852	6852	0	0.0
1992	6471	6471	0	0.0
1993	7146	7146	0	0.0
Mean:	11456.4	11456.4	0.0	0.0
Median:	12673.0	12673.0	0.0	0.0
Min:	4690.0	4690.0	0.0	0.0
Max:	13903.0	13903.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13624	13624	0	0.0
1923	12914	12914	0	0.0
1924	8933	8933	0	0.0
1925	8038	8038	0	0.0
1926	8710	8710	0	0.0
1927	11593	11593	0	0.0
1928	13080	13080	0	0.0
1929	11380	11380	0	0.0
1930	9639	9639	0	0.0
1931	7773	7773	0	0.0
1932	4859	4859	0	0.0
1933	5945	5945	0	0.0
1934	6651	6651	0	0.0
1935	5789	5789	0	0.0
1936	8193	8193	0	0.0
1937	6834	6834	0	0.0
1938	11868	11868	0	0.0
1939	13737	13737	0	0.0
1940	13575	13575	0	0.0
1941	14300	14300	0	0.0
1942	14300	14300	0	0.0
1943	14300	14300	0	0.0
1944	13108	13108	0	0.0
1945	12616	12616	0	0.0
1946	12997	12997	0	0.0
1947	12195	12195	0	0.0
1948	11209	11209	0	0.0
1949	10779	10779	0	0.0
1950	10974	10974	0	0.0
1951	14145	14145	0	0.0
1952	14300	14300	0	0.0
1953	14300	14300	0	0.0
1954	14300	14300	0	0.0
1955	13835	13835	0	0.0
1956	14300	14300	0	0.0
1957	14300	14300	0	0.0
1958	14351	14351	0	0.0
1959	14300	14300	0	0.0
1960	11328	11328	0	0.0
1961	11958	11958	0	0.0
1962	11745	11745	0	0.0
1963	14043	14043	0	0.0
1964	14060	14060	0	0.0
1965	14259	14259	0	0.0
1966	14158	14158	0	0.0
1967	14300	14300	0	0.0
1968	14300	14300	0	0.0
1969	13293	13293	0	0.0
1970	14300	14300	0	0.0
1971	14300	14300	0	0.0
1972	14300	14300	0	0.0
1973	14300	14300	0	0.0
1974	14300	14300	0	0.0
1975	14166	14166	0	0.0
1976	13825	13825	0	0.0
1977	10234	10234	0	0.0
1978	10301	10301	0	0.0
1979	11436	11436	0	0.0
1980	14300	14300	0	0.0
1981	13972	13972	0	0.0
1982	14300	14300	0	0.0
1983	14300	14300	0	0.0
1984	14290	14290	0	0.0
1985	13919	13919	0	0.0
1986	14095	14095	0	0.0
1987	11479	11479	0	0.0
1988	10566	10566	0	0.0
1989	8904	8904	0	0.0
1990	9029	9029	0	0.0
1991	6918	6918	0	0.0
1992	7416	7416	0	0.0
1993	8086	8086	0	0.0
Mean:	12007.3	12007.3	0.0	0.0
Median:	13200.5	13200.5	0.0	0.0
Min:	4859.0	4859.0	0.0	0.0
Max:	14351.0	14351.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13848	13848	0	0.0
1923	13178	13178	0	0.0
1924	8910	8910	0	0.0
1925	8741	8741	0	0.0
1926	9458	9458	0	0.0
1927	12512	12512	0	0.0
1928	13953	13953	0	0.0
1929	11652	11652	0	0.0
1930	10349	10349	0	0.0
1931	8163	8163	0	0.0
1932	6056	6056	0	0.0
1933	6843	6843	0	0.0
1934	7654	7654	0	0.0
1935	6266	6266	0	0.0
1936	8975	8975	0	0.0
1937	7549	7549	0	0.0
1938	13323	13323	0	0.0
1939	14194	14194	0	0.0
1940	14719	14719	0	0.0
1941	14725	14725	0	0.0
1942	14633	14633	0	0.0
1943	14725	14725	0	0.0
1944	13413	13413	0	0.0
1945	12858	12858	0	0.0
1946	13566	13566	0	0.0
1947	12859	12859	0	0.0
1948	11351	11351	0	0.0
1949	12039	12039	0	0.0
1950	11655	11655	0	0.0
1951	14595	14595	0	0.0
1952	14725	14725	0	0.0
1953	14725	14725	0	0.0
1954	14725	14725	0	0.0
1955	13952	13952	0	0.0
1956	14725	14725	0	0.0
1957	14725	14725	0	0.0
1958	14720	14720	0	0.0
1959	14725	14725	0	0.0
1960	12294	12294	0	0.0
1961	12609	12609	0	0.0
1962	12164	12164	0	0.0
1963	14271	14271	0	0.0
1964	14249	14249	0	0.0
1965	14573	14573	0	0.0
1966	14728	14728	0	0.0
1967	14725	14725	0	0.0
1968	14725	14725	0	0.0
1969	13986	13986	0	0.0
1970	14725	14725	0	0.0
1971	14725	14725	0	0.0
1972	14725	14725	0	0.0
1973	14725	14725	0	0.0
1974	14725	14725	0	0.0
1975	14727	14727	0	0.0
1976	14057	14057	0	0.0
1977	10147	10147	0	0.0
1978	12010	12010	0	0.0
1979	12275	12275	0	0.0
1980	14725	14725	0	0.0
1981	14530	14530	0	0.0
1982	14725	14725	0	0.0
1983	14725	14725	0	0.0
1984	14725	14725	0	0.0
1985	14129	14129	0	0.0
1986	14750	14750	0	0.0
1987	12620	12620	0	0.0
1988	11017	11017	0	0.0
1989	11196	11196	0	0.0
1990	9539	9539	0	0.0
1991	7404	7404	0	0.0
1992	8337	8337	0	0.0
1993	10576	10576	0	0.0
Mean:	12610.4	12610.4	0.0	0.0
Median:	13900.0	13900.0	0.0	0.0
Min:	6056.0	6056.0	0.0	0.0
Max:	14750.0	14750.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	14291	14291	0	0.0
1923	13693	13693	0	0.0
1924	8802	8802	0	0.0
1925	10711	10711	0	0.0
1926	10793	10793	0	0.0
1927	13660	13660	0	0.0
1928	14602	14602	0	0.0
1929	11757	11757	0	0.0
1930	11008	11008	0	0.0
1931	8371	8371	0	0.0
1932	6719	6719	0	0.0
1933	7749	7749	0	0.0
1934	8305	8305	0	0.0
1935	7726	7726	0	0.0
1936	10047	10047	0	0.0
1937	9039	9039	0	0.0
1938	14545	14545	0	0.0
1939	14523	14523	0	0.0
1940	15506	15506	0	0.0
1941	15502	15502	0	0.0
1942	15395	15395	0	0.0
1943	15427	15427	0	0.0
1944	13582	13582	0	0.0
1945	13445	13445	0	0.0
1946	14567	14567	0	0.0
1947	13194	13194	0	0.0
1948	12321	12321	0	0.0
1949	13452	13452	0	0.0
1950	12514	12514	0	0.0
1951	15305	15305	0	0.0
1952	15502	15502	0	0.0
1953	15502	15502	0	0.0
1954	15502	15502	0	0.0
1955	14143	14143	0	0.0
1956	15502	15502	0	0.0
1957	15143	15143	0	0.0
1958	15502	15502	0	0.0
1959	15391	15391	0	0.0
1960	12926	12926	0	0.0
1961	13296	13296	0	0.0
1962	13406	13406	0	0.0
1963	15414	15414	0	0.0
1964	14397	14397	0	0.0
1965	15517	15517	0	0.0
1966	15502	15502	0	0.0
1967	15146	15146	0	0.0
1968	15108	15108	0	0.0
1969	15474	15474	0	0.0
1970	14962	14962	0	0.0
1971	15430	15430	0	0.0
1972	15291	15291	0	0.0
1973	15453	15453	0	0.0
1974	15502	15502	0	0.0
1975	15165	15165	0	0.0
1976	14435	14435	0	0.0
1977	8967	8967	0	0.0
1978	13019	13019	0	0.0
1979	12950	12950	0	0.0
1980	15342	15342	0	0.0
1981	14953	14953	0	0.0
1982	15502	15502	0	0.0
1983	15502	15502	0	0.0
1984	15161	15161	0	0.0
1985	14764	14764	0	0.0
1986	15215	15215	0	0.0
1987	13344	13344	0	0.0
1988	11487	11487	0	0.0
1989	12131	12131	0	0.0
1990	9748	9748	0	0.0
1991	7780	7780	0	0.0
1992	9858	9858	0	0.0
1993	11664	11664	0	0.0
Mean:	13313.2	13313.2	0.0	0.0
Median:	14416.0	14416.0	0.0	0.0
Min:	6719.0	6719.0	0.0	0.0
Max:	15517.0	15517.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	14495	14495	0	0.0
1923	13393	13393	0	0.0
1924	8234	8234	0	0.0
1925	10529	10529	0	0.0
1926	10039	10039	0	0.0
1927	13492	13492	0	0.0
1928	14311	14311	0	0.0
1929	11849	11849	0	0.0
1930	10339	10339	0	0.0
1931	8055	8055	0	0.0
1932	6827	6827	0	0.0
1933	7560	7560	0	0.0
1934	8086	8086	0	0.0
1935	7840	7840	0	0.0
1936	9568	9568	0	0.0
1937	10011	10011	0	0.0
1938	15237	15237	0	0.0
1939	14044	14044	0	0.0
1940	15246	15246	0	0.0
1941	15980	15980	0	0.0
1942	15620	15620	0	0.0
1943	14987	14987	0	0.0
1944	13757	13757	0	0.0
1945	13274	13274	0	0.0
1946	14514	14514	0	0.0
1947	12702	12702	0	0.0
1948	12290	12290	0	0.0
1949	13293	13293	0	0.0
1950	12454	12454	0	0.0
1951	15017	15017	0	0.0
1952	15946	15946	0	0.0
1953	15338	15338	0	0.0
1954	15387	15387	0	0.0
1955	14068	14068	0	0.0
1956	15909	15909	0	0.0
1957	15207	15207	0	0.0
1958	15980	15980	0	0.0
1959	14985	14985	0	0.0
1960	12621	12621	0	0.0
1961	13101	13101	0	0.0
1962	12895	12895	0	0.0
1963	15505	15505	0	0.0
1964	13773	13773	0	0.0
1965	15153	15153	0	0.0
1966	15549	15549	0	0.0
1967	15633	15633	0	0.0
1968	14674	14674	0	0.0
1969	15980	15980	0	0.0
1970	14591	14591	0	0.0
1971	15628	15628	0	0.0
1972	15042	15042	0	0.0
1973	15711	15711	0	0.0
1974	15900	15900	0	0.0
1975	15617	15617	0	0.0
1976	14167	14167	0	0.0
1977	8537	8537	0	0.0
1978	12992	12992	0	0.0
1979	13168	13168	0	0.0
1980	14992	14992	0	0.0
1981	14563	14563	0	0.0
1982	15544	15544	0	0.0
1983	15980	15980	0	0.0
1984	15012	15012	0	0.0
1985	14234	14234	0	0.0
1986	14789	14789	0	0.0
1987	13009	13009	0	0.0
1988	11056	11056	0	0.0
1989	11528	11528	0	0.0
1990	9378	9378	0	0.0
1991	7863	7863	0	0.0
1992	9625	9625	0	0.0
1993	12617	12617	0	0.0
Mean:	13226.3	13226.3	0.0	0.0
Median:	14117.5	14117.5	0.0	0.0
Min:	6827.0	6827.0	0.0	0.0
Max:	15980.0	15980.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	14463	14463	0	0.0
1923	12652	12652	0	0.0
1924	7834	7834	0	0.0
1925	9854	9854	0	0.0
1926	9385	9385	0	0.0
1927	13622	13622	0	0.0
1928	13698	13698	0	0.0
1929	11458	11458	0	0.0
1930	9978	9978	0	0.0
1931	7881	7881	0	0.0
1932	6901	6901	0	0.0
1933	8358	8358	0	0.0
1934	7823	7823	0	0.0
1935	7869	7869	0	0.0
1936	9283	9283	0	0.0
1937	10206	10206	0	0.0
1938	14996	14996	0	0.0
1939	13513	13513	0	0.0
1940	14721	14721	0	0.0
1941	16088	16088	0	0.0
1942	15908	15908	0	0.0
1943	14717	14717	0	0.0
1944	13471	13471	0	0.0
1945	12860	12860	0	0.0
1946	14064	14064	0	0.0
1947	12420	12420	0	0.0
1948	12475	12475	0	0.0
1949	12916	12916	0	0.0
1950	12358	12358	0	0.0
1951	14457	14457	0	0.0
1952	16088	16088	0	0.0
1953	15710	15710	0	0.0
1954	14889	14889	0	0.0
1955	13806	13806	0	0.0
1956	15585	15585	0	0.0
1957	14888	14888	0	0.0
1958	16023	16023	0	0.0
1959	14341	14341	0	0.0
1960	12495	12495	0	0.0
1961	13083	13083	0	0.0
1962	12618	12618	0	0.0
1963	15052	15052	0	0.0
1964	13418	13418	0	0.0
1965	14919	14919	0	0.0
1966	15291	15291	0	0.0
1967	16036	16036	0	0.0
1968	14162	14162	0	0.0
1969	15695	15695	0	0.0
1970	14117	14117	0	0.0
1971	15686	15686	0	0.0
1972	14656	14656	0	0.0
1973	15275	15275	0	0.0
1974	15885	15885	0	0.0
1975	16088	16088	0	0.0
1976	13748	13748	0	0.0
1977	8277	8277	0	0.0
1978	12790	12790	0	0.0
1979	13021	13021	0	0.0
1980	14552	14552	0	0.0
1981	14257	14257	0	0.0
1982	15014	15014	0	0.0
1983	16088	16088	0	0.0
1984	14587	14587	0	0.0
1985	13834	13834	0	0.0
1986	14188	14188	0	0.0
1987	12337	12337	0	0.0
1988	10900	10900	0	0.0
1989	10854	10854	0	0.0
1990	9454	9454	0	0.0
1991	7797	7797	0	0.0
1992	9163	9163	0	0.0
1993	13059	13059	0	0.0
Mean:	12999.4	12999.4	0.0	0.0
Median:	13723.0	13723.0	0.0	0.0
Min:	6901.0	6901.0	0.0	0.0
Max:	16088.0	16088.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13997	13997	0	0.0
1923	11674	11674	0	0.0
1924	7104	7104	0	0.0
1925	9110	9110	0	0.0
1926	8722	8722	0	0.0
1927	13077	13077	0	0.0
1928	12972	12972	0	0.0
1929	10732	10732	0	0.0
1930	9459	9459	0	0.0
1931	7192	7192	0	0.0
1932	6690	6690	0	0.0
1933	7841	7841	0	0.0
1934	7135	7135	0	0.0
1935	7247	7247	0	0.0
1936	8691	8691	0	0.0
1937	9661	9661	0	0.0
1938	14868	14868	0	0.0
1939	12683	12683	0	0.0
1940	13875	13875	0	0.0
1941	15380	15380	0	0.0
1942	15380	15380	0	0.0
1943	14140	14140	0	0.0
1944	12717	12717	0	0.0
1945	12209	12209	0	0.0
1946	13204	13204	0	0.0
1947	11770	11770	0	0.0
1948	11842	11842	0	0.0
1949	12265	12265	0	0.0
1950	11703	11703	0	0.0
1951	13844	13844	0	0.0
1952	15380	15380	0	0.0
1953	15380	15380	0	0.0
1954	14344	14344	0	0.0
1955	13036	13036	0	0.0
1956	15115	15115	0	0.0
1957	14311	14311	0	0.0
1958	15380	15380	0	0.0
1959	13367	13367	0	0.0
1960	11708	11708	0	0.0
1961	12459	12459	0	0.0
1962	11929	11929	0	0.0
1963	14477	14477	0	0.0
1964	12676	12676	0	0.0
1965	14381	14381	0	0.0
1966	14732	14732	0	0.0
1967	15380	15380	0	0.0
1968	13240	13240	0	0.0
1969	15202	15202	0	0.0
1970	13211	13211	0	0.0
1971	15380	15380	0	0.0
1972	13814	13814	0	0.0
1973	14726	14726	0	0.0
1974	15380	15380	0	0.0
1975	15380	15380	0	0.0
1976	12750	12750	0	0.0
1977	7577	7577	0	0.0
1978	12402	12402	0	0.0
1979	12539	12539	0	0.0
1980	14051	14051	0	0.0
1981	13482	13482	0	0.0
1982	14551	14551	0	0.0
1983	15380	15380	0	0.0
1984	14043	14043	0	0.0
1985	13012	13012	0	0.0
1986	13242	13242	0	0.0
1987	11326	11326	0	0.0
1988	10225	10225	0	0.0
1989	9964	9964	0	0.0
1990	8856	8856	0	0.0
1991	7171	7171	0	0.0
1992	8559	8559	0	0.0
1993	12918	12918	0	0.0
Mean:	12355.8	12355.8	0.0	0.0
Median:	12992.0	12992.0	0.0	0.0
Min:	6690.0	6690.0	0.0	0.0
Max:	15380.0	15380.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13431	13431	0	0.0
1923	10338	10338	0	0.0
1924	5970	5970	0	0.0
1925	8432	8432	0	0.0
1926	7995	7995	0	0.0
1927	12567	12567	0	0.0
1928	12294	12294	0	0.0
1929	10016	10016	0	0.0
1930	8690	8690	0	0.0
1931	6040	6040	0	0.0
1932	6414	6414	0	0.0
1933	7154	7154	0	0.0
1934	6006	6006	0	0.0
1935	6963	6963	0	0.0
1936	8005	8005	0	0.0
1937	8945	8945	0	0.0
1938	14463	14463	0	0.0
1939	11943	11943	0	0.0
1940	13157	13157	0	0.0
1941	14900	14900	0	0.0
1942	14900	14900	0	0.0
1943	13604	13604	0	0.0
1944	12009	12009	0	0.0
1945	11486	11486	0	0.0
1946	12609	12609	0	0.0
1947	10876	10876	0	0.0
1948	11146	11146	0	0.0
1949	11576	11576	0	0.0
1950	10985	10985	0	0.0
1951	13206	13206	0	0.0
1952	14900	14900	0	0.0
1953	14900	14900	0	0.0
1954	13880	13880	0	0.0
1955	12310	12310	0	0.0
1956	14758	14758	0	0.0
1957	13810	13810	0	0.0
1958	14900	14900	0	0.0
1959	12273	12273	0	0.0
1960	10791	10791	0	0.0
1961	11861	11861	0	0.0
1962	11243	11243	0	0.0
1963	13966	13966	0	0.0
1964	12001	12001	0	0.0
1965	13940	13940	0	0.0
1966	14115	14115	0	0.0
1967	14900	14900	0	0.0
1968	12478	12478	0	0.0
1969	14735	14735	0	0.0
1970	12426	12426	0	0.0
1971	14900	14900	0	0.0
1972	13241	13241	0	0.0
1973	14232	14232	0	0.0
1974	14900	14900	0	0.0
1975	14900	14900	0	0.0
1976	11758	11758	0	0.0
1977	6045	6045	0	0.0
1978	11822	11822	0	0.0
1979	11925	11925	0	0.0
1980	13504	13504	0	0.0
1981	12866	12866	0	0.0
1982	14081	14081	0	0.0
1983	14900	14900	0	0.0
1984	13522	13522	0	0.0
1985	12261	12261	0	0.0
1986	12170	12170	0	0.0
1987	10223	10223	0	0.0
1988	9455	9455	0	0.0
1989	9176	9176	0	0.0
1990	8113	8113	0	0.0
1991	6907	6907	0	0.0
1992	7846	7846	0	0.0
1993	12420	12420	0	0.0
Mean:	11687.1	11687.1	0.0	0.0
Median:	12267.0	12267.0	0.0	0.0
Min:	5970.0	5970.0	0.0	0.0
Max:	14900.0	14900.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir End of Month Surface Area

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	12887	12887	0	0.0
1923	9586	9586	0	0.0
1924	4958	4958	0	0.0
1925	7755	7755	0	0.0
1926	7224	7224	0	0.0
1927	12013	12013	0	0.0
1928	11623	11623	0	0.0
1929	9259	9259	0	0.0
1930	7902	7902	0	0.0
1931	5411	5411	0	0.0
1932	6136	6136	0	0.0
1933	6048	6048	0	0.0
1934	4685	4685	0	0.0
1935	6699	6699	0	0.0
1936	7254	7254	0	0.0
1937	8170	8170	0	0.0
1938	14190	14190	0	0.0
1939	11033	11033	0	0.0
1940	12461	12461	0	0.0
1941	14200	14200	0	0.0
1942	14200	14200	0	0.0
1943	13065	13065	0	0.0
1944	11114	11114	0	0.0
1945	10829	10829	0	0.0
1946	12056	12056	0	0.0
1947	10043	10043	0	0.0
1948	10621	10621	0	0.0
1949	10915	10915	0	0.0
1950	10177	10177	0	0.0
1951	12690	12690	0	0.0
1952	14200	14200	0	0.0
1953	14200	14200	0	0.0
1954	13371	13371	0	0.0
1955	11512	11512	0	0.0
1956	14200	14200	0	0.0
1957	13292	13292	0	0.0
1958	14200	14200	0	0.0
1959	11039	11039	0	0.0
1960	10125	10125	0	0.0
1961	10999	10999	0	0.0
1962	10612	10612	0	0.0
1963	13422	13422	0	0.0
1964	11161	11161	0	0.0
1965	13439	13439	0	0.0
1966	13630	13630	0	0.0
1967	14200	14200	0	0.0
1968	11758	11758	0	0.0
1969	14200	14200	0	0.0
1970	11642	11642	0	0.0
1971	14200	14200	0	0.0
1972	12712	12712	0	0.0
1973	13746	13746	0	0.0
1974	14200	14200	0	0.0
1975	14200	14200	0	0.0
1976	10827	10827	0	0.0
1977	5409	5409	0	0.0
1978	11304	11304	0	0.0
1979	11228	11228	0	0.0
1980	12979	12979	0	0.0
1981	12115	12115	0	0.0
1982	13557	13557	0	0.0
1983	14200	14200	0	0.0
1984	13008	13008	0	0.0
1985	11418	11418	0	0.0
1986	11312	11312	0	0.0
1987	8967	8967	0	0.0
1988	8683	8683	0	0.0
1989	8447	8447	0	0.0
1990	7334	7334	0	0.0
1991	6639	6639	0	0.0
1992	7052	7052	0	0.0
1993	12137	12137	0	0.0
Mean:	11001.1	11001.1	0.0	0.0
Median:	11365.0	11365.0	0.0	0.0
Min:	4685.0	4685.0	0.0	0.0
Max:	14200.0	14200.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	20834	20834	0	0.0
1923	21082	21082	0	0.0
1924	17624	17624	0	0.0
1925	7002	7002	0	0.0
1926	16353	16353	0	0.0
1927	15674	15674	0	0.0
1928	22896	22896	0	0.0
1929	20121	20121	0	0.0
1930	14714	14714	0	0.0
1931	16432	16432	0	0.0
1932	7002	7002	0	0.0
1933	8514	8514	0	0.0
1934	7828	7828	0	0.0
1935	7002	7002	0	0.0
1936	15254	15254	0	0.0
1937	16927	16927	0	0.0
1938	16626	16626	0	0.0
1939	23927	23927	0	0.0
1940	16256	16256	0	0.0
1941	20514	20514	0	0.0
1942	23927	23927	0	0.0
1943	23927	23927	0	0.0
1944	22767	22767	0	0.0
1945	19912	19912	0	0.0
1946	22282	22282	0	0.0
1947	20877	20877	0	0.0
1948	18113	18113	0	0.0
1949	23508	23508	0	0.0
1950	21308	21308	0	0.0
1951	21990	21990	0	0.0
1952	20863	20863	0	0.0
1953	23927	23927	0	0.0
1954	23927	23927	0	0.0
1955	21913	21913	0	0.0
1956	19915	19915	0	0.0
1957	23927	23927	0	0.0
1958	23815	23815	0	0.0
1959	23927	23927	0	0.0
1960	17206	17206	0	0.0
1961	19360	19360	0	0.0
1962	19251	19251	0	0.0
1963	23905	23905	0	0.0
1964	23927	23927	0	0.0
1965	18465	18465	0	0.0
1966	22703	22703	0	0.0
1967	19732	19732	0	0.0
1968	23927	23927	0	0.0
1969	20031	20031	0	0.0
1970	23927	23927	0	0.0
1971	19838	19838	0	0.0
1972	23927	23927	0	0.0
1973	21321	21321	0	0.0
1974	22335	22335	0	0.0
1975	23927	23927	0	0.0
1976	23927	23927	0	0.0
1977	20166	20166	0	0.0
1978	7002	7002	0	0.0
1979	23354	23354	0	0.0
1980	21508	21508	0	0.0
1981	22156	22156	0	0.0
1982	19743	19743	0	0.0
1983	23927	23927	0	0.0
1984	23927	23927	0	0.0
1985	22487	22487	0	0.0
1986	18796	18796	0	0.0
1987	20639	20639	0	0.0
1988	16550	16550	0	0.0
1989	12979	12979	0	0.0
1990	18222	18222	0	0.0
1991	13999	13999	0	0.0
1992	11081	11081	0	0.0
1993	7828	7828	0	0.0
Mean:	19242.8	19242.8	0.0	0.0
Median:	20576.5	20576.5	0.0	0.0
Min:	7002.0	7002.0	0.0	0.0
Max:	23927.0	23927.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	20764	20764	0	0.0
1923	21469	21469	0	0.0
1924	17240	17240	0	0.0
1925	8040	8040	0	0.0
1926	16702	16702	0	0.0
1927	18483	18483	0	0.0
1928	23937	23937	0	0.0
1929	19945	19945	0	0.0
1930	14297	14297	0	0.0
1931	16443	16443	0	0.0
1932	7002	7002	0	0.0
1933	8449	8449	0	0.0
1934	7789	7789	0	0.0
1935	7892	7892	0	0.0
1936	15222	15222	0	0.0
1937	16269	16269	0	0.0
1938	19883	19883	0	0.0
1939	23493	23493	0	0.0
1940	16049	16049	0	0.0
1941	20545	20545	0	0.0
1942	23937	23937	0	0.0
1943	23937	23937	0	0.0
1944	22757	22757	0	0.0
1945	21076	21076	0	0.0
1946	23824	23824	0	0.0
1947	21302	21302	0	0.0
1948	18457	18457	0	0.0
1949	23460	23460	0	0.0
1950	20832	20832	0	0.0
1951	23937	23937	0	0.0
1952	21808	21808	0	0.0
1953	23937	23937	0	0.0
1954	23937	23937	0	0.0
1955	22630	22630	0	0.0
1956	20112	20112	0	0.0
1957	23409	23409	0	0.0
1958	23937	23937	0	0.0
1959	23562	23562	0	0.0
1960	17042	17042	0	0.0
1961	20144	20144	0	0.0
1962	19417	19417	0	0.0
1963	23937	23937	0	0.0
1964	23937	23937	0	0.0
1965	19499	19499	0	0.0
1966	23937	23937	0	0.0
1967	21872	21872	0	0.0
1968	23460	23460	0	0.0
1969	20451	20451	0	0.0
1970	23937	23937	0	0.0
1971	22670	22670	0	0.0
1972	23358	23358	0	0.0
1973	22880	22880	0	0.0
1974	23937	23937	0	0.0
1975	23477	23477	0	0.0
1976	23937	23937	0	0.0
1977	20434	20434	0	0.0
1978	7028	7028	0	0.0
1979	23408	23408	0	0.0
1980	22440	22440	0	0.0
1981	22026	22026	0	0.0
1982	24155	24155	0	0.0
1983	23937	23937	0	0.0
1984	23937	23937	0	0.0
1985	23937	23937	0	0.0
1986	19004	19004	0	0.0
1987	20474	20474	0	0.0
1988	16601	16601	0	0.0
1989	14342	14342	0	0.0
1990	18469	18469	0	0.0
1991	13864	13864	0	0.0
1992	10616	10616	0	0.0
1993	7828	7828	0	0.0
Mean:	19682.7	19682.7	0.0	0.0
Median:	21189.0	21189.0	0.0	0.0
Min:	7002.0	7002.0	0.0	0.0
Max:	24155.0	24155.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	21199	21199	0	0.0
1923	22206	22206	0	0.0
1924	16985	16985	0	0.0
1925	8803	8803	0	0.0
1926	16996	16996	0	0.0
1927	21408	21408	0	0.0
1928	24366	24366	0	0.0
1929	19929	19929	0	0.0
1930	18253	18253	0	0.0
1931	16367	16367	0	0.0
1932	8846	8846	0	0.0
1933	8354	8354	0	0.0
1934	8871	8871	0	0.0
1935	8249	8249	0	0.0
1936	15272	15272	0	0.0
1937	16124	16124	0	0.0
1938	24450	24450	0	0.0
1939	24064	24064	0	0.0
1940	17142	17142	0	0.0
1941	24190	24190	0	0.0
1942	24279	24279	0	0.0
1943	24493	24493	0	0.0
1944	22674	22674	0	0.0
1945	22714	22714	0	0.0
1946	24007	24007	0	0.0
1947	21787	21787	0	0.0
1948	18698	18698	0	0.0
1949	23564	23564	0	0.0
1950	20504	20504	0	0.0
1951	24311	24311	0	0.0
1952	24226	24226	0	0.0
1953	24434	24434	0	0.0
1954	24036	24036	0	0.0
1955	24171	24171	0	0.0
1956	24072	24072	0	0.0
1957	23383	23383	0	0.0
1958	24397	24397	0	0.0
1959	23681	23681	0	0.0
1960	17018	17018	0	0.0
1961	22686	22686	0	0.0
1962	21024	21024	0	0.0
1963	24455	24455	0	0.0
1964	24032	24032	0	0.0
1965	24214	24214	0	0.0
1966	24509	24509	0	0.0
1967	24381	24381	0	0.0
1968	23718	23718	0	0.0
1969	22291	22291	0	0.0
1970	24284	24284	0	0.0
1971	24295	24295	0	0.0
1972	24052	24052	0	0.0
1973	24439	24439	0	0.0
1974	24017	24017	0	0.0
1975	24103	24103	0	0.0
1976	24278	24278	0	0.0
1977	20493	20493	0	0.0
1978	10968	10968	0	0.0
1979	23345	23345	0	0.0
1980	23321	23321	0	0.0
1981	22597	22597	0	0.0
1982	24065	24065	0	0.0
1983	24343	24343	0	0.0
1984	24114	24114	0	0.0
1985	24514	24514	0	0.0
1986	19962	19962	0	0.0
1987	20481	20481	0	0.0
1988	19621	19621	0	0.0
1989	15123	15123	0	0.0
1990	18510	18510	0	0.0
1991	13877	13877	0	0.0
1992	10705	10705	0	0.0
1993	9812	9812	0	0.0
Mean:	20627.1	20627.1	0.0	0.0
Median:	23017.5	23017.5	0.0	0.0
Min:	8249.0	8249.0	0.0	0.0
Max:	24514.0	24514.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	21746	21746	0	0.0
1923	23318	23318	0	0.0
1924	17356	17356	0	0.0
1925	9884	9884	0	0.0
1926	17280	17280	0	0.0
1927	24227	24227	0	0.0
1928	25806	25806	0	0.0
1929	20293	20293	0	0.0
1930	19388	19388	0	0.0
1931	16830	16830	0	0.0
1932	9956	9956	0	0.0
1933	8605	8605	0	0.0
1934	11368	11368	0	0.0
1935	10668	10668	0	0.0
1936	18983	18983	0	0.0
1937	16009	16009	0	0.0
1938	26160	26160	0	0.0
1939	24680	24680	0	0.0
1940	22274	22274	0	0.0
1941	24284	24284	0	0.0
1942	24669	24669	0	0.0
1943	25481	25481	0	0.0
1944	23062	23062	0	0.0
1945	23734	23734	0	0.0
1946	25914	25914	0	0.0
1947	21853	21853	0	0.0
1948	22001	22001	0	0.0
1949	23646	23646	0	0.0
1950	22012	22012	0	0.0
1951	25925	25925	0	0.0
1952	25818	25818	0	0.0
1953	24546	24546	0	0.0
1954	25540	25540	0	0.0
1955	24940	24940	0	0.0
1956	23937	23937	0	0.0
1957	23930	23930	0	0.0
1958	25428	25428	0	0.0
1959	26053	26053	0	0.0
1960	18303	18303	0	0.0
1961	23725	23725	0	0.0
1962	21269	21269	0	0.0
1963	25339	25339	0	0.0
1964	26307	26307	0	0.0
1965	24557	24557	0	0.0
1966	26464	26464	0	0.0
1967	25535	25535	0	0.0
1968	24988	24988	0	0.0
1969	24504	24504	0	0.0
1970	23937	23937	0	0.0
1971	25342	25342	0	0.0
1972	26224	26224	0	0.0
1973	25540	25540	0	0.0
1974	23937	23937	0	0.0
1975	24836	24836	0	0.0
1976	24653	24653	0	0.0
1977	20778	20778	0	0.0
1978	26063	26063	0	0.0
1979	24194	24194	0	0.0
1980	25412	25412	0	0.0
1981	24244	24244	0	0.0
1982	25882	25882	0	0.0
1983	24573	24573	0	0.0
1984	26063	26063	0	0.0
1985	25044	25044	0	0.0
1986	23166	23166	0	0.0
1987	21173	21173	0	0.0
1988	22160	22160	0	0.0
1989	15940	15940	0	0.0
1990	19941	19941	0	0.0
1991	14027	14027	0	0.0
1992	11203	11203	0	0.0
1993	15160	15160	0	0.0
Mean:	22056.8	22056.8	0.0	0.0
Median:	23937.0	23937.0	0.0	0.0
Min:	8605.0	8605.0	0.0	0.0
Max:	26464.0	26464.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	23713	23713	0	0.0
1923	24002	24002	0	0.0
1924	18563	18563	0	0.0
1925	20239	20239	0	0.0
1926	21486	21486	0	0.0
1927	25059	25059	0	0.0
1928	28200	28200	0	0.0
1929	21351	21351	0	0.0
1930	21615	21615	0	0.0
1931	17352	17352	0	0.0
1932	11067	11067	0	0.0
1933	8923	8923	0	0.0
1934	14098	14098	0	0.0
1935	13427	13427	0	0.0
1936	24017	24017	0	0.0
1937	16549	16549	0	0.0
1938	25626	25626	0	0.0
1939	25291	25291	0	0.0
1940	23937	23937	0	0.0
1941	24851	24851	0	0.0
1942	25348	25348	0	0.0
1943	27117	27117	0	0.0
1944	24700	24700	0	0.0
1945	27655	27655	0	0.0
1946	25958	25958	0	0.0
1947	23286	23286	0	0.0
1948	21305	21305	0	0.0
1949	24692	24692	0	0.0
1950	24218	24218	0	0.0
1951	26787	26787	0	0.0
1952	26511	26511	0	0.0
1953	26313	26313	0	0.0
1954	26117	26117	0	0.0
1955	25251	25251	0	0.0
1956	24130	24130	0	0.0
1957	26197	26197	0	0.0
1958	23937	23937	0	0.0
1959	26698	26698	0	0.0
1960	22524	22524	0	0.0
1961	27474	27474	0	0.0
1962	26197	26197	0	0.0
1963	27634	27634	0	0.0
1964	26821	26821	0	0.0
1965	26807	26807	0	0.0
1966	27944	27944	0	0.0
1967	27489	27489	0	0.0
1968	26085	26085	0	0.0
1969	25155	25155	0	0.0
1970	24893	24893	0	0.0
1971	26469	26469	0	0.0
1972	27692	27692	0	0.0
1973	25985	25985	0	0.0
1974	26298	26298	0	0.0
1975	27591	27591	0	0.0
1976	25302	25302	0	0.0
1977	20756	20756	0	0.0
1978	25620	25620	0	0.0
1979	26114	26114	0	0.0
1980	24151	24151	0	0.0
1981	26467	26467	0	0.0
1982	25443	25443	0	0.0
1983	23937	23937	0	0.0
1984	27838	27838	0	0.0
1985	25965	25965	0	0.0
1986	23937	23937	0	0.0
1987	23028	23028	0	0.0
1988	21877	21877	0	0.0
1989	16707	16707	0	0.0
1990	20073	20073	0	0.0
1991	13854	13854	0	0.0
1992	16613	16613	0	0.0
1993	19061	19061	0	0.0
Mean:	23547.0	23547.0	0.0	0.0
Median:	24976.0	24976.0	0.0	0.0
Min:	8923.0	8923.0	0.0	0.0
Max:	28200.0	28200.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	25753	25753	0	0.0
1923	24649	24649	0	0.0
1924	18504	18504	0	0.0
1925	19433	19433	0	0.0
1926	22406	22406	0	0.0
1927	28434	28434	0	0.0
1928	27481	27481	0	0.0
1929	22272	22272	0	0.0
1930	24170	24170	0	0.0
1931	18334	18334	0	0.0
1932	14495	14495	0	0.0
1933	13599	13599	0	0.0
1934	15314	15314	0	0.0
1935	15590	15590	0	0.0
1936	25567	25567	0	0.0
1937	20321	20321	0	0.0
1938	24824	24824	0	0.0
1939	27432	27432	0	0.0
1940	24915	24915	0	0.0
1941	27613	27613	0	0.0
1942	27112	27112	0	0.0
1943	28180	28180	0	0.0
1944	26361	26361	0	0.0
1945	28737	28737	0	0.0
1946	27961	27961	0	0.0
1947	26068	26068	0	0.0
1948	22975	22975	0	0.0
1949	28313	28313	0	0.0
1950	26615	26615	0	0.0
1951	28779	28779	0	0.0
1952	27854	27854	0	0.0
1953	28745	28745	0	0.0
1954	28332	28332	0	0.0
1955	26035	26035	0	0.0
1956	27996	27996	0	0.0
1957	28433	28433	0	0.0
1958	24813	24813	0	0.0
1959	27489	27489	0	0.0
1960	26070	26070	0	0.0
1961	28833	28833	0	0.0
1962	28659	28659	0	0.0
1963	28035	28035	0	0.0
1964	27063	27063	0	0.0
1965	26996	26996	0	0.0
1966	28614	28614	0	0.0
1967	27773	27773	0	0.0
1968	29047	29047	0	0.0
1969	28093	28093	0	0.0
1970	28380	28380	0	0.0
1971	27158	27158	0	0.0
1972	28700	28700	0	0.0
1973	28639	28639	0	0.0
1974	24945	24945	0	0.0
1975	26584	26584	0	0.0
1976	26452	26452	0	0.0
1977	20776	20776	0	0.0
1978	27892	27892	0	0.0
1979	28676	28676	0	0.0
1980	28096	28096	0	0.0
1981	28990	28990	0	0.0
1982	27682	27682	0	0.0
1983	24819	24819	0	0.0
1984	28687	28687	0	0.0
1985	27033	27033	0	0.0
1986	25444	25444	0	0.0
1987	27010	27010	0	0.0
1988	22352	22352	0	0.0
1989	24833	24833	0	0.0
1990	21469	21469	0	0.0
1991	16647	16647	0	0.0
1992	18263	18263	0	0.0
1993	27387	27387	0	0.0
Mean:	25388.9	25388.9	0.0	0.0
Median:	27021.5	27021.5	0.0	0.0
Min:	13599.0	13599.0	0.0	0.0
Max:	29047.0	29047.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	27920	27920	0	0.0
1923	25948	25948	0	0.0
1924	16751	16751	0	0.0
1925	22864	22864	0	0.0
1926	23767	23767	0	0.0
1927	30000	30000	0	0.0
1928	29399	29399	0	0.0
1929	22409	22409	0	0.0
1930	24757	24757	0	0.0
1931	16855	16855	0	0.0
1932	14781	14781	0	0.0
1933	13166	13166	0	0.0
1934	15338	15338	0	0.0
1935	21383	21383	0	0.0
1936	26462	26462	0	0.0
1937	23475	23475	0	0.0
1938	28243	28243	0	0.0
1939	26360	26360	0	0.0
1940	28484	28484	0	0.0
1941	29588	29588	0	0.0
1942	29607	29607	0	0.0
1943	29864	29864	0	0.0
1944	26441	26441	0	0.0
1945	29292	29292	0	0.0
1946	28555	28555	0	0.0
1947	26731	26731	0	0.0
1948	27417	27417	0	0.0
1949	29239	29239	0	0.0
1950	27880	27880	0	0.0
1951	29015	29015	0	0.0
1952	28876	28876	0	0.0
1953	29753	29753	0	0.0
1954	29974	29974	0	0.0
1955	26290	26290	0	0.0
1956	29618	29618	0	0.0
1957	28157	28157	0	0.0
1958	28857	28857	0	0.0
1959	27445	27445	0	0.0
1960	26904	26904	0	0.0
1961	29002	29002	0	0.0
1962	29477	29477	0	0.0
1963	28219	28219	0	0.0
1964	25904	25904	0	0.0
1965	29880	29880	0	0.0
1966	30000	30000	0	0.0
1967	29686	29686	0	0.0
1968	28418	28418	0	0.0
1969	29493	29493	0	0.0
1970	27702	27702	0	0.0
1971	29137	29137	0	0.0
1972	29230	29230	0	0.0
1973	29305	29305	0	0.0
1974	29477	29477	0	0.0
1975	29134	29134	0	0.0
1976	26748	26748	0	0.0
1977	19442	19442	0	0.0
1978	30000	30000	0	0.0
1979	28940	28940	0	0.0
1980	28797	28797	0	0.0
1981	29342	29342	0	0.0
1982	28035	28035	0	0.0
1983	28329	28329	0	0.0
1984	29071	29071	0	0.0
1985	27499	27499	0	0.0
1986	26812	26812	0	0.0
1987	25814	25814	0	0.0
1988	22150	22150	0	0.0
1989	26401	26401	0	0.0
1990	20337	20337	0	0.0
1991	17499	17499	0	0.0
1992	19747	19747	0	0.0
1993	29420	29420	0	0.0
Mean:	26476.6	26476.6	0.0	0.0
Median:	28188.0	28188.0	0.0	0.0
Min:	13166.0	13166.0	0.0	0.0
Max:	30000.0	30000.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	28274	28274	0	0.0
1923	24527	24527	0	0.0
1924	14651	14651	0	0.0
1925	22724	22724	0	0.0
1926	22930	22930	0	0.0
1927	30000	30000	0	0.0
1928	28819	28819	0	0.0
1929	21630	21630	0	0.0
1930	24219	24219	0	0.0
1931	15027	15027	0	0.0
1932	15941	15941	0	0.0
1933	13538	13538	0	0.0
1934	14361	14361	0	0.0
1935	22520	22520	0	0.0
1936	25641	25641	0	0.0
1937	23734	23734	0	0.0
1938	29969	29969	0	0.0
1939	25374	25374	0	0.0
1940	27692	27692	0	0.0
1941	30000	30000	0	0.0
1942	30000	30000	0	0.0
1943	29733	29733	0	0.0
1944	26081	26081	0	0.0
1945	29247	29247	0	0.0
1946	28210	28210	0	0.0
1947	25265	25265	0	0.0
1948	28556	28556	0	0.0
1949	29242	29242	0	0.0
1950	27342	27342	0	0.0
1951	29010	29010	0	0.0
1952	30000	30000	0	0.0
1953	30000	30000	0	0.0
1954	28800	28800	0	0.0
1955	26756	26756	0	0.0
1956	30000	30000	0	0.0
1957	29156	29156	0	0.0
1958	30000	30000	0	0.0
1959	26525	26525	0	0.0
1960	26885	26885	0	0.0
1961	29108	29108	0	0.0
1962	29069	29069	0	0.0
1963	29314	29314	0	0.0
1964	25122	25122	0	0.0
1965	29424	29424	0	0.0
1966	29408	29408	0	0.0
1967	30000	30000	0	0.0
1968	27854	27854	0	0.0
1969	30000	30000	0	0.0
1970	27118	27118	0	0.0
1971	30000	30000	0	0.0
1972	28724	28724	0	0.0
1973	29192	29192	0	0.0
1974	29619	29619	0	0.0
1975	30000	30000	0	0.0
1976	26118	26118	0	0.0
1977	18486	18486	0	0.0
1978	30000	30000	0	0.0
1979	29139	29139	0	0.0
1980	28452	28452	0	0.0
1981	28684	28684	0	0.0
1982	28794	28794	0	0.0
1983	30000	30000	0	0.0
1984	28912	28912	0	0.0
1985	26413	26413	0	0.0
1986	26439	26439	0	0.0
1987	24172	24172	0	0.0
1988	21927	21927	0	0.0
1989	25246	25246	0	0.0
1990	20891	20891	0	0.0
1991	17176	17176	0	0.0
1992	18512	18512	0	0.0
1993	29943	29943	0	0.0
Mean:	26328.3	26328.3	0.0	0.0
Median:	28363.0	28363.0	0.0	0.0
Min:	13538.0	13538.0	0.0	0.0
Max:	30000.0	30000.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	27082	27082	0	0.0
1923	23027	23027	0	0.0
1924	11866	11866	0	0.0
1925	21400	21400	0	0.0
1926	21035	21035	0	0.0
1927	28754	28754	0	0.0
1928	27199	27199	0	0.0
1929	20315	20315	0	0.0
1930	22228	22228	0	0.0
1931	13008	13008	0	0.0
1932	14861	14861	0	0.0
1933	12702	12702	0	0.0
1934	11762	11762	0	0.0
1935	20946	20946	0	0.0
1936	24243	24243	0	0.0
1937	22864	22864	0	0.0
1938	29606	29606	0	0.0
1939	22771	22771	0	0.0
1940	26222	26222	0	0.0
1941	29725	29725	0	0.0
1942	29602	29602	0	0.0
1943	28657	28657	0	0.0
1944	24956	24956	0	0.0
1945	28237	28237	0	0.0
1946	26712	26712	0	0.0
1947	24074	24074	0	0.0
1948	28589	28589	0	0.0
1949	27847	27847	0	0.0
1950	25852	25852	0	0.0
1951	27429	27429	0	0.0
1952	29363	29363	0	0.0
1953	29776	29776	0	0.0
1954	27894	27894	0	0.0
1955	25407	25407	0	0.0
1956	29254	29254	0	0.0
1957	28295	28295	0	0.0
1958	29776	29776	0	0.0
1959	23974	23974	0	0.0
1960	25544	25544	0	0.0
1961	27572	27572	0	0.0
1962	27631	27631	0	0.0
1963	28641	28641	0	0.0
1964	24092	24092	0	0.0
1965	28089	28089	0	0.0
1966	26894	26894	0	0.0
1967	29776	29776	0	0.0
1968	25724	25724	0	0.0
1969	29332	29332	0	0.0
1970	25931	25931	0	0.0
1971	29776	29776	0	0.0
1972	26423	26423	0	0.0
1973	27673	27673	0	0.0
1974	29048	29048	0	0.0
1975	29471	29471	0	0.0
1976	23826	23826	0	0.0
1977	14941	14941	0	0.0
1978	28626	28626	0	0.0
1979	26951	26951	0	0.0
1980	27048	27048	0	0.0
1981	25979	25979	0	0.0
1982	28027	28027	0	0.0
1983	29776	29776	0	0.0
1984	27781	27781	0	0.0
1985	24394	24394	0	0.0
1986	24722	24722	0	0.0
1987	21169	21169	0	0.0
1988	19353	19353	0	0.0
1989	23431	23431	0	0.0
1990	19646	19646	0	0.0
1991	15658	15658	0	0.0
1992	15860	15860	0	0.0
1993	29776	29776	0	0.0
Mean:	24942.9	24942.9	0.0	0.0
Median:	26567.5	26567.5	0.0	0.0
Min:	11762.0	11762.0	0.0	0.0
Max:	29776.0	29776.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	25001	25001	0	0.0
1923	20600	20600	0	0.0
1924	8793	8793	0	0.0
1925	18825	18825	0	0.0
1926	18528	18528	0	0.0
1927	26662	26662	0	0.0
1928	24504	24504	0	0.0
1929	18013	18013	0	0.0
1930	19591	19591	0	0.0
1931	9935	9935	0	0.0
1932	12639	12639	0	0.0
1933	10592	10592	0	0.0
1934	8342	8342	0	0.0
1935	18995	18995	0	0.0
1936	21199	21199	0	0.0
1937	20648	20648	0	0.0
1938	27863	27863	0	0.0
1939	19623	19623	0	0.0
1940	23668	23668	0	0.0
1941	28275	28275	0	0.0
1942	28223	28223	0	0.0
1943	26340	26340	0	0.0
1944	22314	22314	0	0.0
1945	25796	25796	0	0.0
1946	24638	24638	0	0.0
1947	20854	20854	0	0.0
1948	27047	27047	0	0.0
1949	25238	25238	0	0.0
1950	23461	23461	0	0.0
1951	24677	24677	0	0.0
1952	27975	27975	0	0.0
1953	28275	28275	0	0.0
1954	25315	25315	0	0.0
1955	22305	22305	0	0.0
1956	27752	27752	0	0.0
1957	25880	25880	0	0.0
1958	28275	28275	0	0.0
1959	20788	20788	0	0.0
1960	22284	22284	0	0.0
1961	24614	24614	0	0.0
1962	25207	25207	0	0.0
1963	26593	26593	0	0.0
1964	21185	21185	0	0.0
1965	25507	25507	0	0.0
1966	24067	24067	0	0.0
1967	28275	28275	0	0.0
1968	22612	22612	0	0.0
1969	27434	27434	0	0.0
1970	22477	22477	0	0.0
1971	28027	28027	0	0.0
1972	23779	23779	0	0.0
1973	25111	25111	0	0.0
1974	27964	27964	0	0.0
1975	28275	28275	0	0.0
1976	21088	21088	0	0.0
1977	9637	9637	0	0.0
1978	26139	26139	0	0.0
1979	24574	24574	0	0.0
1980	25079	25079	0	0.0
1981	22791	22791	0	0.0
1982	26606	26606	0	0.0
1983	28197	28197	0	0.0
1984	25179	25179	0	0.0
1985	21384	21384	0	0.0
1986	22358	22358	0	0.0
1987	18571	18571	0	0.0
1988	16527	16527	0	0.0
1989	20212	20212	0	0.0
1990	16649	16649	0	0.0
1991	13870	13870	0	0.0
1992	12813	12813	0	0.0
1993	27176	27176	0	0.0
Mean:	22496.0	22496.0	0.0	0.0
Median:	23923.0	23923.0	0.0	0.0
Min:	8342.0	8342.0	0.0	0.0
Max:	28275.0	28275.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	22413	22413	0	0.0
1923	18781	18781	0	0.0
1924	7367	7367	0	0.0
1925	16756	16756	0	0.0
1926	16301	16301	0	0.0
1927	24775	24775	0	0.0
1928	21984	21984	0	0.0
1929	15837	15837	0	0.0
1930	17530	17530	0	0.0
1931	7657	7657	0	0.0
1932	10555	10555	0	0.0
1933	7973	7973	0	0.0
1934	7049	7049	0	0.0
1935	16472	16472	0	0.0
1936	18803	18803	0	0.0
1937	18413	18413	0	0.0
1938	26344	26344	0	0.0
1939	17265	17265	0	0.0
1940	21358	21358	0	0.0
1941	26344	26344	0	0.0
1942	26344	26344	0	0.0
1943	24415	24415	0	0.0
1944	20509	20509	0	0.0
1945	23431	23431	0	0.0
1946	22226	22226	0	0.0
1947	18428	18428	0	0.0
1948	25396	25396	0	0.0
1949	22876	22876	0	0.0
1950	21180	21180	0	0.0
1951	22117	22117	0	0.0
1952	26341	26341	0	0.0
1953	26344	26344	0	0.0
1954	23492	23492	0	0.0
1955	20309	20309	0	0.0
1956	26344	26344	0	0.0
1957	23900	23900	0	0.0
1958	26344	26344	0	0.0
1959	18757	18757	0	0.0
1960	20170	20170	0	0.0
1961	21112	21112	0	0.0
1962	22775	22775	0	0.0
1963	25162	25162	0	0.0
1964	19022	19022	0	0.0
1965	23568	23568	0	0.0
1966	21721	21721	0	0.0
1967	26344	26344	0	0.0
1968	21185	21185	0	0.0
1969	25883	25883	0	0.0
1970	20761	20761	0	0.0
1971	26344	26344	0	0.0
1972	21631	21631	0	0.0
1973	23018	23018	0	0.0
1974	26344	26344	0	0.0
1975	26344	26344	0	0.0
1976	20563	20563	0	0.0
1977	7023	7023	0	0.0
1978	24397	24397	0	0.0
1979	22397	22397	0	0.0
1980	22975	22975	0	0.0
1981	20586	20586	0	0.0
1982	25184	25184	0	0.0
1983	26344	26344	0	0.0
1984	23234	23234	0	0.0
1985	19428	19428	0	0.0
1986	20909	20909	0	0.0
1987	17093	17093	0	0.0
1988	14459	14459	0	0.0
1989	18379	18379	0	0.0
1990	14820	14820	0	0.0
1991	12058	12058	0	0.0
1992	9907	9907	0	0.0
1993	25771	25771	0	0.0
Mean:	20495.0	20495.0	0.0	0.0
Median:	21494.5	21494.5	0.0	0.0
Min:	7023.0	7023.0	0.0	0.0
Max:	26344.0	26344.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Surface Area

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	21366	21366	0	0.0
1923	17996	17996	0	0.0
1924	7017	7017	0	0.0
1925	16356	16356	0	0.0
1926	15829	15829	0	0.0
1927	23359	23359	0	0.0
1928	21010	21010	0	0.0
1929	15221	15221	0	0.0
1930	16924	16924	0	0.0
1931	7023	7023	0	0.0
1932	9043	9043	0	0.0
1933	7828	7828	0	0.0
1934	7002	7002	0	0.0
1935	15489	15489	0	0.0
1936	17776	17776	0	0.0
1937	17228	17228	0	0.0
1938	24875	24875	0	0.0
1939	16619	16619	0	0.0
1940	20856	20856	0	0.0
1941	24875	24875	0	0.0
1942	24875	24875	0	0.0
1943	23400	23400	0	0.0
1944	20141	20141	0	0.0
1945	22500	22500	0	0.0
1946	21486	21486	0	0.0
1947	17949	17949	0	0.0
1948	24559	24559	0	0.0
1949	22278	22278	0	0.0
1950	20571	20571	0	0.0
1951	21411	21411	0	0.0
1952	24874	24874	0	0.0
1953	24875	24875	0	0.0
1954	22766	22766	0	0.0
1955	20048	20048	0	0.0
1956	24875	24875	0	0.0
1957	23141	23141	0	0.0
1958	24875	24875	0	0.0
1959	18359	18359	0	0.0
1960	19774	19774	0	0.0
1961	20653	20653	0	0.0
1962	21808	21808	0	0.0
1963	24531	24531	0	0.0
1964	18560	18560	0	0.0
1965	23052	23052	0	0.0
1966	20554	20554	0	0.0
1967	24875	24875	0	0.0
1968	20294	20294	0	0.0
1969	24761	24761	0	0.0
1970	19920	19920	0	0.0
1971	24875	24875	0	0.0
1972	21263	21263	0	0.0
1973	22220	22220	0	0.0
1974	24875	24875	0	0.0
1975	24875	24875	0	0.0
1976	20440	20440	0	0.0
1977	7002	7002	0	0.0
1978	23909	23909	0	0.0
1979	21513	21513	0	0.0
1980	22544	22544	0	0.0
1981	19734	19734	0	0.0
1982	24607	24607	0	0.0
1983	24875	24875	0	0.0
1984	22626	22626	0	0.0
1985	19223	19223	0	0.0
1986	20760	20760	0	0.0
1987	17111	17111	0	0.0
1988	13820	13820	0	0.0
1989	17912	17912	0	0.0
1990	14561	14561	0	0.0
1991	11409	11409	0	0.0
1992	8614	8614	0	0.0
1993	24600	24600	0	0.0
Mean:	19705.9	19705.9	0.0	0.0
Median:	20808.0	20808.0	0.0	0.0
Min:	7002.0	7002.0	0.0	0.0
Max:	24875.0	24875.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4354	4354	0	0.0
1923	3471	3471	0	0.0
1924	125	125	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	2484	2484	0	0.0
1929	2109	2109	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	4340	4340	0	0.0
1940	1503	1503	0	0.0
1941	3010	3010	0	0.0
1942	4340	4340	0	0.0
1943	4340	4340	0	0.0
1944	3639	3639	0	0.0
1945	1612	1612	0	0.0
1946	1451	1451	0	0.0
1947	2524	2524	0	0.0
1948	774	774	0	0.0
1949	1257	1257	0	0.0
1950	1431	1431	0	0.0
1951	1403	1403	0	0.0
1952	3273	3273	0	0.0
1953	4340	4340	0	0.0
1954	4340	4340	0	0.0
1955	3945	3945	0	0.0
1956	1753	1753	0	0.0
1957	4340	4340	0	0.0
1958	4317	4317	0	0.0
1959	4340	4340	0	0.0
1960	1511	1511	0	0.0
1961	610	610	0	0.0
1962	1502	1502	0	0.0
1963	1833	1833	0	0.0
1964	4095	4095	0	0.0
1965	1504	1504	0	0.0
1966	3993	3993	0	0.0
1967	4033	4033	0	0.0
1968	4340	4340	0	0.0
1969	2234	2234	0	0.0
1970	4340	4340	0	0.0
1971	2111	2111	0	0.0
1972	4340	4340	0	0.0
1973	3315	3315	0	0.0
1974	4317	4317	0	0.0
1975	4340	4340	0	0.0
1976	4340	4340	0	0.0
1977	1321	1321	0	0.0
1978	0	0	0	0.0
1979	1824	1824	0	0.0
1980	1912	1912	0	0.0
1981	3520	3520	0	0.0
1982	2123	2123	0	0.0
1983	4317	4317	0	0.0
1984	4340	4340	0	0.0
1985	3581	3581	0	0.0
1986	1504	1504	0	0.0
1987	1870	1870	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	2137.3	2137.3	0.0	0.0
Median:	1851.5	1851.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	4354.0	4354.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4258	4258	0	0.0
1923	3407	3407	0	0.0
1924	4	4	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	2810	2810	0	0.0
1929	2053	2053	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	4317	4317	0	0.0
1940	1358	1358	0	0.0
1941	2974	2974	0	0.0
1942	4317	4317	0	0.0
1943	4317	4317	0	0.0
1944	3617	3617	0	0.0
1945	1711	1711	0	0.0
1946	1689	1689	0	0.0
1947	2573	2573	0	0.0
1948	785	785	0	0.0
1949	1299	1299	0	0.0
1950	1334	1334	0	0.0
1951	2082	2082	0	0.0
1952	3380	3380	0	0.0
1953	4293	4293	0	0.0
1954	4317	4317	0	0.0
1955	4104	4104	0	0.0
1956	1746	1746	0	0.0
1957	4317	4317	0	0.0
1958	4317	4317	0	0.0
1959	4315	4315	0	0.0
1960	1377	1377	0	0.0
1961	576	576	0	0.0
1962	1468	1468	0	0.0
1963	2101	2101	0	0.0
1964	4317	4317	0	0.0
1965	1504	1504	0	0.0
1966	4317	4317	0	0.0
1967	4317	4317	0	0.0
1968	4317	4317	0	0.0
1969	2294	2294	0	0.0
1970	4317	4317	0	0.0
1971	2788	2788	0	0.0
1972	4317	4317	0	0.0
1973	3439	3439	0	0.0
1974	4317	4317	0	0.0
1975	4314	4314	0	0.0
1976	4317	4317	0	0.0
1977	1200	1200	0	0.0
1978	0	0	0	0.0
1979	1722	1722	0	0.0
1980	2195	2195	0	0.0
1981	3416	3416	0	0.0
1982	3493	3493	0	0.0
1983	4317	4317	0	0.0
1984	4317	4317	0	0.0
1985	4159	4159	0	0.0
1986	1386	1386	0	0.0
1987	1754	1754	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	2195.1	2195.1	0.0	0.0
Median:	2067.5	2067.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	4317.0	4317.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4266	4266	0	0.0
1923	3422	3422	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	150	150	0	0.0
1928	2911	2911	0	0.0
1929	2005	2005	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	1169	1169	0	0.0
1939	4317	4317	0	0.0
1940	1509	1509	0	0.0
1941	3715	3715	0	0.0
1942	4317	4317	0	0.0
1943	4317	4317	0	0.0
1944	3591	3591	0	0.0
1945	2078	2078	0	0.0
1946	2766	2766	0	0.0
1947	2642	2642	0	0.0
1948	734	734	0	0.0
1949	1323	1323	0	0.0
1950	1276	1276	0	0.0
1951	3499	3499	0	0.0
1952	4074	4074	0	0.0
1953	4317	4317	0	0.0
1954	4317	4317	0	0.0
1955	4317	4317	0	0.0
1956	3487	3487	0	0.0
1957	4311	4311	0	0.0
1958	4317	4317	0	0.0
1959	4275	4275	0	0.0
1960	1225	1225	0	0.0
1961	1128	1128	0	0.0
1962	1655	1655	0	0.0
1963	3079	3079	0	0.0
1964	4317	4317	0	0.0
1965	4627	4627	0	0.0
1966	4317	4317	0	0.0
1967	4317	4317	0	0.0
1968	4317	4317	0	0.0
1969	2629	2629	0	0.0
1970	4317	4317	0	0.0
1971	3520	3520	0	0.0
1972	4317	4317	0	0.0
1973	3944	3944	0	0.0
1974	4317	4317	0	0.0
1975	4317	4317	0	0.0
1976	4317	4317	0	0.0
1977	1094	1094	0	0.0
1978	0	0	0	0.0
1979	1699	1699	0	0.0
1980	2502	2502	0	0.0
1981	3563	3563	0	0.0
1982	4356	4356	0	0.0
1983	4317	4317	0	0.0
1984	4317	4317	0	0.0
1985	4317	4317	0	0.0
1986	1395	1395	0	0.0
1987	1680	1680	0	0.0
1988	351	351	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	2412.1	2412.1	0.0	0.0
Median:	2704.0	2704.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	4627.0	4627.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4252	4252	0	0.0
1923	3502	3502	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	835	835	0	0.0
1928	3219	3219	0	0.0
1929	1981	1981	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	1687	1687	0	0.0
1939	4366	4366	0	0.0
1940	2467	2467	0	0.0
1941	4542	4542	0	0.0
1942	4542	4542	0	0.0
1943	4542	4542	0	0.0
1944	3606	3606	0	0.0
1945	2377	2377	0	0.0
1946	3488	3488	0	0.0
1947	2594	2594	0	0.0
1948	1869	1869	0	0.0
1949	1280	1280	0	0.0
1950	1378	1378	0	0.0
1951	3862	3862	0	0.0
1952	4298	4298	0	0.0
1953	4542	4542	0	0.0
1954	4542	4542	0	0.0
1955	4399	4399	0	0.0
1956	4595	4595	0	0.0
1957	4305	4305	0	0.0
1958	4542	4542	0	0.0
1959	4542	4542	0	0.0
1960	1211	1211	0	0.0
1961	1318	1318	0	0.0
1962	1671	1671	0	0.0
1963	3291	3291	0	0.0
1964	4542	4542	0	0.0
1965	4542	4542	0	0.0
1966	4542	4542	0	0.0
1967	4542	4542	0	0.0
1968	4542	4542	0	0.0
1969	3437	3437	0	0.0
1970	4542	4542	0	0.0
1971	4552	4552	0	0.0
1972	4542	4542	0	0.0
1973	4542	4542	0	0.0
1974	4542	4542	0	0.0
1975	4419	4419	0	0.0
1976	4365	4365	0	0.0
1977	973	973	0	0.0
1978	0	0	0	0.0
1979	1829	1829	0	0.0
1980	3788	3788	0	0.0
1981	4038	4038	0	0.0
1982	4542	4542	0	0.0
1983	4542	4542	0	0.0
1984	4542	4542	0	0.0
1985	4434	4434	0	0.0
1986	2097	2097	0	0.0
1987	1737	1737	0	0.0
1988	767	767	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	2647.0	2647.0	0.0	0.0
Median:	3364.0	3364.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	4595.0	4595.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4316	4316	0	0.0
1923	3606	3606	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	2285	2285	0	0.0
1928	3772	3772	0	0.0
1929	2071	2071	0	0.0
1930	331	331	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	2559	2559	0	0.0
1939	4429	4429	0	0.0
1940	4267	4267	0	0.0
1941	4992	4992	0	0.0
1942	4992	4992	0	0.0
1943	4992	4992	0	0.0
1944	3800	3800	0	0.0
1945	3308	3308	0	0.0
1946	3688	3688	0	0.0
1947	2887	2887	0	0.0
1948	1901	1901	0	0.0
1949	1471	1471	0	0.0
1950	1666	1666	0	0.0
1951	4837	4837	0	0.0
1952	4992	4992	0	0.0
1953	4992	4992	0	0.0
1954	4992	4992	0	0.0
1955	4527	4527	0	0.0
1956	4992	4992	0	0.0
1957	4992	4992	0	0.0
1958	5043	5043	0	0.0
1959	4992	4992	0	0.0
1960	2019	2019	0	0.0
1961	2649	2649	0	0.0
1962	2436	2436	0	0.0
1963	4735	4735	0	0.0
1964	4752	4752	0	0.0
1965	4951	4951	0	0.0
1966	4849	4849	0	0.0
1967	4992	4992	0	0.0
1968	4992	4992	0	0.0
1969	3984	3984	0	0.0
1970	4992	4992	0	0.0
1971	4992	4992	0	0.0
1972	4992	4992	0	0.0
1973	4992	4992	0	0.0
1974	4992	4992	0	0.0
1975	4858	4858	0	0.0
1976	4516	4516	0	0.0
1977	925	925	0	0.0
1978	993	993	0	0.0
1979	2128	2128	0	0.0
1980	4992	4992	0	0.0
1981	4664	4664	0	0.0
1982	4992	4992	0	0.0
1983	4992	4992	0	0.0
1984	4982	4982	0	0.0
1985	4611	4611	0	0.0
1986	4787	4787	0	0.0
1987	2171	2171	0	0.0
1988	1258	1258	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	3081.7	3081.7	0.0	0.0
Median:	3892.0	3892.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	5043.0	5043.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4540	4540	0	0.0
1923	3870	3870	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	150	150	0	0.0
1927	3204	3204	0	0.0
1928	4645	4645	0	0.0
1929	2344	2344	0	0.0
1930	1041	1041	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	4015	4015	0	0.0
1939	4886	4886	0	0.0
1940	5411	5411	0	0.0
1941	5417	5417	0	0.0
1942	5325	5325	0	0.0
1943	5417	5417	0	0.0
1944	4105	4105	0	0.0
1945	3549	3549	0	0.0
1946	4258	4258	0	0.0
1947	3551	3551	0	0.0
1948	2043	2043	0	0.0
1949	2731	2731	0	0.0
1950	2347	2347	0	0.0
1951	5287	5287	0	0.0
1952	5417	5417	0	0.0
1953	5417	5417	0	0.0
1954	5417	5417	0	0.0
1955	4644	4644	0	0.0
1956	5417	5417	0	0.0
1957	5417	5417	0	0.0
1958	5411	5411	0	0.0
1959	5417	5417	0	0.0
1960	2985	2985	0	0.0
1961	3301	3301	0	0.0
1962	2856	2856	0	0.0
1963	4963	4963	0	0.0
1964	4941	4941	0	0.0
1965	5264	5264	0	0.0
1966	5419	5419	0	0.0
1967	5417	5417	0	0.0
1968	5417	5417	0	0.0
1969	4678	4678	0	0.0
1970	5417	5417	0	0.0
1971	5417	5417	0	0.0
1972	5417	5417	0	0.0
1973	5417	5417	0	0.0
1974	5417	5417	0	0.0
1975	5419	5419	0	0.0
1976	4749	4749	0	0.0
1977	839	839	0	0.0
1978	2702	2702	0	0.0
1979	2967	2967	0	0.0
1980	5417	5417	0	0.0
1981	5222	5222	0	0.0
1982	5417	5417	0	0.0
1983	5417	5417	0	0.0
1984	5417	5417	0	0.0
1985	4821	4821	0	0.0
1986	5442	5442	0	0.0
1987	3312	3312	0	0.0
1988	1708	1708	0	0.0
1989	1888	1888	0	0.0
1990	231	231	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	1268	1268	0	0.0
Mean:	3545.2	3545.2	0.0	0.0
Median:	4592.0	4592.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	5442.0	5442.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4982	4982	0	0.0
1923	4384	4384	0	0.0
1924	0	0	0	0.0
1925	1403	1403	0	0.0
1926	1485	1485	0	0.0
1927	4351	4351	0	0.0
1928	5294	5294	0	0.0
1929	2449	2449	0	0.0
1930	1699	1699	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	739	739	0	0.0
1937	0	0	0	0.0
1938	5237	5237	0	0.0
1939	5215	5215	0	0.0
1940	6197	6197	0	0.0
1941	6194	6194	0	0.0
1942	6086	6086	0	0.0
1943	6118	6118	0	0.0
1944	4274	4274	0	0.0
1945	4137	4137	0	0.0
1946	5258	5258	0	0.0
1947	3885	3885	0	0.0
1948	3013	3013	0	0.0
1949	4144	4144	0	0.0
1950	3206	3206	0	0.0
1951	5997	5997	0	0.0
1952	6194	6194	0	0.0
1953	6194	6194	0	0.0
1954	6194	6194	0	0.0
1955	4835	4835	0	0.0
1956	6194	6194	0	0.0
1957	5834	5834	0	0.0
1958	6194	6194	0	0.0
1959	6083	6083	0	0.0
1960	3617	3617	0	0.0
1961	3988	3988	0	0.0
1962	4098	4098	0	0.0
1963	6106	6106	0	0.0
1964	5089	5089	0	0.0
1965	6209	6209	0	0.0
1966	6194	6194	0	0.0
1967	5838	5838	0	0.0
1968	5800	5800	0	0.0
1969	6166	6166	0	0.0
1970	5654	5654	0	0.0
1971	6122	6122	0	0.0
1972	5983	5983	0	0.0
1973	6145	6145	0	0.0
1974	6194	6194	0	0.0
1975	5857	5857	0	0.0
1976	5127	5127	0	0.0
1977	0	0	0	0.0
1978	3711	3711	0	0.0
1979	3642	3642	0	0.0
1980	6033	6033	0	0.0
1981	5644	5644	0	0.0
1982	6194	6194	0	0.0
1983	6194	6194	0	0.0
1984	5852	5852	0	0.0
1985	5456	5456	0	0.0
1986	5907	5907	0	0.0
1987	4036	4036	0	0.0
1988	2179	2179	0	0.0
1989	2823	2823	0	0.0
1990	440	440	0	0.0
1991	0	0	0	0.0
1992	550	550	0	0.0
1993	2356	2356	0	0.0
Mean:	4148.2	4148.2	0.0	0.0
Median:	5108.0	5108.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6209.0	6209.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	5187	5187	0	0.0
1923	4085	4085	0	0.0
1924	0	0	0	0.0
1925	1221	1221	0	0.0
1926	731	731	0	0.0
1927	4184	4184	0	0.0
1928	5003	5003	0	0.0
1929	2540	2540	0	0.0
1930	1031	1031	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	260	260	0	0.0
1937	703	703	0	0.0
1938	5929	5929	0	0.0
1939	4736	4736	0	0.0
1940	5938	5938	0	0.0
1941	6672	6672	0	0.0
1942	6312	6312	0	0.0
1943	5679	5679	0	0.0
1944	4449	4449	0	0.0
1945	3966	3966	0	0.0
1946	5206	5206	0	0.0
1947	3394	3394	0	0.0
1948	2981	2981	0	0.0
1949	3985	3985	0	0.0
1950	3146	3146	0	0.0
1951	5708	5708	0	0.0
1952	6638	6638	0	0.0
1953	6030	6030	0	0.0
1954	6079	6079	0	0.0
1955	4759	4759	0	0.0
1956	6600	6600	0	0.0
1957	5899	5899	0	0.0
1958	6672	6672	0	0.0
1959	5677	5677	0	0.0
1960	3313	3313	0	0.0
1961	3792	3792	0	0.0
1962	3587	3587	0	0.0
1963	6197	6197	0	0.0
1964	4465	4465	0	0.0
1965	5845	5845	0	0.0
1966	6241	6241	0	0.0
1967	6325	6325	0	0.0
1968	5366	5366	0	0.0
1969	6672	6672	0	0.0
1970	5283	5283	0	0.0
1971	6319	6319	0	0.0
1972	5733	5733	0	0.0
1973	6403	6403	0	0.0
1974	6592	6592	0	0.0
1975	6309	6309	0	0.0
1976	4859	4859	0	0.0
1977	0	0	0	0.0
1978	3683	3683	0	0.0
1979	3860	3860	0	0.0
1980	5684	5684	0	0.0
1981	5255	5255	0	0.0
1982	6236	6236	0	0.0
1983	6672	6672	0	0.0
1984	5704	5704	0	0.0
1985	4925	4925	0	0.0
1986	5481	5481	0	0.0
1987	3701	3701	0	0.0
1988	1748	1748	0	0.0
1989	2220	2220	0	0.0
1990	70	70	0	0.0
1991	0	0	0	0.0
1992	317	317	0	0.0
1993	3309	3309	0	0.0
Mean:	4077.3	4077.3	0.0	0.0
Median:	4809.0	4809.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6672.0	6672.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	5155	5155	0	0.0
1923	3344	3344	0	0.0
1924	0	0	0	0.0
1925	546	546	0	0.0
1926	77	77	0	0.0
1927	4314	4314	0	0.0
1928	4390	4390	0	0.0
1929	2150	2150	0	0.0
1930	669	669	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	898	898	0	0.0
1938	5688	5688	0	0.0
1939	4205	4205	0	0.0
1940	5413	5413	0	0.0
1941	6780	6780	0	0.0
1942	6600	6600	0	0.0
1943	5409	5409	0	0.0
1944	4162	4162	0	0.0
1945	3552	3552	0	0.0
1946	4756	4756	0	0.0
1947	3112	3112	0	0.0
1948	3167	3167	0	0.0
1949	3608	3608	0	0.0
1950	3049	3049	0	0.0
1951	5149	5149	0	0.0
1952	6780	6780	0	0.0
1953	6402	6402	0	0.0
1954	5580	5580	0	0.0
1955	4498	4498	0	0.0
1956	6277	6277	0	0.0
1957	5580	5580	0	0.0
1958	6715	6715	0	0.0
1959	5033	5033	0	0.0
1960	3187	3187	0	0.0
1961	3775	3775	0	0.0
1962	3310	3310	0	0.0
1963	5744	5744	0	0.0
1964	4110	4110	0	0.0
1965	5611	5611	0	0.0
1966	5982	5982	0	0.0
1967	6728	6728	0	0.0
1968	4854	4854	0	0.0
1969	6387	6387	0	0.0
1970	4809	4809	0	0.0
1971	6378	6378	0	0.0
1972	5348	5348	0	0.0
1973	5967	5967	0	0.0
1974	6577	6577	0	0.0
1975	6780	6780	0	0.0
1976	4439	4439	0	0.0
1977	0	0	0	0.0
1978	3482	3482	0	0.0
1979	3713	3713	0	0.0
1980	5244	5244	0	0.0
1981	4949	4949	0	0.0
1982	5706	5706	0	0.0
1983	6780	6780	0	0.0
1984	5279	5279	0	0.0
1985	4526	4526	0	0.0
1986	4880	4880	0	0.0
1987	3029	3029	0	0.0
1988	1592	1592	0	0.0
1989	1545	1545	0	0.0
1990	146	146	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	3751	3751	0	0.0
Mean:	3856.5	3856.5	0.0	0.0
Median:	4414.5	4414.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6780.0	6780.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4689	4689	0	0.0
1923	2365	2365	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	3769	3769	0	0.0
1928	3664	3664	0	0.0
1929	1424	1424	0	0.0
1930	151	151	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	353	353	0	0.0
1938	5560	5560	0	0.0
1939	3375	3375	0	0.0
1940	4567	4567	0	0.0
1941	6072	6072	0	0.0
1942	6072	6072	0	0.0
1943	4832	4832	0	0.0
1944	3409	3409	0	0.0
1945	2901	2901	0	0.0
1946	3895	3895	0	0.0
1947	2462	2462	0	0.0
1948	2534	2534	0	0.0
1949	2957	2957	0	0.0
1950	2395	2395	0	0.0
1951	4535	4535	0	0.0
1952	6072	6072	0	0.0
1953	6072	6072	0	0.0
1954	5036	5036	0	0.0
1955	3728	3728	0	0.0
1956	5807	5807	0	0.0
1957	5002	5002	0	0.0
1958	6072	6072	0	0.0
1959	4058	4058	0	0.0
1960	2400	2400	0	0.0
1961	3151	3151	0	0.0
1962	2621	2621	0	0.0
1963	5168	5168	0	0.0
1964	3368	3368	0	0.0
1965	5073	5073	0	0.0
1966	5424	5424	0	0.0
1967	6072	6072	0	0.0
1968	3931	3931	0	0.0
1969	5893	5893	0	0.0
1970	3903	3903	0	0.0
1971	6072	6072	0	0.0
1972	4506	4506	0	0.0
1973	5418	5418	0	0.0
1974	6072	6072	0	0.0
1975	6072	6072	0	0.0
1976	3441	3441	0	0.0
1977	0	0	0	0.0
1978	3094	3094	0	0.0
1979	3231	3231	0	0.0
1980	4743	4743	0	0.0
1981	4173	4173	0	0.0
1982	5243	5243	0	0.0
1983	6072	6072	0	0.0
1984	4735	4735	0	0.0
1985	3703	3703	0	0.0
1986	3934	3934	0	0.0
1987	2018	2018	0	0.0
1988	916	916	0	0.0
1989	656	656	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	3610	3610	0	0.0
Mean:	3313.1	3313.1	0.0	0.0
Median:	3683.5	3683.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6072.0	6072.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4123	4123	0	0.0
1923	1030	1030	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	3259	3259	0	0.0
1928	2986	2986	0	0.0
1929	708	708	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	5154	5154	0	0.0
1939	2635	2635	0	0.0
1940	3848	3848	0	0.0
1941	5592	5592	0	0.0
1942	5592	5592	0	0.0
1943	4296	4296	0	0.0
1944	2700	2700	0	0.0
1945	2178	2178	0	0.0
1946	3301	3301	0	0.0
1947	1568	1568	0	0.0
1948	1837	1837	0	0.0
1949	2267	2267	0	0.0
1950	1677	1677	0	0.0
1951	3897	3897	0	0.0
1952	5592	5592	0	0.0
1953	5592	5592	0	0.0
1954	4571	4571	0	0.0
1955	3002	3002	0	0.0
1956	5449	5449	0	0.0
1957	4502	4502	0	0.0
1958	5592	5592	0	0.0
1959	2964	2964	0	0.0
1960	1483	1483	0	0.0
1961	2553	2553	0	0.0
1962	1935	1935	0	0.0
1963	4658	4658	0	0.0
1964	2693	2693	0	0.0
1965	4632	4632	0	0.0
1966	4807	4807	0	0.0
1967	5592	5592	0	0.0
1968	3169	3169	0	0.0
1969	5427	5427	0	0.0
1970	3118	3118	0	0.0
1971	5592	5592	0	0.0
1972	3932	3932	0	0.0
1973	4924	4924	0	0.0
1974	5592	5592	0	0.0
1975	5592	5592	0	0.0
1976	2450	2450	0	0.0
1977	0	0	0	0.0
1978	2513	2513	0	0.0
1979	2617	2617	0	0.0
1980	4196	4196	0	0.0
1981	3558	3558	0	0.0
1982	4773	4773	0	0.0
1983	5592	5592	0	0.0
1984	4214	4214	0	0.0
1985	2953	2953	0	0.0
1986	2862	2862	0	0.0
1987	915	915	0	0.0
1988	147	147	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	3112	3112	0	0.0
Mean:	2798.8	2798.8	0.0	0.0
Median:	2958.5	2958.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	5592.0	5592.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity Reservoir Littoral Habitat

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	3579	3579	0	0.0
1923	278	278	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	2705	2705	0	0.0
1928	2314	2314	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	4882	4882	0	0.0
1939	1725	1725	0	0.0
1940	3152	3152	0	0.0
1941	4892	4892	0	0.0
1942	4892	4892	0	0.0
1943	3756	3756	0	0.0
1944	1806	1806	0	0.0
1945	1521	1521	0	0.0
1946	2747	2747	0	0.0
1947	735	735	0	0.0
1948	1313	1313	0	0.0
1949	1607	1607	0	0.0
1950	868	868	0	0.0
1951	3382	3382	0	0.0
1952	4892	4892	0	0.0
1953	4892	4892	0	0.0
1954	4063	4063	0	0.0
1955	2204	2204	0	0.0
1956	4892	4892	0	0.0
1957	3984	3984	0	0.0
1958	4892	4892	0	0.0
1959	1731	1731	0	0.0
1960	817	817	0	0.0
1961	1691	1691	0	0.0
1962	1304	1304	0	0.0
1963	4114	4114	0	0.0
1964	1853	1853	0	0.0
1965	4130	4130	0	0.0
1966	4321	4321	0	0.0
1967	4892	4892	0	0.0
1968	2450	2450	0	0.0
1969	4892	4892	0	0.0
1970	2334	2334	0	0.0
1971	4892	4892	0	0.0
1972	3404	3404	0	0.0
1973	4438	4438	0	0.0
1974	4892	4892	0	0.0
1975	4892	4892	0	0.0
1976	1519	1519	0	0.0
1977	0	0	0	0.0
1978	1996	1996	0	0.0
1979	1920	1920	0	0.0
1980	3671	3671	0	0.0
1981	2807	2807	0	0.0
1982	4249	4249	0	0.0
1983	4892	4892	0	0.0
1984	3700	3700	0	0.0
1985	2110	2110	0	0.0
1986	2004	2004	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	2829	2829	0	0.0
Mean:	2287.7	2287.7	0.0	0.0
Median:	2057.0	2057.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	4892.0	4892.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	878	878	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	878	878	0	0.0
1943	878	878	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	459	459	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	878	878	0	0.0
1954	878	878	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	878	878	0	0.0
1958	766	766	0	0.0
1959	878	878	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	856	856	0	0.0
1964	878	878	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	878	878	0	0.0
1969	0	0	0	0.0
1970	878	878	0	0.0
1971	0	0	0	0.0
1972	878	878	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	878	878	0	0.0
1976	878	878	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	305	305	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	878	878	0	0.0
1984	878	878	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	216.1	216.1	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	878.0	878.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	888	888	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	444	444	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	888	888	0	0.0
1943	888	888	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	775	775	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	411	411	0	0.0
1950	0	0	0	0.0
1951	888	888	0	0.0
1952	0	0	0	0.0
1953	888	888	0	0.0
1954	888	888	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	360	360	0	0.0
1958	888	888	0	0.0
1959	513	513	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	888	888	0	0.0
1964	888	888	0	0.0
1965	0	0	0	0.0
1966	888	888	0	0.0
1967	0	0	0	0.0
1968	411	411	0	0.0
1969	0	0	0	0.0
1970	888	888	0	0.0
1971	0	0	0	0.0
1972	309	309	0	0.0
1973	0	0	0	0.0
1974	888	888	0	0.0
1975	428	428	0	0.0
1976	888	888	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	359	359	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	1106	1106	0	0.0
1983	888	888	0	0.0
1984	888	888	0	0.0
1985	888	888	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	268.4	268.4	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1106.0	1106.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	1317	1317	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	1401	1401	0	0.0
1939	1015	1015	0	0.0
1940	0	0	0	0.0
1941	1141	1141	0	0.0
1942	1230	1230	0	0.0
1943	1444	1444	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	958	958	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	515	515	0	0.0
1950	0	0	0	0.0
1951	1262	1262	0	0.0
1952	1177	1177	0	0.0
1953	1385	1385	0	0.0
1954	987	987	0	0.0
1955	1122	1122	0	0.0
1956	1023	1023	0	0.0
1957	334	334	0	0.0
1958	1348	1348	0	0.0
1959	632	632	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	1406	1406	0	0.0
1964	983	983	0	0.0
1965	1165	1165	0	0.0
1966	1460	1460	0	0.0
1967	1332	1332	0	0.0
1968	669	669	0	0.0
1969	0	0	0	0.0
1970	1235	1235	0	0.0
1971	1246	1246	0	0.0
1972	1003	1003	0	0.0
1973	1390	1390	0	0.0
1974	968	968	0	0.0
1975	1054	1054	0	0.0
1976	1229	1229	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	296	296	0	0.0
1980	272	272	0	0.0
1981	0	0	0	0.0
1982	1016	1016	0	0.0
1983	1294	1294	0	0.0
1984	1065	1065	0	0.0
1985	1465	1465	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	539.4	539.4	0.0	0.0
Median:	136.0	136.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1465.0	1465.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	269	269	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	1178	1178	0	0.0
1928	2757	2757	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	3111	3111	0	0.0
1939	1631	1631	0	0.0
1940	0	0	0	0.0
1941	1235	1235	0	0.0
1942	1620	1620	0	0.0
1943	2432	2432	0	0.0
1944	13	13	0	0.0
1945	685	685	0	0.0
1946	2865	2865	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	597	597	0	0.0
1950	0	0	0	0.0
1951	2876	2876	0	0.0
1952	2769	2769	0	0.0
1953	1497	1497	0	0.0
1954	2491	2491	0	0.0
1955	1891	1891	0	0.0
1956	888	888	0	0.0
1957	881	881	0	0.0
1958	2379	2379	0	0.0
1959	3004	3004	0	0.0
1960	0	0	0	0.0
1961	676	676	0	0.0
1962	0	0	0	0.0
1963	2290	2290	0	0.0
1964	3258	3258	0	0.0
1965	1508	1508	0	0.0
1966	3415	3415	0	0.0
1967	2486	2486	0	0.0
1968	1939	1939	0	0.0
1969	1455	1455	0	0.0
1970	888	888	0	0.0
1971	2293	2293	0	0.0
1972	3175	3175	0	0.0
1973	2491	2491	0	0.0
1974	888	888	0	0.0
1975	1787	1787	0	0.0
1976	1604	1604	0	0.0
1977	0	0	0	0.0
1978	3014	3014	0	0.0
1979	1145	1145	0	0.0
1980	2363	2363	0	0.0
1981	1195	1195	0	0.0
1982	2833	2833	0	0.0
1983	1524	1524	0	0.0
1984	3014	3014	0	0.0
1985	1995	1995	0	0.0
1986	117	117	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	1172.5	1172.5	0.0	0.0
Median:	888.0	888.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	3415.0	3415.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	664	664	0	0.0
1923	953	953	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	2010	2010	0	0.0
1928	5151	5151	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	968	968	0	0.0
1937	0	0	0	0.0
1938	2577	2577	0	0.0
1939	2242	2242	0	0.0
1940	888	888	0	0.0
1941	1802	1802	0	0.0
1942	2299	2299	0	0.0
1943	4068	4068	0	0.0
1944	1651	1651	0	0.0
1945	4606	4606	0	0.0
1946	2909	2909	0	0.0
1947	237	237	0	0.0
1948	0	0	0	0.0
1949	1643	1643	0	0.0
1950	1169	1169	0	0.0
1951	3738	3738	0	0.0
1952	3462	3462	0	0.0
1953	3264	3264	0	0.0
1954	3068	3068	0	0.0
1955	2202	2202	0	0.0
1956	1081	1081	0	0.0
1957	3148	3148	0	0.0
1958	888	888	0	0.0
1959	3649	3649	0	0.0
1960	0	0	0	0.0
1961	4425	4425	0	0.0
1962	3148	3148	0	0.0
1963	4585	4585	0	0.0
1964	3772	3772	0	0.0
1965	3758	3758	0	0.0
1966	4895	4895	0	0.0
1967	4440	4440	0	0.0
1968	3036	3036	0	0.0
1969	2106	2106	0	0.0
1970	1844	1844	0	0.0
1971	3420	3420	0	0.0
1972	4643	4643	0	0.0
1973	2936	2936	0	0.0
1974	3249	3249	0	0.0
1975	4542	4542	0	0.0
1976	2253	2253	0	0.0
1977	0	0	0	0.0
1978	2571	2571	0	0.0
1979	3065	3065	0	0.0
1980	1102	1102	0	0.0
1981	3418	3418	0	0.0
1982	2394	2394	0	0.0
1983	888	888	0	0.0
1984	4789	4789	0	0.0
1985	2916	2916	0	0.0
1986	888	888	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	1936.4	1936.4	0.0	0.0
Median:	1927.0	1927.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	5151.0	5151.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

March

	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2704	2704	0	0.0
1923	1600	1600	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	5385	5385	0	0.0
1928	4432	4432	0	0.0
1929	0	0	0	0.0
1930	1121	1121	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	2518	2518	0	0.0
1937	0	0	0	0.0
1938	1775	1775	0	0.0
1939	4383	4383	0	0.0
1940	1866	1866	0	0.0
1941	4564	4564	0	0.0
1942	4063	4063	0	0.0
1943	5131	5131	0	0.0
1944	3312	3312	0	0.0
1945	5688	5688	0	0.0
1946	4912	4912	0	0.0
1947	3019	3019	0	0.0
1948	0	0	0	0.0
1949	5264	5264	0	0.0
1950	3566	3566	0	0.0
1951	5730	5730	0	0.0
1952	4805	4805	0	0.0
1953	5696	5696	0	0.0
1954	5283	5283	0	0.0
1955	2986	2986	0	0.0
1956	4947	4947	0	0.0
1957	5384	5384	0	0.0
1958	1764	1764	0	0.0
1959	4440	4440	0	0.0
1960	3021	3021	0	0.0
1961	5784	5784	0	0.0
1962	5610	5610	0	0.0
1963	4986	4986	0	0.0
1964	4014	4014	0	0.0
1965	3947	3947	0	0.0
1966	5565	5565	0	0.0
1967	4724	4724	0	0.0
1968	5998	5998	0	0.0
1969	5044	5044	0	0.0
1970	5331	5331	0	0.0
1971	4109	4109	0	0.0
1972	5651	5651	0	0.0
1973	5590	5590	0	0.0
1974	1896	1896	0	0.0
1975	3535	3535	0	0.0
1976	3403	3403	0	0.0
1977	0	0	0	0.0
1978	4843	4843	0	0.0
1979	5627	5627	0	0.0
1980	5047	5047	0	0.0
1981	5941	5941	0	0.0
1982	4633	4633	0	0.0
1983	1770	1770	0	0.0
1984	5638	5638	0	0.0
1985	3984	3984	0	0.0
1986	2395	2395	0	0.0
1987	3961	3961	0	0.0
1988	0	0	0	0.0
1989	1784	1784	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	4338	4338	0	0.0
Mean:	3257.0	3257.0	0.0	0.0
Median:	3972.5	3972.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	5998.0	5998.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4871	4871	0	0.0
1923	2899	2899	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	718	718	0	0.0
1927	6951	6951	0	0.0
1928	6350	6350	0	0.0
1929	0	0	0	0.0
1930	1708	1708	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	3413	3413	0	0.0
1937	426	426	0	0.0
1938	5194	5194	0	0.0
1939	3311	3311	0	0.0
1940	5435	5435	0	0.0
1941	6539	6539	0	0.0
1942	6558	6558	0	0.0
1943	6815	6815	0	0.0
1944	3392	3392	0	0.0
1945	6243	6243	0	0.0
1946	5506	5506	0	0.0
1947	3682	3682	0	0.0
1948	4368	4368	0	0.0
1949	6190	6190	0	0.0
1950	4831	4831	0	0.0
1951	5966	5966	0	0.0
1952	5827	5827	0	0.0
1953	6704	6704	0	0.0
1954	6925	6925	0	0.0
1955	3241	3241	0	0.0
1956	6569	6569	0	0.0
1957	5108	5108	0	0.0
1958	5808	5808	0	0.0
1959	4396	4396	0	0.0
1960	3855	3855	0	0.0
1961	5953	5953	0	0.0
1962	6428	6428	0	0.0
1963	5170	5170	0	0.0
1964	2855	2855	0	0.0
1965	6831	6831	0	0.0
1966	6951	6951	0	0.0
1967	6637	6637	0	0.0
1968	5369	5369	0	0.0
1969	6444	6444	0	0.0
1970	4653	4653	0	0.0
1971	6088	6088	0	0.0
1972	6181	6181	0	0.0
1973	6256	6256	0	0.0
1974	6428	6428	0	0.0
1975	6085	6085	0	0.0
1976	3699	3699	0	0.0
1977	0	0	0	0.0
1978	6951	6951	0	0.0
1979	5891	5891	0	0.0
1980	5748	5748	0	0.0
1981	6293	6293	0	0.0
1982	4986	4986	0	0.0
1983	5280	5280	0	0.0
1984	6022	6022	0	0.0
1985	4450	4450	0	0.0
1986	3763	3763	0	0.0
1987	2765	2765	0	0.0
1988	0	0	0	0.0
1989	3352	3352	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	6371	6371	0	0.0
Mean:	4218.0	4218.0	0.0	0.0
Median:	5139.0	5139.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6951.0	6951.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	5225	5225	0	0.0
1923	1478	1478	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	6951	6951	0	0.0
1928	5770	5770	0	0.0
1929	0	0	0	0.0
1930	1170	1170	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	2592	2592	0	0.0
1937	685	685	0	0.0
1938	6920	6920	0	0.0
1939	2325	2325	0	0.0
1940	4643	4643	0	0.0
1941	6951	6951	0	0.0
1942	6951	6951	0	0.0
1943	6684	6684	0	0.0
1944	3032	3032	0	0.0
1945	6198	6198	0	0.0
1946	5161	5161	0	0.0
1947	2216	2216	0	0.0
1948	5507	5507	0	0.0
1949	6193	6193	0	0.0
1950	4293	4293	0	0.0
1951	5961	5961	0	0.0
1952	6951	6951	0	0.0
1953	6951	6951	0	0.0
1954	5751	5751	0	0.0
1955	3707	3707	0	0.0
1956	6951	6951	0	0.0
1957	6107	6107	0	0.0
1958	6951	6951	0	0.0
1959	3476	3476	0	0.0
1960	3836	3836	0	0.0
1961	6059	6059	0	0.0
1962	6020	6020	0	0.0
1963	6265	6265	0	0.0
1964	2073	2073	0	0.0
1965	6375	6375	0	0.0
1966	6359	6359	0	0.0
1967	6951	6951	0	0.0
1968	4805	4805	0	0.0
1969	6951	6951	0	0.0
1970	4069	4069	0	0.0
1971	6951	6951	0	0.0
1972	5675	5675	0	0.0
1973	6143	6143	0	0.0
1974	6570	6570	0	0.0
1975	6951	6951	0	0.0
1976	3069	3069	0	0.0
1977	0	0	0	0.0
1978	6951	6951	0	0.0
1979	6090	6090	0	0.0
1980	5403	5403	0	0.0
1981	5635	5635	0	0.0
1982	5745	5745	0	0.0
1983	6951	6951	0	0.0
1984	5863	5863	0	0.0
1985	3364	3364	0	0.0
1986	3390	3390	0	0.0
1987	1123	1123	0	0.0
1988	0	0	0	0.0
1989	2197	2197	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	6894	6894	0	0.0
Mean:	4145.5	4145.5	0.0	0.0
Median:	5314.0	5314.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6951.0	6951.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4033	4033	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	5705	5705	0	0.0
1928	4150	4150	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	1194	1194	0	0.0
1937	0	0	0	0.0
1938	6557	6557	0	0.0
1939	0	0	0	0.0
1940	3173	3173	0	0.0
1941	6676	6676	0	0.0
1942	6553	6553	0	0.0
1943	5608	5608	0	0.0
1944	1907	1907	0	0.0
1945	5188	5188	0	0.0
1946	3663	3663	0	0.0
1947	1025	1025	0	0.0
1948	5540	5540	0	0.0
1949	4798	4798	0	0.0
1950	2803	2803	0	0.0
1951	4380	4380	0	0.0
1952	6314	6314	0	0.0
1953	6727	6727	0	0.0
1954	4845	4845	0	0.0
1955	2358	2358	0	0.0
1956	6205	6205	0	0.0
1957	5246	5246	0	0.0
1958	6727	6727	0	0.0
1959	925	925	0	0.0
1960	2495	2495	0	0.0
1961	4523	4523	0	0.0
1962	4582	4582	0	0.0
1963	5592	5592	0	0.0
1964	1043	1043	0	0.0
1965	5040	5040	0	0.0
1966	3845	3845	0	0.0
1967	6727	6727	0	0.0
1968	2675	2675	0	0.0
1969	6283	6283	0	0.0
1970	2882	2882	0	0.0
1971	6727	6727	0	0.0
1972	3374	3374	0	0.0
1973	4624	4624	0	0.0
1974	5999	5999	0	0.0
1975	6422	6422	0	0.0
1976	777	777	0	0.0
1977	0	0	0	0.0
1978	5577	5577	0	0.0
1979	3902	3902	0	0.0
1980	3999	3999	0	0.0
1981	2930	2930	0	0.0
1982	4978	4978	0	0.0
1983	6727	6727	0	0.0
1984	4732	4732	0	0.0
1985	1345	1345	0	0.0
1986	1673	1673	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	382	382	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	6727	6727	0	0.0
Mean:	3178.9	3178.9	0.0	0.0
Median:	3518.5	3518.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6727.0	6727.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	1952	1952	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	3613	3613	0	0.0
1928	1455	1455	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	4814	4814	0	0.0
1939	0	0	0	0.0
1940	619	619	0	0.0
1941	5226	5226	0	0.0
1942	5174	5174	0	0.0
1943	3291	3291	0	0.0
1944	0	0	0	0.0
1945	2747	2747	0	0.0
1946	1589	1589	0	0.0
1947	0	0	0	0.0
1948	3998	3998	0	0.0
1949	2189	2189	0	0.0
1950	412	412	0	0.0
1951	1628	1628	0	0.0
1952	4926	4926	0	0.0
1953	5226	5226	0	0.0
1954	2266	2266	0	0.0
1955	0	0	0	0.0
1956	4703	4703	0	0.0
1957	2831	2831	0	0.0
1958	5226	5226	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	1565	1565	0	0.0
1962	2158	2158	0	0.0
1963	3544	3544	0	0.0
1964	0	0	0	0.0
1965	2458	2458	0	0.0
1966	1018	1018	0	0.0
1967	5226	5226	0	0.0
1968	0	0	0	0.0
1969	4385	4385	0	0.0
1970	0	0	0	0.0
1971	4978	4978	0	0.0
1972	730	730	0	0.0
1973	2062	2062	0	0.0
1974	4915	4915	0	0.0
1975	5226	5226	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	3090	3090	0	0.0
1979	1525	1525	0	0.0
1980	2030	2030	0	0.0
1981	0	0	0	0.0
1982	3557	3557	0	0.0
1983	5148	5148	0	0.0
1984	2130	2130	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	4127	4127	0	0.0
Mean:	1718.8	1718.8	0.0	0.0
Median:	874.0	874.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	5226.0	5226.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	1726	1726	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	3295	3295	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	3295	3295	0	0.0
1942	3295	3295	0	0.0
1943	1366	1366	0	0.0
1944	0	0	0	0.0
1945	382	382	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	2347	2347	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	3292	3292	0	0.0
1953	3295	3295	0	0.0
1954	443	443	0	0.0
1955	0	0	0	0.0
1956	3295	3295	0	0.0
1957	851	851	0	0.0
1958	3295	3295	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	2113	2113	0	0.0
1964	0	0	0	0.0
1965	519	519	0	0.0
1966	0	0	0	0.0
1967	3295	3295	0	0.0
1968	0	0	0	0.0
1969	2834	2834	0	0.0
1970	0	0	0	0.0
1971	3295	3295	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	3295	3295	0	0.0
1975	3295	3295	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	1348	1348	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	2135	2135	0	0.0
1983	3295	3295	0	0.0
1984	185	185	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	2722	2722	0	0.0
Mean:	812.6	812.6	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	3295.0	3295.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir Littoral Habitat

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	310	310	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	1826	1826	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	1826	1826	0	0.0
1942	1826	1826	0	0.0
1943	351	351	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	1510	1510	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	1825	1825	0	0.0
1953	1826	1826	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	1826	1826	0	0.0
1957	92	92	0	0.0
1958	1826	1826	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	1482	1482	0	0.0
1964	0	0	0	0.0
1965	3	3	0	0.0
1966	0	0	0	0.0
1967	1826	1826	0	0.0
1968	0	0	0	0.0
1969	1712	1712	0	0.0
1970	0	0	0	0.0
1971	1826	1826	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	1826	1826	0	0.0
1975	1826	1826	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	860	860	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	1558	1558	0	0.0
1983	1826	1826	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	1551	1551	0	0.0
Mean:	435.3	435.3	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1826.0	1826.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	959	959	0	0.0
1924	815	815	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	854	854	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	71	71	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	775	775	0	0.0
1937	707	707	0	0.0
1938	1143	1143	0	0.0
1939	1566	1566	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	1544	1544	0	0.0
1943	1499	1499	0	0.0
1944	790	790	0	0.0
1945	0	0	0	0.0
1946	551	551	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	1127	1127	0	0.0
1950	0	0	0	0.0
1951	1205	1205	0	0.0
1952	0	0	0	0.0
1953	1669	1669	0	0.0
1954	1503	1503	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	1679	1679	0	0.0
1958	970	970	0	0.0
1959	1466	1466	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	2335	2335	0	0.0
1964	1151	1151	0	0.0
1965	0	0	0	0.0
1966	759	759	0	0.0
1967	0	0	0	0.0
1968	1627	1627	0	0.0
1969	0	0	0	0.0
1970	1660	1660	0	0.0
1971	0	0	0	0.0
1972	1510	1510	0	0.0
1973	0	0	0	0.0
1974	577	577	0	0.0
1975	1530	1530	0	0.0
1976	1951	1951	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	1095	1095	0	0.0
1980	191	191	0	0.0
1981	1506	1506	0	0.0
1982	0	0	0	0.0
1983	2319	2319	0	0.0
1984	2319	2319	0	0.0
1985	652	652	0	0.0
1986	0	0	0	0.0
1987	1455	1455	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	604.6	604.6	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	2335.0	2335.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	626	626	0	0.0
1924	496	496	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	914	914	0	0.0
1928	999	999	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	419	419	0	0.0
1937	141	141	0	0.0
1938	999	999	0	0.0
1939	928	928	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	999	999	0	0.0
1943	999	999	0	0.0
1944	588	588	0	0.0
1945	264	264	0	0.0
1946	999	999	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	914	914	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	201	201	0	0.0
1953	1007	1007	0	0.0
1954	999	999	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	906	906	0	0.0
1958	999	999	0	0.0
1959	957	957	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	1336	1336	0	0.0
1964	999	999	0	0.0
1965	0	0	0	0.0
1966	905	905	0	0.0
1967	0	0	0	0.0
1968	913	913	0	0.0
1969	0	0	0	0.0
1970	1003	1003	0	0.0
1971	800	800	0	0.0
1972	870	870	0	0.0
1973	432	432	0	0.0
1974	999	999	0	0.0
1975	921	921	0	0.0
1976	1172	1172	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	918	918	0	0.0
1980	488	488	0	0.0
1981	542	542	0	0.0
1982	1201	1201	0	0.0
1983	1324	1324	0	0.0
1984	160	160	0	0.0
1985	999	999	0	0.0
1986	0	0	0	0.0
1987	664	664	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	444.4	444.4	0.0	0.0
Median:	232.5	232.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1336.0	1336.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	125	125	0	0.0
1923	999	999	0	0.0
1924	239	239	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	999	999	0	0.0
1928	999	999	0	0.0
1929	0	0	0	0.0
1930	102	102	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	120	120	0	0.0
1937	0	0	0	0.0
1938	999	999	0	0.0
1939	323	323	0	0.0
1940	0	0	0	0.0
1941	993	993	0	0.0
1942	999	999	0	0.0
1943	999	999	0	0.0
1944	476	476	0	0.0
1945	898	898	0	0.0
1946	999	999	0	0.0
1947	110	110	0	0.0
1948	0	0	0	0.0
1949	887	887	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	999	999	0	0.0
1953	999	999	0	0.0
1954	519	519	0	0.0
1955	582	582	0	0.0
1956	594	594	0	0.0
1957	255	255	0	0.0
1958	999	999	0	0.0
1959	344	344	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	999	999	0	0.0
1964	652	652	0	0.0
1965	0	0	0	0.0
1966	999	999	0	0.0
1967	999	999	0	0.0
1968	498	498	0	0.0
1969	356	356	0	0.0
1970	999	999	0	0.0
1971	999	999	0	0.0
1972	965	965	0	0.0
1973	999	999	0	0.0
1974	999	999	0	0.0
1975	674	674	0	0.0
1976	344	344	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	745	745	0	0.0
1980	999	999	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	981	981	0	0.0
1984	0	0	0	0.0
1985	942	942	0	0.0
1986	659	659	0	0.0
1987	7	7	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	435.7	435.7	0.0	0.0
Median:	333.5	333.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	999.0	999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	535	535	0	0.0
1923	999	999	0	0.0
1924	6	6	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	999	999	0	0.0
1928	999	999	0	0.0
1929	0	0	0	0.0
1930	616	616	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	231	231	0	0.0
1935	0	0	0	0.0
1936	999	999	0	0.0
1937	0	0	0	0.0
1938	999	999	0	0.0
1939	0	0	0	0.0
1940	1553	1553	0	0.0
1941	999	999	0	0.0
1942	972	972	0	0.0
1943	907	907	0	0.0
1944	361	361	0	0.0
1945	999	999	0	0.0
1946	963	963	0	0.0
1947	0	0	0	0.0
1948	219	219	0	0.0
1949	666	666	0	0.0
1950	999	999	0	0.0
1951	0	0	0	0.0
1952	999	999	0	0.0
1953	990	990	0	0.0
1954	653	653	0	0.0
1955	999	999	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	999	999	0	0.0
1959	910	910	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	806	806	0	0.0
1964	999	999	0	0.0
1965	0	0	0	0.0
1966	999	999	0	0.0
1967	963	963	0	0.0
1968	618	618	0	0.0
1969	769	769	0	0.0
1970	0	0	0	0.0
1971	999	999	0	0.0
1972	975	975	0	0.0
1973	926	926	0	0.0
1974	262	262	0	0.0
1975	713	713	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	2490	2490	0	0.0
1979	999	999	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	898	898	0	0.0
1984	0	0	0	0.0
1985	579	579	0	0.0
1986	852	852	0	0.0
1987	0	0	0	0.0
1988	304	304	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	3276	3276	0	0.0
Mean:	541.6	541.6	0.0	0.0
Median:	557.0	557.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	3276.0	3276.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	999	999	0	0.0
1923	999	999	0	0.0
1924	283	283	0	0.0
1925	1344	1344	0	0.0
1926	269	269	0	0.0
1927	880	880	0	0.0
1928	999	999	0	0.0
1929	0	0	0	0.0
1930	972	972	0	0.0
1931	0	0	0	0.0
1932	1203	1203	0	0.0
1933	0	0	0	0.0
1934	786	786	0	0.0
1935	0	0	0	0.0
1936	953	953	0	0.0
1937	999	999	0	0.0
1938	999	999	0	0.0
1939	0	0	0	0.0
1940	852	852	0	0.0
1941	990	990	0	0.0
1942	889	889	0	0.0
1943	649	649	0	0.0
1944	999	999	0	0.0
1945	907	907	0	0.0
1946	480	480	0	0.0
1947	751	751	0	0.0
1948	0	0	0	0.0
1949	757	757	0	0.0
1950	972	972	0	0.0
1951	0	0	0	0.0
1952	990	990	0	0.0
1953	935	935	0	0.0
1954	999	999	0	0.0
1955	315	315	0	0.0
1956	0	0	0	0.0
1957	963	963	0	0.0
1958	907	907	0	0.0
1959	999	999	0	0.0
1960	1760	1760	0	0.0
1961	0	0	0	0.0
1962	1699	1699	0	0.0
1963	78	78	0	0.0
1964	626	626	0	0.0
1965	0	0	0	0.0
1966	999	999	0	0.0
1967	861	861	0	0.0
1968	806	806	0	0.0
1969	631	631	0	0.0
1970	0	0	0	0.0
1971	666	666	0	0.0
1972	999	999	0	0.0
1973	889	889	0	0.0
1974	124	124	0	0.0
1975	999	999	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	834	834	0	0.0
1979	999	999	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	778	778	0	0.0
1984	0	0	0	0.0
1985	995	995	0	0.0
1986	0	0	0	0.0
1987	78	78	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	346	346	0	0.0
1993	815	815	0	0.0
Mean:	583.6	583.6	0.0	0.0
Median:	767.5	767.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1760.0	1760.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	1912	1912	0	0.0
1923	973	973	0	0.0
1924	0	0	0	0.0
1925	154	154	0	0.0
1926	0	0	0	0.0
1927	1792	1792	0	0.0
1928	1580	1580	0	0.0
1929	420	420	0	0.0
1930	1893	1893	0	0.0
1931	0	0	0	0.0
1932	1477	1477	0	0.0
1933	0	0	0	0.0
1934	1329	1329	0	0.0
1935	778	778	0	0.0
1936	1847	1847	0	0.0
1937	1921	1921	0	0.0
1938	1912	1912	0	0.0
1939	692	692	0	0.0
1940	1396	1396	0	0.0
1941	1893	1893	0	0.0
1942	1537	1537	0	0.0
1943	1396	1396	0	0.0
1944	1921	1921	0	0.0
1945	1775	1775	0	0.0
1946	1425	1425	0	0.0
1947	1912	1912	0	0.0
1948	87	87	0	0.0
1949	1921	1921	0	0.0
1950	1893	1893	0	0.0
1951	1654	1654	0	0.0
1952	1912	1912	0	0.0
1953	1588	1588	0	0.0
1954	1893	1893	0	0.0
1955	173	173	0	0.0
1956	697	697	0	0.0
1957	1847	1847	0	0.0
1958	1884	1884	0	0.0
1959	1076	1076	0	0.0
1960	1866	1866	0	0.0
1961	59	59	0	0.0
1962	1389	1389	0	0.0
1963	1066	1066	0	0.0
1964	481	481	0	0.0
1965	637	637	0	0.0
1966	890	890	0	0.0
1967	1617	1617	0	0.0
1968	1655	1655	0	0.0
1969	1644	1644	0	0.0
1970	1541	1541	0	0.0
1971	1810	1810	0	0.0
1972	1783	1783	0	0.0
1973	1866	1866	0	0.0
1974	1285	1285	0	0.0
1975	1912	1912	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	1442	1442	0	0.0
1979	1893	1893	0	0.0
1980	1478	1478	0	0.0
1981	962	962	0	0.0
1982	1583	1583	0	0.0
1983	1432	1432	0	0.0
1984	1678	1678	0	0.0
1985	1704	1704	0	0.0
1986	1452	1452	0	0.0
1987	1099	1099	0	0.0
1988	0	0	0	0.0
1989	1941	1941	0	0.0
1990	211	211	0	0.0
1991	1281	1281	0	0.0
1992	600	600	0	0.0
1993	1423	1423	0	0.0
Mean:	1253.3	1253.3	0.0	0.0
Median:	1464.5	1464.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1941.0	1941.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2890	2890	0	0.0
1923	3072	3072	0	0.0
1924	0	0	0	0.0
1925	2564	2564	0	0.0
1926	2538	2538	0	0.0
1927	2961	2961	0	0.0
1928	3072	3072	0	0.0
1929	755	755	0	0.0
1930	2743	2743	0	0.0
1931	52	52	0	0.0
1932	1999	1999	0	0.0
1933	0	0	0	0.0
1934	486	486	0	0.0
1935	3072	3072	0	0.0
1936	2926	2926	0	0.0
1937	2885	2885	0	0.0
1938	2890	2890	0	0.0
1939	1194	1194	0	0.0
1940	3072	3072	0	0.0
1941	2899	2899	0	0.0
1942	3072	3072	0	0.0
1943	3072	3072	0	0.0
1944	1738	1738	0	0.0
1945	2580	2580	0	0.0
1946	3072	3072	0	0.0
1947	1862	1862	0	0.0
1948	3072	3072	0	0.0
1949	2885	2885	0	0.0
1950	2899	2899	0	0.0
1951	3072	3072	0	0.0
1952	2890	2890	0	0.0
1953	2938	2938	0	0.0
1954	2899	2899	0	0.0
1955	791	791	0	0.0
1956	2257	2257	0	0.0
1957	1888	1888	0	0.0
1958	2904	2904	0	0.0
1959	1523	1523	0	0.0
1960	1946	1946	0	0.0
1961	306	306	0	0.0
1962	3072	3072	0	0.0
1963	3072	3072	0	0.0
1964	1122	1122	0	0.0
1965	3072	3072	0	0.0
1966	2237	2237	0	0.0
1967	3072	3072	0	0.0
1968	2154	2154	0	0.0
1969	3072	3072	0	0.0
1970	1371	1371	0	0.0
1971	2607	2607	0	0.0
1972	2671	2671	0	0.0
1973	2720	2720	0	0.0
1974	3072	3072	0	0.0
1975	2547	2547	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	3072	3072	0	0.0
1979	2447	2447	0	0.0
1980	2892	2892	0	0.0
1981	1447	1447	0	0.0
1982	3072	3072	0	0.0
1983	3072	3072	0	0.0
1984	2684	2684	0	0.0
1985	2541	2541	0	0.0
1986	3072	3072	0	0.0
1987	1209	1209	0	0.0
1988	91	91	0	0.0
1989	3072	3072	0	0.0
1990	728	728	0	0.0
1991	731	731	0	0.0
1992	78	78	0	0.0
1993	3072	3072	0	0.0
Mean:	2206.6	2206.6	0.0	0.0
Median:	2702.0	2702.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	3072.0	3072.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	3712	3712	0	0.0
1923	3712	3712	0	0.0
1924	0	0	0	0.0
1925	3712	3712	0	0.0
1926	2057	2057	0	0.0
1927	3712	3712	0	0.0
1928	3293	3293	0	0.0
1929	1559	1559	0	0.0
1930	2565	2565	0	0.0
1931	275	275	0	0.0
1932	3595	3595	0	0.0
1933	130	130	0	0.0
1934	181	181	0	0.0
1935	3543	3543	0	0.0
1936	3712	3712	0	0.0
1937	3712	3712	0	0.0
1938	3712	3712	0	0.0
1939	1214	1214	0	0.0
1940	3712	3712	0	0.0
1941	3712	3712	0	0.0
1942	3712	3712	0	0.0
1943	3607	3607	0	0.0
1944	2295	2295	0	0.0
1945	3712	3712	0	0.0
1946	3712	3712	0	0.0
1947	1642	1642	0	0.0
1948	3712	3712	0	0.0
1949	3600	3600	0	0.0
1950	3712	3712	0	0.0
1951	3712	3712	0	0.0
1952	3712	3712	0	0.0
1953	3637	3637	0	0.0
1954	2840	2840	0	0.0
1955	1714	1714	0	0.0
1956	3735	3735	0	0.0
1957	4175	4175	0	0.0
1958	3712	3712	0	0.0
1959	1112	1112	0	0.0
1960	2137	2137	0	0.0
1961	352	352	0	0.0
1962	3180	3180	0	0.0
1963	3712	3712	0	0.0
1964	1796	1796	0	0.0
1965	3547	3547	0	0.0
1966	2011	2011	0	0.0
1967	3712	3712	0	0.0
1968	1981	1981	0	0.0
1969	3712	3712	0	0.0
1970	2403	2403	0	0.0
1971	3712	3712	0	0.0
1972	3063	3063	0	0.0
1973	3712	3712	0	0.0
1974	3712	3712	0	0.0
1975	3712	3712	0	0.0
1976	78	78	0	0.0
1977	0	0	0	0.0
1978	3712	3712	0	0.0
1979	3712	3712	0	0.0
1980	3636	3636	0	0.0
1981	1052	1052	0	0.0
1982	3712	3712	0	0.0
1983	3712	3712	0	0.0
1984	3712	3712	0	0.0
1985	2334	2334	0	0.0
1986	3712	3712	0	0.0
1987	839	839	0	0.0
1988	0	0	0	0.0
1989	2788	2788	0	0.0
1990	956	956	0	0.0
1991	1337	1337	0	0.0
1992	0	0	0	0.0
1993	3712	3712	0	0.0
Mean:	2712.9	2712.9	0.0	0.0
Median:	3603.5	3603.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	4175.0	4175.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	3712	3712	0	0.0
1923	3712	3712	0	0.0
1924	0	0	0	0.0
1925	3011	3011	0	0.0
1926	1154	1154	0	0.0
1927	3712	3712	0	0.0
1928	2964	2964	0	0.0
1929	964	964	0	0.0
1930	1937	1937	0	0.0
1931	0	0	0	0.0
1932	3363	3363	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	3712	3712	0	0.0
1936	3712	3712	0	0.0
1937	3510	3510	0	0.0
1938	3712	3712	0	0.0
1939	542	542	0	0.0
1940	3293	3293	0	0.0
1941	3712	3712	0	0.0
1942	3712	3712	0	0.0
1943	3690	3690	0	0.0
1944	1723	1723	0	0.0
1945	3488	3488	0	0.0
1946	3054	3054	0	0.0
1947	1230	1230	0	0.0
1948	3712	3712	0	0.0
1949	2750	2750	0	0.0
1950	3712	3712	0	0.0
1951	3340	3340	0	0.0
1952	3712	3712	0	0.0
1953	3712	3712	0	0.0
1954	2242	2242	0	0.0
1955	1203	1203	0	0.0
1956	3712	3712	0	0.0
1957	3328	3328	0	0.0
1958	3712	3712	0	0.0
1959	334	334	0	0.0
1960	1438	1438	0	0.0
1961	236	236	0	0.0
1962	3039	3039	0	0.0
1963	3712	3712	0	0.0
1964	1499	1499	0	0.0
1965	3712	3712	0	0.0
1966	1387	1387	0	0.0
1967	3712	3712	0	0.0
1968	1375	1375	0	0.0
1969	3712	3712	0	0.0
1970	1921	1921	0	0.0
1971	3712	3712	0	0.0
1972	1825	1825	0	0.0
1973	2707	2707	0	0.0
1974	3712	3712	0	0.0
1975	3712	3712	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	3712	3712	0	0.0
1979	2565	2565	0	0.0
1980	3712	3712	0	0.0
1981	598	598	0	0.0
1982	3712	3712	0	0.0
1983	3712	3712	0	0.0
1984	3203	3203	0	0.0
1985	1485	1485	0	0.0
1986	3712	3712	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	1620	1620	0	0.0
1990	392	392	0	0.0
1991	1575	1575	0	0.0
1992	0	0	0	0.0
1993	3712	3712	0	0.0
Mean:	2419.6	2419.6	0.0	0.0
Median:	3046.5	3046.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	3712.0	3712.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2820	2820	0	0.0
1923	2778	2778	0	0.0
1924	0	0	0	0.0
1925	1904	1904	0	0.0
1926	0	0	0	0.0
1927	2682	2682	0	0.0
1928	1485	1485	0	0.0
1929	0	0	0	0.0
1930	396	396	0	0.0
1931	0	0	0	0.0
1932	2375	2375	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	2664	2664	0	0.0
1936	2775	2775	0	0.0
1937	2393	2393	0	0.0
1938	3325	3325	0	0.0
1939	0	0	0	0.0
1940	2103	2103	0	0.0
1941	2839	2839	0	0.0
1942	3019	3019	0	0.0
1943	2712	2712	0	0.0
1944	498	498	0	0.0
1945	2424	2424	0	0.0
1946	1886	1886	0	0.0
1947	0	0	0	0.0
1948	2731	2731	0	0.0
1949	1485	1485	0	0.0
1950	2718	2718	0	0.0
1951	1989	1989	0	0.0
1952	3410	3410	0	0.0
1953	3254	3254	0	0.0
1954	1360	1360	0	0.0
1955	175	175	0	0.0
1956	2941	2941	0	0.0
1957	2164	2164	0	0.0
1958	3379	3379	0	0.0
1959	0	0	0	0.0
1960	50	50	0	0.0
1961	0	0	0	0.0
1962	1756	1756	0	0.0
1963	2598	2598	0	0.0
1964	151	151	0	0.0
1965	2636	2636	0	0.0
1966	0	0	0	0.0
1967	3564	3564	0	0.0
1968	0	0	0	0.0
1969	2856	2856	0	0.0
1970	281	281	0	0.0
1971	2856	2856	0	0.0
1972	0	0	0	0.0
1973	1485	1485	0	0.0
1974	3465	3465	0	0.0
1975	3129	3129	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	2759	2759	0	0.0
1979	1485	1485	0	0.0
1980	2890	2890	0	0.0
1981	0	0	0	0.0
1982	3345	3345	0	0.0
1983	2914	2914	0	0.0
1984	1862	1862	0	0.0
1985	9	9	0	0.0
1986	2601	2601	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	814	814	0	0.0
1992	0	0	0	0.0
1993	3084	3084	0	0.0
Mean:	1573.3	1573.3	0.0	0.0
Median:	1874.0	1874.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	3564.0	3564.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2519	2519	0	0.0
1923	2417	2417	0	0.0
1924	0	0	0	0.0
1925	1321	1321	0	0.0
1926	0	0	0	0.0
1927	2374	2374	0	0.0
1928	354	354	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	1652	1652	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	1942	1942	0	0.0
1936	2426	2426	0	0.0
1937	2017	2017	0	0.0
1938	2673	2673	0	0.0
1939	0	0	0	0.0
1940	1992	1992	0	0.0
1941	2464	2464	0	0.0
1942	2673	2673	0	0.0
1943	2499	2499	0	0.0
1944	512	512	0	0.0
1945	2116	2116	0	0.0
1946	1674	1674	0	0.0
1947	0	0	0	0.0
1948	2324	2324	0	0.0
1949	644	644	0	0.0
1950	2462	2462	0	0.0
1951	1706	1706	0	0.0
1952	2487	2487	0	0.0
1953	2673	2673	0	0.0
1954	621	621	0	0.0
1955	0	0	0	0.0
1956	2673	2673	0	0.0
1957	1681	1681	0	0.0
1958	2543	2543	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	1118	1118	0	0.0
1963	2205	2205	0	0.0
1964	0	0	0	0.0
1965	2496	2496	0	0.0
1966	0	0	0	0.0
1967	2673	2673	0	0.0
1968	0	0	0	0.0
1969	2635	2635	0	0.0
1970	7	7	0	0.0
1971	2625	2625	0	0.0
1972	0	0	0	0.0
1973	1160	1160	0	0.0
1974	2673	2673	0	0.0
1975	2673	2673	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	2436	2436	0	0.0
1979	1183	1183	0	0.0
1980	2673	2673	0	0.0
1981	0	0	0	0.0
1982	2673	2673	0	0.0
1983	2673	2673	0	0.0
1984	1828	1828	0	0.0
1985	0	0	0	0.0
1986	2359	2359	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	329	329	0	0.0
1992	0	0	0	0.0
1993	2673	2673	0	0.0
Mean:	1285.2	1285.2	0.0	0.0
Median:	1486.5	1486.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	2673.0	2673.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir Littoral Habitat

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	1470	1470	0	0.0
1923	1438	1438	0	0.0
1924	0	0	0	0.0
1925	800	800	0	0.0
1926	0	0	0	0.0
1927	1389	1389	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	1025	1025	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	1458	1458	0	0.0
1936	1664	1664	0	0.0
1937	1453	1453	0	0.0
1938	1782	1782	0	0.0
1939	0	0	0	0.0
1940	1545	1545	0	0.0
1941	1782	1782	0	0.0
1942	1782	1782	0	0.0
1943	1409	1409	0	0.0
1944	0	0	0	0.0
1945	1117	1117	0	0.0
1946	214	214	0	0.0
1947	0	0	0	0.0
1948	1559	1559	0	0.0
1949	201	201	0	0.0
1950	1521	1521	0	0.0
1951	124	124	0	0.0
1952	1782	1782	0	0.0
1953	1782	1782	0	0.0
1954	122	122	0	0.0
1955	0	0	0	0.0
1956	1782	1782	0	0.0
1957	975	975	0	0.0
1958	1782	1782	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	318	318	0	0.0
1963	1485	1485	0	0.0
1964	0	0	0	0.0
1965	1534	1534	0	0.0
1966	0	0	0	0.0
1967	1782	1782	0	0.0
1968	0	0	0	0.0
1969	1782	1782	0	0.0
1970	0	0	0	0.0
1971	1782	1782	0	0.0
1972	0	0	0	0.0
1973	521	521	0	0.0
1974	1782	1782	0	0.0
1975	1782	1782	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	1782	1782	0	0.0
1979	172	172	0	0.0
1980	1782	1782	0	0.0
1981	0	0	0	0.0
1982	1782	1782	0	0.0
1983	1782	1782	0	0.0
1984	841	841	0	0.0
1985	0	0	0	0.0
1986	1782	1782	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	1485	1485	0	0.0
Mean:	779.6	779.6	0.0	0.0
Median:	419.5	419.5	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1782.0	1782.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Below Auburn Dam Diversion Site on the Upper American River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2501	2501	0	0.0
1923	1878	1878	0	0.0
1924	1967	1967	0	0.0
1925	750	750	0	0.0
1926	3243	3243	0	0.0
1927	1500	1500	0	0.0
1928	1879	1879	0	0.0
1929	1500	1500	0	0.0
1930	1505	1505	0	0.0
1931	1887	1887	0	0.0
1932	1691	1691	0	0.0
1933	2943	2943	0	0.0
1934	1151	1151	0	0.0
1935	1707	1707	0	0.0
1936	2572	2572	0	0.0
1937	2758	2758	0	0.0
1938	1750	1750	0	0.0
1939	1750	1750	0	0.0
1940	1080	1080	0	0.0
1941	4277	4277	0	0.0
1942	1750	1750	0	0.0
1943	1750	1750	0	0.0
1944	1972	1972	0	0.0
1945	1500	1500	0	0.0
1946	2076	2076	0	0.0
1947	2057	2057	0	0.0
1948	750	750	0	0.0
1949	1750	1750	0	0.0
1950	1500	1500	0	0.0
1951	2065	2065	0	0.0
1952	1894	1894	0	0.0
1953	1750	1750	0	0.0
1954	1750	1750	0	0.0
1955	1500	1500	0	0.0
1956	1624	1624	0	0.0
1957	1750	1750	0	0.0
1958	1500	1500	0	0.0
1959	1750	1750	0	0.0
1960	750	750	0	0.0
1961	1500	1500	0	0.0
1962	750	750	0	0.0
1963	2644	2644	0	0.0
1964	1750	1750	0	0.0
1965	1500	1500	0	0.0
1966	2482	2482	0	0.0
1967	1500	1500	0	0.0
1968	1750	1750	0	0.0
1969	1500	1500	0	0.0
1970	1750	1750	0	0.0
1971	859	859	0	0.0
1972	1750	1750	0	0.0
1973	1500	1500	0	0.0
1974	1504	1504	0	0.0
1975	1750	1750	0	0.0
1976	1750	1750	0	0.0
1977	750	750	0	0.0
1978	500	500	0	0.0
1979	2188	2188	0	0.0
1980	1500	1500	0	0.0
1981	1750	1750	0	0.0
1982	750	750	0	0.0
1983	2136	2136	0	0.0
1984	1751	1751	0	0.0
1985	1718	1718	0	0.0
1986	1199	1199	0	0.0
1987	2020	2020	0	0.0
1988	1020	1020	0	0.0
1989	521	521	0	0.0
1990	1500	1500	0	0.0
1991	1252	1252	0	0.0
1992	1819	1819	0	0.0
1993	500	500	0	0.0
Mean:	1678	1678	0	0.0
Median:	1750	1750	0	0.0
Min:	500	500	0	0.0
Max:	4277	4277	0	0.0
X < 1300	15	15		
X < 1500	15	15		
X < 1750	34	34		
X < 1765	51	51		
X < 2000	58	58		
X < 2700	68	68		
X < 3000	70	70		
X < 4000	71	71		
X < 4500	72	72		
X < 5000	72	72		
X < 6000	72	72		
X > 3450	1	1		
Mean When X > 3450	4277	4277		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2001	2001	0	0.0
1923	2567	2567	0	0.0
1924	1573	1573	0	0.0
1925	800	800	0	0.0
1926	2964	2964	0	0.0
1927	1200	1200	0	0.0
1928	2424	2424	0	0.0
1929	1256	1256	0	0.0
1930	1204	1204	0	0.0
1931	1510	1510	0	0.0
1932	1353	1353	0	0.0
1933	3666	3666	0	0.0
1934	1370	1370	0	0.0
1935	1365	1365	0	0.0
1936	2058	2058	0	0.0
1937	2206	2206	0	0.0
1938	2028	2028	0	0.0
1939	2713	2713	0	0.0
1940	1700	1700	0	0.0
1941	2400	2400	0	0.0
1942	2746	2746	0	0.0
1943	4470	4470	0	0.0
1944	1578	1578	0	0.0
1945	1200	1200	0	0.0
1946	2387	2387	0	0.0
1947	2032	2032	0	0.0
1948	800	800	0	0.0
1949	1885	1885	0	0.0
1950	1488	1488	0	0.0
1951	16681	16681	0	0.0
1952	1864	1864	0	0.0
1953	2876	2876	0	0.0
1954	2971	2971	0	0.0
1955	1200	1200	0	0.0
1956	1483	1483	0	0.0
1957	2904	2904	0	0.0
1958	1326	1326	0	0.0
1959	2405	2405	0	0.0
1960	800	800	0	0.0
1961	1200	1200	0	0.0
1962	800	800	0	0.0
1963	4375	4375	0	0.0
1964	4080	4080	0	0.0
1965	1200	1200	0	0.0
1966	1985	1985	0	0.0
1967	1200	1200	0	0.0
1968	3428	3428	0	0.0
1969	1731	1731	0	0.0
1970	2916	2916	0	0.0
1971	1150	1150	0	0.0
1972	3016	3016	0	0.0
1973	1200	1200	0	0.0
1974	5965	5965	0	0.0
1975	2468	2468	0	0.0
1976	3898	3898	0	0.0
1977	800	800	0	0.0
1978	574	574	0	0.0
1979	1751	1751	0	0.0
1980	1357	1357	0	0.0
1981	3268	3268	0	0.0
1982	4333	4333	0	0.0
1983	8058	8058	0	0.0
1984	15897	15897	0	0.0
1985	3079	3079	0	0.0
1986	959	959	0	0.0
1987	2539	2539	0	0.0
1988	816	816	0	0.0
1989	500	500	0	0.0
1990	1200	1200	0	0.0
1991	1002	1002	0	0.0
1992	1455	1455	0	0.0
1993	500	500	0	0.0
Mean:	2502	2502	0	0.0
Median:	1808	1808	0	0.0
Min:	500	500	0	0.0
Max:	16681	16681	0	0.0
X < 1300	22	22		
X < 1500	30	30		
X < 1750	35	35		
X < 1765	36	36		
X < 2000	39	39		
X < 2700	51	51		
X < 3000	58	58		
X < 4000	64	64		
X < 4500	68	68		
X < 5000	68	68		
X < 6000	69	69		
X > 3450	10	10		
Mean When X > 3450	7142	7142		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1801	1801	0	0.0
1923	6261	6261	0	0.0
1924	1416	1416	0	0.0
1925	1000	1000	0	0.0
1926	2668	2668	0	0.0
1927	2566	2566	0	0.0
1928	2386	2386	0	0.0
1929	1300	1300	0	0.0
1930	1300	1300	0	0.0
1931	1359	1359	0	0.0
1932	1217	1217	0	0.0
1933	2700	2700	0	0.0
1934	1233	1233	0	0.0
1935	1229	1229	0	0.0
1936	1852	1852	0	0.0
1937	1986	1986	0	0.0
1938	6744	6744	0	0.0
1939	2441	2441	0	0.0
1940	1530	1530	0	0.0
1941	2160	2160	0	0.0
1942	5630	5630	0	0.0
1943	4778	4778	0	0.0
1944	1420	1420	0	0.0
1945	1300	1300	0	0.0
1946	8925	8925	0	0.0
1947	1829	1829	0	0.0
1948	1300	1300	0	0.0
1949	1696	1696	0	0.0
1950	1339	1339	0	0.0
1951	16253	16253	0	0.0
1952	4494	4494	0	0.0
1953	2650	2650	0	0.0
1954	2673	2673	0	0.0
1955	1300	1300	0	0.0
1956	15971	15971	0	0.0
1957	2613	2613	0	0.0
1958	2387	2387	0	0.0
1959	2164	2164	0	0.0
1960	1000	1000	0	0.0
1961	1300	1300	0	0.0
1962	1000	1000	0	0.0
1963	3445	3445	0	0.0
1964	2700	2700	0	0.0
1965	20997	20997	0	0.0
1966	1821	1821	0	0.0
1967	2511	2511	0	0.0
1968	2700	2700	0	0.0
1969	1558	1558	0	0.0
1970	5654	5654	0	0.0
1971	5795	5795	0	0.0
1972	2700	2700	0	0.0
1973	2844	2844	0	0.0
1974	7367	7367	0	0.0
1975	2221	2221	0	0.0
1976	2700	2700	0	0.0
1977	1300	1300	0	0.0
1978	516	516	0	0.0
1979	1576	1576	0	0.0
1980	1394	1394	0	0.0
1981	2700	2700	0	0.0
1982	14422	14422	0	0.0
1983	9229	9229	0	0.0
1984	15134	15134	0	0.0
1985	2700	2700	0	0.0
1986	1300	1300	0	0.0
1987	2285	2285	0	0.0
1988	1300	1300	0	0.0
1989	1000	1000	0	0.0
1990	1712	1712	0	0.0
1991	1300	1300	0	0.0
1992	1310	1310	0	0.0
1993	500	500	0	0.0
Mean:	3498	3498	0	0.0
Median:	2162	2162	0	0.0
Min:	500	500	0	0.0
Max:	20997	20997	0	0.0
X < 1300	9	9		
X < 1500	25	25		
X < 1750	30	30		
X < 1765	30	30		
X < 2000	35	35		
X < 2700	48	48		
X < 3000	56	56		
X < 4000	57	57		
X < 4500	58	58		
X < 5000	59	59		
X < 6000	62	62		
X > 3450	15	15		
Mean When X > 3450	9844	9844		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1350	1350	0	0.0
1923	4597	4597	0	0.0
1924	1200	1200	0	0.0
1925	1000	1000	0	0.0
1926	2001	2001	0	0.0
1927	3652	3652	0	0.0
1928	1925	1925	0	0.0
1929	1200	1200	0	0.0
1930	1200	1200	0	0.0
1931	1019	1019	0	0.0
1932	913	913	0	0.0
1933	2025	2025	0	0.0
1934	1000	1000	0	0.0
1935	922	922	0	0.0
1936	5173	5173	0	0.0
1937	1489	1489	0	0.0
1938	2867	2867	0	0.0
1939	1831	1831	0	0.0
1940	2852	2852	0	0.0
1941	5474	5474	0	0.0
1942	9287	9287	0	0.0
1943	10841	10841	0	0.0
1944	1500	1500	0	0.0
1945	1608	1608	0	0.0
1946	5201	5201	0	0.0
1947	1372	1372	0	0.0
1948	1000	1000	0	0.0
1949	1500	1500	0	0.0
1950	2747	2747	0	0.0
1951	10361	10361	0	0.0
1952	9069	9069	0	0.0
1953	7269	7269	0	0.0
1954	2005	2005	0	0.0
1955	1882	1882	0	0.0
1956	16591	16591	0	0.0
1957	1960	1960	0	0.0
1958	2936	2936	0	0.0
1959	1623	1623	0	0.0
1960	750	750	0	0.0
1961	1000	1000	0	0.0
1962	750	750	0	0.0
1963	3985	3985	0	0.0
1964	2069	2069	0	0.0
1965	13119	13119	0	0.0
1966	2194	2194	0	0.0
1967	6887	6887	0	0.0
1968	2025	2025	0	0.0
1969	15403	15403	0	0.0
1970	21102	21102	0	0.0
1971	4814	4814	0	0.0
1972	2025	2025	0	0.0
1973	9337	9337	0	0.0
1974	11740	11740	0	0.0
1975	1666	1666	0	0.0
1976	2025	2025	0	0.0
1977	975	975	0	0.0
1978	2506	2506	0	0.0
1979	2483	2483	0	0.0
1980	18252	18252	0	0.0
1981	2025	2025	0	0.0
1982	8229	8229	0	0.0
1983	7652	7652	0	0.0
1984	6758	6758	0	0.0
1985	2025	2025	0	0.0
1986	4388	4388	0	0.0
1987	1714	1714	0	0.0
1988	1000	1000	0	0.0
1989	750	750	0	0.0
1990	1284	1284	0	0.0
1991	975	975	0	0.0
1992	982	982	0	0.0
1993	1601	1601	0	0.0
Mean:	4124	4124	0	0.0
Median:	2025	2025	0	0.0
Min:	750	750	0	0.0
Max:	21102	21102	0	0.0
X < 1300	18	18		
X < 1500	21	21		
X < 1750	28	28		
X < 1765	28	28		
X < 2000	32	32		
X < 2700	44	44		
X < 3000	48	48		
X < 4000	50	50		
X < 4500	51	51		
X < 5000	53	53		
X < 6000	56	56		
X > 3450	24	24		
Mean When X > 3450	9133	9133		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5403	5403	0	0.0
1923	3106	3106	0	0.0
1924	1100	1100	0	0.0
1925	4657	4657	0	0.0
1926	1501	1501	0	0.0
1927	13471	13471	0	0.0
1928	2334	2334	0	0.0
1929	900	900	0	0.0
1930	1637	1637	0	0.0
1931	764	764	0	0.0
1932	2297	2297	0	0.0
1933	1519	1519	0	0.0
1934	1100	1100	0	0.0
1935	750	750	0	0.0
1936	13556	13556	0	0.0
1937	2937	2937	0	0.0
1938	9816	9816	0	0.0
1939	1373	1373	0	0.0
1940	10591	10591	0	0.0
1941	8078	8078	0	0.0
1942	10054	10054	0	0.0
1943	7258	7258	0	0.0
1944	1431	1431	0	0.0
1945	9316	9316	0	0.0
1946	3441	3441	0	0.0
1947	1100	1100	0	0.0
1948	2033	2033	0	0.0
1949	1494	1494	0	0.0
1950	5641	5641	0	0.0
1951	8371	8371	0	0.0
1952	9639	9639	0	0.0
1953	2385	2385	0	0.0
1954	2829	2829	0	0.0
1955	3091	3091	0	0.0
1956	6360	6360	0	0.0
1957	2382	2382	0	0.0
1958	10140	10140	0	0.0
1959	3191	3191	0	0.0
1960	879	879	0	0.0
1961	750	750	0	0.0
1962	1987	1987	0	0.0
1963	11887	11887	0	0.0
1964	2480	2480	0	0.0
1965	5554	5554	0	0.0
1966	1958	1958	0	0.0
1967	4489	4489	0	0.0
1968	6147	6147	0	0.0
1969	9315	9315	0	0.0
1970	6318	6318	0	0.0
1971	3957	3957	0	0.0
1972	3116	3116	0	0.0
1973	7204	7204	0	0.0
1974	4589	4589	0	0.0
1975	3751	3751	0	0.0
1976	1519	1519	0	0.0
1977	731	731	0	0.0
1978	4902	4902	0	0.0
1979	3698	3698	0	0.0
1980	13496	13496	0	0.0
1981	1519	1519	0	0.0
1982	15420	15420	0	0.0
1983	12469	12469	0	0.0
1984	5884	5884	0	0.0
1985	1519	1519	0	0.0
1986	32947	32947	0	0.0
1987	1285	1285	0	0.0
1988	2166	2166	0	0.0
1989	640	640	0	0.0
1990	2005	2005	0	0.0
1991	731	731	0	0.0
1992	737	737	0	0.0
1993	6144	6144	0	0.0
Mean:	4989	4989	0	0.0
Median:	3111	3111	0	0.0
Min:	640	640	0	0.0
Max:	32947	32947	0	0.0
X < 1300	13	13		
X < 1500	16	16		
X < 1750	22	22		
X < 1765	22	22		
X < 2000	24	24		
X < 2700	32	32		
X < 3000	34	34		
X < 4000	42	42		
X < 4500	43	43		
X < 5000	46	46		
X < 6000	50	50		
X > 3450	33	33		
Mean When X > 3450	8804	8804		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3417	3417	0	0.0
1923	3000	3000	0	0.0
1924	2393	2393	0	0.0
1925	5000	5000	0	0.0
1926	1500	1500	0	0.0
1927	4624	4624	0	0.0
1928	12819	12819	0	0.0
1929	882	882	0	0.0
1930	2864	2864	0	0.0
1931	750	750	0	0.0
1932	3000	3000	0	0.0
1933	1139	1139	0	0.0
1934	1638	1638	0	0.0
1935	1500	1500	0	0.0
1936	4209	4209	0	0.0
1937	4472	4472	0	0.0
1938	11086	11086	0	0.0
1939	1500	1500	0	0.0
1940	10912	10912	0	0.0
1941	4894	4894	0	0.0
1942	3000	3000	0	0.0
1943	12601	12601	0	0.0
1944	1970	1970	0	0.0
1945	2250	2250	0	0.0
1946	3000	3000	0	0.0
1947	1995	1995	0	0.0
1948	1525	1525	0	0.0
1949	3311	3311	0	0.0
1950	3151	3151	0	0.0
1951	3827	3827	0	0.0
1952	6228	6228	0	0.0
1953	1789	1789	0	0.0
1954	4439	4439	0	0.0
1955	2250	2250	0	0.0
1956	3000	3000	0	0.0
1957	4502	4502	0	0.0
1958	6739	6739	0	0.0
1959	2250	2250	0	0.0
1960	4014	4014	0	0.0
1961	1500	1500	0	0.0
1962	3000	3000	0	0.0
1963	2250	2250	0	0.0
1964	1860	1860	0	0.0
1965	2250	2250	0	0.0
1966	3000	3000	0	0.0
1967	6142	6142	0	0.0
1968	2250	2250	0	0.0
1969	3799	3799	0	0.0
1970	2417	2417	0	0.0
1971	3578	3578	0	0.0
1972	4166	4166	0	0.0
1973	3505	3505	0	0.0
1974	9385	9385	0	0.0
1975	4664	4664	0	0.0
1976	1139	1139	0	0.0
1977	548	548	0	0.0
1978	6085	6085	0	0.0
1979	3432	3432	0	0.0
1980	3607	3607	0	0.0
1981	1500	1500	0	0.0
1982	7697	7697	0	0.0
1983	16480	16480	0	0.0
1984	2586	2586	0	0.0
1985	1500	1500	0	0.0
1986	11118	11118	0	0.0
1987	964	964	0	0.0
1988	1624	1624	0	0.0
1989	6957	6957	0	0.0
1990	1504	1504	0	0.0
1991	548	548	0	0.0
1992	1500	1500	0	0.0
1993	7737	7737	0	0.0
Mean:	3941	3941	0	0.0
Median:	3000	3000	0	0.0
Min:	548	548	0	0.0
Max:	16480	16480	0	0.0
X < 1300	7	7		
X < 1500	7	7		
X < 1750	18	18		
X < 1765	18	18		
X < 2000	22	22		
X < 2700	31	31		
X < 3000	32	32		
X < 4000	48	48		
X < 4500	53	53		
X < 5000	57	57		
X < 6000	58	58		
X > 3450	29	29		
Mean When X > 3450	6734	6734		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4552	4552	0	0.0
1923	3454	3454	0	0.0
1924	750	750	0	0.0
1925	3000	3000	0	0.0
1926	750	750	0	0.0
1927	7865	7865	0	0.0
1928	4848	4848	0	0.0
1929	1829	1829	0	0.0
1930	1750	1750	0	0.0
1931	1023	1023	0	0.0
1932	3000	3000	0	0.0
1933	750	750	0	0.0
1934	3261	3261	0	0.0
1935	6736	6736	0	0.0
1936	5628	5628	0	0.0
1937	4414	4414	0	0.0
1938	8033	8033	0	0.0
1939	1750	1750	0	0.0
1940	6083	6083	0	0.0
1941	3802	3802	0	0.0
1942	5540	5540	0	0.0
1943	5046	5046	0	0.0
1944	3000	3000	0	0.0
1945	3000	3000	0	0.0
1946	3163	3163	0	0.0
1947	3000	3000	0	0.0
1948	2050	2050	0	0.0
1949	3463	3463	0	0.0
1950	4813	4813	0	0.0
1951	3254	3254	0	0.0
1952	8829	8829	0	0.0
1953	3000	3000	0	0.0
1954	4490	4490	0	0.0
1955	1750	1750	0	0.0
1956	3000	3000	0	0.0
1957	3000	3000	0	0.0
1958	10416	10416	0	0.0
1959	1750	1750	0	0.0
1960	3479	3479	0	0.0
1961	1750	1750	0	0.0
1962	3061	3061	0	0.0
1963	6171	6171	0	0.0
1964	1750	1750	0	0.0
1965	4788	4788	0	0.0
1966	1750	1750	0	0.0
1967	4009	4009	0	0.0
1968	1750	1750	0	0.0
1969	6570	6570	0	0.0
1970	3000	3000	0	0.0
1971	3408	3408	0	0.0
1972	1758	1758	0	0.0
1973	3000	3000	0	0.0
1974	6278	6278	0	0.0
1975	3000	3000	0	0.0
1976	750	750	0	0.0
1977	318	318	0	0.0
1978	4064	4064	0	0.0
1979	3000	3000	0	0.0
1980	3000	3000	0	0.0
1981	1750	1750	0	0.0
1982	14459	14459	0	0.0
1983	6594	6594	0	0.0
1984	2564	2564	0	0.0
1985	3000	3000	0	0.0
1986	2734	2734	0	0.0
1987	1750	1750	0	0.0
1988	750	750	0	0.0
1989	3827	3827	0	0.0
1990	1457	1457	0	0.0
1991	1872	1872	0	0.0
1992	2961	2961	0	0.0
1993	4106	4106	0	0.0
Mean:	3616	3616	0	0.0
Median:	3000	3000	0	0.0
Min:	318	318	0	0.0
Max:	14459	14459	0	0.0
X < 1300	7	7		
X < 1500	8	8		
X < 1750	8	8		
X < 1765	19	19		
X < 2000	21	21		
X < 2700	23	23		
X < 3000	25	25		
X < 4000	49	49		
X < 4500	54	54		
X < 5000	58	58		
X < 6000	61	61		
X > 3450	28	28		
Mean When X > 3450	5798	5798		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9586	9586	0	0.0
1923	4665	4665	0	0.0
1924	1000	1000	0	0.0
1925	3759	3759	0	0.0
1926	2250	2250	0	0.0
1927	4876	4876	0	0.0
1928	2729	2729	0	0.0
1929	1000	1000	0	0.0
1930	2250	2250	0	0.0
1931	1000	1000	0	0.0
1932	3000	3000	0	0.0
1933	1000	1000	0	0.0
1934	1381	1381	0	0.0
1935	4806	4806	0	0.0
1936	4138	4138	0	0.0
1937	4102	4102	0	0.0
1938	9751	9751	0	0.0
1939	1275	1275	0	0.0
1940	3309	3309	0	0.0
1941	5134	5134	0	0.0
1942	6772	6772	0	0.0
1943	3000	3000	0	0.0
1944	2250	2250	0	0.0
1945	2851	2851	0	0.0
1946	3791	3791	0	0.0
1947	2250	2250	0	0.0
1948	3780	3780	0	0.0
1949	3000	3000	0	0.0
1950	4188	4188	0	0.0
1951	3818	3818	0	0.0
1952	11546	11546	0	0.0
1953	3000	3000	0	0.0
1954	3260	3260	0	0.0
1955	2250	2250	0	0.0
1956	5565	5565	0	0.0
1957	2250	2250	0	0.0
1958	10164	10164	0	0.0
1959	2250	2250	0	0.0
1960	2250	2250	0	0.0
1961	2250	2250	0	0.0
1962	3000	3000	0	0.0
1963	7235	7235	0	0.0
1964	2250	2250	0	0.0
1965	4251	4251	0	0.0
1966	2250	2250	0	0.0
1967	8548	8548	0	0.0
1968	2250	2250	0	0.0
1969	9322	9322	0	0.0
1970	2250	2250	0	0.0
1971	3051	3051	0	0.0
1972	2250	2250	0	0.0
1973	4061	4061	0	0.0
1974	4944	4944	0	0.0
1975	4642	4642	0	0.0
1976	1000	1000	0	0.0
1977	500	500	0	0.0
1978	4411	4411	0	0.0
1979	3496	3496	0	0.0
1980	3000	3000	0	0.0
1981	2250	2250	0	0.0
1982	9528	9528	0	0.0
1983	10629	10629	0	0.0
1984	2415	2415	0	0.0
1985	2250	2250	0	0.0
1986	2962	2962	0	0.0
1987	1716	1716	0	0.0
1988	2250	2250	0	0.0
1989	3899	3899	0	0.0
1990	1000	1000	0	0.0
1991	2250	2250	0	0.0
1992	2250	2250	0	0.0
1993	5483	5483	0	0.0
Mean:	3793	3793	0	0.0
Median:	3000	3000	0	0.0
Min:	500	500	0	0.0
Max:	11546	11546	0	0.0
X < 1300	8	8		
X < 1500	9	9		
X < 1750	10	10		
X < 1765	10	10		
X < 2000	10	10		
X < 2700	30	30		
X < 3000	33	33		
X < 4000	48	48		
X < 4500	54	54		
X < 5000	59	59		
X < 6000	62	62		
X > 3450	30	30		
Mean When X > 3450	6030	6030		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9613	9613	0	0.0
1923	3095	3095	0	0.0
1924	1500	1500	0	0.0
1925	5000	5000	0	0.0
1926	2979	2979	0	0.0
1927	5568	5568	0	0.0
1928	2045	2045	0	0.0
1929	2894	2894	0	0.0
1930	3232	3232	0	0.0
1931	2529	2529	0	0.0
1932	5000	5000	0	0.0
1933	3117	3117	0	0.0
1934	2522	2522	0	0.0
1935	4102	4102	0	0.0
1936	5001	5001	0	0.0
1937	3000	3000	0	0.0
1938	9091	9091	0	0.0
1939	2042	2042	0	0.0
1940	3329	3329	0	0.0
1941	3547	3547	0	0.0
1942	7534	7534	0	0.0
1943	3000	3000	0	0.0
1944	3182	3182	0	0.0
1945	3555	3555	0	0.0
1946	4088	4088	0	0.0
1947	1924	1924	0	0.0
1948	5416	5416	0	0.0
1949	4152	4152	0	0.0
1950	4245	4245	0	0.0
1951	3000	3000	0	0.0
1952	10697	10697	0	0.0
1953	6284	6284	0	0.0
1954	3000	3000	0	0.0
1955	3000	3000	0	0.0
1956	6102	6102	0	0.0
1957	3993	3993	0	0.0
1958	7967	7967	0	0.0
1959	2448	2448	0	0.0
1960	3028	3028	0	0.0
1961	1500	1500	0	0.0
1962	3000	3000	0	0.0
1963	3431	3431	0	0.0
1964	2617	2617	0	0.0
1965	3356	3356	0	0.0
1966	2149	2149	0	0.0
1967	10703	10703	0	0.0
1968	2353	2353	0	0.0
1969	6830	6830	0	0.0
1970	3000	3000	0	0.0
1971	5204	5204	0	0.0
1972	5000	5000	0	0.0
1973	5000	5000	0	0.0
1974	4406	4406	0	0.0
1975	6516	6516	0	0.0
1976	1500	1500	0	0.0
1977	1000	1000	0	0.0
1978	4702	4702	0	0.0
1979	5000	5000	0	0.0
1980	3226	3226	0	0.0
1981	1500	1500	0	0.0
1982	6360	6360	0	0.0
1983	14668	14668	0	0.0
1984	3982	3982	0	0.0
1985	3348	3348	0	0.0
1986	3529	3529	0	0.0
1987	2191	2191	0	0.0
1988	1500	1500	0	0.0
1989	5000	5000	0	0.0
1990	2410	2410	0	0.0
1991	1995	1995	0	0.0
1992	1500	1500	0	0.0
1993	5636	5636	0	0.0
Mean:	4166	4166	0	0.0
Median:	3352	3352	0	0.0
Min:	1000	1000	0	0.0
Max:	14668	14668	0	0.0
X < 1300	1	1		
X < 1500	1	1		
X < 1750	7	7		
X < 1765	7	7		
X < 2000	9	9		
X < 2700	19	19		
X < 3000	21	21		
X < 4000	43	43		
X < 4500	48	48		
X < 5000	49	49		
X < 6000	60	60		
X > 3450	34	34		
Mean When X > 3450	5985	5985		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5000	5150	150	3.0
1923	5000	5129	129	2.6
1924	1750	1859	109	6.2
1925	5000	5058	58	1.2
1926	3159	3254	95	3.0
1927	5000	5146	146	2.9
1928	4890	5013	123	2.5
1929	2648	2730	82	3.1
1930	4342	4422	80	1.8
1931	2420	2519	99	4.1
1932	5194	5288	94	1.8
1933	2872	2964	92	3.2
1934	1754	1841	87	5.0
1935	5000	5120	120	2.4
1936	5000	5127	127	2.5
1937	5000	5137	137	2.7
1938	4261	4397	136	3.2
1939	2438	2558	120	4.9
1940	5000	5050	50	1.0
1941	4673	4786	113	2.4
1942	5000	5135	135	2.7
1943	5000	5143	143	2.9
1944	3410	3509	99	2.9
1945	5000	5085	85	1.7
1946	5000	5068	68	1.4
1947	3117	3183	66	2.1
1948	4947	5024	77	1.6
1949	4633	4738	105	2.3
1950	5000	5108	108	2.2
1951	5000	5124	124	2.5
1952	5000	5080	80	1.6
1953	4608	4734	126	2.7
1954	3392	3497	105	3.1
1955	3118	3202	84	2.7
1956	5000	5133	133	2.7
1957	5000	5117	117	2.3
1958	3766	3894	128	3.4
1959	4989	5093	104	2.1
1960	2794	2888	94	3.4
1961	3654	3777	123	3.4
1962	5000	5128	128	2.6
1963	5000	5142	142	2.8
1964	3450	3514	64	1.9
1965	5517	5658	141	2.6
1966	3007	3103	96	3.2
1967	4224	4275	51	1.2
1968	3531	3668	137	3.9
1969	5000	5096	96	1.9
1970	5000	5123	123	2.5
1971	5000	5056	56	1.1
1972	4497	4616	119	2.6
1973	4905	5039	134	2.7
1974	3742	3875	133	3.6
1975	4198	4330	132	3.1
1976	1750	1898	148	8.5
1977	750	850	100	13.3
1978	5000	5135	135	2.7
1979	4524	4662	138	3.1
1980	5000	5135	135	2.7
1981	3318	3416	98	3.0
1982	3988	4121	133	3.3
1983	7978	8013	35	0.4
1984	5704	5813	109	1.9
1985	2905	2985	80	2.8
1986	5000	5139	139	2.8
1987	1836	1944	108	5.9
1988	1750	1840	90	5.1
1989	3794	3879	85	2.2
1990	2331	2428	97	4.2
1991	2951	3063	112	3.8
1992	1750	1832	82	4.7
1993	5000	5146	146	2.9
Mean:	4100	4208	108	3.0
Median:	4621	4736	109	2.7
Min:	750	850	35	0.4
Max:	7978	8013	150	13.3
X < 1300	1	1		
X < 1500	1	1		
X < 1750	1	1		
X < 1765	6	1		
X < 2000	7	7		
X < 2700	11	10		
X < 3000	15	14		
X < 4000	29	28		
X < 4500	34	33		
X < 5000	42	38		
X < 6000	71	71		
X > 3450	49	52		
Mean When X > 3450	4828	4859		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2500	2513	13	0.5
1923	2733	2767	34	1.2
1924	1337	1382	45	3.4
1925	2885	2990	105	3.6
1926	1000	1059	59	5.9
1927	2660	2677	17	0.6
1928	3127	3167	40	1.3
1929	2250	2321	71	3.2
1930	2709	2780	71	2.6
1931	1753	1803	50	2.9
1932	3774	3832	58	1.5
1933	2372	2442	70	3.0
1934	1595	1652	57	3.6
1935	3754	3796	42	1.1
1936	2795	2831	36	1.3
1937	2827	2853	26	0.9
1938	3820	3833	13	0.3
1939	1658	1701	43	2.6
1940	2051	2164	113	5.5
1941	2909	2945	36	1.2
1942	2973	2987	14	0.5
1943	2500	2520	20	0.8
1944	1777	1841	64	3.6
1945	2593	2671	78	3.0
1946	2135	2229	94	4.4
1947	2636	2727	91	3.5
1948	2893	2979	86	3.0
1949	2769	2825	56	2.0
1950	2500	2554	54	2.2
1951	2500	2538	38	1.5
1952	5000	5056	56	1.1
1953	3672	3690	18	0.5
1954	2500	2557	57	2.3
1955	2653	2723	70	2.6
1956	2767	2782	15	0.5
1957	3104	3150	46	1.5
1958	4404	4421	17	0.4
1959	1000	1059	59	5.9
1960	2344	2390	46	2.0
1961	1500	1540	40	2.7
1962	2489	2523	34	1.4
1963	2825	2846	21	0.7
1964	3005	3102	97	3.2
1965	2500	2522	22	0.9
1966	1947	2014	67	3.4
1967	4498	4552	54	1.2
1968	1618	1643	25	1.5
1969	2504	2559	55	2.2
1970	1725	1765	40	2.3
1971	2500	2551	51	2.0
1972	2028	2071	43	2.1
1973	1854	1884	30	1.6
1974	4242	4256	14	0.3
1975	3214	3228	14	0.4
1976	1000	1014	14	1.4
1977	400	439	39	9.8
1978	2500	2513	13	0.5
1979	1713	1738	25	1.5
1980	2588	2603	15	0.6
1981	1500	1565	65	4.3
1982	3883	3898	15	0.4
1983	3392	3424	32	0.9
1984	1775	1829	54	3.0
1985	2504	2587	83	3.3
1986	2500	2512	12	0.5
1987	1000	1044	44	4.4
1988	1500	1565	65	4.3
1989	2896	2974	78	2.7
1990	1500	1559	59	3.9
1991	2209	2253	44	2.0
1992	1500	1563	63	4.2
1993	2652	2668	16	0.6
Mean:	2482	2528	46	2.2
Median:	2500	2553	44	2.0
Min:	400	439	12	0.3
Max:	5000	5056	113	9.8
X < 1300	5	5		
X < 1500	6	6		
X < 1750	16	15		
X < 1765	17	15		
X < 2000	21	20		
X < 2700	46	44		
X < 3000	58	58		
X < 4000	68	68		
X < 4500	71	70		
X < 5000	71	71		
X < 6000	72	72		
X > 3450	9	9		
Mean When X > 3450	4116	4148		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4544	4544	0	0.0
1923	4558	4558	0	0.0
1924	1000	1008	8	0.8
1925	2500	2500	0	0.0
1926	1000	1008	8	0.8
1927	4591	4591	0	0.0
1928	2500	2500	0	0.0
1929	1171	1181	10	0.9
1930	1000	1012	12	1.2
1931	1028	1042	14	1.4
1932	2500	2512	12	0.5
1933	1206	1206	0	0.0
1934	1000	1019	19	1.9
1935	2785	2785	0	0.0
1936	3932	3932	0	0.0
1937	3050	3050	0	0.0
1938	4410	4424	14	0.3
1939	1000	1000	0	0.0
1940	2829	2829	0	0.0
1941	3752	3766	14	0.4
1942	4379	4394	15	0.3
1943	4887	4887	0	0.0
1944	3356	3356	0	0.0
1945	4381	4381	0	0.0
1946	4395	4395	0	0.0
1947	2500	2506	6	0.2
1948	3882	3882	0	0.0
1949	2500	2502	2	0.1
1950	4423	4423	0	0.0
1951	4173	4173	0	0.0
1952	4110	4137	27	0.7
1953	4347	4367	20	0.5
1954	2500	2500	0	0.0
1955	1000	1010	10	1.0
1956	4337	4353	16	0.4
1957	2707	2707	0	0.0
1958	4043	4062	19	0.5
1959	1000	1000	0	0.0
1960	1403	1426	23	1.6
1961	1000	1000	0	0.0
1962	3045	3045	0	0.0
1963	3880	3880	0	0.0
1964	1200	1202	2	0.2
1965	4591	4591	0	0.0
1966	1000	1000	0	0.0
1967	4585	4645	60	1.3
1968	1312	1312	0	0.0
1969	4261	4273	12	0.3
1970	2754	2754	0	0.0
1971	4040	4098	58	1.4
1972	1000	1000	0	0.0
1973	3139	3139	0	0.0
1974	4485	4500	15	0.3
1975	4269	4286	17	0.4
1976	1000	1000	0	0.0
1977	500	524	24	4.8
1978	3699	3714	15	0.4
1979	3482	3482	0	0.0
1980	4273	4286	13	0.3
1981	1000	1000	0	0.0
1982	4784	4799	15	0.3
1983	5273	5373	100	1.9
1984	3837	3837	0	0.0
1985	1740	1740	0	0.0
1986	3679	3691	12	0.3
1987	1000	1011	11	1.1
1988	2384	2392	8	0.3
1989	1465	1465	0	0.0
1990	1293	1300	7	0.5
1991	2500	2507	7	0.3
1992	1000	1018	18	1.8
1993	4952	4952	0	0.0
Mean:	2876	2885	9	0.4
Median:	2937	2937	0	0.0
Min:	500	524	0	0.0
Max:	5273	5373	100	4.8
X < 1300	20	19		
X < 1500	23	23		
X < 1750	24	24		
X < 1765	24	24		
X < 2000	24	24		
X < 2700	32	32		
X < 3000	36	36		
X < 4000	48	48		
X < 4500	63	62		
X < 5000	71	71		
X < 6000	72	72		
X > 3450	32	32		
Mean When X > 3450	4289	4302		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2456	2456	0	0.0
1923	1706	1706	0	0.0
1924	1766	1766	0	0.0
1925	673	673	0	0.0
1926	3046	3046	0	0.0
1927	1383	1383	0	0.0
1928	1702	1702	0	0.0
1929	1297	1297	0	0.0
1930	1322	1322	0	0.0
1931	1713	1713	0	0.0
1932	1535	1535	0	0.0
1933	2744	2744	0	0.0
1934	1009	1009	0	0.0
1935	1539	1539	0	0.0
1936	2411	2411	0	0.0
1937	2556	2556	0	0.0
1938	1556	1556	0	0.0
1939	1567	1567	0	0.0
1940	929	929	0	0.0
1941	4099	4099	0	0.0
1942	1574	1574	0	0.0
1943	1530	1530	0	0.0
1944	1748	1748	0	0.0
1945	1339	1339	0	0.0
1946	1940	1940	0	0.0
1947	1850	1850	0	0.0
1948	625	625	0	0.0
1949	1546	1546	0	0.0
1950	1293	1293	0	0.0
1951	1933	1933	0	0.0
1952	1739	1739	0	0.0
1953	1527	1527	0	0.0
1954	1542	1542	0	0.0
1955	1290	1290	0	0.0
1956	1457	1457	0	0.0
1957	1583	1583	0	0.0
1958	1356	1356	0	0.0
1959	1534	1534	0	0.0
1960	558	558	0	0.0
1961	1308	1308	0	0.0
1962	560	560	0	0.0
1963	2626	2626	0	0.0
1964	1586	1586	0	0.0
1965	1368	1368	0	0.0
1966	2258	2258	0	0.0
1967	1309	1309	0	0.0
1968	1532	1532	0	0.0
1969	1328	1328	0	0.0
1970	1562	1562	0	0.0
1971	692	692	0	0.0
1972	1540	1540	0	0.0
1973	1377	1377	0	0.0
1974	1355	1355	0	0.0
1975	1559	1559	0	0.0
1976	1619	1619	0	0.0
1977	567	567	0	0.0
1978	325	325	0	0.0
1979	1967	1967	0	0.0
1980	1363	1363	0	0.0
1981	1533	1533	0	0.0
1982	635	635	0	0.0
1983	2018	2018	0	0.0
1984	1553	1553	0	0.0
1985	1554	1554	0	0.0
1986	1027	1027	0	0.0
1987	1809	1809	0	0.0
1988	853	853	0	0.0
1989	323	323	0	0.0
1990	1370	1370	0	0.0
1991	1072	1072	0	0.0
1992	1656	1656	0	0.0
1993	361	361	0	0.0
Mean:	1507	1507	0	0.0
Median:	1535	1535	0	0.0
Min:	323	323	0	0.0
Max:	4099	4099	0	0.0
X < 1500	31	31		
X < 1750	57	57		
X < 1765	57	57		
X < 2000	63	63		
X < 3000	70	70		
X > 3450	1	1		
Mean When X > 3450	4099	4099		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1856	1856	0	0.0
1923	2483	2483	0	0.0
1924	1409	1409	0	0.0
1925	677	677	0	0.0
1926	2814	2814	0	0.0
1927	1159	1159	0	0.0
1928	2308	2308	0	0.0
1929	1147	1147	0	0.0
1930	1033	1033	0	0.0
1931	1378	1378	0	0.0
1932	1238	1238	0	0.0
1933	3500	3500	0	0.0
1934	1204	1204	0	0.0
1935	1284	1284	0	0.0
1936	1910	1910	0	0.0
1937	2022	2022	0	0.0
1938	1932	1932	0	0.0
1939	2556	2556	0	0.0
1940	1533	1533	0	0.0
1941	2249	2249	0	0.0
1942	2614	2614	0	0.0
1943	4359	4359	0	0.0
1944	1425	1425	0	0.0
1945	1114	1114	0	0.0
1946	2265	2265	0	0.0
1947	1917	1917	0	0.0
1948	681	681	0	0.0
1949	1742	1742	0	0.0
1950	1348	1348	0	0.0
1951	16612	16612	0	0.0
1952	1742	1742	0	0.0
1953	2750	2750	0	0.0
1954	2845	2845	0	0.0
1955	1096	1096	0	0.0
1956	1354	1354	0	0.0
1957	2725	2725	0	0.0
1958	1165	1165	0	0.0
1959	2239	2239	0	0.0
1960	634	634	0	0.0
1961	1120	1120	0	0.0
1962	698	698	0	0.0
1963	4217	4217	0	0.0
1964	4010	4010	0	0.0
1965	1102	1102	0	0.0
1966	1886	1886	0	0.0
1967	1158	1158	0	0.0
1968	3289	3289	0	0.0
1969	1636	1636	0	0.0
1970	2772	2772	0	0.0
1971	1132	1132	0	0.0
1972	2873	2873	0	0.0
1973	1134	1134	0	0.0
1974	5927	5927	0	0.0
1975	2332	2332	0	0.0
1976	3741	3741	0	0.0
1977	661	661	0	0.0
1978	470	470	0	0.0
1979	1649	1649	0	0.0
1980	1231	1231	0	0.0
1981	3096	3096	0	0.0
1982	4305	4305	0	0.0
1983	8055	8055	0	0.0
1984	15916	15916	0	0.0
1985	3032	3032	0	0.0
1986	905	905	0	0.0
1987	2372	2372	0	0.0
1988	703	703	0	0.0
1989	401	401	0	0.0
1990	1069	1069	0	0.0
1991	858	858	0	0.0
1992	1289	1289	0	0.0
1993	348	348	0	0.0
Mean:	2385	2385	0	0.0
Median:	1696	1696	0	0.0
Min:	348	348	0	0.0
Max:	16612	16612	0	0.0
X < 1500	33	33		
X < 1750	38	38		
X < 1765	38	38		
X < 2000	43	43		
X < 3000	59	59		
X > 3450	10	10		
Mean When X > 3450	7064	7064		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1763	1763	0	0.0
1923	6284	6284	0	0.0
1924	1294	1294	0	0.0
1925	947	947	0	0.0
1926	2536	2536	0	0.0
1927	2438	2438	0	0.0
1928	2293	2293	0	0.0
1929	1196	1196	0	0.0
1930	1236	1236	0	0.0
1931	1210	1210	0	0.0
1932	1223	1223	0	0.0
1933	2575	2575	0	0.0
1934	1187	1187	0	0.0
1935	1122	1122	0	0.0
1936	1727	1727	0	0.0
1937	1884	1884	0	0.0
1938	6652	6652	0	0.0
1939	2299	2299	0	0.0
1940	1393	1393	0	0.0
1941	2153	2153	0	0.0
1942	5611	5611	0	0.0
1943	4702	4702	0	0.0
1944	1299	1299	0	0.0
1945	1190	1190	0	0.0
1946	8864	8864	0	0.0
1947	1714	1714	0	0.0
1948	1172	1172	0	0.0
1949	1624	1624	0	0.0
1950	1215	1215	0	0.0
1951	16063	16063	0	0.0
1952	4434	4434	0	0.0
1953	2617	2617	0	0.0
1954	2516	2516	0	0.0
1955	1231	1231	0	0.0
1956	16005	16005	0	0.0
1957	2450	2450	0	0.0
1958	2294	2294	0	0.0
1959	2052	2052	0	0.0
1960	876	876	0	0.0
1961	1169	1169	0	0.0
1962	897	897	0	0.0
1963	3306	3306	0	0.0
1964	2546	2546	0	0.0
1965	20966	20966	0	0.0
1966	1715	1715	0	0.0
1967	2424	2424	0	0.0
1968	2565	2565	0	0.0
1969	1462	1462	0	0.0
1970	5579	5579	0	0.0
1971	5729	5729	0	0.0
1972	2614	2614	0	0.0
1973	2740	2740	0	0.0
1974	7253	7253	0	0.0
1975	2140	2140	0	0.0
1976	2536	2536	0	0.0
1977	1168	1168	0	0.0
1978	449	449	0	0.0
1979	1437	1437	0	0.0
1980	1314	1314	0	0.0
1981	2573	2573	0	0.0
1982	14314	14314	0	0.0
1983	9156	9156	0	0.0
1984	15042	15042	0	0.0
1985	2558	2558	0	0.0
1986	1201	1201	0	0.0
1987	2143	2143	0	0.0
1988	1244	1244	0	0.0
1989	917	917	0	0.0
1990	1562	1562	0	0.0
1991	1179	1179	0	0.0
1992	1195	1195	0	0.0
1993	477	477	0	0.0
Mean:	3402	3402	0	0.0
Median:	2096	2096	0	0.0
Min:	449	449	0	0.0
Max:	20966	20966	0	0.0
X < 1500	28	28		
X < 1750	33	33		
X < 1765	34	34		
X < 2000	35	35		
X < 3000	56	56		
X > 3450	15	15		
Mean When X > 3450	9777	9777		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1290	1290	0	0.0
1923	4524	4524	0	0.0
1924	1146	1146	0	0.0
1925	874	874	0	0.0
1926	1914	1914	0	0.0
1927	3570	3570	0	0.0
1928	1856	1856	0	0.0
1929	1093	1093	0	0.0
1930	1134	1134	0	0.0
1931	932	932	0	0.0
1932	796	796	0	0.0
1933	1938	1938	0	0.0
1934	883	883	0	0.0
1935	868	868	0	0.0
1936	5083	5083	0	0.0
1937	1399	1399	0	0.0
1938	2725	2725	0	0.0
1939	1741	1741	0	0.0
1940	2845	2845	0	0.0
1941	5415	5415	0	0.0
1942	9219	9219	0	0.0
1943	10837	10837	0	0.0
1944	1429	1429	0	0.0
1945	1475	1475	0	0.0
1946	5027	5027	0	0.0
1947	1223	1223	0	0.0
1948	865	865	0	0.0
1949	1421	1421	0	0.0
1950	2676	2676	0	0.0
1951	10175	10175	0	0.0
1952	9064	9064	0	0.0
1953	7216	7216	0	0.0
1954	1914	1914	0	0.0
1955	1795	1795	0	0.0
1956	16439	16439	0	0.0
1957	1863	1863	0	0.0
1958	2899	2899	0	0.0
1959	1620	1620	0	0.0
1960	671	671	0	0.0
1961	899	899	0	0.0
1962	624	624	0	0.0
1963	3879	3879	0	0.0
1964	2025	2025	0	0.0
1965	12875	12875	0	0.0
1966	2078	2078	0	0.0
1967	6867	6867	0	0.0
1968	1984	1984	0	0.0
1969	15435	15435	0	0.0
1970	21058	21058	0	0.0
1971	4640	4640	0	0.0
1972	1877	1877	0	0.0
1973	9328	9328	0	0.0
1974	11616	11616	0	0.0
1975	1567	1567	0	0.0
1976	1908	1908	0	0.0
1977	848	848	0	0.0
1978	2541	2541	0	0.0
1979	2425	2425	0	0.0
1980	18203	18203	0	0.0
1981	1948	1948	0	0.0
1982	8057	8057	0	0.0
1983	7637	7637	0	0.0
1984	6612	6612	0	0.0
1985	1905	1905	0	0.0
1986	4299	4299	0	0.0
1987	1637	1637	0	0.0
1988	919	919	0	0.0
1989	620	620	0	0.0
1990	1217	1217	0	0.0
1991	836	836	0	0.0
1992	859	859	0	0.0
1993	1629	1629	0	0.0
Mean:	4038	4038	0	0.0
Median:	1914	1914	0	0.0
Min:	620	620	0	0.0
Max:	21058	21058	0	0.0
X < 1500	24	24		
X < 1750	29	29		
X < 1765	29	29		
X < 2000	40	40		
X < 3000	48	48		
X > 3450	24	24		
Mean When X > 3450	9045	9045		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5431	5431	0	0.0
1923	3032	3032	0	0.0
1924	1091	1091	0	0.0
1925	4604	4604	0	0.0
1926	1528	1528	0	0.0
1927	13466	13466	0	0.0
1928	2297	2297	0	0.0
1929	825	825	0	0.0
1930	1503	1503	0	0.0
1931	671	671	0	0.0
1932	2197	2197	0	0.0
1933	1372	1372	0	0.0
1934	1006	1006	0	0.0
1935	611	611	0	0.0
1936	13533	13533	0	0.0
1937	2901	2901	0	0.0
1938	9801	9801	0	0.0
1939	1289	1289	0	0.0
1940	10571	10571	0	0.0
1941	8016	8016	0	0.0
1942	9972	9972	0	0.0
1943	7143	7143	0	0.0
1944	1475	1475	0	0.0
1945	9264	9264	0	0.0
1946	3343	3343	0	0.0
1947	1013	1013	0	0.0
1948	1920	1920	0	0.0
1949	1433	1433	0	0.0
1950	5536	5536	0	0.0
1951	8267	8267	0	0.0
1952	9491	9491	0	0.0
1953	2239	2239	0	0.0
1954	2776	2776	0	0.0
1955	2982	2982	0	0.0
1956	6134	6134	0	0.0
1957	2347	2347	0	0.0
1958	10162	10162	0	0.0
1959	3201	3201	0	0.0
1960	796	796	0	0.0
1961	623	623	0	0.0
1962	1993	1993	0	0.0
1963	11763	11763	0	0.0
1964	2393	2393	0	0.0
1965	5311	5311	0	0.0
1966	1860	1860	0	0.0
1967	4277	4277	0	0.0
1968	6103	6103	0	0.0
1969	9146	9146	0	0.0
1970	6050	6050	0	0.0
1971	3791	3791	0	0.0
1972	2999	2999	0	0.0
1973	7104	7104	0	0.0
1974	4403	4403	0	0.0
1975	3790	3790	0	0.0
1976	1434	1434	0	0.0
1977	584	584	0	0.0
1978	4797	4797	0	0.0
1979	3600	3600	0	0.0
1980	13317	13317	0	0.0
1981	1394	1394	0	0.0
1982	15298	15298	0	0.0
1983	12505	12505	0	0.0
1984	5849	5849	0	0.0
1985	1447	1447	0	0.0
1986	32987	32987	0	0.0
1987	1255	1255	0	0.0
1988	2022	2022	0	0.0
1989	505	505	0	0.0
1990	1961	1961	0	0.0
1991	625	625	0	0.0
1992	727	727	0	0.0
1993	6087	6087	0	0.0
Mean:	4906	4906	0	0.0
Median:	3016	3016	0	0.0
Min:	505	505	0	0.0
Max:	32987	32987	0	0.0
X < 1500	20	20		
X < 1750	22	22		
X < 1765	22	22		
X < 2000	26	26		
X < 3000	36	36		
X > 3450	33	33		
Mean When X > 3450	8714	8714		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3359	3359	0	0.0
1923	2907	2907	0	0.0
1924	2355	2355	0	0.0
1925	4852	4852	0	0.0
1926	1409	1409	0	0.0
1927	4467	4467	0	0.0
1928	12833	12833	0	0.0
1929	852	852	0	0.0
1930	2793	2793	0	0.0
1931	687	687	0	0.0
1932	2834	2834	0	0.0
1933	1036	1036	0	0.0
1934	1473	1473	0	0.0
1935	1435	1435	0	0.0
1936	3969	3969	0	0.0
1937	4431	4431	0	0.0
1938	10963	10963	0	0.0
1939	1476	1476	0	0.0
1940	10759	10759	0	0.0
1941	4806	4806	0	0.0
1942	2933	2933	0	0.0
1943	12584	12584	0	0.0
1944	1910	1910	0	0.0
1945	2139	2139	0	0.0
1946	2966	2966	0	0.0
1947	1970	1970	0	0.0
1948	1479	1479	0	0.0
1949	3344	3344	0	0.0
1950	3047	3047	0	0.0
1951	3742	3742	0	0.0
1952	6160	6160	0	0.0
1953	1734	1734	0	0.0
1954	4409	4409	0	0.0
1955	2123	2123	0	0.0
1956	2868	2868	0	0.0
1957	4460	4460	0	0.0
1958	6679	6679	0	0.0
1959	2166	2166	0	0.0
1960	3931	3931	0	0.0
1961	1405	1405	0	0.0
1962	2878	2878	0	0.0
1963	2118	2118	0	0.0
1964	1779	1779	0	0.0
1965	2141	2141	0	0.0
1966	2888	2888	0	0.0
1967	6042	6042	0	0.0
1968	2187	2187	0	0.0
1969	3680	3680	0	0.0
1970	2382	2382	0	0.0
1971	3496	3496	0	0.0
1972	4024	4024	0	0.0
1973	3421	3421	0	0.0
1974	9391	9391	0	0.0
1975	4662	4662	0	0.0
1976	1045	1045	0	0.0
1977	385	385	0	0.0
1978	5997	5997	0	0.0
1979	3306	3306	0	0.0
1980	3429	3429	0	0.0
1981	1472	1472	0	0.0
1982	7631	7631	0	0.0
1983	16540	16540	0	0.0
1984	2553	2553	0	0.0
1985	1485	1485	0	0.0
1986	10896	10896	0	0.0
1987	974	974	0	0.0
1988	1474	1474	0	0.0
1989	6936	6936	0	0.0
1990	1424	1424	0	0.0
1991	582	582	0	0.0
1992	1413	1413	0	0.0
1993	7586	7586	0	0.0
Mean:	3861	3861	0	0.0
Median:	2898	2898	0	0.0
Min:	385	385	0	0.0
Max:	16540	16540	0	0.0
X < 1500	18	18		
X < 1750	19	19		
X < 1765	19	19		
X < 2000	22	22		
X < 3000	39	39		
X > 3450	27	27		
Mean When X > 3450	6886	6886		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4371	4371	0	0.0
1923	3405	3405	0	0.0
1924	546	546	0	0.0
1925	2751	2751	0	0.0
1926	730	730	0	0.0
1927	7739	7739	0	0.0
1928	4605	4605	0	0.0
1929	1663	1663	0	0.0
1930	1556	1556	0	0.0
1931	789	789	0	0.0
1932	2727	2727	0	0.0
1933	459	459	0	0.0
1934	2956	2956	0	0.0
1935	6663	6663	0	0.0
1936	5349	5349	0	0.0
1937	4147	4147	0	0.0
1938	7776	7776	0	0.0
1939	1529	1529	0	0.0
1940	5786	5786	0	0.0
1941	3747	3747	0	0.0
1942	5559	5559	0	0.0
1943	4887	4887	0	0.0
1944	2840	2840	0	0.0
1945	2794	2794	0	0.0
1946	2959	2959	0	0.0
1947	2790	2790	0	0.0
1948	1987	1987	0	0.0
1949	3244	3244	0	0.0
1950	4625	4625	0	0.0
1951	3070	3070	0	0.0
1952	8652	8652	0	0.0
1953	2872	2872	0	0.0
1954	4345	4345	0	0.0
1955	1583	1583	0	0.0
1956	2837	2837	0	0.0
1957	2826	2826	0	0.0
1958	10376	10376	0	0.0
1959	1567	1567	0	0.0
1960	3241	3241	0	0.0
1961	1522	1522	0	0.0
1962	2783	2783	0	0.0
1963	6112	6112	0	0.0
1964	1519	1519	0	0.0
1965	4701	4701	0	0.0
1966	1508	1508	0	0.0
1967	3900	3900	0	0.0
1968	1563	1563	0	0.0
1969	6406	6406	0	0.0
1970	2811	2811	0	0.0
1971	3167	3167	0	0.0
1972	1530	1530	0	0.0
1973	2792	2792	0	0.0
1974	6085	6085	0	0.0
1975	2826	2826	0	0.0
1976	558	558	0	0.0
1977	2	2	0	0.0
1978	3855	3855	0	0.0
1979	2733	2733	0	0.0
1980	2821	2821	0	0.0
1981	1548	1548	0	0.0
1982	14440	14440	0	0.0
1983	6500	6500	0	0.0
1984	2403	2403	0	0.0
1985	2806	2806	0	0.0
1986	2551	2551	0	0.0
1987	1569	1569	0	0.0
1988	581	581	0	0.0
1989	3522	3522	0	0.0
1990	1249	1249	0	0.0
1991	1654	1654	0	0.0
1992	2710	2710	0	0.0
1993	3770	3770	0	0.0
Mean:	3428	3428	0	0.0
Median:	2826	2826	0	0.0
Min:	2	2	0	0.0
Max:	14440	14440	0	0.0
X < 1500	8	8		
X < 1750	21	21		
X < 1765	21	21		
X < 2000	22	22		
X < 3000	42	42		
X > 3450	25	25		
Mean When X > 3450	5917	5917		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9345	9345	0	0.0
1923	4433	4433	0	0.0
1924	735	735	0	0.0
1925	3506	3506	0	0.0
1926	2042	2042	0	0.0
1927	4604	4604	0	0.0
1928	2488	2488	0	0.0
1929	735	735	0	0.0
1930	1989	1989	0	0.0
1931	750	750	0	0.0
1932	2718	2718	0	0.0
1933	753	753	0	0.0
1934	1090	1090	0	0.0
1935	4442	4442	0	0.0
1936	3824	3824	0	0.0
1937	3773	3773	0	0.0
1938	9462	9462	0	0.0
1939	1046	1046	0	0.0
1940	3022	3022	0	0.0
1941	4955	4955	0	0.0
1942	6606	6606	0	0.0
1943	2785	2785	0	0.0
1944	2001	2001	0	0.0
1945	2593	2593	0	0.0
1946	3544	3544	0	0.0
1947	1966	1966	0	0.0
1948	3605	3605	0	0.0
1949	2744	2744	0	0.0
1950	3903	3903	0	0.0
1951	3605	3605	0	0.0
1952	11251	11251	0	0.0
1953	2746	2746	0	0.0
1954	2999	2999	0	0.0
1955	1995	1995	0	0.0
1956	5345	5345	0	0.0
1957	2068	2068	0	0.0
1958	9914	9914	0	0.0
1959	1982	1982	0	0.0
1960	1974	1974	0	0.0
1961	1952	1952	0	0.0
1962	2674	2674	0	0.0
1963	6988	6988	0	0.0
1964	1982	1982	0	0.0
1965	3972	3972	0	0.0
1966	1968	1968	0	0.0
1967	8268	8268	0	0.0
1968	2002	2002	0	0.0
1969	9025	9025	0	0.0
1970	1987	1987	0	0.0
1971	2797	2797	0	0.0
1972	1975	1975	0	0.0
1973	3784	3784	0	0.0
1974	4674	4674	0	0.0
1975	4382	4382	0	0.0
1976	730	730	0	0.0
1977	281	281	0	0.0
1978	4070	4070	0	0.0
1979	3170	3170	0	0.0
1980	2743	2743	0	0.0
1981	1976	1976	0	0.0
1982	9204	9204	0	0.0
1983	10449	10449	0	0.0
1984	2173	2173	0	0.0
1985	1970	1970	0	0.0
1986	2762	2762	0	0.0
1987	1458	1458	0	0.0
1988	2013	2013	0	0.0
1989	3580	3580	0	0.0
1990	828	828	0	0.0
1991	1943	1943	0	0.0
1992	1928	1928	0	0.0
1993	5187	5187	0	0.0
Mean:	3531	3531	0	0.0
Median:	2745	2745	0	0.0
Min:	281	281	0	0.0
Max:	11251	11251	0	0.0
X < 1500	10	10		
X < 1750	10	10		
X < 1765	10	10		
X < 2000	24	24		
X < 3000	41	41		
X > 3450	29	29		
Mean When X > 3450	5852	5852		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9209	9209	0	0.0
1923	2755	2755	0	0.0
1924	1169	1169	0	0.0
1925	4637	4637	0	0.0
1926	2637	2637	0	0.0
1927	5251	5251	0	0.0
1928	1728	1728	0	0.0
1929	2604	2604	0	0.0
1930	2868	2868	0	0.0
1931	2240	2240	0	0.0
1932	4654	4654	0	0.0
1933	2783	2783	0	0.0
1934	2208	2208	0	0.0
1935	3696	3696	0	0.0
1936	4644	4644	0	0.0
1937	2635	2635	0	0.0
1938	8681	8681	0	0.0
1939	1695	1695	0	0.0
1940	2965	2965	0	0.0
1941	3189	3189	0	0.0
1942	7189	7189	0	0.0
1943	2699	2699	0	0.0
1944	2841	2841	0	0.0
1945	3216	3216	0	0.0
1946	3725	3725	0	0.0
1947	1588	1588	0	0.0
1948	5072	5072	0	0.0
1949	3790	3790	0	0.0
1950	3868	3868	0	0.0
1951	2650	2650	0	0.0
1952	10307	10307	0	0.0
1953	5950	5950	0	0.0
1954	2655	2655	0	0.0
1955	2643	2643	0	0.0
1956	5728	5728	0	0.0
1957	3649	3649	0	0.0
1958	7610	7610	0	0.0
1959	2091	2091	0	0.0
1960	2678	2678	0	0.0
1961	1137	1137	0	0.0
1962	2626	2626	0	0.0
1963	3047	3047	0	0.0
1964	2287	2287	0	0.0
1965	2987	2987	0	0.0
1966	1800	1800	0	0.0
1967	10321	10321	0	0.0
1968	2005	2005	0	0.0
1969	6429	6429	0	0.0
1970	2671	2671	0	0.0
1971	4841	4841	0	0.0
1972	4645	4645	0	0.0
1973	4621	4621	0	0.0
1974	4068	4068	0	0.0
1975	6145	6145	0	0.0
1976	1183	1183	0	0.0
1977	672	672	0	0.0
1978	4308	4308	0	0.0
1979	4610	4610	0	0.0
1980	2863	2863	0	0.0
1981	1127	1127	0	0.0
1982	5999	5999	0	0.0
1983	14323	14323	0	0.0
1984	3669	3669	0	0.0
1985	2994	2994	0	0.0
1986	3216	3216	0	0.0
1987	1843	1843	0	0.0
1988	1175	1175	0	0.0
1989	4630	4630	0	0.0
1990	2081	2081	0	0.0
1991	1644	1644	0	0.0
1992	1167	1167	0	0.0
1993	5282	5282	0	0.0
Mean:	3814	3814	0	0.0
Median:	2991	2991	0	0.0
Min:	672	672	0	0.0
Max:	14323	14323	0	0.0
X < 1500	7	7		
X < 1750	11	11		
X < 1765	11	11		
X < 2000	13	13		
X < 3000	37	37		
X > 3450	31	31		
Mean When X > 3450	5856	5856		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4572	4723	151	3.3
1923	4629	4758	129	2.8
1924	1422	1531	109	7.7
1925	4616	4674	58	1.3
1926	2788	2883	95	3.4
1927	4613	4759	146	3.2
1928	4537	4660	123	2.7
1929	2303	2384	81	3.5
1930	3979	4059	80	2.0
1931	2075	2174	99	4.8
1932	4835	4929	94	1.9
1933	2526	2619	93	3.7
1934	1418	1505	87	6.1
1935	4609	4730	121	2.6
1936	4631	4757	126	2.7
1937	4642	4780	138	3.0
1938	3836	3972	136	3.5
1939	2093	2212	119	5.7
1940	4631	4681	50	1.1
1941	4282	4395	113	2.6
1942	4598	4733	135	2.9
1943	4634	4777	143	3.1
1944	3048	3147	99	3.2
1945	4620	4705	85	1.8
1946	4631	4699	68	1.5
1947	2762	2828	66	2.4
1948	4523	4600	77	1.7
1949	4264	4369	105	2.5
1950	4621	4729	108	2.3
1951	4636	4760	124	2.7
1952	4575	4655	80	1.7
1953	4212	4338	126	3.0
1954	3019	3125	106	3.5
1955	2763	2847	84	3.0
1956	4608	4741	133	2.9
1957	4603	4720	117	2.5
1958	3377	3505	128	3.8
1959	4639	4743	104	2.2
1960	2445	2539	94	3.8
1961	3305	3427	122	3.7
1962	4635	4763	128	2.8
1963	4610	4752	142	3.1
1964	3107	3171	64	2.1
1965	5145	5286	141	2.7
1966	2668	2764	96	3.6
1967	3767	3819	52	1.4
1968	3172	3309	137	4.3
1969	4602	4698	96	2.1
1970	4642	4765	123	2.6
1971	4624	4680	56	1.2
1972	4116	4236	120	2.9
1973	4522	4655	133	2.9
1974	3408	3541	133	3.9
1975	3798	3930	132	3.5
1976	1428	1576	148	10.4
1977	419	520	101	24.1
1978	4609	4744	135	2.9
1979	4134	4272	138	3.3
1980	4652	4788	136	2.9
1981	2960	3058	98	3.3
1982	3603	3736	133	3.7
1983	7547	7582	35	0.5
1984	5339	5447	108	2.0
1985	2538	2618	80	3.2
1986	4634	4772	138	3.0
1987	1492	1599	107	7.2
1988	1414	1503	89	6.3
1989	3406	3491	85	2.5
1990	1989	2086	97	4.9
1991	2593	2705	112	4.3
1992	1403	1485	82	5.8
1993	4606	4753	147	3.2
Mean:	3729	3837	108	3.5
Median:	4238	4354	109	3.0
Min:	419	520	35	0.5
Max:	7547	7582	151	24.1
X < 1500	7	2		
X < 1750	7	7		
X < 1765	7	7		
X < 2000	8	7		
X < 3000	20	19		
X > 3450	44	47		
Mean When X > 3450	4572	4610		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2152	2165	13	0.6
1923	2385	2419	34	1.4
1924	1041	1087	46	4.4
1925	2541	2646	105	4.1
1926	668	727	59	8.8
1927	2310	2326	16	0.7
1928	2787	2827	40	1.4
1929	1943	2014	71	3.7
1930	2382	2453	71	3.0
1931	1445	1496	51	3.5
1932	3449	3507	58	1.7
1933	2064	2134	70	3.4
1934	1300	1357	57	4.4
1935	3397	3440	43	1.3
1936	2462	2498	36	1.5
1937	2489	2515	26	1.0
1938	3477	3490	13	0.4
1939	1345	1388	43	3.2
1940	1707	1820	113	6.6
1941	2541	2577	36	1.4
1942	2605	2619	14	0.5
1943	2150	2170	20	0.9
1944	1451	1515	64	4.4
1945	2241	2319	78	3.5
1946	1795	1889	94	5.2
1947	2309	2400	91	3.9
1948	2520	2605	85	3.4
1949	2434	2490	56	2.3
1950	2154	2208	54	2.5
1951	2157	2195	38	1.8
1952	4655	4711	56	1.2
1953	3347	3365	18	0.5
1954	2169	2227	58	2.7
1955	2334	2404	70	3.0
1956	2423	2438	15	0.6
1957	2742	2788	46	1.7
1958	4054	4071	17	0.4
1959	664	722	58	8.7
1960	2033	2079	46	2.3
1961	1170	1210	40	3.4
1962	2148	2183	35	1.6
1963	2459	2480	21	0.9
1964	2691	2788	97	3.6
1965	2173	2195	22	1.0
1966	1633	1700	67	4.1
1967	4142	4196	54	1.3
1968	1296	1322	26	2.0
1969	2161	2215	54	2.5
1970	1387	1426	39	2.8
1971	2163	2214	51	2.4
1972	1690	1734	44	2.6
1973	1510	1540	30	2.0
1974	3897	3911	14	0.4
1975	2878	2893	15	0.5
1976	720	734	14	1.9
1977	109	149	40	36.7
1978	2147	2160	13	0.6
1979	1364	1389	25	1.8
1980	2243	2258	15	0.7
1981	1166	1231	65	5.6
1982	3521	3535	14	0.4
1983	3038	3070	32	1.1
1984	1440	1494	54	3.8
1985	2183	2266	83	3.8
1986	2159	2171	12	0.6
1987	695	739	44	6.3
1988	1198	1263	65	5.4
1989	2568	2646	78	3.0
1990	1195	1254	59	4.9
1991	1889	1933	44	2.3
1992	1189	1251	62	5.2
1993	2303	2320	17	0.7
Mean:	2148	2194	46	3.1
Median:	2162	2211	44	2.3
Min:	109	149	12	0.4
Max:	4655	4711	113	36.7
X < 1500	19	18		
X < 1750	23	22		
X < 1765	23	22		
X < 2000	26	25		
X < 3000	62	62		
X > 3450	6	7		
Mean When X > 3450	3958	3917		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4288	4288	0	0.0
1923	4332	4332	0	0.0
1924	770	778	8	1.0
1925	2250	2250	0	0.0
1926	760	768	8	1.1
1927	4332	4332	0	0.0
1928	2242	2242	0	0.0
1929	930	940	10	1.1
1930	754	766	12	1.6
1931	791	805	14	1.8
1932	2247	2259	12	0.5
1933	968	968	0	0.0
1934	770	789	19	2.5
1935	2514	2514	0	0.0
1936	3683	3683	0	0.0
1937	2798	2798	0	0.0
1938	4152	4166	14	0.3
1939	783	783	0	0.0
1940	2579	2579	0	0.0
1941	3480	3494	14	0.4
1942	4110	4125	15	0.4
1943	4630	4630	0	0.0
1944	3112	3112	0	0.0
1945	4122	4122	0	0.0
1946	4156	4156	0	0.0
1947	2246	2253	7	0.3
1948	3613	3613	0	0.0
1949	2249	2251	2	0.1
1950	4184	4184	0	0.0
1951	3919	3919	0	0.0
1952	3842	3870	28	0.7
1953	4082	4102	20	0.5
1954	2243	2243	0	0.0
1955	775	784	9	1.2
1956	4105	4120	15	0.4
1957	2481	2481	0	0.0
1958	3766	3785	19	0.5
1959	836	836	0	0.0
1960	1159	1183	24	2.1
1961	762	762	0	0.0
1962	2792	2792	0	0.0
1963	3618	3618	0	0.0
1964	951	953	2	0.2
1965	4336	4336	0	0.0
1966	758	758	0	0.0
1967	4304	4363	59	1.4
1968	1066	1066	0	0.0
1969	4007	4020	13	0.3
1970	2510	2510	0	0.0
1971	3790	3848	58	1.5
1972	789	789	0	0.0
1973	2904	2904	0	0.0
1974	4208	4224	16	0.4
1975	4006	4022	16	0.4
1976	779	779	0	0.0
1977	300	323	23	7.7
1978	3455	3470	15	0.4
1979	3230	3230	0	0.0
1980	4018	4031	13	0.3
1981	767	767	0	0.0
1982	4586	4602	16	0.3
1983	5032	5132	100	2.0
1984	3597	3597	0	0.0
1985	1507	1507	0	0.0
1986	3463	3475	12	0.3
1987	768	779	11	1.4
1988	2148	2156	8	0.4
1989	1298	1298	0	0.0
1990	1059	1066	7	0.7
1991	2247	2254	7	0.3
1992	758	777	19	2.5
1993	4694	4694	0	0.0
Mean:	2633	2642	9	0.5
Median:	2686	2686	0	0.0
Min:	300	323	0	0.0
Max:	5032	5132	100	7.7
X < 1500	23	23		
X < 1750	24	24		
X < 1765	24	24		
X < 2000	24	24		
X < 3000	39	39		
X > 3450	31	31		
Mean When X > 3450	4062	4076		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2383	2383	0	0.0
1923	1754	1754	0	0.0
1924	1819	1819	0	0.0
1925	708	708	0	0.0
1926	3100	3100	0	0.0
1927	1422	1422	0	0.0
1928	1750	1750	0	0.0
1929	1354	1354	0	0.0
1930	1373	1373	0	0.0
1931	1764	1764	0	0.0
1932	1580	1580	0	0.0
1933	2795	2795	0	0.0
1934	1051	1051	0	0.0
1935	1587	1587	0	0.0
1936	2457	2457	0	0.0
1937	2607	2607	0	0.0
1938	1608	1608	0	0.0
1939	1617	1617	0	0.0
1940	976	976	0	0.0
1941	4150	4150	0	0.0
1942	1624	1624	0	0.0
1943	1589	1589	0	0.0
1944	1806	1806	0	0.0
1945	1384	1384	0	0.0
1946	1981	1981	0	0.0
1947	1905	1905	0	0.0
1948	664	664	0	0.0
1949	1603	1603	0	0.0
1950	1351	1351	0	0.0
1951	1971	1971	0	0.0
1952	1783	1783	0	0.0
1953	1586	1586	0	0.0
1954	1597	1597	0	0.0
1955	1349	1349	0	0.0
1956	1507	1507	0	0.0
1957	1630	1630	0	0.0
1958	1401	1401	0	0.0
1959	1592	1592	0	0.0
1960	615	615	0	0.0
1961	1361	1361	0	0.0
1962	617	617	0	0.0
1963	2667	2667	0	0.0
1964	1633	1633	0	0.0
1965	1411	1411	0	0.0
1966	2316	2316	0	0.0
1967	1366	1366	0	0.0
1968	1590	1590	0	0.0
1969	1381	1381	0	0.0
1970	1613	1613	0	0.0
1971	741	741	0	0.0
1972	1596	1596	0	0.0
1973	1420	1420	0	0.0
1974	1400	1400	0	0.0
1975	1611	1611	0	0.0
1976	1659	1659	0	0.0
1977	619	619	0	0.0
1978	417	417	0	0.0
1979	2027	2027	0	0.0
1980	1405	1405	0	0.0
1981	1590	1590	0	0.0
1982	677	677	0	0.0
1983	2058	2058	0	0.0
1984	1609	1609	0	0.0
1985	1601	1601	0	0.0
1986	1080	1080	0	0.0
1987	1865	1865	0	0.0
1988	903	903	0	0.0
1989	375	375	0	0.0
1990	1412	1412	0	0.0
1991	1121	1121	0	0.0
1992	1734	1734	0	0.0
1993	406	406	0	0.0
Mean:	1557	1557	0	0.0
Median:	1590	1590	0	0.0
Min:	375	375	0	0.0
Max:	4150	4150	0	0.0
X < 1300	15	15		
X < 1500	30	30		
X < 1750	52	52		
X < 1765	55	55		
X < 2000	62	62		
X < 2700	69	69		
X < 3000	70	70		
X < 4000	71	71		
X < 4500	72	72		
X < 5000	72	72		
X < 6000	72	72		
X > 3450	1	1		
Mean When X > 3450	4150	4150		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1897	1897	0	0.0
1923	2525	2525	0	0.0
1924	1454	1454	0	0.0
1925	713	713	0	0.0
1926	2853	2853	0	0.0
1927	1196	1196	0	0.0
1928	2350	2350	0	0.0
1929	1188	1188	0	0.0
1930	1076	1076	0	0.0
1931	1417	1417	0	0.0
1932	1274	1274	0	0.0
1933	3540	3540	0	0.0
1934	1245	1245	0	0.0
1935	1321	1321	0	0.0
1936	1949	1949	0	0.0
1937	2067	2067	0	0.0
1938	1971	1971	0	0.0
1939	2600	2600	0	0.0
1940	1577	1577	0	0.0
1941	2291	2291	0	0.0
1942	2655	2655	0	0.0
1943	4400	4400	0	0.0
1944	1468	1468	0	0.0
1945	1153	1153	0	0.0
1946	2306	2306	0	0.0
1947	1959	1959	0	0.0
1948	720	720	0	0.0
1949	1784	1784	0	0.0
1950	1389	1389	0	0.0
1951	16651	16651	0	0.0
1952	1783	1783	0	0.0
1953	2792	2792	0	0.0
1954	2886	2886	0	0.0
1955	1138	1138	0	0.0
1956	1392	1392	0	0.0
1957	2773	2773	0	0.0
1958	1210	1210	0	0.0
1959	2287	2287	0	0.0
1960	682	682	0	0.0
1961	1158	1158	0	0.0
1962	740	740	0	0.0
1963	4258	4258	0	0.0
1964	4051	4051	0	0.0
1965	1141	1141	0	0.0
1966	1928	1928	0	0.0
1967	1200	1200	0	0.0
1968	3330	3330	0	0.0
1969	1678	1678	0	0.0
1970	2813	2813	0	0.0
1971	1173	1173	0	0.0
1972	2915	2915	0	0.0
1973	1175	1175	0	0.0
1974	5969	5969	0	0.0
1975	2373	2373	0	0.0
1976	3784	3784	0	0.0
1977	700	700	0	0.0
1978	521	521	0	0.0
1979	1691	1691	0	0.0
1980	1273	1273	0	0.0
1981	3143	3143	0	0.0
1982	4346	4346	0	0.0
1983	8096	8096	0	0.0
1984	15958	15958	0	0.0
1985	3074	3074	0	0.0
1986	947	947	0	0.0
1987	2416	2416	0	0.0
1988	741	741	0	0.0
1989	438	438	0	0.0
1990	1107	1107	0	0.0
1991	896	896	0	0.0
1992	1344	1344	0	0.0
1993	392	392	0	0.0
Mean:	2426	2426	0	0.0
Median:	1737	1737	0	0.0
Min:	392	392	0	0.0
Max:	16651	16651	0	0.0
X < 1300	26	26		
X < 1500	33	33		
X < 1750	36	36		
X < 1765	36	36		
X < 2000	43	43		
X < 2700	53	53		
X < 3000	59	59		
X < 4000	64	64		
X < 4500	68	68		
X < 5000	68	68		
X < 6000	69	69		
X > 3450	10	10		
Mean When X > 3450	7105	7105		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1803	1803	0	0.0
1923	6325	6325	0	0.0
1924	1334	1334	0	0.0
1925	981	981	0	0.0
1926	2574	2574	0	0.0
1927	2474	2474	0	0.0
1928	2334	2334	0	0.0
1929	1235	1235	0	0.0
1930	1272	1272	0	0.0
1931	1248	1248	0	0.0
1932	1258	1258	0	0.0
1933	2611	2611	0	0.0
1934	1221	1221	0	0.0
1935	1158	1158	0	0.0
1936	1764	1764	0	0.0
1937	1921	1921	0	0.0
1938	6689	6689	0	0.0
1939	2340	2340	0	0.0
1940	1430	1430	0	0.0
1941	2193	2193	0	0.0
1942	5651	5651	0	0.0
1943	4742	4742	0	0.0
1944	1339	1339	0	0.0
1945	1228	1228	0	0.0
1946	8904	8904	0	0.0
1947	1755	1755	0	0.0
1948	1210	1210	0	0.0
1949	1664	1664	0	0.0
1950	1254	1254	0	0.0
1951	16100	16100	0	0.0
1952	4475	4475	0	0.0
1953	2657	2657	0	0.0
1954	2556	2556	0	0.0
1955	1272	1272	0	0.0
1956	16042	16042	0	0.0
1957	2490	2490	0	0.0
1958	2334	2334	0	0.0
1959	2093	2093	0	0.0
1960	916	916	0	0.0
1961	1205	1205	0	0.0
1962	937	937	0	0.0
1963	3346	3346	0	0.0
1964	2586	2586	0	0.0
1965	21003	21003	0	0.0
1966	1755	1755	0	0.0
1967	2465	2465	0	0.0
1968	2605	2605	0	0.0
1969	1503	1503	0	0.0
1970	5619	5619	0	0.0
1971	5769	5769	0	0.0
1972	2654	2654	0	0.0
1973	2779	2779	0	0.0
1974	7293	7293	0	0.0
1975	2180	2180	0	0.0
1976	2576	2576	0	0.0
1977	1205	1205	0	0.0
1978	500	500	0	0.0
1979	1477	1477	0	0.0
1980	1354	1354	0	0.0
1981	2613	2613	0	0.0
1982	14354	14354	0	0.0
1983	9196	9196	0	0.0
1984	15082	15082	0	0.0
1985	2598	2598	0	0.0
1986	1241	1241	0	0.0
1987	2182	2182	0	0.0
1988	1281	1281	0	0.0
1989	953	953	0	0.0
1990	1599	1599	0	0.0
1991	1214	1214	0	0.0
1992	1244	1244	0	0.0
1993	515	515	0	0.0
Mean:	3441	3441	0	0.0
Median:	2137	2137	0	0.0
Min:	500	500	0	0.0
Max:	21003	21003	0	0.0
X < 1300	22	22		
X < 1500	27	27		
X < 1750	30	30		
X < 1765	33	33		
X < 2000	35	35		
X < 2700	55	55		
X < 3000	56	56		
X < 4000	57	57		
X < 4500	58	58		
X < 5000	59	59		
X < 6000	62	62		
X > 3450	15	15		
Mean When X > 3450	9816	9816		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1330	1330	0	0.0
1923	4564	4564	0	0.0
1924	1186	1186	0	0.0
1925	909	909	0	0.0
1926	1951	1951	0	0.0
1927	3606	3606	0	0.0
1928	1897	1897	0	0.0
1929	1132	1132	0	0.0
1930	1169	1169	0	0.0
1931	970	970	0	0.0
1932	831	831	0	0.0
1933	1974	1974	0	0.0
1934	918	918	0	0.0
1935	904	904	0	0.0
1936	5121	5121	0	0.0
1937	1436	1436	0	0.0
1938	2763	2763	0	0.0
1939	1781	1781	0	0.0
1940	2883	2883	0	0.0
1941	5455	5455	0	0.0
1942	9259	9259	0	0.0
1943	10877	10877	0	0.0
1944	1469	1469	0	0.0
1945	1512	1512	0	0.0
1946	5067	5067	0	0.0
1947	1263	1263	0	0.0
1948	902	902	0	0.0
1949	1462	1462	0	0.0
1950	2716	2716	0	0.0
1951	10213	10213	0	0.0
1952	9104	9104	0	0.0
1953	7256	7256	0	0.0
1954	1954	1954	0	0.0
1955	1835	1835	0	0.0
1956	16477	16477	0	0.0
1957	1903	1903	0	0.0
1958	2939	2939	0	0.0
1959	1660	1660	0	0.0
1960	711	711	0	0.0
1961	935	935	0	0.0
1962	664	664	0	0.0
1963	3919	3919	0	0.0
1964	2065	2065	0	0.0
1965	12912	12912	0	0.0
1966	2118	2118	0	0.0
1967	6907	6907	0	0.0
1968	2024	2024	0	0.0
1969	15476	15476	0	0.0
1970	21098	21098	0	0.0
1971	4680	4680	0	0.0
1972	1917	1917	0	0.0
1973	9367	9367	0	0.0
1974	11656	11656	0	0.0
1975	1607	1607	0	0.0
1976	1948	1948	0	0.0
1977	884	884	0	0.0
1978	2606	2606	0	0.0
1979	2466	2466	0	0.0
1980	18243	18243	0	0.0
1981	1988	1988	0	0.0
1982	8097	8097	0	0.0
1983	7677	7677	0	0.0
1984	6652	6652	0	0.0
1985	1945	1945	0	0.0
1986	4339	4339	0	0.0
1987	1676	1676	0	0.0
1988	956	956	0	0.0
1989	655	655	0	0.0
1990	1255	1255	0	0.0
1991	871	871	0	0.0
1992	926	926	0	0.0
1993	1666	1666	0	0.0
Mean:	4077	4077	0	0.0
Median:	1953	1953	0	0.0
Min:	655	655	0	0.0
Max:	21098	21098	0	0.0
X < 1300	19	19		
X < 1500	23	23		
X < 1750	28	28		
X < 1765	28	28		
X < 2000	39	39		
X < 2700	44	44		
X < 3000	48	48		
X < 4000	50	50		
X < 4500	51	51		
X < 5000	53	53		
X < 6000	56	56		
X > 3450	24	24		
Mean When X > 3450	9084	9084		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5475	5475	0	0.0
1923	3076	3076	0	0.0
1924	1131	1131	0	0.0
1925	4642	4642	0	0.0
1926	1569	1569	0	0.0
1927	13506	13506	0	0.0
1928	2339	2339	0	0.0
1929	869	869	0	0.0
1930	1542	1542	0	0.0
1931	713	713	0	0.0
1932	2233	2233	0	0.0
1933	1411	1411	0	0.0
1934	1044	1044	0	0.0
1935	651	651	0	0.0
1936	13567	13567	0	0.0
1937	2942	2942	0	0.0
1938	9843	9843	0	0.0
1939	1334	1334	0	0.0
1940	10606	10606	0	0.0
1941	8060	8060	0	0.0
1942	10017	10017	0	0.0
1943	7187	7187	0	0.0
1944	1513	1513	0	0.0
1945	9306	9306	0	0.0
1946	3388	3388	0	0.0
1947	1057	1057	0	0.0
1948	1959	1959	0	0.0
1949	1477	1477	0	0.0
1950	5579	5579	0	0.0
1951	8308	8308	0	0.0
1952	9533	9533	0	0.0
1953	2284	2284	0	0.0
1954	2820	2820	0	0.0
1955	3027	3027	0	0.0
1956	6172	6172	0	0.0
1957	2392	2392	0	0.0
1958	10206	10206	0	0.0
1959	3245	3245	0	0.0
1960	836	836	0	0.0
1961	664	664	0	0.0
1962	2038	2038	0	0.0
1963	11808	11808	0	0.0
1964	2436	2436	0	0.0
1965	5352	5352	0	0.0
1966	1904	1904	0	0.0
1967	4321	4321	0	0.0
1968	6144	6144	0	0.0
1969	9190	9190	0	0.0
1970	6094	6094	0	0.0
1971	3835	3835	0	0.0
1972	3041	3041	0	0.0
1973	7147	7147	0	0.0
1974	4447	4447	0	0.0
1975	3834	3834	0	0.0
1976	1478	1478	0	0.0
1977	626	626	0	0.0
1978	4870	4870	0	0.0
1979	3645	3645	0	0.0
1980	13355	13355	0	0.0
1981	1438	1438	0	0.0
1982	15342	15342	0	0.0
1983	12549	12549	0	0.0
1984	5892	5892	0	0.0
1985	1492	1492	0	0.0
1986	33032	33032	0	0.0
1987	1298	1298	0	0.0
1988	2062	2062	0	0.0
1989	545	545	0	0.0
1990	2003	2003	0	0.0
1991	663	663	0	0.0
1992	794	794	0	0.0
1993	6128	6128	0	0.0
Mean:	4949	4949	0	0.0
Median:	3059	3059	0	0.0
Min:	545	545	0	0.0
Max:	33032	33032	0	0.0
X < 1300	13	13		
X < 1500	19	19		
X < 1750	22	22		
X < 1765	22	22		
X < 2000	24	24		
X < 2700	32	32		
X < 3000	34	34		
X < 4000	42	42		
X < 4500	44	44		
X < 5000	46	46		
X < 6000	50	50		
X > 3450	33	33		
Mean When X > 3450	8757	8757		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3399	3399	0	0.0
1923	2963	2963	0	0.0
1924	2393	2393	0	0.0
1925	4889	4889	0	0.0
1926	1455	1455	0	0.0
1927	4509	4509	0	0.0
1928	12871	12871	0	0.0
1929	888	888	0	0.0
1930	2830	2830	0	0.0
1931	722	722	0	0.0
1932	2877	2877	0	0.0
1933	1071	1071	0	0.0
1934	1518	1518	0	0.0
1935	1469	1469	0	0.0
1936	4009	4009	0	0.0
1937	4466	4466	0	0.0
1938	11003	11003	0	0.0
1939	1514	1514	0	0.0
1940	10799	10799	0	0.0
1941	4846	4846	0	0.0
1942	2973	2973	0	0.0
1943	12624	12624	0	0.0
1944	1951	1951	0	0.0
1945	2178	2178	0	0.0
1946	3006	3006	0	0.0
1947	2008	2008	0	0.0
1948	1516	1516	0	0.0
1949	3382	3382	0	0.0
1950	3084	3084	0	0.0
1951	3787	3787	0	0.0
1952	6200	6200	0	0.0
1953	1785	1785	0	0.0
1954	4449	4449	0	0.0
1955	2170	2170	0	0.0
1956	2920	2920	0	0.0
1957	4500	4500	0	0.0
1958	6720	6720	0	0.0
1959	2214	2214	0	0.0
1960	3965	3965	0	0.0
1961	1442	1442	0	0.0
1962	2918	2918	0	0.0
1963	2158	2158	0	0.0
1964	1828	1828	0	0.0
1965	2188	2188	0	0.0
1966	2937	2937	0	0.0
1967	6082	6082	0	0.0
1968	2227	2227	0	0.0
1969	3720	3720	0	0.0
1970	2422	2422	0	0.0
1971	3542	3542	0	0.0
1972	4075	4075	0	0.0
1973	3461	3461	0	0.0
1974	9431	9431	0	0.0
1975	4702	4702	0	0.0
1976	1100	1100	0	0.0
1977	457	457	0	0.0
1978	6037	6037	0	0.0
1979	3346	3346	0	0.0
1980	3469	3469	0	0.0
1981	1513	1513	0	0.0
1982	7671	7671	0	0.0
1983	16580	16580	0	0.0
1984	2605	2605	0	0.0
1985	1524	1524	0	0.0
1986	10933	10933	0	0.0
1987	1010	1010	0	0.0
1988	1524	1524	0	0.0
1989	6971	6971	0	0.0
1990	1464	1464	0	0.0
1991	631	631	0	0.0
1992	1450	1450	0	0.0
1993	7626	7626	0	0.0
Mean:	3902	3902	0	0.0
Median:	2950	2950	0	0.0
Min:	457	457	0	0.0
Max:	16580	16580	0	0.0
X < 1300	7	7		
X < 1500	12	12		
X < 1750	18	18		
X < 1765	18	18		
X < 2000	21	21		
X < 2700	31	31		
X < 3000	38	38		
X < 4000	49	49		
X < 4500	53	53		
X < 5000	58	58		
X < 6000	58	58		
X > 3450	29	29		
Mean When X > 3450	6687	6687		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4467	4467	0	0.0
1923	3473	3473	0	0.0
1924	650	650	0	0.0
1925	2835	2835	0	0.0
1926	784	784	0	0.0
1927	7826	7826	0	0.0
1928	4694	4694	0	0.0
1929	1749	1749	0	0.0
1930	1637	1637	0	0.0
1931	901	901	0	0.0
1932	2814	2814	0	0.0
1933	553	553	0	0.0
1934	3063	3063	0	0.0
1935	6708	6708	0	0.0
1936	5438	5438	0	0.0
1937	4228	4228	0	0.0
1938	7862	7862	0	0.0
1939	1638	1638	0	0.0
1940	5880	5880	0	0.0
1941	3805	3805	0	0.0
1942	5614	5614	0	0.0
1943	4963	4963	0	0.0
1944	2928	2928	0	0.0
1945	2894	2894	0	0.0
1946	3063	3063	0	0.0
1947	2883	2883	0	0.0
1948	2043	2043	0	0.0
1949	3343	3343	0	0.0
1950	4710	4710	0	0.0
1951	3177	3177	0	0.0
1952	8741	8741	0	0.0
1953	2960	2960	0	0.0
1954	4423	4423	0	0.0
1955	1668	1668	0	0.0
1956	2932	2932	0	0.0
1957	2916	2916	0	0.0
1958	10433	10433	0	0.0
1959	1667	1667	0	0.0
1960	3331	3331	0	0.0
1961	1613	1613	0	0.0
1962	2886	2886	0	0.0
1963	6176	6176	0	0.0
1964	1635	1635	0	0.0
1965	4772	4772	0	0.0
1966	1617	1617	0	0.0
1967	3957	3957	0	0.0
1968	1662	1662	0	0.0
1969	6499	6499	0	0.0
1970	2921	2921	0	0.0
1971	3274	3274	0	0.0
1972	1628	1628	0	0.0
1973	2890	2890	0	0.0
1974	6172	6172	0	0.0
1975	2916	2916	0	0.0
1976	647	647	0	0.0
1977	188	188	0	0.0
1978	3923	3923	0	0.0
1979	2822	2822	0	0.0
1980	2908	2908	0	0.0
1981	1644	1644	0	0.0
1982	14495	14495	0	0.0
1983	6558	6558	0	0.0
1984	2518	2518	0	0.0
1985	2905	2905	0	0.0
1986	2637	2637	0	0.0
1987	1661	1661	0	0.0
1988	659	659	0	0.0
1989	3615	3615	0	0.0
1990	1351	1351	0	0.0
1991	1788	1788	0	0.0
1992	2794	2794	0	0.0
1993	3867	3867	0	0.0
Mean:	3518	3518	0	0.0
Median:	2919	2919	0	0.0
Min:	188	188	0	0.0
Max:	14495	14495	0	0.0
X < 1300	7	7		
X < 1500	8	8		
X < 1750	20	20		
X < 1765	20	20		
X < 2000	21	21		
X < 2700	24	24		
X < 3000	40	40		
X < 4000	52	52		
X < 4500	55	55		
X < 5000	59	59		
X < 6000	62	62		
X > 3450	26	26		
Mean When X > 3450	5896	5896		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9444	9444	0	0.0
1923	4539	4539	0	0.0
1924	830	830	0	0.0
1925	3594	3594	0	0.0
1926	2145	2145	0	0.0
1927	4715	4715	0	0.0
1928	2597	2597	0	0.0
1929	833	833	0	0.0
1930	2088	2088	0	0.0
1931	832	832	0	0.0
1932	2805	2805	0	0.0
1933	835	835	0	0.0
1934	1178	1178	0	0.0
1935	4547	4547	0	0.0
1936	3916	3916	0	0.0
1937	3872	3872	0	0.0
1938	9565	9565	0	0.0
1939	1132	1132	0	0.0
1940	3124	3124	0	0.0
1941	5050	5050	0	0.0
1942	6700	6700	0	0.0
1943	2892	2892	0	0.0
1944	2095	2095	0	0.0
1945	2696	2696	0	0.0
1946	3642	3642	0	0.0
1947	2073	2073	0	0.0
1948	3695	3695	0	0.0
1949	2841	2841	0	0.0
1950	4002	4002	0	0.0
1951	3699	3699	0	0.0
1952	11358	11358	0	0.0
1953	2849	2849	0	0.0
1954	3105	3105	0	0.0
1955	2089	2089	0	0.0
1956	5439	5439	0	0.0
1957	2157	2157	0	0.0
1958	10017	10017	0	0.0
1959	2090	2090	0	0.0
1960	2063	2063	0	0.0
1961	2057	2057	0	0.0
1962	2781	2781	0	0.0
1963	7091	7091	0	0.0
1964	2074	2074	0	0.0
1965	4079	4079	0	0.0
1966	2068	2068	0	0.0
1967	8380	8380	0	0.0
1968	2107	2107	0	0.0
1969	9132	9132	0	0.0
1970	2096	2096	0	0.0
1971	2890	2890	0	0.0
1972	2080	2080	0	0.0
1973	3892	3892	0	0.0
1974	4785	4785	0	0.0
1975	4491	4491	0	0.0
1976	822	822	0	0.0
1977	388	388	0	0.0
1978	4179	4179	0	0.0
1979	3278	3278	0	0.0
1980	2845	2845	0	0.0
1981	2087	2087	0	0.0
1982	9323	9323	0	0.0
1983	10557	10557	0	0.0
1984	2281	2281	0	0.0
1985	2083	2083	0	0.0
1986	2870	2870	0	0.0
1987	1559	1559	0	0.0
1988	2100	2100	0	0.0
1989	3696	3696	0	0.0
1990	896	896	0	0.0
1991	2099	2099	0	0.0
1992	2036	2036	0	0.0
1993	5284	5284	0	0.0
Mean:	3632	3632	0	0.0
Median:	2847	2847	0	0.0
Min:	388	388	0	0.0
Max:	11358	11358	0	0.0
X < 1300	9	9		
X < 1500	9	9		
X < 1750	10	10		
X < 1765	10	10		
X < 2000	10	10		
X < 2700	32	32		
X < 3000	40	40		
X < 4000	51	51		
X < 4500	55	55		
X < 5000	59	59		
X < 6000	62	62		
X > 3450	29	29		
Mean When X > 3450	5955	5955		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9337	9337	0	0.0
1923	2880	2880	0	0.0
1924	1274	1274	0	0.0
1925	4753	4753	0	0.0
1926	2760	2760	0	0.0
1927	5374	5374	0	0.0
1928	1850	1850	0	0.0
1929	2702	2702	0	0.0
1930	2987	2987	0	0.0
1931	2338	2338	0	0.0
1932	4761	4761	0	0.0
1933	2890	2890	0	0.0
1934	2311	2311	0	0.0
1935	3824	3824	0	0.0
1936	4756	4756	0	0.0
1937	2750	2750	0	0.0
1938	8810	8810	0	0.0
1939	1811	1811	0	0.0
1940	3091	3091	0	0.0
1941	3328	3328	0	0.0
1942	7326	7326	0	0.0
1943	2825	2825	0	0.0
1944	2957	2957	0	0.0
1945	3338	3338	0	0.0
1946	3848	3848	0	0.0
1947	1701	1701	0	0.0
1948	5205	5205	0	0.0
1949	3912	3912	0	0.0
1950	3989	3989	0	0.0
1951	2775	2775	0	0.0
1952	10428	10428	0	0.0
1953	6069	6069	0	0.0
1954	2781	2781	0	0.0
1955	2760	2760	0	0.0
1956	5854	5854	0	0.0
1957	3784	3784	0	0.0
1958	7740	7740	0	0.0
1959	2212	2212	0	0.0
1960	2790	2790	0	0.0
1961	1260	1260	0	0.0
1962	2752	2752	0	0.0
1963	3183	3183	0	0.0
1964	2395	2395	0	0.0
1965	3114	3114	0	0.0
1966	1919	1919	0	0.0
1967	10446	10446	0	0.0
1968	2127	2127	0	0.0
1969	6552	6552	0	0.0
1970	2788	2788	0	0.0
1971	4962	4962	0	0.0
1972	4766	4766	0	0.0
1973	4747	4747	0	0.0
1974	4195	4195	0	0.0
1975	6274	6274	0	0.0
1976	1288	1288	0	0.0
1977	816	816	0	0.0
1978	4437	4437	0	0.0
1979	4741	4741	0	0.0
1980	2989	2989	0	0.0
1981	1255	1255	0	0.0
1982	6139	6139	0	0.0
1983	14457	14457	0	0.0
1984	3784	3784	0	0.0
1985	3117	3117	0	0.0
1986	3338	3338	0	0.0
1987	1958	1958	0	0.0
1988	1280	1280	0	0.0
1989	4749	4749	0	0.0
1990	2189	2189	0	0.0
1991	1811	1811	0	0.0
1992	1279	1279	0	0.0
1993	5398	5398	0	0.0
Mean:	3936	3936	0	0.0
Median:	3116	3116	0	0.0
Min:	816	816	0	0.0
Max:	14457	14457	0	0.0
X < 1300	7	7		
X < 1500	7	7		
X < 1750	8	8		
X < 1765	8	8		
X < 2000	13	13		
X < 2700	19	19		
X < 3000	34	34		
X < 4000	47	47		
X < 4500	49	49		
X < 5000	57	57		
X < 6000	61	61		
X > 3450	31	31		
Mean When X > 3450	5981	5981		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4698	4848	150	3.2
1923	4754	4883	129	2.7
1924	1525	1634	109	7.1
1925	4735	4792	57	1.2
1926	2906	3001	95	3.3
1927	4739	4885	146	3.1
1928	4657	4780	123	2.6
1929	2409	2491	82	3.4
1930	4095	4176	81	2.0
1931	2182	2280	98	4.5
1932	4941	5034	93	1.9
1933	2631	2723	92	3.5
1934	1523	1610	87	5.7
1935	4734	4854	120	2.5
1936	4743	4870	127	2.7
1937	4757	4895	138	2.9
1938	3962	4098	136	3.4
1939	2206	2326	120	5.4
1940	4755	4804	49	1.0
1941	4419	4532	113	2.6
1942	4734	4869	135	2.9
1943	4760	4903	143	3.0
1944	3164	3263	99	3.1
1945	4747	4832	85	1.8
1946	4751	4820	69	1.5
1947	2880	2946	66	2.3
1948	4662	4739	77	1.7
1949	4384	4488	104	2.4
1950	4740	4849	109	2.3
1951	4759	4883	124	2.6
1952	4698	4779	81	1.7
1953	4336	4462	126	2.9
1954	3146	3251	105	3.3
1955	2877	2961	84	2.9
1956	4731	4864	133	2.8
1957	4736	4852	116	2.4
1958	3509	3636	127	3.6
1959	4758	4862	104	2.2
1960	2555	2648	93	3.6
1961	3426	3549	123	3.6
1962	4758	4886	128	2.7
1963	4745	4886	141	3.0
1964	3217	3281	64	2.0
1965	5270	5411	141	2.7
1966	2784	2880	96	3.4
1967	3901	3952	51	1.3
1968	3295	3432	137	4.2
1969	4725	4821	96	2.0
1970	4762	4885	123	2.6
1971	4744	4800	56	1.2
1972	4237	4356	119	2.8
1973	4645	4779	134	2.9
1974	3521	3655	134	3.8
1975	3924	4056	132	3.4
1976	1532	1680	148	9.7
1977	561	661	100	17.8
1978	4737	4872	135	2.8
1979	4261	4399	138	3.2
1980	4771	4906	135	2.8
1981	3086	3183	97	3.1
1982	3744	3877	133	3.6
1983	7681	7715	34	0.4
1984	5458	5567	109	2.0
1985	2661	2740	79	3.0
1986	4753	4892	139	2.9
1987	1604	1712	108	6.7
1988	1523	1613	90	5.9
1989	3527	3611	84	2.4
1990	2095	2192	97	4.6
1991	2744	2856	112	4.1
1992	1519	1601	82	5.4
1993	4732	4878	146	3.1
Mean:	3851	3958	108	3.3
Median:	4360	4475	109	2.9
Min:	561	661	34	0.4
Max:	7681	7715	150	17.8
X < 1300	1	1		
X < 1500	1	1		
X < 1750	7	7		
X < 1765	7	7		
X < 2000	7	7		
X < 2700	14	12		
X < 3000	19	18		
X < 4000	32	30		
X < 4500	38	37		
X < 5000	69	68		
X < 6000	71	71		
X > 3450	47	48		
Mean When X > 3450	4621	4709		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2261	2273	12	0.5
1923	2493	2527	34	1.4
1924	1131	1177	46	4.1
1925	2644	2749	105	4.0
1926	770	829	59	7.7
1927	2419	2436	17	0.7
1928	2892	2931	39	1.3
1929	2036	2107	71	3.5
1930	2481	2552	71	2.9
1931	1538	1588	50	3.3
1932	3540	3598	58	1.6
1933	2155	2225	70	3.2
1934	1392	1449	57	4.1
1935	3505	3547	42	1.2
1936	2560	2596	36	1.4
1937	2589	2615	26	1.0
1938	3587	3599	12	0.3
1939	1444	1487	43	3.0
1940	1814	1927	113	6.2
1941	2659	2695	36	1.4
1942	2722	2736	14	0.5
1943	2260	2279	19	0.8
1944	1552	1615	63	4.1
1945	2352	2430	78	3.3
1946	1900	1994	94	4.9
1947	2412	2502	90	3.7
1948	2639	2725	86	3.3
1949	2538	2594	56	2.2
1950	2257	2312	55	2.4
1951	2263	2301	38	1.7
1952	4763	4818	55	1.2
1953	3450	3468	18	0.5
1954	2277	2334	57	2.5
1955	2433	2503	70	2.9
1956	2530	2544	14	0.6
1957	2856	2902	46	1.6
1958	4168	4185	17	0.4
1959	767	826	59	7.7
1960	2128	2174	46	2.2
1961	1275	1315	40	3.1
1962	2254	2289	35	1.6
1963	2575	2596	21	0.8
1964	2787	2884	97	3.5
1965	2275	2296	21	0.9
1966	1734	1801	67	3.9
1967	4257	4311	54	1.3
1968	1400	1426	26	1.9
1969	2268	2322	54	2.4
1970	1491	1531	40	2.7
1971	2267	2318	51	2.2
1972	1795	1838	43	2.4
1973	1617	1647	30	1.9
1974	4009	4023	14	0.3
1975	2986	3001	15	0.5
1976	808	823	15	1.9
1977	233	272	39	16.7
1978	2258	2271	13	0.6
1979	1475	1499	24	1.6
1980	2350	2365	15	0.6
1981	1275	1340	65	5.1
1982	3642	3656	14	0.4
1983	3151	3183	32	1.0
1984	1542	1596	54	3.5
1985	2288	2371	83	3.6
1986	2263	2275	12	0.5
1987	793	837	44	5.5
1988	1292	1358	66	5.1
1989	2670	2748	78	2.9
1990	1287	1346	59	4.6
1991	2018	2062	44	2.2
1992	1289	1352	63	4.9
1993	2412	2428	16	0.7
Mean:	2253	2299	46	2.6
Median:	2268	2315	44	2.2
Min:	233	272	12	0.3
Max:	4763	4818	113	16.7
X < 1300	11	6		
X < 1500	16	15		
X < 1750	21	20		
X < 1765	21	20		
X < 2000	24	24		
X < 2700	57	54		
X < 3000	62	61		
X < 4000	68	68		
X < 4500	71	71		
X < 5000	72	72		
X < 6000	72	72		
X > 3450	8	9		
Mean When X > 3450	3934	3912		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the H St. Bridge

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4366	4366	0	0.0
1923	4403	4403	0	0.0
1924	835	843	8	1.0
1925	2322	2322	0	0.0
1926	833	841	8	1.0
1927	4411	4411	0	0.0
1928	2318	2318	0	0.0
1929	997	1007	10	1.0
1930	826	837	11	1.3
1931	858	872	14	1.6
1932	2314	2326	12	0.5
1933	1033	1033	0	0.0
1934	836	855	19	2.3
1935	2590	2590	0	0.0
1936	3754	3754	0	0.0
1937	2870	2870	0	0.0
1938	4228	4242	14	0.3
1939	850	850	0	0.0
1940	2656	2656	0	0.0
1941	3563	3577	14	0.4
1942	4192	4207	15	0.4
1943	4709	4709	0	0.0
1944	3184	3184	0	0.0
1945	4201	4201	0	0.0
1946	4230	4230	0	0.0
1947	2320	2326	6	0.3
1948	3696	3696	0	0.0
1949	2324	2326	2	0.1
1950	4255	4255	0	0.0
1951	3996	3996	0	0.0
1952	3918	3945	27	0.7
1953	4159	4179	20	0.5
1954	2321	2321	0	0.0
1955	841	851	10	1.2
1956	4177	4192	15	0.4
1957	2553	2553	0	0.0
1958	3846	3865	19	0.5
1959	896	896	0	0.0
1960	1228	1252	24	2.0
1961	838	838	0	0.0
1962	2869	2869	0	0.0
1963	3699	3699	0	0.0
1964	1021	1023	2	0.2
1965	4413	4413	0	0.0
1966	832	832	0	0.0
1967	4385	4444	59	1.3
1968	1143	1143	0	0.0
1969	4084	4097	13	0.3
1970	2586	2586	0	0.0
1971	3866	3923	57	1.5
1972	857	857	0	0.0
1973	2978	2978	0	0.0
1974	4288	4304	16	0.4
1975	4084	4101	17	0.4
1976	845	845	0	0.0
1977	385	409	24	6.2
1978	3531	3546	15	0.4
1979	3309	3309	0	0.0
1980	4095	4108	13	0.3
1981	842	842	0	0.0
1982	4650	4666	16	0.3
1983	5109	5208	99	1.9
1984	3672	3672	0	0.0
1985	1579	1579	0	0.0
1986	3530	3542	12	0.3
1987	839	850	11	1.3
1988	2217	2225	8	0.4
1989	1353	1353	0	0.0
1990	1125	1132	7	0.6
1991	2342	2349	7	0.3
1992	831	849	18	2.2
1993	4772	4772	0	0.0
Mean:	2707	2716	9	0.5
Median:	2763	2763	0	0.0
Min:	385	409	0	0.0
Max:	5109	5208	99	6.2
X < 1300	22	22		
X < 1500	23	23		
X < 1750	24	24		
X < 1765	24	24		
X < 2000	24	24		
X < 2700	36	36		
X < 3000	39	39		
X < 4000	52	52		
X < 4500	68	68		
X < 5000	71	71		
X < 6000	72	72		
X > 3450	31	31		
Mean When X > 3450	4138	4152		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	7139	7139	0	0.0
1923	4875	4875	0	0.0
1924	4952	4952	0	0.0
1925	3750	3750	0	0.0
1926	3977	3977	0	0.0
1927	3875	3875	0	0.0
1928	4999	4999	0	0.0
1929	6135	6135	0	0.0
1930	4916	4916	0	0.0
1931	4625	4625	0	0.0
1932	3873	3873	0	0.0
1933	3893	3893	0	0.0
1934	3973	3973	0	0.0
1935	3750	3750	0	0.0
1936	3875	3875	0	0.0
1937	5235	5235	0	0.0
1938	4875	4875	0	0.0
1939	8691	8691	0	0.0
1940	4625	4625	0	0.0
1941	4875	4875	0	0.0
1942	8331	8331	0	0.0
1943	8223	8223	0	0.0
1944	5870	5870	0	0.0
1945	4625	4625	0	0.0
1946	5584	5584	0	0.0
1947	5579	5579	0	0.0
1948	4625	4625	0	0.0
1949	6732	6732	0	0.0
1950	6358	6358	0	0.0
1951	4875	4875	0	0.0
1952	5755	5755	0	0.0
1953	8010	8010	0	0.0
1954	8314	8314	0	0.0
1955	6768	6768	0	0.0
1956	4625	4625	0	0.0
1957	8973	8973	0	0.0
1958	4875	4875	0	0.0
1959	8680	8680	0	0.0
1960	7268	7268	0	0.0
1961	5165	5165	0	0.0
1962	8154	8154	0	0.0
1963	4875	4875	0	0.0
1964	5955	5955	0	0.0
1965	4625	4625	0	0.0
1966	4996	4996	0	0.0
1967	6715	6715	0	0.0
1968	8766	8766	0	0.0
1969	5174	5174	0	0.0
1970	8727	8727	0	0.0
1971	4875	4875	0	0.0
1972	8858	8858	0	0.0
1973	4875	4875	0	0.0
1974	5538	5538	0	0.0
1975	8624	8624	0	0.0
1976	9869	9869	0	0.0
1977	5050	5050	0	0.0
1978	5000	5000	0	0.0
1979	5588	5588	0	0.0
1980	4875	4875	0	0.0
1981	4875	4875	0	0.0
1982	5435	5435	0	0.0
1983	6888	6888	0	0.0
1984	9319	9319	0	0.0
1985	5174	5174	0	0.0
1986	6831	6831	0	0.0
1987	4875	4875	0	0.0
1988	5268	5268	0	0.0
1989	5850	5850	0	0.0
1990	4625	4625	0	0.0
1991	4992	4992	0	0.0
1992	3750	3750	0	0.0
1993	5441	5441	0	0.0
Mean:	5842	5842	0	0.0
Median:	5174	5174	0	0.0
Min:	3750	3750	0	0.0
Max:	9869	9869	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	0	0		
3250 < X <= 4250	9	9		
4250 < X <= 5250	29	29		
5250 < X	34	34		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4322	4322	0	0.0
1923	3250	3250	0	0.0
1924	4754	4754	0	0.0
1925	3000	3000	0	0.0
1926	3254	3254	0	0.0
1927	3250	3250	0	0.0
1928	4410	4410	0	0.0
1929	4762	4762	0	0.0
1930	4348	4348	0	0.0
1931	3250	3250	0	0.0
1932	3000	3000	0	0.0
1933	3250	3250	0	0.0
1934	3000	3000	0	0.0
1935	3000	3000	0	0.0
1936	3250	3250	0	0.0
1937	4806	4806	0	0.0
1938	3250	3250	0	0.0
1939	6105	6105	0	0.0
1940	4055	4055	0	0.0
1941	4304	4304	0	0.0
1942	4604	4604	0	0.0
1943	5494	5494	0	0.0
1944	4438	4438	0	0.0
1945	3250	3250	0	0.0
1946	3629	3629	0	0.0
1947	3841	3841	0	0.0
1948	3250	3250	0	0.0
1949	4191	4191	0	0.0
1950	5162	5162	0	0.0
1951	4091	4091	0	0.0
1952	3906	3906	0	0.0
1953	3906	3906	0	0.0
1954	8079	8079	0	0.0
1955	3974	3974	0	0.0
1956	4577	4577	0	0.0
1957	5996	5996	0	0.0
1958	7461	7461	0	0.0
1959	5453	5453	0	0.0
1960	4471	4471	0	0.0
1961	3357	3357	0	0.0
1962	5268	5268	0	0.0
1963	5186	5186	0	0.0
1964	9536	9536	0	0.0
1965	3250	3250	0	0.0
1966	5644	5644	0	0.0
1967	3900	3900	0	0.0
1968	5837	5837	0	0.0
1969	3738	3738	0	0.0
1970	4416	4416	0	0.0
1971	3250	3250	0	0.0
1972	6923	6923	0	0.0
1973	3250	3250	0	0.0
1974	25592	25592	0	0.0
1975	6453	6453	0	0.0
1976	5636	5636	0	0.0
1977	3387	3387	0	0.0
1978	3784	3784	0	0.0
1979	4053	4053	0	0.0
1980	3250	3250	0	0.0
1981	5060	5060	0	0.0
1982	5380	5380	0	0.0
1983	6832	6832	0	0.0
1984	13793	13793	0	0.0
1985	6008	6008	0	0.0
1986	3900	3900	0	0.0
1987	4724	4724	0	0.0
1988	4021	4021	0	0.0
1989	3000	3000	0	0.0
1990	3250	3250	0	0.0
1991	3783	3783	0	0.0
1992	3558	3558	0	0.0
1993	4061	4061	0	0.0
Mean:	4854	4854	0	0.0
Median:	4076	4076	0	0.0
Min:	3000	3000	0	0.0
Max:	25592	25592	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	18	18		
3250 < X <= 4250	20	20		
4250 < X <= 5250	16	16		
5250 < X	18	18		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4106	4106	0	0.0
1923	3250	3250	0	0.0
1924	4275	4275	0	0.0
1925	3000	3000	0	0.0
1926	3250	3250	0	0.0
1927	3250	3250	0	0.0
1928	4189	4189	0	0.0
1929	4275	4275	0	0.0
1930	3000	3000	0	0.0
1931	3250	3250	0	0.0
1932	3000	3000	0	0.0
1933	3250	3250	0	0.0
1934	3000	3000	0	0.0
1935	3000	3000	0	0.0
1936	3250	3250	0	0.0
1937	3250	3250	0	0.0
1938	5192	5192	0	0.0
1939	4275	4275	0	0.0
1940	3250	3250	0	0.0
1941	7689	7689	0	0.0
1942	20033	20033	0	0.0
1943	6409	6409	0	0.0
1944	4216	4216	0	0.0
1945	3250	3250	0	0.0
1946	22103	22103	0	0.0
1947	3649	3649	0	0.0
1948	3250	3250	0	0.0
1949	3982	3982	0	0.0
1950	4275	4275	0	0.0
1951	15008	15008	0	0.0
1952	10665	10665	0	0.0
1953	9972	9972	0	0.0
1954	6458	6458	0	0.0
1955	3776	3776	0	0.0
1956	20517	20517	0	0.0
1957	4275	4275	0	0.0
1958	10843	10843	0	0.0
1959	4275	4275	0	0.0
1960	4248	4248	0	0.0
1961	3250	3250	0	0.0
1962	4275	4275	0	0.0
1963	8769	8769	0	0.0
1964	5158	5158	0	0.0
1965	14144	14144	0	0.0
1966	4625	4625	0	0.0
1967	9589	9589	0	0.0
1968	4750	4750	0	0.0
1969	3551	3551	0	0.0
1970	18147	18147	0	0.0
1971	11426	11426	0	0.0
1972	4275	4275	0	0.0
1973	3726	3726	0	0.0
1974	23124	23124	0	0.0
1975	4275	4275	0	0.0
1976	4275	4275	0	0.0
1977	3543	3543	0	0.0
1978	3000	3000	0	0.0
1979	3850	3850	0	0.0
1980	3250	3250	0	0.0
1981	4275	4275	0	0.0
1982	24416	24416	0	0.0
1983	15115	15115	0	0.0
1984	26961	26961	0	0.0
1985	5929	5929	0	0.0
1986	3705	3705	0	0.0
1987	4275	4275	0	0.0
1988	3250	3250	0	0.0
1989	3000	3000	0	0.0
1990	3250	3250	0	0.0
1991	3000	3000	0	0.0
1992	3000	3000	0	0.0
1993	3000	3000	0	0.0
Mean:	6672	6672	0	0.0
Median:	4262	4262	0	0.0
Min:	3000	3000	0	0.0
Max:	26961	26961	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	24	24		
3250 < X <= 4250	12	12		
4250 < X <= 5250	16	16		
5250 < X	20	20		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3285	3285	0	0.0
1923	3250	3250	0	0.0
1924	3250	3250	0	0.0
1925	3000	3000	0	0.0
1926	3250	3250	0	0.0
1927	3250	3250	0	0.0
1928	3352	3352	0	0.0
1929	3420	3420	0	0.0
1930	3000	3000	0	0.0
1931	3250	3250	0	0.0
1932	3000	3000	0	0.0
1933	3250	3250	0	0.0
1934	3000	3000	0	0.0
1935	3000	3000	0	0.0
1936	3250	3250	0	0.0
1937	3250	3250	0	0.0
1938	3958	3958	0	0.0
1939	3420	3420	0	0.0
1940	3250	3250	0	0.0
1941	24796	24796	0	0.0
1942	20279	20279	0	0.0
1943	12887	12887	0	0.0
1944	3373	3373	0	0.0
1945	3250	3250	0	0.0
1946	7259	7259	0	0.0
1947	3594	3594	0	0.0
1948	3250	3250	0	0.0
1949	3250	3250	0	0.0
1950	3420	3420	0	0.0
1951	7454	7454	0	0.0
1952	7927	7927	0	0.0
1953	31077	31077	0	0.0
1954	12341	12341	0	0.0
1955	3250	3250	0	0.0
1956	31735	31735	0	0.0
1957	3420	3420	0	0.0
1958	13862	13862	0	0.0
1959	10969	10969	0	0.0
1960	3250	3250	0	0.0
1961	3250	3250	0	0.0
1962	4447	4447	0	0.0
1963	3600	3600	0	0.0
1964	3600	3600	0	0.0
1965	23343	23343	0	0.0
1966	6794	6794	0	0.0
1967	10025	10025	0	0.0
1968	3600	3600	0	0.0
1969	17615	17615	0	0.0
1970	52775	52775	0	0.0
1971	14317	14317	0	0.0
1972	3420	3420	0	0.0
1973	14884	14884	0	0.0
1974	38498	38498	0	0.0
1975	3420	3420	0	0.0
1976	3420	3420	0	0.0
1977	3000	3000	0	0.0
1978	3304	3304	0	0.0
1979	3250	3250	0	0.0
1980	14344	14344	0	0.0
1981	3420	3420	0	0.0
1982	7726	7726	0	0.0
1983	21748	21748	0	0.0
1984	7553	7553	0	0.0
1985	3600	3600	0	0.0
1986	3250	3250	0	0.0
1987	3420	3420	0	0.0
1988	3250	3250	0	0.0
1989	3000	3000	0	0.0
1990	3250	3250	0	0.0
1991	3000	3000	0	0.0
1992	3000	3000	0	0.0
1993	3000	3000	0	0.0
Mean:	7951	7951	0	0.0
Median:	3420	3420	0	0.0
Min:	3000	3000	0	0.0
Max:	52775	52775	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	29	29		
3250 < X <= 4250	19	19		
4250 < X <= 5250	1	1		
5250 < X	23	23		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3250	3250	0	0.0
1923	3250	3250	0	0.0
1924	3250	3250	0	0.0
1925	3000	3000	0	0.0
1926	3250	3250	0	0.0
1927	23327	23327	0	0.0
1928	3250	3250	0	0.0
1929	3250	3250	0	0.0
1930	3000	3000	0	0.0
1931	3250	3250	0	0.0
1932	3000	3000	0	0.0
1933	3250	3250	0	0.0
1934	3000	3000	0	0.0
1935	3000	3000	0	0.0
1936	3250	3250	0	0.0
1937	3250	3250	0	0.0
1938	30086	30086	0	0.0
1939	3250	3250	0	0.0
1940	26223	26223	0	0.0
1941	24913	24913	0	0.0
1942	29172	29172	0	0.0
1943	8086	8086	0	0.0
1944	3250	3250	0	0.0
1945	3893	3893	0	0.0
1946	7759	7759	0	0.0
1947	3250	3250	0	0.0
1948	6536	6536	0	0.0
1949	3250	3250	0	0.0
1950	3250	3250	0	0.0
1951	15457	15457	0	0.0
1952	19000	19000	0	0.0
1953	3600	3600	0	0.0
1954	20278	20278	0	0.0
1955	4884	4884	0	0.0
1956	22347	22347	0	0.0
1957	8759	8759	0	0.0
1958	53771	53771	0	0.0
1959	13885	13885	0	0.0
1960	3250	3250	0	0.0
1961	3445	3445	0	0.0
1962	6945	6945	0	0.0
1963	9092	9092	0	0.0
1964	4690	4690	0	0.0
1965	3250	3250	0	0.0
1966	5906	5906	0	0.0
1967	7970	7970	0	0.0
1968	18549	18549	0	0.0
1969	21308	21308	0	0.0
1970	14145	14145	0	0.0
1971	7382	7382	0	0.0
1972	5030	5030	0	0.0
1973	19756	19756	0	0.0
1974	5479	5479	0	0.0
1975	6769	6769	0	0.0
1976	4351	4351	0	0.0
1977	4015	4015	0	0.0
1978	8365	8365	0	0.0
1979	3250	3250	0	0.0
1980	30251	30251	0	0.0
1981	3250	3250	0	0.0
1982	26183	26183	0	0.0
1983	36717	36717	0	0.0
1984	4223	4223	0	0.0
1985	3250	3250	0	0.0
1986	43319	43319	0	0.0
1987	3250	3250	0	0.0
1988	7070	7070	0	0.0
1989	3000	3000	0	0.0
1990	4569	4569	0	0.0
1991	4305	4305	0	0.0
1992	3000	3000	0	0.0
1993	3000	3000	0	0.0
Mean:	10056	10056	0	0.0
Median:	4460	4460	0	0.0
Min:	3000	3000	0	0.0
Max:	53771	53771	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	29	29		
3250 < X <= 4250	5	5		
4250 < X <= 5250	6	6		
5250 < X	32	32		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3250	3250	0	0.0
1923	3250	3250	0	0.0
1924	3960	3960	0	0.0
1925	4951	4951	0	0.0
1926	3250	3250	0	0.0
1927	3600	3600	0	0.0
1928	17854	17854	0	0.0
1929	3250	3250	0	0.0
1930	3000	3000	0	0.0
1931	3250	3250	0	0.0
1932	3000	3000	0	0.0
1933	3465	3465	0	0.0
1934	3000	3000	0	0.0
1935	3000	3000	0	0.0
1936	3250	3250	0	0.0
1937	3250	3250	0	0.0
1938	33790	33790	0	0.0
1939	3250	3250	0	0.0
1940	20587	20587	0	0.0
1941	15245	15245	0	0.0
1942	3600	3600	0	0.0
1943	12366	12366	0	0.0
1944	3250	3250	0	0.0
1945	3250	3250	0	0.0
1946	3250	3250	0	0.0
1947	3250	3250	0	0.0
1948	3600	3600	0	0.0
1949	8796	8796	0	0.0
1950	3250	3250	0	0.0
1951	3600	3600	0	0.0
1952	11859	11859	0	0.0
1953	3250	3250	0	0.0
1954	11141	11141	0	0.0
1955	3600	3600	0	0.0
1956	3600	3600	0	0.0
1957	10691	10691	0	0.0
1958	22074	22074	0	0.0
1959	7683	7683	0	0.0
1960	3250	3250	0	0.0
1961	5924	5924	0	0.0
1962	3600	3600	0	0.0
1963	8259	8259	0	0.0
1964	4696	4696	0	0.0
1965	6250	6250	0	0.0
1966	12973	12973	0	0.0
1967	15911	15911	0	0.0
1968	3410	3410	0	0.0
1969	5686	5686	0	0.0
1970	3600	3600	0	0.0
1971	16800	16800	0	0.0
1972	14623	14623	0	0.0
1973	7392	7392	0	0.0
1974	37497	37497	0	0.0
1975	29486	29486	0	0.0
1976	3481	3481	0	0.0
1977	3829	3829	0	0.0
1978	14247	14247	0	0.0
1979	3250	3250	0	0.0
1980	3600	3600	0	0.0
1981	4467	4467	0	0.0
1982	13536	13536	0	0.0
1983	45897	45897	0	0.0
1984	10301	10301	0	0.0
1985	3250	3250	0	0.0
1986	21861	21861	0	0.0
1987	3250	3250	0	0.0
1988	4467	4467	0	0.0
1989	3000	3000	0	0.0
1990	3600	3600	0	0.0
1991	3000	3000	0	0.0
1992	3000	3000	0	0.0
1993	3000	3000	0	0.0
Mean:	8249	8249	0	0.0
Median:	3600	3600	0	0.0
Min:	3000	3000	0	0.0
Max:	45897	45897	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	26	26		
3250 < X <= 4250	15	15		
4250 < X <= 5250	4	4		
5250 < X	27	27		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5500	5500	0	0.0
1923	5500	5500	0	0.0
1924	8337	8337	0	0.0
1925	5000	5000	0	0.0
1926	5000	5000	0	0.0
1927	9839	9839	0	0.0
1928	5500	5500	0	0.0
1929	6162	6162	0	0.0
1930	5000	5000	0	0.0
1931	8241	8241	0	0.0
1932	4676	4676	0	0.0
1933	8173	8173	0	0.0
1934	5345	5345	0	0.0
1935	3250	3250	0	0.0
1936	5500	5500	0	0.0
1937	5500	5500	0	0.0
1938	12271	12271	0	0.0
1939	8962	8962	0	0.0
1940	5500	5500	0	0.0
1941	15536	15536	0	0.0
1942	5500	5500	0	0.0
1943	5500	5500	0	0.0
1944	6313	6313	0	0.0
1945	5500	5500	0	0.0
1946	6615	6615	0	0.0
1947	5000	5000	0	0.0
1948	5500	5500	0	0.0
1949	5000	5000	0	0.0
1950	5500	5500	0	0.0
1951	6823	6823	0	0.0
1952	19754	19754	0	0.0
1953	5500	5500	0	0.0
1954	12529	12529	0	0.0
1955	8654	8654	0	0.0
1956	5500	5500	0	0.0
1957	10491	10491	0	0.0
1958	12986	12986	0	0.0
1959	8441	8441	0	0.0
1960	5000	5000	0	0.0
1961	7573	7573	0	0.0
1962	5500	5500	0	0.0
1963	27676	27676	0	0.0
1964	10508	10508	0	0.0
1965	6260	6260	0	0.0
1966	8101	8101	0	0.0
1967	10011	10011	0	0.0
1968	8423	8423	0	0.0
1969	11792	11792	0	0.0
1970	8399	8399	0	0.0
1971	6260	6260	0	0.0
1972	9554	9554	0	0.0
1973	5500	5500	0	0.0
1974	6922	6922	0	0.0
1975	5500	5500	0	0.0
1976	5292	5292	0	0.0
1977	10172	10172	0	0.0
1978	6418	6418	0	0.0
1979	5500	5500	0	0.0
1980	5500	5500	0	0.0
1981	5000	5000	0	0.0
1982	25246	25246	0	0.0
1983	10136	10136	0	0.0
1984	7916	7916	0	0.0
1985	5000	5000	0	0.0
1986	5500	5500	0	0.0
1987	10055	10055	0	0.0
1988	5870	5870	0	0.0
1989	5000	5000	0	0.0
1990	7382	7382	0	0.0
1991	3250	3250	0	0.0
1992	3250	3250	0	0.0
1993	5500	5500	0	0.0
Mean:	7706	7706	0	0.0
Median:	6016	6016	0	0.0
Min:	3250	3250	0	0.0
Max:	27676	27676	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	3	3		
3250 < X <= 4250	0	0		
4250 < X <= 5250	10	10		
5250 < X	59	59		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	8000	8000	0	0.0
1923	10626	10626	0	0.0
1924	8846	8846	0	0.0
1925	7000	7000	0	0.0
1926	7095	7095	0	0.0
1927	8606	8606	0	0.0
1928	8228	8228	0	0.0
1929	7738	7738	0	0.0
1930	7000	7000	0	0.0
1931	8346	8346	0	0.0
1932	4135	4135	0	0.0
1933	6021	6021	0	0.0
1934	6849	6849	0	0.0
1935	5550	5550	0	0.0
1936	8000	8000	0	0.0
1937	8000	8000	0	0.0
1938	8000	8000	0	0.0
1939	8573	8573	0	0.0
1940	8000	8000	0	0.0
1941	13223	13223	0	0.0
1942	9406	9406	0	0.0
1943	8000	8000	0	0.0
1944	7000	7000	0	0.0
1945	8000	8000	0	0.0
1946	8585	8585	0	0.0
1947	9535	9535	0	0.0
1948	8000	8000	0	0.0
1949	7000	7000	0	0.0
1950	8318	8318	0	0.0
1951	8000	8000	0	0.0
1952	9021	9021	0	0.0
1953	9778	9778	0	0.0
1954	12112	12112	0	0.0
1955	7000	7000	0	0.0
1956	10190	10190	0	0.0
1957	8000	8000	0	0.0
1958	9118	9118	0	0.0
1959	9220	9220	0	0.0
1960	7000	7000	0	0.0
1961	7080	7080	0	0.0
1962	8141	8141	0	0.0
1963	8000	8000	0	0.0
1964	7750	7750	0	0.0
1965	9115	9115	0	0.0
1966	8456	8456	0	0.0
1967	14154	14154	0	0.0
1968	8000	8000	0	0.0
1969	13046	13046	0	0.0
1970	8017	8017	0	0.0
1971	8375	8375	0	0.0
1972	8194	8194	0	0.0
1973	8000	8000	0	0.0
1974	8000	8000	0	0.0
1975	8710	8710	0	0.0
1976	7522	7522	0	0.0
1977	6230	6230	0	0.0
1978	9054	9054	0	0.0
1979	8000	8000	0	0.0
1980	8000	8000	0	0.0
1981	7999	7999	0	0.0
1982	8000	8000	0	0.0
1983	12724	12724	0	0.0
1984	8367	8367	0	0.0
1985	8993	8993	0	0.0
1986	8275	8275	0	0.0
1987	9796	9796	0	0.0
1988	7000	7000	0	0.0
1989	9168	9168	0	0.0
1990	7000	7000	0	0.0
1991	6691	6691	0	0.0
1992	8466	8466	0	0.0
1993	8000	8000	0	0.0
Mean:	8381	8381	0	0.0
Median:	8000	8000	0	0.0
Min:	4135	4135	0	0.0
Max:	14154	14154	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	0	0		
3250 < X <= 4250	1	1		
4250 < X <= 5250	0	0		
5250 < X	71	71		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	10745	10745	0	0.0
1923	11328	11328	0	0.0
1924	10208	10208	0	0.0
1925	9880	9880	0	0.0
1926	9961	9961	0	0.0
1927	10209	10209	0	0.0
1928	10973	10973	0	0.0
1929	8854	8854	0	0.0
1930	10161	10161	0	0.0
1931	8519	8519	0	0.0
1932	6841	6841	0	0.0
1933	7169	7169	0	0.0
1934	10124	10124	0	0.0
1935	9376	9376	0	0.0
1936	9000	9000	0	0.0
1937	9137	9137	0	0.0
1938	9000	9000	0	0.0
1939	12357	12357	0	0.0
1940	10884	10884	0	0.0
1941	9000	9000	0	0.0
1942	9000	9000	0	0.0
1943	9853	9853	0	0.0
1944	9596	9596	0	0.0
1945	10018	10018	0	0.0
1946	11299	11299	0	0.0
1947	10768	10768	0	0.0
1948	9000	9000	0	0.0
1949	9884	9884	0	0.0
1950	10141	10141	0	0.0
1951	11254	11254	0	0.0
1952	9000	9000	0	0.0
1953	9628	9628	0	0.0
1954	9715	9715	0	0.0
1955	10435	10435	0	0.0
1956	9000	9000	0	0.0
1957	9658	9658	0	0.0
1958	9343	9343	0	0.0
1959	15000	15000	0	0.0
1960	10665	10665	0	0.0
1961	11449	11449	0	0.0
1962	10689	10689	0	0.0
1963	9000	9000	0	0.0
1964	9524	9524	0	0.0
1965	9707	9707	0	0.0
1966	13973	13973	0	0.0
1967	9489	9489	0	0.0
1968	13408	13408	0	0.0
1969	9164	9164	0	0.0
1970	10287	10287	0	0.0
1971	9164	9164	0	0.0
1972	14547	14547	0	0.0
1973	11129	11129	0	0.0
1974	9000	9000	0	0.0
1975	9719	9719	0	0.0
1976	12578	12578	0	0.0
1977	13558	13558	0	0.0
1978	10385	10385	0	0.0
1979	12747	12747	0	0.0
1980	10871	10871	0	0.0
1981	14998	14998	0	0.0
1982	9000	9000	0	0.0
1983	14977	14977	0	0.0
1984	10940	10940	0	0.0
1985	11921	11921	0	0.0
1986	11599	11599	0	0.0
1987	14755	14755	0	0.0
1988	13544	13544	0	0.0
1989	9300	9300	0	0.0
1990	9818	9818	0	0.0
1991	7900	7900	0	0.0
1992	12155	12155	0	0.0
1993	9781	9781	0	0.0
Mean:	10529	10529	0	0.0
Median:	10071	10071	0	0.0
Min:	6841	6841	0	0.0
Max:	15000	15000	0	0.0
Rel Dif = 0.0				72.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				0.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				0.0
X <= 3250	0	0		
3250 < X <= 4250	0	0		
4250 < X <= 5250	0	0		
5250 < X	72	72		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	13377	13661	284	2.1
1923	13328	13328	0	0.0
1924	10610	11039	429	4.0
1925	11829	11812	-17	-0.1
1926	11621	11892	271	2.3
1927	13603	13603	0	0.0
1928	15000	15302	302	2.0
1929	11038	11149	111	1.0
1930	11590	11602	12	0.1
1931	11789	12096	307	2.6
1932	9174	9422	248	2.7
1933	9222	9459	237	2.6
1934	10887	11064	177	1.6
1935	10096	10096	0	0.0
1936	13152	13152	0	0.0
1937	12147	12901	754	6.2
1938	11803	12316	513	4.3
1939	15000	15000	0	0.0
1940	14056	14056	0	0.0
1941	14011	14396	385	2.7
1942	12125	12334	209	1.7
1943	14703	14704	1	0.0
1944	13777	13777	0	0.0
1945	13974	13974	0	0.0
1946	13437	13437	0	0.0
1947	14724	14724	0	0.0
1948	10774	10774	0	0.0
1949	14055	14055	0	0.0
1950	11630	11630	0	0.0
1951	15000	15000	0	0.0
1952	12554	12554	0	0.0
1953	12124	12125	1	0.0
1954	15000	15000	0	0.0
1955	14618	14695	77	0.5
1956	11492	11544	52	0.5
1957	15000	15000	0	0.0
1958	14082	14083	1	0.0
1959	15000	15000	0	0.0
1960	14459	14486	27	0.2
1961	15773	15773	0	0.0
1962	14075	14075	0	0.0
1963	13442	13442	0	0.0
1964	14071	14071	0	0.0
1965	15000	15000	0	0.0
1966	15000	15000	0	0.0
1967	12354	12354	0	0.0
1968	15000	15000	0	0.0
1969	13258	13537	279	2.1
1970	16809	16809	0	0.0
1971	12049	12049	0	0.0
1972	15000	15000	0	0.0
1973	15000	15000	0	0.0
1974	11762	12034	272	2.3
1975	12136	12225	89	0.7
1976	14161	14685	524	3.7
1977	18212	18541	329	1.8
1978	14593	14828	235	1.6
1979	13171	13171	0	0.0
1980	12225	12225	0	0.0
1981	15000	15000	0	0.0
1982	11000	11172	172	1.6
1983	15000	15000	0	0.0
1984	15000	15000	0	0.0
1985	14257	14257	0	0.0
1986	12957	13727	770	5.9
1987	13839	13885	46	0.3
1988	12088	12294	206	1.7
1989	13854	13854	0	0.0
1990	12773	13056	283	2.2
1991	9283	9744	461	5.0
1992	12860	12977	117	0.9
1993	13595	13595	0	0.0
Mean:	13284	13398	113	0.9
Median:	13519	13632	0	0.0
Min:	9174	9422	-17	-0.1
Max:	18212	18541	770	6.2
Rel Dif = 0.0				41.0
0.0 < Rel Dif <= 5.0				28.0
5.0 < Rel Dif <= 20.0				2.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				30.0
0.0 > Rel Dif >= -5.0				1.0
-5.0 > Rel Dif >= -20.0				0.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				1.0
X <= 3250	0	0		
3250 < X <= 4250	0	0		
4250 < X <= 5250	0	0		
5250 < X	72	72		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	10799	10612	-187	-1.7
1923	11194	11194	0	0.0
1924	8030	7817	-213	-2.7
1925	9852	9902	50	0.5
1926	9514	9460	-54	-0.6
1927	10461	10462	1	0.0
1928	10712	10569	-143	-1.3
1929	10078	10162	84	0.8
1930	9703	9714	11	0.1
1931	8578	8426	-152	-1.8
1932	8141	8074	-67	-0.8
1933	8627	8699	72	0.8
1934	8003	7922	-81	-1.0
1935	9379	9380	1	0.0
1936	10561	10561	0	0.0
1937	10204	9759	-445	-4.4
1938	10000	9593	-407	-4.1
1939	11016	11016	0	0.0
1940	11173	11173	0	0.0
1941	12593	12332	-261	-2.1
1942	11774	11606	-168	-1.4
1943	10836	10836	0	0.0
1944	10384	10384	0	0.0
1945	11274	11275	1	0.0
1946	11605	11605	0	0.0
1947	12360	12360	0	0.0
1948	10556	10556	0	0.0
1949	10440	10440	0	0.0
1950	10710	10710	0	0.0
1951	11054	11054	0	0.0
1952	11043	11043	0	0.0
1953	12034	12034	0	0.0
1954	10000	10000	0	0.0
1955	11094	11132	38	0.3
1956	10000	9958	-42	-0.4
1957	10339	10340	1	0.0
1958	12731	12731	0	0.0
1959	12619	12619	0	0.0
1960	11542	11520	-22	-0.2
1961	13728	13728	0	0.0
1962	10836	10836	0	0.0
1963	10000	10000	0	0.0
1964	11209	11209	0	0.0
1965	10000	10000	0	0.0
1966	11053	11053	0	0.0
1967	12760	12761	1	0.0
1968	10161	10161	0	0.0
1969	10562	10451	-111	-1.1
1970	10605	10605	0	0.0
1971	11282	11282	0	0.0
1972	10687	10687	0	0.0
1973	10000	10000	0	0.0
1974	11446	11226	-220	-1.9
1975	12256	12184	-72	-0.6
1976	8500	8160	-340	-4.0
1977	11164	10880	-284	-2.5
1978	10181	9994	-187	-1.8
1979	10000	10000	0	0.0
1980	10163	10163	0	0.0
1981	10196	10196	0	0.0
1982	10000	9861	-139	-1.4
1983	13947	13947	0	0.0
1984	10000	10000	0	0.0
1985	11268	11268	0	0.0
1986	11045	10451	-594	-5.4
1987	8869	8843	-26	-0.3
1988	10213	10229	16	0.2
1989	9556	9556	0	0.0
1990	9242	9186	-56	-0.6
1991	7157	6930	-227	-3.2
1992	10966	10955	-11	-0.1
1993	10000	10000	0	0.0
Mean:	10556	10498	-59	-0.6
Median:	10559	10457	0	0.0
Min:	7157	6930	-594	-5.4
Max:	13947	13947	84	0.8
Rel Dif = 0.0				41.0
0.0 < Rel Dif <= 5.0				6.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				6.0
0.0 > Rel Dif >= -5.0				24.0
-5.0 > Rel Dif >= -20.0				1.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				25.0
X <= 3250	0	0		
3250 < X <= 4250	0	0		
4250 < X <= 5250	0	0		
5250 < X	72	72		
# Years Rel Diff >= -1.0%				56

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	7361	7261	-100	-1.4
1923	6500	6500	0	0.0
1924	5176	4954	-222	-4.3
1925	5260	5226	-34	-0.6
1926	5159	4935	-224	-4.3
1927	7928	7928	0	0.0
1928	7441	7278	-163	-2.2
1929	5874	5673	-201	-3.4
1930	6000	5976	-24	-0.4
1931	5015	4855	-160	-3.2
1932	4688	4501	-187	-4.0
1933	5165	4846	-319	-6.2
1934	5012	4914	-98	-2.0
1935	6068	6068	0	0.0
1936	6500	6500	0	0.0
1937	6562	6242	-320	-4.9
1938	8898	8789	-109	-1.2
1939	6419	6419	0	0.0
1940	6754	6754	0	0.0
1941	11411	11284	-127	-1.1
1942	11023	10981	-42	-0.4
1943	7123	7123	0	0.0
1944	6000	6000	0	0.0
1945	7333	7333	0	0.0
1946	6978	6978	0	0.0
1947	6000	6000	0	0.0
1948	6715	6715	0	0.0
1949	6000	6000	0	0.0
1950	6500	6500	0	0.0
1951	6644	6644	0	0.0
1952	10980	10980	0	0.0
1953	11049	11049	0	0.0
1954	7595	7595	0	0.0
1955	6000	5882	-118	-2.0
1956	10443	10433	-10	-0.1
1957	7474	7475	1	0.0
1958	11494	11494	0	0.0
1959	8458	8458	0	0.0
1960	6000	5995	-5	-0.1
1961	6537	6537	0	0.0
1962	7357	7357	0	0.0
1963	6500	6500	0	0.0
1964	6000	6000	0	0.0
1965	6500	6500	0	0.0
1966	8364	8364	0	0.0
1967	11480	11480	0	0.0
1968	8454	8454	0	0.0
1969	8898	8725	-173	-1.9
1970	8181	8181	0	0.0
1971	11286	11286	0	0.0
1972	6500	6500	0	0.0
1973	7139	7139	0	0.0
1974	11652	11599	-53	-0.5
1975	11521	11504	-17	-0.1
1976	6000	5810	-190	-3.2
1977	5539	5492	-47	-0.8
1978	6500	6452	-48	-0.7
1979	7353	7353	0	0.0
1980	6500	6500	0	0.0
1981	7834	7834	0	0.0
1982	6500	6466	-34	-0.5
1983	12549	12549	0	0.0
1984	7116	7116	0	0.0
1985	6061	6061	0	0.0
1986	6500	6319	-181	-2.8
1987	6000	5979	-21	-0.4
1988	6069	5841	-228	-3.8
1989	6000	6000	0	0.0
1990	5060	4825	-235	-4.6
1991	4500	4258	-242	-5.4
1992	5602	5493	-109	-1.9
1993	6967	6967	0	0.0
Mean:	7278	7222	-56	-1.0
Median:	6519	6500	0	0.0
Min:	4500	4258	-320	-6.2
Max:	12549	12549	1	0.0
Rel Dif = 0.0				41.0
0.0 < Rel Dif <= 5.0				0.0
5.0 < Rel Dif <= 20.0				0.0
Rel Dif > 20.0				0.0
Rel Dif > 0.0				0.0
0.0 > Rel Dif >= -5.0				29.0
-5.0 > Rel Dif >= -20.0				2.0
Rel Dif < -20.0				0.0
Rel Dif < 0.0				31.0
X <= 3250	0	0		
3250 < X <= 4250	0	0		
4250 < X <= 5250	8	9		
5250 < X	64	63		
# Years Rel Diff >= -1.0%				52

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2383	2383	0	0.0
1923	1754	1754	0	0.0
1924	1819	1819	0	0.0
1925	708	708	0	0.0
1926	3100	3100	0	0.0
1927	1422	1422	0	0.0
1928	1750	1750	0	0.0
1929	1354	1354	0	0.0
1930	1373	1373	0	0.0
1931	1764	1764	0	0.0
1932	1580	1580	0	0.0
1933	2795	2795	0	0.0
1934	1051	1051	0	0.0
1935	1587	1587	0	0.0
1936	2457	2457	0	0.0
1937	2607	2607	0	0.0
1938	1608	1608	0	0.0
1939	1617	1617	0	0.0
1940	976	976	0	0.0
1941	4150	4150	0	0.0
1942	1624	1624	0	0.0
1943	1589	1589	0	0.0
1944	1806	1806	0	0.0
1945	1384	1384	0	0.0
1946	1981	1981	0	0.0
1947	1905	1905	0	0.0
1948	664	664	0	0.0
1949	1603	1603	0	0.0
1950	1351	1351	0	0.0
1951	1971	1971	0	0.0
1952	1783	1783	0	0.0
1953	1586	1586	0	0.0
1954	1597	1597	0	0.0
1955	1349	1349	0	0.0
1956	1507	1507	0	0.0
1957	1630	1630	0	0.0
1958	1401	1401	0	0.0
1959	1592	1592	0	0.0
1960	615	615	0	0.0
1961	1361	1361	0	0.0
1962	617	617	0	0.0
1963	2667	2667	0	0.0
1964	1633	1633	0	0.0
1965	1411	1411	0	0.0
1966	2316	2316	0	0.0
1967	1366	1366	0	0.0
1968	1590	1590	0	0.0
1969	1381	1381	0	0.0
1970	1613	1613	0	0.0
1971	741	741	0	0.0
1972	1596	1596	0	0.0
1973	1420	1420	0	0.0
1974	1400	1400	0	0.0
1975	1611	1611	0	0.0
1976	1659	1659	0	0.0
1977	619	619	0	0.0
1978	417	417	0	0.0
1979	2027	2027	0	0.0
1980	1405	1405	0	0.0
1981	1590	1590	0	0.0
1982	677	677	0	0.0
1983	2058	2058	0	0.0
1984	1609	1609	0	0.0
1985	1601	1601	0	0.0
1986	1080	1080	0	0.0
1987	1865	1865	0	0.0
1988	903	903	0	0.0
1989	375	375	0	0.0
1990	1412	1412	0	0.0
1991	1121	1121	0	0.0
1992	1734	1734	0	0.0
1993	406	406	0	0.0
Mean:	1557	1557	0	0.0
Median:	1590	1590	0	0.0
Min:	375	375	0	0.0
Max:	4150	4150	0	0.0
X < 1500	30	30		
X < 1750	52	52		
X < 1765	55	55		
X < 2000	62	62		
X < 3000	70	70		
X > 3450	1	1		
Mean When X > 3450	4150	4150		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1897	1897	0	0.0
1923	2525	2525	0	0.0
1924	1454	1454	0	0.0
1925	713	713	0	0.0
1926	2853	2853	0	0.0
1927	1196	1196	0	0.0
1928	2350	2350	0	0.0
1929	1188	1188	0	0.0
1930	1076	1076	0	0.0
1931	1417	1417	0	0.0
1932	1274	1274	0	0.0
1933	3540	3540	0	0.0
1934	1245	1245	0	0.0
1935	1321	1321	0	0.0
1936	1949	1949	0	0.0
1937	2067	2067	0	0.0
1938	1971	1971	0	0.0
1939	2600	2600	0	0.0
1940	1577	1577	0	0.0
1941	2291	2291	0	0.0
1942	2655	2655	0	0.0
1943	4400	4400	0	0.0
1944	1468	1468	0	0.0
1945	1153	1153	0	0.0
1946	2306	2306	0	0.0
1947	1959	1959	0	0.0
1948	720	720	0	0.0
1949	1784	1784	0	0.0
1950	1389	1389	0	0.0
1951	16651	16651	0	0.0
1952	1783	1783	0	0.0
1953	2792	2792	0	0.0
1954	2886	2886	0	0.0
1955	1138	1138	0	0.0
1956	1392	1392	0	0.0
1957	2773	2773	0	0.0
1958	1210	1210	0	0.0
1959	2287	2287	0	0.0
1960	682	682	0	0.0
1961	1158	1158	0	0.0
1962	740	740	0	0.0
1963	4258	4258	0	0.0
1964	4051	4051	0	0.0
1965	1141	1141	0	0.0
1966	1928	1928	0	0.0
1967	1200	1200	0	0.0
1968	3330	3330	0	0.0
1969	1678	1678	0	0.0
1970	2813	2813	0	0.0
1971	1173	1173	0	0.0
1972	2915	2915	0	0.0
1973	1175	1175	0	0.0
1974	5969	5969	0	0.0
1975	2373	2373	0	0.0
1976	3784	3784	0	0.0
1977	700	700	0	0.0
1978	521	521	0	0.0
1979	1691	1691	0	0.0
1980	1273	1273	0	0.0
1981	3143	3143	0	0.0
1982	4346	4346	0	0.0
1983	8096	8096	0	0.0
1984	15958	15958	0	0.0
1985	3074	3074	0	0.0
1986	947	947	0	0.0
1987	2416	2416	0	0.0
1988	741	741	0	0.0
1989	438	438	0	0.0
1990	1107	1107	0	0.0
1991	896	896	0	0.0
1992	1344	1344	0	0.0
1993	392	392	0	0.0
Mean:	2426	2426	0	0.0
Median:	1737	1737	0	0.0
Min:	392	392	0	0.0
Max:	16651	16651	0	0.0
X < 1500	33	33		
X < 1750	36	36		
X < 1765	36	36		
X < 2000	43	43		
X < 3000	59	59		
X > 3450	10	10		
Mean When X > 3450	7105	7105		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1803	1803	0	0.0
1923	6325	6325	0	0.0
1924	1334	1334	0	0.0
1925	981	981	0	0.0
1926	2574	2574	0	0.0
1927	2474	2474	0	0.0
1928	2334	2334	0	0.0
1929	1235	1235	0	0.0
1930	1272	1272	0	0.0
1931	1248	1248	0	0.0
1932	1258	1258	0	0.0
1933	2611	2611	0	0.0
1934	1221	1221	0	0.0
1935	1158	1158	0	0.0
1936	1764	1764	0	0.0
1937	1921	1921	0	0.0
1938	6689	6689	0	0.0
1939	2340	2340	0	0.0
1940	1430	1430	0	0.0
1941	2193	2193	0	0.0
1942	5651	5651	0	0.0
1943	4742	4742	0	0.0
1944	1339	1339	0	0.0
1945	1228	1228	0	0.0
1946	8904	8904	0	0.0
1947	1755	1755	0	0.0
1948	1210	1210	0	0.0
1949	1664	1664	0	0.0
1950	1254	1254	0	0.0
1951	16100	16100	0	0.0
1952	4475	4475	0	0.0
1953	2657	2657	0	0.0
1954	2556	2556	0	0.0
1955	1272	1272	0	0.0
1956	16042	16042	0	0.0
1957	2490	2490	0	0.0
1958	2334	2334	0	0.0
1959	2093	2093	0	0.0
1960	916	916	0	0.0
1961	1205	1205	0	0.0
1962	937	937	0	0.0
1963	3346	3346	0	0.0
1964	2586	2586	0	0.0
1965	21003	21003	0	0.0
1966	1755	1755	0	0.0
1967	2465	2465	0	0.0
1968	2605	2605	0	0.0
1969	1503	1503	0	0.0
1970	5619	5619	0	0.0
1971	5769	5769	0	0.0
1972	2654	2654	0	0.0
1973	2779	2779	0	0.0
1974	7293	7293	0	0.0
1975	2180	2180	0	0.0
1976	2576	2576	0	0.0
1977	1205	1205	0	0.0
1978	500	500	0	0.0
1979	1477	1477	0	0.0
1980	1354	1354	0	0.0
1981	2613	2613	0	0.0
1982	14354	14354	0	0.0
1983	9196	9196	0	0.0
1984	15082	15082	0	0.0
1985	2598	2598	0	0.0
1986	1241	1241	0	0.0
1987	2182	2182	0	0.0
1988	1281	1281	0	0.0
1989	953	953	0	0.0
1990	1599	1599	0	0.0
1991	1214	1214	0	0.0
1992	1244	1244	0	0.0
1993	515	515	0	0.0
Mean:	3441	3441	0	0.0
Median:	2137	2137	0	0.0
Min:	500	500	0	0.0
Max:	21003	21003	0	0.0
X < 1500	27	27		
X < 1750	30	30		
X < 1765	33	33		
X < 2000	35	35		
X < 3000	56	56		
X > 3450	15	15		
Mean When X > 3450	9816	9816		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1330	1330	0	0.0
1923	4564	4564	0	0.0
1924	1186	1186	0	0.0
1925	909	909	0	0.0
1926	1951	1951	0	0.0
1927	3606	3606	0	0.0
1928	1897	1897	0	0.0
1929	1132	1132	0	0.0
1930	1169	1169	0	0.0
1931	970	970	0	0.0
1932	831	831	0	0.0
1933	1974	1974	0	0.0
1934	918	918	0	0.0
1935	904	904	0	0.0
1936	5121	5121	0	0.0
1937	1436	1436	0	0.0
1938	2763	2763	0	0.0
1939	1781	1781	0	0.0
1940	2883	2883	0	0.0
1941	5455	5455	0	0.0
1942	9259	9259	0	0.0
1943	10877	10877	0	0.0
1944	1469	1469	0	0.0
1945	1512	1512	0	0.0
1946	5067	5067	0	0.0
1947	1263	1263	0	0.0
1948	902	902	0	0.0
1949	1462	1462	0	0.0
1950	2716	2716	0	0.0
1951	10213	10213	0	0.0
1952	9104	9104	0	0.0
1953	7256	7256	0	0.0
1954	1954	1954	0	0.0
1955	1835	1835	0	0.0
1956	16477	16477	0	0.0
1957	1903	1903	0	0.0
1958	2939	2939	0	0.0
1959	1660	1660	0	0.0
1960	711	711	0	0.0
1961	935	935	0	0.0
1962	664	664	0	0.0
1963	3919	3919	0	0.0
1964	2065	2065	0	0.0
1965	12912	12912	0	0.0
1966	2118	2118	0	0.0
1967	6907	6907	0	0.0
1968	2024	2024	0	0.0
1969	15476	15476	0	0.0
1970	21098	21098	0	0.0
1971	4680	4680	0	0.0
1972	1917	1917	0	0.0
1973	9367	9367	0	0.0
1974	11656	11656	0	0.0
1975	1607	1607	0	0.0
1976	1948	1948	0	0.0
1977	884	884	0	0.0
1978	2606	2606	0	0.0
1979	2466	2466	0	0.0
1980	18243	18243	0	0.0
1981	1988	1988	0	0.0
1982	8097	8097	0	0.0
1983	7677	7677	0	0.0
1984	6652	6652	0	0.0
1985	1945	1945	0	0.0
1986	4339	4339	0	0.0
1987	1676	1676	0	0.0
1988	956	956	0	0.0
1989	655	655	0	0.0
1990	1255	1255	0	0.0
1991	871	871	0	0.0
1992	926	926	0	0.0
1993	1666	1666	0	0.0
Mean:	4077	4077	0	0.0
Median:	1953	1953	0	0.0
Min:	655	655	0	0.0
Max:	21098	21098	0	0.0
X < 1500	23	23		
X < 1750	28	28		
X < 1765	28	28		
X < 2000	39	39		
X < 3000	48	48		
X > 3450	24	24		
Mean When X > 3450	9084	9084		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5475	5475	0	0.0
1923	3076	3076	0	0.0
1924	1131	1131	0	0.0
1925	4642	4642	0	0.0
1926	1569	1569	0	0.0
1927	13506	13506	0	0.0
1928	2339	2339	0	0.0
1929	869	869	0	0.0
1930	1542	1542	0	0.0
1931	713	713	0	0.0
1932	2233	2233	0	0.0
1933	1411	1411	0	0.0
1934	1044	1044	0	0.0
1935	651	651	0	0.0
1936	13567	13567	0	0.0
1937	2942	2942	0	0.0
1938	9843	9843	0	0.0
1939	1334	1334	0	0.0
1940	10606	10606	0	0.0
1941	8060	8060	0	0.0
1942	10017	10017	0	0.0
1943	7187	7187	0	0.0
1944	1513	1513	0	0.0
1945	9306	9306	0	0.0
1946	3388	3388	0	0.0
1947	1057	1057	0	0.0
1948	1959	1959	0	0.0
1949	1477	1477	0	0.0
1950	5579	5579	0	0.0
1951	8308	8308	0	0.0
1952	9533	9533	0	0.0
1953	2284	2284	0	0.0
1954	2820	2820	0	0.0
1955	3027	3027	0	0.0
1956	6172	6172	0	0.0
1957	2392	2392	0	0.0
1958	10206	10206	0	0.0
1959	3245	3245	0	0.0
1960	836	836	0	0.0
1961	664	664	0	0.0
1962	2038	2038	0	0.0
1963	11808	11808	0	0.0
1964	2436	2436	0	0.0
1965	5352	5352	0	0.0
1966	1904	1904	0	0.0
1967	4321	4321	0	0.0
1968	6144	6144	0	0.0
1969	9190	9190	0	0.0
1970	6094	6094	0	0.0
1971	3835	3835	0	0.0
1972	3041	3041	0	0.0
1973	7147	7147	0	0.0
1974	4447	4447	0	0.0
1975	3834	3834	0	0.0
1976	1478	1478	0	0.0
1977	626	626	0	0.0
1978	4870	4870	0	0.0
1979	3645	3645	0	0.0
1980	13355	13355	0	0.0
1981	1438	1438	0	0.0
1982	15342	15342	0	0.0
1983	12549	12549	0	0.0
1984	5892	5892	0	0.0
1985	1492	1492	0	0.0
1986	33032	33032	0	0.0
1987	1298	1298	0	0.0
1988	2062	2062	0	0.0
1989	545	545	0	0.0
1990	2003	2003	0	0.0
1991	663	663	0	0.0
1992	794	794	0	0.0
1993	6128	6128	0	0.0
Mean:	4949	4949	0	0.0
Median:	3059	3059	0	0.0
Min:	545	545	0	0.0
Max:	33032	33032	0	0.0
X < 1500	19	19		
X < 1750	22	22		
X < 1765	22	22		
X < 2000	24	24		
X < 3000	34	34		
X > 3450	33	33		
Mean When X > 3450	8757	8757		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3399	3399	0	0.0
1923	2963	2963	0	0.0
1924	2393	2393	0	0.0
1925	4889	4889	0	0.0
1926	1455	1455	0	0.0
1927	4509	4509	0	0.0
1928	12871	12871	0	0.0
1929	888	888	0	0.0
1930	2830	2830	0	0.0
1931	722	722	0	0.0
1932	2877	2877	0	0.0
1933	1071	1071	0	0.0
1934	1518	1518	0	0.0
1935	1469	1469	0	0.0
1936	4009	4009	0	0.0
1937	4466	4466	0	0.0
1938	11003	11003	0	0.0
1939	1514	1514	0	0.0
1940	10799	10799	0	0.0
1941	4846	4846	0	0.0
1942	2973	2973	0	0.0
1943	12624	12624	0	0.0
1944	1951	1951	0	0.0
1945	2178	2178	0	0.0
1946	3006	3006	0	0.0
1947	2008	2008	0	0.0
1948	1516	1516	0	0.0
1949	3382	3382	0	0.0
1950	3084	3084	0	0.0
1951	3787	3787	0	0.0
1952	6200	6200	0	0.0
1953	1785	1785	0	0.0
1954	4449	4449	0	0.0
1955	2170	2170	0	0.0
1956	2920	2920	0	0.0
1957	4500	4500	0	0.0
1958	6720	6720	0	0.0
1959	2214	2214	0	0.0
1960	3965	3965	0	0.0
1961	1442	1442	0	0.0
1962	2918	2918	0	0.0
1963	2158	2158	0	0.0
1964	1828	1828	0	0.0
1965	2188	2188	0	0.0
1966	2937	2937	0	0.0
1967	6082	6082	0	0.0
1968	2227	2227	0	0.0
1969	3720	3720	0	0.0
1970	2422	2422	0	0.0
1971	3542	3542	0	0.0
1972	4075	4075	0	0.0
1973	3461	3461	0	0.0
1974	9431	9431	0	0.0
1975	4702	4702	0	0.0
1976	1100	1100	0	0.0
1977	457	457	0	0.0
1978	6037	6037	0	0.0
1979	3346	3346	0	0.0
1980	3469	3469	0	0.0
1981	1513	1513	0	0.0
1982	7671	7671	0	0.0
1983	16580	16580	0	0.0
1984	2605	2605	0	0.0
1985	1524	1524	0	0.0
1986	10933	10933	0	0.0
1987	1010	1010	0	0.0
1988	1524	1524	0	0.0
1989	6971	6971	0	0.0
1990	1464	1464	0	0.0
1991	631	631	0	0.0
1992	1450	1450	0	0.0
1993	7626	7626	0	0.0
Mean:	3902	3902	0	0.0
Median:	2950	2950	0	0.0
Min:	457	457	0	0.0
Max:	16580	16580	0	0.0
X < 1500	12	12		
X < 1750	18	18		
X < 1765	18	18		
X < 2000	21	21		
X < 3000	38	38		
X > 3450	29	29		
Mean When X > 3450	6687	6687		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4467	4467	0	0.0
1923	3473	3473	0	0.0
1924	650	650	0	0.0
1925	2835	2835	0	0.0
1926	784	784	0	0.0
1927	7826	7826	0	0.0
1928	4694	4694	0	0.0
1929	1749	1749	0	0.0
1930	1637	1637	0	0.0
1931	901	901	0	0.0
1932	2814	2814	0	0.0
1933	553	553	0	0.0
1934	3063	3063	0	0.0
1935	6708	6708	0	0.0
1936	5438	5438	0	0.0
1937	4228	4228	0	0.0
1938	7862	7862	0	0.0
1939	1638	1638	0	0.0
1940	5880	5880	0	0.0
1941	3805	3805	0	0.0
1942	5614	5614	0	0.0
1943	4963	4963	0	0.0
1944	2928	2928	0	0.0
1945	2894	2894	0	0.0
1946	3063	3063	0	0.0
1947	2883	2883	0	0.0
1948	2043	2043	0	0.0
1949	3343	3343	0	0.0
1950	4710	4710	0	0.0
1951	3177	3177	0	0.0
1952	8741	8741	0	0.0
1953	2960	2960	0	0.0
1954	4423	4423	0	0.0
1955	1668	1668	0	0.0
1956	2932	2932	0	0.0
1957	2916	2916	0	0.0
1958	10433	10433	0	0.0
1959	1667	1667	0	0.0
1960	3331	3331	0	0.0
1961	1613	1613	0	0.0
1962	2886	2886	0	0.0
1963	6176	6176	0	0.0
1964	1635	1635	0	0.0
1965	4772	4772	0	0.0
1966	1617	1617	0	0.0
1967	3957	3957	0	0.0
1968	1662	1662	0	0.0
1969	6499	6499	0	0.0
1970	2921	2921	0	0.0
1971	3274	3274	0	0.0
1972	1628	1628	0	0.0
1973	2890	2890	0	0.0
1974	6172	6172	0	0.0
1975	2916	2916	0	0.0
1976	647	647	0	0.0
1977	188	188	0	0.0
1978	3923	3923	0	0.0
1979	2822	2822	0	0.0
1980	2908	2908	0	0.0
1981	1644	1644	0	0.0
1982	14495	14495	0	0.0
1983	6558	6558	0	0.0
1984	2518	2518	0	0.0
1985	2905	2905	0	0.0
1986	2637	2637	0	0.0
1987	1661	1661	0	0.0
1988	659	659	0	0.0
1989	3615	3615	0	0.0
1990	1351	1351	0	0.0
1991	1788	1788	0	0.0
1992	2794	2794	0	0.0
1993	3867	3867	0	0.0
Mean:	3518	3518	0	0.0
Median:	2919	2919	0	0.0
Min:	188	188	0	0.0
Max:	14495	14495	0	0.0
X < 1500	8	8		
X < 1750	20	20		
X < 1765	20	20		
X < 2000	21	21		
X < 3000	40	40		
X > 3450	26	26		
Mean When X > 3450	5896	5896		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9444	9444	0	0.0
1923	4539	4539	0	0.0
1924	830	830	0	0.0
1925	3594	3594	0	0.0
1926	2145	2145	0	0.0
1927	4715	4715	0	0.0
1928	2597	2597	0	0.0
1929	833	833	0	0.0
1930	2088	2088	0	0.0
1931	832	832	0	0.0
1932	2805	2805	0	0.0
1933	835	835	0	0.0
1934	1178	1178	0	0.0
1935	4547	4547	0	0.0
1936	3916	3916	0	0.0
1937	3872	3872	0	0.0
1938	9565	9565	0	0.0
1939	1132	1132	0	0.0
1940	3124	3124	0	0.0
1941	5050	5050	0	0.0
1942	6700	6700	0	0.0
1943	2892	2892	0	0.0
1944	2095	2095	0	0.0
1945	2696	2696	0	0.0
1946	3642	3642	0	0.0
1947	2073	2073	0	0.0
1948	3695	3695	0	0.0
1949	2841	2841	0	0.0
1950	4002	4002	0	0.0
1951	3699	3699	0	0.0
1952	11358	11358	0	0.0
1953	2849	2849	0	0.0
1954	3105	3105	0	0.0
1955	2089	2089	0	0.0
1956	5439	5439	0	0.0
1957	2157	2157	0	0.0
1958	10017	10017	0	0.0
1959	2090	2090	0	0.0
1960	2063	2063	0	0.0
1961	2057	2057	0	0.0
1962	2781	2781	0	0.0
1963	7091	7091	0	0.0
1964	2074	2074	0	0.0
1965	4079	4079	0	0.0
1966	2068	2068	0	0.0
1967	8380	8380	0	0.0
1968	2107	2107	0	0.0
1969	9132	9132	0	0.0
1970	2096	2096	0	0.0
1971	2890	2890	0	0.0
1972	2080	2080	0	0.0
1973	3892	3892	0	0.0
1974	4785	4785	0	0.0
1975	4491	4491	0	0.0
1976	822	822	0	0.0
1977	388	388	0	0.0
1978	4179	4179	0	0.0
1979	3278	3278	0	0.0
1980	2845	2845	0	0.0
1981	2087	2087	0	0.0
1982	9323	9323	0	0.0
1983	10557	10557	0	0.0
1984	2281	2281	0	0.0
1985	2083	2083	0	0.0
1986	2870	2870	0	0.0
1987	1559	1559	0	0.0
1988	2100	2100	0	0.0
1989	3696	3696	0	0.0
1990	896	896	0	0.0
1991	2099	2099	0	0.0
1992	2036	2036	0	0.0
1993	5284	5284	0	0.0
Mean:	3632	3632	0	0.0
Median:	2847	2847	0	0.0
Min:	388	388	0	0.0
Max:	11358	11358	0	0.0
X < 1500	9	9		
X < 1750	10	10		
X < 1765	10	10		
X < 2000	10	10		
X < 3000	40	40		
X > 3450	29	29		
Mean When X > 3450	5955	5955		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	9337	9337	0	0.0
1923	2880	2880	0	0.0
1924	1274	1274	0	0.0
1925	4753	4753	0	0.0
1926	2760	2760	0	0.0
1927	5374	5374	0	0.0
1928	1850	1850	0	0.0
1929	2702	2702	0	0.0
1930	2987	2987	0	0.0
1931	2338	2338	0	0.0
1932	4761	4761	0	0.0
1933	2890	2890	0	0.0
1934	2311	2311	0	0.0
1935	3824	3824	0	0.0
1936	4756	4756	0	0.0
1937	2750	2750	0	0.0
1938	8810	8810	0	0.0
1939	1811	1811	0	0.0
1940	3091	3091	0	0.0
1941	3328	3328	0	0.0
1942	7326	7326	0	0.0
1943	2825	2825	0	0.0
1944	2957	2957	0	0.0
1945	3338	3338	0	0.0
1946	3848	3848	0	0.0
1947	1701	1701	0	0.0
1948	5205	5205	0	0.0
1949	3912	3912	0	0.0
1950	3989	3989	0	0.0
1951	2775	2775	0	0.0
1952	10428	10428	0	0.0
1953	6069	6069	0	0.0
1954	2781	2781	0	0.0
1955	2760	2760	0	0.0
1956	5854	5854	0	0.0
1957	3784	3784	0	0.0
1958	7740	7740	0	0.0
1959	2212	2212	0	0.0
1960	2790	2790	0	0.0
1961	1260	1260	0	0.0
1962	2752	2752	0	0.0
1963	3183	3183	0	0.0
1964	2395	2395	0	0.0
1965	3114	3114	0	0.0
1966	1919	1919	0	0.0
1967	10446	10446	0	0.0
1968	2127	2127	0	0.0
1969	6552	6552	0	0.0
1970	2788	2788	0	0.0
1971	4962	4962	0	0.0
1972	4766	4766	0	0.0
1973	4747	4747	0	0.0
1974	4195	4195	0	0.0
1975	6274	6274	0	0.0
1976	1288	1288	0	0.0
1977	816	816	0	0.0
1978	4437	4437	0	0.0
1979	4741	4741	0	0.0
1980	2989	2989	0	0.0
1981	1255	1255	0	0.0
1982	6139	6139	0	0.0
1983	14457	14457	0	0.0
1984	3784	3784	0	0.0
1985	3117	3117	0	0.0
1986	3338	3338	0	0.0
1987	1958	1958	0	0.0
1988	1280	1280	0	0.0
1989	4749	4749	0	0.0
1990	2189	2189	0	0.0
1991	1811	1811	0	0.0
1992	1279	1279	0	0.0
1993	5398	5398	0	0.0
Mean:	3936	3936	0	0.0
Median:	3116	3116	0	0.0
Min:	816	816	0	0.0
Max:	14457	14457	0	0.0
X < 1500	7	7		
X < 1750	8	8		
X < 1765	8	8		
X < 2000	13	13		
X < 3000	34	34		
X > 3450	31	31		
Mean When X > 3450	5981	5981		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4698	4848	150	3.2
1923	4754	4883	129	2.7
1924	1525	1634	109	7.1
1925	4735	4792	57	1.2
1926	2906	3001	95	3.3
1927	4739	4885	146	3.1
1928	4657	4780	123	2.6
1929	2409	2491	82	3.4
1930	4095	4176	81	2.0
1931	2182	2280	98	4.5
1932	4941	5034	93	1.9
1933	2631	2723	92	3.5
1934	1523	1610	87	5.7
1935	4734	4854	120	2.5
1936	4743	4870	127	2.7
1937	4757	4895	138	2.9
1938	3962	4098	136	3.4
1939	2206	2326	120	5.4
1940	4755	4804	49	1.0
1941	4419	4532	113	2.6
1942	4734	4869	135	2.9
1943	4760	4903	143	3.0
1944	3164	3263	99	3.1
1945	4747	4832	85	1.8
1946	4751	4820	69	1.5
1947	2880	2946	66	2.3
1948	4662	4739	77	1.7
1949	4384	4488	104	2.4
1950	4740	4849	109	2.3
1951	4759	4883	124	2.6
1952	4698	4779	81	1.7
1953	4336	4462	126	2.9
1954	3146	3251	105	3.3
1955	2877	2961	84	2.9
1956	4731	4864	133	2.8
1957	4736	4852	116	2.4
1958	3509	3636	127	3.6
1959	4758	4862	104	2.2
1960	2555	2648	93	3.6
1961	3426	3549	123	3.6
1962	4758	4886	128	2.7
1963	4745	4886	141	3.0
1964	3217	3281	64	2.0
1965	5270	5411	141	2.7
1966	2784	2880	96	3.4
1967	3901	3952	51	1.3
1968	3295	3432	137	4.2
1969	4725	4821	96	2.0
1970	4762	4885	123	2.6
1971	4744	4800	56	1.2
1972	4237	4356	119	2.8
1973	4645	4779	134	2.9
1974	3521	3655	134	3.8
1975	3924	4056	132	3.4
1976	1532	1680	148	9.7
1977	561	661	100	17.8
1978	4737	4872	135	2.8
1979	4261	4399	138	3.2
1980	4771	4906	135	2.8
1981	3086	3183	97	3.1
1982	3744	3877	133	3.6
1983	7681	7715	34	0.4
1984	5458	5567	109	2.0
1985	2661	2740	79	3.0
1986	4753	4892	139	2.9
1987	1604	1712	108	6.7
1988	1523	1613	90	5.9
1989	3527	3611	84	2.4
1990	2095	2192	97	4.6
1991	2744	2856	112	4.1
1992	1519	1601	82	5.4
1993	4732	4878	146	3.1
Mean:	3851	3958	108	3.3
Median:	4360	4475	109	2.9
Min:	561	661	34	0.4
Max:	7681	7715	150	17.8
X < 1500	1	1		
X < 1750	7	7		
X < 1765	7	7		
X < 2000	7	7		
X < 3000	19	18		
X > 3450	47	48		
Mean When X > 3450	4621	4709		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2261	2273	12	0.5
1923	2493	2527	34	1.4
1924	1131	1177	46	4.1
1925	2644	2749	105	4.0
1926	770	829	59	7.7
1927	2419	2436	17	0.7
1928	2892	2931	39	1.3
1929	2036	2107	71	3.5
1930	2481	2552	71	2.9
1931	1538	1588	50	3.3
1932	3540	3598	58	1.6
1933	2155	2225	70	3.2
1934	1392	1449	57	4.1
1935	3505	3547	42	1.2
1936	2560	2596	36	1.4
1937	2589	2615	26	1.0
1938	3587	3599	12	0.3
1939	1444	1487	43	3.0
1940	1814	1927	113	6.2
1941	2659	2695	36	1.4
1942	2722	2736	14	0.5
1943	2260	2279	19	0.8
1944	1552	1615	63	4.1
1945	2352	2430	78	3.3
1946	1900	1994	94	4.9
1947	2412	2502	90	3.7
1948	2639	2725	86	3.3
1949	2538	2594	56	2.2
1950	2257	2312	55	2.4
1951	2263	2301	38	1.7
1952	4763	4818	55	1.2
1953	3450	3468	18	0.5
1954	2277	2334	57	2.5
1955	2433	2503	70	2.9
1956	2530	2544	14	0.6
1957	2856	2902	46	1.6
1958	4168	4185	17	0.4
1959	767	826	59	7.7
1960	2128	2174	46	2.2
1961	1275	1315	40	3.1
1962	2254	2289	35	1.6
1963	2575	2596	21	0.8
1964	2787	2884	97	3.5
1965	2275	2296	21	0.9
1966	1734	1801	67	3.9
1967	4257	4311	54	1.3
1968	1400	1426	26	1.9
1969	2268	2322	54	2.4
1970	1491	1531	40	2.7
1971	2267	2318	51	2.2
1972	1795	1838	43	2.4
1973	1617	1647	30	1.9
1974	4009	4023	14	0.3
1975	2986	3001	15	0.5
1976	808	823	15	1.9
1977	233	272	39	16.7
1978	2258	2271	13	0.6
1979	1475	1499	24	1.6
1980	2350	2365	15	0.6
1981	1275	1340	65	5.1
1982	3642	3656	14	0.4
1983	3151	3183	32	1.0
1984	1542	1596	54	3.5
1985	2288	2371	83	3.6
1986	2263	2275	12	0.5
1987	793	837	44	5.5
1988	1292	1358	66	5.1
1989	2670	2748	78	2.9
1990	1287	1346	59	4.6
1991	2018	2062	44	2.2
1992	1289	1352	63	4.9
1993	2412	2428	16	0.7
Mean:	2253	2299	46	2.6
Median:	2268	2315	44	2.2
Min:	233	272	12	0.3
Max:	4763	4818	113	16.7
X < 1500	16	15		
X < 1750	21	20		
X < 1765	21	20		
X < 2000	24	24		
X < 3000	62	61		
X > 3450	8	9		
Mean When X > 3450	3934	3912		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4366	4366	0	0.0
1923	4403	4403	0	0.0
1924	835	843	8	1.0
1925	2322	2322	0	0.0
1926	833	841	8	1.0
1927	4411	4411	0	0.0
1928	2318	2318	0	0.0
1929	997	1007	10	1.0
1930	826	837	11	1.3
1931	858	872	14	1.6
1932	2314	2326	12	0.5
1933	1033	1033	0	0.0
1934	836	855	19	2.3
1935	2590	2590	0	0.0
1936	3754	3754	0	0.0
1937	2870	2870	0	0.0
1938	4228	4242	14	0.3
1939	850	850	0	0.0
1940	2656	2656	0	0.0
1941	3563	3577	14	0.4
1942	4192	4207	15	0.4
1943	4709	4709	0	0.0
1944	3184	3184	0	0.0
1945	4201	4201	0	0.0
1946	4230	4230	0	0.0
1947	2320	2326	6	0.3
1948	3696	3696	0	0.0
1949	2324	2326	2	0.1
1950	4255	4255	0	0.0
1951	3996	3996	0	0.0
1952	3918	3945	27	0.7
1953	4159	4179	20	0.5
1954	2321	2321	0	0.0
1955	841	851	10	1.2
1956	4177	4192	15	0.4
1957	2553	2553	0	0.0
1958	3846	3865	19	0.5
1959	896	896	0	0.0
1960	1228	1252	24	2.0
1961	838	838	0	0.0
1962	2869	2869	0	0.0
1963	3699	3699	0	0.0
1964	1021	1023	2	0.2
1965	4413	4413	0	0.0
1966	832	832	0	0.0
1967	4385	4444	59	1.3
1968	1143	1143	0	0.0
1969	4084	4097	13	0.3
1970	2586	2586	0	0.0
1971	3866	3923	57	1.5
1972	857	857	0	0.0
1973	2978	2978	0	0.0
1974	4288	4304	16	0.4
1975	4084	4101	17	0.4
1976	845	845	0	0.0
1977	385	409	24	6.2
1978	3531	3546	15	0.4
1979	3309	3309	0	0.0
1980	4095	4108	13	0.3
1981	842	842	0	0.0
1982	4650	4666	16	0.3
1983	5109	5208	99	1.9
1984	3672	3672	0	0.0
1985	1579	1579	0	0.0
1986	3530	3542	12	0.3
1987	839	850	11	1.3
1988	2217	2225	8	0.4
1989	1353	1353	0	0.0
1990	1125	1132	7	0.6
1991	2342	2349	7	0.3
1992	831	849	18	2.2
1993	4772	4772	0	0.0
Mean:	2707	2716	9	0.5
Median:	2763	2763	0	0.0
Min:	385	409	0	0.0
Max:	5109	5208	99	6.2
X < 1500	23	23		
X < 1750	24	24		
X < 1765	24	24		
X < 2000	24	24		
X < 3000	39	39		
X > 3450	31	31		
Mean When X > 3450	4138	4152		
# Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Flow Above Auburn Dam Diversion Site on the Upper American River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	12317	12317	0	0.0
1923	11121	11260	139	1.2
1924	10215	10291	76	0.7
1925	7610	7797	187	2.5
1926	9141	9266	125	1.4
1927	9744	9931	187	1.9
1928	10314	10409	95	0.9
1929	11967	12120	153	1.3
1930	7771	7958	187	2.4
1931	8977	9104	127	1.4
1932	7755	7942	187	2.4
1933	9209	9396	187	2.0
1934	7775	7962	187	2.4
1935	7766	7953	187	2.4
1936	12304	12364	60	0.5
1937	11530	11636	106	0.9
1938	10706	10893	187	1.7
1939	15647	15812	165	1.1
1940	9921	9974	53	0.5
1941	12099	12099	0	0.0
1942	13155	13329	174	1.3
1943	13137	13275	138	1.1
1944	11341	11392	51	0.4
1945	10509	10509	0	0.0
1946	10951	10951	0	0.0
1947	10354	10354	0	0.0
1948	10566	10566	0	0.0
1949	12249	12249	0	0.0
1950	9478	9566	88	0.9
1951	11445	11445	0	0.0
1952	11742	11742	0	0.0
1953	16419	16432	13	0.1
1954	13590	13655	65	0.5
1955	13452	13457	5	0.0
1956	9193	9350	157	1.7
1957	14250	14373	123	0.9
1958	15385	15444	59	0.4
1959	17023	17112	89	0.5
1960	11523	11523	0	0.0
1961	9126	9251	125	1.4
1962	13054	13083	29	0.2
1963	32102	32102	0	0.0
1964	13743	13846	103	0.7
1965	10774	10774	0	0.0
1966	10671	10691	20	0.2
1967	12769	12769	0	0.0
1968	17879	17879	0	0.0
1969	12453	12454	1	0.0
1970	16645	16832	187	1.1
1971	9918	9979	61	0.6
1972	14214	14214	0	0.0
1973	11563	11586	23	0.2
1974	12877	12956	79	0.6
1975	16477	16622	145	0.9
1976	20001	20128	127	0.6
1977	7800	7959	159	2.0
1978	5902	6089	187	3.2
1979	10328	10468	140	1.4
1980	11640	11654	14	0.1
1981	10137	10254	117	1.2
1982	12049	12049	0	0.0
1983	20585	20720	135	0.7
1984	19541	19570	29	0.1
1985	11138	11158	20	0.2
1986	13328	13328	0	0.0
1987	11435	11622	187	1.6
1988	9927	10052	125	1.3
1989	7790	7977	187	2.4
1990	12223	12223	0	0.0
1991	7745	7932	187	2.4
1992	7637	7824	187	2.4
1993	7738	7925	187	2.4
Mean:	11956	12044	88	0.9
Median:	11440	11484	89	0.7
Min:	5902	6089	0	0.0
Max:	32102	32102	187	3.2
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	10779	10779	0	0.0
1923	12879	12904	25	0.2
1924	9215	9231	16	0.2
1925	7709	7734	25	0.3
1926	8513	8538	25	0.3
1927	22931	22957	26	0.1
1928	16651	16671	20	0.1
1929	11796	11821	25	0.2
1930	7234	7259	25	0.3
1931	9049	9074	25	0.3
1932	7092	7118	26	0.4
1933	8513	8538	25	0.3
1934	7239	7264	25	0.3
1935	11175	11200	25	0.2
1936	9491	9504	13	0.1
1937	10354	10376	22	0.2
1938	24229	24254	25	0.1
1939	13888	13913	25	0.2
1940	8522	8533	11	0.1
1941	12055	12055	0	0.0
1942	13589	13614	25	0.2
1943	17179	17204	25	0.1
1944	9516	9527	11	0.1
1945	14015	14015	0	0.0
1946	13534	13534	0	0.0
1947	10911	10911	0	0.0
1948	10355	10355	0	0.0
1949	9735	9735	0	0.0
1950	9543	9562	19	0.2
1951	41426	41426	0	0.0
1952	13632	13632	0	0.0
1953	12310	12313	3	0.0
1954	18093	18107	14	0.1
1955	13659	13660	1	0.0
1956	11664	11689	25	0.2
1957	12936	12961	25	0.2
1958	14680	14693	13	0.1
1959	12515	12534	19	0.2
1960	8528	8528	0	0.0
1961	11543	11569	26	0.2
1962	10108	10114	6	0.1
1963	16063	16063	0	0.0
1964	26172	26194	22	0.1
1965	14372	14372	0	0.0
1966	17988	17992	4	0.0
1967	14789	14789	0	0.0
1968	14612	14612	0	0.0
1969	12114	12114	0	0.0
1970	14004	14029	25	0.2
1971	17060	17072	12	0.1
1972	13679	13679	0	0.0
1973	17996	18001	5	0.0
1974	58503	58519	16	0.0
1975	14618	14644	26	0.2
1976	16532	16557	25	0.2
1977	7791	7816	25	0.3
1978	7149	7175	26	0.4
1979	9858	9884	26	0.3
1980	12849	12852	3	0.0
1981	10739	10765	26	0.2
1982	32340	32340	0	0.0
1983	36217	36242	25	0.1
1984	64442	64448	6	0.0
1985	25749	25753	4	0.0
1986	10715	10715	0	0.0
1987	10361	10386	25	0.2
1988	8525	8550	25	0.3
1989	8775	8800	25	0.3
1990	8891	8891	0	0.0
1991	7224	7250	26	0.4
1992	7209	7234	25	0.3
1993	7230	7256	26	0.4
Mean:	14769	14783	15	0.1
Median:	12085	12085	19	0.1
Min:	7092	7118	0	0.0
Max:	64442	64448	26	0.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	17196	17196	0	0.0
1923	29813	29821	8	0.0
1924	10234	10239	5	0.0
1925	12431	12439	8	0.1
1926	9726	9734	8	0.1
1927	19314	19322	8	0.0
1928	15105	15112	7	0.0
1929	11979	11987	8	0.1
1930	17525	17533	8	0.0
1931	9932	9940	8	0.1
1932	18879	18888	9	0.0
1933	10039	10047	8	0.1
1934	13967	13975	8	0.1
1935	9831	9840	9	0.1
1936	12799	12803	4	0.0
1937	12810	12818	8	0.1
1938	53959	53967	8	0.0
1939	14677	14685	8	0.1
1940	10847	10850	3	0.0
1941	39316	39316	0	0.0
1942	67572	67580	8	0.0
1943	28635	28643	8	0.0
1944	10413	10417	4	0.0
1945	16248	16248	0	0.0
1946	64088	64088	0	0.0
1947	15240	15240	0	0.0
1948	9813	9813	0	0.0
1949	12755	12755	0	0.0
1950	9318	9324	6	0.1
1951	74402	74402	0	0.0
1952	40315	40315	0	0.0
1953	43655	43656	1	0.0
1954	15217	15221	4	0.0
1955	20787	20787	0	0.0
1956	73952	73960	8	0.0
1957	11685	11693	8	0.1
1958	23874	23878	4	0.0
1959	12592	12598	6	0.0
1960	11628	11628	0	0.0
1961	15708	15716	8	0.1
1962	16346	16348	2	0.0
1963	27062	27062	0	0.0
1964	13695	13702	7	0.1
1965	67547	67547	0	0.0
1966	15239	15241	2	0.0
1967	36563	36563	0	0.0
1968	16237	16237	0	0.0
1969	23517	23517	0	0.0
1970	59812	59820	8	0.0
1971	57050	57055	5	0.0
1972	16448	16448	0	0.0
1973	22946	22948	2	0.0
1974	68437	68443	6	0.0
1975	16349	16358	9	0.1
1976	15946	15954	8	0.1
1977	9195	9203	8	0.1
1978	14439	14447	8	0.1
1979	9184	9192	8	0.1
1980	18338	18339	1	0.0
1981	14878	14886	8	0.1
1982	73836	73835	-1	0.0
1983	66576	66584	8	0.0
1984	75066	75068	2	0.0
1985	22125	22126	1	0.0
1986	17224	17224	0	0.0
1987	11173	11181	8	0.1
1988	17335	17343	8	0.0
1989	9602	9610	8	0.1
1990	8075	8075	0	0.0
1991	6716	6724	8	0.1
1992	6852	6860	8	0.1
1993	12291	12299	8	0.1
Mean:	24922	24927	5	0.0
Median:	16092	16096	6	0.0
Min:	6716	6724	-1	0.0
Max:	75066	75068	9	0.1
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	15488	15488	0	0.0
1923	28626	28630	4	0.0
1924	12138	12141	3	0.0
1925	12031	12035	4	0.0
1926	17650	17654	4	0.0
1927	30935	30939	4	0.0
1928	22315	22318	3	0.0
1929	12839	12843	4	0.0
1930	21590	21594	4	0.0
1931	12923	12927	4	0.0
1932	20233	20237	4	0.0
1933	14202	14206	4	0.0
1934	19154	19158	4	0.0
1935	28483	28487	4	0.0
1936	38469	38471	2	0.0
1937	12699	12702	3	0.0
1938	31159	31163	4	0.0
1939	13530	13535	5	0.0
1940	32602	32604	2	0.0
1941	72981	72981	0	0.0
1942	71092	71096	4	0.0
1943	71978	71981	3	0.0
1944	14050	14051	1	0.0
1945	13062	13062	0	0.0
1946	49042	49042	0	0.0
1947	11186	11186	0	0.0
1948	16767	16767	0	0.0
1949	10905	10905	0	0.0
1950	20569	20572	3	0.0
1951	61947	61946	-1	0.0
1952	73285	73285	0	0.0
1953	73206	73206	0	0.0
1954	32600	32602	2	0.0
1955	19051	19052	1	0.0
1956	75276	75280	4	0.0
1957	15690	15694	4	0.0
1958	38797	38799	2	0.0
1959	36050	36053	3	0.0
1960	11611	11611	0	0.0
1961	11670	11674	4	0.0
1962	11365	11366	1	0.0
1963	15180	15180	0	0.0
1964	21508	21512	4	0.0
1965	74315	74315	0	0.0
1966	30361	30362	1	0.0
1967	41757	41757	0	0.0
1968	28820	28820	0	0.0
1969	74022	74022	0	0.0
1970	76393	76396	3	0.0
1971	47213	47215	2	0.0
1972	17443	17443	0	0.0
1973	73311	73312	1	0.0
1974	74475	74477	2	0.0
1975	15400	15404	4	0.0
1976	13593	13597	4	0.0
1977	8119	8123	4	0.0
1978	64096	64100	4	0.0
1979	21702	21706	4	0.0
1980	74072	74073	1	0.0
1981	23352	23356	4	0.0
1982	69078	69077	-1	0.0
1983	71744	71748	4	0.0
1984	50529	50530	1	0.0
1985	13392	13393	1	0.0
1986	25116	25116	0	0.0
1987	13957	13961	4	0.0
1988	27544	27548	4	0.0
1989	12026	12030	4	0.0
1990	19104	19104	0	0.0
1991	6460	6464	4	0.1
1992	10500	10504	4	0.0
1993	57134	57138	4	0.0
Mean:	33069	33071	2	0.0
Median:	22009	22012	3	0.0
Min:	6460	6464	-1	0.0
Max:	76393	76396	5	0.1
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	34677	34677	0	0.0
1923	14713	14718	5	0.0
1924	15595	15594	-1	0.0
1925	63942	63946	4	0.0
1926	39657	39662	5	0.0
1927	74814	74819	5	0.0
1928	24137	24133	-4	0.0
1929	15656	15660	4	0.0
1930	17726	17731	5	0.0
1931	10349	10354	5	0.0
1932	15858	15857	-1	0.0
1933	11768	11773	5	0.0
1934	14331	14336	5	0.0
1935	12992	12997	5	0.0
1936	60979	60974	-5	0.0
1937	33705	33709	4	0.0
1938	74253	74257	4	0.0
1939	11576	11580	4	0.0
1940	54864	54859	-5	0.0
1941	73834	73834	0	0.0
1942	74433	74437	4	0.0
1943	51446	51450	4	0.0
1944	23705	23701	-4	0.0
1945	45929	45929	0	0.0
1946	24407	24407	0	0.0
1947	17766	17766	0	0.0
1948	14564	14560	-4	0.0
1949	11741	11741	0	0.0
1950	34766	34769	3	0.0
1951	64137	64137	0	0.0
1952	72407	72400	-7	0.0
1953	22675	22675	0	0.0
1954	63677	63680	3	0.0
1955	15078	15078	0	0.0
1956	69309	69306	-3	0.0
1957	32761	32766	5	0.0
1958	75234	75235	1	0.0
1959	52915	52918	3	0.0
1960	29692	29684	-8	0.0
1961	29027	29032	5	0.0
1962	45734	45735	1	0.0
1963	70429	70429	0	0.0
1964	15721	15717	-4	0.0
1965	30995	30995	0	0.0
1966	24751	24751	0	0.0
1967	53883	53883	0	0.0
1968	61966	61958	-8	0.0
1969	73880	73879	-1	0.0
1970	71210	71215	5	0.0
1971	26894	26897	3	0.0
1972	24413	24405	-8	0.0
1973	73165	73166	1	0.0
1974	39801	39804	3	0.0
1975	62462	62466	4	0.0
1976	13426	13426	0	0.0
1977	7254	7258	4	0.1
1978	50553	50558	5	0.0
1979	41453	41457	4	0.0
1980	74173	74165	-8	0.0
1981	26590	26595	5	0.0
1982	73854	73854	0	0.0
1983	74936	74940	4	0.0
1984	33954	33946	-8	0.0
1985	15369	15370	1	0.0
1986	78339	78338	-1	0.0
1987	19808	19813	5	0.0
1988	15716	15714	-2	0.0
1989	8291	8296	5	0.1
1990	15615	15615	0	0.0
1991	8859	8863	4	0.0
1992	32964	32962	-2	0.0
1993	56626	56630	4	0.0
Mean:	39225	39226	1	0.0
Median:	33335	33336	1	0.0
Min:	7254	7258	-8	0.0
Max:	78339	78338	5	0.1
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	29484	29484	0	0.0
1923	13974	13978	4	0.0
1924	10162	10165	3	0.0
1925	25647	25651	4	0.0
1926	13401	13405	4	0.0
1927	42877	42880	3	0.0
1928	74254	74257	3	0.0
1929	11079	11083	4	0.0
1930	31312	31316	4	0.0
1931	7347	7351	4	0.1
1932	13045	13049	4	0.0
1933	13330	13334	4	0.0
1934	12344	12348	4	0.0
1935	25405	25409	4	0.0
1936	28429	28431	2	0.0
1937	39002	39005	3	0.0
1938	74618	74622	4	0.0
1939	13532	13536	4	0.0
1940	73729	73730	1	0.0
1941	70811	70811	0	0.0
1942	22641	22645	4	0.0
1943	67092	67096	4	0.0
1944	19480	19482	2	0.0
1945	21902	21902	0	0.0
1946	20437	20437	0	0.0
1947	20240	20240	0	0.0
1948	15392	15392	0	0.0
1949	46432	46432	0	0.0
1950	19900	19903	3	0.0
1951	27682	27682	0	0.0
1952	56483	56483	0	0.0
1953	21314	21314	0	0.0
1954	48956	48958	2	0.0
1955	11450	11450	0	0.0
1956	34425	34429	4	0.0
1957	46379	46383	4	0.0
1958	73299	73301	2	0.0
1959	21617	21620	3	0.0
1960	21631	21631	0	0.0
1961	18555	18559	4	0.0
1962	25836	25837	1	0.0
1963	30912	30912	0	0.0
1964	11840	11844	4	0.0
1965	22749	22749	0	0.0
1966	28204	28205	1	0.0
1967	54027	54027	0	0.0
1968	34521	34521	0	0.0
1969	46448	46448	0	0.0
1970	32987	32991	4	0.0
1971	48817	48819	2	0.0
1972	35266	35266	0	0.0
1973	51917	51917	0	0.0
1974	73785	73787	2	0.0
1975	71190	71194	4	0.0
1976	14948	14952	4	0.0
1977	7308	7312	4	0.1
1978	61061	61065	4	0.0
1979	29870	29874	4	0.0
1980	44318	44318	0	0.0
1981	27993	27997	4	0.0
1982	68303	68303	0	0.0
1983	77254	77257	3	0.0
1984	35337	35338	1	0.0
1985	15741	15742	1	0.0
1986	74252	74252	0	0.0
1987	23689	23693	4	0.0
1988	8697	8701	4	0.0
1989	46676	46681	5	0.0
1990	13087	13087	0	0.0
1991	31266	31270	4	0.0
1992	19034	19038	4	0.0
1993	42924	42928	4	0.0
Mean:	34296	34299	2	0.0
Median:	28317	28318	3	0.0
Min:	7308	7312	0	0.0
Max:	77254	77257	5	0.1
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	23991	24710	719	3.0
1923	24157	24503	346	1.4
1924	8114	9228	1114	13.7
1925	22080	22678	598	2.7
1926	21120	22234	1114	5.3
1927	45445	45879	434	1.0
1928	26851	27684	833	3.1
1929	7592	8706	1114	14.7
1930	12975	13588	613	4.7
1931	8634	9747	1113	12.9
1932	12398	13511	1113	9.0
1933	10930	12043	1113	10.2
1934	11633	12746	1113	9.6
1935	47029	47304	275	0.6
1936	21861	22344	483	2.2
1937	23394	24508	1114	4.8
1938	60274	61210	936	1.6
1939	10502	10740	238	2.3
1940	66149	66149	0	0.0
1941	63084	64089	1005	1.6
1942	43550	44253	703	1.6
1943	26067	26298	231	0.9
1944	10062	10062	0	0.0
1945	12233	12233	0	0.0
1946	11917	11917	0	0.0
1947	14317	14317	0	0.0
1948	27294	27294	0	0.0
1949	12880	13283	403	3.1
1950	19760	19760	0	0.0
1951	15287	15287	0	0.0
1952	61459	61521	62	0.1
1953	16452	16746	294	1.8
1954	39496	39518	22	0.1
1955	12950	13815	865	6.7
1956	19367	19947	580	3.0
1957	20877	21148	271	1.3
1958	73582	73986	404	0.5
1959	10691	10691	0	0.0
1960	11179	11779	600	5.4
1961	13483	13617	134	1.0
1962	12546	12546	0	0.0
1963	71921	72392	471	0.7
1964	15587	15587	0	0.0
1965	39868	39960	92	0.2
1966	13621	13621	0	0.0
1967	37211	37211	0	0.0
1968	15501	15509	8	0.1
1969	41774	42887	1113	2.7
1970	16362	16638	276	1.7
1971	21929	21929	0	0.0
1972	12489	12594	105	0.8
1973	17637	17998	361	2.0
1974	65723	66482	759	1.2
1975	21576	22187	611	2.8
1976	9681	10561	880	9.1
1977	8702	9815	1113	12.8
1978	31709	32432	723	2.3
1979	17365	17428	63	0.4
1980	18598	19133	535	2.9
1981	14544	14544	0	0.0
1982	74442	75119	677	0.9
1983	61571	61702	131	0.2
1984	18162	18252	90	0.5
1985	12827	12827	0	0.0
1986	19236	20349	1113	5.8
1987	14840	15442	602	4.1
1988	10123	11236	1113	11.0
1989	22322	22322	0	0.0
1990	11020	12133	1113	10.1
1991	12232	13345	1113	9.1
1992	12137	13251	1114	9.2
1993	38850	39362	512	1.3
Mean:	25184	25665	481	3.1
Median:	17900	18125	419	1.5
Min:	7592	8706	0	0.0
Max:	74442	75119	1114	14.7
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	47773	48709	936	2.0
1923	16691	17143	452	2.7
1924	7575	8315	740	9.8
1925	15253	15331	78	0.5
1926	13276	14016	740	5.6
1927	25610	26178	568	2.2
1928	17260	17639	379	2.2
1929	8123	8863	740	9.1
1930	12798	12895	97	0.8
1931	8063	8803	740	9.2
1932	13228	13968	740	5.6
1933	6451	7191	740	11.5
1934	7862	8602	740	9.4
1935	23689	23689	0	0.0
1936	15857	15857	0	0.0
1937	17102	17842	740	4.3
1938	55599	56814	1215	2.2
1939	10917	10916	-1	0.0
1940	19399	19399	0	0.0
1941	39021	40325	1304	3.3
1942	32182	33099	917	2.8
1943	18514	18514	0	0.0
1944	11449	11449	0	0.0
1945	14070	14070	0	0.0
1946	14446	14446	0	0.0
1947	12057	12057	0	0.0
1948	29007	29007	0	0.0
1949	13018	13018	0	0.0
1950	17692	17692	0	0.0
1951	18702	18702	0	0.0
1952	59611	59692	81	0.1
1953	23931	24316	385	1.6
1954	24553	24553	0	0.0
1955	11629	12048	419	3.6
1956	37059	37817	758	2.0
1957	16589	16589	0	0.0
1958	43661	44189	528	1.2
1959	12759	12759	0	0.0
1960	12305	12384	79	0.6
1961	10382	10382	0	0.0
1962	12582	12582	0	0.0
1963	29735	30350	615	2.1
1964	11161	11161	0	0.0
1965	23098	23098	0	0.0
1966	14716	14716	0	0.0
1967	43789	43789	0	0.0
1968	11164	11164	0	0.0
1969	48183	49626	1443	3.0
1970	11317	11317	0	0.0
1971	25382	25382	0	0.0
1972	11458	11458	0	0.0
1973	16849	17320	471	2.8
1974	22816	23804	988	4.3
1975	27404	28202	798	2.9
1976	7346	7786	440	6.0
1977	6587	7327	740	11.2
1978	20401	20640	239	1.2
1979	16130	16130	0	0.0
1980	15957	15957	0	0.0
1981	10131	10131	0	0.0
1982	35979	36862	883	2.5
1983	56203	56374	171	0.3
1984	12601	12601	0	0.0
1985	12643	12643	0	0.0
1986	12038	12778	740	6.1
1987	9615	9698	83	0.9
1988	9828	10568	740	7.5
1989	15435	15435	0	0.0
1990	8165	8905	740	9.1
1991	8951	9691	740	8.3
1992	8295	9035	740	8.9
1993	28979	29649	670	2.3
Mean:	19724	20076	352	2.4
Median:	15344	15383	90	0.7
Min:	6451	7191	-1	0.0
Max:	59611	59692	1443	11.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	36012	37091	1079	3.0
1923	17793	17793	0	0.0
1924	9312	10165	853	9.2
1925	12873	12963	90	0.7
1926	13035	13888	853	6.5
1927	20607	20607	0	0.0
1928	13592	14030	438	3.2
1929	12039	12892	853	7.1
1930	14117	14229	112	0.8
1931	9584	10436	852	8.9
1932	14416	15269	853	5.9
1933	9992	10844	852	8.5
1934	11169	12022	853	7.6
1935	21644	21643	-1	0.0
1936	18495	18495	0	0.0
1937	18510	19363	853	4.6
1938	34769	36169	1400	4.0
1939	12494	12494	0	0.0
1940	17467	17467	0	0.0
1941	20918	21610	692	3.3
1942	26571	27627	1056	4.0
1943	16926	16926	0	0.0
1944	15190	15190	0	0.0
1945	17402	17402	0	0.0
1946	17146	17146	0	0.0
1947	14525	14525	0	0.0
1948	21555	21555	0	0.0
1949	16453	16453	0	0.0
1950	20646	20646	0	0.0
1951	13236	13236	0	0.0
1952	37885	37979	94	0.2
1953	24363	24807	444	1.8
1954	13634	13634	0	0.0
1955	15670	16154	484	3.1
1956	20212	21086	874	4.3
1957	16652	16652	0	0.0
1958	30437	31046	609	2.0
1959	18034	18034	0	0.0
1960	13696	13787	91	0.7
1961	13052	13052	0	0.0
1962	15179	15178	-1	0.0
1963	20643	20643	0	0.0
1964	13939	13938	-1	0.0
1965	13386	13386	0	0.0
1966	16229	16229	0	0.0
1967	37160	37160	0	0.0
1968	17409	17409	0	0.0
1969	21545	23208	1663	7.7
1970	15303	15303	0	0.0
1971	20245	20245	0	0.0
1972	20068	20068	0	0.0
1973	20388	20388	0	0.0
1974	22183	22511	328	1.5
1975	22968	23888	920	4.0
1976	11701	12209	508	4.3
1977	11644	12497	853	7.3
1978	16849	17125	276	1.6
1979	19047	19047	0	0.0
1980	12743	12743	0	0.0
1981	15118	15118	0	0.0
1982	23477	24495	1018	4.3
1983	55394	55592	198	0.4
1984	17415	17414	-1	0.0
1985	14246	14246	0	0.0
1986	14635	15488	853	5.8
1987	13142	13238	96	0.7
1988	11709	12562	853	7.3
1989	16275	16275	0	0.0
1990	11165	12018	853	7.6
1991	8488	9341	853	10.0
1992	11093	11946	853	7.7
1993	26284	27057	773	2.9
Mean:	18183	18533	350	2.3
Median:	16553	16553	45	0.1
Min:	8488	9341	-1	0.0
Max:	55394	55592	1663	10.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	18796	22132	3336	17.7
1923	17303	21311	4008	23.2
1924	11640	16716	5076	43.6
1925	15706	19962	4256	27.1
1926	15024	19111	4087	27.2
1927	20206	23465	3259	16.1
1928	19268	24319	5051	26.2
1929	8458	13665	5207	61.6
1930	16724	20837	4113	24.6
1931	14424	19200	4776	33.1
1932	10720	15748	5028	46.9
1933	8949	14287	5338	59.6
1934	9749	13994	4245	43.5
1935	18757	21849	3092	16.5
1936	18310	22541	4231	23.1
1937	14694	20229	5535	37.7
1938	17125	20627	3502	20.4
1939	17810	20377	2567	14.4
1940	22100	22673	573	2.6
1941	17601	22763	5162	29.3
1942	18344	21370	3026	16.5
1943	20292	23311	3019	14.9
1944	18990	19706	716	3.8
1945	20652	21304	652	3.2
1946	19934	20873	939	4.7
1947	19807	20042	235	1.2
1948	20636	21464	828	4.0
1949	16041	20281	4240	26.4
1950	20738	21981	1243	6.0
1951	22480	24264	1784	7.9
1952	19282	20766	1484	7.7
1953	20401	22793	2392	11.7
1954	21714	23178	1464	6.7
1955	14687	19410	4723	32.2
1956	17983	21643	3660	20.4
1957	20989	23346	2357	11.2
1958	17990	20989	2999	16.7
1959	21155	22465	1310	6.2
1960	16885	21031	4146	24.6
1961	18779	21277	2498	13.3
1962	21365	22526	1161	5.4
1963	19146	23212	4066	21.2
1964	19934	20170	236	1.2
1965	21430	24729	3299	15.4
1966	20134	21099	965	4.8
1967	15371	16391	1020	6.6
1968	19892	22043	2151	10.8
1969	16930	19713	2783	16.4
1970	23358	26826	3468	14.8
1971	23017	24019	1002	4.4
1972	19249	21864	2615	13.6
1973	19881	22947	3066	15.4
1974	18609	22355	3746	20.1
1975	18576	21464	2888	15.5
1976	18586	24642	6056	32.6
1977	15429	20526	5097	33.0
1978	17674	22950	5276	29.9
1979	18929	21758	2829	14.9
1980	15316	20503	5187	33.9
1981	18876	20354	1478	7.8
1982	16232	19348	3116	19.2
1983	26605	27086	481	1.8
1984	22482	25031	2549	11.3
1985	19655	19902	247	1.3
1986	17405	22951	5546	31.9
1987	15443	19678	4235	27.4
1988	9007	14514	5507	61.1
1989	20523	20905	382	1.9
1990	10138	15718	5580	55.0
1991	12226	17615	5389	44.1
1992	8898	13830	4932	55.4
1993	18485	22192	3707	20.1
Mean:	17777	20919	3142	20.6
Median:	18598	21291	3188	16.5
Min:	8458	13665	235	1.2
Max:	26605	27086	6056	61.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	13678	16335	2657	19.4
1923	14057	15801	1744	12.4
1924	7060	10476	3416	48.4
1925	11331	14292	2961	26.1
1926	11388	14640	3252	28.6
1927	14517	17103	2586	17.8
1928	13226	16478	3252	24.6
1929	9525	12600	3075	32.3
1930	14730	17800	3070	20.8
1931	8685	12059	3374	38.8
1932	9993	13236	3243	32.5
1933	8528	12083	3555	41.7
1934	9405	12669	3264	34.7
1935	14710	17142	2432	16.5
1936	14590	17344	2754	18.9
1937	14010	17314	3304	23.6
1938	13756	16653	2897	21.1
1939	14330	16283	1953	13.6
1940	15579	17331	1752	11.2
1941	12373	14673	2300	18.6
1942	13880	16554	2674	19.3
1943	14462	16643	2181	15.1
1944	13760	15401	1641	11.9
1945	15801	16855	1054	6.7
1946	15514	16926	1412	9.1
1947	17076	18520	1444	8.5
1948	16558	17450	892	5.4
1949	13340	15639	2299	17.2
1950	16583	17628	1045	6.3
1951	15924	17126	1202	7.5
1952	14655	16323	1668	11.4
1953	14750	16732	1982	13.4
1954	13901	15940	2039	14.7
1955	11230	14552	3322	29.6
1956	15036	16699	1663	11.1
1957	13567	16253	2686	19.8
1958	15518	16456	938	6.0
1959	15842	17225	1383	8.7
1960	14947	17362	2415	16.2
1961	17074	18867	1793	10.5
1962	16008	17513	1505	9.4
1963	14778	16983	2205	14.9
1964	17153	18592	1439	8.4
1965	15466	16713	1247	8.1
1966	14619	16482	1863	12.7
1967	16364	17172	808	4.9
1968	14085	15449	1364	9.7
1969	10952	13858	2906	26.5
1970	14272	16218	1946	13.6
1971	16285	17073	788	4.8
1972	14777	16483	1706	11.5
1973	14373	16444	2071	14.4
1974	14476	16924	2448	16.9
1975	14242	16415	2173	15.3
1976	9870	12255	2385	24.2
1977	9014	11887	2873	31.9
1978	15353	17093	1740	11.3
1979	15725	16984	1259	8.0
1980	15188	16844	1656	10.9
1981	15048	16657	1609	10.7
1982	14880	16399	1519	10.2
1983	18893	20066	1173	6.2
1984	13841	15925	2084	15.1
1985	16662	17541	879	5.3
1986	14290	16971	2681	18.8
1987	12150	14517	2367	19.5
1988	9387	12541	3154	33.6
1989	16349	17987	1638	10.0
1990	9296	12523	3227	34.7
1991	7693	11182	3489	45.4
1992	9555	12740	3185	33.3
1993	14925	16998	2073	13.9
Mean:	13762	15929	2167	17.6
Median:	14469	16519	2079	14.8
Min:	7060	10476	788	4.8
Max:	18893	20066	3555	48.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	14259	14669	410	2.9
1923	14823	14823	0	0.0
1924	6611	7469	858	13.0
1925	10428	10846	418	4.0
1926	9322	11371	2049	22.0
1927	14755	15128	373	2.5
1928	12831	12855	24	0.2
1929	6644	7752	1108	16.7
1930	10014	10563	549	5.5
1931	6616	7803	1187	17.9
1932	10007	11049	1042	10.4
1933	6620	7038	418	6.3
1934	7817	9644	1827	23.4
1935	12301	12506	205	1.7
1936	13227	13342	115	0.9
1937	12126	12597	471	3.9
1938	16207	17094	887	5.5
1939	11438	12517	1079	9.4
1940	12587	12707	120	1.0
1941	17464	18259	795	4.6
1942	17620	18447	827	4.7
1943	14135	14463	328	2.3
1944	13513	14358	845	6.3
1945	14034	14080	46	0.3
1946	14132	14176	44	0.3
1947	12800	12959	159	1.2
1948	15218	15175	-43	-0.3
1949	11652	11718	66	0.6
1950	14972	15100	128	0.9
1951	14914	14938	24	0.2
1952	21654	22651	997	4.6
1953	19350	20102	752	3.9
1954	14561	15244	683	4.7
1955	10895	11399	504	4.6
1956	18584	19385	801	4.3
1957	14608	15253	645	4.4
1958	20463	21655	1192	5.8
1959	14285	14699	414	2.9
1960	9907	11031	1124	11.3
1961	11801	12436	635	5.4
1962	14395	15225	830	5.8
1963	14668	14812	144	1.0
1964	11759	11995	236	2.0
1965	14010	14108	98	0.7
1966	12841	13616	775	6.0
1967	21873	22378	505	2.3
1968	14265	14854	589	4.1
1969	20143	21721	1578	7.8
1970	14481	14879	398	2.7
1971	19592	20084	492	2.5
1972	10794	11211	417	3.9
1973	14174	14817	643	4.5
1974	20712	21883	1171	5.7
1975	19784	20830	1046	5.3
1976	11322	11336	14	0.1
1977	6787	8144	1357	20.0
1978	15892	16965	1073	6.8
1979	14392	14718	326	2.3
1980	14391	14999	608	4.2
1981	14525	15026	501	3.4
1982	17036	18032	996	5.8
1983	26844	29336	2492	9.3
1984	14153	14153	0	0.0
1985	14813	15294	481	3.2
1986	15155	16141	986	6.5
1987	11009	12017	1008	9.2
1988	9044	9728	684	7.6
1989	13133	13720	587	4.5
1990	7990	8520	530	6.6
1991	9657	10112	455	4.7
1992	8945	10204	1259	14.1
1993	14728	14728	0	0.0
Mean:	13729	14373	644	5.3
Median:	14144	14411	568	4.5
Min:	6611	7038	-43	-0.3
Max:	26844	29336	2492	23.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	373	373	0	0.0
1923	373	373	0	0.0
1924	373	373	0	0.0
1925	373	373	0	0.0
1926	373	373	0	0.0
1927	373	373	0	0.0
1928	373	373	0	0.0
1929	373	373	0	0.0
1930	373	373	0	0.0
1931	373	373	0	0.0
1932	373	373	0	0.0
1933	373	373	0	0.0
1934	373	373	0	0.0
1935	373	373	0	0.0
1936	373	373	0	0.0
1937	373	373	0	0.0
1938	373	373	0	0.0
1939	373	373	0	0.0
1940	373	373	0	0.0
1941	373	373	0	0.0
1942	373	373	0	0.0
1943	373	373	0	0.0
1944	373	373	0	0.0
1945	373	373	0	0.0
1946	373	373	0	0.0
1947	373	373	0	0.0
1948	373	373	0	0.0
1949	373	373	0	0.0
1950	373	373	0	0.0
1951	373	373	0	0.0
1952	373	373	0	0.0
1953	373	373	0	0.0
1954	373	373	0	0.0
1955	373	373	0	0.0
1956	373	373	0	0.0
1957	373	373	0	0.0
1958	373	373	0	0.0
1959	373	373	0	0.0
1960	373	373	0	0.0
1961	373	373	0	0.0
1962	373	373	0	0.0
1963	373	373	0	0.0
1964	373	373	0	0.0
1965	373	373	0	0.0
1966	373	373	0	0.0
1967	373	373	0	0.0
1968	373	373	0	0.0
1969	373	373	0	0.0
1970	373	373	0	0.0
1971	373	373	0	0.0
1972	373	373	0	0.0
1973	373	373	0	0.0
1974	373	373	0	0.0
1975	373	373	0	0.0
1976	373	373	0	0.0
1977	373	373	0	0.0
1978	373	373	0	0.0
1979	373	373	0	0.0
1980	373	373	0	0.0
1981	373	373	0	0.0
1982	373	373	0	0.0
1983	373	373	0	0.0
1984	373	373	0	0.0
1985	373	373	0	0.0
1986	373	373	0	0.0
1987	373	373	0	0.0
1988	373	373	0	0.0
1989	373	373	0	0.0
1990	373	373	0	0.0
1991	373	373	0	0.0
1992	373	373	0	0.0
1993	373	373	0	0.0
Mean:	373	373	0	0.0
Median:	373	373	0	0.0
Min:	373	373	0	0.0
Max:	373	373	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	300	300	0	0.0
1923	300	300	0	0.0
1924	300	300	0	0.0
1925	300	300	0	0.0
1926	300	300	0	0.0
1927	300	300	0	0.0
1928	300	300	0	0.0
1929	300	300	0	0.0
1930	300	300	0	0.0
1931	300	300	0	0.0
1932	300	300	0	0.0
1933	300	300	0	0.0
1934	300	300	0	0.0
1935	300	300	0	0.0
1936	300	300	0	0.0
1937	300	300	0	0.0
1938	300	300	0	0.0
1939	300	300	0	0.0
1940	300	300	0	0.0
1941	300	300	0	0.0
1942	300	300	0	0.0
1943	300	300	0	0.0
1944	300	300	0	0.0
1945	300	300	0	0.0
1946	300	300	0	0.0
1947	300	300	0	0.0
1948	300	300	0	0.0
1949	300	300	0	0.0
1950	300	300	0	0.0
1951	300	300	0	0.0
1952	300	300	0	0.0
1953	300	300	0	0.0
1954	300	300	0	0.0
1955	300	300	0	0.0
1956	300	300	0	0.0
1957	300	300	0	0.0
1958	300	300	0	0.0
1959	300	300	0	0.0
1960	300	300	0	0.0
1961	300	300	0	0.0
1962	300	300	0	0.0
1963	300	300	0	0.0
1964	300	300	0	0.0
1965	300	300	0	0.0
1966	300	300	0	0.0
1967	300	300	0	0.0
1968	300	300	0	0.0
1969	300	300	0	0.0
1970	300	300	0	0.0
1971	300	300	0	0.0
1972	300	300	0	0.0
1973	300	300	0	0.0
1974	4893	4893	0	0.0
1975	300	300	0	0.0
1976	300	300	0	0.0
1977	300	300	0	0.0
1978	300	300	0	0.0
1979	300	300	0	0.0
1980	300	300	0	0.0
1981	300	300	0	0.0
1982	300	300	0	0.0
1983	300	300	0	0.0
1984	300	300	0	0.0
1985	300	300	0	0.0
1986	300	300	0	0.0
1987	300	300	0	0.0
1988	300	300	0	0.0
1989	300	300	0	0.0
1990	300	300	0	0.0
1991	300	300	0	0.0
1992	300	300	0	0.0
1993	300	300	0	0.0
Mean:	364	364	0	0.0
Median:	300	300	0	0.0
Min:	300	300	0	0.0
Max:	4893	4893	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	300	300	0	0.0
1923	300	300	0	0.0
1924	300	300	0	0.0
1925	300	300	0	0.0
1926	300	300	0	0.0
1927	300	300	0	0.0
1928	300	300	0	0.0
1929	300	300	0	0.0
1930	300	300	0	0.0
1931	300	300	0	0.0
1932	300	300	0	0.0
1933	300	300	0	0.0
1934	300	300	0	0.0
1935	300	300	0	0.0
1936	300	300	0	0.0
1937	300	300	0	0.0
1938	300	300	0	0.0
1939	300	300	0	0.0
1940	300	300	0	0.0
1941	300	300	0	0.0
1942	1180	1180	0	0.0
1943	300	300	0	0.0
1944	300	300	0	0.0
1945	300	300	0	0.0
1946	300	300	0	0.0
1947	300	300	0	0.0
1948	300	300	0	0.0
1949	300	300	0	0.0
1950	300	300	0	0.0
1951	300	300	0	0.0
1952	300	300	0	0.0
1953	300	300	0	0.0
1954	300	300	0	0.0
1955	300	300	0	0.0
1956	300	300	0	0.0
1957	300	300	0	0.0
1958	300	300	0	0.0
1959	300	300	0	0.0
1960	300	300	0	0.0
1961	300	300	0	0.0
1962	300	300	0	0.0
1963	300	300	0	0.0
1964	300	300	0	0.0
1965	300	300	0	0.0
1966	300	300	0	0.0
1967	300	300	0	0.0
1968	300	300	0	0.0
1969	300	300	0	0.0
1970	517	517	0	0.0
1971	300	300	0	0.0
1972	300	300	0	0.0
1973	300	300	0	0.0
1974	1438	1438	0	0.0
1975	300	300	0	0.0
1976	300	300	0	0.0
1977	300	300	0	0.0
1978	300	300	0	0.0
1979	300	300	0	0.0
1980	300	300	0	0.0
1981	300	300	0	0.0
1982	300	300	0	0.0
1983	300	300	0	0.0
1984	2768	2768	0	0.0
1985	300	300	0	0.0
1986	300	300	0	0.0
1987	300	300	0	0.0
1988	300	300	0	0.0
1989	300	300	0	0.0
1990	300	300	0	0.0
1991	300	300	0	0.0
1992	300	300	0	0.0
1993	300	300	0	0.0
Mean:	365	365	0	0.0
Median:	300	300	0	0.0
Min:	300	300	0	0.0
Max:	2768	2768	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	300	300	0	0.0
1923	300	300	0	0.0
1924	300	300	0	0.0
1925	300	300	0	0.0
1926	300	300	0	0.0
1927	300	300	0	0.0
1928	300	300	0	0.0
1929	300	300	0	0.0
1930	300	300	0	0.0
1931	300	300	0	0.0
1932	300	300	0	0.0
1933	300	300	0	0.0
1934	300	300	0	0.0
1935	300	300	0	0.0
1936	300	300	0	0.0
1937	300	300	0	0.0
1938	300	300	0	0.0
1939	300	300	0	0.0
1940	300	300	0	0.0
1941	300	300	0	0.0
1942	300	300	0	0.0
1943	300	300	0	0.0
1944	300	300	0	0.0
1945	300	300	0	0.0
1946	300	300	0	0.0
1947	300	300	0	0.0
1948	300	300	0	0.0
1949	300	300	0	0.0
1950	300	300	0	0.0
1951	300	300	0	0.0
1952	300	300	0	0.0
1953	1875	1875	0	0.0
1954	300	300	0	0.0
1955	300	300	0	0.0
1956	300	300	0	0.0
1957	300	300	0	0.0
1958	300	300	0	0.0
1959	300	300	0	0.0
1960	300	300	0	0.0
1961	300	300	0	0.0
1962	300	300	0	0.0
1963	300	300	0	0.0
1964	300	300	0	0.0
1965	300	300	0	0.0
1966	300	300	0	0.0
1967	300	300	0	0.0
1968	300	300	0	0.0
1969	300	300	0	0.0
1970	6776	6776	0	0.0
1971	300	300	0	0.0
1972	300	300	0	0.0
1973	300	300	0	0.0
1974	6513	6513	0	0.0
1975	300	300	0	0.0
1976	300	300	0	0.0
1977	300	300	0	0.0
1978	300	300	0	0.0
1979	300	300	0	0.0
1980	300	300	0	0.0
1981	300	300	0	0.0
1982	300	300	0	0.0
1983	316	316	0	0.0
1984	300	300	0	0.0
1985	300	300	0	0.0
1986	300	300	0	0.0
1987	300	300	0	0.0
1988	300	300	0	0.0
1989	300	300	0	0.0
1990	300	300	0	0.0
1991	300	300	0	0.0
1992	300	300	0	0.0
1993	300	300	0	0.0
Mean:	498	498	0	0.0
Median:	300	300	0	0.0
Min:	300	300	0	0.0
Max:	6776	6776	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	300	300	0	0.0
1923	300	300	0	0.0
1924	300	300	0	0.0
1925	300	300	0	0.0
1926	300	300	0	0.0
1927	300	300	0	0.0
1928	300	300	0	0.0
1929	300	300	0	0.0
1930	300	300	0	0.0
1931	300	300	0	0.0
1932	300	300	0	0.0
1933	300	300	0	0.0
1934	300	300	0	0.0
1935	300	300	0	0.0
1936	300	300	0	0.0
1937	300	300	0	0.0
1938	300	300	0	0.0
1939	300	300	0	0.0
1940	300	300	0	0.0
1941	788	788	0	0.0
1942	300	300	0	0.0
1943	300	300	0	0.0
1944	300	300	0	0.0
1945	300	300	0	0.0
1946	300	300	0	0.0
1947	300	300	0	0.0
1948	300	300	0	0.0
1949	300	300	0	0.0
1950	300	300	0	0.0
1951	300	300	0	0.0
1952	300	300	0	0.0
1953	300	300	0	0.0
1954	300	300	0	0.0
1955	300	300	0	0.0
1956	300	300	0	0.0
1957	300	300	0	0.0
1958	9634	9634	0	0.0
1959	300	300	0	0.0
1960	300	300	0	0.0
1961	300	300	0	0.0
1962	300	300	0	0.0
1963	300	300	0	0.0
1964	300	300	0	0.0
1965	300	300	0	0.0
1966	300	300	0	0.0
1967	300	300	0	0.0
1968	359	359	0	0.0
1969	300	300	0	0.0
1970	300	300	0	0.0
1971	300	300	0	0.0
1972	300	300	0	0.0
1973	300	300	0	0.0
1974	300	300	0	0.0
1975	300	300	0	0.0
1976	300	300	0	0.0
1977	300	300	0	0.0
1978	300	300	0	0.0
1979	300	300	0	0.0
1980	300	300	0	0.0
1981	300	300	0	0.0
1982	300	300	0	0.0
1983	1487	1487	0	0.0
1984	300	300	0	0.0
1985	300	300	0	0.0
1986	300	300	0	0.0
1987	300	300	0	0.0
1988	300	300	0	0.0
1989	300	300	0	0.0
1990	300	300	0	0.0
1991	300	300	0	0.0
1992	300	300	0	0.0
1993	300	300	0	0.0
Mean:	454	454	0	0.0
Median:	300	300	0	0.0
Min:	300	300	0	0.0
Max:	9634	9634	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	300	300	0	0.0
1923	300	300	0	0.0
1924	300	300	0	0.0
1925	300	300	0	0.0
1926	300	300	0	0.0
1927	300	300	0	0.0
1928	300	300	0	0.0
1929	300	300	0	0.0
1930	300	300	0	0.0
1931	300	300	0	0.0
1932	300	300	0	0.0
1933	300	300	0	0.0
1934	300	300	0	0.0
1935	300	300	0	0.0
1936	300	300	0	0.0
1937	300	300	0	0.0
1938	300	300	0	0.0
1939	300	300	0	0.0
1940	300	300	0	0.0
1941	2132	2132	0	0.0
1942	300	300	0	0.0
1943	300	300	0	0.0
1944	300	300	0	0.0
1945	300	300	0	0.0
1946	300	300	0	0.0
1947	300	300	0	0.0
1948	300	300	0	0.0
1949	300	300	0	0.0
1950	300	300	0	0.0
1951	300	300	0	0.0
1952	300	300	0	0.0
1953	300	300	0	0.0
1954	300	300	0	0.0
1955	300	300	0	0.0
1956	300	300	0	0.0
1957	300	300	0	0.0
1958	300	300	0	0.0
1959	300	300	0	0.0
1960	300	300	0	0.0
1961	300	300	0	0.0
1962	300	300	0	0.0
1963	300	300	0	0.0
1964	300	300	0	0.0
1965	300	300	0	0.0
1966	300	300	0	0.0
1967	300	300	0	0.0
1968	300	300	0	0.0
1969	300	300	0	0.0
1970	300	300	0	0.0
1971	300	300	0	0.0
1972	749	749	0	0.0
1973	300	300	0	0.0
1974	1334	1334	0	0.0
1975	300	300	0	0.0
1976	300	300	0	0.0
1977	300	300	0	0.0
1978	300	300	0	0.0
1979	300	300	0	0.0
1980	300	300	0	0.0
1981	300	300	0	0.0
1982	300	300	0	0.0
1983	7057	7057	0	0.0
1984	300	300	0	0.0
1985	300	300	0	0.0
1986	300	300	0	0.0
1987	300	300	0	0.0
1988	300	300	0	0.0
1989	300	300	0	0.0
1990	300	300	0	0.0
1991	300	300	0	0.0
1992	300	300	0	0.0
1993	300	300	0	0.0
Mean:	440	440	0	0.0
Median:	300	300	0	0.0
Min:	300	300	0	0.0
Max:	7057	7057	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	540	540	0	0.0
1923	540	540	0	0.0
1924	600	600	0	0.0
1925	460	460	0	0.0
1926	540	540	0	0.0
1927	460	460	0	0.0
1928	493	493	0	0.0
1929	600	600	0	0.0
1930	540	540	0	0.0
1931	600	600	0	0.0
1932	540	540	0	0.0
1933	540	540	0	0.0
1934	600	600	0	0.0
1935	540	540	0	0.0
1936	493	493	0	0.0
1937	540	540	0	0.0
1938	427	427	0	0.0
1939	600	600	0	0.0
1940	460	460	0	0.0
1941	427	427	0	0.0
1942	460	460	0	0.0
1943	493	493	0	0.0
1944	600	600	0	0.0
1945	493	493	0	0.0
1946	460	460	0	0.0
1947	540	540	0	0.0
1948	493	493	0	0.0
1949	493	493	0	0.0
1950	540	540	0	0.0
1951	460	460	0	0.0
1952	460	460	0	0.0
1953	460	460	0	0.0
1954	460	460	0	0.0
1955	540	540	0	0.0
1956	427	427	0	0.0
1957	493	493	0	0.0
1958	427	427	0	0.0
1959	493	493	0	0.0
1960	493	493	0	0.0
1961	493	493	0	0.0
1962	493	493	0	0.0
1963	460	460	0	0.0
1964	540	540	0	0.0
1965	460	460	0	0.0
1966	493	493	0	0.0
1967	460	460	0	0.0
1968	493	493	0	0.0
1969	427	427	0	0.0
1970	460	460	0	0.0
1971	460	460	0	0.0
1972	493	493	0	0.0
1973	460	460	0	0.0
1974	427	427	0	0.0
1975	460	460	0	0.0
1976	540	540	0	0.0
1977	600	600	0	0.0
1978	427	427	0	0.0
1979	540	540	0	0.0
1980	460	460	0	0.0
1981	540	540	0	0.0
1982	427	427	0	0.0
1983	427	427	0	0.0
1984	460	460	0	0.0
1985	540	540	0	0.0
1986	460	460	0	0.0
1987	540	540	0	0.0
1988	540	540	0	0.0
1989	493	493	0	0.0
1990	540	540	0	0.0
1991	600	600	0	0.0
1992	540	540	0	0.0
1993	460	460	0	0.0
Mean:	501	501	0	0.0
Median:	493	493	0	0.0
Min:	427	427	0	0.0
Max:	600	600	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2924	2924	0	0.0
1923	2924	2924	0	0.0
1924	1498	1498	0	0.0
1925	4709	4709	0	0.0
1926	2924	2924	0	0.0
1927	4709	4709	0	0.0
1928	4189	4189	0	0.0
1929	1498	1498	0	0.0
1930	2924	2924	0	0.0
1931	1498	1498	0	0.0
1932	2924	2924	0	0.0
1933	2924	2924	0	0.0
1934	1498	1498	0	0.0
1935	2924	2924	0	0.0
1936	4189	4189	0	0.0
1937	2924	2924	0	0.0
1938	4570	4570	0	0.0
1939	1498	1498	0	0.0
1940	4709	4709	0	0.0
1941	4570	4570	0	0.0
1942	4709	4709	0	0.0
1943	4189	4189	0	0.0
1944	1498	1498	0	0.0
1945	4189	4189	0	0.0
1946	4709	4709	0	0.0
1947	2924	2924	0	0.0
1948	4189	4189	0	0.0
1949	4189	4189	0	0.0
1950	2924	2924	0	0.0
1951	4709	4709	0	0.0
1952	4709	4709	0	0.0
1953	4709	4709	0	0.0
1954	4709	4709	0	0.0
1955	2924	2924	0	0.0
1956	4570	4570	0	0.0
1957	4189	4189	0	0.0
1958	4570	4570	0	0.0
1959	4189	4189	0	0.0
1960	4189	4189	0	0.0
1961	4189	4189	0	0.0
1962	4189	4189	0	0.0
1963	4709	4709	0	0.0
1964	2924	2924	0	0.0
1965	4709	4709	0	0.0
1966	4189	4189	0	0.0
1967	4709	4709	0	0.0
1968	4189	4189	0	0.0
1969	4570	4570	0	0.0
1970	4709	4709	0	0.0
1971	4709	4709	0	0.0
1972	4189	4189	0	0.0
1973	4709	4709	0	0.0
1974	4570	4570	0	0.0
1975	4709	4709	0	0.0
1976	2924	2924	0	0.0
1977	1498	1498	0	0.0
1978	4570	4570	0	0.0
1979	2924	2924	0	0.0
1980	4709	4709	0	0.0
1981	2924	2924	0	0.0
1982	4570	4570	0	0.0
1983	4570	4570	0	0.0
1984	4709	4709	0	0.0
1985	2924	2924	0	0.0
1986	4709	4709	0	0.0
1987	2924	2924	0	0.0
1988	2924	2924	0	0.0
1989	4189	4189	0	0.0
1990	2924	2924	0	0.0
1991	1498	1498	0	0.0
1992	2924	2924	0	0.0
1993	4709	4709	0	0.0
Mean:	3731	3731	0	0.0
Median:	4189	4189	0	0.0
Min:	1498	1498	0	0.0
Max:	4709	4709	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	783	783	0	0.0
1923	783	783	0	0.0
1924	783	783	0	0.0
1925	2526	2526	0	0.0
1926	783	783	0	0.0
1927	2526	2526	0	0.0
1928	2120	2120	0	0.0
1929	783	783	0	0.0
1930	783	783	0	0.0
1931	783	783	0	0.0
1932	783	783	0	0.0
1933	783	783	0	0.0
1934	783	783	0	0.0
1935	783	783	0	0.0
1936	2120	2120	0	0.0
1937	783	783	0	0.0
1938	4626	4626	0	0.0
1939	783	783	0	0.0
1940	2526	2526	0	0.0
1941	4626	4626	0	0.0
1942	2526	2526	0	0.0
1943	2120	2120	0	0.0
1944	783	783	0	0.0
1945	2120	2120	0	0.0
1946	2526	2526	0	0.0
1947	783	783	0	0.0
1948	2120	2120	0	0.0
1949	2120	2120	0	0.0
1950	783	783	0	0.0
1951	2526	2526	0	0.0
1952	2526	2526	0	0.0
1953	2526	2526	0	0.0
1954	2526	2526	0	0.0
1955	783	783	0	0.0
1956	4626	4626	0	0.0
1957	2120	2120	0	0.0
1958	4626	4626	0	0.0
1959	2120	2120	0	0.0
1960	2120	2120	0	0.0
1961	2120	2120	0	0.0
1962	2120	2120	0	0.0
1963	2526	2526	0	0.0
1964	783	783	0	0.0
1965	2526	2526	0	0.0
1966	2120	2120	0	0.0
1967	2526	2526	0	0.0
1968	2120	2120	0	0.0
1969	4626	4626	0	0.0
1970	2526	2526	0	0.0
1971	2526	2526	0	0.0
1972	2120	2120	0	0.0
1973	2526	2526	0	0.0
1974	4626	4626	0	0.0
1975	2526	2526	0	0.0
1976	783	783	0	0.0
1977	783	783	0	0.0
1978	4626	4626	0	0.0
1979	783	783	0	0.0
1980	2526	2526	0	0.0
1981	783	783	0	0.0
1982	4626	4626	0	0.0
1983	4942	4942	0	0.0
1984	2526	2526	0	0.0
1985	783	783	0	0.0
1986	2526	2526	0	0.0
1987	783	783	0	0.0
1988	783	783	0	0.0
1989	2120	2120	0	0.0
1990	783	783	0	0.0
1991	783	783	0	0.0
1992	783	783	0	0.0
1993	2526	2526	0	0.0
Mean:	2030	2030	0	0.0
Median:	2120	2120	0	0.0
Min:	783	783	0	0.0
Max:	4942	4942	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	450	450	0	0.0
1923	450	450	0	0.0
1924	450	450	0	0.0
1925	1102	1102	0	0.0
1926	450	450	0	0.0
1927	1102	1102	0	0.0
1928	1102	1102	0	0.0
1929	450	450	0	0.0
1930	450	450	0	0.0
1931	450	450	0	0.0
1932	450	450	0	0.0
1933	450	450	0	0.0
1934	450	450	0	0.0
1935	450	450	0	0.0
1936	1102	1102	0	0.0
1937	450	450	0	0.0
1938	1102	1102	0	0.0
1939	450	450	0	0.0
1940	1102	1102	0	0.0
1941	1949	1949	0	0.0
1942	1102	1102	0	0.0
1943	1102	1102	0	0.0
1944	450	450	0	0.0
1945	1102	1102	0	0.0
1946	1102	1102	0	0.0
1947	450	450	0	0.0
1948	1102	1102	0	0.0
1949	1102	1102	0	0.0
1950	450	450	0	0.0
1951	1102	1102	0	0.0
1952	1102	1102	0	0.0
1953	1102	1102	0	0.0
1954	1102	1102	0	0.0
1955	450	450	0	0.0
1956	1102	1102	0	0.0
1957	1102	1102	0	0.0
1958	1102	1102	0	0.0
1959	1102	1102	0	0.0
1960	1102	1102	0	0.0
1961	1102	1102	0	0.0
1962	1102	1102	0	0.0
1963	1102	1102	0	0.0
1964	450	450	0	0.0
1965	1102	1102	0	0.0
1966	1102	1102	0	0.0
1967	1102	1102	0	0.0
1968	1102	1102	0	0.0
1969	1102	1102	0	0.0
1970	1102	1102	0	0.0
1971	1102	1102	0	0.0
1972	1102	1102	0	0.0
1973	1102	1102	0	0.0
1974	1102	1102	0	0.0
1975	1102	1102	0	0.0
1976	450	450	0	0.0
1977	450	450	0	0.0
1978	1102	1102	0	0.0
1979	450	450	0	0.0
1980	1102	1102	0	0.0
1981	450	450	0	0.0
1982	1102	1102	0	0.0
1983	3439	3439	0	0.0
1984	1102	1102	0	0.0
1985	450	450	0	0.0
1986	1102	1102	0	0.0
1987	450	450	0	0.0
1988	450	450	0	0.0
1989	1102	1102	0	0.0
1990	450	450	0	0.0
1991	450	450	0	0.0
1992	450	450	0	0.0
1993	1102	1102	0	0.0
Mean:	893	893	0	0.0
Median:	1102	1102	0	0.0
Min:	450	450	0	0.0
Max:	3439	3439	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	450	450	0	0.0
1923	450	450	0	0.0
1924	450	450	0	0.0
1925	450	450	0	0.0
1926	450	450	0	0.0
1927	450	450	0	0.0
1928	450	450	0	0.0
1929	450	450	0	0.0
1930	450	450	0	0.0
1931	450	450	0	0.0
1932	450	450	0	0.0
1933	450	450	0	0.0
1934	450	450	0	0.0
1935	450	450	0	0.0
1936	450	450	0	0.0
1937	450	450	0	0.0
1938	450	450	0	0.0
1939	450	450	0	0.0
1940	450	450	0	0.0
1941	450	450	0	0.0
1942	450	450	0	0.0
1943	450	450	0	0.0
1944	450	450	0	0.0
1945	450	450	0	0.0
1946	450	450	0	0.0
1947	450	450	0	0.0
1948	450	450	0	0.0
1949	450	450	0	0.0
1950	450	450	0	0.0
1951	450	450	0	0.0
1952	450	450	0	0.0
1953	450	450	0	0.0
1954	450	450	0	0.0
1955	450	450	0	0.0
1956	450	450	0	0.0
1957	450	450	0	0.0
1958	450	450	0	0.0
1959	450	450	0	0.0
1960	450	450	0	0.0
1961	450	450	0	0.0
1962	450	450	0	0.0
1963	450	450	0	0.0
1964	450	450	0	0.0
1965	450	450	0	0.0
1966	450	450	0	0.0
1967	450	450	0	0.0
1968	450	450	0	0.0
1969	450	450	0	0.0
1970	450	450	0	0.0
1971	450	450	0	0.0
1972	450	450	0	0.0
1973	450	450	0	0.0
1974	450	450	0	0.0
1975	450	450	0	0.0
1976	450	450	0	0.0
1977	450	450	0	0.0
1978	450	450	0	0.0
1979	450	450	0	0.0
1980	450	450	0	0.0
1981	450	450	0	0.0
1982	450	450	0	0.0
1983	450	450	0	0.0
1984	450	450	0	0.0
1985	450	450	0	0.0
1986	450	450	0	0.0
1987	450	450	0	0.0
1988	450	450	0	0.0
1989	450	450	0	0.0
1990	450	450	0	0.0
1991	450	450	0	0.0
1992	450	450	0	0.0
1993	450	450	0	0.0
Mean:	450	450	0	0.0
Median:	450	450	0	0.0
Min:	450	450	0	0.0
Max:	450	450	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Trinity River Flow below the Clear Creek Tunnel

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	450	450	0	0.0
1923	450	450	0	0.0
1924	450	450	0	0.0
1925	450	450	0	0.0
1926	450	450	0	0.0
1927	450	450	0	0.0
1928	450	450	0	0.0
1929	450	450	0	0.0
1930	450	450	0	0.0
1931	450	450	0	0.0
1932	450	450	0	0.0
1933	450	450	0	0.0
1934	450	450	0	0.0
1935	450	450	0	0.0
1936	450	450	0	0.0
1937	450	450	0	0.0
1938	450	450	0	0.0
1939	450	450	0	0.0
1940	450	450	0	0.0
1941	450	450	0	0.0
1942	450	450	0	0.0
1943	450	450	0	0.0
1944	450	450	0	0.0
1945	450	450	0	0.0
1946	450	450	0	0.0
1947	450	450	0	0.0
1948	450	450	0	0.0
1949	450	450	0	0.0
1950	450	450	0	0.0
1951	450	450	0	0.0
1952	450	450	0	0.0
1953	450	450	0	0.0
1954	450	450	0	0.0
1955	450	450	0	0.0
1956	450	450	0	0.0
1957	450	450	0	0.0
1958	450	450	0	0.0
1959	450	450	0	0.0
1960	450	450	0	0.0
1961	450	450	0	0.0
1962	450	450	0	0.0
1963	450	450	0	0.0
1964	450	450	0	0.0
1965	450	450	0	0.0
1966	450	450	0	0.0
1967	450	450	0	0.0
1968	450	450	0	0.0
1969	450	450	0	0.0
1970	450	450	0	0.0
1971	450	450	0	0.0
1972	450	450	0	0.0
1973	450	450	0	0.0
1974	450	450	0	0.0
1975	450	450	0	0.0
1976	450	450	0	0.0
1977	450	450	0	0.0
1978	450	450	0	0.0
1979	450	450	0	0.0
1980	450	450	0	0.0
1981	450	450	0	0.0
1982	450	450	0	0.0
1983	450	450	0	0.0
1984	450	450	0	0.0
1985	450	450	0	0.0
1986	450	450	0	0.0
1987	450	450	0	0.0
1988	450	450	0	0.0
1989	450	450	0	0.0
1990	450	450	0	0.0
1991	450	450	0	0.0
1992	450	450	0	0.0
1993	450	450	0	0.0
Mean:	450	450	0	0.0
Median:	450	450	0	0.0
Min:	450	450	0	0.0
Max:	450	450	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Temperature at Nimbus Dam

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	56.6	56.9	0.3
1923	55.4	55.5	0.1
1924	58.4	58.4	0.0
1925	56.8	56.8	0.0
1926	56.6	56.6	0.0
1927	54.5	54.5	0.0
1928	54.9	55.0	0.1
1929	54.2	54.2	0.0
1930	55.3	55.3	0.0
1931	57.4	57.3	-0.1
1932	59.4	60.0	0.6
1933	56.6	56.7	0.1
1934	57.5	57.8	0.3
1935	56.0	56.4	0.4
1936	58.8	58.4	-0.4
1937	54.0	54.6	0.6
1938	56.0	55.4	-0.6
1939	57.3	57.1	-0.2
1940	58.8	58.7	-0.1
1941	54.7	54.7	0.0
1942	55.3	55.3	0.0
1943	55.2	55.2	0.0
1944	55.4	55.6	0.2
1945	55.8	55.8	0.0
1946	55.9	55.6	-0.3
1947	55.4	55.6	0.2
1948	55.1	54.7	-0.4
1949	54.8	54.8	0.0
1950	57.7	57.7	0.0
1951	56.0	56.0	0.0
1952	54.6	55.3	0.7
1953	55.9	55.4	-0.5
1954	55.5	55.5	0.0
1955	54.9	54.8	-0.1
1956	55.6	56.3	0.7
1957	56.3	56.8	0.5
1958	57.8	57.8	0.0
1959	59.6	59.7	0.1
1960	54.7	54.7	0.0
1961	56.0	56.1	0.1
1962	57.2	57.2	0.0
1963	54.3	54.3	0.0
1964	54.9	55.1	0.2
1965	55.1	55.1	0.0
1966	56.3	56.5	0.2
1967	59.0	59.0	0.0
1968	55.9	56.0	0.1
1969	55.6	55.6	0.0
1970	54.4	55.1	0.7
1971	55.0	55.0	0.0
1972	56.2	56.1	-0.1
1973	56.1	54.9	-1.2
1974	55.1	55.1	0.0
1975	54.1	54.1	0.0
1976	58.1	58.1	0.0
1977	61.0	61.2	0.2
1978	56.4	56.3	-0.1
1979	54.6	54.7	0.1
1980	55.7	55.7	0.0
1981	58.6	57.8	-0.8
1982	55.2	55.2	0.0
1983	57.4	57.2	-0.2
1984	56.6	57.1	0.5
1985	55.8	55.9	0.1
1986	56.5	56.6	0.1
1987	58.0	58.1	0.1
1988	59.8	59.8	0.0
1989	56.2	56.2	0.0
1990	55.9	56.0	0.1
Mean:	56.3	56.3	0.0
Median:	55.9	56.0	0.0
Min:	54.0	54.1	-1.2
Max:	61.0	61.2	0.7
X > 56.0	30	32	
Mean When X > 56.0	57.6	57.6	
X > 60.0	1	1	
Mean When X > 60.0	61.0	61.2	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	1	2	
61.0 <= X <= 73.0	1	1	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			26
Mean When Abs Dif > 0.0			0.3
Abs Dif < 0.0			14
Mean When Abs Dif < 0.0			-0.4
Abs Dif = 0.0			29
# Years Diff <= 0.3			61

Lower American River Temperature at Nimbus Dam

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.3	55.3	0.0
1923	55.7	55.7	0.0
1924	55.8	55.7	-0.1
1925	56.4	56.3	-0.1
1926	56.0	56.0	0.0
1927	56.4	56.4	0.0
1928	57.0	57.0	0.0
1929	56.0	56.2	0.2
1930	56.3	56.3	0.0
1931	57.1	57.1	0.0
1932	57.3	56.8	-0.5
1933	57.5	57.7	0.2
1934	57.7	57.6	-0.1
1935	57.0	57.0	0.0
1936	56.8	57.3	0.5
1937	56.4	56.0	-0.4
1938	56.5	56.7	0.2
1939	56.7	56.9	0.2
1940	56.6	56.6	0.0
1941	56.3	56.3	0.0
1942	56.2	56.2	0.0
1943	56.2	56.2	0.0
1944	56.2	56.3	0.1
1945	56.4	56.4	0.0
1946	56.2	56.1	-0.1
1947	53.3	53.3	0.0
1948	56.9	56.6	-0.3
1949	56.1	56.2	0.1
1950	56.5	56.5	0.0
1951	56.3	56.4	0.1
1952	56.8	56.6	-0.2
1953	56.3	56.4	0.1
1954	56.6	56.6	0.0
1955	56.9	56.6	-0.3
1956	56.6	56.2	-0.4
1957	57.3	57.1	-0.2
1958	57.2	57.2	0.0
1959	58.6	58.8	0.2
1960	57.0	57.0	0.0
1961	53.6	53.9	0.3
1962	56.0	56.0	0.0
1963	56.3	56.3	0.0
1964	55.9	56.1	0.2
1965	56.4	56.2	-0.2
1966	57.0	57.1	0.1
1967	57.4	57.4	0.0
1968	56.9	57.0	0.1
1969	56.3	56.3	0.0
1970	56.6	56.5	-0.1
1971	56.1	56.2	0.1
1972	55.8	55.7	-0.1
1973	56.3	56.3	0.0
1974	56.3	56.4	0.1
1975	56.1	56.1	0.0
1976	55.7	55.8	0.1
1977	57.5	57.6	0.1
1978	57.5	57.5	0.0
1979	57.4	57.4	0.0
1980	56.2	56.2	0.0
1981	57.3	57.5	0.2
1982	56.3	56.4	0.1
1983	57.4	57.4	0.0
1984	56.8	56.8	0.0
1985	55.8	55.8	0.0
1986	56.2	56.1	-0.1
1987	56.3	56.4	0.1
1988	55.4	55.4	0.0
1989	56.8	56.7	-0.1
1990	56.6	56.8	0.2
Mean:	56.5	56.5	0.0
Median:	56.4	56.4	0.0
Min:	53.3	53.3	-0.5
Max:	58.6	58.8	0.5
X > 56.0	56	57	
Mean When X > 56.0	56.7	56.7	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			22
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			16
Mean When Abs Dif < 0.0			-0.2
Abs Dif = 0.0			31
# Years Diff <= 0.3			68

Lower American River Temperature at Nimbus Dam

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	48.3	48.3	0.0
1923	52.4	52.3	-0.1
1924	47.6	47.5	-0.1
1925	50.6	50.5	-0.1
1926	52.9	52.8	-0.1
1927	50.4	50.4	0.0
1928	50.0	49.9	-0.1
1929	53.3	53.3	0.0
1930	51.5	51.5	0.0
1931	49.4	49.4	0.0
1932	50.9	50.8	-0.1
1933	50.7	50.6	-0.1
1934	51.3	51.2	-0.1
1935	51.0	51.0	0.0
1936	51.2	51.2	0.0
1937	53.0	52.9	-0.1
1938	51.7	51.7	0.0
1939	53.7	53.7	0.0
1940	52.2	52.1	-0.1
1941	51.4	51.4	0.0
1942	50.5	50.5	0.0
1943	52.5	52.4	-0.1
1944	50.9	50.9	0.0
1945	50.5	50.5	0.0
1946	49.9	49.8	-0.1
1947	48.5	48.5	0.0
1948	49.5	49.4	-0.1
1949	51.1	51.0	-0.1
1950	50.3	50.3	0.0
1951	50.8	50.8	0.0
1952	52.2	52.2	0.0
1953	53.0	53.0	0.0
1954	49.0	48.9	-0.1
1955	51.1	50.9	-0.2
1956	53.3	53.2	-0.1
1957	52.2	52.1	-0.1
1958	56.7	56.7	0.0
1959	53.4	53.3	-0.1
1960	51.6	51.5	-0.1
1961	49.5	49.4	-0.1
1962	52.5	52.5	0.0
1963	48.4	48.3	-0.1
1964	49.7	49.6	-0.1
1965	50.0	50.0	0.0
1966	51.5	51.4	-0.1
1967	53.0	52.9	-0.1
1968	50.0	49.9	-0.1
1969	53.6	53.6	0.0
1970	51.2	51.1	-0.1
1971	50.1	50.1	0.0
1972	47.8	47.7	-0.1
1973	50.5	50.4	-0.1
1974	51.8	51.7	-0.1
1975	51.0	51.0	0.0
1976	54.5	54.5	0.0
1977	51.9	51.8	-0.1
1978	50.3	50.3	0.0
1979	53.2	53.2	0.0
1980	54.4	54.3	-0.1
1981	51.9	51.9	0.0
1982	50.1	50.1	0.0
1983	50.1	50.0	-0.1
1984	51.0	51.0	0.0
1985	47.9	47.9	0.0
1986	53.8	53.7	-0.1
1987	52.1	52.0	-0.1
1988	51.2	51.0	-0.2
1989	52.2	52.2	0.0
1990	50.3	50.2	-0.1
Mean:	51.2	51.2	-0.1
Median:	51.1	51.0	-0.1
Min:	47.6	47.5	-0.2
Max:	56.7	56.7	0.0
X > 56.0	1	1	
Mean When X > 56.0	56.7	56.7	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	66	66	
Abs Dif > 0.0			0
Mean When Abs Dif > 0.0			0.0
Abs Dif < 0.0			37
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			32
# Years Diff <= 0.3			69

Lower American River Temperature at Nimbus Dam

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	43.3	43.3	0.0
1923	44.5	44.5	0.0
1924	47.5	47.4	-0.1
1925	47.0	46.7	-0.3
1926	45.4	45.4	0.0
1927	49.0	48.9	-0.1
1928	47.8	47.7	-0.1
1929	44.7	44.7	0.0
1930	47.9	47.8	-0.1
1931	48.9	48.9	0.0
1932	46.2	46.2	0.0
1933	44.9	44.9	0.0
1934	47.9	47.9	0.0
1935	48.1	48.0	-0.1
1936	48.7	48.7	0.0
1937	43.5	43.4	-0.1
1938	47.9	47.9	0.0
1939	48.3	48.3	0.0
1940	49.6	49.5	-0.1
1941	49.5	49.4	-0.1
1942	47.0	47.0	0.0
1943	46.8	46.7	-0.1
1944	49.0	49.0	0.0
1945	47.2	47.1	-0.1
1946	46.4	46.4	0.0
1947	45.6	45.6	0.0
1948	48.2	48.1	-0.1
1949	43.2	43.2	0.0
1950	46.1	46.0	-0.1
1951	45.6	45.5	-0.1
1952	46.0	46.0	0.0
1953	49.0	49.0	0.0
1954	48.9	48.8	-0.1
1955	45.1	45.1	0.0
1956	47.2	47.1	-0.1
1957	48.5	48.5	0.0
1958	48.7	48.7	0.0
1959	52.3	52.2	-0.1
1960	48.6	48.5	-0.1
1961	46.4	46.3	-0.1
1962	45.1	45.0	-0.1
1963	46.9	46.9	0.0
1964	45.5	45.5	0.0
1965	45.7	45.7	0.0
1966	47.4	47.4	0.0
1967	47.7	47.6	-0.1
1968	47.5	47.5	0.0
1969	45.9	45.9	0.0
1970	47.7	47.7	0.0
1971	46.9	46.8	-0.1
1972	45.1	45.1	0.0
1973	45.2	45.1	-0.1
1974	47.0	47.0	0.0
1975	46.6	46.6	0.0
1976	49.0	49.0	0.0
1977	47.7	47.7	0.0
1978	50.1	50.0	-0.1
1979	47.6	47.5	-0.1
1980	48.4	48.4	0.0
1981	50.3	50.2	-0.1
1982	46.4	46.3	-0.1
1983	46.1	46.0	-0.1
1984	46.6	46.5	-0.1
1985	46.5	46.4	-0.1
1986	47.4	47.4	0.0
1987	48.9	48.9	0.0
1988	49.1	49.1	0.0
1989	46.7	46.6	-0.1
1990	48.8	48.8	0.0
Mean:	47.2	47.1	0.0
Median:	47.2	47.1	0.0
Min:	43.2	43.2	-0.3
Max:	52.3	52.2	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	22	22	
Abs Dif > 0.0			0
Mean When Abs Dif > 0.0			0.0
Abs Dif < 0.0			31
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			38
# Years Diff <= 0.3			69

Lower American River Temperature at Nimbus Dam

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	44.5	44.5	0.0
1923	45.0	45.1	0.1
1924	50.3	50.4	0.1
1925	48.1	48.1	0.0
1926	47.5	47.5	0.0
1927	48.1	48.0	-0.1
1928	48.6	48.6	0.0
1929	46.6	46.6	0.0
1930	49.8	49.8	0.0
1931	51.1	51.1	0.0
1932	46.9	46.9	0.0
1933	45.2	45.2	0.0
1934	49.8	49.8	0.0
1935	49.2	49.2	0.0
1936	47.5	47.5	0.0
1937	44.9	45.0	0.1
1938	47.3	47.2	-0.1
1939	48.1	48.0	-0.1
1940	48.4	48.3	-0.1
1941	48.7	48.7	0.0
1942	46.1	46.1	0.0
1943	47.3	47.4	0.1
1944	48.8	48.8	0.0
1945	47.2	47.2	0.0
1946	46.0	46.0	0.0
1947	47.9	47.9	0.0
1948	47.9	47.9	0.0
1949	43.6	43.6	0.0
1950	46.3	46.3	0.0
1951	46.1	46.0	-0.1
1952	46.2	46.2	0.0
1953	48.9	48.9	0.0
1954	48.5	48.4	-0.1
1955	45.3	45.3	0.0
1956	46.8	46.8	0.0
1957	49.5	49.5	0.0
1958	49.0	49.0	0.0
1959	50.8	50.8	0.0
1960	49.8	49.8	0.0
1961	49.5	49.5	0.0
1962	46.4	46.3	-0.1
1963	47.9	47.9	0.0
1964	46.9	47.0	0.1
1965	46.8	46.9	0.1
1966	47.9	47.9	0.0
1967	47.3	47.2	-0.1
1968	48.7	48.7	0.0
1969	45.4	45.4	0.0
1970	48.6	48.6	0.0
1971	46.4	46.4	0.0
1972	46.3	46.3	0.0
1973	46.4	46.5	0.1
1974	47.3	47.3	0.0
1975	47.1	47.1	0.0
1976	50.3	50.4	0.1
1977	50.4	50.4	0.0
1978	49.4	49.3	-0.1
1979	47.7	47.7	0.0
1980	47.9	47.9	0.0
1981	51.2	51.2	0.0
1982	46.8	46.8	0.0
1983	47.1	47.1	0.0
1984	47.6	47.3	-0.3
1985	47.8	47.8	0.0
1986	47.2	47.2	0.0
1987	50.5	50.6	0.1
1988	50.9	51.0	0.1
1989	47.9	47.9	0.0
1990	48.7	48.7	0.0
Mean:	47.8	47.8	0.0
Median:	47.8	47.8	0.0
Min:	43.6	43.6	-0.3
Max:	51.2	51.2	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	28	28	
Abs Dif > 0.0			10
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			10
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			49
# Years Diff <= 0.3			69

Lower American River Temperature at Nimbus Dam

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.1	50.1	0.0
1923	49.8	50.1	0.3
1924	52.2	52.4	0.2
1925	50.1	50.2	0.1
1926	55.0	55.3	0.3
1927	49.3	49.4	0.1
1928	50.7	50.7	0.0
1929	50.7	50.8	0.1
1930	50.6	50.8	0.2
1931	54.3	54.3	0.0
1932	48.4	48.4	0.0
1933	50.1	50.2	0.1
1934	52.7	52.8	0.1
1935	49.7	49.7	0.0
1936	49.8	49.9	0.1
1937	48.3	48.4	0.1
1938	49.1	49.2	0.1
1939	51.0	51.1	0.1
1940	50.4	50.4	0.0
1941	50.8	50.8	0.0
1942	48.1	48.2	0.1
1943	50.1	50.1	0.0
1944	50.5	50.5	0.0
1945	48.5	48.6	0.1
1946	48.3	48.4	0.1
1947	50.4	50.5	0.1
1948	49.1	49.1	0.0
1949	46.5	46.7	0.2
1950	49.0	49.0	0.0
1951	50.3	50.2	-0.1
1952	48.3	48.3	0.0
1953	50.7	50.7	0.0
1954	49.4	49.4	0.0
1955	48.2	48.4	0.2
1956	49.1	49.3	0.2
1957	51.3	51.3	0.0
1958	50.3	50.3	0.0
1959	52.9	52.9	0.0
1960	50.2	50.3	0.1
1961	50.1	50.3	0.2
1962	47.3	47.4	0.1
1963	50.8	50.9	0.1
1964	49.7	49.8	0.1
1965	50.2	50.4	0.2
1966	50.1	50.2	0.1
1967	48.8	48.9	0.1
1968	51.9	51.9	0.0
1969	47.6	47.7	0.1
1970	52.1	52.3	0.2
1971	47.9	48.0	0.1
1972	50.9	51.0	0.1
1973	49.0	49.1	0.1
1974	50.0	50.0	0.0
1975	49.0	49.1	0.1
1976	52.9	53.0	0.1
1977	52.1	52.2	0.1
1978	51.3	51.4	0.1
1979	50.0	50.0	0.0
1980	50.8	50.8	0.0
1981	52.8	52.8	0.0
1982	49.8	49.8	0.0
1983	49.8	49.8	0.0
1984	52.8	53.0	0.2
1985	49.7	49.7	0.0
1986	51.2	51.2	0.0
1987	52.5	52.6	0.1
1988	54.4	54.6	0.2
1989	49.9	50.1	0.2
1990	51.8	51.8	0.0
Mean:	50.3	50.4	0.1
Median:	50.1	50.2	0.1
Min:	46.5	46.7	-0.1
Max:	55.0	55.3	0.3
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	65	66	
Abs Dif > 0.0			41
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			1
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			27
# Years Diff <= 0.3			69

Lower American River Temperature at Nimbus Dam

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	52.8	52.8	0.0
1923	53.6	53.7	0.1
1924	60.3	60.4	0.1
1925	54.0	54.1	0.1
1926	61.1	61.1	0.0
1927	52.2	52.2	0.0
1928	52.8	52.9	0.1
1929	52.1	52.2	0.1
1930	53.6	53.9	0.3
1931	58.4	58.4	0.0
1932	50.4	50.5	0.1
1933	57.1	57.0	-0.1
1934	54.9	55.2	0.3
1935	51.5	51.6	0.1
1936	53.4	53.5	0.1
1937	51.9	52.0	0.1
1938	51.9	51.9	0.0
1939	56.3	56.5	0.2
1940	53.0	53.0	0.0
1941	53.2	53.2	0.0
1942	51.6	51.7	0.1
1943	52.5	52.6	0.1
1944	52.3	52.4	0.1
1945	51.0	51.1	0.1
1946	52.2	52.2	0.0
1947	53.5	53.6	0.1
1948	51.0	51.2	0.2
1949	51.6	51.7	0.1
1950	52.0	52.1	0.1
1951	52.8	52.9	0.1
1952	51.8	51.8	0.0
1953	52.7	52.8	0.1
1954	52.4	52.5	0.1
1955	51.6	51.9	0.3
1956	52.5	52.8	0.3
1957	54.1	54.1	0.0
1958	52.7	52.7	0.0
1959	57.5	57.6	0.1
1960	53.4	53.5	0.1
1961	53.7	54.0	0.3
1962	50.2	50.3	0.1
1963	52.0	52.0	0.0
1964	53.5	53.6	0.1
1965	52.6	52.7	0.1
1966	56.2	56.4	0.2
1967	50.8	50.8	0.0
1968	55.1	55.2	0.1
1969	51.5	51.5	0.0
1970	53.4	53.4	0.0
1971	50.7	50.8	0.1
1972	54.8	54.9	0.1
1973	51.8	51.9	0.1
1974	52.3	52.3	0.0
1975	51.0	51.0	0.0
1976	56.9	56.9	0.0
1977	66.3	66.3	0.0
1978	53.9	53.9	0.0
1979	53.2	53.3	0.1
1980	53.0	53.1	0.1
1981	55.5	55.5	0.0
1982	52.2	52.3	0.1
1983	52.0	52.1	0.1
1984	54.3	54.5	0.2
1985	52.8	52.9	0.1
1986	53.6	53.8	0.2
1987	56.6	56.6	0.0
1988	60.4	60.5	0.1
1989	53.1	53.2	0.1
1990	56.5	56.6	0.1
Mean:	53.7	53.8	0.1
Median:	52.8	52.9	0.1
Min:	50.2	50.3	-0.1
Max:	66.3	66.3	0.3
X > 56.0	12	12	
Mean When X > 56.0	58.6	58.7	
X > 60.0	4	4	
Mean When X > 60.0	62.0	62.1	
X > 65.0	1	1	
Mean When X > 65.0	66.3	66.3	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	4	4	
61.0 <= X <= 73.0	2	2	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			46
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			1
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			22
# Years Diff <= 0.3			69

Lower American River Temperature at Nimbus Dam

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	56.9	56.9	0.0
1923	55.8	55.8	0.0
1924	60.4	60.4	0.0
1925	56.0	56.0	0.0
1926	59.0	59.1	0.1
1927	55.3	55.3	0.0
1928	56.3	56.3	0.0
1929	56.6	56.6	0.0
1930	55.7	55.6	-0.1
1931	61.1	61.1	0.0
1932	54.8	54.8	0.0
1933	61.0	61.1	0.1
1934	61.1	62.1	1.0
1935	55.5	55.4	-0.1
1936	56.7	56.7	0.0
1937	55.2	55.2	0.0
1938	56.5	56.5	0.0
1939	61.0	61.1	0.1
1940	56.4	56.4	0.0
1941	55.6	55.6	0.0
1942	54.9	54.9	0.0
1943	56.0	56.0	0.0
1944	56.1	56.1	0.0
1945	54.0	54.1	0.1
1946	54.7	55.0	0.3
1947	54.9	55.1	0.2
1948	53.1	53.1	0.0
1949	55.0	55.0	0.0
1950	56.3	56.3	0.0
1951	56.0	56.1	0.1
1952	56.9	56.9	0.0
1953	55.0	55.1	0.1
1954	55.5	55.7	0.2
1955	52.9	53.1	0.2
1956	56.4	56.4	0.0
1957	56.4	56.4	0.0
1958	57.2	57.2	0.0
1959	59.4	59.6	0.2
1960	56.4	57.3	0.9
1961	56.0	56.3	0.3
1962	55.6	55.6	0.0
1963	54.4	54.4	0.0
1964	55.4	55.4	0.0
1965	55.1	55.2	0.1
1966	57.2	57.2	0.0
1967	54.0	54.0	0.0
1968	56.5	56.5	0.0
1969	56.2	56.2	0.0
1970	55.6	55.6	0.0
1971	53.4	53.5	0.1
1972	53.8	54.1	0.3
1973	55.2	55.3	0.1
1974	55.3	55.3	0.0
1975	54.1	54.1	0.0
1976	61.7	61.7	0.0
1977	61.5	61.6	0.1
1978	56.0	56.0	0.0
1979	56.2	56.3	0.1
1980	55.7	55.8	0.1
1981	59.0	59.1	0.1
1982	55.9	55.9	0.0
1983	56.1	56.1	0.0
1984	56.4	56.4	0.0
1985	56.5	56.7	0.2
1986	56.3	56.2	-0.1
1987	61.5	61.7	0.2
1988	59.8	60.0	0.2
1989	56.9	56.8	-0.1
1990	58.3	58.3	0.0
Mean:	56.5	56.6	0.1
Median:	56.1	56.1	0.0
Min:	52.9	53.1	-0.1
Max:	61.7	62.1	1.0
X > 56.0	35	37	
Mean When X > 56.0	57.9	57.9	
X > 60.0	8	8	
Mean When X > 60.0	61.2	61.4	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	8	9	
61.0 <= X <= 73.0	7	7	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			25
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			4
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			40
# Years Diff <= 0.3			67

Lower American River Temperature at Nimbus Dam

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	59.9	59.9	0.0
1923	59.1	59.5	0.4
1924	61.9	61.9	0.0
1925	60.8	60.8	0.0
1926	62.7	62.7	0.0
1927	59.0	59.0	0.0
1928	55.9	55.9	0.0
1929	57.5	57.7	0.2
1930	55.8	55.8	0.0
1931	61.3	61.6	0.3
1932	60.3	60.3	0.0
1933	62.8	63.0	0.2
1934	63.7	63.9	0.2
1935	60.1	60.0	-0.1
1936	60.8	60.8	0.0
1937	58.3	58.3	0.0
1938	61.0	61.0	0.0
1939	62.9	62.9	0.0
1940	62.4	62.4	0.0
1941	57.8	57.8	0.0
1942	58.9	58.9	0.0
1943	57.0	57.0	0.0
1944	56.9	56.9	0.0
1945	59.5	59.6	0.1
1946	54.9	55.1	0.2
1947	54.8	54.7	-0.1
1948	54.7	55.0	0.3
1949	55.1	55.1	0.0
1950	60.4	60.4	0.0
1951	58.8	59.1	0.3
1952	60.7	60.7	0.0
1953	58.3	58.3	0.0
1954	55.0	55.2	0.2
1955	53.4	53.6	0.2
1956	60.6	60.6	0.0
1957	59.2	59.2	0.0
1958	61.0	61.0	0.0
1959	64.2	64.3	0.1
1960	59.8	59.8	0.0
1961	59.1	59.1	0.0
1962	60.4	60.5	0.1
1963	58.0	58.0	0.0
1964	54.6	54.6	0.0
1965	58.6	58.8	0.2
1966	59.8	59.8	0.0
1967	60.5	60.5	0.0
1968	58.7	58.7	0.0
1969	60.2	60.2	0.0
1970	58.3	58.5	0.2
1971	57.0	57.0	0.0
1972	55.6	55.8	0.2
1973	60.5	60.7	0.2
1974	60.2	60.2	0.0
1975	58.6	58.5	-0.1
1976	63.8	63.8	0.0
1977	65.8	66.0	0.2
1978	60.6	60.6	0.0
1979	60.8	60.8	0.0
1980	59.2	59.2	0.0
1981	62.5	62.5	0.0
1982	60.0	59.8	-0.2
1983	61.4	61.4	0.0
1984	60.9	60.9	0.0
1985	55.4	55.7	0.3
1986	60.9	60.9	0.0
1987	64.6	64.6	0.0
1988	65.6	65.7	0.1
1989	60.7	60.6	-0.1
1990	61.7	61.9	0.2
Mean:	59.6	59.6	0.1
Median:	60.0	59.9	0.0
Min:	53.4	53.6	-0.2
Max:	65.8	66.0	0.4
X > 56.0	58	58	
Mean When X > 56.0	60.4	60.5	
X > 60.0	34	33	
Mean When X > 60.0	61.7	61.8	
X > 65.0	2	2	
Mean When X > 65.0	65.7	65.9	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	35	34	
61.0 <= X <= 73.0	17	17	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			21
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			5
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			43
# Years Diff <= 0.3			68

Lower American River Temperature at Nimbus Dam

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	64.5	64.5	0.0
1923	62.8	62.8	0.0
1924	65.6	65.6	0.0
1925	65.2	65.2	0.0
1926	65.8	65.8	0.0
1927	64.3	64.3	0.0
1928	63.2	63.2	0.0
1929	63.8	63.8	0.0
1930	63.3	63.3	0.0
1931	63.1	63.2	0.1
1932	65.2	65.2	0.0
1933	65.5	65.5	0.0
1934	64.8	64.8	0.0
1935	64.1	64.0	-0.1
1936	65.3	65.3	0.0
1937	63.4	63.4	0.0
1938	65.0	65.0	0.0
1939	65.5	65.5	0.0
1940	65.2	65.2	0.0
1941	63.5	63.5	0.0
1942	64.1	64.1	0.0
1943	63.4	63.4	0.0
1944	64.2	64.3	0.1
1945	63.0	63.0	0.0
1946	63.9	63.9	0.0
1947	64.2	64.2	0.0
1948	63.1	63.2	0.1
1949	64.3	64.3	0.0
1950	64.5	64.5	0.0
1951	63.6	63.5	-0.1
1952	64.4	64.4	0.0
1953	63.8	63.9	0.1
1954	63.8	63.8	0.0
1955	63.3	63.7	0.4
1956	65.0	65.0	0.0
1957	63.8	63.8	0.0
1958	65.3	65.3	0.0
1959	65.9	65.2	-0.7
1960	63.8	63.8	0.0
1961	64.6	64.9	0.3
1962	63.0	63.0	0.0
1963	62.3	62.3	0.0
1964	63.7	63.7	0.0
1965	62.8	62.8	0.0
1966	65.2	65.3	0.1
1967	65.3	65.3	0.0
1968	64.0	64.0	0.0
1969	64.6	64.6	0.0
1970	64.2	64.2	0.0
1971	62.9	62.9	0.0
1972	64.3	64.3	0.0
1973	64.3	64.6	0.3
1974	63.9	63.9	0.0
1975	63.8	63.9	0.1
1976	65.7	65.7	0.0
1977	66.4	66.4	0.0
1978	64.6	64.6	0.0
1979	64.6	64.6	0.0
1980	62.7	62.7	0.0
1981	66.3	66.4	0.1
1982	64.1	64.1	0.0
1983	65.1	65.1	0.0
1984	65.0	65.0	0.0
1985	63.1	63.1	0.0
1986	64.2	64.2	0.0
1987	66.1	66.1	0.0
1988	65.4	65.4	0.0
1989	64.2	64.2	0.0
1990	64.1	64.1	0.0
Mean:	64.3	64.3	0.0
Median:	64.2	64.2	0.0
Min:	62.3	62.3	-0.7
Max:	66.4	66.4	0.4
X > 56.0	69	69	
Mean When X > 56.0	64.3	64.3	
X > 60.0	69	69	
Mean When X > 60.0	64.3	64.3	
X > 65.0	18	18	
Mean When X > 65.0	65.6	65.5	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	69	69	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			10
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			3
Mean When Abs Dif < 0.0			-0.3
Abs Dif = 0.0			56
# Years Diff <= 0.3			68

Lower American River Temperature at Nimbus Dam

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	64.1	64.1	0.0
1923	64.1	64.1	0.0
1924	64.9	65.1	0.2
1925	66.0	66.0	0.0
1926	63.3	63.5	0.2
1927	64.4	64.4	0.0
1928	64.4	64.4	0.0
1929	63.3	63.3	0.0
1930	64.2	64.2	0.0
1931	64.0	64.1	0.1
1932	67.0	67.3	0.3
1933	65.9	65.9	0.0
1934	64.8	64.8	0.0
1935	64.3	64.2	-0.1
1936	65.9	65.9	0.0
1937	63.4	63.4	0.0
1938	65.2	65.2	0.0
1939	65.1	65.1	0.0
1940	65.9	66.0	0.1
1941	64.3	64.3	0.0
1942	64.2	64.2	0.0
1943	63.9	63.9	0.0
1944	62.6	62.6	0.0
1945	63.9	64.0	0.1
1946	63.2	63.4	0.2
1947	64.2	64.3	0.1
1948	63.5	63.8	0.3
1949	64.5	64.5	0.0
1950	66.0	66.2	0.2
1951	64.1	64.2	0.1
1952	65.9	65.8	-0.1
1953	65.8	65.9	0.1
1954	64.7	64.7	0.0
1955	62.9	63.2	0.3
1956	65.6	65.6	0.0
1957	64.4	64.4	0.0
1958	66.4	66.4	0.0
1959	65.2	65.5	0.3
1960	64.6	64.6	0.0
1961	63.1	63.5	0.4
1962	64.8	64.8	0.0
1963	63.8	63.8	0.0
1964	63.8	63.9	0.1
1965	63.4	63.4	0.0
1966	63.5	63.5	0.0
1967	66.5	66.5	0.0
1968	63.1	63.2	0.1
1969	64.0	64.0	0.0
1970	62.4	62.5	0.1
1971	63.0	63.1	0.1
1972	62.6	62.7	0.1
1973	62.9	63.2	0.3
1974	65.4	65.4	0.0
1975	63.7	63.7	0.0
1976	65.7	66.1	0.4
1977	71.2	71.3	0.1
1978	64.8	64.8	0.0
1979	63.6	63.7	0.1
1980	65.4	65.4	0.0
1981	65.0	65.1	0.1
1982	65.0	65.0	0.0
1983	66.3	66.3	0.0
1984	63.7	63.7	0.0
1985	64.0	64.1	0.1
1986	64.8	64.8	0.0
1987	62.9	62.9	0.0
1988	66.2	66.8	0.6
1989	64.4	64.4	0.0
1990	63.3	63.3	0.0
Mean:	64.5	64.6	0.1
Median:	64.3	64.3	0.0
Min:	62.4	62.5	-0.1
Max:	71.2	71.3	0.6
X > 56.0	69	69	
Mean When X > 56.0	64.5	64.6	
X > 60.0	69	69	
Mean When X > 60.0	64.5	64.6	
X > 65.0	20	22	
Mean When X > 65.0	66.1	66.1	
X > 68.0	1	1	
Mean When X > 68.0	71.2	71.3	
X > 70.0	1	1	
Mean When X > 70.0	71.2	71.3	
60.0 <= X <= 70.0	68	68	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	68	68	
Abs Dif > 0.0			27
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			2
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			40
# Years Diff <= 0.3			66

Lower American River Temperature at Nimbus Dam

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	64.9	64.9	0.0
1923	65.3	65.3	0.0
1924	66.2	66.6	0.4
1925	67.2	67.2	0.0
1926	67.8	68.0	0.2
1927	65.7	65.8	0.1
1928	65.0	65.0	0.0
1929	63.9	64.2	0.3
1930	66.2	66.2	0.0
1931	66.8	67.0	0.2
1932	66.8	67.1	0.3
1933	68.1	68.0	-0.1
1934	65.9	66.2	0.3
1935	65.4	65.1	-0.3
1936	67.3	67.3	0.0
1937	65.1	65.2	0.1
1938	65.9	65.9	0.0
1939	65.6	66.0	0.4
1940	67.8	67.8	0.0
1941	65.5	65.5	0.0
1942	65.6	65.6	0.0
1943	65.3	65.3	0.0
1944	64.7	64.8	0.1
1945	65.3	65.2	-0.1
1946	65.3	65.4	0.1
1947	64.3	64.4	0.1
1948	64.6	64.8	0.2
1949	65.0	65.1	0.1
1950	67.7	67.7	0.0
1951	65.4	65.4	0.0
1952	66.3	66.2	-0.1
1953	66.0	66.3	0.3
1954	65.5	65.6	0.1
1955	62.2	63.0	0.8
1956	66.6	66.6	0.0
1957	65.0	65.1	0.1
1958	67.3	67.4	0.1
1959	68.7	69.0	0.3
1960	65.2	65.4	0.2
1961	66.4	66.9	0.5
1962	66.4	66.5	0.1
1963	65.0	65.0	0.0
1964	64.2	64.3	0.1
1965	65.8	65.9	0.1
1966	64.5	64.9	0.4
1967	67.5	67.6	0.1
1968	64.0	64.2	0.2
1969	66.2	66.2	0.0
1970	64.8	64.9	0.1
1971	65.3	65.3	0.0
1972	64.3	64.5	0.2
1973	65.3	65.6	0.3
1974	66.0	66.1	0.1
1975	64.6	64.6	0.0
1976	68.0	68.0	0.0
1977	70.2	70.4	0.2
1978	66.7	66.8	0.1
1979	65.2	65.3	0.1
1980	66.4	66.5	0.1
1981	67.5	67.5	0.0
1982	65.8	65.8	0.0
1983	67.4	67.4	0.0
1984	65.9	66.0	0.1
1985	65.3	65.4	0.1
1986	67.1	67.1	0.0
1987	66.3	66.6	0.3
1988	68.4	69.0	0.6
1989	65.1	65.3	0.2
1990	65.1	65.3	0.2
Mean:	65.9	66.1	0.1
Median:	65.7	65.8	0.1
Min:	62.2	63.0	-0.3
Max:	70.2	70.4	0.8
X > 56.0	69	69	
Mean When X > 56.0	65.9	66.1	
X > 60.0	69	69	
Mean When X > 60.0	65.9	66.1	
X > 65.0	53	55	
Mean When X > 65.0	66.4	66.4	
X > 68.0	4	3	
Mean When X > 68.0	68.9	69.5	
X > 70.0	1	1	
Mean When X > 70.0	70.2	70.4	
60.0 <= X <= 70.0	68	68	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	65	66	
Abs Dif > 0.0			42
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			4
Mean When Abs Dif < 0.0			-0.2
Abs Dif = 0.0			23
# Years Diff <= 0.3			63

Lower American River Temperature at Watt Avenue

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.4	57.6	0.2
1923	56.6	56.6	0.0
1924	58.5	58.6	0.1
1925	57.4	57.4	0.0
1926	58.1	58.1	0.0
1927	56.3	56.3	0.0
1928	56.4	56.5	0.1
1929	56.6	56.6	0.0
1930	56.5	56.5	0.0
1931	58.1	58.0	-0.1
1932	59.9	60.4	0.5
1933	59.5	59.5	0.0
1934	58.7	58.9	0.2
1935	56.7	57.1	0.4
1936	59.6	59.2	-0.4
1937	56.0	56.5	0.5
1938	57.0	56.5	-0.5
1939	59.0	58.9	-0.1
1940	59.2	59.1	-0.1
1941	56.0	56.0	0.0
1942	57.0	57.0	0.0
1943	56.5	56.5	0.0
1944	57.4	57.6	0.2
1945	57.2	57.2	0.0
1946	56.6	56.4	-0.2
1947	57.6	57.7	0.1
1948	56.4	56.1	-0.3
1949	56.0	56.0	0.0
1950	58.5	58.5	0.0
1951	57.0	57.0	0.0
1952	56.5	57.1	0.6
1953	57.0	56.5	-0.5
1954	56.7	56.7	0.0
1955	56.4	56.4	0.0
1956	56.5	57.0	0.5
1957	57.1	57.5	0.4
1958	59.4	59.4	0.0
1959	61.5	61.6	0.1
1960	56.9	56.9	0.0
1961	58.6	58.6	0.0
1962	57.7	57.7	0.0
1963	56.0	56.0	0.0
1964	57.3	57.4	0.1
1965	56.5	56.5	0.0
1966	57.8	57.9	0.1
1967	60.0	60.0	0.0
1968	57.0	57.1	0.1
1969	56.5	56.5	0.0
1970	56.7	57.1	0.4
1971	56.0	56.0	0.0
1972	57.3	57.2	-0.1
1973	57.5	56.5	-1.0
1974	57.0	57.0	0.0
1975	56.0	56.0	0.0
1976	60.5	60.5	0.0
1977	61.7	61.9	0.2
1978	57.7	57.6	-0.1
1979	56.5	56.5	0.0
1980	57.0	57.0	0.0
1981	60.0	59.5	-0.5
1982	56.0	56.0	0.0
1983	59.1	59.0	-0.1
1984	57.6	58.0	0.4
1985	57.5	57.6	0.1
1986	57.7	57.8	0.1
1987	60.4	60.5	0.1
1988	62.3	62.3	0.0
1989	57.3	57.3	0.0
1990	58.3	58.4	0.1
Mean:	57.7	57.7	0.0
Median:	57.3	57.2	0.0
Min:	56.0	56.0	-1.0
Max:	62.3	62.3	0.6
X > 56.0	62	63	
Mean When X > 56.0	57.9	57.9	
X > 60.0	5	6	
Mean When X > 60.0	61.3	61.2	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	7	7	
61.0 <= X <= 73.0	3	3	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			23
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			13
Mean When Abs Dif < 0.0			-0.3
Abs Dif = 0.0			33
# Years Diff <= 0.3			61

Lower American River Temperature at Watt Avenue

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.6	54.6	0.0
1923	56.0	56.0	0.0
1924	54.3	54.3	0.0
1925	55.9	55.9	0.0
1926	56.3	56.3	0.0
1927	56.1	56.0	-0.1
1928	56.0	56.0	0.0
1929	55.9	56.1	0.2
1930	55.8	55.8	0.0
1931	55.7	55.7	0.0
1932	57.4	56.9	-0.5
1933	57.0	57.2	0.2
1934	57.0	56.9	-0.1
1935	56.1	56.1	0.0
1936	56.4	56.8	0.4
1937	56.1	55.8	-0.3
1938	55.9	56.1	0.2
1939	56.4	56.5	0.1
1940	56.0	56.0	0.0
1941	56.1	56.1	0.0
1942	55.9	55.9	0.0
1943	55.8	55.8	0.0
1944	55.1	55.1	0.0
1945	55.9	55.9	0.0
1946	55.4	55.3	-0.1
1947	52.4	52.4	0.0
1948	56.0	55.8	-0.2
1949	55.7	55.8	0.1
1950	56.5	56.4	-0.1
1951	55.8	55.8	0.0
1952	56.0	55.8	-0.2
1953	55.9	56.0	0.1
1954	55.2	55.2	0.0
1955	55.7	55.5	-0.2
1956	56.1	55.8	-0.3
1957	56.0	55.9	-0.1
1958	56.7	56.7	0.0
1959	57.0	57.2	0.2
1960	56.0	56.0	0.0
1961	52.9	53.1	0.2
1962	55.9	55.8	-0.1
1963	55.9	55.9	0.0
1964	54.6	54.7	0.1
1965	55.9	55.8	-0.1
1966	56.3	56.4	0.1
1967	57.2	57.2	0.0
1968	56.0	56.1	0.1
1969	55.9	56.0	0.1
1970	56.1	56.0	-0.1
1971	55.7	55.7	0.0
1972	54.3	54.3	0.0
1973	56.0	56.0	0.0
1974	55.9	55.9	0.0
1975	55.9	55.9	0.0
1976	55.6	55.7	0.1
1977	56.0	56.0	0.0
1978	56.2	56.1	-0.1
1979	56.1	56.1	0.0
1980	55.9	55.8	-0.1
1981	57.5	57.6	0.1
1982	55.9	56.0	0.1
1983	57.3	57.3	0.0
1984	56.4	56.3	-0.1
1985	54.1	54.1	0.0
1986	56.0	55.9	-0.1
1987	55.1	55.2	0.1
1988	54.4	54.4	0.0
1989	56.0	55.9	-0.1
1990	55.5	55.6	0.1
Mean:	55.8	55.8	0.0
Median:	55.9	55.9	0.0
Min:	52.4	52.4	-0.5
Max:	57.5	57.6	0.4
X > 56.0	22	21	
Mean When X > 56.0	56.6	56.6	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			18
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			19
Mean When Abs Dif < 0.0			-0.2
Abs Dif = 0.0			32
# Years Diff <= 0.3			68

Lower American River Temperature at Watt Avenue

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	48.2	48.1	-0.1
1923	50.8	50.7	-0.1
1924	45.9	45.8	-0.1
1925	49.9	49.8	-0.1
1926	52.0	51.9	-0.1
1927	49.7	49.7	0.0
1928	48.3	48.3	0.0
1929	52.2	52.1	-0.1
1930	50.1	50.1	0.0
1931	48.2	48.2	0.0
1932	49.7	49.7	0.0
1933	49.3	49.2	-0.1
1934	50.2	50.1	-0.1
1935	50.2	50.2	0.0
1936	50.1	50.1	0.0
1937	52.7	52.6	-0.1
1938	51.0	50.9	-0.1
1939	52.6	52.6	0.0
1940	51.7	51.7	0.0
1941	51.2	51.1	-0.1
1942	50.1	50.1	0.0
1943	51.3	51.2	-0.1
1944	49.9	49.8	-0.1
1945	50.3	50.3	0.0
1946	49.0	49.0	0.0
1947	47.6	47.6	0.0
1948	48.1	48.0	-0.1
1949	49.2	49.2	0.0
1950	50.3	50.2	-0.1
1951	50.3	50.2	-0.1
1952	51.4	51.4	0.0
1953	52.2	52.1	-0.1
1954	47.6	47.5	-0.1
1955	51.0	50.8	-0.2
1956	52.1	52.0	-0.1
1957	51.1	51.1	0.0
1958	55.6	55.5	-0.1
1959	51.2	51.2	0.0
1960	50.0	49.9	-0.1
1961	47.8	47.7	-0.1
1962	51.8	51.7	-0.1
1963	47.4	47.4	0.0
1964	49.7	49.6	-0.1
1965	48.5	48.4	-0.1
1966	50.6	50.6	0.0
1967	51.8	51.8	0.0
1968	48.6	48.6	0.0
1969	53.2	53.2	0.0
1970	50.8	50.7	-0.1
1971	49.2	49.2	0.0
1972	46.9	46.8	-0.1
1973	50.2	50.2	0.0
1974	50.8	50.8	0.0
1975	50.4	50.4	0.0
1976	52.5	52.5	0.0
1977	50.2	50.2	0.0
1978	48.6	48.6	0.0
1979	51.6	51.6	0.0
1980	53.2	53.1	-0.1
1981	51.8	51.7	-0.1
1982	49.8	49.7	-0.1
1983	50.1	50.0	-0.1
1984	50.2	50.1	-0.1
1985	46.6	46.5	-0.1
1986	52.5	52.5	0.0
1987	50.7	50.6	-0.1
1988	49.5	49.4	-0.1
1989	50.7	50.6	-0.1
1990	48.2	48.1	-0.1
Mean:	50.2	50.2	-0.1
Median:	50.2	50.2	-0.1
Min:	45.9	45.8	-0.2
Max:	55.6	55.5	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	62	62	
Abs Dif > 0.0			0
Mean When Abs Dif > 0.0			0.0
Abs Dif < 0.0			38
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			31
# Years Diff <= 0.3			69

Lower American River Temperature at Watt Avenue

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	42.7	42.7	0.0
1923	44.4	44.4	0.0
1924	46.7	46.7	0.0
1925	46.8	46.6	-0.2
1926	44.8	44.8	0.0
1927	48.8	48.7	-0.1
1928	47.5	47.5	0.0
1929	43.8	43.8	0.0
1930	46.9	46.9	0.0
1931	48.3	48.2	-0.1
1932	45.3	45.3	0.0
1933	44.4	44.3	-0.1
1934	47.6	47.6	0.0
1935	47.4	47.3	-0.1
1936	48.7	48.7	0.0
1937	42.5	42.5	0.0
1938	47.5	47.5	0.0
1939	47.9	47.8	-0.1
1940	49.3	49.3	0.0
1941	49.4	49.4	0.0
1942	47.0	46.9	-0.1
1943	46.7	46.7	0.0
1944	48.4	48.4	0.0
1945	46.5	46.5	0.0
1946	46.3	46.3	0.0
1947	44.8	44.8	0.0
1948	47.9	47.9	0.0
1949	42.3	42.2	-0.1
1950	45.5	45.5	0.0
1951	45.6	45.5	-0.1
1952	45.9	45.9	0.0
1953	49.1	49.1	0.0
1954	48.3	48.3	0.0
1955	44.5	44.5	0.0
1956	47.2	47.1	-0.1
1957	47.6	47.6	0.0
1958	48.3	48.2	-0.1
1959	51.5	51.5	0.0
1960	47.6	47.5	-0.1
1961	45.2	45.1	-0.1
1962	43.8	43.7	-0.1
1963	46.4	46.3	-0.1
1964	45.3	45.3	0.0
1965	45.7	45.6	-0.1
1966	47.0	47.0	0.0
1967	47.6	47.5	-0.1
1968	46.8	46.8	0.0
1969	45.9	45.8	-0.1
1970	47.8	47.7	-0.1
1971	46.7	46.6	-0.1
1972	44.4	44.4	0.0
1973	45.1	45.1	0.0
1974	47.0	47.0	0.0
1975	45.9	45.9	0.0
1976	48.6	48.6	0.0
1977	46.4	46.4	0.0
1978	50.0	49.9	-0.1
1979	47.2	47.1	-0.1
1980	48.3	48.3	0.0
1981	49.6	49.6	0.0
1982	46.2	46.1	-0.1
1983	45.9	45.9	0.0
1984	46.6	46.6	0.0
1985	45.7	45.7	0.0
1986	47.7	47.6	-0.1
1987	48.1	48.1	0.0
1988	48.5	48.5	0.0
1989	45.5	45.5	0.0
1990	48.3	48.3	0.0
Mean:	46.7	46.7	0.0
Median:	46.8	46.8	0.0
Min:	42.3	42.2	-0.2
Max:	51.5	51.5	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	17	17	
Abs Dif > 0.0			0
Mean When Abs Dif > 0.0			0.0
Abs Dif < 0.0			24
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			45
# Years Diff <= 0.3			69

Lower American River Temperature at Watt Avenue

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	44.8	44.8	0.0
1923	45.7	45.8	0.1
1924	51.8	51.9	0.1
1925	48.5	48.5	0.0
1926	48.8	48.8	0.0
1927	48.2	48.2	0.0
1928	49.2	49.3	0.1
1929	48.0	48.0	0.0
1930	50.7	50.7	0.0
1931	52.2	52.2	0.0
1932	47.4	47.3	-0.1
1933	45.9	45.9	0.0
1934	50.9	50.9	0.0
1935	49.9	49.8	-0.1
1936	47.6	47.6	0.0
1937	45.4	45.5	0.1
1938	47.5	47.4	-0.1
1939	48.3	48.3	0.0
1940	48.6	48.5	-0.1
1941	49.0	49.0	0.0
1942	46.3	46.3	0.0
1943	47.6	47.7	0.1
1944	49.1	49.1	0.0
1945	47.5	47.5	0.0
1946	46.3	46.3	0.0
1947	48.9	49.0	0.1
1948	48.0	48.0	0.0
1949	44.2	44.2	0.0
1950	46.6	46.6	0.0
1951	46.3	46.2	-0.1
1952	46.3	46.3	0.0
1953	49.3	49.3	0.0
1954	48.6	48.6	0.0
1955	45.7	45.7	0.0
1956	46.9	46.9	0.0
1957	50.0	50.0	0.0
1958	49.2	49.2	0.0
1959	50.8	50.8	0.0
1960	50.4	50.4	0.0
1961	50.6	50.6	0.0
1962	46.8	46.7	-0.1
1963	48.2	48.3	0.1
1964	47.4	47.5	0.1
1965	47.1	47.2	0.1
1966	48.0	48.0	0.0
1967	47.4	47.4	0.0
1968	49.1	49.1	0.0
1969	45.6	45.6	0.0
1970	48.9	48.9	0.0
1971	46.7	46.7	0.0
1972	47.0	47.0	0.0
1973	46.8	46.9	0.1
1974	47.5	47.5	0.0
1975	47.4	47.4	0.0
1976	50.8	50.9	0.1
1977	51.4	51.4	0.0
1978	49.7	49.6	-0.1
1979	48.0	48.0	0.0
1980	48.0	48.0	0.0
1981	51.2	51.2	0.0
1982	46.9	46.9	0.0
1983	47.3	47.3	0.0
1984	47.8	47.5	-0.3
1985	48.7	48.7	0.0
1986	47.3	47.3	0.0
1987	50.9	50.9	0.0
1988	51.6	51.6	0.0
1989	48.1	48.1	0.0
1990	48.9	48.9	0.0
Mean:	48.2	48.2	0.0
Median:	48.0	48.0	0.0
Min:	44.2	44.2	-0.3
Max:	52.2	52.2	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	38	38	
Abs Dif > 0.0			11
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			8
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			50
# Years Diff <= 0.3			69

Lower American River Temperature at Watt Avenue

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.5	50.5	0.0
1923	51.1	51.3	0.2
1924	52.7	52.8	0.1
1925	50.7	50.8	0.1
1926	56.8	57.0	0.2
1927	49.9	50.0	0.1
1928	51.1	51.1	0.0
1929	52.8	52.9	0.1
1930	51.8	51.9	0.1
1931	56.5	56.5	0.0
1932	50.0	50.0	0.0
1933	52.2	52.2	0.0
1934	55.3	55.4	0.1
1935	50.5	50.5	0.0
1936	50.7	50.8	0.1
1937	49.3	49.4	0.1
1938	49.4	49.4	0.0
1939	52.3	52.4	0.1
1940	50.8	50.8	0.0
1941	51.6	51.6	0.0
1942	49.2	49.3	0.1
1943	50.4	50.4	0.0
1944	52.0	52.0	0.0
1945	49.4	49.5	0.1
1946	49.4	49.4	0.0
1947	52.0	52.1	0.1
1948	49.9	49.9	0.0
1949	47.6	47.7	0.1
1950	49.7	49.7	0.0
1951	50.9	50.8	-0.1
1952	48.7	48.7	0.0
1953	51.6	51.6	0.0
1954	49.8	49.8	0.0
1955	49.7	49.8	0.1
1956	50.2	50.3	0.1
1957	51.8	51.9	0.1
1958	50.5	50.5	0.0
1959	54.1	54.1	0.0
1960	51.2	51.2	0.0
1961	51.4	51.5	0.1
1962	48.2	48.3	0.1
1963	51.3	51.4	0.1
1964	50.8	50.8	0.0
1965	51.1	51.3	0.2
1966	51.0	51.1	0.1
1967	49.2	49.3	0.1
1968	52.9	52.9	0.0
1969	48.5	48.5	0.0
1970	53.0	53.1	0.1
1971	48.8	48.8	0.0
1972	52.0	52.1	0.1
1973	49.5	49.6	0.1
1974	50.3	50.3	0.0
1975	49.4	49.4	0.0
1976	54.1	54.2	0.1
1977	52.9	52.9	0.0
1978	52.0	52.0	0.0
1979	50.8	50.9	0.1
1980	51.2	51.2	0.0
1981	53.0	53.1	0.1
1982	50.0	50.0	0.0
1983	50.0	50.0	0.0
1984	54.0	54.1	0.1
1985	50.6	50.6	0.0
1986	51.6	51.7	0.1
1987	53.7	53.8	0.1
1988	55.7	55.9	0.2
1989	50.5	50.6	0.1
1990	53.3	53.3	0.0
Mean:	51.2	51.3	0.1
Median:	50.9	50.9	0.1
Min:	47.6	47.7	-0.1
Max:	56.8	57.0	0.2
X > 56.0	2	2	
Mean When X > 56.0	56.7	56.8	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	68	68	
Abs Dif > 0.0			35
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			1
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			33
# Years Diff <= 0.3			69

Lower American River Temperature at Watt Avenue

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	53.7	53.7	0.0
1923	54.7	54.7	0.0
1924	61.8	61.8	0.0
1925	55.2	55.3	0.1
1926	63.0	63.0	0.0
1927	52.8	52.9	0.1
1928	53.8	53.8	0.0
1929	53.8	53.9	0.1
1930	55.9	56.1	0.2
1931	61.3	61.4	0.1
1932	52.0	52.2	0.2
1933	59.3	59.3	0.0
1934	56.9	57.1	0.2
1935	52.4	52.4	0.0
1936	54.4	54.4	0.0
1937	53.0	53.1	0.1
1938	52.5	52.6	0.1
1939	59.1	59.2	0.1
1940	53.9	54.0	0.1
1941	54.3	54.3	0.0
1942	52.5	52.5	0.0
1943	53.6	53.6	0.0
1944	53.6	53.6	0.0
1945	53.1	53.1	0.0
1946	53.9	54.0	0.1
1947	55.4	55.5	0.1
1948	52.4	52.7	0.3
1949	53.5	53.5	0.0
1950	53.3	53.4	0.1
1951	54.1	54.2	0.1
1952	52.5	52.5	0.0
1953	54.1	54.1	0.0
1954	53.8	53.9	0.1
1955	53.2	53.4	0.2
1956	54.0	54.3	0.3
1957	55.6	55.7	0.1
1958	53.3	53.3	0.0
1959	59.8	59.8	0.0
1960	54.8	54.9	0.1
1961	56.0	56.2	0.2
1962	52.5	52.6	0.1
1963	52.5	52.5	0.0
1964	55.7	55.8	0.1
1965	53.5	53.6	0.1
1966	58.6	58.7	0.1
1967	51.3	51.3	0.0
1968	57.1	57.1	0.0
1969	52.2	52.3	0.1
1970	54.4	54.5	0.1
1971	52.1	52.2	0.1
1972	56.6	56.7	0.1
1973	53.8	53.8	0.0
1974	53.0	53.0	0.0
1975	51.9	51.9	0.0
1976	59.0	59.0	0.0
1977	65.1	65.1	0.0
1978	54.6	54.7	0.1
1979	54.5	54.5	0.0
1980	54.6	54.7	0.1
1981	57.0	57.0	0.0
1982	52.5	52.6	0.1
1983	52.6	52.6	0.0
1984	55.8	55.9	0.1
1985	54.7	54.8	0.1
1986	55.1	55.2	0.1
1987	58.8	58.9	0.1
1988	62.0	62.0	0.0
1989	54.8	54.9	0.1
1990	59.3	59.4	0.1
Mean:	55.1	55.2	0.1
Median:	54.1	54.3	0.1
Min:	51.3	51.3	0.0
Max:	65.1	65.1	0.3
X > 56.0	16	18	
Mean When X > 56.0	59.7	59.3	
X > 60.0	5	5	
Mean When X > 60.0	62.6	62.7	
X > 65.0	1	1	
Mean When X > 65.0	65.1	65.1	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	5	5	
61.0 <= X <= 73.0	5	5	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			39
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			0
Mean When Abs Dif < 0.0			0.0
Abs Dif = 0.0			30
# Years Diff <= 0.3			69

Lower American River Temperature at Watt Avenue

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.7	57.7	0.0
1923	57.1	57.1	0.0
1924	64.8	64.8	0.0
1925	57.6	57.7	0.1
1926	61.3	61.4	0.1
1927	56.7	56.7	0.0
1928	59.0	59.0	0.0
1929	61.1	61.1	0.0
1930	57.5	57.5	0.0
1931	65.6	65.6	0.0
1932	57.1	57.1	0.0
1933	62.0	62.1	0.1
1934	64.3	65.0	0.7
1935	56.9	56.9	0.0
1936	58.5	58.5	0.0
1937	57.2	57.2	0.0
1938	57.3	57.4	0.1
1939	64.0	64.0	0.0
1940	58.6	58.7	0.1
1941	57.1	57.1	0.0
1942	55.8	55.8	0.0
1943	58.6	58.6	0.0
1944	58.8	58.8	0.0
1945	56.0	56.1	0.1
1946	56.6	56.8	0.2
1947	58.8	59.0	0.2
1948	54.6	54.6	0.0
1949	57.2	57.2	0.0
1950	57.8	57.9	0.1
1951	57.8	57.9	0.1
1952	57.5	57.5	0.0
1953	56.5	56.6	0.1
1954	57.7	57.9	0.2
1955	56.4	56.6	0.2
1956	57.6	57.6	0.0
1957	58.8	58.9	0.1
1958	58.0	58.0	0.0
1959	61.3	61.4	0.1
1960	59.1	59.7	0.6
1961	58.2	58.4	0.2
1962	57.6	57.6	0.0
1963	55.3	55.3	0.0
1964	57.9	57.9	0.0
1965	56.8	56.8	0.0
1966	60.0	60.0	0.0
1967	55.0	55.1	0.1
1968	59.0	59.0	0.0
1969	57.1	57.1	0.0
1970	59.0	59.0	0.0
1971	55.5	55.6	0.1
1972	57.5	57.7	0.2
1973	57.6	57.7	0.1
1974	56.7	56.7	0.0
1975	56.2	56.3	0.1
1976	66.1	66.1	0.0
1977	62.7	62.7	0.0
1978	57.8	57.8	0.0
1979	58.3	58.4	0.1
1980	57.6	57.6	0.0
1981	61.0	61.1	0.1
1982	56.7	56.7	0.0
1983	56.8	56.8	0.0
1984	59.9	59.9	0.0
1985	58.8	58.9	0.1
1986	58.5	58.4	-0.1
1987	64.3	64.4	0.1
1988	61.6	61.7	0.1
1989	58.6	58.6	0.0
1990	62.5	62.5	0.0
Mean:	58.7	58.7	0.1
Median:	57.8	57.9	0.0
Min:	54.6	54.6	-0.1
Max:	66.1	66.1	0.7
X > 56.0	63	64	
Mean When X > 56.0	59.0	59.0	
X > 60.0	14	14	
Mean When X > 60.0	63.0	63.1	
X > 65.0	2	2	
Mean When X > 65.0	65.9	65.9	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	15	15	
61.0 <= X <= 73.0	14	14	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			28
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			1
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			40
# Years Diff <= 0.3			67

Lower American River Temperature at Watt Avenue

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	60.8	60.8	0.0
1923	60.9	61.1	0.2
1924	65.5	65.5	0.0
1925	62.4	62.4	0.0
1926	65.0	65.1	0.1
1927	60.6	60.6	0.0
1928	60.4	60.4	0.0
1929	60.6	60.8	0.2
1930	59.1	59.1	0.0
1931	63.6	63.8	0.2
1932	62.0	62.0	0.0
1933	64.3	64.4	0.1
1934	65.8	65.9	0.1
1935	62.5	62.4	-0.1
1936	62.5	62.5	0.0
1937	61.2	61.2	0.0
1938	62.0	62.0	0.0
1939	65.9	65.9	0.0
1940	64.9	64.9	0.0
1941	60.2	60.2	0.0
1942	60.2	60.2	0.0
1943	59.5	59.5	0.0
1944	59.3	59.3	0.0
1945	62.0	62.1	0.1
1946	57.4	57.6	0.2
1947	60.1	60.1	0.0
1948	56.7	56.9	0.2
1949	58.0	58.0	0.0
1950	61.9	61.9	0.0
1951	61.2	61.4	0.2
1952	61.2	61.2	0.0
1953	59.5	59.5	0.0
1954	58.2	58.4	0.2
1955	56.9	57.1	0.2
1956	62.0	62.0	0.0
1957	61.9	61.9	0.0
1958	61.9	61.9	0.0
1959	66.7	66.8	0.1
1960	63.5	63.5	0.0
1961	65.5	65.5	0.0
1962	62.9	62.9	0.0
1963	60.4	60.4	0.0
1964	58.4	58.4	0.0
1965	60.5	60.7	0.2
1966	63.5	63.5	0.0
1967	61.2	61.2	0.0
1968	62.7	62.7	0.0
1969	61.3	61.3	0.0
1970	61.2	61.4	0.2
1971	58.9	58.9	0.0
1972	58.0	58.2	0.2
1973	62.5	62.7	0.2
1974	61.9	61.9	0.0
1975	60.3	60.2	-0.1
1976	67.6	67.6	0.0
1977	69.2	69.3	0.1
1978	62.1	62.1	0.0
1979	62.4	62.4	0.0
1980	61.0	61.0	0.0
1981	67.0	67.0	0.0
1982	60.9	60.7	-0.2
1983	61.9	61.9	0.0
1984	62.8	62.8	0.0
1985	59.3	59.5	0.2
1986	63.0	63.0	0.0
1987	66.8	66.9	0.1
1988	68.4	68.4	0.0
1989	62.3	62.3	0.0
1990	64.5	64.6	0.1
Mean:	62.0	62.0	0.0
Median:	61.9	61.9	0.0
Min:	56.7	56.9	-0.2
Max:	69.2	69.3	0.2
X > 56.0	69	69	
Mean When X > 56.0	62.0	62.0	
X > 60.0	56	56	
Mean When X > 60.0	62.8	62.8	
X > 65.0	10	11	
Mean When X > 65.0	66.8	66.7	
X > 68.0	2	2	
Mean When X > 68.0	68.8	68.9	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	56	56	
61.0 <= X <= 73.0	44	45	
48.0 <= X <= 68.0	67	67	
Abs Dif > 0.0			21
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			3
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			45
# Years Diff <= 0.3			69

Lower American River Temperature at Watt Avenue

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	66.0	66.0	0.0
1923	64.3	64.2	-0.1
1924	67.8	67.8	0.0
1925	66.5	66.5	0.0
1926	68.0	68.0	0.0
1927	65.7	65.7	0.0
1928	64.5	64.5	0.0
1929	66.0	66.0	0.0
1930	64.8	64.8	0.0
1931	67.0	67.1	0.1
1932	66.3	66.3	0.0
1933	68.0	68.0	0.0
1934	68.0	68.0	0.0
1935	65.5	65.4	-0.1
1936	67.0	67.0	0.0
1937	65.2	65.2	0.0
1938	66.6	66.6	0.0
1939	68.0	68.0	0.0
1940	66.5	66.5	0.0
1941	65.3	65.3	0.0
1942	65.7	65.7	0.0
1943	65.0	65.0	0.0
1944	65.8	65.9	0.1
1945	64.9	64.9	0.0
1946	65.4	65.4	0.0
1947	66.0	66.0	0.0
1948	64.5	64.5	0.0
1949	65.7	65.7	0.0
1950	66.0	66.0	0.0
1951	64.8	64.8	0.0
1952	65.8	65.8	0.0
1953	65.6	65.7	0.1
1954	66.0	66.0	0.0
1955	65.2	65.5	0.3
1956	66.3	66.3	0.0
1957	65.4	65.4	0.0
1958	66.9	66.9	0.0
1959	67.4	66.8	-0.6
1960	67.0	67.0	0.0
1961	67.1	67.3	0.2
1962	64.6	64.6	0.0
1963	63.9	63.9	0.0
1964	65.9	65.9	0.0
1965	64.2	64.2	0.0
1966	66.8	66.9	0.1
1967	67.2	67.2	0.0
1968	66.2	66.2	0.0
1969	66.1	66.1	0.0
1970	65.9	65.9	0.0
1971	64.7	64.7	0.0
1972	66.0	66.0	0.0
1973	66.0	66.2	0.2
1974	65.6	65.6	0.0
1975	65.9	65.9	0.0
1976	69.0	69.0	0.0
1977	70.8	70.8	0.0
1978	66.0	66.0	0.0
1979	66.2	66.2	0.0
1980	64.3	64.3	0.0
1981	68.0	68.0	0.0
1982	65.5	65.5	0.0
1983	65.8	65.8	0.0
1984	66.6	66.6	0.0
1985	66.0	66.0	0.0
1986	65.7	65.7	0.0
1987	68.0	68.0	0.0
1988	70.0	70.0	0.0
1989	66.2	66.2	0.0
1990	67.5	67.5	0.0
Mean:	66.2	66.2	0.0
Median:	66.0	66.0	0.0
Min:	63.9	63.9	-0.6
Max:	70.8	70.8	0.3
X > 56.0	69	69	
Mean When X > 56.0	66.2	66.2	
X > 60.0	69	69	
Mean When X > 60.0	66.2	66.2	
X > 65.0	57	57	
Mean When X > 65.0	66.6	66.6	
X > 68.0	3	3	
Mean When X > 68.0	69.9	69.9	
X > 70.0	1	1	
Mean When X > 70.0	70.8	70.8	
60.0 <= X <= 70.0	68	68	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	66	66	
Abs Dif > 0.0			7
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			3
Mean When Abs Dif < 0.0			-0.3
Abs Dif = 0.0			59
# Years Diff <= 0.3			69

Lower American River Temperature at Watt Avenue

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	66.0	66.0	0.0
1923	66.0	66.0	0.0
1924	67.6	67.7	0.1
1925	67.0	67.0	0.0
1926	67.6	67.7	0.1
1927	66.0	66.0	0.0
1928	66.0	66.0	0.0
1929	66.0	66.0	0.0
1930	66.0	66.0	0.0
1931	67.0	67.1	0.1
1932	68.0	68.2	0.2
1933	68.0	68.0	0.0
1934	68.0	68.0	0.0
1935	66.2	66.0	-0.2
1936	68.0	68.0	0.0
1937	66.0	66.0	0.0
1938	66.6	66.6	0.0
1939	68.0	68.0	0.0
1940	68.0	68.0	0.0
1941	66.0	66.0	0.0
1942	66.0	66.0	0.0
1943	66.0	66.0	0.0
1944	66.0	66.0	0.0
1945	66.0	66.0	0.0
1946	65.9	66.0	0.1
1947	66.0	66.0	0.0
1948	65.2	65.4	0.2
1949	66.0	66.0	0.0
1950	68.0	68.0	0.0
1951	66.0	66.0	0.0
1952	66.9	66.8	-0.1
1953	66.7	66.8	0.1
1954	66.0	66.0	0.0
1955	65.4	65.6	0.2
1956	67.0	67.0	0.0
1957	66.0	66.0	0.0
1958	68.0	68.0	0.0
1959	69.0	69.0	0.0
1960	67.0	67.0	0.0
1961	67.6	67.8	0.2
1962	67.0	67.0	0.0
1963	66.0	66.0	0.0
1964	66.0	66.0	0.0
1965	66.0	66.0	0.0
1966	67.0	67.0	0.0
1967	68.1	68.1	0.0
1968	66.2	66.2	0.0
1969	67.0	67.0	0.0
1970	66.0	66.0	0.0
1971	66.0	66.0	0.0
1972	66.0	66.0	0.0
1973	66.0	66.2	0.2
1974	66.6	66.6	0.0
1975	66.0	66.0	0.0
1976	69.0	69.0	0.0
1977	73.0	73.0	0.0
1978	67.0	67.0	0.0
1979	66.4	66.4	0.0
1980	66.7	66.7	0.0
1981	68.0	68.0	0.0
1982	66.0	66.0	0.0
1983	68.0	68.0	0.0
1984	67.0	67.0	0.0
1985	66.0	66.0	0.0
1986	67.0	67.0	0.0
1987	68.0	68.0	0.0
1988	69.2	69.6	0.4
1989	66.2	66.2	0.0
1990	67.5	67.5	0.0
Mean:	66.9	66.9	0.0
Median:	66.6	66.6	0.0
Min:	65.2	65.4	-0.2
Max:	73.0	73.0	0.4
X > 56.0	69	69	
Mean When X > 56.0	66.9	66.9	
X > 60.0	69	69	
Mean When X > 60.0	66.9	66.9	
X > 65.0	69	69	
Mean When X > 65.0	66.9	66.9	
X > 68.0	5	6	
Mean When X > 68.0	69.7	69.5	
X > 70.0	1	1	
Mean When X > 70.0	73.0	73.0	
60.0 <= X <= 70.0	68	68	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	64	63	
Abs Dif > 0.0			11
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			2
Mean When Abs Dif < 0.0			-0.2
Abs Dif = 0.0			56
# Years Diff <= 0.3			68

Lower American River Temperature at Watt Avenue

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	66.0	66.0	0.0
1923	66.0	66.0	0.0
1924	67.6	67.7	0.1
1925	67.0	67.0	0.0
1926	67.6	67.7	0.1
1927	66.0	66.0	0.0
1928	66.0	66.0	0.0
1929	66.0	66.0	0.0
1930	66.0	66.0	0.0
1931	67.0	67.1	0.1
1932	68.0	68.2	0.2
1933	68.0	68.0	0.0
1934	68.0	68.0	0.0
1935	66.2	66.0	-0.2
1936	68.0	68.0	0.0
1937	66.0	66.0	0.0
1938	66.6	66.6	0.0
1939	68.0	68.0	0.0
1940	68.0	68.0	0.0
1941	66.0	66.0	0.0
1942	66.0	66.0	0.0
1943	66.0	66.0	0.0
1944	66.0	66.0	0.0
1945	66.0	66.0	0.0
1946	65.9	66.0	0.1
1947	66.0	66.0	0.0
1948	65.2	65.4	0.2
1949	66.0	66.0	0.0
1950	68.0	68.0	0.0
1951	66.0	66.0	0.0
1952	67.0	66.9	-0.1
1953	66.7	66.9	0.2
1954	66.0	66.0	0.0
1955	65.4	65.6	0.2
1956	67.0	67.0	0.0
1957	66.0	66.0	0.0
1958	68.0	68.0	0.0
1959	68.8	69.0	0.2
1960	67.0	67.0	0.0
1961	67.6	67.8	0.2
1962	67.0	67.0	0.0
1963	66.0	66.0	0.0
1964	66.0	66.0	0.0
1965	66.0	66.0	0.0
1966	67.0	67.0	0.0
1967	68.2	68.2	0.0
1968	66.2	66.2	0.0
1969	67.0	67.0	0.0
1970	66.0	66.0	0.0
1971	66.0	66.0	0.0
1972	66.0	66.0	0.0
1973	66.0	66.2	0.2
1974	66.6	66.6	0.0
1975	66.0	66.0	0.0
1976	69.0	69.0	0.0
1977	69.0	69.3	0.3
1978	67.0	67.0	0.0
1979	66.4	66.4	0.0
1980	66.7	66.7	0.0
1981	68.0	68.0	0.0
1982	66.0	66.0	0.0
1983	68.0	68.0	0.0
1984	67.0	67.0	0.0
1985	66.0	66.0	0.0
1986	67.0	67.0	0.0
1987	68.0	68.0	0.0
1988	68.9	69.4	0.5
1989	66.2	66.2	0.0
1990	67.5	67.5	0.0
Mean:	66.8	66.8	0.0
Median:	66.6	66.6	0.0
Min:	65.2	65.4	-0.2
Max:	69.0	69.4	0.5
X > 56.0	69	69	
Mean When X > 56.0	66.8	66.8	
X > 60.0	69	69	
Mean When X > 60.0	66.8	66.8	
X > 65.0	69	69	
Mean When X > 65.0	66.8	66.8	
X > 68.0	5	6	
Mean When X > 68.0	68.8	68.9	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	69	69	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	64	63	
Abs Dif > 0.0			13
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			2
Mean When Abs Dif < 0.0			-0.2
Abs Dif = 0.0			54
# Years Diff <= 0.3			68

Lower American River Temperature at the Mouth

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.8	58.0	0.2
1923	57.2	57.3	0.1
1924	58.6	58.6	0.0
1925	57.7	57.7	0.0
1926	58.9	58.9	0.0
1927	57.2	57.2	0.0
1928	57.3	57.3	0.0
1929	57.9	57.9	0.0
1930	57.2	57.2	0.0
1931	58.5	58.4	-0.1
1932	60.1	60.6	0.5
1933	60.9	61.0	0.1
1934	59.3	59.5	0.2
1935	57.2	57.5	0.3
1936	60.0	59.7	-0.3
1937	57.1	57.5	0.4
1938	57.6	57.1	-0.5
1939	59.9	59.8	-0.1
1940	59.4	59.3	-0.1
1941	56.7	56.7	0.0
1942	58.0	58.0	0.0
1943	57.2	57.2	0.0
1944	58.5	58.6	0.1
1945	58.0	58.0	0.0
1946	57.0	56.8	-0.2
1947	58.6	58.7	0.1
1948	57.1	56.8	-0.3
1949	56.7	56.7	0.0
1950	58.9	58.9	0.0
1951	57.5	57.5	0.0
1952	57.6	58.1	0.5
1953	57.5	57.2	-0.3
1954	57.3	57.3	0.0
1955	57.3	57.2	-0.1
1956	57.0	57.4	0.4
1957	57.6	57.9	0.3
1958	60.2	60.2	0.0
1959	62.4	62.5	0.1
1960	58.0	58.1	0.1
1961	59.8	59.8	0.0
1962	58.0	58.0	0.0
1963	56.9	56.9	0.0
1964	58.5	58.6	0.1
1965	57.3	57.3	0.0
1966	58.6	58.7	0.1
1967	60.5	60.5	0.0
1968	57.6	57.7	0.1
1969	57.0	57.0	0.0
1970	57.8	58.1	0.3
1971	56.6	56.6	0.0
1972	57.8	57.8	0.0
1973	58.2	57.4	-0.8
1974	58.1	58.1	0.0
1975	57.0	57.0	0.0
1976	61.7	61.7	0.0
1977	62.1	62.1	0.0
1978	58.5	58.4	-0.1
1979	57.4	57.5	0.1
1980	57.8	57.8	0.0
1981	60.6	60.3	-0.3
1982	56.4	56.4	0.0
1983	60.0	59.9	-0.1
1984	58.2	58.5	0.3
1985	58.4	58.4	0.0
1986	58.4	58.5	0.1
1987	61.6	61.7	0.1
1988	63.3	63.3	0.0
1989	57.9	57.9	0.0
1990	59.6	59.6	0.0
Mean:	58.4	58.4	0.0
Median:	58.0	58.0	0.0
Min:	56.4	56.4	-0.8
Max:	63.3	63.3	0.5
X > 56.0	69	69	
Mean When X > 56.0	58.4	58.4	
X > 60.0	10	10	
Mean When X > 60.0	61.3	61.4	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	12	10	
61.0 <= X <= 73.0	5	6	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			22
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			13
Mean When Abs Dif < 0.0			-0.3
Abs Dif = 0.0			34
# Years Diff <= 0.3			65

Lower American River Temperature at the Mouth

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.2	54.2	0.0
1923	56.2	56.2	0.0
1924	53.6	53.6	0.0
1925	55.7	55.6	-0.1
1926	56.4	56.5	0.1
1927	55.9	55.9	0.0
1928	55.5	55.5	0.0
1929	55.9	56.0	0.1
1930	55.6	55.5	-0.1
1931	54.9	54.9	0.0
1932	57.4	57.0	-0.4
1933	56.8	56.9	0.1
1934	56.6	56.5	-0.1
1935	55.5	55.5	0.0
1936	56.2	56.6	0.4
1937	55.9	55.7	-0.2
1938	55.5	55.8	0.3
1939	56.2	56.3	0.1
1940	55.6	55.7	0.1
1941	56.0	56.0	0.0
1942	55.8	55.8	0.0
1943	55.6	55.6	0.0
1944	54.5	54.5	0.0
1945	55.6	55.6	0.0
1946	54.9	54.8	-0.1
1947	52.0	52.0	0.0
1948	55.5	55.3	-0.2
1949	55.5	55.5	0.0
1950	56.5	56.4	-0.1
1951	55.5	55.5	0.0
1952	55.6	55.4	-0.2
1953	55.7	55.8	0.1
1954	54.5	54.5	0.0
1955	55.1	54.9	-0.2
1956	55.8	55.6	-0.2
1957	55.3	55.1	-0.2
1958	56.4	56.4	0.0
1959	56.2	56.3	0.1
1960	55.4	55.4	0.0
1961	52.6	52.7	0.1
1962	55.8	55.7	-0.1
1963	55.6	55.6	0.0
1964	53.8	53.9	0.1
1965	55.7	55.6	-0.1
1966	55.9	56.0	0.1
1967	57.0	57.0	0.0
1968	55.6	55.6	0.0
1969	55.7	55.8	0.1
1970	55.8	55.7	-0.1
1971	55.5	55.5	0.0
1972	53.6	53.5	-0.1
1973	55.8	55.8	0.0
1974	55.6	55.6	0.0
1975	55.8	55.8	0.0
1976	55.6	55.6	0.0
1977	55.2	55.3	0.1
1978	55.4	55.4	0.0
1979	55.4	55.4	0.0
1980	55.7	55.6	-0.1
1981	57.5	57.7	0.2
1982	55.7	55.7	0.0
1983	57.2	57.2	0.0
1984	56.1	56.1	0.0
1985	53.3	53.3	0.0
1986	55.8	55.8	0.0
1987	54.6	54.6	0.0
1988	53.9	53.9	0.0
1989	55.6	55.5	-0.1
1990	54.9	55.0	0.1
Mean:	55.5	55.5	0.0
Median:	55.6	55.6	0.0
Min:	52.0	52.0	-0.4
Max:	57.5	57.7	0.4
X > 56.0	14	14	
Mean When X > 56.0	56.6	56.7	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			16
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			18
Mean When Abs Dif < 0.0			-0.2
Abs Dif = 0.0			35
# Years Diff <= 0.3			68

Lower American River Temperature at the Mouth

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	48.1	48.1	0.0
1923	49.9	49.8	-0.1
1924	45.0	45.0	0.0
1925	49.5	49.4	-0.1
1926	51.4	51.3	-0.1
1927	49.3	49.3	0.0
1928	47.4	47.4	0.0
1929	51.6	51.5	-0.1
1930	49.3	49.3	0.0
1931	47.6	47.5	-0.1
1932	49.1	49.0	-0.1
1933	48.5	48.4	-0.1
1934	49.5	49.5	0.0
1935	49.7	49.7	0.0
1936	49.5	49.5	0.0
1937	52.5	52.5	0.0
1938	50.6	50.5	-0.1
1939	52.0	52.0	0.0
1940	51.4	51.4	0.0
1941	51.0	51.0	0.0
1942	49.9	49.8	-0.1
1943	50.6	50.6	0.0
1944	49.3	49.3	0.0
1945	50.2	50.2	0.0
1946	48.5	48.5	0.0
1947	47.1	47.1	0.0
1948	47.3	47.2	-0.1
1949	48.2	48.2	0.0
1950	50.2	50.2	0.0
1951	50.0	49.9	-0.1
1952	51.0	50.9	-0.1
1953	51.7	51.6	-0.1
1954	46.8	46.8	0.0
1955	50.9	50.8	-0.1
1956	51.4	51.3	-0.1
1957	50.5	50.5	0.0
1958	54.9	54.9	0.0
1959	50.1	50.1	0.0
1960	49.2	49.1	-0.1
1961	46.9	46.8	-0.1
1962	51.3	51.3	0.0
1963	46.9	46.9	0.0
1964	49.7	49.6	-0.1
1965	47.6	47.6	0.0
1966	50.2	50.1	-0.1
1967	51.2	51.1	-0.1
1968	47.9	47.8	-0.1
1969	52.9	52.9	0.0
1970	50.6	50.5	-0.1
1971	48.7	48.6	-0.1
1972	46.4	46.3	-0.1
1973	50.1	50.0	-0.1
1974	50.3	50.3	0.0
1975	50.1	50.0	-0.1
1976	51.4	51.3	-0.1
1977	49.5	49.4	-0.1
1978	47.6	47.6	0.0
1979	50.7	50.7	0.0
1980	52.5	52.5	0.0
1981	51.7	51.7	0.0
1982	49.6	49.6	0.0
1983	50.0	50.0	0.0
1984	49.7	49.6	-0.1
1985	45.8	45.8	0.0
1986	51.8	51.8	0.0
1987	50.0	49.9	-0.1
1988	48.6	48.5	-0.1
1989	49.8	49.8	0.0
1990	47.0	46.9	-0.1
Mean:	49.7	49.6	0.0
Median:	49.9	49.8	0.0
Min:	45.0	45.0	-0.1
Max:	54.9	54.9	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	55	55	
Abs Dif > 0.0			0
Mean When Abs Dif > 0.0			0.0
Abs Dif < 0.0			32
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			37
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	42.3	42.3	0.0
1923	44.4	44.3	-0.1
1924	46.3	46.3	0.0
1925	46.6	46.5	-0.1
1926	44.5	44.5	0.0
1927	48.6	48.6	0.0
1928	47.3	47.3	0.0
1929	43.3	43.3	0.0
1930	46.4	46.3	-0.1
1931	47.9	47.9	0.0
1932	44.9	44.9	0.0
1933	44.1	44.1	0.0
1934	47.5	47.5	0.0
1935	47.0	47.0	0.0
1936	48.7	48.7	0.0
1937	42.0	41.9	-0.1
1938	47.3	47.3	0.0
1939	47.6	47.6	0.0
1940	49.2	49.2	0.0
1941	49.4	49.4	0.0
1942	46.9	46.9	0.0
1943	46.7	46.7	0.0
1944	48.1	48.1	0.0
1945	46.2	46.2	0.0
1946	46.2	46.2	0.0
1947	44.4	44.4	0.0
1948	47.7	47.7	0.0
1949	41.7	41.7	0.0
1950	45.2	45.2	0.0
1951	45.5	45.5	0.0
1952	45.8	45.8	0.0
1953	49.1	49.1	0.0
1954	48.1	48.0	-0.1
1955	44.2	44.2	0.0
1956	47.2	47.1	-0.1
1957	47.1	47.1	0.0
1958	48.0	48.0	0.0
1959	51.1	51.1	0.0
1960	47.1	47.0	-0.1
1961	44.5	44.5	0.0
1962	43.1	43.1	0.0
1963	46.1	46.0	-0.1
1964	45.2	45.2	0.0
1965	45.7	45.6	-0.1
1966	46.8	46.8	0.0
1967	47.5	47.4	-0.1
1968	46.4	46.4	0.0
1969	45.8	45.8	0.0
1970	47.8	47.7	-0.1
1971	46.6	46.5	-0.1
1972	44.0	44.0	0.0
1973	45.1	45.0	-0.1
1974	47.0	46.9	-0.1
1975	45.6	45.5	-0.1
1976	48.4	48.3	-0.1
1977	45.8	45.7	-0.1
1978	49.9	49.8	-0.1
1979	46.9	46.9	0.0
1980	48.3	48.3	0.0
1981	49.2	49.2	0.0
1982	46.0	46.0	0.0
1983	45.8	45.8	0.0
1984	46.6	46.6	0.0
1985	45.4	45.3	-0.1
1986	47.8	47.8	0.0
1987	47.6	47.6	0.0
1988	48.2	48.2	0.0
1989	45.0	44.9	-0.1
1990	48.1	48.0	-0.1
Mean:	46.5	46.5	0.0
Median:	46.6	46.6	0.0
Min:	41.7	41.7	-0.1
Max:	51.1	51.1	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	15	15	
Abs Dif > 0.0			0
Mean When Abs Dif > 0.0			0.0
Abs Dif < 0.0			21
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			48
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	44.9	44.9	0.0
1923	46.1	46.2	0.1
1924	52.5	52.6	0.1
1925	48.7	48.7	0.0
1926	49.5	49.5	0.0
1927	48.3	48.3	0.0
1928	49.6	49.6	0.0
1929	48.6	48.7	0.1
1930	51.2	51.2	0.0
1931	52.7	52.7	0.0
1932	47.6	47.6	0.0
1933	46.3	46.3	0.0
1934	51.5	51.5	0.0
1935	50.1	50.1	0.0
1936	47.7	47.7	0.0
1937	45.7	45.8	0.1
1938	47.5	47.5	0.0
1939	48.4	48.4	0.0
1940	48.7	48.7	0.0
1941	49.2	49.1	-0.1
1942	46.4	46.4	0.0
1943	47.8	47.8	0.0
1944	49.2	49.2	0.0
1945	47.6	47.7	0.1
1946	46.4	46.4	0.0
1947	49.5	49.5	0.0
1948	48.1	48.1	0.0
1949	44.6	44.6	0.0
1950	46.8	46.8	0.0
1951	46.5	46.3	-0.2
1952	46.4	46.4	0.0
1953	49.5	49.5	0.0
1954	48.7	48.7	0.0
1955	45.9	45.9	0.0
1956	47.0	46.9	-0.1
1957	50.3	50.3	0.0
1958	49.3	49.3	0.0
1959	50.8	50.8	0.0
1960	50.7	50.6	-0.1
1961	51.1	51.2	0.1
1962	47.0	46.9	-0.1
1963	48.4	48.4	0.0
1964	47.7	47.7	0.0
1965	47.2	47.3	0.1
1966	48.1	48.1	0.0
1967	47.6	47.5	-0.1
1968	49.3	49.3	0.0
1969	45.7	45.7	0.0
1970	49.0	49.1	0.1
1971	46.9	46.9	0.0
1972	47.4	47.4	0.0
1973	47.1	47.2	0.1
1974	47.6	47.6	0.0
1975	47.5	47.6	0.1
1976	51.1	51.1	0.0
1977	51.9	51.9	0.0
1978	49.8	49.7	-0.1
1979	48.1	48.1	0.0
1980	48.1	48.1	0.0
1981	51.2	51.2	0.0
1982	47.0	47.0	0.0
1983	47.4	47.4	0.0
1984	48.0	47.7	-0.3
1985	49.2	49.2	0.0
1986	47.4	47.4	0.0
1987	51.1	51.1	0.0
1988	51.9	52.0	0.1
1989	48.2	48.2	0.0
1990	49.0	48.9	-0.1
Mean:	48.5	48.5	0.0
Median:	48.1	48.1	0.0
Min:	44.6	44.6	-0.3
Max:	52.7	52.7	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	39	38	
Abs Dif > 0.0			11
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			9
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			49
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.7	50.7	0.0
1923	51.8	52.0	0.2
1924	53.0	53.1	0.1
1925	51.0	51.2	0.2
1926	57.7	57.8	0.1
1927	50.3	50.4	0.1
1928	51.2	51.3	0.1
1929	53.8	53.8	0.0
1930	52.5	52.6	0.1
1931	57.4	57.4	0.0
1932	50.9	50.9	0.0
1933	53.2	53.2	0.0
1934	56.7	56.7	0.0
1935	50.9	50.9	0.0
1936	51.3	51.4	0.1
1937	49.8	49.9	0.1
1938	49.5	49.5	0.0
1939	53.0	53.0	0.0
1940	51.0	51.0	0.0
1941	52.1	52.1	0.0
1942	49.8	49.9	0.1
1943	50.6	50.6	0.0
1944	52.8	52.8	0.0
1945	49.9	49.9	0.0
1946	50.0	50.0	0.0
1947	52.8	52.9	0.1
1948	50.3	50.3	0.0
1949	48.2	48.3	0.1
1950	50.1	50.1	0.0
1951	51.3	51.2	-0.1
1952	48.9	48.9	0.0
1953	52.1	52.1	0.0
1954	50.0	50.0	0.0
1955	50.5	50.6	0.1
1956	50.7	50.8	0.1
1957	52.1	52.2	0.1
1958	50.7	50.7	0.0
1959	54.7	54.7	0.0
1960	51.7	51.7	0.0
1961	52.1	52.2	0.1
1962	48.7	48.8	0.1
1963	51.6	51.6	0.0
1964	51.3	51.4	0.1
1965	51.6	51.8	0.2
1966	51.5	51.6	0.1
1967	49.4	49.5	0.1
1968	53.4	53.4	0.0
1969	48.9	49.0	0.1
1970	53.4	53.5	0.1
1971	49.2	49.3	0.1
1972	52.6	52.7	0.1
1973	49.9	49.9	0.0
1974	50.5	50.5	0.0
1975	49.6	49.6	0.0
1976	54.7	54.7	0.0
1977	53.2	53.2	0.0
1978	52.3	52.4	0.1
1979	51.3	51.4	0.1
1980	51.4	51.5	0.1
1981	53.2	53.2	0.0
1982	50.1	50.2	0.1
1983	50.1	50.1	0.0
1984	54.6	54.7	0.1
1985	51.1	51.1	0.0
1986	51.9	51.9	0.0
1987	54.3	54.3	0.0
1988	56.4	56.5	0.1
1989	50.8	50.9	0.1
1990	54.0	54.0	0.0
Mean:	51.7	51.8	0.0
Median:	51.3	51.4	0.0
Min:	48.2	48.3	-0.1
Max:	57.7	57.8	0.2
X > 56.0	4	4	
Mean When X > 56.0	57.1	57.1	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	0	0	
61.0 <= X <= 73.0	0	0	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			32
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			1
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			36
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.1	54.1	0.0
1923	55.2	55.3	0.1
1924	62.4	62.5	0.1
1925	55.9	56.0	0.1
1926	63.8	63.8	0.0
1927	53.2	53.3	0.1
1928	54.3	54.3	0.0
1929	54.6	54.7	0.1
1930	57.0	57.2	0.2
1931	62.7	62.7	0.0
1932	53.0	53.1	0.1
1933	60.3	60.3	0.0
1934	57.9	58.1	0.2
1935	52.8	52.9	0.1
1936	54.9	54.9	0.0
1937	53.6	53.7	0.1
1938	52.9	53.0	0.1
1939	60.5	60.5	0.0
1940	54.4	54.5	0.1
1941	54.9	54.9	0.0
1942	52.9	53.0	0.1
1943	54.2	54.2	0.0
1944	54.2	54.3	0.1
1945	54.2	54.3	0.1
1946	54.9	54.9	0.0
1947	56.4	56.5	0.1
1948	53.2	53.4	0.2
1949	54.5	54.6	0.1
1950	54.0	54.1	0.1
1951	54.8	54.9	0.1
1952	52.8	52.9	0.1
1953	54.8	54.8	0.0
1954	54.6	54.6	0.0
1955	54.1	54.2	0.1
1956	54.9	55.1	0.2
1957	56.4	56.5	0.1
1958	53.6	53.6	0.0
1959	60.9	61.0	0.1
1960	55.6	55.7	0.1
1961	57.2	57.4	0.2
1962	53.7	53.8	0.1
1963	52.8	52.8	0.0
1964	56.8	56.9	0.1
1965	54.0	54.1	0.1
1966	59.8	59.9	0.1
1967	51.5	51.6	0.1
1968	58.1	58.1	0.0
1969	52.7	52.7	0.0
1970	55.0	55.1	0.1
1971	52.9	53.0	0.1
1972	57.6	57.6	0.0
1973	54.8	54.9	0.1
1974	53.4	53.4	0.0
1975	52.4	52.4	0.0
1976	59.9	60.0	0.1
1977	64.9	64.9	0.0
1978	55.1	55.1	0.0
1979	55.1	55.2	0.1
1980	55.5	55.5	0.0
1981	57.8	57.8	0.0
1982	52.7	52.7	0.0
1983	52.9	52.9	0.0
1984	56.5	56.6	0.1
1985	55.7	55.8	0.1
1986	55.8	56.0	0.2
1987	59.9	60.0	0.1
1988	62.6	62.7	0.1
1989	55.8	55.9	0.1
1990	60.7	60.7	0.0
Mean:	55.8	55.9	0.1
Median:	54.9	54.9	0.1
Min:	51.5	51.6	0.0
Max:	64.9	64.9	0.2
X > 56.0	22	22	
Mean When X > 56.0	59.6	59.6	
X > 60.0	9	9	
Mean When X > 60.0	62.1	62.1	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	9	11	
61.0 <= X <= 73.0	5	6	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			43
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			0
Mean When Abs Dif < 0.0			0.0
Abs Dif = 0.0			26
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	58.1	58.1	0.0
1923	57.8	57.8	0.0
1924	66.7	66.7	0.0
1925	58.5	58.6	0.1
1926	62.5	62.5	0.0
1927	57.5	57.5	0.0
1928	60.4	60.4	0.0
1929	63.1	63.1	0.0
1930	58.5	58.4	-0.1
1931	67.5	67.5	0.0
1932	58.3	58.3	0.0
1933	62.5	62.6	0.1
1934	65.8	66.3	0.5
1935	57.7	57.7	0.0
1936	59.4	59.5	0.1
1937	58.3	58.4	0.1
1938	57.8	57.8	0.0
1939	65.3	65.3	0.0
1940	59.8	59.9	0.1
1941	57.9	57.9	0.0
1942	56.3	56.3	0.0
1943	59.9	60.0	0.1
1944	60.2	60.2	0.0
1945	57.2	57.2	0.0
1946	57.6	57.8	0.2
1947	60.8	61.0	0.2
1948	55.4	55.4	0.0
1949	58.4	58.4	0.0
1950	58.7	58.7	0.0
1951	58.7	58.8	0.1
1952	57.9	57.9	0.0
1953	57.3	57.4	0.1
1954	58.9	59.1	0.2
1955	58.2	58.4	0.2
1956	58.3	58.2	-0.1
1957	60.1	60.1	0.0
1958	58.4	58.4	0.0
1959	62.3	62.4	0.1
1960	60.5	61.0	0.5
1961	59.3	59.6	0.3
1962	58.7	58.7	0.0
1963	55.8	55.8	0.0
1964	59.2	59.2	0.0
1965	57.7	57.8	0.1
1966	61.4	61.4	0.0
1967	55.6	55.6	0.0
1968	60.4	60.4	0.0
1969	57.7	57.7	0.0
1970	60.8	60.8	0.0
1971	56.6	56.7	0.1
1972	59.4	59.6	0.2
1973	58.9	59.0	0.1
1974	57.4	57.4	0.0
1975	57.4	57.4	0.0
1976	68.0	68.0	0.0
1977	63.1	63.1	0.0
1978	58.8	58.7	-0.1
1979	59.5	59.6	0.1
1980	58.5	58.6	0.1
1981	62.0	62.1	0.1
1982	57.1	57.1	0.0
1983	57.2	57.2	0.0
1984	61.7	61.7	0.0
1985	59.9	60.1	0.2
1986	59.6	59.6	0.0
1987	65.7	65.8	0.1
1988	62.5	62.6	0.1
1989	59.6	59.6	0.0
1990	64.3	64.3	0.0
Mean:	59.7	59.8	0.1
Median:	58.9	59.0	0.0
Min:	55.4	55.4	-0.1
Max:	68.0	68.0	0.5
X > 56.0	66	66	
Mean When X > 56.0	59.9	60.0	
X > 60.0	23	24	
Mean When X > 60.0	62.9	62.9	
X > 65.0	6	6	
Mean When X > 65.0	66.5	66.6	
X > 68.0	0	0	
Mean When X > 68.0	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	23	25	
61.0 <= X <= 73.0	16	18	
48.0 <= X <= 68.0	69	69	
Abs Dif > 0.0			26
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			3
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			40
# Years Diff <= 0.3			67

Lower American River Temperature at the Mouth

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	61.3	61.3	0.0
1923	61.8	62.0	0.2
1924	67.2	67.2	0.0
1925	63.3	63.3	0.0
1926	66.3	66.3	0.0
1927	61.4	61.4	0.0
1928	62.6	62.7	0.1
1929	62.2	62.4	0.2
1930	60.8	60.8	0.0
1931	64.8	65.0	0.2
1932	62.9	62.9	0.0
1933	65.1	65.2	0.1
1934	66.8	66.9	0.1
1935	63.7	63.7	0.0
1936	63.4	63.4	0.0
1937	62.7	62.7	0.0
1938	62.5	62.5	0.0
1939	67.3	67.3	0.0
1940	66.2	66.2	0.0
1941	61.4	61.4	0.0
1942	60.9	60.9	0.0
1943	60.8	60.8	0.0
1944	60.6	60.6	0.0
1945	63.4	63.5	0.1
1946	58.8	59.0	0.2
1947	62.8	62.8	0.0
1948	57.7	58.0	0.3
1949	59.6	59.6	0.0
1950	62.7	62.7	0.0
1951	62.5	62.7	0.2
1952	61.4	61.4	0.0
1953	60.2	60.1	-0.1
1954	59.9	60.1	0.2
1955	58.8	58.9	0.1
1956	62.8	62.8	0.0
1957	63.3	63.3	0.0
1958	62.5	62.5	0.0
1959	68.1	68.1	0.0
1960	65.4	65.4	0.0
1961	68.5	68.5	0.0
1962	64.3	64.3	0.0
1963	61.7	61.7	0.0
1964	60.4	60.4	0.0
1965	61.5	61.7	0.2
1966	65.4	65.4	0.0
1967	61.6	61.6	0.0
1968	64.8	64.8	0.0
1969	61.9	61.9	0.0
1970	62.7	62.9	0.2
1971	59.9	59.9	0.0
1972	59.3	59.5	0.2
1973	63.6	63.7	0.1
1974	62.8	62.8	0.0
1975	61.2	61.1	-0.1
1976	69.3	69.3	0.0
1977	70.5	70.6	0.1
1978	62.9	62.9	0.0
1979	63.3	63.3	0.0
1980	62.0	62.0	0.0
1981	69.1	69.1	0.0
1982	61.4	61.2	-0.2
1983	62.2	62.2	0.0
1984	63.8	63.8	0.0
1985	61.3	61.5	0.2
1986	64.1	64.1	0.0
1987	68.0	68.0	0.0
1988	69.7	69.8	0.1
1989	63.2	63.1	-0.1
1990	66.0	66.1	0.1
Mean:	63.2	63.3	0.0
Median:	62.7	62.8	0.0
Min:	57.7	58.0	-0.2
Max:	70.5	70.6	0.3
X > 56.0	69	69	
Mean When X > 56.0	63.2	63.3	
X > 60.0	62	63	
Mean When X > 60.0	63.7	63.7	
X > 65.0	16	16	
Mean When X > 65.0	67.4	67.5	
X > 68.0	6	6	
Mean When X > 68.0	69.2	69.2	
X > 70.0	1	1	
Mean When X > 70.0	70.5	70.6	
60.0 <= X <= 70.0	61	62	
61.0 <= X <= 73.0	56	56	
48.0 <= X <= 68.0	63	63	
Abs Dif > 0.0			20
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			4
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			45
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	66.9	66.9	0.0
1923	65.1	65.0	-0.1
1924	69.0	68.9	-0.1
1925	67.3	67.2	-0.1
1926	69.1	69.1	0.0
1927	66.4	66.4	0.0
1928	65.3	65.2	-0.1
1929	67.1	67.2	0.1
1930	65.6	65.6	0.0
1931	69.0	69.1	0.1
1932	66.9	66.9	0.0
1933	69.3	69.3	0.0
1934	69.6	69.6	0.0
1935	66.2	66.2	0.0
1936	68.0	68.0	0.0
1937	66.2	66.2	0.0
1938	67.5	67.5	0.0
1939	69.2	69.2	0.0
1940	67.2	67.2	0.0
1941	66.3	66.3	0.0
1942	66.6	66.6	0.0
1943	65.9	65.9	0.0
1944	66.7	66.7	0.0
1945	65.9	65.9	0.0
1946	66.2	66.2	0.0
1947	67.0	67.0	0.0
1948	65.3	65.3	0.0
1949	66.5	66.5	0.0
1950	66.8	66.8	0.0
1951	65.5	65.5	0.0
1952	66.5	66.5	0.0
1953	66.6	66.6	0.0
1954	67.2	67.2	0.0
1955	66.2	66.5	0.3
1956	66.9	66.9	0.0
1957	66.3	66.3	0.0
1958	67.7	67.7	0.0
1959	68.3	67.7	-0.6
1960	68.7	68.7	0.0
1961	68.4	68.6	0.2
1962	65.5	65.5	0.0
1963	64.7	64.7	0.0
1964	67.1	67.1	0.0
1965	65.0	65.0	0.0
1966	67.7	67.7	0.0
1967	68.3	68.3	0.0
1968	67.3	67.3	0.0
1969	67.0	67.0	0.0
1970	66.8	66.8	0.0
1971	65.6	65.6	0.0
1972	66.9	66.9	0.0
1973	66.9	67.1	0.2
1974	66.6	66.6	0.0
1975	67.0	67.0	0.0
1976	70.6	70.6	0.0
1977	72.5	72.5	0.0
1978	66.7	66.7	0.0
1979	67.1	67.1	0.0
1980	65.2	65.2	0.0
1981	68.8	68.9	0.1
1982	66.2	66.3	0.1
1983	66.2	66.2	0.0
1984	67.5	67.5	0.0
1985	67.6	67.6	0.0
1986	66.4	66.4	0.0
1987	69.0	69.0	0.0
1988	72.2	72.2	0.0
1989	67.3	67.3	0.0
1990	69.2	69.2	0.0
Mean:	67.2	67.2	0.0
Median:	66.9	66.9	0.0
Min:	64.7	64.7	-0.6
Max:	72.5	72.5	0.3
X > 56.0	69	69	
Mean When X > 56.0	67.2	67.2	
X > 60.0	69	69	
Mean When X > 60.0	67.2	67.2	
X > 65.0	67	66	
Mean When X > 65.0	67.3	67.3	
X > 68.0	16	15	
Mean When X > 68.0	69.5	69.5	
X > 70.0	3	3	
Mean When X > 70.0	71.8	71.8	
60.0 <= X <= 70.0	66	66	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	53	54	
Abs Dif > 0.0			7
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			5
Mean When Abs Dif < 0.0			-0.2
Abs Dif = 0.0			57
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	67.1	67.1	0.0
1923	67.0	67.0	0.0
1924	68.9	69.0	0.1
1925	67.6	67.6	0.0
1926	69.5	69.6	0.1
1927	66.8	66.8	0.0
1928	66.8	66.8	0.0
1929	67.4	67.4	0.0
1930	66.9	66.9	0.0
1931	68.5	68.6	0.1
1932	68.5	68.7	0.2
1933	69.1	69.1	0.0
1934	69.6	69.6	0.0
1935	67.2	67.0	-0.2
1936	69.1	69.1	0.0
1937	67.4	67.4	0.0
1938	67.3	67.3	0.0
1939	69.5	69.5	0.0
1940	69.1	69.0	-0.1
1941	66.9	66.9	0.0
1942	67.0	67.0	0.0
1943	67.1	67.1	0.0
1944	67.8	67.7	-0.1
1945	67.1	67.1	0.0
1946	67.3	67.3	0.0
1947	67.0	66.9	-0.1
1948	66.1	66.3	0.2
1949	66.8	66.8	0.0
1950	69.1	69.0	-0.1
1951	67.0	66.9	-0.1
1952	67.4	67.3	-0.1
1953	67.2	67.3	0.1
1954	66.7	66.7	0.0
1955	66.7	66.9	0.2
1956	67.7	67.7	0.0
1957	66.8	66.8	0.0
1958	68.9	68.9	0.0
1959	70.7	70.6	-0.1
1960	68.3	68.3	0.0
1961	69.8	69.9	0.1
1962	68.1	68.1	0.0
1963	67.2	67.2	0.0
1964	67.2	67.2	0.0
1965	67.4	67.4	0.0
1966	68.8	68.8	0.0
1967	69.0	69.0	0.0
1968	67.8	67.7	-0.1
1969	68.6	68.6	0.0
1970	67.8	67.8	0.0
1971	67.5	67.5	0.0
1972	67.7	67.7	0.0
1973	67.6	67.8	0.2
1974	67.2	67.2	0.0
1975	67.2	67.2	0.0
1976	70.5	70.3	-0.2
1977	73.4	73.5	0.1
1978	68.2	68.2	0.0
1979	67.8	67.8	0.0
1980	67.4	67.4	0.0
1981	69.5	69.4	-0.1
1982	66.6	66.6	0.0
1983	68.9	68.9	0.0
1984	68.6	68.6	0.0
1985	67.0	67.0	0.0
1986	68.2	68.2	0.0
1987	70.3	70.3	0.0
1988	70.7	70.9	0.2
1989	67.2	67.1	-0.1
1990	69.6	69.6	0.0
Mean:	68.1	68.1	0.0
Median:	67.6	67.7	0.0
Min:	66.1	66.3	-0.2
Max:	73.4	73.5	0.2
X > 56.0	69	69	
Mean When X > 56.0	68.1	68.1	
X > 60.0	69	69	
Mean When X > 60.0	68.1	68.1	
X > 65.0	69	69	
Mean When X > 65.0	68.1	68.1	
X > 68.0	28	28	
Mean When X > 68.0	69.3	69.3	
X > 70.0	5	5	
Mean When X > 70.0	71.1	71.1	
60.0 <= X <= 70.0	64	64	
61.0 <= X <= 73.0	68	68	
48.0 <= X <= 68.0	41	41	
Abs Dif > 0.0			11
Mean When Abs Dif > 0.0			0.1
Abs Dif < 0.0			12
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			46
# Years Diff <= 0.3			69

Lower American River Temperature at the Mouth

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	66.6	66.5	-0.1
1923	66.4	66.4	0.0
1924	68.3	68.2	-0.1
1925	66.9	67.0	0.1
1926	67.5	67.6	0.1
1927	66.1	66.2	0.1
1928	66.5	66.5	0.0
1929	67.0	66.9	-0.1
1930	65.9	65.9	0.0
1931	67.1	67.1	0.0
1932	68.6	68.8	0.2
1933	68.0	68.0	0.0
1934	69.0	68.8	-0.2
1935	66.7	66.4	-0.3
1936	68.4	68.3	-0.1
1937	66.5	66.5	0.0
1938	67.0	67.0	0.0
1939	69.1	69.0	-0.1
1940	68.1	68.1	0.0
1941	66.3	66.3	0.0
1942	66.2	66.3	0.1
1943	66.4	66.4	0.0
1944	66.7	66.7	0.0
1945	66.4	66.4	0.0
1946	66.3	66.3	0.0
1947	66.9	66.9	0.0
1948	65.5	65.7	0.2
1949	66.6	66.5	-0.1
1950	68.2	68.2	0.0
1951	66.3	66.3	0.0
1952	67.4	67.3	-0.1
1953	67.1	67.3	0.2
1954	66.3	66.3	0.0
1955	66.9	66.8	-0.1
1956	67.2	67.2	0.0
1957	66.5	66.5	0.0
1958	68.3	68.3	0.0
1959	68.8	69.0	0.2
1960	67.9	67.8	-0.1
1961	68.2	68.3	0.1
1962	67.3	67.3	0.0
1963	66.6	66.5	-0.1
1964	66.9	66.8	-0.1
1965	66.1	66.1	0.0
1966	68.2	68.0	-0.2
1967	68.5	68.6	0.1
1968	67.3	67.2	-0.1
1969	67.4	67.4	0.0
1970	66.6	66.6	0.0
1971	66.4	66.4	0.0
1972	66.8	66.7	-0.1
1973	66.4	66.6	0.2
1974	66.9	66.9	0.0
1975	66.7	66.7	0.0
1976	69.5	69.5	0.0
1977	68.6	68.9	0.3
1978	67.1	67.2	0.1
1979	67.0	67.0	0.0
1980	66.8	66.9	0.1
1981	68.3	68.3	0.0
1982	66.1	66.1	0.0
1983	68.4	68.3	-0.1
1984	67.6	67.6	0.0
1985	66.3	66.3	0.0
1986	67.0	67.0	0.0
1987	68.8	68.7	-0.1
1988	69.2	69.7	0.5
1989	66.7	66.7	0.0
1990	68.7	68.6	-0.1
Mean:	67.3	67.3	0.0
Median:	67.0	67.0	0.0
Min:	65.5	65.7	-0.3
Max:	69.5	69.7	0.5
X > 56.0	69	69	
Mean When X > 56.0	67.3	67.3	
X > 60.0	69	69	
Mean When X > 60.0	67.3	67.3	
X > 65.0	69	69	
Mean When X > 65.0	67.3	67.3	
X > 68.0	19	18	
Mean When X > 68.0	68.6	68.6	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
60.0 <= X <= 70.0	69	69	
61.0 <= X <= 73.0	69	69	
48.0 <= X <= 68.0	50	51	
Abs Dif > 0.0			15
Mean When Abs Dif > 0.0			0.2
Abs Dif < 0.0			19
Mean When Abs Dif < 0.0			-0.1
Abs Dif = 0.0			35
# Years Diff <= 0.3			68

Sacramento River Temperature at Keswick Dam

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.0	50.0	0.0
1923	52.2	52.2	0.0
1924	57.6	57.6	0.0
1925	57.9	57.9	0.0
1926	58.3	58.3	0.0
1927	50.0	50.0	0.0
1928	49.8	49.8	0.0
1929	53.7	53.7	0.0
1930	51.3	51.3	0.0
1931	60.0	60.0	0.0
1932	62.1	62.1	0.0
1933	62.1	62.1	0.0
1934	60.3	60.3	0.0
1935	57.0	57.0	0.0
1936	54.6	54.7	0.1
1937	47.7	47.7	0.0
1938	51.0	51.0	0.0
1939	53.2	53.2	0.0
1940	49.8	49.8	0.0
1941	50.6	50.6	0.0
1942	49.3	49.3	0.0
1943	49.1	49.1	0.0
1944	49.3	49.3	0.0
1945	49.1	49.1	0.0
1946	46.3	46.3	0.0
1947	51.3	51.3	0.0
1948	48.3	48.3	0.0
1949	42.8	42.8	0.0
1950	43.8	43.8	0.0
1951	44.7	44.6	-0.1
1952	45.8	45.8	0.0
1953	48.3	48.3	0.0
1954	50.7	50.7	0.0
1955	48.7	48.7	0.0
1956	47.3	47.3	0.0
1957	48.8	48.8	0.0
1958	51.4	51.4	0.0
1959	56.2	56.2	0.0
1960	50.4	50.4	0.0
1961	51.2	51.2	0.0
1962	50.5	50.5	0.0
1963	47.9	47.9	0.0
1964	50.0	50.0	0.0
1965	48.9	48.9	0.0
1966	51.3	51.3	0.0
1967	50.8	50.8	0.0
1968	50.6	50.6	0.0
1969	45.4	45.4	0.0
1970	48.5	48.5	0.0
1971	48.6	48.6	0.0
1972	48.2	48.2	0.0
1973	46.4	46.4	0.0
1974	47.6	47.6	0.0
1975	50.3	50.3	0.0
1976	51.5	51.5	0.0
1977	59.5	59.5	0.0
1978	47.4	47.4	0.0
1979	48.2	48.2	0.0
1980	46.7	46.7	0.0
1981	49.6	49.6	0.0
1982	44.1	44.1	0.0
1983	51.0	51.0	0.0
1984	48.2	48.2	0.0
1985	46.9	46.9	0.0
1986	48.6	48.6	0.0
1987	47.4	47.4	0.0
1988	56.4	56.4	0.0
1989	49.4	49.4	0.0
1990	56.4	56.4	0.0
Mean:	50.7	50.7	0.0
Median:	49.8	49.8	0.0
Min:	42.8	42.8	-0.1
Max:	62.1	62.1	0.1
X > 56.0	12	12	
Mean When X > 56.0	58.7	58.7	
X > 60.0	3	3	
Mean When X > 60.0	61.5	61.5	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	51.3	51.3	0.0
1923	55.4	55.4	0.0
1924	50.9	50.9	0.0
1925	53.4	53.4	0.0
1926	54.7	54.7	0.0
1927	50.7	50.7	0.0
1928	52.4	52.4	0.0
1929	57.7	57.7	0.0
1930	54.4	54.4	0.0
1931	52.6	52.6	0.0
1932	55.8	55.8	0.0
1933	56.9	56.9	0.0
1934	52.2	52.2	0.0
1935	54.3	54.3	0.0
1936	57.0	57.0	0.0
1937	52.4	52.4	0.0
1938	52.8	52.8	0.0
1939	55.2	55.2	0.0
1940	51.0	51.0	0.0
1941	52.1	52.1	0.0
1942	50.1	50.1	0.0
1943	49.9	49.9	0.0
1944	49.1	49.1	0.0
1945	49.1	49.1	0.0
1946	47.2	47.2	0.0
1947	52.9	52.9	0.0
1948	48.6	48.6	0.0
1949	42.7	42.7	0.0
1950	42.8	42.8	0.0
1951	45.2	45.2	0.0
1952	43.8	43.8	0.0
1953	50.2	50.2	0.0
1954	52.3	52.3	0.0
1955	47.9	47.9	0.0
1956	50.7	50.7	0.0
1957	49.9	49.9	0.0
1958	53.8	53.8	0.0
1959	57.3	57.3	0.0
1960	51.6	51.6	0.0
1961	53.5	53.5	0.0
1962	50.7	50.7	0.0
1963	49.0	49.0	0.0
1964	49.1	49.1	0.0
1965	49.6	49.6	0.0
1966	52.5	52.5	0.0
1967	52.9	52.9	0.0
1968	51.8	51.8	0.0
1969	45.3	45.3	0.0
1970	50.8	50.8	0.0
1971	50.9	50.9	0.0
1972	49.4	49.4	0.0
1973	48.1	48.1	0.0
1974	49.7	49.7	0.0
1975	51.9	51.9	0.0
1976	52.1	52.1	0.0
1977	53.4	53.4	0.0
1978	47.5	47.5	0.0
1979	48.3	48.3	0.0
1980	47.2	47.2	0.0
1981	50.1	50.1	0.0
1982	44.1	44.1	0.0
1983	52.4	52.4	0.0
1984	49.6	49.6	0.0
1985	47.2	47.2	0.0
1986	50.1	50.1	0.0
1987	50.3	50.3	0.0
1988	53.1	53.1	0.0
1989	51.4	51.4	0.0
1990	54.0	54.0	0.0
Mean:	50.9	50.9	0.0
Median:	50.9	50.9	0.0
Min:	42.7	42.7	0.0
Max:	57.7	57.7	0.0
X > 56.0	4	4	
Mean When X > 56.0	57.2	57.2	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.7	46.7	0.0
1923	49.8	49.8	0.0
1924	44.2	44.2	0.0
1925	49.9	49.9	0.0
1926	49.6	49.6	0.0
1927	49.2	49.2	0.0
1928	47.9	47.9	0.0
1929	49.5	49.5	0.0
1930	50.6	50.6	0.0
1931	44.8	44.8	0.0
1932	46.3	46.3	0.0
1933	47.5	47.5	0.0
1934	48.5	48.5	0.0
1935	49.9	49.9	0.0
1936	51.5	51.5	0.0
1937	51.3	51.3	0.0
1938	51.3	51.3	0.0
1939	51.2	51.2	0.0
1940	50.7	50.7	0.0
1941	49.7	49.7	0.0
1942	48.4	48.4	0.0
1943	50.0	50.0	0.0
1944	49.5	49.5	0.0
1945	47.8	47.8	0.0
1946	48.2	48.2	0.0
1947	48.5	48.5	0.0
1948	46.4	46.4	0.0
1949	48.6	48.6	0.0
1950	49.6	49.6	0.0
1951	47.6	47.6	0.0
1952	48.3	48.3	0.0
1953	50.2	50.2	0.0
1954	48.0	48.0	0.0
1955	48.9	48.9	0.0
1956	52.4	52.4	0.0
1957	48.7	48.7	0.0
1958	54.6	54.6	0.0
1959	52.3	52.3	0.0
1960	49.2	49.2	0.0
1961	48.8	48.8	0.0
1962	52.2	52.2	0.0
1963	48.4	48.4	0.0
1964	48.9	48.9	0.0
1965	47.8	47.8	0.0
1966	48.6	48.6	0.0
1967	51.5	51.5	0.0
1968	46.7	46.7	0.0
1969	51.1	51.1	0.0
1970	48.5	48.5	0.0
1971	47.7	47.7	0.0
1972	45.5	45.5	0.0
1973	47.6	47.6	0.0
1974	49.5	49.5	0.0
1975	50.2	50.2	0.0
1976	53.1	53.1	0.0
1977	49.4	49.4	0.0
1978	48.2	48.2	0.0
1979	46.6	46.6	0.0
1980	49.2	49.2	0.0
1981	48.0	48.0	0.0
1982	45.8	45.8	0.0
1983	47.9	47.9	0.0
1984	46.6	46.6	0.0
1985	46.4	46.4	0.0
1986	48.5	48.5	0.0
1987	47.4	47.4	0.0
1988	47.4	47.4	0.0
1989	48.5	48.5	0.0
1990	44.7	44.7	0.0
Mean:	48.8	48.8	0.0
Median:	48.6	48.6	0.0
Min:	44.2	44.2	0.0
Max:	54.6	54.6	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	44.8	44.8	0.0
1923	43.7	43.7	0.0
1924	45.7	45.7	0.0
1925	43.0	43.0	0.0
1926	45.3	45.3	0.0
1927	45.6	45.6	0.0
1928	45.6	45.6	0.0
1929	43.6	43.6	0.0
1930	44.8	44.8	0.0
1931	47.4	47.4	0.0
1932	42.9	42.9	0.0
1933	41.2	41.2	0.0
1934	46.6	46.6	0.0
1935	44.2	44.2	0.0
1936	47.7	47.7	0.0
1937	40.3	40.3	0.0
1938	48.4	48.4	0.0
1939	48.1	48.1	0.0
1940	46.2	46.2	0.0
1941	47.6	47.6	0.0
1942	46.2	46.2	0.0
1943	45.9	45.9	0.0
1944	46.5	46.5	0.0
1945	46.5	46.5	0.0
1946	45.1	45.1	0.0
1947	45.1	45.1	0.0
1948	49.3	49.3	0.0
1949	41.2	41.2	0.0
1950	39.0	39.0	0.0
1951	44.5	44.5	0.0
1952	43.1	43.1	0.0
1953	47.1	47.1	0.0
1954	46.7	46.7	0.0
1955	44.7	44.7	0.0
1956	45.7	45.7	0.0
1957	46.4	46.4	0.0
1958	46.3	46.3	0.0
1959	49.4	49.4	0.0
1960	46.2	46.2	0.0
1961	46.4	46.4	0.0
1962	48.1	48.1	0.0
1963	47.0	47.0	0.0
1964	45.1	45.1	0.0
1965	46.5	46.5	0.0
1966	44.8	44.8	0.0
1967	46.2	46.2	0.0
1968	46.0	46.0	0.0
1969	42.7	42.7	0.0
1970	48.0	48.0	0.0
1971	45.4	45.4	0.0
1972	44.3	44.3	0.0
1973	42.8	42.8	0.0
1974	45.5	45.5	0.0
1975	46.8	46.8	0.0
1976	49.0	49.0	0.0
1977	47.6	47.6	0.0
1978	44.8	44.8	0.0
1979	45.3	45.3	0.0
1980	45.2	45.2	0.0
1981	46.2	46.2	0.0
1982	43.5	43.5	0.0
1983	44.3	44.3	0.0
1984	46.3	46.3	0.0
1985	44.1	44.1	0.0
1986	46.9	46.9	0.0
1987	44.0	44.0	0.0
1988	44.5	44.5	0.0
1989	44.3	44.3	0.0
1990	45.1	45.1	0.0
Mean:	45.4	45.4	0.0
Median:	45.6	45.6	0.0
Min:	39.0	39.0	0.0
Max:	49.4	49.4	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	44.5	44.5	0.0
1923	50.9	50.9	0.0
1924	47.3	47.3	0.0
1925	46.0	46.0	0.0
1926	45.8	45.8	0.0
1927	47.4	47.4	0.0
1928	49.4	49.4	0.0
1929	43.8	43.8	0.0
1930	44.9	44.9	0.0
1931	47.8	47.8	0.0
1932	45.3	45.3	0.0
1933	41.4	41.4	0.0
1934	50.4	50.4	0.0
1935	48.6	48.6	0.0
1936	46.8	46.8	0.0
1937	40.3	40.3	0.0
1938	46.7	46.7	0.0
1939	46.1	46.1	0.0
1940	48.1	48.1	0.0
1941	48.8	48.8	0.0
1942	46.8	46.8	0.0
1943	50.4	50.4	0.0
1944	46.3	46.3	0.0
1945	49.2	49.2	0.0
1946	44.7	44.7	0.0
1947	51.9	51.9	0.0
1948	46.8	46.8	0.0
1949	43.3	43.3	0.0
1950	46.9	46.9	0.0
1951	46.4	46.4	0.0
1952	46.3	46.3	0.0
1953	50.3	50.3	0.0
1954	50.6	50.6	0.0
1955	47.3	47.3	0.0
1956	45.7	45.7	0.0
1957	50.8	50.8	0.0
1958	49.1	49.1	0.0
1959	48.8	48.8	0.0
1960	47.1	47.1	0.0
1961	50.4	50.4	0.0
1962	47.2	47.2	0.0
1963	54.0	54.0	0.0
1964	51.6	51.6	0.0
1965	50.7	50.7	0.0
1966	46.3	46.3	0.0
1967	51.3	51.3	0.0
1968	52.1	52.1	0.0
1969	44.3	44.3	0.0
1970	51.9	51.9	0.0
1971	49.1	49.1	0.0
1972	49.2	49.2	0.0
1973	49.6	49.6	0.0
1974	48.1	48.1	0.0
1975	46.8	46.8	0.0
1976	48.5	48.5	0.0
1977	54.3	54.3	0.0
1978	49.7	49.7	0.0
1979	46.8	46.8	0.0
1980	48.6	48.6	0.0
1981	48.4	48.4	0.0
1982	46.8	46.8	0.0
1983	47.1	47.1	0.0
1984	48.2	48.2	0.0
1985	49.8	49.8	0.0
1986	49.2	49.2	0.0
1987	47.3	47.3	0.0
1988	52.1	52.1	0.0
1989	44.1	44.1	0.0
1990	44.8	44.8	0.0
Mean:	47.9	47.9	0.0
Median:	47.8	47.8	0.0
Min:	40.3	40.3	0.0
Max:	54.3	54.3	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	49.5	49.5	0.0
1923	55.9	55.9	0.0
1924	48.5	48.5	0.0
1925	47.4	47.4	0.0
1926	50.6	50.6	0.0
1927	51.3	51.3	0.0
1928	53.3	53.3	0.0
1929	51.7	51.7	0.0
1930	55.0	55.0	0.0
1931	49.6	49.6	0.0
1932	55.2	55.2	0.0
1933	48.8	48.8	0.0
1934	56.4	56.4	0.0
1935	47.7	47.7	0.0
1936	55.8	55.8	0.0
1937	43.9	43.9	0.0
1938	47.2	47.2	0.0
1939	54.2	54.2	0.0
1940	52.7	52.7	0.0
1941	52.6	52.6	0.0
1942	51.9	51.9	0.0
1943	51.3	51.3	0.0
1944	54.2	54.2	0.0
1945	48.8	48.8	0.0
1946	51.1	51.1	0.0
1947	54.7	54.7	0.0
1948	47.8	47.8	0.0
1949	48.0	48.0	0.0
1950	50.5	50.5	0.0
1951	50.5	50.5	0.0
1952	47.6	47.6	0.0
1953	51.6	51.6	0.0
1954	49.2	49.2	0.0
1955	53.8	53.8	0.0
1956	51.5	51.5	0.0
1957	51.7	51.7	0.0
1958	48.1	48.1	0.0
1959	56.1	56.1	0.0
1960	53.8	53.8	0.0
1961	50.4	50.4	0.0
1962	50.2	50.2	0.0
1963	50.9	50.9	0.0
1964	52.6	52.6	0.0
1965	55.3	55.3	0.0
1966	49.8	49.8	0.0
1967	49.4	49.4	0.0
1968	52.5	52.5	0.0
1969	52.5	52.5	0.0
1970	53.2	53.2	0.0
1971	49.2	49.2	0.0
1972	51.8	51.8	0.0
1973	49.4	49.4	0.0
1974	51.5	51.5	0.0
1975	48.7	48.7	0.0
1976	52.8	52.8	0.0
1977	51.9	51.9	0.0
1978	55.3	55.3	0.0
1979	52.5	52.5	0.0
1980	50.4	50.4	0.0
1981	50.4	50.4	0.0
1982	46.2	46.2	0.0
1983	50.4	50.4	0.0
1984	52.1	52.1	0.0
1985	49.1	49.1	0.0
1986	53.0	53.0	0.0
1987	49.2	49.2	0.0
1988	55.0	55.0	0.0
1989	47.4	47.4	0.0
1990	53.7	53.7	0.0
Mean:	51.3	51.3	0.0
Median:	51.3	51.3	0.0
Min:	43.9	43.9	0.0
Max:	56.4	56.4	0.0
X > 56.0	2	2	
Mean When X > 56.0	56.3	56.3	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	51.5	51.5	0.0
1923	51.4	51.4	0.0
1924	51.0	51.0	0.0
1925	49.4	49.4	0.0
1926	51.7	51.7	0.0
1927	50.8	50.8	0.0
1928	51.4	51.4	0.0
1929	51.0	51.0	0.0
1930	51.7	51.7	0.0
1931	50.9	50.9	0.0
1932	51.3	51.3	0.0
1933	51.2	51.2	0.0
1934	52.3	52.3	0.0
1935	50.3	50.3	0.0
1936	51.7	51.7	0.0
1937	49.9	49.9	0.0
1938	50.4	50.4	0.0
1939	51.5	51.5	0.0
1940	50.9	50.9	0.0
1941	50.1	50.1	0.0
1942	50.7	50.7	0.0
1943	51.6	51.6	0.0
1944	51.0	51.0	0.0
1945	51.7	51.7	0.0
1946	51.5	51.5	0.0
1947	52.3	52.3	0.0
1948	49.4	49.4	0.0
1949	52.0	52.0	0.0
1950	51.8	51.8	0.0
1951	51.6	51.6	0.0
1952	50.1	50.1	0.0
1953	51.4	51.4	0.0
1954	50.3	50.3	0.0
1955	50.9	50.9	0.0
1956	50.9	50.9	0.0
1957	51.0	51.0	0.0
1958	50.1	50.1	0.0
1959	51.6	51.6	0.0
1960	51.6	51.6	0.0
1961	51.6	51.6	0.0
1962	52.2	52.2	0.0
1963	50.3	50.3	0.0
1964	51.0	51.0	0.0
1965	50.8	50.8	0.0
1966	50.7	50.7	0.0
1967	48.4	48.4	0.0
1968	51.4	51.4	0.0
1969	50.7	50.7	0.0
1970	51.0	51.0	0.0
1971	51.1	51.1	0.0
1972	51.0	51.0	0.0
1973	51.8	51.8	0.0
1974	50.1	50.1	0.0
1975	50.4	50.4	0.0
1976	51.3	51.3	0.0
1977	49.4	49.4	0.0
1978	50.9	50.9	0.0
1979	51.2	51.2	0.0
1980	51.2	51.2	0.0
1981	51.7	51.7	0.0
1982	50.0	50.0	0.0
1983	49.9	49.9	0.0
1984	51.1	51.1	0.0
1985	52.0	52.0	0.0
1986	51.2	51.2	0.0
1987	51.2	51.2	0.0
1988	51.5	51.5	0.0
1989	51.8	51.8	0.0
1990	51.6	51.6	0.0
Mean:	51.0	51.0	0.0
Median:	51.1	51.1	0.0
Min:	48.4	48.4	0.0
Max:	52.3	52.3	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	47.8	47.8	0.0
1923	47.3	47.3	0.0
1924	48.2	48.2	0.0
1925	48.1	48.1	0.0
1926	48.2	48.2	0.0
1927	47.5	47.5	0.0
1928	48.3	48.3	0.0
1929	47.9	47.9	0.0
1930	47.5	47.5	0.0
1931	48.8	48.8	0.0
1932	49.2	49.2	0.0
1933	47.5	47.5	0.0
1934	48.4	48.4	0.0
1935	48.7	48.7	0.0
1936	47.9	47.9	0.0
1937	47.9	47.9	0.0
1938	47.9	47.9	0.0
1939	47.7	47.7	0.0
1940	48.1	48.1	0.0
1941	47.4	47.4	0.0
1942	47.0	47.0	0.0
1943	47.9	47.9	0.0
1944	48.0	48.0	0.0
1945	47.5	47.5	0.0
1946	47.6	47.6	0.0
1947	47.8	47.8	0.0
1948	47.3	47.3	0.0
1949	48.0	48.0	0.0
1950	47.7	47.7	0.0
1951	47.8	47.8	0.0
1952	47.1	47.1	0.0
1953	46.9	46.9	0.0
1954	47.4	47.4	0.0
1955	48.3	48.3	0.0
1956	47.2	47.2	0.0
1957	47.8	47.8	0.0
1958	48.4	48.4	0.0
1959	48.4	48.4	0.0
1960	47.8	47.8	0.0
1961	47.7	47.7	0.0
1962	47.7	47.7	0.0
1963	48.1	48.1	0.0
1964	47.8	47.8	0.0
1965	47.7	47.7	0.0
1966	48.3	48.3	0.0
1967	47.1	47.1	0.0
1968	47.9	47.9	0.0
1969	47.3	47.3	0.0
1970	48.3	48.3	0.0
1971	47.3	47.3	0.0
1972	48.0	48.0	0.0
1973	48.5	48.5	0.0
1974	48.0	48.0	0.0
1975	47.6	47.6	0.0
1976	50.2	50.2	0.0
1977	48.4	48.4	0.0
1978	47.8	47.8	0.0
1979	48.0	48.0	0.0
1980	47.4	47.4	0.0
1981	47.9	47.9	0.0
1982	47.9	47.9	0.0
1983	47.5	47.5	0.0
1984	47.9	47.9	0.0
1985	47.3	47.3	0.0
1986	47.7	47.7	0.0
1987	47.7	47.7	0.0
1988	47.6	47.6	0.0
1989	47.5	47.5	0.0
1990	47.8	47.8	0.0
Mean:	47.9	47.9	0.0
Median:	47.8	47.8	0.0
Min:	46.9	46.9	0.0
Max:	50.2	50.2	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.9	46.9	0.0
1923	47.0	47.0	0.0
1924	48.0	48.0	0.0
1925	47.8	47.8	0.0
1926	48.1	48.1	0.0
1927	47.0	47.0	0.0
1928	47.1	47.1	0.0
1929	47.0	47.0	0.0
1930	47.0	47.0	0.0
1931	49.2	49.2	0.0
1932	48.1	48.1	0.0
1933	47.5	47.5	0.0
1934	47.4	47.4	0.0
1935	47.3	47.3	0.0
1936	47.4	47.4	0.0
1937	46.8	46.8	0.0
1938	48.2	48.2	0.0
1939	47.7	47.7	0.0
1940	47.8	47.8	0.0
1941	47.1	47.1	0.0
1942	47.1	47.1	0.0
1943	46.6	46.6	0.0
1944	47.5	47.5	0.0
1945	47.8	47.8	0.0
1946	46.3	46.3	0.0
1947	46.9	46.9	0.0
1948	47.8	47.8	0.0
1949	47.0	47.0	0.0
1950	46.7	46.7	0.0
1951	46.9	46.9	0.0
1952	46.7	46.7	0.0
1953	46.6	46.6	0.0
1954	47.5	47.5	0.0
1955	47.2	47.2	0.0
1956	47.2	47.2	0.0
1957	47.9	47.9	0.0
1958	47.4	47.4	0.0
1959	49.0	49.0	0.0
1960	47.5	47.5	0.0
1961	48.3	48.3	0.0
1962	47.9	47.9	0.0
1963	48.7	48.7	0.0
1964	47.6	47.6	0.0
1965	46.9	46.9	0.0
1966	46.4	46.4	0.0
1967	48.1	48.1	0.0
1968	47.4	47.4	0.0
1969	47.1	47.1	0.0
1970	47.3	47.3	0.0
1971	47.0	47.0	0.0
1972	46.4	46.4	0.0
1973	47.2	47.2	0.0
1974	47.5	47.5	0.0
1975	48.5	48.5	0.0
1976	49.9	49.9	0.0
1977	48.5	48.5	0.0
1978	46.9	46.9	0.0
1979	46.7	46.7	0.0
1980	46.4	46.4	0.0
1981	47.4	47.4	0.0
1982	46.9	46.9	0.0
1983	47.1	47.1	0.0
1984	46.8	46.8	0.0
1985	47.0	47.0	0.0
1986	46.9	46.9	0.0
1987	46.8	46.8	0.0
1988	46.4	46.4	0.0
1989	47.1	47.1	0.0
1990	46.9	46.9	0.0
Mean:	47.4	47.4	0.0
Median:	47.2	47.2	0.0
Min:	46.3	46.3	0.0
Max:	49.9	49.9	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	48.3	48.3	0.0
1923	48.2	48.2	0.0
1924	57.0	57.0	0.0
1925	48.5	48.5	0.0
1926	48.7	48.7	0.0
1927	47.8	47.8	0.0
1928	47.7	47.7	0.0
1929	48.5	48.5	0.0
1930	47.9	47.9	0.0
1931	53.8	53.8	0.0
1932	48.7	48.7	0.0
1933	50.8	50.8	0.0
1934	54.1	54.1	0.0
1935	47.9	47.9	0.0
1936	47.8	47.6	-0.2
1937	48.4	48.4	0.0
1938	48.1	48.1	0.0
1939	48.4	48.4	0.0
1940	48.3	48.3	0.0
1941	48.7	48.7	0.0
1942	48.1	48.1	0.0
1943	47.4	47.4	0.0
1944	48.4	48.4	0.0
1945	48.0	48.0	0.0
1946	47.9	47.9	0.0
1947	47.8	47.8	0.0
1948	48.4	48.4	0.0
1949	47.5	47.5	0.0
1950	48.2	48.2	0.0
1951	47.6	47.6	0.0
1952	48.4	48.4	0.0
1953	48.0	48.0	0.0
1954	47.8	47.8	0.0
1955	48.2	48.2	0.0
1956	48.2	48.2	0.0
1957	47.9	47.9	0.0
1958	48.4	48.4	0.0
1959	50.9	50.9	0.0
1960	48.0	48.0	0.0
1961	48.0	48.0	0.0
1962	48.0	48.0	0.0
1963	48.3	48.3	0.0
1964	48.5	48.5	0.0
1965	47.5	47.5	0.0
1966	47.5	47.5	0.0
1967	49.1	49.1	0.0
1968	48.8	48.8	0.0
1969	48.1	48.1	0.0
1970	48.3	48.3	0.0
1971	48.0	48.0	0.0
1972	48.3	48.3	0.0
1973	48.1	48.1	0.0
1974	48.9	48.9	0.0
1975	49.4	49.4	0.0
1976	51.2	51.2	0.0
1977	51.9	51.9	0.0
1978	47.8	47.8	0.0
1979	47.8	47.8	0.0
1980	47.8	47.8	0.0
1981	48.5	48.5	0.0
1982	47.7	47.7	0.0
1983	47.8	47.8	0.0
1984	47.7	47.7	0.0
1985	48.2	48.2	0.0
1986	48.3	48.3	0.0
1987	48.2	48.2	0.0
1988	48.8	48.8	0.0
1989	47.5	47.5	0.0
1990	47.9	47.9	0.0
Mean:	48.6	48.6	0.0
Median:	48.2	48.2	0.0
Min:	47.4	47.4	-0.2
Max:	57.0	57.0	0.0
X > 56.0	1	1	
Mean When X > 56.0	57.0	57.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.3	50.3	0.0
1923	50.1	50.1	0.0
1924	63.1	63.1	0.0
1925	52.5	52.5	0.0
1926	51.7	51.7	0.0
1927	50.4	50.4	0.0
1928	50.8	50.8	0.0
1929	50.6	50.6	0.0
1930	50.4	50.4	0.0
1931	61.7	61.7	0.0
1932	56.8	56.8	0.0
1933	59.2	59.2	0.0
1934	61.4	61.4	0.0
1935	51.3	51.3	0.0
1936	50.0	50.0	0.0
1937	50.7	50.7	0.0
1938	49.9	49.9	0.0
1939	50.7	50.7	0.0
1940	50.5	50.5	0.0
1941	49.8	49.8	0.0
1942	50.3	50.3	0.0
1943	49.9	49.9	0.0
1944	50.6	50.6	0.0
1945	50.2	50.2	0.0
1946	49.9	49.9	0.0
1947	49.8	49.8	0.0
1948	50.3	50.3	0.0
1949	49.9	49.9	0.0
1950	50.3	50.3	0.0
1951	50.4	50.4	0.0
1952	49.9	49.9	0.0
1953	50.1	50.1	0.0
1954	50.4	50.4	0.0
1955	50.6	50.6	0.0
1956	50.1	50.1	0.0
1957	50.5	50.5	0.0
1958	50.2	50.2	0.0
1959	52.0	52.0	0.0
1960	50.8	50.8	0.0
1961	50.1	50.1	0.0
1962	50.7	50.7	0.0
1963	50.9	50.9	0.0
1964	50.5	50.5	0.0
1965	50.5	50.5	0.0
1966	50.8	50.8	0.0
1967	50.6	50.6	0.0
1968	51.1	51.1	0.0
1969	50.8	50.8	0.0
1970	51.3	51.3	0.0
1971	50.9	50.9	0.0
1972	50.6	50.6	0.0
1973	50.8	50.8	0.0
1974	50.7	50.7	0.0
1975	50.1	50.1	0.0
1976	51.9	51.9	0.0
1977	60.9	60.9	0.0
1978	50.8	50.8	0.0
1979	50.4	50.4	0.0
1980	50.2	50.2	0.0
1981	50.5	50.5	0.0
1982	50.1	50.1	0.0
1983	49.5	49.5	0.0
1984	50.5	50.5	0.0
1985	49.9	49.9	0.0
1986	50.3	50.3	0.0
1987	51.0	51.0	0.0
1988	50.8	50.8	0.0
1989	50.4	50.4	0.0
1990	50.7	50.7	0.0
Mean:	51.4	51.4	0.0
Median:	50.5	50.5	0.0
Min:	49.5	49.5	0.0
Max:	63.1	63.1	0.0
X > 56.0	6	6	
Mean When X > 56.0	60.5	60.5	
X > 60.0	4	4	
Mean When X > 60.0	61.8	61.8	
X > 62.5	1	1	
Mean When X > 62.5	63.1	63.1	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Keswick Dam

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	48.4	48.4	0.0
1923	47.9	47.9	0.0
1924	63.5	63.5	0.0
1925	56.1	56.1	0.0
1926	56.0	56.0	0.0
1927	48.5	48.5	0.0
1928	48.9	48.9	0.0
1929	48.8	48.8	0.0
1930	48.1	48.1	0.0
1931	64.5	64.5	0.0
1932	64.2	64.2	0.0
1933	61.5	61.5	0.0
1934	62.8	62.8	0.0
1935	55.3	55.3	0.0
1936	53.0	53.6	0.6
1937	46.3	46.3	0.0
1938	48.8	48.8	0.0
1939	50.9	50.9	0.0
1940	49.3	49.3	0.0
1941	48.7	48.7	0.0
1942	48.2	48.2	0.0
1943	50.0	50.0	0.0
1944	50.9	51.0	0.1
1945	49.9	49.9	0.0
1946	48.0	48.0	0.0
1947	49.7	49.7	0.0
1948	50.0	50.0	0.0
1949	45.9	45.9	0.0
1950	46.0	46.0	0.0
1951	46.7	46.7	0.0
1952	45.7	45.7	0.0
1953	47.6	47.6	0.0
1954	49.3	49.3	0.0
1955	49.7	49.7	0.0
1956	47.0	47.0	0.0
1957	49.2	49.2	0.0
1958	49.1	49.1	0.0
1959	53.3	53.3	0.0
1960	50.2	50.2	0.0
1961	50.8	50.8	0.0
1962	50.4	50.4	0.0
1963	51.2	51.5	0.3
1964	50.0	50.0	0.0
1965	48.6	48.6	0.0
1966	48.5	48.5	0.0
1967	50.0	50.0	0.0
1968	49.5	49.5	0.0
1969	46.9	46.9	0.0
1970	48.4	48.4	0.0
1971	48.1	48.1	0.0
1972	49.3	49.3	0.0
1973	47.5	47.5	0.0
1974	47.3	47.3	0.0
1975	50.1	50.1	0.0
1976	52.6	52.6	0.0
1977	63.9	63.9	0.0
1978	48.8	48.8	0.0
1979	49.0	49.0	0.0
1980	48.3	48.3	0.0
1981	49.8	49.8	0.0
1982	47.2	47.2	0.0
1983	47.5	47.5	0.0
1984	48.8	48.8	0.0
1985	48.0	48.0	0.0
1986	48.4	48.4	0.0
1987	49.1	49.1	0.0
1988	51.3	51.3	0.0
1989	48.5	48.5	0.0
1990	53.9	53.9	0.0
Mean:	50.6	50.6	0.0
Median:	49.1	49.1	0.0
Min:	45.7	45.7	0.0
Max:	64.5	64.5	0.6
X > 56.0	7	7	
Mean When X > 56.0	62.4	62.4	
X > 60.0	6	6	
Mean When X > 60.0	63.4	63.4	
X > 62.5	5	5	
Mean When X > 62.5	63.8	63.8	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			68

Sacramento River Temperature at Jellys Ferry

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	52.7	52.7	0.0
1923	54.1	54.1	0.0
1924	57.2	57.2	0.0
1925	58.2	58.2	0.0
1926	59.1	59.1	0.0
1927	53.3	53.3	0.0
1928	52.5	52.5	0.0
1929	56.3	56.3	0.0
1930	54.1	54.1	0.0
1931	59.6	59.6	0.0
1932	61.4	61.4	0.0
1933	62.7	62.7	0.0
1934	60.0	60.0	0.0
1935	57.4	57.4	0.0
1936	57.0	57.0	0.0
1937	52.0	52.0	0.0
1938	52.5	52.5	0.0
1939	55.6	55.6	0.0
1940	52.8	52.9	0.1
1941	52.2	52.2	0.0
1942	51.9	51.9	0.0
1943	51.8	51.8	0.0
1944	53.1	53.1	0.0
1945	52.5	52.5	0.0
1946	49.0	49.0	0.0
1947	54.0	54.0	0.0
1948	51.0	51.0	0.0
1949	47.0	47.0	0.0
1950	50.0	50.0	0.0
1951	48.6	48.5	-0.1
1952	49.7	49.7	0.0
1953	50.7	50.7	0.0
1954	52.7	52.7	0.0
1955	52.9	52.9	0.0
1956	49.8	49.8	0.0
1957	53.6	53.6	0.0
1958	53.7	53.7	0.0
1959	57.5	57.5	0.0
1960	53.2	53.2	0.0
1961	53.3	53.3	0.0
1962	55.3	55.3	0.0
1963	51.9	51.9	0.0
1964	54.2	54.2	0.0
1965	53.7	53.7	0.0
1966	54.1	54.1	0.0
1967	52.8	52.8	0.0
1968	53.5	53.5	0.0
1969	48.6	48.6	0.0
1970	52.4	52.4	0.0
1971	51.0	51.0	0.0
1972	52.2	52.2	0.0
1973	50.8	50.8	0.0
1974	50.7	50.7	0.0
1975	52.2	52.2	0.0
1976	54.5	54.5	0.0
1977	59.4	59.4	0.0
1978	52.5	52.5	0.0
1979	52.1	52.1	0.0
1980	50.9	50.9	0.0
1981	52.0	52.0	0.0
1982	48.3	48.3	0.0
1983	52.9	52.9	0.0
1984	51.4	51.4	0.0
1985	49.9	49.9	0.0
1986	52.2	52.2	0.0
1987	51.7	51.7	0.0
1988	57.9	57.9	0.0
1989	52.7	52.7	0.0
1990	57.5	57.5	0.0
Mean:	53.4	53.4	0.0
Median:	52.7	52.7	0.0
Min:	47.0	47.0	-0.1
Max:	62.7	62.7	0.1
X > 56.0	14	14	
Mean When X > 56.0	58.7	58.7	
X > 60.0	2	2	
Mean When X > 60.0	62.1	62.1	
X > 62.5	1	1	
Mean When X > 62.5	62.7	62.7	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.4	50.4	0.0
1923	54.6	54.6	0.0
1924	50.8	50.8	0.0
1925	51.9	51.9	0.0
1926	53.2	53.2	0.0
1927	51.1	51.1	0.0
1928	51.6	51.6	0.0
1929	56.8	56.8	0.0
1930	53.5	53.5	0.0
1931	51.3	51.3	0.0
1932	54.8	54.8	0.0
1933	55.5	55.5	0.0
1934	51.6	51.6	0.0
1935	52.6	52.6	0.0
1936	56.2	56.2	0.0
1937	51.8	51.8	0.0
1938	52.1	52.1	0.0
1939	54.4	54.4	0.0
1940	50.9	50.9	0.0
1941	52.0	52.0	0.0
1942	50.3	50.3	0.0
1943	49.9	49.9	0.0
1944	49.8	49.8	0.0
1945	49.7	49.7	0.0
1946	48.2	48.2	0.0
1947	51.9	51.9	0.0
1948	49.3	49.3	0.0
1949	46.0	46.0	0.0
1950	47.5	47.5	0.0
1951	47.9	47.9	0.0
1952	46.6	46.6	0.0
1953	50.3	50.3	0.0
1954	51.6	51.6	0.0
1955	49.2	49.2	0.0
1956	51.2	51.2	0.0
1957	50.2	50.2	0.0
1958	53.1	53.1	0.0
1959	55.9	55.9	0.0
1960	50.9	50.9	0.0
1961	52.4	52.4	0.0
1962	51.2	51.2	0.0
1963	49.7	49.6	-0.1
1964	49.8	49.8	0.0
1965	50.3	50.3	0.0
1966	52.1	52.1	0.0
1967	53.0	53.0	0.0
1968	51.2	51.2	0.0
1969	47.9	47.9	0.0
1970	51.3	51.3	0.0
1971	50.8	50.8	0.0
1972	50.2	50.2	0.0
1973	48.7	48.7	0.0
1974	50.0	50.0	0.0
1975	51.2	51.2	0.0
1976	52.7	52.7	0.0
1977	52.4	52.4	0.0
1978	48.5	48.5	0.0
1979	49.1	49.1	0.0
1980	48.0	48.0	0.0
1981	50.9	50.9	0.0
1982	46.4	46.4	0.0
1983	51.9	51.9	0.0
1984	50.3	50.3	0.0
1985	47.6	47.6	0.0
1986	50.2	50.2	0.0
1987	50.2	50.2	0.0
1988	51.5	51.5	0.0
1989	51.2	51.2	0.0
1990	52.3	52.3	0.0
Mean:	51.0	51.0	0.0
Median:	51.1	51.1	0.0
Min:	46.0	46.0	-0.1
Max:	56.8	56.8	0.0
X > 56.0	2	2	
Mean When X > 56.0	56.5	56.5	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	45.4	45.4	0.0
1923	47.8	47.8	0.0
1924	43.9	43.9	0.0
1925	48.0	48.0	0.0
1926	46.6	46.6	0.0
1927	47.0	47.0	0.0
1928	46.2	46.2	0.0
1929	47.4	47.4	0.0
1930	48.5	48.5	0.0
1931	44.8	44.8	0.0
1932	44.6	44.6	0.0
1933	45.6	45.6	0.0
1934	47.0	47.0	0.0
1935	47.9	47.9	0.0
1936	48.6	48.6	0.0
1937	47.6	47.6	0.0
1938	49.2	49.2	0.0
1939	48.5	48.5	0.0
1940	47.8	47.8	0.0
1941	48.3	48.3	0.0
1942	46.9	46.9	0.0
1943	48.7	48.7	0.0
1944	47.3	47.3	0.0
1945	47.0	47.0	0.0
1946	46.7	46.7	0.0
1947	46.7	46.7	0.0
1948	45.0	45.0	0.0
1949	46.9	46.9	0.0
1950	48.1	48.1	0.0
1951	46.5	46.5	0.0
1952	46.8	46.8	0.0
1953	49.1	49.1	0.0
1954	46.1	46.1	0.0
1955	47.6	47.6	0.0
1956	50.3	50.3	0.0
1957	47.6	47.6	0.0
1958	52.4	52.4	0.0
1959	50.1	50.1	0.0
1960	46.8	46.8	0.0
1961	46.6	46.6	0.0
1962	49.9	49.9	0.0
1963	46.9	46.9	0.0
1964	47.4	47.4	0.0
1965	46.1	46.1	0.0
1966	47.4	47.4	0.0
1967	48.9	48.9	0.0
1968	45.4	45.4	0.0
1969	49.4	49.4	0.0
1970	46.9	46.9	0.0
1971	45.9	45.9	0.0
1972	44.8	44.8	0.0
1973	47.0	47.0	0.0
1974	47.2	47.2	0.0
1975	48.4	48.4	0.0
1976	51.0	51.0	0.0
1977	47.0	47.0	0.0
1978	46.6	46.6	0.0
1979	45.7	45.7	0.0
1980	47.5	47.5	0.0
1981	47.2	47.2	0.0
1982	45.6	45.6	0.0
1983	47.0	47.0	0.0
1984	45.8	45.8	0.0
1985	45.6	45.6	0.0
1986	46.9	46.9	0.0
1987	45.9	45.9	0.0
1988	45.9	45.9	0.0
1989	46.9	46.9	0.0
1990	43.1	43.1	0.0
Mean:	47.1	47.1	0.0
Median:	47.0	47.0	0.0
Min:	43.1	43.1	0.0
Max:	52.4	52.4	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	43.9	43.9	0.0
1923	43.9	43.9	0.0
1924	45.0	45.0	0.0
1925	43.9	43.9	0.0
1926	44.4	44.4	0.0
1927	45.1	45.1	0.0
1928	45.0	45.0	0.0
1929	43.3	43.3	0.0
1930	44.2	44.2	0.0
1931	45.9	45.9	0.0
1932	43.7	43.7	0.0
1933	42.4	42.4	0.0
1934	45.9	45.9	0.0
1935	44.5	44.5	0.0
1936	45.7	45.7	0.0
1937	39.9	39.9	0.0
1938	46.6	46.6	0.0
1939	46.7	46.7	0.0
1940	45.2	45.2	0.0
1941	46.7	46.7	0.0
1942	45.8	45.8	0.0
1943	45.5	45.5	0.0
1944	45.4	45.4	0.0
1945	45.5	45.5	0.0
1946	45.0	45.0	0.0
1947	44.3	44.3	0.0
1948	47.2	47.2	0.0
1949	41.1	41.1	0.0
1950	41.4	41.4	0.0
1951	44.5	44.5	0.0
1952	43.9	43.9	0.0
1953	46.6	46.6	0.0
1954	45.9	45.9	0.0
1955	44.4	44.4	0.0
1956	45.4	45.4	0.0
1957	45.0	45.0	0.0
1958	45.8	45.8	0.0
1959	48.0	48.0	0.0
1960	44.9	44.9	0.0
1961	45.5	45.5	0.0
1962	46.9	46.9	0.0
1963	45.6	45.6	0.0
1964	44.8	44.8	0.0
1965	46.1	46.1	0.0
1966	44.8	44.8	0.0
1967	45.7	45.7	0.0
1968	45.1	45.1	0.0
1969	43.7	43.7	0.0
1970	47.2	47.2	0.0
1971	45.3	45.3	0.0
1972	44.3	44.3	0.0
1973	43.7	43.7	0.0
1974	45.4	45.4	0.0
1975	45.7	45.7	0.0
1976	47.6	47.6	0.0
1977	46.0	46.0	0.0
1978	45.4	45.4	0.0
1979	44.9	44.9	0.0
1980	45.1	45.1	0.0
1981	45.4	45.4	0.0
1982	43.9	43.9	0.0
1983	44.6	44.6	0.0
1984	45.9	45.9	0.0
1985	44.0	44.0	0.0
1986	45.8	45.8	0.0
1987	43.9	43.9	0.0
1988	44.7	44.7	0.0
1989	44.2	44.2	0.0
1990	44.7	44.7	0.0
Mean:	45.0	45.0	0.0
Median:	45.1	45.1	0.0
Min:	39.9	39.9	0.0
Max:	48.0	48.0	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.8	46.8	0.0
1923	49.9	49.9	0.0
1924	48.9	48.9	0.0
1925	48.1	48.1	0.0
1926	47.9	47.9	0.0
1927	47.7	47.7	0.0
1928	48.7	48.7	0.0
1929	46.4	46.4	0.0
1930	47.7	47.7	0.0
1931	48.7	48.7	0.0
1932	46.7	46.7	0.0
1933	44.1	44.1	0.0
1934	49.4	49.4	0.0
1935	48.5	48.5	0.0
1936	47.9	47.9	0.0
1937	45.4	45.4	0.0
1938	47.3	47.3	0.0
1939	46.5	46.5	0.0
1940	48.3	48.3	0.0
1941	48.7	48.7	0.0
1942	47.3	47.3	0.0
1943	49.6	49.6	0.0
1944	47.2	47.2	0.0
1945	48.7	48.7	0.0
1946	45.3	45.3	0.0
1947	50.3	50.3	0.0
1948	46.9	46.9	0.0
1949	45.0	45.0	0.0
1950	47.7	47.7	0.0
1951	47.1	47.1	0.0
1952	47.0	47.0	0.0
1953	49.7	49.7	0.0
1954	50.1	50.1	0.0
1955	47.5	47.5	0.0
1956	46.4	46.4	0.0
1957	50.3	50.3	0.0
1958	48.9	48.9	0.0
1959	48.6	48.6	0.0
1960	48.1	48.1	0.0
1961	49.2	49.2	0.0
1962	47.7	47.7	0.0
1963	51.8	51.8	0.0
1964	51.0	51.0	0.0
1965	49.7	49.7	0.0
1966	47.1	47.1	0.0
1967	50.3	50.3	0.0
1968	51.0	51.0	0.0
1969	45.9	45.9	0.0
1970	50.8	50.8	0.0
1971	49.0	49.0	0.0
1972	49.0	49.0	0.0
1973	49.2	49.2	0.0
1974	48.2	48.2	0.0
1975	47.6	47.6	0.0
1976	48.3	48.3	0.0
1977	53.1	53.1	0.0
1978	49.1	49.1	0.0
1979	47.7	47.7	0.0
1980	48.6	48.6	0.0
1981	48.6	48.6	0.0
1982	47.2	47.2	0.0
1983	47.5	47.5	0.0
1984	48.2	48.2	0.0
1985	49.3	49.3	0.0
1986	49.0	49.0	0.0
1987	47.9	47.9	0.0
1988	51.6	51.6	0.0
1989	45.3	45.3	0.0
1990	45.6	45.6	0.0
Mean:	48.3	48.3	0.0
Median:	48.2	48.2	0.0
Min:	44.1	44.1	0.0
Max:	53.1	53.1	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.9	50.9	0.0
1923	55.0	55.0	0.0
1924	50.3	50.3	0.0
1925	50.4	50.4	0.0
1926	54.0	54.0	0.0
1927	51.9	51.9	0.0
1928	53.0	53.0	0.0
1929	52.7	52.7	0.0
1930	53.4	53.4	0.0
1931	52.3	52.3	0.0
1932	54.6	54.6	0.0
1933	51.1	51.1	0.0
1934	56.4	56.4	0.0
1935	50.3	50.3	0.0
1936	54.6	54.6	0.0
1937	50.1	50.1	0.0
1938	49.0	49.0	0.0
1939	53.8	53.8	0.0
1940	52.8	52.7	-0.1
1941	52.7	52.7	0.0
1942	52.2	52.2	0.0
1943	51.7	51.7	0.0
1944	53.6	53.6	0.0
1945	50.6	50.6	0.0
1946	51.9	51.9	0.0
1947	53.7	53.7	0.0
1948	49.9	49.9	0.0
1949	50.4	50.4	0.0
1950	51.4	51.4	0.0
1951	51.7	51.7	0.0
1952	49.5	49.5	0.0
1953	52.2	52.2	0.0
1954	50.5	50.5	0.0
1955	53.4	53.4	0.0
1956	52.4	52.4	0.0
1957	52.1	52.1	0.0
1958	49.4	49.4	0.0
1959	55.7	55.7	0.0
1960	53.3	53.3	0.0
1961	51.3	51.3	0.0
1962	51.5	51.5	0.0
1963	51.5	51.5	0.0
1964	52.7	52.7	0.0
1965	54.9	54.9	0.0
1966	50.7	50.7	0.0
1967	50.0	50.0	0.0
1968	53.1	53.1	0.0
1969	52.6	52.6	0.0
1970	53.1	53.1	0.0
1971	50.1	50.1	0.0
1972	52.4	52.4	0.0
1973	50.8	50.8	0.0
1974	51.8	51.8	0.0
1975	49.8	49.8	0.0
1976	52.6	52.6	0.0
1977	52.2	52.2	0.0
1978	54.2	54.2	0.0
1979	52.9	52.9	0.0
1980	51.9	51.9	0.0
1981	51.7	51.7	0.0
1982	48.4	48.4	0.0
1983	51.1	51.1	0.0
1984	52.6	52.6	0.0
1985	50.4	50.4	0.0
1986	52.9	52.9	0.0
1987	51.3	51.3	0.0
1988	54.8	54.8	0.0
1989	51.3	51.3	0.0
1990	53.4	53.4	0.0
Mean:	52.1	52.1	0.0
Median:	52.1	52.1	0.0
Min:	48.4	48.4	-0.1
Max:	56.4	56.4	0.0
X > 56.0	1	1	
Mean When X > 56.0	56.4	56.4	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.0	55.0	0.0
1923	54.6	54.6	0.0
1924	53.8	53.8	0.0
1925	54.7	54.7	0.0
1926	55.8	55.8	0.0
1927	54.0	54.0	0.0
1928	55.0	55.0	0.0
1929	53.1	53.1	0.0
1930	55.1	55.1	0.0
1931	53.8	53.8	0.0
1932	54.1	54.1	0.0
1933	53.9	53.9	0.0
1934	56.1	56.1	0.0
1935	55.8	55.8	0.0
1936	55.1	55.1	0.0
1937	53.7	53.7	0.0
1938	53.4	53.4	0.0
1939	54.3	54.3	0.0
1940	55.3	55.3	0.0
1941	53.4	53.4	0.0
1942	54.5	54.5	0.0
1943	54.8	54.8	0.0
1944	53.0	53.0	0.0
1945	54.9	54.9	0.0
1946	54.7	54.7	0.0
1947	56.0	56.0	0.0
1948	53.9	53.9	0.0
1949	55.8	55.8	0.0
1950	55.2	55.2	0.0
1951	54.5	54.5	0.0
1952	52.1	52.1	0.0
1953	54.6	54.6	0.0
1954	53.5	53.5	0.0
1955	52.9	52.9	0.0
1956	54.8	54.8	0.0
1957	53.5	53.5	0.0
1958	53.8	53.8	0.0
1959	54.9	54.9	0.0
1960	54.6	54.6	0.0
1961	54.7	54.7	0.0
1962	56.1	56.1	0.0
1963	52.3	52.3	0.0
1964	53.1	53.1	0.0
1965	54.6	54.6	0.0
1966	54.0	54.0	0.0
1967	52.0	52.0	0.0
1968	54.2	54.2	0.0
1969	53.5	53.5	0.0
1970	53.1	53.1	0.0
1971	54.4	54.4	0.0
1972	53.2	53.2	0.0
1973	55.7	55.7	0.0
1974	54.6	54.6	0.0
1975	54.0	54.0	0.0
1976	53.9	53.9	0.0
1977	52.4	52.4	0.0
1978	54.4	54.4	0.0
1979	54.3	54.3	0.0
1980	54.3	54.3	0.0
1981	55.5	55.5	0.0
1982	52.0	52.0	0.0
1983	53.4	53.4	0.0
1984	53.3	53.3	0.0
1985	55.7	55.7	0.0
1986	54.4	54.4	0.0
1987	53.7	53.7	0.0
1988	54.4	54.4	0.0
1989	55.7	55.7	0.0
1990	54.7	54.7	0.0
Mean:	54.3	54.3	0.0
Median:	54.4	54.4	0.0
Min:	52.0	52.0	0.0
Max:	56.1	56.1	0.0
X > 56.0	2	2	
Mean When X > 56.0	56.1	56.1	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.4	55.4	0.0
1923	52.2	52.2	0.0
1924	53.9	53.9	0.0
1925	55.4	55.4	0.0
1926	55.0	55.0	0.0
1927	54.0	54.0	0.0
1928	55.3	55.3	0.0
1929	53.8	53.8	0.0
1930	53.7	53.7	0.0
1931	54.5	54.5	0.0
1932	57.7	57.7	0.0
1933	53.6	53.6	0.0
1934	54.7	54.7	0.0
1935	57.6	57.6	0.0
1936	54.1	54.1	0.0
1937	54.9	54.9	0.0
1938	56.2	56.2	0.0
1939	52.8	52.8	0.0
1940	55.0	55.0	0.0
1941	52.5	52.5	0.0
1942	53.0	53.0	0.0
1943	54.4	54.4	0.0
1944	53.8	53.8	0.0
1945	53.0	53.0	0.0
1946	53.2	53.2	0.0
1947	53.0	53.0	0.0
1948	54.6	54.6	0.0
1949	54.3	54.3	0.0
1950	53.9	53.9	0.0
1951	54.2	54.2	0.0
1952	52.9	52.9	0.0
1953	52.4	52.4	0.0
1954	52.8	52.8	0.0
1955	55.8	55.8	0.0
1956	53.5	53.5	0.0
1957	55.1	55.1	0.0
1958	54.7	54.7	0.0
1959	53.3	53.3	0.0
1960	54.1	54.1	0.0
1961	53.8	53.8	0.0
1962	53.4	53.4	0.0
1963	55.5	55.5	0.0
1964	53.3	53.3	0.0
1965	54.2	54.2	0.0
1966	54.5	54.5	0.0
1967	53.0	53.0	0.0
1968	54.0	54.0	0.0
1969	52.9	52.9	0.0
1970	55.0	55.0	0.0
1971	53.4	53.4	0.0
1972	54.2	54.2	0.0
1973	56.1	56.1	0.0
1974	55.2	55.2	0.0
1975	54.2	54.2	0.0
1976	56.2	56.2	0.0
1977	53.4	53.4	0.0
1978	54.5	54.5	0.0
1979	55.0	55.0	0.0
1980	53.3	53.3	0.0
1981	54.1	54.1	0.0
1982	55.2	55.2	0.0
1983	53.6	53.6	0.0
1984	54.2	54.2	0.0
1985	52.4	52.4	0.0
1986	53.8	53.8	0.0
1987	53.3	53.3	0.0
1988	53.6	53.6	0.0
1989	52.8	52.8	0.0
1990	54.0	54.0	0.0
Mean:	54.2	54.2	0.0
Median:	54.0	54.0	0.0
Min:	52.2	52.2	0.0
Max:	57.7	57.7	0.0
X > 56.0	5	5	
Mean When X > 56.0	56.8	56.8	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.1	54.1	0.0
1923	52.0	52.0	0.0
1924	53.9	53.9	0.0
1925	55.1	55.1	0.0
1926	55.6	55.6	0.0
1927	53.9	53.9	0.0
1928	53.1	53.1	0.0
1929	53.8	53.8	0.0
1930	53.7	53.7	0.0
1931	54.8	54.8	0.0
1932	57.0	57.0	0.0
1933	55.6	55.6	0.0
1934	53.3	53.3	0.0
1935	54.9	54.9	0.0
1936	54.6	54.6	0.0
1937	54.1	54.1	0.0
1938	56.8	56.8	0.0
1939	52.5	52.5	0.0
1940	54.7	54.7	0.0
1941	55.2	55.2	0.0
1942	55.6	55.6	0.0
1943	52.9	52.9	0.0
1944	53.0	53.0	0.0
1945	54.1	54.1	0.0
1946	51.4	51.4	0.0
1947	52.5	52.5	0.0
1948	56.4	56.4	0.0
1949	53.8	53.8	0.0
1950	53.1	53.1	0.0
1951	53.1	53.1	0.0
1952	54.5	54.5	0.0
1953	54.6	54.6	0.0
1954	53.9	53.9	0.0
1955	53.6	53.6	0.0
1956	55.6	55.6	0.0
1957	55.6	55.6	0.0
1958	55.8	55.8	0.0
1959	53.6	53.6	0.0
1960	54.6	54.6	0.0
1961	55.0	55.0	0.0
1962	54.3	54.3	0.0
1963	56.2	56.2	0.0
1964	53.9	53.9	0.0
1965	54.3	54.3	0.0
1966	51.6	51.6	0.0
1967	56.2	56.2	0.0
1968	52.8	52.8	0.0
1969	54.8	54.8	0.0
1970	54.3	54.3	0.0
1971	55.1	55.1	0.0
1972	51.7	51.7	0.0
1973	54.3	54.3	0.0
1974	56.4	56.4	0.0
1975	56.1	56.1	0.0
1976	54.3	54.3	0.0
1977	53.9	53.9	0.0
1978	54.0	54.0	0.0
1979	51.8	51.8	0.0
1980	52.0	52.0	0.0
1981	52.5	52.5	0.0
1982	54.6	54.6	0.0
1983	53.6	53.6	0.0
1984	53.1	53.1	0.0
1985	53.2	53.2	0.0
1986	53.1	53.1	0.0
1987	51.9	51.9	0.0
1988	51.7	51.7	0.0
1989	53.9	53.9	0.0
1990	54.1	54.1	0.0
Mean:	54.1	54.1	0.0
Median:	54.1	54.1	0.0
Min:	51.4	51.4	0.0
Max:	57.0	57.0	0.0
X > 56.0	7	7	
Mean When X > 56.0	56.4	56.4	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.1	54.1	0.0
1923	53.5	53.5	0.0
1924	61.1	61.1	0.0
1925	54.6	54.6	0.0
1926	55.1	55.1	0.0
1927	53.5	53.5	0.0
1928	52.9	52.9	0.0
1929	54.5	54.5	0.0
1930	54.1	54.1	0.0
1931	58.9	58.9	0.0
1932	55.2	55.2	0.0
1933	58.0	58.0	0.0
1934	58.6	58.6	0.0
1935	54.2	54.2	0.0
1936	53.4	53.1	-0.3
1937	54.4	54.4	0.0
1938	54.7	54.7	0.0
1939	52.9	52.9	0.0
1940	53.0	53.0	0.0
1941	54.4	54.4	0.0
1942	54.3	54.3	0.0
1943	52.3	52.3	0.0
1944	53.0	52.9	-0.1
1945	53.1	53.1	0.0
1946	52.5	52.5	0.0
1947	51.8	51.8	0.0
1948	54.6	54.6	0.0
1949	52.2	52.2	0.0
1950	54.3	54.3	0.0
1951	52.3	52.3	0.0
1952	55.2	55.2	0.0
1953	54.7	54.7	0.0
1954	52.8	52.8	0.0
1955	52.7	52.7	0.0
1956	55.0	55.0	0.0
1957	52.8	52.8	0.0
1958	54.5	54.5	0.0
1959	55.6	55.6	0.0
1960	53.3	53.3	0.0
1961	53.1	53.1	0.0
1962	53.6	53.6	0.0
1963	53.6	53.5	-0.1
1964	53.6	53.6	0.0
1965	52.9	52.9	0.0
1966	52.0	52.0	0.0
1967	55.4	55.4	0.0
1968	53.9	53.9	0.0
1969	54.2	54.2	0.0
1970	53.1	53.1	0.0
1971	55.3	55.3	0.0
1972	53.3	53.3	0.0
1973	53.8	53.8	0.0
1974	55.7	55.7	0.0
1975	55.3	55.3	0.0
1976	55.4	55.4	0.0
1977	55.4	55.4	0.0
1978	53.4	53.4	0.0
1979	53.1	53.1	0.0
1980	53.4	53.4	0.0
1981	53.5	53.5	0.0
1982	54.1	54.1	0.0
1983	53.3	53.3	0.0
1984	53.3	53.3	0.0
1985	53.2	53.2	0.0
1986	53.4	53.4	0.0
1987	52.9	52.9	0.0
1988	55.8	55.8	0.0
1989	52.7	52.7	0.0
1990	53.5	53.5	0.0
Mean:	54.1	54.1	0.0
Median:	53.6	53.6	0.0
Min:	51.8	51.8	-0.3
Max:	61.1	61.1	0.0
X > 56.0	4	4	
Mean When X > 56.0	59.2	59.2	
X > 60.0	1	1	
Mean When X > 60.0	61.1	61.1	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.1	55.1	0.0
1923	55.0	55.0	0.0
1924	65.8	65.8	0.0
1925	57.4	57.4	0.0
1926	56.8	56.8	0.0
1927	55.5	55.5	0.0
1928	56.2	56.2	0.0
1929	56.0	56.0	0.0
1930	55.7	55.7	0.0
1931	65.1	65.1	0.0
1932	61.3	61.3	0.0
1933	63.3	63.3	0.0
1934	65.1	65.1	0.0
1935	56.8	56.8	0.0
1936	55.4	55.5	0.1
1937	56.1	56.1	0.0
1938	55.3	55.3	0.0
1939	55.5	55.5	0.0
1940	55.4	55.4	0.0
1941	54.1	54.1	0.0
1942	55.0	55.0	0.0
1943	54.4	54.4	0.0
1944	55.1	55.1	0.0
1945	54.6	54.6	0.0
1946	54.2	54.2	0.0
1947	53.5	53.5	0.0
1948	55.2	55.2	0.0
1949	54.3	54.3	0.0
1950	55.4	55.4	0.0
1951	55.2	55.2	0.0
1952	55.2	55.2	0.0
1953	54.6	54.6	0.0
1954	55.3	55.3	0.0
1955	55.9	55.9	0.0
1956	55.6	55.6	0.0
1957	55.4	55.4	0.0
1958	55.9	55.9	0.0
1959	56.1	56.1	0.0
1960	55.4	55.4	0.0
1961	54.6	54.6	0.0
1962	55.6	55.6	0.0
1963	56.6	56.6	0.0
1964	55.5	55.5	0.0
1965	56.1	56.1	0.0
1966	56.2	56.2	0.0
1967	55.6	55.6	0.0
1968	56.3	56.3	0.0
1969	56.5	56.5	0.0
1970	56.6	56.6	0.0
1971	56.8	56.8	0.0
1972	55.9	55.9	0.0
1973	56.5	56.5	0.0
1974	56.3	56.3	0.0
1975	54.7	54.7	0.0
1976	56.4	56.4	0.0
1977	63.8	63.8	0.0
1978	56.5	56.5	0.0
1979	55.1	55.1	0.0
1980	55.2	55.2	0.0
1981	56.0	56.0	0.0
1982	55.5	55.5	0.0
1983	54.1	54.1	0.0
1984	55.4	55.4	0.0
1985	54.3	54.3	0.0
1986	55.1	55.1	0.0
1987	57.3	57.3	0.0
1988	55.8	55.8	0.0
1989	55.6	55.6	0.0
1990	55.7	55.7	0.0
Mean:	56.3	56.3	0.0
Median:	55.6	55.6	0.0
Min:	53.5	53.5	0.0
Max:	65.8	65.8	0.1
X > 56.0	24	24	
Mean When X > 56.0	58.4	58.4	
X > 60.0	6	6	
Mean When X > 60.0	64.1	64.1	
X > 62.5	5	5	
Mean When X > 62.5	64.6	64.6	
X > 65.0	3	3	
Mean When X > 65.0	65.3	65.3	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Jellys Ferry

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.4	54.4	0.0
1923	53.8	53.8	0.0
1924	64.6	64.6	0.0
1925	59.2	59.2	0.0
1926	59.3	59.3	0.0
1927	52.9	52.9	0.0
1928	54.2	54.2	0.0
1929	55.1	55.1	0.0
1930	53.3	53.3	0.0
1931	65.0	65.0	0.0
1932	66.8	66.8	0.0
1933	63.0	63.0	0.0
1934	65.1	65.1	0.0
1935	59.4	59.4	0.0
1936	57.8	58.4	0.6
1937	52.7	52.7	0.0
1938	53.4	53.4	0.0
1939	55.7	55.7	0.0
1940	53.7	53.7	0.0
1941	52.0	52.0	0.0
1942	51.9	51.9	0.0
1943	55.4	55.4	0.0
1944	56.7	56.9	0.2
1945	54.7	54.7	0.0
1946	52.7	52.7	0.0
1947	55.2	55.2	0.0
1948	55.1	55.1	0.0
1949	52.6	52.6	0.0
1950	52.3	52.4	0.1
1951	53.5	53.6	0.1
1952	50.8	50.8	0.0
1953	52.2	52.2	0.0
1954	54.0	54.0	0.0
1955	55.9	55.9	0.0
1956	51.4	51.4	0.0
1957	54.4	54.4	0.0
1958	53.5	53.5	0.0
1959	56.4	56.4	0.0
1960	56.2	56.2	0.0
1961	55.9	55.9	0.0
1962	55.4	55.4	0.0
1963	57.1	57.4	0.3
1964	55.6	55.6	0.0
1965	54.0	54.0	0.0
1966	53.7	53.7	0.0
1967	53.5	53.5	0.0
1968	54.8	54.8	0.0
1969	52.6	52.6	0.0
1970	53.8	53.8	0.0
1971	52.6	52.6	0.0
1972	54.5	54.5	0.0
1973	53.7	53.7	0.0
1974	52.1	52.1	0.0
1975	54.4	54.4	0.0
1976	57.6	57.6	0.0
1977	64.8	64.8	0.0
1978	54.3	54.3	0.0
1979	54.4	54.4	0.0
1980	53.7	53.7	0.0
1981	54.3	54.3	0.0
1982	53.4	53.4	0.0
1983	51.5	51.5	0.0
1984	54.4	54.4	0.0
1985	53.3	53.3	0.0
1986	53.3	53.3	0.0
1987	54.7	54.7	0.0
1988	56.3	56.3	0.0
1989	53.4	53.4	0.0
1990	58.8	58.8	0.0
Mean:	55.3	55.4	0.0
Median:	54.4	54.4	0.0
Min:	50.8	50.8	0.0
Max:	66.8	66.8	0.6
X > 56.0	17	17	
Mean When X > 56.0	60.2	60.3	
X > 60.0	6	6	
Mean When X > 60.0	64.9	64.9	
X > 62.5	6	6	
Mean When X > 62.5	64.9	64.9	
X > 65.0	2	2	
Mean When X > 65.0	66.0	66.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			68

Sacramento River Temperature at Bend Bridge

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	52.9	52.9	0.0
1923	54.2	54.2	0.0
1924	57.1	57.1	0.0
1925	58.2	58.2	0.0
1926	59.2	59.2	0.0
1927	53.6	53.6	0.0
1928	52.7	52.7	0.0
1929	56.6	56.6	0.0
1930	54.3	54.3	0.0
1931	59.6	59.6	0.0
1932	61.4	61.4	0.0
1933	62.8	62.8	0.0
1934	60.0	60.0	0.0
1935	57.5	57.5	0.0
1936	57.2	57.2	0.0
1937	52.3	52.3	0.0
1938	52.6	52.6	0.0
1939	55.7	55.8	0.1
1940	53.1	53.1	0.0
1941	52.3	52.3	0.0
1942	52.1	52.1	0.0
1943	52.0	52.0	0.0
1944	53.4	53.4	0.0
1945	52.9	52.9	0.0
1946	49.3	49.3	0.0
1947	54.2	54.2	0.0
1948	51.2	51.2	0.0
1949	47.4	47.4	0.0
1950	50.3	50.3	0.0
1951	48.9	48.8	-0.1
1952	50.1	50.1	0.0
1953	51.0	51.0	0.0
1954	52.9	52.9	0.0
1955	53.2	53.2	0.0
1956	49.9	49.9	0.0
1957	53.7	53.7	0.0
1958	53.9	53.9	0.0
1959	57.6	57.6	0.0
1960	53.5	53.5	0.0
1961	53.4	53.4	0.0
1962	55.4	55.4	0.0
1963	52.1	52.1	0.0
1964	54.5	54.5	0.0
1965	53.9	53.9	0.0
1966	54.3	54.3	0.0
1967	53.0	53.0	0.0
1968	53.7	53.7	0.0
1969	48.8	48.8	0.0
1970	52.6	52.6	0.0
1971	51.2	51.2	0.0
1972	52.4	52.4	0.0
1973	51.1	51.1	0.0
1974	50.9	50.9	0.0
1975	52.3	52.3	0.0
1976	54.8	54.8	0.0
1977	59.5	59.5	0.0
1978	53.0	53.0	0.0
1979	52.4	52.4	0.0
1980	51.3	51.3	0.0
1981	52.2	52.2	0.0
1982	48.6	48.6	0.0
1983	53.1	53.1	0.0
1984	51.5	51.5	0.0
1985	50.2	50.2	0.0
1986	52.5	52.5	0.0
1987	52.2	52.2	0.0
1988	58.1	58.1	0.0
1989	52.9	52.9	0.0
1990	57.7	57.7	0.0
Mean:	53.6	53.6	0.0
Median:	53.0	53.0	0.0
Min:	47.4	47.4	-0.1
Max:	62.8	62.8	0.1
X > 56.0	14	14	
Mean When X > 56.0	58.8	58.8	
X > 60.0	2	2	
Mean When X > 60.0	62.1	62.1	
X > 62.5	1	1	
Mean When X > 62.5	62.8	62.8	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.3	50.3	0.0
1923	54.6	54.6	0.0
1924	50.8	50.8	0.0
1925	51.7	51.7	0.0
1926	53.2	53.2	0.0
1927	51.1	51.1	0.0
1928	51.6	51.6	0.0
1929	56.7	56.7	0.0
1930	53.5	53.5	0.0
1931	51.2	51.2	0.0
1932	54.8	54.8	0.0
1933	55.4	55.4	0.0
1934	51.6	51.6	0.0
1935	52.4	52.4	0.0
1936	56.2	56.2	0.0
1937	51.8	51.8	0.0
1938	52.0	52.0	0.0
1939	54.4	54.4	0.0
1940	50.8	50.8	0.0
1941	52.0	52.0	0.0
1942	50.3	50.3	0.0
1943	50.0	50.0	0.0
1944	49.7	49.7	0.0
1945	49.7	49.7	0.0
1946	48.2	48.2	0.0
1947	51.8	51.8	0.0
1948	49.4	49.4	0.0
1949	46.3	46.3	0.0
1950	47.7	47.7	0.0
1951	48.0	48.0	0.0
1952	46.7	46.7	0.0
1953	50.3	50.3	0.0
1954	51.5	51.5	0.0
1955	49.2	49.2	0.0
1956	51.2	51.2	0.0
1957	50.2	50.2	0.0
1958	53.1	53.1	0.0
1959	55.8	55.8	0.0
1960	50.9	50.9	0.0
1961	52.4	52.4	0.0
1962	51.2	51.2	0.0
1963	49.6	49.6	0.0
1964	49.8	49.8	0.0
1965	50.3	50.3	0.0
1966	52.1	52.1	0.0
1967	53.0	53.0	0.0
1968	51.2	51.2	0.0
1969	48.1	48.1	0.0
1970	51.3	51.3	0.0
1971	50.8	50.8	0.0
1972	50.1	50.1	0.0
1973	48.7	48.7	0.0
1974	50.0	50.0	0.0
1975	51.1	51.1	0.0
1976	52.7	52.7	0.0
1977	52.3	52.3	0.0
1978	48.6	48.6	0.0
1979	49.2	49.2	0.0
1980	48.1	48.1	0.0
1981	50.9	50.9	0.0
1982	46.4	46.4	0.0
1983	51.9	51.9	0.0
1984	50.2	50.2	0.0
1985	47.6	47.6	0.0
1986	50.2	50.2	0.0
1987	50.2	50.2	0.0
1988	51.4	51.4	0.0
1989	51.2	51.2	0.0
1990	52.2	52.2	0.0
Mean:	51.0	51.0	0.0
Median:	51.1	51.1	0.0
Min:	46.3	46.3	0.0
Max:	56.7	56.7	0.0
X > 56.0	2	2	
Mean When X > 56.0	56.5	56.5	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	45.3	45.3	0.0
1923	47.7	47.7	0.0
1924	43.7	43.7	0.0
1925	47.9	47.9	0.0
1926	46.5	46.5	0.0
1927	46.9	46.9	0.0
1928	46.1	46.1	0.0
1929	47.4	47.4	0.0
1930	48.3	48.3	0.0
1931	44.7	44.7	0.0
1932	44.4	44.4	0.0
1933	45.5	45.5	0.0
1934	46.9	46.9	0.0
1935	47.8	47.8	0.0
1936	48.4	48.4	0.0
1937	47.5	47.5	0.0
1938	49.1	49.1	0.0
1939	48.4	48.4	0.0
1940	47.7	47.7	0.0
1941	48.3	48.3	0.0
1942	46.8	46.8	0.0
1943	48.6	48.6	0.0
1944	47.3	47.3	0.0
1945	47.0	47.0	0.0
1946	46.6	46.6	0.0
1947	46.5	46.5	0.0
1948	44.8	44.8	0.0
1949	46.7	46.7	0.0
1950	48.1	48.1	0.0
1951	46.4	46.4	0.0
1952	46.7	46.7	0.0
1953	49.0	49.0	0.0
1954	46.0	46.0	0.0
1955	47.6	47.6	0.0
1956	50.1	50.1	0.0
1957	47.5	47.5	0.0
1958	52.3	52.3	0.0
1959	49.9	49.9	0.0
1960	46.7	46.7	0.0
1961	46.6	46.6	0.0
1962	49.8	49.8	0.0
1963	46.7	46.7	0.0
1964	47.4	47.4	0.0
1965	46.0	46.0	0.0
1966	47.3	47.3	0.0
1967	48.7	48.7	0.0
1968	45.3	45.3	0.0
1969	49.3	49.3	0.0
1970	46.9	46.9	0.0
1971	45.8	45.8	0.0
1972	44.6	44.6	0.0
1973	47.0	47.0	0.0
1974	47.1	47.1	0.0
1975	48.3	48.3	0.0
1976	50.8	50.8	0.0
1977	47.0	47.0	0.0
1978	46.5	46.5	0.0
1979	45.7	45.7	0.0
1980	47.5	47.5	0.0
1981	47.2	47.2	0.0
1982	45.6	45.6	0.0
1983	47.0	47.0	0.0
1984	45.7	45.7	0.0
1985	45.4	45.4	0.0
1986	46.8	46.8	0.0
1987	45.8	45.8	0.0
1988	45.8	45.8	0.0
1989	46.8	46.8	0.0
1990	42.9	42.9	0.0
Mean:	47.0	47.0	0.0
Median:	46.9	46.9	0.0
Min:	42.9	42.9	0.0
Max:	52.3	52.3	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	43.8	43.8	0.0
1923	43.9	43.9	0.0
1924	44.9	44.9	0.0
1925	43.9	43.9	0.0
1926	44.3	44.3	0.0
1927	45.1	45.1	0.0
1928	44.9	44.9	0.0
1929	43.2	43.2	0.0
1930	44.1	44.1	0.0
1931	45.9	45.9	0.0
1932	43.6	43.6	0.0
1933	42.3	42.3	0.0
1934	46.0	46.0	0.0
1935	44.5	44.5	0.0
1936	45.7	45.7	0.0
1937	39.7	39.7	0.0
1938	46.6	46.6	0.0
1939	46.6	46.6	0.0
1940	45.2	45.2	0.0
1941	46.7	46.7	0.0
1942	45.8	45.8	0.0
1943	45.5	45.5	0.0
1944	45.4	45.4	0.0
1945	45.4	45.4	0.0
1946	45.0	45.0	0.0
1947	44.2	44.2	0.0
1948	47.1	47.1	0.0
1949	40.9	40.9	0.0
1950	41.3	41.3	0.0
1951	44.5	44.5	0.0
1952	43.8	43.8	0.0
1953	46.6	46.6	0.0
1954	45.9	45.9	0.0
1955	44.3	44.3	0.0
1956	45.4	45.4	0.0
1957	44.9	44.9	0.0
1958	45.8	45.8	0.0
1959	47.9	47.9	0.0
1960	44.8	44.8	0.0
1961	45.4	45.4	0.0
1962	46.8	46.8	0.0
1963	45.5	45.5	0.0
1964	44.7	44.7	0.0
1965	46.1	46.1	0.0
1966	44.7	44.7	0.0
1967	45.6	45.6	0.0
1968	45.0	45.0	0.0
1969	43.7	43.7	0.0
1970	47.2	47.2	0.0
1971	45.2	45.2	0.0
1972	44.2	44.2	0.0
1973	43.7	43.7	0.0
1974	45.3	45.3	0.0
1975	45.6	45.6	0.0
1976	47.5	47.5	0.0
1977	45.8	45.8	0.0
1978	45.4	45.4	0.0
1979	44.9	44.9	0.0
1980	45.2	45.2	0.0
1981	45.4	45.4	0.0
1982	43.9	43.9	0.0
1983	44.6	44.6	0.0
1984	45.9	45.9	0.0
1985	44.0	44.0	0.0
1986	45.9	45.9	0.0
1987	43.8	43.8	0.0
1988	44.7	44.7	0.0
1989	44.2	44.2	0.0
1990	44.7	44.7	0.0
Mean:	44.9	44.9	0.0
Median:	45.0	45.0	0.0
Min:	39.7	39.7	0.0
Max:	47.9	47.9	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.8	46.8	0.0
1923	49.9	49.9	0.0
1924	49.0	49.0	0.0
1925	48.1	48.1	0.0
1926	48.0	48.0	0.0
1927	47.7	47.7	0.0
1928	48.8	48.8	0.0
1929	46.5	46.5	0.0
1930	47.8	47.8	0.0
1931	48.8	48.8	0.0
1932	46.8	46.8	0.0
1933	44.2	44.2	0.0
1934	49.5	49.5	0.0
1935	48.6	48.6	0.0
1936	47.9	47.9	0.0
1937	45.4	45.4	0.0
1938	47.3	47.3	0.0
1939	46.5	46.5	0.0
1940	48.3	48.3	0.0
1941	48.7	48.7	0.0
1942	47.3	47.3	0.0
1943	49.6	49.6	0.0
1944	47.2	47.2	0.0
1945	48.8	48.8	0.0
1946	45.3	45.3	0.0
1947	50.4	50.4	0.0
1948	46.8	46.8	0.0
1949	45.0	45.0	0.0
1950	47.7	47.7	0.0
1951	47.1	47.1	0.0
1952	47.0	47.0	0.0
1953	49.7	49.7	0.0
1954	50.1	50.1	0.0
1955	47.5	47.5	0.0
1956	46.4	46.4	0.0
1957	50.3	50.3	0.0
1958	48.9	48.9	0.0
1959	48.6	48.6	0.0
1960	48.1	48.1	0.0
1961	49.2	49.2	0.0
1962	47.7	47.7	0.0
1963	51.8	51.8	0.0
1964	51.0	51.0	0.0
1965	49.7	49.7	0.0
1966	47.1	47.1	0.0
1967	50.3	50.3	0.0
1968	51.0	51.0	0.0
1969	45.9	45.9	0.0
1970	50.8	50.8	0.0
1971	49.0	49.0	0.0
1972	49.0	49.0	0.0
1973	49.2	49.2	0.0
1974	48.2	48.2	0.0
1975	47.6	47.6	0.0
1976	48.3	48.3	0.0
1977	53.1	53.1	0.0
1978	49.2	49.2	0.0
1979	47.8	47.8	0.0
1980	48.6	48.6	0.0
1981	48.7	48.7	0.0
1982	47.2	47.2	0.0
1983	47.5	47.5	0.0
1984	48.2	48.2	0.0
1985	49.3	49.3	0.0
1986	49.1	49.1	0.0
1987	47.9	47.9	0.0
1988	51.6	51.6	0.0
1989	45.3	45.3	0.0
1990	45.7	45.7	0.0
Mean:	48.3	48.3	0.0
Median:	48.2	48.2	0.0
Min:	44.2	44.2	0.0
Max:	53.1	53.1	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.9	50.9	0.0
1923	55.1	55.1	0.0
1924	50.5	50.5	0.0
1925	50.6	50.6	0.0
1926	54.3	54.3	0.0
1927	51.9	51.9	0.0
1928	53.1	53.1	0.0
1929	52.8	52.8	0.0
1930	53.6	53.6	0.0
1931	52.6	52.6	0.0
1932	54.7	54.7	0.0
1933	51.3	51.3	0.0
1934	56.6	56.6	0.0
1935	50.4	50.4	0.0
1936	54.7	54.7	0.0
1937	50.2	50.2	0.0
1938	49.0	49.0	0.0
1939	53.9	53.9	0.0
1940	52.8	52.8	0.0
1941	52.8	52.8	0.0
1942	52.2	52.2	0.0
1943	51.7	51.7	0.0
1944	53.7	53.7	0.0
1945	50.6	50.6	0.0
1946	52.0	52.0	0.0
1947	53.8	53.8	0.0
1948	49.9	49.9	0.0
1949	50.4	50.4	0.0
1950	51.4	51.4	0.0
1951	51.8	51.8	0.0
1952	49.5	49.5	0.0
1953	52.3	52.3	0.0
1954	50.6	50.6	0.0
1955	53.5	53.5	0.0
1956	52.5	52.5	0.0
1957	52.1	52.1	0.0
1958	49.4	49.4	0.0
1959	55.7	55.7	0.0
1960	53.4	53.4	0.0
1961	51.3	51.3	0.0
1962	51.5	51.5	0.0
1963	51.5	51.5	0.0
1964	52.8	52.8	0.0
1965	54.9	54.9	0.0
1966	50.8	50.8	0.0
1967	50.1	50.1	0.0
1968	53.2	53.2	0.0
1969	52.6	52.6	0.0
1970	53.1	53.1	0.0
1971	50.1	50.1	0.0
1972	52.5	52.5	0.0
1973	50.8	50.8	0.0
1974	51.8	51.8	0.0
1975	49.8	49.8	0.0
1976	52.6	52.6	0.0
1977	52.2	52.2	0.0
1978	54.2	54.2	0.0
1979	53.1	53.1	0.0
1980	51.9	51.9	0.0
1981	51.8	51.8	0.0
1982	48.4	48.4	0.0
1983	51.1	51.1	0.0
1984	52.6	52.6	0.0
1985	50.5	50.5	0.0
1986	52.9	52.9	0.0
1987	51.3	51.3	0.0
1988	55.0	55.0	0.0
1989	51.3	51.3	0.0
1990	53.6	53.6	0.0
Mean:	52.1	52.1	0.0
Median:	52.1	52.1	0.0
Min:	48.4	48.4	0.0
Max:	56.6	56.6	0.0
X > 56.0	1	1	
Mean When X > 56.0	56.6	56.6	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.1	55.1	0.0
1923	54.8	54.8	0.0
1924	54.1	54.1	0.0
1925	54.9	54.9	0.0
1926	56.1	56.1	0.0
1927	54.1	54.1	0.0
1928	55.1	55.1	0.0
1929	53.3	53.3	0.0
1930	55.4	55.4	0.0
1931	54.1	54.1	0.0
1932	54.4	54.4	0.0
1933	54.1	54.1	0.0
1934	56.5	56.5	0.0
1935	55.9	55.9	0.0
1936	55.3	55.3	0.0
1937	53.9	53.9	0.0
1938	53.5	53.5	0.0
1939	54.6	54.6	0.0
1940	55.4	55.4	0.0
1941	53.5	53.5	0.0
1942	54.6	54.6	0.0
1943	55.0	55.0	0.0
1944	53.2	53.2	0.0
1945	55.2	55.2	0.0
1946	55.0	55.0	0.0
1947	56.3	56.3	0.0
1948	53.9	53.9	0.0
1949	56.1	56.1	0.0
1950	55.5	55.5	0.0
1951	54.8	54.8	0.0
1952	52.3	52.3	0.0
1953	54.7	54.7	0.0
1954	53.7	53.7	0.0
1955	53.0	53.0	0.0
1956	55.0	55.0	0.0
1957	53.7	53.7	0.0
1958	53.9	53.9	0.0
1959	55.2	55.2	0.0
1960	54.8	54.8	0.0
1961	54.9	54.9	0.0
1962	56.4	56.4	0.0
1963	52.3	52.3	0.0
1964	53.3	53.3	0.0
1965	54.7	54.7	0.0
1966	54.3	54.3	0.0
1967	52.0	52.0	0.0
1968	54.4	54.4	0.0
1969	53.7	53.7	0.0
1970	53.2	53.2	0.0
1971	54.5	54.5	0.0
1972	53.3	53.3	0.0
1973	55.9	55.9	0.0
1974	54.7	54.7	0.0
1975	54.1	54.1	0.0
1976	54.1	54.1	0.0
1977	52.7	52.7	0.0
1978	54.5	54.5	0.0
1979	54.5	54.5	0.0
1980	54.6	54.6	0.0
1981	55.8	55.8	0.0
1982	52.1	52.1	0.0
1983	53.5	53.5	0.0
1984	53.5	53.5	0.0
1985	56.1	56.1	0.0
1986	54.6	54.6	0.0
1987	54.0	54.0	0.0
1988	54.7	54.7	0.0
1989	56.0	56.0	0.0
1990	55.0	55.0	0.0
Mean:	54.5	54.5	0.0
Median:	54.6	54.6	0.0
Min:	52.0	52.0	0.0
Max:	56.5	56.5	0.0
X > 56.0	6	6	
Mean When X > 56.0	56.3	56.3	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.8	55.8	0.0
1923	52.6	52.6	0.0
1924	54.6	54.6	0.0
1925	55.8	55.8	0.0
1926	55.5	55.5	0.0
1927	54.3	54.3	0.0
1928	55.8	55.8	0.0
1929	54.3	54.3	0.0
1930	54.1	54.1	0.0
1931	55.1	55.1	0.0
1932	58.2	58.2	0.0
1933	54.0	54.0	0.0
1934	55.3	55.3	0.0
1935	57.9	57.9	0.0
1936	54.6	54.6	0.0
1937	55.3	55.3	0.0
1938	56.5	56.5	0.0
1939	53.3	53.3	0.0
1940	55.5	55.5	0.0
1941	52.8	52.8	0.0
1942	53.3	53.3	0.0
1943	54.8	54.8	0.0
1944	54.3	54.3	0.0
1945	53.4	53.4	0.0
1946	53.7	53.7	0.0
1947	53.6	53.6	0.0
1948	54.8	54.8	0.0
1949	54.8	54.8	0.0
1950	54.4	54.4	0.0
1951	54.7	54.7	0.0
1952	53.3	53.3	0.0
1953	52.7	52.7	0.0
1954	53.2	53.2	0.0
1955	56.2	56.2	0.0
1956	53.8	53.8	0.0
1957	55.4	55.4	0.0
1958	55.0	55.0	0.0
1959	53.7	53.7	0.0
1960	54.5	54.5	0.0
1961	54.2	54.2	0.0
1962	53.8	53.8	0.0
1963	55.8	55.8	0.0
1964	53.7	53.7	0.0
1965	54.6	54.6	0.0
1966	55.1	55.1	0.0
1967	53.3	53.3	0.0
1968	54.4	54.4	0.0
1969	53.2	53.2	0.0
1970	55.5	55.5	0.0
1971	53.7	53.7	0.0
1972	54.7	54.7	0.0
1973	56.5	56.5	0.0
1974	55.5	55.5	0.0
1975	54.6	54.6	0.0
1976	56.8	56.8	0.0
1977	53.8	53.8	0.0
1978	54.9	54.9	0.0
1979	55.5	55.5	0.0
1980	53.7	53.7	0.0
1981	54.6	54.6	0.0
1982	55.7	55.7	0.0
1983	53.9	53.9	0.0
1984	54.7	54.7	0.0
1985	52.9	52.9	0.0
1986	54.2	54.2	0.0
1987	53.8	53.8	0.0
1988	54.0	54.0	0.0
1989	53.2	53.2	0.0
1990	54.4	54.4	0.0
Mean:	54.6	54.6	0.0
Median:	54.5	54.5	0.0
Min:	52.6	52.6	0.0
Max:	58.2	58.2	0.0
X > 56.0	6	6	
Mean When X > 56.0	57.0	57.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.6	54.6	0.0
1923	52.4	52.4	0.0
1924	54.5	54.5	0.0
1925	55.7	55.7	0.0
1926	56.2	56.2	0.0
1927	54.5	54.5	0.0
1928	53.7	53.7	0.0
1929	54.4	54.4	0.0
1930	54.3	54.3	0.0
1931	55.4	55.4	0.0
1932	57.8	57.8	0.0
1933	56.3	56.3	0.0
1934	53.9	53.9	0.0
1935	55.5	55.5	0.0
1936	55.1	55.1	0.0
1937	54.6	54.6	0.0
1938	57.4	57.4	0.0
1939	53.0	53.0	0.0
1940	55.3	55.3	0.0
1941	55.6	55.6	0.0
1942	56.1	56.1	0.0
1943	53.4	53.4	0.0
1944	53.5	53.5	0.0
1945	54.7	54.7	0.0
1946	51.9	51.9	0.0
1947	53.1	53.1	0.0
1948	56.8	56.8	0.0
1949	54.5	54.5	0.0
1950	53.7	53.7	0.0
1951	53.7	53.7	0.0
1952	54.9	54.9	0.0
1953	54.9	54.9	0.0
1954	54.4	54.4	0.0
1955	54.1	54.1	0.0
1956	56.2	56.2	0.0
1957	56.2	56.2	0.0
1958	56.3	56.3	0.0
1959	54.1	54.1	0.0
1960	55.3	55.3	0.0
1961	55.6	55.6	0.0
1962	54.8	54.8	0.0
1963	56.7	56.7	0.0
1964	54.4	54.4	0.0
1965	54.8	54.8	0.0
1966	52.1	52.1	0.0
1967	56.6	56.6	0.0
1968	53.3	53.3	0.0
1969	55.3	55.3	0.0
1970	54.9	54.9	0.0
1971	55.6	55.6	0.0
1972	52.2	52.2	0.0
1973	54.8	54.8	0.0
1974	56.9	56.9	0.0
1975	56.6	56.6	0.0
1976	54.7	54.7	0.0
1977	54.5	54.5	0.0
1978	54.6	54.6	0.0
1979	52.4	52.4	0.0
1980	52.5	52.5	0.0
1981	53.1	53.1	0.0
1982	55.1	55.1	0.0
1983	54.0	54.0	0.0
1984	53.6	53.6	0.0
1985	53.8	53.8	0.0
1986	53.7	53.7	0.0
1987	52.4	52.4	0.0
1988	52.2	52.2	0.0
1989	54.5	54.5	0.0
1990	54.6	54.6	0.0
Mean:	54.6	54.6	0.0
Median:	54.6	54.6	0.0
Min:	51.9	51.9	0.0
Max:	57.8	57.8	0.0
X > 56.0	13	13	
Mean When X > 56.0	56.6	56.6	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.6	54.6	0.0
1923	54.0	54.0	0.0
1924	61.5	61.5	0.0
1925	55.2	55.2	0.0
1926	55.7	55.7	0.0
1927	54.0	54.0	0.0
1928	53.4	53.4	0.0
1929	55.1	55.1	0.0
1930	54.6	54.6	0.0
1931	59.5	59.5	0.0
1932	55.9	55.9	0.0
1933	58.7	58.7	0.0
1934	59.1	59.1	0.0
1935	54.7	54.7	0.0
1936	53.9	53.7	-0.2
1937	55.0	55.0	0.0
1938	55.2	55.2	0.0
1939	53.4	53.4	0.0
1940	53.4	53.4	0.0
1941	54.8	54.8	0.0
1942	54.9	54.9	0.0
1943	52.8	52.8	0.0
1944	53.5	53.5	0.0
1945	53.8	53.8	0.0
1946	53.0	53.0	0.0
1947	52.3	52.3	0.0
1948	55.1	55.1	0.0
1949	52.7	52.7	0.0
1950	55.0	55.0	0.0
1951	52.8	52.8	0.0
1952	55.8	55.8	0.0
1953	55.3	55.3	0.0
1954	53.3	53.3	0.0
1955	53.2	53.2	0.0
1956	55.6	55.6	0.0
1957	53.3	53.3	0.0
1958	55.0	55.0	0.0
1959	56.1	56.1	0.0
1960	53.9	53.9	0.0
1961	53.7	53.7	0.0
1962	54.2	54.2	0.0
1963	54.1	53.9	-0.2
1964	54.2	54.2	0.0
1965	53.4	53.4	0.0
1966	52.5	52.5	0.0
1967	56.0	56.0	0.0
1968	54.4	54.4	0.0
1969	54.7	54.7	0.0
1970	53.6	53.6	0.0
1971	55.9	55.9	0.0
1972	53.8	53.8	0.0
1973	54.3	54.3	0.0
1974	56.2	56.2	0.0
1975	55.8	55.8	0.0
1976	55.9	55.9	0.0
1977	55.8	55.8	0.0
1978	53.9	53.9	0.0
1979	53.6	53.6	0.0
1980	53.9	53.9	0.0
1981	54.0	54.0	0.0
1982	54.6	54.6	0.0
1983	53.7	53.7	0.0
1984	53.8	53.8	0.0
1985	53.8	53.8	0.0
1986	53.9	53.9	0.0
1987	53.3	53.3	0.0
1988	56.4	56.4	0.0
1989	53.3	53.3	0.0
1990	54.1	54.1	0.0
Mean:	54.6	54.6	0.0
Median:	54.2	54.2	0.0
Min:	52.3	52.3	-0.2
Max:	61.5	61.5	0.0
X > 56.0	7	7	
Mean When X > 56.0	58.2	58.2	
X > 60.0	1	1	
Mean When X > 60.0	61.5	61.5	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.5	55.5	0.0
1923	55.5	55.5	0.0
1924	66.1	66.1	0.0
1925	57.8	57.8	0.0
1926	57.3	57.3	0.0
1927	55.9	55.9	0.0
1928	56.6	56.6	0.0
1929	56.5	56.5	0.0
1930	56.1	56.1	0.0
1931	65.5	65.5	0.0
1932	61.7	61.7	0.0
1933	63.7	63.7	0.0
1934	65.5	65.5	0.0
1935	57.4	57.4	0.0
1936	55.9	55.9	0.0
1937	56.6	56.6	0.0
1938	55.8	55.8	0.0
1939	56.0	56.0	0.0
1940	55.9	55.9	0.0
1941	54.5	54.5	0.0
1942	55.5	55.5	0.0
1943	54.8	54.8	0.0
1944	55.6	55.6	0.0
1945	55.1	55.1	0.0
1946	54.7	54.7	0.0
1947	54.0	54.0	0.0
1948	55.6	55.6	0.0
1949	54.8	54.8	0.0
1950	56.0	56.0	0.0
1951	55.7	55.7	0.0
1952	55.7	55.7	0.0
1953	55.0	55.0	0.0
1954	55.7	55.7	0.0
1955	56.4	56.4	0.0
1956	56.1	56.1	0.0
1957	55.8	55.8	0.0
1958	56.4	56.4	0.0
1959	56.5	56.5	0.0
1960	55.9	55.9	0.0
1961	55.0	55.0	0.0
1962	56.1	56.1	0.0
1963	57.0	57.0	0.0
1964	55.9	55.9	0.0
1965	56.6	56.6	0.0
1966	56.7	56.7	0.0
1967	56.2	56.2	0.0
1968	56.7	56.7	0.0
1969	57.1	57.1	0.0
1970	57.1	57.1	0.0
1971	57.3	57.3	0.0
1972	56.5	56.5	0.0
1973	57.0	57.0	0.0
1974	56.7	56.7	0.0
1975	55.1	55.1	0.0
1976	56.9	56.9	0.0
1977	64.1	64.1	0.0
1978	57.0	57.0	0.0
1979	55.6	55.6	0.0
1980	55.7	55.7	0.0
1981	56.6	56.6	0.0
1982	56.0	56.0	0.0
1983	54.5	54.5	0.0
1984	55.9	55.9	0.0
1985	54.7	54.7	0.0
1986	55.6	55.6	0.0
1987	57.8	57.8	0.0
1988	56.4	56.4	0.0
1989	56.1	56.1	0.0
1990	56.2	56.2	0.0
Mean:	56.8	56.8	0.0
Median:	56.1	56.1	0.0
Min:	54.0	54.0	0.0
Max:	66.1	66.1	0.0
X > 56.0	36	36	
Mean When X > 56.0	58.0	58.0	
X > 60.0	6	6	
Mean When X > 60.0	64.4	64.4	
X > 62.5	5	5	
Mean When X > 62.5	65.0	65.0	
X > 65.0	3	3	
Mean When X > 65.0	65.7	65.7	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Bend Bridge

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.9	54.9	0.0
1923	54.3	54.3	0.0
1924	64.7	64.7	0.0
1925	59.3	59.3	0.0
1926	59.5	59.5	0.0
1927	53.3	53.3	0.0
1928	54.6	54.6	0.0
1929	55.6	55.6	0.0
1930	53.7	53.7	0.0
1931	65.1	65.1	0.0
1932	67.1	67.1	0.0
1933	63.1	63.1	0.0
1934	65.3	65.3	0.0
1935	59.7	59.7	0.0
1936	58.2	58.7	0.5
1937	53.2	53.2	0.0
1938	53.8	53.8	0.0
1939	56.1	56.1	0.0
1940	54.1	54.1	0.0
1941	52.2	52.2	0.0
1942	52.3	52.3	0.0
1943	55.9	55.9	0.0
1944	57.3	57.4	0.1
1945	55.3	55.3	0.0
1946	53.2	53.2	0.0
1947	55.9	55.9	0.0
1948	55.5	55.5	0.0
1949	53.2	53.2	0.0
1950	52.9	53.0	0.1
1951	54.1	54.2	0.1
1952	51.2	51.2	0.0
1953	52.7	52.7	0.0
1954	54.3	54.3	0.0
1955	56.4	56.4	0.0
1956	51.8	51.8	0.0
1957	54.8	54.8	0.0
1958	53.9	53.9	0.0
1959	56.7	56.7	0.0
1960	56.8	56.8	0.0
1961	56.3	56.3	0.0
1962	55.8	55.8	0.0
1963	57.5	57.9	0.4
1964	56.0	56.0	0.0
1965	54.4	54.4	0.0
1966	54.2	54.2	0.0
1967	53.9	53.9	0.0
1968	55.2	55.2	0.0
1969	53.1	53.1	0.0
1970	54.2	54.2	0.0
1971	52.9	52.9	0.0
1972	54.9	54.9	0.0
1973	54.1	54.1	0.0
1974	52.5	52.5	0.0
1975	54.8	54.8	0.0
1976	58.1	58.1	0.0
1977	64.9	64.9	0.0
1978	54.8	54.8	0.0
1979	55.0	55.0	0.0
1980	54.2	54.2	0.0
1981	54.8	54.8	0.0
1982	53.9	53.9	0.0
1983	51.9	51.9	0.0
1984	55.0	55.0	0.0
1985	53.6	53.6	0.0
1986	53.6	53.6	0.0
1987	55.2	55.2	0.0
1988	56.9	56.9	0.0
1989	53.9	53.9	0.0
1990	59.3	59.3	0.0
Mean:	55.8	55.8	0.0
Median:	54.8	54.8	0.0
Min:	51.2	51.2	0.0
Max:	67.1	67.1	0.5
X > 56.0	20	20	
Mean When X > 56.0	59.9	60.0	
X > 60.0	6	6	
Mean When X > 60.0	65.0	65.0	
X > 62.5	6	6	
Mean When X > 62.5	65.0	65.0	
X > 65.0	3	3	
Mean When X > 65.0	65.8	65.8	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			67

Sacramento River Temperature at Freeport

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	58.8	58.8	0.0
1923	59.5	59.5	0.0
1924	58.4	58.4	0.0
1925	59.5	59.6	0.1
1926	61.3	61.3	0.0
1927	60.3	60.4	0.1
1928	59.1	59.1	0.0
1929	61.6	61.6	0.0
1930	59.6	59.6	0.0
1931	60.3	60.3	0.0
1932	61.8	62.0	0.2
1933	64.4	64.3	-0.1
1934	61.5	61.5	0.0
1935	59.6	59.7	0.1
1936	62.0	62.0	0.0
1937	60.4	60.4	0.0
1938	58.3	58.2	-0.1
1939	61.1	61.1	0.0
1940	60.5	60.4	-0.1
1941	58.2	58.2	0.0
1942	59.7	59.7	0.0
1943	59.1	59.1	0.0
1944	61.6	61.6	0.0
1945	61.4	61.4	0.0
1946	58.4	58.4	0.0
1947	59.8	59.8	0.0
1948	58.8	58.8	0.0
1949	58.2	58.2	0.0
1950	59.6	59.6	0.0
1951	58.3	58.3	0.0
1952	60.7	60.8	0.1
1953	58.4	58.4	0.0
1954	59.1	59.1	0.0
1955	60.6	60.6	0.0
1956	56.9	57.0	0.1
1957	57.9	58.0	0.1
1958	61.5	61.5	0.0
1959	62.5	62.5	0.0
1960	60.8	60.8	0.0
1961	60.0	60.0	0.0
1962	60.2	60.2	0.0
1963	59.5	59.5	0.0
1964	62.0	62.0	0.0
1965	61.5	61.5	0.0
1966	60.3	60.3	0.0
1967	60.2	60.2	0.0
1968	59.4	59.4	0.0
1969	56.8	56.8	0.0
1970	59.5	59.5	0.0
1971	57.5	57.5	0.0
1972	59.0	59.0	0.0
1973	59.3	59.2	-0.1
1974	60.1	60.1	0.0
1975	57.8	57.9	0.1
1976	62.8	62.8	0.0
1977	62.3	62.3	0.0
1978	62.4	62.4	0.0
1979	60.5	60.5	0.0
1980	60.9	60.9	0.0
1981	58.8	58.8	0.0
1982	57.7	57.7	0.0
1983	60.4	60.4	0.0
1984	58.3	58.4	0.1
1985	58.7	58.8	0.1
1986	60.7	60.7	0.0
1987	63.1	63.1	0.0
1988	63.6	63.6	0.0
1989	59.2	59.2	0.0
1990	62.8	62.8	0.0
Mean:	60.1	60.1	0.0
Median:	60.0	60.0	0.0
Min:	56.8	56.8	-0.1
Max:	64.4	64.3	0.2
X > 56.0	69	69	
Mean When X > 56.0	60.1	60.1	
X > 60.0	34	34	
Mean When X > 60.0	61.4	61.4	
X > 62.5	5	5	
Mean When X > 62.5	63.3	63.3	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.2	50.2	0.0
1923	55.1	55.1	0.0
1924	51.1	51.1	0.0
1925	52.5	52.5	0.0
1926	54.1	54.1	0.0
1927	52.5	52.5	0.0
1928	51.7	51.7	0.0
1929	54.7	54.7	0.0
1930	53.8	53.8	0.0
1931	51.3	51.3	0.0
1932	56.7	56.5	-0.2
1933	54.8	54.8	0.0
1934	53.3	53.3	0.0
1935	51.7	51.7	0.0
1936	54.4	54.5	0.1
1937	52.8	52.8	0.0
1938	52.1	52.2	0.1
1939	54.7	54.7	0.0
1940	52.3	52.3	0.0
1941	53.8	53.8	0.0
1942	52.5	52.5	0.0
1943	53.1	53.1	0.0
1944	50.8	50.8	0.0
1945	51.9	51.9	0.0
1946	51.0	51.0	0.0
1947	50.9	50.9	0.0
1948	52.4	52.3	-0.1
1949	53.7	53.7	0.0
1950	54.5	54.5	0.0
1951	51.7	51.7	0.0
1952	51.3	51.3	0.0
1953	52.5	52.5	0.0
1954	51.4	51.4	0.0
1955	51.0	51.0	0.0
1956	52.9	52.8	-0.1
1957	50.6	50.6	0.0
1958	53.8	53.8	0.0
1959	53.9	53.9	0.0
1960	51.8	51.8	0.0
1961	51.9	51.9	0.0
1962	53.4	53.4	0.0
1963	51.1	51.1	0.0
1964	50.1	50.1	0.0
1965	52.0	52.0	0.0
1966	52.7	52.7	0.0
1967	54.8	54.8	0.0
1968	51.9	51.9	0.0
1969	52.8	52.8	0.0
1970	52.6	52.6	0.0
1971	52.2	52.2	0.0
1972	50.0	50.0	0.0
1973	50.5	50.5	0.0
1974	51.8	51.8	0.0
1975	52.3	52.3	0.0
1976	54.9	54.9	0.0
1977	53.0	53.0	0.0
1978	51.0	51.0	0.0
1979	51.4	51.4	0.0
1980	53.1	53.1	0.0
1981	53.3	53.3	0.0
1982	50.5	50.5	0.0
1983	52.8	52.8	0.0
1984	51.5	51.5	0.0
1985	49.4	49.4	0.0
1986	53.8	53.8	0.0
1987	52.4	52.4	0.0
1988	52.2	52.2	0.0
1989	53.1	53.1	0.0
1990	51.9	51.9	0.0
Mean:	52.5	52.5	0.0
Median:	52.4	52.3	0.0
Min:	49.4	49.4	-0.2
Max:	56.7	56.5	0.1
X > 56.0	1	1	
Mean When X > 56.0	56.7	56.5	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	45.8	45.8	0.0
1923	45.0	45.0	0.0
1924	42.0	42.0	0.0
1925	46.5	46.5	0.0
1926	46.3	46.2	-0.1
1927	45.8	45.8	0.0
1928	43.9	43.9	0.0
1929	47.6	47.6	0.0
1930	45.6	45.6	0.0
1931	44.4	44.4	0.0
1932	43.4	43.4	0.0
1933	44.9	44.9	0.0
1934	46.6	46.6	0.0
1935	46.8	46.8	0.0
1936	45.9	45.9	0.0
1937	47.8	47.8	0.0
1938	47.9	47.9	0.0
1939	48.6	48.6	0.0
1940	47.6	47.6	0.0
1941	47.9	47.9	0.0
1942	46.6	46.6	0.0
1943	47.2	47.2	0.0
1944	46.7	46.7	0.0
1945	46.7	46.7	0.0
1946	45.4	45.4	0.0
1947	44.7	44.7	0.0
1948	43.4	43.4	0.0
1949	43.9	43.9	0.0
1950	48.2	48.2	0.0
1951	46.0	46.0	0.0
1952	46.3	46.3	0.0
1953	48.0	48.0	0.0
1954	44.1	44.1	0.0
1955	47.8	47.8	0.0
1956	46.2	46.2	0.0
1957	46.1	46.1	0.0
1958	50.5	50.5	0.0
1959	46.9	46.9	0.0
1960	45.2	45.2	0.0
1961	44.6	44.6	0.0
1962	47.6	47.6	0.0
1963	43.4	43.4	0.0
1964	47.8	47.7	-0.1
1965	43.0	43.0	0.0
1966	45.9	45.9	0.0
1967	46.2	46.2	0.0
1968	44.3	44.3	0.0
1969	48.6	48.6	0.0
1970	46.0	46.0	0.0
1971	44.1	44.1	0.0
1972	42.7	42.7	0.0
1973	47.1	47.1	0.0
1974	45.8	45.8	0.0
1975	46.7	46.7	0.0
1976	47.5	47.4	-0.1
1977	47.4	47.4	0.0
1978	43.4	43.4	0.0
1979	46.4	46.4	0.0
1980	47.1	47.1	0.0
1981	48.3	48.2	-0.1
1982	46.1	46.1	0.0
1983	48.1	48.1	0.0
1984	45.3	45.3	0.0
1985	43.1	43.1	0.0
1986	46.3	46.3	0.0
1987	45.7	45.7	0.0
1988	45.5	45.5	0.0
1989	45.2	45.2	0.0
1990	41.4	41.4	0.0
Mean:	46.0	45.9	0.0
Median:	46.1	46.1	0.0
Min:	41.4	41.4	-0.1
Max:	50.5	50.5	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	41.6	41.6	0.0
1923	43.5	43.5	0.0
1924	43.9	43.9	0.0
1925	45.3	45.3	0.0
1926	42.5	42.5	0.0
1927	45.8	45.8	0.0
1928	45.1	45.1	0.0
1929	41.7	41.7	0.0
1930	43.5	43.5	0.0
1931	46.0	46.0	0.0
1932	44.3	44.3	0.0
1933	42.5	42.5	0.0
1934	46.6	46.6	0.0
1935	45.2	45.2	0.0
1936	46.9	46.9	0.0
1937	39.4	39.4	0.0
1938	45.6	45.6	0.0
1939	46.2	46.2	0.0
1940	46.2	46.2	0.0
1941	46.8	46.8	0.0
1942	45.7	45.7	0.0
1943	45.8	45.8	0.0
1944	45.7	45.7	0.0
1945	44.5	44.5	0.0
1946	44.9	44.9	0.0
1947	43.0	43.0	0.0
1948	46.9	46.9	0.0
1949	40.0	40.0	0.0
1950	42.5	42.5	0.0
1951	45.0	45.0	0.0
1952	43.7	43.7	0.0
1953	47.1	47.1	0.0
1954	45.8	45.8	0.0
1955	43.0	43.0	0.0
1956	46.3	46.3	0.0
1957	43.8	43.8	0.0
1958	45.3	45.3	0.0
1959	47.5	47.5	0.0
1960	44.6	44.6	0.0
1961	43.3	43.3	0.0
1962	44.1	44.1	0.0
1963	43.3	43.3	0.0
1964	44.3	44.3	0.0
1965	45.3	45.3	0.0
1966	44.5	44.4	-0.1
1967	45.5	45.5	0.0
1968	44.3	44.3	0.0
1969	44.4	44.4	0.0
1970	47.9	47.9	0.0
1971	45.2	45.2	0.0
1972	42.9	42.9	0.0
1973	44.2	44.2	0.0
1974	46.0	46.0	0.0
1975	44.4	44.4	0.0
1976	46.4	46.4	0.0
1977	43.7	43.7	0.0
1978	46.8	46.7	-0.1
1979	45.0	45.0	0.0
1980	46.6	46.6	0.0
1981	45.9	45.9	0.0
1982	43.7	43.7	0.0
1983	44.5	44.5	0.0
1984	46.1	46.1	0.0
1985	43.4	43.4	0.0
1986	47.6	47.6	0.0
1987	44.7	44.7	0.0
1988	45.5	45.5	0.0
1989	44.0	44.0	0.0
1990	45.4	45.4	0.0
Mean:	44.8	44.8	0.0
Median:	45.0	45.0	0.0
Min:	39.4	39.4	-0.1
Max:	47.9	47.9	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.9	46.9	0.0
1923	49.1	49.1	0.0
1924	52.1	52.1	0.0
1925	49.4	49.4	0.0
1926	49.7	49.7	0.0
1927	48.8	48.8	0.0
1928	49.9	49.9	0.0
1929	48.4	48.4	0.0
1930	50.8	50.8	0.0
1931	52.1	52.1	0.0
1932	48.7	48.7	0.0
1933	47.5	47.5	0.0
1934	51.3	51.3	0.0
1935	49.8	49.8	0.0
1936	48.9	48.9	0.0
1937	47.8	47.8	0.0
1938	48.1	48.1	0.0
1939	48.4	48.4	0.0
1940	49.3	49.3	0.0
1941	49.4	49.4	0.0
1942	48.0	48.0	0.0
1943	49.7	49.7	0.0
1944	49.0	49.0	0.0
1945	49.7	49.7	0.0
1946	47.1	47.1	0.0
1947	50.4	50.4	0.0
1948	48.1	48.1	0.0
1949	46.5	46.5	0.0
1950	48.8	48.8	0.0
1951	48.0	47.9	-0.1
1952	47.7	47.7	0.0
1953	50.0	50.0	0.0
1954	49.2	49.2	0.0
1955	47.8	47.8	0.0
1956	47.0	47.0	0.0
1957	49.9	49.9	0.0
1958	49.6	49.6	0.0
1959	49.2	49.2	0.0
1960	49.0	49.0	0.0
1961	50.2	50.2	0.0
1962	48.1	48.1	0.0
1963	51.7	51.7	0.0
1964	50.2	50.2	0.0
1965	48.9	48.9	0.0
1966	47.4	47.4	0.0
1967	49.1	49.1	0.0
1968	51.0	51.0	0.0
1969	47.2	47.2	0.0
1970	51.1	51.1	0.0
1971	48.8	48.8	0.0
1972	49.9	49.9	0.0
1973	49.9	49.9	0.0
1974	48.7	48.7	0.0
1975	48.4	48.4	0.0
1976	50.8	50.8	0.0
1977	53.0	53.0	0.0
1978	50.0	50.0	0.0
1979	48.6	48.6	0.0
1980	49.4	49.4	0.0
1981	50.9	50.9	0.0
1982	48.3	48.3	0.0
1983	48.8	48.8	0.0
1984	49.1	49.1	0.0
1985	50.9	50.9	0.0
1986	48.9	48.9	0.0
1987	50.1	50.1	0.0
1988	52.5	52.6	0.1
1989	48.0	48.0	0.0
1990	47.9	47.9	0.0
Mean:	49.3	49.3	0.0
Median:	49.1	49.1	0.0
Min:	46.5	46.5	-0.1
Max:	53.0	53.0	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	51.9	51.9	0.0
1923	55.9	56.0	0.1
1924	54.1	54.1	0.0
1925	53.9	53.9	0.0
1926	58.5	58.6	0.1
1927	52.7	52.8	0.1
1928	53.0	53.0	0.0
1929	55.3	55.3	0.0
1930	55.6	55.6	0.0
1931	57.9	57.9	0.0
1932	56.1	56.1	0.0
1933	54.7	54.7	0.0
1934	60.1	60.1	0.0
1935	52.4	52.4	0.0
1936	56.6	56.6	0.0
1937	54.3	54.3	0.0
1938	50.8	50.8	0.0
1939	55.3	55.3	0.0
1940	54.0	54.0	0.0
1941	54.2	54.2	0.0
1942	53.6	53.6	0.0
1943	52.6	52.6	0.0
1944	55.9	55.9	0.0
1945	51.9	51.9	0.0
1946	53.4	53.4	0.0
1947	55.8	55.8	0.0
1948	51.8	51.8	0.0
1949	52.2	52.2	0.0
1950	53.0	53.0	0.0
1951	53.5	53.5	0.0
1952	51.0	51.0	0.0
1953	53.3	53.3	0.0
1954	51.5	51.5	0.0
1955	54.4	54.4	0.0
1956	53.8	53.8	0.0
1957	54.0	54.0	0.0
1958	51.3	51.3	0.0
1959	56.9	56.9	0.0
1960	54.4	54.4	0.0
1961	52.9	52.9	0.0
1962	52.1	52.1	0.0
1963	52.3	52.3	0.0
1964	54.0	54.0	0.0
1965	53.8	53.8	0.0
1966	52.9	52.9	0.0
1967	51.2	51.2	0.0
1968	55.2	55.2	0.0
1969	53.2	53.2	0.0
1970	55.1	55.1	0.0
1971	51.6	51.6	0.0
1972	55.5	55.5	0.0
1973	52.2	52.2	0.0
1974	51.8	51.8	0.0
1975	51.0	51.0	0.0
1976	54.7	54.7	0.0
1977	54.0	54.0	0.0
1978	55.0	55.0	0.0
1979	54.9	54.9	0.0
1980	53.8	53.8	0.0
1981	53.4	53.4	0.0
1982	51.2	51.2	0.0
1983	51.7	51.7	0.0
1984	55.3	55.3	0.0
1985	52.8	52.8	0.0
1986	54.3	54.3	0.0
1987	54.0	54.0	0.0
1988	57.9	58.0	0.1
1989	53.4	53.4	0.0
1990	56.1	56.1	0.0
Mean:	53.9	53.9	0.0
Median:	53.8	53.8	0.0
Min:	50.8	50.8	0.0
Max:	60.1	60.1	0.1
X > 56.0	8	8	
Mean When X > 56.0	57.5	57.5	
X > 60.0	1	1	
Mean When X > 60.0	60.1	60.1	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.9	57.9	0.0
1923	58.5	58.6	0.1
1924	62.0	61.9	-0.1
1925	59.0	59.0	0.0
1926	62.4	62.5	0.1
1927	57.3	57.4	0.1
1928	58.2	58.2	0.0
1929	57.7	57.7	0.0
1930	61.0	61.1	0.1
1931	63.5	63.6	0.1
1932	58.1	58.3	0.2
1933	60.8	60.8	0.0
1934	63.3	63.4	0.1
1935	58.0	58.0	0.0
1936	59.7	59.8	0.1
1937	58.3	58.4	0.1
1938	57.0	57.0	0.0
1939	64.0	63.9	-0.1
1940	60.3	60.3	0.0
1941	57.1	57.1	0.0
1942	57.1	57.2	0.1
1943	58.8	58.9	0.1
1944	58.0	58.0	0.0
1945	60.4	60.4	0.0
1946	60.2	60.2	0.0
1947	62.8	62.8	0.0
1948	56.1	56.1	0.0
1949	60.7	60.8	0.1
1950	60.3	60.4	0.1
1951	59.4	59.4	0.0
1952	56.1	56.1	0.0
1953	58.5	58.5	0.0
1954	58.9	59.0	0.1
1955	56.8	56.9	0.1
1956	59.1	59.2	0.1
1957	59.9	59.9	0.0
1958	57.6	57.7	0.1
1959	63.9	63.9	0.0
1960	59.9	60.0	0.1
1961	60.8	60.9	0.1
1962	60.7	60.8	0.1
1963	55.1	55.1	0.0
1964	59.7	59.7	0.0
1965	57.2	57.2	0.0
1966	61.7	61.8	0.1
1967	54.3	54.4	0.1
1968	60.9	61.0	0.1
1969	56.9	57.0	0.1
1970	58.2	58.2	0.0
1971	59.0	59.0	0.0
1972	60.2	60.2	0.0
1973	60.5	60.7	0.2
1974	57.6	57.7	0.1
1975	56.7	56.8	0.1
1976	60.4	60.4	0.0
1977	63.2	63.2	0.0
1978	57.6	57.6	0.0
1979	59.5	59.5	0.0
1980	59.9	60.0	0.1
1981	61.8	61.8	0.0
1982	55.9	56.0	0.1
1983	56.1	56.1	0.0
1984	59.5	59.5	0.0
1985	62.4	62.4	0.0
1986	60.1	60.2	0.1
1987	62.8	62.9	0.1
1988	62.9	62.9	0.0
1989	61.6	61.6	0.0
1990	64.5	64.5	0.0
Mean:	59.5	59.6	0.0
Median:	59.5	59.5	0.0
Min:	54.3	54.4	-0.1
Max:	64.5	64.5	0.2
X > 56.0	66	66	
Mean When X > 56.0	59.7	59.8	
X > 60.0	29	29	
Mean When X > 60.0	61.7	61.8	
X > 62.5	9	9	
Mean When X > 62.5	63.4	63.5	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	62.4	62.5	0.1
1923	63.2	63.3	0.1
1924	69.0	68.9	-0.1
1925	64.2	64.3	0.1
1926	66.3	66.3	0.0
1927	63.0	63.1	0.1
1928	66.1	66.2	0.1
1929	66.4	66.4	0.0
1930	63.3	63.4	0.1
1931	70.3	70.3	0.0
1932	64.8	65.0	0.2
1933	63.6	63.6	0.0
1934	68.7	68.6	-0.1
1935	64.8	64.9	0.1
1936	65.3	65.5	0.2
1937	65.3	65.5	0.2
1938	62.5	62.5	0.0
1939	67.5	67.6	0.1
1940	65.9	65.9	0.0
1941	62.1	62.2	0.1
1942	60.9	61.0	0.1
1943	65.8	65.9	0.1
1944	65.5	65.5	0.0
1945	63.0	63.0	0.0
1946	64.0	64.1	0.1
1947	68.1	68.1	0.0
1948	61.7	61.7	0.0
1949	65.1	65.3	0.2
1950	65.1	65.1	0.0
1951	65.1	65.1	0.0
1952	61.8	61.8	0.0
1953	61.4	61.4	0.0
1954	64.6	64.7	0.1
1955	66.2	66.3	0.1
1956	62.5	62.6	0.1
1957	64.6	64.7	0.1
1958	62.9	63.0	0.1
1959	65.7	65.7	0.0
1960	65.3	65.4	0.1
1961	64.3	64.4	0.1
1962	64.3	64.3	0.0
1963	62.6	62.7	0.1
1964	64.8	64.8	0.0
1965	63.7	63.8	0.1
1966	66.8	66.8	0.0
1967	61.9	61.9	0.0
1968	65.8	65.9	0.1
1969	62.9	63.0	0.1
1970	67.5	67.7	0.2
1971	62.1	62.1	0.0
1972	66.8	66.9	0.1
1973	67.1	67.3	0.2
1974	63.5	63.6	0.1
1975	64.1	64.2	0.1
1976	70.1	69.9	-0.2
1977	63.3	63.3	0.0
1978	65.0	65.1	0.1
1979	66.0	66.0	0.0
1980	64.0	64.2	0.2
1981	66.9	66.9	0.0
1982	63.5	63.6	0.1
1983	62.0	62.0	0.0
1984	68.3	68.4	0.1
1985	65.0	65.0	0.0
1986	65.5	65.7	0.2
1987	69.0	69.2	0.2
1988	65.6	65.7	0.1
1989	65.1	65.1	0.0
1990	66.1	66.2	0.1
Mean:	64.9	65.0	0.1
Median:	65.0	65.0	0.1
Min:	60.9	61.0	-0.2
Max:	70.3	70.3	0.2
X > 56.0	69	69	
Mean When X > 56.0	64.9	65.0	
X > 60.0	69	69	
Mean When X > 60.0	64.9	65.0	
X > 62.5	58	59	
Mean When X > 62.5	65.5	65.5	
X > 65.0	33	34	
Mean When X > 65.0	66.6	66.7	
X > 67.5	7	9	
Mean When X > 67.5	69.1	68.7	
X > 70.0	2	1	
Mean When X > 70.0	70.2	70.3	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	67.2	67.3	0.1
1923	65.4	65.5	0.1
1924	70.6	70.5	-0.1
1925	69.1	69.3	0.2
1926	71.6	71.7	0.1
1927	67.7	67.8	0.1
1928	69.4	69.5	0.1
1929	69.0	69.1	0.1
1930	69.4	69.6	0.2
1931	69.7	69.8	0.1
1932	69.5	69.7	0.2
1933	69.4	69.6	0.2
1934	70.1	70.1	0.0
1935	70.6	70.8	0.2
1936	69.0	69.2	0.2
1937	68.9	69.1	0.2
1938	68.7	68.8	0.1
1939	70.4	70.5	0.1
1940	71.8	71.8	0.0
1941	67.7	67.8	0.1
1942	67.7	67.9	0.2
1943	66.7	66.8	0.1
1944	66.9	66.9	0.0
1945	69.7	69.8	0.1
1946	66.9	67.0	0.1
1947	69.6	69.6	0.0
1948	67.4	67.4	0.0
1949	69.2	69.3	0.1
1950	68.1	68.1	0.0
1951	69.2	69.3	0.1
1952	65.3	65.3	0.0
1953	65.9	66.0	0.1
1954	68.2	68.2	0.0
1955	68.2	68.3	0.1
1956	68.9	69.0	0.1
1957	71.1	71.2	0.1
1958	67.6	67.7	0.1
1959	70.7	70.7	0.0
1960	73.0	73.1	0.1
1961	73.4	73.4	0.0
1962	70.0	70.0	0.0
1963	68.4	68.6	0.2
1964	68.6	68.6	0.0
1965	66.8	66.9	0.1
1966	69.0	69.0	0.0
1967	66.6	66.6	0.0
1968	70.5	70.5	0.0
1969	67.5	67.7	0.2
1970	69.8	69.9	0.1
1971	67.5	67.5	0.0
1972	67.9	68.1	0.2
1973	70.4	70.7	0.3
1974	69.4	69.5	0.1
1975	68.2	68.3	0.1
1976	70.8	70.7	-0.1
1977	71.8	71.7	-0.1
1978	68.5	68.7	0.2
1979	68.7	68.7	0.0
1980	66.7	66.8	0.1
1981	72.3	72.3	0.0
1982	66.7	66.9	0.2
1983	66.2	66.2	0.0
1984	69.1	69.2	0.1
1985	70.9	71.0	0.1
1986	69.6	69.8	0.2
1987	69.7	69.8	0.1
1988	69.8	69.7	-0.1
1989	68.8	68.8	0.0
1990	70.4	70.5	0.1
Mean:	69.0	69.1	0.1
Median:	69.0	69.2	0.1
Min:	65.3	65.3	-0.1
Max:	73.4	73.4	0.3
X > 56.0	69	69	
Mean When X > 56.0	69.0	69.1	
X > 60.0	69	69	
Mean When X > 60.0	69.0	69.1	
X > 62.5	69	69	
Mean When X > 62.5	69.0	69.1	
X > 65.0	69	69	
Mean When X > 65.0	69.0	69.1	
X > 67.5	54	55	
Mean When X > 67.5	69.6	69.7	
X > 70.0	17	17	
Mean When X > 70.0	71.2	71.2	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	71.9	71.8	-0.1
1923	69.9	70.0	0.1
1924	72.4	72.3	-0.1
1925	72.3	72.4	0.1
1926	73.5	73.4	-0.1
1927	71.1	71.0	-0.1
1928	69.7	69.6	-0.1
1929	71.8	71.9	0.1
1930	70.9	71.0	0.1
1931	76.2	76.2	0.0
1932	71.3	71.5	0.2
1933	75.4	75.5	0.1
1934	73.6	73.5	-0.1
1935	71.1	71.1	0.0
1936	72.7	72.5	-0.2
1937	72.2	72.2	0.0
1938	72.3	72.4	0.1
1939	71.9	71.7	-0.2
1940	70.2	70.1	-0.1
1941	71.6	71.6	0.0
1942	72.1	72.1	0.0
1943	70.5	70.4	-0.1
1944	70.2	70.1	-0.1
1945	72.2	72.2	0.0
1946	71.2	71.1	-0.1
1947	69.9	69.9	0.0
1948	70.6	70.8	0.2
1949	70.7	70.8	0.1
1950	72.3	72.3	0.0
1951	69.7	69.6	-0.1
1952	71.9	71.9	0.0
1953	72.6	72.5	-0.1
1954	71.5	71.4	-0.1
1955	69.6	69.7	0.1
1956	71.7	71.7	0.0
1957	71.0	70.9	-0.1
1958	71.2	71.0	-0.2
1959	72.7	72.5	-0.2
1960	73.3	73.4	0.1
1961	73.0	72.9	-0.1
1962	71.0	70.9	-0.1
1963	69.9	69.8	-0.1
1964	71.4	71.5	0.1
1965	69.8	69.8	0.0
1966	69.2	69.2	0.0
1967	73.4	73.3	-0.1
1968	71.8	71.6	-0.2
1969	71.9	71.8	-0.1
1970	71.2	71.2	0.0
1971	72.1	72.0	-0.1
1972	71.6	71.6	0.0
1973	71.6	71.8	0.2
1974	71.6	71.7	0.1
1975	71.6	71.6	0.0
1976	72.4	72.2	-0.2
1977	70.6	70.6	0.0
1978	71.1	71.2	0.1
1979	71.5	71.5	0.0
1980	71.1	71.3	0.2
1981	71.1	71.0	-0.1
1982	70.7	70.8	0.1
1983	69.0	69.0	0.0
1984	72.4	72.4	0.0
1985	72.7	72.7	0.0
1986	70.8	70.9	0.1
1987	69.6	69.6	0.0
1988	76.3	76.2	-0.1
1989	70.9	70.9	0.0
1990	73.3	73.4	0.1
Mean:	71.6	71.6	0.0
Median:	71.6	71.6	0.0
Min:	69.0	69.0	-0.2
Max:	76.3	76.2	0.2
X > 56.0	69	69	
Mean When X > 56.0	71.6	71.6	
X > 60.0	69	69	
Mean When X > 60.0	71.6	71.6	
X > 62.5	69	69	
Mean When X > 62.5	71.6	71.6	
X > 65.0	69	69	
Mean When X > 65.0	71.6	71.6	
X > 67.5	69	69	
Mean When X > 67.5	71.6	71.6	
X > 70.0	59	59	
Mean When X > 70.0	72.0	71.9	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	70.2	70.0	-0.2
1923	70.6	70.6	0.0
1924	72.4	72.1	-0.3
1925	70.4	70.1	-0.3
1926	71.4	71.0	-0.4
1927	70.0	69.9	-0.1
1928	71.0	70.9	-0.1
1929	72.3	71.9	-0.4
1930	70.6	70.7	0.1
1931	74.1	73.8	-0.3
1932	72.1	72.0	-0.1
1933	73.8	73.5	-0.3
1934	74.0	73.6	-0.4
1935	72.8	72.9	0.1
1936	73.1	73.0	-0.1
1937	72.8	72.6	-0.2
1938	71.3	71.2	-0.1
1939	72.2	72.2	0.0
1940	71.4	71.3	-0.1
1941	69.5	69.6	0.1
1942	70.7	70.7	0.0
1943	70.2	70.1	-0.1
1944	71.6	71.6	0.0
1945	70.9	70.8	-0.1
1946	71.2	71.1	-0.1
1947	69.8	69.8	0.0
1948	70.0	69.9	-0.1
1949	70.0	70.0	0.0
1950	72.4	72.2	-0.2
1951	70.8	70.6	-0.2
1952	70.5	70.3	-0.2
1953	69.3	69.3	0.0
1954	69.3	69.2	-0.1
1955	71.6	71.6	0.0
1956	70.7	70.4	-0.3
1957	70.5	70.4	-0.1
1958	72.9	72.8	-0.1
1959	71.2	71.1	-0.1
1960	71.9	71.7	-0.2
1961	72.5	72.5	0.0
1962	71.3	71.3	0.0
1963	71.8	71.5	-0.3
1964	71.8	71.8	0.0
1965	71.9	72.0	0.1
1966	73.1	73.0	-0.1
1967	73.3	73.3	0.0
1968	71.0	71.0	0.0
1969	73.8	73.4	-0.4
1970	72.2	72.3	0.1
1971	73.1	73.1	0.0
1972	72.9	72.9	0.0
1973	72.0	71.7	-0.3
1974	71.2	71.2	0.0
1975	70.5	70.3	-0.2
1976	71.3	71.0	-0.3
1977	73.6	73.3	-0.3
1978	72.6	72.5	-0.1
1979	71.1	71.2	0.1
1980	70.5	70.6	0.1
1981	72.3	72.3	0.0
1982	70.4	70.4	0.0
1983	70.5	70.5	0.0
1984	72.9	73.0	0.1
1985	70.3	70.3	0.0
1986	72.0	71.9	-0.1
1987	72.5	72.4	-0.1
1988	73.0	72.8	-0.2
1989	70.5	70.6	0.1
1990	73.7	73.4	-0.3
Mean:	71.6	71.5	-0.1
Median:	71.4	71.3	-0.1
Min:	69.3	69.2	-0.4
Max:	74.1	73.8	0.1
X > 56.0	69	69	
Mean When X > 56.0	71.6	71.5	
X > 60.0	69	69	
Mean When X > 60.0	71.6	71.5	
X > 62.5	69	69	
Mean When X > 62.5	71.6	71.5	
X > 65.0	69	69	
Mean When X > 65.0	71.6	71.5	
X > 67.5	69	69	
Mean When X > 67.5	71.6	71.5	
X > 70.0	62	61	
Mean When X > 70.0	71.8	71.7	
# Years Diff <= 0.3			69

Sacramento River Temperature at Freeport

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	70.0	69.9	-0.1
1923	68.4	68.4	0.0
1924	69.2	68.7	-0.5
1925	65.9	66.0	0.1
1926	66.8	66.7	-0.1
1927	65.9	66.1	0.2
1928	67.8	67.7	-0.1
1929	68.3	68.1	-0.2
1930	65.5	65.7	0.2
1931	67.8	67.7	-0.1
1932	71.9	71.7	-0.2
1933	67.7	67.4	-0.3
1934	70.8	70.5	-0.3
1935	68.8	68.8	0.0
1936	69.9	70.0	0.1
1937	68.8	69.0	0.2
1938	68.2	68.3	0.1
1939	70.2	70.1	-0.1
1940	68.3	68.4	0.1
1941	65.5	65.6	0.1
1942	65.6	65.9	0.3
1943	69.1	69.2	0.1
1944	70.6	70.4	-0.2
1945	69.9	69.8	-0.1
1946	68.3	68.3	0.0
1947	70.8	70.8	0.0
1948	67.7	67.7	0.0
1949	69.2	69.1	-0.1
1950	69.1	69.1	0.0
1951	69.1	69.1	0.0
1952	68.2	68.1	-0.1
1953	67.9	68.1	0.2
1954	66.9	66.9	0.0
1955	70.1	69.9	-0.2
1956	66.4	66.7	0.3
1957	67.6	67.6	0.0
1958	68.2	68.3	0.1
1959	67.1	67.1	0.0
1960	70.0	70.0	0.0
1961	68.4	68.3	-0.1
1962	68.2	68.1	-0.1
1963	69.6	69.7	0.1
1964	68.8	68.8	0.0
1965	66.0	66.0	0.0
1966	68.4	68.3	-0.1
1967	68.8	68.8	0.0
1968	68.8	68.7	-0.1
1969	68.9	68.9	0.0
1970	68.9	68.8	-0.1
1971	66.8	66.8	0.0
1972	67.3	67.2	-0.1
1973	68.1	68.2	0.1
1974	67.4	67.7	0.3
1975	68.4	68.5	0.1
1976	69.4	69.4	0.0
1977	68.8	68.8	0.0
1978	67.3	67.3	0.0
1979	70.2	70.1	-0.1
1980	67.8	67.8	0.0
1981	68.7	68.6	-0.1
1982	67.0	67.0	0.0
1983	68.0	67.7	-0.3
1984	70.5	70.4	-0.1
1985	66.4	66.4	0.0
1986	65.3	65.5	0.2
1987	69.2	69.1	-0.1
1988	70.3	70.2	-0.1
1989	66.8	66.7	-0.1
1990	70.8	70.5	-0.3
Mean:	68.4	68.3	0.0
Median:	68.4	68.3	0.0
Min:	65.3	65.5	-0.5
Max:	71.9	71.7	0.3
X > 56.0	69	69	
Mean When X > 56.0	68.4	68.3	
X > 60.0	69	69	
Mean When X > 60.0	68.4	68.3	
X > 62.5	69	69	
Mean When X > 62.5	68.4	68.3	
X > 65.0	69	69	
Mean When X > 65.0	68.4	68.3	
X > 67.5	51	51	
Mean When X > 67.5	69.0	69.0	
X > 70.0	10	9	
Mean When X > 70.0	70.6	70.5	
# Years Diff <= 0.3			69

CVP Gross Dependable Capacity at Tracy

October				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

November				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

December				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

January				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

February				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

March				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

April				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

May				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

June				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

July				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

August				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Dependable Capacity at Tracy

September				
	Baseline	FP Alt		
Water Year	Capacity (MW)	Capacity (MW)	Absolute Difference (MW)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

October				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

November				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

December				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

January				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

February				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

March				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

April				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

May				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

June				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

July				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

August				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP Gross Generation at Tracy

September				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Annual CVP Gross Generation at Tracy

Calendar Year				
	Baseline	FP Alt		
Water Year	Generation (GWh)	Generation (GWh)	Absolute Difference (GWh)	Relative Difference (%)[1]
1922	0	0	0	#DIV/0!
1923	0	0	0	#DIV/0!
1924	0	0	0	#DIV/0!
1925	0	0	0	#DIV/0!
1926	0	0	0	#DIV/0!
1927	0	0	0	#DIV/0!
1928	0	0	0	#DIV/0!
1929	0	0	0	#DIV/0!
1930	0	0	0	#DIV/0!
1931	0	0	0	#DIV/0!
1932	0	0	0	#DIV/0!
1933	0	0	0	#DIV/0!
1934	0	0	0	#DIV/0!
1935	0	0	0	#DIV/0!
1936	0	0	0	#DIV/0!
1937	0	0	0	#DIV/0!
1938	0	0	0	#DIV/0!
1939	0	0	0	#DIV/0!
1940	0	0	0	#DIV/0!
1941	0	0	0	#DIV/0!
1942	0	0	0	#DIV/0!
1943	0	0	0	#DIV/0!
1944	0	0	0	#DIV/0!
1945	0	0	0	#DIV/0!
1946	0	0	0	#DIV/0!
1947	0	0	0	#DIV/0!
1948	0	0	0	#DIV/0!
1949	0	0	0	#DIV/0!
1950	0	0	0	#DIV/0!
1951	0	0	0	#DIV/0!
1952	0	0	0	#DIV/0!
1953	0	0	0	#DIV/0!
1954	0	0	0	#DIV/0!
1955	0	0	0	#DIV/0!
1956	0	0	0	#DIV/0!
1957	0	0	0	#DIV/0!
1958	0	0	0	#DIV/0!
1959	0	0	0	#DIV/0!
1960	0	0	0	#DIV/0!
1961	0	0	0	#DIV/0!
1962	0	0	0	#DIV/0!
1963	0	0	0	#DIV/0!
1964	0	0	0	#DIV/0!
1965	0	0	0	#DIV/0!
1966	0	0	0	#DIV/0!
1967	0	0	0	#DIV/0!
1968	0	0	0	#DIV/0!
1969	0	0	0	#DIV/0!
1970	0	0	0	#DIV/0!
1971	0	0	0	#DIV/0!
1972	0	0	0	#DIV/0!
1973	0	0	0	#DIV/0!
1974	0	0	0	#DIV/0!
1975	0	0	0	#DIV/0!
1976	0	0	0	#DIV/0!
1977	0	0	0	#DIV/0!
1978	0	0	0	#DIV/0!
1979	0	0	0	#DIV/0!
1980	0	0	0	#DIV/0!
1981	0	0	0	#DIV/0!
1982	0	0	0	#DIV/0!
1983	0	0	0	#DIV/0!
1984	0	0	0	#DIV/0!
1985	0	0	0	#DIV/0!
1986	0	0	0	#DIV/0!
1987	0	0	0	#DIV/0!
1988	0	0	0	#DIV/0!
1989	0	0	0	#DIV/0!
1990	0	0	0	#DIV/0!
1991	0	0	0	#DIV/0!
1992	0	0	0	#DIV/0!
Mean:	0	0	0	#DIV/0!
Median:	0	0	0	#DIV/0!
Min:	0	0	0	#DIV/0!
Max:	0	0	0	#DIV/0!

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

October				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

November				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

December				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

January				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

February				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

March				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

April				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

May				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

June				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

July				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

August				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Pumping Plant Energy Requirement

September				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

October				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

November				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

December				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

January				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

February				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

March				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

April				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

May				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

June				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

July				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

August				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EID Pumping Plant Energy Requirement

September				
	Baseline	FP Alt		
Water Year	Energy Requirement (MWh)	Energy Requirement (MWh)	Absolute Difference (MWh)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

October				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

November				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	22.4	22.4	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	2.3	2.3	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	6.2	6.2	0.0	0.0
1984	20.9	20.9	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.7	0.7	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	22.4	22.4	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

December				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	2.9	2.9	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	3.8	3.8	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	1.7	1.7	0.0	0.0
1943	0.1	0.1	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	7.9	7.9	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	21.6	21.6	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	21.1	21.1	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	30.5	30.5	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	1.7	1.7	0.0	0.0
1971	2.0	2.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	4.9	4.9	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	18.2	18.2	0.0	0.0
1983	8.4	8.4	0.0	0.0
1984	19.5	19.5	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	2.0	2.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	30.5	30.5	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

January				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.8	0.8	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	1.4	1.4	0.0	0.0
1942	8.5	8.5	0.0	0.0
1943	11.5	11.5	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.9	0.9	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	10.6	10.6	0.0	0.0
1952	8.1	8.1	0.0	0.0
1953	4.8	4.8	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	22.2	22.2	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	15.7	15.7	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	4.0	4.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	20.0	20.0	0.0	0.0
1970	30.7	30.7	0.0	0.0
1971	0.2	0.2	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	8.6	8.6	0.0	0.0
1974	13.1	13.1	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	25.3	25.3	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	6.6	6.6	0.0	0.0
1983	5.5	5.5	0.0	0.0
1984	3.8	3.8	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	2.8	2.8	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	30.7	30.7	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

February				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	1.3	1.3	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	16.4	16.4	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	16.5	16.5	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	9.5	9.5	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	11.0	11.0	0.0	0.0
1941	6.3	6.3	0.0	0.0
1942	10.0	10.0	0.0	0.0
1943	4.7	4.7	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	8.6	8.6	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	1.7	1.7	0.0	0.0
1951	6.8	6.8	0.0	0.0
1952	9.2	9.2	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	3.1	3.1	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	10.1	10.1	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	13.4	13.4	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	1.5	1.5	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	2.7	2.7	0.0	0.0
1969	8.6	8.6	0.0	0.0
1970	3.0	3.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	4.6	4.6	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.3	0.3	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	16.4	16.4	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	20.0	20.0	0.0	0.0
1983	14.5	14.5	0.0	0.0
1984	2.2	2.2	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	52.9	52.9	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	2.7	2.7	0.0	0.0
Mean:	3.6	3.6	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	52.9	52.9	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

March				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.5	0.5	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	15.2	15.2	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	11.9	11.9	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	11.6	11.6	0.0	0.0
1941	0.3	0.3	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	14.8	14.8	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	2.8	2.8	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	3.8	3.8	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	2.7	2.7	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	8.7	8.7	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	2.5	2.5	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	5.6	5.6	0.0	0.0
1983	22.0	22.0	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	12.0	12.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	4.2	4.2	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	5.6	5.6	0.0	0.0
Mean:	1.7	1.7	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	22.0	22.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

April				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	5.9	5.9	0.0	0.0
1928	0.2	0.2	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	3.8	3.8	0.0	0.0
1936	1.7	1.7	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	6.2	6.2	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	2.5	2.5	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	1.5	1.5	0.0	0.0
1943	0.6	0.6	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.2	0.2	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	7.7	7.7	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	10.7	10.7	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	2.7	2.7	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.1	0.1	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	3.5	3.5	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	2.9	2.9	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	18.2	18.2	0.0	0.0
1983	3.5	3.5	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	1.0	1.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	18.2	18.2	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

May				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	9.1	9.1	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.3	0.3	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.1	0.1	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	9.4	9.4	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.8	0.8	0.0	0.0
1942	3.8	3.8	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	12.8	12.8	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	1.6	1.6	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	10.2	10.2	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	4.7	4.7	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	7.2	7.2	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	8.6	8.6	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.4	0.4	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	9.0	9.0	0.0	0.0
1983	11.1	11.1	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	1.4	1.4	0.0	0.0
Mean:	1.3	1.3	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	12.8	12.8	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

June				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	9.2	9.2	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.5	0.5	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	1.6	1.6	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.5	0.5	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.5	0.5	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	8.2	8.2	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	5.3	5.3	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	1.3	1.3	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	11.2	11.2	0.0	0.0
1953	2.9	2.9	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	2.6	2.6	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	6.1	6.1	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	11.2	11.2	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	3.9	3.9	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.9	0.9	0.0	0.0
1972	0.5	0.5	0.0	0.0
1973	0.5	0.5	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	3.4	3.4	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.5	0.5	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	3.1	3.1	0.0	0.0
1983	18.6	18.6	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.5	0.5	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	1.7	1.7	0.0	0.0
Mean:	1.3	1.3	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	18.6	18.6	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

July				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.5	0.8	0.3	60.0
1923	0.5	0.8	0.3	60.0
1924	0.0	0.0	0.0	0.0
1925	0.5	0.6	0.1	20.0
1926	0.0	0.0	0.0	0.0
1927	0.5	0.8	0.3	60.0
1928	0.3	0.5	0.2	66.7
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.9	1.1	0.2	22.2
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.5	0.7	0.2	40.0
1936	0.5	0.7	0.2	40.0
1937	0.5	0.8	0.3	60.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.5	0.6	0.1	20.0
1941	0.0	0.1	0.1	0.0
1942	0.5	0.8	0.3	60.0
1943	0.5	0.8	0.3	60.0
1944	0.0	0.0	0.0	0.0
1945	0.5	0.7	0.2	40.0
1946	0.5	0.6	0.1	20.0
1947	0.0	0.0	0.0	0.0
1948	0.4	0.6	0.2	50.0
1949	0.0	0.0	0.0	0.0
1950	0.5	0.7	0.2	40.0
1951	0.5	0.7	0.2	40.0
1952	0.5	0.7	0.2	40.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.5	0.8	0.3	60.0
1957	0.5	0.7	0.2	40.0
1958	0.0	0.0	0.0	0.0
1959	0.5	0.7	0.2	40.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.5	0.8	0.3	60.0
1963	0.5	0.8	0.3	60.0
1964	0.0	0.0	0.0	0.0
1965	1.5	1.7	0.2	13.3
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.5	0.7	0.2	40.0
1970	0.5	0.7	0.2	40.0
1971	0.5	0.6	0.1	20.0
1972	0.0	0.0	0.0	0.0
1973	0.3	0.6	0.3	100.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.5	0.8	0.3	60.0
1979	0.0	0.0	0.0	0.0
1980	0.5	0.8	0.3	60.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	6.1	6.2	0.1	1.6
1984	1.8	2.0	0.2	11.1
1985	0.0	0.0	0.0	0.0
1986	0.5	0.8	0.3	60.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.5	0.8	0.3	60.0
Mean:	0.3	0.5	0.1	21.2
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	6.1	6.2	0.3	100.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

August				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	0.5	0.6	0.1	20.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.0	0.0	0.0	0.3
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.5	0.6	0.1	20.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat below Nimbus Dam

September				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.3	0.3	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.1	0.1	0.0	0.0
1983	1.0	1.2	0.2	20.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.4	0.4	0.0	0.0
Mean:	0.0	0.0	0.0	0.3
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	1.0	1.2	0.2	20.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

October				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

November				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	22.3	22.3	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	2.2	2.2	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	6.2	6.2	0.0	0.0
1984	21.0	21.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.7	0.7	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	22.3	22.3	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

December				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	2.9	2.9	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	3.6	3.6	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	1.7	1.7	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	7.8	7.8	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	21.2	21.2	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	21.1	21.1	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	30.4	30.4	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	1.6	1.6	0.0	0.0
1971	1.9	1.9	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	4.7	4.7	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	18.0	18.0	0.0	0.0
1983	8.3	8.3	0.0	0.0
1984	19.3	19.3	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	2.0	2.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	30.4	30.4	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

January				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.7	0.7	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	1.3	1.3	0.0	0.0
1942	8.4	8.4	0.0	0.0
1943	11.5	11.5	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.6	0.6	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	10.2	10.2	0.0	0.0
1952	8.1	8.1	0.0	0.0
1953	4.7	4.7	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	21.9	21.9	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	15.3	15.3	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	4.0	4.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	20.1	20.1	0.0	0.0
1970	30.6	30.6	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	8.6	8.6	0.0	0.0
1974	12.9	12.9	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	25.3	25.3	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	6.2	6.2	0.0	0.0
1983	5.5	5.5	0.0	0.0
1984	3.5	3.5	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	2.8	2.8	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	30.6	30.6	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

February				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	1.3	1.3	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	16.4	16.4	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	16.5	16.5	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	9.5	9.5	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	11.0	11.0	0.0	0.0
1941	6.2	6.2	0.0	0.0
1942	9.8	9.8	0.0	0.0
1943	4.5	4.5	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	8.5	8.5	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	1.5	1.5	0.0	0.0
1951	6.6	6.6	0.0	0.0
1952	8.9	8.9	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	2.6	2.6	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	10.2	10.2	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	13.2	13.2	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	1.1	1.1	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	2.6	2.6	0.0	0.0
1969	8.3	8.3	0.0	0.0
1970	2.5	2.5	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	4.5	4.5	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.1	0.1	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	16.1	16.1	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	19.8	19.8	0.0	0.0
1983	14.6	14.6	0.0	0.0
1984	2.1	2.1	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	53.0	53.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	2.5	2.5	0.0	0.0
Mean:	3.5	3.5	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	53.0	53.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

March				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.2	0.2	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	15.2	15.2	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	11.7	11.7	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	11.3	11.3	0.0	0.0
1941	0.1	0.1	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	14.7	14.7	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	2.7	2.7	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	3.7	3.7	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	2.5	2.5	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	8.7	8.7	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	2.4	2.4	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	5.4	5.4	0.0	0.0
1983	22.1	22.1	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	11.6	11.6	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	4.1	4.1	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	5.4	5.4	0.0	0.0
Mean:	1.7	1.7	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	22.1	22.1	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

April				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	5.6	5.6	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	3.6	3.6	0.0	0.0
1936	1.2	1.2	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	5.7	5.7	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	2.0	2.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	1.6	1.6	0.0	0.0
1943	0.3	0.3	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	7.4	7.4	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	10.6	10.6	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	2.6	2.6	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	3.1	3.1	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	2.5	2.5	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	18.2	18.2	0.0	0.0
1983	3.3	3.3	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.9	0.9	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	18.2	18.2	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

May				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	8.7	8.7	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	8.9	8.9	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.4	0.4	0.0	0.0
1942	3.5	3.5	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	12.2	12.2	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	1.2	1.2	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	9.7	9.7	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	4.2	4.2	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	6.6	6.6	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	8.1	8.1	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	8.4	8.4	0.0	0.0
1983	10.7	10.7	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.9	0.9	0.0	0.0
Mean:	1.2	1.2	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	12.2	12.2	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

June				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	8.4	8.4	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	1.0	1.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	7.4	7.4	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	4.6	4.6	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.6	0.6	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	10.5	10.5	0.0	0.0
1953	2.3	2.3	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	1.9	1.9	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	5.4	5.4	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	10.5	10.5	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	3.2	3.2	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.2	0.2	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	2.7	2.7	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	2.4	2.4	0.0	0.0
1983	18.0	18.0	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	1.0	1.0	0.0	0.0
Mean:	1.1	1.1	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	18.0	18.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

July				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.1	0.1	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.1	0.1	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.2	0.4	0.2	100.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.1	0.1	0.0
1937	0.0	0.1	0.1	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.1	0.1	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.1	0.1	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.1	0.1	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.8	1.0	0.2	25.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.1	0.1	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.1	0.1	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	5.3	5.3	0.0	0.0
1984	1.1	1.3	0.2	18.2
1985	0.0	0.0	0.0	0.0
1986	0.0	0.1	0.1	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.1	0.1	0.0	2.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	5.3	5.3	0.2	100.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

August				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.0	0.0	0.0	0.0
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.0	0.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

American River Splittail Usable Habitat at Watt Avenue

September				
	Baseline	FP Alt		
Water Year	Habitat (acres)	Habitat (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	0.0	0.0	0.0	0.0
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	0.0	0.0	0.0
1929	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0
1983	0.6	0.8	0.2	33.3
1984	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0
Mean:	0.0	0.0	0.0	0.5
Median:	0.0	0.0	0.0	0.0
Min:	0.0	0.0	0.0	0.0
Max:	0.6	0.8	0.2	33.3

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Salmon Survival - Fall Run

Water Year

Water Year	Baseline Survival (%)	FP Alt Survival (%)	FP Alt Absolute Difference (%)	FP Alt Relative Difference (%)
1922	95.8	95.8	0.0	0.0
1923	92.9	92.9	0.0	0.0
1924	72.3	72.3	0.0	0.0
1925	78.6	78.6	0.0	0.0
1926	74.9	74.9	0.0	0.0
1927	96.3	96.2	-0.1	-0.1
1928	95.9	95.9	0.0	0.0
1929	83.1	83.1	0.0	0.0
1930	94.1	94.1	0.0	0.0
1931	66.7	66.7	0.0	0.0
1932	61.8	61.8	0.0	0.0
1933	59.9	59.9	0.0	0.0
1934	65.9	65.9	0.0	0.0
1935	80.0	79.9	-0.1	-0.1
1936	80.7	80.1	-0.6	-0.7
1937	96.4	96.4	0.0	0.0
1938	96.7	96.7	0.0	0.0
1939	88.8	88.8	0.0	0.0
1940	96.1	96.1	0.0	0.0
1941	98.4	98.4	0.0	0.0
1942	98.0	98.0	0.0	0.0
1943	95.5	95.5	0.0	0.0
1944	92.7	92.5	-0.2	-0.2
1945	94.8	94.8	0.0	0.0
1946	97.9	97.9	0.0	0.0
1947	93.6	93.6	0.0	0.0
1948	96.0	95.9	-0.1	-0.1
1949	97.8	97.8	0.0	0.0
1950	97.2	97.2	0.0	0.0
1951	97.0	97.0	0.0	0.0
1952	98.2	98.2	0.0	0.0
1953	98.1	98.1	0.0	0.0
1954	96.3	96.3	0.0	0.0
1955	93.5	93.5	0.0	0.0
1956	98.4	98.4	0.0	0.0
1957	95.2	95.3	0.1	0.1
1958	94.5	94.5	0.0	0.0
1959	80.0	80.0	0.0	0.0
1960	93.2	93.2	0.0	0.0
1961	94.2	94.2	0.0	0.0
1962	91.7	91.8	0.1	0.1
1963	93.4	93.1	-0.3	-0.3
1964	92.9	92.9	0.0	0.0
1965	95.1	95.1	0.0	0.0
1966	94.1	94.1	0.0	0.0
1967	95.8	95.8	0.0	0.0
1968	94.6	94.5	-0.1	-0.1
1969	97.5	97.5	0.0	0.0
1970	95.8	95.8	0.0	0.0
1971	97.6	97.6	0.0	0.0
1972	96.0	96.0	0.0	0.0
1973	96.7	96.7	0.0	0.0
1974	97.6	97.6	0.0	0.0
1975	96.7	96.7	0.0	0.0
1976	89.2	89.2	0.0	0.0
1977	66.8	66.8	0.0	0.0
1978	94.3	94.3	0.0	0.0
1979	95.1	95.1	0.0	0.0
1980	96.2	96.2	0.0	0.0
1981	95.7	95.7	0.0	0.0
1982	97.4	97.3	-0.1	-0.1
1983	97.6	97.5	-0.1	-0.1
1984	96.1	96.0	-0.1	-0.1
1985	97.8	97.9	0.1	0.1
1986	96.9	96.8	-0.1	-0.1
1987	94.8	94.8	0.0	0.0
1988	83.0	83.0	0.0	0.0
1989	95.8	95.8	0.0	0.0
1990	81.0	81.0	0.0	0.0
Mean:	91.2	91.1	0.0	0.0
Median:	95.2	95.3	0.0	0.0
Min:	59.9	59.9	-0.6	-0.7
Max:	98.4	98.4	0.1	0.1
0.0 > X >= -1.0			11	11
-1.0 > X >= -2.0			0	0
-2.0 > X >= -4.0			0	0
-4.0 > X >= -6.0			0	0
X < -6.0			0	0
0.0 < X <= 1.0			3	3
1.0 < X <= 2.0			0	0
2.0 < X <= 4.0			0	0
4.0 < X <= 6.0			0	0
X > 6.0			0	0
No Difference (X = 0.0)			55	55

Sacramento River Salmon Survival - Late Fall Run

Water Year

Water Year	Baseline Survival (%)	FP Alt Survival (%)	FP Alt Absolute Difference (%)	FP Alt Relative Difference (%)
1922	99.7	99.7	0.0	0.0
1923	99.0	99.0	0.0	0.0
1924	99.2	99.2	0.0	0.0
1925	99.1	99.1	0.0	0.0
1926	98.2	98.2	0.0	0.0
1927	99.9	99.9	0.0	0.0
1928	99.4	99.4	0.0	0.0
1929	97.4	97.4	0.0	0.0
1930	99.3	99.3	0.0	0.0
1931	98.6	98.6	0.0	0.0
1932	96.7	96.7	0.0	0.0
1933	96.9	96.9	0.0	0.0
1934	96.6	96.7	0.1	0.1
1935	98.3	98.3	0.0	0.0
1936	97.3	97.3	0.0	0.0
1937	99.7	99.7	0.0	0.0
1938	99.4	99.3	-0.1	-0.1
1939	98.5	98.5	0.0	0.0
1940	99.5	99.5	0.0	0.0
1941	99.9	99.9	0.0	0.0
1942	99.9	99.9	0.0	0.0
1943	99.7	99.7	0.0	0.0
1944	99.8	99.8	0.0	0.0
1945	99.8	99.8	0.0	0.0
1946	99.7	99.7	0.0	0.0
1947	99.2	99.2	0.0	0.0
1948	99.9	99.9	0.0	0.0
1949	99.3	99.3	0.0	0.0
1950	99.6	99.6	0.0	0.0
1951	99.7	99.7	0.0	0.0
1952	99.9	99.9	0.0	0.0
1953	100.0	100.0	0.0	0.0
1954	99.9	99.9	0.0	0.0
1955	99.6	99.6	0.0	0.0
1956	99.8	99.8	0.0	0.0
1957	99.7	99.7	0.0	0.0
1958	97.3	97.3	0.0	0.0
1959	96.7	96.7	0.0	0.0
1960	99.8	99.8	0.0	0.0
1961	99.7	99.7	0.0	0.0
1962	99.5	99.5	0.0	0.0
1963	99.4	99.4	0.0	0.0
1964	99.9	99.9	0.0	0.0
1965	99.7	99.7	0.0	0.0
1966	99.5	99.5	0.0	0.0
1967	99.8	99.8	0.0	0.0
1968	99.7	99.7	0.0	0.0
1969	99.9	99.9	0.0	0.0
1970	99.6	99.6	0.0	0.0
1971	99.9	99.9	0.0	0.0
1972	99.8	99.8	0.0	0.0
1973	99.2	99.2	0.0	0.0
1974	99.7	99.7	0.0	0.0
1975	99.8	99.8	0.0	0.0
1976	98.9	98.9	0.0	0.0
1977	98.6	98.6	0.0	0.0
1978	99.7	99.7	0.0	0.0
1979	99.6	99.6	0.0	0.0
1980	99.9	99.9	0.0	0.0
1981	99.4	99.4	0.0	0.0
1982	99.5	99.5	0.0	0.0
1983	99.9	99.9	0.0	0.0
1984	99.7	99.7	0.0	0.0
1985	99.4	99.4	0.0	0.0
1986	99.8	99.8	0.0	0.0
1987	99.8	99.8	0.0	0.0
1988	99.2	99.2	0.0	0.0
1989	99.6	99.6	0.0	0.0
1990	98.9	98.9	0.0	0.0
Mean:	99.3	99.3	0.0	0.0
Median:	99.6	99.6	0.0	0.0
Min:	96.6	96.7	-0.1	-0.1
Max:	100.0	100.0	0.1	0.1
0.0 > X >= -1.0			1	1
-1.0 > X >= -2.0			0	0
-2.0 > X >= -4.0			0	0
-4.0 > X >= -6.0			0	0
X < -6.0			0	0
0.0 < X <= 1.0			1	1
1.0 < X <= 2.0			0	0
2.0 < X <= 4.0			0	0
4.0 < X <= 6.0			0	0
X > 6.0			0	0
No Difference (X = 0.0)			67	67

Sacramento River Salmon Survival - Winter Run

Water Year

Water Year	Baseline Survival (%)	FP Alt Survival (%)	FP Alt Absolute Difference (%)	FP Alt Relative Difference (%)
1922	98.8	98.7	-0.1	-0.1
1923	95.8	95.8	0.0	0.0
1924	7.1	7.1	0.0	0.0
1925	98.3	98.3	0.0	0.0
1926	97.5	97.5	0.0	0.0
1927	99.2	99.2	0.0	0.0
1928	98.3	98.3	0.0	0.0
1929	99.1	99.1	0.0	0.0
1930	96.8	96.8	0.0	0.0
1931	30.1	30.1	0.0	0.0
1932	67.6	67.6	0.0	0.0
1933	70.4	70.4	0.0	0.0
1934	29.0	29.0	0.0	0.0
1935	97.5	97.5	0.0	0.0
1936	95.4	95.4	0.0	0.0
1937	98.9	98.9	0.0	0.0
1938	98.2	98.2	0.0	0.0
1939	98.2	98.2	0.0	0.0
1940	98.6	98.6	0.0	0.0
1941	99.3	99.2	-0.1	-0.1
1942	98.9	98.9	0.0	0.0
1943	99.1	99.1	0.0	0.0
1944	98.5	98.5	0.0	0.0
1945	99.1	99.1	0.0	0.0
1946	99.3	99.3	0.0	0.0
1947	96.0	96.0	0.0	0.0
1948	98.7	98.7	0.0	0.0
1949	98.8	98.8	0.0	0.0
1950	98.8	98.8	0.0	0.0
1951	99.1	99.1	0.0	0.0
1952	99.1	99.1	0.0	0.0
1953	99.1	99.1	0.0	0.0
1954	99.5	99.5	0.0	0.0
1955	98.5	98.5	0.0	0.0
1956	98.6	98.6	0.0	0.0
1957	98.8	98.8	0.0	0.0
1958	98.7	98.7	0.0	0.0
1959	94.7	94.7	0.0	0.0
1960	97.9	97.9	0.0	0.0
1961	99.0	99.0	0.0	0.0
1962	98.6	98.6	0.0	0.0
1963	98.4	98.4	0.0	0.0
1964	99.2	99.2	0.0	0.0
1965	96.4	96.4	0.0	0.0
1966	99.2	99.2	0.0	0.0
1967	98.9	98.9	0.0	0.0
1968	98.9	98.9	0.0	0.0
1969	99.0	98.9	-0.1	-0.1
1970	98.6	98.6	0.0	0.0
1971	98.7	98.7	0.0	0.0
1972	99.4	99.4	0.0	0.0
1973	98.2	98.2	0.0	0.0
1974	98.2	98.1	-0.1	-0.1
1975	98.7	98.7	0.0	0.0
1976	98.1	98.1	0.0	0.0
1977	43.2	43.2	0.0	0.0
1978	96.5	96.5	0.0	0.0
1979	98.9	98.9	0.0	0.0
1980	99.4	99.4	0.0	0.0
1981	98.8	98.8	0.0	0.0
1982	99.0	98.9	-0.1	-0.1
1983	99.5	99.5	0.0	0.0
1984	99.2	99.2	0.0	0.0
1985	99.1	99.1	0.0	0.0
1986	99.0	99.0	0.0	0.0
1987	99.2	99.2	0.0	0.0
1988	96.0	96.0	0.0	0.0
1989	99.0	99.0	0.0	0.0
1990	98.0	98.0	0.0	0.0
Mean:	93.4	93.4	0.0	0.0
Median:	98.7	98.7	0.0	0.0
Min:	7.1	7.1	-0.1	-0.1
Max:	99.5	99.5	0.0	0.0
0.0 > X >= -1.0			5	5
-1.0 > X >= -2.0			0	0
-2.0 > X >= -4.0			0	0
-4.0 > X >= -6.0			0	0
X < -6.0			0	0
0.0 < X <= 1.0			0	0
1.0 < X <= 2.0			0	0
2.0 < X <= 4.0			0	0
4.0 < X <= 6.0			0	0
X > 6.0			0	0
No Difference (X = 0.0)			64	64

Sacramento River Salmon Survival - Spring Run

Water Year

Water Year	Baseline Survival (%)	FP Alt Survival (%)	FP Alt Absolute Difference (%)	FP Alt Relative Difference (%)
1922	97.0	97.0	0.0	0.0
1923	97.6	97.6	0.0	0.0
1924	5.3	5.3	0.0	0.0
1925	78.0	78.0	0.0	0.0
1926	73.9	73.9	0.0	0.0
1927	97.5	97.4	-0.1	-0.1
1928	96.8	96.8	0.0	0.0
1929	95.5	95.5	0.0	0.0
1930	97.1	97.1	0.0	0.0
1931	2.0	2.0	0.0	0.0
1932	0.4	0.4	0.0	0.0
1933	0.2	0.2	0.0	0.0
1934	1.9	1.9	0.0	0.0
1935	83.4	83.3	-0.1	-0.1
1936	92.5	91.1	-1.4	-1.5
1937	96.8	96.7	-0.1	-0.1
1938	96.6	96.6	0.0	0.0
1939	96.4	96.4	0.0	0.0
1940	97.3	97.3	0.0	0.0
1941	98.0	98.0	0.0	0.0
1942	97.4	97.4	0.0	0.0
1943	97.4	97.4	0.0	0.0
1944	95.6	95.4	-0.2	-0.2
1945	97.3	97.3	0.0	0.0
1946	98.4	98.4	0.0	0.0
1947	97.6	97.6	0.0	0.0
1948	96.4	96.3	-0.1	-0.1
1949	98.1	98.1	0.0	0.0
1950	97.2	97.2	0.0	0.0
1951	97.6	97.6	0.0	0.0
1952	97.2	97.1	-0.1	-0.1
1953	97.6	97.6	0.0	0.0
1954	97.6	97.6	0.0	0.0
1955	96.1	96.1	0.0	0.0
1956	96.9	96.9	0.0	0.0
1957	97.0	97.0	0.0	0.0
1958	96.6	96.5	-0.1	-0.1
1959	92.7	92.7	0.0	0.0
1960	95.9	95.9	0.0	0.0
1961	96.9	96.9	0.0	0.0
1962	96.2	96.2	0.0	0.0
1963	94.5	94.0	-0.5	-0.5
1964	96.4	96.4	0.0	0.0
1965	97.0	97.0	0.0	0.0
1966	97.1	97.1	0.0	0.0
1967	96.4	96.4	0.0	0.0
1968	96.4	96.4	0.0	0.0
1969	96.5	96.5	0.0	0.0
1970	96.5	96.5	0.0	0.0
1971	96.1	96.1	0.0	0.0
1972	97.0	97.0	0.0	0.0
1973	96.4	96.4	0.0	0.0
1974	96.1	96.0	-0.1	-0.1
1975	96.8	96.7	-0.1	-0.1
1976	92.3	92.3	0.0	0.0
1977	2.5	2.5	0.0	0.0
1978	96.3	96.2	-0.1	-0.1
1979	97.1	97.1	0.0	0.0
1980	97.5	97.5	0.0	0.0
1981	96.7	96.7	0.0	0.0
1982	97.0	96.9	-0.1	-0.1
1983	98.4	98.4	0.0	0.0
1984	97.0	97.0	0.0	0.0
1985	98.1	98.1	0.0	0.0
1986	97.6	97.6	0.0	0.0
1987	96.0	96.0	0.0	0.0
1988	92.7	92.7	0.0	0.0
1989	97.3	97.3	0.0	0.0
1990	88.8	88.8	0.0	0.0
Mean:	87.5	87.4	0.0	0.0
Median:	96.7	96.7	0.0	0.0
Min:	0.2	0.2	-1.4	-1.5
Max:	98.4	98.4	0.0	0.0
0.0 > X >= -1.0			12	12
-1.0 > X >= -2.0			1	1
-2.0 > X >= -4.0			0	0
-4.0 > X >= -6.0			0	0
X < -6.0			0	0
0.0 < X <= 1.0			0	0
1.0 < X <= 2.0			0	0
2.0 < X <= 4.0			0	0
4.0 < X <= 6.0			0	0
X > 6.0			0	0
No Difference (X = 0.0)			56	56

Lower American River Salmon Survival - Fall Run

Water Year

Water Year	Baseline Survival (%)	FP Alt Survival (%)	FP Alt Absolute Difference (%)	FP Alt Relative Difference (%)
1922	92.5	92.2	-0.3	-0.3
1923	93.1	93.1	0.0	0.0
1924	89.7	89.6	-0.1	-0.1
1925	90.5	90.6	0.1	0.1
1926	90.2	90.1	-0.1	-0.1
1927	93.3	93.3	0.0	0.0
1928	92.7	92.6	-0.1	-0.1
1929	93.7	93.5	-0.2	-0.2
1930	92.9	92.9	0.0	0.0
1931	89.0	89.1	0.1	0.1
1932	83.3	83.3	0.0	0.0
1933	87.0	86.5	-0.5	-0.6
1934	86.3	86.2	-0.1	-0.1
1935	91.3	90.8	-0.5	-0.5
1936	86.0	85.8	-0.2	-0.2
1937	93.5	93.4	-0.1	-0.1
1938	91.8	92.2	0.4	0.4
1939	88.3	88.0	-0.3	-0.3
1940	86.8	86.9	0.1	0.1
1941	93.3	93.3	0.0	0.0
1942	92.9	92.9	0.0	0.0
1943	93.2	93.2	0.0	0.0
1944	93.0	92.7	-0.3	-0.3
1945	92.1	92.1	0.0	0.0
1946	93.0	93.2	0.2	0.2
1947	93.9	93.8	-0.1	-0.1
1948	93.0	93.5	0.5	0.5
1949	93.6	93.5	-0.1	-0.1
1950	88.3	88.3	0.0	0.0
1951	92.1	92.0	-0.1	-0.1
1952	92.5	92.1	-0.4	-0.4
1953	91.9	92.3	0.4	0.4
1954	93.0	93.0	0.0	0.0
1955	93.5	93.7	0.2	0.2
1956	91.9	91.5	-0.4	-0.4
1957	90.4	90.0	-0.4	-0.4
1958	82.9	82.8	-0.1	-0.1
1959	79.1	78.1	-1.0	-1.3
1960	92.3	92.3	0.0	0.0
1961	92.6	92.4	-0.2	-0.2
1962	90.4	90.4	0.0	0.0
1963	93.8	93.8	0.0	0.0
1964	93.6	93.5	-0.1	-0.1
1965	93.0	93.2	0.2	0.2
1966	90.2	89.8	-0.4	-0.4
1967	83.6	83.6	0.0	0.0
1968	91.7	91.4	-0.3	-0.3
1969	92.3	92.3	0.0	0.0
1970	93.2	92.8	-0.4	-0.4
1971	93.5	93.5	0.0	0.0
1972	93.0	93.1	0.1	0.1
1973	91.8	93.2	1.4	1.5
1974	92.7	92.6	-0.1	-0.1
1975	93.9	93.8	-0.1	-0.1
1976	87.7	87.5	-0.2	-0.2
1977	82.1	81.4	-0.7	-0.9
1978	89.4	89.6	0.2	0.2
1979	91.9	91.8	-0.1	-0.1
1980	92.1	92.1	0.0	0.0
1981	84.0	85.0	1.0	1.2
1982	93.1	93.1	0.0	0.0
1983	86.6	86.9	0.3	0.3
1984	90.1	89.4	-0.7	-0.8
1985	93.0	92.9	-0.1	-0.1
1986	90.7	90.7	0.0	0.0
1987	87.8	87.6	-0.2	-0.2
1988	85.9	85.9	0.0	0.0
1989	91.2	91.3	0.1	0.1
1990	91.2	90.7	-0.5	-0.5
Mean:	90.6	90.6	-0.1	-0.1
Median:	91.9	92.1	0.0	0.0
Min:	79.1	78.1	-1.0	-1.3
Max:	93.9	93.8	1.4	1.5
0.0 > X >= -1.0			34	33
-1.0 > X >= -2.0			0	1
-2.0 > X >= -4.0			0	0
-4.0 > X >= -6.0			0	0
X < -6.0			0	0
0.0 < X <= 1.0			14	13
1.0 < X <= 2.0			1	2
2.0 < X <= 4.0			0	0
4.0 < X <= 6.0			0	0
X > 6.0			0	0
No Difference (X = 0.0)			20	20

Percent Allocation to CVP M&I Contractors North of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	95	95	0
1932	95	95	0
1933	95	95	0
1934	95	95	0
1935	95	95	0
1936	95	95	0
1937	95	95	0
1938	95	95	0
1939	95	95	0
1940	95	95	0
1941	95	95	0
1942	95	95	0
1943	50	50	0
1944	50	50	0
1945	50	50	0
1946	50	50	0
1947	50	50	0
1948	50	50	0
1949	50	50	0
1950	50	50	0
1951	50	50	0
1952	50	50	0
1953	50	50	0
1954	50	50	0
1955	75	75	0
1956	75	75	0
1957	75	75	0
1958	75	75	0
1959	75	75	0
1960	75	75	0
1961	75	75	0
1962	75	75	0
1963	75	75	0
1964	75	75	0
1965	75	75	0
1966	75	75	0
1967	60	60	0
1968	60	60	0
1969	64	64	0
1970	64	64	0
1971	64	64	0
1972	64	64	0
1973	64	64	0
1974	64	64	0
1975	64	64	0
1976	64	64	0
1977	64	64	0
1978	64	64	0
1979	100	100	0
1980	100	100	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	100	100	0
1990	100	100	0
1991	83	83	0
1992	95	95	0
1993	0	0	0
1994	0	0	0
Mean:	78	78	0
Median:	75	75	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to CVP Agricultural Contractors North of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	70	70	0
1932	70	70	0
1933	70	70	0
1934	70	70	0
1935	70	70	0
1936	70	70	0
1937	70	70	0
1938	70	70	0
1939	70	70	0
1940	70	70	0
1941	70	70	0
1942	70	70	0
1943	0	0	0
1944	0	0	0
1945	0	0	0
1946	0	0	0
1947	0	0	0
1948	0	0	0
1949	0	0	0
1950	0	0	0
1951	0	0	0
1952	0	0	0
1953	0	0	0
1954	0	0	0
1955	37	37	0
1956	37	37	0
1957	42	42	0
1958	42	42	0
1959	42	42	0
1960	42	42	0
1961	42	42	0
1962	42	42	0
1963	42	42	0
1964	42	42	0
1965	42	42	0
1966	42	42	0
1967	10	10	0
1968	10	10	0
1969	14	14	0
1970	14	14	0
1971	14	14	0
1972	14	14	0
1973	14	14	0
1974	14	14	0
1975	14	14	0
1976	14	14	0
1977	14	14	0
1978	14	14	0
1979	100	100	0
1980	100	100	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	100	100	0
1990	100	100	0
1991	58	58	0
1992	70	70	0
1993	0	0	0
1994	0	0	0
Mean:	51	51	0
Median:	42	42	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to CVP Settlement Contractors North of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	100	100	0
1932	100	100	0
1933	100	100	0
1934	100	100	0
1935	100	100	0
1936	100	100	0
1937	100	100	0
1938	100	100	0
1939	100	100	0
1940	100	100	0
1941	100	100	0
1942	100	100	0
1943	75	75	0
1944	75	75	0
1945	75	75	0
1946	75	75	0
1947	75	75	0
1948	75	75	0
1949	75	75	0
1950	75	75	0
1951	75	75	0
1952	75	75	0
1953	75	75	0
1954	75	75	0
1955	100	100	0
1956	100	100	0
1957	100	100	0
1958	100	100	0
1959	100	100	0
1960	100	100	0
1961	100	100	0
1962	100	100	0
1963	100	100	0
1964	100	100	0
1965	100	100	0
1966	100	100	0
1967	100	100	0
1968	100	100	0
1969	100	100	0
1970	100	100	0
1971	100	100	0
1972	100	100	0
1973	100	100	0
1974	100	100	0
1975	100	100	0
1976	100	100	0
1977	100	100	0
1978	100	100	0
1979	100	100	0
1980	100	100	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	100	100	0
1990	100	100	0
1991	100	100	0
1992	100	100	0
1993	0	0	0
1994	0	0	0
Mean:	93	93	0
Median:	100	100	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to CVP Refuges North of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	100	100	0
1932	100	100	0
1933	100	100	0
1934	100	100	0
1935	100	100	0
1936	100	100	0
1937	100	100	0
1938	100	100	0
1939	100	100	0
1940	100	100	0
1941	100	100	0
1942	100	100	0
1943	75	75	0
1944	75	75	0
1945	75	75	0
1946	75	75	0
1947	75	75	0
1948	75	75	0
1949	75	75	0
1950	75	75	0
1951	75	75	0
1952	75	75	0
1953	75	75	0
1954	75	75	0
1955	100	100	0
1956	100	100	0
1957	100	100	0
1958	100	100	0
1959	100	100	0
1960	100	100	0
1961	100	100	0
1962	100	100	0
1963	100	100	0
1964	100	100	0
1965	100	100	0
1966	100	100	0
1967	100	100	0
1968	100	100	0
1969	100	100	0
1970	100	100	0
1971	100	100	0
1972	100	100	0
1973	100	100	0
1974	100	100	0
1975	100	100	0
1976	100	100	0
1977	100	100	0
1978	100	100	0
1979	100	100	0
1980	100	100	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	100	100	0
1990	100	100	0
1991	100	100	0
1992	100	100	0
1993	0	0	0
1994	0	0	0
Mean:	93	93	0
Median:	100	100	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to CVP M&I Contractors South of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	77	77	0
1932	81	81	0
1933	86	86	0
1934	86	86	0
1935	86	86	0
1936	86	86	0
1937	86	86	0
1938	86	86	0
1939	86	86	0
1940	86	86	0
1941	86	86	0
1942	86	86	0
1943	75	75	0
1944	75	75	0
1945	75	75	0
1946	75	75	0
1947	75	75	0
1948	75	75	0
1949	75	75	0
1950	75	75	0
1951	75	75	0
1952	75	75	0
1953	75	75	0
1954	75	75	0
1955	75	75	0
1956	75	75	0
1957	85	85	0
1958	85	85	0
1959	85	85	0
1960	85	85	0
1961	85	85	0
1962	85	85	0
1963	85	85	0
1964	85	85	0
1965	85	85	0
1966	85	85	0
1967	79	79	0
1968	86	86	0
1969	95	95	0
1970	95	95	0
1971	95	95	0
1972	95	95	0
1973	95	95	0
1974	95	95	0
1975	95	95	0
1976	95	95	0
1977	95	95	0
1978	95	95	0
1979	86	86	0
1980	94	94	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	100	100	0
1990	100	100	0
1991	85	85	0
1992	88	88	0
1993	0	0	0
1994	0	0	0
Mean:	86	86	0
Median:	86	86	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to CVP Agricultural Contractors South of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	92	92	0
1923	92	92	0
1924	92	92	0
1925	92	92	0
1926	92	92	0
1927	92	92	0
1928	92	92	0
1929	92	92	0
1930	92	92	0
1931	52	52	0
1932	56	56	0
1933	61	61	0
1934	61	61	0
1935	61	61	0
1936	61	61	0
1937	61	61	0
1938	61	61	0
1939	61	61	0
1940	61	61	0
1941	61	61	0
1942	61	61	0
1943	38	38	0
1944	45	45	0
1945	46	46	0
1946	46	46	0
1947	46	46	0
1948	46	46	0
1949	46	46	0
1950	46	46	0
1951	46	46	0
1952	46	46	0
1953	46	46	0
1954	46	46	0
1955	46	46	0
1956	50	50	0
1957	60	60	0
1958	60	60	0
1959	60	60	0
1960	60	60	0
1961	60	60	0
1962	60	60	0
1963	60	60	0
1964	60	60	0
1965	60	60	0
1966	60	60	0
1967	54	54	0
1968	61	61	0
1969	70	70	0
1970	70	70	0
1971	70	70	0
1972	70	70	0
1973	70	70	0
1974	70	70	0
1975	70	70	0
1976	70	70	0
1977	70	70	0
1978	70	70	0
1979	61	61	0
1980	69	69	0
1981	78	78	0
1982	78	78	0
1983	78	78	0
1984	78	78	0
1985	78	78	0
1986	78	78	0
1987	78	78	0
1988	78	78	0
1989	78	78	0
1990	78	78	0
1991	60	60	0
1992	63	63	0
1993	0	0	0
1994	0	0	0
Mean:	63	63	0
Median:	61	61	0
Min:	0	0	0
Max:	92	92	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to CVP Settlement Contractors South of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	100	100	0
1932	100	100	0
1933	100	100	0
1934	100	100	0
1935	100	100	0
1936	100	100	0
1937	100	100	0
1938	100	100	0
1939	100	100	0
1940	100	100	0
1941	100	100	0
1942	100	100	0
1943	75	75	0
1944	75	75	0
1945	75	75	0
1946	75	75	0
1947	75	75	0
1948	75	75	0
1949	75	75	0
1950	75	75	0
1951	75	75	0
1952	75	75	0
1953	75	75	0
1954	75	75	0
1955	100	100	0
1956	100	100	0
1957	100	100	0
1958	100	100	0
1959	100	100	0
1960	100	100	0
1961	100	100	0
1962	100	100	0
1963	100	100	0
1964	100	100	0
1965	100	100	0
1966	100	100	0
1967	100	100	0
1968	100	100	0
1969	100	100	0
1970	100	100	0
1971	100	100	0
1972	100	100	0
1973	100	100	0
1974	100	100	0
1975	100	100	0
1976	100	100	0
1977	100	100	0
1978	100	100	0
1979	100	100	0
1980	100	100	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	100	100	0
1990	100	100	0
1991	100	100	0
1992	100	100	0
1993	0	0	0
1994	0	0	0
Mean:	93	93	0
Median:	100	100	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to CVP Refuges South of Delta

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	100	100	0
1932	100	100	0
1933	100	100	0
1934	100	100	0
1935	100	100	0
1936	100	100	0
1937	100	100	0
1938	100	100	0
1939	100	100	0
1940	100	100	0
1941	100	100	0
1942	100	100	0
1943	75	75	0
1944	75	75	0
1945	75	75	0
1946	75	75	0
1947	75	75	0
1948	75	75	0
1949	75	75	0
1950	75	75	0
1951	75	75	0
1952	75	75	0
1953	75	75	0
1954	75	75	0
1955	100	100	0
1956	100	100	0
1957	100	100	0
1958	100	100	0
1959	100	100	0
1960	100	100	0
1961	100	100	0
1962	100	100	0
1963	100	100	0
1964	100	100	0
1965	100	100	0
1966	100	100	0
1967	100	100	0
1968	100	100	0
1969	100	100	0
1970	100	100	0
1971	100	100	0
1972	100	100	0
1973	100	100	0
1974	100	100	0
1975	100	100	0
1976	100	100	0
1977	100	100	0
1978	100	100	0
1979	100	100	0
1980	100	100	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	100	100	0
1990	100	100	0
1991	100	100	0
1992	100	100	0
1993	0	0	0
1994	0	0	0
Mean:	93	93	0
Median:	100	100	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Percent Allocation to SWP Contractors

Contract Year	Baseline	FP Alt	
Contract Year	Allocation (%)	Allocation (%)	Absolute Difference (%)
1922	100	100	0
1923	100	100	0
1924	100	100	0
1925	100	100	0
1926	100	100	0
1927	100	100	0
1928	100	100	0
1929	100	100	0
1930	100	100	0
1931	100	100	0
1932	100	100	0
1933	100	100	0
1934	100	100	0
1935	100	100	0
1936	100	100	0
1937	100	100	0
1938	100	100	0
1939	100	100	0
1940	100	100	0
1941	24	24	0
1942	25	25	0
1943	27	27	0
1944	25	25	0
1945	25	25	0
1946	25	25	0
1947	25	25	0
1948	25	25	0
1949	25	25	0
1950	25	25	0
1951	25	25	0
1952	25	25	0
1953	23	23	0
1954	24	24	0
1955	46	46	0
1956	43	43	0
1957	44	44	0
1958	44	44	0
1959	44	44	0
1960	44	44	0
1961	44	44	0
1962	44	44	0
1963	44	44	0
1964	44	44	0
1965	29	29	0
1966	51	51	0
1967	74	74	0
1968	65	65	0
1969	78	78	0
1970	78	78	0
1971	78	78	0
1972	78	78	0
1973	78	78	0
1974	78	78	0
1975	78	78	0
1976	78	78	0
1977	41	41	0
1978	70	70	0
1979	100	100	0
1980	100	100	0
1981	100	100	0
1982	100	100	0
1983	100	100	0
1984	100	100	0
1985	100	100	0
1986	100	100	0
1987	100	100	0
1988	100	100	0
1989	83	83	0
1990	96	96	0
1991	86	86	0
1992	81	81	0
1993	0	0	0
1994	0	0	0
Mean:	68	68	0
Median:	78	78	0
Min:	0	0	0
Max:	100	100	0
0.0 > X >= -1.0			0
-1.0 > X >= -2.0			0
-2.0 > X >= -4.0			0
-4.0 > X >= -6.0			0
X < -6.0			0
0.0 < X <= 1.0			0
1.0 < X <= 2.0			0
2.0 < X <= 4.0			0
4.0 < X <= 6.0			0
X > 6.0			0
No Difference (X = 0.0)			73

Oroville Reservoir End of Month Elevation

October					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	832	0	832	0	0
1923	862	2	862	3	0
1924	807	-8	807	-8	0
1925	707	0	707	0	0
1926	776	-4	776	-4	0
1927	744	-13	744	-13	0
1928	832	-4	832	-4	0
1929	763	-19	763	-18	0
1930	710	-9	710	-9	0
1931	767	-7	767	-7	0
1932	665	-13	665	-12	0
1933	749	-9	749	-9	0
1934	728	-13	728	-12	0
1935	678	-14	678	-13	0
1936	729	-24	729	-23	0
1937	801	-17	801	-17	0
1938	782	-6	782	-6	0
1939	874	-2	874	-2	0
1940	669	-26	669	-26	0
1941	770	0	770	0	0
1942	874	1	874	1	0
1943	870	1	870	1	0
1944	830	1	830	1	0
1945	748	-17	748	-17	0
1946	784	-1	784	-1	0
1947	784	-9	784	-9	0
1948	686	-5	686	-5	0
1949	761	-8	761	-8	0
1950	738	-6	738	-6	0
1951	804	5	804	5	0
1952	823	3	823	3	0
1953	874	-13	874	-13	0
1954	871	2	871	2	0
1955	769	-7	769	-6	0
1956	753	-8	753	-8	0
1957	865	5	865	5	0
1958	814	1	814	2	0
1959	874	-13	874	-13	0
1960	718	-22	718	-22	0
1961	730	-6	730	-6	0
1962	651	-33	651	-33	0
1963	779	76	779	76	0
1964	830	0	830	0	0
1965	702	-22	702	-22	0
1966	851	4	851	4	0
1967	732	-27	732	-27	0
1968	874	-13	874	-13	0
1969	748	-9	748	-9	0
1970	874	0	874	0	0
1971	765	-1	765	-1	0
1972	850	5	850	5	0
1973	797	-5	797	-5	0
1974	810	2	810	3	0
1975	874	-10	874	-9	0
1976	873	-8	873	-7	0
1977	715	-17	715	-16	0
1978	340	-49	340	-46	0
1979	849	1	849	1	0
1980	807	5	807	6	0
1981	848	-2	848	-2	0
1982	748	-4	748	-4	0
1983	873	-14	873	-14	0
1984	874	-13	874	-13	0
1985	822	4	822	4	0
1986	685	-21	685	-20	0
1987	826	2	826	2	0
1988	674	-18	674	-17	0
1989	689	-6	689	-6	0
1990	726	3	726	3	0
1991	706	-5	706	-5	0
1992	727	-2	727	-2	0
1993	691	0	691	0	0
Mean:	775	-6	775	-6	0
Median:	778	-6	778	-6	0
Min:	340	-49	340	-46	0
Max:	874	76	874	76	0
Increase > 20		1		1	
Decrease > 9		23		22	
Decrease > 10		22		22	
Decrease > 15		13		13	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

November					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	832	0	832	0	0
1923	865	3	865	3	0
1924	801	-6	801	-6	0
1925	712	5	712	5	0
1926	779	3	779	3	0
1927	777	33	777	33	0
1928	843	11	843	11	0
1929	759	-4	759	-4	0
1930	708	-2	708	-2	0
1931	763	-5	763	-5	0
1932	666	1	666	1	0
1933	746	-3	746	-3	0
1934	723	-5	723	-5	0
1935	684	6	684	6	0
1936	717	-11	717	-11	0
1937	790	-11	790	-11	0
1938	801	18	801	18	0
1939	874	0	874	0	0
1940	651	-18	651	-18	0
1941	770	0	770	0	0
1942	874	0	874	0	0
1943	869	-1	869	-1	0
1944	833	3	833	3	0
1945	756	8	756	8	0
1946	793	9	793	9	0
1947	791	7	791	7	0
1948	683	-3	683	-3	0
1949	759	-2	759	-2	0
1950	739	1	739	1	0
1951	848	44	848	44	0
1952	827	4	827	4	0
1953	874	0	874	0	0
1954	871	0	871	0	0
1955	771	2	771	2	0
1956	751	-2	751	-2	0
1957	871	6	871	6	0
1958	819	5	819	5	0
1959	874	0	874	0	0
1960	706	-12	706	-12	0
1961	734	4	734	4	0
1962	640	-11	640	-11	0
1963	792	13	792	13	0
1964	842	12	842	12	0
1965	703	2	703	2	0
1966	859	8	859	8	0
1967	746	13	746	13	0
1968	874	0	874	0	0
1969	755	6	755	6	0
1970	874	0	874	0	0
1971	792	27	792	27	0
1972	856	6	856	6	0
1973	813	17	813	17	0
1974	849	39	849	39	0
1975	874	0	874	0	0
1976	874	2	874	2	0
1977	704	-10	704	-10	0
1978	364	24	364	24	0
1979	853	4	853	4	0
1980	813	6	813	6	0
1981	849	2	849	2	0
1982	836	87	836	87	0
1983	862	-11	862	-11	0
1984	860	-15	860	-15	0
1985	836	14	836	14	0
1986	676	-9	676	-9	0
1987	833	6	833	6	0
1988	678	4	678	4	0
1989	708	20	708	20	0
1990	728	2	728	2	0
1991	700	-6	700	-6	0
1992	720	-7	720	-7	0
1993	686	-6	686	-6	0
Mean:	780	5	780	5	0
Median:	792	2	792	2	0
Min:	364	-18	364	-18	0
Max:	874	87	874	87	0
Increase > 20		6		6	
Decrease > 9		8		8	
Decrease > 10		7		7	
Decrease > 15		1		1	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

December					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	832	0	832	0	0
1923	858	-7	858	-7	0
1924	787	-14	787	-14	0
1925	718	6	718	6	0
1926	779	0	779	0	0
1927	776	-1	776	-1	0
1928	843	0	843	0	0
1929	758	-1	758	-1	0
1930	778	71	778	71	0
1931	751	-11	751	-11	0
1932	659	-7	659	-7	0
1933	749	3	749	3	0
1934	725	1	725	1	0
1935	692	8	692	8	0
1936	694	-23	694	-23	0
1937	768	-22	768	-22	0
1938	854	53	854	53	0
1939	874	0	874	0	0
1940	635	-16	635	-16	0
1941	821	51	821	51	0
1942	849	-26	849	-26	0
1943	861	-8	861	-8	0
1944	833	0	833	0	0
1945	773	17	773	17	0
1946	846	53	846	53	0
1947	800	9	800	9	0
1948	674	-9	674	-9	0
1949	761	1	761	1	0
1950	738	-1	738	-1	0
1951	854	6	854	6	0
1952	849	22	849	22	0
1953	858	-17	858	-17	0
1954	874	3	874	3	0
1955	780	10	780	10	0
1956	849	97	849	97	0
1957	874	3	874	3	0
1958	834	15	834	15	0
1959	874	0	874	0	0
1960	680	-26	680	-26	0
1961	746	11	746	11	0
1962	656	16	656	16	0
1963	826	34	826	34	0
1964	846	3	846	3	0
1965	849	145	849	145	0
1966	860	0	860	0	0
1967	784	39	784	39	0
1968	873	-1	873	-1	0
1969	778	23	778	23	0
1970	850	-24	850	-24	0
1971	830	37	830	37	0
1972	864	8	864	8	0
1973	834	21	834	21	0
1974	850	1	850	1	0
1975	874	0	874	0	0
1976	874	0	874	0	0
1977	681	-23	681	-23	0
1978	489	125	489	125	0
1979	857	4	857	4	0
1980	823	10	823	10	0
1981	858	9	858	9	0
1982	849	13	849	13	0
1983	858	-3	858	-3	0
1984	849	-11	849	-11	0
1985	847	11	847	11	0
1986	684	8	684	8	0
1987	834	1	834	1	0
1988	718	41	718	41	0
1989	720	12	720	12	0
1990	740	11	740	11	0
1991	699	-1	699	-1	0
1992	721	1	721	1	0
1993	706	20	706	20	0
Mean:	791	11	791	11	0
Median:	825	3	825	3	0
Min:	489	-26	489	-26	0
Max:	874	145	874	145	0
Increase > 20		14		14	
Decrease > 9		11		11	
Decrease > 10		11		11	
Decrease > 15		8		8	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

January					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	841	9	841	9	0
1923	862	4	862	4	0
1924	792	5	792	5	0
1925	735	17	735	17	0
1926	793	14	793	14	0
1927	807	31	807	31	0
1928	855	12	855	12	0
1929	763	5	763	5	0
1930	807	29	807	29	0
1931	765	14	765	14	0
1932	687	28	687	28	0
1933	760	11	760	11	0
1934	752	27	752	27	0
1935	720	28	720	28	0
1936	755	61	755	61	0
1937	773	4	773	4	0
1938	858	4	858	4	0
1939	872	-2	872	-2	0
1940	708	72	708	72	0
1941	849	27	849	27	0
1942	849	0	849	0	0
1943	849	-12	849	-12	0
1944	840	7	840	7	0
1945	790	17	790	17	0
1946	864	17	864	17	0
1947	807	7	807	7	0
1948	712	38	712	38	0
1949	766	5	766	5	0
1950	769	31	769	31	0
1951	853	-1	853	-1	0
1952	849	0	849	0	0
1953	850	-7	850	-7	0
1954	858	-17	858	-17	0
1955	794	13	794	13	0
1956	849	0	849	0	0
1957	871	-3	871	-3	0
1958	854	20	854	20	0
1959	862	-13	862	-13	0
1960	695	15	695	15	0
1961	758	12	758	12	0
1962	675	19	675	19	0
1963	847	21	847	21	0
1964	856	10	856	10	0
1965	849	0	849	0	0
1966	864	5	864	5	0
1967	839	55	839	55	0
1968	858	-15	858	-15	0
1969	849	71	849	71	0
1970	849	-1	849	-1	0
1971	855	26	855	26	0
1972	869	5	869	5	0
1973	849	15	849	15	0
1974	854	5	854	5	0
1975	874	0	874	0	0
1976	874	0	874	0	0
1977	679	-2	679	-2	0
1978	687	198	687	198	0
1979	871	14	871	14	0
1980	850	27	850	27	0
1981	860	1	860	1	0
1982	859	11	859	11	0
1983	853	-5	853	-5	0
1984	869	21	869	21	0
1985	853	6	853	6	0
1986	724	40	724	40	0
1987	835	1	835	1	0
1988	749	30	749	30	0
1989	728	8	728	8	0
1990	755	15	755	15	0
1991	699	0	699	0	0
1992	726	5	726	5	0
1993	772	67	772	67	0
Mean:	807	16	807	16	0
Median:	844	11	844	11	0
Min:	675	-17	675	-17	0
Max:	874	198	874	198	0
Increase > 20		20		20	
Decrease > 9		4		4	
Decrease > 10		4		4	
Decrease > 15		1		1	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

February					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	850	9	850	9	0
1923	869	8	869	8	0
1924	811	19	811	19	0
1925	800	66	800	66	0
1926	836	43	836	43	0
1927	849	42	849	42	0
1928	867	12	867	12	0
1929	775	12	775	12	0
1930	826	19	826	19	0
1931	778	13	778	13	0
1932	709	23	709	23	0
1933	769	9	769	9	0
1934	767	15	767	15	0
1935	744	24	744	24	0
1936	830	74	830	74	0
1937	790	18	790	18	0
1938	849	-9	849	-9	0
1939	874	2	874	2	0
1940	816	108	816	108	0
1941	849	0	849	0	0
1942	850	1	850	1	0
1943	856	7	856	7	0
1944	851	11	851	11	0
1945	841	51	841	51	0
1946	868	4	868	4	0
1947	830	23	830	23	0
1948	719	7	719	7	0
1949	775	8	775	8	0
1950	816	47	816	47	0
1951	858	5	858	5	0
1952	852	3	852	3	0
1953	867	17	867	17	0
1954	857	-1	857	-1	0
1955	803	9	803	9	0
1956	849	0	849	0	0
1957	853	-18	853	-18	0
1958	849	-5	849	-5	0
1959	852	-9	852	-9	0
1960	765	70	765	70	0
1961	789	31	789	31	0
1962	744	70	744	70	0
1963	867	20	867	20	0
1964	865	9	865	9	0
1965	863	14	863	14	0
1966	870	6	870	6	0
1967	860	21	860	21	0
1968	861	3	861	3	0
1969	849	0	849	0	0
1970	849	0	849	0	0
1971	874	19	874	19	0
1972	867	-2	867	-2	0
1973	849	0	849	0	0
1974	864	9	864	9	0
1975	855	-19	855	-19	0
1976	874	0	874	0	0
1977	677	-2	677	-2	0
1978	750	63	750	63	0
1979	853	-18	853	-18	0
1980	849	-2	849	-2	0
1981	868	9	868	9	0
1982	862	3	862	3	0
1983	849	-5	849	-5	0
1984	869	-1	869	-1	0
1985	866	13	866	13	0
1986	849	125	849	125	0
1987	846	11	846	11	0
1988	757	8	757	8	0
1989	745	17	745	17	0
1990	763	8	763	8	0
1991	699	0	699	0	0
1992	757	31	757	31	0
1993	823	51	823	51	0
Mean:	824	17	824	17	0
Median:	849	9	849	9	0
Min:	677	-19	677	-19	0
Max:	874	125	874	125	0
Increase > 20		18		18	
Decrease > 9		3		3	
Decrease > 10		3		3	
Decrease > 15		3		3	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

March					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	858	7	858	7	0
1923	874	5	874	5	0
1924	807	-4	807	-4	0
1925	816	16	816	16	0
1926	856	20	856	20	0
1927	863	14	863	14	0
1928	849	-17	849	-17	0
1929	789	14	789	14	0
1930	858	32	858	32	0
1931	799	21	799	21	0
1932	749	39	749	39	0
1933	765	-4	765	-4	0
1934	796	28	796	28	0
1935	773	29	773	29	0
1936	857	27	857	27	0
1937	824	34	824	34	0
1938	849	0	849	0	0
1939	872	-2	872	-2	0
1940	849	33	849	33	0
1941	858	9	858	9	0
1942	867	17	867	17	0
1943	859	3	859	3	0
1944	868	17	868	17	0
1945	861	20	861	20	0
1946	868	0	868	0	0
1947	852	22	852	22	0
1948	743	24	743	24	0
1949	804	29	804	29	0
1950	848	31	848	31	0
1951	870	12	870	12	0
1952	862	11	862	11	0
1953	867	0	867	0	0
1954	859	3	859	3	0
1955	816	13	816	13	0
1956	864	16	864	16	0
1957	863	10	863	10	0
1958	849	0	849	0	0
1959	867	15	867	15	0
1960	822	57	822	57	0
1961	815	27	815	27	0
1962	781	37	781	37	0
1963	858	-9	858	-9	0
1964	874	9	874	9	0
1965	870	7	870	7	0
1966	874	4	874	4	0
1967	853	-7	853	-7	0
1968	866	5	866	5	0
1969	865	16	865	16	0
1970	874	26	874	26	0
1971	874	0	874	0	0
1972	874	7	874	7	0
1973	860	11	860	11	0
1974	849	-15	849	-15	0
1975	852	-3	852	-3	0
1976	874	0	874	0	0
1977	676	-1	676	-1	0
1978	834	84	834	84	0
1979	863	11	863	11	0
1980	865	16	865	16	0
1981	865	-3	865	-3	0
1982	859	-3	859	-3	0
1983	849	0	849	0	0
1984	871	3	871	3	0
1985	871	5	871	5	0
1986	849	0	849	0	0
1987	867	21	867	21	0
1988	766	9	766	9	0
1989	849	104	849	104	0
1990	790	27	790	27	0
1991	746	47	746	47	0
1992	782	25	782	25	0
1993	861	38	861	38	0
Mean:	840	15	840	15	0
Median:	858	12	858	12	0
Min:	676	-17	676	-17	0
Max:	874	104	874	104	0
Increase > 20		23		23	
Decrease > 9		2		2	
Decrease > 10		2		2	
Decrease > 15		1		1	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

April					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	894	36	894	36	0
1923	895	20	895	20	0
1924	802	-5	802	-5	0
1925	837	21	837	21	0
1926	887	31	887	31	0
1927	890	27	890	27	0
1928	878	29	878	29	0
1929	793	4	793	4	0
1930	878	20	878	20	0
1931	791	-8	791	-8	0
1932	761	13	761	13	0
1933	771	7	771	7	0
1934	793	-3	793	-3	0
1935	857	84	857	84	0
1936	884	27	884	27	0
1937	850	26	850	26	0
1938	882	33	882	33	0
1939	866	-7	866	-7	0
1940	879	31	879	31	0
1941	886	28	886	28	0
1942	882	15	882	15	0
1943	887	28	887	28	0
1944	877	10	877	10	0
1945	877	16	877	16	0
1946	889	21	889	21	0
1947	858	6	858	6	0
1948	812	69	812	69	0
1949	830	26	830	26	0
1950	881	34	881	34	0
1951	886	15	886	15	0
1952	894	32	894	32	0
1953	883	15	883	15	0
1954	883	24	883	24	0
1955	824	8	824	8	0
1956	892	28	892	28	0
1957	860	-3	860	-3	0
1958	879	31	879	31	0
1959	871	4	871	4	0
1960	835	13	835	13	0
1961	820	5	820	5	0
1962	825	44	825	44	0
1963	876	17	876	17	0
1964	862	-12	862	-12	0
1965	887	18	887	18	0
1966	895	20	895	20	0
1967	879	27	879	27	0
1968	863	-2	863	-2	0
1969	895	30	895	30	0
1970	866	-8	866	-8	0
1971	893	18	893	18	0
1972	885	11	885	11	0
1973	880	20	880	20	0
1974	883	34	883	34	0
1975	882	30	882	30	0
1976	868	-6	868	-6	0
1977	654	-22	654	-22	0
1978	869	35	869	35	0
1979	873	10	873	10	0
1980	883	17	883	17	0
1981	876	11	876	11	0
1982	884	25	884	25	0
1983	877	29	877	29	0
1984	882	11	882	11	0
1985	881	10	881	10	0
1986	872	24	872	24	0
1987	856	-11	856	-11	0
1988	769	3	769	3	0
1989	875	26	875	26	0
1990	785	-5	785	-5	0
1991	767	21	767	21	0
1992	796	14	796	14	0
1993	894	34	894	34	0
Mean:	857	18	857	18	0
Median:	877	19	877	19	0
Min:	654	-22	654	-22	0
Max:	895	84	895	84	0
Increase > 20		32		32	
Decrease > 9		3		3	
Decrease > 10		3		3	
Decrease > 15		1		1	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

May					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	900	6	900	6	0
1923	900	5	900	5	0
1924	794	-8	798	-4	4
1925	846	9	849	12	3
1926	875	-12	878	-9	3
1927	900	10	900	10	0
1928	871	-8	874	-5	3
1929	791	-2	796	2	5
1930	883	5	886	8	3
1931	786	-5	790	0	4
1932	795	34	800	38	5
1933	785	14	790	18	5
1934	785	-7	790	-3	5
1935	881	23	882	25	1
1936	896	12	899	15	3
1937	873	23	876	26	3
1938	900	18	900	18	0
1939	851	-14	853	-13	2
1940	884	4	884	4	0
1941	900	14	900	14	0
1942	900	18	900	18	0
1943	897	10	898	11	1
1944	889	12	889	12	0
1945	894	17	894	17	0
1946	899	10	899	10	0
1947	845	-14	845	-14	0
1948	846	34	846	34	0
1949	844	14	846	16	2
1950	896	15	896	15	0
1951	900	14	900	14	0
1952	900	6	900	6	0
1953	900	17	900	17	0
1954	867	-17	867	-16	0
1955	836	12	839	15	3
1956	900	8	900	8	0
1957	879	19	881	21	2
1958	900	21	900	21	0
1959	868	-3	868	-3	0
1960	841	7	844	10	3
1961	825	4	825	5	0
1962	837	12	837	12	0
1963	900	24	900	24	0
1964	865	3	865	3	0
1965	890	3	891	3	1
1966	884	-11	884	-11	0
1967	900	21	900	21	0
1968	869	6	869	6	0
1969	900	5	900	5	0
1970	870	3	871	5	1
1971	900	7	900	7	0
1972	889	4	889	4	0
1973	900	20	900	20	0
1974	900	17	900	17	0
1975	900	18	900	18	0
1976	860	-9	863	-6	3
1977	635	-19	643	-11	8
1978	890	21	892	24	2
1979	892	19	893	20	1
1980	895	12	898	15	3
1981	875	-1	875	-1	0
1982	900	16	900	16	0
1983	900	23	900	23	0
1984	892	10	893	10	1
1985	867	-14	867	-14	0
1986	878	5	881	8	3
1987	847	-9	850	-6	3
1988	768	-1	772	3	4
1989	864	-11	864	-11	0
1990	786	1	791	6	5
1991	780	13	785	18	5
1992	784	-12	788	-7	4
1993	900	6	900	6	0
Mean:	864	7	866	8	1
Median:	882	8	883	9	0
Min:	635	-19	643	-16	0
Max:	900	34	900	38	8
Increase > 20		9		10	
Decrease > 9		9		7	
Decrease > 10		9		7	
Decrease > 15		2		1	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

June					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	900	0	900	0	0
1923	875	-25	877	-23	2
1924	773	-21	782	-16	9
1925	839	-7	845	-3	6
1926	849	-26	855	-23	6
1927	890	-10	893	-7	3
1928	847	-24	853	-21	6
1929	769	-22	778	-17	9
1930	861	-22	867	-19	6
1931	769	-17	778	-12	9
1932	792	-3	801	2	9
1933	780	-5	790	0	10
1934	767	-19	776	-14	9
1935	854	-27	857	-25	3
1936	884	-12	890	-9	6
1937	850	-23	856	-20	6
1938	900	0	900	0	0
1939	830	-21	833	-20	3
1940	860	-24	860	-24	0
1941	883	-17	887	-13	4
1942	900	0	900	0	0
1943	882	-15	885	-14	3
1944	868	-22	868	-22	0
1945	873	-21	873	-21	0
1946	874	-24	874	-24	0
1947	824	-20	824	-20	0
1948	856	10	856	10	0
1949	815	-28	821	-24	6
1950	877	-20	877	-20	0
1951	889	-11	889	-11	0
1952	900	0	900	0	0
1953	900	0	900	0	0
1954	851	-15	852	-15	1
1955	809	-27	818	-21	9
1956	900	0	900	0	0
1957	863	-16	866	-14	3
1958	900	0	900	0	0
1959	840	-28	840	-28	0
1960	823	-19	829	-15	6
1961	806	-19	808	-17	2
1962	826	-11	826	-11	0
1963	877	-23	880	-20	3
1964	845	-19	845	-19	0
1965	894	4	895	4	1
1966	857	-27	857	-27	0
1967	900	0	900	0	0
1968	844	-25	844	-25	0
1969	900	0	900	0	0
1970	846	-24	849	-22	3
1971	900	0	900	0	0
1972	864	-25	865	-25	1
1973	869	-31	871	-29	2
1974	889	-11	892	-8	3
1975	900	0	900	0	0
1976	840	-20	846	-16	6
1977	577	-58	594	-49	17
1978	885	-4	891	-1	6
1979	866	-27	866	-26	0
1980	892	-3	898	1	6
1981	850	-24	850	-24	0
1982	900	0	900	0	0
1983	900	0	900	0	0
1984	870	-23	871	-22	1
1985	839	-28	839	-28	0
1986	863	-15	869	-12	6
1987	824	-23	831	-19	7
1988	749	-18	759	-13	10
1989	833	-32	833	-32	0
1990	766	-20	775	-15	9
1991	774	-6	784	-1	10
1992	764	-20	774	-15	10
1993	900	0	900	0	0
Mean:	849	-15	852	-14	3
Median:	861	-19	863	-15	2
Min:	577	-58	594	-49	0
Max:	900	10	900	10	17
Increase > 20		0		0	
Decrease > 9		50		47	
Decrease > 10		49		47	
Decrease > 15		42		34	
# Years Diff >= -1 ft					72

Oroville Reservoir End of Month Elevation

July					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	896	-4	885	-15	-11
1923	852	-23	848	-29	-4
1924	747	-26	740	-42	-7
1925	789	-50	806	-40	17
1926	823	-25	820	-34	-3
1927	878	-12	869	-24	-9
1928	829	-18	824	-29	-5
1929	746	-23	753	-25	7
1930	823	-38	827	-40	4
1931	727	-42	724	-54	-3
1932	776	-16	779	-23	3
1933	764	-16	765	-25	1
1934	751	-16	751	-25	0
1935	821	-33	814	-43	-7
1936	860	-24	855	-35	-5
1937	843	-7	834	-22	-9
1938	904	4	893	-7	-11
1939	793	-37	785	-48	-8
1940	819	-41	819	-41	0
1941	877	-6	876	-10	-1
1942	896	-4	886	-14	-10
1943	864	-18	858	-26	-6
1944	835	-33	831	-37	-4
1945	835	-39	834	-39	-1
1946	837	-37	837	-38	0
1947	772	-52	769	-55	-3
1948	822	-34	821	-35	-1
1949	785	-30	786	-35	1
1950	839	-38	838	-38	-1
1951	853	-36	851	-38	-2
1952	902	2	900	0	-2
1953	885	-15	879	-21	-6
1954	823	-28	818	-34	-5
1955	780	-29	785	-33	5
1956	892	-8	884	-16	-8
1957	842	-21	837	-29	-5
1958	899	-1	896	-3	-3
1959	799	-41	794	-46	-5
1960	788	-34	789	-40	1
1961	773	-33	765	-43	-8
1962	786	-40	779	-47	-7
1963	865	-12	857	-23	-8
1964	804	-42	800	-45	-4
1965	873	-21	870	-26	-3
1966	826	-31	821	-36	-5
1967	899	-1	900	0	1
1968	819	-25	810	-34	-9
1969	897	-3	893	-7	-4
1970	819	-27	813	-36	-6
1971	864	-36	865	-35	1
1972	841	-22	838	-27	-3
1973	850	-19	842	-29	-8
1974	896	7	887	-5	-9
1975	892	-8	883	-17	-9
1976	800	-40	783	-63	-17
1977	502	-75	492	-102	-10
1978	879	-6	871	-20	-8
1979	844	-22	839	-27	-5
1980	886	-6	880	-18	-6
1981	816	-34	812	-39	-4
1982	904	4	896	-4	-8
1983	901	2	900	1	-1
1984	840	-30	838	-33	-2
1985	792	-47	790	-50	-2
1986	857	-6	844	-25	-13
1987	782	-43	777	-54	-5
1988	720	-29	727	-32	7
1989	787	-45	781	-52	-6
1990	741	-24	744	-31	3
1991	752	-23	747	-37	-5
1992	738	-26	745	-29	7
1993	890	-10	880	-20	-10
Mean:	825	-24	821	-31	-4
Median:	832	-25	829	-33	-5
Min:	502	-75	492	-102	-17
Max:	904	7	900	1	17
Increase > 20		0		0	
Decrease > 9		55		64	
Decrease > 10		54		63	
Decrease > 15		51		61	
# Years Diff >= -1 ft					21

Oroville Reservoir End of Month Elevation

August					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	862	-34	859	-25	-3
1923	821	-30	820	-28	-1
1924	722	-25	717	-23	-5
1925	787	-3	783	-22	-4
1926	787	-36	777	-43	-10
1927	842	-36	840	-29	-2
1928	796	-34	792	-32	-4
1929	732	-13	727	-26	-5
1930	783	-40	781	-46	-2
1931	694	-33	690	-34	-4
1932	767	-9	765	-14	-2
1933	751	-14	744	-21	-7
1934	718	-33	713	-38	-5
1935	772	-49	767	-47	-5
1936	825	-35	823	-32	-2
1937	800	-43	797	-38	-3
1938	876	-28	874	-19	-2
1939	732	-61	723	-61	-9
1940	774	-45	774	-45	0
1941	875	-3	873	-3	-2
1942	871	-26	869	-17	-2
1943	832	-32	831	-27	-1
1944	794	-40	790	-40	-4
1945	796	-39	796	-38	0
1946	802	-35	802	-35	0
1947	717	-56	716	-53	-1
1948	780	-42	778	-43	-2
1949	755	-30	753	-33	-2
1950	806	-33	806	-32	0
1951	823	-30	823	-28	0
1952	901	-1	900	0	-1
1953	871	-14	870	-9	-1
1954	790	-33	786	-32	-4
1955	769	-10	768	-18	-1
1956	861	-31	860	-24	-1
1957	816	-26	812	-25	-4
1958	897	-2	896	0	-1
1959	751	-48	747	-47	-4
1960	749	-40	748	-40	-1
1961	714	-59	708	-57	-6
1962	728	-58	723	-55	-5
1963	832	-33	830	-27	-2
1964	753	-51	752	-49	-1
1965	850	-23	849	-21	-1
1966	785	-41	780	-41	-5
1967	897	-2	898	-2	1
1968	782	-37	778	-32	-4
1969	894	-3	891	-2	-3
1970	778	-41	774	-39	-4
1971	846	-18	847	-18	1
1972	811	-31	808	-30	-3
1973	819	-31	814	-28	-5
1974	888	-9	885	-2	-3
1975	884	-8	881	-2	-3
1976	755	-45	751	-32	-4
1977	380	-121	376	-116	-4
1978	848	-32	845	-26	-3
1979	813	-31	810	-29	-3
1980	854	-32	853	-27	-1
1981	775	-41	771	-40	-4
1982	888	-16	886	-10	-2
1983	900	-2	900	0	0
1984	822	-17	822	-16	0
1985	737	-55	735	-55	-2
1986	822	-35	819	-25	-3
1987	726	-56	719	-57	-7
1988	705	-15	702	-25	-3
1989	734	-53	729	-52	-5
1990	721	-21	717	-27	-4
1991	736	-16	733	-13	-3
1992	716	-22	715	-30	-1
1993	858	-32	856	-24	-2
Mean:	794	-31	791	-30	-3
Median:	795	-32	791	-29	-3
Min:	380	-121	376	-116	-10
Max:	901	-1	900	0	1
Increase > 20		0		0	
Decrease > 9		62		63	
Decrease > 10		61		62	
Decrease > 15		57		60	
# Years Diff >= -1 ft					22

Oroville Reservoir End of Month Elevation

September					
	Baseline		FP Alt		
Water Year	Elevation (ft msl)	Change from Previous Month (ft msl)	Elevation (ft msl)	Change from Previous Month (ft msl)	Absolute Difference (ft msl)
1922	859	-3	859	0	0
1923	815	-6	815	-4	0
1924	707	-16	707	-11	0
1925	780	-7	780	-3	0
1926	757	-29	757	-20	0
1927	836	-6	836	-4	0
1928	782	-14	781	-10	-1
1929	719	-14	719	-8	0
1930	774	-8	774	-7	0
1931	678	-17	677	-13	-1
1932	759	-9	759	-6	0
1933	741	-10	741	-4	0
1934	692	-27	691	-22	-1
1935	752	-20	752	-15	0
1936	817	-8	817	-6	0
1937	788	-12	788	-9	0
1938	877	1	877	2	0
1939	695	-37	695	-29	0
1940	770	-4	770	-4	0
1941	873	-2	873	0	0
1942	869	-2	869	0	0
1943	829	-3	829	-2	0
1944	765	-29	765	-25	0
1945	785	-10	785	-10	0
1946	793	-9	793	-9	0
1947	691	-26	691	-25	0
1948	769	-11	769	-10	0
1949	744	-11	744	-8	0
1950	799	-7	799	-7	0
1951	820	-3	820	-3	0
1952	887	-14	887	-13	0
1953	869	-2	869	-2	0
1954	775	-15	775	-11	0
1955	761	-8	761	-6	0
1956	860	-1	860	1	0
1957	813	-3	813	1	0
1958	887	-10	887	-9	0
1959	741	-10	740	-7	-1
1960	736	-13	736	-12	0
1961	684	-30	684	-25	0
1962	704	-25	703	-20	-1
1963	830	-2	830	0	0
1964	724	-29	724	-28	0
1965	847	-2	847	-2	0
1966	760	-26	760	-21	0
1967	887	-10	887	-11	0
1968	757	-25	757	-21	0
1969	875	-19	874	-16	-1
1970	766	-12	766	-8	0
1971	845	-1	845	-2	0
1972	801	-9	801	-6	0
1973	807	-11	807	-7	0
1974	884	-3	884	-1	0
1975	881	-3	880	-1	-1
1976	731	-24	731	-20	0
1977	389	8	386	10	-3
1978	848	0	848	2	0
1979	802	-11	802	-9	0
1980	849	-5	849	-4	0
1981	753	-22	753	-19	0
1982	887	0	887	1	0
1983	887	-13	887	-13	0
1984	818	-4	818	-4	0
1985	706	-32	705	-29	-1
1986	825	3	824	5	-1
1987	692	-34	691	-28	-1
1988	694	-10	694	-8	0
1989	724	-10	723	-5	-1
1990	711	-10	711	-6	0
1991	729	-7	729	-4	0
1992	691	-24	691	-23	0
1993	854	-4	854	-2	0
Mean:	782	-12	782	-9	0
Median:	781	-10	781	-7	0
Min:	389	-37	386	-29	-3
Max:	887	8	887	10	0
Increase > 20		0		0	
Decrease > 9		39		27	
Decrease > 10		31		24	
Decrease > 15		19		16	
# Years Diff >= -1 ft					71

Feather River Flow Below Oroville Dam

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2030	2030	0	0.0
1923	1708	1826	118	6.9
1924	1708	1783	75	4.4
1925	946	1064	118	12.5
1926	1002	1120	118	11.8
1927	2753	2871	118	4.3
1928	1708	1803	95	5.6
1929	3135	3253	118	3.8
1930	1635	1753	118	7.2
1931	1360	1478	118	8.7
1932	2244	2362	118	5.3
1933	1650	1768	118	7.2
1934	2256	2373	117	5.2
1935	2468	2586	118	4.8
1936	3685	3745	60	1.6
1937	2797	2903	106	3.8
1938	1708	1826	118	6.9
1939	3245	3363	118	3.6
1940	3806	3858	52	1.4
1941	1708	1708	0	0.0
1942	2249	2367	118	5.2
1943	1708	1826	118	6.9
1944	1708	1758	50	2.9
1945	3509	3509	0	0.0
1946	1708	1708	0	0.0
1947	1708	1708	0	0.0
1948	2202	2202	0	0.0
1949	1708	1708	0	0.0
1950	895	983	88	9.8
1951	1708	1708	0	0.0
1952	1708	1708	0	0.0
1953	4882	4896	14	0.3
1954	1708	1772	64	3.7
1955	2766	2771	5	0.2
1956	1708	1826	118	6.9
1957	1708	1826	118	6.9
1958	1708	1767	59	3.5
1959	4898	4986	88	1.8
1960	3058	3058	0	0.0
1961	1204	1321	117	9.7
1962	3896	3925	29	0.7
1963	1204	1203	-1	-0.1
1964	1708	1811	103	6.0
1965	3706	3706	0	0.0
1966	1708	1728	20	1.2
1967	4000	4000	0	0.0
1968	5202	5202	0	0.0
1969	3115	3117	2	0.1
1970	3376	3493	117	3.5
1971	2101	2161	60	2.9
1972	1708	1708	0	0.0
1973	1708	1731	23	1.3
1974	1708	1787	79	4.6
1975	4286	4404	118	2.8
1976	4129	4246	117	2.8
1977	2541	2659	118	4.6
1978	1481	1599	118	8.0
1979	1348	1466	118	8.8
1980	1708	1721	13	0.8
1981	1708	1825	117	6.9
1982	2912	2912	0	0.0
1983	6853	6971	118	1.7
1984	5078	5106	28	0.6
1985	1708	1727	19	1.1
1986	4000	4000	0	0.0
1987	1708	1826	118	6.9
1988	4000	4118	118	3.0
1989	2280	2398	118	5.2
1990	2067	2067	0	0.0
1991	1915	2033	118	6.2
1992	1170	1288	118	10.1
1993	1714	1831	117	6.8
Mean:	2441	2509	68	3.6
Median:	1711	1829	88	3.3
Min:	895	983	-1	-0.1
Max:	6853	6971	118	12.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2500	2500	0	0.0
1923	1697	1723	26	1.5
1924	1697	1714	17	1.0
1925	908	933	25	2.8
1926	908	933	25	2.8
1927	908	933	25	2.8
1928	1697	1718	21	1.2
1929	1819	1844	25	1.4
1930	1055	1080	25	2.4
1931	2107	2132	25	1.2
1932	1114	1139	25	2.2
1933	1425	1451	26	1.8
1934	1566	1592	26	1.7
1935	908	933	25	2.8
1936	2500	2513	13	0.5
1937	2500	2523	23	0.9
1938	1697	1723	26	1.5
1939	2920	2945	25	0.9
1940	2500	2511	11	0.4
1941	1997	1997	0	0.0
1942	3181	3206	25	0.8
1943	4692	4717	25	0.5
1944	1697	1708	11	0.6
1945	1697	1697	0	0.0
1946	1697	1697	0	0.0
1947	1697	1697	0	0.0
1948	1908	1908	0	0.0
1949	1697	1697	0	0.0
1950	908	926	18	2.0
1951	1697	1697	0	0.0
1952	1697	1697	0	0.0
1953	2843	2846	3	0.1
1954	3776	3790	14	0.4
1955	1697	1698	1	0.1
1956	1697	1723	26	1.5
1957	1697	1723	26	1.5
1958	1697	1710	13	0.8
1959	2832	2851	19	0.7
1960	2500	2500	0	0.0
1961	1193	1218	25	2.1
1962	2281	2287	6	0.3
1963	1193	1193	0	0.0
1964	1697	1719	22	1.3
1965	1697	1697	0	0.0
1966	2409	2414	5	0.2
1967	1697	1697	0	0.0
1968	2786	2786	0	0.0
1969	1697	1698	1	0.1
1970	3827	3853	26	0.7
1971	1697	1710	13	0.8
1972	1697	1697	0	0.0
1973	1697	1702	5	0.3
1974	5934	5951	17	0.3
1975	3505	3530	25	0.7
1976	3926	3951	25	0.6
1977	2500	2525	25	1.0
1978	908	933	25	2.8
1979	1193	1218	25	2.1
1980	1697	1700	3	0.2
1981	1697	1722	25	1.5
1982	1193	1193	0	0.0
1983	8703	8728	25	0.3
1984	14569	14575	6	0.0
1985	1697	1702	5	0.3
1986	2500	2500	0	0.0
1987	1697	1723	26	1.5
1988	2500	2525	25	1.0
1989	908	933	25	2.8
1990	2500	2500	0	0.0
1991	2318	2343	25	1.1
1992	2173	2198	25	1.2
1993	2239	2265	26	1.2
Mean:	2301	2315	15	0.9
Median:	1697	1723	19	0.7
Min:	908	926	0	0.0
Max:	14569	14575	26	2.8
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3488	3488	0	0.0
1923	6838	6846	8	0.1
1924	3038	3043	5	0.2
1925	1254	1262	8	0.6
1926	1845	1853	8	0.4
1927	4120	4128	8	0.2
1928	2763	2770	7	0.3
1929	1708	1716	8	0.5
1930	2099	2107	8	0.4
1931	3088	3096	8	0.3
1932	4387	4395	8	0.2
1933	895	903	8	0.9
1934	2493	2501	8	0.3
1935	895	903	8	0.9
1936	4637	4641	4	0.1
1937	4664	4671	7	0.2
1938	5018	5026	8	0.2
1939	3347	3355	8	0.2
1940	3015	3018	3	0.1
1941	1708	1708	0	0.0
1942	18972	18980	8	0.0
1943	8735	8743	8	0.1
1944	1708	1711	3	0.2
1945	1708	1708	0	0.0
1946	1708	1708	0	0.0
1947	1708	1708	0	0.0
1948	2627	2627	0	0.0
1949	1708	1708	0	0.0
1950	1356	1362	6	0.4
1951	14615	14615	0	0.0
1952	4329	4329	0	0.0
1953	9108	9109	1	0.0
1954	3036	3040	4	0.1
1955	1708	1708	0	0.0
1956	8922	8930	8	0.1
1957	2482	2490	8	0.3
1958	1708	1712	4	0.2
1959	3368	3374	6	0.2
1960	4909	4909	0	0.0
1961	1317	1325	8	0.6
1962	895	897	2	0.2
1963	1204	1203	-1	-0.1
1964	1708	1715	7	0.4
1965	3958	3958	0	0.0
1966	3645	3647	2	0.1
1967	1708	1708	0	0.0
1968	3654	3654	0	0.0
1969	1708	1708	0	0.0
1970	16401	16409	8	0.0
1971	1708	1712	4	0.2
1972	1708	1708	0	0.0
1973	1708	1709	1	0.1
1974	10226	10232	6	0.1
1975	2863	2871	8	0.3
1976	4004	4012	8	0.2
1977	3813	3821	8	0.2
1978	895	903	8	0.9
1979	1204	1212	8	0.7
1980	1708	1709	1	0.1
1981	1708	1716	8	0.5
1982	16003	16003	0	0.0
1983	11001	11009	8	0.1
1984	24346	24347	1	0.0
1985	1708	1709	1	0.1
1986	1708	1708	0	0.0
1987	1708	1716	8	0.5
1988	1204	1212	8	0.7
1989	894	903	9	1.0
1990	1068	1068	0	0.0
1991	1727	1735	8	0.5
1992	1141	1149	8	0.7
1993	894	903	9	1.0
Mean:	3984	3989	5	0.2
Median:	1972	1980	6	0.2
Min:	894	897	-1	-0.1
Max:	24346	24347	9	1.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1708	1708	0	0.0
1923	4933	4937	4	0.1
1924	1708	1710	2	0.1
1925	895	899	4	0.4
1926	894	899	5	0.6
1927	894	899	5	0.6
1928	1708	1711	3	0.2
1929	1708	1712	4	0.2
1930	895	899	4	0.4
1931	895	899	4	0.4
1932	895	899	4	0.4
1933	895	899	4	0.4
1934	894	899	5	0.6
1935	895	899	4	0.4
1936	1708	1710	2	0.1
1937	1708	1711	3	0.2
1938	5326	5330	4	0.1
1939	3743	3747	4	0.1
1940	1204	1205	1	0.1
1941	4455	4455	0	0.0
1942	14375	14378	3	0.0
1943	18784	18788	4	0.0
1944	1708	1709	1	0.1
1945	1708	1708	0	0.0
1946	4078	4078	0	0.0
1947	1708	1708	0	0.0
1948	1204	1203	-1	-0.1
1949	1708	1708	0	0.0
1950	894	898	4	0.4
1951	11689	11689	0	0.0
1952	8931	8931	0	0.0
1953	21023	21023	0	0.0
1954	9809	9811	2	0.0
1955	1708	1708	0	0.0
1956	21006	21010	4	0.0
1957	4266	4270	4	0.1
1958	1913	1915	2	0.1
1959	9999	10002	3	0.0
1960	1204	1203	-1	-0.1
1961	1204	1208	4	0.3
1962	895	895	0	0.0
1963	1921	1921	0	0.0
1964	1708	1711	3	0.2
1965	19181	19181	0	0.0
1966	3528	3529	1	0.0
1967	1708	1708	0	0.0
1968	8143	8143	0	0.0
1969	10908	10908	0	0.0
1970	35879	35882	3	0.0
1971	1708	1710	2	0.1
1972	3755	3755	0	0.0
1973	8079	8079	0	0.0
1974	20571	20573	2	0.0
1975	2965	2969	4	0.1
1976	3626	3630	4	0.1
1977	1204	1208	4	0.3
1978	894	899	5	0.6
1979	1300	1304	4	0.3
1980	14293	14293	0	0.0
1981	3755	3759	4	0.1
1982	8343	8343	0	0.0
1983	12697	12701	4	0.0
1984	5612	5613	1	0.0
1985	1708	1708	0	0.0
1986	1708	1708	0	0.0
1987	1708	1712	4	0.2
1988	1204	1208	4	0.3
1989	894	899	5	0.6
1990	895	894	-1	-0.1
1991	895	899	4	0.4
1992	895	899	4	0.4
1993	894	899	5	0.6
Mean:	5005	5007	2	0.1
Median:	1708	1711	3	0.1
Min:	894	894	-1	-0.1
Max:	35879	35882	5	0.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5327	5327	0	0.0
1923	1693	1697	4	0.2
1924	1638	1637	-1	-0.1
1925	900	905	5	0.6
1926	900	905	5	0.6
1927	10665	10669	4	0.0
1928	3238	3234	-4	-0.1
1929	1693	1697	4	0.2
1930	2831	2835	4	0.1
1931	900	905	5	0.6
1932	874	874	0	0.0
1933	900	905	5	0.6
1934	2596	2601	5	0.2
1935	900	905	5	0.6
1936	1641	1636	-5	-0.3
1937	1693	1697	4	0.2
1938	14537	14541	4	0.0
1939	2675	2679	4	0.1
1940	1172	1167	-5	-0.4
1941	17639	17639	0	0.0
1942	17644	17648	4	0.0
1943	7503	7507	4	0.1
1944	1640	1636	-4	-0.2
1945	1693	1693	0	0.0
1946	4372	4372	0	0.0
1947	1693	1693	0	0.0
1948	1861	1857	-4	-0.2
1949	1693	1693	0	0.0
1950	900	904	4	0.4
1951	10855	10855	0	0.0
1952	12164	12157	-7	-0.1
1953	1693	1693	0	0.0
1954	8588	8591	3	0.0
1955	1693	1693	0	0.0
1956	11363	11360	-3	0.0
1957	15935	15939	4	0.0
1958	23683	23684	1	0.0
1959	9584	9588	4	0.0
1960	1173	1165	-8	-0.7
1961	1206	1211	5	0.4
1962	900	901	1	0.1
1963	13171	13171	0	0.0
1964	1643	1638	-5	-0.3
1965	4873	4873	0	0.0
1966	1802	1803	1	0.1
1967	4243	4243	0	0.0
1968	11802	11793	-9	-0.1
1969	12487	12487	0	0.0
1970	10669	10674	5	0.0
1971	2013	2015	2	0.1
1972	6585	6576	-9	-0.1
1973	10124	10125	1	0.0
1974	5792	5795	3	0.1
1975	13235	13240	5	0.0
1976	3992	3992	0	0.0
1977	1206	1211	5	0.4
1978	900	905	5	0.6
1979	11707	11711	4	0.0
1980	18161	18153	-8	0.0
1981	3715	3719	4	0.1
1982	17997	17997	0	0.0
1983	21737	21741	4	0.0
1984	8618	8610	-8	-0.1
1985	1693	1693	0	0.0
1986	18997	18996	-1	0.0
1987	1693	1697	4	0.2
1988	1172	1169	-3	-0.3
1989	900	905	5	0.6
1990	900	900	0	0.0
1991	1108	1113	5	0.5
1992	876	874	-2	-0.2
1993	900	905	5	0.6
Mean:	5930	5931	1	0.1
Median:	2305	2308	1	0.0
Min:	874	874	-9	-0.7
Max:	23683	23684	5	0.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4801	4801	0	0.0
1923	3608	3612	4	0.1
1924	3157	3160	3	0.1
1925	2666	2670	4	0.2
1926	748	752	4	0.5
1927	7113	7117	4	0.1
1928	24100	24103	3	0.0
1929	1708	1712	4	0.2
1930	748	752	4	0.5
1931	748	752	4	0.5
1932	1988	1992	4	0.2
1933	4792	4796	4	0.1
1934	748	752	4	0.5
1935	748	752	4	0.5
1936	1708	1710	2	0.1
1937	1708	1711	3	0.2
1938	19405	19409	4	0.0
1939	4828	4832	4	0.1
1940	13543	13545	2	0.0
1941	11474	11474	0	0.0
1942	2809	2813	4	0.1
1943	16104	16108	4	0.0
1944	1708	1709	1	0.1
1945	1708	1708	0	0.0
1946	6480	6480	0	0.0
1947	1708	1708	0	0.0
1948	992	992	0	0.0
1949	1708	1708	0	0.0
1950	748	751	3	0.4
1951	4548	4548	0	0.0
1952	7115	7114	-1	0.0
1953	6197	6197	0	0.0
1954	10161	10163	2	0.0
1955	1708	1708	0	0.0
1956	6456	6460	4	0.1
1957	6948	6952	4	0.1
1958	11941	11943	2	0.0
1959	2278	2281	3	0.1
1960	992	992	0	0.0
1961	1076	1080	4	0.4
1962	748	749	1	0.1
1963	8333	8333	0	0.0
1964	1708	1711	3	0.2
1965	5289	5289	0	0.0
1966	4332	4333	1	0.0
1967	14438	14438	0	0.0
1968	6663	6663	0	0.0
1969	6492	6492	0	0.0
1970	4151	4155	4	0.1
1971	13745	13747	2	0.0
1972	6852	6852	0	0.0
1973	6139	6139	0	0.0
1974	26294	26296	2	0.0
1975	12932	12936	4	0.0
1976	3512	3516	4	0.1
1977	992	996	4	0.4
1978	748	752	4	0.5
1979	4447	4451	4	0.1
1980	5342	5342	0	0.0
1981	6986	6990	4	0.1
1982	13437	13436	-1	0.0
1983	31845	31849	4	0.0
1984	9047	9048	1	0.0
1985	4341	4342	1	0.0
1986	21887	21887	0	0.0
1987	1950	1954	4	0.2
1988	1269	1273	4	0.3
1989	1522	1527	5	0.3
1990	748	748	0	0.0
1991	748	752	4	0.5
1992	748	752	4	0.5
1993	10947	10951	4	0.0
Mean:	6144	6146	2	0.1
Median:	4337	4338	3	0.0
Min:	748	748	-1	0.0
Max:	31845	31849	5	0.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1204	1742	538	44.7
1923	1888	2233	345	18.3
1924	1974	2511	537	27.2
1925	756	1294	538	71.2
1926	3565	4103	538	15.1
1927	4666	5100	434	9.3
1928	1008	1546	538	53.4
1929	756	1294	538	71.2
1930	1497	2035	538	35.9
1931	2695	3232	537	19.9
1932	3443	3980	537	15.6
1933	756	1294	538	71.2
1934	2859	3397	538	18.8
1935	1008	1283	275	27.3
1936	1008	1491	483	47.9
1937	1008	1546	538	53.4
1938	13027	13565	538	4.1
1939	3309	3547	238	7.2
1940	3765	3765	0	0.0
1941	3745	4282	537	14.3
1942	10495	11033	538	5.1
1943	4123	4354	231	5.6
1944	1517	1517	0	0.0
1945	1008	1008	0	0.0
1946	1008	1008	0	0.0
1947	2047	2047	0	0.0
1948	1008	1008	0	0.0
1949	756	1159	403	53.3
1950	1008	1008	0	0.0
1951	1441	1441	0	0.0
1952	17416	17478	62	0.4
1953	4477	4771	294	6.6
1954	6137	6159	22	0.4
1955	1008	1546	538	53.4
1956	3155	3693	538	17.1
1957	4558	4829	271	5.9
1958	7656	8060	404	5.3
1959	2094	2094	0	0.0
1960	2129	2666	537	25.2
1961	2224	2358	134	6.0
1962	1516	1516	0	0.0
1963	13084	13555	471	3.6
1964	5643	5643	0	0.0
1965	7641	7732	91	1.2
1966	1041	1041	0	0.0
1967	2135	2135	0	0.0
1968	4955	4964	9	0.2
1969	7441	7978	537	7.2
1970	4613	4889	276	6.0
1971	3625	3625	0	0.0
1972	1008	1113	105	10.4
1973	1614	1974	360	22.3
1974	8329	8866	537	6.4
1975	1008	1546	538	53.4
1976	1008	1546	538	53.4
1977	1417	1955	538	38.0
1978	1008	1546	538	53.4
1979	2351	2414	63	2.7
1980	1008	1544	536	53.2
1981	1008	1008	0	0.0
1982	18983	19521	538	2.8
1983	8745	8876	131	1.5
1984	2203	2293	90	4.1
1985	2494	2494	0	0.0
1986	1008	1546	538	53.4
1987	3973	4510	537	13.5
1988	756	1294	538	71.2
1989	756	756	0	0.0
1990	1375	1913	538	39.1
1991	756	1294	538	71.2
1992	756	1294	538	71.2
1993	3466	3979	513	14.8
Mean:	3416	3734	318	20.3
Median:	2071	2184	419	7.2
Min:	756	756	0	0.0
Max:	18983	19521	538	71.2
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	16669	17372	703	4.2
1923	1688	2140	452	26.8
1924	1906	1906	0	0.0
1925	748	748	0	0.0
1926	4512	4512	0	0.0
1927	3879	4447	568	14.6
1928	4676	4676	0	0.0
1929	2221	2221	0	0.0
1930	1762	1762	0	0.0
1931	2109	2109	0	0.0
1932	748	748	0	0.0
1933	748	748	0	0.0
1934	2478	2478	0	0.0
1935	3097	3097	0	0.0
1936	992	992	0	0.0
1937	992	992	0	0.0
1938	17147	17851	704	4.1
1939	4230	4230	0	0.0
1940	2672	2672	0	0.0
1941	8413	9117	704	8.4
1942	5682	6386	704	12.4
1943	1293	1293	0	0.0
1944	2260	2259	-1	0.0
1945	992	992	0	0.0
1946	1783	1783	0	0.0
1947	3715	3715	0	0.0
1948	992	992	0	0.0
1949	748	748	0	0.0
1950	2265	2265	0	0.0
1951	1047	1047	0	0.0
1952	20074	20155	81	0.4
1953	3162	3547	385	12.2
1954	7754	7754	0	0.0
1955	992	992	0	0.0
1956	10718	11422	704	6.6
1957	992	992	0	0.0
1958	10426	10954	528	5.1
1959	2765	2765	0	0.0
1960	992	992	0	0.0
1961	1347	1347	0	0.0
1962	1540	1540	0	0.0
1963	3028	3643	615	20.3
1964	1865	1865	0	0.0
1965	5513	5513	0	0.0
1966	4675	4675	0	0.0
1967	9064	9064	0	0.0
1968	992	992	0	0.0
1969	12633	13337	704	5.6
1970	992	992	0	0.0
1971	8387	8387	0	0.0
1972	1373	1373	0	0.0
1973	1730	2201	471	27.2
1974	5576	6279	703	12.6
1975	8077	8780	703	8.7
1976	1228	1228	0	0.0
1977	1719	1719	0	0.0
1978	992	992	0	0.0
1979	992	992	0	0.0
1980	992	992	0	0.0
1981	1004	1004	0	0.0
1982	7930	8633	703	8.9
1983	11832	12004	172	1.5
1984	992	992	0	0.0
1985	4230	4230	0	0.0
1986	992	992	0	0.0
1987	992	992	0	0.0
1988	1350	1350	0	0.0
1989	3114	3114	0	0.0
1990	748	748	0	0.0
1991	748	748	0	0.0
1992	883	883	0	0.0
1993	7620	8291	671	8.8
Mean:	3826	3969	143	2.6
Median:	1886	2125	0	0.0
Min:	748	748	-1	0.0
Max:	20074	20155	704	27.2
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	6460	7271	811	12.6
1923	6600	6600	0	0.0
1924	3675	3675	0	0.0
1925	1632	1632	0	0.0
1926	5655	5655	0	0.0
1927	4396	4396	0	0.0
1928	5808	5808	0	0.0
1929	4185	4185	0	0.0
1930	5289	5288	-1	0.0
1931	3348	3347	-1	0.0
1932	2032	2032	0	0.0
1933	1862	1862	0	0.0
1934	3353	3353	0	0.0
1935	8289	8288	-1	0.0
1936	4388	4388	0	0.0
1937	7382	7382	0	0.0
1938	8059	8870	811	10.1
1939	4645	4645	0	0.0
1940	6438	6438	0	0.0
1941	7046	7046	0	0.0
1942	5811	6622	811	14.0
1943	5815	5815	0	0.0
1944	6276	6276	0	0.0
1945	6401	6401	0	0.0
1946	6749	6749	0	0.0
1947	5076	5075	-1	0.0
1948	1008	1008	0	0.0
1949	6595	6595	0	0.0
1950	6843	6843	0	0.0
1951	3478	3478	0	0.0
1952	8835	8929	94	1.1
1953	5480	5924	444	8.1
1954	4656	4655	-1	0.0
1955	6407	6407	0	0.0
1956	4313	5124	811	18.8
1957	5283	5283	0	0.0
1958	6632	7241	609	9.2
1959	6516	6515	-1	0.0
1960	4623	4623	0	0.0
1961	3986	3986	0	0.0
1962	4817	4817	0	0.0
1963	7446	7446	0	0.0
1964	5277	5277	0	0.0
1965	1008	1008	0	0.0
1966	5956	5956	0	0.0
1967	8415	8415	0	0.0
1968	6382	6382	0	0.0
1969	3593	4404	811	22.6
1970	5234	5234	0	0.0
1971	5417	5417	0	0.0
1972	5218	5218	0	0.0
1973	7360	7360	0	0.0
1974	6910	6910	0	0.0
1975	5996	6806	810	13.5
1976	2632	2632	0	0.0
1977	4026	4026	0	0.0
1978	2460	2460	0	0.0
1979	6294	6294	0	0.0
1980	1008	1008	0	0.0
1981	5167	5167	0	0.0
1982	3609	4420	811	22.5
1983	11636	11833	197	1.7
1984	6751	6751	0	0.0
1985	5272	5272	0	0.0
1986	4335	4335	0	0.0
1987	3257	3257	0	0.0
1988	2570	2570	0	0.0
1989	6843	6843	0	0.0
1990	2736	2736	0	0.0
1991	1372	1372	0	0.0
1992	1465	1465	0	0.0
1993	4283	5056	773	18.0
Mean:	5084	5192	108	2.1
Median:	5275	5275	0	0.0
Min:	1008	1008	-1	0.0
Max:	11636	11833	811	22.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5282	6515	1233	23.3
1923	5477	7294	1817	33.2
1924	5564	7822	2258	40.6
1925	5182	8323	3141	60.6
1926	6837	8549	1712	25.0
1927	5983	7633	1650	27.6
1928	5851	8406	2555	43.7
1929	1374	4120	2746	199.9
1930	7269	9897	2628	36.2
1931	7046	9228	2182	31.0
1932	1320	4078	2758	208.9
1933	2055	4393	2338	113.8
1934	3223	5168	1945	60.3
1935	9027	10058	1031	11.4
1936	6338	8830	2492	39.3
1937	3438	6002	2564	74.6
1938	3848	4746	898	23.3
1939	8049	8894	845	10.5
1940	9675	10072	397	4.1
1941	2127	4894	2767	130.1
1942	4954	5997	1043	21.1
1943	6763	8047	1284	19.0
1944	8843	8643	-200	-2.3
1945	8924	9293	369	4.1
1946	9027	9556	529	5.9
1947	8488	8426	-62	-0.7
1948	8861	9116	255	2.9
1949	3954	6413	2459	62.2
1950	9411	10122	711	7.6
1951	9357	9961	604	6.5
1952	2593	2848	255	9.8
1953	7042	7777	735	10.4
1954	9150	8822	-328	-3.6
1955	3129	5882	2753	88.0
1956	5718	7270	1552	27.1
1957	7047	8071	1024	14.5
1958	2308	3690	1382	59.9
1959	8752	8890	138	1.6
1960	5426	7863	2437	44.9
1961	6689	7102	413	6.2
1962	8717	8515	-202	-2.3
1963	5628	7448	1820	32.3
1964	8657	8603	-54	-0.6
1965	6757	7657	900	13.3
1966	9559	9183	-376	-3.9
1967	1180	1808	628	53.2
1968	8293	8115	-178	-2.1
1969	2984	3505	521	17.5
1970	7301	8678	1377	18.9
1971	9316	9931	615	6.6
1972	5823	6407	584	10.0
1973	5898	7039	1141	19.3
1974	3254	4906	1652	50.8
1975	5228	6380	1152	22.0
1976	9001	11518	2517	28.0
1977	3824	6054	2230	58.3
1978	2866	5348	2482	86.6
1979	6670	7152	482	7.2
1980	3054	5943	2889	94.6
1981	7691	7783	92	1.2
1982	2610	3087	477	18.3
1983	3133	3031	-102	-3.3
1984	8520	9220	700	8.2
1985	9060	9086	26	0.3
1986	5815	7403	1588	27.3
1987	6561	8828	2267	34.6
1988	2426	5449	3023	124.6
1989	8954	8616	-338	-3.8
1990	1865	4769	2904	155.7
1991	5143	7651	2508	48.8
1992	1489	4189	2700	181.3
1993	5865	7083	1218	20.8
Mean:	5896	7210	1313	37.6
Median:	5882	7654	1185	21.6
Min:	1180	1808	-376	-3.9
Max:	9675	11518	3141	208.9
Years Rel Diff >= -1.0%				65

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5460	7321	1861	34.1
1923	5352	6523	1171	21.9
1924	2349	4267	1918	81.7
1925	2697	4240	1543	57.2
1926	5619	7219	1600	28.5
1927	5815	7629	1814	31.2
1928	3903	5971	2068	53.0
1929	2502	3799	1297	51.8
1930	6639	8392	1753	26.4
1931	3763	5575	1812	48.2
1932	1102	2711	1609	146.0
1933	1506	3529	2023	134.3
1934	4471	6112	1641	36.7
1935	5770	7252	1482	25.7
1936	5811	7658	1847	31.8
1937	5344	7464	2120	39.7
1938	3755	5787	2032	54.1
1939	7870	8971	1101	14.0
1940	7312	8216	904	12.4
1941	1019	1898	879	86.3
1942	3479	5347	1868	53.7
1943	5702	7172	1470	25.8
1944	6593	7400	807	12.2
1945	6770	7420	650	9.6
1946	7073	7845	772	10.9
1947	6751	7787	1036	15.3
1948	6611	7123	512	7.7
1949	4296	5637	1341	31.2
1950	6718	7308	590	8.8
1951	6539	7235	696	10.6
1952	802	1456	654	81.5
1953	2139	3463	1324	61.9
1954	4714	5779	1065	22.6
1955	1878	3561	1683	89.6
1956	5769	7111	1342	23.3
1957	4007	5648	1641	41.0
1958	992	1236	244	24.6
1959	6622	7344	722	10.9
1960	5107	6688	1581	31.0
1961	6838	7952	1114	16.3
1962	7156	7995	839	11.7
1963	5119	6945	1826	35.7
1964	6889	7894	1005	14.6
1965	5206	6087	881	16.9
1966	6131	7058	927	15.1
1967	961	1422	461	48.0
1968	4882	5809	927	19.0
1969	1001	2153	1152	115.1
1970	5747	7019	1272	22.1
1971	5313	5778	465	8.8
1972	5407	6378	971	18.0
1973	4764	6332	1568	32.9
1974	611	2244	1633	267.3
1975	644	2071	1427	221.6
1976	2504	4547	2043	81.6
1977	2601	4355	1754	67.4
1978	5572	7035	1463	26.3
1979	5626	6466	840	14.9
1980	5306	6715	1409	26.6
1981	5306	5989	683	12.9
1982	2485	3722	1237	49.8
1983	1040	1672	632	60.8
1984	3375	4544	1169	34.6
1985	7304	7797	493	6.7
1986	4442	6772	2330	52.5
1987	6062	7623	1561	25.8
1988	2737	4177	1440	52.6
1989	6831	7803	972	14.2
1990	2296	3879	1583	68.9
1991	964	2954	1990	206.4
1992	2527	4024	1497	59.2
1993	4999	6796	1797	35.9
Mean:	4434	5738	1303	46.5
Median:	5113	6355	1342	31.2
Min:	611	1236	244	6.7
Max:	7870	8971	2330	267.3
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Oroville Dam

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1008	1008	0	0.0
1923	1008	1008	0	0.0
1924	2240	2764	524	23.4
1925	756	756	0	0.0
1926	1645	3063	1418	86.2
1927	1008	1008	0	0.0
1928	1464	1464	0	0.0
1929	1349	2035	686	50.9
1930	756	1091	335	44.3
1931	2274	2968	694	30.5
1932	756	1088	332	43.9
1933	985	1299	314	31.9
1934	3149	4248	1099	34.9
1935	1536	1993	457	29.8
1936	1008	1008	0	0.0
1937	1111	1111	0	0.0
1938	1008	1282	274	27.2
1939	2787	3670	883	31.7
1940	1008	1008	0	0.0
1941	1008	1353	345	34.2
1942	1008	1302	294	29.2
1943	1008	1008	0	0.0
1944	2550	3267	717	28.1
1945	1008	1008	0	0.0
1946	1008	1008	0	0.0
1947	2532	2663	131	5.2
1948	837	1008	171	20.4
1949	756	794	38	5.0
1950	1008	1008	0	0.0
1951	1008	1008	0	0.0
1952	3331	3788	457	13.7
1953	1008	1296	288	28.6
1954	1348	2030	682	50.6
1955	1008	1286	278	27.6
1956	1008	1320	312	31.0
1957	724	1008	284	39.2
1958	2249	2973	724	32.2
1959	1035	1449	414	40.0
1960	1008	1697	689	68.4
1961	2189	2824	635	29.0
1962	1580	2192	612	38.7
1963	1008	1008	0	0.0
1964	3194	3422	228	7.1
1965	911	1008	97	10.6
1966	1881	2656	775	41.2
1967	3370	3589	219	6.5
1968	3008	3597	589	19.6
1969	4225	5189	964	22.8
1970	1685	2083	398	23.6
1971	1237	1466	229	18.5
1972	591	1008	417	70.6
1973	692	1008	316	45.7
1974	771	1392	621	80.5
1975	781	1331	550	70.4
1976	4095	4109	14	0.3
1977	1133	1815	682	60.2
1978	674	1438	764	113.4
1979	682	1008	326	47.8
1980	1008	1390	382	37.9
1981	2513	3014	501	19.9
1982	775	1464	689	88.9
1983	5080	5877	797	15.7
1984	1465	1465	0	0.0
1985	3823	4184	361	9.4
1986	708	1353	645	91.1
1987	3253	4054	801	24.6
1988	1708	1936	228	13.3
1989	1116	1703	587	52.6
1990	888	1100	212	23.9
1991	1859	2053	194	10.4
1992	2880	3404	524	18.2
1993	1068	1068	0	0.0
Mean:	1599	1977	378	27.8
Median:	1022	1444	329	24.3
Min:	591	756	0	0.0
Max:	5080	5877	1418	113.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Temperature Below Oroville Dam

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	52.0	52.0	0.0
1923	52.0	52.0	0.0
1924	52.0	52.0	0.0
1925	52.0	52.0	0.0
1926	52.0	52.0	0.0
1927	52.0	52.0	0.0
1928	52.0	52.0	0.0
1929	52.0	52.0	0.0
1930	52.0	52.0	0.0
1931	52.0	52.0	0.0
1932	52.0	52.0	0.0
1933	52.0	52.0	0.0
1934	52.0	52.0	0.0
1935	52.0	52.0	0.0
1936	52.0	52.0	0.0
1937	52.0	52.0	0.0
1938	52.0	52.0	0.0
1939	52.0	52.0	0.0
1940	52.0	52.0	0.0
1941	52.0	52.0	0.0
1942	52.0	52.0	0.0
1943	52.0	52.0	0.0
1944	52.0	52.0	0.0
1945	52.0	52.0	0.0
1946	52.0	52.0	0.0
1947	52.0	52.0	0.0
1948	52.0	52.0	0.0
1949	52.0	52.0	0.0
1950	52.0	52.0	0.0
1951	52.0	52.0	0.0
1952	52.0	52.0	0.0
1953	52.0	52.0	0.0
1954	52.0	52.0	0.0
1955	52.0	52.0	0.0
1956	52.0	52.0	0.0
1957	52.0	52.0	0.0
1958	52.0	52.0	0.0
1959	52.0	52.0	0.0
1960	52.0	52.0	0.0
1961	53.7	53.7	0.0
1962	52.0	52.0	0.0
1963	52.0	52.0	0.0
1964	52.0	52.0	0.0
1965	52.0	52.0	0.0
1966	52.0	52.0	0.0
1967	52.0	52.0	0.0
1968	52.0	52.0	0.0
1969	52.0	52.0	0.0
1970	52.0	52.0	0.0
1971	52.0	52.0	0.0
1972	52.0	52.0	0.0
1973	52.0	52.0	0.0
1974	52.0	52.0	0.0
1975	52.0	52.0	0.0
1976	52.0	52.0	0.0
1977	65.5	65.5	0.0
1978	52.0	52.0	0.0
1979	52.0	52.0	0.0
1980	52.0	52.0	0.0
1981	52.0	52.0	0.0
1982	52.0	52.0	0.0
1983	52.0	52.0	0.0
1984	52.0	52.0	0.0
1985	52.0	52.0	0.0
1986	52.0	52.0	0.0
1987	52.0	52.0	0.0
1988	52.0	52.0	0.0
1989	52.0	52.0	0.0
1990	52.0	52.0	0.0
Mean:	52.2	52.2	0.0
Median:	52.0	52.0	0.0
Min:	52.0	52.0	0.0
Max:	65.5	65.5	0.0
X > 56.0	1	1	
Mean When X > 56.0	65.5	65.5	
X > 60.0	1	1	
Mean When X > 60.0	65.5	65.5	
X > 62.5	1	1	
Mean When X > 62.5	65.5	65.5	
X > 65.0	1	1	
Mean When X > 65.0	65.5	65.5	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	51.9	51.9	0.0
1923	52.0	52.0	0.0
1924	51.6	51.6	0.0
1925	52.0	52.0	0.0
1926	52.0	52.0	0.0
1927	52.0	52.0	0.0
1928	52.0	52.0	0.0
1929	52.0	52.0	0.0
1930	52.0	52.0	0.0
1931	52.0	52.0	0.0
1932	52.0	52.0	0.0
1933	52.0	52.0	0.0
1934	52.0	52.0	0.0
1935	52.0	52.0	0.0
1936	52.0	52.0	0.0
1937	52.0	52.0	0.0
1938	52.0	52.0	0.0
1939	51.9	52.0	0.1
1940	52.0	52.0	0.0
1941	52.0	52.0	0.0
1942	52.0	52.0	0.0
1943	52.0	52.0	0.0
1944	52.0	52.0	0.0
1945	52.0	52.0	0.0
1946	52.0	52.0	0.0
1947	51.5	51.5	0.0
1948	52.0	52.0	0.0
1949	52.0	52.0	0.0
1950	52.0	52.0	0.0
1951	52.0	52.0	0.0
1952	52.0	52.0	0.0
1953	52.0	52.0	0.0
1954	52.0	52.0	0.0
1955	52.0	52.0	0.0
1956	52.0	52.0	0.0
1957	52.0	52.0	0.0
1958	52.0	52.0	0.0
1959	52.6	52.5	-0.1
1960	52.0	52.0	0.0
1961	56.6	56.6	0.0
1962	52.0	52.0	0.0
1963	52.0	52.0	0.0
1964	52.0	52.0	0.0
1965	52.0	52.0	0.0
1966	52.0	52.0	0.0
1967	52.0	52.0	0.0
1968	52.0	52.0	0.0
1969	52.0	52.0	0.0
1970	52.0	52.0	0.0
1971	52.0	52.0	0.0
1972	52.0	52.0	0.0
1973	52.0	52.0	0.0
1974	52.0	52.0	0.0
1975	52.0	52.0	0.0
1976	52.0	52.0	0.0
1977	55.7	55.7	0.0
1978	52.0	52.0	0.0
1979	52.0	52.0	0.0
1980	52.0	52.0	0.0
1981	52.0	52.0	0.0
1982	52.0	52.0	0.0
1983	52.0	52.0	0.0
1984	52.0	52.0	0.0
1985	51.1	51.1	0.0
1986	52.0	52.0	0.0
1987	52.0	52.0	0.0
1988	52.0	52.0	0.0
1989	52.0	52.0	0.0
1990	52.0	52.0	0.0
Mean:	52.1	52.1	0.0
Median:	52.0	52.0	0.0
Min:	51.1	51.1	-0.1
Max:	56.6	56.6	0.1
X > 56.0	1	1	
Mean When X > 56.0	56.6	56.6	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	48.5	48.5	0.0
1923	48.5	48.5	0.0
1924	46.0	46.0	0.0
1925	48.6	48.6	0.0
1926	49.0	49.0	0.0
1927	48.9	48.9	0.0
1928	48.0	48.0	0.0
1929	49.0	49.0	0.0
1930	48.0	48.0	0.0
1931	48.7	48.8	0.1
1932	48.7	48.7	0.0
1933	48.8	48.8	0.0
1934	50.1	50.1	0.0
1935	49.1	49.1	0.0
1936	49.0	49.0	0.0
1937	49.0	49.0	0.0
1938	49.0	49.0	0.0
1939	51.6	51.5	-0.1
1940	49.0	49.0	0.0
1941	49.2	49.2	0.0
1942	49.0	49.0	0.0
1943	49.0	49.0	0.0
1944	49.0	49.0	0.0
1945	48.4	48.4	0.0
1946	48.3	48.3	0.0
1947	47.2	47.2	0.0
1948	47.9	47.9	0.0
1949	48.5	48.5	0.0
1950	49.0	49.0	0.0
1951	48.4	48.4	0.0
1952	49.0	49.0	0.0
1953	49.0	49.0	0.0
1954	48.2	48.2	0.0
1955	48.6	48.6	0.0
1956	48.8	48.8	0.0
1957	48.1	48.1	0.0
1958	49.0	49.0	0.0
1959	51.8	51.8	0.0
1960	49.0	49.0	0.0
1961	49.3	49.3	0.0
1962	49.6	49.6	0.0
1963	47.9	47.9	0.0
1964	49.0	49.0	0.0
1965	48.4	48.4	0.0
1966	48.8	48.8	0.0
1967	49.0	49.0	0.0
1968	48.7	48.7	0.0
1969	49.0	49.0	0.0
1970	48.7	48.7	0.0
1971	48.7	48.7	0.0
1972	46.6	46.6	0.0
1973	48.9	48.9	0.0
1974	49.0	49.0	0.0
1975	49.0	49.0	0.0
1976	51.4	51.4	0.0
1977	46.4	46.4	0.0
1978	48.3	48.3	0.0
1979	49.0	49.0	0.0
1980	49.0	49.0	0.0
1981	49.0	49.0	0.0
1982	48.7	48.7	0.0
1983	49.0	49.0	0.0
1984	49.0	49.0	0.0
1985	45.4	45.4	0.0
1986	49.0	49.0	0.0
1987	48.5	48.5	0.0
1988	48.9	48.9	0.0
1989	47.8	47.8	0.0
1990	47.2	47.2	0.0
Mean:	48.7	48.7	0.0
Median:	48.9	48.9	0.0
Min:	45.4	45.4	-0.1
Max:	51.8	51.8	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	43.1	43.1	0.0
1923	45.4	45.4	0.0
1924	45.7	45.7	0.0
1925	44.5	44.5	0.0
1926	45.1	45.1	0.0
1927	47.0	47.0	0.0
1928	47.0	47.0	0.0
1929	44.6	44.6	0.0
1930	45.7	45.7	0.0
1931	47.0	47.0	0.0
1932	45.9	45.9	0.0
1933	45.5	45.5	0.0
1934	47.0	47.0	0.0
1935	47.4	47.4	0.0
1936	47.0	47.0	0.0
1937	44.7	44.7	0.0
1938	46.8	46.8	0.0
1939	47.0	47.0	0.0
1940	47.0	47.0	0.0
1941	47.0	47.0	0.0
1942	47.5	47.5	0.0
1943	47.0	47.0	0.0
1944	47.0	47.0	0.0
1945	46.7	46.7	0.0
1946	46.2	46.2	0.0
1947	45.5	45.5	0.0
1948	46.9	46.9	0.0
1949	43.4	43.4	0.0
1950	44.8	44.8	0.0
1951	46.7	46.7	0.0
1952	45.3	45.3	0.0
1953	47.0	47.0	0.0
1954	47.1	47.1	0.0
1955	44.8	44.8	0.0
1956	45.9	45.9	0.0
1957	46.0	46.0	0.0
1958	46.3	46.3	0.0
1959	48.0	48.0	0.0
1960	47.4	47.4	0.0
1961	46.4	46.4	0.0
1962	45.6	45.6	0.0
1963	46.6	46.6	0.0
1964	45.7	45.7	0.0
1965	45.4	45.4	0.0
1966	47.0	47.0	0.0
1967	46.9	46.9	0.0
1968	47.0	47.0	0.0
1969	45.2	45.2	0.0
1970	47.0	47.0	0.0
1971	46.8	46.8	0.0
1972	45.7	45.7	0.0
1973	45.4	45.4	0.0
1974	46.7	46.7	0.0
1975	46.9	46.9	0.0
1976	47.0	47.0	0.0
1977	47.0	47.0	0.0
1978	44.7	44.7	0.0
1979	46.0	46.0	0.0
1980	47.0	47.0	0.0
1981	47.0	47.0	0.0
1982	46.1	46.1	0.0
1983	45.9	45.9	0.0
1984	47.2	47.2	0.0
1985	46.0	46.0	0.0
1986	46.5	46.5	0.0
1987	46.9	46.9	0.0
1988	47.0	47.0	0.0
1989	46.8	46.8	0.0
1990	45.8	45.8	0.0
Mean:	46.2	46.2	0.0
Median:	46.7	46.7	0.0
Min:	43.1	43.1	0.0
Max:	48.0	48.0	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	45.9	45.9	0.0
1923	46.0	46.0	0.0
1924	46.0	46.0	0.0
1925	45.9	45.9	0.0
1926	46.0	46.0	0.0
1927	46.0	46.0	0.0
1928	46.0	46.0	0.0
1929	46.0	46.0	0.0
1930	46.0	46.0	0.0
1931	46.0	46.0	0.0
1932	46.0	46.0	0.0
1933	46.0	46.0	0.0
1934	46.0	46.0	0.0
1935	46.4	46.4	0.0
1936	46.0	46.0	0.0
1937	45.9	45.9	0.0
1938	46.0	46.0	0.0
1939	46.0	46.0	0.0
1940	46.0	46.0	0.0
1941	46.3	46.3	0.0
1942	46.5	46.5	0.0
1943	46.0	46.0	0.0
1944	46.0	46.0	0.0
1945	46.0	46.0	0.0
1946	46.0	46.0	0.0
1947	46.0	46.0	0.0
1948	46.0	46.0	0.0
1949	44.5	44.6	0.1
1950	46.0	46.0	0.0
1951	46.0	46.0	0.0
1952	45.9	45.9	0.0
1953	46.0	46.0	0.0
1954	47.2	47.2	0.0
1955	45.9	45.9	0.0
1956	45.6	45.6	0.0
1957	46.0	46.0	0.0
1958	46.0	46.0	0.0
1959	49.3	49.3	0.0
1960	46.0	46.0	0.0
1961	46.0	46.0	0.0
1962	46.0	46.0	0.0
1963	46.0	46.0	0.0
1964	46.0	46.0	0.0
1965	46.0	46.0	0.0
1966	46.0	46.0	0.0
1967	46.0	46.0	0.0
1968	47.0	47.0	0.0
1969	46.0	46.0	0.0
1970	46.0	46.0	0.0
1971	46.0	46.0	0.0
1972	46.0	46.0	0.0
1973	46.0	46.0	0.0
1974	46.0	46.0	0.0
1975	46.0	46.0	0.0
1976	46.9	46.9	0.0
1977	44.9	44.9	0.0
1978	46.0	46.0	0.0
1979	46.0	46.0	0.0
1980	46.0	46.0	0.0
1981	46.0	46.0	0.0
1982	46.0	46.0	0.0
1983	46.0	46.0	0.0
1984	46.9	46.9	0.0
1985	46.0	46.0	0.0
1986	46.0	46.0	0.0
1987	46.0	46.0	0.0
1988	46.0	46.0	0.0
1989	46.1	46.1	0.0
1990	46.0	46.0	0.0
Mean:	46.1	46.1	0.0
Median:	46.0	46.0	0.0
Min:	44.5	44.6	0.0
Max:	49.3	49.3	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	47.0	47.0	0.0
1923	47.0	47.0	0.0
1924	47.0	47.0	0.0
1925	47.0	47.0	0.0
1926	47.0	47.0	0.0
1927	47.0	47.0	0.0
1928	47.0	47.0	0.0
1929	47.0	47.0	0.0
1930	47.0	47.0	0.0
1931	47.0	47.0	0.0
1932	47.0	47.0	0.0
1933	47.0	47.0	0.0
1934	47.0	47.0	0.0
1935	47.0	47.0	0.0
1936	47.0	47.0	0.0
1937	47.0	47.0	0.0
1938	47.0	47.0	0.0
1939	47.0	47.0	0.0
1940	47.0	47.0	0.0
1941	47.0	47.0	0.0
1942	47.0	47.0	0.0
1943	47.0	47.0	0.0
1944	47.0	47.0	0.0
1945	47.0	47.0	0.0
1946	47.0	47.0	0.0
1947	47.0	47.0	0.0
1948	47.0	47.0	0.0
1949	47.0	47.0	0.0
1950	47.0	47.0	0.0
1951	47.0	47.0	0.0
1952	47.0	47.0	0.0
1953	47.0	47.0	0.0
1954	47.3	47.3	0.0
1955	47.0	47.0	0.0
1956	47.0	47.0	0.0
1957	47.0	47.0	0.0
1958	47.0	47.0	0.0
1959	49.0	49.0	0.0
1960	47.0	47.0	0.0
1961	47.0	47.0	0.0
1962	47.0	47.0	0.0
1963	47.0	47.0	0.0
1964	47.0	47.0	0.0
1965	47.0	47.0	0.0
1966	47.0	47.0	0.0
1967	47.0	47.0	0.0
1968	47.0	47.0	0.0
1969	47.0	47.0	0.0
1970	47.0	47.0	0.0
1971	47.0	47.0	0.0
1972	47.0	47.0	0.0
1973	47.0	47.0	0.0
1974	47.0	47.0	0.0
1975	47.0	47.0	0.0
1976	47.8	47.8	0.0
1977	45.0	45.0	0.0
1978	47.0	47.0	0.0
1979	47.0	47.0	0.0
1980	47.0	47.0	0.0
1981	47.0	47.0	0.0
1982	47.0	47.0	0.0
1983	47.0	47.0	0.0
1984	47.0	47.0	0.0
1985	47.0	47.0	0.0
1986	47.0	47.0	0.0
1987	47.0	47.0	0.0
1988	47.0	47.0	0.0
1989	47.0	47.0	0.0
1990	47.0	47.0	0.0
Mean:	47.0	47.0	0.0
Median:	47.0	47.0	0.0
Min:	45.0	45.0	0.0
Max:	49.0	49.0	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	49.0	49.0	0.0
1923	49.0	49.0	0.0
1924	49.0	49.0	0.0
1925	49.0	49.0	0.0
1926	49.0	49.0	0.0
1927	49.0	49.0	0.0
1928	49.0	49.0	0.0
1929	49.0	49.0	0.0
1930	49.0	49.0	0.0
1931	49.0	49.0	0.0
1932	49.0	49.0	0.0
1933	49.0	49.0	0.0
1934	49.0	49.0	0.0
1935	49.0	49.0	0.0
1936	49.0	49.0	0.0
1937	49.0	49.0	0.0
1938	49.0	49.0	0.0
1939	49.0	49.0	0.0
1940	49.0	49.0	0.0
1941	49.0	49.0	0.0
1942	49.0	49.0	0.0
1943	49.0	49.0	0.0
1944	49.0	49.0	0.0
1945	49.0	49.0	0.0
1946	49.0	49.0	0.0
1947	49.0	49.0	0.0
1948	49.0	49.0	0.0
1949	49.0	49.0	0.0
1950	49.0	49.0	0.0
1951	49.0	49.0	0.0
1952	49.0	49.0	0.0
1953	49.0	49.0	0.0
1954	49.0	49.0	0.0
1955	49.0	49.0	0.0
1956	49.0	49.0	0.0
1957	49.0	49.0	0.0
1958	49.0	49.0	0.0
1959	49.2	49.2	0.0
1960	49.0	49.0	0.0
1961	49.0	49.0	0.0
1962	49.0	49.0	0.0
1963	49.0	49.0	0.0
1964	49.0	49.0	0.0
1965	49.0	49.0	0.0
1966	49.0	49.0	0.0
1967	49.0	49.0	0.0
1968	49.0	49.0	0.0
1969	49.0	49.0	0.0
1970	49.0	49.0	0.0
1971	49.0	49.0	0.0
1972	49.0	49.0	0.0
1973	49.0	49.0	0.0
1974	49.0	49.0	0.0
1975	49.0	49.0	0.0
1976	49.0	49.0	0.0
1977	46.7	46.7	0.0
1978	49.0	49.0	0.0
1979	49.0	49.0	0.0
1980	49.0	49.0	0.0
1981	49.0	49.0	0.0
1982	49.0	49.0	0.0
1983	49.0	49.0	0.0
1984	49.0	49.0	0.0
1985	49.0	49.0	0.0
1986	49.0	49.0	0.0
1987	49.0	49.0	0.0
1988	49.0	49.0	0.0
1989	49.0	49.0	0.0
1990	49.0	49.0	0.0
Mean:	49.0	49.0	0.0
Median:	49.0	49.0	0.0
Min:	46.7	46.7	0.0
Max:	49.2	49.2	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	53.0	53.0	0.0
1923	53.0	53.0	0.0
1924	53.0	53.0	0.0
1925	53.0	53.0	0.0
1926	53.0	53.0	0.0
1927	53.0	53.0	0.0
1928	53.0	53.0	0.0
1929	53.0	53.0	0.0
1930	53.0	53.0	0.0
1931	53.0	53.0	0.0
1932	53.0	53.0	0.0
1933	53.0	53.0	0.0
1934	53.0	53.0	0.0
1935	53.0	53.0	0.0
1936	53.0	53.0	0.0
1937	53.0	53.0	0.0
1938	53.0	53.0	0.0
1939	53.0	53.0	0.0
1940	53.0	53.0	0.0
1941	53.0	53.0	0.0
1942	53.0	53.0	0.0
1943	53.0	53.0	0.0
1944	53.0	53.0	0.0
1945	53.0	53.0	0.0
1946	53.0	53.0	0.0
1947	53.0	53.0	0.0
1948	53.0	53.0	0.0
1949	53.0	53.0	0.0
1950	53.0	53.0	0.0
1951	53.0	53.0	0.0
1952	53.0	53.0	0.0
1953	53.0	53.0	0.0
1954	53.0	53.0	0.0
1955	53.0	53.0	0.0
1956	53.0	53.0	0.0
1957	53.0	53.0	0.0
1958	53.0	53.0	0.0
1959	53.0	53.0	0.0
1960	53.0	53.0	0.0
1961	53.0	53.0	0.0
1962	53.0	53.0	0.0
1963	53.0	53.0	0.0
1964	53.0	53.0	0.0
1965	53.0	53.0	0.0
1966	53.0	53.0	0.0
1967	53.0	53.0	0.0
1968	53.0	53.0	0.0
1969	53.0	53.0	0.0
1970	53.0	53.0	0.0
1971	53.0	53.0	0.0
1972	53.0	53.0	0.0
1973	53.0	53.0	0.0
1974	53.0	53.0	0.0
1975	53.0	53.0	0.0
1976	53.0	53.0	0.0
1977	52.0	51.9	-0.1
1978	53.0	53.0	0.0
1979	53.0	53.0	0.0
1980	53.0	53.0	0.0
1981	53.0	53.0	0.0
1982	53.0	53.0	0.0
1983	53.0	53.0	0.0
1984	53.0	53.0	0.0
1985	53.0	53.0	0.0
1986	53.0	53.0	0.0
1987	53.0	53.0	0.0
1988	53.0	53.0	0.0
1989	53.0	53.0	0.0
1990	53.0	53.0	0.0
Mean:	53.0	53.0	0.0
Median:	53.0	53.0	0.0
Min:	52.0	51.9	-0.1
Max:	53.0	53.0	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.0	55.0	0.0
1923	55.0	55.0	0.0
1924	55.0	55.0	0.0
1925	55.0	55.0	0.0
1926	55.0	55.0	0.0
1927	55.0	55.0	0.0
1928	55.0	55.0	0.0
1929	55.0	55.0	0.0
1930	55.0	55.0	0.0
1931	55.0	55.0	0.0
1932	55.0	55.0	0.0
1933	55.0	55.0	0.0
1934	55.0	55.0	0.0
1935	55.0	55.0	0.0
1936	55.0	55.0	0.0
1937	55.0	55.0	0.0
1938	55.0	55.0	0.0
1939	55.0	55.0	0.0
1940	55.0	55.0	0.0
1941	55.0	55.0	0.0
1942	55.0	55.0	0.0
1943	55.0	55.0	0.0
1944	55.0	55.0	0.0
1945	55.0	55.0	0.0
1946	55.0	55.0	0.0
1947	55.0	55.0	0.0
1948	55.0	55.0	0.0
1949	55.0	55.0	0.0
1950	55.0	55.0	0.0
1951	55.0	55.0	0.0
1952	55.0	55.0	0.0
1953	55.0	55.0	0.0
1954	55.0	55.0	0.0
1955	55.0	55.0	0.0
1956	55.0	55.0	0.0
1957	55.0	55.0	0.0
1958	55.0	55.0	0.0
1959	55.0	55.0	0.0
1960	55.0	55.0	0.0
1961	55.0	55.0	0.0
1962	55.0	55.0	0.0
1963	55.0	55.0	0.0
1964	55.0	55.0	0.0
1965	55.0	55.0	0.0
1966	55.0	55.0	0.0
1967	55.0	55.0	0.0
1968	55.0	55.0	0.0
1969	55.0	55.0	0.0
1970	55.0	55.0	0.0
1971	55.0	55.0	0.0
1972	55.0	55.0	0.0
1973	55.0	55.0	0.0
1974	55.0	55.0	0.0
1975	55.0	55.0	0.0
1976	55.0	55.0	0.0
1977	62.9	62.8	-0.1
1978	55.0	55.0	0.0
1979	55.0	55.0	0.0
1980	55.0	55.0	0.0
1981	55.0	55.0	0.0
1982	55.0	55.0	0.0
1983	55.0	55.0	0.0
1984	55.0	55.0	0.0
1985	55.0	55.0	0.0
1986	55.0	55.0	0.0
1987	55.0	55.0	0.0
1988	55.0	55.0	0.0
1989	55.0	55.0	0.0
1990	55.0	55.0	0.0
Mean:	55.1	55.1	0.0
Median:	55.0	55.0	0.0
Min:	55.0	55.0	-0.1
Max:	62.9	62.8	0.0
X > 56.0	1	1	
Mean When X > 56.0	62.9	62.8	
X > 60.0	1	1	
Mean When X > 60.0	62.9	62.8	
X > 62.5	1	1	
Mean When X > 62.5	62.9	62.8	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	59.0	59.0	0.0
1923	59.0	59.0	0.0
1924	59.0	59.0	0.0
1925	59.0	59.0	0.0
1926	59.0	59.0	0.0
1927	59.0	59.0	0.0
1928	59.0	59.0	0.0
1929	59.0	59.0	0.0
1930	59.0	59.0	0.0
1931	59.0	59.0	0.0
1932	59.0	59.0	0.0
1933	59.0	59.0	0.0
1934	59.0	59.0	0.0
1935	59.0	59.0	0.0
1936	59.0	59.0	0.0
1937	59.0	59.0	0.0
1938	59.0	59.0	0.0
1939	59.0	59.0	0.0
1940	59.0	59.0	0.0
1941	59.0	59.0	0.0
1942	59.0	59.0	0.0
1943	59.0	59.0	0.0
1944	59.0	59.0	0.0
1945	59.0	59.0	0.0
1946	59.0	59.0	0.0
1947	59.0	59.0	0.0
1948	59.0	59.0	0.0
1949	59.0	59.0	0.0
1950	59.0	59.0	0.0
1951	59.0	59.0	0.0
1952	59.0	59.0	0.0
1953	59.0	59.0	0.0
1954	59.0	59.0	0.0
1955	59.0	59.0	0.0
1956	59.0	59.0	0.0
1957	59.0	59.0	0.0
1958	59.0	59.0	0.0
1959	59.0	59.0	0.0
1960	59.0	59.0	0.0
1961	59.0	59.0	0.0
1962	59.0	59.0	0.0
1963	59.0	59.0	0.0
1964	59.0	59.0	0.0
1965	59.0	59.0	0.0
1966	59.0	59.0	0.0
1967	59.0	59.0	0.0
1968	59.0	59.0	0.0
1969	59.0	59.0	0.0
1970	59.0	59.0	0.0
1971	59.0	59.0	0.0
1972	59.0	59.0	0.0
1973	59.0	59.0	0.0
1974	59.0	59.0	0.0
1975	59.0	59.0	0.0
1976	59.0	59.0	0.0
1977	80.2	80.2	0.0
1978	59.0	59.0	0.0
1979	59.0	59.0	0.0
1980	59.0	59.0	0.0
1981	59.0	59.0	0.0
1982	59.0	59.0	0.0
1983	59.0	59.0	0.0
1984	59.0	59.0	0.0
1985	59.0	59.0	0.0
1986	59.0	59.0	0.0
1987	59.0	59.0	0.0
1988	59.0	59.0	0.0
1989	59.0	59.0	0.0
1990	59.0	59.0	0.0
Mean:	59.3	59.3	0.0
Median:	59.0	59.0	0.0
Min:	59.0	59.0	0.0
Max:	80.2	80.2	0.0
X > 56.0	69	69	
Mean When X > 56.0	59.3	59.3	
X > 60.0	1	1	
Mean When X > 60.0	80.2	80.2	
X > 62.5	1	1	
Mean When X > 62.5	80.2	80.2	
X > 65.0	1	1	
Mean When X > 65.0	80.2	80.2	
X > 67.5	1	1	
Mean When X > 67.5	80.2	80.2	
X > 70.0	1	1	
Mean When X > 70.0	80.2	80.2	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	58.0	58.0	0.0
1923	58.0	58.0	0.0
1924	58.0	58.0	0.0
1925	58.0	58.0	0.0
1926	58.0	58.0	0.0
1927	58.0	58.0	0.0
1928	58.0	58.0	0.0
1929	58.0	58.0	0.0
1930	58.0	58.0	0.0
1931	58.0	58.0	0.0
1932	58.0	58.0	0.0
1933	58.0	58.0	0.0
1934	58.0	58.0	0.0
1935	58.0	58.0	0.0
1936	58.0	58.0	0.0
1937	58.0	58.0	0.0
1938	58.0	58.0	0.0
1939	58.0	58.0	0.0
1940	58.0	58.0	0.0
1941	58.0	58.0	0.0
1942	58.0	58.0	0.0
1943	58.0	58.0	0.0
1944	58.0	58.0	0.0
1945	58.0	58.0	0.0
1946	58.0	58.0	0.0
1947	58.0	58.0	0.0
1948	58.0	58.0	0.0
1949	58.0	58.0	0.0
1950	58.0	58.0	0.0
1951	58.0	58.0	0.0
1952	58.0	58.0	0.0
1953	58.0	58.0	0.0
1954	58.0	58.0	0.0
1955	58.0	58.0	0.0
1956	58.0	58.0	0.0
1957	58.0	58.0	0.0
1958	58.0	58.0	0.0
1959	58.0	58.0	0.0
1960	58.0	58.0	0.0
1961	58.0	58.0	0.0
1962	58.0	58.0	0.0
1963	58.0	58.0	0.0
1964	58.0	58.0	0.0
1965	58.0	58.0	0.0
1966	58.0	58.0	0.0
1967	58.0	58.0	0.0
1968	58.0	58.0	0.0
1969	58.0	58.0	0.0
1970	58.0	58.0	0.0
1971	58.0	58.0	0.0
1972	58.0	58.0	0.0
1973	58.0	58.0	0.0
1974	58.0	58.0	0.0
1975	58.0	58.0	0.0
1976	58.0	58.0	0.0
1977	78.5	78.5	0.0
1978	58.0	58.0	0.0
1979	58.0	58.0	0.0
1980	58.0	58.0	0.0
1981	58.0	58.0	0.0
1982	58.0	58.0	0.0
1983	58.0	58.0	0.0
1984	58.0	58.0	0.0
1985	58.0	58.0	0.0
1986	58.0	58.0	0.0
1987	58.0	58.0	0.0
1988	58.0	58.0	0.0
1989	58.0	58.0	0.0
1990	58.0	58.0	0.0
Mean:	58.3	58.3	0.0
Median:	58.0	58.0	0.0
Min:	58.0	58.0	0.0
Max:	78.5	78.5	0.0
X > 56.0	69	69	
Mean When X > 56.0	58.3	58.3	
X > 60.0	1	1	
Mean When X > 60.0	78.5	78.5	
X > 62.5	1	1	
Mean When X > 62.5	78.5	78.5	
X > 65.0	1	1	
Mean When X > 65.0	78.5	78.5	
X > 67.5	1	1	
Mean When X > 67.5	78.5	78.5	
X > 70.0	1	1	
Mean When X > 70.0	78.5	78.5	
# Years Diff <= 0.3			69

Feather River Temperature Below Oroville Dam

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	53.0	53.0	0.0
1923	53.0	53.0	0.0
1924	53.0	53.0	0.0
1925	53.0	53.0	0.0
1926	53.0	53.0	0.0
1927	53.0	53.0	0.0
1928	53.0	53.0	0.0
1929	53.0	53.0	0.0
1930	53.0	53.0	0.0
1931	53.0	53.0	0.0
1932	53.0	53.0	0.0
1933	53.0	53.0	0.0
1934	53.0	53.0	0.0
1935	53.0	53.0	0.0
1936	53.0	53.0	0.0
1937	53.0	53.0	0.0
1938	53.0	53.0	0.0
1939	53.0	53.0	0.0
1940	53.0	53.0	0.0
1941	53.0	53.0	0.0
1942	53.0	53.0	0.0
1943	53.0	53.0	0.0
1944	53.0	53.0	0.0
1945	53.0	53.0	0.0
1946	53.0	53.0	0.0
1947	53.0	53.0	0.0
1948	53.0	53.0	0.0
1949	53.0	53.0	0.0
1950	53.0	53.0	0.0
1951	53.0	53.0	0.0
1952	53.0	53.0	0.0
1953	53.0	53.0	0.0
1954	53.0	53.0	0.0
1955	53.0	53.0	0.0
1956	53.0	53.0	0.0
1957	53.0	53.0	0.0
1958	53.0	53.0	0.0
1959	53.0	53.0	0.0
1960	53.0	53.0	0.0
1961	53.0	53.0	0.0
1962	53.0	53.0	0.0
1963	53.0	53.0	0.0
1964	53.0	53.0	0.0
1965	53.0	53.0	0.0
1966	53.0	53.0	0.0
1967	53.0	53.0	0.0
1968	53.0	53.0	0.0
1969	53.0	53.0	0.0
1970	53.0	53.0	0.0
1971	53.0	53.0	0.0
1972	53.0	53.0	0.0
1973	53.0	53.0	0.0
1974	53.0	53.0	0.0
1975	53.0	53.0	0.0
1976	53.0	53.0	0.0
1977	69.4	69.4	0.0
1978	53.0	53.0	0.0
1979	53.0	53.0	0.0
1980	53.0	53.0	0.0
1981	53.0	53.0	0.0
1982	53.0	53.0	0.0
1983	53.0	53.0	0.0
1984	53.0	53.0	0.0
1985	53.0	53.0	0.0
1986	53.0	53.0	0.0
1987	53.0	53.0	0.0
1988	53.0	53.0	0.0
1989	53.0	53.0	0.0
1990	53.0	53.0	0.0
Mean:	53.2	53.2	0.0
Median:	53.0	53.0	0.0
Min:	53.0	53.0	0.0
Max:	69.4	69.4	0.0
X > 56.0	1	1	
Mean When X > 56.0	69.4	69.4	
X > 60.0	1	1	
Mean When X > 60.0	69.4	69.4	
X > 62.5	1	1	
Mean When X > 62.5	69.4	69.4	
X > 65.0	1	1	
Mean When X > 65.0	69.4	69.4	
X > 67.5	1	1	
Mean When X > 67.5	69.4	69.4	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Castic Reservoir End of Month Release

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	890	890	0	0.0
1923	724	724	0	0.0
1924	879	879	0	0.0
1925	268	268	0	0.0
1926	488	488	0	0.0
1927	870	870	0	0.0
1928	806	806	0	0.0
1929	875	875	0	0.0
1930	286	286	0	0.0
1931	835	835	0	0.0
1932	272	272	0	0.0
1933	411	411	0	0.0
1934	439	439	0	0.0
1935	482	482	0	0.0
1936	980	980	0	0.0
1937	991	991	0	0.0
1938	842	842	0	0.0
1939	752	752	0	0.0
1940	852	852	0	0.0
1941	966	966	0	0.0
1942	641	641	0	0.0
1943	812	812	0	0.0
1944	859	859	0	0.0
1945	837	837	0	0.0
1946	878	878	0	0.0
1947	877	877	0	0.0
1948	868	868	0	0.0
1949	944	944	0	0.0
1950	654	654	0	0.0
1951	975	975	0	0.0
1952	912	912	0	0.0
1953	680	680	0	0.0
1954	918	918	0	0.0
1955	943	943	0	0.0
1956	459	459	0	0.0
1957	847	847	0	0.0
1958	890	890	0	0.0
1959	790	790	0	0.0
1960	927	927	0	0.0
1961	602	602	0	0.0
1962	820	820	0	0.0
1963	969	969	0	0.0
1964	839	839	0	0.0
1965	917	917	0	0.0
1966	804	804	0	0.0
1967	884	884	0	0.0
1968	773	773	0	0.0
1969	920	920	0	0.0
1970	727	727	0	0.0
1971	880	880	0	0.0
1972	941	941	0	0.0
1973	785	785	0	0.0
1974	835	835	0	0.0
1975	847	847	0	0.0
1976	882	882	0	0.0
1977	817	817	0	0.0
1978	190	190	0	0.0
1979	748	748	0	0.0
1980	784	784	0	0.0
1981	742	742	0	0.0
1982	940	940	0	0.0
1983	770	770	0	0.0
1984	637	637	0	0.0
1985	875	875	0	0.0
1986	905	905	0	0.0
1987	869	869	0	0.0
1988	877	877	0	0.0
1989	243	243	0	0.0
1990	957	957	0	0.0
1991	290	290	0	0.0
1992	277	277	0	0.0
1993	366	366	0	0.0
Mean:	755	755	0	0.0
Median:	838	838	0	0.0
Min:	190	190	0	0.0
Max:	991	991	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	835	835	0	0.0
1923	678	678	0	0.0
1924	825	825	0	0.0
1925	252	252	0	0.0
1926	459	459	0	0.0
1927	818	818	0	0.0
1928	756	756	0	0.0
1929	823	823	0	0.0
1930	269	269	0	0.0
1931	785	785	0	0.0
1932	256	256	0	0.0
1933	386	386	0	0.0
1934	413	413	0	0.0
1935	453	453	0	0.0
1936	919	919	0	0.0
1937	929	929	0	0.0
1938	789	789	0	0.0
1939	705	705	0	0.0
1940	800	800	0	0.0
1941	906	906	0	0.0
1942	599	599	0	0.0
1943	760	760	0	0.0
1944	807	807	0	0.0
1945	784	784	0	0.0
1946	824	824	0	0.0
1947	822	822	0	0.0
1948	817	817	0	0.0
1949	887	887	0	0.0
1950	614	614	0	0.0
1951	917	917	0	0.0
1952	857	857	0	0.0
1953	635	635	0	0.0
1954	862	862	0	0.0
1955	884	884	0	0.0
1956	431	431	0	0.0
1957	795	795	0	0.0
1958	837	837	0	0.0
1959	740	740	0	0.0
1960	872	872	0	0.0
1961	566	566	0	0.0
1962	771	771	0	0.0
1963	912	912	0	0.0
1964	787	787	0	0.0
1965	862	862	0	0.0
1966	755	755	0	0.0
1967	829	829	0	0.0
1968	723	723	0	0.0
1969	864	864	0	0.0
1970	680	680	0	0.0
1971	825	825	0	0.0
1972	884	884	0	0.0
1973	738	738	0	0.0
1974	783	783	0	0.0
1975	794	794	0	0.0
1976	828	828	0	0.0
1977	769	769	0	0.0
1978	179	179	0	0.0
1979	700	700	0	0.0
1980	735	735	0	0.0
1981	695	695	0	0.0
1982	885	885	0	0.0
1983	722	722	0	0.0
1984	596	596	0	0.0
1985	821	821	0	0.0
1986	850	850	0	0.0
1987	817	817	0	0.0
1988	825	825	0	0.0
1989	229	229	0	0.0
1990	900	900	0	0.0
1991	273	273	0	0.0
1992	261	261	0	0.0
1993	344	344	0	0.0
Mean:	708	708	0	0.0
Median:	786	786	0	0.0
Min:	179	179	0	0.0
Max:	929	929	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	779	779	0	0.0
1923	635	635	0	0.0
1924	770	770	0	0.0
1925	236	236	0	0.0
1926	429	429	0	0.0
1927	765	765	0	0.0
1928	708	708	0	0.0
1929	767	767	0	0.0
1930	251	251	0	0.0
1931	734	734	0	0.0
1932	238	238	0	0.0
1933	360	360	0	0.0
1934	386	386	0	0.0
1935	423	423	0	0.0
1936	861	861	0	0.0
1937	868	868	0	0.0
1938	739	739	0	0.0
1939	659	659	0	0.0
1940	747	747	0	0.0
1941	848	848	0	0.0
1942	865	865	0	0.0
1943	711	711	0	0.0
1944	752	752	0	0.0
1945	734	734	0	0.0
1946	771	771	0	0.0
1947	769	769	0	0.0
1948	764	764	0	0.0
1949	829	829	0	0.0
1950	574	574	0	0.0
1951	858	858	0	0.0
1952	802	802	0	0.0
1953	899	899	0	0.0
1954	806	806	0	0.0
1955	827	827	0	0.0
1956	403	403	0	0.0
1957	742	742	0	0.0
1958	782	782	0	0.0
1959	691	691	0	0.0
1960	815	815	0	0.0
1961	529	529	0	0.0
1962	721	721	0	0.0
1963	853	853	0	0.0
1964	737	737	0	0.0
1965	806	806	0	0.0
1966	706	706	0	0.0
1967	775	775	0	0.0
1968	981	981	0	0.0
1969	808	808	0	0.0
1970	795	795	0	0.0
1971	772	772	0	0.0
1972	827	827	0	0.0
1973	689	689	0	0.0
1974	733	733	0	0.0
1975	743	743	0	0.0
1976	774	774	0	0.0
1977	717	717	0	0.0
1978	167	167	0	0.0
1979	656	656	0	0.0
1980	688	688	0	0.0
1981	649	649	0	0.0
1982	827	827	0	0.0
1983	980	980	0	0.0
1984	862	862	0	0.0
1985	768	768	0	0.0
1986	795	795	0	0.0
1987	762	762	0	0.0
1988	785	785	0	0.0
1989	214	214	0	0.0
1990	370	370	0	0.0
1991	255	255	0	0.0
1992	243	243	0	0.0
1993	321	321	0	0.0
Mean:	679	679	0	0.0
Median:	750	750	0	0.0
Min:	167	167	0	0.0
Max:	981	981	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	556	556	0	0.0
1923	1026	1026	0	0.0
1924	211	211	0	0.0
1925	203	203	0	0.0
1926	255	255	0	0.0
1927	368	368	0	0.0
1928	738	738	0	0.0
1929	210	210	0	0.0
1930	236	236	0	0.0
1931	200	200	0	0.0
1932	219	219	0	0.0
1933	238	238	0	0.0
1934	234	234	0	0.0
1935	181	181	0	0.0
1936	168	168	0	0.0
1937	210	210	0	0.0
1938	617	617	0	0.0
1939	1007	1007	0	0.0
1940	156	156	0	0.0
1941	519	519	0	0.0
1942	969	969	0	0.0
1943	1011	1011	0	0.0
1944	400	400	0	0.0
1945	354	354	0	0.0
1946	719	719	0	0.0
1947	334	334	0	0.0
1948	161	161	0	0.0
1949	229	229	0	0.0
1950	177	177	0	0.0
1951	1052	1052	0	0.0
1952	551	551	0	0.0
1953	1056	1056	0	0.0
1954	736	736	0	0.0
1955	294	294	0	0.0
1956	687	687	0	0.0
1957	724	724	0	0.0
1958	587	587	0	0.0
1959	1097	1097	0	0.0
1960	156	156	0	0.0
1961	253	253	0	0.0
1962	162	162	0	0.0
1963	669	669	0	0.0
1964	703	703	0	0.0
1965	656	656	0	0.0
1966	1028	1028	0	0.0
1967	424	424	0	0.0
1968	1057	1057	0	0.0
1969	412	412	0	0.0
1970	1024	1024	0	0.0
1971	772	772	0	0.0
1972	707	707	0	0.0
1973	569	569	0	0.0
1974	693	693	0	0.0
1975	1027	1027	0	0.0
1976	761	761	0	0.0
1977	157	157	0	0.0
1978	156	156	0	0.0
1979	610	610	0	0.0
1980	591	591	0	0.0
1981	668	668	0	0.0
1982	630	630	0	0.0
1983	826	826	0	0.0
1984	1015	1015	0	0.0
1985	720	720	0	0.0
1986	173	173	0	0.0
1987	466	466	0	0.0
1988	187	187	0	0.0
1989	209	209	0	0.0
1990	193	193	0	0.0
1991	160	160	0	0.0
1992	174	174	0	0.0
1993	227	227	0	0.0
Mean:	513	513	0	0.0
Median:	493	493	0	0.0
Min:	156	156	0	0.0
Max:	1097	1097	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	648	648	0	0.0
1923	799	799	0	0.0
1924	234	234	0	0.0
1925	232	232	0	0.0
1926	845	845	0	0.0
1927	702	702	0	0.0
1928	1180	1180	0	0.0
1929	247	247	0	0.0
1930	550	550	0	0.0
1931	240	240	0	0.0
1932	391	391	0	0.0
1933	768	768	0	0.0
1934	334	334	0	0.0
1935	362	362	0	0.0
1936	310	310	0	0.0
1937	284	284	0	0.0
1938	1020	1020	0	0.0
1939	779	779	0	0.0
1940	239	239	0	0.0
1941	581	581	0	0.0
1942	1074	1074	0	0.0
1943	1120	1120	0	0.0
1944	578	578	0	0.0
1945	415	415	0	0.0
1946	796	796	0	0.0
1947	350	350	0	0.0
1948	218	218	0	0.0
1949	251	251	0	0.0
1950	326	326	0	0.0
1951	1165	1165	0	0.0
1952	915	915	0	0.0
1953	1091	1091	0	0.0
1954	1193	1193	0	0.0
1955	477	477	0	0.0
1956	1062	1062	0	0.0
1957	817	817	0	0.0
1958	1053	1053	0	0.0
1959	1220	1220	0	0.0
1960	178	178	0	0.0
1961	346	346	0	0.0
1962	185	185	0	0.0
1963	762	762	0	0.0
1964	864	864	0	0.0
1965	738	738	0	0.0
1966	1139	1139	0	0.0
1967	706	706	0	0.0
1968	1131	1131	0	0.0
1969	659	659	0	0.0
1970	1134	1134	0	0.0
1971	855	855	0	0.0
1972	801	801	0	0.0
1973	1094	1094	0	0.0
1974	1104	1104	0	0.0
1975	1137	1137	0	0.0
1976	780	780	0	0.0
1977	173	173	0	0.0
1978	763	763	0	0.0
1979	1048	1048	0	0.0
1980	969	969	0	0.0
1981	1194	1194	0	0.0
1982	698	698	0	0.0
1983	914	914	0	0.0
1984	1086	1086	0	0.0
1985	764	764	0	0.0
1986	264	264	0	0.0
1987	570	570	0	0.0
1988	258	258	0	0.0
1989	239	239	0	0.0
1990	250	250	0	0.0
1991	175	175	0	0.0
1992	188	188	0	0.0
1993	754	754	0	0.0
Mean:	678	678	0	0.0
Median:	746	746	0	0.0
Min:	173	173	0	0.0
Max:	1220	1220	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	936	936	0	0.0
1923	767	767	0	0.0
1924	254	254	0	0.0
1925	442	442	0	0.0
1926	720	720	0	0.0
1927	1013	1013	0	0.0
1928	1116	1116	0	0.0
1929	245	245	0	0.0
1930	566	566	0	0.0
1931	226	226	0	0.0
1932	678	678	0	0.0
1933	669	669	0	0.0
1934	415	415	0	0.0
1935	417	417	0	0.0
1936	861	861	0	0.0
1937	629	629	0	0.0
1938	960	960	0	0.0
1939	747	747	0	0.0
1940	1136	1136	0	0.0
1941	863	863	0	0.0
1942	1012	1012	0	0.0
1943	1056	1056	0	0.0
1944	718	718	0	0.0
1945	1060	1060	0	0.0
1946	764	764	0	0.0
1947	425	425	0	0.0
1948	188	188	0	0.0
1949	256	256	0	0.0
1950	568	568	0	0.0
1951	1099	1099	0	0.0
1952	891	891	0	0.0
1953	1103	1103	0	0.0
1954	1125	1125	0	0.0
1955	407	407	0	0.0
1956	1037	1037	0	0.0
1957	1083	1083	0	0.0
1958	992	992	0	0.0
1959	872	872	0	0.0
1960	255	255	0	0.0
1961	447	447	0	0.0
1962	505	505	0	0.0
1963	1031	1031	0	0.0
1964	797	797	0	0.0
1965	703	703	0	0.0
1966	1074	1074	0	0.0
1967	983	983	0	0.0
1968	1101	1101	0	0.0
1969	937	937	0	0.0
1970	1070	1070	0	0.0
1971	820	820	0	0.0
1972	1072	1072	0	0.0
1973	1031	1031	0	0.0
1974	1041	1041	0	0.0
1975	1073	1073	0	0.0
1976	763	763	0	0.0
1977	166	166	0	0.0
1978	941	941	0	0.0
1979	989	989	0	0.0
1980	945	945	0	0.0
1981	1120	1120	0	0.0
1982	975	975	0	0.0
1983	860	860	0	0.0
1984	1060	1060	0	0.0
1985	767	767	0	0.0
1986	1073	1073	0	0.0
1987	905	905	0	0.0
1988	220	220	0	0.0
1989	219	219	0	0.0
1990	242	242	0	0.0
1991	166	166	0	0.0
1992	252	252	0	0.0
1993	1028	1028	0	0.0
Mean:	763	763	0	0.0
Median:	862	862	0	0.0
Min:	166	166	0	0.0
Max:	1136	1136	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	692	692	0	0.0
1923	840	840	0	0.0
1924	256	256	0	0.0
1925	459	459	0	0.0
1926	680	680	0	0.0
1927	777	777	0	0.0
1928	834	834	0	0.0
1929	273	273	0	0.0
1930	798	798	0	0.0
1931	262	262	0	0.0
1932	389	389	0	0.0
1933	420	420	0	0.0
1934	460	460	0	0.0
1935	895	895	0	0.0
1936	942	942	0	0.0
1937	803	803	0	0.0
1938	719	719	0	0.0
1939	814	814	0	0.0
1940	917	917	0	0.0
1941	613	613	0	0.0
1942	775	775	0	0.0
1943	820	820	0	0.0
1944	793	793	0	0.0
1945	836	836	0	0.0
1946	836	836	0	0.0
1947	831	831	0	0.0
1948	297	297	0	0.0
1949	623	623	0	0.0
1950	929	929	0	0.0
1951	870	870	0	0.0
1952	644	644	0	0.0
1953	875	875	0	0.0
1954	899	899	0	0.0
1955	434	434	0	0.0
1956	802	802	0	0.0
1957	848	848	0	0.0
1958	753	753	0	0.0
1959	884	884	0	0.0
1960	572	572	0	0.0
1961	781	781	0	0.0
1962	924	924	0	0.0
1963	801	801	0	0.0
1964	868	868	0	0.0
1965	767	767	0	0.0
1966	842	842	0	0.0
1967	743	743	0	0.0
1968	870	870	0	0.0
1969	694	694	0	0.0
1970	838	838	0	0.0
1971	898	898	0	0.0
1972	748	748	0	0.0
1973	796	796	0	0.0
1974	807	807	0	0.0
1975	841	841	0	0.0
1976	779	779	0	0.0
1977	181	181	0	0.0
1978	713	713	0	0.0
1979	750	750	0	0.0
1980	702	702	0	0.0
1981	897	897	0	0.0
1982	735	735	0	0.0
1983	609	609	0	0.0
1984	827	827	0	0.0
1985	862	862	0	0.0
1986	829	829	0	0.0
1987	841	841	0	0.0
1988	232	232	0	0.0
1989	912	912	0	0.0
1990	277	277	0	0.0
1991	266	266	0	0.0
1992	347	347	0	0.0
1993	793	793	0	0.0
Mean:	707	707	0	0.0
Median:	793	793	0	0.0
Min:	181	181	0	0.0
Max:	942	942	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	746	746	0	0.0
1923	903	903	0	0.0
1924	274	274	0	0.0
1925	500	500	0	0.0
1926	891	891	0	0.0
1927	837	837	0	0.0
1928	895	895	0	0.0
1929	293	293	0	0.0
1930	856	856	0	0.0
1931	281	281	0	0.0
1932	417	417	0	0.0
1933	451	451	0	0.0
1934	493	493	0	0.0
1935	1008	1008	0	0.0
1936	1013	1013	0	0.0
1937	865	865	0	0.0
1938	774	774	0	0.0
1939	875	875	0	0.0
1940	987	987	0	0.0
1941	661	661	0	0.0
1942	834	834	0	0.0
1943	882	882	0	0.0
1944	854	854	0	0.0
1945	900	900	0	0.0
1946	899	899	0	0.0
1947	892	892	0	0.0
1948	964	964	0	0.0
1949	669	669	0	0.0
1950	998	998	0	0.0
1951	935	935	0	0.0
1952	694	694	0	0.0
1953	941	941	0	0.0
1954	966	966	0	0.0
1955	472	472	0	0.0
1956	863	863	0	0.0
1957	911	911	0	0.0
1958	811	811	0	0.0
1959	949	949	0	0.0
1960	614	614	0	0.0
1961	839	839	0	0.0
1962	992	992	0	0.0
1963	862	862	0	0.0
1964	932	932	0	0.0
1965	825	825	0	0.0
1966	905	905	0	0.0
1967	800	800	0	0.0
1968	935	935	0	0.0
1969	748	748	0	0.0
1970	901	901	0	0.0
1971	965	965	0	0.0
1972	803	803	0	0.0
1973	856	856	0	0.0
1974	868	868	0	0.0
1975	904	904	0	0.0
1976	836	836	0	0.0
1977	195	195	0	0.0
1978	769	769	0	0.0
1979	807	807	0	0.0
1980	757	757	0	0.0
1981	962	962	0	0.0
1982	791	791	0	0.0
1983	658	658	0	0.0
1984	890	890	0	0.0
1985	927	927	0	0.0
1986	890	890	0	0.0
1987	903	903	0	0.0
1988	249	249	0	0.0
1989	979	979	0	0.0
1990	297	297	0	0.0
1991	286	286	0	0.0
1992	373	373	0	0.0
1993	853	853	0	0.0
Mean:	773	773	0	0.0
Median:	856	856	0	0.0
Min:	195	195	0	0.0
Max:	1013	1013	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	827	827	0	0.0
1923	1000	1000	0	0.0
1924	304	304	0	0.0
1925	553	553	0	0.0
1926	987	987	0	0.0
1927	927	927	0	0.0
1928	991	991	0	0.0
1929	324	324	0	0.0
1930	948	948	0	0.0
1931	311	311	0	0.0
1932	462	462	0	0.0
1933	499	499	0	0.0
1934	546	546	0	0.0
1935	1116	1116	0	0.0
1936	1122	1122	0	0.0
1937	958	958	0	0.0
1938	858	858	0	0.0
1939	968	968	0	0.0
1940	1093	1093	0	0.0
1941	733	733	0	0.0
1942	924	924	0	0.0
1943	976	976	0	0.0
1944	946	946	0	0.0
1945	997	997	0	0.0
1946	996	996	0	0.0
1947	987	987	0	0.0
1948	1067	1067	0	0.0
1949	741	741	0	0.0
1950	1104	1104	0	0.0
1951	1035	1035	0	0.0
1952	769	769	0	0.0
1953	1042	1042	0	0.0
1954	1069	1069	0	0.0
1955	522	522	0	0.0
1956	955	955	0	0.0
1957	1008	1008	0	0.0
1958	899	899	0	0.0
1959	1050	1050	0	0.0
1960	679	679	0	0.0
1961	928	928	0	0.0
1962	1098	1098	0	0.0
1963	954	954	0	0.0
1964	1032	1032	0	0.0
1965	913	913	0	0.0
1966	1002	1002	0	0.0
1967	886	886	0	0.0
1968	1035	1035	0	0.0
1969	829	829	0	0.0
1970	998	998	0	0.0
1971	1068	1068	0	0.0
1972	889	889	0	0.0
1973	948	948	0	0.0
1974	961	961	0	0.0
1975	1001	1001	0	0.0
1976	926	926	0	0.0
1977	215	215	0	0.0
1978	851	851	0	0.0
1979	894	894	0	0.0
1980	838	838	0	0.0
1981	1065	1065	0	0.0
1982	876	876	0	0.0
1983	729	729	0	0.0
1984	985	985	0	0.0
1985	1026	1026	0	0.0
1986	985	985	0	0.0
1987	999	999	0	0.0
1988	276	276	0	0.0
1989	1084	1084	0	0.0
1990	329	329	0	0.0
1991	316	316	0	0.0
1992	412	412	0	0.0
1993	945	945	0	0.0
Mean:	855	855	0	0.0
Median:	948	948	0	0.0
Min:	215	215	0	0.0
Max:	1122	1122	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	832	832	0	0.0
1923	1007	1007	0	0.0
1924	306	306	0	0.0
1925	557	557	0	0.0
1926	994	994	0	0.0
1927	933	933	0	0.0
1928	997	997	0	0.0
1929	327	327	0	0.0
1930	954	954	0	0.0
1931	313	313	0	0.0
1932	465	465	0	0.0
1933	502	502	0	0.0
1934	550	550	0	0.0
1935	1125	1125	0	0.0
1936	1129	1129	0	0.0
1937	965	965	0	0.0
1938	863	863	0	0.0
1939	975	975	0	0.0
1940	1101	1101	0	0.0
1941	737	737	0	0.0
1942	930	930	0	0.0
1943	983	983	0	0.0
1944	953	953	0	0.0
1945	1004	1004	0	0.0
1946	1003	1003	0	0.0
1947	994	994	0	0.0
1948	1074	1074	0	0.0
1949	746	746	0	0.0
1950	1112	1112	0	0.0
1951	1043	1043	0	0.0
1952	774	774	0	0.0
1953	1049	1049	0	0.0
1954	1077	1077	0	0.0
1955	526	526	0	0.0
1956	962	962	0	0.0
1957	1015	1015	0	0.0
1958	905	905	0	0.0
1959	1057	1057	0	0.0
1960	684	684	0	0.0
1961	935	935	0	0.0
1962	1106	1106	0	0.0
1963	961	961	0	0.0
1964	1038	1038	0	0.0
1965	919	919	0	0.0
1966	1010	1010	0	0.0
1967	892	892	0	0.0
1968	1042	1042	0	0.0
1969	833	833	0	0.0
1970	1005	1005	0	0.0
1971	1075	1075	0	0.0
1972	895	895	0	0.0
1973	954	954	0	0.0
1974	968	968	0	0.0
1975	1008	1008	0	0.0
1976	932	932	0	0.0
1977	217	217	0	0.0
1978	857	857	0	0.0
1979	899	899	0	0.0
1980	843	843	0	0.0
1981	1073	1073	0	0.0
1982	881	881	0	0.0
1983	732	732	0	0.0
1984	992	992	0	0.0
1985	1033	1033	0	0.0
1986	992	992	0	0.0
1987	1006	1006	0	0.0
1988	278	278	0	0.0
1989	1092	1092	0	0.0
1990	332	332	0	0.0
1991	319	319	0	0.0
1992	415	415	0	0.0
1993	952	952	0	0.0
Mean:	861	861	0	0.0
Median:	954	954	0	0.0
Min:	217	217	0	0.0
Max:	1129	1129	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	816	816	0	0.0
1923	987	987	0	0.0
1924	300	300	0	0.0
1925	546	546	0	0.0
1926	974	974	0	0.0
1927	915	915	0	0.0
1928	978	978	0	0.0
1929	320	320	0	0.0
1930	936	936	0	0.0
1931	307	307	0	0.0
1932	456	456	0	0.0
1933	492	492	0	0.0
1934	539	539	0	0.0
1935	1104	1104	0	0.0
1936	1108	1108	0	0.0
1937	948	948	0	0.0
1938	848	848	0	0.0
1939	956	956	0	0.0
1940	1081	1081	0	0.0
1941	724	724	0	0.0
1942	913	913	0	0.0
1943	965	965	0	0.0
1944	936	936	0	0.0
1945	986	986	0	0.0
1946	985	985	0	0.0
1947	975	975	0	0.0
1948	1054	1054	0	0.0
1949	732	732	0	0.0
1950	1091	1091	0	0.0
1951	1023	1023	0	0.0
1952	760	760	0	0.0
1953	1030	1030	0	0.0
1954	1057	1057	0	0.0
1955	516	516	0	0.0
1956	944	944	0	0.0
1957	996	996	0	0.0
1958	888	888	0	0.0
1959	1037	1037	0	0.0
1960	671	671	0	0.0
1961	917	917	0	0.0
1962	1085	1085	0	0.0
1963	943	943	0	0.0
1964	1019	1019	0	0.0
1965	901	901	0	0.0
1966	991	991	0	0.0
1967	876	876	0	0.0
1968	1022	1022	0	0.0
1969	818	818	0	0.0
1970	986	986	0	0.0
1971	1055	1055	0	0.0
1972	878	878	0	0.0
1973	937	937	0	0.0
1974	950	950	0	0.0
1975	989	989	0	0.0
1976	914	914	0	0.0
1977	213	213	0	0.0
1978	841	841	0	0.0
1979	883	883	0	0.0
1980	827	827	0	0.0
1981	1052	1052	0	0.0
1982	865	865	0	0.0
1983	719	719	0	0.0
1984	973	973	0	0.0
1985	1014	1014	0	0.0
1986	973	973	0	0.0
1987	987	987	0	0.0
1988	272	272	0	0.0
1989	1070	1070	0	0.0
1990	325	325	0	0.0
1991	312	312	0	0.0
1992	407	407	0	0.0
1993	934	934	0	0.0
Mean:	845	845	0	0.0
Median:	937	937	0	0.0
Min:	213	213	0	0.0
Max:	1108	1108	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Release

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	803	803	0	0.0
1923	972	972	0	0.0
1924	296	296	0	0.0
1925	538	538	0	0.0
1926	960	960	0	0.0
1927	901	901	0	0.0
1928	965	965	0	0.0
1929	316	316	0	0.0
1930	922	922	0	0.0
1931	302	302	0	0.0
1932	449	449	0	0.0
1933	485	485	0	0.0
1934	532	532	0	0.0
1935	1089	1089	0	0.0
1936	1092	1092	0	0.0
1937	933	933	0	0.0
1938	834	834	0	0.0
1939	942	942	0	0.0
1940	1065	1065	0	0.0
1941	712	712	0	0.0
1942	899	899	0	0.0
1943	950	950	0	0.0
1944	921	921	0	0.0
1945	972	972	0	0.0
1946	970	970	0	0.0
1947	961	961	0	0.0
1948	1039	1039	0	0.0
1949	721	721	0	0.0
1950	1076	1076	0	0.0
1951	1009	1009	0	0.0
1952	748	748	0	0.0
1953	1015	1015	0	0.0
1954	1042	1042	0	0.0
1955	509	509	0	0.0
1956	930	930	0	0.0
1957	982	982	0	0.0
1958	875	875	0	0.0
1959	1023	1023	0	0.0
1960	662	662	0	0.0
1961	905	905	0	0.0
1962	1070	1070	0	0.0
1963	929	929	0	0.0
1964	1005	1005	0	0.0
1965	889	889	0	0.0
1966	977	977	0	0.0
1967	863	863	0	0.0
1968	1007	1007	0	0.0
1969	806	806	0	0.0
1970	972	972	0	0.0
1971	1041	1041	0	0.0
1972	866	866	0	0.0
1973	924	924	0	0.0
1974	937	937	0	0.0
1975	975	975	0	0.0
1976	902	902	0	0.0
1977	210	210	0	0.0
1978	829	829	0	0.0
1979	870	870	0	0.0
1980	815	815	0	0.0
1981	1037	1037	0	0.0
1982	852	852	0	0.0
1983	708	708	0	0.0
1984	959	959	0	0.0
1985	999	999	0	0.0
1986	959	959	0	0.0
1987	973	973	0	0.0
1988	269	269	0	0.0
1989	1055	1055	0	0.0
1990	320	320	0	0.0
1991	308	308	0	0.0
1992	401	401	0	0.0
1993	920	920	0	0.0
Mean:	833	833	0	0.0
Median:	923	923	0	0.0
Min:	210	210	0	0.0
Max:	1092	1092	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	294	294	0	0.0
1923	294	294	0	0.0
1924	294	294	0	0.0
1925	294	294	0	0.0
1926	294	294	0	0.0
1927	294	294	0	0.0
1928	294	294	0	0.0
1929	294	294	0	0.0
1930	294	294	0	0.0
1931	294	294	0	0.0
1932	294	294	0	0.0
1933	294	294	0	0.0
1934	294	294	0	0.0
1935	294	294	0	0.0
1936	294	294	0	0.0
1937	294	294	0	0.0
1938	294	294	0	0.0
1939	294	294	0	0.0
1940	294	294	0	0.0
1941	294	294	0	0.0
1942	294	294	0	0.0
1943	294	294	0	0.0
1944	294	294	0	0.0
1945	294	294	0	0.0
1946	294	294	0	0.0
1947	294	294	0	0.0
1948	294	294	0	0.0
1949	294	294	0	0.0
1950	294	294	0	0.0
1951	294	294	0	0.0
1952	294	294	0	0.0
1953	324	324	0	0.0
1954	294	294	0	0.0
1955	294	294	0	0.0
1956	294	294	0	0.0
1957	294	294	0	0.0
1958	294	294	0	0.0
1959	294	294	0	0.0
1960	294	294	0	0.0
1961	294	294	0	0.0
1962	294	294	0	0.0
1963	294	294	0	0.0
1964	294	294	0	0.0
1965	294	294	0	0.0
1966	294	294	0	0.0
1967	294	294	0	0.0
1968	324	324	0	0.0
1969	294	294	0	0.0
1970	294	294	0	0.0
1971	294	294	0	0.0
1972	294	294	0	0.0
1973	294	294	0	0.0
1974	294	294	0	0.0
1975	294	294	0	0.0
1976	294	294	0	0.0
1977	294	294	0	0.0
1978	294	294	0	0.0
1979	294	294	0	0.0
1980	294	294	0	0.0
1981	294	294	0	0.0
1982	294	294	0	0.0
1983	294	294	0	0.0
1984	324	324	0	0.0
1985	294	294	0	0.0
1986	294	294	0	0.0
1987	294	294	0	0.0
1988	294	294	0	0.0
1989	294	294	0	0.0
1990	294	294	0	0.0
1991	294	294	0	0.0
1992	294	294	0	0.0
1993	294	294	0	0.0
Mean:	295	295	0	0.0
Median:	294	294	0	0.0
Min:	294	294	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	299	299	0	0.0
1923	299	299	0	0.0
1924	299	299	0	0.0
1925	299	299	0	0.0
1926	299	299	0	0.0
1927	299	299	0	0.0
1928	299	299	0	0.0
1929	299	299	0	0.0
1930	299	299	0	0.0
1931	299	299	0	0.0
1932	299	299	0	0.0
1933	299	299	0	0.0
1934	299	299	0	0.0
1935	299	299	0	0.0
1936	299	299	0	0.0
1937	299	299	0	0.0
1938	299	299	0	0.0
1939	299	299	0	0.0
1940	299	299	0	0.0
1941	299	299	0	0.0
1942	299	299	0	0.0
1943	299	299	0	0.0
1944	299	299	0	0.0
1945	299	299	0	0.0
1946	299	299	0	0.0
1947	299	299	0	0.0
1948	299	299	0	0.0
1949	299	299	0	0.0
1950	299	299	0	0.0
1951	299	299	0	0.0
1952	299	299	0	0.0
1953	324	324	0	0.0
1954	299	299	0	0.0
1955	299	299	0	0.0
1956	299	299	0	0.0
1957	299	299	0	0.0
1958	299	299	0	0.0
1959	299	299	0	0.0
1960	299	299	0	0.0
1961	299	299	0	0.0
1962	299	299	0	0.0
1963	299	299	0	0.0
1964	299	299	0	0.0
1965	299	299	0	0.0
1966	299	299	0	0.0
1967	299	299	0	0.0
1968	324	324	0	0.0
1969	299	299	0	0.0
1970	299	299	0	0.0
1971	299	299	0	0.0
1972	299	299	0	0.0
1973	299	299	0	0.0
1974	299	299	0	0.0
1975	299	299	0	0.0
1976	299	299	0	0.0
1977	299	299	0	0.0
1978	299	299	0	0.0
1979	299	299	0	0.0
1980	299	299	0	0.0
1981	299	299	0	0.0
1982	299	299	0	0.0
1983	299	299	0	0.0
1984	324	324	0	0.0
1985	299	299	0	0.0
1986	299	299	0	0.0
1987	299	299	0	0.0
1988	294	294	0	0.0
1989	299	299	0	0.0
1990	294	294	0	0.0
1991	299	299	0	0.0
1992	299	299	0	0.0
1993	299	299	0	0.0
Mean:	300	300	0	0.0
Median:	299	299	0	0.0
Min:	294	294	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	304	304	0	0.0
1923	313	313	0	0.0
1924	304	304	0	0.0
1925	304	304	0	0.0
1926	304	304	0	0.0
1927	304	304	0	0.0
1928	304	304	0	0.0
1929	304	304	0	0.0
1930	304	304	0	0.0
1931	304	304	0	0.0
1932	304	304	0	0.0
1933	304	304	0	0.0
1934	304	304	0	0.0
1935	304	304	0	0.0
1936	304	304	0	0.0
1937	304	304	0	0.0
1938	304	304	0	0.0
1939	324	324	0	0.0
1940	304	304	0	0.0
1941	304	304	0	0.0
1942	324	324	0	0.0
1943	324	324	0	0.0
1944	304	304	0	0.0
1945	304	304	0	0.0
1946	304	304	0	0.0
1947	304	304	0	0.0
1948	304	304	0	0.0
1949	304	304	0	0.0
1950	304	304	0	0.0
1951	304	304	0	0.0
1952	304	304	0	0.0
1953	324	324	0	0.0
1954	304	304	0	0.0
1955	304	304	0	0.0
1956	304	304	0	0.0
1957	304	304	0	0.0
1958	304	304	0	0.0
1959	304	304	0	0.0
1960	304	304	0	0.0
1961	304	304	0	0.0
1962	304	304	0	0.0
1963	304	304	0	0.0
1964	304	304	0	0.0
1965	304	304	0	0.0
1966	304	304	0	0.0
1967	304	304	0	0.0
1968	324	324	0	0.0
1969	304	304	0	0.0
1970	324	324	0	0.0
1971	304	304	0	0.0
1972	304	304	0	0.0
1973	304	304	0	0.0
1974	304	304	0	0.0
1975	304	304	0	0.0
1976	304	304	0	0.0
1977	304	304	0	0.0
1978	304	304	0	0.0
1979	304	304	0	0.0
1980	304	304	0	0.0
1981	304	304	0	0.0
1982	304	304	0	0.0
1983	324	324	0	0.0
1984	324	324	0	0.0
1985	304	304	0	0.0
1986	304	304	0	0.0
1987	304	304	0	0.0
1988	304	304	0	0.0
1989	304	304	0	0.0
1990	294	294	0	0.0
1991	304	304	0	0.0
1992	304	304	0	0.0
1993	304	304	0	0.0
Mean:	306	306	0	0.0
Median:	304	304	0	0.0
Min:	294	294	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	309	309	0	0.0
1923	324	324	0	0.0
1924	309	309	0	0.0
1925	309	309	0	0.0
1926	309	309	0	0.0
1927	309	309	0	0.0
1928	309	309	0	0.0
1929	309	309	0	0.0
1930	309	309	0	0.0
1931	309	309	0	0.0
1932	309	309	0	0.0
1933	324	324	0	0.0
1934	309	309	0	0.0
1935	309	309	0	0.0
1936	309	309	0	0.0
1937	309	309	0	0.0
1938	309	309	0	0.0
1939	324	324	0	0.0
1940	309	309	0	0.0
1941	309	309	0	0.0
1942	324	324	0	0.0
1943	324	324	0	0.0
1944	309	309	0	0.0
1945	309	309	0	0.0
1946	309	309	0	0.0
1947	309	309	0	0.0
1948	309	309	0	0.0
1949	309	309	0	0.0
1950	309	309	0	0.0
1951	324	324	0	0.0
1952	309	309	0	0.0
1953	324	324	0	0.0
1954	324	324	0	0.0
1955	309	309	0	0.0
1956	309	309	0	0.0
1957	309	309	0	0.0
1958	324	324	0	0.0
1959	324	324	0	0.0
1960	309	309	0	0.0
1961	309	309	0	0.0
1962	309	309	0	0.0
1963	309	309	0	0.0
1964	324	324	0	0.0
1965	309	309	0	0.0
1966	324	324	0	0.0
1967	309	309	0	0.0
1968	324	324	0	0.0
1969	309	309	0	0.0
1970	324	324	0	0.0
1971	309	309	0	0.0
1972	309	309	0	0.0
1973	310	310	0	0.0
1974	324	324	0	0.0
1975	324	324	0	0.0
1976	324	324	0	0.0
1977	309	309	0	0.0
1978	309	309	0	0.0
1979	309	309	0	0.0
1980	309	309	0	0.0
1981	324	324	0	0.0
1982	309	309	0	0.0
1983	324	324	0	0.0
1984	324	324	0	0.0
1985	309	309	0	0.0
1986	309	309	0	0.0
1987	309	309	0	0.0
1988	309	309	0	0.0
1989	309	309	0	0.0
1990	303	303	0	0.0
1991	309	309	0	0.0
1992	309	309	0	0.0
1993	309	309	0	0.0
Mean:	313	313	0	0.0
Median:	309	309	0	0.0
Min:	303	303	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	314	314	0	0.0
1923	324	324	0	0.0
1924	314	314	0	0.0
1925	314	314	0	0.0
1926	324	324	0	0.0
1927	324	324	0	0.0
1928	324	324	0	0.0
1929	314	314	0	0.0
1930	314	314	0	0.0
1931	314	314	0	0.0
1932	324	324	0	0.0
1933	324	324	0	0.0
1934	314	314	0	0.0
1935	314	314	0	0.0
1936	314	314	0	0.0
1937	314	314	0	0.0
1938	324	324	0	0.0
1939	324	324	0	0.0
1940	314	314	0	0.0
1941	314	314	0	0.0
1942	324	324	0	0.0
1943	324	324	0	0.0
1944	314	314	0	0.0
1945	314	314	0	0.0
1946	314	314	0	0.0
1947	314	314	0	0.0
1948	314	314	0	0.0
1949	314	314	0	0.0
1950	314	314	0	0.0
1951	324	324	0	0.0
1952	324	324	0	0.0
1953	324	324	0	0.0
1954	324	324	0	0.0
1955	314	314	0	0.0
1956	324	324	0	0.0
1957	324	324	0	0.0
1958	324	324	0	0.0
1959	324	324	0	0.0
1960	314	314	0	0.0
1961	314	314	0	0.0
1962	314	314	0	0.0
1963	324	324	0	0.0
1964	314	314	0	0.0
1965	314	314	0	0.0
1966	324	324	0	0.0
1967	324	324	0	0.0
1968	324	324	0	0.0
1969	314	314	0	0.0
1970	324	324	0	0.0
1971	314	314	0	0.0
1972	314	314	0	0.0
1973	324	324	0	0.0
1974	324	324	0	0.0
1975	324	324	0	0.0
1976	324	324	0	0.0
1977	314	314	0	0.0
1978	324	324	0	0.0
1979	324	324	0	0.0
1980	324	324	0	0.0
1981	324	324	0	0.0
1982	324	324	0	0.0
1983	324	324	0	0.0
1984	324	324	0	0.0
1985	314	314	0	0.0
1986	314	314	0	0.0
1987	314	314	0	0.0
1988	314	314	0	0.0
1989	314	314	0	0.0
1990	314	314	0	0.0
1991	314	314	0	0.0
1992	314	314	0	0.0
1993	314	314	0	0.0
Mean:	319	319	0	0.0
Median:	314	314	0	0.0
Min:	314	314	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	324	324	0	0.0
1923	319	319	0	0.0
1924	319	319	0	0.0
1925	319	319	0	0.0
1926	319	319	0	0.0
1927	324	324	0	0.0
1928	324	324	0	0.0
1929	319	319	0	0.0
1930	324	324	0	0.0
1931	319	319	0	0.0
1932	324	324	0	0.0
1933	324	324	0	0.0
1934	319	319	0	0.0
1935	319	319	0	0.0
1936	324	324	0	0.0
1937	324	324	0	0.0
1938	324	324	0	0.0
1939	324	324	0	0.0
1940	324	324	0	0.0
1941	324	324	0	0.0
1942	324	324	0	0.0
1943	324	324	0	0.0
1944	319	319	0	0.0
1945	324	324	0	0.0
1946	319	319	0	0.0
1947	319	319	0	0.0
1948	319	319	0	0.0
1949	319	319	0	0.0
1950	319	319	0	0.0
1951	324	324	0	0.0
1952	324	324	0	0.0
1953	324	324	0	0.0
1954	324	324	0	0.0
1955	319	319	0	0.0
1956	324	324	0	0.0
1957	324	324	0	0.0
1958	324	324	0	0.0
1959	319	319	0	0.0
1960	319	319	0	0.0
1961	324	324	0	0.0
1962	319	319	0	0.0
1963	324	324	0	0.0
1964	319	319	0	0.0
1965	324	324	0	0.0
1966	324	324	0	0.0
1967	324	324	0	0.0
1968	324	324	0	0.0
1969	324	324	0	0.0
1970	324	324	0	0.0
1971	319	319	0	0.0
1972	324	324	0	0.0
1973	324	324	0	0.0
1974	324	324	0	0.0
1975	324	324	0	0.0
1976	324	324	0	0.0
1977	319	319	0	0.0
1978	324	324	0	0.0
1979	324	324	0	0.0
1980	324	324	0	0.0
1981	324	324	0	0.0
1982	324	324	0	0.0
1983	324	324	0	0.0
1984	324	324	0	0.0
1985	319	319	0	0.0
1986	324	324	0	0.0
1987	324	324	0	0.0
1988	319	319	0	0.0
1989	319	319	0	0.0
1990	319	319	0	0.0
1991	319	319	0	0.0
1992	319	319	0	0.0
1993	324	324	0	0.0
Mean:	322	322	0	0.0
Median:	324	324	0	0.0
Min:	319	319	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	324	324	0	0.0
1923	324	324	0	0.0
1924	324	324	0	0.0
1925	324	324	0	0.0
1926	324	324	0	0.0
1927	324	324	0	0.0
1928	324	324	0	0.0
1929	324	324	0	0.0
1930	324	324	0	0.0
1931	324	324	0	0.0
1932	324	324	0	0.0
1933	324	324	0	0.0
1934	324	324	0	0.0
1935	324	324	0	0.0
1936	324	324	0	0.0
1937	324	324	0	0.0
1938	324	324	0	0.0
1939	324	324	0	0.0
1940	324	324	0	0.0
1941	324	324	0	0.0
1942	324	324	0	0.0
1943	324	324	0	0.0
1944	324	324	0	0.0
1945	324	324	0	0.0
1946	324	324	0	0.0
1947	324	324	0	0.0
1948	324	324	0	0.0
1949	324	324	0	0.0
1950	324	324	0	0.0
1951	324	324	0	0.0
1952	324	324	0	0.0
1953	324	324	0	0.0
1954	324	324	0	0.0
1955	324	324	0	0.0
1956	324	324	0	0.0
1957	324	324	0	0.0
1958	324	324	0	0.0
1959	324	324	0	0.0
1960	324	324	0	0.0
1961	324	324	0	0.0
1962	324	324	0	0.0
1963	324	324	0	0.0
1964	324	324	0	0.0
1965	324	324	0	0.0
1966	324	324	0	0.0
1967	324	324	0	0.0
1968	324	324	0	0.0
1969	324	324	0	0.0
1970	324	324	0	0.0
1971	324	324	0	0.0
1972	324	324	0	0.0
1973	324	324	0	0.0
1974	324	324	0	0.0
1975	324	324	0	0.0
1976	324	324	0	0.0
1977	324	324	0	0.0
1978	324	324	0	0.0
1979	324	324	0	0.0
1980	324	324	0	0.0
1981	324	324	0	0.0
1982	324	324	0	0.0
1983	324	324	0	0.0
1984	324	324	0	0.0
1985	324	324	0	0.0
1986	324	324	0	0.0
1987	324	324	0	0.0
1988	324	324	0	0.0
1989	324	324	0	0.0
1990	324	324	0	0.0
1991	324	324	0	0.0
1992	324	324	0	0.0
1993	324	324	0	0.0
Mean:	324	324	0	0.0
Median:	324	324	0	0.0
Min:	324	324	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	319	319	0	0.0
1923	319	319	0	0.0
1924	319	319	0	0.0
1925	319	319	0	0.0
1926	319	319	0	0.0
1927	319	319	0	0.0
1928	319	319	0	0.0
1929	319	319	0	0.0
1930	319	319	0	0.0
1931	319	319	0	0.0
1932	324	324	0	0.0
1933	319	319	0	0.0
1934	319	319	0	0.0
1935	319	319	0	0.0
1936	319	319	0	0.0
1937	324	324	0	0.0
1938	324	324	0	0.0
1939	319	319	0	0.0
1940	319	319	0	0.0
1941	324	324	0	0.0
1942	319	319	0	0.0
1943	319	319	0	0.0
1944	319	319	0	0.0
1945	319	319	0	0.0
1946	319	319	0	0.0
1947	319	319	0	0.0
1948	319	319	0	0.0
1949	319	319	0	0.0
1950	319	319	0	0.0
1951	319	319	0	0.0
1952	324	324	0	0.0
1953	319	319	0	0.0
1954	319	319	0	0.0
1955	319	319	0	0.0
1956	319	319	0	0.0
1957	319	319	0	0.0
1958	324	324	0	0.0
1959	319	319	0	0.0
1960	319	319	0	0.0
1961	319	319	0	0.0
1962	319	319	0	0.0
1963	319	319	0	0.0
1964	319	319	0	0.0
1965	319	319	0	0.0
1966	319	319	0	0.0
1967	324	324	0	0.0
1968	319	319	0	0.0
1969	324	324	0	0.0
1970	319	319	0	0.0
1971	319	319	0	0.0
1972	319	319	0	0.0
1973	319	319	0	0.0
1974	319	319	0	0.0
1975	319	319	0	0.0
1976	319	319	0	0.0
1977	319	319	0	0.0
1978	324	324	0	0.0
1979	319	319	0	0.0
1980	319	319	0	0.0
1981	319	319	0	0.0
1982	324	324	0	0.0
1983	324	324	0	0.0
1984	319	319	0	0.0
1985	319	319	0	0.0
1986	319	319	0	0.0
1987	319	319	0	0.0
1988	319	319	0	0.0
1989	319	319	0	0.0
1990	319	319	0	0.0
1991	319	319	0	0.0
1992	319	319	0	0.0
1993	319	319	0	0.0
Mean:	320	320	0	0.0
Median:	319	319	0	0.0
Min:	319	319	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	314	314	0	0.0
1923	314	314	0	0.0
1924	314	314	0	0.0
1925	314	314	0	0.0
1926	314	314	0	0.0
1927	314	314	0	0.0
1928	314	314	0	0.0
1929	314	314	0	0.0
1930	314	314	0	0.0
1931	314	314	0	0.0
1932	314	314	0	0.0
1933	314	314	0	0.0
1934	314	314	0	0.0
1935	314	314	0	0.0
1936	314	314	0	0.0
1937	314	314	0	0.0
1938	314	314	0	0.0
1939	314	314	0	0.0
1940	314	314	0	0.0
1941	324	324	0	0.0
1942	314	314	0	0.0
1943	314	314	0	0.0
1944	314	314	0	0.0
1945	314	314	0	0.0
1946	314	314	0	0.0
1947	314	314	0	0.0
1948	314	314	0	0.0
1949	314	314	0	0.0
1950	314	314	0	0.0
1951	314	314	0	0.0
1952	324	324	0	0.0
1953	314	314	0	0.0
1954	314	314	0	0.0
1955	314	314	0	0.0
1956	314	314	0	0.0
1957	314	314	0	0.0
1958	314	314	0	0.0
1959	314	314	0	0.0
1960	314	314	0	0.0
1961	314	314	0	0.0
1962	314	314	0	0.0
1963	314	314	0	0.0
1964	314	314	0	0.0
1965	314	314	0	0.0
1966	314	314	0	0.0
1967	314	314	0	0.0
1968	314	314	0	0.0
1969	324	324	0	0.0
1970	314	314	0	0.0
1971	314	314	0	0.0
1972	314	314	0	0.0
1973	314	314	0	0.0
1974	314	314	0	0.0
1975	314	314	0	0.0
1976	314	314	0	0.0
1977	314	314	0	0.0
1978	324	324	0	0.0
1979	314	314	0	0.0
1980	314	314	0	0.0
1981	314	314	0	0.0
1982	314	314	0	0.0
1983	324	324	0	0.0
1984	314	314	0	0.0
1985	314	314	0	0.0
1986	314	314	0	0.0
1987	314	314	0	0.0
1988	314	314	0	0.0
1989	314	314	0	0.0
1990	314	314	0	0.0
1991	314	314	0	0.0
1992	314	314	0	0.0
1993	314	314	0	0.0
Mean:	315	315	0	0.0
Median:	314	314	0	0.0
Min:	314	314	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	309	309	0	0.0
1923	309	309	0	0.0
1924	309	309	0	0.0
1925	309	309	0	0.0
1926	309	309	0	0.0
1927	309	309	0	0.0
1928	309	309	0	0.0
1929	309	309	0	0.0
1930	309	309	0	0.0
1931	309	309	0	0.0
1932	309	309	0	0.0
1933	309	309	0	0.0
1934	309	309	0	0.0
1935	309	309	0	0.0
1936	309	309	0	0.0
1937	309	309	0	0.0
1938	309	309	0	0.0
1939	309	309	0	0.0
1940	309	309	0	0.0
1941	309	309	0	0.0
1942	309	309	0	0.0
1943	309	309	0	0.0
1944	309	309	0	0.0
1945	309	309	0	0.0
1946	309	309	0	0.0
1947	309	309	0	0.0
1948	309	309	0	0.0
1949	309	309	0	0.0
1950	309	309	0	0.0
1951	309	309	0	0.0
1952	309	309	0	0.0
1953	309	309	0	0.0
1954	309	309	0	0.0
1955	309	309	0	0.0
1956	309	309	0	0.0
1957	309	309	0	0.0
1958	309	309	0	0.0
1959	309	309	0	0.0
1960	309	309	0	0.0
1961	309	309	0	0.0
1962	309	309	0	0.0
1963	309	309	0	0.0
1964	309	309	0	0.0
1965	309	309	0	0.0
1966	309	309	0	0.0
1967	309	309	0	0.0
1968	309	309	0	0.0
1969	309	309	0	0.0
1970	309	309	0	0.0
1971	309	309	0	0.0
1972	309	309	0	0.0
1973	309	309	0	0.0
1974	309	309	0	0.0
1975	309	309	0	0.0
1976	309	309	0	0.0
1977	309	309	0	0.0
1978	309	309	0	0.0
1979	309	309	0	0.0
1980	309	309	0	0.0
1981	309	309	0	0.0
1982	309	309	0	0.0
1983	324	324	0	0.0
1984	309	309	0	0.0
1985	309	309	0	0.0
1986	309	309	0	0.0
1987	309	309	0	0.0
1988	309	309	0	0.0
1989	309	309	0	0.0
1990	309	309	0	0.0
1991	309	309	0	0.0
1992	309	309	0	0.0
1993	309	309	0	0.0
Mean:	309	309	0	0.0
Median:	309	309	0	0.0
Min:	309	309	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	304	304	0	0.0
1923	304	304	0	0.0
1924	304	304	0	0.0
1925	304	304	0	0.0
1926	304	304	0	0.0
1927	304	304	0	0.0
1928	304	304	0	0.0
1929	304	304	0	0.0
1930	304	304	0	0.0
1931	304	304	0	0.0
1932	304	304	0	0.0
1933	304	304	0	0.0
1934	304	304	0	0.0
1935	304	304	0	0.0
1936	304	304	0	0.0
1937	304	304	0	0.0
1938	304	304	0	0.0
1939	304	304	0	0.0
1940	304	304	0	0.0
1941	304	304	0	0.0
1942	304	304	0	0.0
1943	304	304	0	0.0
1944	304	304	0	0.0
1945	304	304	0	0.0
1946	304	304	0	0.0
1947	304	304	0	0.0
1948	304	304	0	0.0
1949	304	304	0	0.0
1950	304	304	0	0.0
1951	304	304	0	0.0
1952	304	304	0	0.0
1953	304	304	0	0.0
1954	304	304	0	0.0
1955	304	304	0	0.0
1956	304	304	0	0.0
1957	304	304	0	0.0
1958	304	304	0	0.0
1959	304	304	0	0.0
1960	304	304	0	0.0
1961	304	304	0	0.0
1962	304	304	0	0.0
1963	304	304	0	0.0
1964	304	304	0	0.0
1965	304	304	0	0.0
1966	304	304	0	0.0
1967	304	304	0	0.0
1968	304	304	0	0.0
1969	304	304	0	0.0
1970	304	304	0	0.0
1971	304	304	0	0.0
1972	304	304	0	0.0
1973	304	304	0	0.0
1974	304	304	0	0.0
1975	304	304	0	0.0
1976	304	304	0	0.0
1977	304	304	0	0.0
1978	304	304	0	0.0
1979	304	304	0	0.0
1980	304	304	0	0.0
1981	304	304	0	0.0
1982	304	304	0	0.0
1983	324	324	0	0.0
1984	304	304	0	0.0
1985	304	304	0	0.0
1986	304	304	0	0.0
1987	304	304	0	0.0
1988	304	304	0	0.0
1989	304	304	0	0.0
1990	304	304	0	0.0
1991	304	304	0	0.0
1992	304	304	0	0.0
1993	304	304	0	0.0
Mean:	304	304	0	0.0
Median:	304	304	0	0.0
Min:	304	304	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	299	299	0	0.0
1923	299	299	0	0.0
1924	299	299	0	0.0
1925	299	299	0	0.0
1926	299	299	0	0.0
1927	299	299	0	0.0
1928	299	299	0	0.0
1929	299	299	0	0.0
1930	299	299	0	0.0
1931	299	299	0	0.0
1932	299	299	0	0.0
1933	299	299	0	0.0
1934	299	299	0	0.0
1935	299	299	0	0.0
1936	299	299	0	0.0
1937	299	299	0	0.0
1938	299	299	0	0.0
1939	299	299	0	0.0
1940	299	299	0	0.0
1941	299	299	0	0.0
1942	299	299	0	0.0
1943	299	299	0	0.0
1944	299	299	0	0.0
1945	299	299	0	0.0
1946	299	299	0	0.0
1947	299	299	0	0.0
1948	299	299	0	0.0
1949	299	299	0	0.0
1950	299	299	0	0.0
1951	299	299	0	0.0
1952	299	299	0	0.0
1953	299	299	0	0.0
1954	299	299	0	0.0
1955	299	299	0	0.0
1956	299	299	0	0.0
1957	299	299	0	0.0
1958	299	299	0	0.0
1959	299	299	0	0.0
1960	299	299	0	0.0
1961	299	299	0	0.0
1962	299	299	0	0.0
1963	299	299	0	0.0
1964	299	299	0	0.0
1965	299	299	0	0.0
1966	299	299	0	0.0
1967	299	299	0	0.0
1968	299	299	0	0.0
1969	299	299	0	0.0
1970	299	299	0	0.0
1971	299	299	0	0.0
1972	299	299	0	0.0
1973	299	299	0	0.0
1974	299	299	0	0.0
1975	299	299	0	0.0
1976	299	299	0	0.0
1977	299	299	0	0.0
1978	299	299	0	0.0
1979	299	299	0	0.0
1980	299	299	0	0.0
1981	299	299	0	0.0
1982	299	299	0	0.0
1983	324	324	0	0.0
1984	299	299	0	0.0
1985	299	299	0	0.0
1986	299	299	0	0.0
1987	299	299	0	0.0
1988	299	299	0	0.0
1989	299	299	0	0.0
1990	299	299	0	0.0
1991	299	299	0	0.0
1992	299	299	0	0.0
1993	299	299	0	0.0
Mean:	299	299	0	0.0
Median:	299	299	0	0.0
Min:	299	299	0	0.0
Max:	324	324	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2536	2536	0	0.0
1923	2536	2536	0	0.0
1924	2536	2536	0	0.0
1925	2536	2536	0	0.0
1926	2536	2536	0	0.0
1927	2536	2536	0	0.0
1928	2536	2536	0	0.0
1929	2536	2536	0	0.0
1930	2536	2536	0	0.0
1931	2536	2536	0	0.0
1932	2536	2536	0	0.0
1933	2536	2536	0	0.0
1934	2536	2536	0	0.0
1935	2536	2536	0	0.0
1936	2536	2536	0	0.0
1937	2536	2536	0	0.0
1938	2536	2536	0	0.0
1939	2536	2536	0	0.0
1940	2536	2536	0	0.0
1941	2536	2536	0	0.0
1942	2536	2536	0	0.0
1943	2536	2536	0	0.0
1944	2536	2536	0	0.0
1945	2536	2536	0	0.0
1946	2536	2536	0	0.0
1947	2536	2536	0	0.0
1948	2536	2536	0	0.0
1949	2536	2536	0	0.0
1950	2536	2536	0	0.0
1951	2536	2536	0	0.0
1952	2536	2536	0	0.0
1953	2232	2232	0	0.0
1954	2536	2536	0	0.0
1955	2536	2536	0	0.0
1956	2536	2536	0	0.0
1957	2536	2536	0	0.0
1958	2536	2536	0	0.0
1959	2536	2536	0	0.0
1960	2536	2536	0	0.0
1961	2536	2536	0	0.0
1962	2536	2536	0	0.0
1963	2536	2536	0	0.0
1964	2536	2536	0	0.0
1965	2536	2536	0	0.0
1966	2536	2536	0	0.0
1967	2536	2536	0	0.0
1968	2232	2232	0	0.0
1969	2536	2536	0	0.0
1970	2536	2536	0	0.0
1971	2536	2536	0	0.0
1972	2536	2536	0	0.0
1973	2536	2536	0	0.0
1974	2536	2536	0	0.0
1975	2536	2536	0	0.0
1976	2536	2536	0	0.0
1977	2536	2536	0	0.0
1978	2536	2536	0	0.0
1979	2536	2536	0	0.0
1980	2536	2536	0	0.0
1981	2536	2536	0	0.0
1982	2536	2536	0	0.0
1983	2536	2536	0	0.0
1984	2240	2240	0	0.0
1985	2536	2536	0	0.0
1986	2536	2536	0	0.0
1987	2536	2536	0	0.0
1988	2536	2536	0	0.0
1989	2536	2536	0	0.0
1990	2536	2536	0	0.0
1991	2536	2536	0	0.0
1992	2536	2536	0	0.0
1993	2536	2536	0	0.0
Mean:	2523.4	2523.4	0.0	0.0
Median:	2536.0	2536.0	0.0	0.0
Min:	2232.0	2232.0	0.0	0.0
Max:	2536.0	2536.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2485	2485	0	0.0
1923	2485	2485	0	0.0
1924	2485	2485	0	0.0
1925	2485	2485	0	0.0
1926	2485	2485	0	0.0
1927	2485	2485	0	0.0
1928	2485	2485	0	0.0
1929	2485	2485	0	0.0
1930	2485	2485	0	0.0
1931	2485	2485	0	0.0
1932	2485	2485	0	0.0
1933	2485	2485	0	0.0
1934	2485	2485	0	0.0
1935	2485	2485	0	0.0
1936	2485	2485	0	0.0
1937	2485	2485	0	0.0
1938	2485	2485	0	0.0
1939	2485	2485	0	0.0
1940	2485	2485	0	0.0
1941	2485	2485	0	0.0
1942	2485	2485	0	0.0
1943	2485	2485	0	0.0
1944	2485	2485	0	0.0
1945	2485	2485	0	0.0
1946	2485	2485	0	0.0
1947	2485	2485	0	0.0
1948	2485	2485	0	0.0
1949	2485	2485	0	0.0
1950	2485	2485	0	0.0
1951	2485	2485	0	0.0
1952	2485	2485	0	0.0
1953	2240	2240	0	0.0
1954	2485	2485	0	0.0
1955	2485	2485	0	0.0
1956	2485	2485	0	0.0
1957	2485	2485	0	0.0
1958	2485	2485	0	0.0
1959	2485	2485	0	0.0
1960	2485	2485	0	0.0
1961	2485	2485	0	0.0
1962	2485	2485	0	0.0
1963	2485	2485	0	0.0
1964	2485	2485	0	0.0
1965	2485	2485	0	0.0
1966	2485	2485	0	0.0
1967	2485	2485	0	0.0
1968	2240	2240	0	0.0
1969	2485	2485	0	0.0
1970	2485	2485	0	0.0
1971	2485	2485	0	0.0
1972	2485	2485	0	0.0
1973	2485	2485	0	0.0
1974	2485	2485	0	0.0
1975	2485	2485	0	0.0
1976	2485	2485	0	0.0
1977	2485	2485	0	0.0
1978	2485	2485	0	0.0
1979	2485	2485	0	0.0
1980	2485	2485	0	0.0
1981	2485	2485	0	0.0
1982	2485	2485	0	0.0
1983	2485	2485	0	0.0
1984	2240	2240	0	0.0
1985	2485	2485	0	0.0
1986	2485	2485	0	0.0
1987	2485	2485	0	0.0
1988	2536	2536	0	0.0
1989	2485	2485	0	0.0
1990	2536	2536	0	0.0
1991	2485	2485	0	0.0
1992	2485	2485	0	0.0
1993	2485	2485	0	0.0
Mean:	2476.2	2476.2	0.0	0.0
Median:	2485.0	2485.0	0.0	0.0
Min:	2240.0	2240.0	0.0	0.0
Max:	2536.0	2536.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2435	2435	0	0.0
1923	2348	2348	0	0.0
1924	2435	2435	0	0.0
1925	2435	2435	0	0.0
1926	2435	2435	0	0.0
1927	2435	2435	0	0.0
1928	2435	2435	0	0.0
1929	2435	2435	0	0.0
1930	2435	2435	0	0.0
1931	2435	2435	0	0.0
1932	2435	2435	0	0.0
1933	2435	2435	0	0.0
1934	2435	2435	0	0.0
1935	2435	2435	0	0.0
1936	2435	2435	0	0.0
1937	2435	2435	0	0.0
1938	2435	2435	0	0.0
1939	2232	2232	0	0.0
1940	2435	2435	0	0.0
1941	2435	2435	0	0.0
1942	2232	2232	0	0.0
1943	2232	2232	0	0.0
1944	2435	2435	0	0.0
1945	2435	2435	0	0.0
1946	2435	2435	0	0.0
1947	2435	2435	0	0.0
1948	2435	2435	0	0.0
1949	2435	2435	0	0.0
1950	2435	2435	0	0.0
1951	2435	2435	0	0.0
1952	2435	2435	0	0.0
1953	2240	2240	0	0.0
1954	2435	2435	0	0.0
1955	2435	2435	0	0.0
1956	2435	2435	0	0.0
1957	2435	2435	0	0.0
1958	2435	2435	0	0.0
1959	2435	2435	0	0.0
1960	2435	2435	0	0.0
1961	2435	2435	0	0.0
1962	2435	2435	0	0.0
1963	2435	2435	0	0.0
1964	2435	2435	0	0.0
1965	2435	2435	0	0.0
1966	2435	2435	0	0.0
1967	2435	2435	0	0.0
1968	2240	2240	0	0.0
1969	2435	2435	0	0.0
1970	2232	2232	0	0.0
1971	2435	2435	0	0.0
1972	2435	2435	0	0.0
1973	2435	2435	0	0.0
1974	2435	2435	0	0.0
1975	2435	2435	0	0.0
1976	2435	2435	0	0.0
1977	2435	2435	0	0.0
1978	2435	2435	0	0.0
1979	2435	2435	0	0.0
1980	2435	2435	0	0.0
1981	2435	2435	0	0.0
1982	2435	2435	0	0.0
1983	2232	2232	0	0.0
1984	2240	2240	0	0.0
1985	2435	2435	0	0.0
1986	2435	2435	0	0.0
1987	2435	2435	0	0.0
1988	2435	2435	0	0.0
1989	2435	2435	0	0.0
1990	2536	2536	0	0.0
1991	2435	2435	0	0.0
1992	2435	2435	0	0.0
1993	2435	2435	0	0.0
Mean:	2413.0	2413.0	0.0	0.0
Median:	2435.0	2435.0	0.0	0.0
Min:	2232.0	2232.0	0.0	0.0
Max:	2536.0	2536.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2384	2384	0	0.0
1923	2276	2276	0	0.0
1924	2384	2384	0	0.0
1925	2384	2384	0	0.0
1926	2384	2384	0	0.0
1927	2384	2384	0	0.0
1928	2384	2384	0	0.0
1929	2384	2384	0	0.0
1930	2384	2384	0	0.0
1931	2384	2384	0	0.0
1932	2384	2384	0	0.0
1933	2232	2232	0	0.0
1934	2384	2384	0	0.0
1935	2384	2384	0	0.0
1936	2384	2384	0	0.0
1937	2384	2384	0	0.0
1938	2384	2384	0	0.0
1939	2240	2240	0	0.0
1940	2384	2384	0	0.0
1941	2384	2384	0	0.0
1942	2240	2240	0	0.0
1943	2240	2240	0	0.0
1944	2384	2384	0	0.0
1945	2384	2384	0	0.0
1946	2384	2384	0	0.0
1947	2384	2384	0	0.0
1948	2384	2384	0	0.0
1949	2384	2384	0	0.0
1950	2384	2384	0	0.0
1951	2232	2232	0	0.0
1952	2384	2384	0	0.0
1953	2240	2240	0	0.0
1954	2232	2232	0	0.0
1955	2384	2384	0	0.0
1956	2384	2384	0	0.0
1957	2384	2384	0	0.0
1958	2232	2232	0	0.0
1959	2232	2232	0	0.0
1960	2384	2384	0	0.0
1961	2384	2384	0	0.0
1962	2384	2384	0	0.0
1963	2384	2384	0	0.0
1964	2232	2232	0	0.0
1965	2384	2384	0	0.0
1966	2232	2232	0	0.0
1967	2384	2384	0	0.0
1968	2240	2240	0	0.0
1969	2384	2384	0	0.0
1970	2240	2240	0	0.0
1971	2384	2384	0	0.0
1972	2384	2384	0	0.0
1973	2376	2376	0	0.0
1974	2232	2232	0	0.0
1975	2232	2232	0	0.0
1976	2232	2232	0	0.0
1977	2384	2384	0	0.0
1978	2384	2384	0	0.0
1979	2384	2384	0	0.0
1980	2384	2384	0	0.0
1981	2232	2232	0	0.0
1982	2384	2384	0	0.0
1983	2240	2240	0	0.0
1984	2240	2240	0	0.0
1985	2384	2384	0	0.0
1986	2384	2384	0	0.0
1987	2384	2384	0	0.0
1988	2384	2384	0	0.0
1989	2384	2384	0	0.0
1990	2447	2447	0	0.0
1991	2384	2384	0	0.0
1992	2384	2384	0	0.0
1993	2384	2384	0	0.0
Mean:	2344.0	2344.0	0.0	0.0
Median:	2384.0	2384.0	0.0	0.0
Min:	2232.0	2232.0	0.0	0.0
Max:	2447.0	2447.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2337	2337	0	0.0
1923	2240	2240	0	0.0
1924	2337	2337	0	0.0
1925	2337	2337	0	0.0
1926	2242	2242	0	0.0
1927	2242	2242	0	0.0
1928	2242	2242	0	0.0
1929	2337	2337	0	0.0
1930	2337	2337	0	0.0
1931	2337	2337	0	0.0
1932	2242	2242	0	0.0
1933	2240	2240	0	0.0
1934	2337	2337	0	0.0
1935	2337	2337	0	0.0
1936	2337	2337	0	0.0
1937	2337	2337	0	0.0
1938	2242	2242	0	0.0
1939	2240	2240	0	0.0
1940	2337	2337	0	0.0
1941	2337	2337	0	0.0
1942	2240	2240	0	0.0
1943	2240	2240	0	0.0
1944	2337	2337	0	0.0
1945	2337	2337	0	0.0
1946	2337	2337	0	0.0
1947	2337	2337	0	0.0
1948	2337	2337	0	0.0
1949	2337	2337	0	0.0
1950	2337	2337	0	0.0
1951	2240	2240	0	0.0
1952	2242	2242	0	0.0
1953	2240	2240	0	0.0
1954	2240	2240	0	0.0
1955	2337	2337	0	0.0
1956	2242	2242	0	0.0
1957	2242	2242	0	0.0
1958	2240	2240	0	0.0
1959	2240	2240	0	0.0
1960	2337	2337	0	0.0
1961	2337	2337	0	0.0
1962	2337	2337	0	0.0
1963	2242	2242	0	0.0
1964	2204	2204	0	0.0
1965	2337	2337	0	0.0
1966	2240	2240	0	0.0
1967	2242	2242	0	0.0
1968	2240	2240	0	0.0
1969	2337	2337	0	0.0
1970	2240	2240	0	0.0
1971	2337	2337	0	0.0
1972	2337	2337	0	0.0
1973	2251	2251	0	0.0
1974	2240	2240	0	0.0
1975	2240	2240	0	0.0
1976	2240	2240	0	0.0
1977	2337	2337	0	0.0
1978	2242	2242	0	0.0
1979	2242	2242	0	0.0
1980	2242	2242	0	0.0
1981	2240	2240	0	0.0
1982	2242	2242	0	0.0
1983	2240	2240	0	0.0
1984	2240	2240	0	0.0
1985	2337	2337	0	0.0
1986	2337	2337	0	0.0
1987	2337	2337	0	0.0
1988	2337	2337	0	0.0
1989	2337	2337	0	0.0
1990	2333	2333	0	0.0
1991	2337	2337	0	0.0
1992	2337	2337	0	0.0
1993	2337	2337	0	0.0
Mean:	2289.8	2289.8	0.0	0.0
Median:	2335.0	2335.0	0.0	0.0
Min:	2204.0	2204.0	0.0	0.0
Max:	2337.0	2337.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2283	2283	0	0.0
1923	2222	2222	0	0.0
1924	2308	2308	0	0.0
1925	2308	2308	0	0.0
1926	2222	2222	0	0.0
1927	2240	2240	0	0.0
1928	2240	2240	0	0.0
1929	2308	2308	0	0.0
1930	2283	2283	0	0.0
1931	2308	2308	0	0.0
1932	2240	2240	0	0.0
1933	2240	2240	0	0.0
1934	2308	2308	0	0.0
1935	2308	2308	0	0.0
1936	2283	2283	0	0.0
1937	2283	2283	0	0.0
1938	2240	2240	0	0.0
1939	2240	2240	0	0.0
1940	2283	2283	0	0.0
1941	2283	2283	0	0.0
1942	2240	2240	0	0.0
1943	2240	2240	0	0.0
1944	2308	2308	0	0.0
1945	2283	2283	0	0.0
1946	2308	2308	0	0.0
1947	2308	2308	0	0.0
1948	2308	2308	0	0.0
1949	2308	2308	0	0.0
1950	2308	2308	0	0.0
1951	2240	2240	0	0.0
1952	2240	2240	0	0.0
1953	2240	2240	0	0.0
1954	2240	2240	0	0.0
1955	2308	2308	0	0.0
1956	2240	2240	0	0.0
1957	2240	2240	0	0.0
1958	2240	2240	0	0.0
1959	2222	2222	0	0.0
1960	2308	2308	0	0.0
1961	2283	2283	0	0.0
1962	2308	2308	0	0.0
1963	2240	2240	0	0.0
1964	2308	2308	0	0.0
1965	2283	2283	0	0.0
1966	2240	2240	0	0.0
1967	2240	2240	0	0.0
1968	2240	2240	0	0.0
1969	2283	2283	0	0.0
1970	2240	2240	0	0.0
1971	2308	2308	0	0.0
1972	2283	2283	0	0.0
1973	2240	2240	0	0.0
1974	2240	2240	0	0.0
1975	2240	2240	0	0.0
1976	2240	2240	0	0.0
1977	2308	2308	0	0.0
1978	2240	2240	0	0.0
1979	2240	2240	0	0.0
1980	2240	2240	0	0.0
1981	2240	2240	0	0.0
1982	2240	2240	0	0.0
1983	2240	2240	0	0.0
1984	2240	2240	0	0.0
1985	2308	2308	0	0.0
1986	2283	2283	0	0.0
1987	2283	2283	0	0.0
1988	2308	2308	0	0.0
1989	2308	2308	0	0.0
1990	2308	2308	0	0.0
1991	2308	2308	0	0.0
1992	2308	2308	0	0.0
1993	2283	2283	0	0.0
Mean:	2270.3	2270.3	0.0	0.0
Median:	2283.0	2283.0	0.0	0.0
Min:	2222.0	2222.0	0.0	0.0
Max:	2308.0	2308.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2240	2240	0	0.0
1923	2279	2279	0	0.0
1924	2279	2279	0	0.0
1925	2279	2279	0	0.0
1926	2279	2279	0	0.0
1927	2240	2240	0	0.0
1928	2240	2240	0	0.0
1929	2279	2279	0	0.0
1930	2240	2240	0	0.0
1931	2279	2279	0	0.0
1932	2240	2240	0	0.0
1933	2240	2240	0	0.0
1934	2279	2279	0	0.0
1935	2279	2279	0	0.0
1936	2240	2240	0	0.0
1937	2240	2240	0	0.0
1938	2240	2240	0	0.0
1939	2240	2240	0	0.0
1940	2240	2240	0	0.0
1941	2240	2240	0	0.0
1942	2240	2240	0	0.0
1943	2240	2240	0	0.0
1944	2279	2279	0	0.0
1945	2240	2240	0	0.0
1946	2279	2279	0	0.0
1947	2279	2279	0	0.0
1948	2279	2279	0	0.0
1949	2279	2279	0	0.0
1950	2279	2279	0	0.0
1951	2240	2240	0	0.0
1952	2240	2240	0	0.0
1953	2240	2240	0	0.0
1954	2240	2240	0	0.0
1955	2279	2279	0	0.0
1956	2240	2240	0	0.0
1957	2240	2240	0	0.0
1958	2240	2240	0	0.0
1959	2279	2279	0	0.0
1960	2279	2279	0	0.0
1961	2240	2240	0	0.0
1962	2279	2279	0	0.0
1963	2240	2240	0	0.0
1964	2279	2279	0	0.0
1965	2240	2240	0	0.0
1966	2240	2240	0	0.0
1967	2240	2240	0	0.0
1968	2240	2240	0	0.0
1969	2240	2240	0	0.0
1970	2240	2240	0	0.0
1971	2279	2279	0	0.0
1972	2240	2240	0	0.0
1973	2240	2240	0	0.0
1974	2240	2240	0	0.0
1975	2240	2240	0	0.0
1976	2240	2240	0	0.0
1977	2279	2279	0	0.0
1978	2240	2240	0	0.0
1979	2240	2240	0	0.0
1980	2240	2240	0	0.0
1981	2240	2240	0	0.0
1982	2240	2240	0	0.0
1983	2240	2240	0	0.0
1984	2240	2240	0	0.0
1985	2279	2279	0	0.0
1986	2240	2240	0	0.0
1987	2240	2240	0	0.0
1988	2279	2279	0	0.0
1989	2279	2279	0	0.0
1990	2279	2279	0	0.0
1991	2279	2279	0	0.0
1992	2279	2279	0	0.0
1993	2240	2240	0	0.0
Mean:	2254.6	2254.6	0.0	0.0
Median:	2240.0	2240.0	0.0	0.0
Min:	2240.0	2240.0	0.0	0.0
Max:	2279.0	2279.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2222	2222	0	0.0
1923	2222	2222	0	0.0
1924	2222	2222	0	0.0
1925	2222	2222	0	0.0
1926	2222	2222	0	0.0
1927	2222	2222	0	0.0
1928	2222	2222	0	0.0
1929	2222	2222	0	0.0
1930	2222	2222	0	0.0
1931	2222	2222	0	0.0
1932	2240	2240	0	0.0
1933	2222	2222	0	0.0
1934	2222	2222	0	0.0
1935	2222	2222	0	0.0
1936	2222	2222	0	0.0
1937	2240	2240	0	0.0
1938	2240	2240	0	0.0
1939	2222	2222	0	0.0
1940	2222	2222	0	0.0
1941	2240	2240	0	0.0
1942	2222	2222	0	0.0
1943	2222	2222	0	0.0
1944	2222	2222	0	0.0
1945	2222	2222	0	0.0
1946	2222	2222	0	0.0
1947	2222	2222	0	0.0
1948	2222	2222	0	0.0
1949	2222	2222	0	0.0
1950	2222	2222	0	0.0
1951	2222	2222	0	0.0
1952	2240	2240	0	0.0
1953	2222	2222	0	0.0
1954	2222	2222	0	0.0
1955	2222	2222	0	0.0
1956	2222	2222	0	0.0
1957	2222	2222	0	0.0
1958	2240	2240	0	0.0
1959	2222	2222	0	0.0
1960	2222	2222	0	0.0
1961	2222	2222	0	0.0
1962	2222	2222	0	0.0
1963	2222	2222	0	0.0
1964	2222	2222	0	0.0
1965	2222	2222	0	0.0
1966	2222	2222	0	0.0
1967	2240	2240	0	0.0
1968	2222	2222	0	0.0
1969	2240	2240	0	0.0
1970	2222	2222	0	0.0
1971	2222	2222	0	0.0
1972	2222	2222	0	0.0
1973	2222	2222	0	0.0
1974	2222	2222	0	0.0
1975	2222	2222	0	0.0
1976	2222	2222	0	0.0
1977	2222	2222	0	0.0
1978	2240	2240	0	0.0
1979	2222	2222	0	0.0
1980	2222	2222	0	0.0
1981	2222	2222	0	0.0
1982	2240	2240	0	0.0
1983	2240	2240	0	0.0
1984	2222	2222	0	0.0
1985	2222	2222	0	0.0
1986	2222	2222	0	0.0
1987	2222	2222	0	0.0
1988	2222	2222	0	0.0
1989	2222	2222	0	0.0
1990	2222	2222	0	0.0
1991	2222	2222	0	0.0
1992	2222	2222	0	0.0
1993	2222	2222	0	0.0
Mean:	2224.8	2224.8	0.0	0.0
Median:	2222.0	2222.0	0.0	0.0
Min:	2222.0	2222.0	0.0	0.0
Max:	2240.0	2240.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2286	2286	0	0.0
1923	2286	2286	0	0.0
1924	2286	2286	0	0.0
1925	2286	2286	0	0.0
1926	2286	2286	0	0.0
1927	2286	2286	0	0.0
1928	2286	2286	0	0.0
1929	2286	2286	0	0.0
1930	2286	2286	0	0.0
1931	2286	2286	0	0.0
1932	2204	2204	0	0.0
1933	2286	2286	0	0.0
1934	2286	2286	0	0.0
1935	2286	2286	0	0.0
1936	2286	2286	0	0.0
1937	2204	2204	0	0.0
1938	2204	2204	0	0.0
1939	2286	2286	0	0.0
1940	2286	2286	0	0.0
1941	2240	2240	0	0.0
1942	2286	2286	0	0.0
1943	2286	2286	0	0.0
1944	2286	2286	0	0.0
1945	2286	2286	0	0.0
1946	2286	2286	0	0.0
1947	2286	2286	0	0.0
1948	2286	2286	0	0.0
1949	2286	2286	0	0.0
1950	2286	2286	0	0.0
1951	2286	2286	0	0.0
1952	2240	2240	0	0.0
1953	2286	2286	0	0.0
1954	2286	2286	0	0.0
1955	2286	2286	0	0.0
1956	2286	2286	0	0.0
1957	2286	2286	0	0.0
1958	2204	2204	0	0.0
1959	2286	2286	0	0.0
1960	2286	2286	0	0.0
1961	2286	2286	0	0.0
1962	2286	2286	0	0.0
1963	2286	2286	0	0.0
1964	2286	2286	0	0.0
1965	2286	2286	0	0.0
1966	2286	2286	0	0.0
1967	2204	2204	0	0.0
1968	2286	2286	0	0.0
1969	2240	2240	0	0.0
1970	2286	2286	0	0.0
1971	2286	2286	0	0.0
1972	2286	2286	0	0.0
1973	2286	2286	0	0.0
1974	2286	2286	0	0.0
1975	2286	2286	0	0.0
1976	2286	2286	0	0.0
1977	2286	2286	0	0.0
1978	2240	2240	0	0.0
1979	2286	2286	0	0.0
1980	2286	2286	0	0.0
1981	2286	2286	0	0.0
1982	2204	2204	0	0.0
1983	2240	2240	0	0.0
1984	2286	2286	0	0.0
1985	2286	2286	0	0.0
1986	2286	2286	0	0.0
1987	2286	2286	0	0.0
1988	2286	2286	0	0.0
1989	2286	2286	0	0.0
1990	2286	2286	0	0.0
1991	2286	2286	0	0.0
1992	2286	2286	0	0.0
1993	2286	2286	0	0.0
Mean:	2276.0	2276.0	0.0	0.0
Median:	2286.0	2286.0	0.0	0.0
Min:	2204.0	2204.0	0.0	0.0
Max:	2286.0	2286.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2358	2358	0	0.0
1923	2358	2358	0	0.0
1924	2358	2358	0	0.0
1925	2358	2358	0	0.0
1926	2358	2358	0	0.0
1927	2358	2358	0	0.0
1928	2358	2358	0	0.0
1929	2358	2358	0	0.0
1930	2358	2358	0	0.0
1931	2358	2358	0	0.0
1932	2358	2358	0	0.0
1933	2358	2358	0	0.0
1934	2358	2358	0	0.0
1935	2358	2358	0	0.0
1936	2358	2358	0	0.0
1937	2358	2358	0	0.0
1938	2358	2358	0	0.0
1939	2358	2358	0	0.0
1940	2358	2358	0	0.0
1941	2186	2186	0	0.0
1942	2358	2358	0	0.0
1943	2358	2358	0	0.0
1944	2358	2358	0	0.0
1945	2358	2358	0	0.0
1946	2358	2358	0	0.0
1947	2358	2358	0	0.0
1948	2358	2358	0	0.0
1949	2358	2358	0	0.0
1950	2358	2358	0	0.0
1951	2358	2358	0	0.0
1952	2186	2186	0	0.0
1953	2358	2358	0	0.0
1954	2358	2358	0	0.0
1955	2358	2358	0	0.0
1956	2358	2358	0	0.0
1957	2358	2358	0	0.0
1958	2358	2358	0	0.0
1959	2358	2358	0	0.0
1960	2358	2358	0	0.0
1961	2358	2358	0	0.0
1962	2358	2358	0	0.0
1963	2358	2358	0	0.0
1964	2358	2358	0	0.0
1965	2358	2358	0	0.0
1966	2358	2358	0	0.0
1967	2358	2358	0	0.0
1968	2358	2358	0	0.0
1969	2186	2186	0	0.0
1970	2358	2358	0	0.0
1971	2358	2358	0	0.0
1972	2358	2358	0	0.0
1973	2358	2358	0	0.0
1974	2358	2358	0	0.0
1975	2358	2358	0	0.0
1976	2358	2358	0	0.0
1977	2358	2358	0	0.0
1978	2186	2186	0	0.0
1979	2358	2358	0	0.0
1980	2358	2358	0	0.0
1981	2358	2358	0	0.0
1982	2358	2358	0	0.0
1983	2240	2240	0	0.0
1984	2358	2358	0	0.0
1985	2358	2358	0	0.0
1986	2358	2358	0	0.0
1987	2358	2358	0	0.0
1988	2358	2358	0	0.0
1989	2358	2358	0	0.0
1990	2358	2358	0	0.0
1991	2358	2358	0	0.0
1992	2358	2358	0	0.0
1993	2358	2358	0	0.0
Mean:	2346.8	2346.8	0.0	0.0
Median:	2358.0	2358.0	0.0	0.0
Min:	2186.0	2186.0	0.0	0.0
Max:	2358.0	2358.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2431	2431	0	0.0
1923	2431	2431	0	0.0
1924	2431	2431	0	0.0
1925	2431	2431	0	0.0
1926	2431	2431	0	0.0
1927	2431	2431	0	0.0
1928	2431	2431	0	0.0
1929	2431	2431	0	0.0
1930	2431	2431	0	0.0
1931	2431	2431	0	0.0
1932	2431	2431	0	0.0
1933	2431	2431	0	0.0
1934	2431	2431	0	0.0
1935	2431	2431	0	0.0
1936	2431	2431	0	0.0
1937	2431	2431	0	0.0
1938	2431	2431	0	0.0
1939	2431	2431	0	0.0
1940	2431	2431	0	0.0
1941	2431	2431	0	0.0
1942	2431	2431	0	0.0
1943	2431	2431	0	0.0
1944	2431	2431	0	0.0
1945	2431	2431	0	0.0
1946	2431	2431	0	0.0
1947	2431	2431	0	0.0
1948	2431	2431	0	0.0
1949	2431	2431	0	0.0
1950	2431	2431	0	0.0
1951	2431	2431	0	0.0
1952	2431	2431	0	0.0
1953	2431	2431	0	0.0
1954	2431	2431	0	0.0
1955	2431	2431	0	0.0
1956	2431	2431	0	0.0
1957	2431	2431	0	0.0
1958	2431	2431	0	0.0
1959	2431	2431	0	0.0
1960	2431	2431	0	0.0
1961	2431	2431	0	0.0
1962	2431	2431	0	0.0
1963	2431	2431	0	0.0
1964	2431	2431	0	0.0
1965	2431	2431	0	0.0
1966	2431	2431	0	0.0
1967	2431	2431	0	0.0
1968	2431	2431	0	0.0
1969	2431	2431	0	0.0
1970	2431	2431	0	0.0
1971	2431	2431	0	0.0
1972	2431	2431	0	0.0
1973	2431	2431	0	0.0
1974	2431	2431	0	0.0
1975	2431	2431	0	0.0
1976	2431	2431	0	0.0
1977	2431	2431	0	0.0
1978	2431	2431	0	0.0
1979	2431	2431	0	0.0
1980	2431	2431	0	0.0
1981	2431	2431	0	0.0
1982	2431	2431	0	0.0
1983	2240	2240	0	0.0
1984	2431	2431	0	0.0
1985	2431	2431	0	0.0
1986	2431	2431	0	0.0
1987	2431	2431	0	0.0
1988	2431	2431	0	0.0
1989	2431	2431	0	0.0
1990	2431	2431	0	0.0
1991	2431	2431	0	0.0
1992	2431	2431	0	0.0
1993	2431	2431	0	0.0
Mean:	2428.3	2428.3	0.0	0.0
Median:	2431.0	2431.0	0.0	0.0
Min:	2240.0	2240.0	0.0	0.0
Max:	2431.0	2431.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Surface Area

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2485	2485	0	0.0
1923	2485	2485	0	0.0
1924	2485	2485	0	0.0
1925	2485	2485	0	0.0
1926	2485	2485	0	0.0
1927	2485	2485	0	0.0
1928	2485	2485	0	0.0
1929	2485	2485	0	0.0
1930	2485	2485	0	0.0
1931	2485	2485	0	0.0
1932	2485	2485	0	0.0
1933	2485	2485	0	0.0
1934	2485	2485	0	0.0
1935	2485	2485	0	0.0
1936	2485	2485	0	0.0
1937	2485	2485	0	0.0
1938	2485	2485	0	0.0
1939	2485	2485	0	0.0
1940	2485	2485	0	0.0
1941	2485	2485	0	0.0
1942	2485	2485	0	0.0
1943	2485	2485	0	0.0
1944	2485	2485	0	0.0
1945	2485	2485	0	0.0
1946	2485	2485	0	0.0
1947	2485	2485	0	0.0
1948	2485	2485	0	0.0
1949	2485	2485	0	0.0
1950	2485	2485	0	0.0
1951	2485	2485	0	0.0
1952	2485	2485	0	0.0
1953	2485	2485	0	0.0
1954	2485	2485	0	0.0
1955	2485	2485	0	0.0
1956	2485	2485	0	0.0
1957	2485	2485	0	0.0
1958	2485	2485	0	0.0
1959	2485	2485	0	0.0
1960	2485	2485	0	0.0
1961	2485	2485	0	0.0
1962	2485	2485	0	0.0
1963	2485	2485	0	0.0
1964	2485	2485	0	0.0
1965	2485	2485	0	0.0
1966	2485	2485	0	0.0
1967	2485	2485	0	0.0
1968	2485	2485	0	0.0
1969	2485	2485	0	0.0
1970	2485	2485	0	0.0
1971	2485	2485	0	0.0
1972	2485	2485	0	0.0
1973	2485	2485	0	0.0
1974	2485	2485	0	0.0
1975	2485	2485	0	0.0
1976	2485	2485	0	0.0
1977	2485	2485	0	0.0
1978	2485	2485	0	0.0
1979	2485	2485	0	0.0
1980	2485	2485	0	0.0
1981	2485	2485	0	0.0
1982	2485	2485	0	0.0
1983	2240	2240	0	0.0
1984	2485	2485	0	0.0
1985	2485	2485	0	0.0
1986	2485	2485	0	0.0
1987	2485	2485	0	0.0
1988	2485	2485	0	0.0
1989	2485	2485	0	0.0
1990	2485	2485	0	0.0
1991	2485	2485	0	0.0
1992	2485	2485	0	0.0
1993	2485	2485	0	0.0
Mean:	2481.6	2481.6	0.0	0.0
Median:	2485.0	2485.0	0.0	0.0
Min:	2240.0	2240.0	0.0	0.0
Max:	2485.0	2485.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

October				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1501	1501	0	0.0
1923	1501	1501	0	0.0
1924	1501	1501	0	0.0
1925	1501	1501	0	0.0
1926	1501	1501	0	0.0
1927	1501	1501	0	0.0
1928	1501	1501	0	0.0
1929	1501	1501	0	0.0
1930	1501	1501	0	0.0
1931	1501	1501	0	0.0
1932	1501	1501	0	0.0
1933	1501	1501	0	0.0
1934	1501	1501	0	0.0
1935	1501	1501	0	0.0
1936	1501	1501	0	0.0
1937	1501	1501	0	0.0
1938	1501	1501	0	0.0
1939	1501	1501	0	0.0
1940	1501	1501	0	0.0
1941	1501	1501	0	0.0
1942	1501	1501	0	0.0
1943	1501	1501	0	0.0
1944	1501	1501	0	0.0
1945	1501	1501	0	0.0
1946	1501	1501	0	0.0
1947	1501	1501	0	0.0
1948	1501	1501	0	0.0
1949	1501	1501	0	0.0
1950	1501	1501	0	0.0
1951	1501	1501	0	0.0
1952	1501	1501	0	0.0
1953	1515	1515	0	0.0
1954	1501	1501	0	0.0
1955	1501	1501	0	0.0
1956	1501	1501	0	0.0
1957	1501	1501	0	0.0
1958	1501	1501	0	0.0
1959	1501	1501	0	0.0
1960	1501	1501	0	0.0
1961	1501	1501	0	0.0
1962	1501	1501	0	0.0
1963	1501	1501	0	0.0
1964	1501	1501	0	0.0
1965	1501	1501	0	0.0
1966	1501	1501	0	0.0
1967	1501	1501	0	0.0
1968	1515	1515	0	0.0
1969	1501	1501	0	0.0
1970	1501	1501	0	0.0
1971	1501	1501	0	0.0
1972	1501	1501	0	0.0
1973	1501	1501	0	0.0
1974	1501	1501	0	0.0
1975	1501	1501	0	0.0
1976	1501	1501	0	0.0
1977	1501	1501	0	0.0
1978	1501	1501	0	0.0
1979	1501	1501	0	0.0
1980	1501	1501	0	0.0
1981	1501	1501	0	0.0
1982	1501	1501	0	0.0
1983	1501	1501	0	0.0
1984	1515	1515	0	0.0
1985	1501	1501	0	0.0
1986	1501	1501	0	0.0
1987	1501	1501	0	0.0
1988	1501	1501	0	0.0
1989	1501	1501	0	0.0
1990	1501	1501	0	0.0
1991	1501	1501	0	0.0
1992	1501	1501	0	0.0
1993	1501	1501	0	0.0
Mean:	1501.6	1501.6	0.0	0.0
Median:	1501.0	1501.0	0.0	0.0
Min:	1501.0	1501.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

November				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1503	1503	0	0.0
1923	1503	1503	0	0.0
1924	1503	1503	0	0.0
1925	1503	1503	0	0.0
1926	1503	1503	0	0.0
1927	1503	1503	0	0.0
1928	1503	1503	0	0.0
1929	1503	1503	0	0.0
1930	1503	1503	0	0.0
1931	1503	1503	0	0.0
1932	1503	1503	0	0.0
1933	1503	1503	0	0.0
1934	1503	1503	0	0.0
1935	1503	1503	0	0.0
1936	1503	1503	0	0.0
1937	1503	1503	0	0.0
1938	1503	1503	0	0.0
1939	1503	1503	0	0.0
1940	1503	1503	0	0.0
1941	1503	1503	0	0.0
1942	1503	1503	0	0.0
1943	1503	1503	0	0.0
1944	1503	1503	0	0.0
1945	1503	1503	0	0.0
1946	1503	1503	0	0.0
1947	1503	1503	0	0.0
1948	1503	1503	0	0.0
1949	1503	1503	0	0.0
1950	1503	1503	0	0.0
1951	1503	1503	0	0.0
1952	1503	1503	0	0.0
1953	1515	1515	0	0.0
1954	1503	1503	0	0.0
1955	1503	1503	0	0.0
1956	1503	1503	0	0.0
1957	1503	1503	0	0.0
1958	1503	1503	0	0.0
1959	1503	1503	0	0.0
1960	1503	1503	0	0.0
1961	1503	1503	0	0.0
1962	1503	1503	0	0.0
1963	1503	1503	0	0.0
1964	1503	1503	0	0.0
1965	1503	1503	0	0.0
1966	1503	1503	0	0.0
1967	1503	1503	0	0.0
1968	1515	1515	0	0.0
1969	1503	1503	0	0.0
1970	1503	1503	0	0.0
1971	1503	1503	0	0.0
1972	1503	1503	0	0.0
1973	1503	1503	0	0.0
1974	1503	1503	0	0.0
1975	1503	1503	0	0.0
1976	1503	1503	0	0.0
1977	1503	1503	0	0.0
1978	1503	1503	0	0.0
1979	1503	1503	0	0.0
1980	1503	1503	0	0.0
1981	1503	1503	0	0.0
1982	1503	1503	0	0.0
1983	1503	1503	0	0.0
1984	1515	1515	0	0.0
1985	1503	1503	0	0.0
1986	1503	1503	0	0.0
1987	1503	1503	0	0.0
1988	1501	1501	0	0.0
1989	1503	1503	0	0.0
1990	1501	1501	0	0.0
1991	1503	1503	0	0.0
1992	1503	1503	0	0.0
1993	1503	1503	0	0.0
Mean:	1503.4	1503.4	0.0	0.0
Median:	1503.0	1503.0	0.0	0.0
Min:	1501.0	1501.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

December				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1506	1506	0	0.0
1923	1510	1510	0	0.0
1924	1506	1506	0	0.0
1925	1506	1506	0	0.0
1926	1506	1506	0	0.0
1927	1506	1506	0	0.0
1928	1506	1506	0	0.0
1929	1506	1506	0	0.0
1930	1506	1506	0	0.0
1931	1506	1506	0	0.0
1932	1506	1506	0	0.0
1933	1506	1506	0	0.0
1934	1506	1506	0	0.0
1935	1506	1506	0	0.0
1936	1506	1506	0	0.0
1937	1506	1506	0	0.0
1938	1506	1506	0	0.0
1939	1515	1515	0	0.0
1940	1506	1506	0	0.0
1941	1506	1506	0	0.0
1942	1515	1515	0	0.0
1943	1515	1515	0	0.0
1944	1506	1506	0	0.0
1945	1506	1506	0	0.0
1946	1506	1506	0	0.0
1947	1506	1506	0	0.0
1948	1506	1506	0	0.0
1949	1506	1506	0	0.0
1950	1506	1506	0	0.0
1951	1506	1506	0	0.0
1952	1506	1506	0	0.0
1953	1515	1515	0	0.0
1954	1506	1506	0	0.0
1955	1506	1506	0	0.0
1956	1506	1506	0	0.0
1957	1506	1506	0	0.0
1958	1506	1506	0	0.0
1959	1506	1506	0	0.0
1960	1506	1506	0	0.0
1961	1506	1506	0	0.0
1962	1506	1506	0	0.0
1963	1506	1506	0	0.0
1964	1506	1506	0	0.0
1965	1506	1506	0	0.0
1966	1506	1506	0	0.0
1967	1506	1506	0	0.0
1968	1515	1515	0	0.0
1969	1506	1506	0	0.0
1970	1515	1515	0	0.0
1971	1506	1506	0	0.0
1972	1506	1506	0	0.0
1973	1506	1506	0	0.0
1974	1506	1506	0	0.0
1975	1506	1506	0	0.0
1976	1506	1506	0	0.0
1977	1506	1506	0	0.0
1978	1506	1506	0	0.0
1979	1506	1506	0	0.0
1980	1506	1506	0	0.0
1981	1506	1506	0	0.0
1982	1506	1506	0	0.0
1983	1515	1515	0	0.0
1984	1515	1515	0	0.0
1985	1506	1506	0	0.0
1986	1506	1506	0	0.0
1987	1506	1506	0	0.0
1988	1506	1506	0	0.0
1989	1506	1506	0	0.0
1990	1501	1501	0	0.0
1991	1506	1506	0	0.0
1992	1506	1506	0	0.0
1993	1506	1506	0	0.0
Mean:	1507.0	1507.0	0.0	0.0
Median:	1506.0	1506.0	0.0	0.0
Min:	1501.0	1501.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

January				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1508	1508	0	0.0
1923	1515	1515	0	0.0
1924	1508	1508	0	0.0
1925	1508	1508	0	0.0
1926	1508	1508	0	0.0
1927	1508	1508	0	0.0
1928	1508	1508	0	0.0
1929	1508	1508	0	0.0
1930	1508	1508	0	0.0
1931	1508	1508	0	0.0
1932	1508	1508	0	0.0
1933	1515	1515	0	0.0
1934	1508	1508	0	0.0
1935	1508	1508	0	0.0
1936	1508	1508	0	0.0
1937	1508	1508	0	0.0
1938	1508	1508	0	0.0
1939	1515	1515	0	0.0
1940	1508	1508	0	0.0
1941	1508	1508	0	0.0
1942	1515	1515	0	0.0
1943	1515	1515	0	0.0
1944	1508	1508	0	0.0
1945	1508	1508	0	0.0
1946	1508	1508	0	0.0
1947	1508	1508	0	0.0
1948	1508	1508	0	0.0
1949	1508	1508	0	0.0
1950	1508	1508	0	0.0
1951	1515	1515	0	0.0
1952	1508	1508	0	0.0
1953	1515	1515	0	0.0
1954	1515	1515	0	0.0
1955	1508	1508	0	0.0
1956	1508	1508	0	0.0
1957	1508	1508	0	0.0
1958	1515	1515	0	0.0
1959	1515	1515	0	0.0
1960	1508	1508	0	0.0
1961	1508	1508	0	0.0
1962	1508	1508	0	0.0
1963	1508	1508	0	0.0
1964	1515	1515	0	0.0
1965	1508	1508	0	0.0
1966	1515	1515	0	0.0
1967	1508	1508	0	0.0
1968	1515	1515	0	0.0
1969	1508	1508	0	0.0
1970	1515	1515	0	0.0
1971	1508	1508	0	0.0
1972	1508	1508	0	0.0
1973	1508	1508	0	0.0
1974	1515	1515	0	0.0
1975	1515	1515	0	0.0
1976	1515	1515	0	0.0
1977	1508	1508	0	0.0
1978	1508	1508	0	0.0
1979	1508	1508	0	0.0
1980	1508	1508	0	0.0
1981	1515	1515	0	0.0
1982	1508	1508	0	0.0
1983	1515	1515	0	0.0
1984	1515	1515	0	0.0
1985	1508	1508	0	0.0
1986	1508	1508	0	0.0
1987	1508	1508	0	0.0
1988	1508	1508	0	0.0
1989	1508	1508	0	0.0
1990	1505	1505	0	0.0
1991	1508	1508	0	0.0
1992	1508	1508	0	0.0
1993	1508	1508	0	0.0
Mean:	1509.9	1509.9	0.0	0.0
Median:	1508.0	1508.0	0.0	0.0
Min:	1505.0	1505.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

February				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1510	1510	0	0.0
1923	1515	1515	0	0.0
1924	1510	1510	0	0.0
1925	1510	1510	0	0.0
1926	1515	1515	0	0.0
1927	1515	1515	0	0.0
1928	1515	1515	0	0.0
1929	1510	1510	0	0.0
1930	1510	1510	0	0.0
1931	1510	1510	0	0.0
1932	1515	1515	0	0.0
1933	1515	1515	0	0.0
1934	1510	1510	0	0.0
1935	1510	1510	0	0.0
1936	1510	1510	0	0.0
1937	1510	1510	0	0.0
1938	1515	1515	0	0.0
1939	1515	1515	0	0.0
1940	1510	1510	0	0.0
1941	1510	1510	0	0.0
1942	1515	1515	0	0.0
1943	1515	1515	0	0.0
1944	1510	1510	0	0.0
1945	1510	1510	0	0.0
1946	1510	1510	0	0.0
1947	1510	1510	0	0.0
1948	1510	1510	0	0.0
1949	1510	1510	0	0.0
1950	1510	1510	0	0.0
1951	1515	1515	0	0.0
1952	1515	1515	0	0.0
1953	1515	1515	0	0.0
1954	1515	1515	0	0.0
1955	1510	1510	0	0.0
1956	1515	1515	0	0.0
1957	1515	1515	0	0.0
1958	1515	1515	0	0.0
1959	1515	1515	0	0.0
1960	1510	1510	0	0.0
1961	1510	1510	0	0.0
1962	1510	1510	0	0.0
1963	1515	1515	0	0.0
1964	1510	1510	0	0.0
1965	1510	1510	0	0.0
1966	1515	1515	0	0.0
1967	1515	1515	0	0.0
1968	1515	1515	0	0.0
1969	1510	1510	0	0.0
1970	1515	1515	0	0.0
1971	1510	1510	0	0.0
1972	1510	1510	0	0.0
1973	1515	1515	0	0.0
1974	1515	1515	0	0.0
1975	1515	1515	0	0.0
1976	1515	1515	0	0.0
1977	1510	1510	0	0.0
1978	1515	1515	0	0.0
1979	1515	1515	0	0.0
1980	1515	1515	0	0.0
1981	1515	1515	0	0.0
1982	1515	1515	0	0.0
1983	1515	1515	0	0.0
1984	1515	1515	0	0.0
1985	1510	1510	0	0.0
1986	1510	1510	0	0.0
1987	1510	1510	0	0.0
1988	1510	1510	0	0.0
1989	1510	1510	0	0.0
1990	1510	1510	0	0.0
1991	1510	1510	0	0.0
1992	1510	1510	0	0.0
1993	1510	1510	0	0.0
Mean:	1512.4	1512.4	0.0	0.0
Median:	1510.0	1510.0	0.0	0.0
Min:	1510.0	1510.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

March				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1515	1515	0	0.0
1923	1513	1513	0	0.0
1924	1513	1513	0	0.0
1925	1513	1513	0	0.0
1926	1513	1513	0	0.0
1927	1515	1515	0	0.0
1928	1515	1515	0	0.0
1929	1513	1513	0	0.0
1930	1515	1515	0	0.0
1931	1513	1513	0	0.0
1932	1515	1515	0	0.0
1933	1515	1515	0	0.0
1934	1513	1513	0	0.0
1935	1513	1513	0	0.0
1936	1515	1515	0	0.0
1937	1515	1515	0	0.0
1938	1515	1515	0	0.0
1939	1515	1515	0	0.0
1940	1515	1515	0	0.0
1941	1515	1515	0	0.0
1942	1515	1515	0	0.0
1943	1515	1515	0	0.0
1944	1513	1513	0	0.0
1945	1515	1515	0	0.0
1946	1513	1513	0	0.0
1947	1513	1513	0	0.0
1948	1513	1513	0	0.0
1949	1513	1513	0	0.0
1950	1513	1513	0	0.0
1951	1515	1515	0	0.0
1952	1515	1515	0	0.0
1953	1515	1515	0	0.0
1954	1515	1515	0	0.0
1955	1513	1513	0	0.0
1956	1515	1515	0	0.0
1957	1515	1515	0	0.0
1958	1515	1515	0	0.0
1959	1513	1513	0	0.0
1960	1513	1513	0	0.0
1961	1515	1515	0	0.0
1962	1513	1513	0	0.0
1963	1515	1515	0	0.0
1964	1513	1513	0	0.0
1965	1515	1515	0	0.0
1966	1515	1515	0	0.0
1967	1515	1515	0	0.0
1968	1515	1515	0	0.0
1969	1515	1515	0	0.0
1970	1515	1515	0	0.0
1971	1513	1513	0	0.0
1972	1515	1515	0	0.0
1973	1515	1515	0	0.0
1974	1515	1515	0	0.0
1975	1515	1515	0	0.0
1976	1515	1515	0	0.0
1977	1513	1513	0	0.0
1978	1515	1515	0	0.0
1979	1515	1515	0	0.0
1980	1515	1515	0	0.0
1981	1515	1515	0	0.0
1982	1515	1515	0	0.0
1983	1515	1515	0	0.0
1984	1515	1515	0	0.0
1985	1513	1513	0	0.0
1986	1515	1515	0	0.0
1987	1515	1515	0	0.0
1988	1513	1513	0	0.0
1989	1513	1513	0	0.0
1990	1513	1513	0	0.0
1991	1513	1513	0	0.0
1992	1513	1513	0	0.0
1993	1515	1515	0	0.0
Mean:	1514.3	1514.3	0.0	0.0
Median:	1515.0	1515.0	0.0	0.0
Min:	1513.0	1513.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

April				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1515	1515	0	0.0
1923	1515	1515	0	0.0
1924	1515	1515	0	0.0
1925	1515	1515	0	0.0
1926	1515	1515	0	0.0
1927	1515	1515	0	0.0
1928	1515	1515	0	0.0
1929	1515	1515	0	0.0
1930	1515	1515	0	0.0
1931	1515	1515	0	0.0
1932	1515	1515	0	0.0
1933	1515	1515	0	0.0
1934	1515	1515	0	0.0
1935	1515	1515	0	0.0
1936	1515	1515	0	0.0
1937	1515	1515	0	0.0
1938	1515	1515	0	0.0
1939	1515	1515	0	0.0
1940	1515	1515	0	0.0
1941	1515	1515	0	0.0
1942	1515	1515	0	0.0
1943	1515	1515	0	0.0
1944	1515	1515	0	0.0
1945	1515	1515	0	0.0
1946	1515	1515	0	0.0
1947	1515	1515	0	0.0
1948	1515	1515	0	0.0
1949	1515	1515	0	0.0
1950	1515	1515	0	0.0
1951	1515	1515	0	0.0
1952	1515	1515	0	0.0
1953	1515	1515	0	0.0
1954	1515	1515	0	0.0
1955	1515	1515	0	0.0
1956	1515	1515	0	0.0
1957	1515	1515	0	0.0
1958	1515	1515	0	0.0
1959	1515	1515	0	0.0
1960	1515	1515	0	0.0
1961	1515	1515	0	0.0
1962	1515	1515	0	0.0
1963	1515	1515	0	0.0
1964	1515	1515	0	0.0
1965	1515	1515	0	0.0
1966	1515	1515	0	0.0
1967	1515	1515	0	0.0
1968	1515	1515	0	0.0
1969	1515	1515	0	0.0
1970	1515	1515	0	0.0
1971	1515	1515	0	0.0
1972	1515	1515	0	0.0
1973	1515	1515	0	0.0
1974	1515	1515	0	0.0
1975	1515	1515	0	0.0
1976	1515	1515	0	0.0
1977	1515	1515	0	0.0
1978	1515	1515	0	0.0
1979	1515	1515	0	0.0
1980	1515	1515	0	0.0
1981	1515	1515	0	0.0
1982	1515	1515	0	0.0
1983	1515	1515	0	0.0
1984	1515	1515	0	0.0
1985	1515	1515	0	0.0
1986	1515	1515	0	0.0
1987	1515	1515	0	0.0
1988	1515	1515	0	0.0
1989	1515	1515	0	0.0
1990	1515	1515	0	0.0
1991	1515	1515	0	0.0
1992	1515	1515	0	0.0
1993	1515	1515	0	0.0
Mean:	1515.0	1515.0	0.0	0.0
Median:	1515.0	1515.0	0.0	0.0
Min:	1515.0	1515.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

May				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1513	1513	0	0.0
1923	1513	1513	0	0.0
1924	1513	1513	0	0.0
1925	1513	1513	0	0.0
1926	1513	1513	0	0.0
1927	1513	1513	0	0.0
1928	1513	1513	0	0.0
1929	1513	1513	0	0.0
1930	1513	1513	0	0.0
1931	1513	1513	0	0.0
1932	1515	1515	0	0.0
1933	1513	1513	0	0.0
1934	1513	1513	0	0.0
1935	1513	1513	0	0.0
1936	1513	1513	0	0.0
1937	1515	1515	0	0.0
1938	1515	1515	0	0.0
1939	1513	1513	0	0.0
1940	1513	1513	0	0.0
1941	1515	1515	0	0.0
1942	1513	1513	0	0.0
1943	1513	1513	0	0.0
1944	1513	1513	0	0.0
1945	1513	1513	0	0.0
1946	1513	1513	0	0.0
1947	1513	1513	0	0.0
1948	1513	1513	0	0.0
1949	1513	1513	0	0.0
1950	1513	1513	0	0.0
1951	1513	1513	0	0.0
1952	1515	1515	0	0.0
1953	1513	1513	0	0.0
1954	1513	1513	0	0.0
1955	1513	1513	0	0.0
1956	1513	1513	0	0.0
1957	1513	1513	0	0.0
1958	1515	1515	0	0.0
1959	1513	1513	0	0.0
1960	1513	1513	0	0.0
1961	1513	1513	0	0.0
1962	1513	1513	0	0.0
1963	1513	1513	0	0.0
1964	1513	1513	0	0.0
1965	1513	1513	0	0.0
1966	1513	1513	0	0.0
1967	1515	1515	0	0.0
1968	1513	1513	0	0.0
1969	1515	1515	0	0.0
1970	1513	1513	0	0.0
1971	1513	1513	0	0.0
1972	1513	1513	0	0.0
1973	1513	1513	0	0.0
1974	1513	1513	0	0.0
1975	1513	1513	0	0.0
1976	1513	1513	0	0.0
1977	1513	1513	0	0.0
1978	1515	1515	0	0.0
1979	1513	1513	0	0.0
1980	1513	1513	0	0.0
1981	1513	1513	0	0.0
1982	1515	1515	0	0.0
1983	1515	1515	0	0.0
1984	1513	1513	0	0.0
1985	1513	1513	0	0.0
1986	1513	1513	0	0.0
1987	1513	1513	0	0.0
1988	1513	1513	0	0.0
1989	1513	1513	0	0.0
1990	1513	1513	0	0.0
1991	1513	1513	0	0.0
1992	1513	1513	0	0.0
1993	1513	1513	0	0.0
Mean:	1513.3	1513.3	0.0	0.0
Median:	1513.0	1513.0	0.0	0.0
Min:	1513.0	1513.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

June				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1510	1510	0	0.0
1923	1510	1510	0	0.0
1924	1510	1510	0	0.0
1925	1510	1510	0	0.0
1926	1510	1510	0	0.0
1927	1510	1510	0	0.0
1928	1510	1510	0	0.0
1929	1510	1510	0	0.0
1930	1510	1510	0	0.0
1931	1510	1510	0	0.0
1932	1510	1510	0	0.0
1933	1510	1510	0	0.0
1934	1510	1510	0	0.0
1935	1510	1510	0	0.0
1936	1510	1510	0	0.0
1937	1510	1510	0	0.0
1938	1510	1510	0	0.0
1939	1510	1510	0	0.0
1940	1510	1510	0	0.0
1941	1515	1515	0	0.0
1942	1510	1510	0	0.0
1943	1510	1510	0	0.0
1944	1510	1510	0	0.0
1945	1510	1510	0	0.0
1946	1510	1510	0	0.0
1947	1510	1510	0	0.0
1948	1510	1510	0	0.0
1949	1510	1510	0	0.0
1950	1510	1510	0	0.0
1951	1510	1510	0	0.0
1952	1515	1515	0	0.0
1953	1510	1510	0	0.0
1954	1510	1510	0	0.0
1955	1510	1510	0	0.0
1956	1510	1510	0	0.0
1957	1510	1510	0	0.0
1958	1510	1510	0	0.0
1959	1510	1510	0	0.0
1960	1510	1510	0	0.0
1961	1510	1510	0	0.0
1962	1510	1510	0	0.0
1963	1510	1510	0	0.0
1964	1510	1510	0	0.0
1965	1510	1510	0	0.0
1966	1510	1510	0	0.0
1967	1510	1510	0	0.0
1968	1510	1510	0	0.0
1969	1515	1515	0	0.0
1970	1510	1510	0	0.0
1971	1510	1510	0	0.0
1972	1510	1510	0	0.0
1973	1510	1510	0	0.0
1974	1510	1510	0	0.0
1975	1510	1510	0	0.0
1976	1510	1510	0	0.0
1977	1510	1510	0	0.0
1978	1515	1515	0	0.0
1979	1510	1510	0	0.0
1980	1510	1510	0	0.0
1981	1510	1510	0	0.0
1982	1510	1510	0	0.0
1983	1515	1515	0	0.0
1984	1510	1510	0	0.0
1985	1510	1510	0	0.0
1986	1510	1510	0	0.0
1987	1510	1510	0	0.0
1988	1510	1510	0	0.0
1989	1510	1510	0	0.0
1990	1510	1510	0	0.0
1991	1510	1510	0	0.0
1992	1510	1510	0	0.0
1993	1510	1510	0	0.0
Mean:	1510.3	1510.3	0.0	0.0
Median:	1510.0	1510.0	0.0	0.0
Min:	1510.0	1510.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

July				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1508	1508	0	0.0
1923	1508	1508	0	0.0
1924	1508	1508	0	0.0
1925	1508	1508	0	0.0
1926	1508	1508	0	0.0
1927	1508	1508	0	0.0
1928	1508	1508	0	0.0
1929	1508	1508	0	0.0
1930	1508	1508	0	0.0
1931	1508	1508	0	0.0
1932	1508	1508	0	0.0
1933	1508	1508	0	0.0
1934	1508	1508	0	0.0
1935	1508	1508	0	0.0
1936	1508	1508	0	0.0
1937	1508	1508	0	0.0
1938	1508	1508	0	0.0
1939	1508	1508	0	0.0
1940	1508	1508	0	0.0
1941	1508	1508	0	0.0
1942	1508	1508	0	0.0
1943	1508	1508	0	0.0
1944	1508	1508	0	0.0
1945	1508	1508	0	0.0
1946	1508	1508	0	0.0
1947	1508	1508	0	0.0
1948	1508	1508	0	0.0
1949	1508	1508	0	0.0
1950	1508	1508	0	0.0
1951	1508	1508	0	0.0
1952	1508	1508	0	0.0
1953	1508	1508	0	0.0
1954	1508	1508	0	0.0
1955	1508	1508	0	0.0
1956	1508	1508	0	0.0
1957	1508	1508	0	0.0
1958	1508	1508	0	0.0
1959	1508	1508	0	0.0
1960	1508	1508	0	0.0
1961	1508	1508	0	0.0
1962	1508	1508	0	0.0
1963	1508	1508	0	0.0
1964	1508	1508	0	0.0
1965	1508	1508	0	0.0
1966	1508	1508	0	0.0
1967	1508	1508	0	0.0
1968	1508	1508	0	0.0
1969	1508	1508	0	0.0
1970	1508	1508	0	0.0
1971	1508	1508	0	0.0
1972	1508	1508	0	0.0
1973	1508	1508	0	0.0
1974	1508	1508	0	0.0
1975	1508	1508	0	0.0
1976	1508	1508	0	0.0
1977	1508	1508	0	0.0
1978	1508	1508	0	0.0
1979	1508	1508	0	0.0
1980	1508	1508	0	0.0
1981	1508	1508	0	0.0
1982	1508	1508	0	0.0
1983	1515	1515	0	0.0
1984	1508	1508	0	0.0
1985	1508	1508	0	0.0
1986	1508	1508	0	0.0
1987	1508	1508	0	0.0
1988	1508	1508	0	0.0
1989	1508	1508	0	0.0
1990	1508	1508	0	0.0
1991	1508	1508	0	0.0
1992	1508	1508	0	0.0
1993	1508	1508	0	0.0
Mean:	1508.1	1508.1	0.0	0.0
Median:	1508.0	1508.0	0.0	0.0
Min:	1508.0	1508.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

August				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1506	1506	0	0.0
1923	1506	1506	0	0.0
1924	1506	1506	0	0.0
1925	1506	1506	0	0.0
1926	1506	1506	0	0.0
1927	1506	1506	0	0.0
1928	1506	1506	0	0.0
1929	1506	1506	0	0.0
1930	1506	1506	0	0.0
1931	1506	1506	0	0.0
1932	1506	1506	0	0.0
1933	1506	1506	0	0.0
1934	1506	1506	0	0.0
1935	1506	1506	0	0.0
1936	1506	1506	0	0.0
1937	1506	1506	0	0.0
1938	1506	1506	0	0.0
1939	1506	1506	0	0.0
1940	1506	1506	0	0.0
1941	1506	1506	0	0.0
1942	1506	1506	0	0.0
1943	1506	1506	0	0.0
1944	1506	1506	0	0.0
1945	1506	1506	0	0.0
1946	1506	1506	0	0.0
1947	1506	1506	0	0.0
1948	1506	1506	0	0.0
1949	1506	1506	0	0.0
1950	1506	1506	0	0.0
1951	1506	1506	0	0.0
1952	1506	1506	0	0.0
1953	1506	1506	0	0.0
1954	1506	1506	0	0.0
1955	1506	1506	0	0.0
1956	1506	1506	0	0.0
1957	1506	1506	0	0.0
1958	1506	1506	0	0.0
1959	1506	1506	0	0.0
1960	1506	1506	0	0.0
1961	1506	1506	0	0.0
1962	1506	1506	0	0.0
1963	1506	1506	0	0.0
1964	1506	1506	0	0.0
1965	1506	1506	0	0.0
1966	1506	1506	0	0.0
1967	1506	1506	0	0.0
1968	1506	1506	0	0.0
1969	1506	1506	0	0.0
1970	1506	1506	0	0.0
1971	1506	1506	0	0.0
1972	1506	1506	0	0.0
1973	1506	1506	0	0.0
1974	1506	1506	0	0.0
1975	1506	1506	0	0.0
1976	1506	1506	0	0.0
1977	1506	1506	0	0.0
1978	1506	1506	0	0.0
1979	1506	1506	0	0.0
1980	1506	1506	0	0.0
1981	1506	1506	0	0.0
1982	1506	1506	0	0.0
1983	1515	1515	0	0.0
1984	1506	1506	0	0.0
1985	1506	1506	0	0.0
1986	1506	1506	0	0.0
1987	1506	1506	0	0.0
1988	1506	1506	0	0.0
1989	1506	1506	0	0.0
1990	1506	1506	0	0.0
1991	1506	1506	0	0.0
1992	1506	1506	0	0.0
1993	1506	1506	0	0.0
Mean:	1506.1	1506.1	0.0	0.0
Median:	1506.0	1506.0	0.0	0.0
Min:	1506.0	1506.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Castic Reservoir End of Month Elevation

September				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1503	1503	0	0.0
1923	1503	1503	0	0.0
1924	1503	1503	0	0.0
1925	1503	1503	0	0.0
1926	1503	1503	0	0.0
1927	1503	1503	0	0.0
1928	1503	1503	0	0.0
1929	1503	1503	0	0.0
1930	1503	1503	0	0.0
1931	1503	1503	0	0.0
1932	1503	1503	0	0.0
1933	1503	1503	0	0.0
1934	1503	1503	0	0.0
1935	1503	1503	0	0.0
1936	1503	1503	0	0.0
1937	1503	1503	0	0.0
1938	1503	1503	0	0.0
1939	1503	1503	0	0.0
1940	1503	1503	0	0.0
1941	1503	1503	0	0.0
1942	1503	1503	0	0.0
1943	1503	1503	0	0.0
1944	1503	1503	0	0.0
1945	1503	1503	0	0.0
1946	1503	1503	0	0.0
1947	1503	1503	0	0.0
1948	1503	1503	0	0.0
1949	1503	1503	0	0.0
1950	1503	1503	0	0.0
1951	1503	1503	0	0.0
1952	1503	1503	0	0.0
1953	1503	1503	0	0.0
1954	1503	1503	0	0.0
1955	1503	1503	0	0.0
1956	1503	1503	0	0.0
1957	1503	1503	0	0.0
1958	1503	1503	0	0.0
1959	1503	1503	0	0.0
1960	1503	1503	0	0.0
1961	1503	1503	0	0.0
1962	1503	1503	0	0.0
1963	1503	1503	0	0.0
1964	1503	1503	0	0.0
1965	1503	1503	0	0.0
1966	1503	1503	0	0.0
1967	1503	1503	0	0.0
1968	1503	1503	0	0.0
1969	1503	1503	0	0.0
1970	1503	1503	0	0.0
1971	1503	1503	0	0.0
1972	1503	1503	0	0.0
1973	1503	1503	0	0.0
1974	1503	1503	0	0.0
1975	1503	1503	0	0.0
1976	1503	1503	0	0.0
1977	1503	1503	0	0.0
1978	1503	1503	0	0.0
1979	1503	1503	0	0.0
1980	1503	1503	0	0.0
1981	1503	1503	0	0.0
1982	1503	1503	0	0.0
1983	1515	1515	0	0.0
1984	1503	1503	0	0.0
1985	1503	1503	0	0.0
1986	1503	1503	0	0.0
1987	1503	1503	0	0.0
1988	1503	1503	0	0.0
1989	1503	1503	0	0.0
1990	1503	1503	0	0.0
1991	1503	1503	0	0.0
1992	1503	1503	0	0.0
1993	1503	1503	0	0.0
Mean:	1503.2	1503.2	0.0	0.0
Median:	1503.0	1503.0	0.0	0.0
Min:	1503.0	1503.0	0.0	0.0
Max:	1515.0	1515.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	455	659	204	44.8
1923	2336	2540	204	8.7
1924	382	585	203	53.1
1925	322	525	203	63.0
1926	398	602	204	51.3
1927	319	522	203	63.6
1928	519	723	204	39.3
1929	423	627	204	48.2
1930	140	343	203	145.0
1931	236	439	203	86.0
1932	8	212	204	2550.0
1933	366	569	203	55.5
1934	366	569	203	55.5
1935	24	227	203	845.8
1936	329	532	203	61.7
1937	801	1005	204	25.5
1938	1479	1683	204	13.8
1939	3329	3533	204	6.1
1940	361	564	203	56.2
1941	439	642	203	46.2
1942	2777	2981	204	7.3
1943	2889	3093	204	7.1
1944	1315	1518	203	15.4
1945	312	516	204	65.4
1946	1591	1794	203	12.8
1947	398	602	204	51.3
1948	415	618	203	48.9
1949	415	618	203	48.9
1950	195	398	203	104.1
1951	89	292	203	228.1
1952	455	659	204	44.8
1953	2924	3127	203	6.9
1954	415	618	203	48.9
1955	382	585	203	53.1
1956	24	227	203	845.8
1957	2808	3012	204	7.3
1958	455	659	204	44.8
1959	2696	2899	203	7.5
1960	382	585	203	53.1
1961	268	472	204	76.1
1962	8	211	203	2537.5
1963	361	564	203	56.2
1964	398	602	204	51.3
1965	373	577	204	54.7
1966	634	837	203	32.0
1967	455	659	204	44.8
1968	3113	3316	203	6.5
1969	407	610	203	49.9
1970	3298	3502	204	6.2
1971	415	618	203	48.9
1972	366	569	203	55.5
1973	317	520	203	64.0
1974	431	634	203	47.1
1975	1537	1740	203	13.2
1976	2123	2326	203	9.6
1977	359	563	204	56.8
1978	52	255	203	390.4
1979	3205	3408	203	6.3
1980	528	731	203	38.4
1981	3125	3328	203	6.5
1982	455	659	204	44.8
1983	3879	4082	203	5.2
1984	3439	3642	203	5.9
1985	415	618	203	48.9
1986	361	564	203	56.2
1987	1750	1953	203	11.6
1988	343	546	203	59.2
1989	236	439	203	86.0
1990	285	488	203	71.2
1991	236	439	203	86.0
1992	285	488	203	71.2
1993	245	448	203	82.9
Mean:	940	1143	203	143.1
Median:	411	614	203	49.4
Min:	8	211	203	5.2
Max:	3879	4082	204	2550.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	185	395	210	113.5
1923	168	378	210	125.0
1924	191	401	210	109.9
1925	134	345	211	157.5
1926	211	421	210	99.5
1927	34	244	210	617.6
1928	243	453	210	86.4
1929	161	371	210	130.4
1930	128	338	210	164.1
1931	199	409	210	105.5
1932	78	288	210	269.2
1933	216	426	210	97.2
1934	146	356	210	143.8
1935	134	345	211	157.5
1936	125	335	210	168.0
1937	139	349	210	151.1
1938	141	351	210	148.9
1939	235	445	210	89.4
1940	77	287	210	272.7
1941	132	342	210	159.1
1942	185	395	210	113.5
1943	408	618	210	51.5
1944	167	377	210	125.7
1945	168	378	210	125.0
1946	492	702	210	42.7
1947	269	479	210	78.1
1948	185	395	210	113.5
1949	161	371	210	130.4
1950	161	371	210	130.4
1951	185	395	210	113.5
1952	127	337	210	165.4
1953	166	376	210	126.5
1954	161	371	210	130.4
1955	211	421	210	99.5
1956	49	259	210	428.6
1957	202	412	210	104.0
1958	127	337	210	165.4
1959	188	398	210	111.7
1960	128	338	210	164.1
1961	151	361	210	139.1
1962	49	259	210	428.6
1963	110	320	210	190.9
1964	269	479	210	78.1
1965	151	361	210	139.1
1966	1012	1222	210	20.8
1967	185	395	210	113.5
1968	189	399	210	111.1
1969	151	361	210	139.1
1970	101	311	210	207.9
1971	218	429	211	96.8
1972	235	445	210	89.4
1973	202	412	210	104.0
1974	118	328	210	178.0
1975	124	334	210	169.4
1976	218	429	211	96.8
1977	145	355	210	144.8
1978	110	320	210	190.9
1979	168	378	210	125.0
1980	135	346	211	156.3
1981	220	430	210	95.5
1982	151	361	210	139.1
1983	1384	1594	210	15.2
1984	1702	1912	210	12.3
1985	218	429	211	96.8
1986	134	345	211	157.5
1987	169	379	210	124.3
1988	202	412	210	104.0
1989	199	409	210	105.5
1990	185	395	210	113.5
1991	145	355	210	144.8
1992	185	395	210	113.5
1993	157	367	210	133.8
Mean:	221	431	210	141.1
Median:	168	378	210	125.4
Min:	34	244	210	12.3
Max:	1702	1912	211	617.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	179	179	0	0.0
1923	858	858	0	0.0
1924	134	134	0	0.0
1925	125	125	0	0.0
1926	195	195	0	0.0
1927	125	125	0	0.0
1928	195	195	0	0.0
1929	134	134	0	0.0
1930	90	90	0	0.0
1931	93	93	0	0.0
1932	125	125	0	0.0
1933	173	173	0	0.0
1934	146	146	0	0.0
1935	125	125	0	0.0
1936	112	112	0	0.0
1937	179	179	0	0.0
1938	2087	2087	0	0.0
1939	195	195	0	0.0
1940	62	62	0	0.0
1941	179	179	0	0.0
1942	1132	1132	0	0.0
1943	641	641	0	0.0
1944	146	146	0	0.0
1945	174	174	0	0.0
1946	1699	1699	0	0.0
1947	228	228	0	0.0
1948	98	98	0	0.0
1949	138	138	0	0.0
1950	138	138	0	0.0
1951	179	179	0	0.0
1952	179	179	0	0.0
1953	275	275	0	0.0
1954	133	133	0	0.0
1955	228	228	0	0.0
1956	130	130	0	0.0
1957	133	133	0	0.0
1958	179	179	0	0.0
1959	138	138	0	0.0
1960	93	93	0	0.0
1961	146	146	0	0.0
1962	109	109	0	0.0
1963	116	116	0	0.0
1964	228	228	0	0.0
1965	130	130	0	0.0
1966	740	740	0	0.0
1967	179	179	0	0.0
1968	195	195	0	0.0
1969	130	130	0	0.0
1970	515	515	0	0.0
1971	195	195	0	0.0
1972	228	228	0	0.0
1973	114	114	0	0.0
1974	114	114	0	0.0
1975	211	211	0	0.0
1976	163	163	0	0.0
1977	59	59	0	0.0
1978	195	195	0	0.0
1979	141	141	0	0.0
1980	179	179	0	0.0
1981	165	165	0	0.0
1982	130	130	0	0.0
1983	2284	2284	0	0.0
1984	3292	3292	0	0.0
1985	195	195	0	0.0
1986	125	125	0	0.0
1987	121	121	0	0.0
1988	146	146	0	0.0
1989	146	146	0	0.0
1990	91	91	0	0.0
1991	66	66	0	0.0
1992	90	90	0	0.0
1993	195	195	0	0.0
Mean:	315	315	0	0.0
Median:	146	146	0	0.0
Min:	59	59	0	0.0
Max:	3292	3292	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	130	130	0	0.0
1923	1087	1087	0	0.0
1924	184	184	0	0.0
1925	141	141	0	0.0
1926	70	70	0	0.0
1927	60	60	0	0.0
1928	228	228	0	0.0
1929	184	184	0	0.0
1930	120	120	0	0.0
1931	146	146	0	0.0
1932	141	141	0	0.0
1933	130	130	0	0.0
1934	195	195	0	0.0
1935	141	141	0	0.0
1936	190	190	0	0.0
1937	249	249	0	0.0
1938	1087	1087	0	0.0
1939	319	319	0	0.0
1940	141	141	0	0.0
1941	753	753	0	0.0
1942	1396	1396	0	0.0
1943	2307	2307	0	0.0
1944	228	228	0	0.0
1945	190	190	0	0.0
1946	908	908	0	0.0
1947	130	130	0	0.0
1948	179	179	0	0.0
1949	179	179	0	0.0
1950	228	228	0	0.0
1951	585	585	0	0.0
1952	130	130	0	0.0
1953	990	990	0	0.0
1954	228	228	0	0.0
1955	130	130	0	0.0
1956	406	406	0	0.0
1957	228	228	0	0.0
1958	130	130	0	0.0
1959	244	244	0	0.0
1960	146	146	0	0.0
1961	135	135	0	0.0
1962	125	125	0	0.0
1963	190	190	0	0.0
1964	130	130	0	0.0
1965	81	81	0	0.0
1966	681	681	0	0.0
1967	130	130	0	0.0
1968	244	244	0	0.0
1969	81	81	0	0.0
1970	2600	2600	0	0.0
1971	228	228	0	0.0
1972	130	130	0	0.0
1973	146	146	0	0.0
1974	132	132	0	0.0
1975	198	198	0	0.0
1976	215	215	0	0.0
1977	102	102	0	0.0
1978	195	195	0	0.0
1979	1528	1528	0	0.0
1980	4269	4269	0	0.0
1981	130	130	0	0.0
1982	81	81	0	0.0
1983	3055	3055	0	0.0
1984	1543	1543	0	0.0
1985	228	228	0	0.0
1986	141	141	0	0.0
1987	213	213	0	0.0
1988	195	195	0	0.0
1989	146	146	0	0.0
1990	195	195	0	0.0
1991	50	50	0	0.0
1992	195	195	0	0.0
1993	195	195	0	0.0
Mean:	452	452	0	0.0
Median:	190	190	0	0.0
Min:	50	50	0	0.0
Max:	4269	4269	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	369	369	0	0.0
1923	903	903	0	0.0
1924	217	217	0	0.0
1925	72	72	0	0.0
1926	126	126	0	0.0
1927	72	72	0	0.0
1928	209	209	0	0.0
1929	225	225	0	0.0
1930	99	99	0	0.0
1931	189	189	0	0.0
1932	70	70	0	0.0
1933	126	126	0	0.0
1934	189	189	0	0.0
1935	72	72	0	0.0
1936	2018	2018	0	0.0
1937	4072	4072	0	0.0
1938	4324	4324	0	0.0
1939	507	507	0	0.0
1940	70	70	0	0.0
1941	2649	2649	0	0.0
1942	1479	1479	0	0.0
1943	1659	1659	0	0.0
1944	777	777	0	0.0
1945	1222	1222	0	0.0
1946	579	579	0	0.0
1947	632	632	0	0.0
1948	174	174	0	0.0
1949	216	216	0	0.0
1950	216	216	0	0.0
1951	1299	1299	0	0.0
1952	204	204	0	0.0
1953	507	507	0	0.0
1954	216	216	0	0.0
1955	126	126	0	0.0
1956	1376	1376	0	0.0
1957	604	604	0	0.0
1958	189	189	0	0.0
1959	774	774	0	0.0
1960	183	183	0	0.0
1961	189	189	0	0.0
1962	72	72	0	0.0
1963	108	108	0	0.0
1964	122	122	0	0.0
1965	153	153	0	0.0
1966	579	579	0	0.0
1967	189	189	0	0.0
1968	632	632	0	0.0
1969	2418	2418	0	0.0
1970	1191	1191	0	0.0
1971	216	216	0	0.0
1972	122	122	0	0.0
1973	108	108	0	0.0
1974	669	669	0	0.0
1975	1947	1947	0	0.0
1976	234	234	0	0.0
1977	138	138	0	0.0
1978	162	162	0	0.0
1979	1875	1875	0	0.0
1980	4436	4436	0	0.0
1981	313	313	0	0.0
1982	1431	1431	0	0.0
1983	3910	3910	0	0.0
1984	1376	1376	0	0.0
1985	216	216	0	0.0
1986	621	621	0	0.0
1987	216	216	0	0.0
1988	183	183	0	0.0
1989	189	189	0	0.0
1990	189	189	0	0.0
1991	51	51	0	0.0
1992	183	183	0	0.0
1993	162	162	0	0.0
Mean:	745	745	0	0.0
Median:	216	216	0	0.0
Min:	51	51	0	0.0
Max:	4436	4436	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	902	902	0	0.0
1923	662	662	0	0.0
1924	594	594	0	0.0
1925	662	662	0	0.0
1926	667	667	0	0.0
1927	662	662	0	0.0
1928	732	732	0	0.0
1929	594	594	0	0.0
1930	350	350	0	0.0
1931	447	447	0	0.0
1932	662	662	0	0.0
1933	667	667	0	0.0
1934	447	447	0	0.0
1935	662	662	0	0.0
1936	662	662	0	0.0
1937	1111	1111	0	0.0
1938	4303	4303	0	0.0
1939	691	691	0	0.0
1940	662	662	0	0.0
1941	1500	1500	0	0.0
1942	634	634	0	0.0
1943	2869	2869	0	0.0
1944	732	732	0	0.0
1945	856	856	0	0.0
1946	662	662	0	0.0
1947	667	667	0	0.0
1948	732	732	0	0.0
1949	732	732	0	0.0
1950	732	732	0	0.0
1951	634	634	0	0.0
1952	1538	1538	0	0.0
1953	732	732	0	0.0
1954	732	732	0	0.0
1955	667	667	0	0.0
1956	634	634	0	0.0
1957	732	732	0	0.0
1958	634	634	0	0.0
1959	691	691	0	0.0
1960	447	447	0	0.0
1961	447	447	0	0.0
1962	662	662	0	0.0
1963	662	662	0	0.0
1964	667	667	0	0.0
1965	634	634	0	0.0
1966	716	716	0	0.0
1967	634	634	0	0.0
1968	691	691	0	0.0
1969	1650	1650	0	0.0
1970	753	753	0	0.0
1971	732	732	0	0.0
1972	667	667	0	0.0
1973	651	651	0	0.0
1974	1143	1143	0	0.0
1975	1098	1098	0	0.0
1976	618	618	0	0.0
1977	194	194	0	0.0
1978	569	569	0	0.0
1979	1241	1241	0	0.0
1980	1567	1567	0	0.0
1981	667	667	0	0.0
1982	1974	1974	0	0.0
1983	5209	5209	0	0.0
1984	634	634	0	0.0
1985	683	683	0	0.0
1986	3661	3661	0	0.0
1987	618	618	0	0.0
1988	447	447	0	0.0
1989	447	447	0	0.0
1990	447	447	0	0.0
1991	447	447	0	0.0
1992	447	447	0	0.0
1993	569	569	0	0.0
Mean:	916	916	0	0.0
Median:	667	667	0	0.0
Min:	194	194	0	0.0
Max:	5209	5209	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1403	1403	0	0.0
1923	1800	1800	0	0.0
1924	1408	1408	0	0.0
1925	1870	1870	0	0.0
1926	1832	1832	0	0.0
1927	1707	1707	0	0.0
1928	1988	1988	0	0.0
1929	1718	1718	0	0.0
1930	1136	1136	0	0.0
1931	911	911	0	0.0
1932	1618	1618	0	0.0
1933	1843	1843	0	0.0
1934	1037	1037	0	0.0
1935	1450	1450	0	0.0
1936	1689	1689	0	0.0
1937	1403	1403	0	0.0
1938	1904	1904	0	0.0
1939	1961	1961	0	0.0
1940	1588	1588	0	0.0
1941	1403	1403	0	0.0
1942	1456	1456	0	0.0
1943	1701	1701	0	0.0
1944	2115	2115	0	0.0
1945	1450	1450	0	0.0
1946	1875	1875	0	0.0
1947	1712	1712	0	0.0
1948	1681	1681	0	0.0
1949	1936	1936	0	0.0
1950	1823	1823	0	0.0
1951	1882	1882	0	0.0
1952	1497	1497	0	0.0
1953	1943	1943	0	0.0
1954	1923	1923	0	0.0
1955	1733	1733	0	0.0
1956	1855	1855	0	0.0
1957	1949	1949	0	0.0
1958	1758	1758	0	0.0
1959	2173	2173	0	0.0
1960	1313	1313	0	0.0
1961	904	904	0	0.0
1962	1907	1907	0	0.0
1963	1785	1785	0	0.0
1964	1875	1875	0	0.0
1965	1403	1403	0	0.0
1966	2075	2075	0	0.0
1967	1403	1403	0	0.0
1968	2168	2168	0	0.0
1969	2491	2491	0	0.0
1970	1919	1919	0	0.0
1971	1949	1949	0	0.0
1972	1582	1582	0	0.0
1973	1464	1464	0	0.0
1974	1496	1496	0	0.0
1975	1428	1428	0	0.0
1976	1568	1568	0	0.0
1977	699	699	0	0.0
1978	1311	1311	0	0.0
1979	1457	1457	0	0.0
1980	1444	1444	0	0.0
1981	2046	2046	0	0.0
1982	5295	5295	0	0.0
1983	1403	1403	0	0.0
1984	1918	1918	0	0.0
1985	1935	1935	0	0.0
1986	1489	1489	0	0.0
1987	1524	1524	0	0.0
1988	1057	1057	0	0.0
1989	904	904	0	0.0
1990	904	904	0	0.0
1991	892	892	0	0.0
1992	901	901	0	0.0
1993	1480	1480	0	0.0
Mean:	1660	1660	0	0.0
Median:	1685	1685	0	0.0
Min:	699	699	0	0.0
Max:	5295	5295	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3583	3583	0	0.0
1923	2278	2278	0	0.0
1924	1964	1964	0	0.0
1925	2358	2358	0	0.0
1926	2334	2334	0	0.0
1927	2378	2378	0	0.0
1928	2438	2438	0	0.0
1929	1926	1926	0	0.0
1930	1280	1280	0	0.0
1931	1218	1218	0	0.0
1932	2424	2424	0	0.0
1933	2066	2066	0	0.0
1934	1496	1496	0	0.0
1935	2402	2402	0	0.0
1936	3269	3269	0	0.0
1937	3920	3920	0	0.0
1938	5195	5195	0	0.0
1939	2578	2578	0	0.0
1940	2323	2323	0	0.0
1941	3780	3780	0	0.0
1942	2468	2468	0	0.0
1943	2675	2675	0	0.0
1944	2332	2332	0	0.0
1945	2433	2433	0	0.0
1946	2435	2435	0	0.0
1947	2173	2173	0	0.0
1948	2223	2223	0	0.0
1949	2212	2212	0	0.0
1950	2138	2138	0	0.0
1951	2470	2470	0	0.0
1952	5242	5242	0	0.0
1953	2344	2344	0	0.0
1954	2195	2195	0	0.0
1955	2127	2127	0	0.0
1956	2467	2467	0	0.0
1957	2296	2296	0	0.0
1958	4688	4688	0	0.0
1959	2391	2391	0	0.0
1960	1392	1392	0	0.0
1961	1218	1218	0	0.0
1962	2415	2415	0	0.0
1963	2259	2259	0	0.0
1964	2084	2084	0	0.0
1965	2392	2392	0	0.0
1966	2309	2309	0	0.0
1967	3663	3663	0	0.0
1968	2391	2391	0	0.0
1969	7205	7205	0	0.0
1970	2390	2390	0	0.0
1971	2356	2356	0	0.0
1972	2227	2227	0	0.0
1973	2396	2396	0	0.0
1974	2685	2685	0	0.0
1975	2379	2379	0	0.0
1976	1898	1898	0	0.0
1977	605	605	0	0.0
1978	1967	1967	0	0.0
1979	2776	2776	0	0.0
1980	2239	2239	0	0.0
1981	2338	2338	0	0.0
1982	4793	4793	0	0.0
1983	4349	4349	0	0.0
1984	2455	2455	0	0.0
1985	2173	2173	0	0.0
1986	2846	2846	0	0.0
1987	1940	1940	0	0.0
1988	1458	1458	0	0.0
1989	1218	1218	0	0.0
1990	1218	1218	0	0.0
1991	1213	1213	0	0.0
1992	1215	1215	0	0.0
1993	2122	2122	0	0.0
Mean:	2488	2488	0	0.0
Median:	2341	2341	0	0.0
Min:	605	605	0	0.0
Max:	7205	7205	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5702	5702	0	0.0
1923	2119	2119	0	0.0
1924	1818	1818	0	0.0
1925	2126	2126	0	0.0
1926	2099	2099	0	0.0
1927	2126	2126	0	0.0
1928	2082	2082	0	0.0
1929	1854	1854	0	0.0
1930	1309	1309	0	0.0
1931	1292	1292	0	0.0
1932	2126	2126	0	0.0
1933	2099	2099	0	0.0
1934	1292	1292	0	0.0
1935	2154	2154	0	0.0
1936	2126	2126	0	0.0
1937	2208	2208	0	0.0
1938	6390	6390	0	0.0
1939	2200	2200	0	0.0
1940	2126	2126	0	0.0
1941	3961	3961	0	0.0
1942	3981	3981	0	0.0
1943	2082	2082	0	0.0
1944	2075	2075	0	0.0
1945	2119	2119	0	0.0
1946	2126	2126	0	0.0
1947	2082	2082	0	0.0
1948	2075	2075	0	0.0
1949	2082	2082	0	0.0
1950	2082	2082	0	0.0
1951	2091	2091	0	0.0
1952	4112	4112	0	0.0
1953	2075	2075	0	0.0
1954	2082	2082	0	0.0
1955	2099	2099	0	0.0
1956	3085	3085	0	0.0
1957	2075	2075	0	0.0
1958	3911	3911	0	0.0
1959	2200	2200	0	0.0
1960	1292	1292	0	0.0
1961	1292	1292	0	0.0
1962	2133	2133	0	0.0
1963	2119	2119	0	0.0
1964	2099	2099	0	0.0
1965	2077	2077	0	0.0
1966	2082	2082	0	0.0
1967	6115	6115	0	0.0
1968	2200	2200	0	0.0
1969	5661	5661	0	0.0
1970	2149	2149	0	0.0
1971	2075	2075	0	0.0
1972	2099	2099	0	0.0
1973	2136	2136	0	0.0
1974	2318	2318	0	0.0
1975	3534	3534	0	0.0
1976	1803	1803	0	0.0
1977	600	600	0	0.0
1978	5786	5786	0	0.0
1979	2133	2133	0	0.0
1980	3647	3647	0	0.0
1981	2082	2082	0	0.0
1982	3413	3413	0	0.0
1983	9638	9638	0	0.0
1984	2091	2091	0	0.0
1985	2059	2059	0	0.0
1986	2920	2920	0	0.0
1987	1803	1803	0	0.0
1988	1292	1292	0	0.0
1989	1292	1292	0	0.0
1990	1292	1292	0	0.0
1991	1302	1302	0	0.0
1992	1291	1291	0	0.0
1993	2318	2318	0	0.0
Mean:	2525	2525	0	0.0
Median:	2099	2099	0	0.0
Min:	600	600	0	0.0
Max:	9638	9638	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2202	2202	0	0.0
1923	2173	2173	0	0.0
1924	1719	1719	0	0.0
1925	2173	2173	0	0.0
1926	2145	2145	0	0.0
1927	2173	2173	0	0.0
1928	2080	2080	0	0.0
1929	1888	1888	0	0.0
1930	1332	1332	0	0.0
1931	443	443	0	0.0
1932	2173	2173	0	0.0
1933	2145	2145	0	0.0
1934	1147	1147	0	0.0
1935	2173	2173	0	0.0
1936	2173	2173	0	0.0
1937	2202	2202	0	0.0
1938	2225	2225	0	0.0
1939	2174	2174	0	0.0
1940	2173	2173	0	0.0
1941	2197	2197	0	0.0
1942	2196	2196	0	0.0
1943	2202	2202	0	0.0
1944	2080	2080	0	0.0
1945	2173	2173	0	0.0
1946	2173	2173	0	0.0
1947	2077	2077	0	0.0
1948	2080	2080	0	0.0
1949	2080	2080	0	0.0
1950	2080	2080	0	0.0
1951	2202	2202	0	0.0
1952	2210	2210	0	0.0
1953	2080	2080	0	0.0
1954	2080	2080	0	0.0
1955	2145	2145	0	0.0
1956	2202	2202	0	0.0
1957	2080	2080	0	0.0
1958	2204	2204	0	0.0
1959	2090	2090	0	0.0
1960	1213	1213	0	0.0
1961	1163	1163	0	0.0
1962	2173	2173	0	0.0
1963	2166	2166	0	0.0
1964	2127	2127	0	0.0
1965	2202	2202	0	0.0
1966	2095	2095	0	0.0
1967	3642	3642	0	0.0
1968	2158	2158	0	0.0
1969	2226	2226	0	0.0
1970	2129	2129	0	0.0
1971	2080	2080	0	0.0
1972	2095	2095	0	0.0
1973	2145	2145	0	0.0
1974	2226	2226	0	0.0
1975	2243	2243	0	0.0
1976	1654	1654	0	0.0
1977	427	427	0	0.0
1978	2472	2472	0	0.0
1979	2173	2173	0	0.0
1980	2202	2202	0	0.0
1981	2095	2095	0	0.0
1982	2222	2222	0	0.0
1983	5571	5571	0	0.0
1984	2202	2202	0	0.0
1985	1996	1996	0	0.0
1986	2173	2173	0	0.0
1987	1636	1636	0	0.0
1988	1264	1264	0	0.0
1989	1247	1247	0	0.0
1990	1282	1282	0	0.0
1991	1329	1329	0	0.0
1992	1270	1270	0	0.0
1993	2176	2176	0	0.0
Mean:	2042	2042	0	0.0
Median:	2152	2152	0	0.0
Min:	427	427	0	0.0
Max:	5571	5571	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1769	1769	0	0.0
1923	1748	1748	0	0.0
1924	1267	1267	0	0.0
1925	1748	1748	0	0.0
1926	1688	1688	0	0.0
1927	1748	1748	0	0.0
1928	1639	1639	0	0.0
1929	1420	1420	0	0.0
1930	981	981	0	0.0
1931	11	11	0	0.0
1932	1748	1748	0	0.0
1933	1503	1503	0	0.0
1934	828	828	0	0.0
1935	1698	1698	0	0.0
1936	1730	1730	0	0.0
1937	1719	1719	0	0.0
1938	1769	1769	0	0.0
1939	1527	1527	0	0.0
1940	1630	1630	0	0.0
1941	1769	1769	0	0.0
1942	1769	1769	0	0.0
1943	1769	1769	0	0.0
1944	1555	1555	0	0.0
1945	1748	1748	0	0.0
1946	1630	1630	0	0.0
1947	1503	1503	0	0.0
1948	1521	1521	0	0.0
1949	1470	1470	0	0.0
1950	1454	1454	0	0.0
1951	1617	1617	0	0.0
1952	1769	1769	0	0.0
1953	1486	1486	0	0.0
1954	1454	1454	0	0.0
1955	1503	1503	0	0.0
1956	1769	1769	0	0.0
1957	1504	1504	0	0.0
1958	1769	1769	0	0.0
1959	1527	1527	0	0.0
1960	795	795	0	0.0
1961	846	846	0	0.0
1962	1714	1714	0	0.0
1963	1748	1748	0	0.0
1964	1503	1503	0	0.0
1965	1769	1769	0	0.0
1966	1535	1535	0	0.0
1967	1797	1797	0	0.0
1968	1578	1578	0	0.0
1969	1769	1769	0	0.0
1970	1618	1618	0	0.0
1971	1537	1537	0	0.0
1972	1519	1519	0	0.0
1973	1704	1704	0	0.0
1974	1802	1802	0	0.0
1975	1818	1818	0	0.0
1976	1260	1260	0	0.0
1977	234	234	0	0.0
1978	1737	1737	0	0.0
1979	1748	1748	0	0.0
1980	1769	1769	0	0.0
1981	1569	1569	0	0.0
1982	1769	1769	0	0.0
1983	1818	1818	0	0.0
1984	1617	1617	0	0.0
1985	1454	1454	0	0.0
1986	1748	1748	0	0.0
1987	1210	1210	0	0.0
1988	795	795	0	0.0
1989	812	812	0	0.0
1990	795	795	0	0.0
1991	862	862	0	0.0
1992	846	846	0	0.0
1993	1735	1735	0	0.0
Mean:	1494	1494	0	0.0
Median:	1618	1618	0	0.0
Min:	11	11	0	0.0
Max:	1818	1818	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Release

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1153	1153	0	0.0
1923	1222	1222	0	0.0
1924	855	855	0	0.0
1925	1151	1151	0	0.0
1926	931	931	0	0.0
1927	1249	1249	0	0.0
1928	1205	1205	0	0.0
1929	995	995	0	0.0
1930	692	692	0	0.0
1931	2	2	0	0.0
1932	1099	1099	0	0.0
1933	914	914	0	0.0
1934	13	13	0	0.0
1935	1065	1065	0	0.0
1936	1082	1082	0	0.0
1937	1049	1049	0	0.0
1938	1529	1529	0	0.0
1939	1092	1092	0	0.0
1940	1065	1065	0	0.0
1941	1197	1197	0	0.0
1942	1183	1183	0	0.0
1943	1118	1118	0	0.0
1944	1049	1049	0	0.0
1945	1118	1118	0	0.0
1946	1065	1065	0	0.0
1947	897	897	0	0.0
1948	1049	1049	0	0.0
1949	1049	1049	0	0.0
1950	892	892	0	0.0
1951	1049	1049	0	0.0
1952	1218	1218	0	0.0
1953	1049	1049	0	0.0
1954	1049	1049	0	0.0
1955	320	320	0	0.0
1956	1213	1213	0	0.0
1957	1049	1049	0	0.0
1958	1235	1235	0	0.0
1959	1092	1092	0	0.0
1960	536	536	0	0.0
1961	470	470	0	0.0
1962	1065	1065	0	0.0
1963	1082	1082	0	0.0
1964	931	931	0	0.0
1965	1160	1160	0	0.0
1966	950	950	0	0.0
1967	1745	1745	0	0.0
1968	1092	1092	0	0.0
1969	1456	1456	0	0.0
1970	1099	1099	0	0.0
1971	1065	1065	0	0.0
1972	1054	1054	0	0.0
1973	1134	1134	0	0.0
1974	1151	1151	0	0.0
1975	1205	1205	0	0.0
1976	780	780	0	0.0
1977	160	160	0	0.0
1978	2300	2300	0	0.0
1979	1134	1134	0	0.0
1980	1430	1430	0	0.0
1981	931	931	0	0.0
1982	1630	1630	0	0.0
1983	2923	2923	0	0.0
1984	1049	1049	0	0.0
1985	1101	1101	0	0.0
1986	1118	1118	0	0.0
1987	780	780	0	0.0
1988	538	538	0	0.0
1989	588	588	0	0.0
1990	536	536	0	0.0
1991	553	553	0	0.0
1992	553	553	0	0.0
1993	1116	1116	0	0.0
Mean:	1037	1037	0	0.0
Median:	1065	1065	0	0.0
Min:	2	2	0	0.0
Max:	2923	2923	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	474	486	12	2.5
1923	664	676	12	1.8
1924	658	670	12	1.8
1925	239	252	13	5.4
1926	350	362	12	3.4
1927	173	186	13	7.5
1928	398	411	13	3.3
1929	336	349	13	3.9
1930	147	160	13	8.8
1931	178	191	13	7.3
1932	115	128	13	11.3
1933	440	452	12	2.7
1934	193	206	13	6.7
1935	115	128	13	11.3
1936	509	522	13	2.6
1937	664	676	12	1.8
1938	664	676	12	1.8
1939	664	676	12	1.8
1940	276	289	13	4.7
1941	575	588	13	2.3
1942	664	676	12	1.8
1943	664	676	12	1.8
1944	664	676	12	1.8
1945	498	511	13	2.6
1946	664	676	12	1.8
1947	598	610	12	2.0
1948	361	374	13	3.6
1949	276	289	13	4.7
1950	139	152	13	9.4
1951	115	128	13	11.3
1952	424	437	13	3.1
1953	664	676	12	1.8
1954	413	425	12	2.9
1955	287	300	13	4.5
1956	115	128	13	11.3
1957	664	676	12	1.8
1958	476	488	12	2.5
1959	664	676	12	1.8
1960	259	271	12	4.6
1961	242	254	12	5.0
1962	115	128	13	11.3
1963	252	265	13	5.2
1964	436	449	13	3.0
1965	115	128	13	11.3
1966	664	676	12	1.8
1967	381	394	13	3.4
1968	664	676	12	1.8
1969	210	223	13	6.2
1970	664	676	12	1.8
1971	470	483	13	2.8
1972	377	390	13	3.4
1973	174	187	13	7.5
1974	494	507	13	2.6
1975	664	676	12	1.8
1976	664	676	12	1.8
1977	250	262	12	4.8
1978	161	174	13	8.1
1979	664	676	12	1.8
1980	664	676	12	1.8
1981	664	676	12	1.8
1982	334	346	12	3.6
1983	664	676	12	1.8
1984	664	676	12	1.8
1985	522	535	13	2.5
1986	282	295	13	4.6
1987	664	676	12	1.8
1988	295	307	12	4.1
1989	177	189	12	6.8
1990	229	242	13	5.7
1991	123	136	13	10.6
1992	198	211	13	6.6
1993	161	174	13	8.1
Mean:	413	426	13	4.4
Median:	406	418	13	3.2
Min:	115	128	12	1.8
Max:	664	676	13	11.3
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	466	466	0	0.0
1923	670	670	0	0.0
1924	655	655	0	0.0
1925	253	253	0	0.0
1926	345	345	0	0.0
1927	176	176	0	0.0
1928	394	394	0	0.0
1929	329	329	0	0.0
1930	142	142	0	0.0
1931	173	173	0	0.0
1932	115	115	0	0.0
1933	430	430	0	0.0
1934	188	188	0	0.0
1935	128	128	0	0.0
1936	509	509	0	0.0
1937	660	660	0	0.0
1938	661	661	0	0.0
1939	669	669	0	0.0
1940	279	279	0	0.0
1941	572	572	0	0.0
1942	669	669	0	0.0
1943	676	676	0	0.0
1944	661	661	0	0.0
1945	524	524	0	0.0
1946	676	676	0	0.0
1947	620	620	0	0.0
1948	361	361	0	0.0
1949	271	271	0	0.0
1950	135	135	0	0.0
1951	362	362	0	0.0
1952	426	426	0	0.0
1953	660	660	0	0.0
1954	408	408	0	0.0
1955	278	278	0	0.0
1956	115	115	0	0.0
1957	663	663	0	0.0
1958	475	475	0	0.0
1959	658	658	0	0.0
1960	253	253	0	0.0
1961	241	241	0	0.0
1962	115	115	0	0.0
1963	248	248	0	0.0
1964	459	459	0	0.0
1965	126	126	0	0.0
1966	676	676	0	0.0
1967	384	384	0	0.0
1968	659	659	0	0.0
1969	223	223	0	0.0
1970	674	674	0	0.0
1971	476	476	0	0.0
1972	374	374	0	0.0
1973	175	175	0	0.0
1974	543	543	0	0.0
1975	661	661	0	0.0
1976	671	671	0	0.0
1977	243	243	0	0.0
1978	155	155	0	0.0
1979	669	669	0	0.0
1980	665	665	0	0.0
1981	654	654	0	0.0
1982	370	370	0	0.0
1983	676	676	0	0.0
1984	676	676	0	0.0
1985	534	534	0	0.0
1986	289	289	0	0.0
1987	654	654	0	0.0
1988	295	295	0	0.0
1989	169	169	0	0.0
1990	228	228	0	0.0
1991	117	117	0	0.0
1992	197	197	0	0.0
1993	157	157	0	0.0
Mean:	419	419	0	0.0
Median:	401	401	0	0.0
Min:	115	115	0	0.0
Max:	676	676	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	501	501	0	0.0
1923	676	676	0	0.0
1924	655	655	0	0.0
1925	270	270	0	0.0
1926	345	345	0	0.0
1927	190	190	0	0.0
1928	414	414	0	0.0
1929	324	324	0	0.0
1930	139	139	0	0.0
1931	171	171	0	0.0
1932	186	186	0	0.0
1933	424	424	0	0.0
1934	198	198	0	0.0
1935	143	143	0	0.0
1936	511	511	0	0.0
1937	668	668	0	0.0
1938	676	676	0	0.0
1939	675	675	0	0.0
1940	282	282	0	0.0
1941	650	650	0	0.0
1942	676	676	0	0.0
1943	676	676	0	0.0
1944	664	664	0	0.0
1945	546	546	0	0.0
1946	676	676	0	0.0
1947	653	653	0	0.0
1948	363	363	0	0.0
1949	271	271	0	0.0
1950	131	131	0	0.0
1951	623	623	0	0.0
1952	474	474	0	0.0
1953	676	676	0	0.0
1954	407	407	0	0.0
1955	284	284	0	0.0
1956	478	478	0	0.0
1957	666	666	0	0.0
1958	489	489	0	0.0
1959	656	656	0	0.0
1960	251	251	0	0.0
1961	246	246	0	0.0
1962	118	118	0	0.0
1963	248	248	0	0.0
1964	468	468	0	0.0
1965	341	341	0	0.0
1966	676	676	0	0.0
1967	485	485	0	0.0
1968	661	661	0	0.0
1969	253	253	0	0.0
1970	676	676	0	0.0
1971	514	514	0	0.0
1972	399	399	0	0.0
1973	198	198	0	0.0
1974	595	595	0	0.0
1975	664	664	0	0.0
1976	675	675	0	0.0
1977	240	240	0	0.0
1978	177	177	0	0.0
1979	673	673	0	0.0
1980	673	673	0	0.0
1981	653	653	0	0.0
1982	428	428	0	0.0
1983	676	676	0	0.0
1984	676	676	0	0.0
1985	545	545	0	0.0
1986	315	315	0	0.0
1987	651	651	0	0.0
1988	299	299	0	0.0
1989	172	172	0	0.0
1990	230	230	0	0.0
1991	115	115	0	0.0
1992	199	199	0	0.0
1993	168	168	0	0.0
Mean:	443	443	0	0.0
Median:	471	471	0	0.0
Min:	115	115	0	0.0
Max:	676	676	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	533	533	0	0.0
1923	676	676	0	0.0
1924	655	655	0	0.0
1925	282	282	0	0.0
1926	352	352	0	0.0
1927	192	192	0	0.0
1928	430	430	0	0.0
1929	317	317	0	0.0
1930	136	136	0	0.0
1931	170	170	0	0.0
1932	228	228	0	0.0
1933	433	433	0	0.0
1934	219	219	0	0.0
1935	214	214	0	0.0
1936	539	539	0	0.0
1937	676	676	0	0.0
1938	676	676	0	0.0
1939	676	676	0	0.0
1940	398	398	0	0.0
1941	676	676	0	0.0
1942	676	676	0	0.0
1943	676	676	0	0.0
1944	673	673	0	0.0
1945	559	559	0	0.0
1946	676	676	0	0.0
1947	673	673	0	0.0
1948	366	366	0	0.0
1949	272	272	0	0.0
1950	156	156	0	0.0
1951	676	676	0	0.0
1952	624	624	0	0.0
1953	676	676	0	0.0
1954	413	413	0	0.0
1955	304	304	0	0.0
1956	676	676	0	0.0
1957	667	667	0	0.0
1958	513	513	0	0.0
1959	664	664	0	0.0
1960	250	250	0	0.0
1961	244	244	0	0.0
1962	121	121	0	0.0
1963	279	279	0	0.0
1964	482	482	0	0.0
1965	511	511	0	0.0
1966	676	676	0	0.0
1967	538	538	0	0.0
1968	664	664	0	0.0
1969	594	594	0	0.0
1970	676	676	0	0.0
1971	550	550	0	0.0
1972	415	415	0	0.0
1973	256	256	0	0.0
1974	676	676	0	0.0
1975	676	676	0	0.0
1976	671	671	0	0.0
1977	237	237	0	0.0
1978	277	277	0	0.0
1979	676	676	0	0.0
1980	676	676	0	0.0
1981	667	667	0	0.0
1982	555	555	0	0.0
1983	676	676	0	0.0
1984	676	676	0	0.0
1985	550	550	0	0.0
1986	350	350	0	0.0
1987	645	645	0	0.0
1988	315	315	0	0.0
1989	171	171	0	0.0
1990	233	233	0	0.0
1991	115	115	0	0.0
1992	199	199	0	0.0
1993	341	341	0	0.0
Mean:	473	473	0	0.0
Median:	536	536	0	0.0
Min:	115	115	0	0.0
Max:	676	676	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	676	676	0	0.0
1923	676	676	0	0.0
1924	658	658	0	0.0
1925	384	384	0	0.0
1926	409	409	0	0.0
1927	228	228	0	0.0
1928	448	448	0	0.0
1929	320	320	0	0.0
1930	134	134	0	0.0
1931	174	174	0	0.0
1932	386	386	0	0.0
1933	440	440	0	0.0
1934	253	253	0	0.0
1935	262	262	0	0.0
1936	676	676	0	0.0
1937	676	676	0	0.0
1938	676	676	0	0.0
1939	676	676	0	0.0
1940	529	529	0	0.0
1941	676	676	0	0.0
1942	676	676	0	0.0
1943	676	676	0	0.0
1944	676	676	0	0.0
1945	676	676	0	0.0
1946	676	676	0	0.0
1947	676	676	0	0.0
1948	367	367	0	0.0
1949	282	282	0	0.0
1950	204	204	0	0.0
1951	676	676	0	0.0
1952	676	676	0	0.0
1953	676	676	0	0.0
1954	448	448	0	0.0
1955	319	319	0	0.0
1956	676	676	0	0.0
1957	676	676	0	0.0
1958	586	586	0	0.0
1959	676	676	0	0.0
1960	296	296	0	0.0
1961	251	251	0	0.0
1962	276	276	0	0.0
1963	446	446	0	0.0
1964	494	494	0	0.0
1965	563	563	0	0.0
1966	676	676	0	0.0
1967	580	580	0	0.0
1968	676	676	0	0.0
1969	676	676	0	0.0
1970	676	676	0	0.0
1971	576	576	0	0.0
1972	441	441	0	0.0
1973	374	374	0	0.0
1974	676	676	0	0.0
1975	676	676	0	0.0
1976	676	676	0	0.0
1977	233	233	0	0.0
1978	415	415	0	0.0
1979	676	676	0	0.0
1980	676	676	0	0.0
1981	676	676	0	0.0
1982	676	676	0	0.0
1983	676	676	0	0.0
1984	676	676	0	0.0
1985	571	571	0	0.0
1986	676	676	0	0.0
1987	652	652	0	0.0
1988	328	328	0	0.0
1989	183	183	0	0.0
1990	243	243	0	0.0
1991	115	115	0	0.0
1992	248	248	0	0.0
1993	433	433	0	0.0
Mean:	512	512	0	0.0
Median:	583	583	0	0.0
Min:	115	115	0	0.0
Max:	676	676	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	737	737	0	0.0
1923	691	691	0	0.0
1924	640	640	0	0.0
1925	420	420	0	0.0
1926	422	422	0	0.0
1927	252	252	0	0.0
1928	445	445	0	0.0
1929	317	317	0	0.0
1930	117	117	0	0.0
1931	168	168	0	0.0
1932	422	422	0	0.0
1933	442	442	0	0.0
1934	290	290	0	0.0
1935	306	306	0	0.0
1936	735	735	0	0.0
1937	737	737	0	0.0
1938	737	737	0	0.0
1939	702	702	0	0.0
1940	636	636	0	0.0
1941	737	737	0	0.0
1942	726	726	0	0.0
1943	737	737	0	0.0
1944	710	710	0	0.0
1945	737	737	0	0.0
1946	717	717	0	0.0
1947	696	696	0	0.0
1948	357	357	0	0.0
1949	314	314	0	0.0
1950	210	210	0	0.0
1951	720	720	0	0.0
1952	737	737	0	0.0
1953	671	671	0	0.0
1954	501	501	0	0.0
1955	314	314	0	0.0
1956	721	721	0	0.0
1957	693	693	0	0.0
1958	709	709	0	0.0
1959	688	688	0	0.0
1960	328	328	0	0.0
1961	252	252	0	0.0
1962	309	309	0	0.0
1963	465	465	0	0.0
1964	482	482	0	0.0
1965	592	592	0	0.0
1966	696	696	0	0.0
1967	709	709	0	0.0
1968	681	681	0	0.0
1969	737	737	0	0.0
1970	737	737	0	0.0
1971	589	589	0	0.0
1972	479	479	0	0.0
1973	447	447	0	0.0
1974	737	737	0	0.0
1975	737	737	0	0.0
1976	669	669	0	0.0
1977	228	228	0	0.0
1978	566	566	0	0.0
1979	737	737	0	0.0
1980	737	737	0	0.0
1981	685	685	0	0.0
1982	737	737	0	0.0
1983	737	737	0	0.0
1984	731	731	0	0.0
1985	586	586	0	0.0
1986	737	737	0	0.0
1987	648	648	0	0.0
1988	349	349	0	0.0
1989	249	249	0	0.0
1990	268	268	0	0.0
1991	182	182	0	0.0
1992	269	269	0	0.0
1993	554	554	0	0.0
Mean:	549	549	0	0.0
Median:	644	644	0	0.0
Min:	117	117	0	0.0
Max:	737	737	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	776	779	3	0.4
1923	740	743	3	0.4
1924	622	625	3	0.5
1925	488	491	3	0.6
1926	483	486	3	0.6
1927	253	256	3	1.2
1928	407	411	4	1.0
1929	279	282	3	1.1
1930	127	130	3	2.4
1931	184	187	3	1.6
1932	457	460	3	0.7
1933	419	422	3	0.7
1934	319	322	3	0.9
1935	497	500	3	0.6
1936	851	854	3	0.4
1937	814	817	3	0.4
1938	851	854	3	0.4
1939	734	737	3	0.4
1940	720	724	4	0.6
1941	810	813	3	0.4
1942	823	827	4	0.5
1943	851	854	3	0.4
1944	662	666	4	0.6
1945	805	808	3	0.4
1946	796	799	3	0.4
1947	695	699	4	0.6
1948	363	366	3	0.8
1949	339	343	4	1.2
1950	274	277	3	1.1
1951	737	740	3	0.4
1952	851	854	3	0.4
1953	674	677	3	0.4
1954	555	558	3	0.5
1955	275	278	3	1.1
1956	764	768	4	0.5
1957	662	665	3	0.5
1958	851	854	3	0.4
1959	674	677	3	0.4
1960	372	376	4	1.1
1961	281	284	3	1.1
1962	392	396	4	1.0
1963	489	492	3	0.6
1964	445	448	3	0.7
1965	672	675	3	0.4
1966	728	732	4	0.5
1967	837	840	3	0.4
1968	643	646	3	0.5
1969	851	854	3	0.4
1970	709	713	4	0.6
1971	566	570	4	0.7
1972	463	466	3	0.6
1973	489	492	3	0.6
1974	808	811	3	0.4
1975	749	752	3	0.4
1976	623	626	3	0.5
1977	214	218	4	1.9
1978	718	721	3	0.4
1979	777	781	4	0.5
1980	817	820	3	0.4
1981	677	680	3	0.4
1982	851	854	3	0.4
1983	827	830	3	0.4
1984	738	741	3	0.4
1985	614	617	3	0.5
1986	838	842	4	0.5
1987	651	654	3	0.5
1988	371	374	3	0.8
1989	349	353	4	1.1
1990	321	324	3	0.9
1991	206	209	3	1.5
1992	343	347	4	1.2
1993	646	649	3	0.5
Mean:	591	594	3	0.7
Median:	657	660	3	0.5
Min:	127	130	3	0.4
Max:	851	854	4	2.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	969	977	8	0.8
1923	885	892	7	0.8
1924	589	596	7	1.2
1925	601	609	8	1.3
1926	419	426	7	1.7
1927	403	410	7	1.7
1928	453	460	7	1.5
1929	259	266	7	2.7
1930	136	143	7	5.1
1931	200	208	8	4.0
1932	585	592	7	1.2
1933	425	433	8	1.9
1934	282	289	7	2.5
1935	665	672	7	1.1
1936	944	952	8	0.8
1937	969	977	8	0.8
1938	969	977	8	0.8
1939	676	683	7	1.0
1940	877	885	8	0.9
1941	969	977	8	0.8
1942	951	959	8	0.8
1943	969	977	8	0.8
1944	765	772	7	0.9
1945	916	923	7	0.8
1946	904	912	8	0.9
1947	730	738	8	1.1
1948	462	469	7	1.5
1949	437	445	8	1.8
1950	374	381	7	1.9
1951	757	764	7	0.9
1952	969	977	8	0.8
1953	649	657	8	1.2
1954	638	645	7	1.1
1955	335	342	7	2.1
1956	927	935	8	0.9
1957	718	725	7	1.0
1958	969	977	8	0.8
1959	635	643	8	1.3
1960	431	438	7	1.6
1961	300	307	7	2.3
1962	447	455	8	1.8
1963	615	622	7	1.1
1964	454	462	8	1.8
1965	779	787	8	1.0
1966	764	771	7	0.9
1967	969	977	8	0.8
1968	613	620	7	1.1
1969	969	977	8	0.8
1970	775	783	8	1.0
1971	602	609	7	1.2
1972	490	497	7	1.4
1973	716	724	8	1.1
1974	965	973	8	0.8
1975	910	917	7	0.8
1976	593	600	7	1.2
1977	212	220	8	3.8
1978	969	977	8	0.8
1979	944	952	8	0.8
1980	962	970	8	0.8
1981	691	699	8	1.2
1982	969	977	8	0.8
1983	969	977	8	0.8
1984	841	848	7	0.8
1985	644	652	8	1.2
1986	969	977	8	0.8
1987	626	633	7	1.1
1988	380	387	7	1.8
1989	405	413	8	2.0
1990	326	334	8	2.5
1991	296	304	8	2.7
1992	369	376	7	1.9
1993	896	903	7	0.8
Mean:	670	678	8	1.4
Median:	671	678	8	1.1
Min:	136	143	7	0.8
Max:	969	977	8	5.1
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1024	1037	13	1.3
1923	909	922	13	1.4
1924	490	502	12	2.4
1925	617	630	13	2.1
1926	377	389	12	3.2
1927	469	482	13	2.8
1928	431	443	12	2.8
1929	225	238	13	5.8
1930	159	171	12	7.5
1931	142	154	12	8.5
1932	705	717	12	1.7
1933	475	488	13	2.7
1934	237	249	12	5.1
1935	790	803	13	1.6
1936	973	985	12	1.2
1937	1024	1037	13	1.3
1938	1024	1037	13	1.3
1939	573	585	12	2.1
1940	884	897	13	1.5
1941	1024	1037	13	1.3
1942	1024	1037	13	1.3
1943	996	1008	12	1.2
1944	769	781	12	1.6
1945	990	1003	13	1.3
1946	887	900	13	1.5
1947	652	665	13	2.0
1948	551	564	13	2.4
1949	420	433	13	3.1
1950	371	384	13	3.5
1951	730	742	12	1.6
1952	1024	1037	13	1.3
1953	678	691	13	1.9
1954	582	595	13	2.2
1955	344	356	12	3.5
1956	1024	1037	13	1.3
1957	763	776	13	1.7
1958	1024	1037	13	1.3
1959	549	562	13	2.4
1960	413	426	13	3.1
1961	264	276	12	4.5
1962	521	533	12	2.3
1963	694	706	12	1.7
1964	406	419	13	3.2
1965	893	905	12	1.3
1966	679	692	13	1.9
1967	1024	1037	13	1.3
1968	525	537	12	2.3
1969	1024	1037	13	1.3
1970	767	779	12	1.6
1971	651	664	13	2.0
1972	456	469	13	2.9
1973	783	796	13	1.7
1974	1024	1037	13	1.3
1975	1024	1037	13	1.3
1976	498	510	12	2.4
1977	217	229	12	5.5
1978	1024	1037	13	1.3
1979	963	975	12	1.2
1980	1024	1037	13	1.3
1981	628	641	13	2.1
1982	1024	1037	13	1.3
1983	1024	1037	13	1.3
1984	815	828	13	1.6
1985	569	582	13	2.3
1986	1024	1037	13	1.3
1987	542	554	12	2.2
1988	346	358	12	3.5
1989	387	400	13	3.4
1990	288	301	13	4.5
1991	355	367	12	3.4
1992	316	329	13	4.1
1993	1024	1037	13	1.3
Mean:	683	695	13	2.4
Median:	679	692	13	1.9
Min:	142	154	12	1.2
Max:	1024	1037	13	8.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	968	985	17	1.8
1923	837	854	17	2.0
1924	385	402	17	4.4
1925	528	546	18	3.4
1926	314	332	18	5.7
1927	432	450	18	4.2
1928	390	407	17	4.4
1929	203	221	18	8.9
1930	175	192	17	9.7
1931	115	133	18	15.7
1932	629	647	18	2.9
1933	365	382	17	4.7
1934	167	185	18	10.8
1935	697	714	17	2.4
1936	883	900	17	1.9
1937	924	941	17	1.8
1938	1019	1037	18	1.8
1939	444	462	18	4.1
1940	769	786	17	2.2
1941	990	1008	18	1.8
1942	970	988	18	1.9
1943	909	926	17	1.9
1944	678	695	17	2.5
1945	909	926	17	1.9
1946	779	796	17	2.2
1947	530	548	18	3.4
1948	456	474	18	3.9
1949	305	323	18	5.9
1950	261	278	17	6.5
1951	617	634	17	2.8
1952	995	1013	18	1.8
1953	594	612	18	3.0
1954	466	483	17	3.6
1955	229	247	18	7.9
1956	989	1006	17	1.7
1957	659	677	18	2.7
1958	983	1000	17	1.7
1959	421	438	17	4.0
1960	342	360	18	5.3
1961	194	211	17	8.8
1962	433	451	18	4.2
1963	623	640	17	2.7
1964	286	303	17	5.9
1965	845	863	18	2.1
1966	558	576	18	3.2
1967	1024	1042	18	1.8
1968	396	414	18	4.5
1969	1022	1040	18	1.8
1970	658	676	18	2.7
1971	558	575	17	3.0
1972	335	353	18	5.4
1973	678	696	18	2.7
1974	925	943	18	1.9
1975	944	961	17	1.8
1976	395	413	18	4.6
1977	192	210	18	9.4
1978	1024	1042	18	1.8
1979	858	875	17	2.0
1980	1016	1033	17	1.7
1981	506	524	18	3.6
1982	1004	1021	17	1.7
1983	1024	1042	18	1.8
1984	707	724	17	2.4
1985	452	469	17	3.8
1986	934	952	18	1.9
1987	439	457	18	4.1
1988	275	293	18	6.5
1989	317	334	17	5.4
1990	222	239	17	7.7
1991	296	314	18	6.1
1992	261	278	17	6.5
1993	973	991	18	1.8
Mean:	607	624	18	4.0
Median:	576	594	18	3.0
Min:	115	133	17	1.7
Max:	1024	1042	18	15.7
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	870	891	21	2.4
1923	737	759	22	3.0
1924	306	328	22	7.2
1925	433	455	22	5.1
1926	246	268	22	8.9
1927	405	426	21	5.2
1928	364	386	22	6.0
1929	197	219	22	11.2
1930	198	220	22	11.1
1931	115	137	22	19.1
1932	529	550	21	4.0
1933	270	292	22	8.1
1934	117	138	21	17.9
1935	596	618	22	3.7
1936	781	803	22	2.8
1937	821	842	21	2.6
1938	935	957	22	2.4
1939	347	369	22	6.3
1940	668	690	22	3.3
1941	898	920	22	2.4
1942	905	927	22	2.4
1943	808	830	22	2.7
1944	584	606	22	3.8
1945	810	832	22	2.7
1946	678	700	22	3.2
1947	434	456	22	5.1
1948	364	386	22	6.0
1949	214	235	21	9.8
1950	169	191	22	13.0
1951	515	537	22	4.3
1952	909	931	22	2.4
1953	501	523	22	4.4
1954	374	396	22	5.9
1955	135	157	22	16.3
1956	898	920	22	2.4
1957	566	588	22	3.9
1958	894	916	22	2.5
1959	324	346	22	6.8
1960	291	313	22	7.6
1961	143	165	22	15.4
1962	334	356	22	6.6
1963	523	545	22	4.2
1964	191	213	22	11.5
1965	767	788	21	2.7
1966	462	484	22	4.8
1967	946	968	22	2.3
1968	300	322	22	7.3
1969	934	956	22	2.4
1970	560	582	22	3.9
1971	465	486	21	4.5
1972	240	262	22	9.2
1973	582	604	22	3.8
1974	825	847	22	2.7
1975	839	861	22	2.6
1976	318	340	22	6.9
1977	176	198	22	12.5
1978	947	969	22	2.3
1979	756	778	22	2.9
1980	930	952	22	2.4
1981	410	432	22	5.4
1982	921	943	22	2.4
1983	997	1019	22	2.2
1984	605	626	21	3.5
1985	360	381	21	5.8
1986	835	857	22	2.6
1987	362	384	22	6.1
1988	224	246	22	9.8
1989	266	288	22	8.3
1990	171	193	22	12.9
1991	246	267	21	8.5
1992	209	231	22	10.5
1993	879	900	21	2.4
Mean:	527	549	22	6.0
Median:	483	505	22	4.5
Min:	115	137	21	2.2
Max:	997	1019	22	19.1
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	803	828	25	3.1
1923	670	695	25	3.7
1924	255	280	25	9.8
1925	367	392	25	6.8
1926	191	216	25	13.1
1927	399	424	25	6.3
1928	347	372	25	7.2
1929	154	179	25	16.2
1930	194	219	25	12.9
1931	115	140	25	21.7
1932	463	488	25	5.4
1933	215	240	25	11.6
1934	115	140	25	21.7
1935	530	555	25	4.7
1936	714	739	25	3.5
1937	754	779	25	3.3
1938	851	876	25	2.9
1939	283	308	25	8.8
1940	602	627	25	4.2
1941	830	855	25	3.0
1942	838	863	25	3.0
1943	742	767	25	3.4
1944	519	544	25	4.8
1945	743	768	25	3.4
1946	612	637	25	4.1
1947	379	404	25	6.6
1948	300	325	25	8.3
1949	150	175	25	16.7
1950	115	140	25	21.7
1951	451	476	25	5.5
1952	840	865	25	3.0
1953	437	462	25	5.7
1954	309	334	25	8.1
1955	115	140	25	21.7
1956	831	856	25	3.0
1957	501	526	25	5.0
1958	826	851	25	3.0
1959	277	302	25	9.0
1960	257	282	25	9.7
1961	115	140	25	21.7
1962	269	294	25	9.3
1963	457	482	25	5.5
1964	137	162	25	18.2
1965	700	725	25	3.6
1966	406	431	25	6.2
1967	851	876	25	2.9
1968	236	261	25	10.6
1969	851	876	25	2.9
1970	494	519	25	5.1
1971	400	425	25	6.3
1972	188	213	25	13.3
1973	516	541	25	4.8
1974	756	781	25	3.3
1975	772	797	25	3.2
1976	270	295	25	9.3
1977	165	190	25	15.2
1978	851	876	25	2.9
1979	689	714	25	3.6
1980	851	876	25	2.9
1981	355	380	25	7.0
1982	851	876	25	2.9
1983	851	876	25	2.9
1984	539	564	25	4.6
1985	296	321	25	8.4
1986	768	793	25	3.3
1987	314	339	25	8.0
1988	192	217	25	13.0
1989	234	259	25	10.7
1990	138	163	25	18.1
1991	212	237	25	11.8
1992	176	201	25	14.2
1993	814	839	25	3.1
Mean:	470	495	25	8.0
Median:	422	447	25	6.0
Min:	115	140	25	2.9
Max:	851	876	25	21.7
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	3955	3955	0	0.0
1923	5102	5102	0	0.0
1924	5054	5054	0	0.0
1925	2428	2428	0	0.0
1926	3171	3171	0	0.0
1927	1944	1944	0	0.0
1928	3480	3480	0	0.0
1929	3084	3084	0	0.0
1930	1742	1742	0	0.0
1931	1989	1989	0	0.0
1932	1486	1486	0	0.0
1933	3749	3749	0	0.0
1934	2110	2110	0	0.0
1935	1486	1486	0	0.0
1936	4169	4169	0	0.0
1937	5087	5087	0	0.0
1938	5095	5095	0	0.0
1939	5102	5102	0	0.0
1940	2688	2688	0	0.0
1941	4571	4571	0	0.0
1942	5102	5102	0	0.0
1943	5102	5102	0	0.0
1944	5092	5092	0	0.0
1945	4104	4104	0	0.0
1946	5092	5092	0	0.0
1947	4705	4705	0	0.0
1948	3244	3244	0	0.0
1949	2694	2694	0	0.0
1950	1678	1678	0	0.0
1951	1486	1486	0	0.0
1952	3653	3653	0	0.0
1953	5102	5102	0	0.0
1954	3576	3576	0	0.0
1955	2766	2766	0	0.0
1956	1486	1486	0	0.0
1957	5102	5102	0	0.0
1958	3969	3969	0	0.0
1959	5102	5102	0	0.0
1960	2565	2565	0	0.0
1961	2448	2448	0	0.0
1962	1486	1486	0	0.0
1963	2518	2518	0	0.0
1964	3728	3728	0	0.0
1965	1486	1486	0	0.0
1966	5087	5087	0	0.0
1967	3371	3371	0	0.0
1968	5102	5102	0	0.0
1969	2229	2229	0	0.0
1970	5102	5102	0	0.0
1971	3934	3934	0	0.0
1972	3346	3346	0	0.0
1973	1952	1952	0	0.0
1974	4079	4079	0	0.0
1975	5095	5095	0	0.0
1976	5098	5098	0	0.0
1977	2502	2502	0	0.0
1978	1851	1851	0	0.0
1979	5102	5102	0	0.0
1980	5087	5087	0	0.0
1981	5102	5102	0	0.0
1982	3067	3067	0	0.0
1983	5102	5102	0	0.0
1984	5102	5102	0	0.0
1985	4249	4249	0	0.0
1986	2730	2730	0	0.0
1987	5097	5097	0	0.0
1988	2817	2817	0	0.0
1989	1975	1975	0	0.0
1990	2361	2361	0	0.0
1991	1550	1550	0	0.0
1992	2142	2142	0	0.0
1993	1852	1852	0	0.0
Mean:	3512.0	3512.0	0.0	0.0
Median:	3528.0	3528.0	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	5102.0	5102.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	3911	3911	0	0.0
1923	5126	5126	0	0.0
1924	5039	5039	0	0.0
1925	2525	2525	0	0.0
1926	3141	3141	0	0.0
1927	1966	1966	0	0.0
1928	3457	3457	0	0.0
1929	3035	3035	0	0.0
1930	1697	1697	0	0.0
1931	1940	1940	0	0.0
1932	1489	1489	0	0.0
1933	3683	3683	0	0.0
1934	2059	2059	0	0.0
1935	1588	1588	0	0.0
1936	4172	4172	0	0.0
1937	5066	5066	0	0.0
1938	5071	5071	0	0.0
1939	5120	5120	0	0.0
1940	2703	2703	0	0.0
1941	4550	4550	0	0.0
1942	5120	5120	0	0.0
1943	5159	5159	0	0.0
1944	5074	5074	0	0.0
1945	4260	4260	0	0.0
1946	5159	5159	0	0.0
1947	4834	4834	0	0.0
1948	3243	3243	0	0.0
1949	2648	2648	0	0.0
1950	1641	1641	0	0.0
1951	3431	3431	0	0.0
1952	3656	3656	0	0.0
1953	5069	5069	0	0.0
1954	3544	3544	0	0.0
1955	2701	2701	0	0.0
1956	1486	1486	0	0.0
1957	5085	5085	0	0.0
1958	3965	3965	0	0.0
1959	5055	5055	0	0.0
1960	2525	2525	0	0.0
1961	2440	2440	0	0.0
1962	1486	1486	0	0.0
1963	2492	2492	0	0.0
1964	3870	3870	0	0.0
1965	1572	1572	0	0.0
1966	5159	5159	0	0.0
1967	3389	3389	0	0.0
1968	5060	5060	0	0.0
1969	2318	2318	0	0.0
1970	5149	5149	0	0.0
1971	3969	3969	0	0.0
1972	3326	3326	0	0.0
1973	1959	1959	0	0.0
1974	4374	4374	0	0.0
1975	5072	5072	0	0.0
1976	5132	5132	0	0.0
1977	2455	2455	0	0.0
1978	1798	1798	0	0.0
1979	5120	5120	0	0.0
1980	5097	5097	0	0.0
1981	5033	5033	0	0.0
1982	3303	3303	0	0.0
1983	5159	5159	0	0.0
1984	5159	5159	0	0.0
1985	4321	4321	0	0.0
1986	2775	2775	0	0.0
1987	5032	5032	0	0.0
1988	2820	2820	0	0.0
1989	1911	1911	0	0.0
1990	2353	2353	0	0.0
1991	1503	1503	0	0.0
1992	2130	2130	0	0.0
1993	1819	1819	0	0.0
Mean:	3549.3	3549.3	0.0	0.0
Median:	3500.5	3500.5	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	5159.0	5159.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4121	4121	0	0.0
1923	5159	5159	0	0.0
1924	5040	5040	0	0.0
1925	2640	2640	0	0.0
1926	3142	3142	0	0.0
1927	2080	2080	0	0.0
1928	3581	3581	0	0.0
1929	3003	3003	0	0.0
1930	1678	1678	0	0.0
1931	1927	1927	0	0.0
1932	2044	2044	0	0.0
1933	3648	3648	0	0.0
1934	2138	2138	0	0.0
1935	1710	1710	0	0.0
1936	4181	4181	0	0.0
1937	5116	5116	0	0.0
1938	5159	5159	0	0.0
1939	5152	5152	0	0.0
1940	2727	2727	0	0.0
1941	5022	5022	0	0.0
1942	5159	5159	0	0.0
1943	5159	5159	0	0.0
1944	5088	5088	0	0.0
1945	4391	4391	0	0.0
1946	5159	5159	0	0.0
1947	5028	5028	0	0.0
1948	3258	3258	0	0.0
1949	2653	2653	0	0.0
1950	1615	1615	0	0.0
1951	4922	4922	0	0.0
1952	3966	3966	0	0.0
1953	5159	5159	0	0.0
1954	3539	3539	0	0.0
1955	2738	2738	0	0.0
1956	4348	4348	0	0.0
1957	5099	5099	0	0.0
1958	4046	4046	0	0.0
1959	5043	5043	0	0.0
1960	2508	2508	0	0.0
1961	2477	2477	0	0.0
1962	1513	1513	0	0.0
1963	2493	2493	0	0.0
1964	3920	3920	0	0.0
1965	3268	3268	0	0.0
1966	5159	5159	0	0.0
1967	4039	4039	0	0.0
1968	5074	5074	0	0.0
1969	2522	2522	0	0.0
1970	5159	5159	0	0.0
1971	4201	4201	0	0.0
1972	3488	3488	0	0.0
1973	2142	2142	0	0.0
1974	4690	4690	0	0.0
1975	5092	5092	0	0.0
1976	5152	5152	0	0.0
1977	2432	2432	0	0.0
1978	1973	1973	0	0.0
1979	5142	5142	0	0.0
1980	5140	5140	0	0.0
1981	5028	5028	0	0.0
1982	3670	3670	0	0.0
1983	5159	5159	0	0.0
1984	5159	5159	0	0.0
1985	4383	4383	0	0.0
1986	2952	2952	0	0.0
1987	5015	5015	0	0.0
1988	2842	2842	0	0.0
1989	1936	1936	0	0.0
1990	2365	2365	0	0.0
1991	1486	1486	0	0.0
1992	2144	2144	0	0.0
1993	1902	1902	0	0.0
Mean:	3712.0	3712.0	0.0	0.0
Median:	3943.0	3943.0	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	5159.0	5159.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	4316	4316	0	0.0
1923	5159	5159	0	0.0
1924	5037	5037	0	0.0
1925	2729	2729	0	0.0
1926	3182	3182	0	0.0
1927	2093	2093	0	0.0
1928	3687	3687	0	0.0
1929	2959	2959	0	0.0
1930	1654	1654	0	0.0
1931	1922	1922	0	0.0
1932	2380	2380	0	0.0
1933	3703	3703	0	0.0
1934	2299	2299	0	0.0
1935	2266	2266	0	0.0
1936	4350	4350	0	0.0
1937	5159	5159	0	0.0
1938	5159	5159	0	0.0
1939	5159	5159	0	0.0
1940	3533	3533	0	0.0
1941	5159	5159	0	0.0
1942	5159	5159	0	0.0
1943	5159	5159	0	0.0
1944	5139	5139	0	0.0
1945	4469	4469	0	0.0
1946	5159	5159	0	0.0
1947	5142	5142	0	0.0
1948	3274	3274	0	0.0
1949	2656	2656	0	0.0
1950	1806	1806	0	0.0
1951	5161	5161	0	0.0
1952	4860	4860	0	0.0
1953	5159	5159	0	0.0
1954	3574	3574	0	0.0
1955	2880	2880	0	0.0
1956	5177	5177	0	0.0
1957	5110	5110	0	0.0
1958	4194	4194	0	0.0
1959	5089	5089	0	0.0
1960	2504	2504	0	0.0
1961	2464	2464	0	0.0
1962	1533	1533	0	0.0
1963	2706	2706	0	0.0
1964	4008	4008	0	0.0
1965	4202	4202	0	0.0
1966	5159	5159	0	0.0
1967	4343	4343	0	0.0
1968	5091	5091	0	0.0
1969	4899	4899	0	0.0
1970	5159	5159	0	0.0
1971	4416	4416	0	0.0
1972	3588	3588	0	0.0
1973	2572	2572	0	0.0
1974	5169	5169	0	0.0
1975	5159	5159	0	0.0
1976	5132	5132	0	0.0
1977	2412	2412	0	0.0
1978	2764	2764	0	0.0
1979	5159	5159	0	0.0
1980	5159	5159	0	0.0
1981	5109	5109	0	0.0
1982	4488	4488	0	0.0
1983	5159	5159	0	0.0
1984	5159	5159	0	0.0
1985	4418	4418	0	0.0
1986	3175	3175	0	0.0
1987	4978	4978	0	0.0
1988	2954	2954	0	0.0
1989	1931	1931	0	0.0
1990	2388	2388	0	0.0
1991	1486	1486	0	0.0
1992	2144	2144	0	0.0
1993	3265	3265	0	0.0
Mean:	3907.3	3907.3	0.0	0.0
Median:	4329.5	4329.5	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	5177.0	5177.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	5177	5177	0	0.0
1923	5159	5159	0	0.0
1924	5052	5052	0	0.0
1925	3439	3439	0	0.0
1926	3548	3548	0	0.0
1927	2374	2374	0	0.0
1928	3803	3803	0	0.0
1929	2982	2982	0	0.0
1930	1634	1634	0	0.0
1931	1950	1950	0	0.0
1932	3447	3447	0	0.0
1933	3749	3749	0	0.0
1934	2523	2523	0	0.0
1935	2588	2588	0	0.0
1936	5177	5177	0	0.0
1937	5159	5159	0	0.0
1938	5159	5159	0	0.0
1939	5159	5159	0	0.0
1940	4319	4319	0	0.0
1941	5159	5159	0	0.0
1942	5159	5159	0	0.0
1943	5159	5159	0	0.0
1944	5159	5159	0	0.0
1945	5177	5177	0	0.0
1946	5159	5159	0	0.0
1947	5159	5159	0	0.0
1948	3281	3281	0	0.0
1949	2726	2726	0	0.0
1950	2185	2185	0	0.0
1951	5159	5159	0	0.0
1952	5161	5161	0	0.0
1953	5159	5159	0	0.0
1954	3799	3799	0	0.0
1955	2978	2978	0	0.0
1956	5159	5159	0	0.0
1957	5159	5159	0	0.0
1958	4633	4633	0	0.0
1959	5159	5159	0	0.0
1960	2821	2821	0	0.0
1961	2509	2509	0	0.0
1962	2755	2755	0	0.0
1963	3869	3869	0	0.0
1964	4080	4080	0	0.0
1965	4497	4497	0	0.0
1966	5159	5159	0	0.0
1967	4594	4594	0	0.0
1968	5159	5159	0	0.0
1969	5169	5169	0	0.0
1970	5159	5159	0	0.0
1971	4574	4574	0	0.0
1972	3755	3755	0	0.0
1973	3365	3365	0	0.0
1974	5159	5159	0	0.0
1975	5159	5159	0	0.0
1976	5159	5159	0	0.0
1977	2386	2386	0	0.0
1978	3654	3654	0	0.0
1979	5159	5159	0	0.0
1980	5159	5159	0	0.0
1981	5159	5159	0	0.0
1982	5177	5177	0	0.0
1983	5159	5159	0	0.0
1984	5159	5159	0	0.0
1985	4545	4545	0	0.0
1986	5261	5261	0	0.0
1987	5019	5019	0	0.0
1988	3030	3030	0	0.0
1989	2022	2022	0	0.0
1990	2455	2455	0	0.0
1991	1486	1486	0	0.0
1992	2513	2513	0	0.0
1993	3703	3703	0	0.0
Mean:	4153.8	4153.8	0.0	0.0
Median:	4613.5	4613.5	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	5261.0	5261.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	5514	5514	0	0.0
1923	5244	5244	0	0.0
1924	4953	4953	0	0.0
1925	3622	3622	0	0.0
1926	3633	3633	0	0.0
1927	2519	2519	0	0.0
1928	3780	3780	0	0.0
1929	2964	2964	0	0.0
1930	1503	1503	0	0.0
1931	1904	1904	0	0.0
1932	3636	3636	0	0.0
1933	3758	3758	0	0.0
1934	2780	2780	0	0.0
1935	2895	2895	0	0.0
1936	5500	5500	0	0.0
1937	5514	5514	0	0.0
1938	5514	5514	0	0.0
1939	5310	5310	0	0.0
1940	4933	4933	0	0.0
1941	5514	5514	0	0.0
1942	5452	5452	0	0.0
1943	5514	5514	0	0.0
1944	5359	5359	0	0.0
1945	5514	5514	0	0.0
1946	5396	5396	0	0.0
1947	5277	5277	0	0.0
1948	3215	3215	0	0.0
1949	2946	2946	0	0.0
1950	2231	2231	0	0.0
1951	5417	5417	0	0.0
1952	5514	5514	0	0.0
1953	5133	5133	0	0.0
1954	4128	4128	0	0.0
1955	2941	2941	0	0.0
1956	5423	5423	0	0.0
1957	5260	5260	0	0.0
1958	5371	5371	0	0.0
1959	5227	5227	0	0.0
1960	3038	3038	0	0.0
1961	2518	2518	0	0.0
1962	2915	2915	0	0.0
1963	3906	3906	0	0.0
1964	4005	4005	0	0.0
1965	4668	4668	0	0.0
1966	5277	5277	0	0.0
1967	5371	5371	0	0.0
1968	5187	5187	0	0.0
1969	5514	5514	0	0.0
1970	5514	5514	0	0.0
1971	4649	4649	0	0.0
1972	3997	3997	0	0.0
1973	3796	3796	0	0.0
1974	5514	5514	0	0.0
1975	5514	5514	0	0.0
1976	5121	5121	0	0.0
1977	2350	2350	0	0.0
1978	4553	4553	0	0.0
1979	5514	5514	0	0.0
1980	5514	5514	0	0.0
1981	5214	5214	0	0.0
1982	5514	5514	0	0.0
1983	5514	5514	0	0.0
1984	5479	5479	0	0.0
1985	4633	4633	0	0.0
1986	5514	5514	0	0.0
1987	4998	4998	0	0.0
1988	3165	3165	0	0.0
1989	2544	2544	0	0.0
1990	2630	2630	0	0.0
1991	2011	2011	0	0.0
1992	2635	2635	0	0.0
1993	4474	4474	0	0.0
Mean:	4375.9	4375.9	0.0	0.0
Median:	4975.5	4975.5	0.0	0.0
Min:	1503.0	1503.0	0.0	0.0
Max:	5514.0	5514.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	5738	5738	0	0.0
1923	5529	5529	0	0.0
1924	4844	4844	0	0.0
1925	4053	4053	0	0.0
1926	4024	4024	0	0.0
1927	2523	2523	0	0.0
1928	3545	3545	0	0.0
1929	2715	2715	0	0.0
1930	1581	1581	0	0.0
1931	2029	2029	0	0.0
1932	3858	3858	0	0.0
1933	3615	3615	0	0.0
1934	2979	2979	0	0.0
1935	4144	4144	0	0.0
1936	6170	6170	0	0.0
1937	5956	5956	0	0.0
1938	6169	6169	0	0.0
1939	5496	5496	0	0.0
1940	5417	5417	0	0.0
1941	5933	5933	0	0.0
1942	6012	6012	0	0.0
1943	6169	6169	0	0.0
1944	5079	5079	0	0.0
1945	5904	5904	0	0.0
1946	5857	5857	0	0.0
1947	5272	5272	0	0.0
1948	3255	3255	0	0.0
1949	3104	3104	0	0.0
1950	2671	2671	0	0.0
1951	5511	5511	0	0.0
1952	6169	6169	0	0.0
1953	5149	5149	0	0.0
1954	4444	4444	0	0.0
1955	2691	2691	0	0.0
1956	5672	5672	0	0.0
1957	5076	5076	0	0.0
1958	6175	6175	0	0.0
1959	5148	5148	0	0.0
1960	3316	3316	0	0.0
1961	2721	2721	0	0.0
1962	3453	3453	0	0.0
1963	4049	4049	0	0.0
1964	3782	3782	0	0.0
1965	5144	5144	0	0.0
1966	5464	5464	0	0.0
1967	6093	6093	0	0.0
1968	4968	4968	0	0.0
1969	6169	6169	0	0.0
1970	5355	5355	0	0.0
1971	4517	4517	0	0.0
1972	3891	3891	0	0.0
1973	4055	4055	0	0.0
1974	5923	5923	0	0.0
1975	5582	5582	0	0.0
1976	4849	4849	0	0.0
1977	2256	2256	0	0.0
1978	5430	5430	0	0.0
1979	5745	5745	0	0.0
1980	5974	5974	0	0.0
1981	5163	5163	0	0.0
1982	6169	6169	0	0.0
1983	6030	6030	0	0.0
1984	5519	5519	0	0.0
1985	4799	4799	0	0.0
1986	6097	6097	0	0.0
1987	5016	5016	0	0.0
1988	3306	3306	0	0.0
1989	3196	3196	0	0.0
1990	2998	2998	0	0.0
1991	2201	2201	0	0.0
1992	3154	3154	0	0.0
1993	4995	4995	0	0.0
Mean:	4625.8	4625.8	0.0	0.0
Median:	5046.0	5046.0	0.0	0.0
Min:	1581.0	1581.0	0.0	0.0
Max:	6175.0	6175.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	6828	6828	0	0.0
1923	6361	6361	0	0.0
1924	4652	4652	0	0.0
1925	4724	4724	0	0.0
1926	3625	3625	0	0.0
1927	3569	3569	0	0.0
1928	3832	3832	0	0.0
1929	2565	2565	0	0.0
1930	1650	1650	0	0.0
1931	2159	2159	0	0.0
1932	4641	4641	0	0.0
1933	3655	3655	0	0.0
1934	2735	2735	0	0.0
1935	5108	5108	0	0.0
1936	6682	6682	0	0.0
1937	6823	6823	0	0.0
1938	6823	6823	0	0.0
1939	5160	5160	0	0.0
1940	6325	6325	0	0.0
1941	6823	6823	0	0.0
1942	6722	6722	0	0.0
1943	6823	6823	0	0.0
1944	5676	5676	0	0.0
1945	6523	6523	0	0.0
1946	6459	6459	0	0.0
1947	5474	5474	0	0.0
1948	3889	3889	0	0.0
1949	3731	3731	0	0.0
1950	3366	3366	0	0.0
1951	5626	5626	0	0.0
1952	6823	6823	0	0.0
1953	5003	5003	0	0.0
1954	4946	4946	0	0.0
1955	3094	3094	0	0.0
1956	6597	6597	0	0.0
1957	5403	5403	0	0.0
1958	6823	6823	0	0.0
1959	4923	4923	0	0.0
1960	3690	3690	0	0.0
1961	2852	2852	0	0.0
1962	3794	3794	0	0.0
1963	4807	4807	0	0.0
1964	3838	3838	0	0.0
1965	5760	5760	0	0.0
1966	5668	5668	0	0.0
1967	6823	6823	0	0.0
1968	4792	4792	0	0.0
1969	6823	6823	0	0.0
1970	5735	5735	0	0.0
1971	4728	4728	0	0.0
1972	4054	4054	0	0.0
1973	5420	5420	0	0.0
1974	6801	6801	0	0.0
1975	6503	6503	0	0.0
1976	4674	4674	0	0.0
1977	2241	2241	0	0.0
1978	6858	6858	0	0.0
1979	6689	6689	0	0.0
1980	6783	6783	0	0.0
1981	5248	5248	0	0.0
1982	6823	6823	0	0.0
1983	6823	6823	0	0.0
1984	6109	6109	0	0.0
1985	4978	4978	0	0.0
1986	6823	6823	0	0.0
1987	4866	4866	0	0.0
1988	3363	3363	0	0.0
1989	3526	3526	0	0.0
1990	3021	3021	0	0.0
1991	2843	2843	0	0.0
1992	3293	3293	0	0.0
1993	6434	6434	0	0.0
Mean:	5085.1	5085.1	0.0	0.0
Median:	5134.0	5134.0	0.0	0.0
Min:	1650.0	1650.0	0.0	0.0
Max:	6858.0	6858.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	7118	7118	0	0.0
1923	6485	6485	0	0.0
1924	4061	4061	0	0.0
1925	4821	4821	0	0.0
1926	3342	3342	0	0.0
1927	3938	3938	0	0.0
1928	3694	3694	0	0.0
1929	2333	2333	0	0.0
1930	1829	1829	0	0.0
1931	1726	1726	0	0.0
1932	5343	5343	0	0.0
1933	3976	3976	0	0.0
1934	2412	2412	0	0.0
1935	5824	5824	0	0.0
1936	6837	6837	0	0.0
1937	7118	7118	0	0.0
1938	7118	7118	0	0.0
1939	4560	4560	0	0.0
1940	6345	6345	0	0.0
1941	7118	7118	0	0.0
1942	7118	7118	0	0.0
1943	6961	6961	0	0.0
1944	5694	5694	0	0.0
1945	6933	6933	0	0.0
1946	6362	6362	0	0.0
1947	5023	5023	0	0.0
1948	4432	4432	0	0.0
1949	3624	3624	0	0.0
1950	3309	3309	0	0.0
1951	5473	5473	0	0.0
1952	7118	7118	0	0.0
1953	5172	5172	0	0.0
1954	4614	4614	0	0.0
1955	3131	3131	0	0.0
1956	7120	7120	0	0.0
1957	5666	5666	0	0.0
1958	7118	7118	0	0.0
1959	4424	4424	0	0.0
1960	3579	3579	0	0.0
1961	2609	2609	0	0.0
1962	4255	4255	0	0.0
1963	5266	5266	0	0.0
1964	3543	3543	0	0.0
1965	6395	6395	0	0.0
1966	5186	5186	0	0.0
1967	7118	7118	0	0.0
1968	4276	4276	0	0.0
1969	7118	7118	0	0.0
1970	5682	5682	0	0.0
1971	5022	5022	0	0.0
1972	3852	3852	0	0.0
1973	5782	5782	0	0.0
1974	7118	7118	0	0.0
1975	7123	7123	0	0.0
1976	4108	4108	0	0.0
1977	2271	2271	0	0.0
1978	7118	7118	0	0.0
1979	6780	6780	0	0.0
1980	7118	7118	0	0.0
1981	4882	4882	0	0.0
1982	7118	7118	0	0.0
1983	7118	7118	0	0.0
1984	5955	5955	0	0.0
1985	4540	4540	0	0.0
1986	7118	7118	0	0.0
1987	4377	4377	0	0.0
1988	3144	3144	0	0.0
1989	3413	3413	0	0.0
1990	2776	2776	0	0.0
1991	3222	3222	0	0.0
1992	2955	2955	0	0.0
1993	7126	7126	0	0.0
Mean:	5143.8	5143.8	0.0	0.0
Median:	5179.0	5179.0	0.0	0.0
Min:	1726.0	1726.0	0.0	0.0
Max:	7126.0	7126.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	6809	6809	0	0.0
1923	6082	6082	0	0.0
1924	3419	3419	0	0.0
1925	4298	4298	0	0.0
1926	2944	2944	0	0.0
1927	3704	3704	0	0.0
1928	3427	3427	0	0.0
1929	2179	2179	0	0.0
1930	1958	1958	0	0.0
1931	1486	1486	0	0.0
1932	4888	4888	0	0.0
1933	3299	3299	0	0.0
1934	1927	1927	0	0.0
1935	5288	5288	0	0.0
1936	6339	6339	0	0.0
1937	6568	6568	0	0.0
1938	7093	7093	0	0.0
1939	3778	3778	0	0.0
1940	5700	5700	0	0.0
1941	6932	6932	0	0.0
1942	6824	6824	0	0.0
1943	6483	6483	0	0.0
1944	5178	5178	0	0.0
1945	6482	6482	0	0.0
1946	5755	5755	0	0.0
1947	4312	4312	0	0.0
1948	3852	3852	0	0.0
1949	2885	2885	0	0.0
1950	2599	2599	0	0.0
1951	4818	4818	0	0.0
1952	6960	6960	0	0.0
1953	4685	4685	0	0.0
1954	3914	3914	0	0.0
1955	2398	2398	0	0.0
1956	6925	6925	0	0.0
1957	5073	5073	0	0.0
1958	6892	6892	0	0.0
1959	3637	3637	0	0.0
1960	3124	3124	0	0.0
1961	2112	2112	0	0.0
1962	3713	3713	0	0.0
1963	4850	4850	0	0.0
1964	2759	2759	0	0.0
1965	6128	6128	0	0.0
1966	4475	4475	0	0.0
1967	7118	7118	0	0.0
1968	3490	3490	0	0.0
1969	7107	7107	0	0.0
1970	5068	5068	0	0.0
1971	4473	4473	0	0.0
1972	3104	3104	0	0.0
1973	5183	5183	0	0.0
1974	6575	6575	0	0.0
1975	6676	6676	0	0.0
1976	3482	3482	0	0.0
1977	2101	2101	0	0.0
1978	7118	7118	0	0.0
1979	6201	6201	0	0.0
1980	7072	7072	0	0.0
1981	4171	4171	0	0.0
1982	7006	7006	0	0.0
1983	7118	7118	0	0.0
1984	5345	5345	0	0.0
1985	3824	3824	0	0.0
1986	6625	6625	0	0.0
1987	3749	3749	0	0.0
1988	2692	2692	0	0.0
1989	2961	2961	0	0.0
1990	2311	2311	0	0.0
1991	2829	2829	0	0.0
1992	2600	2600	0	0.0
1993	6840	6840	0	0.0
Mean:	4691.5	4691.5	0.0	0.0
Median:	4580.0	4580.0	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	7118.0	7118.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	6267	6267	0	0.0
1923	5518	5518	0	0.0
1924	2892	2892	0	0.0
1925	3709	3709	0	0.0
1926	2505	2505	0	0.0
1927	3524	3524	0	0.0
1928	3262	3262	0	0.0
1929	2134	2134	0	0.0
1930	2140	2140	0	0.0
1931	1486	1486	0	0.0
1932	4303	4303	0	0.0
1933	2658	2658	0	0.0
1934	1500	1500	0	0.0
1935	4694	4694	0	0.0
1936	5766	5766	0	0.0
1937	5993	5993	0	0.0
1938	6629	6629	0	0.0
1939	3169	3169	0	0.0
1940	5124	5124	0	0.0
1941	6423	6423	0	0.0
1942	6463	6463	0	0.0
1943	5923	5923	0	0.0
1944	4627	4627	0	0.0
1945	5935	5935	0	0.0
1946	5182	5182	0	0.0
1947	3719	3719	0	0.0
1948	3283	3283	0	0.0
1949	2282	2282	0	0.0
1950	1942	1942	0	0.0
1951	4222	4222	0	0.0
1952	6483	6483	0	0.0
1953	4132	4132	0	0.0
1954	3348	3348	0	0.0
1955	1704	1704	0	0.0
1956	6422	6422	0	0.0
1957	4522	4522	0	0.0
1958	6401	6401	0	0.0
1959	3006	3006	0	0.0
1960	2794	2794	0	0.0
1961	1715	1715	0	0.0
1962	3076	3076	0	0.0
1963	4270	4270	0	0.0
1964	2094	2094	0	0.0
1965	5682	5682	0	0.0
1966	3886	3886	0	0.0
1967	6690	6690	0	0.0
1968	2851	2851	0	0.0
1969	6623	6623	0	0.0
1970	4486	4486	0	0.0
1971	3901	3901	0	0.0
1972	2470	2470	0	0.0
1973	4615	4615	0	0.0
1974	6017	6017	0	0.0
1975	6100	6100	0	0.0
1976	2969	2969	0	0.0
1977	1968	1968	0	0.0
1978	6695	6695	0	0.0
1979	5625	5625	0	0.0
1980	6602	6602	0	0.0
1981	3573	3573	0	0.0
1982	6550	6550	0	0.0
1983	6971	6971	0	0.0
1984	4746	4746	0	0.0
1985	3252	3252	0	0.0
1986	6073	6073	0	0.0
1987	3258	3258	0	0.0
1988	2325	2325	0	0.0
1989	2635	2635	0	0.0
1990	1954	1954	0	0.0
1991	2484	2484	0	0.0
1992	2221	2221	0	0.0
1993	6317	6317	0	0.0
Mean:	4205.3	4205.3	0.0	0.0
Median:	4016.5	4016.5	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	6971.0	6971.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Surface Area

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	5888	5888	0	0.0
1923	5129	5129	0	0.0
1924	2553	2553	0	0.0
1925	3285	3285	0	0.0
1926	2096	2096	0	0.0
1927	3488	3488	0	0.0
1928	3155	3155	0	0.0
1929	1805	1805	0	0.0
1930	2108	2108	0	0.0
1931	1486	1486	0	0.0
1932	3889	3889	0	0.0
1933	2260	2260	0	0.0
1934	1486	1486	0	0.0
1935	4299	4299	0	0.0
1936	5384	5384	0	0.0
1937	5614	5614	0	0.0
1938	6163	6163	0	0.0
1939	2746	2746	0	0.0
1940	4729	4729	0	0.0
1941	6044	6044	0	0.0
1942	6089	6089	0	0.0
1943	5545	5545	0	0.0
1944	4233	4233	0	0.0
1945	5551	5551	0	0.0
1946	4786	4786	0	0.0
1947	3360	3360	0	0.0
1948	2851	2851	0	0.0
1949	1807	1807	0	0.0
1950	1486	1486	0	0.0
1951	3816	3816	0	0.0
1952	6102	6102	0	0.0
1953	3732	3732	0	0.0
1954	2913	2913	0	0.0
1955	1486	1486	0	0.0
1956	6048	6048	0	0.0
1957	4121	4121	0	0.0
1958	6023	6023	0	0.0
1959	2707	2707	0	0.0
1960	2558	2558	0	0.0
1961	1486	1486	0	0.0
1962	2654	2654	0	0.0
1963	3857	3857	0	0.0
1964	1658	1658	0	0.0
1965	5306	5306	0	0.0
1966	3544	3544	0	0.0
1967	6164	6164	0	0.0
1968	2425	2425	0	0.0
1969	6162	6162	0	0.0
1970	4078	4078	0	0.0
1971	3505	3505	0	0.0
1972	2074	2074	0	0.0
1973	4214	4214	0	0.0
1974	5625	5625	0	0.0
1975	5712	5712	0	0.0
1976	2659	2659	0	0.0
1977	1882	1882	0	0.0
1978	6164	6164	0	0.0
1979	5241	5241	0	0.0
1980	6162	6162	0	0.0
1981	3202	3202	0	0.0
1982	6162	6162	0	0.0
1983	6164	6164	0	0.0
1984	4358	4358	0	0.0
1985	2828	2828	0	0.0
1986	5691	5691	0	0.0
1987	2941	2941	0	0.0
1988	2100	2100	0	0.0
1989	2391	2391	0	0.0
1990	1667	1667	0	0.0
1991	2241	2241	0	0.0
1992	1987	1987	0	0.0
1993	5950	5950	0	0.0
Mean:	3848.3	3848.3	0.0	0.0
Median:	3638.0	3638.0	0.0	0.0
Min:	1486.0	1486.0	0.0	0.0
Max:	6164.0	6164.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

October				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	763	766	3	0.4
1923	806	808	2	0.2
1924	805	807	2	0.2
1925	689	694	5	0.7
1926	728	732	4	0.5
1927	659	666	7	1.1
1928	742	746	4	0.5
1929	724	728	4	0.6
1930	645	652	7	1.1
1931	662	669	7	1.1
1932	626	633	7	1.1
1933	755	759	4	0.5
1934	670	676	6	0.9
1935	626	633	7	1.1
1936	772	775	3	0.4
1937	806	808	2	0.2
1938	806	808	2	0.2
1939	806	808	2	0.2
1940	704	709	5	0.7
1941	787	790	3	0.4
1942	806	808	2	0.2
1943	806	808	2	0.2
1944	806	808	2	0.2
1945	769	772	3	0.4
1946	806	808	2	0.2
1947	792	795	3	0.4
1948	731	735	4	0.5
1949	704	709	5	0.7
1950	640	647	7	1.1
1951	626	633	7	1.1
1952	750	754	4	0.5
1953	806	808	2	0.2
1954	747	751	4	0.5
1955	708	713	5	0.7
1956	626	633	7	1.1
1957	806	808	2	0.2
1958	764	767	3	0.4
1959	806	808	2	0.2
1960	697	702	5	0.7
1961	690	695	5	0.7
1962	626	633	7	1.1
1963	694	699	5	0.7
1964	754	758	4	0.5
1965	626	633	7	1.1
1966	806	808	2	0.2
1967	737	741	4	0.5
1968	806	808	2	0.2
1969	678	683	5	0.7
1970	806	808	2	0.2
1971	763	766	3	0.4
1972	736	740	4	0.5
1973	659	666	7	1.1
1974	768	771	3	0.4
1975	806	808	2	0.2
1976	806	808	2	0.2
1977	693	698	5	0.7
1978	652	659	7	1.1
1979	806	808	2	0.2
1980	806	808	2	0.2
1981	806	808	2	0.2
1982	723	727	4	0.6
1983	806	808	2	0.2
1984	806	808	2	0.2
1985	775	778	3	0.4
1986	706	711	5	0.7
1987	806	808	2	0.2
1988	711	715	4	0.6
1989	661	668	7	1.1
1990	685	690	5	0.7
1991	631	638	7	1.1
1992	673	678	5	0.7
1993	652	659	7	1.1
Mean:	735.2	739.3	4.1	0.6
Median:	744.5	748.5	4.0	0.5
Min:	626.0	633.0	2.0	0.2
Max:	806.0	808.0	7.0	1.1

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

November				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	762	762	0	0.0
1923	807	807	0	0.0
1924	804	804	0	0.0
1925	695	695	0	0.0
1926	727	727	0	0.0
1927	660	660	0	0.0
1928	741	741	0	0.0
1929	722	722	0	0.0
1930	641	641	0	0.0
1931	659	659	0	0.0
1932	627	627	0	0.0
1933	752	752	0	0.0
1934	667	667	0	0.0
1935	634	634	0	0.0
1936	772	772	0	0.0
1937	805	805	0	0.0
1938	805	805	0	0.0
1939	807	807	0	0.0
1940	705	705	0	0.0
1941	786	786	0	0.0
1942	807	807	0	0.0
1943	808	808	0	0.0
1944	805	805	0	0.0
1945	775	775	0	0.0
1946	808	808	0	0.0
1947	797	797	0	0.0
1948	731	731	0	0.0
1949	702	702	0	0.0
1950	637	637	0	0.0
1951	732	732	0	0.0
1952	751	751	0	0.0
1953	805	805	0	0.0
1954	745	745	0	0.0
1955	705	705	0	0.0
1956	626	626	0	0.0
1957	806	806	0	0.0
1958	764	764	0	0.0
1959	805	805	0	0.0
1960	695	695	0	0.0
1961	690	690	0	0.0
1962	626	626	0	0.0
1963	693	693	0	0.0
1964	760	760	0	0.0
1965	633	633	0	0.0
1966	808	808	0	0.0
1967	738	738	0	0.0
1968	805	805	0	0.0
1969	683	683	0	0.0
1970	808	808	0	0.0
1971	764	764	0	0.0
1972	735	735	0	0.0
1973	660	660	0	0.0
1974	780	780	0	0.0
1975	805	805	0	0.0
1976	807	807	0	0.0
1977	691	691	0	0.0
1978	649	649	0	0.0
1979	807	807	0	0.0
1980	806	806	0	0.0
1981	804	804	0	0.0
1982	734	734	0	0.0
1983	808	808	0	0.0
1984	808	808	0	0.0
1985	778	778	0	0.0
1986	709	709	0	0.0
1987	804	804	0	0.0
1988	711	711	0	0.0
1989	657	657	0	0.0
1990	685	685	0	0.0
1991	628	628	0	0.0
1992	672	672	0	0.0
1993	650	650	0	0.0
Mean:	737.2	737.2	0.0	0.0
Median:	743.0	743.0	0.0	0.0
Min:	626.0	626.0	0.0	0.0
Max:	808.0	808.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

December				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	770	770	0	0.0
1923	808	808	0	0.0
1924	804	804	0	0.0
1925	701	701	0	0.0
1926	727	727	0	0.0
1927	669	669	0	0.0
1928	747	747	0	0.0
1929	720	720	0	0.0
1930	640	640	0	0.0
1931	658	658	0	0.0
1932	666	666	0	0.0
1933	750	750	0	0.0
1934	673	673	0	0.0
1935	642	642	0	0.0
1936	772	772	0	0.0
1937	807	807	0	0.0
1938	808	808	0	0.0
1939	808	808	0	0.0
1940	706	706	0	0.0
1941	803	803	0	0.0
1942	808	808	0	0.0
1943	808	808	0	0.0
1944	806	806	0	0.0
1945	780	780	0	0.0
1946	808	808	0	0.0
1947	804	804	0	0.0
1948	732	732	0	0.0
1949	702	702	0	0.0
1950	636	636	0	0.0
1951	798	798	0	0.0
1952	764	764	0	0.0
1953	808	808	0	0.0
1954	745	745	0	0.0
1955	707	707	0	0.0
1956	765	765	0	0.0
1957	806	806	0	0.0
1958	767	767	0	0.0
1959	804	804	0	0.0
1960	694	694	0	0.0
1961	692	692	0	0.0
1962	628	628	0	0.0
1963	693	693	0	0.0
1964	762	762	0	0.0
1965	725	725	0	0.0
1966	808	808	0	0.0
1967	766	766	0	0.0
1968	805	805	0	0.0
1969	694	694	0	0.0
1970	808	808	0	0.0
1971	773	773	0	0.0
1972	743	743	0	0.0
1973	673	673	0	0.0
1974	792	792	0	0.0
1975	806	806	0	0.0
1976	808	808	0	0.0
1977	689	689	0	0.0
1978	661	661	0	0.0
1979	808	808	0	0.0
1980	808	808	0	0.0
1981	804	804	0	0.0
1982	751	751	0	0.0
1983	808	808	0	0.0
1984	808	808	0	0.0
1985	780	780	0	0.0
1986	717	717	0	0.0
1987	803	803	0	0.0
1988	712	712	0	0.0
1989	658	658	0	0.0
1990	686	686	0	0.0
1991	626	626	0	0.0
1992	673	673	0	0.0
1993	656	656	0	0.0
Mean:	745.1	745.1	0.0	0.0
Median:	763.0	763.0	0.0	0.0
Min:	626.0	626.0	0.0	0.0
Max:	808.0	808.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

January				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	777	777	0	0.0
1923	808	808	0	0.0
1924	804	804	0	0.0
1925	706	706	0	0.0
1926	728	728	0	0.0
1927	670	670	0	0.0
1928	752	752	0	0.0
1929	718	718	0	0.0
1930	638	638	0	0.0
1931	657	657	0	0.0
1932	685	685	0	0.0
1933	753	753	0	0.0
1934	681	681	0	0.0
1935	679	679	0	0.0
1936	779	779	0	0.0
1937	808	808	0	0.0
1938	808	808	0	0.0
1939	808	808	0	0.0
1940	742	742	0	0.0
1941	808	808	0	0.0
1942	808	808	0	0.0
1943	808	808	0	0.0
1944	808	808	0	0.0
1945	783	783	0	0.0
1946	808	808	0	0.0
1947	808	808	0	0.0
1948	733	733	0	0.0
1949	702	702	0	0.0
1950	649	649	0	0.0
1951	808	808	0	0.0
1952	798	798	0	0.0
1953	808	808	0	0.0
1954	747	747	0	0.0
1955	714	714	0	0.0
1956	808	808	0	0.0
1957	806	806	0	0.0
1958	773	773	0	0.0
1959	806	806	0	0.0
1960	693	693	0	0.0
1961	691	691	0	0.0
1962	630	630	0	0.0
1963	705	705	0	0.0
1964	766	766	0	0.0
1965	772	772	0	0.0
1966	808	808	0	0.0
1967	779	779	0	0.0
1968	806	806	0	0.0
1969	792	792	0	0.0
1970	808	808	0	0.0
1971	781	781	0	0.0
1972	747	747	0	0.0
1973	696	696	0	0.0
1974	808	808	0	0.0
1975	808	808	0	0.0
1976	807	807	0	0.0
1977	688	688	0	0.0
1978	704	704	0	0.0
1979	808	808	0	0.0
1980	808	808	0	0.0
1981	806	806	0	0.0
1982	783	783	0	0.0
1983	808	808	0	0.0
1984	808	808	0	0.0
1985	781	781	0	0.0
1986	728	728	0	0.0
1987	802	802	0	0.0
1988	718	718	0	0.0
1989	658	658	0	0.0
1990	687	687	0	0.0
1991	626	626	0	0.0
1992	673	673	0	0.0
1993	725	725	0	0.0
Mean:	754.1	754.1	0.0	0.0
Median:	778.0	778.0	0.0	0.0
Min:	626.0	626.0	0.0	0.0
Max:	808.0	808.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

February				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	808	808	0	0.0
1923	808	808	0	0.0
1924	805	805	0	0.0
1925	738	738	0	0.0
1926	746	746	0	0.0
1927	685	685	0	0.0
1928	758	758	0	0.0
1929	719	719	0	0.0
1930	637	637	0	0.0
1931	659	659	0	0.0
1932	739	739	0	0.0
1933	755	755	0	0.0
1934	695	695	0	0.0
1935	698	698	0	0.0
1936	808	808	0	0.0
1937	808	808	0	0.0
1938	808	808	0	0.0
1939	808	808	0	0.0
1940	776	776	0	0.0
1941	808	808	0	0.0
1942	808	808	0	0.0
1943	808	808	0	0.0
1944	808	808	0	0.0
1945	808	808	0	0.0
1946	808	808	0	0.0
1947	808	808	0	0.0
1948	733	733	0	0.0
1949	706	706	0	0.0
1950	675	675	0	0.0
1951	808	808	0	0.0
1952	808	808	0	0.0
1953	808	808	0	0.0
1954	757	757	0	0.0
1955	719	719	0	0.0
1956	808	808	0	0.0
1957	808	808	0	0.0
1958	790	790	0	0.0
1959	808	808	0	0.0
1960	711	711	0	0.0
1961	694	694	0	0.0
1962	704	704	0	0.0
1963	757	757	0	0.0
1964	768	768	0	0.0
1965	784	784	0	0.0
1966	808	808	0	0.0
1967	788	788	0	0.0
1968	808	808	0	0.0
1969	808	808	0	0.0
1970	808	808	0	0.0
1971	787	787	0	0.0
1972	755	755	0	0.0
1973	735	735	0	0.0
1974	808	808	0	0.0
1975	808	808	0	0.0
1976	808	808	0	0.0
1977	687	687	0	0.0
1978	748	748	0	0.0
1979	808	808	0	0.0
1980	808	808	0	0.0
1981	808	808	0	0.0
1982	808	808	0	0.0
1983	808	808	0	0.0
1984	808	808	0	0.0
1985	786	786	0	0.0
1986	808	808	0	0.0
1987	803	803	0	0.0
1988	721	721	0	0.0
1989	664	664	0	0.0
1990	691	691	0	0.0
1991	626	626	0	0.0
1992	693	693	0	0.0
1993	753	753	0	0.0
Mean:	765.4	765.4	0.0	0.0
Median:	789.0	789.0	0.0	0.0
Min:	626.0	626.0	0.0	0.0
Max:	808.0	808.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

March				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	820	820	0	0.0
1923	811	811	0	0.0
1924	801	801	0	0.0
1925	749	749	0	0.0
1926	750	750	0	0.0
1927	694	694	0	0.0
1928	756	756	0	0.0
1929	718	718	0	0.0
1930	628	628	0	0.0
1931	656	656	0	0.0
1932	750	750	0	0.0
1933	755	755	0	0.0
1934	709	709	0	0.0
1935	715	715	0	0.0
1936	820	820	0	0.0
1937	820	820	0	0.0
1938	820	820	0	0.0
1939	813	813	0	0.0
1940	800	800	0	0.0
1941	820	820	0	0.0
1942	818	818	0	0.0
1943	820	820	0	0.0
1944	815	815	0	0.0
1945	820	820	0	0.0
1946	816	816	0	0.0
1947	812	812	0	0.0
1948	730	730	0	0.0
1949	717	717	0	0.0
1950	678	678	0	0.0
1951	817	817	0	0.0
1952	820	820	0	0.0
1953	807	807	0	0.0
1954	770	770	0	0.0
1955	717	717	0	0.0
1956	817	817	0	0.0
1957	812	812	0	0.0
1958	815	815	0	0.0
1959	811	811	0	0.0
1960	721	721	0	0.0
1961	694	694	0	0.0
1962	716	716	0	0.0
1963	762	762	0	0.0
1964	765	765	0	0.0
1965	791	791	0	0.0
1966	812	812	0	0.0
1967	815	815	0	0.0
1968	809	809	0	0.0
1969	820	820	0	0.0
1970	820	820	0	0.0
1971	790	790	0	0.0
1972	765	765	0	0.0
1973	757	757	0	0.0
1974	820	820	0	0.0
1975	820	820	0	0.0
1976	807	807	0	0.0
1977	685	685	0	0.0
1978	785	785	0	0.0
1979	820	820	0	0.0
1980	820	820	0	0.0
1981	810	810	0	0.0
1982	820	820	0	0.0
1983	820	820	0	0.0
1984	819	819	0	0.0
1985	790	790	0	0.0
1986	820	820	0	0.0
1987	803	803	0	0.0
1988	728	728	0	0.0
1989	693	693	0	0.0
1990	701	701	0	0.0
1991	664	664	0	0.0
1992	701	701	0	0.0
1993	782	782	0	0.0
Mean:	774.5	774.5	0.0	0.0
Median:	802.0	802.0	0.0	0.0
Min:	628.0	628.0	0.0	0.0
Max:	820.0	820.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

April				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	827	828	1	0.1
1923	821	822	1	0.1
1924	797	798	1	0.1
1925	767	768	1	0.1
1926	766	766	0	0.0
1927	695	696	1	0.1
1928	745	746	1	0.1
1929	705	706	1	0.1
1930	633	635	2	0.3
1931	665	667	2	0.3
1932	760	760	0	0.0
1933	749	750	1	0.1
1934	719	720	1	0.1
1935	769	770	1	0.1
1936	840	840	0	0.0
1937	834	834	0	0.0
1938	840	840	0	0.0
1939	820	820	0	0.0
1940	817	818	1	0.1
1941	833	834	1	0.1
1942	835	836	1	0.1
1943	840	840	0	0.0
1944	805	806	1	0.1
1945	832	833	1	0.1
1946	831	831	0	0.0
1947	812	813	1	0.1
1948	732	733	1	0.1
1949	725	726	1	0.1
1950	703	704	1	0.1
1951	820	821	1	0.1
1952	840	840	0	0.0
1953	808	808	0	0.0
1954	782	783	1	0.1
1955	703	705	2	0.3
1956	825	826	1	0.1
1957	805	806	1	0.1
1958	840	840	0	0.0
1959	808	808	0	0.0
1960	735	736	1	0.1
1961	706	707	1	0.1
1962	741	742	1	0.1
1963	767	768	1	0.1
1964	756	757	1	0.1
1965	807	808	1	0.1
1966	819	819	0	0.0
1967	837	838	1	0.1
1968	802	802	0	0.0
1969	840	840	0	0.0
1970	815	816	1	0.1
1971	785	786	1	0.1
1972	761	762	1	0.1
1973	767	768	1	0.1
1974	833	833	0	0.0
1975	823	823	0	0.0
1976	798	798	0	0.0
1977	680	681	1	0.1
1978	817	817	0	0.0
1979	828	828	0	0.0
1980	834	835	1	0.1
1981	808	809	1	0.1
1982	840	840	0	0.0
1983	836	836	0	0.0
1984	821	821	0	0.0
1985	796	796	0	0.0
1986	838	838	0	0.0
1987	803	804	1	0.1
1988	734	735	1	0.1
1989	728	729	1	0.1
1990	719	720	1	0.1
1991	676	678	2	0.3
1992	726	727	1	0.1
1993	802	803	1	0.1
Mean:	783.7	784.4	0.7	0.1
Median:	804.0	805.0	1.0	0.1
Min:	633.0	635.0	0.0	0.0
Max:	840.0	840.0	2.0	0.3

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

May				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	859	860	1	0.1
1923	845	847	2	0.2
1924	790	792	2	0.3
1925	793	795	2	0.3
1926	749	751	2	0.3
1927	744	746	2	0.3
1928	759	760	1	0.1
1929	697	700	3	0.4
1930	638	642	4	0.6
1931	674	677	3	0.4
1932	789	791	2	0.3
1933	751	753	2	0.3
1934	706	709	3	0.4
1935	806	807	1	0.1
1936	855	856	1	0.1
1937	859	860	1	0.1
1938	859	860	1	0.1
1939	808	810	2	0.2
1940	844	845	1	0.1
1941	859	860	1	0.1
1942	856	857	1	0.1
1943	859	860	1	0.1
1944	825	827	2	0.2
1945	850	852	2	0.2
1946	849	850	1	0.1
1947	819	821	2	0.2
1948	761	763	2	0.3
1949	754	756	2	0.3
1950	735	737	2	0.3
1951	824	825	1	0.1
1952	859	860	1	0.1
1953	803	804	1	0.1
1954	801	802	1	0.1
1955	723	726	3	0.4
1956	852	853	1	0.1
1957	817	818	1	0.1
1958	859	860	1	0.1
1959	800	802	2	0.3
1960	752	755	3	0.4
1961	713	715	2	0.3
1962	757	759	2	0.3
1963	796	797	1	0.1
1964	759	761	2	0.3
1965	828	829	1	0.1
1966	825	827	2	0.2
1967	859	860	1	0.1
1968	796	797	1	0.1
1969	859	860	1	0.1
1970	827	828	1	0.1
1971	793	795	2	0.3
1972	767	769	2	0.3
1973	816	818	2	0.2
1974	858	859	1	0.1
1975	849	851	2	0.2
1976	791	793	2	0.3
1977	679	682	3	0.4
1978	859	860	1	0.1
1979	855	856	1	0.1
1980	858	859	1	0.1
1981	811	813	2	0.2
1982	859	860	1	0.1
1983	859	860	1	0.1
1984	838	839	1	0.1
1985	802	803	1	0.1
1986	859	860	1	0.1
1987	798	800	2	0.3
1988	737	739	2	0.3
1989	745	747	2	0.3
1990	721	723	2	0.3
1991	711	714	3	0.4
1992	734	736	2	0.3
1993	847	848	1	0.1
Mean:	799.3	800.9	1.7	0.2
Median:	807.0	808.5	2.0	0.2
Min:	638.0	642.0	1.0	0.1
Max:	859.0	860.0	4.0	0.6

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

June				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	867	869	2	0.2
1923	849	851	2	0.2
1924	767	770	3	0.4
1925	796	799	3	0.4
1926	736	740	4	0.5
1927	763	765	2	0.3
1928	752	756	4	0.5
1929	684	689	5	0.7
1930	651	658	7	1.1
1931	642	649	7	1.1
1932	814	816	2	0.2
1933	764	767	3	0.4
1934	688	693	5	0.7
1935	830	832	2	0.2
1936	859	861	2	0.2
1937	867	869	2	0.2
1938	867	869	2	0.2
1939	787	790	3	0.4
1940	845	847	2	0.2
1941	867	869	2	0.2
1942	867	869	2	0.2
1943	863	865	2	0.2
1944	826	828	2	0.2
1945	862	864	2	0.2
1946	846	848	2	0.2
1947	803	806	3	0.4
1948	782	785	3	0.4
1949	749	753	4	0.5
1950	734	738	4	0.5
1951	819	821	2	0.2
1952	867	869	2	0.2
1953	809	811	2	0.2
1954	789	792	3	0.4
1955	726	730	4	0.6
1956	867	869	2	0.2
1957	825	827	2	0.2
1958	867	869	2	0.2
1959	781	784	3	0.4
1960	747	751	4	0.5
1961	699	704	5	0.7
1962	775	777	2	0.3
1963	812	814	2	0.2
1964	745	749	4	0.5
1965	847	849	2	0.2
1966	809	811	2	0.2
1967	867	869	2	0.2
1968	775	778	3	0.4
1969	867	869	2	0.2
1970	826	828	2	0.2
1971	803	806	3	0.4
1972	759	762	3	0.4
1973	829	831	2	0.2
1974	867	869	2	0.2
1975	867	869	2	0.2
1976	769	772	3	0.4
1977	680	685	5	0.7
1978	867	869	2	0.2
1979	858	860	2	0.2
1980	867	869	2	0.2
1981	799	801	2	0.3
1982	867	869	2	0.2
1983	867	869	2	0.2
1984	834	836	2	0.2
1985	786	789	3	0.4
1986	867	869	2	0.2
1987	779	782	3	0.4
1988	727	730	3	0.4
1989	739	743	4	0.5
1990	708	713	5	0.7
1991	729	733	4	0.5
1992	718	722	4	0.6
1993	867	869	2	0.2
Mean:	800.0	802.8	2.8	0.4
Median:	809.0	811.0	2.0	0.2
Min:	642.0	649.0	2.0	0.2
Max:	867.0	869.0	7.0	1.1

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

July				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	858	861	3	0.3
1923	837	840	3	0.4
1924	738	744	6	0.8
1925	776	780	4	0.5
1926	717	723	6	0.8
1927	753	758	5	0.7
1928	740	745	5	0.7
1929	675	682	7	1.0
1930	660	670	10	1.5
1931	626	636	10	1.6
1932	799	802	3	0.4
1933	732	738	6	0.8
1934	656	665	9	1.4
1935	812	816	4	0.5
1936	845	848	3	0.4
1937	852	854	2	0.2
1938	866	869	3	0.3
1939	756	761	5	0.7
1940	826	829	3	0.4
1941	862	864	2	0.2
1942	859	861	2	0.2
1943	849	852	3	0.4
1944	809	812	3	0.4
1945	849	852	3	0.4
1946	828	831	3	0.4
1947	777	781	4	0.5
1948	760	764	4	0.5
1949	715	720	5	0.7
1950	698	704	6	0.9
1951	796	800	4	0.5
1952	863	865	2	0.2
1953	792	795	3	0.4
1954	762	766	4	0.5
1955	685	692	7	1.0
1956	862	864	2	0.2
1957	805	808	3	0.4
1958	861	863	2	0.2
1959	749	754	5	0.7
1960	726	731	5	0.7
1961	670	678	8	1.2
1962	753	758	5	0.7
1963	798	801	3	0.4
1964	707	714	7	1.0
1965	839	842	3	0.4
1966	783	787	4	0.5
1967	867	870	3	0.3
1968	742	747	5	0.7
1969	867	869	2	0.2
1970	805	808	3	0.4
1971	783	787	4	0.5
1972	724	729	5	0.7
1973	809	812	3	0.4
1974	852	855	3	0.4
1975	855	857	2	0.2
1976	742	747	5	0.7
1977	670	678	8	1.2
1978	867	870	3	0.3
1979	841	844	3	0.4
1980	866	868	2	0.2
1981	771	775	4	0.5
1982	864	867	3	0.3
1983	867	870	3	0.3
1984	814	818	4	0.5
1985	758	763	5	0.7
1986	853	856	3	0.4
1987	755	760	5	0.7
1988	703	710	7	1.0
1989	718	723	5	0.7
1990	682	689	7	1.0
1991	712	717	5	0.7
1992	698	704	6	0.9
1993	859	862	3	0.3
Mean:	782.3	786.6	4.3	0.6
Median:	787.5	791.0	4.0	0.5
Min:	626.0	636.0	2.0	0.2
Max:	867.0	870.0	10.0	1.6

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

August				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	843	847	4	0.5
1923	820	825	5	0.6
1924	715	721	6	0.8
1925	753	759	6	0.8
1926	692	700	8	1.2
1927	744	751	7	0.9
1928	732	739	7	1.0
1929	672	681	9	1.3
1930	673	682	9	1.3
1931	626	639	13	2.1
1932	776	781	5	0.6
1933	701	710	9	1.3
1934	627	640	13	2.1
1935	792	797	5	0.6
1936	828	832	4	0.5
1937	835	838	3	0.4
1938	853	857	4	0.5
1939	727	734	7	1.0
1940	807	811	4	0.5
1941	848	851	3	0.4
1942	849	852	3	0.4
1943	833	836	3	0.4
1944	789	794	5	0.6
1945	833	837	4	0.5
1946	809	813	4	0.5
1947	753	759	6	0.8
1948	732	739	7	1.0
1949	679	688	9	1.3
1950	657	669	12	1.8
1951	773	778	5	0.6
1952	849	853	4	0.5
1953	770	775	5	0.6
1954	735	742	7	1.0
1955	638	650	12	1.9
1956	848	851	3	0.4
1957	785	790	5	0.6
1958	847	850	3	0.4
1959	720	727	7	1.0
1960	709	717	8	1.1
1961	642	654	12	1.9
1962	723	730	7	1.0
1963	775	780	5	0.6
1964	669	679	10	1.5
1965	826	829	3	0.4
1966	761	766	5	0.7
1967	855	858	3	0.4
1968	713	719	6	0.8
1969	853	857	4	0.5
1970	784	789	5	0.6
1971	761	766	5	0.7
1972	690	698	8	1.2
1973	789	794	5	0.6
1974	835	839	4	0.5
1975	838	842	4	0.5
1976	718	725	7	1.0
1977	661	673	12	1.8
1978	855	859	4	0.5
1979	824	828	4	0.5
1980	853	856	3	0.4
1981	746	753	7	0.9
1982	851	855	4	0.5
1983	863	866	3	0.3
1984	794	798	4	0.5
1985	731	737	6	0.8
1986	837	841	4	0.5
1987	732	738	6	0.8
1988	683	692	9	1.3
1989	700	708	8	1.1
1990	658	670	12	1.8
1991	692	700	8	1.2
1992	678	686	8	1.2
1993	844	848	4	0.5
Mean:	762.6	768.7	6.1	0.9
Median:	765.5	770.5	5.0	0.7
Min:	626.0	639.0	3.0	0.3
Max:	863.0	866.0	13.0	2.1

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

September				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	832	836	4	0.5
1923	807	812	5	0.6
1924	695	705	10	1.4
1925	733	741	8	1.1
1926	669	680	11	1.6
1927	743	750	7	0.9
1928	727	735	8	1.1
1929	648	662	14	2.2
1930	670	681	11	1.6
1931	626	640	14	2.2
1932	761	767	6	0.8
1933	680	690	10	1.5
1934	626	640	14	2.2
1935	777	782	5	0.6
1936	816	821	5	0.6
1937	824	828	4	0.5
1938	840	844	4	0.5
1939	707	716	9	1.3
1940	793	798	5	0.6
1941	836	841	5	0.6
1942	838	842	4	0.5
1943	821	826	5	0.6
1944	774	780	6	0.8
1945	822	826	4	0.5
1946	795	800	5	0.6
1947	737	744	7	0.9
1948	713	720	7	1.0
1949	646	660	14	2.2
1950	626	640	14	2.2
1951	758	764	6	0.8
1952	838	842	4	0.5
1953	754	761	7	0.9
1954	716	723	7	1.0
1955	626	640	14	2.2
1956	836	841	5	0.6
1957	770	776	6	0.8
1958	836	840	4	0.5
1959	704	714	10	1.4
1960	696	706	10	1.4
1961	626	640	14	2.2
1962	701	711	10	1.4
1963	760	766	6	0.8
1964	638	652	14	2.2
1965	813	818	5	0.6
1966	745	752	7	0.9
1967	840	844	4	0.5
1968	688	698	10	1.5
1969	840	844	4	0.5
1970	768	774	6	0.8
1971	743	750	7	0.9
1972	667	679	12	1.8
1973	773	779	6	0.8
1974	824	828	4	0.5
1975	827	831	4	0.5
1976	701	711	10	1.4
1977	655	669	14	2.1
1978	840	844	4	0.5
1979	811	816	5	0.6
1980	840	844	4	0.5
1981	729	737	8	1.1
1982	840	844	4	0.5
1983	840	844	4	0.5
1984	779	785	6	0.8
1985	712	719	7	1.0
1986	826	830	4	0.5
1987	717	725	8	1.1
1988	669	681	12	1.8
1989	687	697	10	1.5
1990	639	653	14	2.2
1991	679	689	10	1.5
1992	660	674	14	2.1
1993	834	838	4	0.5
Mean:	747.6	755.3	7.7	1.1
Median:	749.5	756.5	7.0	0.9
Min:	626.0	640.0	4.0	0.5
Max:	840.0	844.0	14.0	2.2

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	63	63	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	123	123	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	822	822	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	7	7	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	79	79	0	0.0
1978	456	456	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	355	355	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	26	26	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	822	822	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	136	136	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	340	340	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	7	7	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	340	340	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	473	473	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	473	473	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	13	13	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	473	473	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	0	0	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	0	0	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	103	103	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	300	300	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	229	229	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	9	9	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	300	300	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	355	355	0	0.0
1925	1197	1197	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	731	731	0	0.0
1930	0	0	0	0.0
1931	264	264	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	532	532	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	355	355	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	815	815	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	59	59	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	1197	1197	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	245	245	0	0.0
1924	550	550	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	103	103	0	0.0
1928	389	389	0	0.0
1929	1004	1004	0	0.0
1930	518	518	0	0.0
1931	570	570	0	0.0
1932	0	0	0	0.0
1933	550	550	0	0.0
1934	795	795	0	0.0
1935	0	0	0	0.0
1936	1309	1309	0	0.0
1937	0	0	0	0.0
1938	931	931	0	0.0
1939	759	759	0	0.0
1940	0	0	0	0.0
1941	463	463	0	0.0
1942	103	103	0	0.0
1943	0	0	0	0.0
1944	1170	1170	0	0.0
1945	821	821	0	0.0
1946	457	457	0	0.0
1947	894	894	0	0.0
1948	0	0	0	0.0
1949	2137	2137	0	0.0
1950	1575	1575	0	0.0
1951	847	847	0	0.0
1952	0	0	0	0.0
1953	630	630	0	0.0
1954	0	0	0	0.0
1955	888	888	0	0.0
1956	0	0	0	0.0
1957	303	303	0	0.0
1958	0	0	0	0.0
1959	1183	1183	0	0.0
1960	1212	1212	0	0.0
1961	1395	1395	0	0.0
1962	582	582	0	0.0
1963	0	0	0	0.0
1964	1634	1634	0	0.0
1965	0	0	0	0.0
1966	626	626	0	0.0
1967	667	667	0	0.0
1968	767	767	0	0.0
1969	0	0	0	0.0
1970	776	776	0	0.0
1971	74	74	0	0.0
1972	1104	1104	0	0.0
1973	0	0	0	0.0
1974	50	50	0	0.0
1975	46	46	0	0.0
1976	1192	1192	0	0.0
1977	550	550	0	0.0
1978	0	0	0	0.0
1979	172	172	0	0.0
1980	0	0	0	0.0
1981	845	845	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	231	231	0	0.0
1985	792	792	0	0.0
1986	0	0	0	0.0
1987	453	453	0	0.0
1988	478	478	0	0.0
1989	0	0	0	0.0
1990	871	871	0	0.0
1991	719	719	0	0.0
1992	982	982	0	0.0
1993	13	13	0	0.0
Mean:	492	492	0	0.0
Median:	460	460	0	0.0
Min:	0	0	0	0.0
Max:	2137	2137	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1037	1037	0	0.0
1923	3433	3433	0	0.0
1924	1116	1116	0	0.0
1925	2488	2488	0	0.0
1926	1216	1216	0	0.0
1927	3189	3189	0	0.0
1928	3642	3642	0	0.0
1929	1775	1775	0	0.0
1930	2440	2440	0	0.0
1931	1145	1145	0	0.0
1932	1023	1023	0	0.0
1933	1105	1105	0	0.0
1934	1472	1472	0	0.0
1935	2165	2165	0	0.0
1936	1819	1819	0	0.0
1937	215	215	0	0.0
1938	1850	1850	0	0.0
1939	2697	2697	0	0.0
1940	1874	1874	0	0.0
1941	1996	1996	0	0.0
1942	2848	2848	0	0.0
1943	2155	2155	0	0.0
1944	2352	2352	0	0.0
1945	3532	3532	0	0.0
1946	2331	2331	0	0.0
1947	3190	3190	0	0.0
1948	2978	2978	0	0.0
1949	3284	3284	0	0.0
1950	2602	2602	0	0.0
1951	3814	3814	0	0.0
1952	1175	1175	0	0.0
1953	2822	2822	0	0.0
1954	2379	2379	0	0.0
1955	3016	3016	0	0.0
1956	2337	2337	0	0.0
1957	2760	2760	0	0.0
1958	980	980	0	0.0
1959	2689	2689	0	0.0
1960	1978	1978	0	0.0
1961	3665	3665	0	0.0
1962	2124	2124	0	0.0
1963	3513	3513	0	0.0
1964	3050	3050	0	0.0
1965	2666	2666	0	0.0
1966	2167	2167	0	0.0
1967	1469	1469	0	0.0
1968	2764	2764	0	0.0
1969	1205	1205	0	0.0
1970	3765	3765	0	0.0
1971	2522	2522	0	0.0
1972	2419	2419	0	0.0
1973	2755	2755	0	0.0
1974	3313	3313	0	0.0
1975	3167	3167	0	0.0
1976	2046	2046	0	0.0
1977	1116	1116	0	0.0
1978	2149	2149	0	0.0
1979	2559	2559	0	0.0
1980	2085	2085	0	0.0
1981	2746	2746	0	0.0
1982	1053	1053	0	0.0
1983	2173	2173	0	0.0
1984	2708	2708	0	0.0
1985	2998	2998	0	0.0
1986	1751	1751	0	0.0
1987	2093	2093	0	0.0
1988	1279	1279	0	0.0
1989	1576	1576	0	0.0
1990	1576	1576	0	0.0
1991	621	621	0	0.0
1992	1621	1621	0	0.0
1993	1380	1380	0	0.0
Mean:	2236	2236	0	0.0
Median:	2252	2252	0	0.0
Min:	215	215	0	0.0
Max:	3814	3814	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2731	2731	0	0.0
1923	3961	3961	0	0.0
1924	1777	1777	0	0.0
1925	2262	2262	0	0.0
1926	3114	3114	0	0.0
1927	3447	3447	0	0.0
1928	4769	4769	0	0.0
1929	1891	1891	0	0.0
1930	2821	2821	0	0.0
1931	1826	1826	0	0.0
1932	1056	1056	0	0.0
1933	1777	1777	0	0.0
1934	2368	2368	0	0.0
1935	1705	1705	0	0.0
1936	3053	3053	0	0.0
1937	1786	1786	0	0.0
1938	1063	1063	0	0.0
1939	3775	3775	0	0.0
1940	3150	3150	0	0.0
1941	1820	1820	0	0.0
1942	1709	1709	0	0.0
1943	4455	4455	0	0.0
1944	3313	3313	0	0.0
1945	2708	2708	0	0.0
1946	3907	3907	0	0.0
1947	3997	3997	0	0.0
1948	2452	2452	0	0.0
1949	3925	3925	0	0.0
1950	2372	2372	0	0.0
1951	3838	3838	0	0.0
1952	1188	1188	0	0.0
1953	4420	4420	0	0.0
1954	3742	3742	0	0.0
1955	3598	3598	0	0.0
1956	1964	1964	0	0.0
1957	4318	4318	0	0.0
1958	861	861	0	0.0
1959	4199	4199	0	0.0
1960	1324	1324	0	0.0
1961	4937	4937	0	0.0
1962	2616	2616	0	0.0
1963	3114	3114	0	0.0
1964	3831	3831	0	0.0
1965	4463	4463	0	0.0
1966	3653	3653	0	0.0
1967	425	425	0	0.0
1968	4325	4325	0	0.0
1969	1237	1237	0	0.0
1970	4755	4755	0	0.0
1971	3923	3923	0	0.0
1972	3451	3451	0	0.0
1973	2837	2837	0	0.0
1974	3003	3003	0	0.0
1975	4006	4006	0	0.0
1976	2363	2363	0	0.0
1977	139	139	0	0.0
1978	1640	1640	0	0.0
1979	4512	4512	0	0.0
1980	1686	1686	0	0.0
1981	4320	4320	0	0.0
1982	983	983	0	0.0
1983	1604	1604	0	0.0
1984	4559	4559	0	0.0
1985	3707	3707	0	0.0
1986	1552	1552	0	0.0
1987	3009	3009	0	0.0
1988	2173	2173	0	0.0
1989	3985	3985	0	0.0
1990	1662	1662	0	0.0
1991	1204	1204	0	0.0
1992	3646	3646	0	0.0
1993	1305	1305	0	0.0
Mean:	2820	2820	0	0.0
Median:	2920	2920	0	0.0
Min:	139	139	0	0.0
Max:	4937	4937	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4061	4061	0	0.0
1923	2280	2280	0	0.0
1924	1759	1759	0	0.0
1925	2480	2480	0	0.0
1926	3246	3246	0	0.0
1927	3252	3252	0	0.0
1928	2680	2680	0	0.0
1929	2119	2119	0	0.0
1930	2367	2367	0	0.0
1931	1067	1067	0	0.0
1932	1230	1230	0	0.0
1933	1784	1784	0	0.0
1934	2497	2497	0	0.0
1935	3515	3515	0	0.0
1936	2294	2294	0	0.0
1937	2741	2741	0	0.0
1938	185	185	0	0.0
1939	2826	2826	0	0.0
1940	2212	2212	0	0.0
1941	2886	2886	0	0.0
1942	3378	3378	0	0.0
1943	3211	3211	0	0.0
1944	2340	2340	0	0.0
1945	2475	2475	0	0.0
1946	3091	3091	0	0.0
1947	1812	1812	0	0.0
1948	1404	1404	0	0.0
1949	1992	1992	0	0.0
1950	1332	1332	0	0.0
1951	3011	3011	0	0.0
1952	2253	2253	0	0.0
1953	3687	3687	0	0.0
1954	2834	2834	0	0.0
1955	1477	1477	0	0.0
1956	3157	3157	0	0.0
1957	3567	3567	0	0.0
1958	2341	2341	0	0.0
1959	3430	3430	0	0.0
1960	0	0	0	0.0
1961	2726	2726	0	0.0
1962	2555	2555	0	0.0
1963	2668	2668	0	0.0
1964	1543	1543	0	0.0
1965	3738	3738	0	0.0
1966	2427	2427	0	0.0
1967	0	0	0	0.0
1968	3576	3576	0	0.0
1969	182	182	0	0.0
1970	2918	2918	0	0.0
1971	3110	3110	0	0.0
1972	2562	2562	0	0.0
1973	2789	2789	0	0.0
1974	2673	2673	0	0.0
1975	3210	3210	0	0.0
1976	1516	1516	0	0.0
1977	0	0	0	0.0
1978	1989	1989	0	0.0
1979	3818	3818	0	0.0
1980	1677	1677	0	0.0
1981	3541	3541	0	0.0
1982	2174	2174	0	0.0
1983	608	608	0	0.0
1984	3822	3822	0	0.0
1985	1453	1453	0	0.0
1986	3737	3737	0	0.0
1987	3764	3764	0	0.0
1988	2889	2889	0	0.0
1989	1140	1140	0	0.0
1990	1764	1764	0	0.0
1991	2178	2178	0	0.0
1992	3799	3799	0	0.0
1993	2393	2393	0	0.0
Mean:	2406	2406	0	0.0
Median:	2489	2489	0	0.0
Min:	0	0	0	0.0
Max:	4061	4061	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2476	2476	0	0.0
1923	1210	1210	0	0.0
1924	584	584	0	0.0
1925	1908	1908	0	0.0
1926	2820	2820	0	0.0
1927	1908	1908	0	0.0
1928	1060	1060	0	0.0
1929	1743	1743	0	0.0
1930	1928	1928	0	0.0
1931	1043	1043	0	0.0
1932	0	0	0	0.0
1933	1709	1709	0	0.0
1934	2099	2099	0	0.0
1935	221	221	0	0.0
1936	541	541	0	0.0
1937	132	132	0	0.0
1938	1432	1432	0	0.0
1939	2309	2309	0	0.0
1940	1140	1140	0	0.0
1941	1645	1645	0	0.0
1942	1998	1998	0	0.0
1943	1879	1879	0	0.0
1944	1884	1884	0	0.0
1945	1351	1351	0	0.0
1946	1661	1661	0	0.0
1947	875	875	0	0.0
1948	582	582	0	0.0
1949	907	907	0	0.0
1950	64	64	0	0.0
1951	1735	1735	0	0.0
1952	1541	1541	0	0.0
1953	1958	1958	0	0.0
1954	1442	1442	0	0.0
1955	635	635	0	0.0
1956	1840	1840	0	0.0
1957	2133	2133	0	0.0
1958	1254	1254	0	0.0
1959	1972	1972	0	0.0
1960	0	0	0	0.0
1961	979	979	0	0.0
1962	1408	1408	0	0.0
1963	1489	1489	0	0.0
1964	843	843	0	0.0
1965	1975	1975	0	0.0
1966	1316	1316	0	0.0
1967	873	873	0	0.0
1968	2059	2059	0	0.0
1969	1585	1585	0	0.0
1970	1400	1400	0	0.0
1971	1669	1669	0	0.0
1972	1413	1413	0	0.0
1973	1576	1576	0	0.0
1974	1493	1493	0	0.0
1975	1878	1878	0	0.0
1976	609	609	0	0.0
1977	0	0	0	0.0
1978	1870	1870	0	0.0
1979	2309	2309	0	0.0
1980	1776	1776	0	0.0
1981	2030	2030	0	0.0
1982	1362	1362	0	0.0
1983	406	406	0	0.0
1984	2128	2128	0	0.0
1985	384	384	0	0.0
1986	1286	1286	0	0.0
1987	3090	3090	0	0.0
1988	1545	1545	0	0.0
1989	903	903	0	0.0
1990	1476	1476	0	0.0
1991	0	0	0	0.0
1992	1655	1655	0	0.0
1993	1291	1291	0	0.0
Mean:	1385	1385	0	0.0
Median:	1483	1483	0	0.0
Min:	0	0	0	0.0
Max:	3090	3090	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Release

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	175	175	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	4	4	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	2	2	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	175	175	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	364	364	0	0.0
1923	323	323	0	0.0
1924	171	171	0	0.0
1925	144	144	0	0.0
1926	250	250	0	0.0
1927	235	235	0	0.0
1928	237	237	0	0.0
1929	157	157	0	0.0
1930	130	130	0	0.0
1931	237	237	0	0.0
1932	90	90	0	0.0
1933	825	825	0	0.0
1934	554	554	0	0.0
1935	193	193	0	0.0
1936	477	477	0	0.0
1937	355	355	0	0.0
1938	754	754	0	0.0
1939	593	593	0	0.0
1940	90	90	0	0.0
1941	169	169	0	0.0
1942	409	409	0	0.0
1943	341	341	0	0.0
1944	260	260	0	0.0
1945	173	173	0	0.0
1946	245	245	0	0.0
1947	146	146	0	0.0
1948	130	130	0	0.0
1949	243	243	0	0.0
1950	162	162	0	0.0
1951	327	327	0	0.0
1952	166	166	0	0.0
1953	472	472	0	0.0
1954	132	132	0	0.0
1955	152	152	0	0.0
1956	164	164	0	0.0
1957	392	392	0	0.0
1958	158	158	0	0.0
1959	453	453	0	0.0
1960	135	135	0	0.0
1961	192	192	0	0.0
1962	143	143	0	0.0
1963	211	211	0	0.0
1964	234	234	0	0.0
1965	137	137	0	0.0
1966	132	132	0	0.0
1967	162	162	0	0.0
1968	624	624	0	0.0
1969	135	135	0	0.0
1970	599	599	0	0.0
1971	150	150	0	0.0
1972	145	145	0	0.0
1973	178	178	0	0.0
1974	254	254	0	0.0
1975	250	250	0	0.0
1976	182	182	0	0.0
1977	210	210	0	0.0
1978	90	90	0	0.0
1979	497	497	0	0.0
1980	135	135	0	0.0
1981	506	506	0	0.0
1982	135	135	0	0.0
1983	470	470	0	0.0
1984	826	826	0	0.0
1985	130	130	0	0.0
1986	135	135	0	0.0
1987	361	361	0	0.0
1988	90	90	0	0.0
1989	189	189	0	0.0
1990	272	272	0	0.0
1991	106	106	0	0.0
1992	223	223	0	0.0
1993	199	199	0	0.0
Mean:	268	268	0	0.0
Median:	196	196	0	0.0
Min:	90	90	0	0.0
Max:	826	826	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	494	494	0	0.0
1923	456	456	0	0.0
1924	254	254	0	0.0
1925	166	166	0	0.0
1926	332	332	0	0.0
1927	403	403	0	0.0
1928	376	376	0	0.0
1929	300	300	0	0.0
1930	165	165	0	0.0
1931	244	244	0	0.0
1932	139	139	0	0.0
1933	960	960	0	0.0
1934	539	539	0	0.0
1935	338	338	0	0.0
1936	529	529	0	0.0
1937	483	483	0	0.0
1938	912	912	0	0.0
1939	737	737	0	0.0
1940	135	135	0	0.0
1941	316	316	0	0.0
1942	550	550	0	0.0
1943	479	479	0	0.0
1944	375	375	0	0.0
1945	326	326	0	0.0
1946	390	390	0	0.0
1947	285	285	0	0.0
1948	181	181	0	0.0
1949	324	324	0	0.0
1950	311	311	0	0.0
1951	488	488	0	0.0
1952	307	307	0	0.0
1953	614	614	0	0.0
1954	268	268	0	0.0
1955	294	294	0	0.0
1956	318	318	0	0.0
1957	531	531	0	0.0
1958	295	295	0	0.0
1959	599	599	0	0.0
1960	98	98	0	0.0
1961	338	338	0	0.0
1962	191	191	0	0.0
1963	355	355	0	0.0
1964	377	377	0	0.0
1965	290	290	0	0.0
1966	267	267	0	0.0
1967	307	307	0	0.0
1968	805	805	0	0.0
1969	271	271	0	0.0
1970	741	741	0	0.0
1971	291	291	0	0.0
1972	285	285	0	0.0
1973	322	322	0	0.0
1974	396	396	0	0.0
1975	393	393	0	0.0
1976	321	321	0	0.0
1977	228	228	0	0.0
1978	126	126	0	0.0
1979	636	636	0	0.0
1980	270	270	0	0.0
1981	645	645	0	0.0
1982	272	272	0	0.0
1983	649	649	0	0.0
1984	972	972	0	0.0
1985	264	264	0	0.0
1986	188	188	0	0.0
1987	506	506	0	0.0
1988	171	171	0	0.0
1989	225	225	0	0.0
1990	276	276	0	0.0
1991	120	120	0	0.0
1992	293	293	0	0.0
1993	188	188	0	0.0
Mean:	379	379	0	0.0
Median:	320	320	0	0.0
Min:	98	98	0	0.0
Max:	972	972	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	646	646	0	0.0
1923	614	614	0	0.0
1924	260	260	0	0.0
1925	391	391	0	0.0
1926	473	473	0	0.0
1927	535	535	0	0.0
1928	541	541	0	0.0
1929	472	472	0	0.0
1930	378	378	0	0.0
1931	250	250	0	0.0
1932	288	288	0	0.0
1933	972	972	0	0.0
1934	763	763	0	0.0
1935	542	542	0	0.0
1936	543	543	0	0.0
1937	479	479	0	0.0
1938	910	910	0	0.0
1939	910	910	0	0.0
1940	157	157	0	0.0
1941	504	504	0	0.0
1942	729	729	0	0.0
1943	643	643	0	0.0
1944	537	537	0	0.0
1945	511	511	0	0.0
1946	565	565	0	0.0
1947	452	452	0	0.0
1948	224	224	0	0.0
1949	511	511	0	0.0
1950	411	411	0	0.0
1951	700	700	0	0.0
1952	399	399	0	0.0
1953	786	786	0	0.0
1954	429	429	0	0.0
1955	464	464	0	0.0
1956	522	522	0	0.0
1957	697	697	0	0.0
1958	382	382	0	0.0
1959	775	775	0	0.0
1960	53	53	0	0.0
1961	523	523	0	0.0
1962	362	362	0	0.0
1963	529	529	0	0.0
1964	549	549	0	0.0
1965	476	476	0	0.0
1966	427	427	0	0.0
1967	407	407	0	0.0
1968	972	972	0	0.0
1969	358	358	0	0.0
1970	911	911	0	0.0
1971	460	460	0	0.0
1972	452	452	0	0.0
1973	496	496	0	0.0
1974	566	566	0	0.0
1975	565	565	0	0.0
1976	487	487	0	0.0
1977	222	222	0	0.0
1978	350	350	0	0.0
1979	768	768	0	0.0
1980	429	429	0	0.0
1981	813	813	0	0.0
1982	359	359	0	0.0
1983	779	779	0	0.0
1984	972	972	0	0.0
1985	424	424	0	0.0
1986	300	300	0	0.0
1987	683	683	0	0.0
1988	367	367	0	0.0
1989	382	382	0	0.0
1990	236	236	0	0.0
1991	125	125	0	0.0
1992	341	341	0	0.0
1993	397	397	0	0.0
Mean:	513	513	0	0.0
Median:	483	483	0	0.0
Min:	53	53	0	0.0
Max:	972	972	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	770	770	0	0.0
1923	685	685	0	0.0
1924	424	424	0	0.0
1925	625	625	0	0.0
1926	658	658	0	0.0
1927	683	683	0	0.0
1928	687	687	0	0.0
1929	628	628	0	0.0
1930	526	526	0	0.0
1931	448	448	0	0.0
1932	459	459	0	0.0
1933	972	972	0	0.0
1934	897	897	0	0.0
1935	701	701	0	0.0
1936	657	657	0	0.0
1937	603	603	0	0.0
1938	905	905	0	0.0
1939	972	972	0	0.0
1940	341	341	0	0.0
1941	687	687	0	0.0
1942	900	900	0	0.0
1943	805	805	0	0.0
1944	683	683	0	0.0
1945	612	612	0	0.0
1946	725	725	0	0.0
1947	601	601	0	0.0
1948	397	397	0	0.0
1949	691	691	0	0.0
1950	522	522	0	0.0
1951	910	910	0	0.0
1952	492	492	0	0.0
1953	941	941	0	0.0
1954	567	567	0	0.0
1955	621	621	0	0.0
1956	643	643	0	0.0
1957	845	845	0	0.0
1958	447	447	0	0.0
1959	937	937	0	0.0
1960	109	109	0	0.0
1961	733	733	0	0.0
1962	518	518	0	0.0
1963	613	613	0	0.0
1964	706	706	0	0.0
1965	671	671	0	0.0
1966	583	583	0	0.0
1967	511	511	0	0.0
1968	972	972	0	0.0
1969	442	442	0	0.0
1970	972	972	0	0.0
1971	614	614	0	0.0
1972	600	600	0	0.0
1973	597	597	0	0.0
1974	664	664	0	0.0
1975	722	722	0	0.0
1976	633	633	0	0.0
1977	221	221	0	0.0
1978	522	522	0	0.0
1979	930	930	0	0.0
1980	584	584	0	0.0
1981	961	961	0	0.0
1982	443	443	0	0.0
1983	835	835	0	0.0
1984	972	972	0	0.0
1985	560	560	0	0.0
1986	421	421	0	0.0
1987	846	846	0	0.0
1988	561	561	0	0.0
1989	522	522	0	0.0
1990	424	424	0	0.0
1991	195	195	0	0.0
1992	559	559	0	0.0
1993	530	530	0	0.0
Mean:	645	645	0	0.0
Median:	627	627	0	0.0
Min:	109	109	0	0.0
Max:	972	972	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	840	840	0	0.0
1923	765	765	0	0.0
1924	519	519	0	0.0
1925	824	824	0	0.0
1926	798	798	0	0.0
1927	888	888	0	0.0
1928	792	792	0	0.0
1929	719	719	0	0.0
1930	681	681	0	0.0
1931	509	509	0	0.0
1932	689	689	0	0.0
1933	972	972	0	0.0
1934	903	903	0	0.0
1935	713	713	0	0.0
1936	827	827	0	0.0
1937	775	775	0	0.0
1938	894	894	0	0.0
1939	972	972	0	0.0
1940	481	481	0	0.0
1941	842	842	0	0.0
1942	972	972	0	0.0
1943	898	898	0	0.0
1944	789	789	0	0.0
1945	778	778	0	0.0
1946	809	809	0	0.0
1947	701	701	0	0.0
1948	532	532	0	0.0
1949	753	753	0	0.0
1950	628	628	0	0.0
1951	972	972	0	0.0
1952	632	632	0	0.0
1953	972	972	0	0.0
1954	654	654	0	0.0
1955	727	727	0	0.0
1956	821	821	0	0.0
1957	943	943	0	0.0
1958	539	539	0	0.0
1959	972	972	0	0.0
1960	193	193	0	0.0
1961	909	909	0	0.0
1962	634	634	0	0.0
1963	746	746	0	0.0
1964	809	809	0	0.0
1965	804	804	0	0.0
1966	670	670	0	0.0
1967	639	639	0	0.0
1968	972	972	0	0.0
1969	571	571	0	0.0
1970	972	972	0	0.0
1971	718	718	0	0.0
1972	708	708	0	0.0
1973	738	738	0	0.0
1974	770	770	0	0.0
1975	831	831	0	0.0
1976	701	701	0	0.0
1977	201	201	0	0.0
1978	746	746	0	0.0
1979	972	972	0	0.0
1980	717	717	0	0.0
1981	972	972	0	0.0
1982	550	550	0	0.0
1983	972	972	0	0.0
1984	972	972	0	0.0
1985	645	645	0	0.0
1986	591	591	0	0.0
1987	961	961	0	0.0
1988	722	722	0	0.0
1989	506	506	0	0.0
1990	551	551	0	0.0
1991	243	243	0	0.0
1992	761	761	0	0.0
1993	683	683	0	0.0
Mean:	745	745	0	0.0
Median:	757	757	0	0.0
Min:	193	193	0	0.0
Max:	972	972	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	972	972	0	0.0
1923	814	814	0	0.0
1924	489	489	0	0.0
1925	738	738	0	0.0
1926	881	881	0	0.0
1927	972	972	0	0.0
1928	902	902	0	0.0
1929	665	665	0	0.0
1930	822	822	0	0.0
1931	484	484	0	0.0
1932	765	765	0	0.0
1933	972	972	0	0.0
1934	859	859	0	0.0
1935	879	879	0	0.0
1936	844	844	0	0.0
1937	934	934	0	0.0
1938	917	917	0	0.0
1939	972	972	0	0.0
1940	611	611	0	0.0
1941	947	947	0	0.0
1942	972	972	0	0.0
1943	972	972	0	0.0
1944	890	890	0	0.0
1945	888	888	0	0.0
1946	841	841	0	0.0
1947	836	836	0	0.0
1948	617	617	0	0.0
1949	873	873	0	0.0
1950	755	755	0	0.0
1951	972	972	0	0.0
1952	753	753	0	0.0
1953	972	972	0	0.0
1954	774	774	0	0.0
1955	778	778	0	0.0
1956	972	972	0	0.0
1957	972	972	0	0.0
1958	666	666	0	0.0
1959	971	971	0	0.0
1960	342	342	0	0.0
1961	972	972	0	0.0
1962	755	755	0	0.0
1963	858	858	0	0.0
1964	874	874	0	0.0
1965	918	918	0	0.0
1966	788	788	0	0.0
1967	745	745	0	0.0
1968	972	972	0	0.0
1969	766	766	0	0.0
1970	972	972	0	0.0
1971	832	832	0	0.0
1972	822	822	0	0.0
1973	851	851	0	0.0
1974	880	880	0	0.0
1975	937	937	0	0.0
1976	706	706	0	0.0
1977	172	172	0	0.0
1978	928	928	0	0.0
1979	972	972	0	0.0
1980	902	902	0	0.0
1981	972	972	0	0.0
1982	698	698	0	0.0
1983	972	972	0	0.0
1984	972	972	0	0.0
1985	688	688	0	0.0
1986	784	784	0	0.0
1987	972	972	0	0.0
1988	661	661	0	0.0
1989	672	672	0	0.0
1990	598	598	0	0.0
1991	419	419	0	0.0
1992	886	886	0	0.0
1993	800	800	0	0.0
Mean:	819	819	0	0.0
Median:	859	859	0	0.0
Min:	172	172	0	0.0
Max:	972	972	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	972	972	0	0.0
1923	785	785	0	0.0
1924	448	448	0	0.0
1925	745	745	0	0.0
1926	923	923	0	0.0
1927	949	949	0	0.0
1928	863	863	0	0.0
1929	596	596	0	0.0
1930	779	779	0	0.0
1931	441	441	0	0.0
1932	789	789	0	0.0
1933	930	930	0	0.0
1934	800	800	0	0.0
1935	940	940	0	0.0
1936	753	753	0	0.0
1937	972	972	0	0.0
1938	845	845	0	0.0
1939	912	912	0	0.0
1940	628	628	0	0.0
1941	903	903	0	0.0
1942	949	949	0	0.0
1943	965	965	0	0.0
1944	807	807	0	0.0
1945	823	823	0	0.0
1946	799	799	0	0.0
1947	768	768	0	0.0
1948	618	618	0	0.0
1949	729	729	0	0.0
1950	647	647	0	0.0
1951	905	905	0	0.0
1952	829	829	0	0.0
1953	918	918	0	0.0
1954	760	760	0	0.0
1955	712	712	0	0.0
1956	955	955	0	0.0
1957	937	937	0	0.0
1958	751	751	0	0.0
1959	883	883	0	0.0
1960	259	259	0	0.0
1961	872	872	0	0.0
1962	706	706	0	0.0
1963	861	861	0	0.0
1964	763	763	0	0.0
1965	916	916	0	0.0
1966	735	735	0	0.0
1967	694	694	0	0.0
1968	909	909	0	0.0
1969	841	841	0	0.0
1970	910	910	0	0.0
1971	813	813	0	0.0
1972	742	742	0	0.0
1973	838	838	0	0.0
1974	862	862	0	0.0
1975	919	919	0	0.0
1976	624	624	0	0.0
1977	131	131	0	0.0
1978	963	963	0	0.0
1979	945	945	0	0.0
1980	939	939	0	0.0
1981	905	905	0	0.0
1982	780	780	0	0.0
1983	972	972	0	0.0
1984	941	941	0	0.0
1985	627	627	0	0.0
1986	834	834	0	0.0
1987	931	931	0	0.0
1988	622	622	0	0.0
1989	658	658	0	0.0
1990	536	536	0	0.0
1991	367	367	0	0.0
1992	813	813	0	0.0
1993	784	784	0	0.0
Mean:	788	788	0	0.0
Median:	818	818	0	0.0
Min:	131	131	0	0.0
Max:	972	972	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	887	887	0	0.0
1923	557	557	0	0.0
1924	370	370	0	0.0
1925	578	578	0	0.0
1926	835	835	0	0.0
1927	734	734	0	0.0
1928	621	621	0	0.0
1929	477	477	0	0.0
1930	615	615	0	0.0
1931	360	360	0	0.0
1932	715	715	0	0.0
1933	852	852	0	0.0
1934	697	697	0	0.0
1935	793	793	0	0.0
1936	626	626	0	0.0
1937	943	943	0	0.0
1938	713	713	0	0.0
1939	730	730	0	0.0
1940	496	496	0	0.0
1941	762	762	0	0.0
1942	755	755	0	0.0
1943	812	812	0	0.0
1944	646	646	0	0.0
1945	589	589	0	0.0
1946	637	637	0	0.0
1947	555	555	0	0.0
1948	421	421	0	0.0
1949	511	511	0	0.0
1950	473	473	0	0.0
1951	651	651	0	0.0
1952	738	738	0	0.0
1953	725	725	0	0.0
1954	595	595	0	0.0
1955	511	511	0	0.0
1956	792	792	0	0.0
1957	747	747	0	0.0
1958	673	673	0	0.0
1959	697	697	0	0.0
1960	127	127	0	0.0
1961	629	629	0	0.0
1962	558	558	0	0.0
1963	627	627	0	0.0
1964	561	561	0	0.0
1965	732	732	0	0.0
1966	584	584	0	0.0
1967	588	588	0	0.0
1968	719	719	0	0.0
1969	747	747	0	0.0
1970	659	659	0	0.0
1971	639	639	0	0.0
1972	575	575	0	0.0
1973	650	650	0	0.0
1974	640	640	0	0.0
1975	704	704	0	0.0
1976	485	485	0	0.0
1977	56	56	0	0.0
1978	811	811	0	0.0
1979	767	767	0	0.0
1980	792	792	0	0.0
1981	716	716	0	0.0
1982	698	698	0	0.0
1983	819	819	0	0.0
1984	754	754	0	0.0
1985	428	428	0	0.0
1986	708	708	0	0.0
1987	786	786	0	0.0
1988	532	532	0	0.0
1989	547	547	0	0.0
1990	430	430	0	0.0
1991	318	318	0	0.0
1992	697	697	0	0.0
1993	682	682	0	0.0
Mean:	634	634	0	0.0
Median:	651	651	0	0.0
Min:	56	56	0	0.0
Max:	943	943	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	701	701	0	0.0
1923	304	304	0	0.0
1924	254	254	0	0.0
1925	426	426	0	0.0
1926	635	635	0	0.0
1927	507	507	0	0.0
1928	317	317	0	0.0
1929	353	353	0	0.0
1930	432	432	0	0.0
1931	241	241	0	0.0
1932	639	639	0	0.0
1933	735	735	0	0.0
1934	543	543	0	0.0
1935	674	674	0	0.0
1936	427	427	0	0.0
1937	820	820	0	0.0
1938	630	630	0	0.0
1939	488	488	0	0.0
1940	289	289	0	0.0
1941	632	632	0	0.0
1942	631	631	0	0.0
1943	526	526	0	0.0
1944	433	433	0	0.0
1945	408	408	0	0.0
1946	383	383	0	0.0
1947	300	300	0	0.0
1948	259	259	0	0.0
1949	260	260	0	0.0
1950	317	317	0	0.0
1951	401	401	0	0.0
1952	647	647	0	0.0
1953	440	440	0	0.0
1954	352	352	0	0.0
1955	281	281	0	0.0
1956	653	653	0	0.0
1957	467	467	0	0.0
1958	602	602	0	0.0
1959	425	425	0	0.0
1960	45	45	0	0.0
1961	315	315	0	0.0
1962	383	383	0	0.0
1963	422	422	0	0.0
1964	317	317	0	0.0
1965	444	444	0	0.0
1966	348	348	0	0.0
1967	545	545	0	0.0
1968	439	439	0	0.0
1969	653	653	0	0.0
1970	355	355	0	0.0
1971	385	385	0	0.0
1972	350	350	0	0.0
1973	460	460	0	0.0
1974	441	441	0	0.0
1975	444	444	0	0.0
1976	332	332	0	0.0
1977	45	45	0	0.0
1978	691	691	0	0.0
1979	476	476	0	0.0
1980	670	670	0	0.0
1981	435	435	0	0.0
1982	620	620	0	0.0
1983	702	702	0	0.0
1984	460	460	0	0.0
1985	191	191	0	0.0
1986	596	596	0	0.0
1987	591	591	0	0.0
1988	390	390	0	0.0
1989	294	294	0	0.0
1990	320	320	0	0.0
1991	236	236	0	0.0
1992	464	464	0	0.0
1993	584	584	0	0.0
Mean:	448	448	0	0.0
Median:	434	434	0	0.0
Min:	45	45	0	0.0
Max:	820	820	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	425	425	0	0.0
1923	144	144	0	0.0
1924	135	135	0	0.0
1925	256	256	0	0.0
1926	420	420	0	0.0
1927	283	283	0	0.0
1928	131	131	0	0.0
1929	210	210	0	0.0
1930	270	270	0	0.0
1931	165	165	0	0.0
1932	548	548	0	0.0
1933	611	611	0	0.0
1934	375	375	0	0.0
1935	439	439	0	0.0
1936	268	268	0	0.0
1937	632	632	0	0.0
1938	595	595	0	0.0
1939	295	295	0	0.0
1940	134	134	0	0.0
1941	431	431	0	0.0
1942	398	398	0	0.0
1943	304	304	0	0.0
1944	270	270	0	0.0
1945	234	234	0	0.0
1946	170	170	0	0.0
1947	170	170	0	0.0
1948	155	155	0	0.0
1949	119	119	0	0.0
1950	218	218	0	0.0
1951	193	193	0	0.0
1952	485	485	0	0.0
1953	189	189	0	0.0
1954	155	155	0	0.0
1955	173	173	0	0.0
1956	434	434	0	0.0
1957	223	223	0	0.0
1958	436	436	0	0.0
1959	190	190	0	0.0
1960	64	64	0	0.0
1961	126	126	0	0.0
1962	205	205	0	0.0
1963	237	237	0	0.0
1964	205	205	0	0.0
1965	191	191	0	0.0
1966	178	178	0	0.0
1967	571	571	0	0.0
1968	195	195	0	0.0
1969	617	617	0	0.0
1970	153	153	0	0.0
1971	171	171	0	0.0
1972	172	172	0	0.0
1973	266	266	0	0.0
1974	254	254	0	0.0
1975	223	223	0	0.0
1976	224	224	0	0.0
1977	70	70	0	0.0
1978	544	544	0	0.0
1979	216	216	0	0.0
1980	542	542	0	0.0
1981	194	194	0	0.0
1982	464	464	0	0.0
1983	639	639	0	0.0
1984	200	200	0	0.0
1985	85	85	0	0.0
1986	344	344	0	0.0
1987	342	342	0	0.0
1988	198	198	0	0.0
1989	207	207	0	0.0
1990	201	201	0	0.0
1991	90	90	0	0.0
1992	213	213	0	0.0
1993	415	415	0	0.0
Mean:	282	282	0	0.0
Median:	221	221	0	0.0
Min:	64	64	0	0.0
Max:	639	639	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	246	246	0	0.0
1923	49	49	0	0.0
1924	90	90	0	0.0
1925	121	121	0	0.0
1926	232	232	0	0.0
1927	142	142	0	0.0
1928	45	45	0	0.0
1929	91	91	0	0.0
1930	135	135	0	0.0
1931	90	90	0	0.0
1932	590	590	0	0.0
1933	493	493	0	0.0
1934	232	232	0	0.0
1935	407	407	0	0.0
1936	216	216	0	0.0
1937	605	605	0	0.0
1938	483	483	0	0.0
1939	135	135	0	0.0
1940	45	45	0	0.0
1941	305	305	0	0.0
1942	250	250	0	0.0
1943	164	164	0	0.0
1944	136	136	0	0.0
1945	130	130	0	0.0
1946	45	45	0	0.0
1947	98	98	0	0.0
1948	102	102	0	0.0
1949	45	45	0	0.0
1950	197	197	0	0.0
1951	64	64	0	0.0
1952	366	366	0	0.0
1953	45	45	0	0.0
1954	45	45	0	0.0
1955	116	116	0	0.0
1956	296	296	0	0.0
1957	68	68	0	0.0
1958	336	336	0	0.0
1959	45	45	0	0.0
1960	97	97	0	0.0
1961	45	45	0	0.0
1962	97	97	0	0.0
1963	123	123	0	0.0
1964	135	135	0	0.0
1965	45	45	0	0.0
1966	77	77	0	0.0
1967	496	496	0	0.0
1968	45	45	0	0.0
1969	495	495	0	0.0
1970	45	45	0	0.0
1971	45	45	0	0.0
1972	64	64	0	0.0
1973	146	146	0	0.0
1974	140	140	0	0.0
1975	85	85	0	0.0
1976	173	173	0	0.0
1977	90	90	0	0.0
1978	403	403	0	0.0
1979	50	50	0	0.0
1980	408	408	0	0.0
1981	45	45	0	0.0
1982	357	357	0	0.0
1983	588	588	0	0.0
1984	45	45	0	0.0
1985	45	45	0	0.0
1986	243	243	0	0.0
1987	135	135	0	0.0
1988	90	90	0	0.0
1989	135	135	0	0.0
1990	99	99	0	0.0
1991	90	90	0	0.0
1992	94	94	0	0.0
1993	313	313	0	0.0
Mean:	179	179	0	0.0
Median:	122	122	0	0.0
Min:	45	45	0	0.0
Max:	605	605	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

CVP San Luis Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	255	255	0	0.0
1923	87	87	0	0.0
1924	98	98	0	0.0
1925	172	172	0	0.0
1926	248	248	0	0.0
1927	163	163	0	0.0
1928	76	76	0	0.0
1929	90	90	0	0.0
1930	183	183	0	0.0
1931	90	90	0	0.0
1932	698	698	0	0.0
1933	531	531	0	0.0
1934	208	208	0	0.0
1935	460	460	0	0.0
1936	265	265	0	0.0
1937	658	658	0	0.0
1938	513	513	0	0.0
1939	151	151	0	0.0
1940	84	84	0	0.0
1941	331	331	0	0.0
1942	268	268	0	0.0
1943	186	186	0	0.0
1944	181	181	0	0.0
1945	164	164	0	0.0
1946	69	69	0	0.0
1947	142	142	0	0.0
1948	151	151	0	0.0
1949	87	87	0	0.0
1950	253	253	0	0.0
1951	89	89	0	0.0
1952	393	393	0	0.0
1953	61	61	0	0.0
1954	74	74	0	0.0
1955	164	164	0	0.0
1956	317	317	0	0.0
1957	85	85	0	0.0
1958	370	370	0	0.0
1959	64	64	0	0.0
1960	135	135	0	0.0
1961	76	76	0	0.0
1962	130	130	0	0.0
1963	154	154	0	0.0
1964	141	141	0	0.0
1965	60	60	0	0.0
1966	112	112	0	0.0
1967	537	537	0	0.0
1968	62	62	0	0.0
1969	521	521	0	0.0
1970	72	72	0	0.0
1971	69	69	0	0.0
1972	97	97	0	0.0
1973	175	175	0	0.0
1974	170	170	0	0.0
1975	107	107	0	0.0
1976	224	224	0	0.0
1977	124	124	0	0.0
1978	423	423	0	0.0
1979	64	64	0	0.0
1980	431	431	0	0.0
1981	63	63	0	0.0
1982	389	389	0	0.0
1983	675	675	0	0.0
1984	59	59	0	0.0
1985	94	94	0	0.0
1986	278	278	0	0.0
1987	122	122	0	0.0
1988	163	163	0	0.0
1989	189	189	0	0.0
1990	90	90	0	0.0
1991	201	201	0	0.0
1992	90	90	0	0.0
1993	347	347	0	0.0
Mean:	210	210	0	0.0
Median:	159	159	0	0.0
Min:	59	59	0	0.0
Max:	698	698	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	940	940	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	289	289	0	0.0
1928	0	0	0	0.0
1929	168	168	0	0.0
1930	0	0	0	0.0
1931	1373	1373	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	217	217	0	0.0
1937	488	488	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	601	601	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	321	321	0	0.0
1946	0	0	0	0.0
1947	600	600	0	0.0
1948	0	0	0	0.0
1949	481	481	0	0.0
1950	1584	1584	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	125	125	0	0.0
1956	258	258	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	54	54	0	0.0
1961	978	978	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	112	112	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	137	137	0	0.0
1970	0	0	0	0.0
1971	117	117	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	151	151	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	242	242	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	870	870	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	10	10	0	0.0
1992	0	0	0	0.0
1993	287	287	0	0.0
Mean:	144	144	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	1584	1584	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	829	829	0	0.0
1923	0	0	0	0.0
1924	2319	2319	0	0.0
1925	0	0	0	0.0
1926	1050	1050	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	264	264	0	0.0
1930	1043	1043	0	0.0
1931	1505	1505	0	0.0
1932	381	381	0	0.0
1933	742	742	0	0.0
1934	1028	1028	0	0.0
1935	0	0	0	0.0
1936	1068	1068	0	0.0
1937	1841	1841	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	918	918	0	0.0
1941	1711	1711	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	2065	2065	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	1022	1022	0	0.0
1948	0	0	0	0.0
1949	2000	2000	0	0.0
1950	1473	1473	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	934	934	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	921	921	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	116	116	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	475	475	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	423	423	0	0.0
1978	0	0	0	0.0
1979	1614	1614	0	0.0
1980	0	0	0	0.0
1981	1574	1574	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	1813	1813	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	918	918	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	452	452	0	0.0
Mean:	424	424	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	2319	2319	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	87	87	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	68	68	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	512	512	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	562	562	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	2099	2099	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	943	943	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	59	59	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	2099	2099	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	7	7	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	7	7	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	6	6	0	0.0
1943	6	6	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	5	5	0	0.0
1954	0	0	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	0	0	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	8	8	0	0.0
1969	0	0	0	0.0
1970	5	5	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	7	7	0	0.0
1984	7	7	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	0	0	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	1	1	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	8	8	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	0	0	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	0	0	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	2354	2354	0	0.0
1947	0	0	0	0.0
1948	989	989	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	431	431	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	0	0	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	1008	1008	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	3301	3301	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	531	531	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	173	173	0	0.0
1989	381	381	0	0.0
1990	0	0	0	0.0
1991	404	404	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	133	133	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	3301	3301	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	304	304	0	0.0
1924	1139	1139	0	0.0
1925	1908	1908	0	0.0
1926	1619	1619	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	0	0	0	0.0
1930	0	0	0	0.0
1931	579	579	0	0.0
1932	0	0	0	0.0
1933	0	0	0	0.0
1934	1189	1189	0	0.0
1935	0	0	0	0.0
1936	0	0	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	0	0	0	0.0
1940	0	0	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	0	0	0	0.0
1945	0	0	0	0.0
1946	0	0	0	0.0
1947	0	0	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	0	0	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	0	0	0	0.0
1955	293	293	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	2445	2445	0	0.0
1960	0	0	0	0.0
1961	0	0	0	0.0
1962	0	0	0	0.0
1963	0	0	0	0.0
1964	2151	2151	0	0.0
1965	0	0	0	0.0
1966	0	0	0	0.0
1967	0	0	0	0.0
1968	0	0	0	0.0
1969	0	0	0	0.0
1970	0	0	0	0.0
1971	0	0	0	0.0
1972	0	0	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	0	0	0	0.0
1977	320	320	0	0.0
1978	0	0	0	0.0
1979	0	0	0	0.0
1980	0	0	0	0.0
1981	0	0	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	0	0	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	0	0	0	0.0
1988	906	906	0	0.0
1989	0	0	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	179	179	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	2445	2445	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	94	94	0	0.0
1924	900	900	0	0.0
1925	0	0	0	0.0
1926	159	159	0	0.0
1927	0	0	0	0.0
1928	0	0	0	0.0
1929	569	569	0	0.0
1930	1840	1840	0	0.0
1931	1306	1306	0	0.0
1932	0	0	0	0.0
1933	986	986	0	0.0
1934	2262	2262	0	0.0
1935	0	0	0	0.0
1936	166	166	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	2967	2967	0	0.0
1940	160	160	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	3193	3193	0	0.0
1945	1181	1181	0	0.0
1946	1828	1828	0	0.0
1947	2160	2160	0	0.0
1948	0	0	0	0.0
1949	922	922	0	0.0
1950	1688	1688	0	0.0
1951	1540	1540	0	0.0
1952	0	0	0	0.0
1953	1814	1814	0	0.0
1954	451	451	0	0.0
1955	1189	1189	0	0.0
1956	133	133	0	0.0
1957	1026	1026	0	0.0
1958	0	0	0	0.0
1959	2153	2153	0	0.0
1960	2762	2762	0	0.0
1961	2187	2187	0	0.0
1962	1363	1363	0	0.0
1963	0	0	0	0.0
1964	2386	2386	0	0.0
1965	0	0	0	0.0
1966	2245	2245	0	0.0
1967	0	0	0	0.0
1968	1914	1914	0	0.0
1969	0	0	0	0.0
1970	1283	1283	0	0.0
1971	1448	1448	0	0.0
1972	1672	1672	0	0.0
1973	0	0	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	2186	2186	0	0.0
1977	819	819	0	0.0
1978	0	0	0	0.0
1979	236	236	0	0.0
1980	0	0	0	0.0
1981	1913	1913	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	1226	1226	0	0.0
1985	2620	2620	0	0.0
1986	0	0	0	0.0
1987	2037	2037	0	0.0
1988	8	8	0	0.0
1989	2142	2142	0	0.0
1990	1378	1378	0	0.0
1991	342	342	0	0.0
1992	486	486	0	0.0
1993	85	85	0	0.0
Mean:	881	881	0	0.0
Median:	469	469	0	0.0
Min:	0	0	0	0.0
Max:	3193	3193	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	90	90	0	0.0
1923	2410	2410	0	0.0
1924	577	577	0	0.0
1925	34	34	0	0.0
1926	2978	2978	0	0.0
1927	1053	1053	0	0.0
1928	2891	2891	0	0.0
1929	1399	1399	0	0.0
1930	2548	2548	0	0.0
1931	423	423	0	0.0
1932	0	0	0	0.0
1933	1588	1588	0	0.0
1934	2561	2561	0	0.0
1935	6170	6170	0	0.0
1936	2890	2890	0	0.0
1937	0	0	0	0.0
1938	0	0	0	0.0
1939	3351	3351	0	0.0
1940	2829	2829	0	0.0
1941	0	0	0	0.0
1942	667	667	0	0.0
1943	2870	2870	0	0.0
1944	2014	2014	0	0.0
1945	2696	2696	0	0.0
1946	2415	2415	0	0.0
1947	3198	3198	0	0.0
1948	1197	1197	0	0.0
1949	2453	2453	0	0.0
1950	2072	2072	0	0.0
1951	2457	2457	0	0.0
1952	0	0	0	0.0
1953	1989	1989	0	0.0
1954	2773	2773	0	0.0
1955	675	675	0	0.0
1956	1078	1078	0	0.0
1957	2223	2223	0	0.0
1958	0	0	0	0.0
1959	3150	3150	0	0.0
1960	1679	1679	0	0.0
1961	4527	4527	0	0.0
1962	5238	5238	0	0.0
1963	994	994	0	0.0
1964	3831	3831	0	0.0
1965	2884	2884	0	0.0
1966	3372	3372	0	0.0
1967	0	0	0	0.0
1968	3457	3457	0	0.0
1969	0	0	0	0.0
1970	3008	3008	0	0.0
1971	1818	1818	0	0.0
1972	2611	2611	0	0.0
1973	2172	2172	0	0.0
1974	866	866	0	0.0
1975	904	904	0	0.0
1976	3421	3421	0	0.0
1977	2	2	0	0.0
1978	0	0	0	0.0
1979	2033	2033	0	0.0
1980	496	496	0	0.0
1981	3558	3558	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	2939	2939	0	0.0
1985	3643	3643	0	0.0
1986	1524	1524	0	0.0
1987	4868	4868	0	0.0
1988	25	25	0	0.0
1989	3646	3646	0	0.0
1990	457	457	0	0.0
1991	150	150	0	0.0
1992	1858	1858	0	0.0
1993	1054	1054	0	0.0
Mean:	1872	1872	0	0.0
Median:	2002	2002	0	0.0
Min:	0	0	0	0.0
Max:	6170	6170	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	648	648	0	0.0
1923	2527	2527	0	0.0
1924	1782	1782	0	0.0
1925	3495	3495	0	0.0
1926	3168	3168	0	0.0
1927	1918	1918	0	0.0
1928	3044	3044	0	0.0
1929	9	9	0	0.0
1930	3345	3345	0	0.0
1931	1658	1658	0	0.0
1932	2756	2756	0	0.0
1933	3127	3127	0	0.0
1934	3365	3365	0	0.0
1935	1981	1981	0	0.0
1936	2688	2688	0	0.0
1937	2040	2040	0	0.0
1938	0	0	0	0.0
1939	4994	4994	0	0.0
1940	3873	3873	0	0.0
1941	0	0	0	0.0
1942	862	862	0	0.0
1943	1865	1865	0	0.0
1944	3734	3734	0	0.0
1945	3500	3500	0	0.0
1946	3580	3580	0	0.0
1947	2838	2838	0	0.0
1948	1556	1556	0	0.0
1949	452	452	0	0.0
1950	1670	1670	0	0.0
1951	5110	5110	0	0.0
1952	0	0	0	0.0
1953	1219	1219	0	0.0
1954	5253	5253	0	0.0
1955	0	0	0	0.0
1956	966	966	0	0.0
1957	3714	3714	0	0.0
1958	14	14	0	0.0
1959	3365	3365	0	0.0
1960	1804	1804	0	0.0
1961	4540	4540	0	0.0
1962	4512	4512	0	0.0
1963	1463	1463	0	0.0
1964	3459	3459	0	0.0
1965	3828	3828	0	0.0
1966	3923	3923	0	0.0
1967	0	0	0	0.0
1968	3713	3713	0	0.0
1969	0	0	0	0.0
1970	3271	3271	0	0.0
1971	2795	2795	0	0.0
1972	3370	3370	0	0.0
1973	2212	2212	0	0.0
1974	987	987	0	0.0
1975	1855	1855	0	0.0
1976	4145	4145	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	4035	4035	0	0.0
1980	2544	2544	0	0.0
1981	4516	4516	0	0.0
1982	398	398	0	0.0
1983	0	0	0	0.0
1984	3351	3351	0	0.0
1985	4029	4029	0	0.0
1986	1463	1463	0	0.0
1987	5147	5147	0	0.0
1988	1577	1577	0	0.0
1989	2242	2242	0	0.0
1990	0	0	0	0.0
1991	1843	1843	0	0.0
1992	2511	2511	0	0.0
1993	1022	1022	0	0.0
Mean:	2315	2315	0	0.0
Median:	2377	2377	0	0.0
Min:	0	0	0	0.0
Max:	5253	5253	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	6784	6784	0	0.0
1923	4482	4482	0	0.0
1924	1799	1799	0	0.0
1925	0	0	0	0.0
1926	3081	3081	0	0.0
1927	5700	5700	0	0.0
1928	5123	5123	0	0.0
1929	1942	1942	0	0.0
1930	759	759	0	0.0
1931	199	199	0	0.0
1932	2898	2898	0	0.0
1933	3159	3159	0	0.0
1934	3472	3472	0	0.0
1935	1756	1756	0	0.0
1936	4283	4283	0	0.0
1937	7546	7546	0	0.0
1938	6912	6912	0	0.0
1939	2779	2779	0	0.0
1940	1412	1412	0	0.0
1941	5511	5511	0	0.0
1942	6402	6402	0	0.0
1943	4811	4811	0	0.0
1944	1643	1643	0	0.0
1945	1537	1537	0	0.0
1946	1556	1556	0	0.0
1947	521	521	0	0.0
1948	612	612	0	0.0
1949	3059	3059	0	0.0
1950	892	892	0	0.0
1951	2572	2572	0	0.0
1952	2297	2297	0	0.0
1953	4664	4664	0	0.0
1954	2944	2944	0	0.0
1955	1835	1835	0	0.0
1956	6046	6046	0	0.0
1957	3719	3719	0	0.0
1958	5089	5089	0	0.0
1959	1994	1994	0	0.0
1960	1381	1381	0	0.0
1961	3241	3241	0	0.0
1962	2713	2713	0	0.0
1963	5971	5971	0	0.0
1964	842	842	0	0.0
1965	3863	3863	0	0.0
1966	2439	2439	0	0.0
1967	720	720	0	0.0
1968	3343	3343	0	0.0
1969	5258	5258	0	0.0
1970	4478	4478	0	0.0
1971	1373	1373	0	0.0
1972	3010	3010	0	0.0
1973	4961	4961	0	0.0
1974	6150	6150	0	0.0
1975	5810	5810	0	0.0
1976	3416	3416	0	0.0
1977	348	348	0	0.0
1978	6222	6222	0	0.0
1979	3861	3861	0	0.0
1980	5690	5690	0	0.0
1981	2205	2205	0	0.0
1982	6149	6149	0	0.0
1983	0	0	0	0.0
1984	3412	3412	0	0.0
1985	1251	1251	0	0.0
1986	5986	5986	0	0.0
1987	2129	2129	0	0.0
1988	1606	1606	0	0.0
1989	1151	1151	0	0.0
1990	1975	1975	0	0.0
1991	1871	1871	0	0.0
1992	2532	2532	0	0.0
1993	6054	6054	0	0.0
Mean:	3239	3239	0	0.0
Median:	2977	2977	0	0.0
Min:	0	0	0	0.0
Max:	7546	7546	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	498	498	0	0.0
1923	2438	2438	0	0.0
1924	799	799	0	0.0
1925	3362	3362	0	0.0
1926	2564	2564	0	0.0
1927	1011	1011	0	0.0
1928	2975	2975	0	0.0
1929	1848	1848	0	0.0
1930	1315	1315	0	0.0
1931	28	28	0	0.0
1932	2774	2774	0	0.0
1933	3023	3023	0	0.0
1934	1286	1286	0	0.0
1935	2366	2366	0	0.0
1936	2215	2215	0	0.0
1937	1953	1953	0	0.0
1938	370	370	0	0.0
1939	640	640	0	0.0
1940	2178	2178	0	0.0
1941	2840	2840	0	0.0
1942	724	724	0	0.0
1943	677	677	0	0.0
1944	1615	1615	0	0.0
1945	1327	1327	0	0.0
1946	1892	1892	0	0.0
1947	750	750	0	0.0
1948	807	807	0	0.0
1949	1508	1508	0	0.0
1950	647	647	0	0.0
1951	1057	1057	0	0.0
1952	1378	1378	0	0.0
1953	1077	1077	0	0.0
1954	2903	2903	0	0.0
1955	3099	3099	0	0.0
1956	829	829	0	0.0
1957	2554	2554	0	0.0
1958	912	912	0	0.0
1959	1353	1353	0	0.0
1960	170	170	0	0.0
1961	509	509	0	0.0
1962	793	793	0	0.0
1963	1383	1383	0	0.0
1964	877	877	0	0.0
1965	0	0	0	0.0
1966	2387	2387	0	0.0
1967	538	538	0	0.0
1968	1922	1922	0	0.0
1969	4818	4818	0	0.0
1970	2276	2276	0	0.0
1971	1168	1168	0	0.0
1972	699	699	0	0.0
1973	1708	1708	0	0.0
1974	817	817	0	0.0
1975	946	946	0	0.0
1976	1461	1461	0	0.0
1977	0	0	0	0.0
1978	46	46	0	0.0
1979	873	873	0	0.0
1980	0	0	0	0.0
1981	2168	2168	0	0.0
1982	428	428	0	0.0
1983	0	0	0	0.0
1984	2806	2806	0	0.0
1985	198	198	0	0.0
1986	129	129	0	0.0
1987	648	648	0	0.0
1988	1516	1516	0	0.0
1989	764	764	0	0.0
1990	826	826	0	0.0
1991	1443	1443	0	0.0
1992	2055	2055	0	0.0
1993	871	871	0	0.0
Mean:	1373	1373	0	0.0
Median:	1123	1123	0	0.0
Min:	0	0	0	0.0
Max:	4818	4818	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Release

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	0	0	0	0.0
1923	0	0	0	0.0
1924	0	0	0	0.0
1925	0	0	0	0.0
1926	977	977	0	0.0
1927	319	319	0	0.0
1928	366	366	0	0.0
1929	329	329	0	0.0
1930	2187	2187	0	0.0
1931	0	0	0	0.0
1932	0	0	0	0.0
1933	1341	1341	0	0.0
1934	39	39	0	0.0
1935	2208	2208	0	0.0
1936	1438	1438	0	0.0
1937	998	998	0	0.0
1938	0	0	0	0.0
1939	587	587	0	0.0
1940	1977	1977	0	0.0
1941	0	0	0	0.0
1942	0	0	0	0.0
1943	0	0	0	0.0
1944	153	153	0	0.0
1945	903	903	0	0.0
1946	914	914	0	0.0
1947	352	352	0	0.0
1948	0	0	0	0.0
1949	0	0	0	0.0
1950	0	0	0	0.0
1951	494	494	0	0.0
1952	0	0	0	0.0
1953	0	0	0	0.0
1954	224	224	0	0.0
1955	0	0	0	0.0
1956	0	0	0	0.0
1957	0	0	0	0.0
1958	0	0	0	0.0
1959	635	635	0	0.0
1960	887	887	0	0.0
1961	382	382	0	0.0
1962	358	358	0	0.0
1963	0	0	0	0.0
1964	673	673	0	0.0
1965	0	0	0	0.0
1966	1361	1361	0	0.0
1967	0	0	0	0.0
1968	476	476	0	0.0
1969	0	0	0	0.0
1970	368	368	0	0.0
1971	0	0	0	0.0
1972	705	705	0	0.0
1973	101	101	0	0.0
1974	0	0	0	0.0
1975	0	0	0	0.0
1976	457	457	0	0.0
1977	0	0	0	0.0
1978	0	0	0	0.0
1979	296	296	0	0.0
1980	0	0	0	0.0
1981	437	437	0	0.0
1982	0	0	0	0.0
1983	0	0	0	0.0
1984	486	486	0	0.0
1985	0	0	0	0.0
1986	0	0	0	0.0
1987	462	462	0	0.0
1988	95	95	0	0.0
1989	528	528	0	0.0
1990	0	0	0	0.0
1991	0	0	0	0.0
1992	0	0	0	0.0
1993	0	0	0	0.0
Mean:	340	340	0	0.0
Median:	0	0	0	0.0
Min:	0	0	0	0.0
Max:	2208	2208	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	165	165	0	0.0
1923	754	754	0	0.0
1924	306	306	0	0.0
1925	162	162	0	0.0
1926	631	631	0	0.0
1927	124	124	0	0.0
1928	421	421	0	0.0
1929	145	145	0	0.0
1930	193	193	0	0.0
1931	223	223	0	0.0
1932	171	171	0	0.0
1933	618	618	0	0.0
1934	273	273	0	0.0
1935	110	110	0	0.0
1936	119	119	0	0.0
1937	165	165	0	0.0
1938	338	338	0	0.0
1939	865	865	0	0.0
1940	110	110	0	0.0
1941	237	237	0	0.0
1942	863	863	0	0.0
1943	739	739	0	0.0
1944	513	513	0	0.0
1945	131	131	0	0.0
1946	430	430	0	0.0
1947	226	226	0	0.0
1948	110	110	0	0.0
1949	383	383	0	0.0
1950	233	233	0	0.0
1951	552	552	0	0.0
1952	270	270	0	0.0
1953	1067	1067	0	0.0
1954	573	573	0	0.0
1955	139	139	0	0.0
1956	251	251	0	0.0
1957	697	697	0	0.0
1958	429	429	0	0.0
1959	912	912	0	0.0
1960	110	110	0	0.0
1961	293	293	0	0.0
1962	110	110	0	0.0
1963	269	269	0	0.0
1964	620	620	0	0.0
1965	110	110	0	0.0
1966	498	498	0	0.0
1967	90	90	0	0.0
1968	1067	1067	0	0.0
1969	123	123	0	0.0
1970	719	719	0	0.0
1971	131	131	0	0.0
1972	399	399	0	0.0
1973	321	321	0	0.0
1974	491	491	0	0.0
1975	715	715	0	0.0
1976	664	664	0	0.0
1977	110	110	0	0.0
1978	117	117	0	0.0
1979	851	851	0	0.0
1980	456	456	0	0.0
1981	807	807	0	0.0
1982	119	119	0	0.0
1983	870	870	0	0.0
1984	1067	1067	0	0.0
1985	232	232	0	0.0
1986	92	92	0	0.0
1987	730	730	0	0.0
1988	55	55	0	0.0
1989	110	110	0	0.0
1990	110	110	0	0.0
1991	110	110	0	0.0
1992	110	110	0	0.0
1993	137	137	0	0.0
Mean:	381	381	0	0.0
Median:	270	270	0	0.0
Min:	55	55	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	115	115	0	0.0
1923	827	827	0	0.0
1924	167	167	0	0.0
1925	226	226	0	0.0
1926	568	568	0	0.0
1927	299	299	0	0.0
1928	578	578	0	0.0
1929	129	129	0	0.0
1930	131	131	0	0.0
1931	132	132	0	0.0
1932	148	148	0	0.0
1933	573	573	0	0.0
1934	211	211	0	0.0
1935	156	156	0	0.0
1936	55	55	0	0.0
1937	55	55	0	0.0
1938	485	485	0	0.0
1939	925	925	0	0.0
1940	55	55	0	0.0
1941	134	134	0	0.0
1942	1020	1020	0	0.0
1943	899	899	0	0.0
1944	389	389	0	0.0
1945	280	280	0	0.0
1946	477	477	0	0.0
1947	165	165	0	0.0
1948	110	110	0	0.0
1949	264	264	0	0.0
1950	145	145	0	0.0
1951	707	707	0	0.0
1952	280	280	0	0.0
1953	1067	1067	0	0.0
1954	715	715	0	0.0
1955	146	146	0	0.0
1956	338	338	0	0.0
1957	640	640	0	0.0
1958	593	593	0	0.0
1959	914	914	0	0.0
1960	55	55	0	0.0
1961	320	320	0	0.0
1962	110	110	0	0.0
1963	415	415	0	0.0
1964	772	772	0	0.0
1965	201	201	0	0.0
1966	677	677	0	0.0
1967	215	215	0	0.0
1968	1067	1067	0	0.0
1969	116	116	0	0.0
1970	883	883	0	0.0
1971	279	279	0	0.0
1972	370	370	0	0.0
1973	515	515	0	0.0
1974	643	643	0	0.0
1975	789	789	0	0.0
1976	811	811	0	0.0
1977	84	84	0	0.0
1978	137	137	0	0.0
1979	754	754	0	0.0
1980	463	463	0	0.0
1981	712	712	0	0.0
1982	273	273	0	0.0
1983	1036	1036	0	0.0
1984	1067	1067	0	0.0
1985	380	380	0	0.0
1986	105	105	0	0.0
1987	621	621	0	0.0
1988	55	55	0	0.0
1989	200	200	0	0.0
1990	55	55	0	0.0
1991	110	110	0	0.0
1992	110	110	0	0.0
1993	110	110	0	0.0
Mean:	412	412	0	0.0
Median:	290	290	0	0.0
Min:	55	55	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	325	325	0	0.0
1923	1067	1067	0	0.0
1924	162	162	0	0.0
1925	398	398	0	0.0
1926	603	603	0	0.0
1927	521	521	0	0.0
1928	785	785	0	0.0
1929	162	162	0	0.0
1930	467	467	0	0.0
1931	128	128	0	0.0
1932	514	514	0	0.0
1933	801	801	0	0.0
1934	447	447	0	0.0
1935	189	189	0	0.0
1936	110	110	0	0.0
1937	152	152	0	0.0
1938	715	715	0	0.0
1939	1067	1067	0	0.0
1940	110	110	0	0.0
1941	316	316	0	0.0
1942	1067	1067	0	0.0
1943	1067	1067	0	0.0
1944	358	358	0	0.0
1945	468	468	0	0.0
1946	704	704	0	0.0
1947	345	345	0	0.0
1948	110	110	0	0.0
1949	311	311	0	0.0
1950	110	110	0	0.0
1951	949	949	0	0.0
1952	486	486	0	0.0
1953	1067	1067	0	0.0
1954	838	838	0	0.0
1955	332	332	0	0.0
1956	688	688	0	0.0
1957	659	659	0	0.0
1958	780	780	0	0.0
1959	1044	1044	0	0.0
1960	110	110	0	0.0
1961	525	525	0	0.0
1962	256	256	0	0.0
1963	602	602	0	0.0
1964	864	864	0	0.0
1965	433	433	0	0.0
1966	939	939	0	0.0
1967	469	469	0	0.0
1968	1067	1067	0	0.0
1969	319	319	0	0.0
1970	1067	1067	0	0.0
1971	482	482	0	0.0
1972	559	559	0	0.0
1973	750	750	0	0.0
1974	845	845	0	0.0
1975	992	992	0	0.0
1976	1008	1008	0	0.0
1977	110	110	0	0.0
1978	393	393	0	0.0
1979	625	625	0	0.0
1980	672	672	0	0.0
1981	824	824	0	0.0
1982	471	471	0	0.0
1983	1067	1067	0	0.0
1984	1067	1067	0	0.0
1985	578	578	0	0.0
1986	289	289	0	0.0
1987	563	563	0	0.0
1988	169	169	0	0.0
1989	242	242	0	0.0
1990	55	55	0	0.0
1991	115	115	0	0.0
1992	110	110	0	0.0
1993	289	289	0	0.0
Mean:	547	547	0	0.0
Median:	500	500	0	0.0
Min:	55	55	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	653	653	0	0.0
1923	1067	1067	0	0.0
1924	395	395	0	0.0
1925	574	574	0	0.0
1926	944	944	0	0.0
1927	866	866	0	0.0
1928	1063	1063	0	0.0
1929	392	392	0	0.0
1930	831	831	0	0.0
1931	387	387	0	0.0
1932	925	925	0	0.0
1933	1067	1067	0	0.0
1934	811	811	0	0.0
1935	612	612	0	0.0
1936	489	489	0	0.0
1937	449	449	0	0.0
1938	1067	1067	0	0.0
1939	1067	1067	0	0.0
1940	545	545	0	0.0
1941	686	686	0	0.0
1942	1067	1067	0	0.0
1943	1067	1067	0	0.0
1944	578	578	0	0.0
1945	690	690	0	0.0
1946	1025	1025	0	0.0
1947	437	437	0	0.0
1948	449	449	0	0.0
1949	403	403	0	0.0
1950	501	501	0	0.0
1951	1067	1067	0	0.0
1952	851	851	0	0.0
1953	1067	1067	0	0.0
1954	1067	1067	0	0.0
1955	695	695	0	0.0
1956	1031	1031	0	0.0
1957	895	895	0	0.0
1958	1067	1067	0	0.0
1959	1067	1067	0	0.0
1960	359	359	0	0.0
1961	707	707	0	0.0
1962	353	353	0	0.0
1963	887	887	0	0.0
1964	1067	1067	0	0.0
1965	794	794	0	0.0
1966	1067	1067	0	0.0
1967	833	833	0	0.0
1968	1067	1067	0	0.0
1969	731	731	0	0.0
1970	1067	1067	0	0.0
1971	748	748	0	0.0
1972	833	833	0	0.0
1973	1067	1067	0	0.0
1974	1067	1067	0	0.0
1975	1067	1067	0	0.0
1976	1067	1067	0	0.0
1977	207	207	0	0.0
1978	823	823	0	0.0
1979	986	986	0	0.0
1980	1043	1043	0	0.0
1981	1067	1067	0	0.0
1982	820	820	0	0.0
1983	1067	1067	0	0.0
1984	1067	1067	0	0.0
1985	748	748	0	0.0
1986	678	678	0	0.0
1987	782	782	0	0.0
1988	500	500	0	0.0
1989	448	448	0	0.0
1990	293	293	0	0.0
1991	133	133	0	0.0
1992	200	200	0	0.0
1993	740	740	0	0.0
Mean:	782	782	0	0.0
Median:	827	827	0	0.0
Min:	133	133	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	947	947	0	0.0
1923	1067	1067	0	0.0
1924	560	560	0	0.0
1925	921	921	0	0.0
1926	1067	1067	0	0.0
1927	1067	1067	0	0.0
1928	1067	1067	0	0.0
1929	549	549	0	0.0
1930	896	896	0	0.0
1931	401	401	0	0.0
1932	1067	1067	0	0.0
1933	1067	1067	0	0.0
1934	1005	1005	0	0.0
1935	745	745	0	0.0
1936	880	880	0	0.0
1937	835	835	0	0.0
1938	1067	1067	0	0.0
1939	1067	1067	0	0.0
1940	951	951	0	0.0
1941	981	981	0	0.0
1942	1067	1067	0	0.0
1943	1067	1067	0	0.0
1944	868	868	0	0.0
1945	1047	1047	0	0.0
1946	894	894	0	0.0
1947	630	630	0	0.0
1948	392	392	0	0.0
1949	512	512	0	0.0
1950	827	827	0	0.0
1951	1067	1067	0	0.0
1952	1067	1067	0	0.0
1953	1067	1067	0	0.0
1954	1067	1067	0	0.0
1955	670	670	0	0.0
1956	1067	1067	0	0.0
1957	1067	1067	0	0.0
1958	1067	1067	0	0.0
1959	1067	1067	0	0.0
1960	718	718	0	0.0
1961	1003	1003	0	0.0
1962	760	760	0	0.0
1963	1067	1067	0	0.0
1964	1009	1009	0	0.0
1965	1059	1059	0	0.0
1966	1067	1067	0	0.0
1967	1067	1067	0	0.0
1968	1067	1067	0	0.0
1969	1056	1056	0	0.0
1970	1067	1067	0	0.0
1971	564	564	0	0.0
1972	969	969	0	0.0
1973	1067	1067	0	0.0
1974	1067	1067	0	0.0
1975	1067	1067	0	0.0
1976	1067	1067	0	0.0
1977	177	177	0	0.0
1978	1067	1067	0	0.0
1979	1067	1067	0	0.0
1980	1067	1067	0	0.0
1981	1067	1067	0	0.0
1982	1067	1067	0	0.0
1983	1067	1067	0	0.0
1984	1067	1067	0	0.0
1985	781	781	0	0.0
1986	1067	1067	0	0.0
1987	958	958	0	0.0
1988	489	489	0	0.0
1989	427	427	0	0.0
1990	319	319	0	0.0
1991	110	110	0	0.0
1992	557	557	0	0.0
1993	998	998	0	0.0
Mean:	900	900	0	0.0
Median:	1058	1058	0	0.0
Min:	110	110	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1067	1067	0	0.0
1923	1046	1046	0	0.0
1924	489	489	0	0.0
1925	802	802	0	0.0
1926	965	965	0	0.0
1927	1067	1067	0	0.0
1928	1067	1067	0	0.0
1929	583	583	0	0.0
1930	1067	1067	0	0.0
1931	364	364	0	0.0
1932	1067	1067	0	0.0
1933	1067	1067	0	0.0
1934	929	929	0	0.0
1935	1026	1026	0	0.0
1936	1067	1067	0	0.0
1937	1067	1067	0	0.0
1938	1067	1067	0	0.0
1939	1067	1067	0	0.0
1940	1067	1067	0	0.0
1941	1067	1067	0	0.0
1942	1067	1067	0	0.0
1943	1067	1067	0	0.0
1944	928	928	0	0.0
1945	1067	1067	0	0.0
1946	1037	1037	0	0.0
1947	732	732	0	0.0
1948	514	514	0	0.0
1949	858	858	0	0.0
1950	920	920	0	0.0
1951	1067	1067	0	0.0
1952	1067	1067	0	0.0
1953	1067	1067	0	0.0
1954	1067	1067	0	0.0
1955	651	651	0	0.0
1956	1067	1067	0	0.0
1957	1067	1067	0	0.0
1958	1067	1067	0	0.0
1959	914	914	0	0.0
1960	915	915	0	0.0
1961	1067	1067	0	0.0
1962	1048	1048	0	0.0
1963	1067	1067	0	0.0
1964	875	875	0	0.0
1965	1067	1067	0	0.0
1966	1067	1067	0	0.0
1967	1067	1067	0	0.0
1968	1067	1067	0	0.0
1969	1067	1067	0	0.0
1970	1067	1067	0	0.0
1971	761	761	0	0.0
1972	1067	1067	0	0.0
1973	1067	1067	0	0.0
1974	1067	1067	0	0.0
1975	1067	1067	0	0.0
1976	1067	1067	0	0.0
1977	157	157	0	0.0
1978	1067	1067	0	0.0
1979	1067	1067	0	0.0
1980	1067	1067	0	0.0
1981	1067	1067	0	0.0
1982	1067	1067	0	0.0
1983	1067	1067	0	0.0
1984	1067	1067	0	0.0
1985	787	787	0	0.0
1986	1067	1067	0	0.0
1987	1067	1067	0	0.0
1988	432	432	0	0.0
1989	772	772	0	0.0
1990	417	417	0	0.0
1991	478	478	0	0.0
1992	714	714	0	0.0
1993	1067	1067	0	0.0
Mean:	946	946	0	0.0
Median:	1067	1067	0	0.0
Min:	157	157	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1067	1067	0	0.0
1923	1037	1037	0	0.0
1924	432	432	0	0.0
1925	872	872	0	0.0
1926	951	951	0	0.0
1927	1067	1067	0	0.0
1928	1067	1067	0	0.0
1929	547	547	0	0.0
1930	954	954	0	0.0
1931	283	283	0	0.0
1932	1067	1067	0	0.0
1933	1004	1004	0	0.0
1934	790	790	0	0.0
1935	1046	1046	0	0.0
1936	1053	1053	0	0.0
1937	1067	1067	0	0.0
1938	1067	1067	0	0.0
1939	885	885	0	0.0
1940	1053	1053	0	0.0
1941	1067	1067	0	0.0
1942	1067	1067	0	0.0
1943	1067	1067	0	0.0
1944	735	735	0	0.0
1945	992	992	0	0.0
1946	924	924	0	0.0
1947	599	599	0	0.0
1948	657	657	0	0.0
1949	799	799	0	0.0
1950	815	815	0	0.0
1951	971	971	0	0.0
1952	1067	1067	0	0.0
1953	955	955	0	0.0
1954	1035	1035	0	0.0
1955	577	577	0	0.0
1956	1055	1055	0	0.0
1957	1001	1001	0	0.0
1958	1067	1067	0	0.0
1959	781	781	0	0.0
1960	746	746	0	0.0
1961	933	933	0	0.0
1962	962	962	0	0.0
1963	1067	1067	0	0.0
1964	729	729	0	0.0
1965	1067	1067	0	0.0
1966	928	928	0	0.0
1967	1067	1067	0	0.0
1968	948	948	0	0.0
1969	1067	1067	0	0.0
1970	987	987	0	0.0
1971	671	671	0	0.0
1972	963	963	0	0.0
1973	1064	1064	0	0.0
1974	1067	1067	0	0.0
1975	1067	1067	0	0.0
1976	933	933	0	0.0
1977	106	106	0	0.0
1978	1067	1067	0	0.0
1979	1049	1049	0	0.0
1980	1067	1067	0	0.0
1981	949	949	0	0.0
1982	1067	1067	0	0.0
1983	1067	1067	0	0.0
1984	990	990	0	0.0
1985	626	626	0	0.0
1986	1067	1067	0	0.0
1987	941	941	0	0.0
1988	428	428	0	0.0
1989	640	640	0	0.0
1990	331	331	0	0.0
1991	454	454	0	0.0
1992	681	681	0	0.0
1993	1058	1058	0	0.0
Mean:	894	894	0	0.0
Median:	979	979	0	0.0
Min:	106	106	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1054	1054	0	0.0
1923	882	882	0	0.0
1924	392	392	0	0.0
1925	864	864	0	0.0
1926	761	761	0	0.0
1927	996	996	0	0.0
1928	882	882	0	0.0
1929	456	456	0	0.0
1930	792	792	0	0.0
1931	252	252	0	0.0
1932	1067	1067	0	0.0
1933	901	901	0	0.0
1934	626	626	0	0.0
1935	661	661	0	0.0
1936	868	868	0	0.0
1937	1067	1067	0	0.0
1938	1067	1067	0	0.0
1939	673	673	0	0.0
1940	872	872	0	0.0
1941	1067	1067	0	0.0
1942	1020	1020	0	0.0
1943	883	883	0	0.0
1944	605	605	0	0.0
1945	820	820	0	0.0
1946	770	770	0	0.0
1947	397	397	0	0.0
1948	578	578	0	0.0
1949	642	642	0	0.0
1950	681	681	0	0.0
1951	813	813	0	0.0
1952	1067	1067	0	0.0
1953	827	827	0	0.0
1954	858	858	0	0.0
1955	530	530	0	0.0
1956	982	982	0	0.0
1957	858	858	0	0.0
1958	1067	1067	0	0.0
1959	581	581	0	0.0
1960	637	637	0	0.0
1961	649	649	0	0.0
1962	635	635	0	0.0
1963	1000	1000	0	0.0
1964	489	489	0	0.0
1965	883	883	0	0.0
1966	714	714	0	0.0
1967	1067	1067	0	0.0
1968	730	730	0	0.0
1969	1067	1067	0	0.0
1970	795	795	0	0.0
1971	555	555	0	0.0
1972	796	796	0	0.0
1973	923	923	0	0.0
1974	1007	1007	0	0.0
1975	1004	1004	0	0.0
1976	716	716	0	0.0
1977	104	104	0	0.0
1978	1067	1067	0	0.0
1979	917	917	0	0.0
1980	1030	1030	0	0.0
1981	723	723	0	0.0
1982	1067	1067	0	0.0
1983	1067	1067	0	0.0
1984	802	802	0	0.0
1985	397	397	0	0.0
1986	966	966	0	0.0
1987	634	634	0	0.0
1988	422	422	0	0.0
1989	412	412	0	0.0
1990	299	299	0	0.0
1991	440	440	0	0.0
1992	560	560	0	0.0
1993	986	986	0	0.0
Mean:	774	774	0	0.0
Median:	808	808	0	0.0
Min:	104	104	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	1007	1007	0	0.0
1923	725	725	0	0.0
1924	280	280	0	0.0
1925	648	648	0	0.0
1926	565	565	0	0.0
1927	874	874	0	0.0
1928	693	693	0	0.0
1929	449	449	0	0.0
1930	585	585	0	0.0
1931	149	149	0	0.0
1932	895	895	0	0.0
1933	707	707	0	0.0
1934	419	419	0	0.0
1935	536	536	0	0.0
1936	701	701	0	0.0
1937	937	937	0	0.0
1938	1066	1066	0	0.0
1939	369	369	0	0.0
1940	633	633	0	0.0
1941	1067	1067	0	0.0
1942	960	960	0	0.0
1943	765	765	0	0.0
1944	377	377	0	0.0
1945	604	604	0	0.0
1946	550	550	0	0.0
1947	222	222	0	0.0
1948	479	479	0	0.0
1949	608	608	0	0.0
1950	575	575	0	0.0
1951	502	502	0	0.0
1952	1067	1067	0	0.0
1953	748	748	0	0.0
1954	538	538	0	0.0
1955	562	562	0	0.0
1956	916	916	0	0.0
1957	629	629	0	0.0
1958	1058	1058	0	0.0
1959	374	374	0	0.0
1960	522	522	0	0.0
1961	372	372	0	0.0
1962	360	360	0	0.0
1963	905	905	0	0.0
1964	278	278	0	0.0
1965	648	648	0	0.0
1966	474	474	0	0.0
1967	1059	1059	0	0.0
1968	501	501	0	0.0
1969	1067	1067	0	0.0
1970	593	593	0	0.0
1971	382	382	0	0.0
1972	588	588	0	0.0
1973	783	783	0	0.0
1974	940	940	0	0.0
1975	886	886	0	0.0
1976	462	462	0	0.0
1977	136	136	0	0.0
1978	1067	1067	0	0.0
1979	669	669	0	0.0
1980	871	871	0	0.0
1981	446	446	0	0.0
1982	1035	1035	0	0.0
1983	1067	1067	0	0.0
1984	595	595	0	0.0
1985	151	151	0	0.0
1986	871	871	0	0.0
1987	321	321	0	0.0
1988	322	322	0	0.0
1989	272	272	0	0.0
1990	294	294	0	0.0
1991	325	325	0	0.0
1992	404	404	0	0.0
1993	917	917	0	0.0
Mean:	631	631	0	0.0
Median:	594	594	0	0.0
Min:	136	136	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	580	580	0	0.0
1923	441	441	0	0.0
1924	163	163	0	0.0
1925	745	745	0	0.0
1926	367	367	0	0.0
1927	514	514	0	0.0
1928	370	370	0	0.0
1929	322	322	0	0.0
1930	531	531	0	0.0
1931	131	131	0	0.0
1932	708	708	0	0.0
1933	504	504	0	0.0
1934	199	199	0	0.0
1935	420	420	0	0.0
1936	429	429	0	0.0
1937	464	464	0	0.0
1938	632	632	0	0.0
1939	192	192	0	0.0
1940	539	539	0	0.0
1941	718	718	0	0.0
1942	557	557	0	0.0
1943	461	461	0	0.0
1944	269	269	0	0.0
1945	501	501	0	0.0
1946	447	447	0	0.0
1947	185	185	0	0.0
1948	434	434	0	0.0
1949	412	412	0	0.0
1950	512	512	0	0.0
1951	337	337	0	0.0
1952	915	915	0	0.0
1953	452	452	0	0.0
1954	349	349	0	0.0
1955	442	442	0	0.0
1956	535	535	0	0.0
1957	392	392	0	0.0
1958	735	735	0	0.0
1959	244	244	0	0.0
1960	429	429	0	0.0
1961	166	166	0	0.0
1962	187	187	0	0.0
1963	530	530	0	0.0
1964	220	220	0	0.0
1965	403	403	0	0.0
1966	317	317	0	0.0
1967	1005	1005	0	0.0
1968	288	288	0	0.0
1969	734	734	0	0.0
1970	310	310	0	0.0
1971	291	291	0	0.0
1972	395	395	0	0.0
1973	470	470	0	0.0
1974	553	553	0	0.0
1975	520	520	0	0.0
1976	245	245	0	0.0
1977	110	110	0	0.0
1978	675	675	0	0.0
1979	423	423	0	0.0
1980	513	513	0	0.0
1981	304	304	0	0.0
1982	648	648	0	0.0
1983	1067	1067	0	0.0
1984	377	377	0	0.0
1985	70	70	0	0.0
1986	494	494	0	0.0
1987	185	185	0	0.0
1988	216	216	0	0.0
1989	196	196	0	0.0
1990	166	166	0	0.0
1991	203	203	0	0.0
1992	241	241	0	0.0
1993	536	536	0	0.0
Mean:	425	425	0	0.0
Median:	426	426	0	0.0
Min:	70	70	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	542	542	0	0.0
1923	285	285	0	0.0
1924	110	110	0	0.0
1925	530	530	0	0.0
1926	204	204	0	0.0
1927	446	446	0	0.0
1928	182	182	0	0.0
1929	203	203	0	0.0
1930	443	443	0	0.0
1931	125	125	0	0.0
1932	530	530	0	0.0
1933	311	311	0	0.0
1934	115	115	0	0.0
1935	269	269	0	0.0
1936	286	286	0	0.0
1937	338	338	0	0.0
1938	602	602	0	0.0
1939	148	148	0	0.0
1940	398	398	0	0.0
1941	537	537	0	0.0
1942	505	505	0	0.0
1943	413	413	0	0.0
1944	165	165	0	0.0
1945	413	413	0	0.0
1946	324	324	0	0.0
1947	134	134	0	0.0
1948	378	378	0	0.0
1949	313	313	0	0.0
1950	465	465	0	0.0
1951	266	266	0	0.0
1952	822	822	0	0.0
1953	380	380	0	0.0
1954	165	165	0	0.0
1955	245	245	0	0.0
1956	477	477	0	0.0
1957	229	229	0	0.0
1958	670	670	0	0.0
1959	156	156	0	0.0
1960	412	412	0	0.0
1961	130	130	0	0.0
1962	134	134	0	0.0
1963	438	438	0	0.0
1964	161	161	0	0.0
1965	398	398	0	0.0
1966	165	165	0	0.0
1967	962	962	0	0.0
1968	165	165	0	0.0
1969	430	430	0	0.0
1970	165	165	0	0.0
1971	213	213	0	0.0
1972	346	346	0	0.0
1973	358	358	0	0.0
1974	495	495	0	0.0
1975	456	456	0	0.0
1976	151	151	0	0.0
1977	110	110	0	0.0
1978	664	664	0	0.0
1979	363	363	0	0.0
1980	519	519	0	0.0
1981	165	165	0	0.0
1982	615	615	0	0.0
1983	1067	1067	0	0.0
1984	199	199	0	0.0
1985	55	55	0	0.0
1986	480	480	0	0.0
1987	140	140	0	0.0
1988	118	118	0	0.0
1989	144	144	0	0.0
1990	111	111	0	0.0
1991	110	110	0	0.0
1992	110	110	0	0.0
1993	475	475	0	0.0
Mean:	335	335	0	0.0
Median:	312	312	0	0.0
Min:	55	55	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

SWP San Luis Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	579	579	0	0.0
1923	294	294	0	0.0
1924	115	115	0	0.0
1925	587	587	0	0.0
1926	143	143	0	0.0
1927	423	423	0	0.0
1928	157	157	0	0.0
1929	180	180	0	0.0
1930	309	309	0	0.0
1931	133	133	0	0.0
1932	558	558	0	0.0
1933	228	228	0	0.0
1934	110	110	0	0.0
1935	134	134	0	0.0
1936	197	197	0	0.0
1937	274	274	0	0.0
1938	676	676	0	0.0
1939	110	110	0	0.0
1940	276	276	0	0.0
1941	649	649	0	0.0
1942	563	563	0	0.0
1943	428	428	0	0.0
1944	152	152	0	0.0
1945	355	355	0	0.0
1946	265	265	0	0.0
1947	110	110	0	0.0
1948	416	416	0	0.0
1949	332	332	0	0.0
1950	485	485	0	0.0
1951	233	233	0	0.0
1952	927	927	0	0.0
1953	416	416	0	0.0
1954	149	149	0	0.0
1955	269	269	0	0.0
1956	528	528	0	0.0
1957	246	246	0	0.0
1958	734	734	0	0.0
1959	115	115	0	0.0
1960	355	355	0	0.0
1961	105	105	0	0.0
1962	110	110	0	0.0
1963	449	449	0	0.0
1964	119	119	0	0.0
1965	459	459	0	0.0
1966	81	81	0	0.0
1967	1026	1026	0	0.0
1968	133	133	0	0.0
1969	523	523	0	0.0
1970	140	140	0	0.0
1971	244	244	0	0.0
1972	300	300	0	0.0
1973	348	348	0	0.0
1974	546	546	0	0.0
1975	499	499	0	0.0
1976	121	121	0	0.0
1977	114	114	0	0.0
1978	747	747	0	0.0
1979	341	341	0	0.0
1980	613	613	0	0.0
1981	136	136	0	0.0
1982	686	686	0	0.0
1983	1067	1067	0	0.0
1984	166	166	0	0.0
1985	55	55	0	0.0
1986	557	557	0	0.0
1987	110	110	0	0.0
1988	110	110	0	0.0
1989	110	110	0	0.0
1990	112	112	0	0.0
1991	110	110	0	0.0
1992	157	157	0	0.0
1993	474	474	0	0.0
Mean:	334	334	0	0.0
Median:	272	272	0	0.0
Min:	55	55	0	0.0
Max:	1067	1067	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Release

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999	-999	0	0.0
Median:	-999	-999	0	0.0
Min:	-999	-999	0	0.0
Max:	-999	-999	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

EWA San Luis Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	-902	-902	0	0.0
1923	-902	-902	0	0.0
1924	-902	-902	0	0.0
1925	-902	-902	0	0.0
1926	-902	-902	0	0.0
1927	-902	-902	0	0.0
1928	-902	-902	0	0.0
1929	-902	-902	0	0.0
1930	-902	-902	0	0.0
1931	-902	-902	0	0.0
1932	-902	-902	0	0.0
1933	-902	-902	0	0.0
1934	-902	-902	0	0.0
1935	-902	-902	0	0.0
1936	-902	-902	0	0.0
1937	-902	-902	0	0.0
1938	-902	-902	0	0.0
1939	-902	-902	0	0.0
1940	-902	-902	0	0.0
1941	-902	-902	0	0.0
1942	-902	-902	0	0.0
1943	-902	-902	0	0.0
1944	-902	-902	0	0.0
1945	-902	-902	0	0.0
1946	-902	-902	0	0.0
1947	-902	-902	0	0.0
1948	-902	-902	0	0.0
1949	-902	-902	0	0.0
1950	-902	-902	0	0.0
1951	-902	-902	0	0.0
1952	-902	-902	0	0.0
1953	-902	-902	0	0.0
1954	-902	-902	0	0.0
1955	-902	-902	0	0.0
1956	-902	-902	0	0.0
1957	-902	-902	0	0.0
1958	-902	-902	0	0.0
1959	-902	-902	0	0.0
1960	-902	-902	0	0.0
1961	-902	-902	0	0.0
1962	-902	-902	0	0.0
1963	-902	-902	0	0.0
1964	-902	-902	0	0.0
1965	-902	-902	0	0.0
1966	-902	-902	0	0.0
1967	-902	-902	0	0.0
1968	-902	-902	0	0.0
1969	-902	-902	0	0.0
1970	-902	-902	0	0.0
1971	-902	-902	0	0.0
1972	-902	-902	0	0.0
1973	-902	-902	0	0.0
1974	-902	-902	0	0.0
1975	-902	-902	0	0.0
1976	-902	-902	0	0.0
1977	-902	-902	0	0.0
1978	-902	-902	0	0.0
1979	-902	-902	0	0.0
1980	-902	-902	0	0.0
1981	-902	-902	0	0.0
1982	-902	-902	0	0.0
1983	-902	-902	0	0.0
1984	-902	-902	0	0.0
1985	-902	-902	0	0.0
1986	-902	-902	0	0.0
1987	-902	-902	0	0.0
1988	-902	-902	0	0.0
1989	-902	-902	0	0.0
1990	-902	-902	0	0.0
1991	-902	-902	0	0.0
1992	-902	-902	0	0.0
1993	-902	-902	0	0.0
Mean:	-902	-902	0	0.0
Median:	-902	-902	0	0.0
Min:	-902	-902	0	0.0
Max:	-902	-902	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Surface Area

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

October				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

November				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

December				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

January				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

February				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

March				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

April				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

May				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

June				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

July				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

August				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Luis Reservoir End of Month Elevation

September				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	-999	-999	0	0.0
1923	-999	-999	0	0.0
1924	-999	-999	0	0.0
1925	-999	-999	0	0.0
1926	-999	-999	0	0.0
1927	-999	-999	0	0.0
1928	-999	-999	0	0.0
1929	-999	-999	0	0.0
1930	-999	-999	0	0.0
1931	-999	-999	0	0.0
1932	-999	-999	0	0.0
1933	-999	-999	0	0.0
1934	-999	-999	0	0.0
1935	-999	-999	0	0.0
1936	-999	-999	0	0.0
1937	-999	-999	0	0.0
1938	-999	-999	0	0.0
1939	-999	-999	0	0.0
1940	-999	-999	0	0.0
1941	-999	-999	0	0.0
1942	-999	-999	0	0.0
1943	-999	-999	0	0.0
1944	-999	-999	0	0.0
1945	-999	-999	0	0.0
1946	-999	-999	0	0.0
1947	-999	-999	0	0.0
1948	-999	-999	0	0.0
1949	-999	-999	0	0.0
1950	-999	-999	0	0.0
1951	-999	-999	0	0.0
1952	-999	-999	0	0.0
1953	-999	-999	0	0.0
1954	-999	-999	0	0.0
1955	-999	-999	0	0.0
1956	-999	-999	0	0.0
1957	-999	-999	0	0.0
1958	-999	-999	0	0.0
1959	-999	-999	0	0.0
1960	-999	-999	0	0.0
1961	-999	-999	0	0.0
1962	-999	-999	0	0.0
1963	-999	-999	0	0.0
1964	-999	-999	0	0.0
1965	-999	-999	0	0.0
1966	-999	-999	0	0.0
1967	-999	-999	0	0.0
1968	-999	-999	0	0.0
1969	-999	-999	0	0.0
1970	-999	-999	0	0.0
1971	-999	-999	0	0.0
1972	-999	-999	0	0.0
1973	-999	-999	0	0.0
1974	-999	-999	0	0.0
1975	-999	-999	0	0.0
1976	-999	-999	0	0.0
1977	-999	-999	0	0.0
1978	-999	-999	0	0.0
1979	-999	-999	0	0.0
1980	-999	-999	0	0.0
1981	-999	-999	0	0.0
1982	-999	-999	0	0.0
1983	-999	-999	0	0.0
1984	-999	-999	0	0.0
1985	-999	-999	0	0.0
1986	-999	-999	0	0.0
1987	-999	-999	0	0.0
1988	-999	-999	0	0.0
1989	-999	-999	0	0.0
1990	-999	-999	0	0.0
1991	-999	-999	0	0.0
1992	-999	-999	0	0.0
1993	-999	-999	0	0.0
Mean:	-999.0	-999.0	0.0	0.0
Median:	-999.0	-999.0	0.0	0.0
Min:	-999.0	-999.0	0.0	0.0
Max:	-999.0	-999.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	316	316	0	0.0
1923	253	253	0	0.0
1924	312	312	0	0.0
1925	96	96	0	0.0
1926	175	175	0	0.0
1927	313	313	0	0.0
1928	283	283	0	0.0
1929	314	314	0	0.0
1930	103	103	0	0.0
1931	300	300	0	0.0
1932	98	98	0	0.0
1933	148	148	0	0.0
1934	158	158	0	0.0
1935	173	173	0	0.0
1936	346	346	0	0.0
1937	352	352	0	0.0
1938	295	295	0	0.0
1939	264	264	0	0.0
1940	303	303	0	0.0
1941	342	342	0	0.0
1942	221	221	0	0.0
1943	286	286	0	0.0
1944	305	305	0	0.0
1945	294	294	0	0.0
1946	309	309	0	0.0
1947	311	311	0	0.0
1948	312	312	0	0.0
1949	339	339	0	0.0
1950	235	235	0	0.0
1951	350	350	0	0.0
1952	324	324	0	0.0
1953	236	236	0	0.0
1954	326	326	0	0.0
1955	335	335	0	0.0
1956	165	165	0	0.0
1957	299	299	0	0.0
1958	319	319	0	0.0
1959	277	277	0	0.0
1960	333	333	0	0.0
1961	216	216	0	0.0
1962	294	294	0	0.0
1963	347	347	0	0.0
1964	296	296	0	0.0
1965	329	329	0	0.0
1966	287	287	0	0.0
1967	313	313	0	0.0
1968	271	271	0	0.0
1969	329	329	0	0.0
1970	253	253	0	0.0
1971	311	311	0	0.0
1972	335	335	0	0.0
1973	282	282	0	0.0
1974	294	294	0	0.0
1975	299	299	0	0.0
1976	312	312	0	0.0
1977	294	294	0	0.0
1978	68	68	0	0.0
1979	259	259	0	0.0
1980	275	275	0	0.0
1981	259	259	0	0.0
1982	337	337	0	0.0
1983	270	270	0	0.0
1984	220	220	0	0.0
1985	310	310	0	0.0
1986	321	321	0	0.0
1987	311	311	0	0.0
1988	315	315	0	0.0
1989	87	87	0	0.0
1990	344	344	0	0.0
1991	104	104	0	0.0
1992	100	100	0	0.0
1993	131	131	0	0.0
Mean:	268	268	0	0.0
Median:	296	296	0	0.0
Min:	68	68	0	0.0
Max:	352	352	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	384	384	0	0.0
1923	307	307	0	0.0
1924	379	379	0	0.0
1925	117	117	0	0.0
1926	213	213	0	0.0
1927	380	380	0	0.0
1928	344	344	0	0.0
1929	382	382	0	0.0
1930	125	125	0	0.0
1931	365	365	0	0.0
1932	119	119	0	0.0
1933	179	179	0	0.0
1934	192	192	0	0.0
1935	210	210	0	0.0
1936	420	420	0	0.0
1937	428	428	0	0.0
1938	358	358	0	0.0
1939	321	321	0	0.0
1940	369	369	0	0.0
1941	415	415	0	0.0
1942	269	269	0	0.0
1943	348	348	0	0.0
1944	371	371	0	0.0
1945	357	357	0	0.0
1946	375	375	0	0.0
1947	377	377	0	0.0
1948	379	379	0	0.0
1949	411	411	0	0.0
1950	285	285	0	0.0
1951	425	425	0	0.0
1952	394	394	0	0.0
1953	287	287	0	0.0
1954	396	396	0	0.0
1955	407	407	0	0.0
1956	200	200	0	0.0
1957	364	364	0	0.0
1958	388	388	0	0.0
1959	337	337	0	0.0
1960	405	405	0	0.0
1961	263	263	0	0.0
1962	358	358	0	0.0
1963	422	422	0	0.0
1964	359	359	0	0.0
1965	400	400	0	0.0
1966	348	348	0	0.0
1967	380	380	0	0.0
1968	329	329	0	0.0
1969	400	400	0	0.0
1970	308	308	0	0.0
1971	378	378	0	0.0
1972	407	407	0	0.0
1973	343	343	0	0.0
1974	357	357	0	0.0
1975	363	363	0	0.0
1976	380	380	0	0.0
1977	357	357	0	0.0
1978	83	83	0	0.0
1979	315	315	0	0.0
1980	334	334	0	0.0
1981	315	315	0	0.0
1982	410	410	0	0.0
1983	328	328	0	0.0
1984	268	268	0	0.0
1985	376	376	0	0.0
1986	389	389	0	0.0
1987	378	378	0	0.0
1988	382	382	0	0.0
1989	106	106	0	0.0
1990	418	418	0	0.0
1991	127	127	0	0.0
1992	121	121	0	0.0
1993	160	160	0	0.0
Mean:	326	326	0	0.0
Median:	359	359	0	0.0
Min:	83	83	0	0.0
Max:	428	428	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	316	316	0	0.0
1923	253	253	0	0.0
1924	312	312	0	0.0
1925	96	96	0	0.0
1926	175	175	0	0.0
1927	313	313	0	0.0
1928	283	283	0	0.0
1929	314	314	0	0.0
1930	103	103	0	0.0
1931	300	300	0	0.0
1932	98	98	0	0.0
1933	148	148	0	0.0
1934	158	158	0	0.0
1935	173	173	0	0.0
1936	346	346	0	0.0
1937	352	352	0	0.0
1938	295	295	0	0.0
1939	264	264	0	0.0
1940	303	303	0	0.0
1941	342	342	0	0.0
1942	250	250	0	0.0
1943	286	286	0	0.0
1944	305	305	0	0.0
1945	294	294	0	0.0
1946	309	309	0	0.0
1947	311	311	0	0.0
1948	312	312	0	0.0
1949	339	339	0	0.0
1950	235	235	0	0.0
1951	350	350	0	0.0
1952	324	324	0	0.0
1953	264	264	0	0.0
1954	326	326	0	0.0
1955	335	335	0	0.0
1956	165	165	0	0.0
1957	299	299	0	0.0
1958	319	319	0	0.0
1959	277	277	0	0.0
1960	333	333	0	0.0
1961	216	216	0	0.0
1962	295	295	0	0.0
1963	347	347	0	0.0
1964	296	296	0	0.0
1965	329	329	0	0.0
1966	287	287	0	0.0
1967	313	313	0	0.0
1968	299	299	0	0.0
1969	329	329	0	0.0
1970	253	253	0	0.0
1971	311	311	0	0.0
1972	335	335	0	0.0
1973	282	282	0	0.0
1974	294	294	0	0.0
1975	299	299	0	0.0
1976	312	312	0	0.0
1977	294	294	0	0.0
1978	68	68	0	0.0
1979	259	259	0	0.0
1980	275	275	0	0.0
1981	259	259	0	0.0
1982	337	337	0	0.0
1983	270	270	0	0.0
1984	248	248	0	0.0
1985	310	310	0	0.0
1986	321	321	0	0.0
1987	311	311	0	0.0
1988	316	316	0	0.0
1989	87	87	0	0.0
1990	344	344	0	0.0
1991	104	104	0	0.0
1992	100	100	0	0.0
1993	131	131	0	0.0
Mean:	270	270	0	0.0
Median:	298	298	0	0.0
Min:	68	68	0	0.0
Max:	352	352	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	79	79	0	0.0
1923	129	129	0	0.0
1924	30	30	0	0.0
1925	29	29	0	0.0
1926	36	36	0	0.0
1927	52	52	0	0.0
1928	105	105	0	0.0
1929	30	30	0	0.0
1930	33	33	0	0.0
1931	28	28	0	0.0
1932	31	31	0	0.0
1933	34	34	0	0.0
1934	33	33	0	0.0
1935	26	26	0	0.0
1936	24	24	0	0.0
1937	30	30	0	0.0
1938	86	86	0	0.0
1939	126	126	0	0.0
1940	22	22	0	0.0
1941	72	72	0	0.0
1942	121	121	0	0.0
1943	127	127	0	0.0
1944	57	57	0	0.0
1945	50	50	0	0.0
1946	101	101	0	0.0
1947	47	47	0	0.0
1948	23	23	0	0.0
1949	33	33	0	0.0
1950	25	25	0	0.0
1951	133	133	0	0.0
1952	76	76	0	0.0
1953	134	134	0	0.0
1954	104	104	0	0.0
1955	42	42	0	0.0
1956	96	96	0	0.0
1957	103	103	0	0.0
1958	83	83	0	0.0
1959	140	140	0	0.0
1960	22	22	0	0.0
1961	36	36	0	0.0
1962	23	23	0	0.0
1963	95	95	0	0.0
1964	100	100	0	0.0
1965	93	93	0	0.0
1966	130	130	0	0.0
1967	60	60	0	0.0
1968	134	134	0	0.0
1969	58	58	0	0.0
1970	129	129	0	0.0
1971	109	109	0	0.0
1972	100	100	0	0.0
1973	81	81	0	0.0
1974	97	97	0	0.0
1975	129	129	0	0.0
1976	108	108	0	0.0
1977	22	22	0	0.0
1978	22	22	0	0.0
1979	87	87	0	0.0
1980	83	83	0	0.0
1981	95	95	0	0.0
1982	88	88	0	0.0
1983	99	99	0	0.0
1984	128	128	0	0.0
1985	102	102	0	0.0
1986	24	24	0	0.0
1987	66	66	0	0.0
1988	27	27	0	0.0
1989	30	30	0	0.0
1990	27	27	0	0.0
1991	23	23	0	0.0
1992	25	25	0	0.0
1993	32	32	0	0.0
Mean:	70	70	0	0.0
Median:	69	69	0	0.0
Min:	22	22	0	0.0
Max:	140	140	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	117	117	0	0.0
1923	145	145	0	0.0
1924	43	43	0	0.0
1925	42	42	0	0.0
1926	93	93	0	0.0
1927	129	129	0	0.0
1928	156	156	0	0.0
1929	45	45	0	0.0
1930	101	101	0	0.0
1931	44	44	0	0.0
1932	72	72	0	0.0
1933	110	110	0	0.0
1934	61	61	0	0.0
1935	66	66	0	0.0
1936	57	57	0	0.0
1937	52	52	0	0.0
1938	154	154	0	0.0
1939	141	141	0	0.0
1940	44	44	0	0.0
1941	103	103	0	0.0
1942	164	164	0	0.0
1943	173	173	0	0.0
1944	106	106	0	0.0
1945	76	76	0	0.0
1946	144	144	0	0.0
1947	64	64	0	0.0
1948	40	40	0	0.0
1949	46	46	0	0.0
1950	60	60	0	0.0
1951	181	181	0	0.0
1952	135	135	0	0.0
1953	151	151	0	0.0
1954	187	187	0	0.0
1955	87	87	0	0.0
1956	163	163	0	0.0
1957	149	149	0	0.0
1958	160	160	0	0.0
1959	193	193	0	0.0
1960	33	33	0	0.0
1961	63	63	0	0.0
1962	34	34	0	0.0
1963	137	137	0	0.0
1964	157	157	0	0.0
1965	133	133	0	0.0
1966	176	176	0	0.0
1967	127	127	0	0.0
1968	176	176	0	0.0
1969	118	118	0	0.0
1970	176	176	0	0.0
1971	156	156	0	0.0
1972	147	147	0	0.0
1973	168	168	0	0.0
1974	170	170	0	0.0
1975	176	176	0	0.0
1976	143	143	0	0.0
1977	32	32	0	0.0
1978	109	109	0	0.0
1979	159	159	0	0.0
1980	145	145	0	0.0
1981	188	188	0	0.0
1982	125	125	0	0.0
1983	133	133	0	0.0
1984	168	168	0	0.0
1985	140	140	0	0.0
1986	48	48	0	0.0
1987	104	104	0	0.0
1988	47	47	0	0.0
1989	44	44	0	0.0
1990	46	46	0	0.0
1991	32	32	0	0.0
1992	34	34	0	0.0
1993	136	136	0	0.0
Mean:	112	112	0	0.0
Median:	126	126	0	0.0
Min:	32	32	0	0.0
Max:	193	193	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	147	147	0	0.0
1923	181	181	0	0.0
1924	61	61	0	0.0
1925	106	106	0	0.0
1926	172	172	0	0.0
1927	194	194	0	0.0
1928	222	222	0	0.0
1929	59	59	0	0.0
1930	136	136	0	0.0
1931	54	54	0	0.0
1932	90	90	0	0.0
1933	115	115	0	0.0
1934	99	99	0	0.0
1935	100	100	0	0.0
1936	204	204	0	0.0
1937	151	151	0	0.0
1938	181	181	0	0.0
1939	176	176	0	0.0
1940	198	198	0	0.0
1941	157	157	0	0.0
1942	194	194	0	0.0
1943	206	206	0	0.0
1944	170	170	0	0.0
1945	208	208	0	0.0
1946	181	181	0	0.0
1947	102	102	0	0.0
1948	45	45	0	0.0
1949	61	61	0	0.0
1950	136	136	0	0.0
1951	216	216	0	0.0
1952	164	164	0	0.0
1953	218	218	0	0.0
1954	223	223	0	0.0
1955	97	97	0	0.0
1956	201	201	0	0.0
1957	214	214	0	0.0
1958	189	189	0	0.0
1959	209	209	0	0.0
1960	61	61	0	0.0
1961	107	107	0	0.0
1962	121	121	0	0.0
1963	200	200	0	0.0
1964	191	191	0	0.0
1965	167	167	0	0.0
1966	210	210	0	0.0
1967	187	187	0	0.0
1968	218	218	0	0.0
1969	175	175	0	0.0
1970	209	209	0	0.0
1971	195	195	0	0.0
1972	184	184	0	0.0
1973	199	199	0	0.0
1974	202	202	0	0.0
1975	210	210	0	0.0
1976	183	183	0	0.0
1977	40	40	0	0.0
1978	179	179	0	0.0
1979	188	188	0	0.0
1980	177	177	0	0.0
1981	223	223	0	0.0
1982	185	185	0	0.0
1983	156	156	0	0.0
1984	207	207	0	0.0
1985	184	184	0	0.0
1986	209	209	0	0.0
1987	144	144	0	0.0
1988	53	53	0	0.0
1989	52	52	0	0.0
1990	58	58	0	0.0
1991	40	40	0	0.0
1992	60	60	0	0.0
1993	198	198	0	0.0
Mean:	156	156	0	0.0
Median:	180	180	0	0.0
Min:	40	40	0	0.0
Max:	223	223	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	198	198	0	0.0
1923	244	244	0	0.0
1924	75	75	0	0.0
1925	135	135	0	0.0
1926	200	200	0	0.0
1927	224	224	0	0.0
1928	246	246	0	0.0
1929	80	80	0	0.0
1930	235	235	0	0.0
1931	77	77	0	0.0
1932	115	115	0	0.0
1933	124	124	0	0.0
1934	135	135	0	0.0
1935	264	264	0	0.0
1936	275	275	0	0.0
1937	231	231	0	0.0
1938	206	206	0	0.0
1939	237	237	0	0.0
1940	267	267	0	0.0
1941	173	173	0	0.0
1942	224	224	0	0.0
1943	239	239	0	0.0
1944	229	229	0	0.0
1945	242	242	0	0.0
1946	243	243	0	0.0
1947	245	245	0	0.0
1948	87	87	0	0.0
1949	184	184	0	0.0
1950	274	274	0	0.0
1951	253	253	0	0.0
1952	183	183	0	0.0
1953	255	255	0	0.0
1954	262	262	0	0.0
1955	128	128	0	0.0
1956	232	232	0	0.0
1957	250	250	0	0.0
1958	217	217	0	0.0
1959	260	260	0	0.0
1960	169	169	0	0.0
1961	230	230	0	0.0
1962	272	272	0	0.0
1963	232	232	0	0.0
1964	256	256	0	0.0
1965	224	224	0	0.0
1966	245	245	0	0.0
1967	214	214	0	0.0
1968	255	255	0	0.0
1969	198	198	0	0.0
1970	244	244	0	0.0
1971	262	262	0	0.0
1972	221	221	0	0.0
1973	230	230	0	0.0
1974	234	234	0	0.0
1975	244	244	0	0.0
1976	230	230	0	0.0
1977	53	53	0	0.0
1978	203	203	0	0.0
1979	216	216	0	0.0
1980	201	201	0	0.0
1981	264	264	0	0.0
1982	211	211	0	0.0
1983	172	172	0	0.0
1984	240	240	0	0.0
1985	251	251	0	0.0
1986	243	243	0	0.0
1987	248	248	0	0.0
1988	68	68	0	0.0
1989	269	269	0	0.0
1990	82	82	0	0.0
1991	78	78	0	0.0
1992	102	102	0	0.0
1993	229	229	0	0.0
Mean:	206	206	0	0.0
Median:	230	230	0	0.0
Min:	53	53	0	0.0
Max:	275	275	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	393	393	0	0.0
1923	485	485	0	0.0
1924	150	150	0	0.0
1925	273	273	0	0.0
1926	486	486	0	0.0
1927	445	445	0	0.0
1928	488	488	0	0.0
1929	160	160	0	0.0
1930	467	467	0	0.0
1931	153	153	0	0.0
1932	228	228	0	0.0
1933	246	246	0	0.0
1934	269	269	0	0.0
1935	540	540	0	0.0
1936	546	546	0	0.0
1937	458	458	0	0.0
1938	410	410	0	0.0
1939	472	472	0	0.0
1940	530	530	0	0.0
1941	344	344	0	0.0
1942	445	445	0	0.0
1943	475	475	0	0.0
1944	454	454	0	0.0
1945	480	480	0	0.0
1946	483	483	0	0.0
1947	487	487	0	0.0
1948	526	526	0	0.0
1949	365	365	0	0.0
1950	545	545	0	0.0
1951	504	504	0	0.0
1952	364	364	0	0.0
1953	507	507	0	0.0
1954	521	521	0	0.0
1955	257	257	0	0.0
1956	462	462	0	0.0
1957	497	497	0	0.0
1958	431	431	0	0.0
1959	518	518	0	0.0
1960	335	335	0	0.0
1961	458	458	0	0.0
1962	540	540	0	0.0
1963	460	460	0	0.0
1964	508	508	0	0.0
1965	446	446	0	0.0
1966	487	487	0	0.0
1967	424	424	0	0.0
1968	508	508	0	0.0
1969	394	394	0	0.0
1970	484	484	0	0.0
1971	521	521	0	0.0
1972	438	438	0	0.0
1973	457	457	0	0.0
1974	465	465	0	0.0
1975	486	486	0	0.0
1976	456	456	0	0.0
1977	106	106	0	0.0
1978	403	403	0	0.0
1979	429	429	0	0.0
1980	400	400	0	0.0
1981	524	524	0	0.0
1982	420	420	0	0.0
1983	343	343	0	0.0
1984	478	478	0	0.0
1985	498	498	0	0.0
1986	484	484	0	0.0
1987	493	493	0	0.0
1988	136	136	0	0.0
1989	535	535	0	0.0
1990	162	162	0	0.0
1991	156	156	0	0.0
1992	203	203	0	0.0
1993	455	455	0	0.0
Mean:	416	416	0	0.0
Median:	458	458	0	0.0
Min:	106	106	0	0.0
Max:	546	546	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	438	438	0	0.0
1923	540	540	0	0.0
1924	167	167	0	0.0
1925	304	304	0	0.0
1926	542	542	0	0.0
1927	495	495	0	0.0
1928	544	544	0	0.0
1929	178	178	0	0.0
1930	521	521	0	0.0
1931	171	171	0	0.0
1932	254	254	0	0.0
1933	274	274	0	0.0
1934	300	300	0	0.0
1935	601	601	0	0.0
1936	608	608	0	0.0
1937	511	511	0	0.0
1938	457	457	0	0.0
1939	526	526	0	0.0
1940	591	591	0	0.0
1941	384	384	0	0.0
1942	496	496	0	0.0
1943	529	529	0	0.0
1944	506	506	0	0.0
1945	535	535	0	0.0
1946	538	538	0	0.0
1947	542	542	0	0.0
1948	586	586	0	0.0
1949	407	407	0	0.0
1950	607	607	0	0.0
1951	561	561	0	0.0
1952	405	405	0	0.0
1953	565	565	0	0.0
1954	581	581	0	0.0
1955	287	287	0	0.0
1956	514	514	0	0.0
1957	553	553	0	0.0
1958	480	480	0	0.0
1959	577	577	0	0.0
1960	373	373	0	0.0
1961	510	510	0	0.0
1962	601	601	0	0.0
1963	513	513	0	0.0
1964	567	567	0	0.0
1965	496	496	0	0.0
1966	542	542	0	0.0
1967	473	473	0	0.0
1968	566	566	0	0.0
1969	439	439	0	0.0
1970	539	539	0	0.0
1971	581	581	0	0.0
1972	488	488	0	0.0
1973	510	510	0	0.0
1974	518	518	0	0.0
1975	541	541	0	0.0
1976	508	508	0	0.0
1977	118	118	0	0.0
1978	449	449	0	0.0
1979	478	478	0	0.0
1980	445	445	0	0.0
1981	584	584	0	0.0
1982	468	468	0	0.0
1983	382	382	0	0.0
1984	532	532	0	0.0
1985	555	555	0	0.0
1986	539	539	0	0.0
1987	549	549	0	0.0
1988	151	151	0	0.0
1989	596	596	0	0.0
1990	181	181	0	0.0
1991	174	174	0	0.0
1992	227	227	0	0.0
1993	507	507	0	0.0
Mean:	464	464	0	0.0
Median:	511	511	0	0.0
Min:	118	118	0	0.0
Max:	608	608	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	424	424	0	0.0
1923	523	523	0	0.0
1924	161	161	0	0.0
1925	294	294	0	0.0
1926	525	525	0	0.0
1927	479	479	0	0.0
1928	527	527	0	0.0
1929	172	172	0	0.0
1930	504	504	0	0.0
1931	165	165	0	0.0
1932	246	246	0	0.0
1933	265	265	0	0.0
1934	290	290	0	0.0
1935	582	582	0	0.0
1936	589	589	0	0.0
1937	494	494	0	0.0
1938	443	443	0	0.0
1939	509	509	0	0.0
1940	572	572	0	0.0
1941	371	371	0	0.0
1942	480	480	0	0.0
1943	512	512	0	0.0
1944	490	490	0	0.0
1945	518	518	0	0.0
1946	521	521	0	0.0
1947	525	525	0	0.0
1948	567	567	0	0.0
1949	394	394	0	0.0
1950	587	587	0	0.0
1951	543	543	0	0.0
1952	392	392	0	0.0
1953	547	547	0	0.0
1954	562	562	0	0.0
1955	278	278	0	0.0
1956	498	498	0	0.0
1957	536	536	0	0.0
1958	465	465	0	0.0
1959	558	558	0	0.0
1960	361	361	0	0.0
1961	494	494	0	0.0
1962	582	582	0	0.0
1963	497	497	0	0.0
1964	548	548	0	0.0
1965	481	481	0	0.0
1966	525	525	0	0.0
1967	458	458	0	0.0
1968	547	547	0	0.0
1969	425	425	0	0.0
1970	522	522	0	0.0
1971	562	562	0	0.0
1972	473	473	0	0.0
1973	493	493	0	0.0
1974	501	501	0	0.0
1975	524	524	0	0.0
1976	492	492	0	0.0
1977	114	114	0	0.0
1978	435	435	0	0.0
1979	462	462	0	0.0
1980	431	431	0	0.0
1981	565	565	0	0.0
1982	453	453	0	0.0
1983	369	369	0	0.0
1984	515	515	0	0.0
1985	538	538	0	0.0
1986	522	522	0	0.0
1987	531	531	0	0.0
1988	147	147	0	0.0
1989	577	577	0	0.0
1990	175	175	0	0.0
1991	168	168	0	0.0
1992	219	219	0	0.0
1993	490	490	0	0.0
Mean:	449	449	0	0.0
Median:	494	494	0	0.0
Min:	114	114	0	0.0
Max:	589	589	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	424	424	0	0.0
1923	523	523	0	0.0
1924	161	161	0	0.0
1925	294	294	0	0.0
1926	525	525	0	0.0
1927	479	479	0	0.0
1928	527	527	0	0.0
1929	172	172	0	0.0
1930	504	504	0	0.0
1931	165	165	0	0.0
1932	245	245	0	0.0
1933	265	265	0	0.0
1934	290	290	0	0.0
1935	582	582	0	0.0
1936	589	589	0	0.0
1937	494	494	0	0.0
1938	443	443	0	0.0
1939	509	509	0	0.0
1940	572	572	0	0.0
1941	371	371	0	0.0
1942	480	480	0	0.0
1943	512	512	0	0.0
1944	490	490	0	0.0
1945	518	518	0	0.0
1946	521	521	0	0.0
1947	525	525	0	0.0
1948	567	567	0	0.0
1949	394	394	0	0.0
1950	587	587	0	0.0
1951	543	543	0	0.0
1952	392	392	0	0.0
1953	547	547	0	0.0
1954	562	562	0	0.0
1955	278	278	0	0.0
1956	498	498	0	0.0
1957	536	536	0	0.0
1958	465	465	0	0.0
1959	558	558	0	0.0
1960	361	361	0	0.0
1961	494	494	0	0.0
1962	582	582	0	0.0
1963	497	497	0	0.0
1964	548	548	0	0.0
1965	481	481	0	0.0
1966	525	525	0	0.0
1967	458	458	0	0.0
1968	547	547	0	0.0
1969	425	425	0	0.0
1970	522	522	0	0.0
1971	562	562	0	0.0
1972	473	473	0	0.0
1973	493	493	0	0.0
1974	501	501	0	0.0
1975	524	524	0	0.0
1976	492	492	0	0.0
1977	114	114	0	0.0
1978	435	435	0	0.0
1979	462	462	0	0.0
1980	431	431	0	0.0
1981	565	565	0	0.0
1982	453	453	0	0.0
1983	369	369	0	0.0
1984	515	515	0	0.0
1985	538	538	0	0.0
1986	521	521	0	0.0
1987	531	531	0	0.0
1988	147	147	0	0.0
1989	577	577	0	0.0
1990	175	175	0	0.0
1991	168	168	0	0.0
1992	219	219	0	0.0
1993	490	490	0	0.0
Mean:	449	449	0	0.0
Median:	494	494	0	0.0
Min:	114	114	0	0.0
Max:	589	589	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Release

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	437	437	0	0.0
1923	540	540	0	0.0
1924	167	167	0	0.0
1925	304	304	0	0.0
1926	541	541	0	0.0
1927	495	495	0	0.0
1928	544	544	0	0.0
1929	178	178	0	0.0
1930	520	520	0	0.0
1931	171	171	0	0.0
1932	253	253	0	0.0
1933	274	274	0	0.0
1934	300	300	0	0.0
1935	601	601	0	0.0
1936	608	608	0	0.0
1937	510	510	0	0.0
1938	457	457	0	0.0
1939	525	525	0	0.0
1940	590	590	0	0.0
1941	383	383	0	0.0
1942	495	495	0	0.0
1943	529	529	0	0.0
1944	506	506	0	0.0
1945	535	535	0	0.0
1946	538	538	0	0.0
1947	542	542	0	0.0
1948	585	585	0	0.0
1949	407	407	0	0.0
1950	606	606	0	0.0
1951	561	561	0	0.0
1952	405	405	0	0.0
1953	565	565	0	0.0
1954	580	580	0	0.0
1955	287	287	0	0.0
1956	514	514	0	0.0
1957	553	553	0	0.0
1958	480	480	0	0.0
1959	577	577	0	0.0
1960	373	373	0	0.0
1961	510	510	0	0.0
1962	601	601	0	0.0
1963	513	513	0	0.0
1964	567	567	0	0.0
1965	496	496	0	0.0
1966	542	542	0	0.0
1967	473	473	0	0.0
1968	565	565	0	0.0
1969	439	439	0	0.0
1970	539	539	0	0.0
1971	580	580	0	0.0
1972	488	488	0	0.0
1973	509	509	0	0.0
1974	518	518	0	0.0
1975	541	541	0	0.0
1976	508	508	0	0.0
1977	118	118	0	0.0
1978	449	449	0	0.0
1979	477	477	0	0.0
1980	445	445	0	0.0
1981	584	584	0	0.0
1982	468	468	0	0.0
1983	381	381	0	0.0
1984	532	532	0	0.0
1985	555	555	0	0.0
1986	538	538	0	0.0
1987	548	548	0	0.0
1988	151	151	0	0.0
1989	595	595	0	0.0
1990	181	181	0	0.0
1991	174	174	0	0.0
1992	226	226	0	0.0
1993	506	506	0	0.0
Mean:	463	463	0	0.0
Median:	510	510	0	0.0
Min:	118	118	0	0.0
Max:	608	608	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

October				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	97	97	0	0.0
1923	97	97	0	0.0
1924	97	97	0	0.0
1925	101	101	0	0.0
1926	97	97	0	0.0
1927	97	97	0	0.0
1928	97	97	0	0.0
1929	97	97	0	0.0
1930	101	101	0	0.0
1931	97	97	0	0.0
1932	101	101	0	0.0
1933	98	98	0	0.0
1934	97	97	0	0.0
1935	97	97	0	0.0
1936	97	97	0	0.0
1937	97	97	0	0.0
1938	97	97	0	0.0
1939	97	97	0	0.0
1940	97	97	0	0.0
1941	97	97	0	0.0
1942	97	97	0	0.0
1943	97	97	0	0.0
1944	97	97	0	0.0
1945	97	97	0	0.0
1946	97	97	0	0.0
1947	97	97	0	0.0
1948	97	97	0	0.0
1949	97	97	0	0.0
1950	97	97	0	0.0
1951	97	97	0	0.0
1952	97	97	0	0.0
1953	102	102	0	0.0
1954	97	97	0	0.0
1955	97	97	0	0.0
1956	97	97	0	0.0
1957	97	97	0	0.0
1958	97	97	0	0.0
1959	97	97	0	0.0
1960	97	97	0	0.0
1961	97	97	0	0.0
1962	97	97	0	0.0
1963	97	97	0	0.0
1964	97	97	0	0.0
1965	97	97	0	0.0
1966	97	97	0	0.0
1967	97	97	0	0.0
1968	127	127	0	0.0
1969	97	97	0	0.0
1970	97	97	0	0.0
1971	97	97	0	0.0
1972	97	97	0	0.0
1973	97	97	0	0.0
1974	97	97	0	0.0
1975	97	97	0	0.0
1976	97	97	0	0.0
1977	97	97	0	0.0
1978	103	103	0	0.0
1979	97	97	0	0.0
1980	97	97	0	0.0
1981	97	97	0	0.0
1982	97	97	0	0.0
1983	97	97	0	0.0
1984	127	127	0	0.0
1985	97	97	0	0.0
1986	97	97	0	0.0
1987	97	97	0	0.0
1988	97	97	0	0.0
1989	102	102	0	0.0
1990	97	97	0	0.0
1991	101	101	0	0.0
1992	101	101	0	0.0
1993	99	99	0	0.0
Mean:	98	98	0	0.0
Median:	97	97	0	0.0
Min:	97	97	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

November				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	98	98	0	0.0
1923	98	98	0	0.0
1924	98	98	0	0.0
1925	98	98	0	0.0
1926	98	98	0	0.0
1927	98	98	0	0.0
1928	98	98	0	0.0
1929	98	98	0	0.0
1930	98	98	0	0.0
1931	98	98	0	0.0
1932	98	98	0	0.0
1933	98	98	0	0.0
1934	98	98	0	0.0
1935	98	98	0	0.0
1936	97	97	0	0.0
1937	98	98	0	0.0
1938	98	98	0	0.0
1939	98	98	0	0.0
1940	97	97	0	0.0
1941	98	98	0	0.0
1942	98	98	0	0.0
1943	98	98	0	0.0
1944	98	98	0	0.0
1945	98	98	0	0.0
1946	98	98	0	0.0
1947	98	98	0	0.0
1948	98	98	0	0.0
1949	98	98	0	0.0
1950	98	98	0	0.0
1951	98	98	0	0.0
1952	98	98	0	0.0
1953	127	127	0	0.0
1954	98	98	0	0.0
1955	98	98	0	0.0
1956	98	98	0	0.0
1957	98	98	0	0.0
1958	98	98	0	0.0
1959	98	98	0	0.0
1960	97	97	0	0.0
1961	98	98	0	0.0
1962	98	98	0	0.0
1963	98	98	0	0.0
1964	98	98	0	0.0
1965	98	98	0	0.0
1966	98	98	0	0.0
1967	98	98	0	0.0
1968	127	127	0	0.0
1969	98	98	0	0.0
1970	98	98	0	0.0
1971	98	98	0	0.0
1972	98	98	0	0.0
1973	98	98	0	0.0
1974	98	98	0	0.0
1975	98	98	0	0.0
1976	98	98	0	0.0
1977	98	98	0	0.0
1978	98	98	0	0.0
1979	98	98	0	0.0
1980	98	98	0	0.0
1981	98	98	0	0.0
1982	98	98	0	0.0
1983	98	98	0	0.0
1984	127	127	0	0.0
1985	98	98	0	0.0
1986	98	98	0	0.0
1987	98	98	0	0.0
1988	74	74	0	0.0
1989	98	98	0	0.0
1990	95	95	0	0.0
1991	98	98	0	0.0
1992	98	98	0	0.0
1993	98	98	0	0.0
Mean:	99	99	0	0.0
Median:	98	98	0	0.0
Min:	74	74	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

December				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	104	104	0	0.0
1923	104	104	0	0.0
1924	104	104	0	0.0
1925	104	104	0	0.0
1926	104	104	0	0.0
1927	104	104	0	0.0
1928	104	104	0	0.0
1929	104	104	0	0.0
1930	104	104	0	0.0
1931	104	104	0	0.0
1932	104	104	0	0.0
1933	104	104	0	0.0
1934	104	104	0	0.0
1935	104	104	0	0.0
1936	104	104	0	0.0
1937	104	104	0	0.0
1938	104	104	0	0.0
1939	126	126	0	0.0
1940	104	104	0	0.0
1941	104	104	0	0.0
1942	127	127	0	0.0
1943	125	125	0	0.0
1944	104	104	0	0.0
1945	104	104	0	0.0
1946	104	104	0	0.0
1947	104	104	0	0.0
1948	104	104	0	0.0
1949	104	104	0	0.0
1950	104	104	0	0.0
1951	104	104	0	0.0
1952	104	104	0	0.0
1953	127	127	0	0.0
1954	104	104	0	0.0
1955	104	104	0	0.0
1956	104	104	0	0.0
1957	104	104	0	0.0
1958	104	104	0	0.0
1959	104	104	0	0.0
1960	104	104	0	0.0
1961	104	104	0	0.0
1962	104	104	0	0.0
1963	104	104	0	0.0
1964	104	104	0	0.0
1965	104	104	0	0.0
1966	104	104	0	0.0
1967	104	104	0	0.0
1968	127	127	0	0.0
1969	104	104	0	0.0
1970	127	127	0	0.0
1971	104	104	0	0.0
1972	104	104	0	0.0
1973	104	104	0	0.0
1974	104	104	0	0.0
1975	104	104	0	0.0
1976	104	104	0	0.0
1977	104	104	0	0.0
1978	104	104	0	0.0
1979	104	104	0	0.0
1980	104	104	0	0.0
1981	104	104	0	0.0
1982	104	104	0	0.0
1983	126	126	0	0.0
1984	127	127	0	0.0
1985	104	104	0	0.0
1986	104	104	0	0.0
1987	104	104	0	0.0
1988	99	99	0	0.0
1989	104	104	0	0.0
1990	74	74	0	0.0
1991	104	104	0	0.0
1992	104	104	0	0.0
1993	104	104	0	0.0
Mean:	106	106	0	0.0
Median:	104	104	0	0.0
Min:	74	74	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

January				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	111	111	0	0.0
1923	127	127	0	0.0
1924	111	111	0	0.0
1925	111	111	0	0.0
1926	111	111	0	0.0
1927	111	111	0	0.0
1928	111	111	0	0.0
1929	111	111	0	0.0
1930	111	111	0	0.0
1931	111	111	0	0.0
1932	111	111	0	0.0
1933	127	127	0	0.0
1934	111	111	0	0.0
1935	111	111	0	0.0
1936	111	111	0	0.0
1937	111	111	0	0.0
1938	111	111	0	0.0
1939	127	127	0	0.0
1940	111	111	0	0.0
1941	111	111	0	0.0
1942	127	127	0	0.0
1943	127	127	0	0.0
1944	111	111	0	0.0
1945	111	111	0	0.0
1946	111	111	0	0.0
1947	111	111	0	0.0
1948	111	111	0	0.0
1949	111	111	0	0.0
1950	111	111	0	0.0
1951	127	127	0	0.0
1952	111	111	0	0.0
1953	127	127	0	0.0
1954	122	122	0	0.0
1955	111	111	0	0.0
1956	111	111	0	0.0
1957	111	111	0	0.0
1958	111	111	0	0.0
1959	127	127	0	0.0
1960	111	111	0	0.0
1961	111	111	0	0.0
1962	111	111	0	0.0
1963	111	111	0	0.0
1964	127	127	0	0.0
1965	111	111	0	0.0
1966	127	127	0	0.0
1967	111	111	0	0.0
1968	127	127	0	0.0
1969	111	111	0	0.0
1970	127	127	0	0.0
1971	111	111	0	0.0
1972	111	111	0	0.0
1973	111	111	0	0.0
1974	127	127	0	0.0
1975	127	127	0	0.0
1976	127	127	0	0.0
1977	111	111	0	0.0
1978	111	111	0	0.0
1979	111	111	0	0.0
1980	111	111	0	0.0
1981	127	127	0	0.0
1982	111	111	0	0.0
1983	127	127	0	0.0
1984	127	127	0	0.0
1985	111	111	0	0.0
1986	111	111	0	0.0
1987	111	111	0	0.0
1988	111	111	0	0.0
1989	111	111	0	0.0
1990	111	111	0	0.0
1991	111	111	0	0.0
1992	111	111	0	0.0
1993	111	111	0	0.0
Mean:	115	115	0	0.0
Median:	111	111	0	0.0
Min:	111	111	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

February				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	119	119	0	0.0
1923	127	127	0	0.0
1924	119	119	0	0.0
1925	119	119	0	0.0
1926	127	127	0	0.0
1927	127	127	0	0.0
1928	127	127	0	0.0
1929	119	119	0	0.0
1930	119	119	0	0.0
1931	119	119	0	0.0
1932	127	127	0	0.0
1933	127	127	0	0.0
1934	119	119	0	0.0
1935	119	119	0	0.0
1936	119	119	0	0.0
1937	119	119	0	0.0
1938	127	127	0	0.0
1939	127	127	0	0.0
1940	119	119	0	0.0
1941	119	119	0	0.0
1942	127	127	0	0.0
1943	127	127	0	0.0
1944	119	119	0	0.0
1945	119	119	0	0.0
1946	119	119	0	0.0
1947	119	119	0	0.0
1948	119	119	0	0.0
1949	119	119	0	0.0
1950	119	119	0	0.0
1951	127	127	0	0.0
1952	127	127	0	0.0
1953	127	127	0	0.0
1954	127	127	0	0.0
1955	119	119	0	0.0
1956	127	127	0	0.0
1957	127	127	0	0.0
1958	127	127	0	0.0
1959	127	127	0	0.0
1960	119	119	0	0.0
1961	119	119	0	0.0
1962	119	119	0	0.0
1963	127	127	0	0.0
1964	119	119	0	0.0
1965	119	119	0	0.0
1966	127	127	0	0.0
1967	127	127	0	0.0
1968	127	127	0	0.0
1969	119	119	0	0.0
1970	127	127	0	0.0
1971	119	119	0	0.0
1972	119	119	0	0.0
1973	127	127	0	0.0
1974	127	127	0	0.0
1975	127	127	0	0.0
1976	127	127	0	0.0
1977	119	119	0	0.0
1978	127	127	0	0.0
1979	127	127	0	0.0
1980	127	127	0	0.0
1981	127	127	0	0.0
1982	127	127	0	0.0
1983	127	127	0	0.0
1984	127	127	0	0.0
1985	119	119	0	0.0
1986	119	119	0	0.0
1987	119	119	0	0.0
1988	119	119	0	0.0
1989	119	119	0	0.0
1990	119	119	0	0.0
1991	119	119	0	0.0
1992	119	119	0	0.0
1993	119	119	0	0.0
Mean:	123	123	0	0.0
Median:	119	119	0	0.0
Min:	119	119	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

March				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	127	127	0	0.0
1923	124	124	0	0.0
1924	124	124	0	0.0
1925	124	124	0	0.0
1926	124	124	0	0.0
1927	127	127	0	0.0
1928	127	127	0	0.0
1929	124	124	0	0.0
1930	127	127	0	0.0
1931	124	124	0	0.0
1932	127	127	0	0.0
1933	127	127	0	0.0
1934	124	124	0	0.0
1935	124	124	0	0.0
1936	127	127	0	0.0
1937	127	127	0	0.0
1938	127	127	0	0.0
1939	127	127	0	0.0
1940	127	127	0	0.0
1941	127	127	0	0.0
1942	127	127	0	0.0
1943	127	127	0	0.0
1944	124	124	0	0.0
1945	127	127	0	0.0
1946	124	124	0	0.0
1947	124	124	0	0.0
1948	124	124	0	0.0
1949	124	124	0	0.0
1950	124	124	0	0.0
1951	127	127	0	0.0
1952	127	127	0	0.0
1953	127	127	0	0.0
1954	127	127	0	0.0
1955	124	124	0	0.0
1956	127	127	0	0.0
1957	127	127	0	0.0
1958	127	127	0	0.0
1959	124	124	0	0.0
1960	124	124	0	0.0
1961	127	127	0	0.0
1962	124	124	0	0.0
1963	127	127	0	0.0
1964	124	124	0	0.0
1965	127	127	0	0.0
1966	127	127	0	0.0
1967	127	127	0	0.0
1968	127	127	0	0.0
1969	127	127	0	0.0
1970	127	127	0	0.0
1971	124	124	0	0.0
1972	127	127	0	0.0
1973	127	127	0	0.0
1974	127	127	0	0.0
1975	127	127	0	0.0
1976	127	127	0	0.0
1977	124	124	0	0.0
1978	127	127	0	0.0
1979	127	127	0	0.0
1980	127	127	0	0.0
1981	127	127	0	0.0
1982	127	127	0	0.0
1983	127	127	0	0.0
1984	127	127	0	0.0
1985	124	124	0	0.0
1986	127	127	0	0.0
1987	127	127	0	0.0
1988	124	124	0	0.0
1989	124	124	0	0.0
1990	124	124	0	0.0
1991	124	124	0	0.0
1992	124	124	0	0.0
1993	127	127	0	0.0
Mean:	126	126	0	0.0
Median:	127	127	0	0.0
Min:	124	124	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

April				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	127	127	0	0.0
1923	127	127	0	0.0
1924	127	127	0	0.0
1925	127	127	0	0.0
1926	127	127	0	0.0
1927	127	127	0	0.0
1928	127	127	0	0.0
1929	127	127	0	0.0
1930	127	127	0	0.0
1931	127	127	0	0.0
1932	127	127	0	0.0
1933	127	127	0	0.0
1934	127	127	0	0.0
1935	127	127	0	0.0
1936	127	127	0	0.0
1937	127	127	0	0.0
1938	127	127	0	0.0
1939	127	127	0	0.0
1940	127	127	0	0.0
1941	127	127	0	0.0
1942	127	127	0	0.0
1943	127	127	0	0.0
1944	127	127	0	0.0
1945	127	127	0	0.0
1946	127	127	0	0.0
1947	127	127	0	0.0
1948	127	127	0	0.0
1949	127	127	0	0.0
1950	127	127	0	0.0
1951	127	127	0	0.0
1952	127	127	0	0.0
1953	127	127	0	0.0
1954	127	127	0	0.0
1955	127	127	0	0.0
1956	127	127	0	0.0
1957	127	127	0	0.0
1958	127	127	0	0.0
1959	127	127	0	0.0
1960	127	127	0	0.0
1961	127	127	0	0.0
1962	127	127	0	0.0
1963	127	127	0	0.0
1964	127	127	0	0.0
1965	127	127	0	0.0
1966	127	127	0	0.0
1967	127	127	0	0.0
1968	127	127	0	0.0
1969	127	127	0	0.0
1970	127	127	0	0.0
1971	127	127	0	0.0
1972	127	127	0	0.0
1973	127	127	0	0.0
1974	127	127	0	0.0
1975	127	127	0	0.0
1976	127	127	0	0.0
1977	127	127	0	0.0
1978	127	127	0	0.0
1979	127	127	0	0.0
1980	127	127	0	0.0
1981	127	127	0	0.0
1982	127	127	0	0.0
1983	127	127	0	0.0
1984	127	127	0	0.0
1985	127	127	0	0.0
1986	127	127	0	0.0
1987	127	127	0	0.0
1988	127	127	0	0.0
1989	127	127	0	0.0
1990	127	127	0	0.0
1991	127	127	0	0.0
1992	127	127	0	0.0
1993	127	127	0	0.0
Mean:	127	127	0	0.0
Median:	127	127	0	0.0
Min:	127	127	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

May				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	124	124	0	0.0
1923	124	124	0	0.0
1924	124	124	0	0.0
1925	124	124	0	0.0
1926	124	124	0	0.0
1927	124	124	0	0.0
1928	124	124	0	0.0
1929	124	124	0	0.0
1930	124	124	0	0.0
1931	124	124	0	0.0
1932	124	124	0	0.0
1933	124	124	0	0.0
1934	124	124	0	0.0
1935	124	124	0	0.0
1936	124	124	0	0.0
1937	127	127	0	0.0
1938	127	127	0	0.0
1939	124	124	0	0.0
1940	124	124	0	0.0
1941	127	127	0	0.0
1942	124	124	0	0.0
1943	124	124	0	0.0
1944	124	124	0	0.0
1945	124	124	0	0.0
1946	124	124	0	0.0
1947	124	124	0	0.0
1948	124	124	0	0.0
1949	124	124	0	0.0
1950	124	124	0	0.0
1951	124	124	0	0.0
1952	127	127	0	0.0
1953	124	124	0	0.0
1954	124	124	0	0.0
1955	124	124	0	0.0
1956	124	124	0	0.0
1957	124	124	0	0.0
1958	127	127	0	0.0
1959	124	124	0	0.0
1960	124	124	0	0.0
1961	124	124	0	0.0
1962	124	124	0	0.0
1963	124	124	0	0.0
1964	124	124	0	0.0
1965	124	124	0	0.0
1966	124	124	0	0.0
1967	127	127	0	0.0
1968	124	124	0	0.0
1969	127	127	0	0.0
1970	124	124	0	0.0
1971	124	124	0	0.0
1972	124	124	0	0.0
1973	124	124	0	0.0
1974	124	124	0	0.0
1975	124	124	0	0.0
1976	124	124	0	0.0
1977	124	124	0	0.0
1978	127	127	0	0.0
1979	124	124	0	0.0
1980	124	124	0	0.0
1981	124	124	0	0.0
1982	127	127	0	0.0
1983	127	127	0	0.0
1984	124	124	0	0.0
1985	124	124	0	0.0
1986	124	124	0	0.0
1987	124	124	0	0.0
1988	124	124	0	0.0
1989	124	124	0	0.0
1990	124	124	0	0.0
1991	124	124	0	0.0
1992	124	124	0	0.0
1993	124	124	0	0.0
Mean:	124	124	0	0.0
Median:	124	124	0	0.0
Min:	124	124	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

June				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	121	121	0	0.0
1923	121	121	0	0.0
1924	121	121	0	0.0
1925	121	121	0	0.0
1926	121	121	0	0.0
1927	121	121	0	0.0
1928	121	121	0	0.0
1929	121	121	0	0.0
1930	121	121	0	0.0
1931	121	121	0	0.0
1932	121	121	0	0.0
1933	121	121	0	0.0
1934	121	121	0	0.0
1935	102	102	0	0.0
1936	109	109	0	0.0
1937	121	121	0	0.0
1938	121	121	0	0.0
1939	121	121	0	0.0
1940	112	112	0	0.0
1941	127	127	0	0.0
1942	121	121	0	0.0
1943	121	121	0	0.0
1944	121	121	0	0.0
1945	121	121	0	0.0
1946	121	121	0	0.0
1947	121	121	0	0.0
1948	121	121	0	0.0
1949	121	121	0	0.0
1950	121	121	0	0.0
1951	121	121	0	0.0
1952	127	127	0	0.0
1953	121	121	0	0.0
1954	121	121	0	0.0
1955	121	121	0	0.0
1956	121	121	0	0.0
1957	121	121	0	0.0
1958	121	121	0	0.0
1959	121	121	0	0.0
1960	121	121	0	0.0
1961	121	121	0	0.0
1962	121	121	0	0.0
1963	121	121	0	0.0
1964	121	121	0	0.0
1965	121	121	0	0.0
1966	121	121	0	0.0
1967	121	121	0	0.0
1968	121	121	0	0.0
1969	127	127	0	0.0
1970	121	121	0	0.0
1971	121	121	0	0.0
1972	121	121	0	0.0
1973	121	121	0	0.0
1974	121	121	0	0.0
1975	121	121	0	0.0
1976	121	121	0	0.0
1977	121	121	0	0.0
1978	127	127	0	0.0
1979	121	121	0	0.0
1980	121	121	0	0.0
1981	121	121	0	0.0
1982	121	121	0	0.0
1983	127	127	0	0.0
1984	121	121	0	0.0
1985	121	121	0	0.0
1986	121	121	0	0.0
1987	121	121	0	0.0
1988	121	121	0	0.0
1989	121	121	0	0.0
1990	121	121	0	0.0
1991	121	121	0	0.0
1992	121	121	0	0.0
1993	121	121	0	0.0
Mean:	121	121	0	0.0
Median:	121	121	0	0.0
Min:	102	102	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

July				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	117	117	0	0.0
1923	117	117	0	0.0
1924	117	117	0	0.0
1925	117	117	0	0.0
1926	117	117	0	0.0
1927	117	117	0	0.0
1928	117	117	0	0.0
1929	117	117	0	0.0
1930	117	117	0	0.0
1931	117	117	0	0.0
1932	117	117	0	0.0
1933	117	117	0	0.0
1934	117	117	0	0.0
1935	97	97	0	0.0
1936	97	97	0	0.0
1937	117	117	0	0.0
1938	117	117	0	0.0
1939	117	117	0	0.0
1940	97	97	0	0.0
1941	117	117	0	0.0
1942	117	117	0	0.0
1943	117	117	0	0.0
1944	117	117	0	0.0
1945	117	117	0	0.0
1946	117	117	0	0.0
1947	117	117	0	0.0
1948	117	117	0	0.0
1949	117	117	0	0.0
1950	117	117	0	0.0
1951	117	117	0	0.0
1952	117	117	0	0.0
1953	117	117	0	0.0
1954	111	111	0	0.0
1955	117	117	0	0.0
1956	117	117	0	0.0
1957	117	117	0	0.0
1958	117	117	0	0.0
1959	117	117	0	0.0
1960	117	117	0	0.0
1961	117	117	0	0.0
1962	117	117	0	0.0
1963	117	117	0	0.0
1964	117	117	0	0.0
1965	117	117	0	0.0
1966	117	117	0	0.0
1967	117	117	0	0.0
1968	117	117	0	0.0
1969	117	117	0	0.0
1970	117	117	0	0.0
1971	113	113	0	0.0
1972	117	117	0	0.0
1973	117	117	0	0.0
1974	117	117	0	0.0
1975	117	117	0	0.0
1976	117	117	0	0.0
1977	117	117	0	0.0
1978	117	117	0	0.0
1979	117	117	0	0.0
1980	117	117	0	0.0
1981	117	117	0	0.0
1982	117	117	0	0.0
1983	127	127	0	0.0
1984	117	117	0	0.0
1985	117	117	0	0.0
1986	117	117	0	0.0
1987	117	117	0	0.0
1988	117	117	0	0.0
1989	117	117	0	0.0
1990	117	117	0	0.0
1991	117	117	0	0.0
1992	117	117	0	0.0
1993	117	117	0	0.0
Mean:	116	116	0	0.0
Median:	117	117	0	0.0
Min:	97	97	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

August				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	113	113	0	0.0
1923	113	113	0	0.0
1924	113	113	0	0.0
1925	113	113	0	0.0
1926	113	113	0	0.0
1927	113	113	0	0.0
1928	113	113	0	0.0
1929	113	113	0	0.0
1930	113	113	0	0.0
1931	113	113	0	0.0
1932	113	113	0	0.0
1933	113	113	0	0.0
1934	113	113	0	0.0
1935	97	97	0	0.0
1936	97	97	0	0.0
1937	113	113	0	0.0
1938	113	113	0	0.0
1939	113	113	0	0.0
1940	97	97	0	0.0
1941	113	113	0	0.0
1942	113	113	0	0.0
1943	113	113	0	0.0
1944	113	113	0	0.0
1945	113	113	0	0.0
1946	113	113	0	0.0
1947	113	113	0	0.0
1948	113	113	0	0.0
1949	113	113	0	0.0
1950	113	113	0	0.0
1951	113	113	0	0.0
1952	113	113	0	0.0
1953	113	113	0	0.0
1954	107	107	0	0.0
1955	113	113	0	0.0
1956	113	113	0	0.0
1957	113	113	0	0.0
1958	113	113	0	0.0
1959	113	113	0	0.0
1960	113	113	0	0.0
1961	113	113	0	0.0
1962	113	113	0	0.0
1963	113	113	0	0.0
1964	113	113	0	0.0
1965	113	113	0	0.0
1966	113	113	0	0.0
1967	113	113	0	0.0
1968	113	113	0	0.0
1969	113	113	0	0.0
1970	113	113	0	0.0
1971	110	110	0	0.0
1972	113	113	0	0.0
1973	113	113	0	0.0
1974	113	113	0	0.0
1975	113	113	0	0.0
1976	113	113	0	0.0
1977	113	113	0	0.0
1978	113	113	0	0.0
1979	113	113	0	0.0
1980	113	113	0	0.0
1981	113	113	0	0.0
1982	113	113	0	0.0
1983	127	127	0	0.0
1984	113	113	0	0.0
1985	97	97	0	0.0
1986	113	113	0	0.0
1987	113	113	0	0.0
1988	113	113	0	0.0
1989	113	113	0	0.0
1990	113	113	0	0.0
1991	113	113	0	0.0
1992	113	113	0	0.0
1993	113	113	0	0.0
Mean:	112	112	0	0.0
Median:	113	113	0	0.0
Min:	97	97	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Storage

September				
	Baseline	FP Alt		
Water Year	Storage (TAF)	Storage (TAF)	Absolute Difference (TAF)	Relative Difference (%)[1]
1922	108	108	0	0.0
1923	108	108	0	0.0
1924	108	108	0	0.0
1925	108	108	0	0.0
1926	108	108	0	0.0
1927	108	108	0	0.0
1928	108	108	0	0.0
1929	108	108	0	0.0
1930	108	108	0	0.0
1931	108	108	0	0.0
1932	108	108	0	0.0
1933	108	108	0	0.0
1934	108	108	0	0.0
1935	97	97	0	0.0
1936	97	97	0	0.0
1937	108	108	0	0.0
1938	108	108	0	0.0
1939	108	108	0	0.0
1940	103	103	0	0.0
1941	108	108	0	0.0
1942	108	108	0	0.0
1943	108	108	0	0.0
1944	108	108	0	0.0
1945	108	108	0	0.0
1946	108	108	0	0.0
1947	108	108	0	0.0
1948	108	108	0	0.0
1949	108	108	0	0.0
1950	108	108	0	0.0
1951	108	108	0	0.0
1952	108	108	0	0.0
1953	108	108	0	0.0
1954	108	108	0	0.0
1955	108	108	0	0.0
1956	108	108	0	0.0
1957	108	108	0	0.0
1958	108	108	0	0.0
1959	108	108	0	0.0
1960	108	108	0	0.0
1961	108	108	0	0.0
1962	108	108	0	0.0
1963	108	108	0	0.0
1964	108	108	0	0.0
1965	108	108	0	0.0
1966	108	108	0	0.0
1967	108	108	0	0.0
1968	108	108	0	0.0
1969	108	108	0	0.0
1970	108	108	0	0.0
1971	108	108	0	0.0
1972	108	108	0	0.0
1973	108	108	0	0.0
1974	108	108	0	0.0
1975	108	108	0	0.0
1976	108	108	0	0.0
1977	108	108	0	0.0
1978	108	108	0	0.0
1979	108	108	0	0.0
1980	108	108	0	0.0
1981	108	108	0	0.0
1982	108	108	0	0.0
1983	127	127	0	0.0
1984	108	108	0	0.0
1985	106	106	0	0.0
1986	108	108	0	0.0
1987	108	108	0	0.0
1988	108	108	0	0.0
1989	108	108	0	0.0
1990	108	108	0	0.0
1991	108	108	0	0.0
1992	108	108	0	0.0
1993	108	108	0	0.0
Mean:	108	108	0	0.0
Median:	108	108	0	0.0
Min:	97	97	0	0.0
Max:	127	127	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2049	2049	0	0.0
1923	2049	2049	0	0.0
1924	2049	2049	0	0.0
1925	2092	2092	0	0.0
1926	2049	2049	0	0.0
1927	2049	2049	0	0.0
1928	2049	2049	0	0.0
1929	2049	2049	0	0.0
1930	2087	2087	0	0.0
1931	2049	2049	0	0.0
1932	2091	2091	0	0.0
1933	2060	2060	0	0.0
1934	2052	2052	0	0.0
1935	2049	2049	0	0.0
1936	2036	2036	0	0.0
1937	2036	2036	0	0.0
1938	2049	2049	0	0.0
1939	2049	2049	0	0.0
1940	2049	2049	0	0.0
1941	2043	2043	0	0.0
1942	2049	2049	0	0.0
1943	2049	2049	0	0.0
1944	2049	2049	0	0.0
1945	2049	2049	0	0.0
1946	2049	2049	0	0.0
1947	2049	2049	0	0.0
1948	2049	2049	0	0.0
1949	2049	2049	0	0.0
1950	2049	2049	0	0.0
1951	2049	2049	0	0.0
1952	2049	2049	0	0.0
1953	2104	2104	0	0.0
1954	2049	2049	0	0.0
1955	2049	2049	0	0.0
1956	2049	2049	0	0.0
1957	2049	2049	0	0.0
1958	2049	2049	0	0.0
1959	2049	2049	0	0.0
1960	2049	2049	0	0.0
1961	2049	2049	0	0.0
1962	2049	2049	0	0.0
1963	2049	2049	0	0.0
1964	2049	2049	0	0.0
1965	2049	2049	0	0.0
1966	2049	2049	0	0.0
1967	2049	2049	0	0.0
1968	2352	2352	0	0.0
1969	2049	2049	0	0.0
1970	2049	2049	0	0.0
1971	2049	2049	0	0.0
1972	2049	2049	0	0.0
1973	2049	2049	0	0.0
1974	2049	2049	0	0.0
1975	2049	2049	0	0.0
1976	2049	2049	0	0.0
1977	2049	2049	0	0.0
1978	2108	2108	0	0.0
1979	2049	2049	0	0.0
1980	2049	2049	0	0.0
1981	2049	2049	0	0.0
1982	2049	2049	0	0.0
1983	2049	2049	0	0.0
1984	2350	2350	0	0.0
1985	2049	2049	0	0.0
1986	2046	2046	0	0.0
1987	2049	2049	0	0.0
1988	2049	2049	0	0.0
1989	2096	2096	0	0.0
1990	2049	2049	0	0.0
1991	2086	2086	0	0.0
1992	2088	2088	0	0.0
1993	2069	2069	0	0.0
Mean:	2062.4	2062.4	0.0	0.0
Median:	2049.0	2049.0	0.0	0.0
Min:	2036.0	2036.0	0.0	0.0
Max:	2352.0	2352.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2048	2048	0	0.0
1923	2048	2048	0	0.0
1924	2048	2048	0	0.0
1925	2051	2051	0	0.0
1926	2048	2048	0	0.0
1927	2048	2048	0	0.0
1928	2048	2048	0	0.0
1929	2048	2048	0	0.0
1930	2050	2050	0	0.0
1931	2048	2048	0	0.0
1932	2051	2051	0	0.0
1933	2048	2048	0	0.0
1934	2048	2048	0	0.0
1935	2048	2048	0	0.0
1936	2036	2036	0	0.0
1937	2048	2048	0	0.0
1938	2048	2048	0	0.0
1939	2048	2048	0	0.0
1940	2036	2036	0	0.0
1941	2048	2048	0	0.0
1942	2048	2048	0	0.0
1943	2048	2048	0	0.0
1944	2048	2048	0	0.0
1945	2048	2048	0	0.0
1946	2048	2048	0	0.0
1947	2048	2048	0	0.0
1948	2048	2048	0	0.0
1949	2048	2048	0	0.0
1950	2048	2048	0	0.0
1951	2048	2048	0	0.0
1952	2048	2048	0	0.0
1953	2380	2380	0	0.0
1954	2048	2048	0	0.0
1955	2048	2048	0	0.0
1956	2048	2048	0	0.0
1957	2048	2048	0	0.0
1958	2048	2048	0	0.0
1959	2048	2048	0	0.0
1960	2036	2036	0	0.0
1961	2048	2048	0	0.0
1962	2048	2048	0	0.0
1963	2048	2048	0	0.0
1964	2048	2048	0	0.0
1965	2048	2048	0	0.0
1966	2048	2048	0	0.0
1967	2048	2048	0	0.0
1968	2350	2350	0	0.0
1969	2048	2048	0	0.0
1970	2048	2048	0	0.0
1971	2048	2048	0	0.0
1972	2048	2048	0	0.0
1973	2048	2048	0	0.0
1974	2048	2048	0	0.0
1975	2048	2048	0	0.0
1976	2048	2048	0	0.0
1977	2048	2048	0	0.0
1978	2054	2054	0	0.0
1979	2048	2048	0	0.0
1980	2048	2048	0	0.0
1981	2048	2048	0	0.0
1982	2048	2048	0	0.0
1983	2048	2048	0	0.0
1984	2350	2350	0	0.0
1985	2048	2048	0	0.0
1986	2048	2048	0	0.0
1987	2048	2048	0	0.0
1988	1753	1753	0	0.0
1989	2052	2052	0	0.0
1990	2010	2010	0	0.0
1991	2050	2050	0	0.0
1992	2050	2050	0	0.0
1993	2049	2049	0	0.0
Mean:	2056.2	2056.2	0.0	0.0
Median:	2048.0	2048.0	0.0	0.0
Min:	1753.0	1753.0	0.0	0.0
Max:	2380.0	2380.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2122	2122	0	0.0
1923	2122	2122	0	0.0
1924	2122	2122	0	0.0
1925	2122	2122	0	0.0
1926	2122	2122	0	0.0
1927	2122	2122	0	0.0
1928	2122	2122	0	0.0
1929	2122	2122	0	0.0
1930	2122	2122	0	0.0
1931	2122	2122	0	0.0
1932	2122	2122	0	0.0
1933	2122	2122	0	0.0
1934	2122	2122	0	0.0
1935	2122	2122	0	0.0
1936	2122	2122	0	0.0
1937	2122	2122	0	0.0
1938	2122	2122	0	0.0
1939	2399	2399	0	0.0
1940	2122	2122	0	0.0
1941	2122	2122	0	0.0
1942	2405	2405	0	0.0
1943	2382	2382	0	0.0
1944	2122	2122	0	0.0
1945	2122	2122	0	0.0
1946	2122	2122	0	0.0
1947	2122	2122	0	0.0
1948	2122	2122	0	0.0
1949	2122	2122	0	0.0
1950	2122	2122	0	0.0
1951	2122	2122	0	0.0
1952	2122	2122	0	0.0
1953	2350	2350	0	0.0
1954	2122	2122	0	0.0
1955	2122	2122	0	0.0
1956	2122	2122	0	0.0
1957	2122	2122	0	0.0
1958	2122	2122	0	0.0
1959	2122	2122	0	0.0
1960	2122	2122	0	0.0
1961	2122	2122	0	0.0
1962	2122	2122	0	0.0
1963	2122	2122	0	0.0
1964	2122	2122	0	0.0
1965	2122	2122	0	0.0
1966	2122	2122	0	0.0
1967	2122	2122	0	0.0
1968	2350	2350	0	0.0
1969	2122	2122	0	0.0
1970	2405	2405	0	0.0
1971	2122	2122	0	0.0
1972	2122	2122	0	0.0
1973	2122	2122	0	0.0
1974	2122	2122	0	0.0
1975	2122	2122	0	0.0
1976	2122	2122	0	0.0
1977	2122	2122	0	0.0
1978	2122	2122	0	0.0
1979	2122	2122	0	0.0
1980	2122	2122	0	0.0
1981	2122	2122	0	0.0
1982	2122	2122	0	0.0
1983	2394	2394	0	0.0
1984	2350	2350	0	0.0
1985	2122	2122	0	0.0
1986	2122	2122	0	0.0
1987	2122	2122	0	0.0
1988	2087	2087	0	0.0
1989	2122	2122	0	0.0
1990	1747	1747	0	0.0
1991	2122	2122	0	0.0
1992	2122	2122	0	0.0
1993	2122	2122	0	0.0
Mean:	2144.9	2144.9	0.0	0.0
Median:	2122.0	2122.0	0.0	0.0
Min:	1747.0	1747.0	0.0	0.0
Max:	2405.0	2405.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2197	2197	0	0.0
1923	2371	2371	0	0.0
1924	2197	2197	0	0.0
1925	2197	2197	0	0.0
1926	2197	2197	0	0.0
1927	2197	2197	0	0.0
1928	2197	2197	0	0.0
1929	2197	2197	0	0.0
1930	2197	2197	0	0.0
1931	2197	2197	0	0.0
1932	2197	2197	0	0.0
1933	2371	2371	0	0.0
1934	2197	2197	0	0.0
1935	2197	2197	0	0.0
1936	2197	2197	0	0.0
1937	2197	2197	0	0.0
1938	2197	2197	0	0.0
1939	2350	2350	0	0.0
1940	2197	2197	0	0.0
1941	2197	2197	0	0.0
1942	2350	2350	0	0.0
1943	2350	2350	0	0.0
1944	2197	2197	0	0.0
1945	2197	2197	0	0.0
1946	2197	2197	0	0.0
1947	2197	2197	0	0.0
1948	2197	2197	0	0.0
1949	2197	2197	0	0.0
1950	2197	2197	0	0.0
1951	2371	2371	0	0.0
1952	2197	2197	0	0.0
1953	2350	2350	0	0.0
1954	2317	2317	0	0.0
1955	2197	2197	0	0.0
1956	2197	2197	0	0.0
1957	2197	2197	0	0.0
1958	2197	2197	0	0.0
1959	2371	2371	0	0.0
1960	2197	2197	0	0.0
1961	2197	2197	0	0.0
1962	2197	2197	0	0.0
1963	2197	2197	0	0.0
1964	2371	2371	0	0.0
1965	2197	2197	0	0.0
1966	2371	2371	0	0.0
1967	2197	2197	0	0.0
1968	2350	2350	0	0.0
1969	2197	2197	0	0.0
1970	2350	2350	0	0.0
1971	2197	2197	0	0.0
1972	2197	2197	0	0.0
1973	2197	2197	0	0.0
1974	2371	2371	0	0.0
1975	2371	2371	0	0.0
1976	2371	2371	0	0.0
1977	2197	2197	0	0.0
1978	2197	2197	0	0.0
1979	2197	2197	0	0.0
1980	2197	2197	0	0.0
1981	2371	2371	0	0.0
1982	2197	2197	0	0.0
1983	2350	2350	0	0.0
1984	2350	2350	0	0.0
1985	2197	2197	0	0.0
1986	2197	2197	0	0.0
1987	2197	2197	0	0.0
1988	2205	2205	0	0.0
1989	2197	2197	0	0.0
1990	2247	2247	0	0.0
1991	2197	2197	0	0.0
1992	2197	2197	0	0.0
1993	2197	2197	0	0.0
Mean:	2240.6	2240.6	0.0	0.0
Median:	2197.0	2197.0	0.0	0.0
Min:	2197.0	2197.0	0.0	0.0
Max:	2371.0	2371.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2270	2270	0	0.0
1923	2350	2350	0	0.0
1924	2270	2270	0	0.0
1925	2270	2270	0	0.0
1926	2350	2350	0	0.0
1927	2350	2350	0	0.0
1928	2350	2350	0	0.0
1929	2270	2270	0	0.0
1930	2270	2270	0	0.0
1931	2270	2270	0	0.0
1932	2350	2350	0	0.0
1933	2350	2350	0	0.0
1934	2270	2270	0	0.0
1935	2270	2270	0	0.0
1936	2270	2270	0	0.0
1937	2270	2270	0	0.0
1938	2350	2350	0	0.0
1939	2350	2350	0	0.0
1940	2270	2270	0	0.0
1941	2270	2270	0	0.0
1942	2350	2350	0	0.0
1943	2350	2350	0	0.0
1944	2270	2270	0	0.0
1945	2270	2270	0	0.0
1946	2270	2270	0	0.0
1947	2270	2270	0	0.0
1948	2270	2270	0	0.0
1949	2270	2270	0	0.0
1950	2270	2270	0	0.0
1951	2350	2350	0	0.0
1952	2350	2350	0	0.0
1953	2350	2350	0	0.0
1954	2350	2350	0	0.0
1955	2270	2270	0	0.0
1956	2350	2350	0	0.0
1957	2350	2350	0	0.0
1958	2350	2350	0	0.0
1959	2350	2350	0	0.0
1960	2270	2270	0	0.0
1961	2270	2270	0	0.0
1962	2270	2270	0	0.0
1963	2350	2350	0	0.0
1964	2270	2270	0	0.0
1965	2270	2270	0	0.0
1966	2350	2350	0	0.0
1967	2350	2350	0	0.0
1968	2350	2350	0	0.0
1969	2270	2270	0	0.0
1970	2350	2350	0	0.0
1971	2270	2270	0	0.0
1972	2270	2270	0	0.0
1973	2350	2350	0	0.0
1974	2350	2350	0	0.0
1975	2350	2350	0	0.0
1976	2350	2350	0	0.0
1977	2270	2270	0	0.0
1978	2350	2350	0	0.0
1979	2350	2350	0	0.0
1980	2350	2350	0	0.0
1981	2350	2350	0	0.0
1982	2350	2350	0	0.0
1983	2350	2350	0	0.0
1984	2350	2350	0	0.0
1985	2270	2270	0	0.0
1986	2270	2270	0	0.0
1987	2270	2270	0	0.0
1988	2270	2270	0	0.0
1989	2270	2270	0	0.0
1990	2270	2270	0	0.0
1991	2270	2270	0	0.0
1992	2270	2270	0	0.0
1993	2270	2270	0	0.0
Mean:	2307.8	2307.8	0.0	0.0
Median:	2270.0	2270.0	0.0	0.0
Min:	2270.0	2270.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2350	2350	0	0.0
1923	2320	2320	0	0.0
1924	2320	2320	0	0.0
1925	2320	2320	0	0.0
1926	2320	2320	0	0.0
1927	2350	2350	0	0.0
1928	2350	2350	0	0.0
1929	2320	2320	0	0.0
1930	2350	2350	0	0.0
1931	2320	2320	0	0.0
1932	2350	2350	0	0.0
1933	2350	2350	0	0.0
1934	2320	2320	0	0.0
1935	2320	2320	0	0.0
1936	2350	2350	0	0.0
1937	2350	2350	0	0.0
1938	2350	2350	0	0.0
1939	2350	2350	0	0.0
1940	2350	2350	0	0.0
1941	2350	2350	0	0.0
1942	2350	2350	0	0.0
1943	2350	2350	0	0.0
1944	2320	2320	0	0.0
1945	2350	2350	0	0.0
1946	2320	2320	0	0.0
1947	2320	2320	0	0.0
1948	2320	2320	0	0.0
1949	2320	2320	0	0.0
1950	2320	2320	0	0.0
1951	2350	2350	0	0.0
1952	2350	2350	0	0.0
1953	2350	2350	0	0.0
1954	2350	2350	0	0.0
1955	2320	2320	0	0.0
1956	2350	2350	0	0.0
1957	2350	2350	0	0.0
1958	2350	2350	0	0.0
1959	2320	2320	0	0.0
1960	2320	2320	0	0.0
1961	2350	2350	0	0.0
1962	2320	2320	0	0.0
1963	2350	2350	0	0.0
1964	2320	2320	0	0.0
1965	2350	2350	0	0.0
1966	2350	2350	0	0.0
1967	2350	2350	0	0.0
1968	2350	2350	0	0.0
1969	2350	2350	0	0.0
1970	2350	2350	0	0.0
1971	2320	2320	0	0.0
1972	2350	2350	0	0.0
1973	2350	2350	0	0.0
1974	2350	2350	0	0.0
1975	2350	2350	0	0.0
1976	2350	2350	0	0.0
1977	2320	2320	0	0.0
1978	2350	2350	0	0.0
1979	2350	2350	0	0.0
1980	2350	2350	0	0.0
1981	2350	2350	0	0.0
1982	2350	2350	0	0.0
1983	2350	2350	0	0.0
1984	2350	2350	0	0.0
1985	2320	2320	0	0.0
1986	2350	2350	0	0.0
1987	2350	2350	0	0.0
1988	2320	2320	0	0.0
1989	2320	2320	0	0.0
1990	2320	2320	0	0.0
1991	2320	2320	0	0.0
1992	2320	2320	0	0.0
1993	2350	2350	0	0.0
Mean:	2338.8	2338.8	0.0	0.0
Median:	2350.0	2350.0	0.0	0.0
Min:	2320.0	2320.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2350	2350	0	0.0
1923	2350	2350	0	0.0
1924	2350	2350	0	0.0
1925	2350	2350	0	0.0
1926	2350	2350	0	0.0
1927	2350	2350	0	0.0
1928	2350	2350	0	0.0
1929	2350	2350	0	0.0
1930	2350	2350	0	0.0
1931	2350	2350	0	0.0
1932	2350	2350	0	0.0
1933	2350	2350	0	0.0
1934	2350	2350	0	0.0
1935	2350	2350	0	0.0
1936	2350	2350	0	0.0
1937	2350	2350	0	0.0
1938	2350	2350	0	0.0
1939	2350	2350	0	0.0
1940	2350	2350	0	0.0
1941	2350	2350	0	0.0
1942	2350	2350	0	0.0
1943	2350	2350	0	0.0
1944	2350	2350	0	0.0
1945	2350	2350	0	0.0
1946	2350	2350	0	0.0
1947	2350	2350	0	0.0
1948	2350	2350	0	0.0
1949	2350	2350	0	0.0
1950	2350	2350	0	0.0
1951	2350	2350	0	0.0
1952	2350	2350	0	0.0
1953	2350	2350	0	0.0
1954	2350	2350	0	0.0
1955	2350	2350	0	0.0
1956	2350	2350	0	0.0
1957	2350	2350	0	0.0
1958	2350	2350	0	0.0
1959	2350	2350	0	0.0
1960	2350	2350	0	0.0
1961	2350	2350	0	0.0
1962	2350	2350	0	0.0
1963	2350	2350	0	0.0
1964	2350	2350	0	0.0
1965	2350	2350	0	0.0
1966	2350	2350	0	0.0
1967	2350	2350	0	0.0
1968	2350	2350	0	0.0
1969	2350	2350	0	0.0
1970	2350	2350	0	0.0
1971	2350	2350	0	0.0
1972	2350	2350	0	0.0
1973	2350	2350	0	0.0
1974	2350	2350	0	0.0
1975	2350	2350	0	0.0
1976	2350	2350	0	0.0
1977	2350	2350	0	0.0
1978	2350	2350	0	0.0
1979	2350	2350	0	0.0
1980	2350	2350	0	0.0
1981	2350	2350	0	0.0
1982	2350	2350	0	0.0
1983	2350	2350	0	0.0
1984	2350	2350	0	0.0
1985	2350	2350	0	0.0
1986	2350	2350	0	0.0
1987	2350	2350	0	0.0
1988	2350	2350	0	0.0
1989	2350	2350	0	0.0
1990	2350	2350	0	0.0
1991	2350	2350	0	0.0
1992	2350	2350	0	0.0
1993	2350	2350	0	0.0
Mean:	2350.0	2350.0	0.0	0.0
Median:	2350.0	2350.0	0.0	0.0
Min:	2350.0	2350.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2320	2320	0	0.0
1923	2320	2320	0	0.0
1924	2320	2320	0	0.0
1925	2320	2320	0	0.0
1926	2320	2320	0	0.0
1927	2320	2320	0	0.0
1928	2320	2320	0	0.0
1929	2320	2320	0	0.0
1930	2320	2320	0	0.0
1931	2320	2320	0	0.0
1932	2320	2320	0	0.0
1933	2320	2320	0	0.0
1934	2320	2320	0	0.0
1935	2320	2320	0	0.0
1936	2320	2320	0	0.0
1937	2350	2350	0	0.0
1938	2350	2350	0	0.0
1939	2320	2320	0	0.0
1940	2320	2320	0	0.0
1941	2350	2350	0	0.0
1942	2320	2320	0	0.0
1943	2320	2320	0	0.0
1944	2320	2320	0	0.0
1945	2320	2320	0	0.0
1946	2320	2320	0	0.0
1947	2320	2320	0	0.0
1948	2320	2320	0	0.0
1949	2320	2320	0	0.0
1950	2320	2320	0	0.0
1951	2320	2320	0	0.0
1952	2350	2350	0	0.0
1953	2320	2320	0	0.0
1954	2320	2320	0	0.0
1955	2320	2320	0	0.0
1956	2320	2320	0	0.0
1957	2320	2320	0	0.0
1958	2350	2350	0	0.0
1959	2320	2320	0	0.0
1960	2320	2320	0	0.0
1961	2320	2320	0	0.0
1962	2320	2320	0	0.0
1963	2320	2320	0	0.0
1964	2320	2320	0	0.0
1965	2320	2320	0	0.0
1966	2320	2320	0	0.0
1967	2350	2350	0	0.0
1968	2320	2320	0	0.0
1969	2350	2350	0	0.0
1970	2320	2320	0	0.0
1971	2320	2320	0	0.0
1972	2320	2320	0	0.0
1973	2320	2320	0	0.0
1974	2320	2320	0	0.0
1975	2320	2320	0	0.0
1976	2320	2320	0	0.0
1977	2320	2320	0	0.0
1978	2350	2350	0	0.0
1979	2320	2320	0	0.0
1980	2320	2320	0	0.0
1981	2320	2320	0	0.0
1982	2350	2350	0	0.0
1983	2350	2350	0	0.0
1984	2320	2320	0	0.0
1985	2320	2320	0	0.0
1986	2320	2320	0	0.0
1987	2320	2320	0	0.0
1988	2320	2320	0	0.0
1989	2320	2320	0	0.0
1990	2320	2320	0	0.0
1991	2320	2320	0	0.0
1992	2320	2320	0	0.0
1993	2320	2320	0	0.0
Mean:	2324.2	2324.2	0.0	0.0
Median:	2320.0	2320.0	0.0	0.0
Min:	2320.0	2320.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2290	2290	0	0.0
1923	2290	2290	0	0.0
1924	2290	2290	0	0.0
1925	2290	2290	0	0.0
1926	2290	2290	0	0.0
1927	2290	2290	0	0.0
1928	2290	2290	0	0.0
1929	2290	2290	0	0.0
1930	2290	2290	0	0.0
1931	2290	2290	0	0.0
1932	2290	2290	0	0.0
1933	2290	2290	0	0.0
1934	2290	2290	0	0.0
1935	2096	2096	0	0.0
1936	2175	2175	0	0.0
1937	2290	2290	0	0.0
1938	2290	2290	0	0.0
1939	2290	2290	0	0.0
1940	2196	2196	0	0.0
1941	2350	2350	0	0.0
1942	2290	2290	0	0.0
1943	2290	2290	0	0.0
1944	2290	2290	0	0.0
1945	2290	2290	0	0.0
1946	2290	2290	0	0.0
1947	2290	2290	0	0.0
1948	2290	2290	0	0.0
1949	2290	2290	0	0.0
1950	2290	2290	0	0.0
1951	2290	2290	0	0.0
1952	2350	2350	0	0.0
1953	2290	2290	0	0.0
1954	2290	2290	0	0.0
1955	2290	2290	0	0.0
1956	2290	2290	0	0.0
1957	2290	2290	0	0.0
1958	2290	2290	0	0.0
1959	2290	2290	0	0.0
1960	2290	2290	0	0.0
1961	2290	2290	0	0.0
1962	2290	2290	0	0.0
1963	2290	2290	0	0.0
1964	2290	2290	0	0.0
1965	2290	2290	0	0.0
1966	2290	2290	0	0.0
1967	2290	2290	0	0.0
1968	2290	2290	0	0.0
1969	2350	2350	0	0.0
1970	2290	2290	0	0.0
1971	2290	2290	0	0.0
1972	2290	2290	0	0.0
1973	2290	2290	0	0.0
1974	2290	2290	0	0.0
1975	2290	2290	0	0.0
1976	2290	2290	0	0.0
1977	2290	2290	0	0.0
1978	2350	2350	0	0.0
1979	2290	2290	0	0.0
1980	2290	2290	0	0.0
1981	2290	2290	0	0.0
1982	2290	2290	0	0.0
1983	2350	2350	0	0.0
1984	2290	2290	0	0.0
1985	2290	2290	0	0.0
1986	2290	2290	0	0.0
1987	2290	2290	0	0.0
1988	2290	2290	0	0.0
1989	2290	2290	0	0.0
1990	2290	2290	0	0.0
1991	2290	2290	0	0.0
1992	2290	2290	0	0.0
1993	2290	2290	0	0.0
Mean:	2288.6	2288.6	0.0	0.0
Median:	2290.0	2290.0	0.0	0.0
Min:	2096.0	2096.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2250	2250	0	0.0
1923	2250	2250	0	0.0
1924	2250	2250	0	0.0
1925	2250	2250	0	0.0
1926	2250	2250	0	0.0
1927	2250	2250	0	0.0
1928	2250	2250	0	0.0
1929	2250	2250	0	0.0
1930	2250	2250	0	0.0
1931	2250	2250	0	0.0
1932	2250	2250	0	0.0
1933	2250	2250	0	0.0
1934	2250	2250	0	0.0
1935	2040	2040	0	0.0
1936	2050	2050	0	0.0
1937	2250	2250	0	0.0
1938	2250	2250	0	0.0
1939	2250	2250	0	0.0
1940	2050	2050	0	0.0
1941	2250	2250	0	0.0
1942	2250	2250	0	0.0
1943	2250	2250	0	0.0
1944	2250	2250	0	0.0
1945	2250	2250	0	0.0
1946	2250	2250	0	0.0
1947	2250	2250	0	0.0
1948	2250	2250	0	0.0
1949	2250	2250	0	0.0
1950	2250	2250	0	0.0
1951	2250	2250	0	0.0
1952	2250	2250	0	0.0
1953	2250	2250	0	0.0
1954	2194	2194	0	0.0
1955	2250	2250	0	0.0
1956	2250	2250	0	0.0
1957	2250	2250	0	0.0
1958	2250	2250	0	0.0
1959	2250	2250	0	0.0
1960	2250	2250	0	0.0
1961	2250	2250	0	0.0
1962	2250	2250	0	0.0
1963	2250	2250	0	0.0
1964	2250	2250	0	0.0
1965	2250	2250	0	0.0
1966	2250	2250	0	0.0
1967	2250	2250	0	0.0
1968	2250	2250	0	0.0
1969	2250	2250	0	0.0
1970	2250	2250	0	0.0
1971	2209	2209	0	0.0
1972	2250	2250	0	0.0
1973	2250	2250	0	0.0
1974	2250	2250	0	0.0
1975	2250	2250	0	0.0
1976	2250	2250	0	0.0
1977	2250	2250	0	0.0
1978	2250	2250	0	0.0
1979	2250	2250	0	0.0
1980	2250	2250	0	0.0
1981	2250	2250	0	0.0
1982	2250	2250	0	0.0
1983	2350	2350	0	0.0
1984	2250	2250	0	0.0
1985	2250	2250	0	0.0
1986	2250	2250	0	0.0
1987	2250	2250	0	0.0
1988	2250	2250	0	0.0
1989	2250	2250	0	0.0
1990	2250	2250	0	0.0
1991	2250	2250	0	0.0
1992	2250	2250	0	0.0
1993	2250	2250	0	0.0
Mean:	2241.6	2241.6	0.0	0.0
Median:	2250.0	2250.0	0.0	0.0
Min:	2040.0	2040.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2210	2210	0	0.0
1923	2210	2210	0	0.0
1924	2210	2210	0	0.0
1925	2210	2210	0	0.0
1926	2210	2210	0	0.0
1927	2210	2210	0	0.0
1928	2210	2210	0	0.0
1929	2210	2210	0	0.0
1930	2210	2210	0	0.0
1931	2210	2210	0	0.0
1932	2210	2210	0	0.0
1933	2210	2210	0	0.0
1934	2210	2210	0	0.0
1935	2036	2036	0	0.0
1936	2036	2036	0	0.0
1937	2210	2210	0	0.0
1938	2210	2210	0	0.0
1939	2210	2210	0	0.0
1940	2036	2036	0	0.0
1941	2210	2210	0	0.0
1942	2210	2210	0	0.0
1943	2210	2210	0	0.0
1944	2210	2210	0	0.0
1945	2210	2210	0	0.0
1946	2210	2210	0	0.0
1947	2210	2210	0	0.0
1948	2210	2210	0	0.0
1949	2210	2210	0	0.0
1950	2210	2210	0	0.0
1951	2210	2210	0	0.0
1952	2210	2210	0	0.0
1953	2210	2210	0	0.0
1954	2150	2150	0	0.0
1955	2210	2210	0	0.0
1956	2210	2210	0	0.0
1957	2210	2210	0	0.0
1958	2210	2210	0	0.0
1959	2210	2210	0	0.0
1960	2210	2210	0	0.0
1961	2210	2210	0	0.0
1962	2210	2210	0	0.0
1963	2210	2210	0	0.0
1964	2210	2210	0	0.0
1965	2210	2210	0	0.0
1966	2210	2210	0	0.0
1967	2210	2210	0	0.0
1968	2210	2210	0	0.0
1969	2210	2210	0	0.0
1970	2210	2210	0	0.0
1971	2178	2178	0	0.0
1972	2210	2210	0	0.0
1973	2210	2210	0	0.0
1974	2210	2210	0	0.0
1975	2210	2210	0	0.0
1976	2210	2210	0	0.0
1977	2210	2210	0	0.0
1978	2210	2210	0	0.0
1979	2210	2210	0	0.0
1980	2210	2210	0	0.0
1981	2210	2210	0	0.0
1982	2210	2210	0	0.0
1983	2350	2350	0	0.0
1984	2210	2210	0	0.0
1985	2050	2050	0	0.0
1986	2210	2210	0	0.0
1987	2210	2210	0	0.0
1988	2210	2210	0	0.0
1989	2210	2210	0	0.0
1990	2210	2210	0	0.0
1991	2210	2210	0	0.0
1992	2210	2210	0	0.0
1993	2210	2210	0	0.0
Mean:	2201.2	2201.2	0.0	0.0
Median:	2210.0	2210.0	0.0	0.0
Min:	2036.0	2036.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Surface Area

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	2160	2160	0	0.0
1923	2160	2160	0	0.0
1924	2160	2160	0	0.0
1925	2160	2160	0	0.0
1926	2160	2160	0	0.0
1927	2160	2160	0	0.0
1928	2160	2160	0	0.0
1929	2160	2160	0	0.0
1930	2160	2160	0	0.0
1931	2160	2160	0	0.0
1932	2160	2160	0	0.0
1933	2160	2160	0	0.0
1934	2160	2160	0	0.0
1935	2036	2036	0	0.0
1936	2036	2036	0	0.0
1937	2160	2160	0	0.0
1938	2160	2160	0	0.0
1939	2160	2160	0	0.0
1940	2110	2110	0	0.0
1941	2160	2160	0	0.0
1942	2160	2160	0	0.0
1943	2160	2160	0	0.0
1944	2160	2160	0	0.0
1945	2160	2160	0	0.0
1946	2160	2160	0	0.0
1947	2160	2160	0	0.0
1948	2160	2160	0	0.0
1949	2160	2160	0	0.0
1950	2160	2160	0	0.0
1951	2160	2160	0	0.0
1952	2160	2160	0	0.0
1953	2160	2160	0	0.0
1954	2160	2160	0	0.0
1955	2160	2160	0	0.0
1956	2160	2160	0	0.0
1957	2160	2160	0	0.0
1958	2160	2160	0	0.0
1959	2160	2160	0	0.0
1960	2160	2160	0	0.0
1961	2160	2160	0	0.0
1962	2160	2160	0	0.0
1963	2160	2160	0	0.0
1964	2160	2160	0	0.0
1965	2160	2160	0	0.0
1966	2160	2160	0	0.0
1967	2160	2160	0	0.0
1968	2160	2160	0	0.0
1969	2160	2160	0	0.0
1970	2160	2160	0	0.0
1971	2160	2160	0	0.0
1972	2160	2160	0	0.0
1973	2160	2160	0	0.0
1974	2160	2160	0	0.0
1975	2160	2160	0	0.0
1976	2160	2160	0	0.0
1977	2160	2160	0	0.0
1978	2160	2160	0	0.0
1979	2160	2160	0	0.0
1980	2160	2160	0	0.0
1981	2160	2160	0	0.0
1982	2160	2160	0	0.0
1983	2350	2350	0	0.0
1984	2160	2160	0	0.0
1985	2151	2151	0	0.0
1986	2160	2160	0	0.0
1987	2160	2160	0	0.0
1988	2160	2160	0	0.0
1989	2160	2160	0	0.0
1990	2160	2160	0	0.0
1991	2160	2160	0	0.0
1992	2160	2160	0	0.0
1993	2160	2160	0	0.0
Mean:	2158.4	2158.4	0.0	0.0
Median:	2160.0	2160.0	0.0	0.0
Min:	2036.0	2036.0	0.0	0.0
Max:	2350.0	2350.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

October				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1577	1577	0	0.0
1923	1577	1577	0	0.0
1924	1577	1577	0	0.0
1925	1579	1579	0	0.0
1926	1577	1577	0	0.0
1927	1577	1577	0	0.0
1928	1577	1577	0	0.0
1929	1577	1577	0	0.0
1930	1579	1579	0	0.0
1931	1577	1577	0	0.0
1932	1579	1579	0	0.0
1933	1577	1577	0	0.0
1934	1577	1577	0	0.0
1935	1577	1577	0	0.0
1936	1577	1577	0	0.0
1937	1577	1577	0	0.0
1938	1577	1577	0	0.0
1939	1577	1577	0	0.0
1940	1577	1577	0	0.0
1941	1577	1577	0	0.0
1942	1577	1577	0	0.0
1943	1577	1577	0	0.0
1944	1577	1577	0	0.0
1945	1577	1577	0	0.0
1946	1577	1577	0	0.0
1947	1577	1577	0	0.0
1948	1577	1577	0	0.0
1949	1577	1577	0	0.0
1950	1577	1577	0	0.0
1951	1577	1577	0	0.0
1952	1577	1577	0	0.0
1953	1580	1580	0	0.0
1954	1577	1577	0	0.0
1955	1577	1577	0	0.0
1956	1577	1577	0	0.0
1957	1577	1577	0	0.0
1958	1577	1577	0	0.0
1959	1577	1577	0	0.0
1960	1577	1577	0	0.0
1961	1577	1577	0	0.0
1962	1577	1577	0	0.0
1963	1577	1577	0	0.0
1964	1577	1577	0	0.0
1965	1577	1577	0	0.0
1966	1577	1577	0	0.0
1967	1577	1577	0	0.0
1968	1591	1591	0	0.0
1969	1577	1577	0	0.0
1970	1577	1577	0	0.0
1971	1577	1577	0	0.0
1972	1577	1577	0	0.0
1973	1577	1577	0	0.0
1974	1577	1577	0	0.0
1975	1577	1577	0	0.0
1976	1577	1577	0	0.0
1977	1577	1577	0	0.0
1978	1580	1580	0	0.0
1979	1577	1577	0	0.0
1980	1577	1577	0	0.0
1981	1577	1577	0	0.0
1982	1577	1577	0	0.0
1983	1577	1577	0	0.0
1984	1591	1591	0	0.0
1985	1577	1577	0	0.0
1986	1577	1577	0	0.0
1987	1577	1577	0	0.0
1988	1577	1577	0	0.0
1989	1579	1579	0	0.0
1990	1577	1577	0	0.0
1991	1579	1579	0	0.0
1992	1579	1579	0	0.0
1993	1578	1578	0	0.0
Mean:	1577.7	1577.7	0.0	0.0
Median:	1577.0	1577.0	0.0	0.0
Min:	1577.0	1577.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

November				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1577	1577	0	0.0
1923	1577	1577	0	0.0
1924	1577	1577	0	0.0
1925	1577	1577	0	0.0
1926	1577	1577	0	0.0
1927	1577	1577	0	0.0
1928	1577	1577	0	0.0
1929	1577	1577	0	0.0
1930	1577	1577	0	0.0
1931	1577	1577	0	0.0
1932	1577	1577	0	0.0
1933	1577	1577	0	0.0
1934	1577	1577	0	0.0
1935	1577	1577	0	0.0
1936	1577	1577	0	0.0
1937	1577	1577	0	0.0
1938	1577	1577	0	0.0
1939	1577	1577	0	0.0
1940	1577	1577	0	0.0
1941	1577	1577	0	0.0
1942	1577	1577	0	0.0
1943	1577	1577	0	0.0
1944	1577	1577	0	0.0
1945	1577	1577	0	0.0
1946	1577	1577	0	0.0
1947	1577	1577	0	0.0
1948	1577	1577	0	0.0
1949	1577	1577	0	0.0
1950	1577	1577	0	0.0
1951	1577	1577	0	0.0
1952	1577	1577	0	0.0
1953	1591	1591	0	0.0
1954	1577	1577	0	0.0
1955	1577	1577	0	0.0
1956	1577	1577	0	0.0
1957	1577	1577	0	0.0
1958	1577	1577	0	0.0
1959	1577	1577	0	0.0
1960	1577	1577	0	0.0
1961	1577	1577	0	0.0
1962	1577	1577	0	0.0
1963	1577	1577	0	0.0
1964	1577	1577	0	0.0
1965	1577	1577	0	0.0
1966	1577	1577	0	0.0
1967	1577	1577	0	0.0
1968	1591	1591	0	0.0
1969	1577	1577	0	0.0
1970	1577	1577	0	0.0
1971	1577	1577	0	0.0
1972	1577	1577	0	0.0
1973	1577	1577	0	0.0
1974	1577	1577	0	0.0
1975	1577	1577	0	0.0
1976	1577	1577	0	0.0
1977	1577	1577	0	0.0
1978	1577	1577	0	0.0
1979	1577	1577	0	0.0
1980	1577	1577	0	0.0
1981	1577	1577	0	0.0
1982	1577	1577	0	0.0
1983	1577	1577	0	0.0
1984	1591	1591	0	0.0
1985	1577	1577	0	0.0
1986	1577	1577	0	0.0
1987	1577	1577	0	0.0
1988	1565	1565	0	0.0
1989	1577	1577	0	0.0
1990	1576	1576	0	0.0
1991	1577	1577	0	0.0
1992	1577	1577	0	0.0
1993	1577	1577	0	0.0
Mean:	1577.4	1577.4	0.0	0.0
Median:	1577.0	1577.0	0.0	0.0
Min:	1565.0	1565.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

December				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1580	1580	0	0.0
1923	1580	1580	0	0.0
1924	1580	1580	0	0.0
1925	1580	1580	0	0.0
1926	1580	1580	0	0.0
1927	1580	1580	0	0.0
1928	1580	1580	0	0.0
1929	1580	1580	0	0.0
1930	1580	1580	0	0.0
1931	1580	1580	0	0.0
1932	1580	1580	0	0.0
1933	1580	1580	0	0.0
1934	1580	1580	0	0.0
1935	1580	1580	0	0.0
1936	1580	1580	0	0.0
1937	1580	1580	0	0.0
1938	1580	1580	0	0.0
1939	1590	1590	0	0.0
1940	1580	1580	0	0.0
1941	1580	1580	0	0.0
1942	1591	1591	0	0.0
1943	1590	1590	0	0.0
1944	1580	1580	0	0.0
1945	1580	1580	0	0.0
1946	1580	1580	0	0.0
1947	1580	1580	0	0.0
1948	1580	1580	0	0.0
1949	1580	1580	0	0.0
1950	1580	1580	0	0.0
1951	1580	1580	0	0.0
1952	1580	1580	0	0.0
1953	1591	1591	0	0.0
1954	1580	1580	0	0.0
1955	1580	1580	0	0.0
1956	1580	1580	0	0.0
1957	1580	1580	0	0.0
1958	1580	1580	0	0.0
1959	1580	1580	0	0.0
1960	1580	1580	0	0.0
1961	1580	1580	0	0.0
1962	1580	1580	0	0.0
1963	1580	1580	0	0.0
1964	1580	1580	0	0.0
1965	1580	1580	0	0.0
1966	1580	1580	0	0.0
1967	1580	1580	0	0.0
1968	1591	1591	0	0.0
1969	1580	1580	0	0.0
1970	1591	1591	0	0.0
1971	1580	1580	0	0.0
1972	1580	1580	0	0.0
1973	1580	1580	0	0.0
1974	1580	1580	0	0.0
1975	1580	1580	0	0.0
1976	1580	1580	0	0.0
1977	1580	1580	0	0.0
1978	1580	1580	0	0.0
1979	1580	1580	0	0.0
1980	1580	1580	0	0.0
1981	1580	1580	0	0.0
1982	1580	1580	0	0.0
1983	1590	1590	0	0.0
1984	1591	1591	0	0.0
1985	1580	1580	0	0.0
1986	1580	1580	0	0.0
1987	1580	1580	0	0.0
1988	1578	1578	0	0.0
1989	1580	1580	0	0.0
1990	1564	1564	0	0.0
1991	1580	1580	0	0.0
1992	1580	1580	0	0.0
1993	1580	1580	0	0.0
Mean:	1580.9	1580.9	0.0	0.0
Median:	1580.0	1580.0	0.0	0.0
Min:	1564.0	1564.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

January				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1584	1584	0	0.0
1923	1591	1591	0	0.0
1924	1584	1584	0	0.0
1925	1584	1584	0	0.0
1926	1584	1584	0	0.0
1927	1584	1584	0	0.0
1928	1584	1584	0	0.0
1929	1584	1584	0	0.0
1930	1584	1584	0	0.0
1931	1584	1584	0	0.0
1932	1584	1584	0	0.0
1933	1591	1591	0	0.0
1934	1584	1584	0	0.0
1935	1584	1584	0	0.0
1936	1584	1584	0	0.0
1937	1584	1584	0	0.0
1938	1584	1584	0	0.0
1939	1591	1591	0	0.0
1940	1584	1584	0	0.0
1941	1584	1584	0	0.0
1942	1591	1591	0	0.0
1943	1591	1591	0	0.0
1944	1584	1584	0	0.0
1945	1584	1584	0	0.0
1946	1584	1584	0	0.0
1947	1584	1584	0	0.0
1948	1584	1584	0	0.0
1949	1584	1584	0	0.0
1950	1584	1584	0	0.0
1951	1591	1591	0	0.0
1952	1584	1584	0	0.0
1953	1591	1591	0	0.0
1954	1588	1588	0	0.0
1955	1584	1584	0	0.0
1956	1584	1584	0	0.0
1957	1584	1584	0	0.0
1958	1584	1584	0	0.0
1959	1591	1591	0	0.0
1960	1584	1584	0	0.0
1961	1584	1584	0	0.0
1962	1584	1584	0	0.0
1963	1584	1584	0	0.0
1964	1591	1591	0	0.0
1965	1584	1584	0	0.0
1966	1591	1591	0	0.0
1967	1584	1584	0	0.0
1968	1591	1591	0	0.0
1969	1584	1584	0	0.0
1970	1591	1591	0	0.0
1971	1584	1584	0	0.0
1972	1584	1584	0	0.0
1973	1584	1584	0	0.0
1974	1591	1591	0	0.0
1975	1591	1591	0	0.0
1976	1591	1591	0	0.0
1977	1584	1584	0	0.0
1978	1584	1584	0	0.0
1979	1584	1584	0	0.0
1980	1584	1584	0	0.0
1981	1591	1591	0	0.0
1982	1584	1584	0	0.0
1983	1591	1591	0	0.0
1984	1591	1591	0	0.0
1985	1584	1584	0	0.0
1986	1584	1584	0	0.0
1987	1584	1584	0	0.0
1988	1584	1584	0	0.0
1989	1584	1584	0	0.0
1990	1584	1584	0	0.0
1991	1584	1584	0	0.0
1992	1584	1584	0	0.0
1993	1584	1584	0	0.0
Mean:	1585.8	1585.8	0.0	0.0
Median:	1584.0	1584.0	0.0	0.0
Min:	1584.0	1584.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

February				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1587	1587	0	0.0
1923	1591	1591	0	0.0
1924	1587	1587	0	0.0
1925	1587	1587	0	0.0
1926	1591	1591	0	0.0
1927	1591	1591	0	0.0
1928	1591	1591	0	0.0
1929	1587	1587	0	0.0
1930	1587	1587	0	0.0
1931	1587	1587	0	0.0
1932	1591	1591	0	0.0
1933	1591	1591	0	0.0
1934	1587	1587	0	0.0
1935	1587	1587	0	0.0
1936	1587	1587	0	0.0
1937	1587	1587	0	0.0
1938	1591	1591	0	0.0
1939	1591	1591	0	0.0
1940	1587	1587	0	0.0
1941	1587	1587	0	0.0
1942	1591	1591	0	0.0
1943	1591	1591	0	0.0
1944	1587	1587	0	0.0
1945	1587	1587	0	0.0
1946	1587	1587	0	0.0
1947	1587	1587	0	0.0
1948	1587	1587	0	0.0
1949	1587	1587	0	0.0
1950	1587	1587	0	0.0
1951	1591	1591	0	0.0
1952	1591	1591	0	0.0
1953	1591	1591	0	0.0
1954	1591	1591	0	0.0
1955	1587	1587	0	0.0
1956	1591	1591	0	0.0
1957	1591	1591	0	0.0
1958	1591	1591	0	0.0
1959	1591	1591	0	0.0
1960	1587	1587	0	0.0
1961	1587	1587	0	0.0
1962	1587	1587	0	0.0
1963	1591	1591	0	0.0
1964	1587	1587	0	0.0
1965	1587	1587	0	0.0
1966	1591	1591	0	0.0
1967	1591	1591	0	0.0
1968	1591	1591	0	0.0
1969	1587	1587	0	0.0
1970	1591	1591	0	0.0
1971	1587	1587	0	0.0
1972	1587	1587	0	0.0
1973	1591	1591	0	0.0
1974	1591	1591	0	0.0
1975	1591	1591	0	0.0
1976	1591	1591	0	0.0
1977	1587	1587	0	0.0
1978	1591	1591	0	0.0
1979	1591	1591	0	0.0
1980	1591	1591	0	0.0
1981	1591	1591	0	0.0
1982	1591	1591	0	0.0
1983	1591	1591	0	0.0
1984	1591	1591	0	0.0
1985	1587	1587	0	0.0
1986	1587	1587	0	0.0
1987	1587	1587	0	0.0
1988	1587	1587	0	0.0
1989	1587	1587	0	0.0
1990	1587	1587	0	0.0
1991	1587	1587	0	0.0
1992	1587	1587	0	0.0
1993	1587	1587	0	0.0
Mean:	1588.9	1588.9	0.0	0.0
Median:	1587.0	1587.0	0.0	0.0
Min:	1587.0	1587.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

March				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1591	1591	0	0.0
1923	1589	1589	0	0.0
1924	1589	1589	0	0.0
1925	1589	1589	0	0.0
1926	1589	1589	0	0.0
1927	1591	1591	0	0.0
1928	1591	1591	0	0.0
1929	1589	1589	0	0.0
1930	1591	1591	0	0.0
1931	1589	1589	0	0.0
1932	1591	1591	0	0.0
1933	1591	1591	0	0.0
1934	1589	1589	0	0.0
1935	1589	1589	0	0.0
1936	1591	1591	0	0.0
1937	1591	1591	0	0.0
1938	1591	1591	0	0.0
1939	1591	1591	0	0.0
1940	1591	1591	0	0.0
1941	1591	1591	0	0.0
1942	1591	1591	0	0.0
1943	1591	1591	0	0.0
1944	1589	1589	0	0.0
1945	1591	1591	0	0.0
1946	1589	1589	0	0.0
1947	1589	1589	0	0.0
1948	1589	1589	0	0.0
1949	1589	1589	0	0.0
1950	1589	1589	0	0.0
1951	1591	1591	0	0.0
1952	1591	1591	0	0.0
1953	1591	1591	0	0.0
1954	1591	1591	0	0.0
1955	1589	1589	0	0.0
1956	1591	1591	0	0.0
1957	1591	1591	0	0.0
1958	1591	1591	0	0.0
1959	1589	1589	0	0.0
1960	1589	1589	0	0.0
1961	1591	1591	0	0.0
1962	1589	1589	0	0.0
1963	1591	1591	0	0.0
1964	1589	1589	0	0.0
1965	1591	1591	0	0.0
1966	1591	1591	0	0.0
1967	1591	1591	0	0.0
1968	1591	1591	0	0.0
1969	1591	1591	0	0.0
1970	1591	1591	0	0.0
1971	1589	1589	0	0.0
1972	1591	1591	0	0.0
1973	1591	1591	0	0.0
1974	1591	1591	0	0.0
1975	1591	1591	0	0.0
1976	1591	1591	0	0.0
1977	1589	1589	0	0.0
1978	1591	1591	0	0.0
1979	1591	1591	0	0.0
1980	1591	1591	0	0.0
1981	1591	1591	0	0.0
1982	1591	1591	0	0.0
1983	1591	1591	0	0.0
1984	1591	1591	0	0.0
1985	1589	1589	0	0.0
1986	1591	1591	0	0.0
1987	1591	1591	0	0.0
1988	1589	1589	0	0.0
1989	1589	1589	0	0.0
1990	1589	1589	0	0.0
1991	1589	1589	0	0.0
1992	1589	1589	0	0.0
1993	1591	1591	0	0.0
Mean:	1590.3	1590.3	0.0	0.0
Median:	1591.0	1591.0	0.0	0.0
Min:	1589.0	1589.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

April				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1591	1591	0	0.0
1923	1591	1591	0	0.0
1924	1591	1591	0	0.0
1925	1591	1591	0	0.0
1926	1591	1591	0	0.0
1927	1591	1591	0	0.0
1928	1591	1591	0	0.0
1929	1591	1591	0	0.0
1930	1591	1591	0	0.0
1931	1591	1591	0	0.0
1932	1591	1591	0	0.0
1933	1591	1591	0	0.0
1934	1591	1591	0	0.0
1935	1591	1591	0	0.0
1936	1591	1591	0	0.0
1937	1591	1591	0	0.0
1938	1591	1591	0	0.0
1939	1591	1591	0	0.0
1940	1591	1591	0	0.0
1941	1591	1591	0	0.0
1942	1591	1591	0	0.0
1943	1591	1591	0	0.0
1944	1591	1591	0	0.0
1945	1591	1591	0	0.0
1946	1591	1591	0	0.0
1947	1591	1591	0	0.0
1948	1591	1591	0	0.0
1949	1591	1591	0	0.0
1950	1591	1591	0	0.0
1951	1591	1591	0	0.0
1952	1591	1591	0	0.0
1953	1591	1591	0	0.0
1954	1591	1591	0	0.0
1955	1591	1591	0	0.0
1956	1591	1591	0	0.0
1957	1591	1591	0	0.0
1958	1591	1591	0	0.0
1959	1591	1591	0	0.0
1960	1591	1591	0	0.0
1961	1591	1591	0	0.0
1962	1591	1591	0	0.0
1963	1591	1591	0	0.0
1964	1591	1591	0	0.0
1965	1591	1591	0	0.0
1966	1591	1591	0	0.0
1967	1591	1591	0	0.0
1968	1591	1591	0	0.0
1969	1591	1591	0	0.0
1970	1591	1591	0	0.0
1971	1591	1591	0	0.0
1972	1591	1591	0	0.0
1973	1591	1591	0	0.0
1974	1591	1591	0	0.0
1975	1591	1591	0	0.0
1976	1591	1591	0	0.0
1977	1591	1591	0	0.0
1978	1591	1591	0	0.0
1979	1591	1591	0	0.0
1980	1591	1591	0	0.0
1981	1591	1591	0	0.0
1982	1591	1591	0	0.0
1983	1591	1591	0	0.0
1984	1591	1591	0	0.0
1985	1591	1591	0	0.0
1986	1591	1591	0	0.0
1987	1591	1591	0	0.0
1988	1591	1591	0	0.0
1989	1591	1591	0	0.0
1990	1591	1591	0	0.0
1991	1591	1591	0	0.0
1992	1591	1591	0	0.0
1993	1591	1591	0	0.0
Mean:	1591.0	1591.0	0.0	0.0
Median:	1591.0	1591.0	0.0	0.0
Min:	1591.0	1591.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

May				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1589	1589	0	0.0
1923	1589	1589	0	0.0
1924	1589	1589	0	0.0
1925	1589	1589	0	0.0
1926	1589	1589	0	0.0
1927	1589	1589	0	0.0
1928	1589	1589	0	0.0
1929	1589	1589	0	0.0
1930	1589	1589	0	0.0
1931	1589	1589	0	0.0
1932	1589	1589	0	0.0
1933	1589	1589	0	0.0
1934	1589	1589	0	0.0
1935	1589	1589	0	0.0
1936	1589	1589	0	0.0
1937	1591	1591	0	0.0
1938	1591	1591	0	0.0
1939	1589	1589	0	0.0
1940	1589	1589	0	0.0
1941	1591	1591	0	0.0
1942	1589	1589	0	0.0
1943	1589	1589	0	0.0
1944	1589	1589	0	0.0
1945	1589	1589	0	0.0
1946	1589	1589	0	0.0
1947	1589	1589	0	0.0
1948	1589	1589	0	0.0
1949	1589	1589	0	0.0
1950	1589	1589	0	0.0
1951	1589	1589	0	0.0
1952	1591	1591	0	0.0
1953	1589	1589	0	0.0
1954	1589	1589	0	0.0
1955	1589	1589	0	0.0
1956	1589	1589	0	0.0
1957	1589	1589	0	0.0
1958	1591	1591	0	0.0
1959	1589	1589	0	0.0
1960	1589	1589	0	0.0
1961	1589	1589	0	0.0
1962	1589	1589	0	0.0
1963	1589	1589	0	0.0
1964	1589	1589	0	0.0
1965	1589	1589	0	0.0
1966	1589	1589	0	0.0
1967	1591	1591	0	0.0
1968	1589	1589	0	0.0
1969	1591	1591	0	0.0
1970	1589	1589	0	0.0
1971	1589	1589	0	0.0
1972	1589	1589	0	0.0
1973	1589	1589	0	0.0
1974	1589	1589	0	0.0
1975	1589	1589	0	0.0
1976	1589	1589	0	0.0
1977	1589	1589	0	0.0
1978	1591	1591	0	0.0
1979	1589	1589	0	0.0
1980	1589	1589	0	0.0
1981	1589	1589	0	0.0
1982	1591	1591	0	0.0
1983	1591	1591	0	0.0
1984	1589	1589	0	0.0
1985	1589	1589	0	0.0
1986	1589	1589	0	0.0
1987	1589	1589	0	0.0
1988	1589	1589	0	0.0
1989	1589	1589	0	0.0
1990	1589	1589	0	0.0
1991	1589	1589	0	0.0
1992	1589	1589	0	0.0
1993	1589	1589	0	0.0
Mean:	1589.3	1589.3	0.0	0.0
Median:	1589.0	1589.0	0.0	0.0
Min:	1589.0	1589.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

June				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1588	1588	0	0.0
1923	1588	1588	0	0.0
1924	1588	1588	0	0.0
1925	1588	1588	0	0.0
1926	1588	1588	0	0.0
1927	1588	1588	0	0.0
1928	1588	1588	0	0.0
1929	1588	1588	0	0.0
1930	1588	1588	0	0.0
1931	1588	1588	0	0.0
1932	1588	1588	0	0.0
1933	1588	1588	0	0.0
1934	1588	1588	0	0.0
1935	1579	1579	0	0.0
1936	1583	1583	0	0.0
1937	1588	1588	0	0.0
1938	1588	1588	0	0.0
1939	1588	1588	0	0.0
1940	1584	1584	0	0.0
1941	1591	1591	0	0.0
1942	1588	1588	0	0.0
1943	1588	1588	0	0.0
1944	1588	1588	0	0.0
1945	1588	1588	0	0.0
1946	1588	1588	0	0.0
1947	1588	1588	0	0.0
1948	1588	1588	0	0.0
1949	1588	1588	0	0.0
1950	1588	1588	0	0.0
1951	1588	1588	0	0.0
1952	1591	1591	0	0.0
1953	1588	1588	0	0.0
1954	1588	1588	0	0.0
1955	1588	1588	0	0.0
1956	1588	1588	0	0.0
1957	1588	1588	0	0.0
1958	1588	1588	0	0.0
1959	1588	1588	0	0.0
1960	1588	1588	0	0.0
1961	1588	1588	0	0.0
1962	1588	1588	0	0.0
1963	1588	1588	0	0.0
1964	1588	1588	0	0.0
1965	1588	1588	0	0.0
1966	1588	1588	0	0.0
1967	1588	1588	0	0.0
1968	1588	1588	0	0.0
1969	1591	1591	0	0.0
1970	1588	1588	0	0.0
1971	1588	1588	0	0.0
1972	1588	1588	0	0.0
1973	1588	1588	0	0.0
1974	1588	1588	0	0.0
1975	1588	1588	0	0.0
1976	1588	1588	0	0.0
1977	1588	1588	0	0.0
1978	1591	1591	0	0.0
1979	1588	1588	0	0.0
1980	1588	1588	0	0.0
1981	1588	1588	0	0.0
1982	1588	1588	0	0.0
1983	1591	1591	0	0.0
1984	1588	1588	0	0.0
1985	1588	1588	0	0.0
1986	1588	1588	0	0.0
1987	1588	1588	0	0.0
1988	1588	1588	0	0.0
1989	1588	1588	0	0.0
1990	1588	1588	0	0.0
1991	1588	1588	0	0.0
1992	1588	1588	0	0.0
1993	1588	1588	0	0.0
Mean:	1588.0	1588.0	0.0	0.0
Median:	1588.0	1588.0	0.0	0.0
Min:	1579.0	1579.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

July				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1586	1586	0	0.0
1923	1586	1586	0	0.0
1924	1586	1586	0	0.0
1925	1586	1586	0	0.0
1926	1586	1586	0	0.0
1927	1586	1586	0	0.0
1928	1586	1586	0	0.0
1929	1586	1586	0	0.0
1930	1586	1586	0	0.0
1931	1586	1586	0	0.0
1932	1586	1586	0	0.0
1933	1586	1586	0	0.0
1934	1586	1586	0	0.0
1935	1577	1577	0	0.0
1936	1577	1577	0	0.0
1937	1586	1586	0	0.0
1938	1586	1586	0	0.0
1939	1586	1586	0	0.0
1940	1577	1577	0	0.0
1941	1586	1586	0	0.0
1942	1586	1586	0	0.0
1943	1586	1586	0	0.0
1944	1586	1586	0	0.0
1945	1586	1586	0	0.0
1946	1586	1586	0	0.0
1947	1586	1586	0	0.0
1948	1586	1586	0	0.0
1949	1586	1586	0	0.0
1950	1586	1586	0	0.0
1951	1586	1586	0	0.0
1952	1586	1586	0	0.0
1953	1586	1586	0	0.0
1954	1584	1584	0	0.0
1955	1586	1586	0	0.0
1956	1586	1586	0	0.0
1957	1586	1586	0	0.0
1958	1586	1586	0	0.0
1959	1586	1586	0	0.0
1960	1586	1586	0	0.0
1961	1586	1586	0	0.0
1962	1586	1586	0	0.0
1963	1586	1586	0	0.0
1964	1586	1586	0	0.0
1965	1586	1586	0	0.0
1966	1586	1586	0	0.0
1967	1586	1586	0	0.0
1968	1586	1586	0	0.0
1969	1586	1586	0	0.0
1970	1586	1586	0	0.0
1971	1584	1584	0	0.0
1972	1586	1586	0	0.0
1973	1586	1586	0	0.0
1974	1586	1586	0	0.0
1975	1586	1586	0	0.0
1976	1586	1586	0	0.0
1977	1586	1586	0	0.0
1978	1586	1586	0	0.0
1979	1586	1586	0	0.0
1980	1586	1586	0	0.0
1981	1586	1586	0	0.0
1982	1586	1586	0	0.0
1983	1591	1591	0	0.0
1984	1586	1586	0	0.0
1985	1586	1586	0	0.0
1986	1586	1586	0	0.0
1987	1586	1586	0	0.0
1988	1586	1586	0	0.0
1989	1586	1586	0	0.0
1990	1586	1586	0	0.0
1991	1586	1586	0	0.0
1992	1586	1586	0	0.0
1993	1586	1586	0	0.0
Mean:	1585.6	1585.6	0.0	0.0
Median:	1586.0	1586.0	0.0	0.0
Min:	1577.0	1577.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

August				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1584	1584	0	0.0
1923	1584	1584	0	0.0
1924	1584	1584	0	0.0
1925	1584	1584	0	0.0
1926	1584	1584	0	0.0
1927	1584	1584	0	0.0
1928	1584	1584	0	0.0
1929	1584	1584	0	0.0
1930	1584	1584	0	0.0
1931	1584	1584	0	0.0
1932	1584	1584	0	0.0
1933	1584	1584	0	0.0
1934	1584	1584	0	0.0
1935	1577	1577	0	0.0
1936	1577	1577	0	0.0
1937	1584	1584	0	0.0
1938	1584	1584	0	0.0
1939	1584	1584	0	0.0
1940	1577	1577	0	0.0
1941	1584	1584	0	0.0
1942	1584	1584	0	0.0
1943	1584	1584	0	0.0
1944	1584	1584	0	0.0
1945	1584	1584	0	0.0
1946	1584	1584	0	0.0
1947	1584	1584	0	0.0
1948	1584	1584	0	0.0
1949	1584	1584	0	0.0
1950	1584	1584	0	0.0
1951	1584	1584	0	0.0
1952	1584	1584	0	0.0
1953	1584	1584	0	0.0
1954	1582	1582	0	0.0
1955	1584	1584	0	0.0
1956	1584	1584	0	0.0
1957	1584	1584	0	0.0
1958	1584	1584	0	0.0
1959	1584	1584	0	0.0
1960	1584	1584	0	0.0
1961	1584	1584	0	0.0
1962	1584	1584	0	0.0
1963	1584	1584	0	0.0
1964	1584	1584	0	0.0
1965	1584	1584	0	0.0
1966	1584	1584	0	0.0
1967	1584	1584	0	0.0
1968	1584	1584	0	0.0
1969	1584	1584	0	0.0
1970	1584	1584	0	0.0
1971	1583	1583	0	0.0
1972	1584	1584	0	0.0
1973	1584	1584	0	0.0
1974	1584	1584	0	0.0
1975	1584	1584	0	0.0
1976	1584	1584	0	0.0
1977	1584	1584	0	0.0
1978	1584	1584	0	0.0
1979	1584	1584	0	0.0
1980	1584	1584	0	0.0
1981	1584	1584	0	0.0
1982	1584	1584	0	0.0
1983	1591	1591	0	0.0
1984	1584	1584	0	0.0
1985	1577	1577	0	0.0
1986	1584	1584	0	0.0
1987	1584	1584	0	0.0
1988	1584	1584	0	0.0
1989	1584	1584	0	0.0
1990	1584	1584	0	0.0
1991	1584	1584	0	0.0
1992	1584	1584	0	0.0
1993	1584	1584	0	0.0
Mean:	1583.7	1583.7	0.0	0.0
Median:	1584.0	1584.0	0.0	0.0
Min:	1577.0	1577.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Perris Reservoir End of Month Elevation

September				
	Baseline	FP Alt		
Water Year	Elevation (ft msl)	Elevation (ft msl)	Absolute Difference (ft msl)	Relative Difference (%)[1]
1922	1582	1582	0	0.0
1923	1582	1582	0	0.0
1924	1582	1582	0	0.0
1925	1582	1582	0	0.0
1926	1582	1582	0	0.0
1927	1582	1582	0	0.0
1928	1582	1582	0	0.0
1929	1582	1582	0	0.0
1930	1582	1582	0	0.0
1931	1582	1582	0	0.0
1932	1582	1582	0	0.0
1933	1582	1582	0	0.0
1934	1582	1582	0	0.0
1935	1577	1577	0	0.0
1936	1577	1577	0	0.0
1937	1582	1582	0	0.0
1938	1582	1582	0	0.0
1939	1582	1582	0	0.0
1940	1580	1580	0	0.0
1941	1582	1582	0	0.0
1942	1582	1582	0	0.0
1943	1582	1582	0	0.0
1944	1582	1582	0	0.0
1945	1582	1582	0	0.0
1946	1582	1582	0	0.0
1947	1582	1582	0	0.0
1948	1582	1582	0	0.0
1949	1582	1582	0	0.0
1950	1582	1582	0	0.0
1951	1582	1582	0	0.0
1952	1582	1582	0	0.0
1953	1582	1582	0	0.0
1954	1582	1582	0	0.0
1955	1582	1582	0	0.0
1956	1582	1582	0	0.0
1957	1582	1582	0	0.0
1958	1582	1582	0	0.0
1959	1582	1582	0	0.0
1960	1582	1582	0	0.0
1961	1582	1582	0	0.0
1962	1582	1582	0	0.0
1963	1582	1582	0	0.0
1964	1582	1582	0	0.0
1965	1582	1582	0	0.0
1966	1582	1582	0	0.0
1967	1582	1582	0	0.0
1968	1582	1582	0	0.0
1969	1582	1582	0	0.0
1970	1582	1582	0	0.0
1971	1582	1582	0	0.0
1972	1582	1582	0	0.0
1973	1582	1582	0	0.0
1974	1582	1582	0	0.0
1975	1582	1582	0	0.0
1976	1582	1582	0	0.0
1977	1582	1582	0	0.0
1978	1582	1582	0	0.0
1979	1582	1582	0	0.0
1980	1582	1582	0	0.0
1981	1582	1582	0	0.0
1982	1582	1582	0	0.0
1983	1591	1591	0	0.0
1984	1582	1582	0	0.0
1985	1581	1581	0	0.0
1986	1582	1582	0	0.0
1987	1582	1582	0	0.0
1988	1582	1582	0	0.0
1989	1582	1582	0	0.0
1990	1582	1582	0	0.0
1991	1582	1582	0	0.0
1992	1582	1582	0	0.0
1993	1582	1582	0	0.0
Mean:	1581.9	1581.9	0.0	0.0
Median:	1582.0	1582.0	0.0	0.0
Min:	1577.0	1577.0	0.0	0.0
Max:	1591.0	1591.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	733	733	0	0.0
1923	1091	1091	0	0.0
1924	1100	1100	0	0.0
1925	485	485	0	0.0
1926	1000	1000	0	0.0
1927	677	677	0	0.0
1928	1013	1013	0	0.0
1929	965	965	0	0.0
1930	480	480	0	0.0
1931	789	789	0	0.0
1932	464	464	0	0.0
1933	923	923	0	0.0
1934	1025	1025	0	0.0
1935	504	504	0	0.0
1936	1078	1078	0	0.0
1937	950	950	0	0.0
1938	996	996	0	0.0
1939	1151	1151	0	0.0
1940	445	445	0	0.0
1941	1082	1082	0	0.0
1942	1051	1051	0	0.0
1943	1080	1080	0	0.0
1944	1063	1063	0	0.0
1945	999	999	0	0.0
1946	1214	1214	0	0.0
1947	1029	1029	0	0.0
1948	727	727	0	0.0
1949	962	962	0	0.0
1950	905	905	0	0.0
1951	1448	1448	0	0.0
1952	1280	1280	0	0.0
1953	1156	1156	0	0.0
1954	1108	1108	0	0.0
1955	962	962	0	0.0
1956	912	912	0	0.0
1957	1343	1343	0	0.0
1958	1267	1267	0	0.0
1959	958	958	0	0.0
1960	674	674	0	0.0
1961	923	923	0	0.0
1962	552	552	0	0.0
1963	4739	4739	0	0.0
1964	1171	1171	0	0.0
1965	986	986	0	0.0
1966	1038	1038	0	0.0
1967	896	896	0	0.0
1968	1120	1120	0	0.0
1969	690	690	0	0.0
1970	1125	1125	0	0.0
1971	764	764	0	0.0
1972	1076	1076	0	0.0
1973	1320	1320	0	0.0
1974	1304	1304	0	0.0
1975	939	939	0	0.0
1976	1602	1602	0	0.0
1977	421	421	0	0.0
1978	425	425	0	0.0
1979	956	956	0	0.0
1980	1222	1222	0	0.0
1981	1033	1033	0	0.0
1982	761	761	0	0.0
1983	1871	1871	0	0.0
1984	1338	1338	0	0.0
1985	1246	1246	0	0.0
1986	735	735	0	0.0
1987	1210	1210	0	0.0
1988	514	514	0	0.0
1989	607	607	0	0.0
1990	1537	1537	0	0.0
1991	566	566	0	0.0
1992	895	895	0	0.0
1993	675	675	0	0.0
Mean:	1019	1019	0	0.0
Median:	998	998	0	0.0
Min:	421	421	0	0.0
Max:	4739	4739	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	650	650	0	0.0
1923	1062	1062	0	0.0
1924	667	667	0	0.0
1925	512	512	0	0.0
1926	756	756	0	0.0
1927	4138	4138	0	0.0
1928	2121	2121	0	0.0
1929	750	750	0	0.0
1930	485	485	0	0.0
1931	927	927	0	0.0
1932	469	469	0	0.0
1933	628	628	0	0.0
1934	602	602	0	0.0
1935	584	584	0	0.0
1936	668	668	0	0.0
1937	606	606	0	0.0
1938	1742	1742	0	0.0
1939	803	803	0	0.0
1940	414	414	0	0.0
1941	1052	1052	0	0.0
1942	1053	1053	0	0.0
1943	2013	2013	0	0.0
1944	643	643	0	0.0
1945	1710	1710	0	0.0
1946	1783	1783	0	0.0
1947	1520	1520	0	0.0
1948	610	610	0	0.0
1949	717	717	0	0.0
1950	661	661	0	0.0
1951	6214	6214	0	0.0
1952	1640	1640	0	0.0
1953	684	684	0	0.0
1954	1147	1147	0	0.0
1955	788	788	0	0.0
1956	827	827	0	0.0
1957	815	815	0	0.0
1958	999	999	0	0.0
1959	727	727	0	0.0
1960	595	595	0	0.0
1961	1016	1016	0	0.0
1962	538	538	0	0.0
1963	3272	3272	0	0.0
1964	3001	3001	0	0.0
1965	1187	1187	0	0.0
1966	1519	1519	0	0.0
1967	1832	1832	0	0.0
1968	776	776	0	0.0
1969	786	786	0	0.0
1970	805	805	0	0.0
1971	2622	2622	0	0.0
1972	930	930	0	0.0
1973	2316	2316	0	0.0
1974	5306	5306	0	0.0
1975	853	853	0	0.0
1976	1365	1365	0	0.0
1977	468	468	0	0.0
1978	451	451	0	0.0
1979	785	785	0	0.0
1980	1187	1187	0	0.0
1981	655	655	0	0.0
1982	4658	4658	0	0.0
1983	2956	2956	0	0.0
1984	4654	4654	0	0.0
1985	2688	2688	0	0.0
1986	912	912	0	0.0
1987	637	637	0	0.0
1988	579	579	0	0.0
1989	825	825	0	0.0
1990	1001	1001	0	0.0
1991	558	558	0	0.0
1992	648	648	0	0.0
1993	627	627	0	0.0
Mean:	1350	1350	0	0.0
Median:	820	820	0	0.0
Min:	414	414	0	0.0
Max:	6214	6214	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	848	848	0	0.0
1923	4103	4103	0	0.0
1924	741	741	0	0.0
1925	613	613	0	0.0
1926	743	743	0	0.0
1927	2467	2467	0	0.0
1928	1766	1766	0	0.0
1929	698	698	0	0.0
1930	3414	3414	0	0.0
1931	636	636	0	0.0
1932	1132	1132	0	0.0
1933	656	656	0	0.0
1934	1336	1336	0	0.0
1935	587	587	0	0.0
1936	633	633	0	0.0
1937	642	642	0	0.0
1938	4622	4622	0	0.0
1939	637	637	0	0.0
1940	424	424	0	0.0
1941	3521	3521	0	0.0
1942	4376	4376	0	0.0
1943	3627	3627	0	0.0
1944	674	674	0	0.0
1945	1884	1884	0	0.0
1946	4753	4753	0	0.0
1947	1329	1329	0	0.0
1948	609	609	0	0.0
1949	977	977	0	0.0
1950	638	638	0	0.0
1951	8656	8656	0	0.0
1952	4339	4339	0	0.0
1953	1773	1773	0	0.0
1954	874	874	0	0.0
1955	1495	1495	0	0.0
1956	9776	9776	0	0.0
1957	621	621	0	0.0
1958	1893	1893	0	0.0
1959	645	645	0	0.0
1960	625	625	0	0.0
1961	916	916	0	0.0
1962	913	913	0	0.0
1963	3235	3235	0	0.0
1964	996	996	0	0.0
1965	10956	10956	0	0.0
1966	1084	1084	0	0.0
1967	3787	3787	0	0.0
1968	1053	1053	0	0.0
1969	1943	1943	0	0.0
1970	4361	4361	0	0.0
1971	4690	4690	0	0.0
1972	1599	1599	0	0.0
1973	2975	2975	0	0.0
1974	6059	6059	0	0.0
1975	735	735	0	0.0
1976	753	753	0	0.0
1977	436	436	0	0.0
1978	808	808	0	0.0
1979	672	672	0	0.0
1980	1912	1912	0	0.0
1981	845	845	0	0.0
1982	7759	7759	0	0.0
1983	4378	4378	0	0.0
1984	9388	9388	0	0.0
1985	1371	1371	0	0.0
1986	1434	1434	0	0.0
1987	641	641	0	0.0
1988	813	813	0	0.0
1989	764	764	0	0.0
1990	554	554	0	0.0
1991	558	558	0	0.0
1992	596	596	0	0.0
1993	946	946	0	0.0
Mean:	2218	2218	0	0.0
Median:	1025	1025	0	0.0
Min:	424	424	0	0.0
Max:	10956	10956	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1859	1859	0	0.0
1923	3068	3068	0	0.0
1924	1322	1322	0	0.0
1925	745	745	0	0.0
1926	1605	1605	0	0.0
1927	3698	3698	0	0.0
1928	3049	3049	0	0.0
1929	1259	1259	0	0.0
1930	3168	3168	0	0.0
1931	1209	1209	0	0.0
1932	945	945	0	0.0
1933	878	878	0	0.0
1934	2454	2454	0	0.0
1935	802	802	0	0.0
1936	4509	4509	0	0.0
1937	883	883	0	0.0
1938	3732	3732	0	0.0
1939	1489	1489	0	0.0
1940	4339	4339	0	0.0
1941	4536	4536	0	0.0
1942	4944	4944	0	0.0
1943	6150	6150	0	0.0
1944	1550	1550	0	0.0
1945	1987	1987	0	0.0
1946	4653	4653	0	0.0
1947	1337	1337	0	0.0
1948	3178	3178	0	0.0
1949	1268	1268	0	0.0
1950	3696	3696	0	0.0
1951	10233	10233	0	0.0
1952	5652	5652	0	0.0
1953	5686	5686	0	0.0
1954	2958	2958	0	0.0
1955	2215	2215	0	0.0
1956	16714	16714	0	0.0
1957	1583	1583	0	0.0
1958	3294	3294	0	0.0
1959	3255	3255	0	0.0
1960	981	981	0	0.0
1961	1230	1230	0	0.0
1962	1513	1513	0	0.0
1963	3547	3547	0	0.0
1964	2685	2685	0	0.0
1965	16086	16086	0	0.0
1966	2553	2553	0	0.0
1967	4918	4918	0	0.0
1968	2689	2689	0	0.0
1969	10007	10007	0	0.0
1970	11174	11174	0	0.0
1971	4797	4797	0	0.0
1972	2646	2646	0	0.0
1973	5452	5452	0	0.0
1974	7271	7271	0	0.0
1975	1892	1892	0	0.0
1976	1385	1385	0	0.0
1977	594	594	0	0.0
1978	4899	4899	0	0.0
1979	2649	2649	0	0.0
1980	8182	8182	0	0.0
1981	2297	2297	0	0.0
1982	5867	5867	0	0.0
1983	5579	5579	0	0.0
1984	6763	6763	0	0.0
1985	1552	1552	0	0.0
1986	4083	4083	0	0.0
1987	1276	1276	0	0.0
1988	1096	1096	0	0.0
1989	877	877	0	0.0
1990	2506	2506	0	0.0
1991	715	715	0	0.0
1992	1322	1322	0	0.0
1993	5137	5137	0	0.0
Mean:	3641	3641	0	0.0
Median:	2687	2687	0	0.0
Min:	594	594	0	0.0
Max:	16714	16714	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4772	4772	0	0.0
1923	1815	1815	0	0.0
1924	1917	1917	0	0.0
1925	4822	4822	0	0.0
1926	4469	4469	0	0.0
1927	8407	8407	0	0.0
1928	2368	2368	0	0.0
1929	1284	1284	0	0.0
1930	3176	3176	0	0.0
1931	935	935	0	0.0
1932	2850	2850	0	0.0
1933	665	665	0	0.0
1934	2249	2249	0	0.0
1935	1675	1675	0	0.0
1936	6540	6540	0	0.0
1937	3597	3597	0	0.0
1938	5688	5688	0	0.0
1939	866	866	0	0.0
1940	5570	5570	0	0.0
1941	6571	6571	0	0.0
1942	6997	6997	0	0.0
1943	5122	5122	0	0.0
1944	2281	2281	0	0.0
1945	4700	4700	0	0.0
1946	4237	4237	0	0.0
1947	2625	2625	0	0.0
1948	922	922	0	0.0
1949	1259	1259	0	0.0
1950	4622	4622	0	0.0
1951	5953	5953	0	0.0
1952	5724	5724	0	0.0
1953	4111	4111	0	0.0
1954	3814	3814	0	0.0
1955	1281	1281	0	0.0
1956	5413	5413	0	0.0
1957	4251	4251	0	0.0
1958	7807	7807	0	0.0
1959	3623	3623	0	0.0
1960	4610	4610	0	0.0
1961	2380	2380	0	0.0
1962	4994	4994	0	0.0
1963	5555	5555	0	0.0
1964	1703	1703	0	0.0
1965	4573	4573	0	0.0
1966	1619	1619	0	0.0
1967	4697	4697	0	0.0
1968	4408	4408	0	0.0
1969	6740	6740	0	0.0
1970	11562	11562	0	0.0
1971	3775	3775	0	0.0
1972	3410	3410	0	0.0
1973	6600	6600	0	0.0
1974	4755	4755	0	0.0
1975	4716	4716	0	0.0
1976	1072	1072	0	0.0
1977	477	477	0	0.0
1978	4360	4360	0	0.0
1979	3229	3229	0	0.0
1980	10013	10013	0	0.0
1981	2211	2211	0	0.0
1982	11970	11970	0	0.0
1983	7720	7720	0	0.0
1984	5025	5025	0	0.0
1985	2044	2044	0	0.0
1986	12935	12935	0	0.0
1987	2330	2330	0	0.0
1988	1255	1255	0	0.0
1989	1656	1656	0	0.0
1990	1741	1741	0	0.0
1991	612	612	0	0.0
1992	4078	4078	0	0.0
1993	5561	5561	0	0.0
Mean:	4158	4158	0	0.0
Median:	4174	4174	0	0.0
Min:	477	477	0	0.0
Max:	12935	12935	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3267	3267	0	0.0
1923	890	890	0	0.0
1924	492	492	0	0.0
1925	3380	3380	0	0.0
1926	2969	2969	0	0.0
1927	5498	5498	0	0.0
1928	7451	7451	0	0.0
1929	735	735	0	0.0
1930	2827	2827	0	0.0
1931	655	655	0	0.0
1932	2385	2385	0	0.0
1933	866	866	0	0.0
1934	1156	1156	0	0.0
1935	1343	1343	0	0.0
1936	4533	4533	0	0.0
1937	2610	2610	0	0.0
1938	8364	8364	0	0.0
1939	1477	1477	0	0.0
1940	7417	7417	0	0.0
1941	5498	5498	0	0.0
1942	4675	4675	0	0.0
1943	7252	7252	0	0.0
1944	1595	1595	0	0.0
1945	3768	3768	0	0.0
1946	2490	2490	0	0.0
1947	2547	2547	0	0.0
1948	969	969	0	0.0
1949	2760	2760	0	0.0
1950	3387	3387	0	0.0
1951	4743	4743	0	0.0
1952	5402	5402	0	0.0
1953	3264	3264	0	0.0
1954	4025	4025	0	0.0
1955	740	740	0	0.0
1956	4524	4524	0	0.0
1957	4172	4172	0	0.0
1958	6284	6284	0	0.0
1959	895	895	0	0.0
1960	4217	4217	0	0.0
1961	1079	1079	0	0.0
1962	3867	3867	0	0.0
1963	4600	4600	0	0.0
1964	783	783	0	0.0
1965	3820	3820	0	0.0
1966	1601	1601	0	0.0
1967	4854	4854	0	0.0
1968	4145	4145	0	0.0
1969	5353	5353	0	0.0
1970	4873	4873	0	0.0
1971	4559	4559	0	0.0
1972	2702	2702	0	0.0
1973	5138	5138	0	0.0
1974	10420	10420	0	0.0
1975	5392	5392	0	0.0
1976	539	539	0	0.0
1977	450	450	0	0.0
1978	5158	5158	0	0.0
1979	3157	3157	0	0.0
1980	5318	5318	0	0.0
1981	1893	1893	0	0.0
1982	6357	6357	0	0.0
1983	9706	9706	0	0.0
1984	4957	4957	0	0.0
1985	1055	1055	0	0.0
1986	16374	16374	0	0.0
1987	1366	1366	0	0.0
1988	578	578	0	0.0
1989	8007	8007	0	0.0
1990	1561	1561	0	0.0
1991	3524	3524	0	0.0
1992	1328	1328	0	0.0
1993	4834	4834	0	0.0
Mean:	3762	3762	0	0.0
Median:	3456	3456	0	0.0
Min:	450	450	0	0.0
Max:	16374	16374	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4392	4392	0	0.0
1923	3007	3007	0	0.0
1924	1288	1288	0	0.0
1925	2346	2346	0	0.0
1926	2775	2775	0	0.0
1927	6332	6332	0	0.0
1928	4971	4971	0	0.0
1929	1212	1212	0	0.0
1930	1367	1367	0	0.0
1931	1335	1335	0	0.0
1932	2236	2236	0	0.0
1933	1333	1333	0	0.0
1934	1170	1170	0	0.0
1935	6172	6172	0	0.0
1936	4695	4695	0	0.0
1937	3437	3437	0	0.0
1938	6679	6679	0	0.0
1939	1329	1329	0	0.0
1940	7007	7007	0	0.0
1941	4902	4902	0	0.0
1942	5952	5952	0	0.0
1943	5593	5593	0	0.0
1944	985	985	0	0.0
1945	1634	1634	0	0.0
1946	2777	2777	0	0.0
1947	984	984	0	0.0
1948	4161	4161	0	0.0
1949	2735	2735	0	0.0
1950	3397	3397	0	0.0
1951	4206	4206	0	0.0
1952	6686	6686	0	0.0
1953	2734	2734	0	0.0
1954	4118	4118	0	0.0
1955	1014	1014	0	0.0
1956	3211	3211	0	0.0
1957	1148	1148	0	0.0
1958	7182	7182	0	0.0
1959	1238	1238	0	0.0
1960	907	907	0	0.0
1961	937	937	0	0.0
1962	3234	3234	0	0.0
1963	5373	5373	0	0.0
1964	1311	1311	0	0.0
1965	4618	4618	0	0.0
1966	2299	2299	0	0.0
1967	3562	3562	0	0.0
1968	1046	1046	0	0.0
1969	5916	5916	0	0.0
1970	1140	1140	0	0.0
1971	1971	1971	0	0.0
1972	1246	1246	0	0.0
1973	3652	3652	0	0.0
1974	9038	9038	0	0.0
1975	1738	1738	0	0.0
1976	1195	1195	0	0.0
1977	963	963	0	0.0
1978	4996	4996	0	0.0
1979	1195	1195	0	0.0
1980	4402	4402	0	0.0
1981	871	871	0	0.0
1982	15413	15413	0	0.0
1983	10792	10792	0	0.0
1984	2587	2587	0	0.0
1985	1157	1157	0	0.0
1986	3569	3569	0	0.0
1987	984	984	0	0.0
1988	1054	1054	0	0.0
1989	5256	5256	0	0.0
1990	1281	1281	0	0.0
1991	978	978	0	0.0
1992	802	802	0	0.0
1993	4531	4531	0	0.0
Mean:	3302	3302	0	0.0
Median:	2735	2735	0	0.0
Min:	802	802	0	0.0
Max:	15413	15413	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	7700	7700	0	0.0
1923	3360	3360	0	0.0
1924	1110	1110	0	0.0
1925	2572	2572	0	0.0
1926	1196	1196	0	0.0
1927	6645	6645	0	0.0
1928	4053	4053	0	0.0
1929	1230	1230	0	0.0
1930	1219	1219	0	0.0
1931	964	964	0	0.0
1932	4204	4204	0	0.0
1933	1021	1021	0	0.0
1934	1068	1068	0	0.0
1935	4978	4978	0	0.0
1936	4176	4176	0	0.0
1937	4188	4188	0	0.0
1938	11828	11828	0	0.0
1939	940	940	0	0.0
1940	4580	4580	0	0.0
1941	5916	5916	0	0.0
1942	6134	6134	0	0.0
1943	4972	4972	0	0.0
1944	1547	1547	0	0.0
1945	3004	3004	0	0.0
1946	3080	3080	0	0.0
1947	1209	1209	0	0.0
1948	4061	4061	0	0.0
1949	2007	2007	0	0.0
1950	3361	3361	0	0.0
1951	3020	3020	0	0.0
1952	12215	12215	0	0.0
1953	2774	2774	0	0.0
1954	1569	1569	0	0.0
1955	1235	1235	0	0.0
1956	5357	5357	0	0.0
1957	3543	3543	0	0.0
1958	10095	10095	0	0.0
1959	1248	1248	0	0.0
1960	1150	1150	0	0.0
1961	1214	1214	0	0.0
1962	1766	1766	0	0.0
1963	6699	6699	0	0.0
1964	1200	1200	0	0.0
1965	4208	4208	0	0.0
1966	1186	1186	0	0.0
1967	5599	5599	0	0.0
1968	1229	1229	0	0.0
1969	9987	9987	0	0.0
1970	1292	1292	0	0.0
1971	4061	4061	0	0.0
1972	1182	1182	0	0.0
1973	3197	3197	0	0.0
1974	4941	4941	0	0.0
1975	4369	4369	0	0.0
1976	1153	1153	0	0.0
1977	624	624	0	0.0
1978	4226	4226	0	0.0
1979	3721	3721	0	0.0
1980	4125	4125	0	0.0
1981	1232	1232	0	0.0
1982	6739	6739	0	0.0
1983	6560	6560	0	0.0
1984	3018	3018	0	0.0
1985	1343	1343	0	0.0
1986	1791	1791	0	0.0
1987	1210	1210	0	0.0
1988	1016	1016	0	0.0
1989	2620	2620	0	0.0
1990	837	837	0	0.0
1991	1174	1174	0	0.0
1992	1255	1255	0	0.0
1993	4817	4817	0	0.0
Mean:	3391	3391	0	0.0
Median:	3011	3011	0	0.0
Min:	624	624	0	0.0
Max:	12215	12215	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	11196	11196	0	0.0
1923	2999	2999	0	0.0
1924	1244	1244	0	0.0
1925	1794	1794	0	0.0
1926	1422	1422	0	0.0
1927	5045	5045	0	0.0
1928	1670	1670	0	0.0
1929	1114	1114	0	0.0
1930	1394	1394	0	0.0
1931	1158	1158	0	0.0
1932	3898	3898	0	0.0
1933	1517	1517	0	0.0
1934	1314	1314	0	0.0
1935	4243	4243	0	0.0
1936	3723	3723	0	0.0
1937	2819	2819	0	0.0
1938	7854	7854	0	0.0
1939	1219	1219	0	0.0
1940	2697	2697	0	0.0
1941	4229	4229	0	0.0
1942	6451	6451	0	0.0
1943	3513	3513	0	0.0
1944	2044	2044	0	0.0
1945	2578	2578	0	0.0
1946	2057	2057	0	0.0
1947	1262	1262	0	0.0
1948	3947	3947	0	0.0
1949	1645	1645	0	0.0
1950	3162	3162	0	0.0
1951	1843	1843	0	0.0
1952	8420	8420	0	0.0
1953	4455	4455	0	0.0
1954	1589	1589	0	0.0
1955	1315	1315	0	0.0
1956	4232	4232	0	0.0
1957	2842	2842	0	0.0
1958	5712	5712	0	0.0
1959	1346	1346	0	0.0
1960	1370	1370	0	0.0
1961	1227	1227	0	0.0
1962	2513	2513	0	0.0
1963	4092	4092	0	0.0
1964	1253	1253	0	0.0
1965	3968	3968	0	0.0
1966	1260	1260	0	0.0
1967	7108	7108	0	0.0
1968	1262	1262	0	0.0
1969	5035	5035	0	0.0
1970	1457	1457	0	0.0
1971	4241	4241	0	0.0
1972	1537	1537	0	0.0
1973	2014	2014	0	0.0
1974	4205	4205	0	0.0
1975	4916	4916	0	0.0
1976	1273	1273	0	0.0
1977	933	933	0	0.0
1978	4146	4146	0	0.0
1979	1983	1983	0	0.0
1980	3435	3435	0	0.0
1981	1386	1386	0	0.0
1982	5020	5020	0	0.0
1983	11712	11712	0	0.0
1984	2574	2574	0	0.0
1985	1400	1400	0	0.0
1986	2134	2134	0	0.0
1987	1264	1264	0	0.0
1988	1250	1250	0	0.0
1989	1358	1358	0	0.0
1990	1351	1351	0	0.0
1991	1869	1869	0	0.0
1992	1190	1190	0	0.0
1993	4277	4277	0	0.0
Mean:	3014	3014	0	0.0
Median:	2051	2051	0	0.0
Min:	933	933	0	0.0
Max:	11712	11712	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3564	3564	0	0.0
1923	1753	1753	0	0.0
1924	1115	1115	0	0.0
1925	1311	1311	0	0.0
1926	1147	1147	0	0.0
1927	3144	3144	0	0.0
1928	1334	1334	0	0.0
1929	1198	1198	0	0.0
1930	1118	1118	0	0.0
1931	1164	1164	0	0.0
1932	1413	1413	0	0.0
1933	1226	1226	0	0.0
1934	1212	1212	0	0.0
1935	1895	1895	0	0.0
1936	1544	1544	0	0.0
1937	1366	1366	0	0.0
1938	3735	3735	0	0.0
1939	1036	1036	0	0.0
1940	1275	1275	0	0.0
1941	3478	3478	0	0.0
1942	3448	3448	0	0.0
1943	1574	1574	0	0.0
1944	1291	1291	0	0.0
1945	1438	1438	0	0.0
1946	1412	1412	0	0.0
1947	1108	1108	0	0.0
1948	1740	1740	0	0.0
1949	1248	1248	0	0.0
1950	1384	1384	0	0.0
1951	1317	1317	0	0.0
1952	4128	4128	0	0.0
1953	3637	3637	0	0.0
1954	1282	1282	0	0.0
1955	1264	1264	0	0.0
1956	2727	2727	0	0.0
1957	1403	1403	0	0.0
1958	3470	3470	0	0.0
1959	1074	1074	0	0.0
1960	1224	1224	0	0.0
1961	1090	1090	0	0.0
1962	1383	1383	0	0.0
1963	1596	1596	0	0.0
1964	1063	1063	0	0.0
1965	1742	1742	0	0.0
1966	996	996	0	0.0
1967	4111	4111	0	0.0
1968	1080	1080	0	0.0
1969	2727	2727	0	0.0
1970	1351	1351	0	0.0
1971	3186	3186	0	0.0
1972	1390	1390	0	0.0
1973	1276	1276	0	0.0
1974	2727	2727	0	0.0
1975	3350	3350	0	0.0
1976	1150	1150	0	0.0
1977	807	807	0	0.0
1978	2106	2106	0	0.0
1979	1281	1281	0	0.0
1980	1819	1819	0	0.0
1981	1110	1110	0	0.0
1982	3426	3426	0	0.0
1983	4154	4154	0	0.0
1984	1449	1449	0	0.0
1985	1123	1123	0	0.0
1986	1410	1410	0	0.0
1987	1033	1033	0	0.0
1988	1065	1065	0	0.0
1989	1529	1529	0	0.0
1990	1114	1114	0	0.0
1991	1285	1285	0	0.0
1992	1103	1103	0	0.0
1993	2725	2725	0	0.0
Mean:	1805	1805	0	0.0
Median:	1375	1375	0	0.0
Min:	807	807	0	0.0
Max:	4154	4154	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1611	1611	0	0.0
1923	1555	1555	0	0.0
1924	854	854	0	0.0
1925	1476	1476	0	0.0
1926	927	927	0	0.0
1927	1492	1492	0	0.0
1928	1361	1361	0	0.0
1929	920	920	0	0.0
1930	1257	1257	0	0.0
1931	894	894	0	0.0
1932	1508	1508	0	0.0
1933	1297	1297	0	0.0
1934	930	930	0	0.0
1935	1449	1449	0	0.0
1936	1465	1465	0	0.0
1937	1386	1386	0	0.0
1938	1680	1680	0	0.0
1939	847	847	0	0.0
1940	1421	1421	0	0.0
1941	1554	1554	0	0.0
1942	1711	1711	0	0.0
1943	1645	1645	0	0.0
1944	1432	1432	0	0.0
1945	1510	1510	0	0.0
1946	1502	1502	0	0.0
1947	840	840	0	0.0
1948	1567	1567	0	0.0
1949	1423	1423	0	0.0
1950	1476	1476	0	0.0
1951	1582	1582	0	0.0
1952	2617	2617	0	0.0
1953	1789	1789	0	0.0
1954	1412	1412	0	0.0
1955	1334	1334	0	0.0
1956	1484	1484	0	0.0
1957	1463	1463	0	0.0
1958	1593	1593	0	0.0
1959	876	876	0	0.0
1960	1379	1379	0	0.0
1961	884	884	0	0.0
1962	1486	1486	0	0.0
1963	1621	1621	0	0.0
1964	1027	1027	0	0.0
1965	1726	1726	0	0.0
1966	991	991	0	0.0
1967	2762	2762	0	0.0
1968	821	821	0	0.0
1969	1934	1934	0	0.0
1970	1375	1375	0	0.0
1971	1819	1819	0	0.0
1972	1391	1391	0	0.0
1973	1456	1456	0	0.0
1974	1580	1580	0	0.0
1975	1904	1904	0	0.0
1976	762	762	0	0.0
1977	626	626	0	0.0
1978	1606	1606	0	0.0
1979	1453	1453	0	0.0
1980	1529	1529	0	0.0
1981	906	906	0	0.0
1982	1588	1588	0	0.0
1983	3526	3526	0	0.0
1984	1411	1411	0	0.0
1985	904	904	0	0.0
1986	1434	1434	0	0.0
1987	844	844	0	0.0
1988	870	870	0	0.0
1989	1369	1369	0	0.0
1990	910	910	0	0.0
1991	1236	1236	0	0.0
1992	900	900	0	0.0
1993	1621	1621	0	0.0
Mean:	1400	1400	0	0.0
Median:	1442	1442	0	0.0
Min:	626	626	0	0.0
Max:	3526	3526	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Yuba River Flow at Confluence with Feather River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1079	1079	0	0.0
1923	1171	1171	0	0.0
1924	375	375	0	0.0
1925	1048	1048	0	0.0
1926	852	852	0	0.0
1927	1049	1049	0	0.0
1928	999	999	0	0.0
1929	399	399	0	0.0
1930	1025	1025	0	0.0
1931	375	375	0	0.0
1932	962	962	0	0.0
1933	968	968	0	0.0
1934	382	382	0	0.0
1935	979	979	0	0.0
1936	1053	1053	0	0.0
1937	963	963	0	0.0
1938	1105	1105	0	0.0
1939	651	651	0	0.0
1940	1049	1049	0	0.0
1941	1099	1099	0	0.0
1942	1156	1156	0	0.0
1943	1069	1069	0	0.0
1944	1002	1002	0	0.0
1945	1058	1058	0	0.0
1946	1025	1025	0	0.0
1947	826	826	0	0.0
1948	982	982	0	0.0
1949	1032	1032	0	0.0
1950	1148	1148	0	0.0
1951	1110	1110	0	0.0
1952	1181	1181	0	0.0
1953	1331	1331	0	0.0
1954	1029	1029	0	0.0
1955	995	995	0	0.0
1956	1162	1162	0	0.0
1957	1061	1061	0	0.0
1958	1184	1184	0	0.0
1959	417	417	0	0.0
1960	936	936	0	0.0
1961	780	780	0	0.0
1962	962	962	0	0.0
1963	1126	1126	0	0.0
1964	999	999	0	0.0
1965	1151	1151	0	0.0
1966	931	931	0	0.0
1967	1049	1049	0	0.0
1968	802	802	0	0.0
1969	996	996	0	0.0
1970	923	923	0	0.0
1971	1171	1171	0	0.0
1972	1183	1183	0	0.0
1973	1168	1168	0	0.0
1974	1069	1069	0	0.0
1975	1323	1323	0	0.0
1976	351	351	0	0.0
1977	221	221	0	0.0
1978	1351	1351	0	0.0
1979	1287	1287	0	0.0
1980	992	992	0	0.0
1981	711	711	0	0.0
1982	1197	1197	0	0.0
1983	1379	1379	0	0.0
1984	1030	1030	0	0.0
1985	503	503	0	0.0
1986	1394	1394	0	0.0
1987	771	771	0	0.0
1988	795	795	0	0.0
1989	1072	1072	0	0.0
1990	803	803	0	0.0
1991	886	886	0	0.0
1992	823	823	0	0.0
1993	1071	1071	0	0.0
Mean:	966	966	0	0.0
Median:	1027	1027	0	0.0
Min:	221	221	0	0.0
Max:	1394	1394	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3238	3237	-1	0.0
1923	2071	2189	118	5.7
1924	2461	2537	76	3.1
1925	1311	1429	118	9.0
1926	1845	1963	118	6.4
1927	3142	3260	118	3.8
1928	2471	2567	96	3.9
1929	4243	4361	118	2.8
1930	1880	1998	118	6.3
1931	2051	2169	118	5.8
1932	2369	2487	118	5.0
1933	2371	2489	118	5.0
1934	2720	2838	118	4.3
1935	2291	2409	118	5.2
1936	4696	4756	60	1.3
1937	3466	3571	105	3.0
1938	2331	2448	117	5.0
1939	3621	3739	118	3.3
1940	3996	4048	52	1.3
1941	2229	2229	0	0.0
1942	2515	2632	117	4.7
1943	2578	2696	118	4.6
1944	2767	2818	51	1.8
1945	3776	3776	0	0.0
1946	1933	1933	0	0.0
1947	2651	2651	0	0.0
1948	2681	2681	0	0.0
1949	2881	2881	0	0.0
1950	1663	1752	89	5.4
1951	2077	2077	0	0.0
1952	2699	2699	0	0.0
1953	6120	6134	14	0.2
1954	2785	2850	65	2.3
1955	3958	3963	5	0.1
1956	2183	2301	118	5.4
1957	2170	2287	117	5.4
1958	2756	2815	59	2.1
1959	6188	6276	88	1.4
1960	3403	3403	0	0.0
1961	2207	2325	118	5.3
1962	4395	4424	29	0.7
1963	10591	10591	0	0.0
1964	2765	2868	103	3.7
1965	4098	4098	0	0.0
1966	3049	3069	20	0.7
1967	4834	4834	0	0.0
1968	5969	5969	0	0.0
1969	3498	3500	2	0.1
1970	3794	3912	118	3.1
1971	2604	2664	60	2.3
1972	3253	3253	0	0.0
1973	2954	2977	23	0.8
1974	2893	2972	79	2.7
1975	4495	4612	117	2.6
1976	5631	5749	118	2.1
1977	2915	3033	118	4.0
1978	1407	1525	118	8.4
1979	2493	2610	117	4.7
1980	2784	2798	14	0.5
1981	2818	2935	117	4.2
1982	3432	3432	0	0.0
1983	8911	9029	118	1.3
1984	6683	6712	29	0.4
1985	1822	1842	20	1.1
1986	4887	4887	0	0.0
1987	3178	3296	118	3.7
1988	4545	4663	118	2.6
1989	2589	2707	118	4.6
1990	2870	2870	0	0.0
1991	1657	1775	118	7.1
1992	2193	2311	118	5.4
1993	1653	1771	118	7.1
Mean:	3284	3352	68	2.7
Median:	2785	2859	89	2.5
Min:	1311	1429	-1	0.0
Max:	10591	10591	118	9.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2776	2776	0	0.0
1923	1893	1918	25	1.3
1924	1972	1988	16	0.8
1925	1166	1192	26	2.2
1926	1244	1269	25	2.0
1927	6987	7012	25	0.4
1928	2687	2708	21	0.8
1929	2530	2555	25	1.0
1930	924	949	25	2.7
1931	2864	2890	26	0.9
1932	978	1003	25	2.6
1933	908	933	25	2.8
1934	1924	1949	25	1.3
1935	1042	1067	25	2.4
1936	3031	3044	13	0.4
1937	2517	2540	23	0.9
1938	3247	3272	25	0.8
1939	3393	3418	25	0.7
1940	2482	2493	11	0.4
1941	3905	3905	0	0.0
1942	4042	4067	25	0.6
1943	5879	5904	25	0.4
1944	2002	2012	10	0.5
1945	3892	3892	0	0.0
1946	3419	3419	0	0.0
1947	2714	2714	0	0.0
1948	2460	2460	0	0.0
1949	1856	1856	0	0.0
1950	1237	1256	19	1.5
1951	11419	11419	0	0.0
1952	3543	3543	0	0.0
1953	3189	3192	3	0.1
1954	4665	4679	14	0.3
1955	2232	2233	1	0.0
1956	1845	1870	25	1.4
1957	2240	2265	25	1.1
1958	1699	1712	13	0.8
1959	3069	3088	19	0.6
1960	2572	2572	0	0.0
1961	2359	2384	25	1.1
1962	2293	2300	7	0.3
1963	4060	4060	0	0.0
1964	5436	5458	22	0.4
1965	3213	3213	0	0.0
1966	4320	4324	4	0.1
1967	2823	2823	0	0.0
1968	2844	2844	0	0.0
1969	2312	2313	1	0.0
1970	3924	3949	25	0.6
1971	2115	2128	13	0.6
1972	2210	2210	0	0.0
1973	5360	5365	5	0.1
1974	12096	12113	17	0.1
1975	3330	3356	26	0.8
1976	4587	4612	25	0.5
1977	2714	2739	25	0.9
1978	1333	1358	25	1.9
1979	2091	2116	25	1.2
1980	2855	2858	3	0.1
1981	1970	1995	25	1.3
1982	5809	5809	0	0.0
1983	12915	12941	26	0.2
1984	22680	22686	6	0.0
1985	3370	3374	4	0.1
1986	3678	3678	0	0.0
1987	1878	1903	25	1.3
1988	2867	2892	25	0.9
1989	1483	1508	25	1.7
1990	2896	2896	0	0.0
1991	2151	2176	25	1.2
1992	1826	1851	25	1.4
1993	2432	2457	25	1.0
Mean:	3482	3496	15	0.7
Median:	2714	2727	19	0.5
Min:	908	933	0	0.0
Max:	22680	22686	26	2.8
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1708	1708	0	0.0
1923	5439	5447	8	0.1
1924	2851	2856	5	0.2
1925	895	903	8	0.9
1926	895	903	8	0.9
1927	895	903	8	0.9
1928	1708	1714	6	0.4
1929	1814	1822	8	0.4
1930	895	903	8	0.9
1931	3732	3740	8	0.2
1932	895	903	8	0.9
1933	1622	1631	9	0.6
1934	895	903	8	0.9
1935	1604	1612	8	0.5
1936	4686	4690	4	0.1
1937	5141	5148	7	0.1
1938	15739	15747	8	0.1
1939	4024	4032	8	0.2
1940	3061	3065	4	0.1
1941	5670	5670	0	0.0
1942	21076	21084	8	0.0
1943	11526	11534	8	0.1
1944	2416	2419	3	0.1
1945	3980	3980	0	0.0
1946	5516	5516	0	0.0
1947	3726	3726	0	0.0
1948	2925	2925	0	0.0
1949	2680	2680	0	0.0
1950	1592	1599	7	0.4
1951	32039	32039	0	0.0
1952	5946	5946	0	0.0
1953	10717	10717	0	0.0
1954	3718	3722	4	0.1
1955	4353	4353	0	0.0
1956	8683	8691	8	0.1
1957	2487	2495	8	0.3
1958	3445	3449	4	0.1
1959	3330	3336	6	0.2
1960	5184	5184	0	0.0
1961	1204	1212	8	0.7
1962	1115	1117	2	0.2
1963	6084	6084	0	0.0
1964	1979	1986	7	0.4
1965	5871	5871	0	0.0
1966	5654	5655	1	0.0
1967	7984	7984	0	0.0
1968	4364	4364	0	0.0
1969	3619	3619	0	0.0
1970	23250	23258	8	0.0
1971	14865	14869	4	0.0
1972	3808	3808	0	0.0
1973	5986	5988	2	0.0
1974	19670	19676	6	0.0
1975	4061	4069	8	0.2
1976	5465	5473	8	0.1
1977	4407	4415	8	0.2
1978	2468	2476	8	0.3
1979	1922	1930	8	0.4
1980	3732	3733	1	0.0
1981	2269	2278	9	0.4
1982	30854	30854	0	0.0
1983	20781	20789	8	0.0
1984	46696	46698	2	0.0
1985	3936	3937	1	0.0
1986	5358	5358	0	0.0
1987	2171	2179	8	0.4
1988	2252	2261	9	0.4
1989	1635	1643	8	0.5
1990	895	894	-1	-0.1
1991	1060	1068	8	0.8
1992	1545	1553	8	0.5
1993	1886	1895	9	0.5
Mean:	6227	6232	5	0.2
Median:	3729	3730	6	0.1
Min:	895	894	-1	-0.1
Max:	46696	46698	9	0.9
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5279	5279	0	0.0
1923	12122	12126	4	0.0
1924	4527	4530	3	0.1
1925	4174	4178	4	0.1
1926	5669	5673	4	0.1
1927	9877	9881	4	0.0
1928	8859	8862	3	0.0
1929	4821	4825	4	0.1
1930	8300	8304	4	0.0
1931	1781	1785	4	0.2
1932	9656	9660	4	0.0
1933	2226	2230	4	0.2
1934	7002	7006	4	0.1
1935	8842	8846	4	0.0
1936	9708	9710	2	0.0
1937	3505	3509	4	0.1
1938	11958	11962	4	0.0
1939	4941	4945	4	0.1
1940	6624	6625	1	0.0
1941	13539	13539	0	0.0
1942	18610	18614	4	0.0
1943	25555	25559	4	0.0
1944	4123	4124	1	0.0
1945	3585	3585	0	0.0
1946	15984	15984	0	0.0
1947	2963	2963	0	0.0
1948	3268	3268	0	0.0
1949	2878	2878	0	0.0
1950	4995	4998	3	0.1
1951	26088	26088	0	0.0
1952	25073	25073	0	0.0
1953	21818	21818	0	0.0
1954	9497	9499	2	0.0
1955	5287	5287	0	0.0
1956	43051	43054	3	0.0
1957	5904	5908	4	0.1
1958	4569	4571	2	0.0
1959	12290	12293	3	0.0
1960	2541	2541	0	0.0
1961	2263	2267	4	0.2
1962	1943	1944	1	0.1
1963	1204	1203	-1	-0.1
1964	7069	7072	3	0.0
1965	43832	43832	0	0.0
1966	7814	7815	1	0.0
1967	4898	4898	0	0.0
1968	11213	11213	0	0.0
1969	30142	30141	-1	0.0
1970	62905	62909	4	0.0
1971	9074	9076	2	0.0
1972	6653	6653	0	0.0
1973	22509	22510	1	0.0
1974	36533	36535	2	0.0
1975	4923	4927	4	0.1
1976	5218	5222	4	0.1
1977	2665	2669	4	0.2
1978	12359	12363	4	0.0
1979	6853	6858	5	0.1
1980	33234	33235	1	0.0
1981	4786	4790	4	0.1
1982	31645	31645	0	0.0
1983	16772	16776	4	0.0
1984	23813	23813	0	0.0
1985	3294	3295	1	0.0
1986	7501	7501	0	0.0
1987	3875	3879	4	0.1
1988	4639	4643	4	0.1
1989	2590	2594	4	0.2
1990	5767	5767	0	0.0
1991	1536	1540	4	0.3
1992	3180	3184	4	0.1
1993	13378	13382	4	0.0
Mean:	11355	11357	2	0.0
Median:	6753	6756	3	0.0
Min:	1204	1203	-1	-0.1
Max:	62905	62909	5	0.3
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	8555	8555	0	0.0
1923	3115	3120	5	0.2
1924	3609	3608	-1	0.0
1925	12104	12108	4	0.0
1926	5966	5971	5	0.1
1927	31055	31059	4	0.0
1928	1641	1638	-3	-0.2
1929	3005	3009	4	0.1
1930	900	905	5	0.6
1931	2369	2373	4	0.2
1932	5750	5749	-1	0.0
1933	3881	3885	4	0.1
1934	900	905	5	0.6
1935	1488	1492	4	0.3
1936	14745	14740	-5	0.0
1937	13045	13049	4	0.0
1938	25885	25889	4	0.0
1939	3177	3182	5	0.2
1940	5497	5492	-5	-0.1
1941	28484	28484	0	0.0
1942	34503	34507	4	0.0
1943	16726	16730	4	0.0
1944	7010	7006	-4	-0.1
1945	11309	11309	0	0.0
1946	8852	8852	0	0.0
1947	4448	4448	0	0.0
1948	2427	2423	-4	-0.2
1949	2778	2778	0	0.0
1950	8197	8200	3	0.0
1951	20920	20920	0	0.0
1952	21902	21894	-8	0.0
1953	8627	8628	1	0.0
1954	15614	15616	2	0.0
1955	2632	2632	0	0.0
1956	19066	19063	-3	0.0
1957	14704	14708	4	0.0
1958	28447	28449	2	0.0
1959	18000	18004	4	0.0
1960	6191	6183	-8	-0.1
1961	5545	5550	5	0.1
1962	12202	12203	1	0.0
1963	27244	27244	0	0.0
1964	2944	2939	-5	-0.2
1965	12625	12624	-1	0.0
1966	5737	5737	0	0.0
1967	21129	21129	0	0.0
1968	15810	15802	-8	-0.1
1969	31284	31284	0	0.0
1970	40242	40246	4	0.0
1971	7621	7623	2	0.0
1972	11163	11155	-8	-0.1
1973	25478	25479	1	0.0
1974	15687	15690	3	0.0
1975	25350	25354	4	0.0
1976	5079	5080	1	0.0
1977	1395	1399	4	0.3
1978	8555	8560	5	0.1
1979	19136	19141	5	0.0
1980	37367	37359	-8	0.0
1981	9624	9629	5	0.1
1982	36910	36910	0	0.0
1983	36643	36647	4	0.0
1984	16336	16329	-7	0.0
1985	4997	4997	0	0.0
1986	39279	39279	0	0.0
1987	5901	5905	4	0.1
1988	2318	2315	-3	-0.1
1989	2409	2414	5	0.2
1990	4726	4726	0	0.0
1991	1723	1728	5	0.3
1992	9962	9960	-2	0.0
1993	12949	12954	5	0.0
Mean:	13096	13097	1	0.0
Median:	9238	9241	1	0.0
Min:	900	905	-8	-0.2
Max:	40242	40246	5	0.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	13297	13297	0	0.0
1923	5195	5199	4	0.1
1924	2801	2803	2	0.1
1925	8912	8916	4	0.0
1926	5258	5262	4	0.1
1927	18447	18451	4	0.0
1928	43387	43390	3	0.0
1929	3488	3492	4	0.1
1930	10302	10306	4	0.0
1931	1005	1009	4	0.4
1932	748	752	4	0.5
1933	748	752	4	0.5
1934	2610	2614	4	0.2
1935	6889	6893	4	0.1
1936	14181	14183	2	0.0
1937	13831	13835	4	0.0
1938	36192	36196	4	0.0
1939	5782	5786	4	0.1
1940	36374	36375	1	0.0
1941	23500	23500	0	0.0
1942	10438	10442	4	0.0
1943	25929	25933	4	0.0
1944	6338	6340	2	0.0
1945	7316	7316	0	0.0
1946	9498	9498	0	0.0
1947	5488	5488	0	0.0
1948	2068	2068	0	0.0
1949	7721	7721	0	0.0
1950	4625	4628	3	0.1
1951	11681	11681	0	0.0
1952	16557	16557	0	0.0
1953	9467	9467	0	0.0
1954	17388	17390	2	0.0
1955	2250	2250	0	0.0
1956	16986	16990	4	0.0
1957	18278	18282	4	0.0
1958	31101	31102	1	0.0
1959	5359	5362	3	0.1
1960	4539	4539	0	0.0
1961	992	996	4	0.4
1962	6972	6973	1	0.0
1963	12793	12793	0	0.0
1964	2207	2211	4	0.2
1965	9116	9116	0	0.0
1966	6474	6474	0	0.0
1967	20563	20563	0	0.0
1968	16952	16952	0	0.0
1969	19424	19424	0	0.0
1970	13855	13859	4	0.0
1971	17475	17477	2	0.0
1972	10323	10323	0	0.0
1973	20361	20362	1	0.0
1974	36110	36112	2	0.0
1975	20547	20551	4	0.0
1976	4693	4697	4	0.1
1977	1612	1616	4	0.2
1978	9471	9475	4	0.0
1979	11660	11664	4	0.0
1980	22219	22219	0	0.0
1981	10220	10224	4	0.0
1982	28442	28442	0	0.0
1983	53960	53963	3	0.0
1984	15455	15456	1	0.0
1985	6221	6222	1	0.0
1986	52946	52945	-1	0.0
1987	4793	4797	4	0.1
1988	992	996	4	0.4
1989	14391	14395	4	0.0
1990	3424	3424	0	0.0
1991	8806	8810	4	0.0
1992	3378	3382	4	0.1
1993	16278	16282	4	0.0
Mean:	13182	13184	2	0.1
Median:	9859	9861	3	0.0
Min:	748	752	-1	0.0
Max:	53960	53963	4	0.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	10520	11057	537	5.1
1923	9548	9894	346	3.6
1924	3454	3991	537	15.5
1925	4819	5357	538	11.2
1926	8071	8608	537	6.7
1927	14599	15033	434	3.0
1928	7883	8420	537	6.8
1929	1760	2297	537	30.5
1930	5658	6195	537	9.5
1931	3933	4471	538	13.7
1932	5780	6318	538	9.3
1933	3211	3749	538	16.8
1934	5329	5867	538	10.1
1935	10085	10360	275	2.7
1936	9143	9626	483	5.3
1937	7957	8495	538	6.8
1938	27681	28218	537	1.9
1939	4041	4279	238	5.9
1940	32576	32576	0	0.0
1941	7013	7551	538	7.7
1942	22830	23367	537	2.4
1943	12446	12676	230	1.8
1944	2477	2477	0	0.0
1945	3339	3339	0	0.0
1946	3886	3886	0	0.0
1947	4478	4478	0	0.0
1948	8012	8012	0	0.0
1949	3277	3680	403	12.3
1950	5465	5465	0	0.0
1951	5946	5946	0	0.0
1952	27796	27858	62	0.2
1953	6253	6547	294	4.7
1954	13704	13726	22	0.2
1955	2131	2669	538	25.2
1956	7883	8421	538	6.8
1957	7075	7346	271	3.8
1958	25786	26189	403	1.6
1959	3429	3429	0	0.0
1960	2881	3419	538	18.7
1961	3856	3990	134	3.5
1962	3856	3856	0	0.0
1963	26989	27459	470	1.7
1964	7715	7715	0	0.0
1965	12750	12842	92	0.7
1966	4536	4536	0	0.0
1967	9478	9478	0	0.0
1968	5895	5904	9	0.2
1969	15995	16533	538	3.4
1970	5910	6186	276	4.7
1971	11775	11775	0	0.0
1972	3911	4015	104	2.7
1973	6788	7148	360	5.3
1974	31566	32104	538	1.7
1975	7157	7695	538	7.5
1976	4098	4635	537	13.1
1977	2362	2900	538	22.8
1978	6408	6946	538	8.4
1979	4812	4874	62	1.3
1980	8354	8889	535	6.4
1981	4947	4947	0	0.0
1982	52569	53106	537	1.0
1983	24276	24407	131	0.5
1984	7479	7569	90	1.2
1985	5026	5026	0	0.0
1986	7678	8216	538	7.0
1987	5311	5848	537	10.1
1988	3692	4230	538	14.6
1989	9831	9831	0	0.0
1990	5038	5575	537	10.7
1991	4224	4762	538	12.7
1992	3719	4257	538	14.5
1993	15162	15675	513	3.4
Mean:	9518	9836	318	5.7
Median:	6331	6747	419	3.5
Min:	1760	2297	0	0.0
Max:	52569	53106	538	30.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	28785	29488	703	2.4
1923	5680	6132	452	8.0
1924	1930	1930	0	0.0
1925	3312	3312	0	0.0
1926	6306	6306	0	0.0
1927	11302	11870	568	5.0
1928	8087	8086	-1	0.0
1929	2497	2497	0	0.0
1930	4822	4822	0	0.0
1931	2291	2291	0	0.0
1932	5115	5115	0	0.0
1933	798	798	0	0.0
1934	2223	2223	0	0.0
1935	11695	11694	-1	0.0
1936	5291	5291	0	0.0
1937	6058	6058	0	0.0
1938	27834	28538	704	2.5
1939	4652	4652	0	0.0
1940	8431	8431	0	0.0
1941	15620	16323	703	4.5
1942	14382	15086	704	4.9
1943	7458	7458	0	0.0
1944	3239	3238	-1	0.0
1945	2914	2914	0	0.0
1946	4022	4022	0	0.0
1947	3999	3999	0	0.0
1948	9728	9728	0	0.0
1949	2353	2353	0	0.0
1950	5684	5684	0	0.0
1951	4701	4701	0	0.0
1952	35404	35486	82	0.2
1953	8494	8878	384	4.5
1954	10026	10026	0	0.0
1955	2031	2031	0	0.0
1956	17739	18442	703	4.0
1957	5324	5324	0	0.0
1958	20859	21387	528	2.5
1959	3728	3728	0	0.0
1960	1668	1668	0	0.0
1961	2354	2354	0	0.0
1962	2685	2685	0	0.0
1963	13019	13635	616	4.7
1964	2927	2927	0	0.0
1965	10965	10964	-1	0.0
1966	6482	6482	0	0.0
1967	15190	15190	0	0.0
1968	1818	1818	0	0.0
1969	23620	24324	704	3.0
1970	1652	1652	0	0.0
1971	12750	12750	0	0.0
1972	3350	3350	0	0.0
1973	5594	6065	471	8.4
1974	9710	10413	703	7.2
1975	12936	13639	703	5.4
1976	992	992	0	0.0
1977	1651	1651	0	0.0
1978	5742	5741	-1	0.0
1979	5046	5046	0	0.0
1980	5994	5994	0	0.0
1981	3040	3040	0	0.0
1982	16193	16896	703	4.3
1983	23101	23272	171	0.7
1984	5366	5366	0	0.0
1985	5715	5715	0	0.0
1986	3050	3050	0	0.0
1987	2737	2737	0	0.0
1988	2524	2524	0	0.0
1989	5959	5959	0	0.0
1990	1328	1328	0	0.0
1991	2822	2822	0	0.0
1992	2083	2083	0	0.0
1993	12019	12690	671	5.6
Mean:	7735	7877	143	1.1
Median:	5345	5345	0	0.0
Min:	798	798	-1	0.0
Max:	35404	35486	704	8.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	20702	21513	811	3.9
1923	9134	9134	0	0.0
1924	3378	3378	0	0.0
1925	3061	3061	0	0.0
1926	5681	5681	0	0.0
1927	9510	9510	0	0.0
1928	6115	6115	0	0.0
1929	4344	4344	0	0.0
1930	6713	6713	0	0.0
1931	3448	3448	0	0.0
1932	5445	5445	0	0.0
1933	2964	2964	0	0.0
1934	3260	3260	0	0.0
1935	13074	13074	0	0.0
1936	7703	7702	-1	0.0
1937	9862	9862	0	0.0
1938	19457	20268	811	4.2
1939	4836	4836	0	0.0
1940	8856	8855	-1	0.0
1941	11099	11099	0	0.0
1942	12997	13807	810	6.2
1943	8263	8263	0	0.0
1944	7442	7442	0	0.0
1945	8075	8075	0	0.0
1946	7507	7507	0	0.0
1947	5423	5423	0	0.0
1948	5327	5327	0	0.0
1949	7007	7007	0	0.0
1950	9759	9759	0	0.0
1951	3847	3847	0	0.0
1952	17891	17985	94	0.5
1953	9987	10431	444	4.4
1954	5112	5112	0	0.0
1955	6329	6329	0	0.0
1956	8654	9464	810	9.4
1957	7581	7581	0	0.0
1958	12321	12929	608	4.9
1959	6779	6779	0	0.0
1960	4800	4800	0	0.0
1961	4195	4195	0	0.0
1962	5787	5787	0	0.0
1963	11167	11167	0	0.0
1964	5956	5956	0	0.0
1965	4644	4644	0	0.0
1966	6337	6337	0	0.0
1967	17409	17409	0	0.0
1968	6634	6634	0	0.0
1969	7876	8687	811	10.3
1970	5747	5747	0	0.0
1971	9472	9472	0	0.0
1972	6302	6302	0	0.0
1973	9760	9760	0	0.0
1974	11687	11687	0	0.0
1975	10923	11734	811	7.4
1976	2467	2467	0	0.0
1977	3397	3397	0	0.0
1978	6299	6299	0	0.0
1979	7244	7244	0	0.0
1980	4086	4086	0	0.0
1981	5591	5591	0	0.0
1982	9924	10735	811	8.2
1983	24071	24269	198	0.8
1984	8965	8965	0	0.0
1985	5943	5943	0	0.0
1986	5627	5627	0	0.0
1987	3152	3152	0	0.0
1988	2229	2229	0	0.0
1989	7001	7001	0	0.0
1990	3747	3747	0	0.0
1991	2984	2984	0	0.0
1992	2257	2257	0	0.0
1993	7943	8717	774	9.7
Mean:	7647	7755	108	1.0
Median:	6674	6674	0	0.0
Min:	2229	2229	-1	0.0
Max:	24071	24269	811	10.3
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	7526	10111	2585	34.3
1923	5308	8285	2977	56.1
1924	5217	8457	3240	62.1
1925	4959	8619	3660	73.8
1926	6237	8807	2570	41.2
1927	7844	10806	2962	37.8
1928	5513	9174	3661	66.4
1929	1133	4614	3481	307.2
1930	7123	10472	3349	47.0
1931	6639	9709	3070	46.2
1932	1467	5066	3599	245.3
1933	1841	5011	3170	172.2
1934	2622	5353	2731	104.2
1935	9709	11824	2115	21.8
1936	6413	10045	3632	56.6
1937	3554	7355	3801	106.9
1938	6749	8875	2126	31.5
1939	7468	9389	1921	25.7
1940	9682	10253	571	5.9
1941	4434	8220	3786	85.4
1942	7156	9413	2257	31.5
1943	6957	9529	2572	37.0
1944	8549	8697	148	1.7
1945	8626	9292	666	7.7
1946	8535	9303	768	9.0
1947	7764	7933	169	2.2
1948	9693	10218	525	5.4
1949	3284	6686	3402	103.6
1950	9375	10465	1090	11.6
1951	8741	9781	1040	11.9
1952	5584	6562	978	17.5
1953	8385	10249	1864	22.2
1954	8387	9007	620	7.4
1955	1903	5409	3506	184.2
1956	6370	9120	2750	43.2
1957	6566	8639	2073	31.6
1958	4377	6908	2531	57.8
1959	7810	8311	501	6.4
1960	4887	8167	3280	67.1
1961	5848	7365	1517	25.9
1962	7911	8469	558	7.1
1963	5964	9060	3096	51.9
1964	8390	8563	173	2.1
1965	7338	9508	2170	29.6
1966	9087	9285	198	2.2
1967	4938	5745	807	16.3
1968	7947	9002	1055	13.3
1969	3709	5095	1386	37.4
1970	7246	9730	2484	34.3
1971	11731	12542	811	6.9
1972	6467	8127	1660	25.7
1973	6445	8784	2339	36.3
1974	5772	8623	2851	49.4
1975	7497	9837	2340	31.2
1976	8986	12837	3851	42.9
1977	3280	6416	3136	95.6
1978	4035	7730	3695	91.6
1979	6977	8701	1724	24.7
1980	4139	8245	4106	99.2
1981	7351	8048	697	9.5
1982	5944	7621	1677	28.2
1983	7316	7522	206	2.8
1984	9067	10746	1679	18.5
1985	9615	9920	305	3.2
1986	6262	9099	2837	45.3
1987	5938	9174	3236	54.5
1988	1373	5204	3831	279.0
1989	8571	8528	-43	-0.5
1990	2172	5945	3773	173.7
1991	5877	9392	3515	59.8
1992	653	4092	3439	526.6
1993	6181	8717	2536	41.0
Mean:	6311	8497	2186	59.1
Median:	6517	8709	2412	35.3
Min:	653	4092	-43	-0.5
Max:	11731	12837	4106	526.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5665	7638	1973	34.8
1923	5245	6719	1474	28.1
1924	2109	4436	2327	110.3
1925	2886	5373	2487	86.2
1926	5203	7335	2132	41.0
1927	6208	8173	1965	31.7
1928	4094	6518	2424	59.2
1929	2255	4192	1937	85.9
1930	6984	9377	2393	34.3
1931	3217	5484	2267	70.5
1932	1670	3801	2131	127.6
1933	1561	4215	2654	170.0
1934	3856	6009	2153	55.8
1935	6176	8037	1861	30.1
1936	6129	8300	2171	35.4
1937	5764	8110	2346	40.7
1938	4508	6654	2146	47.6
1939	7478	8967	1489	19.9
1940	7523	8822	1299	17.3
1941	1632	2834	1202	73.7
1942	3816	5804	1988	52.1
1943	6043	7688	1645	27.2
1944	6829	7861	1032	15.1
1945	6947	7870	923	13.3
1946	7191	8293	1102	15.3
1947	6404	7757	1353	21.1
1948	7482	8293	811	10.8
1949	4370	6218	1848	42.3
1950	7151	7931	780	10.9
1951	6834	7663	829	12.1
1952	2310	3467	1157	50.1
1953	2290	3774	1484	64.8
1954	4548	6129	1581	34.8
1955	1386	3696	2310	166.7
1956	5392	6862	1470	27.3
1957	4155	6210	2055	49.5
1958	1431	1829	398	27.8
1959	5954	6881	927	15.6
1960	5147	7140	1993	38.7
1961	6081	7554	1473	24.2
1962	7215	8258	1043	14.5
1963	5756	7770	2014	35.0
1964	7414	8756	1342	18.1
1965	6579	7654	1075	16.3
1966	6051	7380	1329	22.0
1967	2974	3624	650	21.9
1968	3932	5091	1159	29.5
1969	1656	3296	1640	99.0
1970	6252	7881	1629	26.1
1971	6640	7284	644	9.7
1972	6795	8155	1360	20.0
1973	6399	8231	1832	28.6
1974	2056	3817	1761	85.7
1975	2425	3984	1559	64.3
1976	3106	5279	2173	70.0
1977	1625	3733	2108	129.7
1978	7032	8615	1583	22.5
1979	7072	8134	1062	15.0
1980	6070	7610	1540	25.4
1981	6251	7339	1088	17.4
1982	3958	5323	1365	34.5
1983	4593	5511	918	20.0
1984	4919	6572	1653	33.6
1985	8734	9518	784	9.0
1986	5692	8133	2441	42.9
1987	5895	7853	1958	33.2
1988	2759	4786	2027	73.5
1989	7782	9027	1245	16.0
1990	3387	5500	2113	62.4
1991	1947	4334	2387	122.6
1992	1620	3682	2062	127.3
1993	4902	6845	1943	39.6
Mean:	4881	6512	1632	45.9
Median:	5319	7011	1635	34.0
Min:	1386	1829	398	9.0
Max:	8734	9518	2654	170.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3345	3345	0	0.0
1923	2617	2617	0	0.0
1924	2095	2694	599	28.6
1925	2581	2581	0	0.0
1926	3316	4810	1494	45.1
1927	2895	2895	0	0.0
1928	3338	3338	0	0.0
1929	1316	2094	778	59.1
1930	3100	3539	439	14.2
1931	2124	2942	818	38.5
1932	2776	3211	435	15.7
1933	1569	1882	313	19.9
1934	2878	4150	1272	44.2
1935	3626	4083	457	12.6
1936	2811	2811	0	0.0
1937	2834	2834	0	0.0
1938	2658	3058	400	15.0
1939	4299	5182	883	20.5
1940	3034	3034	0	0.0
1941	2983	3454	471	15.8
1942	2824	3252	428	15.2
1943	2639	2639	0	0.0
1944	4333	5050	717	16.5
1945	2733	2733	0	0.0
1946	2952	2952	0	0.0
1947	4310	4463	153	3.5
1948	3362	3534	172	5.1
1949	2810	2863	53	1.9
1950	3334	3334	0	0.0
1951	3287	3287	0	0.0
1952	5281	5983	702	13.3
1953	3357	3826	469	14.0
1954	3514	4196	682	19.4
1955	2881	3246	365	12.7
1956	2942	3396	454	15.4
1957	2422	2707	285	11.8
1958	4451	5341	890	20.0
1959	2122	2537	415	19.6
1960	2725	3628	903	33.1
1961	4083	4718	635	15.6
1962	3380	3992	612	18.1
1963	3255	3255	0	0.0
1964	5022	5256	234	4.7
1965	3457	3555	98	2.8
1966	3578	4353	775	21.7
1967	5053	5480	427	8.5
1968	3896	4485	589	15.1
1969	6343	7421	1078	17.0
1970	3443	3840	397	11.5
1971	4125	4554	429	10.4
1972	3543	3960	417	11.8
1973	3549	3865	316	8.9
1974	3814	4576	762	20.0
1975	3941	4639	698	17.7
1976	4853	4866	13	0.3
1977	979	1874	895	91.4
1978	3312	4210	898	27.1
1979	3553	3879	326	9.2
1980	2988	3490	502	16.8
1981	4589	5090	501	10.9
1982	3401	4229	828	24.3
1983	7238	8932	1694	23.4
1984	3020	3020	0	0.0
1985	7037	7398	361	5.1
1986	3538	4290	752	21.3
1987	4971	5874	903	18.2
1988	3090	3390	300	9.7
1989	2903	3489	586	20.2
1990	2413	2691	278	11.5
1991	3233	3486	253	7.8
1992	2502	3190	688	27.5
1993	2501	2501	0	0.0
Mean:	3404	3852	449	14.4
Median:	3300	3512	428	13.0
Min:	979	1874	0	0.0
Max:	7238	8932	1694	91.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

October				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	12478	12478	0	0.0
1923	13932	13932	0	0.0
1924	11421	11421	0	0.0
1925	7878	7878	0	0.0
1926	10283	10283	0	0.0
1927	9159	9159	0	0.0
1928	12509	12509	0	0.0
1929	9812	9812	0	0.0
1930	7980	7980	0	0.0
1931	9971	9971	0	0.0
1932	6482	6482	0	0.0
1933	9317	9317	0	0.0
1934	8600	8600	0	0.0
1935	6891	6891	0	0.0
1936	8654	8654	0	0.0
1937	11218	11218	0	0.0
1938	10519	10519	0	0.0
1939	14554	14554	0	0.0
1940	6587	6587	0	0.0
1941	10054	10054	0	0.0
1942	14554	14554	0	0.0
1943	14356	14356	0	0.0
1944	12394	12394	0	0.0
1945	9287	9287	0	0.0
1946	10595	10595	0	0.0
1947	10582	10582	0	0.0
1948	7169	7169	0	0.0
1949	9741	9741	0	0.0
1950	8940	8940	0	0.0
1951	11321	11321	0	0.0
1952	12066	12066	0	0.0
1953	14554	14554	0	0.0
1954	14371	14371	0	0.0
1955	10013	10013	0	0.0
1956	9465	9465	0	0.0
1957	14113	14113	0	0.0
1958	11677	11677	0	0.0
1959	14554	14554	0	0.0
1960	8269	8269	0	0.0
1961	8652	8652	0	0.0
1962	6165	6165	0	0.0
1963	10533	10533	0	0.0
1964	12410	12410	0	0.0
1965	7692	7692	0	0.0
1966	13413	13413	0	0.0
1967	8797	8797	0	0.0
1968	14551	14551	0	0.0
1969	9290	9290	0	0.0
1970	14551	14551	0	0.0
1971	9889	9889	0	0.0
1972	13344	13344	0	0.0
1973	11038	11038	0	0.0
1974	11516	11516	0	0.0
1975	14554	14554	0	0.0
1976	14477	14477	0	0.0
1977	8143	8143	0	0.0
1978	594	594	0	0.0
1979	13326	13326	0	0.0
1980	11420	11420	0	0.0
1981	13251	13251	0	0.0
1982	9284	9284	0	0.0
1983	14507	14507	0	0.0
1984	14554	14554	0	0.0
1985	11986	11986	0	0.0
1986	7128	7128	0	0.0
1987	12215	12215	0	0.0
1988	6752	6752	0	0.0
1989	7251	7251	0	0.0
1990	8539	8539	0	0.0
1991	7836	7836	0	0.0
1992	8558	8558	0	0.0
1993	7347	7347	0	0.0
Mean:	10553.9	10553.9	0.0	0.0
Median:	10401.0	10401.0	0.0	0.0
Min:	594.0	594.0	0.0	0.0
Max:	14554.0	14554.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

November				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	12498	12498	0	0.0
1923	14102	14102	0	0.0
1924	11187	11187	0	0.0
1925	8064	8064	0	0.0
1926	10385	10385	0	0.0
1927	10423	10423	0	0.0
1928	13032	13032	0	0.0
1929	9662	9662	0	0.0
1930	7896	7896	0	0.0
1931	9796	9796	0	0.0
1932	6494	6494	0	0.0
1933	9216	9216	0	0.0
1934	8434	8434	0	0.0
1935	7091	7091	0	0.0
1936	8233	8233	0	0.0
1937	10802	10802	0	0.0
1938	11186	11186	0	0.0
1939	14554	14554	0	0.0
1940	6142	6142	0	0.0
1941	10067	10067	0	0.0
1942	14554	14554	0	0.0
1943	14294	14294	0	0.0
1944	12535	12535	0	0.0
1945	9572	9572	0	0.0
1946	10922	10922	0	0.0
1947	10831	10831	0	0.0
1948	7070	7070	0	0.0
1949	9679	9679	0	0.0
1950	8971	8971	0	0.0
1951	13441	13441	0	0.0
1952	12254	12254	0	0.0
1953	14554	14554	0	0.0
1954	14394	14394	0	0.0
1955	10100	10100	0	0.0
1956	9389	9389	0	0.0
1957	14395	14395	0	0.0
1958	11841	11841	0	0.0
1959	14554	14554	0	0.0
1960	7846	7846	0	0.0
1961	8802	8802	0	0.0
1962	5845	5845	0	0.0
1963	10886	10886	0	0.0
1964	12995	12995	0	0.0
1965	7750	7750	0	0.0
1966	13821	13821	0	0.0
1967	9194	9194	0	0.0
1968	14551	14551	0	0.0
1969	9523	9523	0	0.0
1970	14551	14551	0	0.0
1971	10880	10880	0	0.0
1972	13652	13652	0	0.0
1973	11639	11639	0	0.0
1974	13458	13458	0	0.0
1975	14554	14554	0	0.0
1976	14554	14554	0	0.0
1977	7787	7787	0	0.0
1978	934	934	0	0.0
1979	13521	13521	0	0.0
1980	11635	11635	0	0.0
1981	13334	13334	0	0.0
1982	12984	12984	0	0.0
1983	13947	13947	0	0.0
1984	13844	13844	0	0.0
1985	12699	12699	0	0.0
1986	6826	6826	0	0.0
1987	12515	12515	0	0.0
1988	6874	6874	0	0.0
1989	7926	7926	0	0.0
1990	8601	8601	0	0.0
1991	7640	7640	0	0.0
1992	8334	8334	0	0.0
1993	7148	7148	0	0.0
Mean:	10745.3	10745.3	0.0	0.0
Median:	10855.5	10855.5	0.0	0.0
Min:	934.0	934.0	0.0	0.0
Max:	14554.0	14554.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

December				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	12491	12491	0	0.0
1923	13751	13751	0	0.0
1924	10687	10687	0	0.0
1925	8253	8253	0	0.0
1926	10387	10387	0	0.0
1927	10294	10294	0	0.0
1928	13008	13008	0	0.0
1929	9640	9640	0	0.0
1930	10482	10482	0	0.0
1931	9391	9391	0	0.0
1932	6329	6329	0	0.0
1933	9306	9306	0	0.0
1934	8484	8484	0	0.0
1935	7358	7358	0	0.0
1936	7435	7435	0	0.0
1937	10009	10009	0	0.0
1938	13775	13775	0	0.0
1939	14554	14554	0	0.0
1940	5724	5724	0	0.0
1941	11979	11979	0	0.0
1942	13304	13304	0	0.0
1943	13897	13897	0	0.0
1944	12529	12529	0	0.0
1945	10200	10200	0	0.0
1946	13341	13341	0	0.0
1947	11166	11166	0	0.0
1948	6764	6764	0	0.0
1949	9733	9733	0	0.0
1950	8941	8941	0	0.0
1951	13564	13564	0	0.0
1952	13306	13306	0	0.0
1953	13737	13737	0	0.0
1954	14554	14554	0	0.0
1955	10447	10447	0	0.0
1956	13670	13670	0	0.0
1957	14554	14554	0	0.0
1958	12626	12626	0	0.0
1959	14554	14554	0	0.0
1960	6948	6948	0	0.0
1961	9192	9192	0	0.0
1962	6265	6265	0	0.0
1963	12253	12253	0	0.0
1964	13152	13152	0	0.0
1965	13940	13940	0	0.0
1966	13831	13831	0	0.0
1967	10682	10682	0	0.0
1968	14481	14481	0	0.0
1969	10366	10366	0	0.0
1970	13364	13364	0	0.0
1971	12434	12434	0	0.0
1972	14062	14062	0	0.0
1973	12648	12648	0	0.0
1974	13344	13344	0	0.0
1975	14554	14554	0	0.0
1976	14554	14554	0	0.0
1977	6988	6988	0	0.0
1978	2996	2996	0	0.0
1979	13713	13713	0	0.0
1980	12082	12082	0	0.0
1981	13764	13764	0	0.0
1982	13304	13304	0	0.0
1983	13777	13777	0	0.0
1984	13304	13304	0	0.0
1985	13210	13210	0	0.0
1986	7108	7108	0	0.0
1987	12573	12573	0	0.0
1988	8265	8265	0	0.0
1989	8322	8322	0	0.0
1990	8987	8987	0	0.0
1991	7602	7602	0	0.0
1992	8370	8370	0	0.0
1993	7830	7830	0	0.0
Mean:	11145.7	11145.7	0.0	0.0
Median:	12167.5	12167.5	0.0	0.0
Min:	2996.0	2996.0	0.0	0.0
Max:	14554.0	14554.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

January				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	12936	12936	0	0.0
1923	13931	13931	0	0.0
1924	10884	10884	0	0.0
1925	8828	8828	0	0.0
1926	10908	10908	0	0.0
1927	11421	11421	0	0.0
1928	13589	13589	0	0.0
1929	9830	9830	0	0.0
1930	11415	11415	0	0.0
1931	9915	9915	0	0.0
1932	7253	7253	0	0.0
1933	9711	9711	0	0.0
1934	9424	9424	0	0.0
1935	8325	8325	0	0.0
1936	9556	9556	0	0.0
1937	10161	10161	0	0.0
1938	13757	13757	0	0.0
1939	14457	14457	0	0.0
1940	8214	8214	0	0.0
1941	13362	13362	0	0.0
1942	13304	13304	0	0.0
1943	13304	13304	0	0.0
1944	12868	12868	0	0.0
1945	10793	10793	0	0.0
1946	14034	14034	0	0.0
1947	11412	11412	0	0.0
1948	8063	8063	0	0.0
1949	9929	9929	0	0.0
1950	10112	10112	0	0.0
1951	13497	13497	0	0.0
1952	13304	13304	0	0.0
1953	13374	13374	0	0.0
1954	13737	13737	0	0.0
1955	10926	10926	0	0.0
1956	13304	13304	0	0.0
1957	14397	14397	0	0.0
1958	13544	13544	0	0.0
1959	13937	13937	0	0.0
1960	7468	7468	0	0.0
1961	9650	9650	0	0.0
1962	6804	6804	0	0.0
1963	13219	13219	0	0.0
1964	13661	13661	0	0.0
1965	13304	13304	0	0.0
1966	14061	14061	0	0.0
1967	12964	12964	0	0.0
1968	13751	13751	0	0.0
1969	13480	13480	0	0.0
1970	13301	13301	0	0.0
1971	13617	13617	0	0.0
1972	14304	14304	0	0.0
1973	13304	13304	0	0.0
1974	13577	13577	0	0.0
1975	14554	14554	0	0.0
1976	14554	14554	0	0.0
1977	6910	6910	0	0.0
1978	8494	8494	0	0.0
1979	14381	14381	0	0.0
1980	13424	13424	0	0.0
1981	13834	13834	0	0.0
1982	13821	13821	0	0.0
1983	13524	13524	0	0.0
1984	14314	14314	0	0.0
1985	13517	13517	0	0.0
1986	8456	8456	0	0.0
1987	12625	12625	0	0.0
1988	9300	9300	0	0.0
1989	8597	8597	0	0.0
1990	9545	9545	0	0.0
1991	7593	7593	0	0.0
1992	8531	8531	0	0.0
1993	10242	10242	0	0.0
Mean:	11727.7	11727.7	0.0	0.0
Median:	13091.5	13091.5	0.0	0.0
Min:	6804.0	6804.0	0.0	0.0
Max:	14554.0	14554.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

February				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13387	13387	0	0.0
1923	14307	14307	0	0.0
1924	11572	11572	0	0.0
1925	11382	11382	0	0.0
1926	12778	12778	0	0.0
1927	13480	13480	0	0.0
1928	14187	14187	0	0.0
1929	10261	10261	0	0.0
1930	12246	12246	0	0.0
1931	10361	10361	0	0.0
1932	7956	7956	0	0.0
1933	10019	10019	0	0.0
1934	10000	10000	0	0.0
1935	9137	9137	0	0.0
1936	12503	12503	0	0.0
1937	10801	10801	0	0.0
1938	13304	13304	0	0.0
1939	14554	14554	0	0.0
1940	12007	12007	0	0.0
1941	13304	13304	0	0.0
1942	13364	13364	0	0.0
1943	13644	13644	0	0.0
1944	13430	13430	0	0.0
1945	13050	13050	0	0.0
1946	14224	14224	0	0.0
1947	12445	12445	0	0.0
1948	8299	8299	0	0.0
1949	10234	10234	0	0.0
1950	11757	11757	0	0.0
1951	13761	13761	0	0.0
1952	13451	13451	0	0.0
1953	14208	14208	0	0.0
1954	13687	13687	0	0.0
1955	11255	11255	0	0.0
1956	13304	13304	0	0.0
1957	13501	13501	0	0.0
1958	13304	13304	0	0.0
1959	13474	13474	0	0.0
1960	9955	9955	0	0.0
1961	10756	10756	0	0.0
1962	9151	9151	0	0.0
1963	14201	14201	0	0.0
1964	14101	14101	0	0.0
1965	14001	14001	0	0.0
1966	14344	14344	0	0.0
1967	13847	13847	0	0.0
1968	13884	13884	0	0.0
1969	13304	13304	0	0.0
1970	13301	13301	0	0.0
1971	14551	14551	0	0.0
1972	14204	14204	0	0.0
1973	13304	13304	0	0.0
1974	14041	14041	0	0.0
1975	13624	13624	0	0.0
1976	14551	14551	0	0.0
1977	6841	6841	0	0.0
1978	9328	9328	0	0.0
1979	13487	13487	0	0.0
1980	13304	13304	0	0.0
1981	14261	14261	0	0.0
1982	13967	13967	0	0.0
1983	13304	13304	0	0.0
1984	14271	14271	0	0.0
1985	14155	14155	0	0.0
1986	13940	13940	0	0.0
1987	13160	13160	0	0.0
1988	9591	9591	0	0.0
1989	9178	9178	0	0.0
1990	9820	9820	0	0.0
1991	7607	7607	0	0.0
1992	9615	9615	0	0.0
1993	12060	12060	0	0.0
Mean:	12374.3	12374.3	0.0	0.0
Median:	13304.0	13304.0	0.0	0.0
Min:	6841.0	6841.0	0.0	0.0
Max:	14554.0	14554.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

March				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13751	13751	0	0.0
1923	14554	14554	0	0.0
1924	11422	11422	0	0.0
1925	11753	11753	0	0.0
1926	13651	13651	0	0.0
1927	14007	14007	0	0.0
1928	13334	13334	0	0.0
1929	10773	10773	0	0.0
1930	13769	13769	0	0.0
1931	11112	11112	0	0.0
1932	9299	9299	0	0.0
1933	9876	9876	0	0.0
1934	10999	10999	0	0.0
1935	10258	10258	0	0.0
1936	13717	13717	0	0.0
1937	12115	12115	0	0.0
1938	13304	13304	0	0.0
1939	14454	14454	0	0.0
1940	13410	13410	0	0.0
1941	13737	13737	0	0.0
1942	14204	14204	0	0.0
1943	13801	13801	0	0.0
1944	14235	14235	0	0.0
1945	13898	13898	0	0.0
1946	14221	14221	0	0.0
1947	13477	13477	0	0.0
1948	9115	9115	0	0.0
1949	11307	11307	0	0.0
1950	13344	13344	0	0.0
1951	14361	14361	0	0.0
1952	13971	13971	0	0.0
1953	14207	14207	0	0.0
1954	13821	13821	0	0.0
1955	11728	11728	0	0.0
1956	14071	14071	0	0.0
1957	13977	13977	0	0.0
1958	13304	13304	0	0.0
1959	14191	14191	0	0.0
1960	12005	12005	0	0.0
1961	11719	11719	0	0.0
1962	10565	10565	0	0.0
1963	13767	13767	0	0.0
1964	14523	14523	0	0.0
1965	14331	14331	0	0.0
1966	14554	14554	0	0.0
1967	13501	13501	0	0.0
1968	14131	14131	0	0.0
1969	14101	14101	0	0.0
1970	14554	14554	0	0.0
1971	14551	14551	0	0.0
1972	14554	14554	0	0.0
1973	13847	13847	0	0.0
1974	13304	13304	0	0.0
1975	13454	13454	0	0.0
1976	14554	14554	0	0.0
1977	6821	6821	0	0.0
1978	12856	12856	0	0.0
1979	14014	14014	0	0.0
1980	14104	14104	0	0.0
1981	14091	14091	0	0.0
1982	13797	13797	0	0.0
1983	13304	13304	0	0.0
1984	14411	14411	0	0.0
1985	14401	14401	0	0.0
1986	13304	13304	0	0.0
1987	14187	14187	0	0.0
1988	9925	9925	0	0.0
1989	13815	13815	0	0.0
1990	10783	10783	0	0.0
1991	9219	9219	0	0.0
1992	10510	10510	0	0.0
1993	13951	13951	0	0.0
Mean:	13000.5	13000.5	0.0	0.0
Median:	13759.0	13759.0	0.0	0.0
Min:	6821.0	6821.0	0.0	0.0
Max:	14554.0	14554.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

April				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	15497	15497	0	0.0
1923	15540	15540	0	0.0
1924	11228	11228	0	0.0
1925	12788	12788	0	0.0
1926	15170	15170	0	0.0
1927	15330	15330	0	0.0
1928	14753	14753	0	0.0
1929	10918	10918	0	0.0
1930	14722	14722	0	0.0
1931	10814	10814	0	0.0
1932	9776	9776	0	0.0
1933	10118	10118	0	0.0
1934	10902	10902	0	0.0
1935	13957	13957	0	0.0
1936	15018	15018	0	0.0
1937	13387	13387	0	0.0
1938	14934	14934	0	0.0
1939	14130	14130	0	0.0
1940	14804	14804	0	0.0
1941	15124	15124	0	0.0
1942	14947	14947	0	0.0
1943	15177	15177	0	0.0
1944	14703	14703	0	0.0
1945	14679	14679	0	0.0
1946	15249	15249	0	0.0
1947	13778	13778	0	0.0
1948	11798	11798	0	0.0
1949	12454	12454	0	0.0
1950	14885	14885	0	0.0
1951	15102	15102	0	0.0
1952	15517	15517	0	0.0
1953	14957	14957	0	0.0
1954	14984	14984	0	0.0
1955	12110	12110	0	0.0
1956	15434	15434	0	0.0
1957	13836	13836	0	0.0
1958	14794	14794	0	0.0
1959	14399	14399	0	0.0
1960	12633	12633	0	0.0
1961	11920	11920	0	0.0
1962	12179	12179	0	0.0
1963	14611	14611	0	0.0
1964	13958	13958	0	0.0
1965	15190	15190	0	0.0
1966	15540	15540	0	0.0
1967	14797	14797	0	0.0
1968	14015	14015	0	0.0
1969	15577	15577	0	0.0
1970	14168	14168	0	0.0
1971	15454	15454	0	0.0
1972	15079	15079	0	0.0
1973	14843	14843	0	0.0
1974	14984	14984	0	0.0
1975	14909	14909	0	0.0
1976	14264	14264	0	0.0
1977	6233	6233	0	0.0
1978	14287	14287	0	0.0
1979	14490	14490	0	0.0
1980	14952	14952	0	0.0
1981	14632	14632	0	0.0
1982	15020	15020	0	0.0
1983	14704	14704	0	0.0
1984	14943	14943	0	0.0
1985	14895	14895	0	0.0
1986	14459	14459	0	0.0
1987	13646	13646	0	0.0
1988	10035	10035	0	0.0
1989	14579	14579	0	0.0
1990	10610	10610	0	0.0
1991	10009	10009	0	0.0
1992	11006	11006	0	0.0
1993	15530	15530	0	0.0
Mean:	13831.4	13831.4	0.0	0.0
Median:	14691.0	14691.0	0.0	0.0
Min:	6233.0	6233.0	0.0	0.0
Max:	15577.0	15577.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

May				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	15804	15804	0	0.0
1923	15804	15804	0	0.0
1924	10935	10935	0	0.0
1925	13157	13157	0	0.0
1926	14572	14572	0	0.0
1927	15804	15804	0	0.0
1928	14374	14374	0	0.0
1929	10839	10839	0	0.0
1930	14964	14964	0	0.0
1931	10640	10640	0	0.0
1932	10981	10981	0	0.0
1933	10625	10625	0	0.0
1934	10631	10631	0	0.0
1935	14863	14863	0	0.0
1936	15617	15617	0	0.0
1937	14479	14479	0	0.0
1938	15804	15804	0	0.0
1939	13427	13427	0	0.0
1940	15022	15022	0	0.0
1941	15804	15804	0	0.0
1942	15804	15804	0	0.0
1943	15670	15670	0	0.0
1944	15283	15283	0	0.0
1945	15531	15531	0	0.0
1946	15747	15747	0	0.0
1947	13101	13101	0	0.0
1948	13281	13281	0	0.0
1949	13050	13050	0	0.0
1950	15619	15619	0	0.0
1951	15804	15804	0	0.0
1952	15804	15804	0	0.0
1953	15804	15804	0	0.0
1954	14178	14178	0	0.0
1955	12706	12706	0	0.0
1956	15804	15804	0	0.0
1957	14782	14782	0	0.0
1958	15804	15804	0	0.0
1959	14252	14252	0	0.0
1960	12938	12938	0	0.0
1961	12134	12134	0	0.0
1962	12732	12732	0	0.0
1963	15804	15804	0	0.0
1964	14093	14093	0	0.0
1965	15332	15332	0	0.0
1966	15023	15023	0	0.0
1967	15804	15804	0	0.0
1968	14311	14311	0	0.0
1969	15804	15804	0	0.0
1970	14317	14317	0	0.0
1971	15804	15804	0	0.0
1972	15262	15262	0	0.0
1973	15804	15804	0	0.0
1974	15804	15804	0	0.0
1975	15804	15804	0	0.0
1976	13841	13841	0	0.0
1977	5720	5720	0	0.0
1978	15294	15294	0	0.0
1979	15431	15431	0	0.0
1980	15561	15561	0	0.0
1981	14570	14570	0	0.0
1982	15804	15804	0	0.0
1983	15804	15804	0	0.0
1984	15421	15421	0	0.0
1985	14204	14204	0	0.0
1986	14721	14721	0	0.0
1987	13214	13214	0	0.0
1988	9986	9986	0	0.0
1989	14058	14058	0	0.0
1990	10660	10660	0	0.0
1991	10447	10447	0	0.0
1992	10574	10574	0	0.0
1993	15804	15804	0	0.0
Mean:	14167.4	14167.4	0.0	0.0
Median:	14913.5	14913.5	0.0	0.0
Min:	5720.0	5720.0	0.0	0.0
Max:	15804.0	15804.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

June				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	15804	15804	0	0.0
1923	14558	14558	0	0.0
1924	10177	10177	0	0.0
1925	12834	12834	0	0.0
1926	13293	13293	0	0.0
1927	15311	15311	0	0.0
1928	13204	13204	0	0.0
1929	10022	10022	0	0.0
1930	13896	13896	0	0.0
1931	10023	10023	0	0.0
1932	10867	10867	0	0.0
1933	10447	10447	0	0.0
1934	9955	9955	0	0.0
1935	13560	13560	0	0.0
1936	15031	15031	0	0.0
1937	13364	13364	0	0.0
1938	15804	15804	0	0.0
1939	12378	12378	0	0.0
1940	13856	13856	0	0.0
1941	14986	14986	0	0.0
1942	15804	15804	0	0.0
1943	14923	14923	0	0.0
1944	14226	14226	0	0.0
1945	14507	14507	0	0.0
1946	14550	14550	0	0.0
1947	12105	12105	0	0.0
1948	13669	13669	0	0.0
1949	11734	11734	0	0.0
1950	14657	14657	0	0.0
1951	15265	15265	0	0.0
1952	15804	15804	0	0.0
1953	15804	15804	0	0.0
1954	13432	13432	0	0.0
1955	11520	11520	0	0.0
1956	15804	15804	0	0.0
1957	13995	13995	0	0.0
1958	15804	15804	0	0.0
1959	12874	12874	0	0.0
1960	12023	12023	0	0.0
1961	11415	11415	0	0.0
1962	12193	12193	0	0.0
1963	14688	14688	0	0.0
1964	13142	13142	0	0.0
1965	15521	15521	0	0.0
1966	13695	13695	0	0.0
1967	15804	15804	0	0.0
1968	13069	13069	0	0.0
1969	15804	15804	0	0.0
1970	13165	13165	0	0.0
1971	15804	15804	0	0.0
1972	14032	14032	0	0.0
1973	14272	14272	0	0.0
1974	15266	15266	0	0.0
1975	15804	15804	0	0.0
1976	12879	12879	0	0.0
1977	4175	4175	0	0.0
1978	15075	15075	0	0.0
1979	14131	14131	0	0.0
1980	15428	15428	0	0.0
1981	13375	13375	0	0.0
1982	15804	15804	0	0.0
1983	15804	15804	0	0.0
1984	14319	14319	0	0.0
1985	12848	12848	0	0.0
1986	13983	13983	0	0.0
1987	12110	12110	0	0.0
1988	9320	9320	0	0.0
1989	12514	12514	0	0.0
1990	9919	9919	0	0.0
1991	10230	10230	0	0.0
1992	9853	9853	0	0.0
1993	15804	15804	0	0.0
Mean:	13459.9	13459.9	0.0	0.0
Median:	13876.0	13876.0	0.0	0.0
Min:	4175.0	4175.0	0.0	0.0
Max:	15804.0	15804.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

July				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	15254	15254	0	0.0
1923	13322	13322	0	0.0
1924	9041	9041	0	0.0
1925	11184	11184	0	0.0
1926	11850	11850	0	0.0
1927	14422	14422	0	0.0
1928	12140	12140	0	0.0
1929	9303	9303	0	0.0
1930	12105	12105	0	0.0
1931	8478	8478	0	0.0
1932	10315	10315	0	0.0
1933	9789	9789	0	0.0
1934	9252	9252	0	0.0
1935	11703	11703	0	0.0
1936	13661	13661	0	0.0
1937	12727	12727	0	0.0
1938	15634	15634	0	0.0
1939	10750	10750	0	0.0
1940	11863	11863	0	0.0
1941	14695	14695	0	0.0
1942	15297	15297	0	0.0
1943	13833	13833	0	0.0
1944	12417	12417	0	0.0
1945	12582	12582	0	0.0
1946	12720	12720	0	0.0
1947	10191	10191	0	0.0
1948	11954	11954	0	0.0
1949	10659	10659	0	0.0
1950	12790	12790	0	0.0
1951	13424	13424	0	0.0
1952	15804	15804	0	0.0
1953	14861	14861	0	0.0
1954	11792	11792	0	0.0
1955	10501	10501	0	0.0
1956	15177	15177	0	0.0
1957	12738	12738	0	0.0
1958	15674	15674	0	0.0
1959	11052	11052	0	0.0
1960	10756	10756	0	0.0
1961	9902	9902	0	0.0
1962	10526	10526	0	0.0
1963	13836	13836	0	0.0
1964	11248	11248	0	0.0
1965	14340	14340	0	0.0
1966	11951	11951	0	0.0
1967	15804	15804	0	0.0
1968	11570	11570	0	0.0
1969	15444	15444	0	0.0
1970	11681	11681	0	0.0
1971	14081	14081	0	0.0
1972	12766	12766	0	0.0
1973	13064	13064	0	0.0
1974	15300	15300	0	0.0
1975	15121	15121	0	0.0
1976	10863	10863	0	0.0
1977	2785	2785	0	0.0
1978	14499	14499	0	0.0
1979	12854	12854	0	0.0
1980	14943	14943	0	0.0
1981	11614	11614	0	0.0
1982	15712	15712	0	0.0
1983	15804	15804	0	0.0
1984	12746	12746	0	0.0
1985	10901	10901	0	0.0
1986	13208	13208	0	0.0
1987	10430	10430	0	0.0
1988	8471	8471	0	0.0
1989	10608	10608	0	0.0
1990	9107	9107	0	0.0
1991	9240	9240	0	0.0
1992	9044	9044	0	0.0
1993	14998	14998	0	0.0
Mean:	12307.9	12307.9	0.0	0.0
Median:	12278.5	12278.5	0.0	0.0
Min:	2785.0	2785.0	0.0	0.0
Max:	15804.0	15804.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

August				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13924	13924	0	0.0
1923	11946	11946	0	0.0
1924	8323	8323	0	0.0
1925	10671	10671	0	0.0
1926	10498	10498	0	0.0
1927	12976	12976	0	0.0
1928	11058	11058	0	0.0
1929	8682	8682	0	0.0
1930	10642	10642	0	0.0
1931	7361	7361	0	0.0
1932	9967	9967	0	0.0
1933	9284	9284	0	0.0
1934	8158	8158	0	0.0
1935	10081	10081	0	0.0
1936	12142	12142	0	0.0
1937	11238	11238	0	0.0
1938	14632	14632	0	0.0
1939	8580	8580	0	0.0
1940	10300	10300	0	0.0
1941	14563	14563	0	0.0
1942	14371	14371	0	0.0
1943	12495	12495	0	0.0
1944	10913	10913	0	0.0
1945	11092	11092	0	0.0
1946	11291	11291	0	0.0
1947	8296	8296	0	0.0
1948	10472	10472	0	0.0
1949	9516	9516	0	0.0
1950	11433	11433	0	0.0
1951	12051	12051	0	0.0
1952	15793	15793	0	0.0
1953	14390	14390	0	0.0
1954	10694	10694	0	0.0
1955	10053	10053	0	0.0
1956	13903	13903	0	0.0
1957	11671	11671	0	0.0
1958	15585	15585	0	0.0
1959	9262	9262	0	0.0
1960	9297	9297	0	0.0
1961	8096	8096	0	0.0
1962	8527	8527	0	0.0
1963	12497	12497	0	0.0
1964	9395	9395	0	0.0
1965	13335	13335	0	0.0
1966	10540	10540	0	0.0
1967	15695	15695	0	0.0
1968	10380	10380	0	0.0
1969	15328	15328	0	0.0
1970	10326	10326	0	0.0
1971	13204	13204	0	0.0
1972	11499	11499	0	0.0
1973	11764	11764	0	0.0
1974	15131	15131	0	0.0
1975	14948	14948	0	0.0
1976	9493	9493	0	0.0
1977	1179	1179	0	0.0
1978	13177	13177	0	0.0
1979	11577	11577	0	0.0
1980	13562	13562	0	0.0
1981	10143	10143	0	0.0
1982	15110	15110	0	0.0
1983	15804	15804	0	0.0
1984	12005	12005	0	0.0
1985	8869	8869	0	0.0
1986	11901	11901	0	0.0
1987	8471	8471	0	0.0
1988	7794	7794	0	0.0
1989	8686	8686	0	0.0
1990	8352	8352	0	0.0
1991	8874	8874	0	0.0
1992	8175	8175	0	0.0
1993	13746	13746	0	0.0
Mean:	11183.2	11183.2	0.0	0.0
Median:	10985.5	10985.5	0.0	0.0
Min:	1179.0	1179.0	0.0	0.0
Max:	15804.0	15804.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Surface Area

September				
	Baseline	FP Alt		
Water Year	Surface Area (acres)	Surface Area (acres)	Absolute Difference (acres)	Relative Difference (%)[1]
1922	13795	13795	0	0.0
1923	11715	11715	0	0.0
1924	7862	7862	0	0.0
1925	10431	10431	0	0.0
1926	9611	9611	0	0.0
1927	12681	12681	0	0.0
1928	10480	10480	0	0.0
1929	8287	8287	0	0.0
1930	10227	10227	0	0.0
1931	6872	6872	0	0.0
1932	9651	9651	0	0.0
1933	9031	9031	0	0.0
1934	7343	7343	0	0.0
1935	9409	9409	0	0.0
1936	11793	11793	0	0.0
1937	10722	10722	0	0.0
1938	14661	14661	0	0.0
1939	7462	7462	0	0.0
1940	10055	10055	0	0.0
1941	14484	14484	0	0.0
1942	14285	14285	0	0.0
1943	12348	12348	0	0.0
1944	9902	9902	0	0.0
1945	10628	10628	0	0.0
1946	10892	10892	0	0.0
1947	7332	7332	0	0.0
1948	10030	10030	0	0.0
1949	9156	9156	0	0.0
1950	11135	11135	0	0.0
1951	11895	11895	0	0.0
1952	15175	15175	0	0.0
1953	14274	14274	0	0.0
1954	10247	10247	0	0.0
1955	9749	9749	0	0.0
1956	13865	13865	0	0.0
1957	11616	11616	0	0.0
1958	15176	15176	0	0.0
1959	9026	9026	0	0.0
1960	8883	8883	0	0.0
1961	7090	7090	0	0.0
1962	7748	7748	0	0.0
1963	12394	12394	0	0.0
1964	8489	8489	0	0.0
1965	13237	13237	0	0.0
1966	9692	9692	0	0.0
1967	15176	15176	0	0.0
1968	9597	9597	0	0.0
1969	14550	14550	0	0.0
1970	9919	9919	0	0.0
1971	13121	13121	0	0.0
1972	11212	11212	0	0.0
1973	11426	11426	0	0.0
1974	15013	15013	0	0.0
1975	14839	14839	0	0.0
1976	8725	8725	0	0.0
1977	1036	1036	0	0.0
1978	13253	13253	0	0.0
1979	11224	11224	0	0.0
1980	13333	13333	0	0.0
1981	9432	9432	0	0.0
1982	15180	15180	0	0.0
1983	15178	15178	0	0.0
1984	11804	11804	0	0.0
1985	7825	7825	0	0.0
1986	12120	12120	0	0.0
1987	7342	7342	0	0.0
1988	7443	7443	0	0.0
1989	8427	8427	0	0.0
1990	8013	8013	0	0.0
1991	8618	8618	0	0.0
1992	7344	7344	0	0.0
1993	13549	13549	0	0.0
Mean:	10771.3	10771.3	0.0	0.0
Median:	10455.5	10455.5	0.0	0.0
Min:	1036.0	1036.0	0.0	0.0
Max:	15180.0	15180.0	0.0	0.0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2030	2030	0	0.0
1923	1708	1826	118	6.9
1924	1708	1783	75	4.4
1925	946	1064	118	12.5
1926	1002	1120	118	11.8
1927	2753	2871	118	4.3
1928	1708	1803	95	5.6
1929	3135	3253	118	3.8
1930	1635	1753	118	7.2
1931	1360	1478	118	8.7
1932	2244	2362	118	5.3
1933	1650	1768	118	7.2
1934	2256	2373	117	5.2
1935	2468	2586	118	4.8
1936	3685	3745	60	1.6
1937	2797	2903	106	3.8
1938	1708	1826	118	6.9
1939	3245	3363	118	3.6
1940	3806	3858	52	1.4
1941	1708	1708	0	0.0
1942	2249	2367	118	5.2
1943	1708	1826	118	6.9
1944	1708	1758	50	2.9
1945	3509	3509	0	0.0
1946	1708	1708	0	0.0
1947	1708	1708	0	0.0
1948	2202	2202	0	0.0
1949	1708	1708	0	0.0
1950	895	983	88	9.8
1951	1708	1708	0	0.0
1952	1708	1708	0	0.0
1953	4882	4896	14	0.3
1954	1708	1772	64	3.7
1955	2766	2771	5	0.2
1956	1708	1826	118	6.9
1957	1708	1826	118	6.9
1958	1708	1767	59	3.5
1959	4898	4986	88	1.8
1960	3058	3058	0	0.0
1961	1204	1321	117	9.7
1962	3896	3925	29	0.7
1963	1204	1203	-1	-0.1
1964	1708	1811	103	6.0
1965	3706	3706	0	0.0
1966	1708	1728	20	1.2
1967	4000	4000	0	0.0
1968	5202	5202	0	0.0
1969	3115	3117	2	0.1
1970	3376	3493	117	3.5
1971	2101	2161	60	2.9
1972	1708	1708	0	0.0
1973	1708	1731	23	1.3
1974	1708	1787	79	4.6
1975	4286	4404	118	2.8
1976	4129	4246	117	2.8
1977	2541	2659	118	4.6
1978	1481	1599	118	8.0
1979	1348	1466	118	8.8
1980	1708	1721	13	0.8
1981	1708	1825	117	6.9
1982	2912	2912	0	0.0
1983	6853	6971	118	1.7
1984	5078	5106	28	0.6
1985	1708	1727	19	1.1
1986	4000	4000	0	0.0
1987	1708	1826	118	6.9
1988	4000	4118	118	3.0
1989	2280	2398	118	5.2
1990	2067	2067	0	0.0
1991	1915	2033	118	6.2
1992	1170	1288	118	10.1
1993	1714	1831	117	6.8
Mean:	2441	2509	68	3.6
Median:	1711	1829	88	3.3
Min:	895	983	-1	-0.1
Max:	6853	6971	118	12.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2500	2500	0	0.0
1923	1697	1723	26	1.5
1924	1697	1714	17	1.0
1925	908	933	25	2.8
1926	908	933	25	2.8
1927	908	933	25	2.8
1928	1697	1718	21	1.2
1929	1819	1844	25	1.4
1930	1055	1080	25	2.4
1931	2107	2132	25	1.2
1932	1114	1139	25	2.2
1933	1425	1451	26	1.8
1934	1566	1592	26	1.7
1935	908	933	25	2.8
1936	2500	2513	13	0.5
1937	2500	2523	23	0.9
1938	1697	1723	26	1.5
1939	2920	2945	25	0.9
1940	2500	2511	11	0.4
1941	1997	1997	0	0.0
1942	3181	3206	25	0.8
1943	4692	4717	25	0.5
1944	1697	1708	11	0.6
1945	1697	1697	0	0.0
1946	1697	1697	0	0.0
1947	1697	1697	0	0.0
1948	1908	1908	0	0.0
1949	1697	1697	0	0.0
1950	908	926	18	2.0
1951	1697	1697	0	0.0
1952	1697	1697	0	0.0
1953	2843	2846	3	0.1
1954	3776	3790	14	0.4
1955	1697	1698	1	0.1
1956	1697	1723	26	1.5
1957	1697	1723	26	1.5
1958	1697	1710	13	0.8
1959	2832	2851	19	0.7
1960	2500	2500	0	0.0
1961	1193	1218	25	2.1
1962	2281	2287	6	0.3
1963	1193	1193	0	0.0
1964	1697	1719	22	1.3
1965	1697	1697	0	0.0
1966	2409	2414	5	0.2
1967	1697	1697	0	0.0
1968	2786	2786	0	0.0
1969	1697	1698	1	0.1
1970	3827	3853	26	0.7
1971	1697	1710	13	0.8
1972	1697	1697	0	0.0
1973	1697	1702	5	0.3
1974	5934	5951	17	0.3
1975	3505	3530	25	0.7
1976	3926	3951	25	0.6
1977	2500	2525	25	1.0
1978	908	933	25	2.8
1979	1193	1218	25	2.1
1980	1697	1700	3	0.2
1981	1697	1722	25	1.5
1982	1193	1193	0	0.0
1983	8703	8728	25	0.3
1984	14569	14575	6	0.0
1985	1697	1702	5	0.3
1986	2500	2500	0	0.0
1987	1697	1723	26	1.5
1988	2500	2525	25	1.0
1989	908	933	25	2.8
1990	2500	2500	0	0.0
1991	2318	2343	25	1.1
1992	2173	2198	25	1.2
1993	2239	2265	26	1.2
Mean:	2301	2315	15	0.9
Median:	1697	1723	19	0.7
Min:	908	926	0	0.0
Max:	14569	14575	26	2.8
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3488	3488	0	0.0
1923	6838	6846	8	0.1
1924	3038	3043	5	0.2
1925	1254	1262	8	0.6
1926	1845	1853	8	0.4
1927	4120	4128	8	0.2
1928	2763	2770	7	0.3
1929	1708	1716	8	0.5
1930	2099	2107	8	0.4
1931	3088	3096	8	0.3
1932	4387	4395	8	0.2
1933	895	903	8	0.9
1934	2493	2501	8	0.3
1935	895	903	8	0.9
1936	4637	4641	4	0.1
1937	4664	4671	7	0.2
1938	5018	5026	8	0.2
1939	3347	3355	8	0.2
1940	3015	3018	3	0.1
1941	1708	1708	0	0.0
1942	18972	18980	8	0.0
1943	8735	8743	8	0.1
1944	1708	1711	3	0.2
1945	1708	1708	0	0.0
1946	1708	1708	0	0.0
1947	1708	1708	0	0.0
1948	2627	2627	0	0.0
1949	1708	1708	0	0.0
1950	1356	1362	6	0.4
1951	14615	14615	0	0.0
1952	4329	4329	0	0.0
1953	9108	9109	1	0.0
1954	3036	3040	4	0.1
1955	1708	1708	0	0.0
1956	8922	8930	8	0.1
1957	2482	2490	8	0.3
1958	1708	1712	4	0.2
1959	3368	3374	6	0.2
1960	4909	4909	0	0.0
1961	1317	1325	8	0.6
1962	895	897	2	0.2
1963	1204	1203	-1	-0.1
1964	1708	1715	7	0.4
1965	3958	3958	0	0.0
1966	3645	3647	2	0.1
1967	1708	1708	0	0.0
1968	3654	3654	0	0.0
1969	1708	1708	0	0.0
1970	16401	16409	8	0.0
1971	1708	1712	4	0.2
1972	1708	1708	0	0.0
1973	1708	1709	1	0.1
1974	10226	10232	6	0.1
1975	2863	2871	8	0.3
1976	4004	4012	8	0.2
1977	3813	3821	8	0.2
1978	895	903	8	0.9
1979	1204	1212	8	0.7
1980	1708	1709	1	0.1
1981	1708	1716	8	0.5
1982	16003	16003	0	0.0
1983	11001	11009	8	0.1
1984	24346	24347	1	0.0
1985	1708	1709	1	0.1
1986	1708	1708	0	0.0
1987	1708	1716	8	0.5
1988	1204	1212	8	0.7
1989	894	903	9	1.0
1990	1068	1068	0	0.0
1991	1727	1735	8	0.5
1992	1141	1149	8	0.7
1993	894	903	9	1.0
Mean:	3984	3989	5	0.2
Median:	1972	1980	6	0.2
Min:	894	897	-1	-0.1
Max:	24346	24347	9	1.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1708	1708	0	0.0
1923	4933	4937	4	0.1
1924	1708	1710	2	0.1
1925	895	899	4	0.4
1926	894	899	5	0.6
1927	894	899	5	0.6
1928	1708	1711	3	0.2
1929	1708	1712	4	0.2
1930	895	899	4	0.4
1931	895	899	4	0.4
1932	895	899	4	0.4
1933	895	899	4	0.4
1934	894	899	5	0.6
1935	895	899	4	0.4
1936	1708	1710	2	0.1
1937	1708	1711	3	0.2
1938	5326	5330	4	0.1
1939	3743	3747	4	0.1
1940	1204	1205	1	0.1
1941	4455	4455	0	0.0
1942	14375	14378	3	0.0
1943	18784	18788	4	0.0
1944	1708	1709	1	0.1
1945	1708	1708	0	0.0
1946	4078	4078	0	0.0
1947	1708	1708	0	0.0
1948	1204	1203	-1	-0.1
1949	1708	1708	0	0.0
1950	894	898	4	0.4
1951	11689	11689	0	0.0
1952	8931	8931	0	0.0
1953	21023	21023	0	0.0
1954	9809	9811	2	0.0
1955	1708	1708	0	0.0
1956	21006	21010	4	0.0
1957	4266	4270	4	0.1
1958	1913	1915	2	0.1
1959	9999	10002	3	0.0
1960	1204	1203	-1	-0.1
1961	1204	1208	4	0.3
1962	895	895	0	0.0
1963	1921	1921	0	0.0
1964	1708	1711	3	0.2
1965	19181	19181	0	0.0
1966	3528	3529	1	0.0
1967	1708	1708	0	0.0
1968	8143	8143	0	0.0
1969	10908	10908	0	0.0
1970	35879	35882	3	0.0
1971	1708	1710	2	0.1
1972	3755	3755	0	0.0
1973	8079	8079	0	0.0
1974	20571	20573	2	0.0
1975	2965	2969	4	0.1
1976	3626	3630	4	0.1
1977	1204	1208	4	0.3
1978	894	899	5	0.6
1979	1300	1304	4	0.3
1980	14293	14293	0	0.0
1981	3755	3759	4	0.1
1982	8343	8343	0	0.0
1983	12697	12701	4	0.0
1984	5612	5613	1	0.0
1985	1708	1708	0	0.0
1986	1708	1708	0	0.0
1987	1708	1712	4	0.2
1988	1204	1208	4	0.3
1989	894	899	5	0.6
1990	895	894	-1	-0.1
1991	895	899	4	0.4
1992	895	899	4	0.4
1993	894	899	5	0.6
Mean:	5005	5007	2	0.1
Median:	1708	1711	3	0.1
Min:	894	894	-1	-0.1
Max:	35879	35882	5	0.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5327	5327	0	0.0
1923	1693	1697	4	0.2
1924	1638	1637	-1	-0.1
1925	900	905	5	0.6
1926	900	905	5	0.6
1927	10665	10669	4	0.0
1928	3238	3234	-4	-0.1
1929	1693	1697	4	0.2
1930	2831	2835	4	0.1
1931	900	905	5	0.6
1932	874	874	0	0.0
1933	900	905	5	0.6
1934	2596	2601	5	0.2
1935	900	905	5	0.6
1936	1641	1636	-5	-0.3
1937	1693	1697	4	0.2
1938	14537	14541	4	0.0
1939	2675	2679	4	0.1
1940	1172	1167	-5	-0.4
1941	17639	17639	0	0.0
1942	17644	17648	4	0.0
1943	7503	7507	4	0.1
1944	1640	1636	-4	-0.2
1945	1693	1693	0	0.0
1946	4372	4372	0	0.0
1947	1693	1693	0	0.0
1948	1861	1857	-4	-0.2
1949	1693	1693	0	0.0
1950	900	904	4	0.4
1951	10855	10855	0	0.0
1952	12164	12157	-7	-0.1
1953	1693	1693	0	0.0
1954	8588	8591	3	0.0
1955	1693	1693	0	0.0
1956	11363	11360	-3	0.0
1957	15935	15939	4	0.0
1958	23683	23684	1	0.0
1959	9584	9588	4	0.0
1960	1173	1165	-8	-0.7
1961	1206	1211	5	0.4
1962	900	901	1	0.1
1963	13171	13171	0	0.0
1964	1643	1638	-5	-0.3
1965	4873	4873	0	0.0
1966	1802	1803	1	0.1
1967	4243	4243	0	0.0
1968	11802	11793	-9	-0.1
1969	12487	12487	0	0.0
1970	10669	10674	5	0.0
1971	2013	2015	2	0.1
1972	6585	6576	-9	-0.1
1973	10124	10125	1	0.0
1974	5792	5795	3	0.1
1975	13235	13240	5	0.0
1976	3992	3992	0	0.0
1977	1206	1211	5	0.4
1978	900	905	5	0.6
1979	11707	11711	4	0.0
1980	18161	18153	-8	0.0
1981	3715	3719	4	0.1
1982	17997	17997	0	0.0
1983	21737	21741	4	0.0
1984	8618	8610	-8	-0.1
1985	1693	1693	0	0.0
1986	18997	18996	-1	0.0
1987	1693	1697	4	0.2
1988	1172	1169	-3	-0.3
1989	900	905	5	0.6
1990	900	900	0	0.0
1991	1108	1113	5	0.5
1992	876	874	-2	-0.2
1993	900	905	5	0.6
Mean:	5930	5931	1	0.1
Median:	2305	2308	1	0.0
Min:	874	874	-9	-0.7
Max:	23683	23684	5	0.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	4801	4801	0	0.0
1923	3608	3612	4	0.1
1924	3157	3160	3	0.1
1925	2666	2670	4	0.2
1926	748	752	4	0.5
1927	7113	7117	4	0.1
1928	24100	24103	3	0.0
1929	1708	1712	4	0.2
1930	748	752	4	0.5
1931	748	752	4	0.5
1932	1988	1992	4	0.2
1933	4792	4796	4	0.1
1934	748	752	4	0.5
1935	748	752	4	0.5
1936	1708	1710	2	0.1
1937	1708	1711	3	0.2
1938	19405	19409	4	0.0
1939	4828	4832	4	0.1
1940	13543	13545	2	0.0
1941	11474	11474	0	0.0
1942	2809	2813	4	0.1
1943	16104	16108	4	0.0
1944	1708	1709	1	0.1
1945	1708	1708	0	0.0
1946	6480	6480	0	0.0
1947	1708	1708	0	0.0
1948	992	992	0	0.0
1949	1708	1708	0	0.0
1950	748	751	3	0.4
1951	4548	4548	0	0.0
1952	7115	7114	-1	0.0
1953	6197	6197	0	0.0
1954	10161	10163	2	0.0
1955	1708	1708	0	0.0
1956	6456	6460	4	0.1
1957	6948	6952	4	0.1
1958	11941	11943	2	0.0
1959	2278	2281	3	0.1
1960	992	992	0	0.0
1961	1076	1080	4	0.4
1962	748	749	1	0.1
1963	8333	8333	0	0.0
1964	1708	1711	3	0.2
1965	5289	5289	0	0.0
1966	4332	4333	1	0.0
1967	14438	14438	0	0.0
1968	6663	6663	0	0.0
1969	6492	6492	0	0.0
1970	4151	4155	4	0.1
1971	13745	13747	2	0.0
1972	6852	6852	0	0.0
1973	6139	6139	0	0.0
1974	26294	26296	2	0.0
1975	12932	12936	4	0.0
1976	3512	3516	4	0.1
1977	992	996	4	0.4
1978	748	752	4	0.5
1979	4447	4451	4	0.1
1980	5342	5342	0	0.0
1981	6986	6990	4	0.1
1982	13437	13436	-1	0.0
1983	31845	31849	4	0.0
1984	9047	9048	1	0.0
1985	4341	4342	1	0.0
1986	21887	21887	0	0.0
1987	1950	1954	4	0.2
1988	1269	1273	4	0.3
1989	1522	1527	5	0.3
1990	748	748	0	0.0
1991	748	752	4	0.5
1992	748	752	4	0.5
1993	10947	10951	4	0.0
Mean:	6144	6146	2	0.1
Median:	4337	4338	3	0.0
Min:	748	748	-1	0.0
Max:	31845	31849	5	0.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1204	1742	538	44.7
1923	1888	2233	345	18.3
1924	1974	2511	537	27.2
1925	756	1294	538	71.2
1926	3565	4103	538	15.1
1927	4666	5100	434	9.3
1928	1008	1546	538	53.4
1929	756	1294	538	71.2
1930	1497	2035	538	35.9
1931	2695	3232	537	19.9
1932	3443	3980	537	15.6
1933	756	1294	538	71.2
1934	2859	3397	538	18.8
1935	1008	1283	275	27.3
1936	1008	1491	483	47.9
1937	1008	1546	538	53.4
1938	13027	13565	538	4.1
1939	3309	3547	238	7.2
1940	3765	3765	0	0.0
1941	3745	4282	537	14.3
1942	10495	11033	538	5.1
1943	4123	4354	231	5.6
1944	1517	1517	0	0.0
1945	1008	1008	0	0.0
1946	1008	1008	0	0.0
1947	2047	2047	0	0.0
1948	1008	1008	0	0.0
1949	756	1159	403	53.3
1950	1008	1008	0	0.0
1951	1441	1441	0	0.0
1952	17416	17478	62	0.4
1953	4477	4771	294	6.6
1954	6137	6159	22	0.4
1955	1008	1546	538	53.4
1956	3155	3693	538	17.1
1957	4558	4829	271	5.9
1958	7656	8060	404	5.3
1959	2094	2094	0	0.0
1960	2129	2666	537	25.2
1961	2224	2358	134	6.0
1962	1516	1516	0	0.0
1963	13084	13555	471	3.6
1964	5643	5643	0	0.0
1965	7641	7732	91	1.2
1966	1041	1041	0	0.0
1967	2135	2135	0	0.0
1968	4955	4964	9	0.2
1969	7441	7978	537	7.2
1970	4613	4889	276	6.0
1971	3625	3625	0	0.0
1972	1008	1113	105	10.4
1973	1614	1974	360	22.3
1974	8329	8866	537	6.4
1975	1008	1546	538	53.4
1976	1008	1546	538	53.4
1977	1417	1955	538	38.0
1978	1008	1546	538	53.4
1979	2351	2414	63	2.7
1980	1008	1544	536	53.2
1981	1008	1008	0	0.0
1982	18983	19521	538	2.8
1983	8745	8876	131	1.5
1984	2203	2293	90	4.1
1985	2494	2494	0	0.0
1986	1008	1546	538	53.4
1987	3973	4510	537	13.5
1988	756	1294	538	71.2
1989	756	756	0	0.0
1990	1375	1913	538	39.1
1991	756	1294	538	71.2
1992	756	1294	538	71.2
1993	3466	3979	513	14.8
Mean:	3416	3734	318	20.3
Median:	2071	2184	419	7.2
Min:	756	756	0	0.0
Max:	18983	19521	538	71.2
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	16669	17372	703	4.2
1923	1688	2140	452	26.8
1924	1906	1906	0	0.0
1925	748	748	0	0.0
1926	4512	4512	0	0.0
1927	3879	4447	568	14.6
1928	4676	4676	0	0.0
1929	2221	2221	0	0.0
1930	1762	1762	0	0.0
1931	2109	2109	0	0.0
1932	748	748	0	0.0
1933	748	748	0	0.0
1934	2478	2478	0	0.0
1935	3097	3097	0	0.0
1936	992	992	0	0.0
1937	992	992	0	0.0
1938	17147	17851	704	4.1
1939	4230	4230	0	0.0
1940	2672	2672	0	0.0
1941	8413	9117	704	8.4
1942	5682	6386	704	12.4
1943	1293	1293	0	0.0
1944	2260	2259	-1	0.0
1945	992	992	0	0.0
1946	1783	1783	0	0.0
1947	3715	3715	0	0.0
1948	992	992	0	0.0
1949	748	748	0	0.0
1950	2265	2265	0	0.0
1951	1047	1047	0	0.0
1952	20074	20155	81	0.4
1953	3162	3547	385	12.2
1954	7754	7754	0	0.0
1955	992	992	0	0.0
1956	10718	11422	704	6.6
1957	992	992	0	0.0
1958	10426	10954	528	5.1
1959	2765	2765	0	0.0
1960	992	992	0	0.0
1961	1347	1347	0	0.0
1962	1540	1540	0	0.0
1963	3028	3643	615	20.3
1964	1865	1865	0	0.0
1965	5513	5513	0	0.0
1966	4675	4675	0	0.0
1967	9064	9064	0	0.0
1968	992	992	0	0.0
1969	12633	13337	704	5.6
1970	992	992	0	0.0
1971	8387	8387	0	0.0
1972	1373	1373	0	0.0
1973	1730	2201	471	27.2
1974	5576	6279	703	12.6
1975	8077	8780	703	8.7
1976	1228	1228	0	0.0
1977	1719	1719	0	0.0
1978	992	992	0	0.0
1979	992	992	0	0.0
1980	992	992	0	0.0
1981	1004	1004	0	0.0
1982	7930	8633	703	8.9
1983	11832	12004	172	1.5
1984	992	992	0	0.0
1985	4230	4230	0	0.0
1986	992	992	0	0.0
1987	992	992	0	0.0
1988	1350	1350	0	0.0
1989	3114	3114	0	0.0
1990	748	748	0	0.0
1991	748	748	0	0.0
1992	883	883	0	0.0
1993	7620	8291	671	8.8
Mean:	3826	3969	143	2.6
Median:	1886	2125	0	0.0
Min:	748	748	-1	0.0
Max:	20074	20155	704	27.2
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	6460	7271	811	12.6
1923	6600	6600	0	0.0
1924	3675	3675	0	0.0
1925	1632	1632	0	0.0
1926	5655	5655	0	0.0
1927	4396	4396	0	0.0
1928	5808	5808	0	0.0
1929	4185	4185	0	0.0
1930	5289	5288	-1	0.0
1931	3348	3347	-1	0.0
1932	2032	2032	0	0.0
1933	1862	1862	0	0.0
1934	3353	3353	0	0.0
1935	8289	8288	-1	0.0
1936	4388	4388	0	0.0
1937	7382	7382	0	0.0
1938	8059	8870	811	10.1
1939	4645	4645	0	0.0
1940	6438	6438	0	0.0
1941	7046	7046	0	0.0
1942	5811	6622	811	14.0
1943	5815	5815	0	0.0
1944	6276	6276	0	0.0
1945	6401	6401	0	0.0
1946	6749	6749	0	0.0
1947	5076	5075	-1	0.0
1948	1008	1008	0	0.0
1949	6595	6595	0	0.0
1950	6843	6843	0	0.0
1951	3478	3478	0	0.0
1952	8835	8929	94	1.1
1953	5480	5924	444	8.1
1954	4656	4655	-1	0.0
1955	6407	6407	0	0.0
1956	4313	5124	811	18.8
1957	5283	5283	0	0.0
1958	6632	7241	609	9.2
1959	6516	6515	-1	0.0
1960	4623	4623	0	0.0
1961	3986	3986	0	0.0
1962	4817	4817	0	0.0
1963	7446	7446	0	0.0
1964	5277	5277	0	0.0
1965	1008	1008	0	0.0
1966	5956	5956	0	0.0
1967	8415	8415	0	0.0
1968	6382	6382	0	0.0
1969	3593	4404	811	22.6
1970	5234	5234	0	0.0
1971	5417	5417	0	0.0
1972	5218	5218	0	0.0
1973	7360	7360	0	0.0
1974	6910	6910	0	0.0
1975	5996	6806	810	13.5
1976	2632	2632	0	0.0
1977	4026	4026	0	0.0
1978	2460	2460	0	0.0
1979	6294	6294	0	0.0
1980	1008	1008	0	0.0
1981	5167	5167	0	0.0
1982	3609	4420	811	22.5
1983	11636	11833	197	1.7
1984	6751	6751	0	0.0
1985	5272	5272	0	0.0
1986	4335	4335	0	0.0
1987	3257	3257	0	0.0
1988	2570	2570	0	0.0
1989	6843	6843	0	0.0
1990	2736	2736	0	0.0
1991	1372	1372	0	0.0
1992	1465	1465	0	0.0
1993	4283	5056	773	18.0
Mean:	5084	5192	108	2.1
Median:	5275	5275	0	0.0
Min:	1008	1008	-1	0.0
Max:	11636	11833	811	22.6
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5282	6515	1233	23.3
1923	5477	7294	1817	33.2
1924	5564	7822	2258	40.6
1925	5182	8323	3141	60.6
1926	6837	8549	1712	25.0
1927	5983	7633	1650	27.6
1928	5851	8406	2555	43.7
1929	1374	4120	2746	199.9
1930	7269	9897	2628	36.2
1931	7046	9228	2182	31.0
1932	1320	4078	2758	208.9
1933	2055	4393	2338	113.8
1934	3223	5168	1945	60.3
1935	9027	10058	1031	11.4
1936	6338	8830	2492	39.3
1937	3438	6002	2564	74.6
1938	3848	4746	898	23.3
1939	8049	8894	845	10.5
1940	9675	10072	397	4.1
1941	2127	4894	2767	130.1
1942	4954	5997	1043	21.1
1943	6763	8047	1284	19.0
1944	8843	8643	-200	-2.3
1945	8924	9293	369	4.1
1946	9027	9556	529	5.9
1947	8488	8426	-62	-0.7
1948	8861	9116	255	2.9
1949	3954	6413	2459	62.2
1950	9411	10122	711	7.6
1951	9357	9961	604	6.5
1952	2593	2848	255	9.8
1953	7042	7777	735	10.4
1954	9150	8822	-328	-3.6
1955	3129	5882	2753	88.0
1956	5718	7270	1552	27.1
1957	7047	8071	1024	14.5
1958	2308	3690	1382	59.9
1959	8752	8890	138	1.6
1960	5426	7863	2437	44.9
1961	6689	7102	413	6.2
1962	8717	8515	-202	-2.3
1963	5628	7448	1820	32.3
1964	8657	8603	-54	-0.6
1965	6757	7657	900	13.3
1966	9559	9183	-376	-3.9
1967	1180	1808	628	53.2
1968	8293	8115	-178	-2.1
1969	2984	3505	521	17.5
1970	7301	8678	1377	18.9
1971	9316	9931	615	6.6
1972	5823	6407	584	10.0
1973	5898	7039	1141	19.3
1974	3254	4906	1652	50.8
1975	5228	6380	1152	22.0
1976	9001	11518	2517	28.0
1977	3824	6054	2230	58.3
1978	2866	5348	2482	86.6
1979	6670	7152	482	7.2
1980	3054	5943	2889	94.6
1981	7691	7783	92	1.2
1982	2610	3087	477	18.3
1983	3133	3031	-102	-3.3
1984	8520	9220	700	8.2
1985	9060	9086	26	0.3
1986	5815	7403	1588	27.3
1987	6561	8828	2267	34.6
1988	2426	5449	3023	124.6
1989	8954	8616	-338	-3.8
1990	1865	4769	2904	155.7
1991	5143	7651	2508	48.8
1992	1489	4189	2700	181.3
1993	5865	7083	1218	20.8
Mean:	5896	7210	1313	37.6
Median:	5882	7654	1185	21.6
Min:	1180	1808	-376	-3.9
Max:	9675	11518	3141	208.9
Years Rel Diff >= -1.0%				65

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	5460	7321	1861	34.1
1923	5352	6523	1171	21.9
1924	2349	4267	1918	81.7
1925	2697	4240	1543	57.2
1926	5619	7219	1600	28.5
1927	5815	7629	1814	31.2
1928	3903	5971	2068	53.0
1929	2502	3799	1297	51.8
1930	6639	8392	1753	26.4
1931	3763	5575	1812	48.2
1932	1102	2711	1609	146.0
1933	1506	3529	2023	134.3
1934	4471	6112	1641	36.7
1935	5770	7252	1482	25.7
1936	5811	7658	1847	31.8
1937	5344	7464	2120	39.7
1938	3755	5787	2032	54.1
1939	7870	8971	1101	14.0
1940	7312	8216	904	12.4
1941	1019	1898	879	86.3
1942	3479	5347	1868	53.7
1943	5702	7172	1470	25.8
1944	6593	7400	807	12.2
1945	6770	7420	650	9.6
1946	7073	7845	772	10.9
1947	6751	7787	1036	15.3
1948	6611	7123	512	7.7
1949	4296	5637	1341	31.2
1950	6718	7308	590	8.8
1951	6539	7235	696	10.6
1952	802	1456	654	81.5
1953	2139	3463	1324	61.9
1954	4714	5779	1065	22.6
1955	1878	3561	1683	89.6
1956	5769	7111	1342	23.3
1957	4007	5648	1641	41.0
1958	992	1236	244	24.6
1959	6622	7344	722	10.9
1960	5107	6688	1581	31.0
1961	6838	7952	1114	16.3
1962	7156	7995	839	11.7
1963	5119	6945	1826	35.7
1964	6889	7894	1005	14.6
1965	5206	6087	881	16.9
1966	6131	7058	927	15.1
1967	961	1422	461	48.0
1968	4882	5809	927	19.0
1969	1001	2153	1152	115.1
1970	5747	7019	1272	22.1
1971	5313	5778	465	8.8
1972	5407	6378	971	18.0
1973	4764	6332	1568	32.9
1974	611	2244	1633	267.3
1975	644	2071	1427	221.6
1976	2504	4547	2043	81.6
1977	2601	4355	1754	67.4
1978	5572	7035	1463	26.3
1979	5626	6466	840	14.9
1980	5306	6715	1409	26.6
1981	5306	5989	683	12.9
1982	2485	3722	1237	49.8
1983	1040	1672	632	60.8
1984	3375	4544	1169	34.6
1985	7304	7797	493	6.7
1986	4442	6772	2330	52.5
1987	6062	7623	1561	25.8
1988	2737	4177	1440	52.6
1989	6831	7803	972	14.2
1990	2296	3879	1583	68.9
1991	964	2954	1990	206.4
1992	2527	4024	1497	59.2
1993	4999	6796	1797	35.9
Mean:	4434	5738	1303	46.5
Median:	5113	6355	1342	31.2
Min:	611	1236	244	6.7
Max:	7870	8971	2330	267.3
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1008	1008	0	0.0
1923	1008	1008	0	0.0
1924	2240	2764	524	23.4
1925	756	756	0	0.0
1926	1645	3063	1418	86.2
1927	1008	1008	0	0.0
1928	1464	1464	0	0.0
1929	1349	2035	686	50.9
1930	756	1091	335	44.3
1931	2274	2968	694	30.5
1932	756	1088	332	43.9
1933	985	1299	314	31.9
1934	3149	4248	1099	34.9
1935	1536	1993	457	29.8
1936	1008	1008	0	0.0
1937	1111	1111	0	0.0
1938	1008	1282	274	27.2
1939	2787	3670	883	31.7
1940	1008	1008	0	0.0
1941	1008	1353	345	34.2
1942	1008	1302	294	29.2
1943	1008	1008	0	0.0
1944	2550	3267	717	28.1
1945	1008	1008	0	0.0
1946	1008	1008	0	0.0
1947	2532	2663	131	5.2
1948	837	1008	171	20.4
1949	756	794	38	5.0
1950	1008	1008	0	0.0
1951	1008	1008	0	0.0
1952	3331	3788	457	13.7
1953	1008	1296	288	28.6
1954	1348	2030	682	50.6
1955	1008	1286	278	27.6
1956	1008	1320	312	31.0
1957	724	1008	284	39.2
1958	2249	2973	724	32.2
1959	1035	1449	414	40.0
1960	1008	1697	689	68.4
1961	2189	2824	635	29.0
1962	1580	2192	612	38.7
1963	1008	1008	0	0.0
1964	3194	3422	228	7.1
1965	911	1008	97	10.6
1966	1881	2656	775	41.2
1967	3370	3589	219	6.5
1968	3008	3597	589	19.6
1969	4225	5189	964	22.8
1970	1685	2083	398	23.6
1971	1237	1466	229	18.5
1972	591	1008	417	70.6
1973	692	1008	316	45.7
1974	771	1392	621	80.5
1975	781	1331	550	70.4
1976	4095	4109	14	0.3
1977	1133	1815	682	60.2
1978	674	1438	764	113.4
1979	682	1008	326	47.8
1980	1008	1390	382	37.9
1981	2513	3014	501	19.9
1982	775	1464	689	88.9
1983	5080	5877	797	15.7
1984	1465	1465	0	0.0
1985	3823	4184	361	9.4
1986	708	1353	645	91.1
1987	3253	4054	801	24.6
1988	1708	1936	228	13.3
1989	1116	1703	587	52.6
1990	888	1100	212	23.9
1991	1859	2053	194	10.4
1992	2880	3404	524	18.2
1993	1068	1068	0	0.0
Mean:	1599	1977	378	27.8
Median:	1022	1444	329	24.3
Min:	591	756	0	0.0
Max:	5080	5877	1418	113.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	600	600	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	600	600	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	600	600	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	600	600	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	1496	1496	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	6870	6870	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	700	700	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	6870	6870	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	1301	1301	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	3540	3540	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	3522	3522	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	1692	1692	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	18395	18395	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	3087	3087	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	988	988	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	18395	18395	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	6203	6203	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	680	680	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	4257	4257	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	1502	1502	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	742	742	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	6203	6203	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	6618	6618	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	1925	1925	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	8814	8814	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	14365	14365	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	4407	4407	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	1060	1060	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	14365	14365	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	1701	1701	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	2854	2854	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	647	647	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	2854	2854	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1693	1693	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	2570	2570	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	5571	5571	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	712	712	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	5571	5571	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	600	600	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	600	600	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	600	600	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	600	600	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	600	600	0	0.0
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	600	600	0	0.0
Median:	600	600	0	0.0
Min:	600	600	0	0.0
Max:	600	600	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Above Thermalito Afterbay

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	600	600	0	0.0
1923	600	600	0	0.0
1924	600	600	0	0.0
1925	600	600	0	0.0
1926	600	600	0	0.0
1927	600	600	0	0.0
1928	600	600	0	0.0
1929	600	600	0	0.0
1930	600	600	0	0.0
1931	600	600	0	0.0
1932	600	600	0	0.0
1933	600	600	0	0.0
1934	600	600	0	0.0
1935	600	600	0	0.0
1936	600	600	0	0.0
1937	600	600	0	0.0
1938	600	600	0	0.0
1939	600	600	0	0.0
1940	600	600	0	0.0
1941	600	600	0	0.0
1942	600	600	0	0.0
1943	600	600	0	0.0
1944	600	600	0	0.0
1945	600	600	0	0.0
1946	600	600	0	0.0
1947	600	600	0	0.0
1948	600	600	0	0.0
1949	600	600	0	0.0
1950	600	600	0	0.0
1951	600	600	0	0.0
1952	600	600	0	0.0
1953	600	600	0	0.0
1954	600	600	0	0.0
1955	600	600	0	0.0
1956	600	600	0	0.0
1957	600	600	0	0.0
1958	600	600	0	0.0
1959	600	600	0	0.0
1960	600	600	0	0.0
1961	600	600	0	0.0
1962	600	600	0	0.0
1963	600	600	0	0.0
1964	600	600	0	0.0
1965	600	600	0	0.0
1966	600	600	0	0.0
1967	600	600	0	0.0
1968	600	600	0	0.0
1969	600	600	0	0.0
1970	600	600	0	0.0
1971	600	600	0	0.0
1972	591	600	9	1.5
1973	600	600	0	0.0
1974	600	600	0	0.0
1975	600	600	0	0.0
1976	600	600	0	0.0
1977	600	600	0	0.0
1978	600	600	0	0.0
1979	600	600	0	0.0
1980	600	600	0	0.0
1981	600	600	0	0.0
1982	600	600	0	0.0
1983	600	600	0	0.0
1984	600	600	0	0.0
1985	600	600	0	0.0
1986	600	600	0	0.0
1987	600	600	0	0.0
1988	600	600	0	0.0
1989	600	600	0	0.0
1990	600	600	0	0.0
1991	600	600	0	0.0
1992	600	600	0	0.0
1993	600	600	0	0.0
Mean:	600	600	0	0.0
Median:	600	600	0	0.0
Min:	591	600	0	0.0
Max:	600	600	9	1.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Temperature Below Thermalito Afterbay

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	58.9	58.9	0.0
1923	59.5	59.5	0.0
1924	55.6	55.6	0.0
1925	58.8	58.8	0.0
1926	59.7	59.7	0.0
1927	61.0	61.0	0.0
1928	58.4	58.4	0.0
1929	60.9	60.9	0.0
1930	58.3	58.3	0.0
1931	59.5	59.5	0.0
1932	60.5	60.5	0.0
1933	63.2	63.2	0.0
1934	60.7	60.7	0.0
1935	58.8	58.8	0.0
1936	61.0	61.0	0.0
1937	61.0	61.0	0.0
1938	58.1	58.1	0.0
1939	59.0	59.0	0.0
1940	60.6	60.6	0.0
1941	59.4	59.4	0.0
1942	60.7	60.7	0.0
1943	57.7	57.7	0.0
1944	60.3	60.3	0.0
1945	61.8	61.8	0.0
1946	57.3	57.3	0.0
1947	58.7	58.7	0.0
1948	58.8	58.8	0.0
1949	57.4	57.4	0.0
1950	60.3	60.3	0.0
1951	56.2	56.2	0.0
1952	59.2	59.2	0.0
1953	59.1	59.1	0.0
1954	58.3	58.3	0.0
1955	60.4	60.4	0.0
1956	59.3	59.3	0.0
1957	57.7	57.7	0.0
1958	59.2	59.2	0.0
1959	59.7	59.7	0.0
1960	59.8	59.8	0.0
1961	59.7	59.7	0.0
1962	60.4	60.4	0.0
1963	61.3	61.3	0.0
1964	61.7	61.7	0.0
1965	62.3	62.3	0.0
1966	59.0	59.0	0.0
1967	58.7	58.7	0.0
1968	58.9	58.9	0.0
1969	58.1	58.1	0.0
1970	59.2	59.2	0.0
1971	58.5	58.5	0.0
1972	59.8	59.8	0.0
1973	60.6	60.6	0.0
1974	60.5	60.5	0.0
1975	57.8	57.8	0.0
1976	62.1	62.1	0.0
1977	65.4	65.4	0.0
1978	62.2	62.2	0.0
1979	61.0	61.0	0.0
1980	62.9	62.9	0.0
1981	59.0	59.0	0.0
1982	57.1	57.1	0.0
1983	58.6	58.6	0.0
1984	57.1	57.1	0.0
1985	57.0	57.0	0.0
1986	59.0	59.0	0.0
1987	60.1	60.1	0.0
1988	60.3	60.3	0.0
1989	57.2	57.2	0.0
1990	60.3	60.3	0.0
Mean:	59.6	59.6	0.0
Median:	59.4	59.4	0.0
Min:	55.6	55.6	0.0
Max:	65.4	65.4	0.0
X > 56.0	68	68	
Mean When X > 56.0	59.6	59.6	
X > 60.0	27	27	
Mean When X > 60.0	61.2	61.2	
X > 62.5	3	3	
Mean When X > 62.5	63.8	63.8	
X > 65.0	1	1	
Mean When X > 65.0	65.4	65.4	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	49.5	49.5	0.0
1923	55.4	55.4	0.0
1924	50.6	50.6	0.0
1925	52.1	52.1	0.0
1926	55.5	55.5	0.0
1927	53.0	53.0	0.0
1928	51.6	51.6	0.0
1929	54.2	54.2	0.0
1930	53.2	53.2	0.0
1931	52.0	52.0	0.0
1932	56.6	56.6	0.0
1933	55.0	55.0	0.0
1934	53.4	53.4	0.0
1935	51.6	51.6	0.0
1936	54.3	54.3	0.0
1937	53.9	53.9	0.0
1938	51.6	51.6	0.0
1939	55.0	55.0	0.0
1940	51.6	51.6	0.0
1941	53.8	53.8	0.0
1942	52.4	52.4	0.0
1943	52.4	52.4	0.0
1944	51.1	51.1	0.0
1945	52.0	52.0	0.0
1946	50.9	50.9	0.0
1947	49.9	49.9	0.0
1948	52.3	52.3	0.0
1949	55.6	55.6	0.0
1950	54.9	54.9	0.0
1951	52.4	52.4	0.0
1952	52.2	52.2	0.0
1953	53.2	53.2	0.0
1954	51.6	51.6	0.0
1955	52.1	52.1	0.0
1956	52.8	52.8	0.0
1957	51.1	51.1	0.0
1958	54.0	54.0	0.0
1959	53.9	53.9	0.0
1960	53.4	53.4	0.0
1961	54.1	54.1	0.0
1962	54.8	54.8	0.0
1963	52.1	52.1	0.0
1964	51.1	51.1	0.0
1965	54.2	54.2	0.0
1966	54.6	54.6	0.0
1967	55.5	55.5	0.0
1968	52.4	52.4	0.0
1969	53.5	53.5	0.0
1970	54.4	54.4	0.0
1971	52.8	52.8	0.0
1972	51.1	51.1	0.0
1973	52.1	52.1	0.0
1974	52.3	52.3	0.0
1975	51.8	51.8	0.0
1976	55.3	55.3	0.0
1977	55.4	55.4	0.0
1978	51.6	51.6	0.0
1979	53.3	53.3	0.0
1980	56.2	56.2	0.0
1981	54.6	54.6	0.0
1982	51.3	51.3	0.0
1983	52.1	52.1	0.0
1984	52.2	52.2	0.0
1985	49.9	49.9	0.0
1986	53.9	53.9	0.0
1987	53.0	53.0	0.0
1988	51.6	51.6	0.0
1989	52.8	52.8	0.0
1990	51.6	51.6	0.0
Mean:	53.0	53.0	0.0
Median:	52.8	52.8	0.0
Min:	49.5	49.5	0.0
Max:	56.6	56.6	0.0
X > 56.0	2	2	
Mean When X > 56.0	56.4	56.4	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	47.3	47.3	0.0
1923	45.6	45.6	0.0
1924	41.8	41.8	0.0
1925	45.7	45.7	0.0
1926	47.3	47.3	0.0
1927	45.9	45.9	0.0
1928	43.9	43.9	0.0
1929	48.2	48.2	0.0
1930	44.9	44.9	0.0
1931	46.4	46.4	0.0
1932	43.8	43.8	0.0
1933	45.5	45.5	0.0
1934	47.8	47.8	0.0
1935	47.8	47.8	0.0
1936	46.7	46.7	0.0
1937	48.7	48.7	0.0
1938	47.6	47.6	0.0
1939	50.1	50.1	0.0
1940	48.5	48.5	0.0
1941	49.1	49.1	0.0
1942	47.6	47.6	0.0
1943	46.8	46.8	0.0
1944	47.5	47.5	0.0
1945	45.9	45.9	0.0
1946	45.5	45.5	0.0
1947	44.6	44.6	0.0
1948	43.5	43.5	0.0
1949	45.0	45.0	0.0
1950	48.8	48.8	0.0
1951	46.4	46.4	0.0
1952	47.9	47.9	0.0
1953	47.5	47.5	0.0
1954	43.5	43.5	0.0
1955	48.1	48.1	0.0
1956	45.2	45.2	0.0
1957	44.7	44.7	0.0
1958	49.9	49.9	0.0
1959	48.7	48.7	0.0
1960	46.3	46.3	0.0
1961	45.7	45.7	0.0
1962	46.5	46.5	0.0
1963	42.3	42.3	0.0
1964	49.2	49.2	0.0
1965	44.4	44.4	0.0
1966	46.3	46.3	0.0
1967	47.0	47.0	0.0
1968	44.5	44.5	0.0
1969	48.9	48.9	0.0
1970	45.7	45.7	0.0
1971	44.3	44.3	0.0
1972	41.7	41.7	0.0
1973	48.4	48.4	0.0
1974	46.1	46.1	0.0
1975	47.2	47.2	0.0
1976	49.4	49.4	0.0
1977	47.6	47.6	0.0
1978	43.9	43.9	0.0
1979	47.4	47.4	0.0
1980	48.2	48.2	0.0
1981	48.8	48.8	0.0
1982	47.6	47.6	0.0
1983	48.8	48.8	0.0
1984	46.2	46.2	0.0
1985	42.1	42.1	0.0
1986	46.0	46.0	0.0
1987	46.5	46.5	0.0
1988	46.1	46.1	0.0
1989	43.9	43.9	0.0
1990	42.0	42.0	0.0
Mean:	46.4	46.4	0.0
Median:	46.4	46.4	0.0
Min:	41.7	41.7	0.0
Max:	50.1	50.1	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	40.7	40.7	0.0
1923	43.9	43.9	0.0
1924	44.2	44.2	0.0
1925	44.2	44.2	0.0
1926	42.8	42.8	0.0
1927	46.6	46.6	0.0
1928	46.0	46.0	0.0
1929	42.1	42.1	0.0
1930	43.7	43.7	0.0
1931	47.2	47.2	0.0
1932	44.9	44.9	0.0
1933	43.2	43.2	0.0
1934	47.1	47.1	0.0
1935	46.3	46.3	0.0
1936	48.4	48.4	0.0
1937	40.1	40.1	0.0
1938	46.0	46.0	0.0
1939	46.5	46.5	0.0
1940	47.4	47.4	0.0
1941	47.8	47.8	0.0
1942	47.2	47.2	0.0
1943	46.9	46.9	0.0
1944	46.5	46.5	0.0
1945	44.9	44.9	0.0
1946	45.5	45.5	0.0
1947	43.3	43.3	0.0
1948	48.3	48.3	0.0
1949	39.8	39.8	0.0
1950	43.0	43.0	0.0
1951	46.2	46.2	0.0
1952	44.5	44.5	0.0
1953	47.5	47.5	0.0
1954	46.7	46.7	0.0
1955	42.1	42.1	0.0
1956	46.1	46.1	0.0
1957	44.3	44.3	0.0
1958	45.7	45.7	0.0
1959	48.1	48.1	0.0
1960	45.8	45.8	0.0
1961	44.1	44.1	0.0
1962	44.8	44.8	0.0
1963	43.1	43.1	0.0
1964	44.9	44.9	0.0
1965	45.4	45.4	0.0
1966	46.6	46.6	0.0
1967	46.5	46.5	0.0
1968	46.0	46.0	0.0
1969	44.8	44.9	0.1
1970	47.3	47.3	0.0
1971	46.0	46.0	0.0
1972	43.7	43.7	0.0
1973	45.3	45.3	0.0
1974	46.7	46.7	0.0
1975	45.0	45.0	0.0
1976	47.0	47.0	0.0
1977	43.6	43.6	0.0
1978	47.7	47.7	0.0
1979	45.0	45.0	0.0
1980	47.0	47.0	0.0
1981	47.0	47.0	0.0
1982	44.9	44.9	0.0
1983	45.3	45.3	0.0
1984	46.9	46.9	0.0
1985	42.4	42.4	0.0
1986	47.9	47.9	0.0
1987	45.3	45.3	0.0
1988	46.7	46.7	0.0
1989	45.0	45.0	0.0
1990	45.1	45.1	0.0
Mean:	45.3	45.3	0.0
Median:	45.5	45.5	0.0
Min:	39.8	39.8	0.0
Max:	48.4	48.4	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	47.0	47.0	0.0
1923	48.3	48.3	0.0
1924	52.7	52.7	0.0
1925	48.4	48.4	0.0
1926	51.1	51.1	0.0
1927	47.7	47.7	0.0
1928	49.7	49.7	0.0
1929	48.3	48.3	0.0
1930	51.6	51.6	0.0
1931	51.7	51.7	0.0
1932	48.6	48.6	0.0
1933	47.6	47.6	0.0
1934	51.5	51.5	0.0
1935	49.7	49.7	0.0
1936	50.2	50.2	0.0
1937	48.4	48.3	-0.1
1938	46.9	46.9	0.0
1939	47.4	47.4	0.0
1940	51.2	51.2	0.0
1941	47.6	47.6	0.0
1942	47.2	47.2	0.0
1943	48.5	48.5	0.0
1944	49.1	49.1	0.0
1945	51.1	51.1	0.0
1946	47.6	47.6	0.0
1947	50.6	50.6	0.0
1948	48.0	48.0	0.0
1949	46.4	46.4	0.0
1950	49.7	49.7	0.0
1951	47.4	47.4	0.0
1952	47.1	47.1	0.0
1953	50.9	50.9	0.0
1954	48.2	48.2	0.0
1955	48.0	48.0	0.0
1956	46.2	46.2	0.0
1957	47.5	47.5	0.0
1958	47.4	47.4	0.0
1959	49.8	49.8	0.0
1960	50.1	50.1	0.0
1961	51.4	51.4	0.0
1962	49.0	49.0	0.0
1963	49.3	49.3	0.0
1964	50.9	50.9	0.0
1965	49.0	49.0	0.0
1966	49.0	49.0	0.0
1967	48.9	48.9	0.0
1968	49.7	49.7	0.0
1969	46.7	46.7	0.0
1970	48.5	48.5	0.0
1971	49.1	49.1	0.0
1972	49.1	49.1	0.0
1973	48.4	48.4	0.0
1974	48.2	48.2	0.0
1975	47.2	47.2	0.0
1976	50.6	50.6	0.0
1977	52.0	52.0	0.0
1978	50.9	50.9	0.0
1979	47.4	47.4	0.0
1980	47.6	47.6	0.0
1981	51.3	51.3	0.0
1982	47.4	47.4	0.0
1983	47.2	47.2	0.0
1984	48.6	48.6	0.0
1985	51.3	51.3	0.0
1986	47.6	47.6	0.0
1987	50.5	50.5	0.0
1988	53.3	53.3	0.0
1989	48.7	48.7	0.0
1990	47.1	47.1	0.0
Mean:	49.0	49.0	0.0
Median:	48.6	48.6	0.0
Min:	46.2	46.2	-0.1
Max:	53.3	53.3	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.6	50.6	0.0
1923	55.1	55.1	0.0
1924	53.4	53.4	0.0
1925	52.9	52.9	0.0
1926	57.8	57.8	0.0
1927	51.0	51.0	0.0
1928	49.0	49.0	0.0
1929	53.5	53.5	0.0
1930	55.1	55.1	0.0
1931	54.9	54.9	0.0
1932	56.3	56.3	0.0
1933	52.8	52.8	0.0
1934	58.8	58.8	0.0
1935	51.4	51.4	0.0
1936	56.5	56.5	0.0
1937	55.0	55.0	0.0
1938	48.4	48.4	0.0
1939	52.7	52.7	0.0
1940	50.4	50.4	0.0
1941	51.0	51.0	0.0
1942	53.9	53.9	0.0
1943	49.5	49.5	0.0
1944	55.3	55.3	0.0
1945	51.7	51.7	0.0
1946	51.6	51.6	0.0
1947	55.8	55.8	0.0
1948	50.9	50.9	0.0
1949	52.8	52.8	0.0
1950	52.9	52.9	0.0
1951	52.1	52.1	0.0
1952	49.6	49.6	0.0
1953	51.3	51.3	0.0
1954	49.7	49.7	0.0
1955	54.7	54.7	0.0
1956	51.7	51.7	0.0
1957	52.1	52.1	0.0
1958	49.0	49.0	0.0
1959	56.7	56.7	0.0
1960	55.6	55.6	0.0
1961	54.0	54.0	0.0
1962	53.4	53.4	0.0
1963	50.6	50.6	0.0
1964	53.8	53.8	0.0
1965	53.5	53.5	0.0
1966	53.9	53.9	0.0
1967	49.5	49.5	0.0
1968	53.0	53.0	0.0
1969	51.8	51.8	0.0
1970	54.7	54.7	0.0
1971	49.6	49.6	0.0
1972	54.1	54.1	0.0
1973	50.9	50.9	0.0
1974	48.7	48.7	0.0
1975	49.5	49.5	0.0
1976	52.4	52.4	0.0
1977	51.7	51.7	0.0
1978	57.0	57.0	0.0
1979	54.5	54.5	0.0
1980	52.3	52.3	0.0
1981	51.5	51.5	0.0
1982	49.0	49.0	0.0
1983	48.3	48.3	0.0
1984	52.6	52.6	0.0
1985	51.7	51.7	0.0
1986	49.7	49.7	0.0
1987	55.1	55.1	0.0
1988	56.9	56.9	0.0
1989	55.6	55.6	0.0
1990	54.3	54.3	0.0
Mean:	52.7	52.7	0.0
Median:	52.7	52.7	0.0
Min:	48.3	48.3	0.0
Max:	58.8	58.8	0.0
X > 56.0	7	7	
Mean When X > 56.0	57.1	57.1	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.8	55.8	0.0
1923	57.5	57.5	0.0
1924	58.8	58.8	0.0
1925	56.0	56.0	0.0
1926	60.4	60.4	0.0
1927	56.0	56.0	0.0
1928	56.9	56.9	0.0
1929	53.9	53.9	0.0
1930	58.7	58.7	0.0
1931	60.9	60.9	0.0
1932	55.8	55.8	0.0
1933	55.3	55.3	0.0
1934	61.3	61.3	0.0
1935	58.0	58.0	0.0
1936	58.6	58.6	0.0
1937	56.4	56.4	0.0
1938	52.7	52.7	0.0
1939	59.2	59.2	0.0
1940	57.4	57.4	0.0
1941	57.2	57.2	0.0
1942	53.2	53.2	0.0
1943	56.9	56.9	0.0
1944	56.1	56.1	0.0
1945	57.1	57.1	0.0
1946	57.7	57.7	0.0
1947	58.8	58.8	0.0
1948	55.5	55.5	0.0
1949	59.1	59.1	0.0
1950	58.5	58.5	0.0
1951	58.2	58.2	0.0
1952	52.5	52.5	0.0
1953	55.4	55.4	0.0
1954	57.3	57.3	0.0
1955	55.1	55.1	0.0
1956	56.9	56.9	0.0
1957	56.2	56.2	0.0
1958	54.9	54.9	0.0
1959	60.1	60.1	0.0
1960	58.4	58.4	0.0
1961	59.0	59.0	0.0
1962	61.1	61.1	0.0
1963	52.1	52.1	0.0
1964	55.3	55.3	0.0
1965	55.0	55.0	0.0
1966	60.4	60.4	0.0
1967	54.6	54.6	0.0
1968	57.3	57.3	0.0
1969	54.8	54.8	0.0
1970	55.4	55.4	0.0
1971	55.9	55.9	0.0
1972	57.0	57.0	0.0
1973	59.7	59.7	0.0
1974	54.0	54.0	0.0
1975	55.2	55.2	0.0
1976	55.4	55.4	0.0
1977	59.6	59.6	0.0
1978	56.7	56.7	0.0
1979	58.5	58.5	0.0
1980	57.4	57.4	0.0
1981	58.4	58.4	0.0
1982	51.7	51.7	0.0
1983	53.5	53.5	0.0
1984	56.0	56.0	0.0
1985	58.8	58.8	0.0
1986	56.8	56.8	0.0
1987	60.3	60.3	0.0
1988	57.5	57.5	0.0
1989	59.7	59.7	0.0
1990	58.6	58.6	0.0
Mean:	57.0	57.0	0.0
Median:	57.0	57.0	0.0
Min:	51.7	51.7	0.0
Max:	61.3	61.3	0.0
X > 56.0	43	43	
Mean When X > 56.0	58.4	58.4	
X > 60.0	7	7	
Mean When X > 60.0	60.6	60.6	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.8	57.8	0.0
1923	62.4	62.4	0.0
1924	65.2	65.2	0.0
1925	61.2	61.2	0.0
1926	62.5	62.5	0.0
1927	62.0	62.0	0.0
1928	63.0	63.0	0.0
1929	62.8	62.8	0.0
1930	61.0	61.0	0.0
1931	70.4	70.4	0.0
1932	62.7	62.7	0.0
1933	59.0	59.0	0.0
1934	66.4	66.4	0.0
1935	62.8	62.8	0.0
1936	64.0	64.0	0.0
1937	64.0	64.0	0.0
1938	57.5	57.5	0.0
1939	63.6	63.6	0.0
1940	64.8	64.8	0.0
1941	60.1	60.1	0.0
1942	59.0	59.0	0.0
1943	63.7	63.7	0.0
1944	64.0	64.0	0.0
1945	61.6	61.6	0.0
1946	64.0	64.0	0.0
1947	64.9	64.9	0.0
1948	60.4	60.4	0.0
1949	63.1	63.1	0.0
1950	63.9	63.9	0.0
1951	64.3	64.3	0.0
1952	57.1	57.1	0.0
1953	60.2	60.2	0.0
1954	60.8	60.8	0.0
1955	63.2	63.2	0.0
1956	59.0	59.0	0.0
1957	62.1	62.1	0.0
1958	60.0	60.0	0.0
1959	62.2	62.2	0.0
1960	61.9	61.9	0.0
1961	62.0	62.0	0.0
1962	63.1	63.1	0.0
1963	62.9	62.9	0.0
1964	62.9	62.9	0.0
1965	61.9	61.9	0.0
1966	64.1	64.1	0.0
1967	60.1	60.1	0.0
1968	63.1	63.1	0.0
1969	59.6	59.6	0.0
1970	64.9	64.9	0.0
1971	59.0	59.0	0.0
1972	65.2	65.2	0.0
1973	67.1	67.1	0.0
1974	62.0	62.0	0.0
1975	60.9	60.9	0.0
1976	64.9	64.9	0.0
1977	60.9	60.9	0.0
1978	62.8	62.8	0.0
1979	64.5	64.5	0.0
1980	61.6	61.6	0.0
1981	63.6	63.6	0.0
1982	60.8	60.8	0.0
1983	58.9	58.9	0.0
1984	63.4	63.4	0.0
1985	60.7	60.7	0.0
1986	62.6	62.6	0.0
1987	64.9	64.9	0.0
1988	63.1	63.1	0.0
1989	63.0	63.0	0.0
1990	63.1	63.1	0.0
Mean:	62.4	62.4	0.0
Median:	62.8	62.8	0.0
Min:	57.1	57.1	0.0
Max:	70.4	70.4	0.0
X > 56.0	69	69	
Mean When X > 56.0	62.4	62.4	
X > 60.0	59	59	
Mean When X > 60.0	63.0	63.0	
X > 62.5	37	37	
Mean When X > 62.5	64.1	64.1	
X > 65.0	5	5	
Mean When X > 65.0	66.9	66.9	
X > 67.5	1	1	
Mean When X > 67.5	70.4	70.4	
X > 70.0	1	1	
Mean When X > 70.0	70.4	70.4	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	65.8	65.8	0.0
1923	61.9	61.9	0.0
1924	68.0	68.0	0.0
1925	66.5	66.5	0.0
1926	67.4	67.4	0.0
1927	66.5	66.5	0.0
1928	65.4	65.4	0.0
1929	66.3	66.3	0.0
1930	65.8	65.8	0.0
1931	69.3	69.3	0.0
1932	69.0	69.0	0.0
1933	66.0	66.0	0.0
1934	68.1	68.1	0.0
1935	65.1	65.1	0.0
1936	66.7	66.7	0.0
1937	64.5	64.5	0.0
1938	64.6	64.6	0.0
1939	66.8	66.8	0.0
1940	67.2	67.2	0.0
1941	63.2	63.2	0.0
1942	64.5	64.5	0.0
1943	63.0	63.0	0.0
1944	63.6	63.6	0.0
1945	65.2	65.2	0.0
1946	64.0	64.0	0.0
1947	65.7	65.7	0.0
1948	65.8	65.8	0.0
1949	65.7	65.7	0.0
1950	64.0	64.0	0.0
1951	68.9	68.9	0.0
1952	61.7	61.7	0.0
1953	63.6	63.6	0.0
1954	65.4	65.4	0.0
1955	64.6	64.6	0.0
1956	67.1	67.1	0.0
1957	67.4	67.4	0.0
1958	64.6	64.6	0.0
1959	66.0	66.0	0.0
1960	68.8	68.8	0.0
1961	70.3	70.3	0.0
1962	67.5	67.5	0.0
1963	64.0	64.0	0.0
1964	65.5	65.5	0.0
1965	65.7	65.7	0.0
1966	66.6	66.6	0.0
1967	63.4	63.4	0.0
1968	67.1	67.1	0.0
1969	66.9	66.9	0.0
1970	67.2	67.2	0.0
1971	65.4	65.4	0.0
1972	67.7	67.7	0.0
1973	66.5	66.5	0.0
1974	65.8	65.8	0.0
1975	65.8	65.8	0.0
1976	67.2	67.2	0.0
1977	73.9	73.9	0.0
1978	67.4	67.4	0.0
1979	65.9	65.9	0.0
1980	64.7	64.7	0.0
1981	69.3	69.3	0.0
1982	64.9	64.9	0.0
1983	61.9	61.9	0.0
1984	64.9	64.9	0.0
1985	67.1	67.1	0.0
1986	67.1	67.1	0.0
1987	69.0	69.0	0.0
1988	70.7	70.7	0.0
1989	65.3	65.3	0.0
1990	66.2	66.2	0.0
Mean:	66.2	66.2	0.0
Median:	65.9	65.9	0.0
Min:	61.7	61.7	0.0
Max:	73.9	73.9	0.0
X > 56.0	69	69	
Mean When X > 56.0	66.2	66.2	
X > 60.0	69	69	
Mean When X > 60.0	66.2	66.2	
X > 62.5	66	66	
Mean When X > 62.5	66.4	66.4	
X > 65.0	50	50	
Mean When X > 65.0	67.1	67.1	
X > 67.5	12	12	
Mean When X > 67.5	69.4	69.4	
X > 70.0	3	3	
Mean When X > 70.0	71.6	71.6	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	70.8	70.8	0.0
1923	68.7	68.7	0.0
1924	69.4	69.4	0.0
1925	70.5	70.5	0.0
1926	69.5	69.5	0.0
1927	69.6	69.6	0.0
1928	68.7	69.4	0.7
1929	70.9	70.9	0.0
1930	67.7	67.7	0.0
1931	73.5	73.5	0.0
1932	72.0	72.0	0.0
1933	73.9	73.9	0.0
1934	72.8	72.8	0.0
1935	66.9	66.9	0.0
1936	70.5	70.5	0.0
1937	73.1	73.1	0.0
1938	71.6	71.6	0.0
1939	68.6	68.6	0.0
1940	66.5	66.5	0.0
1941	72.9	72.9	0.0
1942	70.1	70.1	0.0
1943	68.5	68.5	0.0
1944	67.2	67.2	0.0
1945	68.7	68.7	0.0
1946	68.0	68.0	0.0
1947	66.6	66.6	0.0
1948	66.4	66.4	0.0
1949	71.0	71.0	0.0
1950	68.0	68.0	0.0
1951	67.2	67.2	0.0
1952	73.2	73.2	0.0
1953	70.0	70.0	0.0
1954	68.3	68.3	0.0
1955	70.9	70.9	0.0
1956	69.9	69.9	0.0
1957	68.8	68.8	0.0
1958	72.1	72.1	0.0
1959	69.0	69.0	0.0
1960	71.5	71.5	0.0
1961	71.4	71.4	0.0
1962	68.9	68.9	0.0
1963	68.7	69.0	0.3
1964	68.5	68.5	0.0
1965	69.3	69.3	0.0
1966	66.9	66.9	0.0
1967	74.6	74.6	0.0
1968	69.0	69.0	0.0
1969	73.8	73.8	0.0
1970	70.6	70.6	0.0
1971	69.1	69.1	0.0
1972	70.8	70.8	0.0
1973	70.6	70.6	0.0
1974	72.5	72.5	0.0
1975	69.9	69.9	0.0
1976	67.6	67.6	0.0
1977	78.5	78.5	0.0
1978	72.2	72.2	0.0
1979	68.9	68.9	0.0
1980	71.7	71.7	0.0
1981	68.0	68.0	0.0
1982	70.5	70.5	0.0
1983	69.5	69.4	-0.1
1984	69.9	69.9	0.0
1985	67.9	67.9	0.0
1986	68.7	68.7	0.0
1987	66.6	66.6	0.0
1988	77.8	77.8	0.0
1989	66.6	66.6	0.0
1990	72.0	72.0	0.0
Mean:	70.1	70.1	0.0
Median:	69.6	69.6	0.0
Min:	66.4	66.4	-0.1
Max:	78.5	78.5	0.7
X > 56.0	69	69	
Mean When X > 56.0	70.1	70.1	
X > 60.0	69	69	
Mean When X > 60.0	70.1	70.1	
X > 62.5	69	69	
Mean When X > 62.5	70.1	70.1	
X > 65.0	69	69	
Mean When X > 65.0	70.1	70.1	
X > 67.5	60	60	
Mean When X > 67.5	70.6	70.6	
X > 70.0	30	30	
Mean When X > 70.0	72.3	72.3	
# Years Diff <= 0.3			68

Feather River Temperature Below Thermalito Afterbay

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	66.2	66.2	0.0
1923	68.1	68.1	0.0
1924	70.8	70.8	0.0
1925	68.7	68.7	0.0
1926	67.3	67.3	0.0
1927	66.8	66.8	0.0
1928	69.4	68.6	-0.8
1929	70.9	70.9	0.0
1930	66.4	66.4	0.0
1931	74.2	74.2	0.0
1932	70.5	70.5	0.0
1933	72.3	72.3	0.0
1934	71.4	71.4	0.0
1935	69.4	69.4	0.0
1936	69.8	69.8	0.0
1937	69.7	69.7	0.0
1938	69.6	69.6	0.0
1939	67.6	67.6	0.0
1940	67.0	67.0	0.0
1941	68.4	68.4	0.0
1942	69.5	69.5	0.0
1943	66.4	66.4	0.0
1944	67.6	67.6	0.0
1945	67.2	67.2	0.0
1946	67.6	67.6	0.0
1947	66.3	66.3	0.0
1948	65.9	65.9	0.0
1949	67.5	67.5	0.0
1950	67.3	67.3	0.0
1951	67.8	67.8	0.0
1952	69.5	69.5	0.0
1953	69.6	69.6	0.0
1954	67.3	67.3	0.0
1955	72.4	72.4	0.0
1956	67.4	67.4	0.0
1957	68.1	68.1	0.0
1958	73.1	73.1	0.0
1959	67.3	67.3	0.0
1960	69.8	69.8	0.0
1961	69.6	69.6	0.0
1962	67.8	67.8	0.0
1963	69.2	68.9	-0.3
1964	68.5	68.5	0.0
1965	70.2	70.2	0.0
1966	70.5	70.5	0.0
1967	74.5	74.5	0.0
1968	67.8	67.8	0.0
1969	72.8	72.8	0.0
1970	69.2	69.2	0.0
1971	71.0	71.0	0.0
1972	69.9	69.9	0.0
1973	69.3	69.3	0.0
1974	72.3	72.3	0.0
1975	71.0	71.0	0.0
1976	68.6	68.6	0.0
1977	78.0	78.0	0.0
1978	69.1	69.1	0.0
1979	67.5	67.5	0.0
1980	67.9	67.9	0.0
1981	68.9	68.9	0.0
1982	70.6	70.6	0.0
1983	70.3	69.5	-0.8
1984	70.6	70.6	0.0
1985	65.5	65.5	0.0
1986	69.0	69.0	0.0
1987	67.4	67.4	0.0
1988	71.3	71.3	0.0
1989	65.6	65.6	0.0
1990	69.3	69.3	0.0
Mean:	69.2	69.2	0.0
Median:	69.2	69.0	0.0
Min:	65.5	65.5	-0.8
Max:	78.0	78.0	0.0
X > 56.0	69	69	
Mean When X > 56.0	69.2	69.2	
X > 60.0	69	69	
Mean When X > 60.0	69.2	69.2	
X > 62.5	69	69	
Mean When X > 62.5	69.2	69.2	
X > 65.0	69	69	
Mean When X > 65.0	69.2	69.2	
X > 67.5	51	51	
Mean When X > 67.5	70.1	70.0	
X > 70.0	20	19	
Mean When X > 70.0	71.9	72.0	
# Years Diff <= 0.3			69

Feather River Temperature Below Thermalito Afterbay

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	66.3	66.3	0.0
1923	66.7	66.7	0.0
1924	65.3	65.3	0.0
1925	61.0	61.0	0.0
1926	62.6	62.6	0.0
1927	62.5	62.5	0.0
1928	64.7	64.7	0.0
1929	65.8	65.8	0.0
1930	60.7	60.7	0.0
1931	66.9	66.9	0.0
1932	65.5	65.5	0.0
1933	64.2	64.2	0.0
1934	68.0	68.0	0.0
1935	65.6	65.6	0.0
1936	65.9	65.9	0.0
1937	64.6	64.6	0.0
1938	66.1	66.1	0.0
1939	66.6	66.6	0.0
1940	62.5	62.5	0.0
1941	62.8	62.8	0.0
1942	63.4	63.4	0.0
1943	65.0	65.0	0.0
1944	66.5	66.5	0.0
1945	65.0	65.0	0.0
1946	64.5	64.5	0.0
1947	66.2	66.2	0.0
1948	62.7	62.7	0.0
1949	63.2	63.2	0.0
1950	63.9	63.9	0.0
1951	63.9	63.9	0.0
1952	65.5	65.5	0.0
1953	65.4	65.4	0.0
1954	63.6	63.6	0.0
1955	65.0	65.0	0.0
1956	64.2	64.2	0.0
1957	64.7	64.7	0.0
1958	66.5	66.5	0.0
1959	64.6	64.6	0.0
1960	65.5	65.5	0.0
1961	65.0	65.0	0.0
1962	66.0	66.0	0.0
1963	66.2	66.2	0.0
1964	64.7	64.7	0.0
1965	62.5	62.5	0.0
1966	66.9	66.9	0.0
1967	66.9	66.9	0.0
1968	65.8	65.8	0.0
1969	65.4	65.4	0.0
1970	65.8	65.8	0.0
1971	66.3	66.3	0.0
1972	61.8	61.7	-0.1
1973	63.0	63.0	0.0
1974	65.5	65.5	0.0
1975	65.1	65.1	0.0
1976	65.4	65.4	0.0
1977	71.0	71.0	0.0
1978	63.3	63.3	0.0
1979	64.6	64.6	0.0
1980	64.6	64.6	0.0
1981	66.1	66.1	0.0
1982	63.8	63.8	0.0
1983	63.5	63.5	0.0
1984	66.5	66.5	0.0
1985	61.4	61.4	0.0
1986	59.3	59.3	0.0
1987	62.6	62.6	0.0
1988	65.2	65.2	0.0
1989	63.5	63.5	0.0
1990	62.5	62.5	0.0
Mean:	64.7	64.7	0.0
Median:	65.0	65.0	0.0
Min:	59.3	59.3	-0.1
Max:	71.0	71.0	0.0
X > 56.0	69	69	
Mean When X > 56.0	64.7	64.7	
X > 60.0	68	68	
Mean When X > 60.0	64.8	64.8	
X > 62.5	60	60	
Mean When X > 62.5	65.2	65.2	
X > 65.0	32	32	
Mean When X > 65.0	66.2	66.2	
X > 67.5	2	2	
Mean When X > 67.5	69.5	69.5	
X > 70.0	1	1	
Mean When X > 70.0	71.0	71.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Mouth

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	59.5	59.5	0.0
1923	60.3	60.3	0.0
1924	57.5	57.5	0.0
1925	59.9	59.9	0.0
1926	60.5	60.5	0.0
1927	60.6	60.6	0.0
1928	59.7	59.7	0.0
1929	61.9	62.0	0.1
1930	60.2	60.2	0.0
1931	60.8	60.8	0.0
1932	62.1	62.1	0.0
1933	63.5	63.5	0.0
1934	61.5	61.5	0.0
1935	60.4	60.4	0.0
1936	62.9	62.9	0.0
1937	62.6	62.5	-0.1
1938	60.0	60.0	0.0
1939	61.0	61.0	0.0
1940	62.2	62.2	0.0
1941	60.3	60.3	0.0
1942	62.2	62.2	0.0
1943	60.6	60.6	0.0
1944	62.1	62.1	0.0
1945	62.9	62.9	0.0
1946	59.8	59.8	0.0
1947	60.5	60.5	0.0
1948	60.5	60.5	0.0
1949	60.2	60.2	0.0
1950	61.4	61.4	0.0
1951	59.5	59.5	0.0
1952	62.0	62.1	0.1
1953	60.9	60.9	0.0
1954	60.7	60.8	0.1
1955	62.1	62.1	0.0
1956	60.8	60.8	0.0
1957	59.6	59.6	0.0
1958	62.3	62.3	0.0
1959	62.4	62.5	0.1
1960	62.3	62.3	0.0
1961	61.6	61.6	0.0
1962	61.6	61.6	0.0
1963	61.8	61.8	0.0
1964	62.9	62.9	0.0
1965	63.2	63.2	0.0
1966	60.8	60.8	0.0
1967	61.0	61.0	0.0
1968	60.5	60.5	0.0
1969	59.5	59.5	0.0
1970	60.9	60.9	0.0
1971	60.4	60.4	0.0
1972	60.9	60.9	0.0
1973	61.5	61.5	0.0
1974	62.4	62.4	0.0
1975	59.4	59.4	0.0
1976	63.5	63.5	0.0
1977	63.8	63.8	0.0
1978	64.3	64.3	0.0
1979	61.9	61.9	0.0
1980	62.8	62.8	0.0
1981	59.6	59.6	0.0
1982	59.1	59.1	0.0
1983	61.3	61.3	0.0
1984	59.7	59.7	0.0
1985	60.1	60.1	0.0
1986	62.0	62.1	0.1
1987	63.5	63.6	0.1
1988	63.6	63.6	0.0
1989	60.7	60.7	0.0
1990	63.4	63.4	0.0
Mean:	61.3	61.3	0.0
Median:	61.0	61.0	0.0
Min:	57.5	57.5	-0.1
Max:	64.3	64.3	0.1
X > 56.0	69	69	
Mean When X > 56.0	61.3	61.3	
X > 60.0	56	56	
Mean When X > 60.0	61.7	61.7	
X > 62.5	13	12	
Mean When X > 62.5	63.3	63.4	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Mouth

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	49.1	49.1	0.0
1923	53.6	53.6	0.0
1924	50.0	50.0	0.0
1925	50.2	50.2	0.0
1926	53.2	53.2	0.0
1927	51.6	51.6	0.0
1928	50.8	50.8	0.0
1929	51.7	51.7	0.0
1930	54.1	54.1	0.0
1931	51.3	51.3	0.0
1932	55.6	55.6	0.0
1933	54.2	54.2	0.0
1934	53.8	53.8	0.0
1935	51.7	51.7	0.0
1936	53.6	53.6	0.0
1937	53.2	53.2	0.0
1938	51.7	51.7	0.0
1939	54.5	54.5	0.0
1940	51.6	51.6	0.0
1941	53.2	53.2	0.0
1942	52.0	52.0	0.0
1943	53.3	53.3	0.0
1944	51.1	51.1	0.0
1945	51.6	51.6	0.0
1946	50.8	50.8	0.0
1947	50.4	50.4	0.0
1948	52.0	52.0	0.0
1949	55.5	55.5	0.0
1950	53.7	53.7	0.0
1951	51.7	51.7	0.0
1952	51.6	51.6	0.0
1953	53.0	53.0	0.0
1954	51.5	51.5	0.0
1955	51.8	51.8	0.0
1956	52.9	52.9	0.0
1957	51.2	51.2	0.0
1958	53.7	53.7	0.0
1959	53.6	53.6	0.0
1960	52.1	52.1	0.0
1961	53.0	53.0	0.0
1962	53.0	53.0	0.0
1963	50.8	50.8	0.0
1964	50.4	50.3	-0.1
1965	53.3	53.3	0.0
1966	52.7	52.7	0.0
1967	55.2	55.2	0.0
1968	52.1	52.1	0.0
1969	53.3	53.3	0.0
1970	53.1	53.1	0.0
1971	52.4	52.4	0.0
1972	50.7	50.7	0.0
1973	51.6	51.6	0.0
1974	52.2	52.2	0.0
1975	51.5	51.5	0.0
1976	55.0	55.0	0.0
1977	53.3	53.3	0.0
1978	51.1	51.1	0.0
1979	52.2	52.2	0.0
1980	54.3	54.3	0.0
1981	52.4	52.4	0.0
1982	50.6	50.6	0.0
1983	51.0	51.0	0.0
1984	51.5	51.5	0.0
1985	50.0	50.0	0.0
1986	54.4	54.4	0.0
1987	52.7	52.7	0.0
1988	52.3	52.3	0.0
1989	52.9	52.9	0.0
1990	52.1	52.1	0.0
Mean:	52.4	52.4	0.0
Median:	52.2	52.2	0.0
Min:	49.1	49.1	-0.1
Max:	55.6	55.6	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Mouth

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.5	46.5	0.0
1923	44.2	44.2	0.0
1924	41.8	41.8	0.0
1925	44.7	44.7	0.0
1926	45.9	45.9	0.0
1927	45.2	45.2	0.0
1928	43.0	43.0	0.0
1929	47.5	47.5	0.0
1930	45.0	45.0	0.0
1931	45.7	45.7	0.0
1932	42.4	42.4	0.0
1933	45.1	45.1	0.0
1934	47.0	47.0	0.0
1935	47.0	47.0	0.0
1936	46.3	46.3	0.0
1937	48.1	48.1	0.0
1938	47.6	47.6	0.0
1939	49.1	49.1	0.0
1940	48.0	48.0	0.0
1941	48.3	48.3	0.0
1942	47.0	47.0	0.0
1943	47.2	47.2	0.0
1944	47.2	47.2	0.0
1945	46.2	46.2	0.0
1946	45.2	45.2	0.0
1947	44.5	44.5	0.0
1948	43.7	43.7	0.0
1949	44.8	44.8	0.0
1950	47.9	47.9	0.0
1951	46.2	46.2	0.0
1952	47.1	47.1	0.0
1953	47.5	47.5	0.0
1954	43.9	43.9	0.0
1955	47.9	47.9	0.0
1956	45.2	45.2	0.0
1957	45.5	45.5	0.0
1958	49.7	49.7	0.0
1959	47.5	47.5	0.0
1960	45.8	45.8	0.0
1961	45.0	45.0	0.0
1962	46.5	46.5	0.0
1963	42.3	42.3	0.0
1964	47.9	47.9	0.0
1965	42.8	42.8	0.0
1966	45.4	45.4	0.0
1967	45.9	45.9	0.0
1968	45.1	45.1	0.0
1969	48.4	48.4	0.0
1970	45.7	45.7	0.0
1971	44.5	44.5	0.0
1972	43.3	43.3	0.0
1973	47.7	47.7	0.0
1974	45.5	45.5	0.0
1975	46.3	46.3	0.0
1976	47.9	47.9	0.0
1977	48.1	48.1	0.0
1978	43.2	43.2	0.0
1979	47.2	47.2	0.0
1980	46.9	46.9	0.0
1981	48.2	48.2	0.0
1982	46.4	46.4	0.0
1983	47.9	47.9	0.0
1984	45.6	45.6	0.0
1985	42.3	42.3	0.0
1986	45.8	45.8	0.0
1987	46.3	46.3	0.0
1988	46.2	46.2	0.0
1989	44.0	44.0	0.0
1990	42.4	42.4	0.0
Mean:	45.9	45.9	0.0
Median:	46.2	46.2	0.0
Min:	41.8	41.8	0.0
Max:	49.7	49.7	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Mouth

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	41.4	41.4	0.0
1923	43.7	43.7	0.0
1924	43.3	43.3	0.0
1925	45.3	45.3	0.0
1926	42.1	42.1	0.0
1927	45.8	45.8	0.0
1928	45.1	45.1	0.0
1929	41.6	41.6	0.0
1930	43.6	43.6	0.0
1931	46.9	46.9	0.0
1932	44.8	44.8	0.0
1933	42.9	42.9	0.0
1934	46.5	46.5	0.0
1935	46.5	46.5	0.0
1936	47.9	47.9	0.0
1937	40.2	40.2	0.0
1938	45.7	45.7	0.0
1939	46.4	46.4	0.0
1940	46.9	46.9	0.0
1941	48.1	48.1	0.0
1942	46.4	46.4	0.0
1943	46.7	46.7	0.0
1944	46.5	46.5	0.0
1945	45.4	45.4	0.0
1946	45.4	45.4	0.0
1947	43.7	43.7	0.0
1948	47.5	47.5	0.0
1949	41.4	41.4	0.0
1950	44.8	44.8	0.0
1951	45.8	45.8	0.0
1952	43.8	43.8	0.0
1953	47.8	47.8	0.0
1954	46.7	46.6	-0.1
1955	43.5	43.5	0.0
1956	46.5	46.5	0.0
1957	44.5	44.5	0.0
1958	46.0	46.0	0.0
1959	47.9	47.9	0.0
1960	45.3	45.3	0.0
1961	43.9	43.9	0.0
1962	44.7	44.7	0.0
1963	43.7	43.7	0.0
1964	44.8	44.8	0.0
1965	45.3	45.3	0.0
1966	45.6	45.6	0.0
1967	45.5	45.5	0.0
1968	45.3	45.3	0.0
1969	44.8	44.8	0.0
1970	48.0	48.0	0.0
1971	46.2	46.2	0.0
1972	43.9	43.9	0.0
1973	45.3	45.3	0.0
1974	46.6	46.6	0.0
1975	45.0	45.0	0.0
1976	46.6	46.6	0.0
1977	43.3	43.3	0.0
1978	48.9	48.9	0.0
1979	45.2	45.2	0.0
1980	46.8	46.8	0.0
1981	46.6	46.6	0.0
1982	43.6	43.6	0.0
1983	45.2	45.2	0.0
1984	46.3	46.3	0.0
1985	43.8	43.8	0.0
1986	47.4	47.4	0.0
1987	45.0	45.0	0.0
1988	47.0	47.0	0.0
1989	44.8	44.8	0.0
1990	45.6	45.6	0.0
Mean:	45.3	45.3	0.0
Median:	45.3	45.3	0.0
Min:	40.2	40.2	-0.1
Max:	48.9	48.9	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Mouth

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	47.2	47.2	0.0
1923	48.4	48.4	0.0
1924	51.1	51.1	0.0
1925	50.2	50.2	0.0
1926	49.6	49.6	0.0
1927	49.3	49.3	0.0
1928	49.6	49.6	0.0
1929	48.3	48.3	0.0
1930	50.9	50.9	0.0
1931	52.3	52.3	0.0
1932	49.0	49.0	0.0
1933	48.0	48.0	0.0
1934	50.5	50.5	0.0
1935	50.4	50.4	0.0
1936	50.0	50.0	0.0
1937	48.9	48.9	0.0
1938	48.4	48.4	0.0
1939	48.4	48.4	0.0
1940	50.5	50.5	0.0
1941	49.3	49.3	0.0
1942	48.5	48.5	0.0
1943	50.5	50.5	0.0
1944	49.9	49.9	0.0
1945	51.1	51.1	0.0
1946	47.9	47.9	0.0
1947	49.7	49.7	0.0
1948	48.4	48.4	0.0
1949	47.4	47.4	0.0
1950	49.4	49.4	0.0
1951	48.5	48.5	0.0
1952	48.2	48.2	0.0
1953	50.0	50.0	0.0
1954	48.8	48.8	0.0
1955	48.7	48.7	0.0
1956	47.2	47.2	0.0
1957	48.7	48.7	0.0
1958	49.2	49.2	0.0
1959	49.7	49.7	0.0
1960	49.1	49.1	0.0
1961	51.6	51.6	0.0
1962	48.9	48.9	0.0
1963	52.6	52.6	0.0
1964	50.4	50.4	0.0
1965	49.3	49.3	0.0
1966	48.7	48.7	0.0
1967	49.0	49.0	0.0
1968	50.9	50.9	0.0
1969	48.1	48.1	0.0
1970	51.6	51.6	0.0
1971	49.2	49.2	0.0
1972	50.0	50.0	0.0
1973	50.5	50.6	0.1
1974	49.3	49.3	0.0
1975	48.8	48.8	0.0
1976	50.9	50.9	0.0
1977	52.6	52.6	0.0
1978	50.9	50.9	0.0
1979	48.7	48.7	0.0
1980	49.9	49.9	0.0
1981	51.8	51.8	0.0
1982	49.0	49.0	0.0
1983	49.4	49.4	0.0
1984	49.4	49.4	0.0
1985	51.4	51.4	0.0
1986	49.8	49.8	0.0
1987	50.9	50.9	0.0
1988	52.5	52.5	0.0
1989	48.5	48.5	0.0
1990	48.0	48.0	0.0
Mean:	49.6	49.6	0.0
Median:	49.4	49.4	0.0
Min:	47.2	47.2	0.0
Max:	52.6	52.6	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Mouth

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	51.7	51.7	0.0
1923	55.4	55.4	0.0
1924	53.6	53.6	0.0
1925	54.0	54.0	0.0
1926	56.7	56.7	0.0
1927	52.7	52.7	0.0
1928	52.7	52.7	0.0
1929	54.8	54.8	0.0
1930	56.4	56.4	0.0
1931	57.3	57.3	0.0
1932	55.8	55.8	0.0
1933	54.7	54.7	0.0
1934	59.2	59.2	0.0
1935	53.6	53.6	0.0
1936	57.7	57.7	0.0
1937	56.4	56.4	0.0
1938	51.1	51.1	0.0
1939	54.1	54.1	0.0
1940	54.7	54.7	0.0
1941	54.3	54.3	0.0
1942	53.6	53.6	0.0
1943	52.5	52.5	0.0
1944	56.7	56.7	0.0
1945	52.1	52.1	0.0
1946	53.0	53.0	0.0
1947	55.4	55.4	0.0
1948	52.0	52.0	0.0
1949	53.6	53.6	0.0
1950	53.3	53.3	0.0
1951	53.5	53.5	0.0
1952	51.4	51.4	0.0
1953	52.6	52.6	0.0
1954	51.7	51.7	0.0
1955	55.3	55.3	0.0
1956	54.3	54.3	0.0
1957	54.8	54.8	0.0
1958	51.9	51.9	0.0
1959	57.6	57.6	0.0
1960	53.6	53.6	0.0
1961	54.7	54.7	0.0
1962	52.8	52.8	0.0
1963	52.3	52.3	0.0
1964	54.5	54.5	0.0
1965	53.9	53.9	0.0
1966	54.6	54.6	0.0
1967	51.1	51.1	0.0
1968	55.7	55.7	0.0
1969	54.0	54.0	0.0
1970	55.7	55.7	0.0
1971	51.7	51.7	0.0
1972	56.1	56.1	0.0
1973	53.1	53.1	0.0
1974	51.4	51.4	0.0
1975	51.5	51.5	0.0
1976	54.5	54.5	0.0
1977	54.5	54.5	0.0
1978	56.5	56.5	0.0
1979	55.7	55.7	0.0
1980	54.7	54.7	0.0
1981	53.5	53.5	0.0
1982	52.0	52.0	0.0
1983	51.9	51.9	0.0
1984	54.6	54.6	0.0
1985	53.0	53.0	0.0
1986	54.5	54.5	0.0
1987	55.6	55.6	0.0
1988	58.0	58.0	0.0
1989	54.8	54.8	0.0
1990	56.4	56.4	0.0
Mean:	54.2	54.2	0.0
Median:	54.3	54.3	0.0
Min:	51.1	51.1	0.0
Max:	59.2	59.2	0.0
X > 56.0	12	12	
Mean When X > 56.0	57.1	57.1	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Mouth

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.9	58.0	0.1
1923	58.1	58.2	0.1
1924	60.3	60.6	0.3
1925	59.1	59.4	0.3
1926	61.3	61.6	0.3
1927	57.6	57.7	0.1
1928	57.9	58.1	0.2
1929	57.0	57.3	0.3
1930	61.3	61.4	0.1
1931	62.5	62.8	0.3
1932	58.0	58.3	0.3
1933	60.4	60.7	0.3
1934	63.3	63.5	0.2
1935	58.4	58.6	0.2
1936	60.5	60.7	0.2
1937	59.5	59.7	0.2
1938	57.3	57.4	0.1
1939	62.6	62.6	0.0
1940	61.4	61.4	0.0
1941	57.8	57.8	0.0
1942	57.0	57.1	0.1
1943	59.1	59.2	0.1
1944	58.9	58.9	0.0
1945	61.0	61.0	0.0
1946	59.4	59.4	0.0
1947	64.1	64.1	0.0
1948	56.5	56.5	0.0
1949	60.2	60.9	0.7
1950	60.6	60.6	0.0
1951	58.8	58.8	0.0
1952	56.3	56.3	0.0
1953	57.9	57.9	0.0
1954	60.5	60.5	0.0
1955	57.7	58.0	0.3
1956	59.2	59.4	0.2
1957	60.6	60.7	0.1
1958	59.1	59.2	0.1
1959	62.9	62.9	0.0
1960	60.3	60.6	0.3
1961	61.8	61.9	0.1
1962	60.3	60.3	0.0
1963	55.9	56.0	0.1
1964	59.2	59.2	0.0
1965	57.5	57.5	0.0
1966	62.7	62.7	0.0
1967	55.5	55.5	0.0
1968	60.5	60.5	0.0
1969	57.6	57.8	0.2
1970	58.4	58.6	0.2
1971	60.3	60.3	0.0
1972	61.4	61.5	0.1
1973	60.9	61.2	0.3
1974	58.4	58.5	0.1
1975	58.8	58.8	0.0
1976	60.3	60.5	0.2
1977	63.8	64.3	0.5
1978	57.4	57.4	0.0
1979	60.6	60.7	0.1
1980	59.9	60.2	0.3
1981	63.4	63.4	0.0
1982	56.8	56.9	0.1
1983	55.9	55.9	0.0
1984	59.7	59.8	0.1
1985	64.1	64.1	0.0
1986	60.4	60.6	0.2
1987	63.7	64.0	0.3
1988	63.2	63.4	0.2
1989	62.0	62.0	0.0
1990	65.0	65.2	0.2
Mean:	59.8	59.9	0.1
Median:	59.9	60.2	0.1
Min:	55.5	55.5	0.0
Max:	65.0	65.2	0.7
X > 56.0	66	66	
Mean When X > 56.0	60.0	60.1	
X > 60.0	34	35	
Mean When X > 60.0	61.7	61.8	
X > 62.5	11	12	
Mean When X > 62.5	63.5	63.6	
X > 65.0	0	1	
Mean When X > 65.0	0.0	65.2	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			67

Feather River Temperature at the Mouth

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	61.8	61.9	0.1
1923	64.0	64.2	0.2
1924	67.6	68.0	0.4
1925	64.6	65.0	0.4
1926	65.6	65.9	0.3
1927	63.3	63.5	0.2
1928	65.0	65.4	0.4
1929	65.5	65.9	0.4
1930	64.5	64.6	0.1
1931	70.6	71.0	0.4
1932	64.4	64.8	0.4
1933	63.3	63.7	0.4
1934	67.8	67.9	0.1
1935	66.2	66.4	0.2
1936	65.5	66.0	0.5
1937	66.1	66.5	0.4
1938	61.6	61.6	0.0
1939	67.1	67.3	0.2
1940	66.1	66.1	0.0
1941	63.3	63.5	0.2
1942	62.1	62.3	0.2
1943	65.9	66.2	0.3
1944	65.7	65.7	0.0
1945	63.4	63.4	0.0
1946	64.5	64.5	0.0
1947	68.2	68.2	0.0
1948	63.5	63.5	0.0
1949	65.7	66.2	0.5
1950	65.5	65.5	0.0
1951	66.2	66.2	0.0
1952	62.0	62.0	0.0
1953	63.0	63.1	0.1
1954	65.3	65.4	0.1
1955	66.7	67.2	0.5
1956	62.9	63.1	0.2
1957	64.4	64.6	0.2
1958	63.0	63.2	0.2
1959	65.5	65.5	0.0
1960	65.4	65.8	0.4
1961	65.3	65.4	0.1
1962	65.1	65.1	0.0
1963	64.6	64.8	0.2
1964	65.6	65.6	0.0
1965	65.2	65.3	0.1
1966	67.6	67.6	0.0
1967	63.8	63.8	0.0
1968	66.8	66.9	0.1
1969	63.5	63.7	0.2
1970	68.2	68.7	0.5
1971	62.2	62.2	0.0
1972	68.6	68.7	0.1
1973	68.6	69.0	0.4
1974	64.3	64.5	0.2
1975	64.6	64.9	0.3
1976	68.9	68.8	-0.1
1977	63.8	64.2	0.4
1978	65.7	66.1	0.4
1979	66.3	66.4	0.1
1980	64.7	65.0	0.3
1981	68.8	68.8	0.0
1982	64.6	64.8	0.2
1983	63.8	63.8	0.0
1984	68.8	68.9	0.1
1985	65.8	65.8	0.0
1986	67.6	68.1	0.5
1987	70.6	71.0	0.4
1988	66.6	66.9	0.3
1989	66.2	66.2	0.0
1990	67.5	67.9	0.4
Mean:	65.5	65.6	0.2
Median:	65.5	65.5	0.2
Min:	61.6	61.6	-0.1
Max:	70.6	71.0	0.5
X > 56.0	69	69	
Mean When X > 56.0	65.5	65.6	
X > 60.0	69	69	
Mean When X > 60.0	65.5	65.6	
X > 62.5	64	64	
Mean When X > 62.5	65.7	65.9	
X > 65.0	40	41	
Mean When X > 65.0	66.8	67.0	
X > 67.5	13	14	
Mean When X > 67.5	68.6	68.8	
X > 70.0	2	2	
Mean When X > 70.0	70.6	71.0	
# Years Diff <= 0.3			50

Feather River Temperature at the Mouth

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	68.3	68.4	0.1
1923	65.2	65.4	0.2
1924	70.6	70.6	0.0
1925	71.1	71.5	0.4
1926	71.7	71.9	0.2
1927	69.2	69.4	0.2
1928	69.6	69.8	0.2
1929	69.7	70.0	0.3
1930	70.7	71.0	0.3
1931	71.2	71.5	0.3
1932	70.7	71.2	0.5
1933	70.4	70.8	0.4
1934	70.5	70.6	0.1
1935	70.9	71.2	0.3
1936	70.0	70.3	0.3
1937	69.0	69.3	0.3
1938	69.9	70.1	0.2
1939	70.8	70.9	0.1
1940	71.9	71.9	0.0
1941	67.6	67.9	0.3
1942	69.2	69.5	0.3
1943	67.2	67.3	0.1
1944	67.3	67.3	0.0
1945	69.6	69.6	0.0
1946	68.0	68.0	0.0
1947	70.0	70.0	0.0
1948	69.7	69.7	0.0
1949	70.3	70.5	0.2
1950	68.4	68.4	0.0
1951	71.2	71.2	0.0
1952	65.8	65.8	0.0
1953	67.3	67.5	0.2
1954	69.3	69.3	0.0
1955	69.2	69.4	0.2
1956	70.1	70.4	0.3
1957	71.7	71.9	0.2
1958	68.2	68.4	0.2
1959	70.9	70.9	0.0
1960	73.3	73.6	0.3
1961	74.1	74.2	0.1
1962	70.6	70.6	0.0
1963	68.3	68.6	0.3
1964	69.4	69.4	0.0
1965	68.3	68.5	0.2
1966	70.5	70.5	0.0
1967	67.8	67.8	0.0
1968	71.7	71.7	0.0
1969	69.1	69.4	0.3
1970	70.8	71.1	0.3
1971	68.8	68.8	0.0
1972	71.5	71.6	0.1
1973	71.7	72.0	0.3
1974	70.1	70.4	0.3
1975	69.2	69.5	0.3
1976	71.0	71.1	0.1
1977	74.8	74.8	0.0
1978	69.9	70.3	0.4
1979	70.3	70.3	0.0
1980	68.2	68.5	0.3
1981	73.8	73.8	0.0
1982	68.6	68.8	0.2
1983	67.3	67.3	0.0
1984	69.8	69.9	0.1
1985	72.8	72.8	0.0
1986	71.4	71.9	0.5
1987	72.2	72.3	0.1
1988	72.4	72.4	0.0
1989	70.0	70.0	0.0
1990	71.4	71.8	0.4
Mean:	70.0	70.2	0.2
Median:	70.0	70.3	0.2
Min:	65.2	65.4	0.0
Max:	74.8	74.8	0.5
X > 56.0	69	69	
Mean When X > 56.0	70.0	70.2	
X > 60.0	69	69	
Mean When X > 60.0	70.0	70.2	
X > 62.5	69	69	
Mean When X > 62.5	70.0	70.2	
X > 65.0	69	69	
Mean When X > 65.0	70.0	70.2	
X > 67.5	63	63	
Mean When X > 67.5	70.3	70.5	
X > 70.0	34	37	
Mean When X > 70.0	71.4	71.5	
# Years Diff <= 0.3			63

Feather River Temperature at the Mouth

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	73.2	73.3	0.1
1923	71.9	71.7	-0.2
1924	72.3	72.4	0.1
1925	74.4	74.4	0.0
1926	73.8	73.8	0.0
1927	72.7	72.9	0.2
1928	72.2	72.7	0.5
1929	74.2	74.3	0.1
1930	72.2	72.4	0.2
1931	77.6	77.6	0.0
1932	74.5	74.7	0.2
1933	77.4	77.5	0.1
1934	74.7	74.7	0.0
1935	71.7	71.7	0.0
1936	74.8	74.9	0.1
1937	76.0	76.2	0.2
1938	73.9	74.3	0.4
1939	73.3	73.1	-0.2
1940	70.9	70.9	0.0
1941	74.6	74.9	0.3
1942	74.5	74.7	0.2
1943	72.9	72.9	0.0
1944	71.4	71.3	-0.1
1945	73.6	73.6	0.0
1946	72.1	72.1	0.0
1947	70.7	70.7	0.0
1948	71.2	71.4	0.2
1949	74.3	74.0	-0.3
1950	73.0	73.0	0.0
1951	71.3	71.1	-0.2
1952	74.0	74.0	0.0
1953	73.4	73.4	0.0
1954	72.9	72.7	-0.2
1955	74.1	74.1	0.0
1956	72.8	72.8	0.0
1957	73.2	73.2	0.0
1958	73.3	73.4	0.1
1959	73.9	73.6	-0.3
1960	75.5	75.5	0.0
1961	75.8	75.3	-0.5
1962	73.0	72.7	-0.3
1963	72.4	72.7	0.3
1964	72.8	72.8	0.0
1965	72.8	72.4	-0.4
1966	70.4	70.4	0.0
1967	75.2	74.7	-0.5
1968	73.4	73.0	-0.4
1969	75.2	75.2	0.0
1970	74.8	74.4	-0.4
1971	73.1	72.9	-0.2
1972	74.3	74.0	-0.3
1973	74.5	74.8	0.3
1974	74.1	74.4	0.3
1975	72.4	72.6	0.2
1976	72.2	72.2	0.0
1977	76.6	76.6	0.0
1978	74.6	74.6	0.0
1979	73.1	72.7	-0.4
1980	74.3	74.3	0.0
1981	72.3	72.0	-0.3
1982	72.9	73.1	0.2
1983	72.3	72.2	-0.1
1984	75.1	75.0	-0.1
1985	73.8	73.9	0.1
1986	73.1	73.5	0.4
1987	70.7	70.6	-0.1
1988	79.5	79.4	-0.1
1989	71.9	71.8	-0.1
1990	76.8	77.3	0.5
Mean:	73.6	73.6	0.0
Median:	73.3	73.4	0.0
Min:	70.4	70.4	-0.5
Max:	79.5	79.4	0.5
X > 56.0	69	69	
Mean When X > 56.0	73.6	73.6	
X > 60.0	69	69	
Mean When X > 60.0	73.6	73.6	
X > 62.5	69	69	
Mean When X > 62.5	73.6	73.6	
X > 65.0	69	69	
Mean When X > 65.0	73.6	73.6	
X > 67.5	69	69	
Mean When X > 67.5	73.6	73.6	
X > 70.0	69	69	
Mean When X > 70.0	73.6	73.6	
# Years Diff <= 0.3			65

Feather River Temperature at the Mouth

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	69.6	69.3	-0.3
1923	71.1	70.9	-0.2
1924	72.4	71.6	-0.8
1925	71.2	70.5	-0.7
1926	70.6	70.2	-0.4
1927	69.9	69.6	-0.3
1928	71.7	71.1	-0.6
1929	73.2	72.3	-0.9
1930	70.6	70.8	0.2
1931	75.4	74.2	-1.2
1932	72.8	72.1	-0.7
1933	74.3	73.1	-1.2
1934	73.8	72.9	-0.9
1935	73.7	73.7	0.0
1936	73.4	73.1	-0.3
1937	73.4	72.7	-0.7
1938	72.3	71.9	-0.4
1939	72.0	72.0	0.0
1940	70.9	70.8	-0.1
1941	71.8	71.2	-0.6
1942	72.5	71.8	-0.7
1943	70.0	69.8	-0.2
1944	71.1	71.2	0.1
1945	70.8	70.6	-0.2
1946	70.8	70.8	0.0
1947	69.9	69.9	0.0
1948	69.9	69.7	-0.2
1949	70.2	70.2	0.0
1950	71.9	71.6	-0.3
1951	70.9	70.5	-0.4
1952	71.5	70.5	-1.0
1953	71.1	70.2	-0.9
1954	70.0	69.8	-0.2
1955	74.1	72.8	-1.3
1956	70.8	70.3	-0.5
1957	71.0	70.8	-0.2
1958	75.3	73.6	-1.7
1959	71.1	71.1	0.0
1960	72.8	72.3	-0.5
1961	73.8	73.6	-0.2
1962	70.9	70.9	0.0
1963	72.1	71.5	-0.6
1964	72.4	72.4	0.0
1965	72.8	73.0	0.2
1966	73.6	73.4	-0.2
1967	74.8	74.6	-0.2
1968	71.0	70.9	-0.1
1969	74.3	73.1	-1.2
1970	72.5	72.7	0.2
1971	73.7	73.6	-0.1
1972	73.1	73.2	0.1
1973	72.5	72.0	-0.5
1974	73.8	72.6	-1.2
1975	70.8	70.1	-0.7
1976	70.6	70.3	-0.3
1977	75.8	74.0	-1.8
1978	72.7	72.7	0.0
1979	71.2	71.4	0.2
1980	70.6	70.8	0.2
1981	72.2	72.3	0.1
1982	72.3	71.6	-0.7
1983	72.5	72.5	0.0
1984	74.9	74.6	-0.3
1985	70.8	70.8	0.0
1986	73.2	72.8	-0.4
1987	71.8	71.9	0.1
1988	74.4	73.6	-0.8
1989	70.3	70.8	0.5
1990	75.1	74.3	-0.8
Mean:	72.2	71.8	-0.4
Median:	72.1	71.6	-0.3
Min:	69.6	69.3	-1.8
Max:	75.8	74.6	0.5
X > 56.0	69	69	
Mean When X > 56.0	72.2	71.8	
X > 60.0	69	69	
Mean When X > 60.0	72.2	71.8	
X > 62.5	69	69	
Mean When X > 62.5	72.2	71.8	
X > 65.0	69	69	
Mean When X > 65.0	72.2	71.8	
X > 67.5	69	69	
Mean When X > 67.5	72.2	71.8	
X > 70.0	63	63	
Mean When X > 70.0	72.4	72.0	
# Years Diff <= 0.3			68

Feather River Temperature at the Mouth

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	70.7	70.0	-0.7
1923	70.2	69.6	-0.6
1924	67.8	67.6	-0.2
1925	65.9	65.8	-0.1
1926	66.4	66.4	0.0
1927	67.0	66.8	-0.2
1928	68.6	68.2	-0.4
1929	68.4	67.9	-0.5
1930	67.4	67.1	-0.3
1931	68.3	67.8	-0.5
1932	72.4	71.4	-1.0
1933	66.9	66.8	-0.1
1934	70.6	70.0	-0.6
1935	70.0	70.0	0.0
1936	71.3	70.5	-0.8
1937	70.2	69.9	-0.3
1938	71.2	70.3	-0.9
1939	70.9	70.3	-0.6
1940	69.4	69.3	-0.1
1941	68.4	68.0	-0.4
1942	69.9	69.3	-0.6
1943	70.9	70.3	-0.6
1944	71.2	70.4	-0.8
1945	70.8	70.3	-0.5
1946	69.8	69.3	-0.5
1947	70.9	70.8	-0.1
1948	69.3	69.2	-0.1
1949	70.1	69.4	-0.7
1950	70.2	70.0	-0.2
1951	70.5	70.5	0.0
1952	70.1	69.6	-0.5
1953	71.1	70.6	-0.5
1954	69.1	68.5	-0.6
1955	70.9	70.3	-0.6
1956	70.1	69.5	-0.6
1957	70.4	69.5	-0.9
1958	70.9	70.5	-0.4
1959	69.7	69.0	-0.7
1960	71.3	70.7	-0.6
1961	69.5	69.0	-0.5
1962	69.5	68.8	-0.7
1963	70.8	70.3	-0.5
1964	68.0	67.8	-0.2
1965	67.4	67.1	-0.3
1966	70.2	69.5	-0.7
1967	71.3	70.9	-0.4
1968	69.8	69.3	-0.5
1969	70.4	70.0	-0.4
1970	70.4	69.8	-0.6
1971	70.5	70.0	-0.5
1972	68.0	67.6	-0.4
1973	69.0	68.6	-0.4
1974	72.1	71.4	-0.7
1975	70.7	70.2	-0.5
1976	69.0	69.1	0.1
1977	70.2	69.1	-1.1
1978	68.3	67.9	-0.4
1979	71.8	71.1	-0.7
1980	68.9	68.5	-0.4
1981	69.6	69.1	-0.5
1982	68.5	68.2	-0.3
1983	68.5	67.8	-0.7
1984	73.2	72.0	-1.2
1985	67.4	67.2	-0.2
1986	66.7	66.5	-0.2
1987	69.0	68.9	-0.1
1988	70.8	70.2	-0.6
1989	69.1	68.5	-0.6
1990	71.4	70.6	-0.8
Mean:	69.7	69.2	-0.5
Median:	70.1	69.4	-0.5
Min:	65.9	65.8	-1.2
Max:	73.2	72.0	0.1
X > 56.0	69	69	
Mean When X > 56.0	69.7	69.2	
X > 60.0	69	69	
Mean When X > 60.0	69.7	69.2	
X > 62.5	69	69	
Mean When X > 62.5	69.7	69.2	
X > 65.0	69	69	
Mean When X > 65.0	69.7	69.2	
X > 67.5	61	61	
Mean When X > 67.5	70.1	69.6	
X > 70.0	35	21	
Mean When X > 70.0	70.9	70.6	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	53.7	53.7	0.0
1923	53.7	53.7	0.0
1924	53.7	53.7	0.0
1925	54.3	54.3	0.0
1926	53.5	53.5	0.0
1927	54.3	54.3	0.0
1928	53.1	53.1	0.0
1929	54.2	54.2	0.0
1930	53.6	53.6	0.0
1931	53.6	53.6	0.0
1932	53.9	53.9	0.0
1933	54.4	54.4	0.0
1934	53.8	53.8	0.0
1935	53.2	53.2	0.0
1936	53.7	53.7	0.0
1937	54.4	54.4	0.0
1938	53.3	53.3	0.0
1939	53.2	53.2	0.0
1940	54.2	54.2	0.0
1941	53.6	53.6	0.0
1942	54.4	54.4	0.0
1943	53.5	53.5	0.0
1944	53.7	53.7	0.0
1945	54.6	54.6	0.0
1946	53.2	53.2	0.0
1947	53.5	53.5	0.0
1948	53.7	53.7	0.0
1949	53.9	53.9	0.0
1950	54.5	54.5	0.0
1951	53.2	53.2	0.0
1952	53.4	53.4	0.0
1953	53.9	53.9	0.0
1954	53.3	53.3	0.0
1955	54.0	54.0	0.0
1956	54.1	54.1	0.0
1957	53.6	53.6	0.0
1958	53.3	53.3	0.0
1959	53.4	53.4	0.0
1960	54.3	54.3	0.0
1961	54.7	54.7	0.0
1962	55.8	55.8	0.0
1963	54.8	54.8	0.0
1964	54.0	54.0	0.0
1965	55.0	55.0	0.0
1966	53.4	53.4	0.0
1967	53.2	53.2	0.0
1968	53.5	53.5	0.0
1969	53.3	53.3	0.0
1970	53.7	53.7	0.0
1971	53.7	53.7	0.0
1972	54.3	54.3	0.0
1973	54.8	54.8	0.0
1974	53.8	53.8	0.0
1975	53.2	53.2	0.0
1976	54.3	54.3	0.0
1977	65.4	65.4	0.0
1978	54.9	54.9	0.0
1979	55.0	55.0	0.0
1980	54.2	54.2	0.0
1981	53.4	53.4	0.0
1982	53.0	53.0	0.0
1983	53.2	53.2	0.0
1984	53.7	53.7	0.0
1985	52.8	52.8	0.0
1986	53.3	53.3	0.0
1987	53.7	53.7	0.0
1988	53.7	53.7	0.0
1989	53.4	53.4	0.0
1990	53.6	53.6	0.0
Mean:	54.0	54.0	0.0
Median:	53.7	53.7	0.0
Min:	52.8	52.8	0.0
Max:	65.4	65.4	0.0
X > 56.0	1	1	
Mean When X > 56.0	65.4	65.4	
X > 60.0	1	1	
Mean When X > 60.0	65.4	65.4	
X > 62.5	1	1	
Mean When X > 62.5	65.4	65.4	
X > 65.0	1	1	
Mean When X > 65.0	65.4	65.4	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	51.4	51.4	0.0
1923	52.8	52.8	0.0
1924	51.1	51.1	0.0
1925	52.1	52.1	0.0
1926	53.5	53.5	0.0
1927	52.2	52.2	0.0
1928	51.9	51.9	0.0
1929	52.8	52.8	0.0
1930	52.2	52.2	0.0
1931	52.0	52.0	0.0
1932	53.3	53.3	0.0
1933	52.8	52.8	0.0
1934	52.7	52.7	0.0
1935	51.9	51.9	0.0
1936	52.4	52.4	0.0
1937	52.6	52.6	0.0
1938	51.9	51.9	0.0
1939	52.5	52.5	0.0
1940	51.9	51.9	0.0
1941	52.3	52.3	0.0
1942	52.1	52.1	0.0
1943	52.1	52.1	0.0
1944	51.8	51.8	0.0
1945	52.0	52.0	0.0
1946	51.7	51.7	0.0
1947	51.1	51.1	0.0
1948	52.1	52.1	0.0
1949	53.7	53.7	0.0
1950	52.9	52.9	0.0
1951	52.1	52.1	0.0
1952	52.0	52.0	0.0
1953	52.2	52.2	0.0
1954	51.9	51.9	0.0
1955	52.0	52.0	0.0
1956	52.2	52.2	0.0
1957	51.8	51.8	0.0
1958	52.3	52.3	0.0
1959	52.8	52.8	0.0
1960	52.5	52.5	0.0
1961	56.1	56.1	0.0
1962	53.3	53.3	0.0
1963	52.0	52.0	0.0
1964	51.8	51.8	0.0
1965	52.6	52.6	0.0
1966	52.8	52.8	0.0
1967	52.8	52.8	0.0
1968	52.1	52.1	0.0
1969	52.3	52.3	0.0
1970	52.7	52.7	0.0
1971	52.3	52.3	0.0
1972	51.7	51.7	0.0
1973	52.0	52.0	0.0
1974	52.1	52.1	0.0
1975	52.0	52.0	0.0
1976	52.7	52.7	0.0
1977	55.6	55.6	0.0
1978	51.8	51.8	0.0
1979	52.3	52.3	0.0
1980	53.0	53.0	0.0
1981	53.1	53.1	0.0
1982	51.9	51.9	0.0
1983	52.0	52.0	0.0
1984	52.1	52.1	0.0
1985	50.9	50.9	0.0
1986	52.8	52.8	0.0
1987	52.3	52.3	0.0
1988	51.8	51.8	0.0
1989	52.2	52.2	0.0
1990	51.9	51.9	0.0
Mean:	52.4	52.4	0.0
Median:	52.2	52.2	0.0
Min:	50.9	50.9	0.0
Max:	56.1	56.1	0.0
X > 56.0	1	1	
Mean When X > 56.0	56.1	56.1	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	48.3	48.3	0.0
1923	48.0	48.0	0.0
1924	44.4	44.4	0.0
1925	47.9	47.9	0.0
1926	48.7	48.7	0.0
1927	48.4	48.4	0.0
1928	47.0	47.0	0.0
1929	48.8	48.8	0.0
1930	47.5	47.5	0.0
1931	48.3	48.4	0.1
1932	46.5	46.5	0.0
1933	48.1	48.1	0.0
1934	49.0	49.0	0.0
1935	48.9	48.9	0.0
1936	48.6	48.6	0.0
1937	48.9	48.9	0.0
1938	48.7	48.7	0.0
1939	51.3	51.3	0.0
1940	48.8	48.8	0.0
1941	49.2	49.2	0.0
1942	48.7	48.7	0.0
1943	48.5	48.5	0.0
1944	48.5	48.5	0.0
1945	47.6	47.6	0.0
1946	47.4	47.4	0.0
1947	46.7	46.7	0.0
1948	46.7	46.7	0.0
1949	47.6	47.6	0.0
1950	49.0	49.0	0.0
1951	48.0	48.0	0.0
1952	48.8	48.8	0.0
1953	48.7	48.7	0.0
1954	46.8	46.8	0.0
1955	48.5	48.5	0.0
1956	48.0	48.0	0.0
1957	47.0	47.0	0.0
1958	49.2	49.2	0.0
1959	51.3	51.3	0.0
1960	48.0	48.0	0.0
1961	47.4	47.4	0.0
1962	48.2	48.2	0.0
1963	46.0	46.0	0.0
1964	49.1	49.1	0.0
1965	47.5	47.5	0.0
1966	48.0	48.0	0.0
1967	48.6	48.6	0.0
1968	47.4	47.4	0.0
1969	49.0	49.0	0.0
1970	47.8	47.8	0.0
1971	47.3	47.3	0.0
1972	45.0	45.0	0.0
1973	48.8	48.8	0.0
1974	48.4	48.4	0.0
1975	48.6	48.6	0.0
1976	51.2	51.1	-0.1
1977	47.0	47.0	0.0
1978	47.0	47.0	0.0
1979	48.6	48.6	0.0
1980	48.7	48.7	0.0
1981	48.9	48.9	0.0
1982	48.4	48.4	0.0
1983	49.0	49.0	0.0
1984	48.0	48.0	0.0
1985	44.3	44.3	0.0
1986	47.8	47.8	0.0
1987	47.6	47.6	0.0
1988	47.2	47.2	0.0
1989	45.8	45.8	0.0
1990	46.0	46.0	0.0
Mean:	48.0	48.0	0.0
Median:	48.2	48.2	0.0
Min:	44.3	44.3	-0.1
Max:	51.3	51.3	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	42.3	42.3	0.0
1923	45.1	45.1	0.0
1924	45.3	45.3	0.0
1925	44.3	44.3	0.0
1926	43.8	43.8	0.0
1927	46.8	46.8	0.0
1928	46.7	46.7	0.0
1929	44.0	44.0	0.0
1930	44.5	44.5	0.0
1931	47.1	47.1	0.0
1932	45.4	45.3	-0.1
1933	44.4	44.4	0.0
1934	47.1	47.1	0.0
1935	46.8	46.8	0.0
1936	47.5	47.5	0.0
1937	43.6	43.6	0.0
1938	46.6	46.6	0.0
1939	46.9	46.9	0.0
1940	47.2	47.2	0.0
1941	47.2	47.2	0.0
1942	47.4	47.4	0.0
1943	47.0	47.0	0.0
1944	46.9	46.9	0.0
1945	46.1	46.1	0.0
1946	46.1	46.1	0.0
1947	45.0	45.0	0.0
1948	47.5	47.5	0.0
1949	42.5	42.5	0.0
1950	43.8	43.8	0.0
1951	46.6	46.6	0.0
1952	45.2	45.2	0.0
1953	47.1	47.1	0.0
1954	47.0	47.0	0.0
1955	44.0	44.0	0.0
1956	45.9	46.0	0.1
1957	45.7	45.7	0.0
1958	46.1	46.1	0.0
1959	48.0	48.0	0.0
1960	46.8	46.8	0.0
1961	45.5	45.5	0.0
1962	45.2	45.2	0.0
1963	45.5	45.5	0.0
1964	45.4	45.4	0.0
1965	45.4	45.4	0.0
1966	46.9	46.9	0.0
1967	46.8	46.8	0.0
1968	46.8	46.8	0.0
1969	45.2	45.2	0.0
1970	47.0	47.0	0.0
1971	46.5	46.5	0.0
1972	45.3	45.3	0.0
1973	45.4	45.4	0.0
1974	46.7	46.7	0.0
1975	46.5	46.5	0.0
1976	47.0	47.0	0.0
1977	46.0	46.0	0.0
1978	46.5	46.5	0.0
1979	45.7	45.7	0.0
1980	47.0	47.0	0.0
1981	47.0	47.0	0.0
1982	45.9	45.9	0.0
1983	45.7	45.7	0.0
1984	47.1	47.1	0.0
1985	45.2	45.2	0.0
1986	47.0	47.0	0.0
1987	46.6	46.6	0.0
1988	46.8	46.8	0.0
1989	45.6	45.6	0.0
1990	45.4	45.4	0.0
Mean:	46.0	46.0	0.0
Median:	46.1	46.1	0.0
Min:	42.3	42.3	-0.1
Max:	48.0	48.0	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.1	46.1	0.0
1923	46.7	46.7	0.0
1924	48.0	48.0	0.0
1925	47.3	47.3	0.0
1926	49.1	49.1	0.0
1927	46.4	46.4	0.0
1928	46.8	46.8	0.0
1929	46.7	46.7	0.0
1930	47.3	47.3	0.0
1931	49.0	49.0	0.0
1932	47.5	47.5	0.0
1933	46.8	46.8	0.0
1934	47.3	47.3	0.0
1935	48.2	48.2	0.0
1936	47.5	47.5	0.0
1937	46.7	46.7	0.0
1938	46.2	46.2	0.0
1939	46.3	46.3	0.0
1940	48.4	48.4	0.0
1941	46.6	46.6	0.0
1942	46.7	46.7	0.0
1943	46.5	46.5	0.0
1944	47.0	47.0	0.0
1945	47.7	47.7	0.0
1946	46.3	46.3	0.0
1947	47.5	47.5	0.0
1948	46.5	46.5	0.0
1949	45.0	45.1	0.1
1950	48.2	48.2	0.0
1951	46.3	46.3	0.0
1952	46.2	46.2	0.0
1953	47.6	47.6	0.0
1954	47.4	47.4	0.0
1955	46.5	46.5	0.0
1956	45.7	45.7	0.0
1957	46.3	46.3	0.0
1958	46.2	46.2	0.0
1959	49.4	49.4	0.0
1960	48.1	48.1	0.0
1961	48.6	48.6	0.0
1962	47.9	47.9	0.0
1963	46.7	46.7	0.0
1964	47.8	47.8	0.0
1965	46.6	46.6	0.0
1966	46.9	46.9	0.0
1967	46.6	46.6	0.0
1968	47.6	47.6	0.0
1969	46.1	46.1	0.0
1970	46.5	46.5	0.0
1971	46.9	46.9	0.0
1972	46.6	46.6	0.0
1973	46.5	46.5	0.0
1974	46.5	46.5	0.0
1975	46.3	46.3	0.0
1976	47.6	47.6	0.0
1977	47.1	47.1	0.0
1978	49.0	49.0	0.0
1979	46.3	46.3	0.0
1980	46.4	46.4	0.0
1981	47.2	47.2	0.0
1982	46.3	46.3	0.0
1983	46.2	46.2	0.0
1984	47.3	47.3	0.0
1985	47.7	47.7	0.0
1986	46.3	46.3	0.0
1987	47.3	47.3	0.0
1988	49.5	49.5	0.0
1989	47.7	47.7	0.0
1990	46.6	46.6	0.0
Mean:	47.1	47.1	0.0
Median:	46.8	46.8	0.0
Min:	45.0	45.1	0.0
Max:	49.5	49.5	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	47.7	47.7	0.0
1923	48.8	48.8	0.0
1924	48.3	48.3	0.0
1925	48.5	48.5	0.0
1926	54.0	54.0	0.0
1927	47.8	47.8	0.0
1928	47.3	47.3	0.0
1929	49.1	49.1	0.0
1930	52.7	52.7	0.0
1931	52.1	52.1	0.0
1932	49.8	49.8	0.0
1933	48.1	48.1	0.0
1934	55.1	55.1	0.0
1935	50.0	50.0	0.0
1936	50.4	50.4	0.0
1937	49.8	49.8	0.0
1938	47.2	47.2	0.0
1939	48.1	48.1	0.0
1940	47.7	47.7	0.0
1941	47.8	47.8	0.0
1942	48.7	48.7	0.0
1943	47.6	47.6	0.0
1944	49.8	49.8	0.0
1945	48.6	48.6	0.0
1946	47.9	47.9	0.0
1947	50.1	50.1	0.0
1948	49.0	49.0	0.0
1949	48.8	48.8	0.0
1950	51.1	51.1	0.0
1951	48.1	48.1	0.0
1952	47.5	47.5	0.0
1953	47.8	47.8	0.0
1954	47.8	47.8	0.0
1955	49.3	49.3	0.0
1956	47.9	47.9	0.0
1957	48.0	48.0	0.0
1958	47.4	47.4	0.0
1959	51.3	51.3	0.0
1960	52.2	52.2	0.0
1961	50.7	50.7	0.0
1962	51.5	51.5	0.0
1963	47.8	47.8	0.0
1964	49.4	49.4	0.0
1965	48.4	48.4	0.0
1966	48.4	48.4	0.0
1967	47.6	47.6	0.0
1968	48.2	48.2	0.0
1969	47.9	47.9	0.0
1970	48.6	48.6	0.0
1971	47.6	47.6	0.0
1972	48.4	48.4	0.0
1973	47.8	47.8	0.0
1974	47.2	47.2	0.0
1975	47.5	47.5	0.0
1976	48.6	48.6	0.0
1977	47.4	47.4	0.0
1978	54.0	54.0	0.0
1979	48.5	48.5	0.0
1980	48.1	48.1	0.0
1981	47.9	47.9	0.0
1982	47.5	47.5	0.0
1983	47.1	47.1	0.0
1984	48.2	48.2	0.0
1985	48.0	48.0	0.0
1986	47.4	47.4	0.0
1987	49.6	49.6	0.0
1988	50.3	50.3	0.0
1989	50.5	50.5	0.0
1990	51.9	51.9	0.0
Mean:	49.0	49.0	0.0
Median:	48.4	48.4	0.0
Min:	47.1	47.1	0.0
Max:	55.1	55.1	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.9	50.9	0.0
1923	51.1	51.1	0.0
1924	51.0	51.0	0.0
1925	51.7	51.7	0.0
1926	51.5	51.5	0.0
1927	50.4	50.4	0.0
1928	51.6	51.6	0.0
1929	50.5	50.5	0.0
1930	51.5	51.5	0.0
1931	51.3	51.3	0.0
1932	50.4	50.4	0.0
1933	50.9	50.9	0.0
1934	51.5	51.5	0.0
1935	52.5	52.5	0.0
1936	52.2	52.2	0.0
1937	51.3	51.3	0.0
1938	49.8	49.8	0.0
1939	51.0	51.0	0.0
1940	50.8	50.8	0.0
1941	50.8	50.8	0.0
1942	49.9	49.9	0.0
1943	50.7	50.7	0.0
1944	50.7	50.7	0.0
1945	51.5	51.5	0.0
1946	51.6	51.6	0.0
1947	51.2	51.2	0.0
1948	51.8	51.8	0.0
1949	52.5	52.5	0.0
1950	52.1	52.1	0.0
1951	51.3	51.3	0.0
1952	49.8	49.8	0.0
1953	50.3	50.3	0.0
1954	50.7	50.7	0.0
1955	50.7	50.7	0.0
1956	50.7	50.7	0.0
1957	50.5	50.5	0.0
1958	50.2	50.2	0.0
1959	51.6	51.6	0.0
1960	51.3	51.3	0.0
1961	51.1	51.1	0.0
1962	52.2	52.2	0.0
1963	49.7	49.7	0.0
1964	50.1	50.1	0.0
1965	50.3	50.3	0.0
1966	52.4	52.4	0.0
1967	50.4	50.4	0.0
1968	50.7	50.7	0.0
1969	50.2	50.2	0.0
1970	50.3	50.3	0.0
1971	50.4	50.4	0.0
1972	51.4	51.4	0.0
1973	51.7	51.7	0.0
1974	50.0	50.0	0.0
1975	51.0	51.0	0.0
1976	50.4	50.4	0.0
1977	49.3	49.3	0.0
1978	51.2	51.2	0.0
1979	51.0	51.0	0.0
1980	51.6	51.6	0.0
1981	51.7	51.7	0.0
1982	49.5	49.5	0.0
1983	49.9	49.9	0.0
1984	50.6	50.6	0.0
1985	51.2	51.2	0.0
1986	51.6	51.6	0.0
1987	51.4	51.4	0.0
1988	52.0	52.0	0.0
1989	52.8	52.8	0.0
1990	51.4	51.4	0.0
Mean:	51.0	51.0	0.0
Median:	51.0	51.0	0.0
Min:	49.3	49.3	0.0
Max:	52.8	52.8	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	54.2	54.2	0.0
1923	55.3	55.3	0.0
1924	55.8	55.8	0.0
1925	55.8	55.8	0.0
1926	54.9	54.9	0.0
1927	54.9	54.9	0.0
1928	54.9	54.9	0.0
1929	55.0	55.0	0.0
1930	54.7	54.7	0.0
1931	57.0	57.0	0.0
1932	56.5	56.5	0.0
1933	55.1	55.1	0.0
1934	55.8	55.8	0.0
1935	55.1	55.1	0.0
1936	56.4	56.4	0.0
1937	56.3	56.3	0.0
1938	54.1	54.1	0.0
1939	55.0	55.0	0.0
1940	55.5	55.5	0.0
1941	54.5	54.5	0.0
1942	54.2	54.2	0.0
1943	55.9	55.9	0.0
1944	55.6	55.6	0.0
1945	55.7	55.7	0.0
1946	55.7	55.7	0.0
1947	55.2	55.2	0.0
1948	55.5	55.5	0.0
1949	56.5	56.5	0.0
1950	55.5	55.5	0.0
1951	56.5	56.5	0.0
1952	53.7	53.7	0.0
1953	54.5	54.5	0.0
1954	54.6	54.6	0.0
1955	55.9	55.9	0.0
1956	54.3	54.3	0.0
1957	55.8	55.8	0.0
1958	54.5	54.5	0.0
1959	55.0	55.0	0.0
1960	55.8	55.8	0.0
1961	55.4	55.4	0.0
1962	55.6	55.6	0.0
1963	55.1	55.1	0.0
1964	55.2	55.2	0.0
1965	54.8	54.8	0.0
1966	55.3	55.3	0.0
1967	54.4	54.4	0.0
1968	55.9	55.9	0.0
1969	54.5	54.5	0.0
1970	56.5	56.5	0.0
1971	54.2	54.2	0.0
1972	56.2	56.2	0.0
1973	56.4	56.4	0.0
1974	54.8	54.8	0.0
1975	54.6	54.6	0.0
1976	55.6	55.6	0.0
1977	53.8	53.8	0.0
1978	55.6	55.6	0.0
1979	56.2	56.2	0.0
1980	55.6	55.6	0.0
1981	56.2	56.2	0.0
1982	54.7	54.7	0.0
1983	54.3	54.3	0.0
1984	56.1	56.1	0.0
1985	54.5	54.5	0.0
1986	55.7	55.7	0.0
1987	56.2	56.2	0.0
1988	56.2	56.2	0.0
1989	55.2	55.2	0.0
1990	56.9	56.9	0.0
Mean:	55.3	55.3	0.0
Median:	55.4	55.4	0.0
Min:	53.7	53.7	0.0
Max:	57.0	57.0	0.0
X > 56.0	15	15	
Mean When X > 56.0	56.4	56.4	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.2	57.2	0.0
1923	56.4	56.4	0.0
1924	57.6	57.6	0.0
1925	57.6	57.6	0.0
1926	57.6	57.6	0.0
1927	57.4	57.4	0.0
1928	57.0	57.0	0.0
1929	57.2	57.2	0.0
1930	57.1	57.1	0.0
1931	57.9	57.9	0.0
1932	58.1	58.1	0.0
1933	57.4	57.4	0.0
1934	57.6	57.6	0.0
1935	57.1	57.1	0.0
1936	57.4	57.4	0.0
1937	57.0	57.0	0.0
1938	57.0	57.0	0.0
1939	57.2	57.2	0.0
1940	57.4	57.4	0.0
1941	56.7	56.7	0.0
1942	56.9	56.9	0.0
1943	56.6	56.6	0.0
1944	56.8	56.8	0.0
1945	57.1	57.1	0.0
1946	56.9	56.9	0.0
1947	57.0	57.0	0.0
1948	58.1	58.1	0.0
1949	57.1	57.1	0.0
1950	56.8	56.8	0.0
1951	57.9	57.9	0.0
1952	56.4	56.4	0.0
1953	56.8	56.8	0.0
1954	57.1	57.1	0.0
1955	56.9	56.9	0.0
1956	57.5	57.5	0.0
1957	57.6	57.6	0.0
1958	57.0	57.0	0.0
1959	57.1	57.1	0.0
1960	57.8	57.8	0.0
1961	58.1	58.1	0.0
1962	57.6	57.6	0.0
1963	56.9	56.9	0.0
1964	57.1	57.1	0.0
1965	58.0	58.0	0.0
1966	57.3	57.3	0.0
1967	56.8	56.8	0.0
1968	57.4	57.4	0.0
1969	57.5	57.5	0.0
1970	57.5	57.5	0.0
1971	57.1	57.1	0.0
1972	57.6	57.6	0.0
1973	57.4	57.4	0.0
1974	57.2	57.2	0.0
1975	57.2	57.2	0.0
1976	57.2	57.2	0.0
1977	64.9	64.9	0.0
1978	57.5	57.5	0.0
1979	57.1	57.1	0.0
1980	57.9	57.9	0.0
1981	58.0	58.0	0.0
1982	57.1	57.1	0.0
1983	56.6	56.6	0.0
1984	57.0	57.0	0.0
1985	57.2	57.2	0.0
1986	57.5	57.5	0.0
1987	57.7	57.7	0.0
1988	58.7	58.7	0.0
1989	57.2	57.2	0.0
1990	57.5	57.5	0.0
Mean:	57.4	57.4	0.0
Median:	57.2	57.2	0.0
Min:	56.4	56.4	0.0
Max:	64.9	64.9	0.0
X > 56.0	69	69	
Mean When X > 56.0	57.4	57.4	
X > 60.0	1	1	
Mean When X > 60.0	64.9	64.9	
X > 62.5	1	1	
Mean When X > 62.5	64.9	64.9	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	61.4	61.4	0.0
1923	61.0	61.0	0.0
1924	61.1	61.1	0.0
1925	61.4	61.4	0.0
1926	61.2	61.2	0.0
1927	61.2	61.2	0.0
1928	61.0	61.1	0.1
1929	62.1	62.1	0.0
1930	60.8	60.8	0.0
1931	62.0	62.0	0.0
1932	62.5	62.5	0.0
1933	62.5	62.5	0.0
1934	62.1	62.1	0.0
1935	60.7	60.7	0.0
1936	61.4	61.4	0.0
1937	62.0	62.0	0.0
1938	61.7	61.7	0.0
1939	61.0	61.0	0.0
1940	60.6	60.6	0.0
1941	62.2	62.2	0.0
1942	61.3	61.3	0.0
1943	61.0	61.0	0.0
1944	60.7	60.7	0.0
1945	61.1	61.1	0.0
1946	60.9	60.9	0.0
1947	60.6	60.6	0.0
1948	60.6	60.6	0.0
1949	61.5	61.5	0.0
1950	60.9	60.9	0.0
1951	60.7	60.7	0.0
1952	62.2	62.2	0.0
1953	61.3	61.3	0.0
1954	61.0	61.0	0.0
1955	61.6	61.6	0.0
1956	61.2	61.2	0.0
1957	61.0	61.0	0.0
1958	62.0	62.0	0.0
1959	61.1	61.1	0.0
1960	61.6	61.6	0.0
1961	61.6	61.6	0.0
1962	61.1	61.1	0.0
1963	61.0	61.1	0.1
1964	61.0	61.0	0.0
1965	61.1	61.1	0.0
1966	60.6	60.6	0.0
1967	63.3	63.3	0.0
1968	61.0	61.0	0.0
1969	62.2	62.2	0.0
1970	61.4	61.4	0.0
1971	61.2	61.2	0.0
1972	61.4	61.4	0.0
1973	61.4	61.4	0.0
1974	61.9	61.9	0.0
1975	61.3	61.3	0.0
1976	60.6	60.6	0.0
1977	79.3	79.3	0.0
1978	61.7	61.7	0.0
1979	60.9	60.9	0.0
1980	61.8	61.8	0.0
1981	60.8	60.8	0.0
1982	61.6	61.6	0.0
1983	61.3	61.3	0.0
1984	61.3	61.3	0.0
1985	60.8	60.8	0.0
1986	61.0	61.0	0.0
1987	60.5	60.5	0.0
1988	63.8	63.8	0.0
1989	60.6	60.6	0.0
1990	62.2	62.2	0.0
Mean:	61.6	61.6	0.0
Median:	61.2	61.2	0.0
Min:	60.5	60.5	0.0
Max:	79.3	79.3	0.1
X > 56.0	69	69	
Mean When X > 56.0	61.6	61.6	
X > 60.0	69	69	
Mean When X > 60.0	61.6	61.6	
X > 62.5	3	3	
Mean When X > 62.5	68.8	68.8	
X > 65.0	1	1	
Mean When X > 65.0	79.3	79.3	
X > 67.5	1	1	
Mean When X > 67.5	79.3	79.3	
X > 70.0	1	1	
Mean When X > 70.0	79.3	79.3	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	59.7	59.7	0.0
1923	60.1	60.1	0.0
1924	61.1	61.1	0.0
1925	60.4	60.4	0.0
1926	59.9	59.9	0.0
1927	59.8	59.8	0.0
1928	60.4	60.2	-0.2
1929	60.9	60.9	0.0
1930	59.7	59.7	0.0
1931	61.6	61.6	0.0
1932	61.8	61.8	0.0
1933	61.8	61.8	0.0
1934	60.8	60.8	0.0
1935	60.3	60.3	0.0
1936	60.4	60.4	0.0
1937	60.4	60.4	0.0
1938	60.5	60.5	0.0
1939	60.0	60.0	0.0
1940	59.8	59.8	0.0
1941	61.1	61.1	0.0
1942	60.4	60.4	0.0
1943	59.7	59.7	0.0
1944	59.9	59.9	0.0
1945	59.9	59.9	0.0
1946	60.0	60.0	0.0
1947	59.7	59.7	0.0
1948	59.6	59.6	0.0
1949	60.0	60.0	0.0
1950	59.9	59.9	0.0
1951	60.0	60.0	0.0
1952	62.0	62.0	0.0
1953	60.8	60.8	0.0
1954	59.9	59.9	0.0
1955	61.6	61.6	0.0
1956	59.9	59.9	0.0
1957	60.1	60.1	0.0
1958	62.7	62.7	0.0
1959	59.9	59.9	0.0
1960	60.4	60.4	0.0
1961	60.4	60.4	0.0
1962	60.0	60.0	0.0
1963	60.3	60.2	-0.1
1964	60.1	60.1	0.0
1965	60.4	60.4	0.0
1966	60.4	60.4	0.0
1967	63.2	63.2	0.0
1968	59.9	59.9	0.0
1969	62.7	62.7	0.0
1970	60.3	60.3	0.0
1971	60.7	60.7	0.0
1972	60.4	60.4	0.0
1973	60.2	60.2	0.0
1974	62.8	62.8	0.0
1975	62.5	62.5	0.0
1976	59.9	59.9	0.0
1977	78.3	78.3	0.0
1978	60.1	60.1	0.0
1979	59.8	59.8	0.0
1980	60.1	60.1	0.0
1981	60.2	60.2	0.0
1982	60.9	60.9	0.0
1983	61.8	62.0	0.2
1984	60.8	60.8	0.0
1985	59.6	59.6	0.0
1986	60.3	60.3	0.0
1987	59.9	59.9	0.0
1988	61.2	61.2	0.0
1989	59.6	59.6	0.0
1990	60.7	60.7	0.0
Mean:	60.8	60.8	0.0
Median:	60.3	60.3	0.0
Min:	59.6	59.6	-0.2
Max:	78.3	78.3	0.2
X > 56.0	69	69	
Mean When X > 56.0	60.8	60.8	
X > 60.0	44	44	
Mean When X > 60.0	61.3	61.3	
X > 62.5	5	5	
Mean When X > 62.5	65.9	65.9	
X > 65.0	1	1	
Mean When X > 65.0	78.3	78.3	
X > 67.5	1	1	
Mean When X > 67.5	78.3	78.3	
X > 70.0	1	1	
Mean When X > 70.0	78.3	78.3	
# Years Diff <= 0.3			69

Feather River Temperature at the Fish Dam

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	57.0	57.0	0.0
1923	57.6	57.6	0.0
1924	56.0	56.0	0.0
1925	56.0	56.0	0.0
1926	55.3	55.3	0.0
1927	55.8	55.8	0.0
1928	55.9	55.9	0.0
1929	56.9	56.9	0.0
1930	55.8	55.8	0.0
1931	56.4	56.4	0.0
1932	57.5	57.5	0.0
1933	57.2	57.2	0.0
1934	56.2	56.2	0.0
1935	56.1	56.1	0.0
1936	56.9	56.9	0.0
1937	56.2	56.2	0.0
1938	57.3	57.3	0.0
1939	55.8	55.8	0.0
1940	55.7	55.7	0.0
1941	56.0	56.0	0.0
1942	56.2	56.2	0.0
1943	56.5	56.5	0.0
1944	55.8	55.8	0.0
1945	56.5	56.5	0.0
1946	56.4	56.4	0.0
1947	55.7	55.7	0.0
1948	56.3	56.3	0.0
1949	56.6	56.6	0.0
1950	56.2	56.2	0.0
1951	56.2	56.2	0.0
1952	55.5	55.5	0.0
1953	56.6	56.6	0.0
1954	55.7	55.7	0.0
1955	56.7	56.7	0.0
1956	56.4	56.4	0.0
1957	58.3	58.3	0.0
1958	55.9	55.9	0.0
1959	57.0	57.0	0.0
1960	56.7	56.7	0.0
1961	55.6	55.6	0.0
1962	56.2	56.2	0.0
1963	57.2	57.2	0.0
1964	55.5	55.5	0.0
1965	56.1	56.1	0.0
1966	56.2	56.2	0.0
1967	55.8	55.8	0.0
1968	55.6	55.6	0.0
1969	55.5	55.5	0.0
1970	56.2	56.2	0.0
1971	56.7	56.7	0.0
1972	56.4	56.4	0.0
1973	56.5	56.5	0.0
1974	57.4	57.4	0.0
1975	57.3	57.3	0.0
1976	55.6	55.6	0.0
1977	69.9	69.9	0.0
1978	57.1	57.1	0.0
1979	57.1	57.1	0.0
1980	56.7	56.7	0.0
1981	55.2	55.2	0.0
1982	57.2	57.2	0.0
1983	55.1	55.1	0.0
1984	56.6	56.6	0.0
1985	54.5	54.5	0.0
1986	55.4	55.4	0.0
1987	54.8	54.8	0.0
1988	55.8	55.8	0.0
1989	57.0	57.0	0.0
1990	56.0	56.0	0.0
Mean:	56.5	56.5	0.0
Median:	56.2	56.2	0.0
Min:	54.5	54.5	0.0
Max:	69.9	69.9	0.0
X > 56.0	42	42	
Mean When X > 56.0	57.0	57.0	
X > 60.0	1	1	
Mean When X > 60.0	69.9	69.9	
X > 62.5	1	1	
Mean When X > 62.5	69.9	69.9	
X > 65.0	1	1	
Mean When X > 65.0	69.9	69.9	
X > 67.5	1	1	
Mean When X > 67.5	69.9	69.9	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

October			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	55.5	55.5	0.0
1923	55.9	55.9	0.0
1924	54.5	54.5	0.0
1925	56.4	56.4	0.0
1926	55.8	55.8	0.0
1927	56.7	56.7	0.0
1928	55.4	55.4	0.0
1929	56.7	56.7	0.0
1930	55.5	55.5	0.0
1931	55.7	55.7	0.0
1932	56.5	56.5	0.0
1933	57.7	57.7	0.0
1934	56.3	56.3	0.0
1935	55.7	55.7	0.0
1936	56.7	56.7	0.0
1937	56.7	56.7	0.0
1938	55.2	55.2	0.0
1939	55.9	55.9	0.0
1940	56.5	56.5	0.0
1941	55.6	55.6	0.0
1942	56.8	56.8	0.0
1943	55.1	55.1	0.0
1944	56.5	56.5	0.0
1945	57.2	57.2	0.0
1946	54.7	54.7	0.0
1947	55.3	55.3	0.0
1948	55.7	55.7	0.0
1949	55.7	55.7	0.0
1950	56.6	56.6	0.0
1951	54.2	54.2	0.0
1952	56.6	56.6	0.0
1953	55.8	55.8	0.0
1954	55.3	55.3	0.0
1955	56.4	56.4	0.0
1956	55.9	55.9	0.0
1957	55.0	55.0	0.0
1958	56.5	56.5	0.0
1959	56.2	56.2	0.0
1960	56.6	56.6	0.0
1961	57.1	57.1	0.0
1962	57.6	57.6	0.0
1963	57.1	57.1	0.0
1964	57.4	57.4	0.0
1965	57.9	57.9	0.0
1966	56.2	56.2	0.0
1967	56.3	56.3	0.0
1968	55.6	55.6	0.0
1969	55.3	55.3	0.0
1970	55.7	55.7	0.0
1971	55.5	55.5	0.0
1972	56.3	56.3	0.0
1973	56.8	56.8	0.0
1974	57.0	57.0	0.0
1975	55.3	55.3	0.0
1976	57.4	57.4	0.0
1977	65.4	65.4	0.0
1978	58.0	58.0	0.0
1979	57.2	57.2	0.0
1980	57.7	57.7	0.0
1981	55.5	55.5	0.0
1982	55.6	55.6	0.0
1983	56.2	56.2	0.0
1984	54.8	54.8	0.0
1985	54.8	54.8	0.0
1986	55.5	55.5	0.0
1987	56.8	56.8	0.0
1988	56.2	56.2	0.0
1989	54.7	54.7	0.0
1990	56.1	56.1	0.0
Mean:	56.3	56.3	0.0
Median:	56.2	56.2	0.0
Min:	54.2	54.2	0.0
Max:	65.4	65.4	0.0
X > 56.0	37	37	
Mean When X > 56.0	57.0	57.0	
X > 60.0	1	1	
Mean When X > 60.0	65.4	65.4	
X > 62.5	1	1	
Mean When X > 62.5	65.4	65.4	
X > 65.0	1	1	
Mean When X > 65.0	65.4	65.4	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

November			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	50.8	50.8	0.0
1923	53.6	53.6	0.0
1924	50.9	50.9	0.0
1925	52.1	52.1	0.0
1926	54.4	54.4	0.0
1927	52.5	52.5	0.0
1928	51.8	51.8	0.0
1929	53.4	53.4	0.0
1930	52.5	52.5	0.0
1931	52.0	52.0	0.0
1932	54.4	54.4	0.0
1933	53.5	53.5	0.0
1934	53.0	53.0	0.0
1935	51.8	51.8	0.0
1936	53.0	53.0	0.0
1937	53.0	53.0	0.0
1938	51.8	51.8	0.0
1939	53.3	53.4	0.1
1940	51.8	51.8	0.0
1941	52.9	52.9	0.0
1942	52.2	52.2	0.0
1943	52.2	52.2	0.0
1944	51.6	51.6	0.0
1945	52.0	52.0	0.0
1946	51.5	51.5	0.0
1947	50.8	50.8	0.0
1948	52.1	52.1	0.0
1949	54.5	54.5	0.0
1950	53.5	53.5	0.0
1951	52.2	52.2	0.0
1952	52.1	52.1	0.0
1953	52.6	52.6	0.0
1954	51.8	51.8	0.0
1955	52.0	52.0	0.0
1956	52.4	52.4	0.0
1957	51.6	51.6	0.0
1958	52.9	52.9	0.0
1959	53.2	53.1	-0.1
1960	52.8	52.8	0.0
1961	55.5	55.5	0.0
1962	53.8	53.8	0.0
1963	52.1	52.1	0.0
1964	51.6	51.6	0.0
1965	53.1	53.1	0.0
1966	53.3	53.3	0.0
1967	53.8	53.8	0.0
1968	52.2	52.2	0.0
1969	52.8	52.8	0.0
1970	53.3	53.3	0.0
1971	52.4	52.4	0.0
1972	51.5	51.5	0.0
1973	52.1	52.1	0.0
1974	52.2	52.2	0.0
1975	51.9	51.9	0.0
1976	53.6	53.6	0.0
1977	55.5	55.5	0.0
1978	51.8	51.8	0.0
1979	52.6	52.6	0.0
1980	54.1	54.1	0.0
1981	53.6	53.6	0.0
1982	51.5	51.5	0.0
1983	52.1	52.1	0.0
1984	52.1	52.1	0.0
1985	50.6	50.6	0.0
1986	53.2	53.2	0.0
1987	52.5	52.5	0.0
1988	51.7	51.7	0.0
1989	52.4	52.4	0.0
1990	51.8	51.8	0.0
Mean:	52.6	52.6	0.0
Median:	52.4	52.4	0.0
Min:	50.6	50.6	-0.1
Max:	55.5	55.5	0.1
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

December			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	47.7	47.7	0.0
1923	47.2	47.2	0.0
1924	43.6	43.6	0.0
1925	47.3	47.3	0.0
1926	48.2	48.2	0.0
1927	47.5	47.5	0.0
1928	46.1	46.1	0.0
1929	48.6	48.6	0.0
1930	46.6	46.6	0.0
1931	47.5	47.5	0.0
1932	45.4	45.4	0.0
1933	47.3	47.3	0.0
1934	48.5	48.5	0.0
1935	48.4	48.4	0.0
1936	47.8	47.8	0.0
1937	48.8	48.8	0.0
1938	48.3	48.3	0.0
1939	50.9	50.9	0.0
1940	48.7	48.7	0.0
1941	49.1	49.1	0.0
1942	47.9	47.9	0.0
1943	48.0	48.0	0.0
1944	48.2	48.2	0.0
1945	47.1	47.1	0.0
1946	46.8	46.8	0.0
1947	46.0	46.0	0.0
1948	45.8	45.7	-0.1
1949	46.8	46.8	0.0
1950	48.8	48.8	0.0
1951	47.3	47.3	0.0
1952	48.1	48.1	0.0
1953	48.3	48.3	0.0
1954	45.8	45.8	0.0
1955	48.2	48.2	0.0
1956	47.2	47.2	0.0
1957	46.4	46.4	0.0
1958	49.4	49.4	0.0
1959	50.1	50.1	0.0
1960	47.5	47.5	0.0
1961	46.7	46.7	0.0
1962	47.7	47.6	-0.1
1963	44.9	44.9	0.0
1964	49.1	49.1	0.0
1965	46.3	46.3	0.0
1966	47.5	47.5	0.0
1967	48.0	48.0	0.0
1968	46.6	46.6	0.0
1969	48.9	48.9	0.0
1970	47.1	47.1	0.0
1971	46.4	46.4	0.0
1972	44.1	44.1	0.0
1973	48.4	48.4	0.0
1974	47.6	47.6	0.0
1975	48.0	48.0	0.0
1976	50.5	50.4	-0.1
1977	47.3	47.3	0.0
1978	46.0	46.0	0.0
1979	48.2	48.2	0.0
1980	48.6	48.6	0.0
1981	48.7	48.7	0.0
1982	47.7	47.7	0.0
1983	48.9	48.9	0.0
1984	47.5	47.5	0.0
1985	43.7	43.7	0.0
1986	47.2	47.2	0.0
1987	47.3	47.3	0.0
1988	46.8	46.8	0.0
1989	45.1	45.1	0.0
1990	44.9	44.9	0.0
Mean:	47.4	47.4	0.0
Median:	47.5	47.5	0.0
Min:	43.6	43.6	-0.1
Max:	50.9	50.9	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

January			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	41.8	41.8	0.0
1923	44.5	44.5	0.0
1924	44.9	44.9	0.0
1925	44.3	44.3	0.0
1926	43.3	43.3	0.0
1927	46.7	46.7	0.0
1928	46.5	46.5	0.0
1929	43.4	43.4	0.0
1930	44.1	44.1	0.0
1931	47.1	47.1	0.0
1932	45.1	45.1	0.0
1933	43.9	43.9	0.0
1934	47.1	47.1	0.0
1935	46.5	46.5	0.0
1936	47.8	47.8	0.0
1937	42.6	42.6	0.0
1938	46.3	46.3	0.0
1939	46.8	46.8	0.0
1940	47.3	47.3	0.0
1941	47.4	47.4	0.0
1942	47.1	47.1	0.0
1943	46.9	46.9	0.0
1944	46.7	46.7	0.0
1945	45.8	45.8	0.0
1946	45.9	45.9	0.0
1947	44.5	44.5	0.0
1948	47.8	47.8	0.0
1949	41.7	41.7	0.0
1950	43.5	43.5	0.0
1951	46.2	46.2	0.0
1952	44.7	44.7	0.0
1953	47.3	47.3	0.0
1954	46.8	46.8	0.0
1955	43.4	43.4	0.0
1956	46.0	46.0	0.0
1957	45.1	45.1	0.0
1958	46.0	46.0	0.0
1959	48.1	48.1	0.0
1960	46.4	46.4	0.0
1961	45.0	45.0	0.0
1962	45.0	45.0	0.0
1963	44.8	44.8	0.0
1964	45.3	45.3	0.0
1965	45.4	45.4	0.0
1966	46.8	46.8	0.0
1967	46.7	46.7	0.0
1968	46.2	46.2	0.0
1969	44.9	44.9	0.0
1970	47.1	47.1	0.0
1971	46.4	46.4	0.0
1972	44.7	44.7	0.0
1973	45.3	45.3	0.0
1974	46.7	46.7	0.0
1975	46.0	46.0	0.0
1976	47.0	47.0	0.0
1977	45.2	45.2	0.0
1978	47.0	47.0	0.0
1979	45.5	45.5	0.0
1980	47.1	47.1	0.0
1981	47.0	47.0	0.0
1982	45.2	45.2	0.0
1983	45.3	45.3	0.0
1984	47.0	47.0	0.0
1985	44.3	44.3	0.0
1986	47.2	47.2	0.0
1987	46.2	46.2	0.0
1988	46.8	46.8	0.0
1989	45.3	45.3	0.0
1990	45.3	45.3	0.0
Mean:	45.7	45.7	0.0
Median:	46.0	46.0	0.0
Min:	41.7	41.7	0.0
Max:	48.1	48.1	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

February			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	46.6	46.6	0.0
1923	47.3	47.3	0.0
1924	49.6	49.6	0.0
1925	47.8	47.8	0.0
1926	50.0	50.0	0.0
1927	47.6	47.6	0.0
1928	47.9	47.9	0.0
1929	47.2	47.2	0.0
1930	48.9	48.9	0.0
1931	50.3	50.3	0.0
1932	48.1	48.1	0.0
1933	47.1	47.1	0.0
1934	48.8	48.8	0.0
1935	48.9	48.9	0.0
1936	48.4	48.4	0.0
1937	47.2	47.2	0.0
1938	47.1	47.1	0.0
1939	46.7	46.7	0.0
1940	49.5	49.5	0.0
1941	48.1	48.1	0.0
1942	47.5	47.5	0.0
1943	47.8	47.8	0.0
1944	47.7	47.7	0.0
1945	48.9	48.9	0.0
1946	46.9	46.9	0.0
1947	48.5	48.5	0.0
1948	47.0	47.0	0.0
1949	45.5	45.5	0.0
1950	48.9	48.9	0.0
1951	47.3	47.3	0.0
1952	47.1	47.1	0.0
1953	48.7	48.7	0.0
1954	48.0	48.0	0.0
1955	47.0	47.0	0.0
1956	46.2	46.2	0.0
1957	47.9	47.9	0.0
1958	46.6	46.6	0.0
1959	49.7	49.7	0.0
1960	48.9	48.9	0.0
1961	49.7	49.7	0.0
1962	48.4	48.4	0.0
1963	49.6	49.6	0.0
1964	48.8	48.8	0.0
1965	47.8	47.8	0.0
1966	47.6	47.6	0.0
1967	47.6	47.6	0.0
1968	49.7	49.7	0.0
1969	46.8	46.8	0.0
1970	48.3	48.3	0.0
1971	47.7	47.7	0.0
1972	48.1	48.1	0.0
1973	48.1	48.1	0.0
1974	47.4	47.4	0.0
1975	47.3	47.3	0.0
1976	48.9	48.9	0.0
1977	49.0	49.0	0.0
1978	49.9	49.9	0.0
1979	47.4	47.4	0.0
1980	48.3	48.3	0.0
1981	48.9	48.9	0.0
1982	47.9	47.9	0.0
1983	46.7	46.7	0.0
1984	48.3	48.3	0.0
1985	48.9	48.9	0.0
1986	47.5	47.5	0.0
1987	48.4	48.4	0.0
1988	51.0	51.0	0.0
1989	48.1	48.1	0.0
1990	46.8	46.8	0.0
Mean:	48.1	48.1	0.0
Median:	48.0	48.0	0.0
Min:	45.5	45.5	0.0
Max:	51.0	51.0	0.0
X > 56.0	0	0	
Mean When X > 56.0	0.0	0.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

March			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	49.2	49.2	0.0
1923	51.6	51.6	0.0
1924	50.4	50.4	0.0
1925	50.1	50.1	0.0
1926	56.4	56.4	0.0
1927	49.8	49.8	0.0
1928	47.9	47.9	0.0
1929	50.7	50.7	0.0
1930	54.2	54.2	0.0
1931	54.0	54.0	0.0
1932	52.3	52.3	0.0
1933	50.4	50.4	0.0
1934	57.5	57.5	0.0
1935	50.9	50.9	0.0
1936	52.7	52.7	0.0
1937	51.7	51.7	0.0
1938	48.1	48.1	0.0
1939	50.5	50.5	0.0
1940	50.8	50.8	0.0
1941	50.9	50.9	0.0
1942	50.7	50.7	0.0
1943	50.2	50.2	0.0
1944	51.9	51.9	0.0
1945	49.7	49.7	0.0
1946	50.1	50.1	0.0
1947	52.3	52.3	0.0
1948	49.9	49.9	0.0
1949	50.3	50.3	0.0
1950	52.2	52.2	0.0
1951	50.0	50.0	0.0
1952	48.9	48.9	0.0
1953	49.9	49.9	0.0
1954	49.5	49.5	0.0
1955	51.4	51.4	0.0
1956	50.3	50.3	0.0
1957	50.6	50.6	0.0
1958	49.0	49.0	0.0
1959	53.4	53.4	0.0
1960	53.9	53.9	0.0
1961	52.2	52.2	0.0
1962	52.6	52.6	0.0
1963	49.9	49.9	0.0
1964	51.0	51.0	0.0
1965	51.1	51.1	0.0
1966	51.0	51.0	0.0
1967	49.9	49.9	0.0
1968	51.2	51.2	0.0
1969	50.3	50.3	0.0
1970	51.4	51.4	0.0
1971	49.9	49.9	0.0
1972	52.1	52.1	0.0
1973	49.6	49.6	0.0
1974	47.6	47.6	0.0
1975	49.6	49.6	0.0
1976	50.4	50.4	0.0
1977	49.5	49.5	0.0
1978	55.9	55.9	0.0
1979	51.3	51.3	0.0
1980	50.3	50.3	0.0
1981	50.2	50.2	0.0
1982	49.2	49.2	0.0
1983	47.4	47.4	0.0
1984	51.7	51.7	0.0
1985	49.7	49.7	0.0
1986	48.4	48.4	0.0
1987	51.7	51.7	0.0
1988	53.2	53.2	0.0
1989	52.5	52.5	0.0
1990	53.5	53.5	0.0
Mean:	51.0	51.0	0.0
Median:	50.6	50.6	0.0
Min:	47.4	47.4	0.0
Max:	57.5	57.5	0.0
X > 56.0	2	2	
Mean When X > 56.0	57.0	57.0	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

April			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	53.7	53.7	0.0
1923	54.3	54.3	0.0
1924	54.9	54.9	0.0
1925	54.5	54.5	0.0
1926	56.0	56.0	0.0
1927	54.0	54.0	0.0
1928	54.6	54.6	0.0
1929	53.1	53.1	0.0
1930	55.1	55.1	0.0
1931	56.4	56.4	0.0
1932	53.6	53.6	0.0
1933	54.3	54.3	0.0
1934	56.6	56.6	0.0
1935	55.4	55.4	0.0
1936	55.9	55.9	0.0
1937	54.2	54.2	0.0
1938	53.3	53.3	0.0
1939	56.2	56.2	0.0
1940	54.6	54.6	0.0
1941	54.1	54.1	0.0
1942	53.0	53.0	0.0
1943	54.1	54.1	0.0
1944	53.4	53.4	0.0
1945	54.9	54.9	0.0
1946	55.4	55.4	0.0
1947	55.1	55.1	0.0
1948	53.6	53.6	0.0
1949	57.1	57.1	0.0
1950	55.9	55.9	0.0
1951	55.2	55.2	0.0
1952	54.0	54.0	0.0
1953	53.4	53.4	0.0
1954	55.2	55.2	0.0
1955	53.3	53.3	0.0
1956	54.3	54.3	0.0
1957	54.2	54.2	0.0
1958	53.8	53.8	0.0
1959	56.4	56.4	0.0
1960	54.8	54.8	0.0
1961	55.2	55.2	0.0
1962	57.0	57.0	0.0
1963	52.5	52.5	0.0
1964	54.1	54.1	0.0
1965	54.2	54.2	0.0
1966	57.4	57.4	0.0
1967	52.2	52.2	0.0
1968	55.1	55.1	0.0
1969	54.0	54.0	0.0
1970	53.6	53.6	0.0
1971	53.8	53.8	0.0
1972	54.9	54.9	0.0
1973	56.0	56.0	0.0
1974	53.5	53.5	0.0
1975	53.4	53.4	0.0
1976	53.5	53.5	0.0
1977	54.7	54.7	0.0
1978	54.1	54.1	0.0
1979	54.7	54.7	0.0
1980	55.1	55.1	0.0
1981	55.5	55.5	0.0
1982	51.7	51.7	0.0
1983	53.0	53.0	0.0
1984	53.5	53.5	0.0
1985	55.4	55.4	0.0
1986	54.6	54.6	0.0
1987	56.9	56.9	0.0
1988	55.9	55.9	0.0
1989	57.5	57.5	0.0
1990	55.6	55.6	0.0
Mean:	54.6	54.6	0.0
Median:	54.6	54.6	0.0
Min:	51.7	51.7	0.0
Max:	57.5	57.5	0.0
X > 56.0	9	9	
Mean When X > 56.0	56.8	56.8	
X > 60.0	0	0	
Mean When X > 60.0	0.0	0.0	
X > 62.5	0	0	
Mean When X > 62.5	0.0	0.0	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

May			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	59.8	59.8	0.0
1923	59.4	59.4	0.0
1924	60.6	60.6	0.0
1925	59.7	59.7	0.0
1926	60.1	60.1	0.0
1927	59.5	59.5	0.0
1928	60.7	60.7	0.0
1929	59.6	59.6	0.0
1930	58.3	58.3	0.0
1931	63.9	63.9	0.0
1932	60.9	60.9	0.0
1933	58.0	58.0	0.0
1934	61.3	61.3	0.0
1935	59.9	59.9	0.0
1936	61.4	61.4	0.0
1937	61.4	61.4	0.0
1938	59.7	59.7	0.0
1939	60.4	60.4	0.0
1940	60.9	60.9	0.0
1941	59.6	59.6	0.0
1942	57.7	57.7	0.0
1943	60.6	60.6	0.0
1944	60.3	60.3	0.0
1945	59.4	59.4	0.0
1946	60.5	60.5	0.0
1947	61.5	61.5	0.0
1948	58.4	58.4	0.0
1949	61.3	61.3	0.0
1950	60.4	60.4	0.0
1951	61.4	61.4	0.0
1952	56.3	56.3	0.0
1953	57.9	57.9	0.0
1954	60.2	60.2	0.0
1955	60.7	60.7	0.0
1956	59.4	59.4	0.0
1957	59.8	59.8	0.0
1958	60.4	60.4	0.0
1959	59.3	59.3	0.0
1960	59.7	59.7	0.0
1961	59.3	59.3	0.0
1962	60.0	60.0	0.0
1963	59.8	59.8	0.0
1964	59.6	59.6	0.0
1965	60.3	60.3	0.0
1966	61.5	61.5	0.0
1967	60.2	60.2	0.0
1968	60.6	60.6	0.0
1969	61.0	61.0	0.0
1970	62.1	62.1	0.0
1971	58.6	58.6	0.0
1972	61.5	61.5	0.0
1973	62.8	62.8	0.0
1974	60.4	60.4	0.0
1975	60.5	60.5	0.0
1976	61.3	61.3	0.0
1977	57.1	57.1	0.0
1978	60.5	60.5	0.0
1979	61.7	61.7	0.0
1980	59.5	59.5	0.0
1981	61.1	61.1	0.0
1982	60.4	60.4	0.0
1983	59.8	59.8	0.0
1984	60.9	60.9	0.0
1985	58.8	58.8	0.0
1986	60.3	60.3	0.0
1987	62.0	62.0	0.0
1988	59.7	59.7	0.0
1989	60.2	60.2	0.0
1990	61.5	61.5	0.0
Mean:	60.2	60.2	0.0
Median:	60.3	60.3	0.0
Min:	56.3	56.3	0.0
Max:	63.9	63.9	0.0
X > 56.0	69	69	
Mean When X > 56.0	60.2	60.2	
X > 60.0	40	40	
Mean When X > 60.0	61.0	61.0	
X > 62.5	2	2	
Mean When X > 62.5	63.4	63.4	
X > 65.0	0	0	
Mean When X > 65.0	0.0	0.0	
X > 67.5	0	0	
Mean When X > 67.5	0.0	0.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

June			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	64.4	64.4	0.0
1923	61.1	61.1	0.0
1924	63.7	63.7	0.0
1925	63.1	63.1	0.0
1926	65.5	65.5	0.0
1927	63.9	63.9	0.0
1928	63.7	63.7	0.0
1929	63.3	63.3	0.0
1930	63.9	63.9	0.0
1931	64.4	64.4	0.0
1932	64.8	64.8	0.0
1933	62.6	62.6	0.0
1934	63.8	63.8	0.0
1935	65.0	65.0	0.0
1936	63.9	63.9	0.0
1937	63.5	63.5	0.0
1938	64.4	64.4	0.0
1939	64.1	64.1	0.0
1940	65.7	65.7	0.0
1941	62.6	62.6	0.0
1942	63.2	63.2	0.0
1943	61.8	61.8	0.0
1944	62.4	62.4	0.0
1945	63.9	63.9	0.0
1946	63.0	63.0	0.0
1947	63.4	63.4	0.0
1948	63.4	63.4	0.0
1949	64.4	64.4	0.0
1950	63.0	63.0	0.0
1951	65.3	65.3	0.0
1952	61.6	61.6	0.0
1953	62.0	62.0	0.0
1954	63.2	63.2	0.0
1955	63.2	63.2	0.0
1956	64.3	64.3	0.0
1957	65.3	65.3	0.0
1958	63.4	63.4	0.0
1959	64.6	64.6	0.0
1960	65.9	65.9	0.0
1961	66.5	66.5	0.0
1962	64.8	64.8	0.0
1963	63.5	63.5	0.0
1964	63.4	63.4	0.0
1965	63.3	63.3	0.0
1966	64.7	64.7	0.0
1967	63.1	63.1	0.0
1968	65.4	65.4	0.0
1969	63.7	63.7	0.0
1970	64.8	64.8	0.0
1971	63.5	63.5	0.0
1972	65.1	65.1	0.0
1973	65.6	65.6	0.0
1974	64.8	64.8	0.0
1975	64.2	64.2	0.0
1976	63.5	63.5	0.0
1977	70.0	70.0	0.0
1978	63.9	63.9	0.0
1979	64.5	64.5	0.0
1980	62.5	62.5	0.0
1981	66.7	66.7	0.0
1982	62.4	62.4	0.0
1983	63.0	63.0	0.0
1984	63.7	63.7	0.0
1985	64.9	64.9	0.0
1986	64.4	64.4	0.0
1987	65.1	65.1	0.0
1988	65.3	65.3	0.0
1989	64.3	64.3	0.0
1990	63.0	63.0	0.0
Mean:	64.0	64.0	0.0
Median:	63.9	63.9	0.0
Min:	61.1	61.1	0.0
Max:	70.0	70.0	0.0
X > 56.0	69	69	
Mean When X > 56.0	64.0	64.0	
X > 60.0	69	69	
Mean When X > 60.0	64.0	64.0	
X > 62.5	62	62	
Mean When X > 62.5	64.3	64.3	
X > 65.0	13	13	
Mean When X > 65.0	66.0	66.0	
X > 67.5	1	1	
Mean When X > 67.5	70.0	70.0	
X > 70.0	0	0	
Mean When X > 70.0	0.0	0.0	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

July			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	68.5	68.5	0.0
1923	67.0	67.0	0.0
1924	66.8	66.8	0.0
1925	68.4	68.4	0.0
1926	68.3	68.3	0.0
1927	67.9	67.9	0.0
1928	67.0	67.1	0.1
1929	67.6	67.6	0.0
1930	66.9	66.9	0.0
1931	71.2	71.2	0.0
1932	68.4	68.4	0.0
1933	69.5	69.5	0.0
1934	68.4	68.4	0.0
1935	67.0	67.0	0.0
1936	69.0	69.0	0.0
1937	69.3	69.3	0.0
1938	68.6	68.6	0.0
1939	68.1	68.1	0.0
1940	66.8	66.8	0.0
1941	69.0	69.0	0.0
1942	68.0	68.0	0.0
1943	67.4	67.4	0.0
1944	67.1	67.1	0.0
1945	68.7	68.7	0.0
1946	67.9	67.9	0.0
1947	66.4	66.4	0.0
1948	66.5	66.5	0.0
1949	67.9	67.9	0.0
1950	68.1	68.1	0.0
1951	67.4	67.4	0.0
1952	69.2	69.2	0.0
1953	68.8	68.8	0.0
1954	68.5	68.5	0.0
1955	67.4	67.4	0.0
1956	68.0	68.0	0.0
1957	67.9	67.9	0.0
1958	68.4	68.4	0.0
1959	68.8	68.8	0.0
1960	69.1	69.1	0.0
1961	69.9	69.9	0.0
1962	68.7	68.7	0.0
1963	67.2	67.2	0.0
1964	68.2	68.2	0.0
1965	68.1	68.1	0.0
1966	67.0	67.0	0.0
1967	70.9	70.9	0.0
1968	68.5	68.5	0.0
1969	69.6	69.6	0.0
1970	69.5	69.5	0.0
1971	69.2	69.2	0.0
1972	68.7	68.7	0.0
1973	68.7	68.7	0.0
1974	68.5	68.5	0.0
1975	67.7	67.7	0.0
1976	67.7	67.7	0.0
1977	78.9	78.9	0.0
1978	68.5	68.5	0.0
1979	67.6	67.6	0.0
1980	68.1	68.1	0.0
1981	67.4	67.4	0.0
1982	67.3	67.3	0.0
1983	66.7	66.7	0.0
1984	69.5	69.5	0.0
1985	68.0	68.0	0.0
1986	67.1	67.1	0.0
1987	65.5	65.5	0.0
1988	71.6	71.6	0.0
1989	66.6	66.6	0.0
1990	68.1	68.1	0.0
Mean:	68.3	68.3	0.0
Median:	68.1	68.1	0.0
Min:	65.5	65.5	0.0
Max:	78.9	78.9	0.1
X > 56.0	69	69	
Mean When X > 56.0	68.3	68.3	
X > 60.0	69	69	
Mean When X > 60.0	68.3	68.3	
X > 62.5	69	69	
Mean When X > 62.5	68.3	68.3	
X > 65.0	69	69	
Mean When X > 65.0	68.3	68.3	
X > 67.5	49	49	
Mean When X > 67.5	68.9	68.9	
X > 70.0	4	4	
Mean When X > 70.0	73.2	73.2	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

August			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	64.3	64.3	0.0
1923	65.9	65.9	0.0
1924	66.0	66.0	0.0
1925	65.3	65.3	0.0
1926	65.4	65.4	0.0
1927	65.1	65.1	0.0
1928	66.1	65.9	-0.2
1929	66.6	66.6	0.0
1930	65.1	65.1	0.0
1931	68.9	68.9	0.0
1932	67.2	67.2	0.0
1933	67.9	67.9	0.0
1934	67.3	67.3	0.0
1935	67.2	67.2	0.0
1936	67.5	67.5	0.0
1937	67.1	67.1	0.0
1938	66.4	66.4	0.0
1939	66.7	66.7	0.0
1940	65.9	65.9	0.0
1941	65.9	65.9	0.0
1942	66.2	66.2	0.0
1943	64.7	64.7	0.0
1944	66.0	66.0	0.0
1945	65.9	65.9	0.0
1946	66.2	66.2	0.0
1947	65.0	65.0	0.0
1948	64.8	64.8	0.0
1949	64.8	64.8	0.0
1950	65.8	65.8	0.0
1951	66.1	66.1	0.0
1952	67.5	67.5	0.0
1953	65.7	65.7	0.0
1954	64.9	64.9	0.0
1955	67.6	67.6	0.0
1956	65.5	65.5	0.0
1957	65.3	65.3	0.0
1958	69.7	69.7	0.0
1959	65.8	65.8	0.0
1960	67.0	67.0	0.0
1961	67.9	67.9	0.0
1962	66.5	66.5	0.0
1963	66.8	66.7	-0.1
1964	66.9	66.9	0.0
1965	67.1	67.1	0.0
1966	68.0	68.0	0.0
1967	71.0	71.0	0.0
1968	65.3	65.3	0.0
1969	69.4	69.4	0.0
1970	66.9	66.9	0.0
1971	68.0	68.0	0.0
1972	67.2	67.2	0.0
1973	66.4	66.4	0.0
1974	70.2	70.2	0.0
1975	68.9	68.9	0.0
1976	64.6	64.6	0.0
1977	78.2	78.2	0.0
1978	66.9	66.9	0.0
1979	65.4	65.4	0.0
1980	65.6	65.6	0.0
1981	66.5	66.5	0.0
1982	66.6	66.6	0.0
1983	67.3	67.4	0.1
1984	66.5	66.5	0.0
1985	64.6	64.6	0.0
1986	66.1	66.1	0.0
1987	65.5	65.5	0.0
1988	66.5	66.5	0.0
1989	64.5	64.5	0.0
1990	65.5	65.5	0.0
Mean:	66.7	66.7	0.0
Median:	66.4	66.4	0.0
Min:	64.3	64.3	-0.2
Max:	78.2	78.2	0.1
X > 56.0	69	69	
Mean When X > 56.0	66.7	66.7	
X > 60.0	69	69	
Mean When X > 60.0	66.7	66.7	
X > 62.5	69	69	
Mean When X > 62.5	66.7	66.7	
X > 65.0	60	60	
Mean When X > 65.0	66.9	66.9	
X > 67.5	12	12	
Mean When X > 67.5	69.6	69.6	
X > 70.0	3	3	
Mean When X > 70.0	73.1	73.1	
# Years Diff <= 0.3			69

Feather River Temperature Above Thermalito Afterbay

September			
	Baseline	FP Alt	
Water Year	Temperature (°F)	Temperature (°F)	Absolute Difference (°F)
1922	62.7	62.7	0.0
1923	62.8	62.8	0.0
1924	59.9	59.9	0.0
1925	59.5	59.5	0.0
1926	59.1	59.1	0.0
1927	59.7	59.7	0.0
1928	60.6	60.6	0.0
1929	61.1	61.1	0.0
1930	59.2	59.2	0.0
1931	60.9	60.9	0.0
1932	63.4	63.4	0.0
1933	60.9	60.9	0.0
1934	61.7	61.7	0.0
1935	61.1	61.1	0.0
1936	62.4	62.4	0.0
1937	61.0	61.0	0.0
1938	62.4	62.4	0.0
1939	61.5	61.5	0.0
1940	59.8	59.8	0.0
1941	60.0	60.0	0.0
1942	60.5	60.5	0.0
1943	61.6	61.6	0.0
1944	61.6	61.6	0.0
1945	61.6	61.6	0.0
1946	61.2	61.2	0.0
1947	61.5	61.5	0.0
1948	60.6	60.6	0.0
1949	61.5	61.5	0.0
1950	60.7	60.7	0.0
1951	60.8	60.8	0.0
1952	61.3	61.3	0.0
1953	62.0	62.0	0.0
1954	60.0	60.0	0.0
1955	61.5	61.5	0.0
1956	60.9	60.9	0.0
1957	62.6	62.6	0.0
1958	61.5	61.5	0.0
1959	61.1	61.1	0.0
1960	62.0	62.0	0.0
1961	60.5	60.5	0.0
1962	61.3	61.3	0.0
1963	62.6	62.6	0.0
1964	60.5	60.5	0.0
1965	60.1	60.1	0.0
1966	61.8	61.8	0.0
1967	62.3	62.3	0.0
1968	61.3	61.3	0.0
1969	61.7	61.7	0.0
1970	61.2	61.2	0.0
1971	62.0	62.0	0.0
1972	61.0	60.9	-0.1
1973	61.4	61.4	0.0
1974	63.1	63.1	0.0
1975	62.7	62.7	0.0
1976	60.8	60.8	0.0
1977	70.4	70.4	0.0
1978	61.7	61.7	0.0
1979	62.8	62.8	0.0
1980	61.4	61.4	0.0
1981	60.9	60.9	0.0
1982	61.8	61.8	0.0
1983	60.4	60.4	0.0
1984	61.9	61.9	0.0
1985	58.2	58.2	0.0
1986	58.1	58.1	0.0
1987	59.1	59.1	0.0
1988	60.1	60.1	0.0
1989	60.1	60.1	0.0
1990	60.1	60.1	0.0
Mean:	61.2	61.2	0.0
Median:	61.2	61.2	0.0
Min:	58.1	58.1	-0.1
Max:	70.4	70.4	0.0
X > 56.0	69	69	
Mean When X > 56.0	61.2	61.2	
X > 60.0	58	58	
Mean When X > 60.0	61.6	61.6	
X > 62.5	9	9	
Mean When X > 62.5	63.7	63.7	
X > 65.0	1	1	
Mean When X > 65.0	70.4	70.4	
X > 67.5	1	1	
Mean When X > 67.5	70.4	70.4	
X > 70.0	1	1	
Mean When X > 70.0	70.4	70.4	
# Years Diff <= 0.3			69

Merced River Flow Below Crocker-Huffman Dam

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	252	455	203	80.6
1923	2227	2431	204	9.2
1924	252	455	203	80.6
1925	252	455	203	80.6
1926	252	455	203	80.6
1927	210	413	203	96.7
1928	357	560	203	56.9
1929	293	497	204	69.6
1930	49	252	203	414.3
1931	203	407	204	100.5
1932	16	220	204	1275.0
1933	220	423	203	92.3
1934	236	439	203	86.0
1935	33	236	203	615.2
1936	220	423	203	92.3
1937	598	801	203	33.9
1938	1276	1479	203	15.9
1939	3199	3402	203	6.3
1940	252	455	203	80.6
1941	236	439	203	86.0
1942	2574	2777	203	7.9
1943	2686	2889	203	7.6
1944	1152	1355	203	17.6
1945	203	407	204	100.5
1946	1482	1685	203	13.7
1947	252	455	203	80.6
1948	252	455	203	80.6
1949	252	455	203	80.6
1950	33	236	203	615.2
1951	49	252	203	414.3
1952	252	455	203	80.6
1953	2761	2965	204	7.4
1954	252	455	203	80.6
1955	236	439	203	86.0
1956	16	219	203	1268.8
1957	2646	2849	203	7.7
1958	252	455	203	80.6
1959	2565	2769	204	8.0
1960	252	455	203	80.6
1961	236	439	203	86.0
1962	16	220	204	1275.0
1963	252	455	203	80.6
1964	252	455	203	80.6
1965	170	373	203	119.4
1966	487	690	203	41.7
1967	252	455	203	80.6
1968	2983	3186	203	6.8
1969	203	407	204	100.5
1970	3217	3420	203	6.3
1971	252	455	203	80.6
1972	220	423	203	92.3
1973	252	455	203	80.6
1974	252	455	203	80.6
1975	1358	1561	203	14.9
1976	2009	2212	203	10.1
1977	252	455	203	80.6
1978	0	203	203	0.0
1979	3096	3299	203	6.6
1980	325	528	203	62.5
1981	2979	3182	203	6.8
1982	252	455	203	80.6
1983	3675	3879	204	5.6
1984	3235	3439	204	6.3
1985	252	455	203	80.6
1986	252	455	203	80.6
1987	1636	1839	203	12.4
1988	252	455	203	80.6
1989	203	407	204	100.5
1990	252	455	203	80.6
1991	203	407	204	100.5
1992	252	455	203	80.6
1993	115	318	203	176.5
Mean:	812	1015	203	136.8
Median:	252	455	203	80.6
Min:	0	203	203	0.0
Max:	3675	3879	204	1275.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	218	429	211	96.8
1923	218	429	211	96.8
1924	174	384	210	120.7
1925	185	395	210	113.5
1926	161	371	210	130.4
1927	84	294	210	250.0
1928	243	453	210	86.4
1929	144	354	210	145.8
1930	111	321	210	189.2
1931	182	392	210	115.4
1932	128	338	210	164.1
1933	166	376	210	126.5
1934	129	340	211	163.6
1935	185	395	210	113.5
1936	176	386	210	119.3
1937	172	383	211	122.7
1938	174	384	210	120.7
1939	218	429	211	96.8
1940	128	338	210	164.1
1941	166	376	210	126.5
1942	218	429	211	96.8
1943	442	652	210	47.5
1944	167	377	210	125.7
1945	218	429	211	96.8
1946	542	753	211	38.9
1947	218	429	211	96.8
1948	185	395	210	113.5
1949	161	371	210	130.4
1950	161	371	210	130.4
1951	218	429	211	96.8
1952	161	371	210	130.4
1953	166	376	210	126.5
1954	161	371	210	130.4
1955	161	371	210	130.4
1956	83	293	210	253.0
1957	202	412	210	104.0
1958	161	371	210	130.4
1959	171	381	210	122.8
1960	111	321	210	189.2
1961	134	345	211	157.5
1962	100	310	210	210.0
1963	161	371	210	130.4
1964	218	429	211	96.8
1965	185	395	210	113.5
1966	961	1172	211	22.0
1967	218	429	211	96.8
1968	172	383	211	122.7
1969	185	395	210	113.5
1970	218	429	211	96.8
1971	218	429	211	96.8
1972	185	395	210	113.5
1973	185	395	210	113.5
1974	218	429	211	96.8
1975	174	384	210	120.7
1976	218	429	211	96.8
1977	111	321	210	189.2
1978	76	286	210	276.3
1979	218	429	211	96.8
1980	169	379	210	124.3
1981	169	379	210	124.3
1982	185	395	210	113.5
1983	1417	1627	210	14.8
1984	1736	1946	210	12.1
1985	218	429	211	96.8
1986	185	395	210	113.5
1987	169	379	210	124.3
1988	185	395	210	113.5
1989	182	392	210	115.4
1990	168	378	210	125.0
1991	128	338	210	164.1
1992	168	378	210	125.0
1993	123	333	210	170.7
Mean:	231	441	210	122.9
Median:	174	384	210	120.7
Min:	76	286	210	12.1
Max:	1736	1946	211	276.3
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	228	228	0	0.0
1923	911	911	0	0.0
1924	167	167	0	0.0
1925	179	179	0	0.0
1926	195	195	0	0.0
1927	179	179	0	0.0
1928	228	228	0	0.0
1929	167	167	0	0.0
1930	122	122	0	0.0
1931	126	126	0	0.0
1932	179	179	0	0.0
1933	173	173	0	0.0
1934	179	179	0	0.0
1935	179	179	0	0.0
1936	165	165	0	0.0
1937	228	228	0	0.0
1938	2135	2135	0	0.0
1939	228	228	0	0.0
1940	116	116	0	0.0
1941	228	228	0	0.0
1942	1181	1181	0	0.0
1943	690	690	0	0.0
1944	179	179	0	0.0
1945	228	228	0	0.0
1946	1752	1752	0	0.0
1947	228	228	0	0.0
1948	130	130	0	0.0
1949	170	170	0	0.0
1950	170	170	0	0.0
1951	228	228	0	0.0
1952	228	228	0	0.0
1953	307	307	0	0.0
1954	165	165	0	0.0
1955	228	228	0	0.0
1956	179	179	0	0.0
1957	165	165	0	0.0
1958	228	228	0	0.0
1959	170	170	0	0.0
1960	125	125	0	0.0
1961	179	179	0	0.0
1962	163	163	0	0.0
1963	170	170	0	0.0
1964	228	228	0	0.0
1965	179	179	0	0.0
1966	740	740	0	0.0
1967	228	228	0	0.0
1968	228	228	0	0.0
1969	179	179	0	0.0
1970	596	596	0	0.0
1971	228	228	0	0.0
1972	228	228	0	0.0
1973	179	179	0	0.0
1974	228	228	0	0.0
1975	228	228	0	0.0
1976	211	211	0	0.0
1977	75	75	0	0.0
1978	179	179	0	0.0
1979	195	195	0	0.0
1980	228	228	0	0.0
1981	165	165	0	0.0
1982	179	179	0	0.0
1983	2333	2333	0	0.0
1984	3341	3341	0	0.0
1985	228	228	0	0.0
1986	179	179	0	0.0
1987	170	170	0	0.0
1988	179	179	0	0.0
1989	179	179	0	0.0
1990	124	124	0	0.0
1991	98	98	0	0.0
1992	122	122	0	0.0
1993	179	179	0	0.0
Mean:	353	353	0	0.0
Median:	179	179	0	0.0
Min:	75	75	0	0.0
Max:	3341	3341	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	228	228	0	0.0
1923	1125	1125	0	0.0
1924	168	168	0	0.0
1925	179	179	0	0.0
1926	168	168	0	0.0
1927	97	97	0	0.0
1928	228	228	0	0.0
1929	168	168	0	0.0
1930	104	104	0	0.0
1931	130	130	0	0.0
1932	179	179	0	0.0
1933	228	228	0	0.0
1934	179	179	0	0.0
1935	179	179	0	0.0
1936	228	228	0	0.0
1937	347	347	0	0.0
1938	1185	1185	0	0.0
1939	302	302	0	0.0
1940	179	179	0	0.0
1941	851	851	0	0.0
1942	1494	1494	0	0.0
1943	2405	2405	0	0.0
1944	228	228	0	0.0
1945	228	228	0	0.0
1946	946	946	0	0.0
1947	228	228	0	0.0
1948	179	179	0	0.0
1949	179	179	0	0.0
1950	228	228	0	0.0
1951	682	682	0	0.0
1952	228	228	0	0.0
1953	990	990	0	0.0
1954	228	228	0	0.0
1955	228	228	0	0.0
1956	504	504	0	0.0
1957	228	228	0	0.0
1958	228	228	0	0.0
1959	228	228	0	0.0
1960	130	130	0	0.0
1961	118	118	0	0.0
1962	163	163	0	0.0
1963	228	228	0	0.0
1964	228	228	0	0.0
1965	179	179	0	0.0
1966	778	778	0	0.0
1967	228	228	0	0.0
1968	228	228	0	0.0
1969	179	179	0	0.0
1970	2616	2616	0	0.0
1971	228	228	0	0.0
1972	228	228	0	0.0
1973	179	179	0	0.0
1974	344	344	0	0.0
1975	263	263	0	0.0
1976	166	166	0	0.0
1977	118	118	0	0.0
1978	179	179	0	0.0
1979	1565	1565	0	0.0
1980	4366	4366	0	0.0
1981	228	228	0	0.0
1982	179	179	0	0.0
1983	3153	3153	0	0.0
1984	1640	1640	0	0.0
1985	228	228	0	0.0
1986	179	179	0	0.0
1987	165	165	0	0.0
1988	179	179	0	0.0
1989	130	130	0	0.0
1990	179	179	0	0.0
1991	33	33	0	0.0
1992	179	179	0	0.0
1993	179	179	0	0.0
Mean:	493	493	0	0.0
Median:	228	228	0	0.0
Min:	33	33	0	0.0
Max:	4366	4366	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	396	396	0	0.0
1923	1011	1011	0	0.0
1924	209	209	0	0.0
1925	180	180	0	0.0
1926	216	216	0	0.0
1927	180	180	0	0.0
1928	209	209	0	0.0
1929	216	216	0	0.0
1930	90	90	0	0.0
1931	180	180	0	0.0
1932	174	174	0	0.0
1933	216	216	0	0.0
1934	180	180	0	0.0
1935	180	180	0	0.0
1936	2122	2122	0	0.0
1937	4099	4099	0	0.0
1938	4351	4351	0	0.0
1939	498	498	0	0.0
1940	174	174	0	0.0
1941	2676	2676	0	0.0
1942	1506	1506	0	0.0
1943	1686	1686	0	0.0
1944	777	777	0	0.0
1945	1330	1330	0	0.0
1946	687	687	0	0.0
1947	722	722	0	0.0
1948	174	174	0	0.0
1949	216	216	0	0.0
1950	216	216	0	0.0
1951	1326	1326	0	0.0
1952	230	230	0	0.0
1953	507	507	0	0.0
1954	216	216	0	0.0
1955	216	216	0	0.0
1956	1402	1402	0	0.0
1957	604	604	0	0.0
1958	216	216	0	0.0
1959	765	765	0	0.0
1960	174	174	0	0.0
1961	180	180	0	0.0
1962	180	180	0	0.0
1963	216	216	0	0.0
1964	209	209	0	0.0
1965	180	180	0	0.0
1966	669	669	0	0.0
1967	216	216	0	0.0
1968	624	624	0	0.0
1969	2445	2445	0	0.0
1970	1263	1263	0	0.0
1971	216	216	0	0.0
1972	209	209	0	0.0
1973	180	180	0	0.0
1974	705	705	0	0.0
1975	2127	2127	0	0.0
1976	234	234	0	0.0
1977	120	120	0	0.0
1978	180	180	0	0.0
1979	1983	1983	0	0.0
1980	4462	4462	0	0.0
1981	403	403	0	0.0
1982	1458	1458	0	0.0
1983	3937	3937	0	0.0
1984	1402	1402	0	0.0
1985	216	216	0	0.0
1986	729	729	0	0.0
1987	216	216	0	0.0
1988	174	174	0	0.0
1989	180	180	0	0.0
1990	180	180	0	0.0
1991	42	42	0	0.0
1992	174	174	0	0.0
1993	180	180	0	0.0
Mean:	784	784	0	0.0
Median:	216	216	0	0.0
Min:	42	42	0	0.0
Max:	4462	4462	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	495	495	0	0.0
1923	228	228	0	0.0
1924	179	179	0	0.0
1925	228	228	0	0.0
1926	179	179	0	0.0
1927	228	228	0	0.0
1928	228	228	0	0.0
1929	179	179	0	0.0
1930	81	81	0	0.0
1931	179	179	0	0.0
1932	228	228	0	0.0
1933	179	179	0	0.0
1934	179	179	0	0.0
1935	228	228	0	0.0
1936	228	228	0	0.0
1937	705	705	0	0.0
1938	3896	3896	0	0.0
1939	179	179	0	0.0
1940	228	228	0	0.0
1941	1093	1093	0	0.0
1942	228	228	0	0.0
1943	2462	2462	0	0.0
1944	228	228	0	0.0
1945	422	422	0	0.0
1946	228	228	0	0.0
1947	179	179	0	0.0
1948	228	228	0	0.0
1949	228	228	0	0.0
1950	228	228	0	0.0
1951	228	228	0	0.0
1952	1132	1132	0	0.0
1953	228	228	0	0.0
1954	228	228	0	0.0
1955	179	179	0	0.0
1956	228	228	0	0.0
1957	228	228	0	0.0
1958	228	228	0	0.0
1959	179	179	0	0.0
1960	179	179	0	0.0
1961	179	179	0	0.0
1962	228	228	0	0.0
1963	228	228	0	0.0
1964	179	179	0	0.0
1965	228	228	0	0.0
1966	228	228	0	0.0
1967	228	228	0	0.0
1968	179	179	0	0.0
1969	1244	1244	0	0.0
1970	281	281	0	0.0
1971	228	228	0	0.0
1972	179	179	0	0.0
1973	228	228	0	0.0
1974	671	671	0	0.0
1975	691	691	0	0.0
1976	179	179	0	0.0
1977	145	145	0	0.0
1978	228	228	0	0.0
1979	806	806	0	0.0
1980	1160	1160	0	0.0
1981	179	179	0	0.0
1982	1568	1568	0	0.0
1983	4802	4802	0	0.0
1984	228	228	0	0.0
1985	179	179	0	0.0
1986	3227	3227	0	0.0
1987	179	179	0	0.0
1988	179	179	0	0.0
1989	179	179	0	0.0
1990	179	179	0	0.0
1991	179	179	0	0.0
1992	179	179	0	0.0
1993	228	228	0	0.0
Mean:	500	500	0	0.0
Median:	228	228	0	0.0
Min:	81	81	0	0.0
Max:	4802	4802	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	168	168	0	0.0
1923	518	518	0	0.0
1924	334	334	0	0.0
1925	588	588	0	0.0
1926	588	588	0	0.0
1927	425	425	0	0.0
1928	677	677	0	0.0
1929	644	644	0	0.0
1930	455	455	0	0.0
1931	230	230	0	0.0
1932	335	335	0	0.0
1933	599	599	0	0.0
1934	356	356	0	0.0
1935	168	168	0	0.0
1936	407	407	0	0.0
1937	168	168	0	0.0
1938	669	669	0	0.0
1939	625	625	0	0.0
1940	306	306	0	0.0
1941	168	168	0	0.0
1942	221	221	0	0.0
1943	466	466	0	0.0
1944	805	805	0	0.0
1945	168	168	0	0.0
1946	593	593	0	0.0
1947	469	469	0	0.0
1948	370	370	0	0.0
1949	625	625	0	0.0
1950	512	512	0	0.0
1951	647	647	0	0.0
1952	262	262	0	0.0
1953	632	632	0	0.0
1954	612	612	0	0.0
1955	490	490	0	0.0
1956	620	620	0	0.0
1957	639	639	0	0.0
1958	523	523	0	0.0
1959	837	837	0	0.0
1960	632	632	0	0.0
1961	224	224	0	0.0
1962	625	625	0	0.0
1963	503	503	0	0.0
1964	632	632	0	0.0
1965	168	168	0	0.0
1966	832	832	0	0.0
1967	168	168	0	0.0
1968	832	832	0	0.0
1969	1256	1256	0	0.0
1970	625	625	0	0.0
1971	639	639	0	0.0
1972	338	338	0	0.0
1973	170	170	0	0.0
1974	168	168	0	0.0
1975	168	168	0	0.0
1976	519	519	0	0.0
1977	518	518	0	0.0
1978	168	168	0	0.0
1979	175	175	0	0.0
1980	208	208	0	0.0
1981	802	802	0	0.0
1982	4060	4060	0	0.0
1983	168	168	0	0.0
1984	683	683	0	0.0
1985	625	625	0	0.0
1986	207	207	0	0.0
1987	476	476	0	0.0
1988	376	376	0	0.0
1989	224	224	0	0.0
1990	224	224	0	0.0
1991	212	212	0	0.0
1992	220	220	0	0.0
1993	337	337	0	0.0
Mean:	501	501	0	0.0
Median:	473	473	0	0.0
Min:	168	168	0	0.0
Max:	4060	4060	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1851	1851	0	0.0
1923	516	516	0	0.0
1924	510	510	0	0.0
1925	597	597	0	0.0
1926	610	610	0	0.0
1927	616	616	0	0.0
1928	698	698	0	0.0
1929	472	472	0	0.0
1930	353	353	0	0.0
1931	291	291	0	0.0
1932	663	663	0	0.0
1933	342	342	0	0.0
1934	569	569	0	0.0
1935	641	641	0	0.0
1936	1508	1508	0	0.0
1937	2188	2188	0	0.0
1938	3463	3463	0	0.0
1939	773	773	0	0.0
1940	561	561	0	0.0
1941	2048	2048	0	0.0
1942	736	736	0	0.0
1943	943	943	0	0.0
1944	592	592	0	0.0
1945	672	672	0	0.0
1946	674	674	0	0.0
1947	449	449	0	0.0
1948	483	483	0	0.0
1949	472	472	0	0.0
1950	398	398	0	0.0
1951	738	738	0	0.0
1952	3510	3510	0	0.0
1953	603	603	0	0.0
1954	455	455	0	0.0
1955	403	403	0	0.0
1956	735	735	0	0.0
1957	556	556	0	0.0
1958	2956	2956	0	0.0
1959	585	585	0	0.0
1960	465	465	0	0.0
1961	291	291	0	0.0
1962	654	654	0	0.0
1963	498	498	0	0.0
1964	360	360	0	0.0
1965	660	660	0	0.0
1966	585	585	0	0.0
1967	1931	1931	0	0.0
1968	585	585	0	0.0
1969	5473	5473	0	0.0
1970	617	617	0	0.0
1971	616	616	0	0.0
1972	503	503	0	0.0
1973	672	672	0	0.0
1974	880	880	0	0.0
1975	590	590	0	0.0
1976	412	412	0	0.0
1977	413	413	0	0.0
1978	308	308	0	0.0
1979	1015	1015	0	0.0
1980	507	507	0	0.0
1981	614	614	0	0.0
1982	3061	3061	0	0.0
1983	2617	2617	0	0.0
1984	723	723	0	0.0
1985	433	433	0	0.0
1986	1084	1084	0	0.0
1987	454	454	0	0.0
1988	531	531	0	0.0
1989	291	291	0	0.0
1990	291	291	0	0.0
1991	286	286	0	0.0
1992	288	288	0	0.0
1993	463	463	0	0.0
Mean:	894	894	0	0.0
Median:	591	591	0	0.0
Min:	286	286	0	0.0
Max:	5473	5473	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3929	3929	0	0.0
1923	304	304	0	0.0
1924	282	282	0	0.0
1925	311	311	0	0.0
1926	318	318	0	0.0
1927	311	311	0	0.0
1928	318	318	0	0.0
1929	318	318	0	0.0
1930	318	318	0	0.0
1931	301	301	0	0.0
1932	311	311	0	0.0
1933	318	318	0	0.0
1934	301	301	0	0.0
1935	339	339	0	0.0
1936	311	311	0	0.0
1937	435	435	0	0.0
1938	4617	4617	0	0.0
1939	301	301	0	0.0
1940	311	311	0	0.0
1941	2188	2188	0	0.0
1942	2209	2209	0	0.0
1943	309	309	0	0.0
1944	311	311	0	0.0
1945	304	304	0	0.0
1946	311	311	0	0.0
1947	301	301	0	0.0
1948	311	311	0	0.0
1949	318	318	0	0.0
1950	318	318	0	0.0
1951	318	318	0	0.0
1952	2339	2339	0	0.0
1953	311	311	0	0.0
1954	318	318	0	0.0
1955	318	318	0	0.0
1956	1312	1312	0	0.0
1957	311	311	0	0.0
1958	2138	2138	0	0.0
1959	301	301	0	0.0
1960	301	301	0	0.0
1961	301	301	0	0.0
1962	318	318	0	0.0
1963	304	304	0	0.0
1964	318	318	0	0.0
1965	304	304	0	0.0
1966	301	301	0	0.0
1967	4342	4342	0	0.0
1968	301	301	0	0.0
1969	3888	3888	0	0.0
1970	318	318	0	0.0
1971	311	311	0	0.0
1972	318	318	0	0.0
1973	338	338	0	0.0
1974	486	486	0	0.0
1975	1719	1719	0	0.0
1976	301	301	0	0.0
1977	301	301	0	0.0
1978	4072	4072	0	0.0
1979	318	318	0	0.0
1980	1874	1874	0	0.0
1981	301	301	0	0.0
1982	1640	1640	0	0.0
1983	7866	7866	0	0.0
1984	318	318	0	0.0
1985	294	294	0	0.0
1986	1105	1105	0	0.0
1987	301	301	0	0.0
1988	301	301	0	0.0
1989	301	301	0	0.0
1990	301	301	0	0.0
1991	311	311	0	0.0
1992	299	299	0	0.0
1993	604	604	0	0.0
Mean:	882	882	0	0.0
Median:	315	315	0	0.0
Min:	282	282	0	0.0
Max:	7866	7866	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	291	291	0	0.0
1923	291	291	0	0.0
1924	122	122	0	0.0
1925	291	291	0	0.0
1926	291	291	0	0.0
1927	291	291	0	0.0
1928	291	291	0	0.0
1929	291	291	0	0.0
1930	291	291	0	0.0
1931	33	33	0	0.0
1932	291	291	0	0.0
1933	291	291	0	0.0
1934	106	106	0	0.0
1935	291	291	0	0.0
1936	291	291	0	0.0
1937	291	291	0	0.0
1938	314	314	0	0.0
1939	207	207	0	0.0
1940	291	291	0	0.0
1941	286	286	0	0.0
1942	285	285	0	0.0
1943	291	291	0	0.0
1944	291	291	0	0.0
1945	291	291	0	0.0
1946	291	291	0	0.0
1947	223	223	0	0.0
1948	291	291	0	0.0
1949	291	291	0	0.0
1950	291	291	0	0.0
1951	291	291	0	0.0
1952	299	299	0	0.0
1953	291	291	0	0.0
1954	291	291	0	0.0
1955	291	291	0	0.0
1956	291	291	0	0.0
1957	291	291	0	0.0
1958	293	293	0	0.0
1959	122	122	0	0.0
1960	172	172	0	0.0
1961	122	122	0	0.0
1962	291	291	0	0.0
1963	285	285	0	0.0
1964	273	273	0	0.0
1965	291	291	0	0.0
1966	241	241	0	0.0
1967	1731	1731	0	0.0
1968	190	190	0	0.0
1969	316	316	0	0.0
1970	291	291	0	0.0
1971	291	291	0	0.0
1972	241	241	0	0.0
1973	291	291	0	0.0
1974	291	291	0	0.0
1975	291	291	0	0.0
1976	106	106	0	0.0
1977	79	79	0	0.0
1978	586	586	0	0.0
1979	291	291	0	0.0
1980	291	291	0	0.0
1981	241	241	0	0.0
1982	311	311	0	0.0
1983	3660	3660	0	0.0
1984	291	291	0	0.0
1985	207	207	0	0.0
1986	291	291	0	0.0
1987	88	88	0	0.0
1988	223	223	0	0.0
1989	207	207	0	0.0
1990	241	241	0	0.0
1991	288	288	0	0.0
1992	229	229	0	0.0
1993	289	289	0	0.0
Mean:	329	329	0	0.0
Median:	291	291	0	0.0
Min:	33	33	0	0.0
Max:	3660	3660	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	241	241	0	0.0
1923	241	241	0	0.0
1924	88	88	0	0.0
1925	241	241	0	0.0
1926	241	241	0	0.0
1927	241	241	0	0.0
1928	241	241	0	0.0
1929	241	241	0	0.0
1930	241	241	0	0.0
1931	3	3	0	0.0
1932	241	241	0	0.0
1933	55	55	0	0.0
1934	88	88	0	0.0
1935	190	190	0	0.0
1936	223	223	0	0.0
1937	190	190	0	0.0
1938	241	241	0	0.0
1939	55	55	0	0.0
1940	122	122	0	0.0
1941	241	241	0	0.0
1942	241	241	0	0.0
1943	241	241	0	0.0
1944	156	156	0	0.0
1945	241	241	0	0.0
1946	122	122	0	0.0
1947	55	55	0	0.0
1948	122	122	0	0.0
1949	72	72	0	0.0
1950	55	55	0	0.0
1951	88	88	0	0.0
1952	241	241	0	0.0
1953	88	88	0	0.0
1954	55	55	0	0.0
1955	55	55	0	0.0
1956	241	241	0	0.0
1957	106	106	0	0.0
1958	241	241	0	0.0
1959	55	55	0	0.0
1960	55	55	0	0.0
1961	106	106	0	0.0
1962	207	207	0	0.0
1963	241	241	0	0.0
1964	55	55	0	0.0
1965	241	241	0	0.0
1966	88	88	0	0.0
1967	268	268	0	0.0
1968	106	106	0	0.0
1969	241	241	0	0.0
1970	138	138	0	0.0
1971	138	138	0	0.0
1972	72	72	0	0.0
1973	241	241	0	0.0
1974	241	241	0	0.0
1975	241	241	0	0.0
1976	106	106	0	0.0
1977	55	55	0	0.0
1978	241	241	0	0.0
1979	241	241	0	0.0
1980	241	241	0	0.0
1981	122	122	0	0.0
1982	241	241	0	0.0
1983	289	289	0	0.0
1984	88	88	0	0.0
1985	55	55	0	0.0
1986	241	241	0	0.0
1987	55	55	0	0.0
1988	55	55	0	0.0
1989	72	72	0	0.0
1990	55	55	0	0.0
1991	122	122	0	0.0
1992	106	106	0	0.0
1993	239	239	0	0.0
Mean:	159	159	0	0.0
Median:	147	147	0	0.0
Min:	3	3	0	0.0
Max:	289	289	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow Below Crocker-Huffman Dam

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	161	161	0	0.0
1923	213	213	0	0.0
1924	74	74	0	0.0
1925	143	143	0	0.0
1926	91	91	0	0.0
1927	240	240	0	0.0
1928	213	213	0	0.0
1929	213	213	0	0.0
1930	213	213	0	0.0
1931	17	17	0	0.0
1932	91	91	0	0.0
1933	74	74	0	0.0
1934	0	0	0	0.0
1935	57	57	0	0.0
1936	74	74	0	0.0
1937	57	57	0	0.0
1938	537	537	0	0.0
1939	109	109	0	0.0
1940	57	57	0	0.0
1941	205	205	0	0.0
1942	192	192	0	0.0
1943	126	126	0	0.0
1944	57	57	0	0.0
1945	109	109	0	0.0
1946	57	57	0	0.0
1947	57	57	0	0.0
1948	57	57	0	0.0
1949	57	57	0	0.0
1950	0	0	0	0.0
1951	57	57	0	0.0
1952	227	227	0	0.0
1953	57	57	0	0.0
1954	57	57	0	0.0
1955	0	0	0	0.0
1956	222	222	0	0.0
1957	57	57	0	0.0
1958	244	244	0	0.0
1959	109	109	0	0.0
1960	57	57	0	0.0
1961	17	17	0	0.0
1962	57	57	0	0.0
1963	74	74	0	0.0
1964	91	91	0	0.0
1965	168	168	0	0.0
1966	109	109	0	0.0
1967	753	753	0	0.0
1968	109	109	0	0.0
1969	465	465	0	0.0
1970	91	91	0	0.0
1971	74	74	0	0.0
1972	213	213	0	0.0
1973	126	126	0	0.0
1974	126	126	0	0.0
1975	197	197	0	0.0
1976	57	57	0	0.0
1977	26	26	0	0.0
1978	1342	1342	0	0.0
1979	126	126	0	0.0
1980	439	439	0	0.0
1981	91	91	0	0.0
1982	639	639	0	0.0
1983	1932	1932	0	0.0
1984	57	57	0	0.0
1985	109	109	0	0.0
1986	109	109	0	0.0
1987	57	57	0	0.0
1988	59	59	0	0.0
1989	109	109	0	0.0
1990	57	57	0	0.0
1991	74	74	0	0.0
1992	74	74	0	0.0
1993	158	158	0	0.0
Mean:	178	178	0	0.0
Median:	91	91	0	0.0
Min:	0	0	0	0.0
Max:	1932	1932	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	341	544	203	59.5
1923	2225	2429	204	9.2
1924	339	543	204	60.2
1925	338	541	203	60.1
1926	341	544	203	59.5
1927	312	516	204	65.4
1928	252	455	203	80.6
1929	252	455	203	80.6
1930	135	338	203	150.4
1931	333	537	204	61.3
1932	128	331	203	158.6
1933	343	546	203	59.2
1934	338	542	204	60.4
1935	126	329	203	161.1
1936	326	530	204	62.6
1937	707	910	203	28.7
1938	1373	1576	203	14.8
1939	3140	3343	203	6.5
1940	345	548	203	58.8
1941	341	544	203	59.5
1942	2567	2770	203	7.9
1943	2695	2899	204	7.6
1944	1221	1425	204	16.7
1945	343	546	203	59.2
1946	1536	1740	204	13.3
1947	341	544	203	59.5
1948	338	542	204	60.4
1949	341	544	203	59.5
1950	138	341	203	147.1
1951	116	320	204	175.9
1952	341	544	203	59.5
1953	2771	2974	203	7.3
1954	341	544	203	59.5
1955	341	544	203	59.5
1956	98	302	204	208.2
1957	2621	2824	203	7.7
1958	341	544	203	59.5
1959	2573	2776	203	7.9
1960	338	542	204	60.4
1961	332	535	203	61.1
1962	128	331	203	158.6
1963	341	544	203	59.5
1964	341	544	203	59.5
1965	273	476	203	74.4
1966	513	716	203	39.6
1967	341	544	203	59.5
1968	2972	3176	204	6.9
1969	340	543	203	59.7
1970	3156	3360	204	6.5
1971	341	544	203	59.5
1972	343	546	203	59.2
1973	338	542	204	60.4
1974	330	533	203	61.5
1975	1435	1639	204	14.2
1976	2062	2265	203	9.8
1977	457	660	203	44.4
1978	120	323	203	169.2
1979	3034	3237	203	6.7
1980	404	607	203	50.2
1981	2952	3155	203	6.9
1982	338	542	204	60.4
1983	3598	3802	204	5.7
1984	3240	3443	203	6.3
1985	341	544	203	59.5
1986	387	591	204	52.7
1987	1694	1897	203	12.0
1988	338	541	203	60.1
1989	333	537	204	61.3
1990	348	551	203	58.3
1991	301	504	203	67.4
1992	350	553	203	58.0
1993	200	403	203	101.5
Mean:	881	1085	203	58.7
Median:	341	544	203	59.5
Min:	98	302	203	5.7
Max:	3598	3802	204	208.2
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	276	486	210	76.1
1923	263	473	210	79.8
1924	218	429	211	96.8
1925	247	457	210	85.0
1926	218	429	211	96.8
1927	185	395	210	113.5
1928	218	429	211	96.8
1929	218	429	211	96.8
1930	185	395	210	113.5
1931	185	395	210	113.5
1932	185	395	210	113.5
1933	218	429	211	96.8
1934	185	395	210	113.5
1935	247	457	210	85.0
1936	218	429	211	96.8
1937	218	429	211	96.8
1938	218	429	211	96.8
1939	263	473	210	79.8
1940	185	395	210	113.5
1941	218	429	211	96.8
1942	263	473	210	79.8
1943	481	691	210	43.7
1944	218	429	211	96.8
1945	295	505	210	71.2
1946	572	782	210	36.7
1947	291	501	210	72.2
1948	240	450	210	87.5
1949	218	429	211	96.8
1950	218	429	211	96.8
1951	449	659	210	46.8
1952	218	429	211	96.8
1953	218	429	211	96.8
1954	218	429	211	96.8
1955	218	429	211	96.8
1956	185	395	210	113.5
1957	244	454	210	86.1
1958	218	429	211	96.8
1959	218	429	211	96.8
1960	185	395	210	113.5
1961	196	406	210	107.1
1962	185	395	210	113.5
1963	218	429	211	96.8
1964	283	493	210	74.2
1965	260	470	210	80.8
1966	1014	1224	210	20.7
1967	276	486	210	76.1
1968	218	429	211	96.8
1969	240	450	210	87.5
1970	261	471	210	80.5
1971	281	491	210	74.7
1972	243	453	210	86.4
1973	240	450	210	87.5
1974	238	448	210	88.2
1975	218	429	211	96.8
1976	263	473	210	79.8
1977	185	395	210	113.5
1978	185	395	210	113.5
1979	263	473	210	79.8
1980	218	429	211	96.8
1981	218	429	211	96.8
1982	247	457	210	85.0
1983	1487	1697	210	14.1
1984	1774	1984	210	11.8
1985	288	498	210	72.9
1986	247	457	210	85.0
1987	218	429	211	96.8
1988	257	467	210	81.7
1989	185	395	210	113.5
1990	225	435	210	93.3
1991	185	395	210	113.5
1992	225	435	210	93.3
1993	185	395	210	113.5
Mean:	288	499	210	88.9
Median:	218	429	210	96.8
Min:	185	395	210	11.8
Max:	1774	1984	211	113.5
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	357	357	0	0.0
1923	1040	1040	0	0.0
1924	228	228	0	0.0
1925	239	239	0	0.0
1926	258	258	0	0.0
1927	263	263	0	0.0
1928	308	308	0	0.0
1929	228	228	0	0.0
1930	179	179	0	0.0
1931	179	179	0	0.0
1932	382	382	0	0.0
1933	228	228	0	0.0
1934	239	239	0	0.0
1935	245	245	0	0.0
1936	228	228	0	0.0
1937	295	295	0	0.0
1938	2191	2191	0	0.0
1939	288	288	0	0.0
1940	179	179	0	0.0
1941	347	347	0	0.0
1942	1320	1320	0	0.0
1943	758	758	0	0.0
1944	241	241	0	0.0
1945	295	295	0	0.0
1946	1831	1831	0	0.0
1947	310	310	0	0.0
1948	185	185	0	0.0
1949	228	228	0	0.0
1950	228	228	0	0.0
1951	344	344	0	0.0
1952	363	363	0	0.0
1953	392	392	0	0.0
1954	228	228	0	0.0
1955	288	288	0	0.0
1956	722	722	0	0.0
1957	228	228	0	0.0
1958	288	288	0	0.0
1959	228	228	0	0.0
1960	179	179	0	0.0
1961	239	239	0	0.0
1962	218	218	0	0.0
1963	228	228	0	0.0
1964	288	288	0	0.0
1965	369	369	0	0.0
1966	841	841	0	0.0
1967	383	383	0	0.0
1968	295	295	0	0.0
1969	263	263	0	0.0
1970	664	664	0	0.0
1971	332	332	0	0.0
1972	301	301	0	0.0
1973	239	239	0	0.0
1974	298	298	0	0.0
1975	288	288	0	0.0
1976	272	272	0	0.0
1977	179	179	0	0.0
1978	245	245	0	0.0
1979	258	258	0	0.0
1980	288	288	0	0.0
1981	228	228	0	0.0
1982	252	252	0	0.0
1983	2540	2540	0	0.0
1984	3482	3482	0	0.0
1985	295	295	0	0.0
1986	246	246	0	0.0
1987	228	228	0	0.0
1988	232	232	0	0.0
1989	239	239	0	0.0
1990	179	179	0	0.0
1991	179	179	0	0.0
1992	179	179	0	0.0
1993	244	244	0	0.0
Mean:	438	438	0	0.0
Median:	261	261	0	0.0
Min:	179	179	0	0.0
Max:	3482	3482	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	343	343	0	0.0
1923	1245	1245	0	0.0
1924	228	228	0	0.0
1925	238	238	0	0.0
1926	228	228	0	0.0
1927	179	179	0	0.0
1928	312	312	0	0.0
1929	228	228	0	0.0
1930	179	179	0	0.0
1931	191	191	0	0.0
1932	337	337	0	0.0
1933	305	305	0	0.0
1934	244	244	0	0.0
1935	374	374	0	0.0
1936	317	317	0	0.0
1937	429	429	0	0.0
1938	1297	1297	0	0.0
1939	367	367	0	0.0
1940	438	438	0	0.0
1941	966	966	0	0.0
1942	1589	1589	0	0.0
1943	2516	2516	0	0.0
1944	292	292	0	0.0
1945	292	292	0	0.0
1946	997	997	0	0.0
1947	281	281	0	0.0
1948	231	231	0	0.0
1949	239	239	0	0.0
1950	310	310	0	0.0
1951	788	788	0	0.0
1952	538	538	0	0.0
1953	1093	1093	0	0.0
1954	292	292	0	0.0
1955	310	310	0	0.0
1956	682	682	0	0.0
1957	286	286	0	0.0
1958	310	310	0	0.0
1959	292	292	0	0.0
1960	191	191	0	0.0
1961	179	179	0	0.0
1962	222	222	0	0.0
1963	330	330	0	0.0
1964	299	299	0	0.0
1965	321	321	0	0.0
1966	861	861	0	0.0
1967	354	354	0	0.0
1968	292	292	0	0.0
1969	619	619	0	0.0
1970	2716	2716	0	0.0
1971	317	317	0	0.0
1972	292	292	0	0.0
1973	288	288	0	0.0
1974	433	433	0	0.0
1975	328	328	0	0.0
1976	228	228	0	0.0
1977	179	179	0	0.0
1978	381	381	0	0.0
1979	1682	1682	0	0.0
1980	4455	4455	0	0.0
1981	310	310	0	0.0
1982	378	378	0	0.0
1983	3413	3413	0	0.0
1984	1705	1705	0	0.0
1985	286	286	0	0.0
1986	244	244	0	0.0
1987	228	228	0	0.0
1988	238	238	0	0.0
1989	191	191	0	0.0
1990	238	238	0	0.0
1991	136	136	0	0.0
1992	236	236	0	0.0
1993	529	529	0	0.0
Mean:	596	596	0	0.0
Median:	310	310	0	0.0
Min:	136	136	0	0.0
Max:	4455	4455	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	745	745	0	0.0
1923	1118	1118	0	0.0
1924	279	279	0	0.0
1925	343	343	0	0.0
1926	316	316	0	0.0
1927	467	467	0	0.0
1928	309	309	0	0.0
1929	294	294	0	0.0
1930	180	180	0	0.0
1931	245	245	0	0.0
1932	592	592	0	0.0
1933	302	302	0	0.0
1934	281	281	0	0.0
1935	316	316	0	0.0
1936	2534	2534	0	0.0
1937	4493	4493	0	0.0
1938	4752	4752	0	0.0
1939	598	598	0	0.0
1940	402	402	0	0.0
1941	2986	2986	0	0.0
1942	1630	1630	0	0.0
1943	1797	1797	0	0.0
1944	882	882	0	0.0
1945	1541	1541	0	0.0
1946	757	757	0	0.0
1947	795	795	0	0.0
1948	237	237	0	0.0
1949	295	295	0	0.0
1950	365	365	0	0.0
1951	1428	1428	0	0.0
1952	355	355	0	0.0
1953	577	577	0	0.0
1954	317	317	0	0.0
1955	289	289	0	0.0
1956	1523	1523	0	0.0
1957	687	687	0	0.0
1958	392	392	0	0.0
1959	879	879	0	0.0
1960	284	284	0	0.0
1961	245	245	0	0.0
1962	564	564	0	0.0
1963	399	399	0	0.0
1964	274	274	0	0.0
1965	255	255	0	0.0
1966	753	753	0	0.0
1967	336	336	0	0.0
1968	699	699	0	0.0
1969	2903	2903	0	0.0
1970	1333	1333	0	0.0
1971	295	295	0	0.0
1972	284	284	0	0.0
1973	505	505	0	0.0
1974	782	782	0	0.0
1975	2278	2278	0	0.0
1976	305	305	0	0.0
1977	180	180	0	0.0
1978	564	564	0	0.0
1979	2139	2139	0	0.0
1980	4600	4600	0	0.0
1981	480	480	0	0.0
1982	1596	1596	0	0.0
1983	4347	4347	0	0.0
1984	1476	1476	0	0.0
1985	309	309	0	0.0
1986	1084	1084	0	0.0
1987	294	294	0	0.0
1988	232	232	0	0.0
1989	245	245	0	0.0
1990	245	245	0	0.0
1991	160	160	0	0.0
1992	313	313	0	0.0
1993	364	364	0	0.0
Mean:	936	936	0	0.0
Median:	435	435	0	0.0
Min:	160	160	0	0.0
Max:	4752	4752	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	691	691	0	0.0
1923	316	316	0	0.0
1924	272	272	0	0.0
1925	340	340	0	0.0
1926	272	272	0	0.0
1927	373	373	0	0.0
1928	397	397	0	0.0
1929	278	278	0	0.0
1930	196	196	0	0.0
1931	243	243	0	0.0
1932	345	345	0	0.0
1933	290	290	0	0.0
1934	250	250	0	0.0
1935	381	381	0	0.0
1936	373	373	0	0.0
1937	959	959	0	0.0
1938	4632	4632	0	0.0
1939	303	303	0	0.0
1940	405	405	0	0.0
1941	1343	1343	0	0.0
1942	358	358	0	0.0
1943	2732	2732	0	0.0
1944	391	391	0	0.0
1945	648	648	0	0.0
1946	342	342	0	0.0
1947	272	272	0	0.0
1948	334	334	0	0.0
1949	391	391	0	0.0
1950	329	329	0	0.0
1951	366	366	0	0.0
1952	1428	1428	0	0.0
1953	322	322	0	0.0
1954	366	366	0	0.0
1955	272	272	0	0.0
1956	301	301	0	0.0
1957	340	340	0	0.0
1958	485	485	0	0.0
1959	266	266	0	0.0
1960	263	263	0	0.0
1961	243	243	0	0.0
1962	404	404	0	0.0
1963	337	337	0	0.0
1964	272	272	0	0.0
1965	311	311	0	0.0
1966	329	329	0	0.0
1967	370	370	0	0.0
1968	279	279	0	0.0
1969	1500	1500	0	0.0
1970	474	474	0	0.0
1971	322	322	0	0.0
1972	259	259	0	0.0
1973	467	467	0	0.0
1974	849	849	0	0.0
1975	879	879	0	0.0
1976	272	272	0	0.0
1977	179	179	0	0.0
1978	514	514	0	0.0
1979	1030	1030	0	0.0
1980	1362	1362	0	0.0
1981	297	297	0	0.0
1982	1801	1801	0	0.0
1983	5370	5370	0	0.0
1984	339	339	0	0.0
1985	290	290	0	0.0
1986	3445	3445	0	0.0
1987	283	283	0	0.0
1988	260	260	0	0.0
1989	268	268	0	0.0
1990	250	250	0	0.0
1991	338	338	0	0.0
1992	261	261	0	0.0
1993	357	357	0	0.0
Mean:	654	654	0	0.0
Median:	340	340	0	0.0
Min:	179	179	0	0.0
Max:	5370	5370	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	201	201	0	0.0
1923	593	593	0	0.0
1924	293	293	0	0.0
1925	618	618	0	0.0
1926	631	631	0	0.0
1927	487	487	0	0.0
1928	694	694	0	0.0
1929	609	609	0	0.0
1930	379	379	0	0.0
1931	147	147	0	0.0
1932	327	327	0	0.0
1933	570	570	0	0.0
1934	280	280	0	0.0
1935	331	331	0	0.0
1936	460	460	0	0.0
1937	230	230	0	0.0
1938	685	685	0	0.0
1939	609	609	0	0.0
1940	327	327	0	0.0
1941	289	289	0	0.0
1942	251	251	0	0.0
1943	489	489	0	0.0
1944	796	796	0	0.0
1945	208	208	0	0.0
1946	616	616	0	0.0
1947	439	439	0	0.0
1948	432	432	0	0.0
1949	616	616	0	0.0
1950	510	510	0	0.0
1951	638	638	0	0.0
1952	295	295	0	0.0
1953	616	616	0	0.0
1954	616	616	0	0.0
1955	467	467	0	0.0
1956	616	616	0	0.0
1957	616	616	0	0.0
1958	850	850	0	0.0
1959	802	802	0	0.0
1960	568	568	0	0.0
1961	147	147	0	0.0
1962	616	616	0	0.0
1963	635	635	0	0.0
1964	609	609	0	0.0
1965	277	277	0	0.0
1966	810	810	0	0.0
1967	487	487	0	0.0
1968	802	802	0	0.0
1969	1299	1299	0	0.0
1970	616	616	0	0.0
1971	616	616	0	0.0
1972	304	304	0	0.0
1973	196	196	0	0.0
1974	280	280	0	0.0
1975	227	227	0	0.0
1976	484	484	0	0.0
1977	366	366	0	0.0
1978	410	410	0	0.0
1979	212	212	0	0.0
1980	196	196	0	0.0
1981	779	779	0	0.0
1982	4317	4317	0	0.0
1983	220	220	0	0.0
1984	667	667	0	0.0
1985	602	602	0	0.0
1986	196	196	0	0.0
1987	441	441	0	0.0
1988	305	305	0	0.0
1989	147	147	0	0.0
1990	147	147	0	0.0
1991	147	147	0	0.0
1992	147	147	0	0.0
1993	316	316	0	0.0
Mean:	517	517	0	0.0
Median:	476	476	0	0.0
Min:	147	147	0	0.0
Max:	4317	4317	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1852	1852	0	0.0
1923	511	511	0	0.0
1924	470	470	0	0.0
1925	585	585	0	0.0
1926	577	577	0	0.0
1927	604	604	0	0.0
1928	673	673	0	0.0
1929	438	438	0	0.0
1930	257	257	0	0.0
1931	196	196	0	0.0
1932	651	651	0	0.0
1933	315	315	0	0.0
1934	474	474	0	0.0
1935	666	666	0	0.0
1936	1497	1497	0	0.0
1937	2176	2176	0	0.0
1938	3421	3421	0	0.0
1939	739	739	0	0.0
1940	539	539	0	0.0
1941	2046	2046	0	0.0
1942	759	759	0	0.0
1943	917	917	0	0.0
1944	574	574	0	0.0
1945	666	666	0	0.0
1946	656	656	0	0.0
1947	416	416	0	0.0
1948	471	471	0	0.0
1949	447	447	0	0.0
1950	373	373	0	0.0
1951	726	726	0	0.0
1952	3485	3485	0	0.0
1953	585	585	0	0.0
1954	437	437	0	0.0
1955	389	389	0	0.0
1956	748	748	0	0.0
1957	557	557	0	0.0
1958	2942	2942	0	0.0
1959	552	552	0	0.0
1960	383	383	0	0.0
1961	196	196	0	0.0
1962	635	635	0	0.0
1963	530	530	0	0.0
1964	333	333	0	0.0
1965	666	666	0	0.0
1966	560	560	0	0.0
1967	1989	1989	0	0.0
1968	552	552	0	0.0
1969	5414	5414	0	0.0
1970	599	599	0	0.0
1971	597	597	0	0.0
1972	463	463	0	0.0
1973	666	666	0	0.0
1974	874	874	0	0.0
1975	603	603	0	0.0
1976	372	372	0	0.0
1977	232	232	0	0.0
1978	365	365	0	0.0
1979	1003	1003	0	0.0
1980	495	495	0	0.0
1981	575	575	0	0.0
1982	2995	2995	0	0.0
1983	2603	2603	0	0.0
1984	698	698	0	0.0
1985	400	400	0	0.0
1986	1061	1061	0	0.0
1987	414	414	0	0.0
1988	436	436	0	0.0
1989	196	196	0	0.0
1990	196	196	0	0.0
1991	196	196	0	0.0
1992	196	196	0	0.0
1993	429	429	0	0.0
Mean:	865	865	0	0.0
Median:	575	575	0	0.0
Min:	196	196	0	0.0
Max:	5414	5414	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	3872	3872	0	0.0
1923	271	271	0	0.0
1924	261	261	0	0.0
1925	271	271	0	0.0
1926	261	261	0	0.0
1927	271	271	0	0.0
1928	271	271	0	0.0
1929	261	261	0	0.0
1930	204	204	0	0.0
1931	221	221	0	0.0
1932	271	271	0	0.0
1933	261	261	0	0.0
1934	221	221	0	0.0
1935	271	271	0	0.0
1936	271	271	0	0.0
1937	375	375	0	0.0
1938	4505	4505	0	0.0
1939	278	278	0	0.0
1940	271	271	0	0.0
1941	2123	2123	0	0.0
1942	2143	2143	0	0.0
1943	271	271	0	0.0
1944	271	271	0	0.0
1945	271	271	0	0.0
1946	271	271	0	0.0
1947	278	278	0	0.0
1948	271	271	0	0.0
1949	271	271	0	0.0
1950	271	271	0	0.0
1951	271	271	0	0.0
1952	2262	2262	0	0.0
1953	271	271	0	0.0
1954	271	271	0	0.0
1955	261	261	0	0.0
1956	1245	1245	0	0.0
1957	271	271	0	0.0
1958	2066	2066	0	0.0
1959	278	278	0	0.0
1960	221	221	0	0.0
1961	221	221	0	0.0
1962	271	271	0	0.0
1963	271	271	0	0.0
1964	261	261	0	0.0
1965	271	271	0	0.0
1966	288	288	0	0.0
1967	4285	4285	0	0.0
1968	278	278	0	0.0
1969	4030	4030	0	0.0
1970	271	271	0	0.0
1971	271	271	0	0.0
1972	261	261	0	0.0
1973	271	271	0	0.0
1974	423	423	0	0.0
1975	1649	1649	0	0.0
1976	278	278	0	0.0
1977	125	125	0	0.0
1978	4005	4005	0	0.0
1979	271	271	0	0.0
1980	1795	1795	0	0.0
1981	278	278	0	0.0
1982	1551	1551	0	0.0
1983	7730	7730	0	0.0
1984	271	271	0	0.0
1985	244	244	0	0.0
1986	1028	1028	0	0.0
1987	278	278	0	0.0
1988	187	187	0	0.0
1989	221	221	0	0.0
1990	221	221	0	0.0
1991	237	237	0	0.0
1992	221	221	0	0.0
1993	542	542	0	0.0
Mean:	827	827	0	0.0
Median:	271	271	0	0.0
Min:	125	125	0	0.0
Max:	7730	7730	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	261	261	0	0.0
1923	277	277	0	0.0
1924	267	267	0	0.0
1925	277	277	0	0.0
1926	267	267	0	0.0
1927	261	261	0	0.0
1928	261	261	0	0.0
1929	251	251	0	0.0
1930	192	192	0	0.0
1931	126	126	0	0.0
1932	277	277	0	0.0
1933	267	267	0	0.0
1934	208	208	0	0.0
1935	277	277	0	0.0
1936	277	277	0	0.0
1937	277	277	0	0.0
1938	261	261	0	0.0
1939	267	267	0	0.0
1940	277	277	0	0.0
1941	261	261	0	0.0
1942	261	261	0	0.0
1943	277	277	0	0.0
1944	277	277	0	0.0
1945	277	277	0	0.0
1946	277	277	0	0.0
1947	267	267	0	0.0
1948	277	277	0	0.0
1949	277	277	0	0.0
1950	277	277	0	0.0
1951	277	277	0	0.0
1952	261	261	0	0.0
1953	277	277	0	0.0
1954	277	277	0	0.0
1955	267	267	0	0.0
1956	261	261	0	0.0
1957	277	277	0	0.0
1958	261	261	0	0.0
1959	267	267	0	0.0
1960	208	208	0	0.0
1961	208	208	0	0.0
1962	277	277	0	0.0
1963	277	277	0	0.0
1964	267	267	0	0.0
1965	261	261	0	0.0
1966	277	277	0	0.0
1967	1655	1655	0	0.0
1968	267	267	0	0.0
1969	261	261	0	0.0
1970	277	277	0	0.0
1971	277	277	0	0.0
1972	267	267	0	0.0
1973	277	277	0	0.0
1974	277	277	0	0.0
1975	277	277	0	0.0
1976	267	267	0	0.0
1977	176	176	0	0.0
1978	544	544	0	0.0
1979	277	277	0	0.0
1980	261	261	0	0.0
1981	267	267	0	0.0
1982	261	261	0	0.0
1983	3516	3516	0	0.0
1984	277	277	0	0.0
1985	186	186	0	0.0
1986	277	277	0	0.0
1987	251	251	0	0.0
1988	174	174	0	0.0
1989	322	322	0	0.0
1990	338	338	0	0.0
1991	387	387	0	0.0
1992	338	338	0	0.0
1993	266	266	0	0.0
Mean:	333	333	0	0.0
Median:	272	272	0	0.0
Min:	126	126	0	0.0
Max:	3516	3516	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	172	172	0	0.0
1923	221	221	0	0.0
1924	210	210	0	0.0
1925	221	221	0	0.0
1926	212	212	0	0.0
1927	156	156	0	0.0
1928	156	156	0	0.0
1929	145	145	0	0.0
1930	99	99	0	0.0
1931	38	38	0	0.0
1932	221	221	0	0.0
1933	212	212	0	0.0
1934	164	164	0	0.0
1935	221	221	0	0.0
1936	221	221	0	0.0
1937	221	221	0	0.0
1938	172	172	0	0.0
1939	212	212	0	0.0
1940	221	221	0	0.0
1941	172	172	0	0.0
1942	172	172	0	0.0
1943	221	221	0	0.0
1944	221	221	0	0.0
1945	221	221	0	0.0
1946	221	221	0	0.0
1947	212	212	0	0.0
1948	221	221	0	0.0
1949	221	221	0	0.0
1950	221	221	0	0.0
1951	221	221	0	0.0
1952	172	172	0	0.0
1953	221	221	0	0.0
1954	221	221	0	0.0
1955	212	212	0	0.0
1956	172	172	0	0.0
1957	221	221	0	0.0
1958	172	172	0	0.0
1959	212	212	0	0.0
1960	164	164	0	0.0
1961	164	164	0	0.0
1962	221	221	0	0.0
1963	221	221	0	0.0
1964	212	212	0	0.0
1965	172	172	0	0.0
1966	221	221	0	0.0
1967	172	172	0	0.0
1968	212	212	0	0.0
1969	172	172	0	0.0
1970	221	221	0	0.0
1971	221	221	0	0.0
1972	212	212	0	0.0
1973	221	221	0	0.0
1974	221	221	0	0.0
1975	221	221	0	0.0
1976	210	210	0	0.0
1977	87	87	0	0.0
1978	172	172	0	0.0
1979	221	221	0	0.0
1980	172	172	0	0.0
1981	212	212	0	0.0
1982	172	172	0	0.0
1983	156	156	0	0.0
1984	120	120	0	0.0
1985	114	114	0	0.0
1986	221	221	0	0.0
1987	162	162	0	0.0
1988	63	63	0	0.0
1989	148	148	0	0.0
1990	131	131	0	0.0
1991	197	197	0	0.0
1992	180	180	0	0.0
1993	186	186	0	0.0
Mean:	189	189	0	0.0
Median:	212	212	0	0.0
Min:	38	38	0	0.0
Max:	221	221	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at the Mouth

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	151	151	0	0.0
1923	151	151	0	0.0
1924	144	144	0	0.0
1925	151	151	0	0.0
1926	145	145	0	0.0
1927	83	83	0	0.0
1928	83	83	0	0.0
1929	77	77	0	0.0
1930	45	45	0	0.0
1931	47	47	0	0.0
1932	151	151	0	0.0
1933	145	145	0	0.0
1934	51	51	0	0.0
1935	151	151	0	0.0
1936	151	151	0	0.0
1937	151	151	0	0.0
1938	426	426	0	0.0
1939	145	145	0	0.0
1940	151	151	0	0.0
1941	151	151	0	0.0
1942	151	151	0	0.0
1943	151	151	0	0.0
1944	151	151	0	0.0
1945	151	151	0	0.0
1946	151	151	0	0.0
1947	145	145	0	0.0
1948	151	151	0	0.0
1949	151	151	0	0.0
1950	138	138	0	0.0
1951	151	151	0	0.0
1952	151	151	0	0.0
1953	151	151	0	0.0
1954	151	151	0	0.0
1955	103	103	0	0.0
1956	151	151	0	0.0
1957	151	151	0	0.0
1958	134	134	0	0.0
1959	145	145	0	0.0
1960	112	112	0	0.0
1961	109	109	0	0.0
1962	151	151	0	0.0
1963	151	151	0	0.0
1964	145	145	0	0.0
1965	151	151	0	0.0
1966	151	151	0	0.0
1967	632	632	0	0.0
1968	145	145	0	0.0
1969	390	390	0	0.0
1970	151	151	0	0.0
1971	151	151	0	0.0
1972	145	145	0	0.0
1973	151	151	0	0.0
1974	151	151	0	0.0
1975	151	151	0	0.0
1976	144	144	0	0.0
1977	59	59	0	0.0
1978	1204	1204	0	0.0
1979	151	151	0	0.0
1980	327	327	0	0.0
1981	145	145	0	0.0
1982	514	514	0	0.0
1983	1740	1740	0	0.0
1984	83	83	0	0.0
1985	196	196	0	0.0
1986	151	151	0	0.0
1987	144	144	0	0.0
1988	17	17	0	0.0
1989	146	146	0	0.0
1990	112	112	0	0.0
1991	129	129	0	0.0
1992	129	129	0	0.0
1993	109	109	0	0.0
Mean:	193	193	0	0.0
Median:	151	151	0	0.0
Min:	17	17	0	0.0
Max:	1740	1740	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

October				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	890	1094	204	22.9
1923	2782	2985	203	7.3
1924	802	1005	203	25.3
1925	722	925	203	28.1
1926	795	998	203	25.5
1927	740	943	203	27.4
1928	709	912	203	28.6
1929	707	911	204	28.9
1930	541	744	203	37.5
1931	740	943	203	27.4
1932	468	671	203	43.4
1933	681	884	203	29.8
1934	675	878	203	30.1
1935	484	687	203	41.9
1936	774	977	203	26.2
1937	1161	1364	203	17.5
1938	1871	2075	204	10.9
1939	3726	3929	203	5.4
1940	908	1111	203	22.4
1941	899	1102	203	22.6
1942	3134	3337	203	6.5
1943	3265	3469	204	6.2
1944	1832	2035	203	11.1
1945	936	1140	204	21.8
1946	2106	2309	203	9.6
1947	850	1053	203	23.9
1948	808	1012	204	25.2
1949	808	1012	204	25.2
1950	597	800	203	34.0
1951	564	767	203	36.0
1952	838	1041	203	24.2
1953	3277	3481	204	6.2
1954	853	1056	203	23.8
1955	831	1035	204	24.5
1956	583	786	203	34.8
1957	3104	3307	203	6.5
1958	842	1045	203	24.1
1959	3063	3266	203	6.6
1960	822	1025	203	24.7
1961	745	949	204	27.4
1962	564	767	203	36.0
1963	768	971	203	26.4
1964	772	976	204	26.4
1965	717	920	203	28.3
1966	1011	1214	203	20.1
1967	852	1055	203	23.8
1968	3459	3662	203	5.9
1969	879	1082	203	23.1
1970	3712	3916	204	5.5
1971	866	1069	203	23.4
1972	821	1024	203	24.7
1973	840	1043	203	24.2
1974	825	1029	204	24.7
1975	1949	2152	203	10.4
1976	2558	2762	204	8.0
1977	1436	1640	204	14.2
1978	514	718	204	39.7
1979	3517	3721	204	5.8
1980	878	1081	203	23.1
1981	3448	3651	203	5.9
1982	907	1111	204	22.5
1983	4195	4399	204	4.9
1984	5440	5643	203	3.7
1985	855	1059	204	23.9
1986	937	1140	203	21.7
1987	2184	2388	204	9.3
1988	770	974	204	26.5
1989	733	936	203	27.7
1990	755	958	203	26.9
1991	672	876	204	30.4
1992	672	875	203	30.2
1993	704	907	203	28.8
Mean:	1391	1594	203	21.8
Median:	841	1044	203	24.2
Min:	468	671	203	3.7
Max:	5440	5643	204	43.4
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

November				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	675	885	210	31.1
1923	756	966	210	27.8
1924	536	746	210	39.2
1925	560	770	210	37.5
1926	529	739	210	39.7
1927	676	886	210	31.1
1928	673	883	210	31.2
1929	516	726	210	40.7
1930	451	662	211	46.8
1931	458	668	210	45.9
1932	426	636	210	49.3
1933	454	665	211	46.5
1934	420	630	210	50.0
1935	530	740	210	39.6
1936	524	734	210	40.1
1937	530	740	210	39.6
1938	604	814	210	34.8
1939	761	971	210	27.6
1940	580	790	210	36.2
1941	636	846	210	33.0
1942	762	972	210	27.6
1943	1021	1231	210	20.6
1944	715	925	210	29.4
1945	839	1049	210	25.0
1946	1026	1236	210	20.5
1947	739	949	210	28.4
1948	566	776	210	37.1
1949	542	752	210	38.7
1950	533	743	210	39.4
1951	1522	1732	210	13.8
1952	570	780	210	36.8
1953	659	869	210	31.9
1954	581	791	210	36.1
1955	563	773	210	37.3
1956	529	739	210	39.7
1957	572	782	210	36.7
1958	571	781	210	36.8
1959	614	824	210	34.2
1960	518	728	210	40.5
1961	501	711	210	41.9
1962	476	687	211	44.3
1963	497	707	210	42.3
1964	680	890	210	30.9
1965	648	859	211	32.6
1966	1561	1771	210	13.5
1967	642	852	210	32.7
1968	594	804	210	35.4
1969	635	845	210	33.1
1970	725	935	210	29.0
1971	690	900	210	30.4
1972	574	784	210	36.6
1973	596	806	210	35.2
1974	615	825	210	34.1
1975	586	796	210	35.8
1976	639	849	210	32.9
1977	501	712	211	42.1
1978	476	686	210	44.1
1979	680	890	210	30.9
1980	572	782	210	36.7
1981	617	827	210	34.0
1982	698	908	210	30.1
1983	3156	3366	210	6.7
1984	5550	5760	210	3.8
1985	711	921	210	29.5
1986	689	899	210	30.5
1987	572	782	210	36.7
1988	549	759	210	38.3
1989	458	668	210	45.9
1990	490	700	210	42.9
1991	420	630	210	50.0
1992	473	683	210	44.4
1993	455	665	210	46.2
Mean:	729	939	210	34.9
Median:	581	791	210	36.2
Min:	420	630	210	3.8
Max:	5550	5760	211	50.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

December				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1041	1041	0	0.0
1923	1823	1823	0	0.0
1924	528	528	0	0.0
1925	511	511	0	0.0
1926	552	552	0	0.0
1927	646	646	0	0.0
1928	677	677	0	0.0
1929	513	513	0	0.0
1930	400	400	0	0.0
1931	401	401	0	0.0
1932	1242	1242	0	0.0
1933	426	426	0	0.0
1934	465	465	0	0.0
1935	517	517	0	0.0
1936	517	517	0	0.0
1937	616	616	0	0.0
1938	3535	3535	0	0.0
1939	672	672	0	0.0
1940	553	553	0	0.0
1941	1118	1118	0	0.0
1942	2176	2176	0	0.0
1943	1187	1187	0	0.0
1944	688	688	0	0.0
1945	759	759	0	0.0
1946	2485	2485	0	0.0
1947	767	767	0	0.0
1948	467	467	0	0.0
1949	507	507	0	0.0
1950	499	499	0	0.0
1951	4507	4507	0	0.0
1952	1028	1028	0	0.0
1953	839	839	0	0.0
1954	576	576	0	0.0
1955	618	618	0	0.0
1956	6200	6200	0	0.0
1957	544	544	0	0.0
1958	626	626	0	0.0
1959	526	526	0	0.0
1960	471	471	0	0.0
1961	497	497	0	0.0
1962	466	466	0	0.0
1963	463	463	0	0.0
1964	557	557	0	0.0
1965	1316	1316	0	0.0
1966	1366	1366	0	0.0
1967	1144	1144	0	0.0
1968	645	645	0	0.0
1969	751	751	0	0.0
1970	1049	1049	0	0.0
1971	886	886	0	0.0
1972	674	674	0	0.0
1973	579	579	0	0.0
1974	740	740	0	0.0
1975	639	639	0	0.0
1976	605	605	0	0.0
1977	444	444	0	0.0
1978	557	557	0	0.0
1979	572	572	0	0.0
1980	599	599	0	0.0
1981	558	558	0	0.0
1982	713	713	0	0.0
1983	10215	10215	0	0.0
1984	9191	9191	0	0.0
1985	673	673	0	0.0
1986	666	666	0	0.0
1987	526	526	0	0.0
1988	477	477	0	0.0
1989	484	484	0	0.0
1990	399	399	0	0.0
1991	367	367	0	0.0
1992	365	365	0	0.0
1993	515	515	0	0.0
Mean:	1138	1138	0	0.0
Median:	611	611	0	0.0
Min:	365	365	0	0.0
Max:	10215	10215	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

January				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	982	982	0	0.0
1923	2075	2075	0	0.0
1924	533	533	0	0.0
1925	504	504	0	0.0
1926	521	521	0	0.0
1927	527	527	0	0.0
1928	743	743	0	0.0
1929	518	518	0	0.0
1930	475	475	0	0.0
1931	438	438	0	0.0
1932	1014	1014	0	0.0
1933	609	609	0	0.0
1934	490	490	0	0.0
1935	1811	1811	0	0.0
1936	740	740	0	0.0
1937	1462	1462	0	0.0
1938	3204	3204	0	0.0
1939	783	783	0	0.0
1940	1738	1738	0	0.0
1941	2636	2636	0	0.0
1942	2390	2390	0	0.0
1943	3886	3886	0	0.0
1944	774	774	0	0.0
1945	757	757	0	0.0
1946	1490	1490	0	0.0
1947	661	661	0	0.0
1948	515	515	0	0.0
1949	545	545	0	0.0
1950	1098	1098	0	0.0
1951	3286	3286	0	0.0
1952	2121	2121	0	0.0
1953	1737	1737	0	0.0
1954	677	677	0	0.0
1955	755	755	0	0.0
1956	5419	5419	0	0.0
1957	610	610	0	0.0
1958	767	767	0	0.0
1959	650	650	0	0.0
1960	519	519	0	0.0
1961	429	429	0	0.0
1962	504	504	0	0.0
1963	791	791	0	0.0
1964	628	628	0	0.0
1965	2316	2316	0	0.0
1966	1498	1498	0	0.0
1967	1172	1172	0	0.0
1968	644	644	0	0.0
1969	5489	5489	0	0.0
1970	5942	5942	0	0.0
1971	823	823	0	0.0
1972	644	644	0	0.0
1973	1161	1161	0	0.0
1974	1666	1666	0	0.0
1975	709	709	0	0.0
1976	568	568	0	0.0
1977	471	471	0	0.0
1978	1765	1765	0	0.0
1979	2416	2416	0	0.0
1980	7195	7195	0	0.0
1981	758	758	0	0.0
1982	2261	2261	0	0.0
1983	11841	11841	0	0.0
1984	7387	7387	0	0.0
1985	646	646	0	0.0
1986	1090	1090	0	0.0
1987	559	559	0	0.0
1988	509	509	0	0.0
1989	428	428	0	0.0
1990	485	485	0	0.0
1991	315	315	0	0.0
1992	495	495	0	0.0
1993	4606	4606	0	0.0
Mean:	1648	1648	0	0.0
Median:	763	763	0	0.0
Min:	315	315	0	0.0
Max:	11841	11841	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

February				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2827	2827	0	0.0
1923	1994	1994	0	0.0
1924	741	741	0	0.0
1925	1135	1135	0	0.0
1926	892	892	0	0.0
1927	1962	1962	0	0.0
1928	945	945	0	0.0
1929	791	791	0	0.0
1930	616	616	0	0.0
1931	611	611	0	0.0
1932	2861	2861	0	0.0
1933	713	713	0	0.0
1934	744	744	0	0.0
1935	964	964	0	0.0
1936	5394	5394	0	0.0
1937	8545	8545	0	0.0
1938	10324	10324	0	0.0
1939	1294	1294	0	0.0
1940	1950	1950	0	0.0
1941	6026	6026	0	0.0
1942	2739	2739	0	0.0
1943	2816	2816	0	0.0
1944	1720	1720	0	0.0
1945	3840	3840	0	0.0
1946	1416	1416	0	0.0
1947	1428	1428	0	0.0
1948	673	673	0	0.0
1949	799	799	0	0.0
1950	1173	1173	0	0.0
1951	2166	2166	0	0.0
1952	1221	1221	0	0.0
1953	1139	1139	0	0.0
1954	989	989	0	0.0
1955	806	806	0	0.0
1956	4123	4123	0	0.0
1957	1255	1255	0	0.0
1958	1387	1387	0	0.0
1959	1627	1627	0	0.0
1960	958	958	0	0.0
1961	604	604	0	0.0
1962	2589	2589	0	0.0
1963	1329	1329	0	0.0
1964	706	706	0	0.0
1965	858	858	0	0.0
1966	1410	1410	0	0.0
1967	1042	1042	0	0.0
1968	1236	1236	0	0.0
1969	12845	12845	0	0.0
1970	2087	2087	0	0.0
1971	882	882	0	0.0
1972	806	806	0	0.0
1973	2210	2210	0	0.0
1974	1387	1387	0	0.0
1975	3425	3425	0	0.0
1976	813	813	0	0.0
1977	557	557	0	0.0
1978	3694	3694	0	0.0
1979	3328	3328	0	0.0
1980	9460	9460	0	0.0
1981	1034	1034	0	0.0
1982	3036	3036	0	0.0
1983	16191	16191	0	0.0
1984	2271	2271	0	0.0
1985	958	958	0	0.0
1986	7629	7629	0	0.0
1987	834	834	0	0.0
1988	581	581	0	0.0
1989	591	591	0	0.0
1990	618	618	0	0.0
1991	441	441	0	0.0
1992	930	930	0	0.0
1993	1430	1430	0	0.0
Mean:	2381	2381	0	0.0
Median:	1275	1275	0	0.0
Min:	441	441	0	0.0
Max:	16191	16191	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

March				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	1925	1925	0	0.0
1923	978	978	0	0.0
1924	777	777	0	0.0
1925	946	946	0	0.0
1926	837	837	0	0.0
1927	1167	1167	0	0.0
1928	1238	1238	0	0.0
1929	824	824	0	0.0
1930	819	819	0	0.0
1931	653	653	0	0.0
1932	998	998	0	0.0
1933	842	842	0	0.0
1934	751	751	0	0.0
1935	1333	1333	0	0.0
1936	1282	1282	0	0.0
1937	2412	2412	0	0.0
1938	13422	13422	0	0.0
1939	1047	1047	0	0.0
1940	1532	1532	0	0.0
1941	2967	2967	0	0.0
1942	1373	1373	0	0.0
1943	6285	6285	0	0.0
1944	1364	1364	0	0.0
1945	2033	2033	0	0.0
1946	1142	1142	0	0.0
1947	883	883	0	0.0
1948	919	919	0	0.0
1949	1228	1228	0	0.0
1950	876	876	0	0.0
1951	1089	1089	0	0.0
1952	3271	3271	0	0.0
1953	895	895	0	0.0
1954	1127	1127	0	0.0
1955	897	897	0	0.0
1956	1788	1788	0	0.0
1957	967	967	0	0.0
1958	2110	2110	0	0.0
1959	859	859	0	0.0
1960	838	838	0	0.0
1961	690	690	0	0.0
1962	1262	1262	0	0.0
1963	968	968	0	0.0
1964	767	767	0	0.0
1965	912	912	0	0.0
1966	910	910	0	0.0
1967	1552	1552	0	0.0
1968	864	864	0	0.0
1969	8084	8084	0	0.0
1970	1502	1502	0	0.0
1971	911	911	0	0.0
1972	792	792	0	0.0
1973	1860	1860	0	0.0
1974	1960	1960	0	0.0
1975	2091	2091	0	0.0
1976	818	818	0	0.0
1977	680	680	0	0.0
1978	5148	5148	0	0.0
1979	2287	2287	0	0.0
1980	6411	6411	0	0.0
1981	966	966	0	0.0
1982	3567	3567	0	0.0
1983	18081	18081	0	0.0
1984	1087	1087	0	0.0
1985	941	941	0	0.0
1986	10547	10547	0	0.0
1987	885	885	0	0.0
1988	705	705	0	0.0
1989	836	836	0	0.0
1990	692	692	0	0.0
1991	1210	1210	0	0.0
1992	729	729	0	0.0
1993	1367	1367	0	0.0
Mean:	2066	2066	0	0.0
Median:	1067	1067	0	0.0
Min:	653	653	0	0.0
Max:	18081	18081	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

April				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	992	992	0	0.0
1923	1503	1503	0	0.0
1924	612	612	0	0.0
1925	1239	1239	0	0.0
1926	1332	1332	0	0.0
1927	1249	1249	0	0.0
1928	1330	1330	0	0.0
1929	947	947	0	0.0
1930	708	708	0	0.0
1931	424	424	0	0.0
1932	714	714	0	0.0
1933	895	895	0	0.0
1934	582	582	0	0.0
1935	1595	1595	0	0.0
1936	1225	1225	0	0.0
1937	2101	2101	0	0.0
1938	5083	5083	0	0.0
1939	1233	1233	0	0.0
1940	1032	1032	0	0.0
1941	1617	1617	0	0.0
1942	1097	1097	0	0.0
1943	1278	1278	0	0.0
1944	1482	1482	0	0.0
1945	1038	1038	0	0.0
1946	1410	1410	0	0.0
1947	882	882	0	0.0
1948	1210	1210	0	0.0
1949	1087	1087	0	0.0
1950	989	989	0	0.0
1951	1180	1180	0	0.0
1952	1532	1532	0	0.0
1953	1175	1175	0	0.0
1954	1172	1172	0	0.0
1955	922	922	0	0.0
1956	1306	1306	0	0.0
1957	1116	1116	0	0.0
1958	3185	3185	0	0.0
1959	1327	1327	0	0.0
1960	997	997	0	0.0
1961	496	496	0	0.0
1962	1044	1044	0	0.0
1963	1680	1680	0	0.0
1964	1003	1003	0	0.0
1965	1263	1263	0	0.0
1966	1342	1342	0	0.0
1967	3607	3607	0	0.0
1968	1356	1356	0	0.0
1969	9590	9590	0	0.0
1970	1204	1204	0	0.0
1971	1162	1162	0	0.0
1972	689	689	0	0.0
1973	920	920	0	0.0
1974	1368	1368	0	0.0
1975	1135	1135	0	0.0
1976	871	871	0	0.0
1977	695	695	0	0.0
1978	6729	6729	0	0.0
1979	910	910	0	0.0
1980	1749	1749	0	0.0
1981	1322	1322	0	0.0
1982	12588	12588	0	0.0
1983	9570	9570	0	0.0
1984	1294	1294	0	0.0
1985	1072	1072	0	0.0
1986	5453	5453	0	0.0
1987	833	833	0	0.0
1988	673	673	0	0.0
1989	473	473	0	0.0
1990	455	455	0	0.0
1991	486	486	0	0.0
1992	457	457	0	0.0
1993	914	914	0	0.0
Mean:	1739	1739	0	0.0
Median:	1174	1174	0	0.0
Min:	424	424	0	0.0
Max:	12588	12588	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

May				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	2781	2781	0	0.0
1923	1106	1106	0	0.0
1924	753	753	0	0.0
1925	1103	1103	0	0.0
1926	1042	1042	0	0.0
1927	1101	1101	0	0.0
1928	1107	1107	0	0.0
1929	832	832	0	0.0
1930	616	616	0	0.0
1931	439	439	0	0.0
1932	1056	1056	0	0.0
1933	687	687	0	0.0
1934	714	714	0	0.0
1935	1200	1200	0	0.0
1936	2004	2004	0	0.0
1937	5074	5074	0	0.0
1938	12621	12621	0	0.0
1939	1268	1268	0	0.0
1940	1134	1134	0	0.0
1941	3629	3629	0	0.0
1942	1439	1439	0	0.0
1943	2612	2612	0	0.0
1944	1189	1189	0	0.0
1945	1243	1243	0	0.0
1946	1212	1212	0	0.0
1947	845	845	0	0.0
1948	899	899	0	0.0
1949	908	908	0	0.0
1950	793	793	0	0.0
1951	1236	1236	0	0.0
1952	9142	9142	0	0.0
1953	1082	1082	0	0.0
1954	943	943	0	0.0
1955	845	845	0	0.0
1956	1255	1255	0	0.0
1957	1079	1079	0	0.0
1958	5646	5646	0	0.0
1959	1000	1000	0	0.0
1960	834	834	0	0.0
1961	499	499	0	0.0
1962	1137	1137	0	0.0
1963	1176	1176	0	0.0
1964	755	755	0	0.0
1965	1158	1158	0	0.0
1966	1014	1014	0	0.0
1967	7712	7712	0	0.0
1968	1001	1001	0	0.0
1969	17357	17357	0	0.0
1970	1120	1120	0	0.0
1971	1107	1107	0	0.0
1972	803	803	0	0.0
1973	1144	1144	0	0.0
1974	1343	1343	0	0.0
1975	1177	1177	0	0.0
1976	784	784	0	0.0
1977	577	577	0	0.0
1978	6092	6092	0	0.0
1979	1459	1459	0	0.0
1980	2563	2563	0	0.0
1981	1033	1033	0	0.0
1982	9732	9732	0	0.0
1983	14677	14677	0	0.0
1984	1267	1267	0	0.0
1985	871	871	0	0.0
1986	4055	4055	0	0.0
1987	803	803	0	0.0
1988	721	721	0	0.0
1989	471	471	0	0.0
1990	448	448	0	0.0
1991	438	438	0	0.0
1992	438	438	0	0.0
1993	1566	1566	0	0.0
Mean:	2236	2236	0	0.0
Median:	1107	1107	0	0.0
Min:	438	438	0	0.0
Max:	17357	17357	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

June				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	6251	6251	0	0.0
1923	790	790	0	0.0
1924	574	574	0	0.0
1925	666	666	0	0.0
1926	610	610	0	0.0
1927	680	680	0	0.0
1928	636	636	0	0.0
1929	585	585	0	0.0
1930	530	530	0	0.0
1931	496	496	0	0.0
1932	573	573	0	0.0
1933	527	527	0	0.0
1934	493	493	0	0.0
1935	661	661	0	0.0
1936	694	694	0	0.0
1937	795	795	0	0.0
1938	13001	13001	0	0.0
1939	735	735	0	0.0
1940	764	764	0	0.0
1941	3880	3880	0	0.0
1942	2887	2887	0	0.0
1943	821	821	0	0.0
1944	820	820	0	0.0
1945	855	855	0	0.0
1946	800	800	0	0.0
1947	694	694	0	0.0
1948	683	683	0	0.0
1949	661	661	0	0.0
1950	631	631	0	0.0
1951	658	658	0	0.0
1952	6137	6137	0	0.0
1953	741	741	0	0.0
1954	700	700	0	0.0
1955	661	661	0	0.0
1956	1900	1900	0	0.0
1957	709	709	0	0.0
1958	3380	3380	0	0.0
1959	696	696	0	0.0
1960	576	576	0	0.0
1961	581	581	0	0.0
1962	626	626	0	0.0
1963	675	675	0	0.0
1964	599	599	0	0.0
1965	715	715	0	0.0
1966	691	691	0	0.0
1967	10208	10208	0	0.0
1968	699	699	0	0.0
1969	14178	14178	0	0.0
1970	717	717	0	0.0
1971	753	753	0	0.0
1972	657	657	0	0.0
1973	727	727	0	0.0
1974	869	869	0	0.0
1975	2148	2148	0	0.0
1976	652	652	0	0.0
1977	443	443	0	0.0
1978	8423	8423	0	0.0
1979	680	680	0	0.0
1980	3060	3060	0	0.0
1981	699	699	0	0.0
1982	3413	3413	0	0.0
1983	22270	22270	0	0.0
1984	778	778	0	0.0
1985	687	687	0	0.0
1986	3685	3685	0	0.0
1987	663	663	0	0.0
1988	517	517	0	0.0
1989	543	543	0	0.0
1990	510	510	0	0.0
1991	517	517	0	0.0
1992	493	493	0	0.0
1993	1926	1926	0	0.0
Mean:	1997	1997	0	0.0
Median:	695	695	0	0.0
Min:	443	443	0	0.0
Max:	22270	22270	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

July				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	742	742	0	0.0
1923	740	740	0	0.0
1924	571	571	0	0.0
1925	646	646	0	0.0
1926	615	615	0	0.0
1927	647	647	0	0.0
1928	633	633	0	0.0
1929	574	574	0	0.0
1930	519	519	0	0.0
1931	390	390	0	0.0
1932	550	550	0	0.0
1933	531	531	0	0.0
1934	473	473	0	0.0
1935	613	613	0	0.0
1936	645	645	0	0.0
1937	642	642	0	0.0
1938	728	728	0	0.0
1939	719	719	0	0.0
1940	742	742	0	0.0
1941	781	781	0	0.0
1942	788	788	0	0.0
1943	773	773	0	0.0
1944	795	795	0	0.0
1945	803	803	0	0.0
1946	777	777	0	0.0
1947	684	684	0	0.0
1948	662	662	0	0.0
1949	671	671	0	0.0
1950	637	637	0	0.0
1951	669	669	0	0.0
1952	711	711	0	0.0
1953	721	721	0	0.0
1954	711	711	0	0.0
1955	669	669	0	0.0
1956	688	688	0	0.0
1957	692	692	0	0.0
1958	706	706	0	0.0
1959	683	683	0	0.0
1960	557	557	0	0.0
1961	566	566	0	0.0
1962	638	638	0	0.0
1963	659	659	0	0.0
1964	607	607	0	0.0
1965	656	656	0	0.0
1966	685	685	0	0.0
1967	3716	3716	0	0.0
1968	690	690	0	0.0
1969	1445	1445	0	0.0
1970	725	725	0	0.0
1971	731	731	0	0.0
1972	663	663	0	0.0
1973	708	708	0	0.0
1974	698	698	0	0.0
1975	724	724	0	0.0
1976	631	631	0	0.0
1977	489	489	0	0.0
1978	958	958	0	0.0
1979	694	694	0	0.0
1980	658	658	0	0.0
1981	694	694	0	0.0
1982	748	748	0	0.0
1983	8540	8540	0	0.0
1984	790	790	0	0.0
1985	601	601	0	0.0
1986	760	760	0	0.0
1987	688	688	0	0.0
1988	503	503	0	0.0
1989	662	662	0	0.0
1990	618	618	0	0.0
1991	638	638	0	0.0
1992	650	650	0	0.0
1993	638	638	0	0.0
Mean:	830	830	0	0.0
Median:	677	677	0	0.0
Min:	390	390	0	0.0
Max:	8540	8540	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

August				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	641	641	0	0.0
1923	674	674	0	0.0
1924	514	514	0	0.0
1925	580	580	0	0.0
1926	556	556	0	0.0
1927	532	532	0	0.0
1928	516	516	0	0.0
1929	470	470	0	0.0
1930	423	423	0	0.0
1931	302	302	0	0.0
1932	492	492	0	0.0
1933	464	464	0	0.0
1934	425	425	0	0.0
1935	546	546	0	0.0
1936	582	582	0	0.0
1937	575	575	0	0.0
1938	602	602	0	0.0
1939	651	651	0	0.0
1940	666	666	0	0.0
1941	653	653	0	0.0
1942	661	661	0	0.0
1943	704	704	0	0.0
1944	724	724	0	0.0
1945	736	736	0	0.0
1946	703	703	0	0.0
1947	612	612	0	0.0
1948	588	588	0	0.0
1949	592	592	0	0.0
1950	564	564	0	0.0
1951	591	591	0	0.0
1952	584	584	0	0.0
1953	642	642	0	0.0
1954	630	630	0	0.0
1955	593	593	0	0.0
1956	589	589	0	0.0
1957	613	613	0	0.0
1958	582	582	0	0.0
1959	613	613	0	0.0
1960	508	508	0	0.0
1961	510	510	0	0.0
1962	569	569	0	0.0
1963	563	563	0	0.0
1964	534	534	0	0.0
1965	555	555	0	0.0
1966	610	610	0	0.0
1967	593	593	0	0.0
1968	619	619	0	0.0
1969	627	627	0	0.0
1970	653	653	0	0.0
1971	656	656	0	0.0
1972	589	589	0	0.0
1973	640	640	0	0.0
1974	630	630	0	0.0
1975	655	655	0	0.0
1976	573	573	0	0.0
1977	398	398	0	0.0
1978	573	573	0	0.0
1979	623	623	0	0.0
1980	558	558	0	0.0
1981	620	620	0	0.0
1982	650	650	0	0.0
1983	644	644	0	0.0
1984	619	619	0	0.0
1985	516	516	0	0.0
1986	693	693	0	0.0
1987	535	535	0	0.0
1988	391	391	0	0.0
1989	459	459	0	0.0
1990	410	410	0	0.0
1991	435	435	0	0.0
1992	438	438	0	0.0
1993	542	542	0	0.0
Mean:	575	575	0	0.0
Median:	589	589	0	0.0
Min:	302	302	0	0.0
Max:	736	736	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below the Merced River

September				
	Baseline	FP Alt		
Water Year	Monthly Mean Flow (cfs)	Monthly Mean Flow (cfs)	Absolute Difference (cfs)	Relative Difference (%)[1]
1922	821	821	0	0.0
1923	810	810	0	0.0
1924	601	601	0	0.0
1925	709	709	0	0.0
1926	683	683	0	0.0
1927	665	665	0	0.0
1928	647	647	0	0.0
1929	602	602	0	0.0
1930	569	569	0	0.0
1931	463	463	0	0.0
1932	569	569	0	0.0
1933	552	552	0	0.0
1934	467	467	0	0.0
1935	672	672	0	0.0
1936	707	707	0	0.0
1937	702	702	0	0.0
1938	1059	1059	0	0.0
1939	795	795	0	0.0
1940	800	800	0	0.0
1941	835	835	0	0.0
1942	841	841	0	0.0
1943	836	836	0	0.0
1944	858	858	0	0.0
1945	870	870	0	0.0
1946	838	838	0	0.0
1947	750	750	0	0.0
1948	720	720	0	0.0
1949	727	727	0	0.0
1950	684	684	0	0.0
1951	724	724	0	0.0
1952	765	765	0	0.0
1953	776	776	0	0.0
1954	765	765	0	0.0
1955	689	689	0	0.0
1956	771	771	0	0.0
1957	745	745	0	0.0
1958	747	747	0	0.0
1959	757	757	0	0.0
1960	660	660	0	0.0
1961	656	656	0	0.0
1962	694	694	0	0.0
1963	687	687	0	0.0
1964	672	672	0	0.0
1965	733	733	0	0.0
1966	747	747	0	0.0
1967	1256	1256	0	0.0
1968	759	759	0	0.0
1969	1047	1047	0	0.0
1970	787	787	0	0.0
1971	790	790	0	0.0
1972	737	737	0	0.0
1973	770	770	0	0.0
1974	760	760	0	0.0
1975	789	789	0	0.0
1976	706	706	0	0.0
1977	527	527	0	0.0
1978	1809	1809	0	0.0
1979	752	752	0	0.0
1980	917	917	0	0.0
1981	758	758	0	0.0
1982	1196	1196	0	0.0
1983	2287	2287	0	0.0
1984	785	785	0	0.0
1985	797	797	0	0.0
1986	825	825	0	0.0
1987	719	719	0	0.0
1988	545	545	0	0.0
1989	658	658	0	0.0
1990	589	589	0	0.0
1991	526	526	0	0.0
1992	546	546	0	0.0
1993	672	672	0	0.0
Mean:	774	774	0	0.0
Median:	746	746	0	0.0
Min:	463	463	0	0.0
Max:	2287	2287	0	0.0
Years Rel Diff >= -1.0%				72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	-1.0	-0.4	-0.1
AN	--	--	--	--	--	--	--	--	--	-0.9	-0.5	-0.1
BN	--	--	--	--	--	--	--	--	--	-1.0	-0.6	-0.1
Dry	--	--	--	--	--	--	--	--	--	-0.8	-0.9	-0.2
Crit	--	--	--	--	--	--	--	--	--	-2.6	-2.0	-0.1
Positive												
Wet	--	--	--	--	--	--	--	--	--	0.1	0.1	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	0.2	0.6	0.0
Dry	--	--	--	--	--	--	--	--	--	0.2	--	--
Crit	--	--	--	--	--	--	--	--	--	0.4	--	0.0
	Absolute Difference (TAF)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	-41	-14	-2
AN	0	0	0	0	0	0	0	0	0	-30	-15	-2
BN	0	0	0	0	0	0	0	0	0	-30	-14	-1
Dry	0	0	0	0	0	0	0	0	0	-15	-14	-2
Crit	0	0	0	0	0	0	0	0	0	-28	-18	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	4	5	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	7	14	0
Dry	0	0	0	0	0	0	0	0	0	5	0	0
Crit	0	0	0	0	0	0	0	0	0	4	0	0
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	15	15	5
AN	0	0	0	0	0	0	0	0	0	7	7	5
BN	0	0	0	0	0	0	0	0	0	6	6	3
Dry	0	0	0	0	0	0	0	0	0	9	10	3
Crit	0	0	0	0	0	0	0	0	0	9	11	6
Total	0	0	0	0	0	0	0	0	0	46	49	22
Positive												
Wet	0	0	0	0	0	0	0	0	0	2	2	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	2	2	2
Dry	0	0	0	0	0	0	0	0	0	1	0	0
Crit	0	0	0	0	0	0	0	0	0	2	0	1
Total	0	0	0	0	0	0	0	0	0	7	4	3
Zero												
Wet	21	21	21	21	21	21	21	21	21	4	4	16
AN	10	10	10	10	10	10	10	10	10	3	3	5
BN	14	14	14	14	14	14	14	14	14	6	6	9
Dry	16	16	16	16	16	16	16	16	16	6	6	13
Crit	11	11	11	11	11	11	11	11	11	0	0	4
Total	72	72	72	72	72	72	72	72	72	19	19	47

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Elevation

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	-0.1	-0.1	-0.0
AN	--	--	--	--	--	--	--	--	--	-0.1	-0.1	-0.0
BN	--	--	--	--	--	--	--	--	--	-0.1	-0.1	-0.0
Dry	--	--	--	--	--	--	--	--	--	-0.1	-0.1	-0.0
Crit	--	--	--	--	--	--	--	--	--	-0.3	-0.2	-0.0
Positive												
Wet	--	--	--	--	--	--	--	--	--	0.0	0.0	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	0.0	0.1	0.0
Dry	--	--	--	--	--	--	--	--	--	0.0	--	--
Crit	--	--	--	--	--	--	--	--	--	0.0	--	0.0
	Absolute Difference (ft msl)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	-1	-1	0
AN	0	0	0	0	0	0	0	0	0	-1	-1	0
BN	0	0	0	0	0	0	0	0	0	-1	-1	0
Dry	0	0	0	0	0	0	0	0	0	-1	-1	0
Crit	0	0	0	0	0	0	0	0	0	-2	-2	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	1	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	15	15	5
AN	0	0	0	0	0	0	0	0	0	7	7	5
BN	0	0	0	0	0	0	0	0	0	6	6	3
Dry	0	0	0	0	0	0	0	0	0	9	10	3
Crit	0	0	0	0	0	0	0	0	0	9	11	6
Total	0	0	0	0	0	0	0	0	0	46	49	22
Positive												
Wet	0	0	0	0	0	0	0	0	0	2	2	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	2	2	2
Dry	0	0	0	0	0	0	0	0	0	1	0	0
Crit	0	0	0	0	0	0	0	0	0	2	0	1
Total	0	0	0	0	0	0	0	0	0	7	4	3
Zero												
Wet	21	21	21	21	21	21	21	21	21	4	4	16
AN	10	10	10	10	10	10	10	10	10	3	3	5
BN	14	14	14	14	14	14	14	14	14	6	6	9
Dry	16	16	16	16	16	16	16	16	16	6	6	13
Crit	11	11	11	11	11	11	11	11	11	0	0	4
Total	72	72	72	72	72	72	72	72	72	19	19	47

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	-0.5	-0.4	--
AN	--	--	--	--	--	--	--	--	--	-0.6	-0.5	--
BN	--	--	--	--	--	--	--	--	--	-0.6	-0.6	--
Dry	--	--	--	--	--	--	--	--	--	-0.5	-0.8	--
Crit	--	--	--	--	--	--	--	--	--	-1.0	-1.1	--
Positive												
Wet	--	--	--	--	--	--	--	--	--	0.1	0.1	--
AN	--	--	--	--	--	--	--	--	--	0.0	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (TAF)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	-4	-3	0
AN	0	0	0	0	0	0	0	0	0	-5	-3	0
BN	0	0	0	0	0	0	0	0	0	-4	-3	0
Dry	0	0	0	0	0	0	0	0	0	-2	-3	0
Crit	0	0	0	0	0	0	0	0	0	-3	-3	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	1	1	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	19	18	0
AN	0	0	0	0	0	0	0	0	0	9	10	0
BN	0	0	0	0	0	0	0	0	0	14	14	0
Dry	0	0	0	0	0	0	0	0	0	16	16	0
Crit	0	0	0	0	0	0	0	0	0	11	11	0
Total	0	0	0	0	0	0	0	0	0	69	69	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	2	3	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	3	3	0
Zero												
Wet	21	21	21	21	21	21	21	21	21	0	0	21
AN	10	10	10	10	10	10	10	10	10	0	0	10
BN	14	14	14	14	14	14	14	14	14	0	0	14
Dry	16	16	16	16	16	16	16	16	16	0	0	16
Crit	11	11	11	11	11	11	11	11	11	0	0	11
Total	72	72	72	72	72	72	72	72	72	0	0	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Elevation

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	-0.1	-0.1	--
AN	--	--	--	--	--	--	--	--	--	-0.1	-0.1	--
BN	--	--	--	--	--	--	--	--	--	-0.1	-0.1	--
Dry	--	--	--	--	--	--	--	--	--	-0.1	-0.1	--
Crit	--	--	--	--	--	--	--	--	--	-0.1	-0.2	--
Positive												
Wet	--	--	--	--	--	--	--	--	--	0.0	0.0	--
AN	--	--	--	--	--	--	--	--	--	0.0	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (ft msl)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	-1	-1	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	19	18	0
AN	0	0	0	0	0	0	0	0	0	9	10	0
BN	0	0	0	0	0	0	0	0	0	14	14	0
Dry	0	0	0	0	0	0	0	0	0	16	16	0
Crit	0	0	0	0	0	0	0	0	0	11	11	0
Total	0	0	0	0	0	0	0	0	0	69	69	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	2	3	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	3	3	0
Zero												
Wet	21	21	21	21	21	21	21	21	21	0	0	21
AN	10	10	10	10	10	10	10	10	10	0	0	10
BN	14	14	14	14	14	14	14	14	14	0	0	14
Dry	16	16	16	16	16	16	16	16	16	0	0	16
Crit	11	11	11	11	11	11	11	11	11	0	0	11
Total	72	72	72	72	72	72	72	72	72	0	0	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	-2.8	-0.8	-0.2
AN	--	--	--	--	--	--	--	--	--	-3.3	-1.5	-0.2
BN	--	--	--	--	--	--	--	--	--	-2.1	-1.6	-0.2
Dry	--	--	--	--	--	--	--	--	--	-2.3	-1.9	-0.3
Crit	--	--	--	--	--	--	--	--	--	-4.1	-2.6	-0.8
Positive												
Wet	--	--	--	--	--	--	--	0.6	1.4	0.4	0.4	0.0
AN	--	--	--	--	--	--	--	0.9	1.9	--	--	--
BN	--	--	--	--	--	--	--	0.6	1.3	--	--	--
Dry	--	--	--	--	--	--	--	1.3	3.1	2.5	--	0.0
Crit	--	--	--	--	--	--	--	2.4	6.0	2.6	--	0.1
	Absolute Difference (TAF)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	-91	-24	-6
AN	0	0	0	0	0	0	0	0	0	-99	-36	-5
BN	0	0	0	0	0	0	0	0	0	-53	-32	-3
Dry	0	0	0	0	0	0	0	0	0	-50	-33	-4
Crit	0	0	0	0	0	0	0	0	0	-52	-31	-3
Positive												
Wet	0	0	0	0	0	0	0	20	43	12	12	2
AN	0	0	0	0	0	0	0	31	59	0	0	0
BN	0	0	0	0	0	0	0	20	40	0	0	0
Dry	0	0	0	0	0	0	0	37	77	52	0	1
Crit	0	0	0	0	0	0	0	43	92	40	0	1
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	19	18	4
AN	0	0	0	0	0	0	0	0	0	9	8	6
BN	0	0	0	0	0	0	0	0	0	14	11	7
Dry	0	0	0	0	0	0	0	0	0	10	16	4
Crit	0	0	0	0	0	0	0	0	0	6	11	5
Total	0	0	0	0	0	0	0	0	0	58	64	26
Positive												
Wet	0	0	0	0	0	0	0	5	9	2	3	1
AN	0	0	0	0	0	0	0	5	6	0	0	0
BN	0	0	0	0	0	0	0	6	7	0	0	0
Dry	0	0	0	0	0	0	0	10	10	6	0	3
Crit	0	0	0	0	0	0	0	11	11	5	0	3
Total	0	0	0	0	0	0	0	37	43	13	3	7
Zero												
Wet	21	21	21	21	21	21	21	16	12	0	0	16
AN	10	10	10	10	10	10	10	5	4	1	2	4
BN	14	14	14	14	14	14	14	8	7	0	3	7
Dry	16	16	16	16	16	16	16	6	6	0	0	9
Crit	11	11	11	11	11	11	11	0	0	0	0	3
Total	72	72	72	72	72	72	72	35	29	1	5	39

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Elevation

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	-0.7	-0.2	-0.0
AN	--	--	--	--	--	--	--	--	--	-0.8	-0.4	-0.0
BN	--	--	--	--	--	--	--	--	--	-0.5	-0.4	-0.0
Dry	--	--	--	--	--	--	--	--	--	-0.6	-0.5	-0.1
Crit	--	--	--	--	--	--	--	--	--	-1.0	-0.6	-0.2
Positive												
Wet	--	--	--	--	--	--	--	0.2	0.3	0.1	0.1	0.0
AN	--	--	--	--	--	--	--	0.2	0.5	--	--	--
BN	--	--	--	--	--	--	--	0.2	0.3	--	--	--
Dry	--	--	--	--	--	--	--	0.3	0.7	0.6	--	0.0
Crit	--	--	--	--	--	--	--	0.6	1.3	0.7	--	0.0
	Absolute Difference (ft msl)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	-6	-2	0
AN	0	0	0	0	0	0	0	0	0	-7	-3	0
BN	0	0	0	0	0	0	0	0	0	-4	-3	0
Dry	0	0	0	0	0	0	0	0	0	-5	-4	0
Crit	0	0	0	0	0	0	0	0	0	-7	-4	-1
Positive												
Wet	0	0	0	0	0	0	0	1	3	1	1	0
AN	0	0	0	0	0	0	0	2	4	0	0	0
BN	0	0	0	0	0	0	0	1	3	0	0	0
Dry	0	0	0	0	0	0	0	3	6	5	0	0
Crit	0	0	0	0	0	0	0	5	10	5	0	0
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	19	18	4
AN	0	0	0	0	0	0	0	0	0	9	8	6
BN	0	0	0	0	0	0	0	0	0	14	11	7
Dry	0	0	0	0	0	0	0	0	0	10	16	4
Crit	0	0	0	0	0	0	0	0	0	6	11	5
Total	0	0	0	0	0	0	0	0	0	58	64	26
Positive												
Wet	0	0	0	0	0	0	0	5	9	2	3	1
AN	0	0	0	0	0	0	0	5	6	0	0	0
BN	0	0	0	0	0	0	0	6	7	0	0	0
Dry	0	0	0	0	0	0	0	10	10	6	0	3
Crit	0	0	0	0	0	0	0	11	11	5	0	3
Total	0	0	0	0	0	0	0	37	43	13	3	7
Zero												
Wet	21	21	21	21	21	21	21	16	12	0	0	16
AN	10	10	10	10	10	10	10	5	4	1	2	4
BN	14	14	14	14	14	14	14	8	7	0	3	7
Dry	16	16	16	16	16	16	16	6	6	0	0	9
Crit	11	11	11	11	11	11	11	0	0	0	0	3
Total	72	72	72	72	72	72	72	35	29	1	5	39

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Keswick Dam on the Sacramento River

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	--	-2.0	-1.0
AN	--	--	--	--	--	--	--	--	--	--	-1.6	-1.4
BN	--	--	--	--	--	--	--	--	--	--	-4.4	-4.9
Dry	--	--	--	--	--	--	--	--	--	-0.1	-0.5	-1.7
Crit	--	--	--	--	--	--	--	--	--	--	-2.0	-3.5
Positive												
Wet	--	--	--	--	--	--	--	--	--	1.3	0.0	0.0
AN	--	--	--	--	--	--	--	--	--	0.8	0.0	0.0
BN	--	--	--	--	--	--	--	--	--	0.8	0.0	0.0
Dry	--	--	--	--	--	--	--	--	--	0.7	0.2	0.0
Crit	--	--	--	--	--	--	--	--	--	2.5	0.6	--
	Absolute Difference (cfs)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	-224	-83
AN	0	0	0	0	0	0	0	0	0	0	-172	-104
BN	0	0	0	0	0	0	0	0	0	0	-445	-319
Dry	0	0	0	0	0	0	0	0	0	-17	-42	-87
Crit	0	0	0	0	0	0	0	0	0	0	-170	-187
Positive												
Wet	0	0	0	0	0	0	0	0	0	161	0	0
AN	0	0	0	0	0	0	0	0	0	117	0	0
BN	0	0	0	0	0	0	0	0	0	94	0	0
Dry	0	0	0	0	0	0	0	0	0	76	17	0
Crit	0	0	0	0	0	0	0	0	0	289	57	0
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	9	9
AN	0	0	0	0	0	0	0	0	0	0	3	3
BN	0	0	0	0	0	0	0	0	0	0	1	1
Dry	0	0	0	0	0	0	0	0	0	1	4	7
Crit	0	0	0	0	0	0	0	0	0	0	8	11
Total	0	0	0	0	0	0	0	0	0	1	25	31
Positive												
Wet	0	0	0	0	0	0	0	0	0	17	8	8
AN	0	0	0	0	0	0	0	0	0	7	4	4
BN	0	0	0	0	0	0	0	0	0	8	7	7
Dry	0	0	0	0	0	0	0	0	0	9	6	3
Crit	0	0	0	0	0	0	0	0	0	11	3	0
Total	0	0	0	0	0	0	0	0	0	52	28	22
Zero												
Wet	21	21	21	21	21	21	21	21	21	4	4	4
AN	10	10	10	10	10	10	10	10	10	3	3	3
BN	14	14	14	14	14	14	14	14	14	6	6	6
Dry	16	16	16	16	16	16	16	16	16	6	6	6
Crit	11	11	11	11	11	11	11	11	11	0	0	0
Total	72	72	72	72	72	72	72	72	72	19	19	19

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Temperature at Keswick Dam

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.2	--	--	--	--	--	--	--	--	--	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	-0.4	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Positive												
Wet	--	--	--	--	--	--	--	--	--	--	--	0.6
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	0.2	--	--	--	--	--	--	--	--	--	--	1.1
Dry	--	--	--	--	--	--	--	--	--	--	--	0.2
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	1
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	1	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	1	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	1	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	1
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	1	0	0	0	0	0	0	0	0	0	0	1
Dry	0	0	0	0	0	0	0	0	0	0	0	1
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	3
Zero												
Wet	20	21	21	21	21	21	21	21	21	21	21	20
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	13	14	14	14	14	14	14	14	14	13	14	13
Dry	16	16	16	16	16	16	16	16	16	16	16	15
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	70	72	72	72	72	72	72	72	72	71	72	69

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Temperature at Bend Bridge

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.2	--	--	--	--	--	--	--	--	-0.4	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	-0.4	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Positive												
Wet	--	--	--	--	--	--	--	--	--	--	--	0.7
AN	0.2	--	--	--	--	--	--	--	--	--	--	0.2
BN	--	--	--	--	--	--	--	--	--	--	--	0.5
Dry	--	--	--	--	--	--	--	--	--	--	--	0.2
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	1	0	0	0	0	0	0	0	0	1	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	1	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	2	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	1
AN	1	0	0	0	0	0	0	0	0	0	0	1
BN	0	0	0	0	0	0	0	0	0	0	0	2
Dry	0	0	0	0	0	0	0	0	0	0	0	1
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	5
Zero												
Wet	20	21	21	21	21	21	21	21	21	20	21	20
AN	9	10	10	10	10	10	10	10	10	10	10	9
BN	14	14	14	14	14	14	14	14	14	13	14	12
Dry	16	16	16	16	16	16	16	16	16	16	16	15
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	70	72	72	72	72	72	72	72	72	70	72	67

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	--	--	-0.0
AN	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	--	--	-0.0
BN	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	--	--	-0.1
Dry	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	--	--	--
Crit	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	--	--	--	--	--	--
Positive												
Wet	0.9	0.1	0.0	0.0	0.0	0.0	1.5	2.5	3.3	15.8	13.8	4.4
AN	1.1	0.2	0.0	0.0	0.0	0.0	2.0	2.1	2.7	17.2	14.8	3.2
BN	0.9	0.2	0.0	0.0	0.0	0.0	1.5	3.5	4.6	12.4	11.4	2.7
Dry	1.4	0.2	0.0	0.0	0.0	0.0	4.4	2.5	2.6	17.6	16.8	6.4
Crit	1.7	0.3	0.1	0.0	0.0	0.0	11.1	9.1	7.8	47.5	36.3	11.9
	Absolute Difference (cfs)											
Average												
Negative												
Wet	0	0	0	0	-2	0	0	0	0	0	0	0
AN	0	0	0	0	-3	0	0	0	0	0	0	0
BN	0	0	0	0	-4	0	0	0	0	0	0	-22
Dry	0	0	0	0	-3	0	0	0	0	0	0	0
Crit	0	0	0	0	-1	0	0	0	0	0	0	0
Positive												
Wet	111	18	6	3	3	3	525	760	781	2975	1946	843
AN	93	16	5	3	3	2	497	539	641	3180	2113	470
BN	95	18	6	3	3	3	342	596	853	2254	1694	363
Dry	127	20	7	3	4	3	628	320	368	2699	2208	705
Crit	152	24	8	4	4	4	1092	713	821	5200	3181	882
Count												
Negative												
Wet	7	7	7	8	10	8	2	6	8	0	0	1
AN	2	2	2	2	5	2	2	5	6	0	0	1
BN	5	5	5	5	6	5	7	12	13	0	0	2
Dry	3	3	3	3	6	3	6	9	9	0	0	0
Crit	1	1	1	1	4	1	0	0	0	0	0	0
Total	18	18	18	19	31	19	17	32	36	0	0	4
Positive												
Wet	14	14	14	13	11	13	19	15	13	21	21	20
AN	8	8	8	8	5	8	8	5	4	10	10	9
BN	9	9	9	9	8	9	7	2	1	14	14	12
Dry	13	13	13	13	10	13	10	7	7	16	16	16
Crit	10	10	10	10	7	10	11	11	11	11	11	11
Total	54	54	54	53	41	53	55	40	36	72	72	68
Zero												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Temperature at Freeport

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.2	--	-0.2	--	--	--	--	--	--	-0.2	-0.3	-0.2
AN	--	-0.2	--	-0.2	-0.2	--	--	--	--	-0.1	-0.2	-0.1
BN	--	--	--	-0.2	--	--	--	--	--	-0.2	-0.2	-0.1
Dry	-0.2	-0.2	--	--	--	--	-0.2	--	--	-0.2	-0.3	-0.2
Crit	-0.2	-0.4	-0.2	--	--	--	-0.2	-0.2	-0.1	-0.2	-0.4	-0.4
Positive												
Wet	0.2	--	--	--	--	0.2	0.2	0.2	0.2	0.1	0.1	0.3
AN	0.2	--	--	--	--	--	0.2	0.2	0.2	0.2	0.1	0.1
BN	0.2	0.2	--	--	--	0.2	0.2	0.2	0.2	0.2	0.1	0.2
Dry	0.2	0.2	--	--	--	0.2	0.2	0.2	0.2	0.2	0.1	0.2
Crit	0.2	--	--	--	0.2	0.2	0.2	0.2	0.2	0.1	--	--
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	2	0	3	0	0	0	0	0	0	8	10	4
AN	0	1	0	1	1	0	0	0	0	6	8	2
BN	0	0	0	1	0	0	0	0	0	5	8	6
Dry	1	1	0	0	0	0	1	0	0	5	5	10
Crit	1	1	1	0	0	0	1	3	4	4	9	7
Total	4	3	4	2	1	0	2	3	4	28	40	29
Positive												
Wet	3	0	0	0	0	1	11	15	17	4	4	12
AN	2	0	0	0	0	0	3	7	7	3	1	2
BN	1	1	0	0	0	1	7	7	7	2	2	2
Dry	2	1	0	0	0	1	8	9	10	7	2	2
Crit	2	0	0	0	1	1	2	2	4	3	0	0
Total	10	2	0	0	1	4	31	40	45	19	9	18
Zero												
Wet	16	21	18	21	21	20	10	6	4	9	7	5
AN	8	9	10	9	9	10	7	3	3	1	1	6
BN	13	13	14	13	14	13	7	7	7	7	4	6
Dry	13	14	16	16	16	15	7	7	6	4	9	4
Crit	8	10	10	11	10	10	8	6	3	4	2	4
Total	58	67	68	70	70	68	39	29	23	25	23	25

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	--	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Positive												
Wet	--	--	--	--	--	--	--	--	--	2.6	1.1	0.6
AN	--	--	--	--	--	--	--	--	--	2.7	1.8	0.4
BN	--	--	--	--	--	--	--	--	--	2.6	2.7	--
Dry	--	--	--	--	--	--	--	--	--	3.1	3.6	0.9
Crit	--	--	--	--	--	--	--	--	--	6.5	4.9	1.7
	Absolute Difference (cfs)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	116	28	28
AN	0	0	0	0	0	0	0	0	0	122	38	14
BN	0	0	0	0	0	0	0	0	0	113	50	0
Dry	0	0	0	0	0	0	0	0	0	91	67	10
Crit	0	0	0	0	0	0	0	0	0	100	53	13
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	21	21	15
AN	0	0	0	0	0	0	0	0	0	10	10	2
BN	0	0	0	0	0	0	0	0	0	14	14	0
Dry	0	0	0	0	0	0	0	0	0	16	16	9
Crit	0	0	0	0	0	0	0	0	0	11	11	9
Total	0	0	0	0	0	0	0	0	0	72	72	35
Zero												
Wet	21	21	21	21	21	21	21	21	21	0	0	6
AN	10	10	10	10	10	10	10	10	10	0	0	8
BN	14	14	14	14	14	14	14	14	14	0	0	14
Dry	16	16	16	16	16	16	16	16	16	0	0	7
Crit	11	11	11	11	11	11	11	11	11	0	0	2
Total	72	72	72	72	72	72	72	72	72	0	0	37

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Temperature at the Mouth

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.5	-0.3	-0.2	-0.2	-0.3	--	--	-0.2	-0.2	--	-0.1	-0.1
AN	-0.3	-0.2	-0.2	-0.2	-0.3	-0.2	--	-0.2	--	-0.2	-0.1	-0.2
BN	-0.3	-0.2	-0.2	-0.2	-0.2	--	--	--	--	-0.5	-0.2	-0.2
Dry	-0.5	-0.2	-0.2	-0.2	-0.2	--	--	-0.2	-0.2	-0.1	-0.1	-0.1
Crit	--	-0.4	-0.2	-0.2	-0.2	--	--	--	--	-0.1	-0.3	-0.2
Positive												
Wet	0.4	0.2	--	--	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.2
AN	0.4	0.2	--	--	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2
BN	0.3	0.5	--	--	0.2	0.2	0.2	0.2	0.3	--	0.3	0.3
Dry	0.3	0.3	--	--	0.2	0.2	0.2	0.4	0.2	0.3	0.2	0.2
Crit	0.3	0.2	--	--	0.2	0.2	0.2	0.4	0.2	0.1	0.2	0.6
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	5	6	10	8	4	0	0	1	3	0	1	3
AN	2	3	4	3	2	1	0	1	0	1	2	1
BN	2	2	3	2	1	0	0	0	0	2	4	5
Dry	4	4	8	5	1	0	0	1	1	1	4	6
Crit	0	3	7	3	1	0	0	0	0	1	1	4
Total	13	18	32	21	9	1	0	3	4	5	12	19
Positive												
Wet	7	6	0	0	3	10	11	4	2	1	1	4
AN	2	3	0	0	1	4	4	5	4	1	1	3
BN	5	2	0	0	3	7	10	6	5	0	1	2
Dry	4	3	0	0	1	9	13	8	2	3	4	4
Crit	4	2	0	0	3	2	5	3	7	2	4	2
Total	22	16	0	0	11	32	43	26	20	7	11	15
Zero												
Wet	9	9	11	13	14	11	10	16	16	20	19	14
AN	6	4	6	7	7	5	6	4	6	8	7	6
BN	7	10	11	12	10	7	4	8	9	12	9	7
Dry	8	9	8	11	14	7	3	7	13	12	8	6
Crit	7	6	4	8	7	9	6	8	4	8	6	5
Total	37	38	40	51	52	39	29	43	48	60	49	38

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	--	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Positive												
Wet	--	--	--	--	--	--	--	--	--	2.7	1.2	0.7
AN	--	--	--	--	--	--	--	--	--	2.8	1.9	0.4
BN	--	--	--	--	--	--	--	--	--	2.7	2.9	--
Dry	--	--	--	--	--	--	--	--	--	3.2	3.9	0.9
Crit	--	--	--	--	--	--	--	--	--	7.4	6.8	2.0
	Absolute Difference (cfs)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	116	28	28
AN	0	0	0	0	0	0	0	0	0	122	38	14
BN	0	0	0	0	0	0	0	0	0	113	50	0
Dry	0	0	0	0	0	0	0	0	0	91	67	10
Crit	0	0	0	0	0	0	0	0	0	100	53	13
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	21	21	15
AN	0	0	0	0	0	0	0	0	0	10	10	2
BN	0	0	0	0	0	0	0	0	0	14	14	0
Dry	0	0	0	0	0	0	0	0	0	16	16	9
Crit	0	0	0	0	0	0	0	0	0	11	11	9
Total	0	0	0	0	0	0	0	0	0	72	72	35
Zero												
Wet	21	21	21	21	21	21	21	21	21	0	0	6
AN	10	10	10	10	10	10	10	10	10	0	0	8
BN	14	14	14	14	14	14	14	14	14	0	0	14
Dry	16	16	16	16	16	16	16	16	16	0	0	7
Crit	11	11	11	11	11	11	11	11	11	0	0	2
Total	72	72	72	72	72	72	72	72	72	0	0	37

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Temperature at Watt Avenue

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.7	-0.3	-0.2	-0.2	-0.4	--	--	-0.2	-0.2	--	-0.1	-0.1
AN	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2	--	--	--	--	--	--
BN	-0.4	-0.2	-0.2	-0.2	-0.2	--	--	--	-0.2	-0.4	-0.3	-0.3
Dry	-0.5	-0.2	-0.2	-0.3	-0.2	--	--	--	--	--	--	--
Crit	--	-0.5	-0.2	-0.2	--	--	--	--	--	--	--	--
Positive												
Wet	0.5	0.2	--	--	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.3
AN	0.6	0.2	--	--	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
BN	0.4	0.4	--	--	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2
Dry	0.3	0.4	--	--	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3
Crit	0.3	0.2	--	--	0.2	0.2	0.2	0.5	0.2	0.1	0.3	0.4
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	4	6	12	12	2	0	0	1	2	0	1	1
AN	3	3	4	2	3	1	0	0	0	0	0	0
BN	2	3	6	3	2	0	0	0	1	3	1	1
Dry	4	5	11	5	1	0	0	0	0	0	0	0
Crit	0	2	5	2	0	0	0	0	0	0	0	0
Total	13	19	38	24	8	1	0	1	3	3	2	2
Positive												
Wet	8	6	0	0	3	9	10	5	2	1	1	1
AN	2	2	0	0	2	2	6	5	3	1	1	1
BN	5	3	0	0	2	8	7	6	6	1	2	3
Dry	4	3	0	0	2	11	12	9	4	3	4	4
Crit	4	4	0	0	2	5	4	3	6	1	3	4
Total	23	18	0	0	11	35	39	28	21	7	11	13
Zero												
Wet	9	9	9	9	16	12	11	15	17	20	19	19
AN	5	5	6	8	5	7	4	5	7	9	9	9
BN	7	8	8	11	10	6	7	8	7	10	11	10
Dry	8	8	5	11	13	5	4	7	12	13	12	12
Crit	7	5	6	9	9	6	7	8	5	10	8	7
Total	36	35	34	48	53	36	33	43	48	62	59	57

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Release from Nimbus Dam on the Lower American River

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	--	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Positive												
Wet	--	--	--	--	--	--	--	--	--	2.5	1.0	0.6
AN	--	--	--	--	--	--	--	--	--	2.5	1.6	0.4
BN	--	--	--	--	--	--	--	--	--	2.5	2.4	--
Dry	--	--	--	--	--	--	--	--	--	2.8	3.2	0.7
Crit	--	--	--	--	--	--	--	--	--	5.6	3.8	1.4
	Absolute Difference (cfs)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	116	28	28
AN	0	0	0	0	0	0	0	0	0	122	38	14
BN	0	0	0	0	0	0	0	0	0	113	50	0
Dry	0	0	0	0	0	0	0	0	0	91	67	10
Crit	0	0	0	0	0	0	0	0	0	100	53	13
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	21	21	15
AN	0	0	0	0	0	0	0	0	0	10	10	2
BN	0	0	0	0	0	0	0	0	0	14	14	0
Dry	0	0	0	0	0	0	0	0	0	16	16	9
Crit	0	0	0	0	0	0	0	0	0	11	11	9
Total	0	0	0	0	0	0	0	0	0	72	72	35
Zero												
Wet	21	21	21	21	21	21	21	21	21	0	0	6
AN	10	10	10	10	10	10	10	10	10	0	0	8
BN	14	14	14	14	14	14	14	14	14	0	0	14
Dry	16	16	16	16	16	16	16	16	16	0	0	7
Crit	11	11	11	11	11	11	11	11	11	0	0	2
Total	72	72	72	72	72	72	72	72	72	0	0	37

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Temperature at Nimbus Dam

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.8	-0.4	-0.2	-0.2	-0.3	--	--	-0.2	-0.3	--	-0.2	-0.2
AN	-0.5	-0.4	-0.2	-0.2	-0.2	-0.2	--	--	--	-0.2	--	--
BN	-0.4	-0.3	-0.2	-0.2	-0.2	--	--	-0.2	-0.2	-0.6	-0.2	-0.3
Dry	-0.6	-0.2	-0.2	-0.3	-0.2	--	--	-0.2	-0.2	--	--	--
Crit	--	-0.5	-0.2	-0.2	--	--	-0.2	--	--	--	--	-0.1
Positive												
Wet	0.7	0.2	--	--	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2
AN	0.6	0.2	--	--	0.2	0.2	0.2	0.2	0.4	0.5	0.3	0.2
BN	0.4	0.4	--	--	0.2	0.3	0.2	0.4	0.3	0.2	0.3	0.3
Dry	0.4	0.4	--	--	0.2	0.3	0.3	0.5	0.5	0.4	0.3	0.4
Crit	0.3	0.3	--	--	0.2	0.2	0.2	0.6	0.3	0.2	0.4	0.5
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	5	5	12	9	4	0	0	1	2	0	1	1
AN	3	2	3	6	4	1	0	0	0	1	0	0
BN	2	2	4	8	1	0	0	1	1	2	1	2
Dry	4	5	12	7	1	0	0	2	2	0	0	0
Crit	0	2	6	1	0	0	1	0	0	0	0	1
Total	14	16	37	31	10	1	1	4	5	3	2	4
Positive												
Wet	8	7	0	0	2	12	10	3	2	2	3	8
AN	3	3	0	0	1	2	5	4	3	1	3	5
BN	6	5	0	0	2	8	13	5	7	2	8	9
Dry	3	3	0	0	2	12	13	9	2	4	8	13
Crit	6	4	0	0	3	7	5	4	7	1	5	7
Total	26	22	0	0	10	41	46	25	21	10	27	42
Zero												
Wet	8	9	9	12	15	9	11	17	17	19	17	12
AN	4	5	7	4	5	7	5	6	7	8	7	5
BN	6	7	10	6	11	6	1	8	6	10	5	3
Dry	9	8	4	9	13	4	3	5	12	12	8	3
Crit	5	5	5	10	8	4	5	7	4	10	6	3
Total	32	34	35	41	52	30	25	43	46	59	43	26

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	--	--	-0.0
AN	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	-0.0	--	--	-0.0
BN	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	-0.0	--	--	-0.0
Dry	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	-0.0	-0.5	--	-0.0
Crit	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	--	-0.0	-0.0	--	--	--
Positive												
Wet	2.7	0.5	0.1	0.0	0.0	0.0	3.1	3.8	5.6	34.1	42.4	15.6
AN	3.7	0.7	0.2	0.0	0.0	0.0	4.9	5.5	6.8	42.6	32.4	16.8
BN	3.1	1.0	0.2	0.0	0.1	0.0	3.2	8.0	--	25.3	21.5	14.1
Dry	4.2	1.3	0.5	0.1	0.1	0.1	11.2	--	--	59.1	44.4	15.9
Crit	4.2	1.2	0.4	0.1	0.2	0.2	15.9	--	--	170.0	98.0	30.8
	Absolute Difference (cfs)											
Average												
Negative												
Wet	0	0	0	0	-2	0	0	0	0	0	0	0
AN	0	0	0	0	-3	0	0	0	0	0	0	0
BN	0	0	0	0	-4	0	0	0	0	0	0	0
Dry	0	0	0	0	-3	0	0	0	0	-42	0	0
Crit	0	0	0	0	-1	0	0	0	0	0	0	0
Positive												
Wet	85	18	6	3	3	3	385	570	621	2103	1467	646
AN	75	16	5	3	3	2	414	615	792	2323	1706	536
BN	83	18	6	3	3	3	259	452	0	1519	1311	470
Dry	95	20	7	3	4	3	454	0	0	2102	1691	577
Crit	114	24	8	4	4	4	538	0	0	3385	2201	564
Count												
Negative												
Wet	7	7	7	8	10	8	2	7	11	0	0	4
AN	2	2	2	2	5	2	2	7	8	0	0	5
BN	5	5	5	5	6	5	7	13	14	0	0	6
Dry	3	3	3	3	6	3	6	16	16	1	0	1
Crit	1	1	1	1	4	1	0	11	11	0	0	0
Total	18	18	18	19	31	19	17	54	60	1	0	16
Positive												
Wet	14	14	14	13	11	13	19	14	10	21	21	17
AN	8	8	8	8	5	8	8	3	2	10	10	5
BN	9	9	9	9	8	9	7	1	0	14	14	8
Dry	13	13	13	13	10	13	10	0	0	15	16	15
Crit	10	10	10	10	7	10	11	0	0	11	11	11
Total	54	54	54	53	41	53	55	18	12	71	72	56
Zero												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Temperature at the Mouth

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.2	-0.2	--	--	--	--	--	--	--	-0.4	-0.9	-0.7
AN	--	--	--	-0.2	--	--	--	--	--	-0.3	-0.5	-0.7
BN	--	--	--	--	--	--	--	--	--	-0.4	-0.4	-0.7
Dry	--	--	--	--	--	--	--	--	--	-0.3	-0.9	-0.7
Crit	--	--	--	--	--	--	--	-0.1	--	-0.1	-1.3	-0.8
Positive												
Wet	0.2	--	--	--	--	--	0.2	0.4	0.4	0.4	0.3	--
AN	--	--	--	--	0.2	--	0.3	0.4	0.4	0.4	0.3	--
BN	--	--	--	--	--	--	0.3	0.3	0.3	0.2	0.2	--
Dry	0.2	--	--	--	--	--	0.5	0.5	0.3	0.2	0.3	--
Crit	0.2	--	--	--	--	--	0.5	0.5	0.4	0.3	--	0.1
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	-1	-1
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	-1
Dry	0	0	0	0	0	0	0	0	0	0	-1	0
Crit	0	0	0	0	0	0	0	0	0	0	-1	-1
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	1	1	0	0	0	0	0	0	0	6	18	21
AN	0	0	0	1	0	0	0	0	0	2	7	8
BN	0	0	0	0	0	0	0	0	0	6	8	13
Dry	0	0	0	0	0	0	0	0	0	7	6	15
Crit	0	0	0	0	0	0	0	1	0	1	9	8
Total	1	1	0	1	0	0	0	1	0	22	48	65
Positive												
Wet	1	0	0	0	0	0	13	16	17	10	2	0
AN	0	0	0	0	1	0	5	7	6	3	1	0
BN	0	0	0	0	0	0	6	7	5	3	2	0
Dry	4	0	0	0	0	0	9	10	10	3	5	0
Crit	1	0	0	0	0	0	9	8	6	4	0	1
Total	6	0	0	0	1	0	42	48	44	23	10	1
Zero												
Wet	19	20	21	21	21	21	8	5	4	5	1	0
AN	10	10	10	9	9	10	5	3	4	5	2	2
BN	14	14	14	14	14	14	8	7	9	5	4	1
Dry	12	16	16	16	16	16	7	6	6	6	5	1
Crit	10	11	11	11	11	11	2	2	5	6	2	2
Total	65	71	72	71	71	72	30	23	28	27	14	6

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow Below Thermalito Afterbay

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-3.3	--	-0.0
AN	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	-0.0	-3.6	--	-0.0
BN	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	-0.0	-2.8	--	-0.0
Dry	-0.0	-0.0	-0.0	-0.0	-0.2	-0.0	-0.0	-0.0	-0.0	-1.8	--	-0.0
Crit	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	--	-0.0	-0.0	--	--	--
Positive												
Wet	3.6	0.8	0.1	0.1	0.0	0.0	10.9	8.7	12.1	29.8	65.5	36.7
AN	4.3	1.0	0.3	0.2	0.2	0.1	31.0	13.4	15.3	34.8	29.5	57.3
BN	4.4	1.2	0.3	0.2	0.2	0.2	22.9	26.8	--	18.0	17.5	38.5
Dry	6.1	1.6	0.4	0.3	0.3	0.2	29.6	--	--	48.2	33.9	32.2
Crit	5.6	1.2	0.4	0.3	0.3	0.3	50.2	--	--	94.7	80.8	27.1
	Absolute Difference (cfs)											
Average												
Negative												
Wet	0	0	0	0	-2	0	0	0	0	-102	0	0
AN	0	0	0	0	-3	0	0	0	0	-328	0	0
BN	0	0	0	0	-4	0	0	0	0	-252	0	0
Dry	0	0	0	0	-3	0	0	0	0	-163	0	0
Crit	0	0	0	0	-1	0	0	0	0	0	0	0
Positive												
Wet	85	18	6	3	3	3	385	570	621	1150	1243	465
AN	75	16	5	3	3	2	414	615	792	1505	1447	486
BN	83	18	6	3	3	3	259	452	0	997	1026	470
Dry	95	20	7	3	4	3	454	0	0	1794	1242	529
Crit	114	24	8	4	4	4	538	0	0	2486	1727	470
Count												
Negative												
Wet	7	7	7	8	10	8	2	7	11	1	0	4
AN	2	2	2	2	5	2	2	7	8	1	0	5
BN	5	5	5	5	6	5	7	13	14	3	0	6
Dry	3	3	3	3	6	3	6	16	16	4	0	1
Crit	1	1	1	1	4	1	0	11	11	0	0	0
Total	18	18	18	19	31	19	17	54	60	9	0	16
Positive												
Wet	14	14	14	13	11	13	19	14	10	20	21	17
AN	8	8	8	8	5	8	8	3	2	9	10	5
BN	9	9	9	9	8	9	7	1	0	11	14	8
Dry	13	13	13	13	10	13	10	0	0	12	16	15
Crit	10	10	10	10	7	10	11	0	0	11	11	11
Total	54	54	54	53	41	53	55	18	12	63	72	56
Zero												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Temperature Below Thermalito Afterbay

FP Alt minus Baseline

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Negative												
Wet	--	--	--	--	--	--	--	--	--	-0.1	-0.8	--
AN	--	--	--	--	--	--	--	--	--	--	-1.2	--
BN	--	--	--	--	-0.2	--	--	--	--	--	--	-0.2
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Positive												
Wet	--	--	--	0.2	--	--	--	--	--	0.4	--	--
AN	--	--	--	--	--	--	--	--	--	1.0	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (°F)											
Average												
Negative												
Wet	0	0	0	0	0	0	0	0	0	0	-1	0
AN	0	0	0	0	0	0	0	0	0	0	-1	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Positive												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Count												
Negative												
Wet	0	0	0	0	0	0	0	0	0	1	2	0
AN	0	0	0	0	0	0	0	0	0	0	1	0
BN	0	0	0	0	1	0	0	0	0	0	0	1
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	1	3	1
Positive												
Wet	0	0	0	1	0	0	0	0	0	1	0	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	2	0	0
Zero												
Wet	21	21	21	20	21	21	21	21	21	19	19	21
AN	10	10	10	10	10	10	10	10	10	9	9	10
BN	14	14	14	14	13	14	14	14	14	14	14	13
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	71	71	72	72	72	72	69	69	71

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Environmental Water Account

Draft Environmental Impact Statement
Environmental Impact Report

Appendix H: Summary Output (Maximum Resources) for GATAER Process

July 2003

Sacramento River

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922				0	0	0	334	429	495	2,806	233	0
1923	40	0	0	0	0	0	334	429	495	2,409	630	0
1924	40	0	0	0	0	0	334	429	495	2,039	847	158
1925	40	0	0	0	0	0	334	429	495	1,078	1,960	0
1926	40	0	0	0	0	0	334	429	495	1,783	1,105	155
1927	40	0	0	0	0	0	334	429	495	2,725	314	0
1928	40	0	0	0	0	0	334	429	495	2,297	742	0
1929	40	0	0	0	0	0	334	429	495	1,525	1,328	191
1930	40	0	0	0	0	0	334	429	495	1,499	1,330	216
1931	40	0	0	0	0	0	334	429	495	1,842	946	259
1932	40	0	0	0	0	0	334	429	495	1,746	1,084	216
1933	40	0	0	0	0	0	334	429	495	1,730	1,309	0
1934	40	0	0	0	0	0	334	429	495	1,631	1,062	358
1935	40	0	0	0	0	0	334	429	495	2,250	789	0
1936	40	0	0	0	0	0	334	429	495	2,366	672	0
1937	40	0	0	0	0	0	334	429	495	2,567	471	0
1938	40	0	0	0	0	0	334	429	495	2,549	238	261
1939	40	0	0	0	0	0	334	429	495	2,233	805	0
1940	40	0	0	0	0	0	103	132	152	699	1,587	0
1941	12	0	0	0	0	0	334	429	495	2,113	671	263
1942	40	0	0	0	0	0	334	429	495	2,519	249	280
1943	40	0	0	0	0	0	334	429	495	2,674	364	0
1944	40	0	0	0	0	0	326	419	483	1,833	1,179	0
1945	39	0	0	0	0	0	0	0	0	827	761	0
1946	0	0	0	0	0	0	86	110	127	938	1,293	0
1947	10	0	0	0	0	0	0	0	0	676	930	64
1948	0	0	0	0	0	0	0	0	0	717	797	0
1949	0	0	0	0	0	0	334	429	495	1,957	1,053	30
1950	40	0	0	0	0	0	92	118	136	1,497	753	0
1951	11	0	0	0	0	0	275	353	407	2,177	669	0
1952	33	0	0	0	0	0	334	429	495	1,503	1,043	509
1953	40	0	0	0	0	0	334	429	495	2,345	331	374
1954	40	0	0	0	0	0	334	429	495	1,970	1,069	0
1955	40	0	0	0	0	0	334	429	495	1,564	1,301	180
1956	40	0	0	0	0	0	334	429	495	2,486	266	296
1957	40	0	0	0	0	0	334	429	495	2,178	861	0
1958	40	0	0	0	0	0	334	429	495	2,384	319	347
1959	40	0	0	0	0	0	313	402	464	1,900	1,071	0
1960	38	0	0	0	0	0	334	429	495	1,752	855	446
1961	40	0	0	0	0	0	334	429	495	2,292	747	0
1962	40	0	0	0	0	0	334	429	495	2,397	642	0
1963	40	0	0	0	0	0	334	429	495	2,648	391	0
1964	40	0	0	0	0	0	0	0	0	689	1,034	17
1965	0	0	0	0	0	0	334	429	495	2,638	401	0

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1966	40	0	0	0	0	0	334	429	495	1,790	1,249	0
1967	40	0	0	0	0	0	62	80	92	677	712	790
1968	7	0	0	0	0	0	334	429	495	2,559	480	0
1969	40	0	0	0	0	0	334	429	495	1,797	1,013	237
1970	40	0	0	0	0	0	334	429	495	2,299	740	0
1971	40	0	0	0	0	0	47	60	70	723	665	740
1972	6	0	0	0	0	0	334	429	495	2,232	806	0
1973	40	0	0	0	0	0	334	429	495	2,490	549	0
1974	40	0	0	0	0	0	334	429	495	2,489	266	293
1975	40	0	0	0	0	0	334	429	495	2,467	275	307
1976	40	0	0	0	0	0	334	429	495	2,771	267	0
1977	40	0	0	0	0	0	334	429	495	1,877	733	443
1978	40	0	0	0	0	0	334	429	495	2,519	250	279
1979	40	0	0	0	0	0	334	429	495	2,580	459	0
1980	40	0	0	0	0	0	334	429	495	2,526	273	248
1981	40	0	0	0	0	0	334	429	495	1,823	1,216	0
1982	40	0	0	0	0	0	334	429	495	2,491	266	291
1983	40	0	0	0	0	0	334	429	495	641	596	1,862
1984	40	0	0	0	0	0	334	429	495	2,032	1,007	0
1985	40	0	0	0	0	0	0	0	0	715	747	0
1986	0	0	0	0	0	0	334	429	495	2,593	230	223
1987	40	0	0	0	0	0	334	429	495	2,010	825	211
1988	40	0	0	0	0	0	334	429	495	1,678	1,218	148
1989	40	0	0	0	0	0	176	226	260	1,312	1,211	0
1990	21	0	0	0	0	0	334	429	495	1,803	1,102	138
1991	40	0	0	0	0	0	334	429	495	2,092	825	126
1992	40	0	0	0	0	0	334	429	495	1,535	1,174	340
1993	40	0	0	0	0	0	334	429	495	2,735	304	0
Avg	35	0	0	0	0	0	289	372	429	1,940	777	157
C	38	0	0	0	0	0	334	429	495	1,866	983	196
D	36	0	0	0	0	0	261	335	387	1,560	1,087	96
BN	29	0	0	0	0	0	250	321	370	1,931	777	0
AN	33	0	0	0	0	0	305	392	452	2,240	654	53
W	35	0	0	0	0	0	307	395	455	2,133	493	337

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)

	Jul	Aug	Sep	Total (TAF)
1922	2,245	198	0	150.2
1923	1,807	504	0	142.1
1924	1,733	720	134	158.8
1925	863	1,568	0	149.5
1926	1,516	940	132	158.8
1927	2,180	251	0	149.5
1928	1,723	593	0	142.4
1929	1,220	1,129	163	154.1
1930	1,124	1,064	184	145.5
1931	1,474	757	220	150.2
1932	1,309	867	183	144.8
1933	1,384	1,047	0	149.5
1934	1,305	902	304	153.8
1935	1,800	670	0	151.9
1936	1,893	538	0	149.5
1937	2,054	377	0	149.5
1938	2,166	202	222	158.8
1939	1,898	685	0	158.8
1940	559	1,270	0	112.5
1941	1,690	570	224	152.3
1942	2,141	212	238	158.8
1943	2,273	310	0	158.8
1944	1,558	1,002	0	157.4
1945	703	647	0	83.0
1946	797	1,099	0	116.6
1947	575	791	54	87.2
1948	573	678	0	76.9
1949	1,664	895	25	158.8
1950	1,273	640	0	117.6
1951	1,851	568	0	148.7
1952	1,277	887	433	158.8
1953	1,994	281	318	158.8
1954	1,576	855	0	149.5
1955	1,251	1,106	153	154.0
1956	2,113	226	252	158.8
1957	1,742	732	0	152.1
1958	2,026	271	295	158.8
1959	1,520	910	0	149.4
1960	1,489	727	379	158.8
1961	1,948	635	0	158.8
1962	1,918	545	0	151.4
1963	2,251	332	0	158.8
1964	586	879	15	91.0
1965	2,242	341	0	158.8

Change in Nimbus Release (CFS)

		May	Jun	Jul	Aug	Sep
AN	1922	0	0	0	0	0
BN	1923	0	0	0	0	0
C	1924	0	0	0	0	0
D	1925	0	0	0	0	0
D	1926	0	0	0	0	0
W	1927	0	0	0	0	0
AN	1928	0	0	0	0	0
C	1929	0	0	0	0	0
D	1930	0	0	0	0	0
C	1931	0	0	0	0	0
D	1932	0	0	0	0	0
C	1933	0	0	0	0	0
C	1934	0	0	0	0	0
BN	1935	0	0	0	0	0
BN	1936	0	0	0	0	0
BN	1937	0	0	0	0	0
W	1938	0	0	0	0	0
D	1939	0	0	0	0	0
AN	1940	0	0	0	0	0
W	1941	0	0	0	0	0
W	1942	0	0	0	0	0
W	1943	0	0	0	0	0
D	1944	0	0	0	0	0
BN	1945	0	0	0	0	0
BN	1946	0	0	0	0	0
D	1947	0	0	0	0	0
BN	1948	0	0	0	0	0
D	1949	0	0	0	0	0
BN	1950	0	0	0	0	0
AN	1951	0	0	0	0	0
W	1952	0	0	0	0	0
W	1953	0	0	0	0	0
AN	1954	0	0	0	0	0
D	1955	0	0	0	0	0
W	1956	0	0	0	0	0
AN	1957	0	0	0	0	0
W	1958	0	0	0	0	0
BN	1959	0	0	0	0	0
D	1960	0	0	0	0	0
D	1961	0	0	0	0	0
BN	1962	0	0	0	0	0
W	1963	0	0	0	0	0
D	1964	0	0	0	0	0
W	1965	0	0	0	0	0

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)

	Jul	Aug	Sep	Total (TAF)
1966	1,522	1,061	0	158.8
1967	575	605	672	112.5
1968	2,047	384	0	149.5
1969	1,437	861	201	153.3
1970	1,954	629	0	158.8
1971	615	565	629	110.0
1972	1,898	685	0	158.8
1973	1,992	467	0	151.2
1974	1,991	226	249	151.2
1975	1,974	234	261	151.2
1976	2,078	214	0	141.0
1977	1,502	623	376	153.0
1978	2,141	212	237	158.8
1979	2,064	390	0	150.9
1980	2,147	232	211	158.8
1981	1,458	1,034	0	153.2
1982	2,118	226	233	158.0
1983	545	506	1,583	158.8
1984	1,727	856	0	158.8
1985	572	635	0	74.2
1986	2,074	195	190	150.8
1987	1,508	660	179	143.9
1988	1,426	1,035	126	158.8
1989	984	969	0	120.1
1990	1,353	881	117	144.3
1991	1,674	660	107	149.9
1992	1,228	998	289	154.1
1993	2,188	259	0	150.4
Avg	1,584	649	133	145
C	1,489	815	167	152
D	1,269	904	82	138
BN	1,562	652	0	136
AN	1,816	539	45	147
W	1,779	418	286	152

Change in Nimbus Release (CFS)

		May	Jun	Jul	Aug	Sep
BN	1966	0	0	0	0	0
W	1967	0	0	0	0	0
BN	1968	0	0	0	0	0
W	1969	0	0	0	0	0
W	1970	0	0	0	0	0
W	1971	0	0	0	0	0
BN	1972	0	0	0	0	0
AN	1973	0	0	0	0	0
W	1974	0	0	0	0	0
W	1975	0	0	0	0	0
C	1976	0	0	0	0	0
C	1977	0	0	0	0	0
AN	1978	0	0	0	0	0
BN	1979	0	0	0	0	0
AN	1980	0	0	0	0	0
D	1981	0	0	0	0	0
W	1982	0	0	0	0	0
W	1983	0	0	0	0	0
W	1984	0	0	0	0	0
D	1985	0	0	0	0	0
W	1986	0	0	0	0	0
D	1987	0	0	0	0	0
C	1988	0	0	0	0	0
D	1989	0	0	0	0	0
C	1990	0	0	0	0	0
C	1991	0	0	0	0	0
C	1992	0	0	0	0	0
AN	1993	0	0	0	0	0
	Avg	0	0	0	0	0
	C	0	0	0	0	0
	D	0	0	0	0	0
	BN	0	0	0	0	0
	AN	0	0	0	0	0
	W	0	0	0	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1922	0	0	523	-344	-185
1923	0	0	381	-201	-185
1924	0	0	248	-124	-129
1925	0	0	-95	275	-185
1926	0	0	157	-31	-130
1927	0	0	494	-315	-185
1928	0	0	341	-162	-185
1929	0	0	65	48	-117
1930	0	0	55	49	-108
1931	0	0	178	-88	-93
1932	0	0	143	-39	-108
1933	0	0	138	42	-185
1934	0	0	102	-47	-57
1935	0	0	324	-145	-185
1936	0	0	366	-186	-185
1937	0	0	437	-258	-185
1938	0	0	431	-342	-92
1939	0	0	318	-139	-185
1940	0	0	-46	101	-57
1941	0	0	275	-187	-91
1942	0	0	420	-338	-85
1943	0	0	476	-296	-185
1944	0	0	176	-1	-181
1945	0	0	0	0	0
1946	0	0	-6	52	-48
1947	0	0	0	0	0
1948	0	0	0	0	0
1949	0	0	219	-50	-175
1950	0	0	67	-17	-51
1951	0	0	288	-141	-152
1952	0	0	57	-54	-3
1953	0	0	358	-308	-51
1954	0	0	224	-44	-185
1955	0	0	79	39	-121
1956	0	0	408	-332	-79
1957	0	0	298	-119	-185
1958	0	0	372	-313	-61
1959	0	0	201	-33	-174
1960	0	0	146	-121	-26
1961	0	0	339	-160	-185
1962	0	0	376	-197	-185
1963	0	0	466	-287	-185
1964	0	0	0	0	0
1965	0	0	463	-283	-185

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	0	0
1923	0	0	0	0	0	0
1924	0	0	0	0	0	0
1925	0	0	0	0	0	0
1926	0	0	0	0	0	0
1927	0	0	0	0	0	0
1928	0	0	0	0	0	0
1929	0	0	0	0	0	0
1930	0	0	0	0	0	0
1931	0	0	0	0	0	0
1932	0	0	0	0	0	0
1933	0	0	0	0	0	0
1934	0	0	0	0	0	0
1935	0	0	0	0	0	0
1936	0	0	0	0	0	0
1937	0	0	0	0	0	0
1938	0	0	0	0	0	0
1939	0	0	0	0	0	0
1940	0	0	0	0	0	0
1941	0	0	0	0	0	0
1942	0	0	0	0	0	0
1943	0	0	0	0	0	0
1944	0	0	0	0	0	0
1945	0	0	0	0	0	0
1946	0	0	0	0	0	0
1947	0	0	0	0	0	0
1948	0	0	0	0	0	0
1949	0	0	0	0	0	0
1950	0	0	0	0	0	0
1951	0	0	0	0	0	0
1952	0	0	0	0	0	0
1953	0	0	0	0	0	0
1954	0	0	0	0	0	0
1955	0	0	0	0	0	0
1956	0	0	0	0	0	0
1957	0	0	0	0	0	0
1958	0	0	0	0	0	0
1959	0	0	0	0	0	0
1960	0	0	0	0	0	0
1961	0	0	0	0	0	0
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1966	0	0	159	20	-185
1967	0	0	-26	-13	40
1968	0	0	434	-255	-185
1969	0	0	162	-64	-100
1970	0	0	341	-162	-185
1971	0	0	-15	-12	28
1972	0	0	318	-138	-185
1973	0	0	410	-230	-185
1974	0	0	409	-332	-81
1975	0	0	402	-329	-76
1976	0	0	510	-331	-185
1977	0	0	191	-165	-27
1978	0	0	420	-337	-86
1979	0	0	442	-263	-185
1980	0	0	423	-329	-96
1981	0	0	171	8	-185
1982	0	0	410	-332	-81
1983	0	0	-252	-214	481
1984	0	0	246	-67	-185
1985	0	0	0	0	0
1986	0	0	447	-345	-105
1987	0	0	238	-132	-110
1988	0	0	119	9	-132
1989	0	0	44	50	-97
1990	0	0	164	-33	-136
1991	0	0	267	-132	-140
1992	0	0	68	-7	-63
1993	0	0	497	-318	-185
Avg	0	0	240	-133	-111
C	0	0	186	-75	-115
D	0	0	124	-16	-112
BN	0	0	250	-116	-138
AN	0	0	338	-192	-150
W	0	0	302	-234	-70

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	0	0	0	0
1969	0	0	0	0	0	0
1970	0	0	0	0	0	0
1971	0	0	0	0	0	0
1972	0	0	0	0	0	0
1973	0	0	0	0	0	0
1974	0	0	0	0	0	0
1975	0	0	0	0	0	0
1976	0	0	0	0	0	0
1977	0	0	0	0	0	0
1978	0	0	0	0	0	0
1979	0	0	0	0	0	0
1980	0	0	0	0	0	0
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	0	0	0	0	0	0
1986	0	0	0	0	0	0
1987	0	0	0	0	0	0
1988	0	0	0	0	0	0
1989	0	0	0	0	0	0
1990	0	0	0	0	0	0
1991	0	0	0	0	0	0
1992	0	0	0	0	0	0
1993	0	0	0	0	0	0
Avg	0	0	0	0	0	0
C	0	0	0	0	0	0
D	0	0	0	0	0	0
BN	0	0	0	0	0	0
AN	0	0	0	0	0	0
W	0	0	0	0	0	0

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	3,495,241	3,495,241	0	0.0%
Jul	3,017,673	3,002,933	-14,740	-0.5%
Aug	2,654,708	2,648,122	-6,586	-0.2%
Sep	2,510,534	2,510,534	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	1,882,280	1,882,280	0	0.0%
Jul	1,407,101	1,395,637	-11,464	-0.8%
Aug	1,151,790	1,144,952	-6,838	-0.6%
Sep	1,092,393	1,092,393	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	3,183,492	3,183,492	0	0.0%
Jul	2,646,438	2,638,792	-7,646	-0.3%
Aug	2,269,539	2,262,862	-6,677	-0.3%
Sep	2,185,412	2,185,412	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	3,572,334	3,572,334	0	0.0%
Jul	3,081,510	3,066,145	-15,365	-0.5%
Aug	2,694,314	2,686,073	-8,241	-0.3%
Sep	2,547,470	2,547,470	0	0.0%
Above Normal Years				
Mar				
Apr				
May				
Jun	4,021,711	4,021,711	0	0.0%
Jul	3,473,362	3,452,594	-20,768	-0.6%
Aug	3,105,701	3,096,760	-8,941	-0.3%
Sep	2,961,462	2,961,462	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	4,275,552	4,275,552	0	0.0%
Jul	3,884,597	3,866,024	-18,572	-0.5%
Aug	3,494,251	3,490,090	-4,161	-0.1%
Sep	3,261,730	3,261,730	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr	2,952,914	2,952,914	0	0.0%
May	3,056,225	3,056,225	0	0.0%
Jun	2,849,413	2,849,413	0	0.0%
Jul	2,557,472	2,557,472	0	0.0%
Aug	2,218,168	2,218,168	0	0.0%
Sep	2,104,771	2,104,771	0	0.0%
Critical Years				
Mar				
Apr	2,019,561	2,019,561	0	0.0%
May	1,992,105	1,992,105	0	0.0%
Jun	1,806,632	1,806,632	0	0.0%
Jul	1,552,575	1,552,575	0	0.0%
Aug	1,347,302	1,347,302	0	0.0%
Sep	1,229,951	1,229,951	0	0.0%
Dry Years				
Mar				
Apr	2,845,503	2,845,503	0	0.0%
May	2,856,587	2,856,587	0	0.0%
Jun	2,554,236	2,554,236	0	0.0%
Jul	2,124,538	2,124,538	0	0.0%
Aug	1,740,604	1,740,604	0	0.0%
Sep	1,558,740	1,558,740	0	0.0%
Below Normal Years				
Mar				
Apr	3,077,029	3,077,029	0	0.0%
May	3,250,172	3,250,172	0	0.0%
Jun	2,951,868	2,951,868	0	0.0%
Jul	2,533,988	2,533,988	0	0.0%
Aug	2,082,567	2,082,567	0	0.0%
Sep	1,953,514	1,953,514	0	0.0%
Above Normal Years				
Mar				
Apr	3,254,502	3,254,502	0	0.0%
May	3,369,627	3,369,627	0	0.0%
Jun	3,181,074	3,181,074	0	0.0%
Jul	2,905,092	2,905,092	0	0.0%
Aug	2,473,070	2,473,070	0	0.0%
Sep	2,936,308	2,936,308	0	0.0%
Wet Years				
Mar				
Apr	3,297,294	3,297,294	0	0.0%
May	3,487,190	3,487,190	0	0.0%
Jun	3,394,291	3,394,291	0	0.0%
Jul	3,263,825	3,263,825	0	0.0%
Aug	3,007,213	3,007,213	0	0.0%
Sep	2,936,308	2,936,308	0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	625,687	625,687	0	0.0%
Aug	567,556	567,556	0	0.0%
Sep	487,929	487,929	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	328,349	328,349	0	0.0%
Aug	275,396	275,396	0	0.0%
Sep	246,494	246,494	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	481,868	481,868	0	0.0%
Aug	420,776	420,776	0	0.0%
Sep	407,045	407,045	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	645,479	645,479	0	0.0%
Aug	598,728	598,728	0	0.0%
Sep	515,199	515,199	0	0.0%
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	722,751	722,751	0	0.0%
Aug	673,104	673,104	0	0.0%
Sep	561,963	561,963	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	831,598	831,598	0	0.0%
Aug	761,382	761,382	0	0.0%
Sep	622,585	622,585	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	1,027.5	1,027.5	0.0	0.0%
Jul	1,006.8	1,006.2	-0.6	-0.1%
Aug	991.1	990.8	-0.3	0.0%
Sep	984.7	984.7	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	949.1	949.1	0.0	0.0%
Jul	917.5	916.7	-0.8	-0.1%
Aug	898.3	897.6	-0.7	-0.1%
Sep	892.1	892.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	1,014.0	1,014.0	0.0	0.0%
Jul	990.7	990.4	-0.3	0.0%
Aug	971.1	970.7	-0.4	0.0%
Sep	966.3	966.3	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	1,030.9	1,030.9	0.0	0.0%
Jul	1,009.6	1,008.9	-0.7	-0.1%
Aug	992.8	992.4	-0.4	0.0%
Sep	986.4	986.4	0.0	0.0%
Above Normal Years				
Mar				
Apr				
May				
Jun	1,048.0	1,048.0	0.0	0.0%
Jul	1,026.6	1,025.7	-0.9	-0.1%
Aug	1,010.6	1,010.3	-0.4	0.0%
Sep	1,004.4	1,004.4	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	1,057.1	1,057.1	0.0	0.0%
Jul	1,043.1	1,042.5	-0.7	-0.1%
Aug	1,027.5	1,027.3	-0.2	0.0%
Sep	1,017.4	1,017.4	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr	860.0	860.0	0.0	0.0%
May	867.1	867.1	0.0	0.0%
Jun	853.0	853.0	0.0	0.0%
Jul	833.0	833.0	0.0	0.0%
Aug	805.3	805.3	0.0	0.0%
Sep	793.6	793.6	0.0	0.0%
Critical Years				
Mar				
Apr	784.9	784.9	0.0	0.0%
May	782.0	782.0	0.0	0.0%
Jun	763.0	763.0	0.0	0.0%
Jul	734.5	734.5	0.0	0.0%
Aug	709.4	709.4	0.0	0.0%
Sep	695.1	695.1	0.0	0.0%
Dry Years				
Mar				
Apr	852.7	852.7	0.0	0.0%
May	853.4	853.4	0.0	0.0%
Jun	832.8	832.8	0.0	0.0%
Jul	795.6	795.6	0.0	0.0%
Aug	756.2	756.2	0.0	0.0%
Sep	735.2	735.2	0.0	0.0%
Below Normal Years				
Mar				
Apr	868.5	868.5	0.0	0.0%
May	880.3	880.3	0.0	0.0%
Jun	859.9	859.9	0.0	0.0%
Jul	831.4	831.4	0.0	0.0%
Aug	791.3	791.3	0.0	0.0%
Sep	778.1	778.1	0.0	0.0%
Above Normal Years				
Mar				
Apr	880.6	880.6	0.0	0.0%
May	888.5	888.5	0.0	0.0%
Jun	875.6	875.6	0.0	0.0%
Jul	856.8	856.8	0.0	0.0%
Aug	827.3	827.3	0.0	0.0%
Sep	858.9	858.9	0.0	0.0%
Wet Years				
Mar				
Apr	883.5	883.5	0.0	0.0%
May	896.5	896.5	0.0	0.0%
Jun	890.1	890.1	0.0	0.0%
Jul	881.2	881.2	0.0	0.0%
Aug	863.7	863.7	0.0	0.0%
Sep	858.9	858.9	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	430.6	430.6	0.0	0.0%
Aug	423.4	423.4	0.0	0.0%
Sep	413.6	413.6	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	391.6	391.6	0.0	0.0%
Aug	382.6	382.6	0.0	0.0%
Sep	377.1	377.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	412.8	412.8	0.0	0.0%
Aug	405.3	405.3	0.0	0.0%
Sep	403.6	403.6	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	433.0	433.0	0.0	0.0%
Aug	427.2	427.2	0.0	0.0%
Sep	416.9	416.9	0.0	0.0%
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	441.4	441.4	0.0	0.0%
Aug	436.4	436.4	0.0	0.0%
Sep	422.7	422.7	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	451.9	451.9	0.0	0.0%
Aug	445.1	445.1	0.0	0.0%
Sep	430.2	430.2	0.0	0.0%

k=+S5*30+T5*31+U5*30+V5*31+W5*31+X5*30
k=+S6*30+T6*31+U6*30+V6*31+W6*31+X6*30
k=+S7*30+T7*31+U7*30+V7*31+W7*31+X7*30
k=+S8*30+T8*31+U8*30+V8*31+W8*31+X8*30
k=+S9*30+T9*31+U9*30+V9*31+W9*31+X9*30
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k=+S75*30+T75*31+U75*30+V75*31+W75*31+X75*30
k=+S76*30+T76*31+U76*30+V76*31+W76*31+X76*30

Feather River

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922				0	0	0	290	380	438	2,597	215	0
1923	64	14	4	0	0	0	290	380	0	2,565	671	0
1924	64	14	4	0	0	0	290	0	0	2,426	1,008	187
1925	64	14	4	0	0	0	290	0	0	1,283	2,333	0
1926	64	14	4	0	0	0	290	0	0	2,122	1,315	184
1927	64	14	4	0	0	0	290	380	0	2,902	334	0
1928	64	14	4	0	0	0	290	0	0	2,733	882	0
1929	64	14	4	0	0	0	290	0	0	1,815	1,580	228
1930	64	14	4	0	0	0	290	0	0	1,784	1,583	257
1931	64	14	4	0	0	0	290	0	0	2,192	1,125	308
1932	64	14	4	0	0	0	290	0	0	2,077	1,290	257
1933	64	14	4	0	0	0	290	0	0	2,058	1,558	0
1934	64	14	4	0	0	0	290	0	0	1,941	1,263	425
1935	64	14	4	0	0	0	290	0	0	2,677	938	0
1936	64	14	4	0	0	0	290	0	0	2,816	800	0
1937	64	14	4	0	0	0	290	0	0	3,055	561	0
1938	64	14	4	0	0	0	290	380	438	2,014	188	206
1939	64	14	4	0	0	0	290	0	0	2,657	958	0
1940	64	14	4	0	0	0	79	0	0	699	1,587	0
1941	17	4	1	0	0	0	290	380	0	2,250	715	280
1942	64	14	4	0	0	0	290	380	438	2,331	231	259
1943	64	14	4	0	0	0	290	0	0	3,182	433	0
1944	64	14	4	0	0	0	194	0	0	1,833	1,179	0
1945	43	9	3	0	0	0	0	0	0	827	761	0
1946	0	0	0	0	0	0	70	0	0	938	1,293	0
1947	15	3	1	0	0	0	0	0	0	676	930	64
1948	0	0	0	0	0	0	0	0	0	717	797	0
1949	0	0	0	0	0	0	290	0	0	2,329	1,253	35
1950	64	14	4	0	0	0	73	0	0	1,497	753	0
1951	16	3	1	0	0	0	168	220	0	2,009	617	0
1952	37	8	3	0	0	0	290	380	438	885	614	300
1953	64	14	4	0	0	0	290	380	438	2,170	306	347
1954	64	14	4	0	0	0	290	0	0	2,344	1,272	0
1955	64	14	4	0	0	0	290	0	0	1,861	1,548	214
1956	64	14	4	0	0	0	290	380	438	2,301	246	274
1957	64	14	4	0	0	0	290	0	0	2,591	1,024	0
1958	64	14	4	0	0	0	290	380	438	1,809	242	263
1959	64	14	4	0	0	0	188	0	0	1,900	1,071	0
1960	41	9	3	0	0	0	290	0	0	2,084	1,018	531

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1961	64	14	4	0	0	0	290	0	0	2,727	889	0
1962	64	14	4	0	0	0	257	0	0	2,685	719	0
1963	56	12	4	0	0	0	290	380	0	2,820	416	0
1964	64	14	4	0	0	0	0	0	0	689	1,034	17
1965	0	0	0	0	0	0	290	0	0	3,138	477	0
1966	64	14	4	0	0	0	258	0	0	2,012	1,403	0
1967	57	12	4	0	0	0	58	76	87	608	640	710
1968	13	3	1	0	0	0	290	0	0	3,045	571	0
1969	64	14	4	0	0	0	290	380	438	1,494	842	197
1970	64	14	4	0	0	0	290	0	0	2,735	881	0
1971	64	14	4	0	0	0	50	66	76	675	621	691
1972	11	2	1	0	0	0	290	0	0	2,656	959	0
1973	64	14	4	0	0	0	290	380	0	2,651	585	0
1974	64	14	4	0	0	0	290	380	0	2,651	284	312
1975	64	14	4	0	0	0	290	380	438	2,283	254	284
1976	64	14	4	0	0	0	290	0	0	3,298	318	0
1977	64	14	4	0	0	0	290	0	0	2,234	872	527
1978	64	14	4	0	0	0	290	0	0	2,998	297	331
1979	64	14	4	0	0	0	290	0	0	3,069	546	0
1980	64	14	4	0	0	0	290	0	0	3,006	324	295
1981	64	14	4	0	0	0	264	0	0	2,069	1,381	0
1982	58	12	4	0	0	0	290	380	438	1,757	187	205
1983	64	14	4	0	0	0	290	380	438	377	351	1,096
1984	64	14	4	0	0	0	290	0	0	2,418	1,198	0
1985	64	14	4	0	0	0	0	0	0	715	747	0
1986	0	0	0	0	0	0	290	0	0	3,085	273	266
1987	64	14	4	0	0	0	290	0	0	2,392	981	251
1988	64	14	4	0	0	0	290	0	0	1,996	1,449	177
1989	64	14	4	0	0	0	117	0	0	1,312	1,211	0
1990	26	5	2	0	0	0	290	0	0	2,146	1,311	164
1991	64	14	4	0	0	0	290	0	0	2,489	982	150
1992	64	14	4	0	0	0	290	0	0	1,827	1,397	405
1993	64	14	4	0	0	0	290	380	438	2,531	281	0
Avg	54	12	4	0	0	0	247	100	75	2,105	850	149
C	60	13	4	0	0	0	290	0	0	2,220	1,169	234
D	55	12	4	0	0	0	217	0	0	1,788	1,228	113
BN	46	10	3	0	0	0	206	27	0	2,176	846	0
AN	53	11	4	0	0	0	257	136	88	2,416	709	63
W	53	11	4	0	0	0	268	260	216	2,090	463	271

	Additional Banks & Tracy Exports with EWA FP Alternative (CFS)						Change in Nimbus Release (CFS)	
	Jul	Aug	Sep	Total (TAF)			May	Jun
1922	2,077	183	0	139.0	AN	1922	0	0
1923	1,924	537	0	151.3	BN	1923	0	0
1924	2,062	857	159	189.0	C	1924	0	0
1925	1,026	1,866	0	177.9	D	1925	0	0
1926	1,804	1,118	157	189.0	D	1926	0	0
1927	2,322	267	0	159.2	W	1927	0	0
1928	2,050	706	0	169.5	AN	1928	0	0
1929	1,452	1,343	194	183.4	C	1929	0	0
1930	1,338	1,266	219	173.1	D	1930	0	0
1931	1,754	900	262	178.8	C	1931	0	0
1932	1,558	1,032	218	172.2	D	1932	0	0
1933	1,646	1,246	0	177.9	C	1933	0	0
1934	1,553	1,074	362	183.0	C	1934	0	0
1935	2,142	798	0	180.7	BN	1935	0	0
1936	2,252	640	0	177.9	BN	1936	0	0
1937	2,444	449	0	177.9	BN	1937	0	0
1938	1,712	160	175	125.5	W	1938	0	0
1939	2,259	815	0	189.0	D	1939	0	0
1940	559	1,270	0	112.5	AN	1940	0	0
1941	1,800	607	238	162.2	W	1941	0	0
1942	1,981	196	220	147.0	W	1942	0	0
1943	2,705	368	0	189.0	W	1943	0	0
1944	1,558	1,002	0	157.4	D	1944	0	0
1945	703	647	0	83.0	BN	1945	0	0
1946	797	1,099	0	116.6	BN	1946	0	0
1947	575	791	54	87.2	D	1947	0	0
1948	573	678	0	76.9	BN	1948	0	0
1949	1,980	1,065	30	189.0	D	1949	0	0
1950	1,273	640	0	117.6	BN	1950	0	0
1951	1,708	525	0	137.3	AN	1951	0	0
1952	752	522	255	93.5	W	1952	0	0
1953	1,845	260	295	147.0	W	1953	0	0
1954	1,875	1,018	0	177.9	AN	1954	0	0
1955	1,489	1,316	182	183.3	D	1955	0	0
1956	1,956	209	233	147.0	W	1956	0	0
1957	2,073	871	0	181.0	AN	1957	0	0
1958	1,538	206	224	120.5	W	1958	0	0
1959	1,520	910	0	149.4	BN	1959	0	0
1960	1,771	865	451	189.0	D	1960	0	0
1961	2,318	756	0	189.0	D	1961	0	0
1962	2,148	611	0	169.7	BN	1962	0	0

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)						Change in Nimbus Release (CFS)		
	Jul	Aug	Sep	Total (TAF)			May	Jun
1963	2,397	354	0	169.1	W	1963	0	0
1964	586	879	15	91.0	D	1964	0	0
1965	2,668	406	0	189.0	W	1965	0	0
1966	1,710	1,193	0	178.5	BN	1966	0	0
1967	517	544	604	101.2	W	1967	0	0
1968	2,436	457	0	177.9	BN	1968	0	0
1969	1,195	716	167	127.5	W	1969	0	0
1970	2,325	749	0	189.0	W	1970	0	0
1971	574	528	588	102.7	W	1971	0	0
1972	2,258	816	0	189.0	BN	1972	0	0
1973	2,121	497	0	161.0	AN	1973	0	0
1974	2,121	241	265	161.0	W	1974	0	0
1975	1,827	216	241	140.0	W	1975	0	0
1976	2,473	255	0	167.7	C	1976	0	0
1977	1,787	741	448	182.1	C	1977	0	0
1978	2,548	253	282	189.0	AN	1978	0	0
1979	2,455	464	0	179.5	BN	1979	0	0
1980	2,555	276	251	189.0	AN	1980	0	0
1981	1,655	1,173	0	173.9	D	1981	0	0
1982	1,493	159	164	111.4	W	1982	0	0
1983	321	298	932	93.5	W	1983	0	0
1984	2,055	1,018	0	189.0	W	1984	0	0
1985	572	635	0	74.2	D	1985	0	0
1986	2,468	232	226	179.5	W	1986	0	0
1987	1,794	785	213	171.2	D	1987	0	0
1988	1,697	1,231	150	189.0	C	1988	0	0
1989	984	969	0	120.1	D	1989	0	0
1990	1,609	1,049	140	171.7	C	1990	0	0
1991	1,991	785	127	178.3	C	1991	0	0
1992	1,461	1,187	344	183.4	C	1992	0	0
1993	2,024	239	0	139.2	AN	1993	0	0
Avg	1,716	709	126	157		Avg	0	0
C	1,771	970	199	180		C	0	0
D	1,454	1,021	96	158		D	0	0
BN	1,760	710	0	152		BN	0	0
AN	1,959	584	53	160		AN	0	0
W	1,741	393	230	145		W	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	0
1923	0	0	0	0	0
1924	0	0	0	0	0
1925	0	0	0	0	0
1926	0	0	0	0	0
1927	0	0	0	0	0
1928	0	0	0	0	0
1929	0	0	0	0	0
1930	0	0	0	0	0
1931	0	0	0	0	0
1932	0	0	0	0	0
1933	0	0	0	0	0
1934	0	0	0	0	0
1935	0	0	0	0	0
1936	0	0	0	0	0
1937	0	0	0	0	0
1938	0	0	0	0	0
1939	0	0	0	0	0
1940	0	0	0	0	0
1941	0	0	0	0	0
1942	0	0	0	0	0
1943	0	0	0	0	0
1944	0	0	0	0	0
1945	0	0	0	0	0
1946	0	0	0	0	0
1947	0	0	0	0	0
1948	0	0	0	0	0
1949	0	0	0	0	0
1950	0	0	0	0	0
1951	0	0	0	0	0
1952	0	0	0	0	0
1953	0	0	0	0	0
1954	0	0	0	0	0
1955	0	0	0	0	0
1956	0	0	0	0	0
1957	0	0	0	0	0
1958	0	0	0	0	0
1959	0	0	0	0	0
1960	0	0	0	0	0
1961	0	0	0	0	0
1962	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	0	534	-249	-295
1923	0	0	-438	736	-27	-295
1924	0	-380	-438	815	182	-200
1925	0	-380	-438	238	851	-295
1926	0	-380	-438	661	337	-202
1927	0	0	-438	887	-178	-295
1928	0	-380	-438	970	119	-295
1929	0	-380	-438	506	471	-180
1930	0	-380	-438	491	472	-165
1931	0	-380	-438	697	241	-139
1932	0	-380	-438	639	325	-165
1933	0	-380	-438	629	460	-295
1934	0	-380	-438	570	311	-80
1935	0	-380	-438	942	147	-295
1936	0	-380	-438	1,012	77	-295
1937	0	-380	-438	1,133	-44	-295
1938	0	0	0	514	-279	-242
1939	0	-380	-438	932	157	-295
1940	0	-103	-119	40	256	-80
1941	0	0	-438	596	-8	-170
1942	0	0	0	438	-243	-201
1943	0	-380	-438	1,197	-108	-295
1944	0	-254	-293	469	260	-198
1945	0	0	0	0	0	0
1946	0	-92	-106	87	177	-71
1947	0	0	0	0	0	0
1948	0	0	0	0	0	0
1949	0	-380	-438	766	306	-277
1950	0	-96	-111	203	72	-74
1951	0	0	-253	403	7	-171
1952	0	0	0	0	0	0
1953	0	0	0	379	-216	-169
1954	0	-380	-438	773	316	-295
1955	0	-380	-438	530	455	-187
1956	0	0	0	427	-238	-195
1957	0	-380	-438	899	190	-295
1958	0	0	0	216	-273	59
1959	0	-246	-283	490	214	-191
1960	0	-380	-438	642	187	-27
1961	0	-380	-438	967	122	-295
1962	0	-336	-387	911	52	-261

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1963	0	0	0	0	0
1964	0	0	0	0	0
1965	0	0	0	0	0
1966	0	0	0	0	0
1967	0	0	0	0	0
1968	0	0	0	0	0
1969	0	0	0	0	0
1970	0	0	0	0	0
1971	0	0	0	0	0
1972	0	0	0	0	0
1973	0	0	0	0	0
1974	0	0	0	0	0
1975	0	0	0	0	0
1976	0	0	0	0	0
1977	0	0	0	0	0
1978	0	0	0	0	0
1979	0	0	0	0	0
1980	0	0	0	0	0
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	0	0	0	0	0
1985	0	0	0	0	0
1986	0	0	0	0	0
1987	0	0	0	0	0
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
Avg	0	0	0	0	0
C	0	0	0	0	0
D	0	0	0	0	0
BN	0	0	0	0	0
AN	0	0	0	0	0
W	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1963	0	0	-438	850	-141	-295
1964	0	0	0	0	0	0
1965	0	-380	-438	1,175	-86	-295
1966	0	-338	-390	592	377	-263
1967	0	0	0	-36	-17	54
1968	0	-380	-438	1,128	-39	-295
1969	0	0	0	26	-81	58
1970	0	-380	-438	971	118	-295
1971	0	0	0	-10	-1	11
1972	0	-380	-438	931	158	-295
1973	0	0	-438	775	-66	-295
1974	0	0	-438	775	-200	-156
1975	0	0	0	420	-235	-192
1976	0	-380	-438	1,255	-166	-295
1977	0	-380	-438	718	113	-29
1978	0	-380	-438	1,104	-177	-127
1979	0	-380	-438	1,140	-51	-295
1980	0	-380	-438	1,108	-163	-146
1981	0	-345	-398	623	367	-268
1982	0	0	0	290	-296	7
1983	0	0	0	0	0	0
1984	0	-380	-438	811	278	-295
1985	0	0	0	0	0	0
1986	0	-380	-438	1,148	-189	-161
1987	0	-380	-438	798	169	-168
1988	0	-380	-438	598	405	-206
1989	0	-153	-176	217	221	-119
1990	0	-380	-438	674	335	-212
1991	0	-380	-438	847	169	-219
1992	0	-380	-438	512	379	-90
1993	0	0	0	510	-225	-295
Avg	0	-222	-296	601	81	-179
C	0	-380	-438	711	264	-177
D	0	-284	-328	498	264	-166
BN	0	-242	-310	665	79	-209
AN	0	-200	-300	712	1	-229
W	0	-90	-188	527	-114	-146

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	3,495,241	3,495,241	0	0.0%
Jul	3,017,673	3,017,673	0	0.0%
Aug	2,654,708	2,654,708	0	0.0%
Sep	2,510,534	2,510,534	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	1,882,280	1,882,280	0	0.0%
Jul	1,407,101	1,407,101	0	0.0%
Aug	1,151,790	1,151,790	0	0.0%
Sep	1,092,393	1,092,393	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	3,183,492	3,183,492	0	0.0%
Jul	2,646,438	2,646,438	0	0.0%
Aug	2,269,539	2,269,539	0	0.0%
Sep	2,185,412	2,185,412	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	3,572,334	3,572,334	0	0.0%
Jul	3,081,510	3,081,510	0	0.0%
Aug	2,694,314	2,694,314	0	0.0%
Sep	2,547,470	2,547,470	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr	2,952,914	2,952,914	0	0.0%
May	3,056,225	3,069,904	13,679	0.4%
Jun	2,849,413	2,880,732	31,319	1.1%
Jul	2,557,472	2,551,822	-5,650	-0.2%
Aug	2,218,168	2,207,515	-10,653	-0.5%
Sep	2,104,771	2,104,771	0	0.0%
Critical Years				
Mar				
Apr	2,019,561	2,019,561	0	0.0%
May	1,992,105	2,015,460	23,355	1.2%
Jun	1,806,632	1,856,042	49,410	2.7%
Jul	1,552,575	1,558,263	5,688	0.4%
Aug	1,347,302	1,336,779	-10,523	-0.8%
Sep	1,229,951	1,229,951	0	0.0%
Dry Years				
Mar				
Apr	2,845,503	2,845,503	0	0.0%
May	2,856,587	2,874,075	17,488	0.6%
Jun	2,554,236	2,591,233	36,998	1.4%
Jul	2,124,538	2,130,897	6,359	0.3%
Aug	1,740,604	1,730,711	-9,892	-0.6%
Sep	1,558,740	1,558,740	0	0.0%
Below Normal Years				
Mar				
Apr	3,077,029	3,077,029	0	0.0%
May	3,250,172	3,265,046	14,874	0.5%
Jun	2,951,868	2,985,197	33,329	1.1%
Jul	2,533,988	2,526,444	-7,544	-0.3%
Aug	2,082,567	2,070,136	-12,431	-0.6%
Sep	1,953,514	1,953,514	0	0.0%

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun	4,021,711	4,021,711	0	0.0%
Jul	3,473,362	3,473,362	0	0.0%
Aug	3,105,701	3,105,701	0	0.0%
Sep	2,961,462	2,961,462	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	4,275,552	4,275,552	0	0.0%
Jul	3,884,597	3,884,597	0	0.0%
Aug	3,494,251	3,494,251	0	0.0%
Sep	3,261,730	3,261,730	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr	3,254,502	3,254,502	0	0.0%
May	3,369,627	3,381,940	12,313	0.4%
Jun	3,181,074	3,211,237	30,163	0.9%
Jul	2,905,092	2,891,497	-13,595	-0.5%
Aug	2,473,070	2,459,420	-13,650	-0.6%
Sep	2,936,308	2,936,308	0	0.0%
Wet Years				
Mar				
Apr	3,297,294	3,297,294	0	0.0%
May	3,487,190	3,492,751	5,561	0.2%
Jun	3,394,291	3,411,018	16,727	0.5%
Jul	3,263,825	3,248,131	-15,693	-0.5%
Aug	3,007,213	2,998,524	-8,688	-0.3%
Sep	2,936,308	2,936,308	0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	625,687	625,687	0	0.0%
Aug	567,556	567,556	0	0.0%
Sep	487,929	487,929	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	328,349	328,349	0	0.0%
Aug	275,396	275,396	0	0.0%
Sep	246,494	246,494	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	481,868	481,868	0	0.0%
Aug	420,776	420,776	0	0.0%
Sep	407,045	407,045	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	645,479	645,479	0	0.0%
Aug	598,728	598,728	0	0.0%
Sep	515,199	515,199	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	1,027.5	1,027.5	0.0	0.0%
Jul	1,006.8	1,006.8	0.0	0.0%
Aug	991.1	991.1	0.0	0.0%
Sep	984.7	984.7	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	949.1	949.1	0.0	0.0%
Jul	917.5	917.5	0.0	0.0%
Aug	898.3	898.3	0.0	0.0%
Sep	892.1	892.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	1,014.0	1,014.0	0.0	0.0%
Jul	990.7	990.7	0.0	0.0%
Aug	971.1	971.1	0.0	0.0%
Sep	966.3	966.3	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	1,030.9	1,030.9	0.0	0.0%
Jul	1,009.6	1,009.6	0.0	0.0%
Aug	992.8	992.8	0.0	0.0%
Sep	986.4	986.4	0.0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	722,751	722,751	0	0.0%
Aug	673,104	673,104	0	0.0%
Sep	561,963	561,963	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	831,598	831,598	0	0.0%
Aug	761,382	761,382	0	0.0%
Sep	622,585	622,585	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun	1,048.0	1,048.0	0.0	0.0%
Jul	1,026.6	1,026.6	0.0	0.0%
Aug	1,010.6	1,010.6	0.0	0.0%
Sep	1,004.4	1,004.4	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	1,057.1	1,057.1	0.0	0.0%
Jul	1,043.1	1,043.1	0.0	0.0%
Aug	1,027.5	1,027.5	0.0	0.0%
Sep	1,017.4	1,017.4	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr	860.0	860.0	0.0	0.0%
May	867.1	868.0	0.9	0.1%
Jun	853.0	855.1	2.1	0.3%
Jul	833.0	832.6	-0.4	0.0%
Aug	805.3	804.2	-1.1	-0.1%
Sep	793.6	793.6	0.0	0.0%
Critical Years				
Mar				
Apr	784.9	784.9	0.0	0.0%
May	782.0	784.4	2.4	0.3%
Jun	763.0	768.1	5.1	0.7%
Jul	734.5	735.1	0.7	0.1%
Aug	709.4	708.1	-1.3	-0.2%
Sep	695.1	695.1	0.0	0.0%
Dry Years				
Mar				
Apr	852.7	852.7	0.0	0.0%
May	853.4	854.6	1.2	0.1%
Jun	832.8	835.3	2.5	0.3%
Jul	795.6	796.3	0.7	0.1%
Aug	756.2	755.2	-1.0	-0.1%
Sep	735.2	735.2	0.0	0.0%
Below Normal Years				
Mar				
Apr	868.5	868.5	0.0	0.0%
May	880.3	881.3	1.0	0.1%
Jun	859.9	862.2	2.3	0.3%
Jul	831.4	830.9	-0.5	-0.1%
Aug	791.3	790.1	-1.3	-0.2%
Sep	778.1	778.1	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	430.6	430.6	0.0	0.0%
Aug	423.4	423.4	0.0	0.0%
Sep	413.6	413.6	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	391.6	391.6	0.0	0.0%
Aug	382.6	382.6	0.0	0.0%
Sep	377.1	377.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	412.8	412.8	0.0	0.0%
Aug	405.3	405.3	0.0	0.0%
Sep	403.6	403.6	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	433.0	433.0	0.0	0.0%
Aug	427.2	427.2	0.0	0.0%
Sep	416.9	416.9	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr	880.6	880.6	0.0	0.0%
May	888.5	889.3	0.8	0.1%
Jun	875.6	877.6	2.1	0.2%
Jul	856.8	855.8	-0.9	-0.1%
Aug	827.3	826.3	-0.9	-0.1%
Sep	858.9	858.9	0.0	0.0%
Wet Years				
Mar				
Apr	883.5	883.5	0.0	0.0%
May	896.5	896.9	0.4	0.0%
Jun	890.1	891.3	1.1	0.1%
Jul	881.2	880.2	-1.1	-0.1%
Aug	863.7	863.1	-0.6	-0.1%
Sep	858.9	858.9	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	441.4	441.4	0.0	0.0%
Aug	436.4	436.4	0.0	0.0%
Sep	422.7	422.7	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	451.9	451.9	0.0	0.0%
Aug	445.1	445.1	0.0	0.0%
Sep	430.2	430.2	0.0	0.0%

k=+S5*30+T5*31+U5*30+V5*31+W5*31+X5*30
k=+S6*30+T6*31+U6*30+V6*31+W6*31+X6*30
k=+S7*30+T7*31+U7*30+V7*31+W7*31+X7*30
k=+S8*30+T8*31+U8*30+V8*31+W8*31+X8*30
k=+S9*30+T9*31+U9*30+V9*31+W9*31+X9*30
k=+S10*30+T10*31+U10*30+V10*31+W10*31+X10*30
k=+S11*30+T11*31+U11*30+V11*31+W11*31+X11*30
k=+S12*30+T12*31+U12*30+V12*31+W12*31+X12*30
k=+S13*30+T13*31+U13*30+V13*31+W13*31+X13*30
k=+S14*30+T14*31+U14*30+V14*31+W14*31+X14*30
k=+S15*30+T15*31+U15*30+V15*31+W15*31+X15*30
k=+S16*30+T16*31+U16*30+V16*31+W16*31+X16*30
k=+S17*30+T17*31+U17*30+V17*31+W17*31+X17*30
k=+S18*30+T18*31+U18*30+V18*31+W18*31+X18*30
k=+S19*30+T19*31+U19*30+V19*31+W19*31+X19*30
k=+S20*30+T20*31+U20*30+V20*31+W20*31+X20*30
k=+S21*30+T21*31+U21*30+V21*31+W21*31+X21*30
k=+S22*30+T22*31+U22*30+V22*31+W22*31+X22*30
k=+S23*30+T23*31+U23*30+V23*31+W23*31+X23*30
k=+S24*30+T24*31+U24*30+V24*31+W24*31+X24*30
k=+S25*30+T25*31+U25*30+V25*31+W25*31+X25*30
k=+S26*30+T26*31+U26*30+V26*31+W26*31+X26*30
k=+S27*30+T27*31+U27*30+V27*31+W27*31+X27*30
k=+S28*30+T28*31+U28*30+V28*31+W28*31+X28*30
k=+S29*30+T29*31+U29*30+V29*31+W29*31+X29*30
k=+S30*30+T30*31+U30*30+V30*31+W30*31+X30*30
k=+S31*30+T31*31+U31*30+V31*31+W31*31+X31*30
k=+S32*30+T32*31+U32*30+V32*31+W32*31+X32*30
k=+S33*30+T33*31+U33*30+V33*31+W33*31+X33*30
k=+S34*30+T34*31+U34*30+V34*31+W34*31+X34*30
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k=+S36*30+T36*31+U36*30+V36*31+W36*31+X36*30
k=+S37*30+T37*31+U37*30+V37*31+W37*31+X37*30
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k=+S49*30+T49*31+U49*30+V49*31+W49*31+X49*30
k=+S50*30+T50*31+U50*30+V50*31+W50*31+X50*30

k=+S51*30+T51*31+U51*30+V51*31+W51*31+X51*30
k=+S52*30+T52*31+U52*30+V52*31+W52*31+X52*30
k=+S53*30+T53*31+U53*30+V53*31+W53*31+X53*30
k=+S54*30+T54*31+U54*30+V54*31+W54*31+X54*30
k=+S55*30+T55*31+U55*30+V55*31+W55*31+X55*30
k=+S56*30+T56*31+U56*30+V56*31+W56*31+X56*30
k=+S57*30+T57*31+U57*30+V57*31+W57*31+X57*30
k=+S58*30+T58*31+U58*30+V58*31+W58*31+X58*30
k=+S59*30+T59*31+U59*30+V59*31+W59*31+X59*30
k=+S60*30+T60*31+U60*30+V60*31+W60*31+X60*30
k=+S61*30+T61*31+U61*30+V61*31+W61*31+X61*30
k=+S62*30+T62*31+U62*30+V62*31+W62*31+X62*30
k=+S63*30+T63*31+U63*30+V63*31+W63*31+X63*30
k=+S64*30+T64*31+U64*30+V64*31+W64*31+X64*30
k=+S65*30+T65*31+U65*30+V65*31+W65*31+X65*30
k=+S66*30+T66*31+U66*30+V66*31+W66*31+X66*30
k=+S67*30+T67*31+U67*30+V67*31+W67*31+X67*30
k=+S68*30+T68*31+U68*30+V68*31+W68*31+X68*30
k=+S69*30+T69*31+U69*30+V69*31+W69*31+X69*30
k=+S70*30+T70*31+U70*30+V70*31+W70*31+X70*30
k=+S71*30+T71*31+U71*30+V71*31+W71*31+X71*30
k=+S72*30+T72*31+U72*30+V72*31+W72*31+X72*30
k=+S73*30+T73*31+U73*30+V73*31+W73*31+X73*30
k=+S74*30+T74*31+U74*30+V74*31+W74*31+X74*30
k=+S75*30+T75*31+U75*30+V75*31+W75*31+X75*30
k=+S76*30+T76*31+U76*30+V76*31+W76*31+X76*30

Feather-Yuba River

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922				0	0	0	290	380	438	5,375	446	0
1923	64	14	4	0	0	0	190	249	0	4,555	1,191	0
1924	42	9	3	0	0	0	290	0	0	4,609	1,914	356
1925	64	14	4	0	0	0	290	0	0	2,437	4,431	0
1926	64	14	4	0	0	0	290	0	0	3,888	2,410	338
1927	64	14	4	0	0	0	279	365	0	5,550	638	0
1928	61	13	4	0	0	0	290	0	0	5,008	1,617	0
1929	64	14	4	0	0	0	290	0	0	3,447	3,002	433
1930	64	14	4	0	0	0	290	0	0	3,389	3,006	489
1931	64	14	4	0	0	0	290	0	0	4,164	2,138	585
1932	64	14	4	0	0	0	290	0	0	3,946	2,450	488
1933	64	14	4	0	0	0	290	0	0	3,909	2,959	0
1934	64	14	4	0	0	0	290	0	0	3,686	2,400	808
1935	64	14	4	0	0	0	119	0	0	4,288	1,503	0
1936	26	6	2	0	0	0	290	0	0	5,349	1,520	0
1937	64	14	4	0	0	0	290	0	0	5,803	1,066	0
1938	64	14	4	0	0	0	290	380	438	4,538	423	464
1939	64	14	4	0	0	0	83	0	0	3,911	1,410	0
1940	18	4	1	0	0	0	0	0	0	699	1,587	0
1941	0	0	0	0	0	0	290	380	0	4,342	1,379	541
1942	64	14	4	0	0	0	290	380	438	4,825	478	535
1943	64	14	4	0	0	0	76	0	0	4,642	632	0
1944	17	4	1	0	0	0	0	0	0	1,833	1,179	0
1945	0	0	0	0	0	0	0	0	0	847	779	0
1946	0	0	0	0	0	0	0	0	0	938	1,293	0
1947	0	0	0	0	0	0	0	0	0	676	930	64
1948	0	0	0	0	0	0	0	0	0	770	857	0
1949	0	0	0	0	0	0	248	0	0	4,251	2,286	64
1950	54	12	4	0	0	0	0	0	0	1,497	753	0
1951	0	0	0	0	0	0	0	0	0	2,177	669	0
1952	0	0	0	0	0	0	0	0	0	2,206	1,531	747
1953	0	0	0	0	0	0	139	182	210	4,081	576	652
1954	30	7	2	0	0	0	0	0	0	2,724	1,479	0
1955	0	0	0	0	0	0	290	0	0	3,535	2,940	406
1956	64	14	4	0	0	0	290	380	438	4,763	509	567
1957	64	14	4	0	0	0	116	0	0	3,961	1,566	0
1958	25	5	2	0	0	0	248	325	375	4,133	553	602
1959	54	12	4	0	0	0	0	0	0	1,900	1,071	0

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1960	0	0	0	0	0	0	290	0	0	3,959	1,934	1,008
1961	64	14	4	0	0	0	0	0	0	3,700	1,206	0
1962	0	0	0	0	0	0	0	0	0	2,685	719	0
1963	0	0	0	0	0	0	290	380	0	5,442	803	0
1964	64	14	4	0	0	0	0	0	0	689	1,034	17
1965	0	0	0	0	0	0	0	0	0	4,028	613	0
1966	0	0	0	0	0	0	0	0	0	2,012	1,403	0
1967	0	0	0	0	0	0	0	0	0	677	712	790
1968	0	0	0	0	0	0	0	0	0	3,469	650	0
1969	0	0	0	0	0	0	290	380	438	3,273	1,845	432
1970	64	14	4	0	0	0	120	0	0	4,201	1,353	0
1971	26	6	2	0	0	0	0	0	0	723	665	740
1972	0	0	0	0	0	0	0	0	0	3,470	1,253	0
1973	0	0	0	0	0	0	205	268	0	4,768	1,051	0
1974	45	10	3	0	0	0	290	380	0	5,115	547	601
1975	64	14	4	0	0	0	290	380	438	4,726	526	587
1976	64	14	4	0	0	0	290	0	0	6,041	583	0
1977	64	14	4	0	0	0	290	0	0	4,243	1,657	1,001
1978	64	14	4	0	0	0	290	0	0	5,694	565	630
1979	64	14	4	0	0	0	0	0	0	3,785	674	0
1980	0	0	0	0	0	0	290	0	0	5,507	594	541
1981	64	14	4	0	0	0	0	0	0	2,069	1,381	0
1982	0	0	0	0	0	0	290	380	438	4,223	451	493
1983	64	14	4	0	0	0	0	0	0	1,012	941	2,940
1984	0	0	0	0	0	0	0	0	0	3,098	1,535	0
1985	0	0	0	0	0	0	0	0	0	795	831	0
1986	0	0	0	0	0	0	290	0	0	5,652	501	487
1987	64	14	4	0	0	0	290	0	0	4,382	1,797	459
1988	64	14	4	0	0	0	290	0	0	3,792	2,752	336
1989	64	14	4	0	0	0	0	0	0	1,312	1,211	0
1990	0	0	0	0	0	0	290	0	0	4,076	2,490	312
1991	64	14	4	0	0	0	290	0	0	4,729	1,865	284
1992	64	14	4	0	0	0	290	0	0	3,470	2,653	770
1993	64	14	4	0	0	0	290	380	438	5,238	583	0
Avg	36	8	2	0	0	0	166	77	57	3,538	1,347	286
C	56	12	4	0	0	0	290	0	0	4,197	2,219	444
D	41	9	3	0	0	0	148	0	0	2,798	1,902	208
BN	28	6	2	0	0	0	64	18	0	2,955	1,052	0
AN	30	6	2	0	0	0	177	103	88	4,115	1,016	117
W	29	6	2	0	0	0	179	204	153	3,869	820	532

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)						Change in Nimbus Release (CFS)					
	Jul	Aug	Sep	Total (TAF)			May	Jun	Jul	Aug	Sep
1922	4,300	379	0	287.7	AN	1922	0	0	0	0	0
1923	3,416	953	0	268.7	BN	1923	0	0	0	0	0
1924	3,918	1,627	303	359.0	C	1924	0	0	0	0	0
1925	1,950	3,545	0	337.9	D	1925	0	0	0	0	0
1926	3,305	2,048	287	346.2	D	1926	0	0	0	0	0
1927	4,440	511	0	304.4	W	1927	0	0	0	0	0
1928	3,756	1,293	0	310.5	AN	1928	0	0	0	0	0
1929	2,758	2,552	368	348.4	C	1929	0	0	0	0	0
1930	2,541	2,405	416	328.9	D	1930	0	0	0	0	0
1931	3,331	1,710	498	339.6	C	1931	0	0	0	0	0
1932	2,959	1,960	415	327.2	D	1932	0	0	0	0	0
1933	3,127	2,367	0	337.9	C	1933	0	0	0	0	0
1934	2,949	2,040	687	347.6	C	1934	0	0	0	0	0
1935	3,430	1,278	0	289.5	BN	1935	0	0	0	0	0
1936	4,279	1,216	0	337.9	BN	1936	0	0	0	0	0
1937	4,642	852	0	337.9	BN	1937	0	0	0	0	0
1938	3,857	360	394	282.8	W	1938	0	0	0	0	0
1939	3,324	1,199	0	278.1	D	1939	0	0	0	0	0
1940	559	1,270	0	112.5	AN	1940	0	0	0	0	0
1941	3,474	1,172	460	313.0	W	1941	0	0	0	0	0
1942	4,101	406	455	304.2	W	1942	0	0	0	0	0
1943	3,945	537	0	275.6	W	1943	0	0	0	0	0
1944	1,558	1,002	0	157.4	D	1944	0	0	0	0	0
1945	720	662	0	85.0	BN	1945	0	0	0	0	0
1946	797	1,099	0	116.6	BN	1946	0	0	0	0	0
1947	575	791	54	87.2	D	1947	0	0	0	0	0
1948	616	728	0	82.6	BN	1948	0	0	0	0	0
1949	3,613	1,943	55	344.9	D	1949	0	0	0	0	0
1950	1,273	640	0	117.6	BN	1950	0	0	0	0	0
1951	1,851	568	0	148.7	AN	1951	0	0	0	0	0
1952	1,875	1,301	635	233.1	W	1952	0	0	0	0	0
1953	3,469	490	554	276.4	W	1953	0	0	0	0	0
1954	2,179	1,183	0	206.8	AN	1954	0	0	0	0	0
1955	2,828	2,499	345	348.1	D	1955	0	0	0	0	0
1956	4,048	433	482	304.2	W	1956	0	0	0	0	0
1957	3,169	1,331	0	276.7	AN	1957	0	0	0	0	0
1958	3,513	470	512	275.3	W	1958	0	0	0	0	0
1959	1,520	910	0	149.4	BN	1959	0	0	0	0	0
1960	3,365	1,644	857	359.0	D	1960	0	0	0	0	0
1961	3,145	1,025	0	256.4	D	1961	0	0	0	0	0
1962	2,148	611	0	169.7	BN	1962	0	0	0	0	0
1963	4,625	682	0	326.4	W	1963	0	0	0	0	0
1964	586	879	15	91.0	D	1964	0	0	0	0	0

	Additional Banks & Tracy Exports with EWA FP Alternative (CFS)						Change in Nimbus Release (CFS)				
	Jul	Aug	Sep	Total (TAF)			May	Jun	Jul	Aug	Sep
1965	3,424	521	0	242.5	W	1965	0	0	0	0	0
1966	1,710	1,193	0	178.5	BN	1966	0	0	0	0	0
1967	575	605	672	112.5	W	1967	0	0	0	0	0
1968	2,776	520	0	202.7	BN	1968	0	0	0	0	0
1969	2,618	1,568	367	279.2	W	1969	0	0	0	0	0
1970	3,571	1,150	0	290.2	W	1970	0	0	0	0	0
1971	615	565	629	110.0	W	1971	0	0	0	0	0
1972	2,950	1,065	0	246.9	BN	1972	0	0	0	0	0
1973	3,815	894	0	289.5	AN	1973	0	0	0	0	0
1974	4,092	465	511	310.6	W	1974	0	0	0	0	0
1975	3,781	447	499	289.7	W	1975	0	0	0	0	0
1976	4,531	466	0	307.3	C	1976	0	0	0	0	0
1977	3,395	1,408	851	345.9	C	1977	0	0	0	0	0
1978	4,840	480	535	359.0	AN	1978	0	0	0	0	0
1979	3,028	573	0	221.4	BN	1979	0	0	0	0	0
1980	4,681	505	459	346.2	AN	1980	0	0	0	0	0
1981	1,655	1,173	0	173.9	D	1981	0	0	0	0	0
1982	3,590	383	394	267.8	W	1982	0	0	0	0	0
1983	860	800	2,499	250.8	W	1983	0	0	0	0	0
1984	2,634	1,304	0	242.1	W	1984	0	0	0	0	0
1985	636	706	0	82.6	D	1985	0	0	0	0	0
1986	4,522	426	414	328.8	W	1986	0	0	0	0	0
1987	3,287	1,438	390	313.7	D	1987	0	0	0	0	0
1988	3,223	2,339	285	359.0	C	1988	0	0	0	0	0
1989	984	969	0	120.1	D	1989	0	0	0	0	0
1990	3,057	1,992	265	326.3	C	1990	0	0	0	0	0
1991	3,783	1,492	242	338.7	C	1991	0	0	0	0	0
1992	2,776	2,255	654	348.3	C	1992	0	0	0	0	0
1993	4,191	495	0	288.1	AN	1993	0	0	0	0	0
Avg	2,881	1,122	242	261		Avg	0	0	0	0	0
C	3,350	1,841	377	342		C	0	0	0	0	0
D	2,269	1,577	177	247		D	0	0	0	0	0
BN	2,379	879	0	200		BN	0	0	0	0	0
AN	3,334	840	99	263		AN	0	0	0	0	0
W	3,220	695	451	268		W	0	0	0	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	0
1923	0	0	0	0	0
1924	0	0	0	0	0
1925	0	0	0	0	0
1926	0	0	0	0	0
1927	0	0	0	0	0
1928	0	0	0	0	0
1929	0	0	0	0	0
1930	0	0	0	0	0
1931	0	0	0	0	0
1932	0	0	0	0	0
1933	0	0	0	0	0
1934	0	0	0	0	0
1935	0	0	0	0	0
1936	0	0	0	0	0
1937	0	0	0	0	0
1938	0	0	0	0	0
1939	0	0	0	0	0
1940	0	0	0	0	0
1941	0	0	0	0	0
1942	0	0	0	0	0
1943	0	0	0	0	0
1944	0	0	0	0	0
1945	0	0	0	0	0
1946	0	0	0	0	0
1947	0	0	0	0	0
1948	0	0	0	0	0
1949	0	0	0	0	0
1950	0	0	0	0	0
1951	0	0	0	0	0
1952	0	0	0	0	0
1953	0	0	0	0	0
1954	0	0	0	0	0
1955	0	0	0	0	0
1956	0	0	0	0	0
1957	0	0	0	0	0
1958	0	0	0	0	0
1959	0	0	0	0	0
1960	0	0	0	0	0
1961	0	0	0	0	0
1962	0	0	0	0	0
1963	0	0	0	0	0
1964	0	0	0	0	0
1965	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	0	534	-249	-295
1923	0	0	-287	483	-18	-193
1924	-252	-380	-438	979	250	-188
1925	-252	-380	-438	324	1,009	-295
1926	0	-380	-438	661	337	-202
1927	0	0	-421	852	-171	-283
1928	0	-380	-438	970	119	-295
1929	-252	-380	-438	629	578	-164
1930	-252	-380	-438	611	579	-147
1931	-252	-380	-438	845	317	-118
1932	-252	-380	-438	779	412	-148
1933	-252	-380	-438	768	565	-295
1934	-252	-380	-438	701	396	-51
1935	-252	-156	-180	567	124	-121
1936	-252	-380	-438	1,202	131	-295
1937	-252	-380	-438	1,339	-6	-295
1938	0	0	0	514	-279	-242
1939	0	-109	-125	267	45	-84
1940	0	0	0	0	0	0
1941	0	0	-438	596	-8	-170
1942	0	0	0	438	-243	-201
1943	0	-99	-114	312	-28	-77
1944	0	0	0	0	0	0
1945	0	0	0	0	0	0
1946	0	0	0	0	0	0
1947	0	0	0	0	0	0
1948	0	0	0	0	0	0
1949	-252	-324	-373	810	345	-234
1950	0	0	0	0	0	0
1951	0	0	0	0	0	0
1952	0	0	0	0	0	0
1953	0	0	0	182	-103	-81
1954	0	0	0	0	0	0
1955	-252	-380	-438	655	559	-173
1956	0	0	0	427	-238	-195
1957	0	-152	-175	359	76	-118
1958	0	0	0	179	-231	54
1959	0	0	0	0	0	0
1960	-252	-380	-438	783	256	9
1961	-112	0	0	82	27	0
1962	0	0	0	0	0	0
1963	0	0	-438	850	-141	-295
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1966	0	0	0	0	0
1967	0	0	0	0	0
1968	0	0	0	0	0
1969	0	0	0	0	0
1970	0	0	0	0	0
1971	0	0	0	0	0
1972	0	0	0	0	0
1973	0	0	0	0	0
1974	0	0	0	0	0
1975	0	0	0	0	0
1976	0	0	0	0	0
1977	0	0	0	0	0
1978	0	0	0	0	0
1979	0	0	0	0	0
1980	0	0	0	0	0
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	0	0	0	0	0
1985	0	0	0	0	0
1986	0	0	0	0	0
1987	0	0	0	0	0
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
Avg	0	0	0	0	0
C	0	0	0	0	0
D	0	0	0	0	0
BN	0	0	0	0	0
AN	0	0	0	0	0
W	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	0	0	0	0
1969	0	0	0	26	-81	58
1970	0	-157	-181	402	49	-122
1971	0	0	0	0	0	0
1972	0	0	0	0	0	0
1973	0	0	-309	547	-46	-208
1974	0	0	-438	775	-200	-156
1975	0	0	0	420	-235	-192
1976	0	-380	-438	1,255	-166	-295
1977	-252	-380	-438	869	172	7
1978	-252	-380	-438	1,306	-157	-105
1979	0	0	0	0	0	0
1980	0	-380	-438	1,108	-163	-146
1981	0	0	0	0	0	0
1982	0	0	0	290	-296	7
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	0	0	0	0	0	0
1986	0	-380	-438	1,148	-189	-161
1987	0	-380	-438	798	169	-168
1988	-252	-380	-438	733	503	-194
1989	0	0	0	0	0	0
1990	-252	-380	-438	818	424	-201
1991	-252	-380	-438	1,015	235	-209
1992	-252	-380	-438	636	473	-63
1993	0	0	0	510	-225	-295
Avg	-72	-140	-194	435	65	-106
C	-229	-380	-438	841	341	-161
D	-102	-193	-223	361	234	-90
BN	-54	-65	-96	256	16	-65
AN	-25	-129	-180	533	-65	-146
W	0	-30	-118	353	-114	-98

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
		All Years		
Mar				
Apr				
May				
Jun	3,495,241	3,495,241	0	0.0%
Jul	3,017,673	3,017,673	0	0.0%
Aug	2,654,708	2,654,708	0	0.0%
Sep	2,510,534	2,510,534	0	0.0%
		Critical Years		
Mar				
Apr				
May				
Jun	1,882,280	1,882,280	0	0.0%
Jul	1,407,101	1,407,101	0	0.0%
Aug	1,151,790	1,151,790	0	0.0%
Sep	1,092,393	1,092,393	0	0.0%
		Dry Years		
Mar				
Apr				
May				
Jun	3,183,492	3,183,492	0	0.0%
Jul	2,646,438	2,646,438	0	0.0%
Aug	2,269,539	2,269,539	0	0.0%
Sep	2,185,412	2,185,412	0	0.0%
		Below Normal Years		
Mar				
Apr				
May				
Jun	3,572,334	3,572,334	0	0.0%
Jul	3,081,510	3,081,510	0	0.0%
Aug	2,694,314	2,694,314	0	0.0%
Sep	2,547,470	2,547,470	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
		All Years		
Mar				
Apr	2,952,914	2,957,173	4,259	0.1%
May	3,056,225	3,069,120	12,895	0.4%
Jun	2,849,413	2,873,868	24,455	0.9%
Jul	2,557,472	2,555,153	-2,319	-0.1%
Aug	2,218,168	2,211,856	-6,311	-0.3%
Sep	2,104,771	2,104,771	0	0.0%
		Critical Years		
Mar				
Apr	2,019,561	2,033,197	13,636	0.7%
May	1,992,105	2,029,097	36,991	1.9%
Jun	1,806,632	1,869,678	63,046	3.5%
Jul	1,552,575	1,563,933	11,358	0.7%
Aug	1,347,302	1,337,717	-9,585	-0.7%
Sep	1,229,951	1,229,951	0	0.0%
		Dry Years		
Mar				
Apr	2,845,503	2,851,544	6,041	0.2%
May	2,856,587	2,874,508	17,921	0.6%
Jun	2,554,236	2,585,411	31,175	1.2%
Jul	2,124,538	2,133,536	8,998	0.4%
Aug	1,740,604	1,735,240	-5,364	-0.3%
Sep	1,558,740	1,558,740	0	0.0%
		Below Normal Years		
Mar				
Apr	3,077,029	3,080,243	3,214	0.1%
May	3,250,172	3,257,407	7,235	0.2%
Jun	2,951,868	2,964,809	12,941	0.4%
Jul	2,533,988	2,531,159	-2,829	-0.1%
Aug	2,082,567	2,078,723	-3,843	-0.2%
Sep	1,953,514	1,953,514	0	0.0%

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
	Above Normal Years			
Mar				
Apr				
May				
Jun	4,021,711	4,021,711	0	0.0%
Jul	3,473,362	3,473,362	0	0.0%
Aug	3,105,701	3,105,701	0	0.0%
Sep	2,961,462	2,961,462	0	0.0%
	Wet Years			
Mar				
Apr				
May				
Jun	4,275,552	4,275,552	0	0.0%
Jul	3,884,597	3,884,597	0	0.0%
Aug	3,494,251	3,494,251	0	0.0%
Sep	3,261,730	3,261,730	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
	Above Normal Years			
Mar				
Apr	3,254,502	3,256,002	1,500	0.0%
May	3,369,627	3,379,065	9,439	0.3%
Jun	3,181,074	3,201,209	20,135	0.6%
Jul	2,905,092	2,892,425	-12,667	-0.4%
Aug	2,473,070	2,464,372	-8,698	-0.4%
Sep	2,936,308	2,936,308	0	0.0%
	Wet Years			
Mar				
Apr	3,297,294	3,297,294	0	0.0%
May	3,487,190	3,489,053	1,862	0.1%
Jun	3,394,291	3,403,145	8,854	0.3%
Jul	3,263,825	3,250,986	-12,839	-0.4%
Aug	3,007,213	3,001,385	-5,827	-0.2%
Sep	2,936,308	2,936,308	0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	625,687	625,687	0	0.0%
Aug	567,556	567,556	0	0.0%
Sep	487,929	487,929	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	328,349	328,349	0	0.0%
Aug	275,396	275,396	0	0.0%
Sep	246,494	246,494	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	481,868	481,868	0	0.0%
Aug	420,776	420,776	0	0.0%
Sep	407,045	407,045	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	645,479	645,479	0	0.0%
Aug	598,728	598,728	0	0.0%
Sep	515,199	515,199	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	1,027.5	1,027.5	0.0	0.0%
Jul	1,006.8	1,006.8	0.0	0.0%
Aug	991.1	991.1	0.0	0.0%
Sep	984.7	984.7	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	949.1	949.1	0.0	0.0%
Jul	917.5	917.5	0.0	0.0%
Aug	898.3	898.3	0.0	0.0%
Sep	892.1	892.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	1,014.0	1,014.0	0.0	0.0%
Jul	990.7	990.7	0.0	0.0%
Aug	971.1	971.1	0.0	0.0%
Sep	966.3	966.3	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	1,030.9	1,030.9	0.0	0.0%
Jul	1,009.6	1,009.6	0.0	0.0%
Aug	992.8	992.8	0.0	0.0%
Sep	986.4	986.4	0.0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	722,751	722,751	0	0.0%
Aug	673,104	673,104	0	0.0%
Sep	561,963	561,963	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	831,598	831,598	0	0.0%
Aug	761,382	761,382	0	0.0%
Sep	622,585	622,585	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun	1,048.0	1,048.0	0.0	0.0%
Jul	1,026.6	1,026.6	0.0	0.0%
Aug	1,010.6	1,010.6	0.0	0.0%
Sep	1,004.4	1,004.4	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	1,057.1	1,057.1	0.0	0.0%
Jul	1,043.1	1,043.1	0.0	0.0%
Aug	1,027.5	1,027.5	0.0	0.0%
Sep	1,017.4	1,017.4	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr	860.0	860.3	0.3	0.0%
May	867.1	867.9	0.9	0.1%
Jun	853.0	854.6	1.7	0.2%
Jul	833.0	832.9	-0.2	0.0%
Aug	805.3	804.6	-0.6	-0.1%
Sep	793.6	793.6	0.0	0.0%
Critical Years				
Mar				
Apr	784.9	786.3	1.4	0.2%
May	782.0	785.8	3.8	0.5%
Jun	763.0	769.5	6.5	0.8%
Jul	734.5	735.8	1.4	0.2%
Aug	709.4	708.2	-1.2	-0.2%
Sep	695.1	695.1	0.0	0.0%
Dry Years				
Mar				
Apr	852.7	853.1	0.4	0.0%
May	853.4	854.7	1.2	0.1%
Jun	832.8	834.9	2.1	0.3%
Jul	795.6	796.6	0.9	0.1%
Aug	756.2	755.7	-0.6	-0.1%
Sep	735.2	735.2	0.0	0.0%
Below Normal Years				
Mar				
Apr	868.5	868.7	0.2	0.0%
May	880.3	880.8	0.5	0.1%
Jun	859.9	860.8	0.9	0.1%
Jul	831.4	831.2	-0.2	0.0%
Aug	791.3	790.9	-0.4	0.0%
Sep	778.1	778.1	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	430.6	430.6	0.0	0.0%
Aug	423.4	423.4	0.0	0.0%
Sep	413.6	413.6	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	391.6	391.6	0.0	0.0%
Aug	382.6	382.6	0.0	0.0%
Sep	377.1	377.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	412.8	412.8	0.0	0.0%
Aug	405.3	405.3	0.0	0.0%
Sep	403.6	403.6	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	433.0	433.0	0.0	0.0%
Aug	427.2	427.2	0.0	0.0%
Sep	416.9	416.9	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr	880.6	880.7	0.1	0.0%
May	888.5	889.1	0.6	0.1%
Jun	875.6	877.0	1.4	0.2%
Jul	856.8	855.9	-0.9	-0.1%
Aug	827.3	826.7	-0.6	-0.1%
Sep	858.9	858.9	0.0	0.0%
Wet Years				
Mar				
Apr	883.5	883.5	0.0	0.0%
May	896.5	896.6	0.1	0.0%
Jun	890.1	890.7	0.6	0.1%
Jul	881.2	880.4	-0.9	-0.1%
Aug	863.7	863.3	-0.4	0.0%
Sep	858.9	858.9	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	441.4	441.4	0.0	0.0%
Aug	436.4	436.4	0.0	0.0%
Sep	422.7	422.7	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	451.9	451.9	0.0	0.0%
Aug	445.1	445.1	0.0	0.0%
Sep	430.2	430.2	0.0	0.0%

k=+S5*30+T5*31+U5*30+V5*31+W5*31+X5*30
k=+S6*30+T6*31+U6*30+V6*31+W6*31+X6*30
k=+S7*30+T7*31+U7*30+V7*31+W7*31+X7*30
k=+S8*30+T8*31+U8*30+V8*31+W8*31+X8*30
k=+S9*30+T9*31+U9*30+V9*31+W9*31+X9*30
k=+S10*30+T10*31+U10*30+V10*31+W10*31+X10*30
k=+S11*30+T11*31+U11*30+V11*31+W11*31+X11*30
k=+S12*30+T12*31+U12*30+V12*31+W12*31+X12*30
k=+S13*30+T13*31+U13*30+V13*31+W13*31+X13*30
k=+S14*30+T14*31+U14*30+V14*31+W14*31+X14*30
k=+S15*30+T15*31+U15*30+V15*31+W15*31+X15*30
k=+S16*30+T16*31+U16*30+V16*31+W16*31+X16*30
k=+S17*30+T17*31+U17*30+V17*31+W17*31+X17*30
k=+S18*30+T18*31+U18*30+V18*31+W18*31+X18*30
k=+S19*30+T19*31+U19*30+V19*31+W19*31+X19*30
k=+S20*30+T20*31+U20*30+V20*31+W20*31+X20*30
k=+S21*30+T21*31+U21*30+V21*31+W21*31+X21*30
k=+S22*30+T22*31+U22*30+V22*31+W22*31+X22*30
k=+S23*30+T23*31+U23*30+V23*31+W23*31+X23*30
k=+S24*30+T24*31+U24*30+V24*31+W24*31+X24*30
k=+S25*30+T25*31+U25*30+V25*31+W25*31+X25*30
k=+S26*30+T26*31+U26*30+V26*31+W26*31+X26*30
k=+S27*30+T27*31+U27*30+V27*31+W27*31+X27*30
k=+S28*30+T28*31+U28*30+V28*31+W28*31+X28*30
k=+S29*30+T29*31+U29*30+V29*31+W29*31+X29*30
k=+S30*30+T30*31+U30*30+V30*31+W30*31+X30*30
k=+S31*30+T31*31+U31*30+V31*31+W31*31+X31*30
k=+S32*30+T32*31+U32*30+V32*31+W32*31+X32*30
k=+S33*30+T33*31+U33*30+V33*31+W33*31+X33*30
k=+S34*30+T34*31+U34*30+V34*31+W34*31+X34*30
k=+S35*30+T35*31+U35*30+V35*31+W35*31+X35*30
k=+S36*30+T36*31+U36*30+V36*31+W36*31+X36*30
k=+S37*30+T37*31+U37*30+V37*31+W37*31+X37*30
k=+S38*30+T38*31+U38*30+V38*31+W38*31+X38*30
k=+S39*30+T39*31+U39*30+V39*31+W39*31+X39*30
k=+S40*30+T40*31+U40*30+V40*31+W40*31+X40*30
k=+S41*30+T41*31+U41*30+V41*31+W41*31+X41*30
k=+S42*30+T42*31+U42*30+V42*31+W42*31+X42*30
k=+S43*30+T43*31+U43*30+V43*31+W43*31+X43*30
k=+S44*30+T44*31+U44*30+V44*31+W44*31+X44*30
k=+S45*30+T45*31+U45*30+V45*31+W45*31+X45*30
k=+S46*30+T46*31+U46*30+V46*31+W46*31+X46*30
k=+S47*30+T47*31+U47*30+V47*31+W47*31+X47*30
k=+S48*30+T48*31+U48*30+V48*31+W48*31+X48*30
k=+S49*30+T49*31+U49*30+V49*31+W49*31+X49*30
k=+S50*30+T50*31+U50*30+V50*31+W50*31+X50*30
k=+S51*30+T51*31+U51*30+V51*31+W51*31+X51*30
k=+S52*30+T52*31+U52*30+V52*31+W52*31+X52*30
k=+S53*30+T53*31+U53*30+V53*31+W53*31+X53*30

k=+S54*30+T54*31+U54*30+V54*31+W54*31+X54*30
k=+S55*30+T55*31+U55*30+V55*31+W55*31+X55*30
k=+S56*30+T56*31+U56*30+V56*31+W56*31+X56*30
k=+S57*30+T57*31+U57*30+V57*31+W57*31+X57*30
k=+S58*30+T58*31+U58*30+V58*31+W58*31+X58*30
k=+S59*30+T59*31+U59*30+V59*31+W59*31+X59*30
k=+S60*30+T60*31+U60*30+V60*31+W60*31+X60*30
k=+S61*30+T61*31+U61*30+V61*31+W61*31+X61*30
k=+S62*30+T62*31+U62*30+V62*31+W62*31+X62*30
k=+S63*30+T63*31+U63*30+V63*31+W63*31+X63*30
k=+S64*30+T64*31+U64*30+V64*31+W64*31+X64*30
k=+S65*30+T65*31+U65*30+V65*31+W65*31+X65*30
k=+S66*30+T66*31+U66*30+V66*31+W66*31+X66*30
k=+S67*30+T67*31+U67*30+V67*31+W67*31+X67*30
k=+S68*30+T68*31+U68*30+V68*31+W68*31+X68*30
k=+S69*30+T69*31+U69*30+V69*31+W69*31+X69*30
k=+S70*30+T70*31+U70*30+V70*31+W70*31+X70*30
k=+S71*30+T71*31+U71*30+V71*31+W71*31+X71*30
k=+S72*30+T72*31+U72*30+V72*31+W72*31+X72*30
k=+S73*30+T73*31+U73*30+V73*31+W73*31+X73*30
k=+S74*30+T74*31+U74*30+V74*31+W74*31+X74*30
k=+S75*30+T75*31+U75*30+V75*31+W75*31+X75*30
k=+S76*30+T76*31+U76*30+V76*31+W76*31+X76*30

Yuba River

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922				0	0	0	0	0	0	2,778	231	0
1923	0	0	0	0	0	0	0	0	0	2,385	624	0
1924	0	0	0	0	0	0	0	0	0	2,019	839	156
1925	0	0	0	0	0	0	0	0	0	1,068	1,941	0
1926	0	0	0	0	0	0	0	0	0	1,766	1,094	153
1927	0	0	0	0	0	0	0	0	0	2,698	310	0
1928	0	0	0	0	0	0	0	0	0	2,274	734	0
1929	0	0	0	0	0	0	0	0	0	1,510	1,315	190
1930	0	0	0	0	0	0	0	0	0	1,484	1,317	214
1931	0	0	0	0	0	0	0	0	0	1,824	936	256
1932	0	0	0	0	0	0	0	0	0	1,728	1,073	214
1933	0	0	0	0	0	0	0	0	0	1,712	1,296	0
1934	0	0	0	0	0	0	0	0	0	1,615	1,051	354
1935	0	0	0	0	0	0	0	0	0	2,228	781	0
1936	0	0	0	0	0	0	0	0	0	2,343	666	0
1937	0	0	0	0	0	0	0	0	0	2,542	467	0
1938	0	0	0	0	0	0	0	0	0	2,524	235	258
1939	0	0	0	0	0	0	0	0	0	2,211	797	0
1940	0	0	0	0	0	0	0	0	0	699	1,587	0
1941	0	0	0	0	0	0	0	0	0	2,092	664	261
1942	0	0	0	0	0	0	0	0	0	2,494	247	277
1943	0	0	0	0	0	0	0	0	0	2,648	361	0
1944	0	0	0	0	0	0	0	0	0	1,831	1,178	0
1945	0	0	0	0	0	0	0	0	0	847	779	0
1946	0	0	0	0	0	0	0	0	0	938	1,293	0
1947	0	0	0	0	0	0	0	0	0	676	930	64
1948	0	0	0	0	0	0	0	0	0	770	857	0
1949	0	0	0	0	0	0	0	0	0	1,938	1,042	29
1950	0	0	0	0	0	0	0	0	0	1,497	753	0
1951	0	0	0	0	0	0	0	0	0	2,177	669	0
1952	0	0	0	0	0	0	0	0	0	1,488	1,033	504
1953	0	0	0	0	0	0	0	0	0	2,322	328	371
1954	0	0	0	0	0	0	0	0	0	1,950	1,059	0
1955	0	0	0	0	0	0	0	0	0	1,549	1,288	178
1956	0	0	0	0	0	0	0	0	0	2,462	263	293
1957	0	0	0	0	0	0	0	0	0	2,156	852	0
1958	0	0	0	0	0	0	0	0	0	2,360	316	344
1959	0	0	0	0	0	0	0	0	0	1,900	1,071	0

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1960	0	0	0	0	0	0	0	0	0	1,734	847	442
1961	0	0	0	0	0	0	0	0	0	2,269	740	0
1962	0	0	0	0	0	0	0	0	0	2,373	635	0
1963	0	0	0	0	0	0	0	0	0	2,622	387	0
1964	0	0	0	0	0	0	0	0	0	689	1,034	17
1965	0	0	0	0	0	0	0	0	0	2,612	397	0
1966	0	0	0	0	0	0	0	0	0	1,772	1,236	0
1967	0	0	0	0	0	0	0	0	0	677	712	790
1968	0	0	0	0	0	0	0	0	0	2,534	475	0
1969	0	0	0	0	0	0	0	0	0	1,779	1,003	235
1970	0	0	0	0	0	0	0	0	0	2,276	733	0
1971	0	0	0	0	0	0	0	0	0	723	665	740
1972	0	0	0	0	0	0	0	0	0	2,210	798	0
1973	0	0	0	0	0	0	0	0	0	2,465	544	0
1974	0	0	0	0	0	0	0	0	0	2,465	264	290
1975	0	0	0	0	0	0	0	0	0	2,443	272	304
1976	0	0	0	0	0	0	0	0	0	2,744	265	0
1977	0	0	0	0	0	0	0	0	0	1,859	726	438
1978	0	0	0	0	0	0	0	0	0	2,494	247	276
1979	0	0	0	0	0	0	0	0	0	2,554	455	0
1980	0	0	0	0	0	0	0	0	0	2,501	270	246
1981	0	0	0	0	0	0	0	0	0	1,805	1,204	0
1982	0	0	0	0	0	0	0	0	0	2,467	263	288
1983	0	0	0	0	0	0	0	0	0	634	590	1,844
1984	0	0	0	0	0	0	0	0	0	2,012	997	0
1985	0	0	0	0	0	0	0	0	0	795	831	0
1986	0	0	0	0	0	0	0	0	0	2,567	227	221
1987	0	0	0	0	0	0	0	0	0	1,990	816	209
1988	0	0	0	0	0	0	0	0	0	1,661	1,205	147
1989	0	0	0	0	0	0	0	0	0	1,312	1,211	0
1990	0	0	0	0	0	0	0	0	0	1,786	1,091	137
1991	0	0	0	0	0	0	0	0	0	2,071	817	125
1992	0	0	0	0	0	0	0	0	0	1,520	1,162	337
1993	0	0	0	0	0	0	0	0	0	2,708	301	0
Avg	0	0	0	0	0	0	0	0	0	1,925	774	156
C	0	0	0	0	0	0	0	0	0	1,847	973	194
D	0	0	0	0	0	0	0	0	0	1,553	1,084	95
BN	0	0	0	0	0	0	0	0	0	1,921	778	0
AN	0	0	0	0	0	0	0	0	0	2,220	649	52
W	0	0	0	0	0	0	0	0	0	2,113	489	334

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)						Change in Nimbus Release (CFS)					
	Jul	Aug	Sep	Total (TAF)			May	Jun	Jul	Aug	Sep
1922	2,223	196	0	148.7	AN	1922	0	0	0	0	0
1923	1,789	499	0	140.7	BN	1923	0	0	0	0	0
1924	1,716	713	133	157.3	C	1924	0	0	0	0	0
1925	854	1,553	0	148.0	D	1925	0	0	0	0	0
1926	1,501	930	130	157.3	D	1926	0	0	0	0	0
1927	2,159	248	0	148.0	W	1927	0	0	0	0	0
1928	1,706	587	0	141.0	AN	1928	0	0	0	0	0
1929	1,208	1,118	161	152.6	C	1929	0	0	0	0	0
1930	1,113	1,054	182	144.1	D	1930	0	0	0	0	0
1931	1,459	749	218	148.8	C	1931	0	0	0	0	0
1932	1,296	859	182	143.3	D	1932	0	0	0	0	0
1933	1,370	1,037	0	148.0	C	1933	0	0	0	0	0
1934	1,292	894	301	152.3	C	1934	0	0	0	0	0
1935	1,782	664	0	150.4	BN	1935	0	0	0	0	0
1936	1,874	533	0	148.0	BN	1936	0	0	0	0	0
1937	2,034	373	0	148.0	BN	1937	0	0	0	0	0
1938	2,145	200	219	157.3	W	1938	0	0	0	0	0
1939	1,880	678	0	157.3	D	1939	0	0	0	0	0
1940	559	1,270	0	112.5	AN	1940	0	0	0	0	0
1941	1,674	565	221	150.8	W	1941	0	0	0	0	0
1942	2,120	210	235	157.3	W	1942	0	0	0	0	0
1943	2,251	307	0	157.3	W	1943	0	0	0	0	0
1944	1,556	1,001	0	157.3	D	1944	0	0	0	0	0
1945	720	662	0	85.0	BN	1945	0	0	0	0	0
1946	797	1,099	0	116.6	BN	1946	0	0	0	0	0
1947	575	791	54	87.2	D	1947	0	0	0	0	0
1948	616	728	0	82.6	BN	1948	0	0	0	0	0
1949	1,647	886	25	157.3	D	1949	0	0	0	0	0
1950	1,273	640	0	117.6	BN	1950	0	0	0	0	0
1951	1,851	568	0	148.7	AN	1951	0	0	0	0	0
1952	1,265	878	428	157.3	W	1952	0	0	0	0	0
1953	1,974	279	315	157.3	W	1953	0	0	0	0	0
1954	1,560	847	0	148.0	AN	1954	0	0	0	0	0
1955	1,239	1,095	151	152.5	D	1955	0	0	0	0	0
1956	2,093	224	249	157.3	W	1956	0	0	0	0	0
1957	1,725	725	0	150.6	AN	1957	0	0	0	0	0
1958	2,006	268	292	157.3	W	1958	0	0	0	0	0
1959	1,520	910	0	149.4	BN	1959	0	0	0	0	0
1960	1,474	720	375	157.3	D	1960	0	0	0	0	0
1961	1,929	629	0	157.3	D	1961	0	0	0	0	0
1962	1,899	540	0	150.0	BN	1962	0	0	0	0	0
1963	2,229	329	0	157.3	W	1963	0	0	0	0	0

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)						Change in Nimbus Release (CFS)					
	Jul	Aug	Sep	Total (TAF)			May	Jun	Jul	Aug	Sep
1964	586	879	15	91.0	D	1964	0	0	0	0	0
1965	2,220	338	0	157.3	W	1965	0	0	0	0	0
1966	1,507	1,051	0	157.3	BN	1966	0	0	0	0	0
1967	575	605	672	112.5	W	1967	0	0	0	0	0
1968	2,027	380	0	148.0	BN	1968	0	0	0	0	0
1969	1,423	852	199	151.8	W	1969	0	0	0	0	0
1970	1,935	623	0	157.3	W	1970	0	0	0	0	0
1971	615	565	629	110.0	W	1971	0	0	0	0	0
1972	1,879	679	0	157.3	BN	1972	0	0	0	0	0
1973	1,972	462	0	149.7	AN	1973	0	0	0	0	0
1974	1,972	224	246	149.7	W	1974	0	0	0	0	0
1975	1,954	231	258	149.7	W	1975	0	0	0	0	0
1976	2,058	212	0	139.6	C	1976	0	0	0	0	0
1977	1,487	617	373	151.5	C	1977	0	0	0	0	0
1978	2,120	210	234	157.3	AN	1978	0	0	0	0	0
1979	2,043	386	0	149.4	BN	1979	0	0	0	0	0
1980	2,126	229	209	157.3	AN	1980	0	0	0	0	0
1981	1,444	1,024	0	151.7	D	1981	0	0	0	0	0
1982	2,097	224	230	156.4	W	1982	0	0	0	0	0
1983	539	501	1,567	157.3	W	1983	0	0	0	0	0
1984	1,710	847	0	157.3	W	1984	0	0	0	0	0
1985	636	706	0	82.6	D	1985	0	0	0	0	0
1986	2,054	193	188	149.4	W	1986	0	0	0	0	0
1987	1,493	653	177	142.5	D	1987	0	0	0	0	0
1988	1,412	1,025	125	157.3	C	1988	0	0	0	0	0
1989	984	969	0	120.1	D	1989	0	0	0	0	0
1990	1,339	873	116	142.9	C	1990	0	0	0	0	0
1991	1,657	653	106	148.4	C	1991	0	0	0	0	0
1992	1,216	988	287	152.6	C	1992	0	0	0	0	0
1993	2,166	256	0	148.9	AN	1993	0	0	0	0	0
Avg	1,572	646	132	144		Avg	0	0	0	0	0
C	1,474	807	165	150		C	0	0	0	0	0
D	1,263	902	81	138		D	0	0	0	0	0
BN	1,554	653	0	136		BN	0	0	0	0	0
AN	1,801	535	44	146		AN	0	0	0	0	0
W	1,762	415	283	151		W	0	0	0	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	0
1923	0	0	0	0	0
1924	0	0	0	0	0
1925	0	0	0	0	0
1926	0	0	0	0	0
1927	0	0	0	0	0
1928	0	0	0	0	0
1929	0	0	0	0	0
1930	0	0	0	0	0
1931	0	0	0	0	0
1932	0	0	0	0	0
1933	0	0	0	0	0
1934	0	0	0	0	0
1935	0	0	0	0	0
1936	0	0	0	0	0
1937	0	0	0	0	0
1938	0	0	0	0	0
1939	0	0	0	0	0
1940	0	0	0	0	0
1941	0	0	0	0	0
1942	0	0	0	0	0
1943	0	0	0	0	0
1944	0	0	0	0	0
1945	0	0	0	0	0
1946	0	0	0	0	0
1947	0	0	0	0	0
1948	0	0	0	0	0
1949	0	0	0	0	0
1950	0	0	0	0	0
1951	0	0	0	0	0
1952	0	0	0	0	0
1953	0	0	0	0	0
1954	0	0	0	0	0
1955	0	0	0	0	0
1956	0	0	0	0	0
1957	0	0	0	0	0
1958	0	0	0	0	0
1959	0	0	0	0	0
1960	0	0	0	0	0
1961	0	0	0	0	0
1962	0	0	0	0	0
1963	0	0	0	0	0
1964	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug
1922	0	0	0	0	0
1923	0	0	0	0	0
1924	0	0	0	0	0
1925	0	0	0	0	0
1926	0	0	0	0	0
1927	0	0	0	0	0
1928	0	0	0	0	0
1929	0	0	0	0	0
1930	0	0	0	0	0
1931	0	0	0	0	0
1932	0	0	0	0	0
1933	0	0	0	0	0
1934	0	0	0	0	0
1935	0	0	0	0	0
1936	0	0	0	0	0
1937	0	0	0	0	0
1938	0	0	0	0	0
1939	0	0	0	0	0
1940	0	0	0	0	0
1941	0	0	0	0	0
1942	0	0	0	0	0
1943	0	0	0	0	0
1944	0	0	0	0	0
1945	0	0	0	0	0
1946	0	0	0	0	0
1947	0	0	0	0	0
1948	0	0	0	0	0
1949	0	0	0	0	0
1950	0	0	0	0	0
1951	0	0	0	0	0
1952	0	0	0	0	0
1953	0	0	0	0	0
1954	0	0	0	0	0
1955	0	0	0	0	0
1956	0	0	0	0	0
1957	0	0	0	0	0
1958	0	0	0	0	0
1959	0	0	0	0	0
1960	0	0	0	0	0
1961	0	0	0	0	0
1962	0	0	0	0	0
1963	0	0	0	0	0
1964	0	0	0	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1965	0	0	0	0	0
1966	0	0	0	0	0
1967	0	0	0	0	0
1968	0	0	0	0	0
1969	0	0	0	0	0
1970	0	0	0	0	0
1971	0	0	0	0	0
1972	0	0	0	0	0
1973	0	0	0	0	0
1974	0	0	0	0	0
1975	0	0	0	0	0
1976	0	0	0	0	0
1977	0	0	0	0	0
1978	0	0	0	0	0
1979	0	0	0	0	0
1980	0	0	0	0	0
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	0	0	0	0	0
1985	0	0	0	0	0
1986	0	0	0	0	0
1987	0	0	0	0	0
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
Avg	0	0	0	0	0
C	0	0	0	0	0
D	0	0	0	0	0
BN	0	0	0	0	0
AN	0	0	0	0	0
W	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug
1965	0	0	0	0	0
1966	0	0	0	0	0
1967	0	0	0	0	0
1968	0	0	0	0	0
1969	0	0	0	0	0
1970	0	0	0	0	0
1971	0	0	0	0	0
1972	0	0	0	0	0
1973	0	0	0	0	0
1974	0	0	0	0	0
1975	0	0	0	0	0
1976	0	0	0	0	0
1977	0	0	0	0	0
1978	0	0	0	0	0
1979	0	0	0	0	0
1980	0	0	0	0	0
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	0	0	0	0	0
1985	0	0	0	0	0
1986	0	0	0	0	0
1987	0	0	0	0	0
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
Avg	0	0	0	0	0
C	0	0	0	0	0
D	0	0	0	0	0
BN	0	0	0	0	0
AN	0	0	0	0	0
W	0	0	0	0	0

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	3,495,241	3,495,241	0	0.0%
Jul	3,017,673	3,017,673	0	0.0%
Aug	2,654,708	2,654,708	0	0.0%
Sep	2,510,534	2,510,534	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	1,882,280	1,882,280	0	0.0%
Jul	1,407,101	1,407,101	0	0.0%
Aug	1,151,790	1,151,790	0	0.0%
Sep	1,092,393	1,092,393	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	3,183,492	3,183,492	0	0.0%
Jul	2,646,438	2,646,438	0	0.0%
Aug	2,269,539	2,269,539	0	0.0%
Sep	2,185,412	2,185,412	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	3,572,334	3,572,334	0	0.0%
Jul	3,081,510	3,081,510	0	0.0%
Aug	2,694,314	2,694,314	0	0.0%
Sep	2,547,470	2,547,470	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr	2,952,914	2,952,914	0	0.0%
May	3,056,225	3,056,225	0	0.0%
Jun	2,849,413	2,849,413	0	0.0%
Jul	2,557,472	2,557,472	0	0.0%
Aug	2,218,168	2,218,168	0	0.0%
Sep	2,104,771	2,104,771	0	0.0%
Critical Years				
Mar				
Apr	2,019,561	2,019,561	0	0.0%
May	1,992,105	1,992,105	0	0.0%
Jun	1,806,632	1,806,632	0	0.0%
Jul	1,552,575	1,552,575	0	0.0%
Aug	1,347,302	1,347,302	0	0.0%
Sep	1,229,951	1,229,951	0	0.0%
Dry Years				
Mar				
Apr	2,845,503	2,845,503	0	0.0%
May	2,856,587	2,856,587	0	0.0%
Jun	2,554,236	2,554,236	0	0.0%
Jul	2,124,538	2,124,538	0	0.0%
Aug	1,740,604	1,740,604	0	0.0%
Sep	1,558,740	1,558,740	0	0.0%
Below Normal Years				
Mar				
Apr	3,077,029	3,077,029	0	0.0%
May	3,250,172	3,250,172	0	0.0%
Jun	2,951,868	2,951,868	0	0.0%
Jul	2,533,988	2,533,988	0	0.0%
Aug	2,082,567	2,082,567	0	0.0%
Sep	1,953,514	1,953,514	0	0.0%

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun	4,021,711	4,021,711	0	0.0%
Jul	3,473,362	3,473,362	0	0.0%
Aug	3,105,701	3,105,701	0	0.0%
Sep	2,961,462	2,961,462	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	4,275,552	4,275,552	0	0.0%
Jul	3,884,597	3,884,597	0	0.0%
Aug	3,494,251	3,494,251	0	0.0%
Sep	3,261,730	3,261,730	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr	3,254,502	3,254,502	0	0.0%
May	3,369,627	3,369,627	0	0.0%
Jun	3,181,074	3,181,074	0	0.0%
Jul	2,905,092	2,905,092	0	0.0%
Aug	2,473,070	2,473,070	0	0.0%
Sep	2,936,308	2,936,308	0	0.0%
Wet Years				
Mar				
Apr	3,297,294	3,297,294	0	0.0%
May	3,487,190	3,487,190	0	0.0%
Jun	3,394,291	3,394,291	0	0.0%
Jul	3,263,825	3,263,825	0	0.0%
Aug	3,007,213	3,007,213	0	0.0%
Sep	2,936,308	2,936,308	0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	625,687	625,687	0	0.0%
Aug	567,556	567,556	0	0.0%
Sep	487,929	487,929	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	328,349	328,349	0	0.0%
Aug	275,396	275,396	0	0.0%
Sep	246,494	246,494	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	481,868	481,868	0	0.0%
Aug	420,776	420,776	0	0.0%
Sep	407,045	407,045	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	645,479	645,479	0	0.0%
Aug	598,728	598,728	0	0.0%
Sep	515,199	515,199	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	1,027.5	1,027.5	0.0	0.0%
Jul	1,006.8	1,006.8	0.0	0.0%
Aug	991.1	991.1	0.0	0.0%
Sep	984.7	984.7	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	949.1	949.1	0.0	0.0%
Jul	917.5	917.5	0.0	0.0%
Aug	898.3	898.3	0.0	0.0%
Sep	892.1	892.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	1,014.0	1,014.0	0.0	0.0%
Jul	990.7	990.7	0.0	0.0%
Aug	971.1	971.1	0.0	0.0%
Sep	966.3	966.3	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	1,030.9	1,030.9	0.0	0.0%
Jul	1,009.6	1,009.6	0.0	0.0%
Aug	992.8	992.8	0.0	0.0%
Sep	986.4	986.4	0.0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	722,751	722,751	0	0.0%
Aug	673,104	673,104	0	0.0%
Sep	561,963	561,963	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	831,598	831,598	0	0.0%
Aug	761,382	761,382	0	0.0%
Sep	622,585	622,585	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun	1,048.0	1,048.0	0.0	0.0%
Jul	1,026.6	1,026.6	0.0	0.0%
Aug	1,010.6	1,010.6	0.0	0.0%
Sep	1,004.4	1,004.4	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	1,057.1	1,057.1	0.0	0.0%
Jul	1,043.1	1,043.1	0.0	0.0%
Aug	1,027.5	1,027.5	0.0	0.0%
Sep	1,017.4	1,017.4	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr	860.0	860.0	0.0	0.0%
May	867.1	867.1	0.0	0.0%
Jun	853.0	853.0	0.0	0.0%
Jul	833.0	833.0	0.0	0.0%
Aug	805.3	805.3	0.0	0.0%
Sep	793.6	793.6	0.0	0.0%
Critical Years				
Mar				
Apr	784.9	784.9	0.0	0.0%
May	782.0	782.0	0.0	0.0%
Jun	763.0	763.0	0.0	0.0%
Jul	734.5	734.5	0.0	0.0%
Aug	709.4	709.4	0.0	0.0%
Sep	695.1	695.1	0.0	0.0%
Dry Years				
Mar				
Apr	852.7	852.7	0.0	0.0%
May	853.4	853.4	0.0	0.0%
Jun	832.8	832.8	0.0	0.0%
Jul	795.6	795.6	0.0	0.0%
Aug	756.2	756.2	0.0	0.0%
Sep	735.2	735.2	0.0	0.0%
Below Normal Years				
Mar				
Apr	868.5	868.5	0.0	0.0%
May	880.3	880.3	0.0	0.0%
Jun	859.9	859.9	0.0	0.0%
Jul	831.4	831.4	0.0	0.0%
Aug	791.3	791.3	0.0	0.0%
Sep	778.1	778.1	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	430.6	430.6	0.0	0.0%
Aug	423.4	423.4	0.0	0.0%
Sep	413.6	413.6	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	391.6	391.6	0.0	0.0%
Aug	382.6	382.6	0.0	0.0%
Sep	377.1	377.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	412.8	412.8	0.0	0.0%
Aug	405.3	405.3	0.0	0.0%
Sep	403.6	403.6	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	433.0	433.0	0.0	0.0%
Aug	427.2	427.2	0.0	0.0%
Sep	416.9	416.9	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr	880.6	880.6	0.0	0.0%
May	888.5	888.5	0.0	0.0%
Jun	875.6	875.6	0.0	0.0%
Jul	856.8	856.8	0.0	0.0%
Aug	827.3	827.3	0.0	0.0%
Sep	858.9	858.9	0.0	0.0%
Wet Years				
Mar				
Apr	883.5	883.5	0.0	0.0%
May	896.5	896.5	0.0	0.0%
Jun	890.1	890.1	0.0	0.0%
Jul	881.2	881.2	0.0	0.0%
Aug	863.7	863.7	0.0	0.0%
Sep	858.9	858.9	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	441.4	441.4	0.0	0.0%
Aug	436.4	436.4	0.0	0.0%
Sep	422.7	422.7	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	451.9	451.9	0.0	0.0%
Aug	445.1	445.1	0.0	0.0%
Sep	430.2	430.2	0.0	0.0%

k=+S5*30+T5*31+U5*30+V5*31+W5*31+X5*30
k=+S6*30+T6*31+U6*30+V6*31+W6*31+X6*30
k=+S7*30+T7*31+U7*30+V7*31+W7*31+X7*30
k=+S8*30+T8*31+U8*30+V8*31+W8*31+X8*30
k=+S9*30+T9*31+U9*30+V9*31+W9*31+X9*30
k=+S10*30+T10*31+U10*30+V10*31+W10*31+X10*30
k=+S11*30+T11*31+U11*30+V11*31+W11*31+X11*30
k=+S12*30+T12*31+U12*30+V12*31+W12*31+X12*30
k=+S13*30+T13*31+U13*30+V13*31+W13*31+X13*30
k=+S14*30+T14*31+U14*30+V14*31+W14*31+X14*30
k=+S15*30+T15*31+U15*30+V15*31+W15*31+X15*30
k=+S16*30+T16*31+U16*30+V16*31+W16*31+X16*30
k=+S17*30+T17*31+U17*30+V17*31+W17*31+X17*30
k=+S18*30+T18*31+U18*30+V18*31+W18*31+X18*30
k=+S19*30+T19*31+U19*30+V19*31+W19*31+X19*30
k=+S20*30+T20*31+U20*30+V20*31+W20*31+X20*30
k=+S21*30+T21*31+U21*30+V21*31+W21*31+X21*30
k=+S22*30+T22*31+U22*30+V22*31+W22*31+X22*30
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k=+S27*30+T27*31+U27*30+V27*31+W27*31+X27*30
k=+S28*30+T28*31+U28*30+V28*31+W28*31+X28*30
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k=+S30*30+T30*31+U30*30+V30*31+W30*31+X30*30
k=+S31*30+T31*31+U31*30+V31*31+W31*31+X31*30
k=+S32*30+T32*31+U32*30+V32*31+W32*31+X32*30
k=+S33*30+T33*31+U33*30+V33*31+W33*31+X33*30
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k=+S37*30+T37*31+U37*30+V37*31+W37*31+X37*30
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k=+S49*30+T49*31+U49*30+V49*31+W49*31+X49*30
k=+S50*30+T50*31+U50*30+V50*31+W50*31+X50*30

k=+S51*30+T51*31+U51*30+V51*31+W51*31+X51*30
k=+S52*30+T52*31+U52*30+V52*31+W52*31+X52*30
k=+S53*30+T53*31+U53*30+V53*31+W53*31+X53*30
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k=+S55*30+T55*31+U55*30+V55*31+W55*31+X55*30
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k=+S60*30+T60*31+U60*30+V60*31+W60*31+X60*30
k=+S61*30+T61*31+U61*30+V61*31+W61*31+X61*30
k=+S62*30+T62*31+U62*30+V62*31+W62*31+X62*30
k=+S63*30+T63*31+U63*30+V63*31+W63*31+X63*30
k=+S64*30+T64*31+U64*30+V64*31+W64*31+X64*30
k=+S65*30+T65*31+U65*30+V65*31+W65*31+X65*30
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k=+S74*30+T74*31+U74*30+V74*31+W74*31+X74*30
k=+S75*30+T75*31+U75*30+V75*31+W75*31+X75*30
k=+S76*30+T76*31+U76*30+V76*31+W76*31+X76*30

American River

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922				0	0	0	0	0	0	451	37	0
1923	0	0	0	0	0	0	0	0	0	387	101	0
1924	0	0	0	0	0	0	0	0	0	327	136	25
1925	0	0	0	0	0	0	0	0	0	173	315	0
1926	0	0	0	0	0	0	0	0	0	286	177	25
1927	0	0	0	0	0	0	0	0	0	438	50	0
1928	0	0	0	0	0	0	0	0	0	369	119	0
1929	0	0	0	0	0	0	0	0	0	245	213	31
1930	0	0	0	0	0	0	0	0	0	241	214	35
1931	0	0	0	0	0	0	0	0	0	296	152	42
1932	0	0	0	0	0	0	0	0	0	280	174	35
1933	0	0	0	0	0	0	0	0	0	278	210	0
1934	0	0	0	0	0	0	0	0	0	262	170	57
1935	0	0	0	0	0	0	0	0	0	361	127	0
1936	0	0	0	0	0	0	0	0	0	380	108	0
1937	0	0	0	0	0	0	0	0	0	412	76	0
1938	0	0	0	0	0	0	0	0	0	409	38	42
1939	0	0	0	0	0	0	0	0	0	359	129	0
1940	0	0	0	0	0	0	0	0	0	149	339	0
1941	0	0	0	0	0	0	0	0	0	339	108	42
1942	0	0	0	0	0	0	0	0	0	404	40	45
1943	0	0	0	0	0	0	0	0	0	429	58	0
1944	0	0	0	0	0	0	0	0	0	297	191	0
1945	0	0	0	0	0	0	0	0	0	254	234	0
1946	0	0	0	0	0	0	0	0	0	205	283	0
1947	0	0	0	0	0	0	0	0	0	198	272	19
1948	0	0	0	0	0	0	0	0	0	231	257	0
1949	0	0	0	0	0	0	0	0	0	314	169	5
1950	0	0	0	0	0	0	0	0	0	325	163	0
1951	0	0	0	0	0	0	0	0	0	373	115	0
1952	0	0	0	0	0	0	0	0	0	241	168	82
1953	0	0	0	0	0	0	0	0	0	377	53	60
1954	0	0	0	0	0	0	0	0	0	316	172	0
1955	0	0	0	0	0	0	0	0	0	251	209	29
1956	0	0	0	0	0	0	0	0	0	399	43	48
1957	0	0	0	0	0	0	0	0	0	350	138	0
1958	0	0	0	0	0	0	0	0	0	383	51	56

Additional Sacramento Inflow to Delta with EWA FP Alternative (CFS)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1959	0	0	0	0	0	0	0	0	0	312	176	0
1960	0	0	0	0	0	0	0	0	0	281	137	72
1961	0	0	0	0	0	0	0	0	0	368	120	0
1962	0	0	0	0	0	0	0	0	0	385	103	0
1963	0	0	0	0	0	0	0	0	0	425	63	0
1964	0	0	0	0	0	0	0	0	0	193	290	5
1965	0	0	0	0	0	0	0	0	0	423	64	0
1966	0	0	0	0	0	0	0	0	0	287	200	0
1967	0	0	0	0	0	0	0	0	0	153	161	179
1968	0	0	0	0	0	0	0	0	0	411	77	0
1969	0	0	0	0	0	0	0	0	0	288	163	38
1970	0	0	0	0	0	0	0	0	0	369	119	0
1971	0	0	0	0	0	0	0	0	0	168	154	172
1972	0	0	0	0	0	0	0	0	0	358	129	0
1973	0	0	0	0	0	0	0	0	0	400	88	0
1974	0	0	0	0	0	0	0	0	0	400	43	47
1975	0	0	0	0	0	0	0	0	0	396	44	49
1976	0	0	0	0	0	0	0	0	0	445	43	0
1977	0	0	0	0	0	0	0	0	0	301	118	71
1978	0	0	0	0	0	0	0	0	0	405	40	45
1979	0	0	0	0	0	0	0	0	0	414	74	0
1980	0	0	0	0	0	0	0	0	0	406	44	40
1981	0	0	0	0	0	0	0	0	0	293	195	0
1982	0	0	0	0	0	0	0	0	0	400	43	47
1983	0	0	0	0	0	0	0	0	0	103	96	299
1984	0	0	0	0	0	0	0	0	0	326	162	0
1985	0	0	0	0	0	0	0	0	0	239	249	0
1986	0	0	0	0	0	0	0	0	0	416	37	36
1987	0	0	0	0	0	0	0	0	0	323	132	34
1988	0	0	0	0	0	0	0	0	0	269	195	24
1989	0	0	0	0	0	0	0	0	0	254	234	0
1990	0	0	0	0	0	0	0	0	0	290	177	22
1991	0	0	0	0	0	0	0	0	0	336	132	20
1992	0	0	0	0	0	0	0	0	0	247	188	55
1993	0	0	0	0	0	0	0	0	0	439	49	0
Avg	0	0	0	0	0	0	0	0	0	324	138	27
C	0	0	0	0	0	0	0	0	0	300	158	32
D	0	0	0	0	0	0	0	0	0	272	201	16
BN	0	0	0	0	0	0	0	0	0	337	151	0
AN	0	0	0	0	0	0	0	0	0	366	114	8
W	0	0	0	0	0	0	0	0	0	347	84	59

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)

	Jul	Aug	Sep	Total (TAF)
1922	360	32	0	24.1
1923	290	81	0	22.8
1924	278	116	21	25.5
1925	139	252	0	24.0
1926	243	151	21	25.5
1927	350	40	0	24.0
1928	277	95	0	22.9
1929	196	181	26	24.7
1930	181	171	30	23.4
1931	237	121	35	24.1
1932	210	139	29	23.2
1933	222	168	0	24.0
1934	209	145	49	24.7
1935	289	108	0	24.4
1936	304	86	0	24.0
1937	330	61	0	24.0
1938	348	32	36	25.5
1939	305	110	0	25.5
1940	119	271	0	24.0
1941	271	92	36	24.5
1942	344	34	38	25.5
1943	365	50	0	25.5
1944	252	162	0	25.5
1945	216	199	0	25.5
1946	174	240	0	25.5
1947	168	231	16	25.5
1948	185	218	0	24.8
1949	267	144	4	25.5
1950	276	139	0	25.5
1951	317	97	0	25.5
1952	205	142	69	25.5
1953	320	45	51	25.5
1954	253	137	0	24.0
1955	201	178	25	24.7
1956	339	36	40	25.5
1957	280	118	0	24.4
1958	325	44	47	25.5
1959	250	149	0	24.5
1960	239	117	61	25.5
1961	313	102	0	25.5
1962	308	88	0	24.3
1963	361	53	0	25.5
1964	164	247	4	25.5
1965	360	55	0	25.5

Change in Nimbus Release (CFS)

		May	Jun	Jul	Aug	Sep
AN	1922	0	0	300	25	0
BN	1923	0	0	258	67	0
C	1924	0	0	218	91	17
D	1925	0	0	115	210	0
D	1926	0	0	191	118	17
W	1927	0	0	292	34	0
AN	1928	0	0	246	79	0
C	1929	0	0	163	142	20
D	1930	0	0	160	142	23
C	1931	0	0	197	101	28
D	1932	0	0	187	116	23
C	1933	0	0	185	140	0
C	1934	0	0	175	114	38
BN	1935	0	0	241	84	0
BN	1936	0	0	253	72	0
BN	1937	0	0	275	50	0
W	1938	0	0	273	25	28
D	1939	0	0	239	86	0
AN	1940	0	0	99	226	0
W	1941	0	0	226	72	28
W	1942	0	0	270	27	30
W	1943	0	0	286	39	0
D	1944	0	0	198	127	0
BN	1945	0	0	169	156	0
BN	1946	0	0	137	189	0
D	1947	0	0	132	181	12
BN	1948	0	0	154	171	0
D	1949	0	0	210	113	3
BN	1950	0	0	216	109	0
AN	1951	0	0	249	76	0
W	1952	0	0	161	112	54
W	1953	0	0	251	35	40
AN	1954	0	0	211	114	0
D	1955	0	0	167	139	19
W	1956	0	0	266	28	32
AN	1957	0	0	233	92	0
W	1958	0	0	255	34	37
BN	1959	0	0	208	117	0
D	1960	0	0	187	92	48
D	1961	0	0	245	80	0
BN	1962	0	0	257	69	0
W	1963	0	0	283	42	0
D	1964	0	0	129	193	3
W	1965	0	0	282	43	0

Additional Banks & Tracy Exports with EWA FP Alternative (CFS)

	Jul	Aug	Sep	Total (TAF)
1966	244	170	0	25.5
1967	130	137	152	25.5
1968	329	62	0	24.0
1969	231	138	32	24.6
1970	314	101	0	25.5
1971	142	131	146	25.5
1972	305	110	0	25.5
1973	320	75	0	24.3
1974	320	36	40	24.3
1975	317	37	42	24.3
1976	334	34	0	22.6
1977	241	100	60	24.6
1978	344	34	38	25.5
1979	331	63	0	24.2
1980	345	37	34	25.5
1981	234	166	0	24.6
1982	340	36	37	25.4
1983	87	81	254	25.5
1984	277	137	0	25.5
1985	191	212	0	24.8
1986	333	31	30	24.2
1987	242	106	29	23.1
1988	229	166	20	25.5
1989	190	187	0	23.2
1990	217	142	19	23.2
1991	269	106	17	24.1
1992	197	160	46	24.7
1993	351	42	0	24.2
Avg	265	116	23	25
C	239	131	27	24
D	221	167	14	25
BN	274	127	0	25
AN	297	94	7	24
W	290	71	50	25

Change in Nimbus Release (CFS)

		May	Jun	Jul	Aug	Sep
BN	1966	0	0	192	134	0
W	1967	0	0	102	108	119
BN	1968	0	0	274	51	0
W	1969	0	0	192	108	25
W	1970	0	0	246	79	0
W	1971	0	0	112	103	114
BN	1972	0	0	239	86	0
AN	1973	0	0	267	59	0
W	1974	0	0	266	29	31
W	1975	0	0	264	29	33
C	1976	0	0	297	29	0
C	1977	0	0	201	78	47
AN	1978	0	0	270	27	30
BN	1979	0	0	276	49	0
AN	1980	0	0	270	29	27
D	1981	0	0	195	130	0
W	1982	0	0	267	28	31
W	1983	0	0	69	64	199
W	1984	0	0	218	108	0
D	1985	0	0	159	166	0
W	1986	0	0	278	25	24
D	1987	0	0	215	88	23
C	1988	0	0	180	130	16
D	1989	0	0	169	156	0
C	1990	0	0	193	118	15
C	1991	0	0	224	88	13
C	1992	0	0	164	126	36
AN	1993	0	0	293	33	0
Avg		0	0	216	92	18
C		0	0	200	105	21
D		0	0	181	134	11
BN		0	0	225	100	0
AN		0	0	244	76	6
W		0	0	231	56	39

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	0
1923	0	0	0	0	0
1924	0	0	0	0	0
1925	0	0	0	0	0
1926	0	0	0	0	0
1927	0	0	0	0	0
1928	0	0	0	0	0
1929	0	0	0	0	0
1930	0	0	0	0	0
1931	0	0	0	0	0
1932	0	0	0	0	0
1933	0	0	0	0	0
1934	0	0	0	0	0
1935	0	0	0	0	0
1936	0	0	0	0	0
1937	0	0	0	0	0
1938	0	0	0	0	0
1939	0	0	0	0	0
1940	0	0	0	0	0
1941	0	0	0	0	0
1942	0	0	0	0	0
1943	0	0	0	0	0
1944	0	0	0	0	0
1945	0	0	0	0	0
1946	0	0	0	0	0
1947	0	0	0	0	0
1948	0	0	0	0	0
1949	0	0	0	0	0
1950	0	0	0	0	0
1951	0	0	0	0	0
1952	0	0	0	0	0
1953	0	0	0	0	0
1954	0	0	0	0	0
1955	0	0	0	0	0
1956	0	0	0	0	0
1957	0	0	0	0	0
1958	0	0	0	0	0
1959	0	0	0	0	0
1960	0	0	0	0	0
1961	0	0	0	0	0
1962	0	0	0	0	0
1963	0	0	0	0	0
1964	0	0	0	0	0
1965	0	0	0	0	0
1966	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	0	0
1923	0	0	0	0	0	0
1924	0	0	0	0	0	0
1925	0	0	0	0	0	0
1926	0	0	0	0	0	0
1927	0	0	0	0	0	0
1928	0	0	0	0	0	0
1929	0	0	0	0	0	0
1930	0	0	0	0	0	0
1931	0	0	0	0	0	0
1932	0	0	0	0	0	0
1933	0	0	0	0	0	0
1934	0	0	0	0	0	0
1935	0	0	0	0	0	0
1936	0	0	0	0	0	0
1937	0	0	0	0	0	0
1938	0	0	0	0	0	0
1939	0	0	0	0	0	0
1940	0	0	0	0	0	0
1941	0	0	0	0	0	0
1942	0	0	0	0	0	0
1943	0	0	0	0	0	0
1944	0	0	0	0	0	0
1945	0	0	0	0	0	0
1946	0	0	0	0	0	0
1947	0	0	0	0	0	0
1948	0	0	0	0	0	0
1949	0	0	0	0	0	0
1950	0	0	0	0	0	0
1951	0	0	0	0	0	0
1952	0	0	0	0	0	0
1953	0	0	0	0	0	0
1954	0	0	0	0	0	0
1955	0	0	0	0	0	0
1956	0	0	0	0	0	0
1957	0	0	0	0	0	0
1958	0	0	0	0	0	0
1959	0	0	0	0	0	0
1960	0	0	0	0	0	0
1961	0	0	0	0	0	0
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0

Change in Keswick Release (CFS)

	May	Jun	Jul	Aug	Sep
1967	0	0	0	0	0
1968	0	0	0	0	0
1969	0	0	0	0	0
1970	0	0	0	0	0
1971	0	0	0	0	0
1972	0	0	0	0	0
1973	0	0	0	0	0
1974	0	0	0	0	0
1975	0	0	0	0	0
1976	0	0	0	0	0
1977	0	0	0	0	0
1978	0	0	0	0	0
1979	0	0	0	0	0
1980	0	0	0	0	0
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	0	0	0	0	0
1985	0	0	0	0	0
1986	0	0	0	0	0
1987	0	0	0	0	0
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
Avg	0	0	0	0	0
C	0	0	0	0	0
D	0	0	0	0	0
BN	0	0	0	0	0
AN	0	0	0	0	0
W	0	0	0	0	0

Change in Oroville Release (CFS)

	Apr	May	Jun	Jul	Aug	Sep
1967	0	0	0	0	0	0
1968	0	0	0	0	0	0
1969	0	0	0	0	0	0
1970	0	0	0	0	0	0
1971	0	0	0	0	0	0
1972	0	0	0	0	0	0
1973	0	0	0	0	0	0
1974	0	0	0	0	0	0
1975	0	0	0	0	0	0
1976	0	0	0	0	0	0
1977	0	0	0	0	0	0
1978	0	0	0	0	0	0
1979	0	0	0	0	0	0
1980	0	0	0	0	0	0
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	0	0	0	0	0	0
1986	0	0	0	0	0	0
1987	0	0	0	0	0	0
1988	0	0	0	0	0	0
1989	0	0	0	0	0	0
1990	0	0	0	0	0	0
1991	0	0	0	0	0	0
1992	0	0	0	0	0	0
1993	0	0	0	0	0	0
Avg	0	0	0	0	0	0
C	0	0	0	0	0	0
D	0	0	0	0	0	0
BN	0	0	0	0	0	0
AN	0	0	0	0	0	0
W	0	0	0	0	0	0

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	3,495,241	3,495,241	0	0.0%
Jul	3,017,673	3,017,673	0	0.0%
Aug	2,654,708	2,654,708	0	0.0%
Sep	2,510,534	2,510,534	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	1,882,280	1,882,280	0	0.0%
Jul	1,407,101	1,407,101	0	0.0%
Aug	1,151,790	1,151,790	0	0.0%
Sep	1,092,393	1,092,393	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	3,183,492	3,183,492	0	0.0%
Jul	2,646,438	2,646,438	0	0.0%
Aug	2,269,539	2,269,539	0	0.0%
Sep	2,185,412	2,185,412	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	3,572,334	3,572,334	0	0.0%
Jul	3,081,510	3,081,510	0	0.0%
Aug	2,694,314	2,694,314	0	0.0%
Sep	2,547,470	2,547,470	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr	2,952,914	2,952,914	0	0.0%
May	3,056,225	3,056,225	0	0.0%
Jun	2,849,413	2,849,413	0	0.0%
Jul	2,557,472	2,557,472	0	0.0%
Aug	2,218,168	2,218,168	0	0.0%
Sep	2,104,771	2,104,771	0	0.0%
Critical Years				
Mar				
Apr	2,019,561	2,019,561	0	0.0%
May	1,992,105	1,992,105	0	0.0%
Jun	1,806,632	1,806,632	0	0.0%
Jul	1,552,575	1,552,575	0	0.0%
Aug	1,347,302	1,347,302	0	0.0%
Sep	1,229,951	1,229,951	0	0.0%
Dry Years				
Mar				
Apr	2,845,503	2,845,503	0	0.0%
May	2,856,587	2,856,587	0	0.0%
Jun	2,554,236	2,554,236	0	0.0%
Jul	2,124,538	2,124,538	0	0.0%
Aug	1,740,604	1,740,604	0	0.0%
Sep	1,558,740	1,558,740	0	0.0%
Below Normal Years				
Mar				
Apr	3,077,029	3,077,029	0	0.0%
May	3,250,172	3,250,172	0	0.0%
Jun	2,951,868	2,951,868	0	0.0%
Jul	2,533,988	2,533,988	0	0.0%
Aug	2,082,567	2,082,567	0	0.0%
Sep	1,953,514	1,953,514	0	0.0%

Shasta

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun	4,021,711	4,021,711	0	0.0%
Jul	3,473,362	3,473,362	0	0.0%
Aug	3,105,701	3,105,701	0	0.0%
Sep	2,961,462	2,961,462	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	4,275,552	4,275,552	0	0.0%
Jul	3,884,597	3,884,597	0	0.0%
Aug	3,494,251	3,494,251	0	0.0%
Sep	3,261,730	3,261,730	0	0.0%

Oroville

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr	3,254,502	3,254,502	0	0.0%
May	3,369,627	3,369,627	0	0.0%
Jun	3,181,074	3,181,074	0	0.0%
Jul	2,905,092	2,905,092	0	0.0%
Aug	2,473,070	2,473,070	0	0.0%
Sep	2,936,308	2,936,308	0	0.0%
Wet Years				
Mar				
Apr	3,297,294	3,297,294	0	0.0%
May	3,487,190	3,487,190	0	0.0%
Jun	3,394,291	3,394,291	0	0.0%
Jul	3,263,825	3,263,825	0	0.0%
Aug	3,007,213	3,007,213	0	0.0%
Sep	2,936,308	2,936,308	0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	625,687	619,154	-6,533	-1.0%
Aug	567,556	562,097	-5,459	-1.0%
Sep	487,929	487,929	0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	328,349	322,808	-5,541	-1.7%
Aug	275,396	270,125	-5,271	-1.9%
Sep	246,494	246,494	0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	481,868	477,464	-4,404	-0.9%
Aug	420,776	414,891	-5,885	-1.4%
Sep	407,045	407,045	0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	645,479	638,390	-7,089	-1.1%
Aug	598,728	592,206	-6,522	-1.1%
Sep	515,199	515,199	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun	1,027.5	1,027.5	0.0	0.0%
Jul	1,006.8	1,006.8	0.0	0.0%
Aug	991.1	991.1	0.0	0.0%
Sep	984.7	984.7	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun	949.1	949.1	0.0	0.0%
Jul	917.5	917.5	0.0	0.0%
Aug	898.3	898.3	0.0	0.0%
Sep	892.1	892.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun	1,014.0	1,014.0	0.0	0.0%
Jul	990.7	990.7	0.0	0.0%
Aug	971.1	971.1	0.0	0.0%
Sep	966.3	966.3	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun	1,030.9	1,030.9	0.0	0.0%
Jul	1,009.6	1,009.6	0.0	0.0%
Aug	992.8	992.8	0.0	0.0%
Sep	986.4	986.4	0.0	0.0%

Folsom

Month	Average Storage (TAF) Baseline Condition	Average Storage (TAF) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	722,751	714,502	-8,250	-1.1%
Aug	673,104	666,918	-6,186	-0.9%
Sep	561,963	561,963	0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	831,598	824,110	-7,488	-0.9%
Aug	761,382	757,204	-4,178	-0.5%
Sep	622,585	622,585	0	0.0%

Shasta

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun	1,048.0	1,048.0	0.0	0.0%
Jul	1,026.6	1,026.6	0.0	0.0%
Aug	1,010.6	1,010.6	0.0	0.0%
Sep	1,004.4	1,004.4	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun	1,057.1	1,057.1	0.0	0.0%
Jul	1,043.1	1,043.1	0.0	0.0%
Aug	1,027.5	1,027.5	0.0	0.0%
Sep	1,017.4	1,017.4	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
All Years				
Mar				
Apr	860.0	860.0	0.0	0.0%
May	867.1	867.1	0.0	0.0%
Jun	853.0	853.0	0.0	0.0%
Jul	833.0	833.0	0.0	0.0%
Aug	805.3	805.3	0.0	0.0%
Sep	793.6	793.6	0.0	0.0%
Critical Years				
Mar				
Apr	784.9	784.9	0.0	0.0%
May	782.0	782.0	0.0	0.0%
Jun	763.0	763.0	0.0	0.0%
Jul	734.5	734.5	0.0	0.0%
Aug	709.4	709.4	0.0	0.0%
Sep	695.1	695.1	0.0	0.0%
Dry Years				
Mar				
Apr	852.7	852.7	0.0	0.0%
May	853.4	853.4	0.0	0.0%
Jun	832.8	832.8	0.0	0.0%
Jul	795.6	795.6	0.0	0.0%
Aug	756.2	756.2	0.0	0.0%
Sep	735.2	735.2	0.0	0.0%
Below Normal Years				
Mar				
Apr	868.5	868.5	0.0	0.0%
May	880.3	880.3	0.0	0.0%
Jun	859.9	859.9	0.0	0.0%
Jul	831.4	831.4	0.0	0.0%
Aug	791.3	791.3	0.0	0.0%
Sep	778.1	778.1	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
All Years				
Mar				
Apr				
May				
Jun				
Jul	430.6	429.8	-0.8	-0.2%
Aug	423.4	422.7	-0.7	-0.2%
Sep	413.6	413.6	0.0	0.0%
Critical Years				
Mar				
Apr				
May				
Jun				
Jul	391.6	390.7	-0.9	-0.2%
Aug	382.6	381.6	-1.0	-0.3%
Sep	377.1	377.1	0.0	0.0%
Dry Years				
Mar				
Apr				
May				
Jun				
Jul	412.8	412.3	-0.5	-0.1%
Aug	405.3	404.6	-0.7	-0.2%
Sep	403.6	403.6	0.0	0.0%
Below Normal Years				
Mar				
Apr				
May				
Jun				
Jul	433.0	432.1	-0.9	-0.2%
Aug	427.2	426.4	-0.8	-0.2%
Sep	416.9	416.9	0.0	0.0%

Oroville

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (FT)	Difference (%)
Above Normal Years				
Mar				
Apr	880.6	880.6	0.0	0.0%
May	888.5	888.5	0.0	0.0%
Jun	875.6	875.6	0.0	0.0%
Jul	856.8	856.8	0.0	0.0%
Aug	827.3	827.3	0.0	0.0%
Sep	858.9	858.9	0.0	0.0%
Wet Years				
Mar				
Apr	883.5	883.5	0.0	0.0%
May	896.5	896.5	0.0	0.0%
Jun	890.1	890.1	0.0	0.0%
Jul	881.2	881.2	0.0	0.0%
Aug	863.7	863.7	0.0	0.0%
Sep	858.9	858.9	0.0	0.0%

Folsom

Month	Average Elevation (FT) Baseline Condition	Average Elevation (FT) Flexible Purchase Alternative	Difference (TAF)	Difference (%)
Above Normal Years				
Mar				
Apr				
May				
Jun				
Jul	441.4	440.6	-0.8	-0.2%
Aug	436.4	435.7	-0.8	-0.2%
Sep	422.7	422.7	0.0	0.0%
Wet Years				
Mar				
Apr				
May				
Jun				
Jul	451.9	451.2	-0.7	-0.2%
Aug	445.1	444.7	-0.4	-0.1%
Sep	430.2	430.2	0.0	0.0%

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Environmental Water Account

Draft Environmental Impact Statement
Environmental Impact Report

Appendix H: Summary Output for GATAER Process

July 2003

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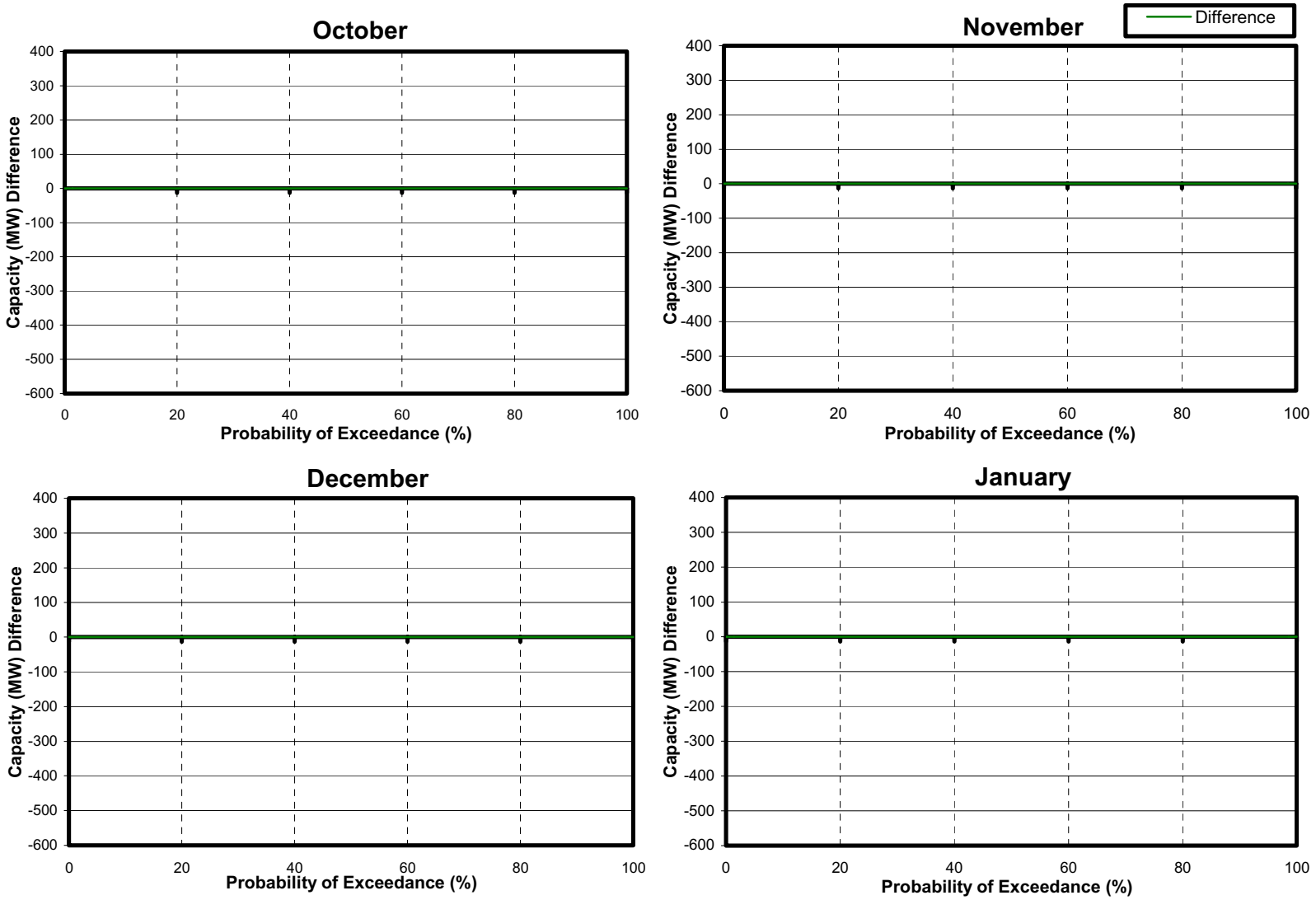
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Difference in Annual CVP Gross Dependable Capacity at Tracy Under Baseline and FP Alt Conditions													
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Difference[1]	Median	0	0	0	0	0	0	0	0	0	0	0	0
	90% Exceedance[2]	0	0	0	0	0	0	0	0	0	0	0	0

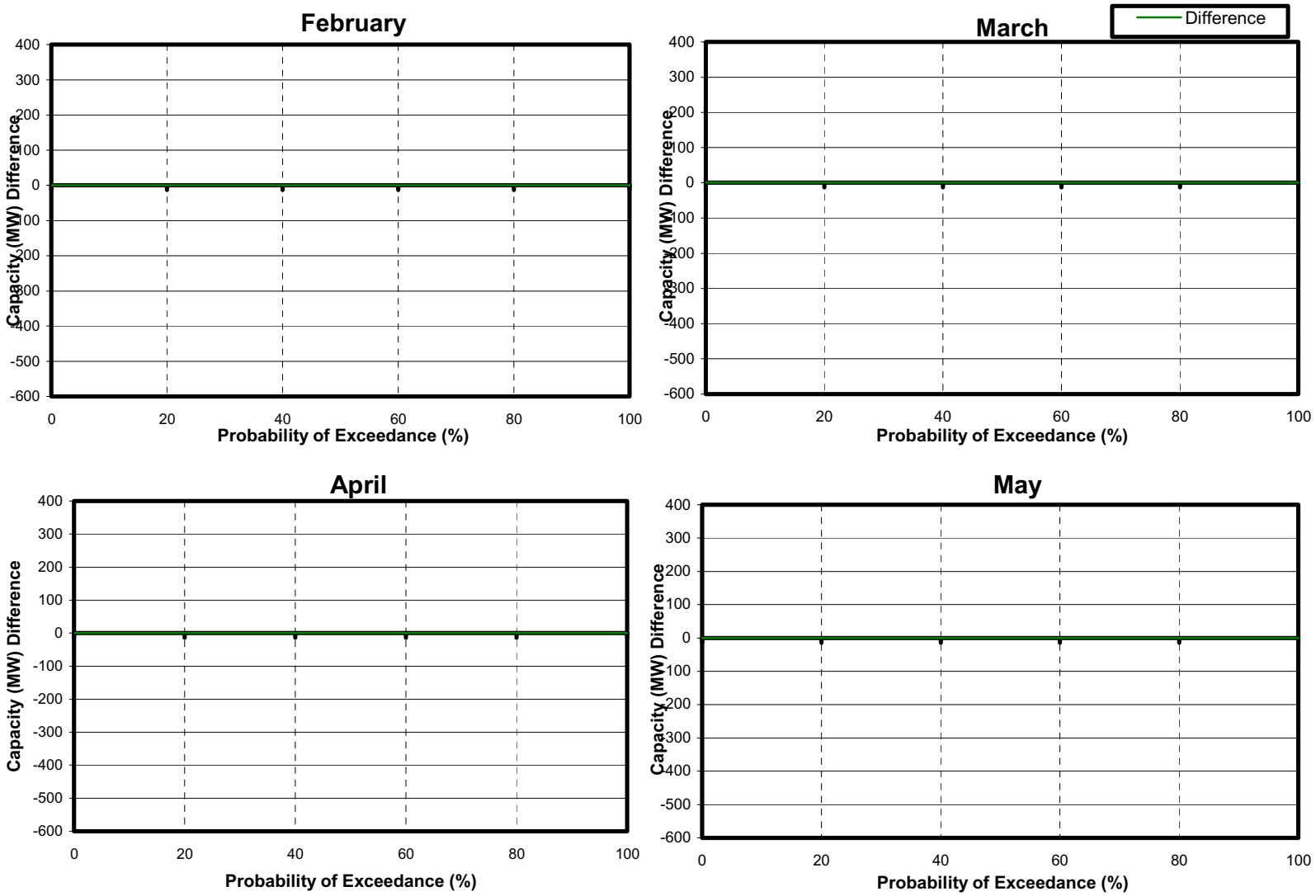
[1] Values in MW, based on 73 years modeled.

[2] 90% of occurrances would have smaller or no impact.

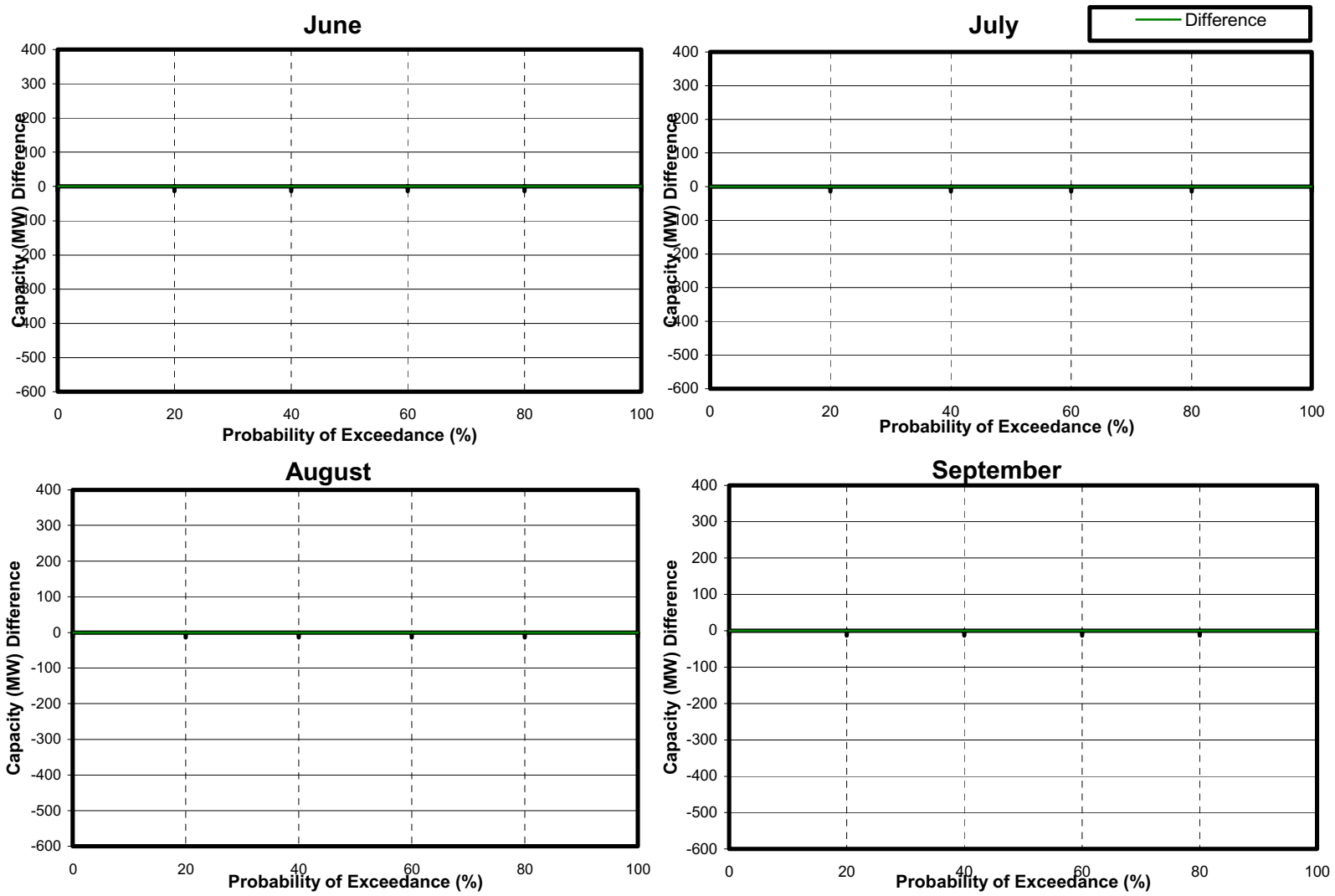
Difference in Annual CVP Gross Dependable Capacity at Tracy Under Baseline and FP Alt Conditions



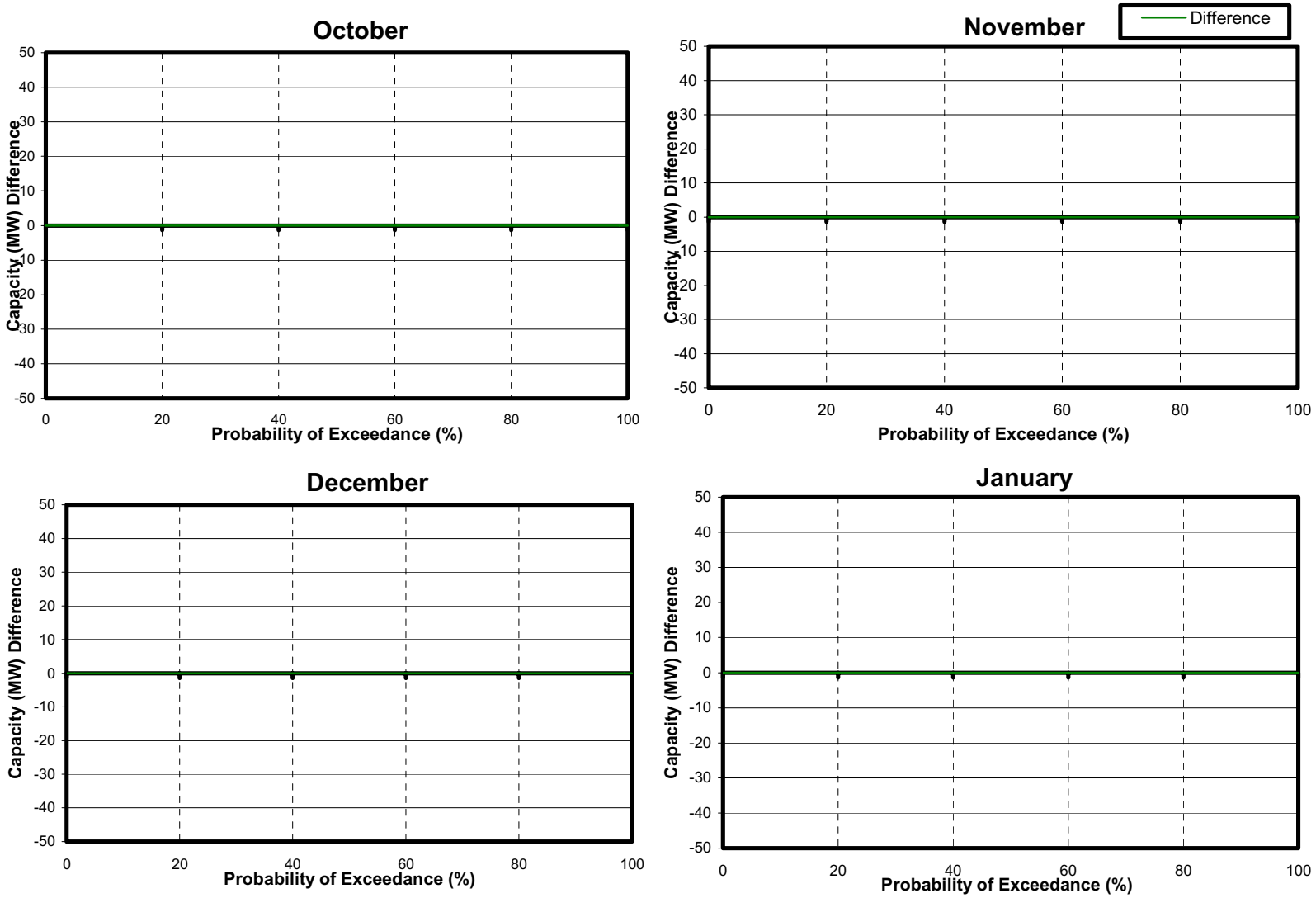
Difference in Annual CVP Gross Dependable Capacity at Tracy Under Baseline and FP Alt Conditions



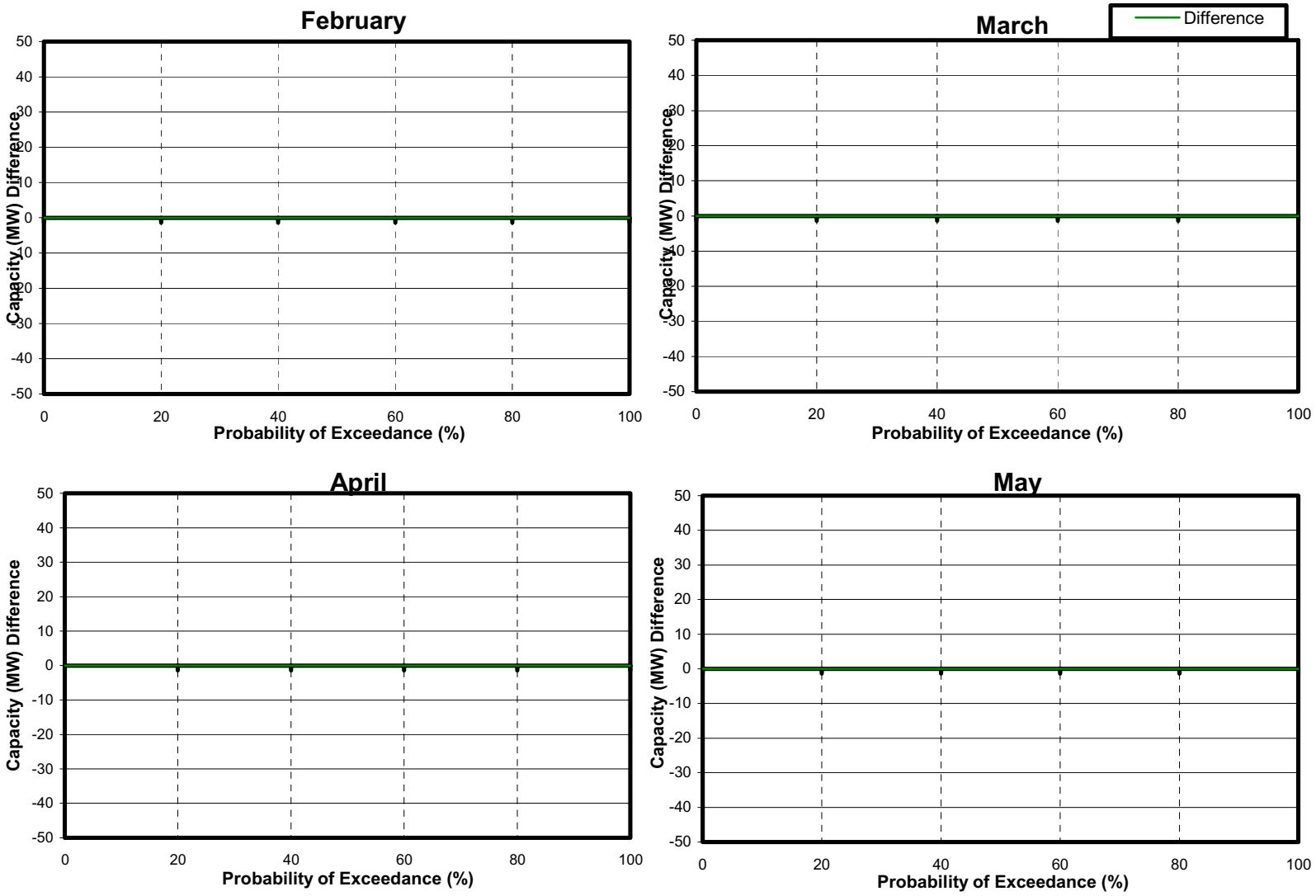
Difference in Annual CVP Gross Dependable Capacity at Tracy Under Baseline and FP Alt Conditions



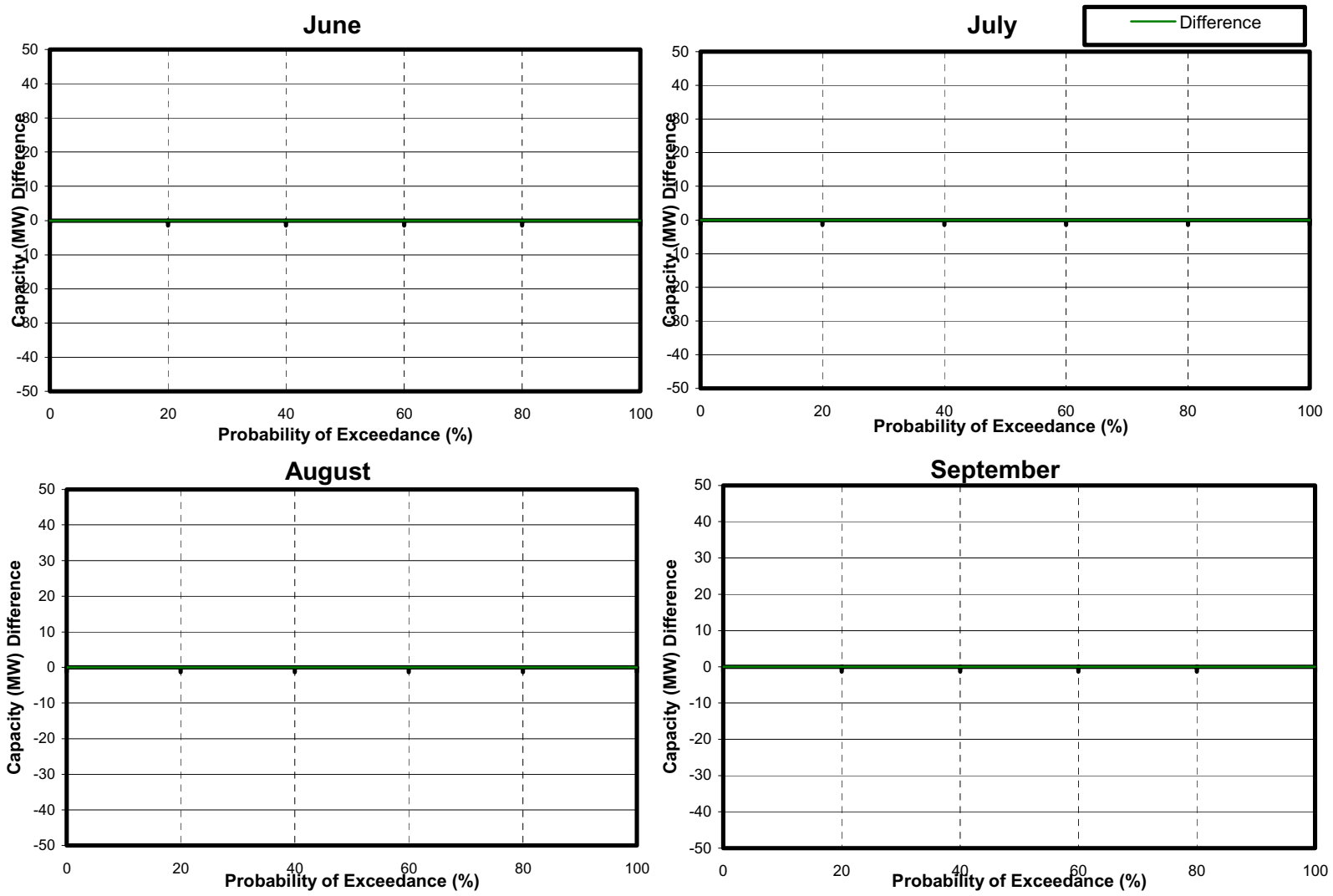
Difference in Annual CVP Gross Dependable Capacity at Tracy Under Baseline and FP Alt Conditions



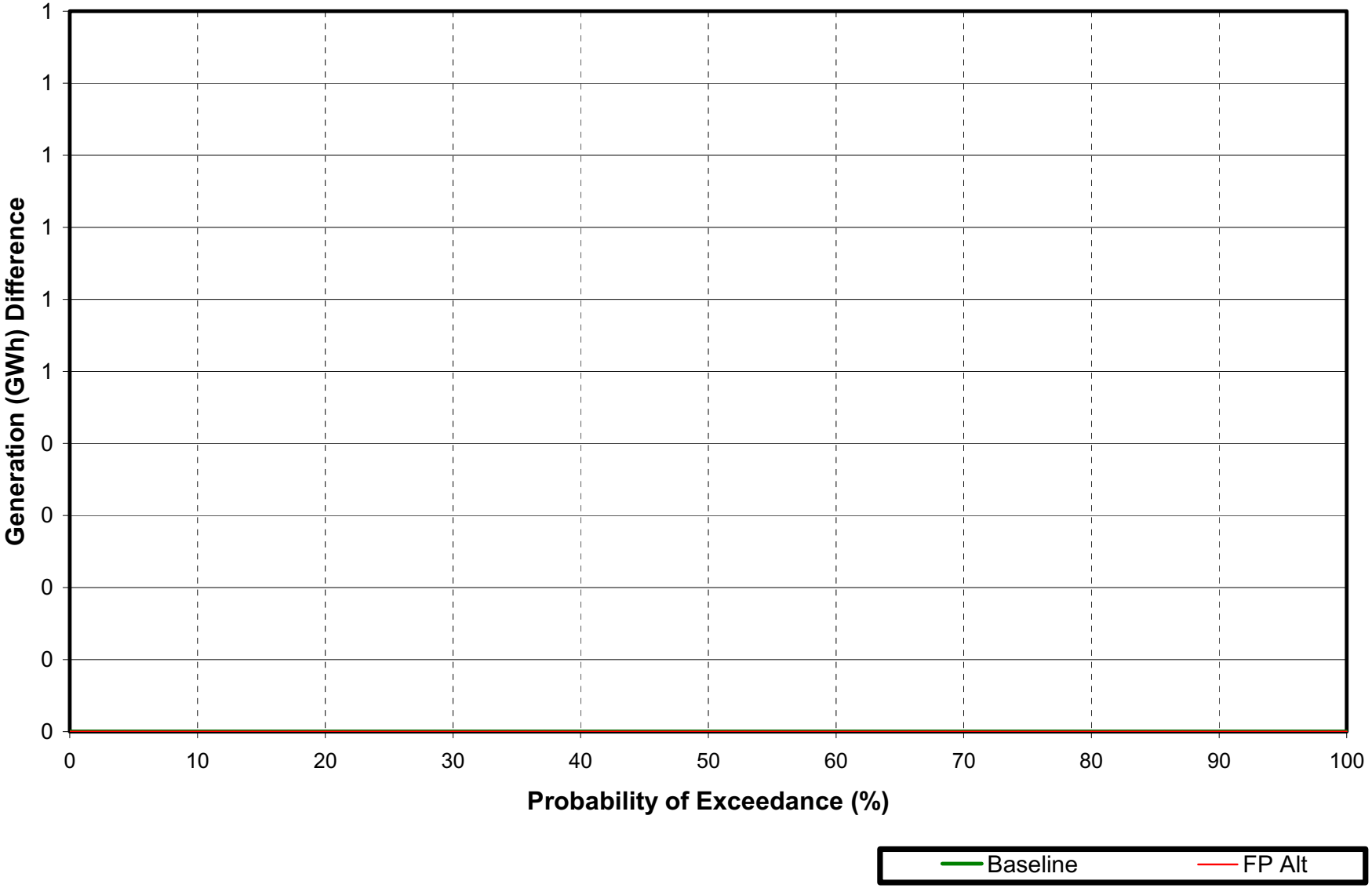
Difference in Annual CVP Gross Dependable Capacity at Tracy Under Baseline and FP Alt Conditions



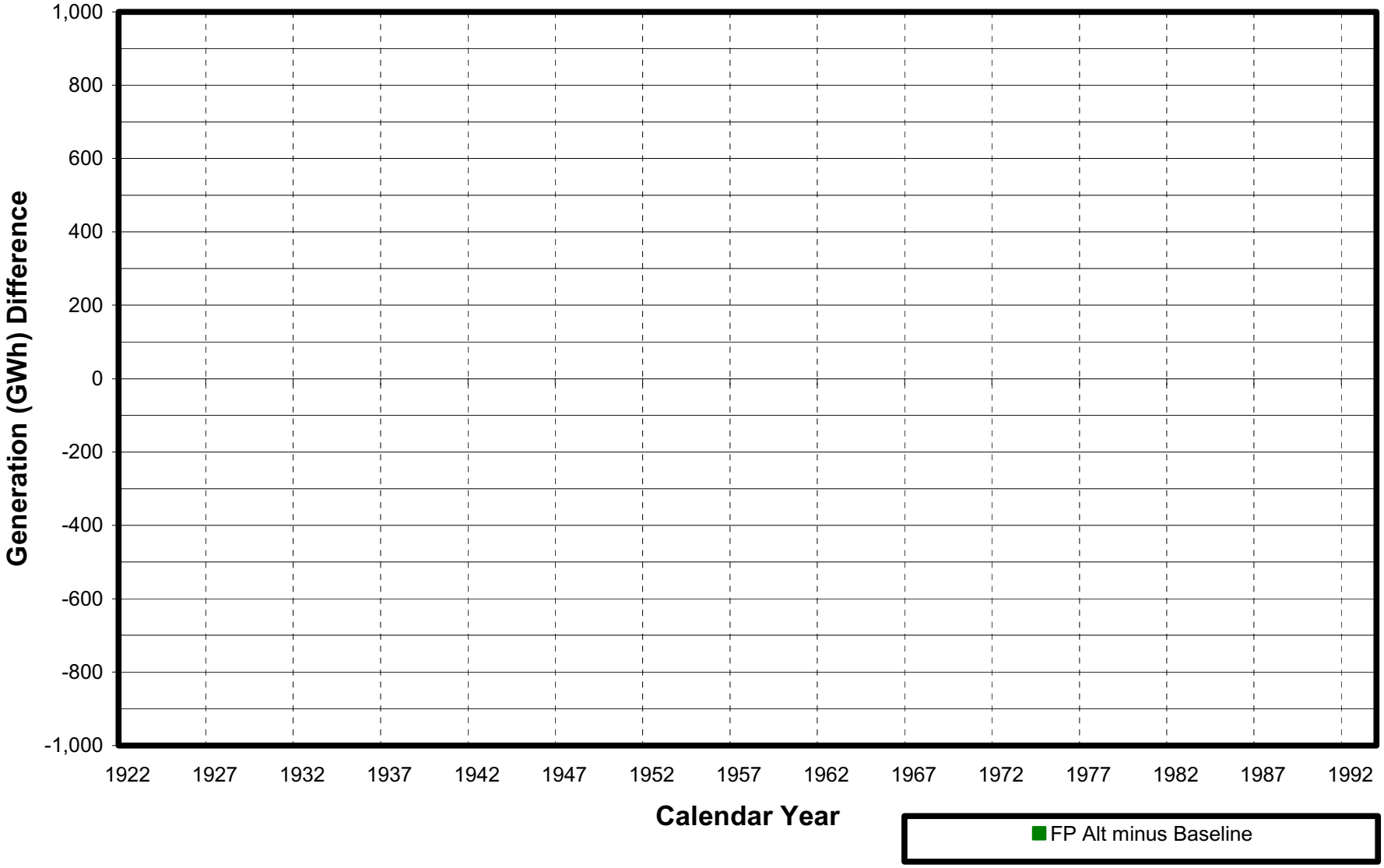
Difference in Annual CVP Gross Dependable Capacity at Tracy Under Baseline and FP Alt Conditions



CVP Gross Generation at Tracy Under Baseline and FP Alt Conditions



Difference in Annual CVP Gross Generation at Tracy Under Baseline and FP Alt Conditions



CVP Gross Generation at Tracy Under Baseline and FP Alt Conditions			
Month	Average Generation[1] (GWh)		
	Baseline	FP Alt	Difference
Jan	0	0	0
Feb	0	0	0
Mar	0	0	0
Apr	0	0	0
May	0	0	0
Jun	0	0	0
Jul	0	0	0
Aug	0	0	0
Sep	0	0	0
Oct	0	0	0
Nov	0	0	0
Dec	0	0	0
Total	0	0	0

[1] Values are based on 73 years modeled.

Annual CVP Gross Generation at Tracy Under Baseline and FP Alt Conditions			
Year Type	**Annual Generation[1] (GWh)**		
	Baseline	**FP Alt**	**Difference**
90% Exceedance	0	0	0
Median	0	0	0

[1] Values are based on 73 years modeled.

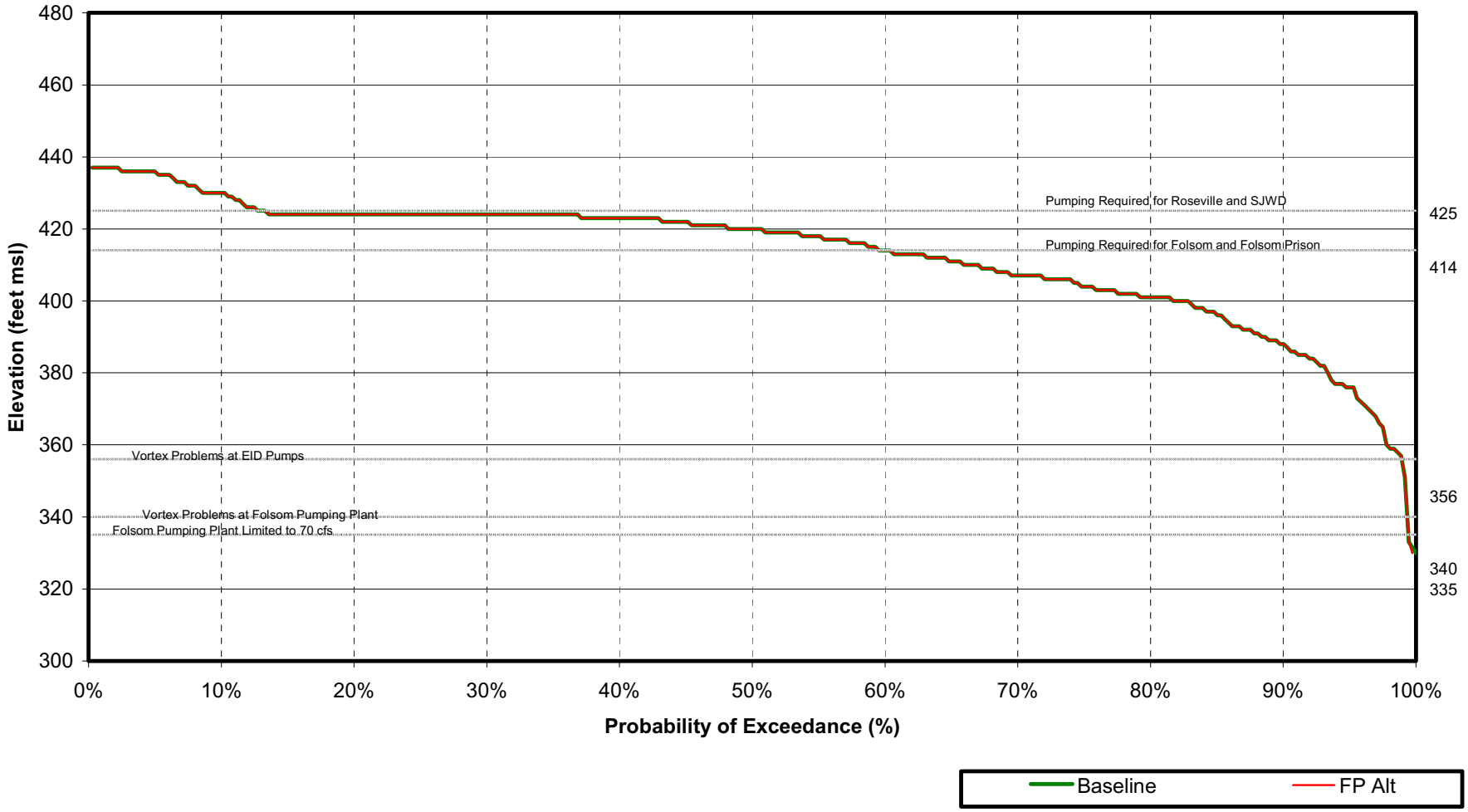
Average Energy Requirement at Folsom Pumping Plant Under Baseline and FP Alt Conditions				
Month	Energy Requirement[1] (MWh)		Difference	
	Baseline	FP Alt	(MWh)	(%)
Jan	-999	-999	0	0.0
Feb	-999	-999	0	0.0
Mar	-999	-999	0	0.0
Apr	-999	-999	0	0.0
May	-999	-999	0	0.0
Jun	-999	-999	0	0.0
Jul	-999	-999	0	0.0
Aug	-999	-999	0	0.0
Sep	-999	-999	0	0.0
Oct	-999	-999	0	0.0
Nov	-999	-999	0	0.0
Dec	-999	-999	0	0.0
TOTAL	-11,988	-11,988	0	0.0

[1] Values based on 73 years modeled.

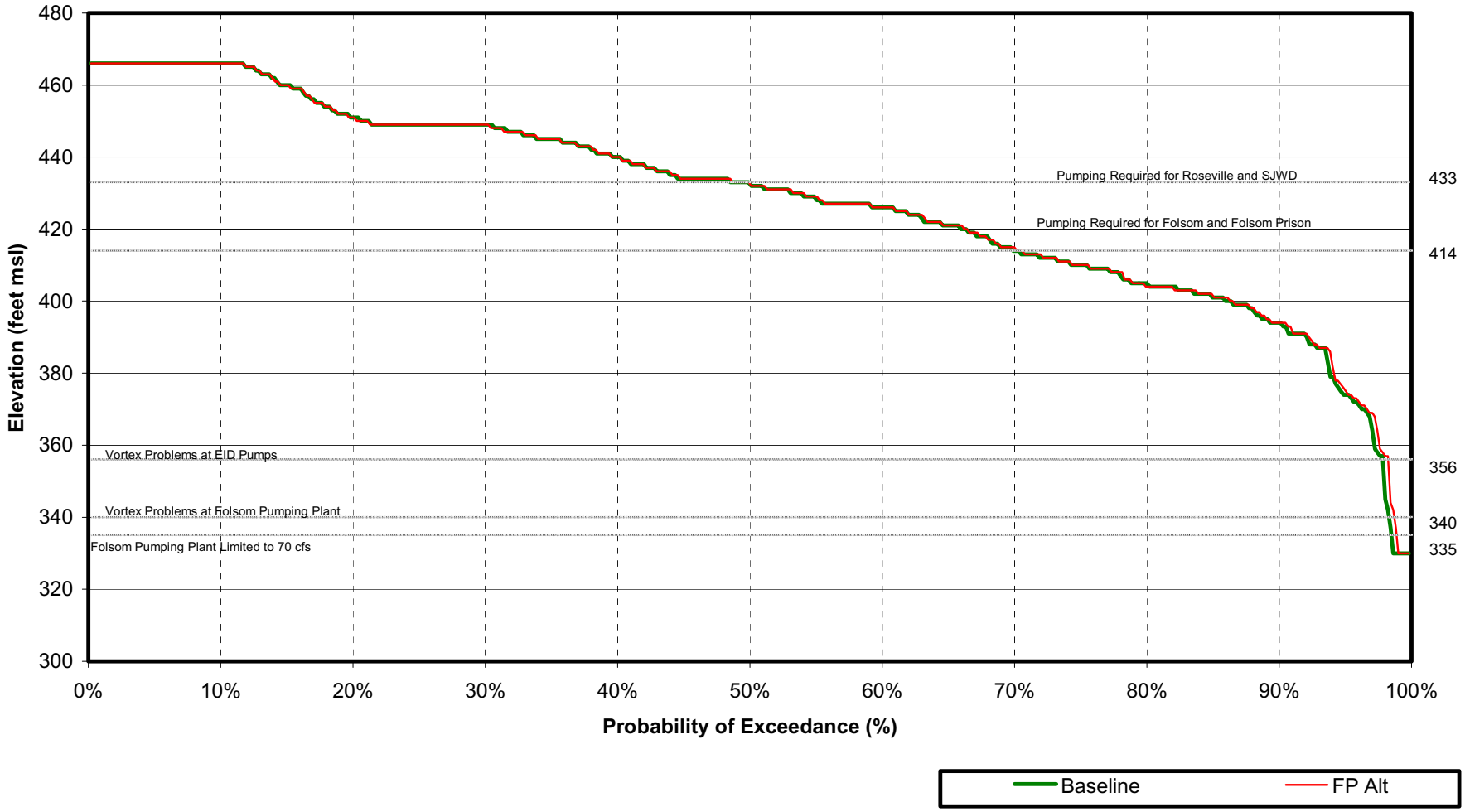
Average Energy Requirement at EID Pumping Plant Under Baseline and FP Alt Conditions				
Month	Energy Requirement[1] (MWh)		Difference	
	Baseline	FP Alt	(MWh)	(%)
Jan	-999	-999	0	0.0
Feb	-999	-999	0	0.0
Mar	-999	-999	0	0.0
Apr	-999	-999	0	0.0
May	-999	-999	0	0.0
Jun	-999	-999	0	0.0
Jul	-999	-999	0	0.0
Aug	-999	-999	0	0.0
Sep	-999	-999	0	0.0
Oct	-999	-999	0	0.0
Nov	-999	-999	0	0.0
Dec	-999	-999	0	0.0
TOTAL	-11,988	-11,988	0	0.0

[1] Values based on 73 years modeled.

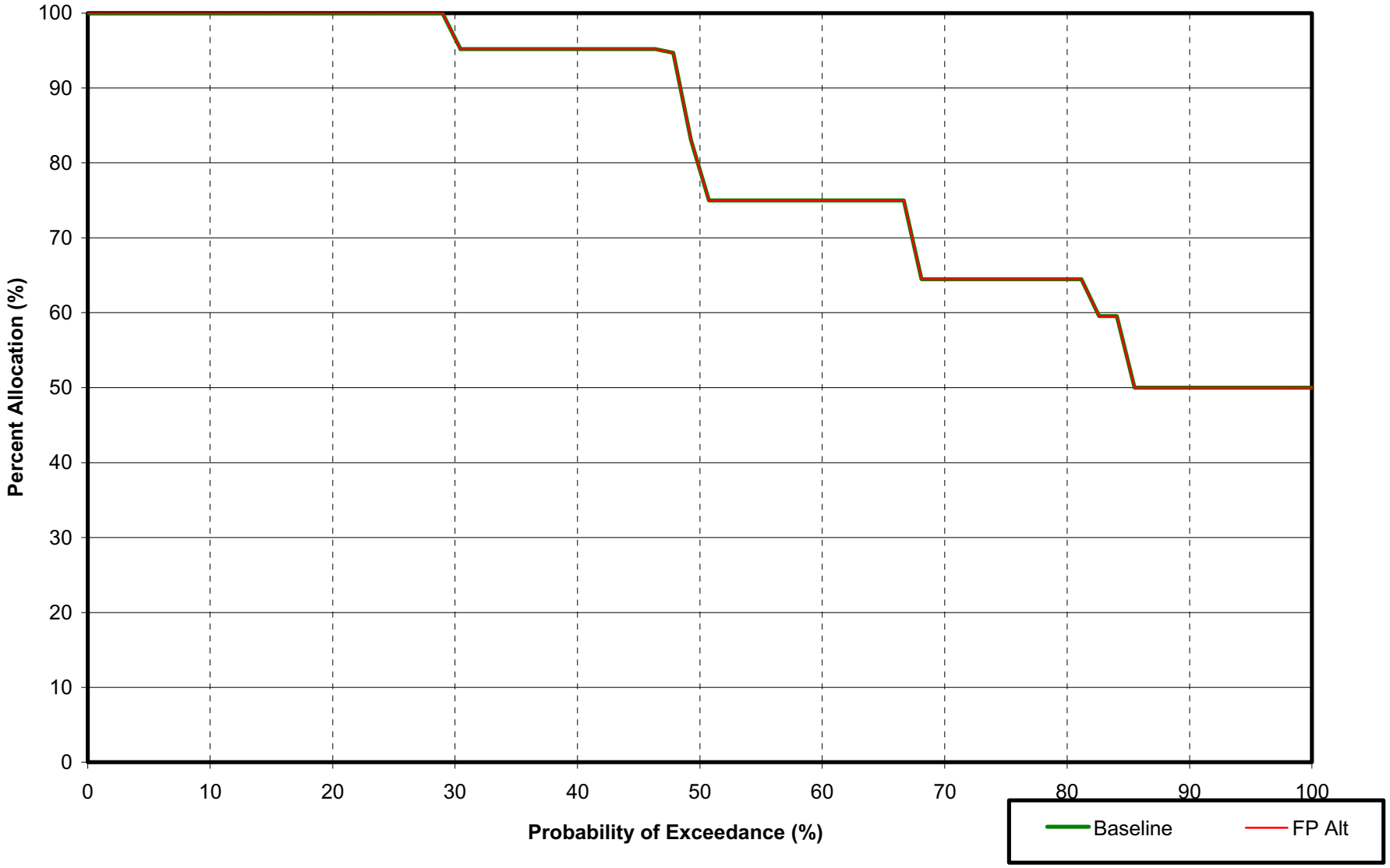
Folsom Reservoir End of Month Elevation Under Baseline and FP Alt Conditions: November through March



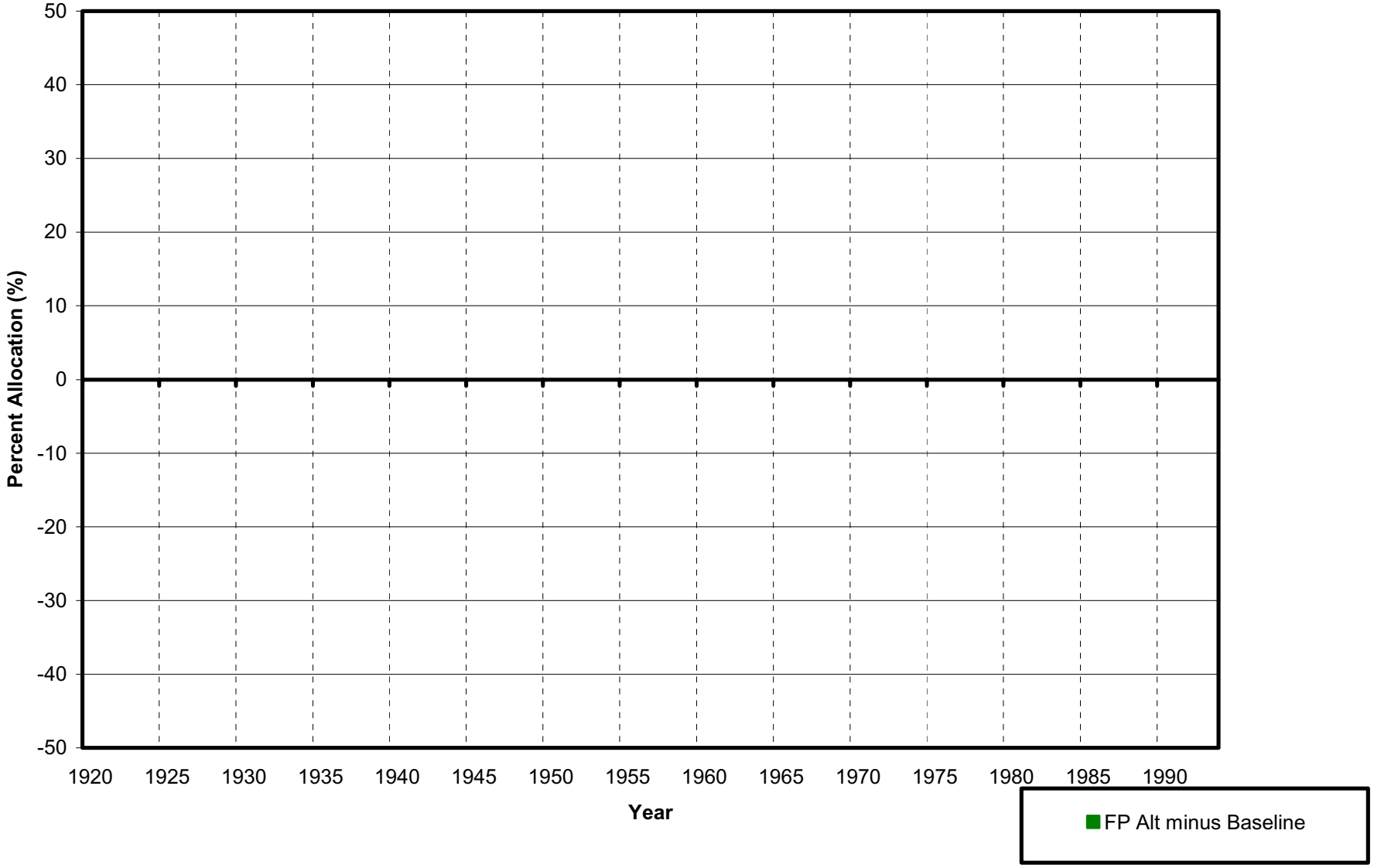
Folsom Reservoir End of Month Elevation Under Baseline and FP Alt Conditions: April through October



Percent Allocation to CVP M&I Contractors North of Delta Under Baseline and FP Alt Conditions



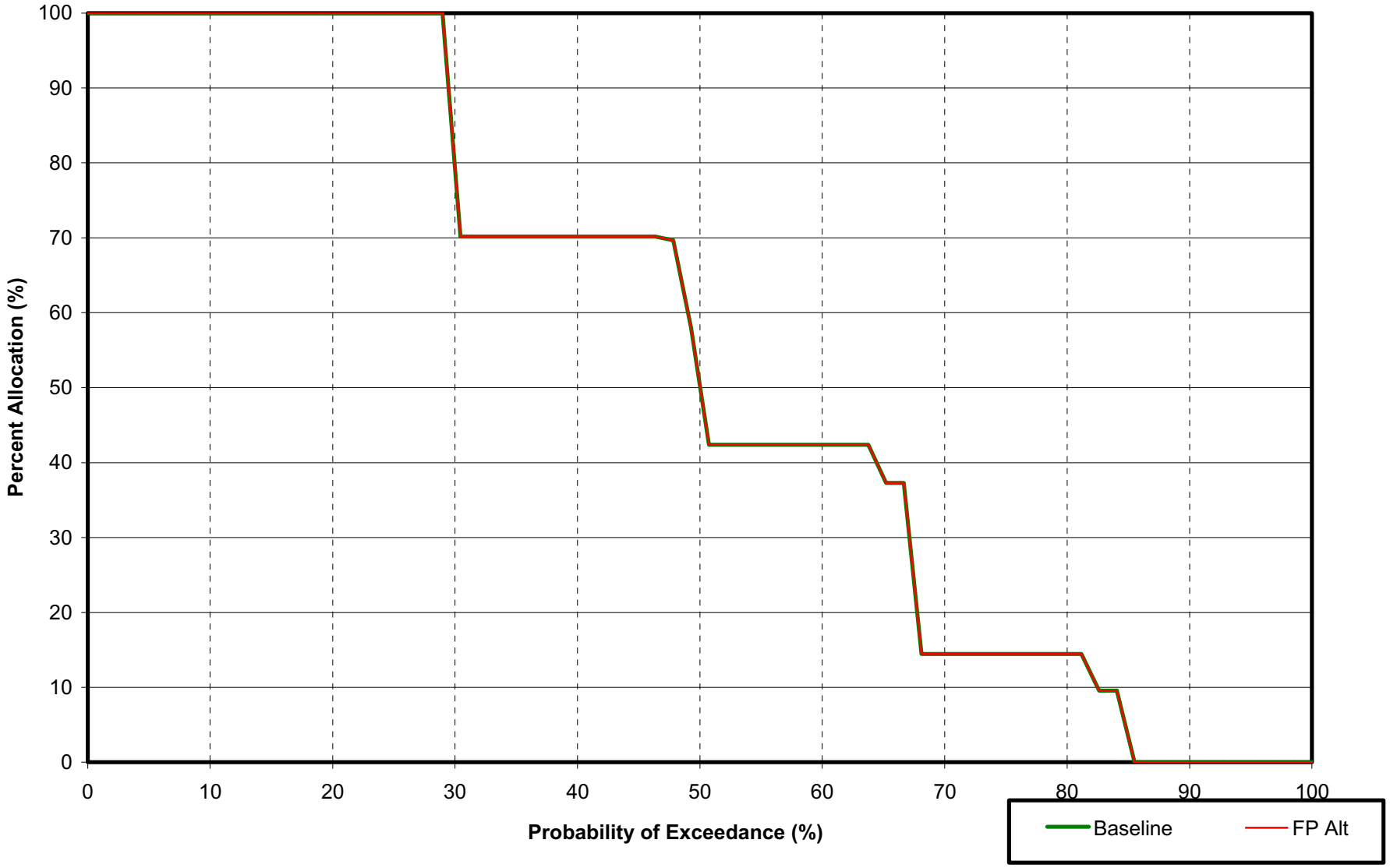
Differences in Percent Allocation to CVP M&I Contractors North of Delta Under Baseline and FP Alt Conditions



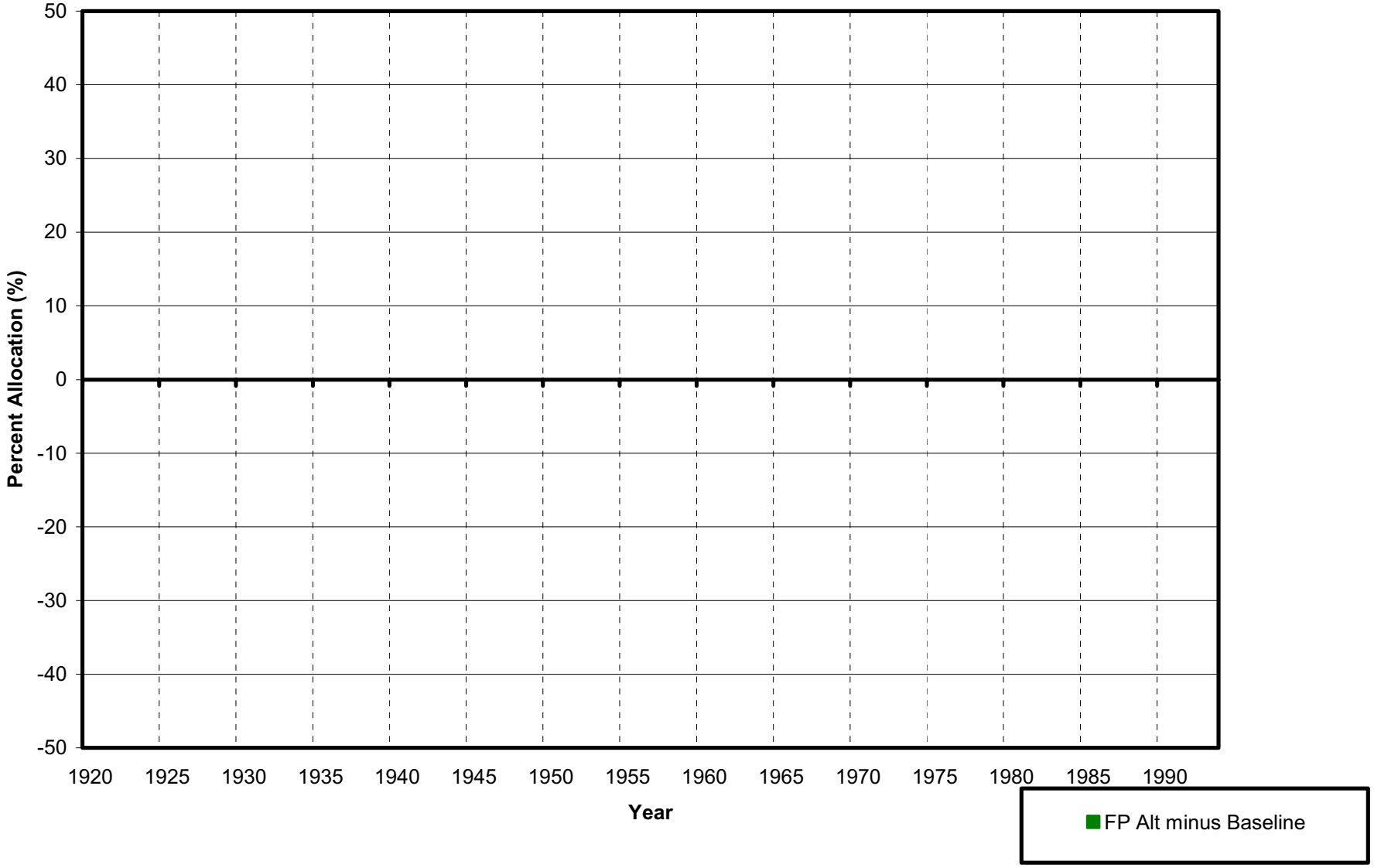
Percent Allocation to CVP M&I Contractors North of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	79%	79%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	75%	75%	0%

[1] Based on the 72 years modeled.

Percent Allocation to CVP Agricultural Contractors North of Delta Under Baseline and FP Alt Conditions



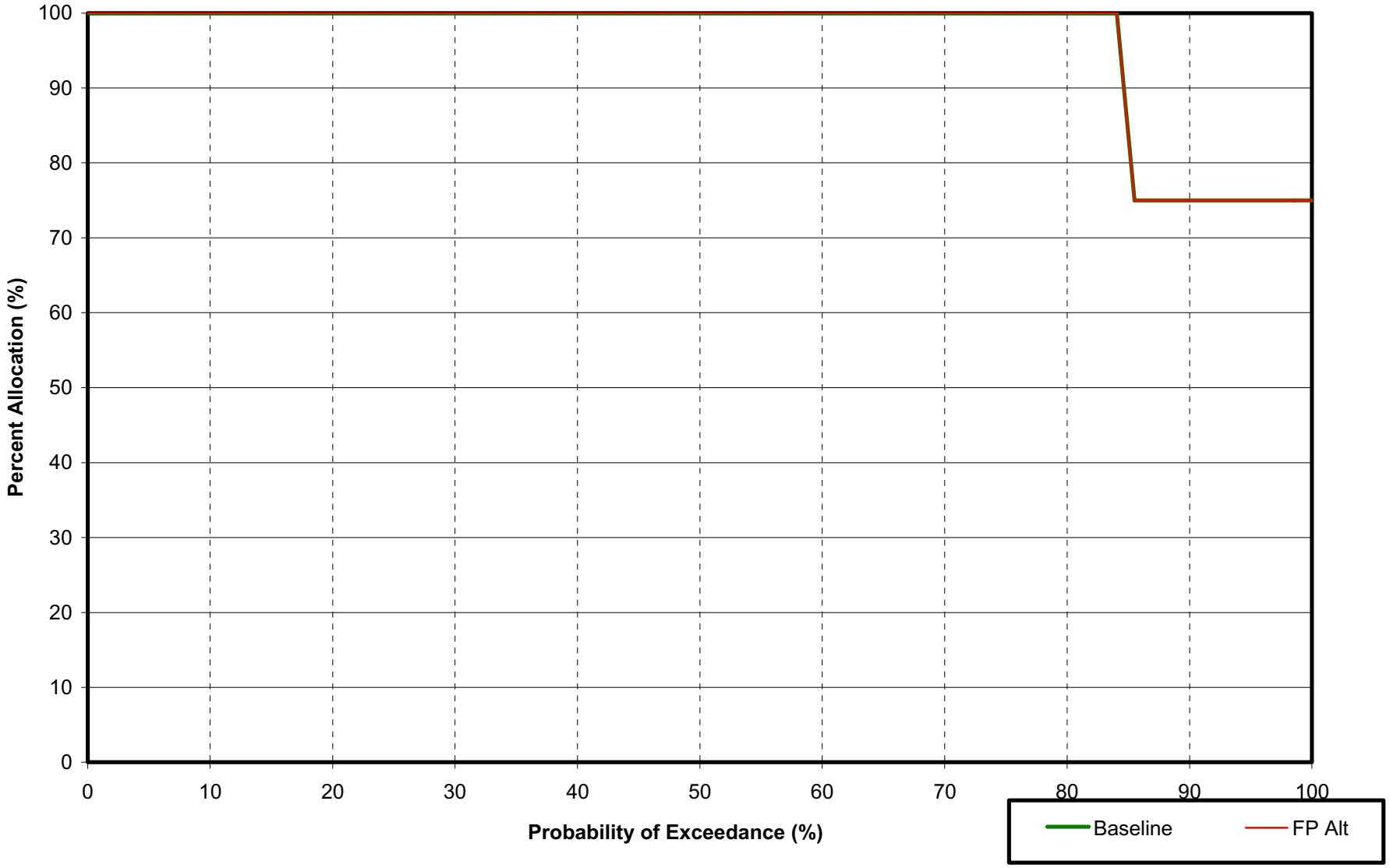
Differences in Percent Allocation to CVP Agricultural Contractors North of Delta Under Baseline and FP Alt Conditions



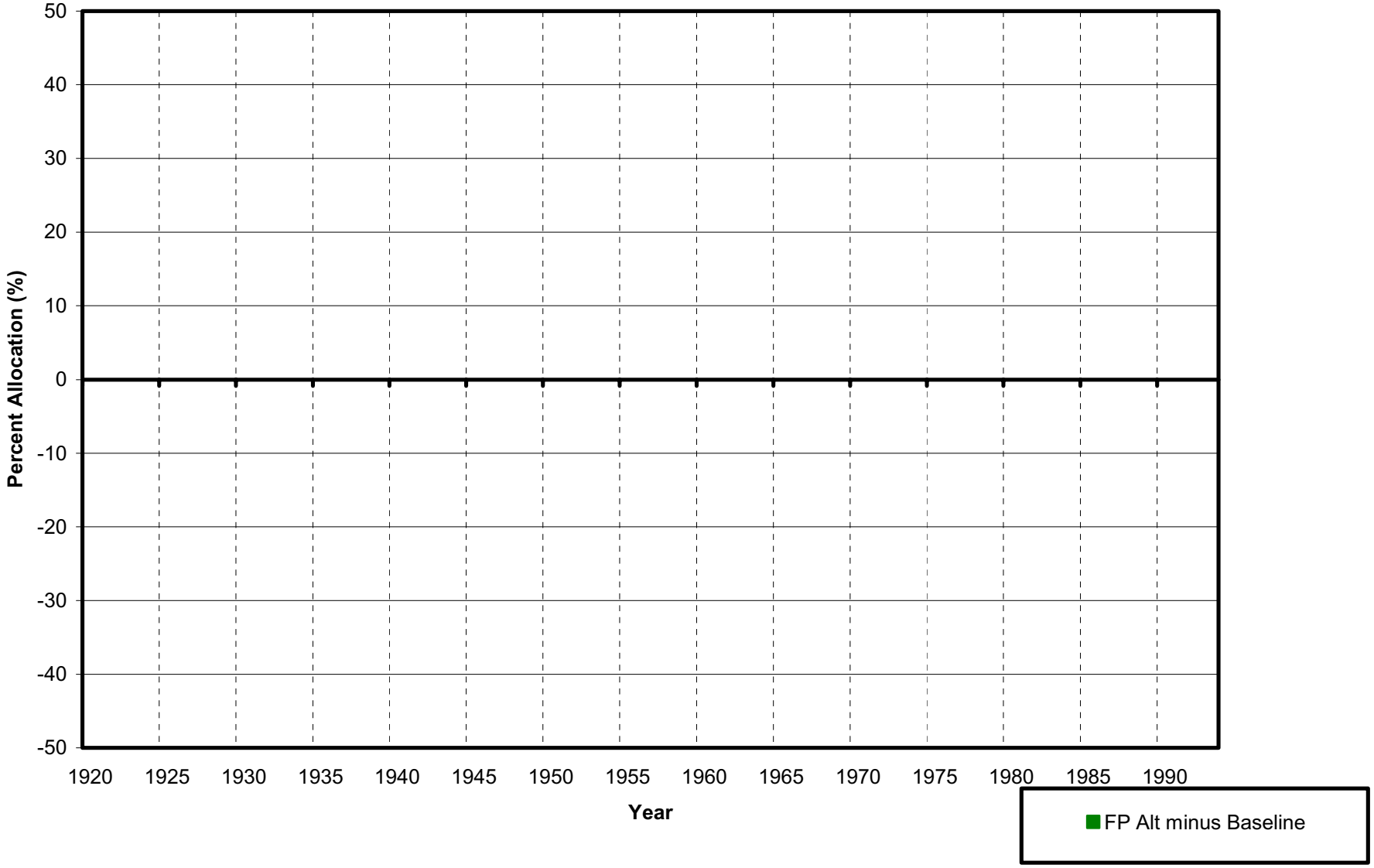
Percent Allocation to CVP Agricultural Contractors North of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	52%	52%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	42%	42%	0%

[1] Based on the 72 years modeled.

Percent Allocation to CVP Settlement Contractors North of Delta Under Baseline and FP Alt Conditions



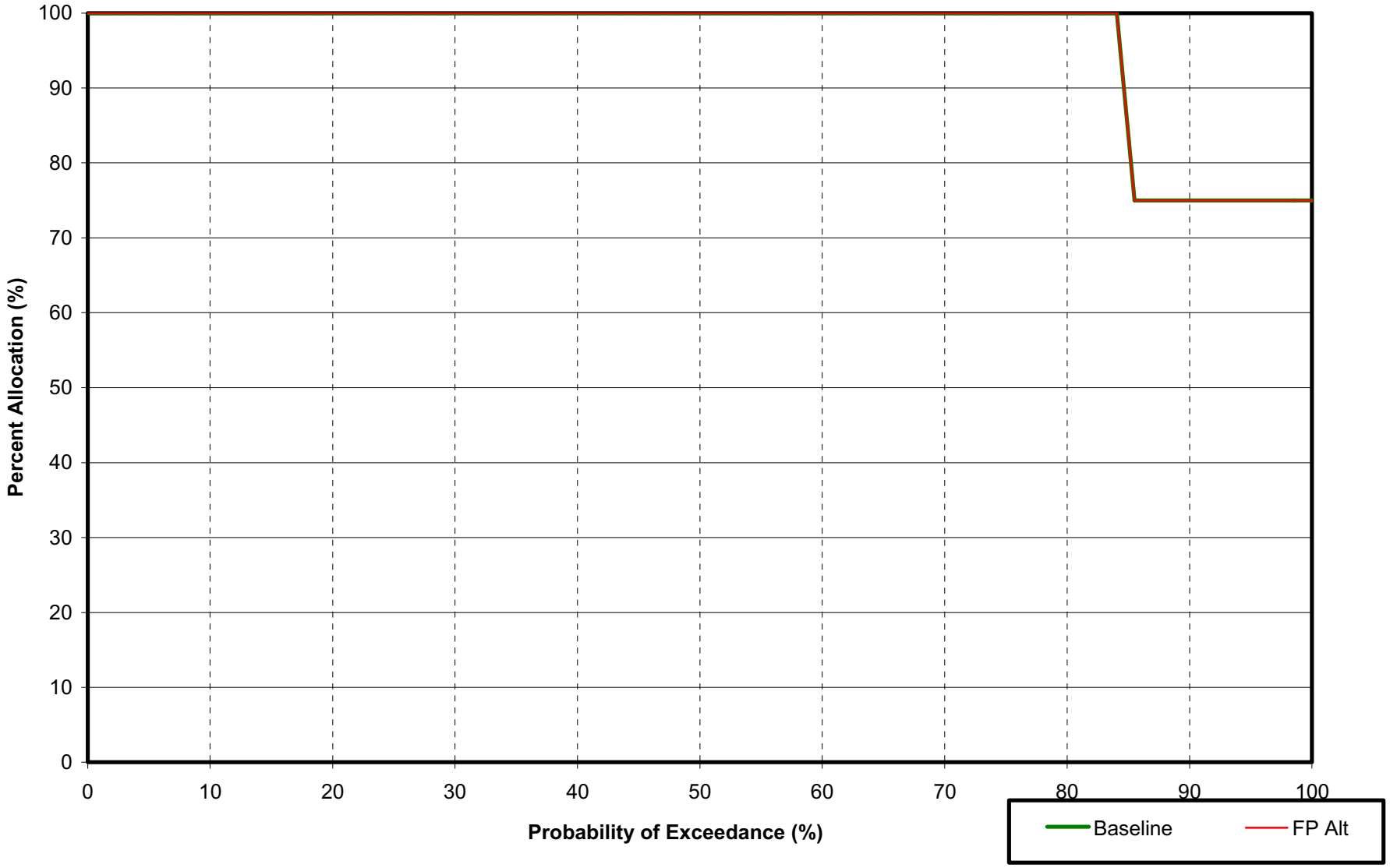
Differences in Percent Allocation to CVP Settlement Contractors North of Delta Under Baseline and FP Alt Conditions



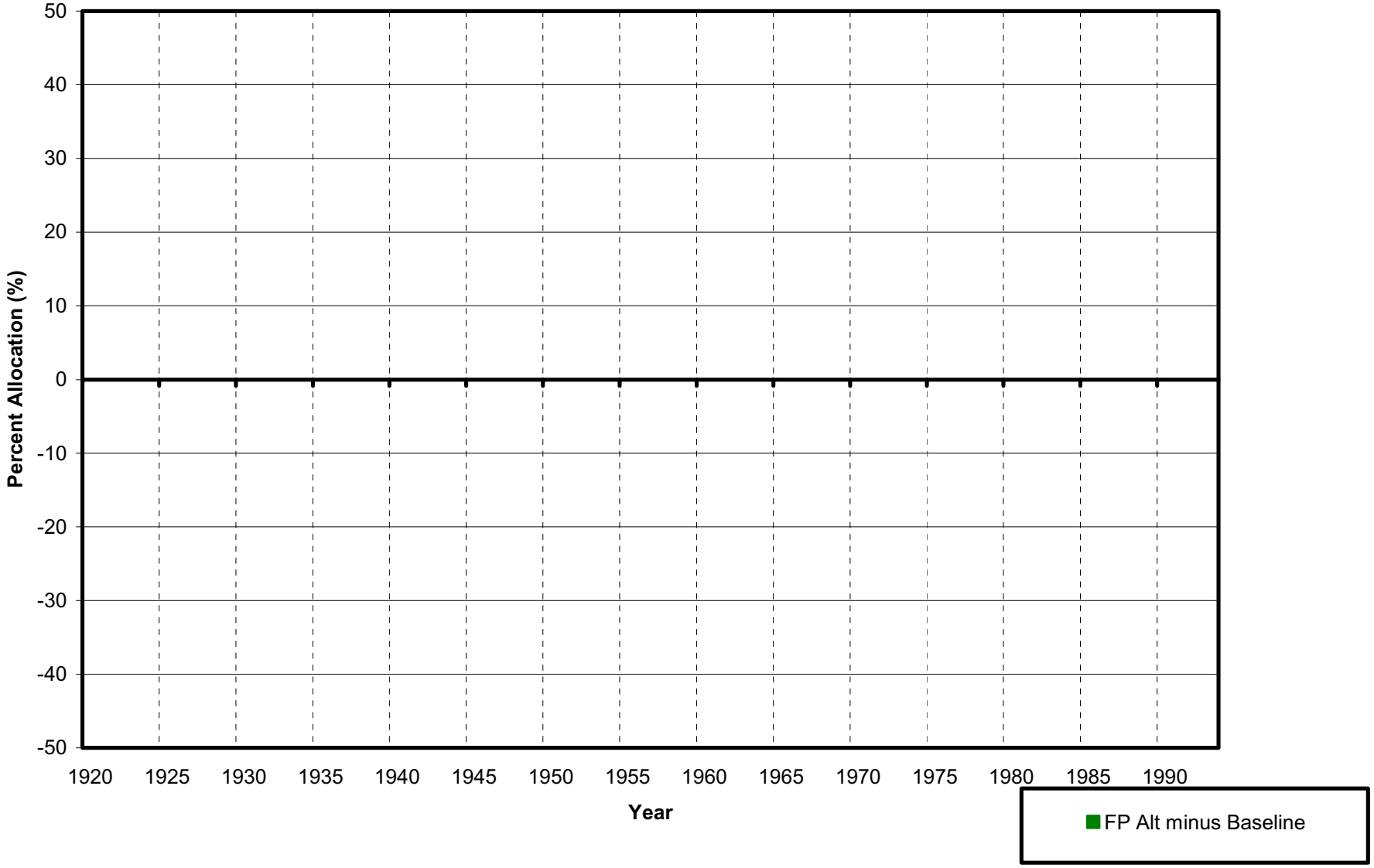
Percent Allocation to CVP Settlement Contractors North of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	94%	94%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	100%	100%	0%

[1] Based on the 72 years modeled.

Percent Allocation to CVP Refuges North of Delta Under Baseline and FP Alt Conditions



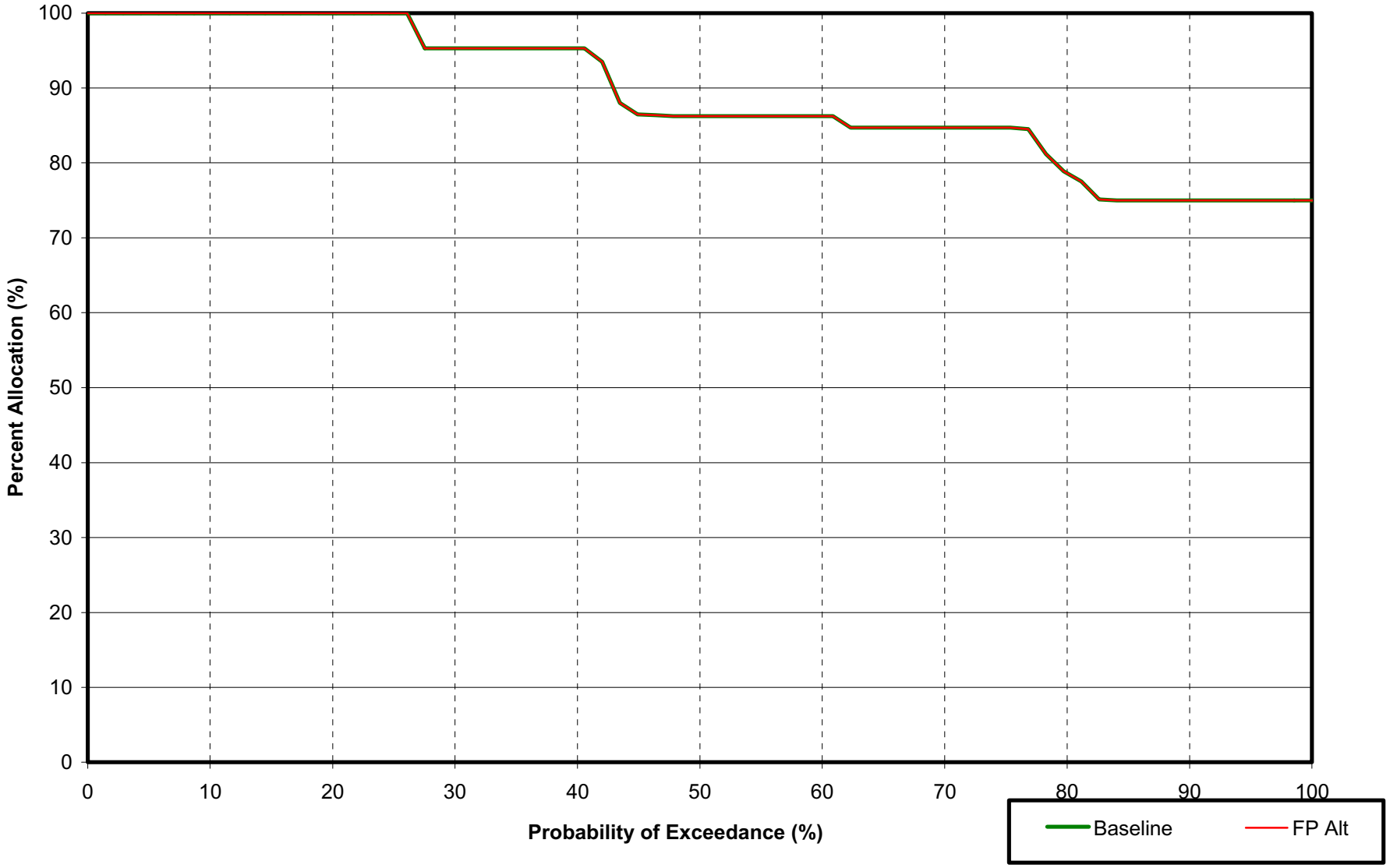
Differences in Percent Allocation to CVP Refuges North of Delta Under Baseline and FP Alt Conditions



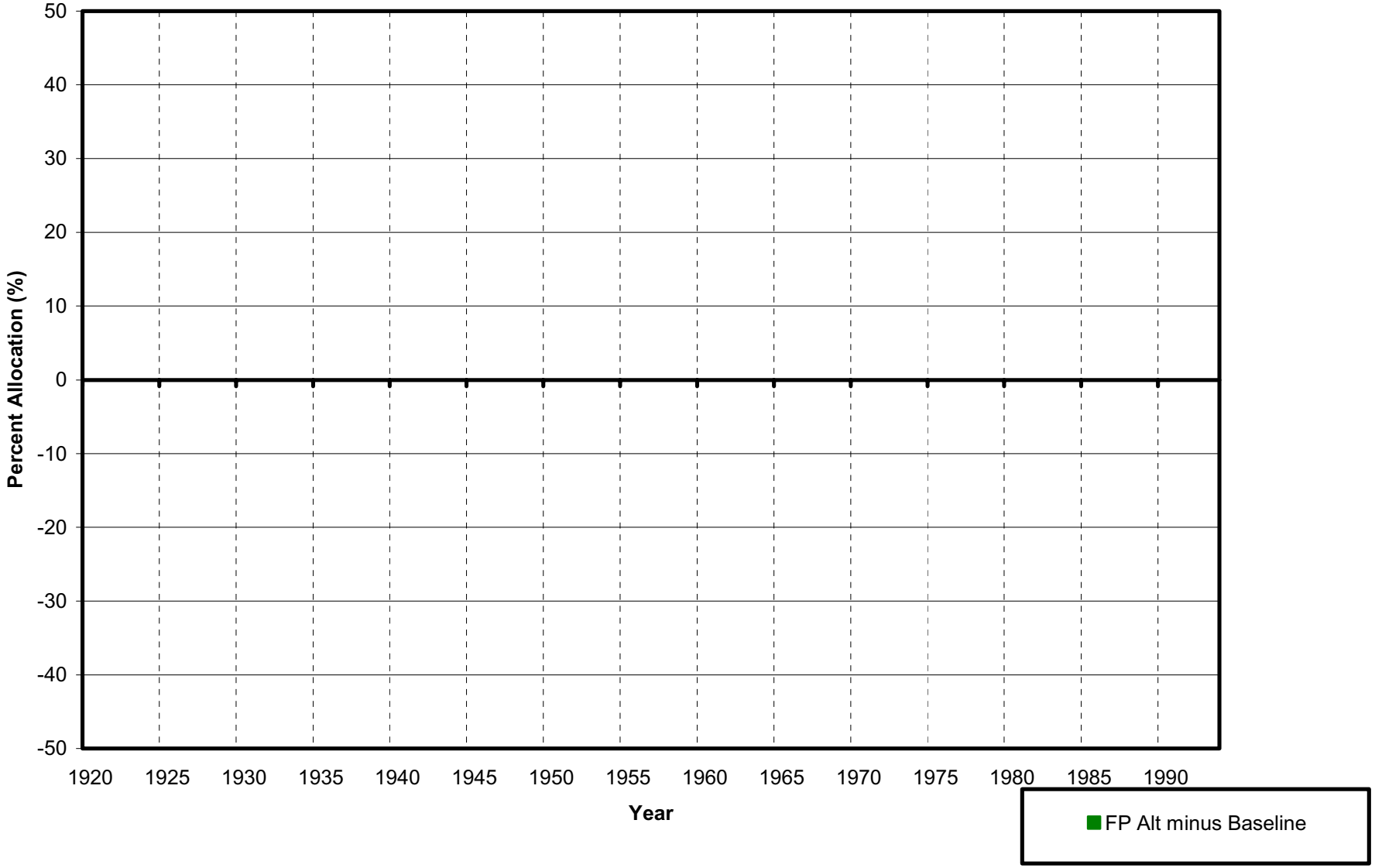
Percent Allocation to CVP Refuges North of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	94%	94%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	100%	100%	0%

[1] Based on the 72 years modeled.

Percent Allocation to CVP M&I Contractors South of Delta Under Baseline and FP Alt Conditions



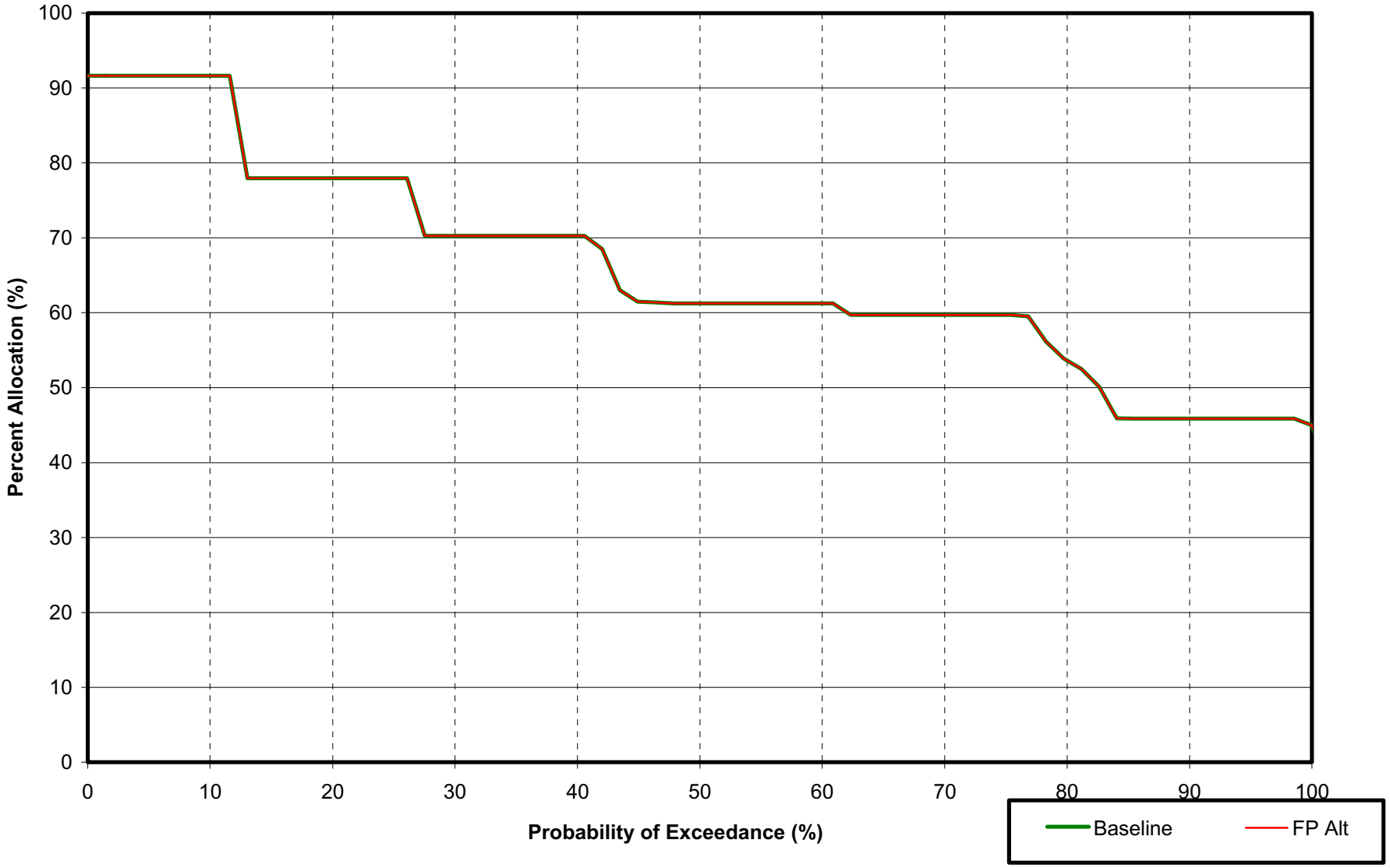
Differences in Percent Allocation to CVP M&I Contractors South of Delta Under Baseline and FP Alt Conditions



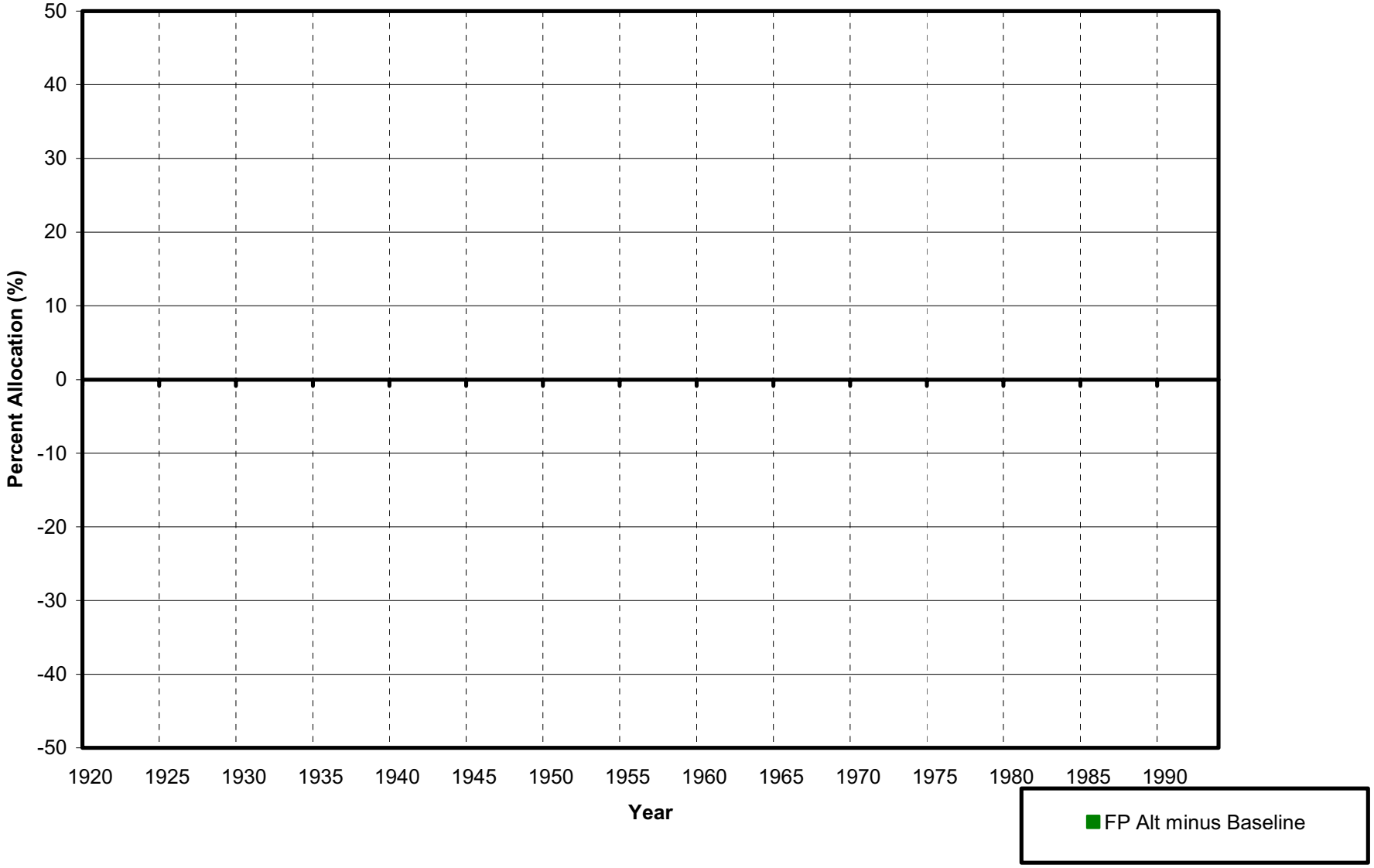
Percent Allocation to CVP M&I Contractors South of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	87%	87%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	86%	86%	0%

[1] Based on the 72 years modeled.

Percent Allocation to CVP Agricultural Contractors South of Delta Under Baseline and FP Alt Conditions



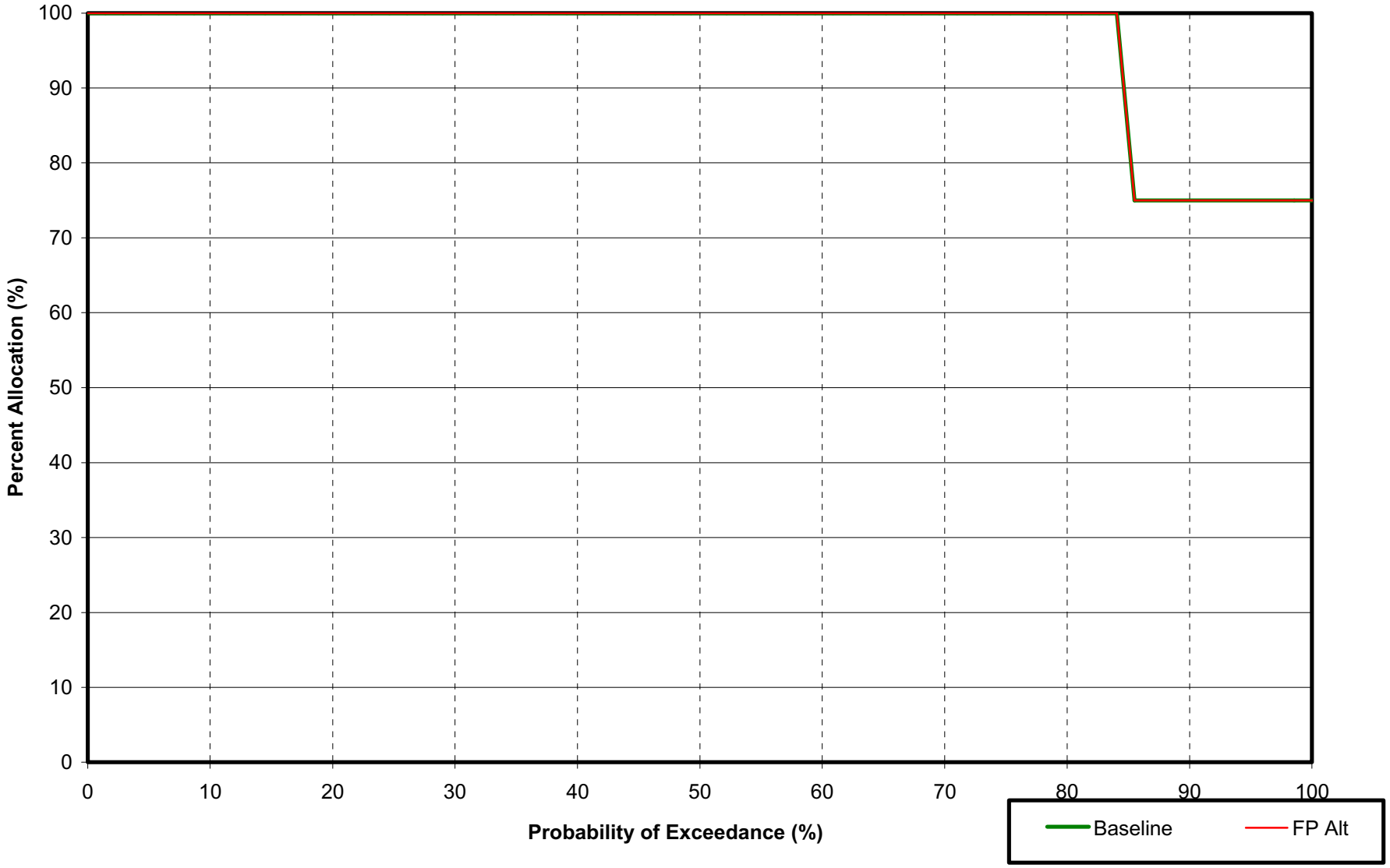
Differences in Percent Allocation to CVP Agricultural Contractors South of Delta Under Baseline and FP Alt Conditions



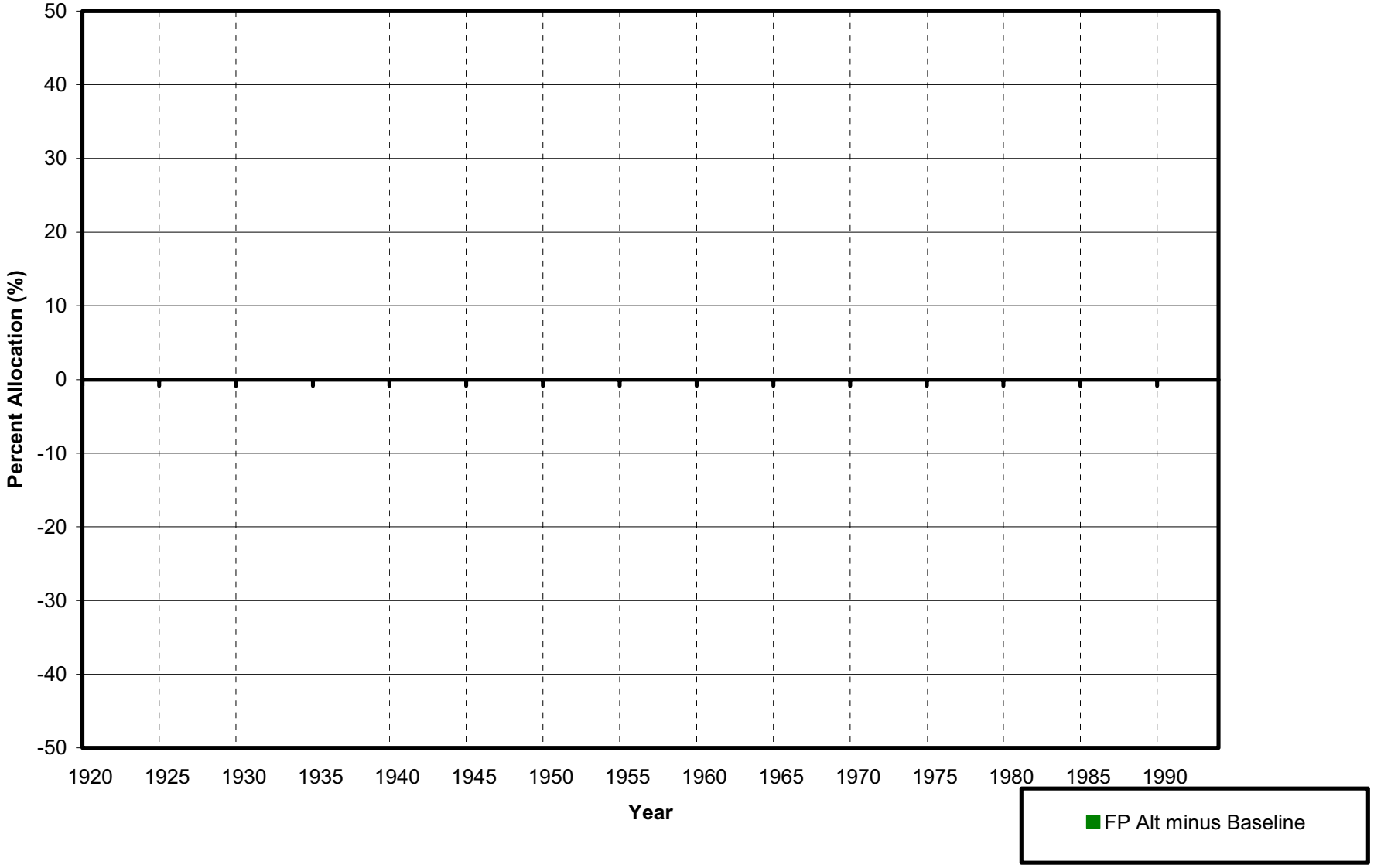
Percent Allocation to CVP Agricultural Contractors South of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	64%	64%	0%
Minimum	0%	0%	0%
Maximum	92%	92%	0%
Median	61%	61%	0%

[1] Based on the 72 years modeled.

Percent Allocation to CVP Exchange Contractors South of Delta Under Baseline and FP Alt Conditions



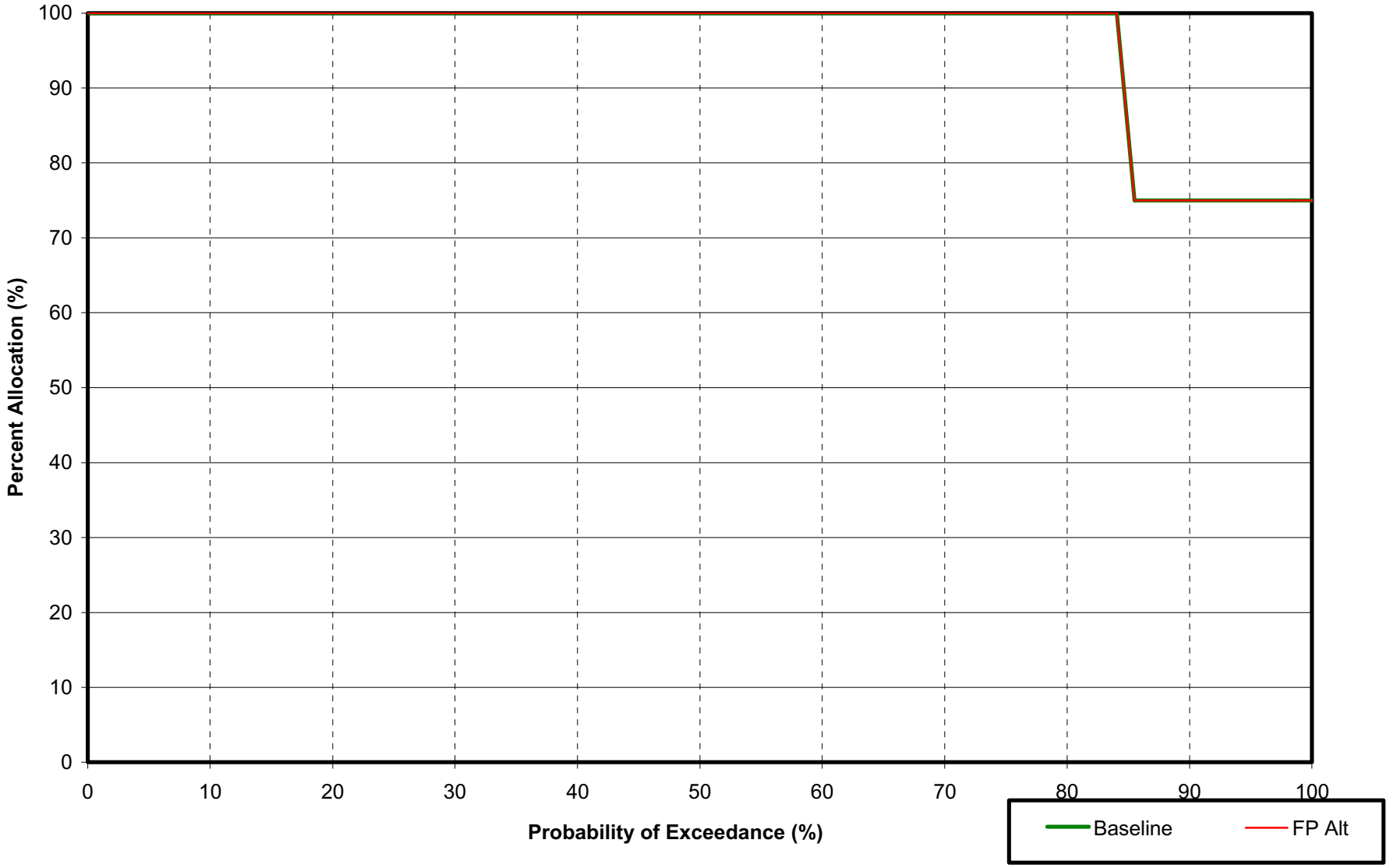
Differences in Percent Allocation to CVP Exchange Contractors South of Delta Under Baseline and FP Alt Conditions



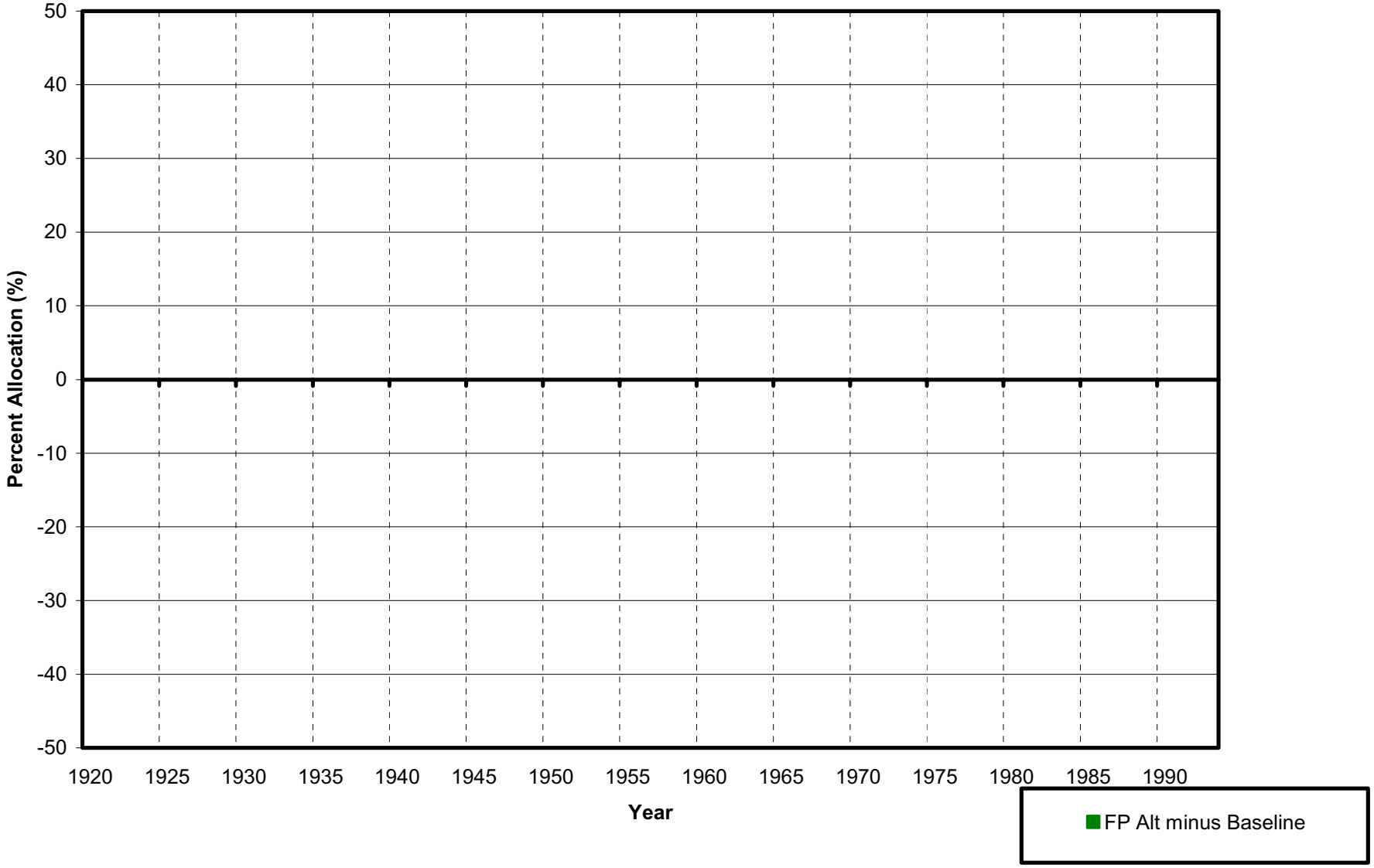
Percent Allocation to CVP Exchange Contractors South of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	94%	94%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	100%	100%	0%

[1] Based on the 72 years modeled.

Percent Allocation to CVP Refuges South of Delta Under Baseline and FP Alt Conditions



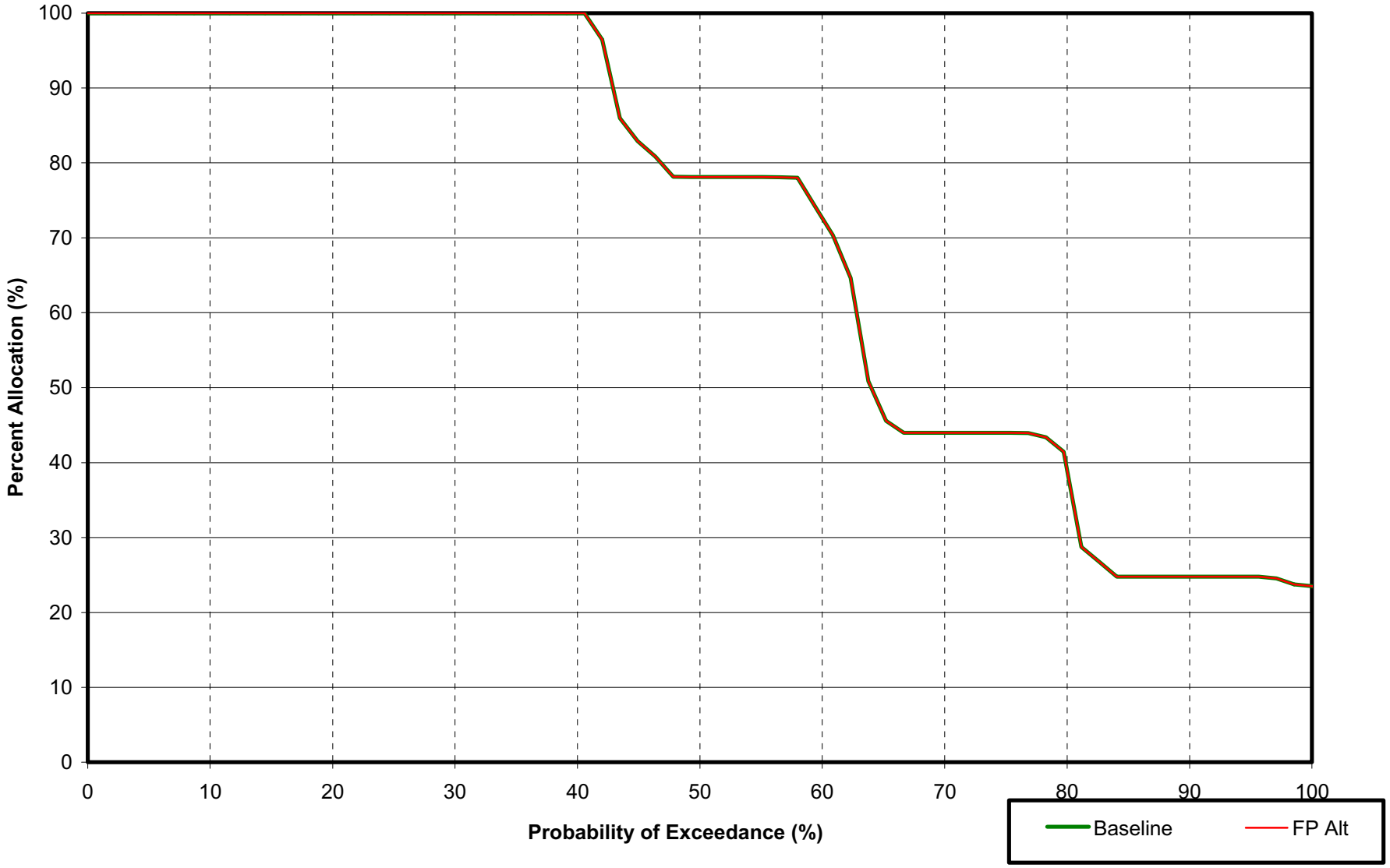
Differences in Percent Allocation to CVP Refuges South of Delta Under Baseline and FP Alt Conditions



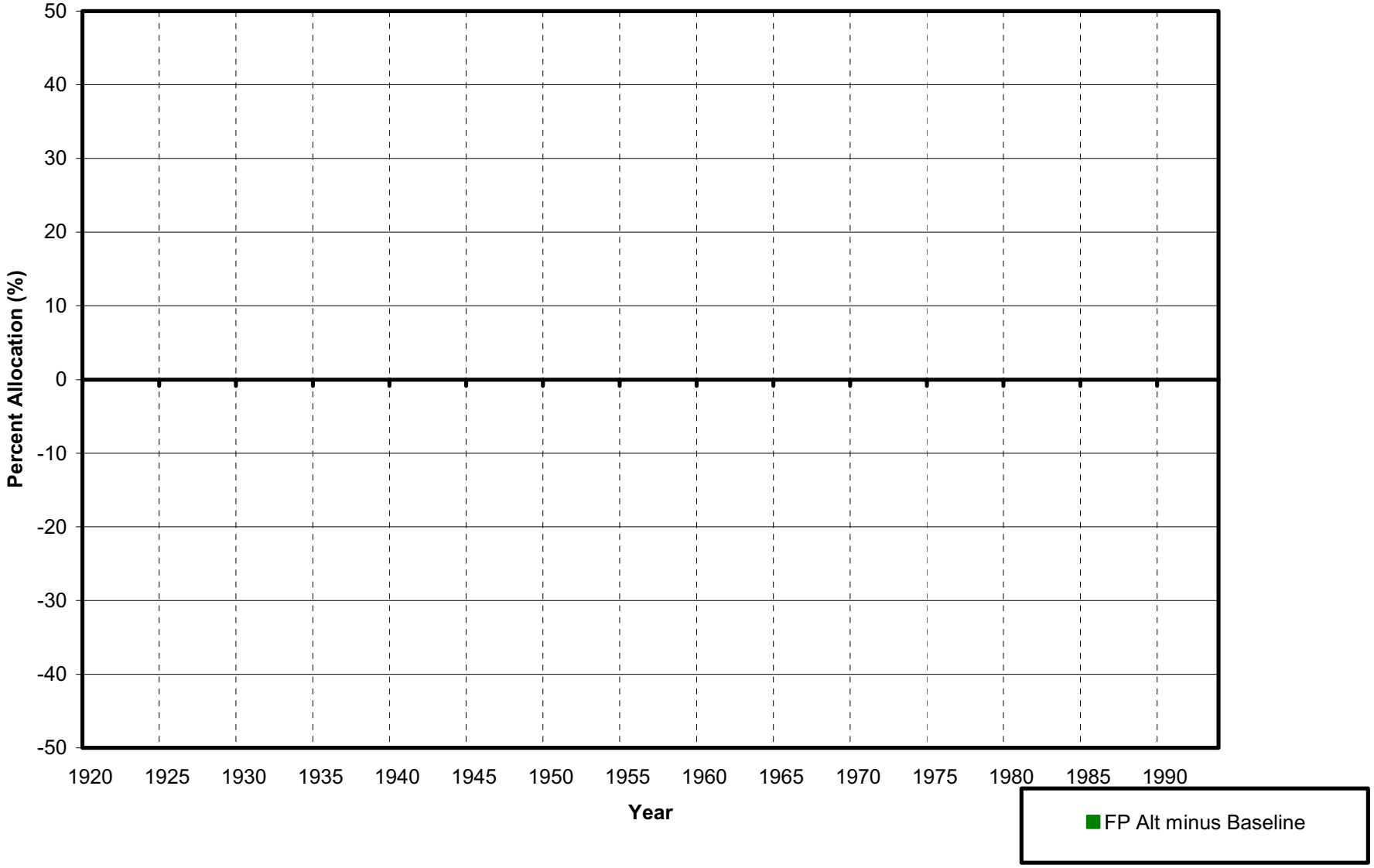
Percent Allocation to CVP Refuges South of Delta Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	94%	94%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	100%	100%	0%

[1] Based on the 72 years modeled.

Percent Allocation to SWP Contractors Under Baseline and FP Alt Conditions



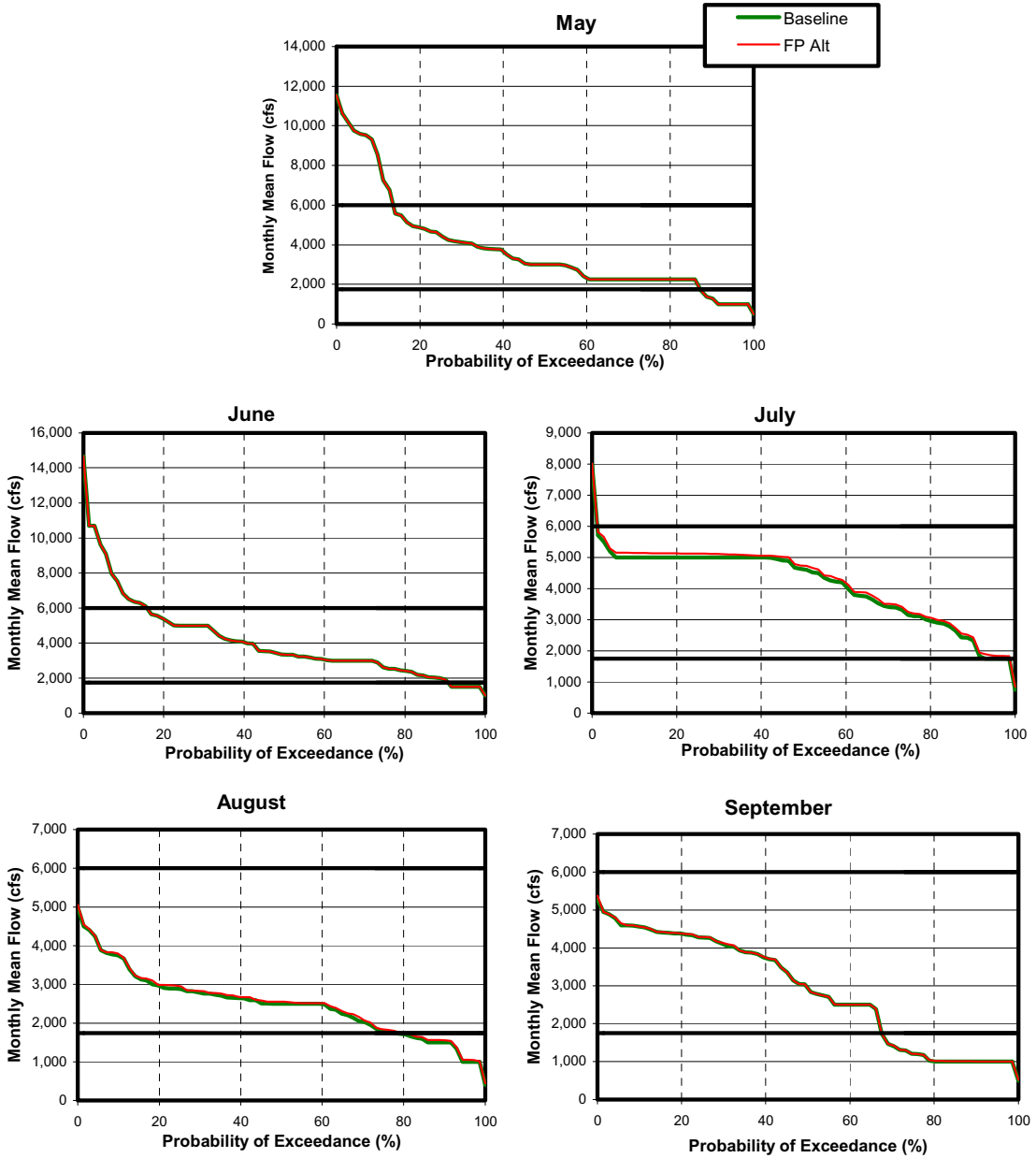
Differences in Percent Allocation to SWP Contractors Under Baseline and FP Alt Conditions



Percent Allocation to SWP Contractors Under Baseline and FP Alt Conditions[1]			
	Baseline	**FP Alt**	**Difference**
Average	69%	69%	0%
Minimum	0%	0%	0%
Maximum	100%	100%	0%
Median	78%	78%	0%

[1] Based on the 72 years modeled.

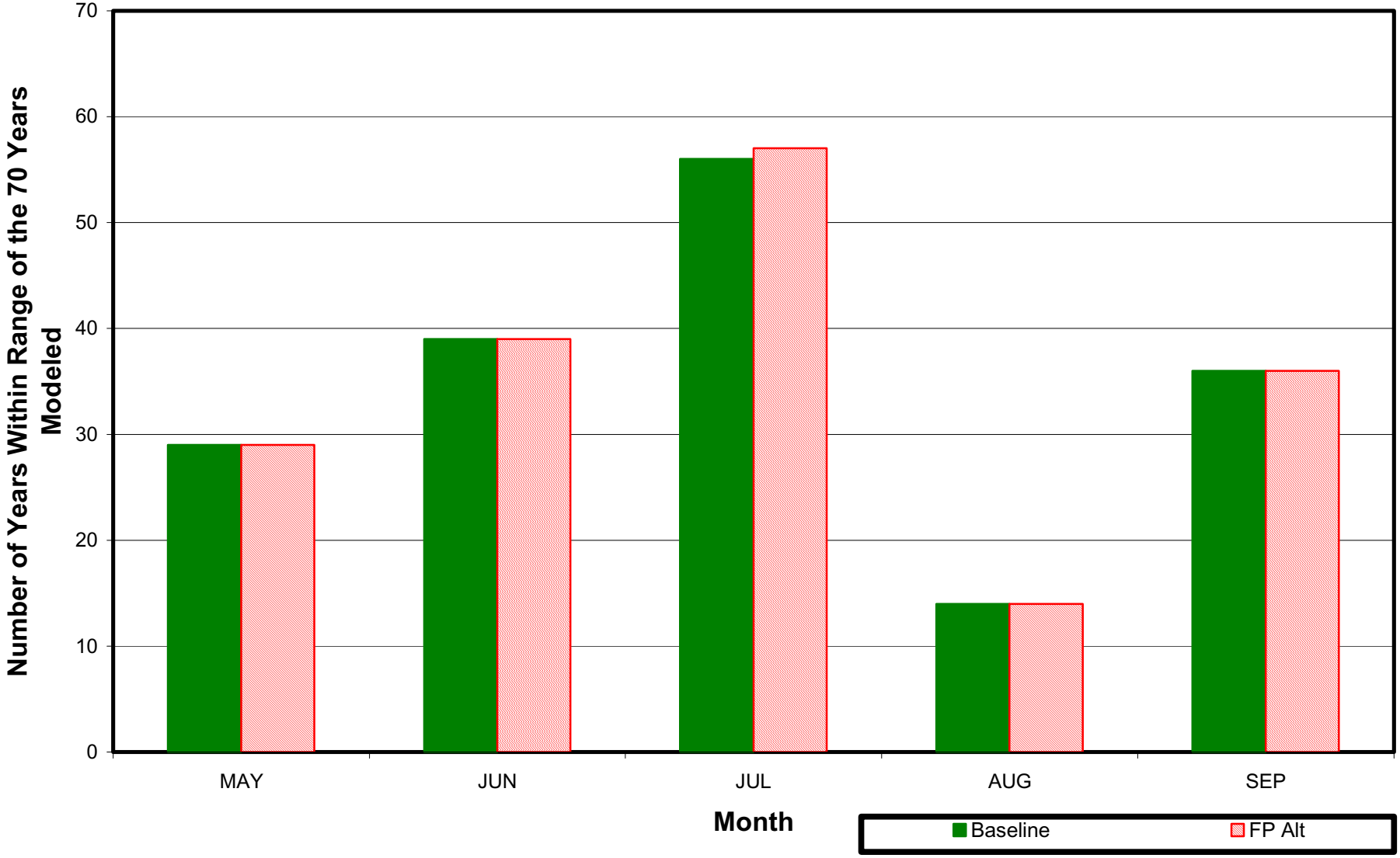
Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions



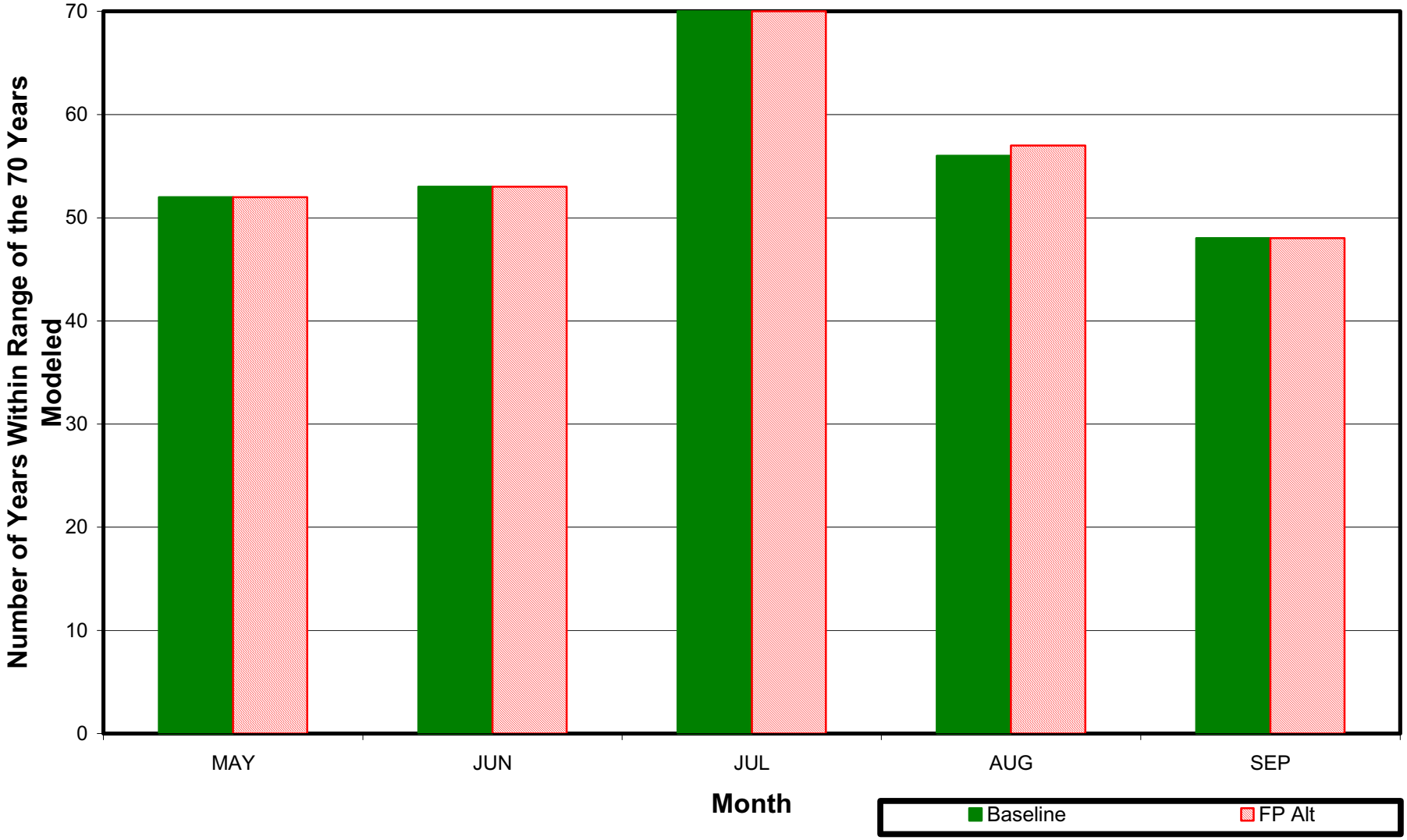
Flow Ranges Suitable for Recreation in the Lower American River at Nimbus Dam Under Baseline and FP Alt Conditions						
Month	**# Years in Specified Flow Range[1]**					
	(1,750-6,000 cfs)			**(3,000-6,000 cfs)**		
	Baseline	**FP Alt**	**Difference**	**Baseline**	**FP Alt**	**Difference**
May	52	52	0	29	29	0
Jun	53	53	0	39	39	0
Jul	70	70	0	56	57	1
Aug	56	57	1	14	14	0
Sep	48	48	0	36	36	0
Total	279	280	1	174	175	1

[1] Based on 72 years modeled.

Number of Years the Lower American River Release From Nimbus Dam is Within the Range of 3,000 to 6,000 cfs Under Baseline and FP Alt Conditions

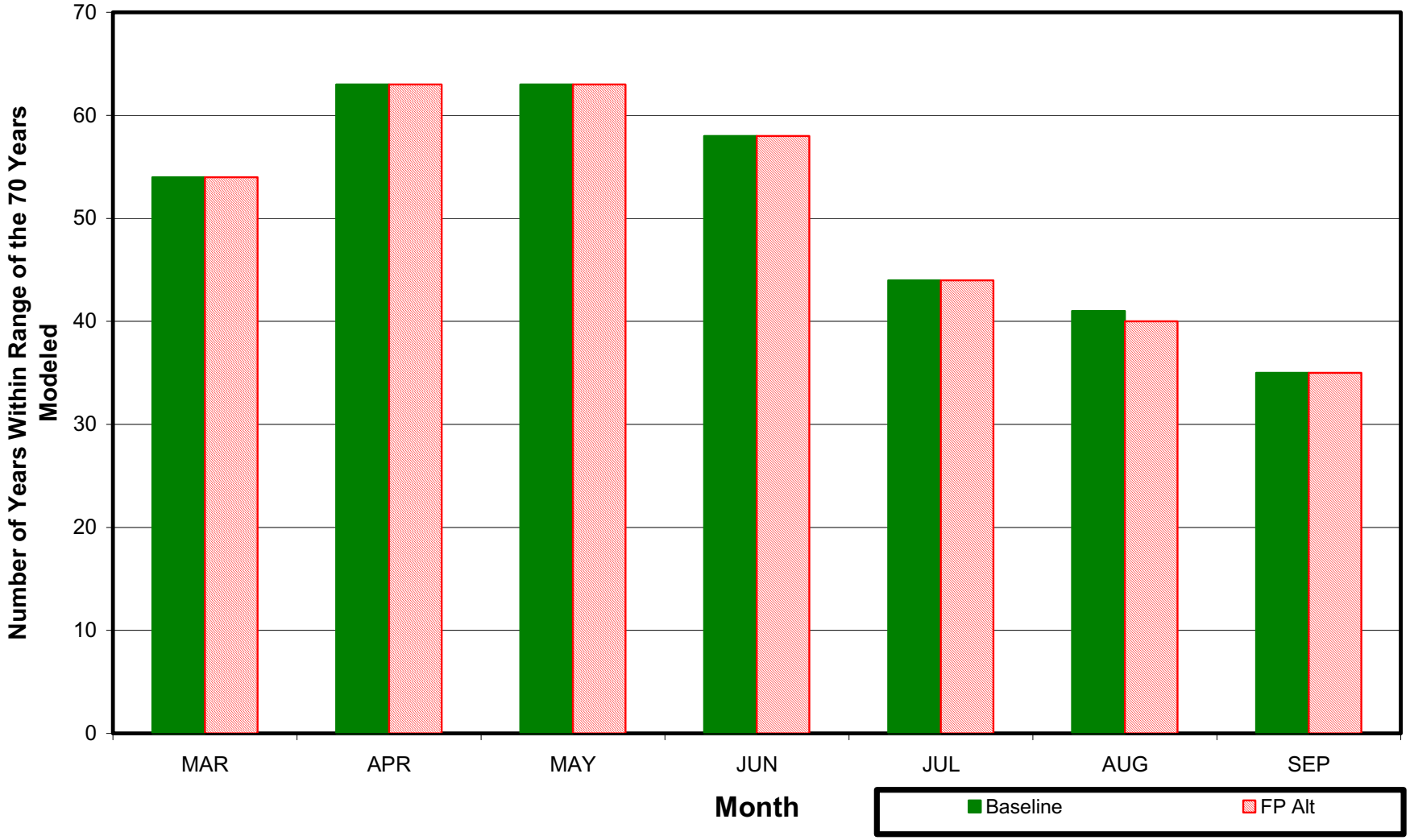


Number of Years the Lower American River Release From Nimbus Dam is Within the Range of 1,750 to 6,000 cfs Under Baseline and FP Alt Conditions

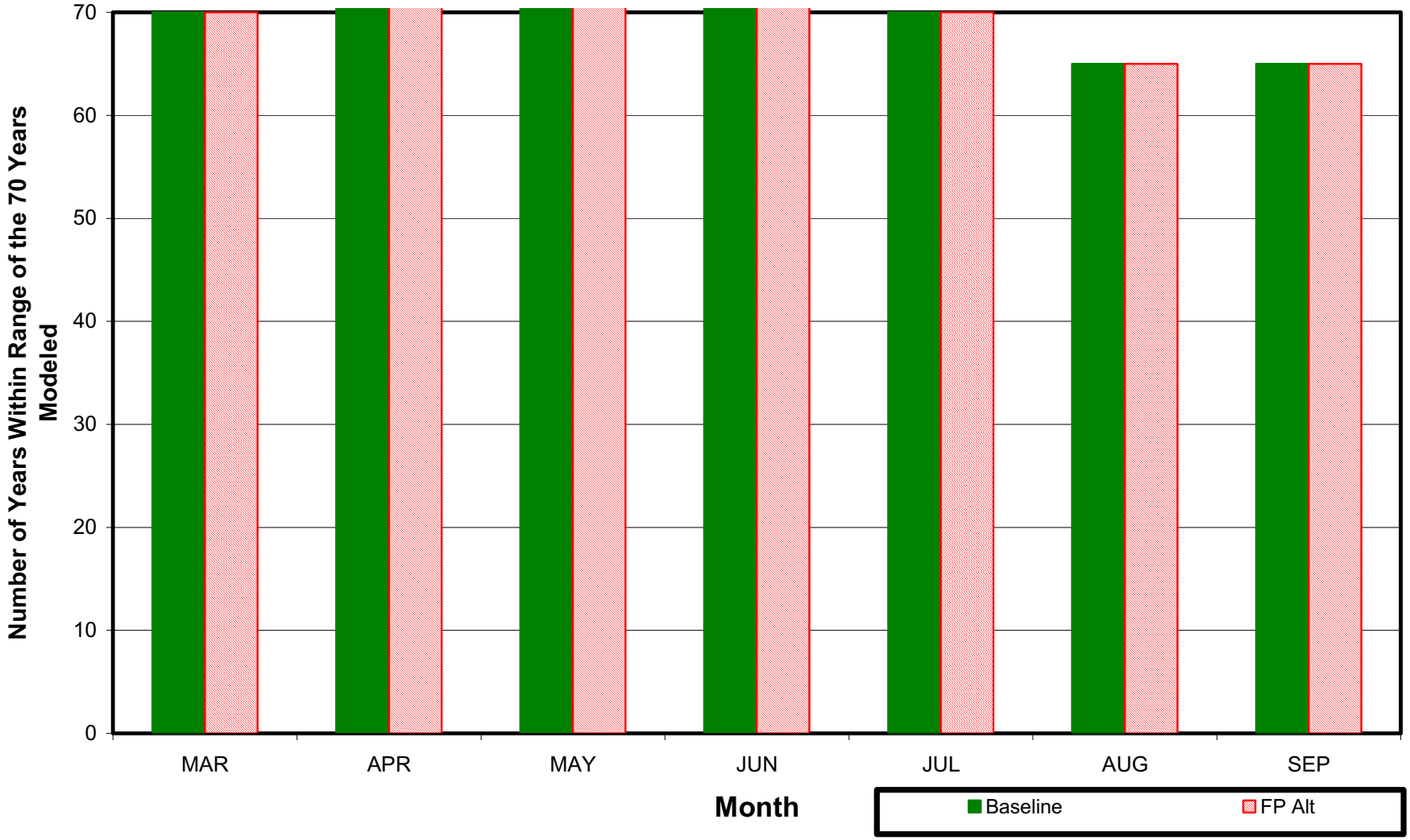


Recreation Facility Usability on Folsom Reservoir Under Baseline and FP Alt Conditions															
Number of Years of the 72-Year Record at Specified Levels															
Month	Number of Years All Boat Ramps Usable (>=420 ft)			Number of Years at Least One East/West Ramp Usable (>=375 ft)			Number of Years Marina Wet Slips Usable (>=412 ft)			Number of Years Swim Beaches Usable (420-455 ft)			Number of Years Optimum Recreation (435-455 ft)		
	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff
Mar	54	54	0	70	70	0	64	64	0	-	-	-	-	-	-
Apr	63	63	0	71	71	0	68	68	0	-	-	-	-	-	-
May	63	63	0	71	71	0	67	67	0	21	21	0	12	12	0
Jun	58	58	0	71	71	0	63	63	0	23	23	0	10	10	0
Jul	44	44	0	70	70	0	49	48	-1	35	36	1	28	29	1
Aug	41	40	-1	65	65	0	45	45	0	41	40	-1	32	32	0
Sep	35	35	0	65	65	0	42	42	0	35	35	0	0	0	0
Total			-1			0			-1			0			1

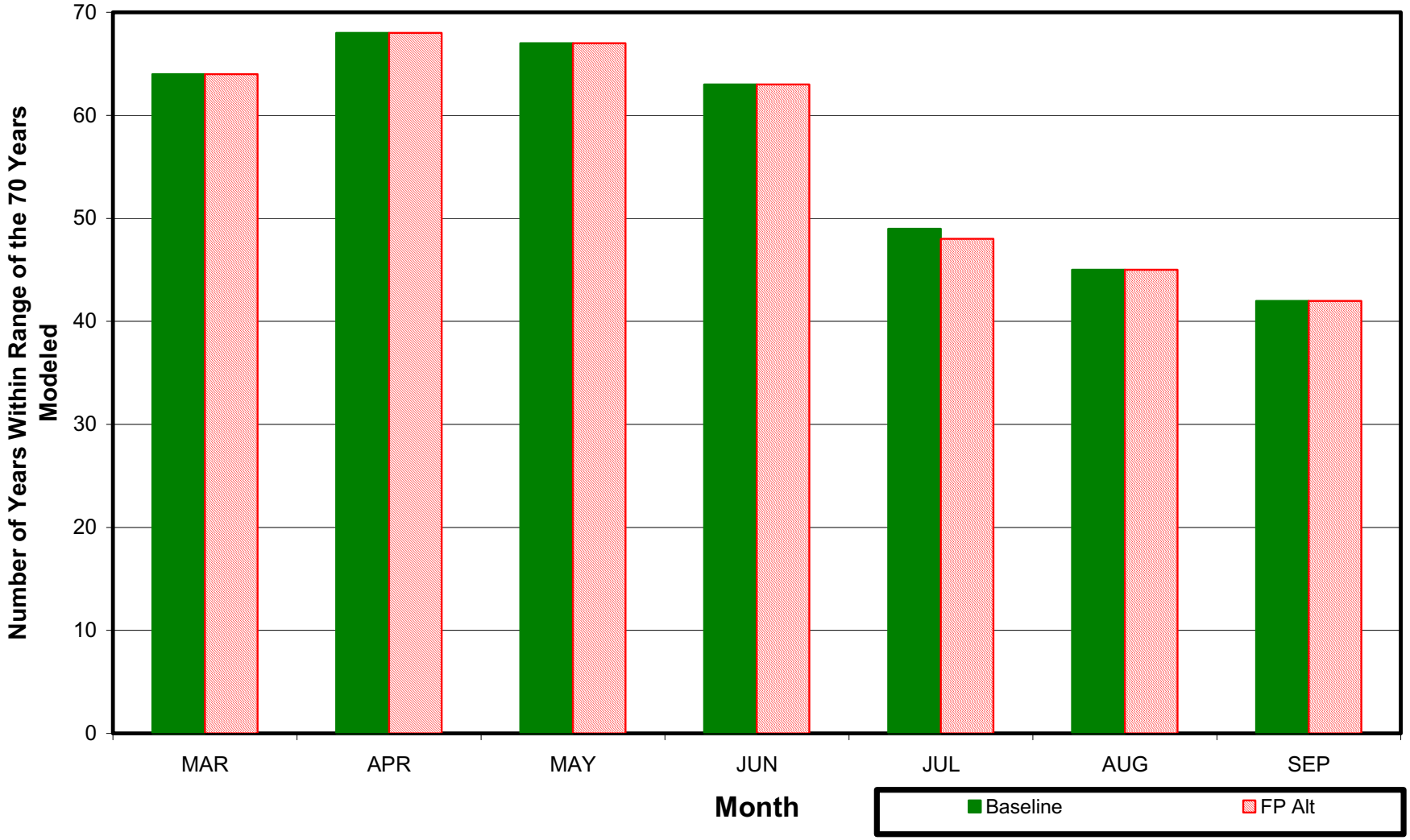
Number of Years Folsom Reservoir End of Month Elevation is Above 420 feet Under Baseline and FP Alt Conditions



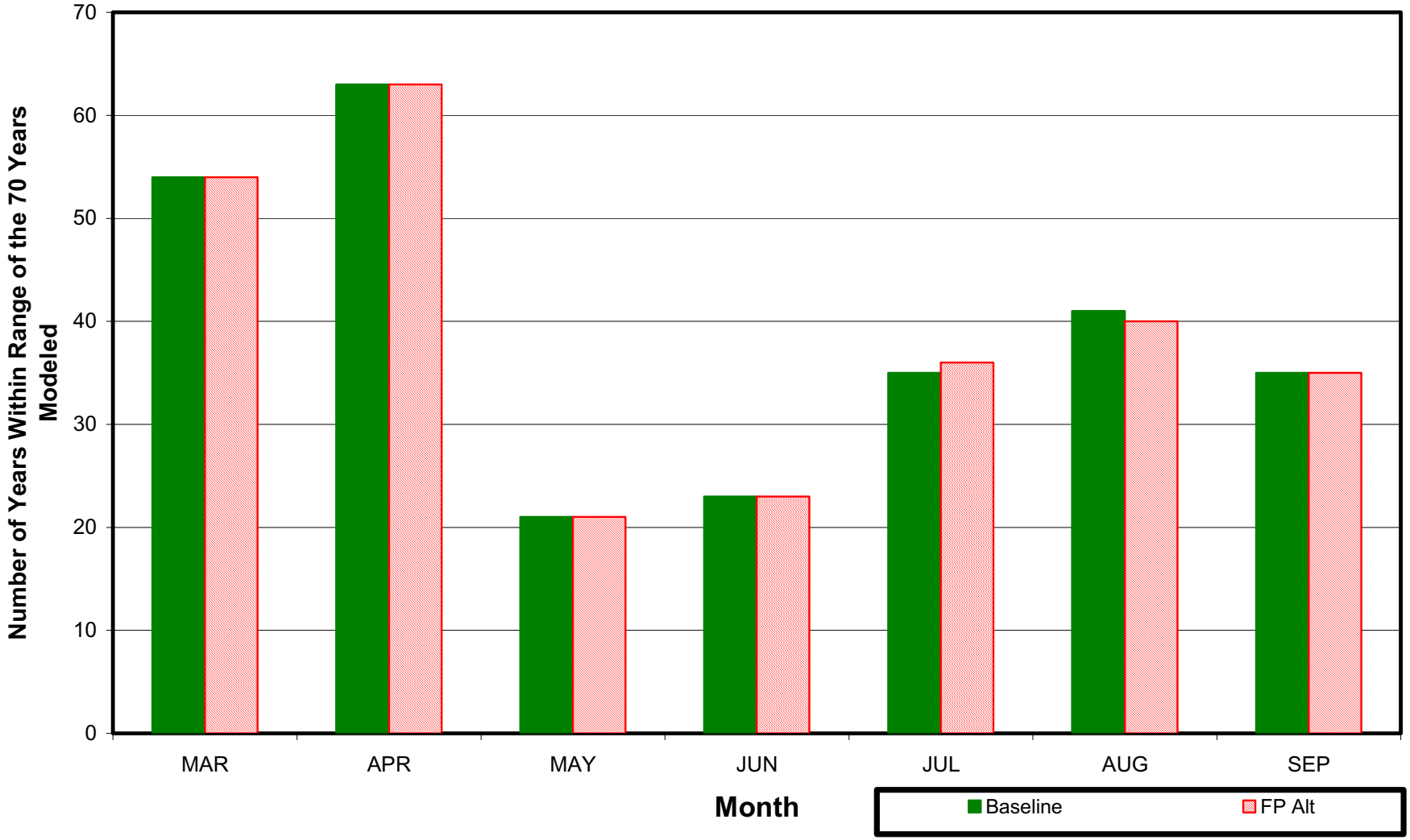
Number of Years Folsom Reservoir End of Month Elevation is Above 375 feet Under Baseline and FP Alt Conditions



Number of Years Folsom Reservoir End of Month Elevation is Above 412 feet Under Baseline and FP Alt Conditions

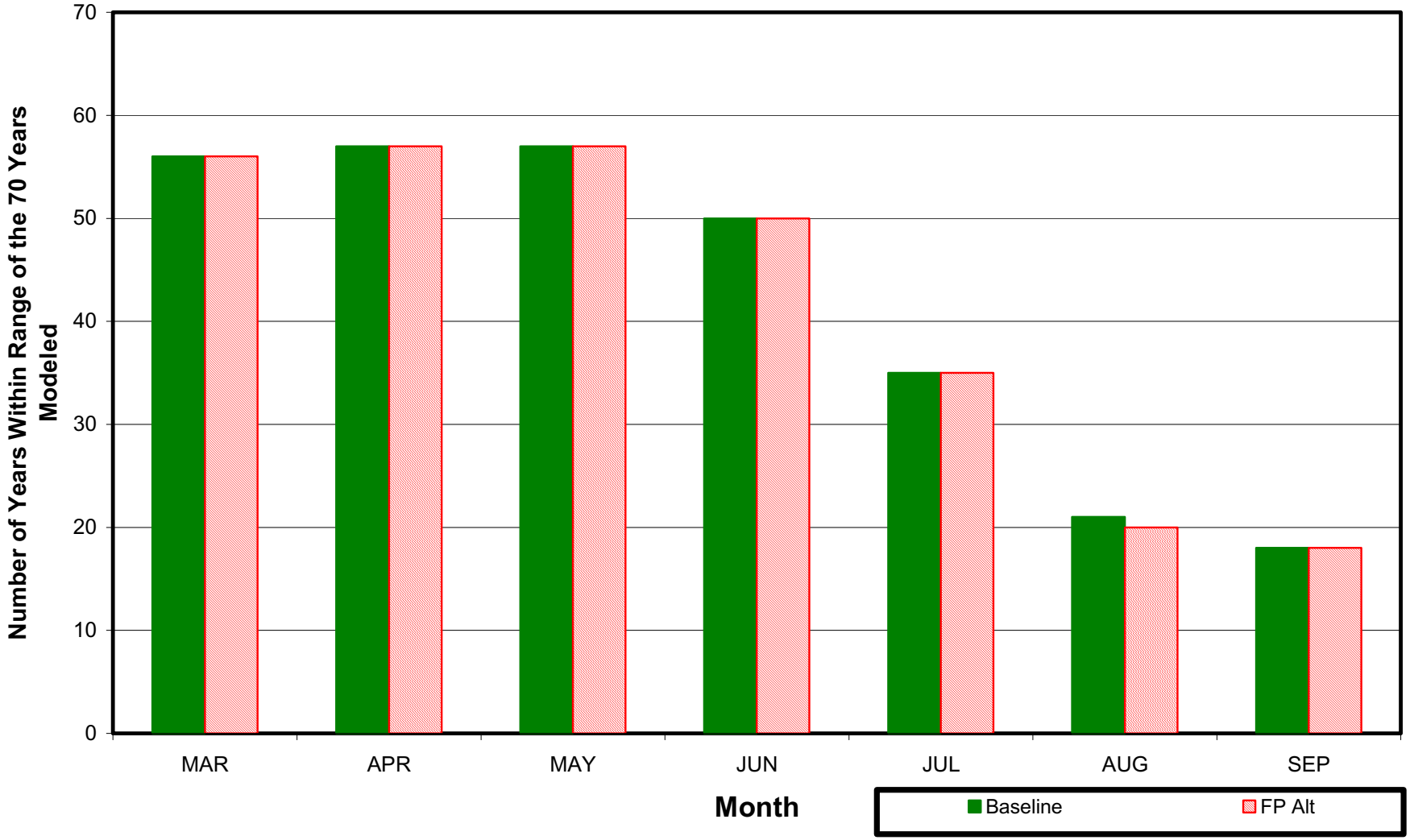


Number of Years Folsom Reservoir End of Month Elevation is Between 420 and 455 feet Under Baseline and FP Alt Conditions

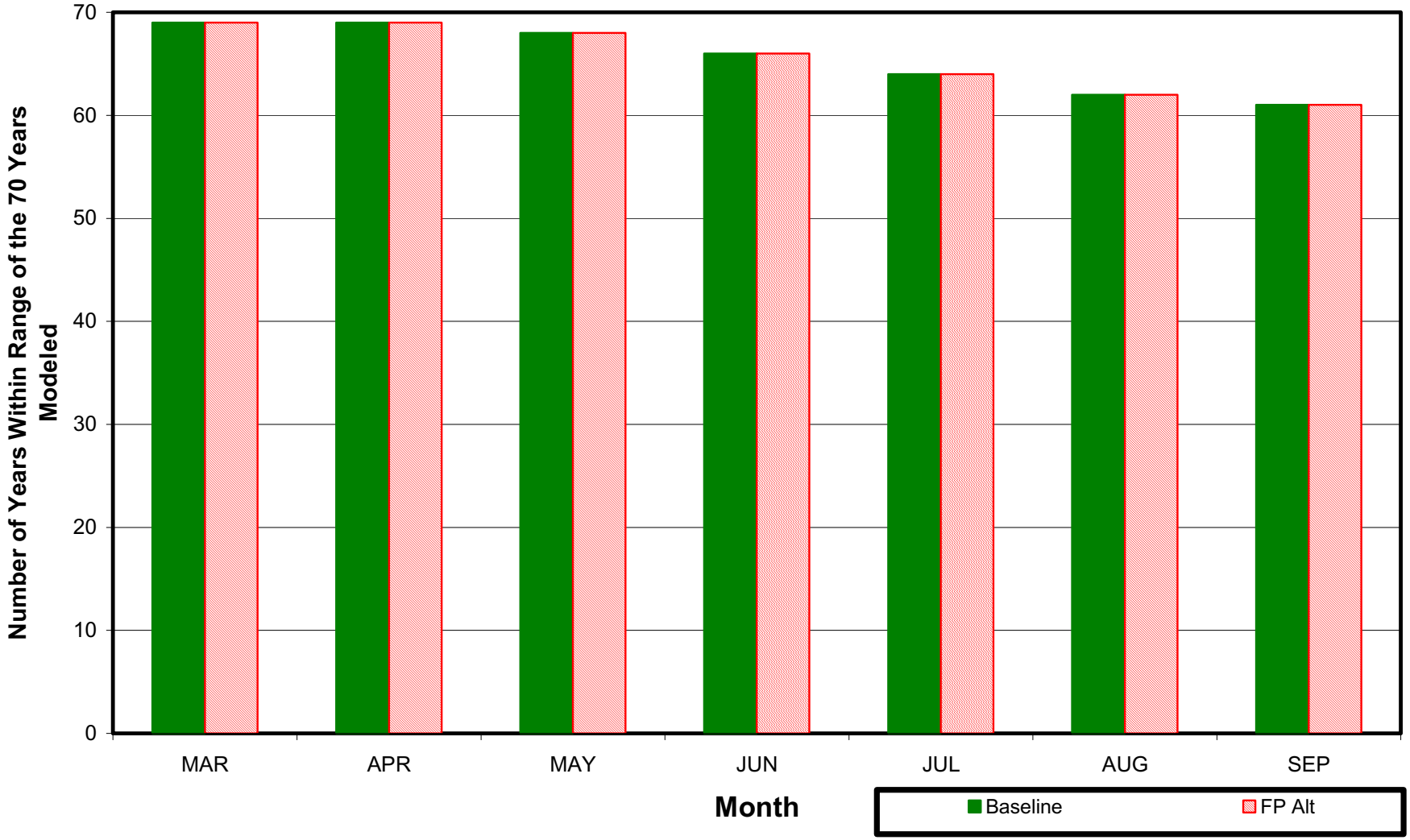


Recreation Facility Usability on Shasta Reservoir Under Baseline and FP Alt Conditions												
Number of Years of the 72-Year Record at Specified Levels												
Month	Number of Years All Boat Ramps Usable (>=1,017 ft)			Number of Years At Least One Boast Ramp Usable On Each Arm (>=941 ft)			Number of Years Shoreline Use Levels Sustained (>=1,007 ft)			Number of Years Boat-in Camping Use Levels Sustained (>=967 ft)		
	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff
May	57	57	0	68	68	0	60	60	0	66	66	0
Jun	50	50	0	66	66	0	56	56	0	64	64	0
Jul	35	35	0	64	64	0	39	39	0	61	61	0
Aug	21	20	-1	62	62	0	29	29	0	55	55	0
Sep	18	18	0	61	61	0	23	23	0	50	50	0
Total			-1			0			0			0

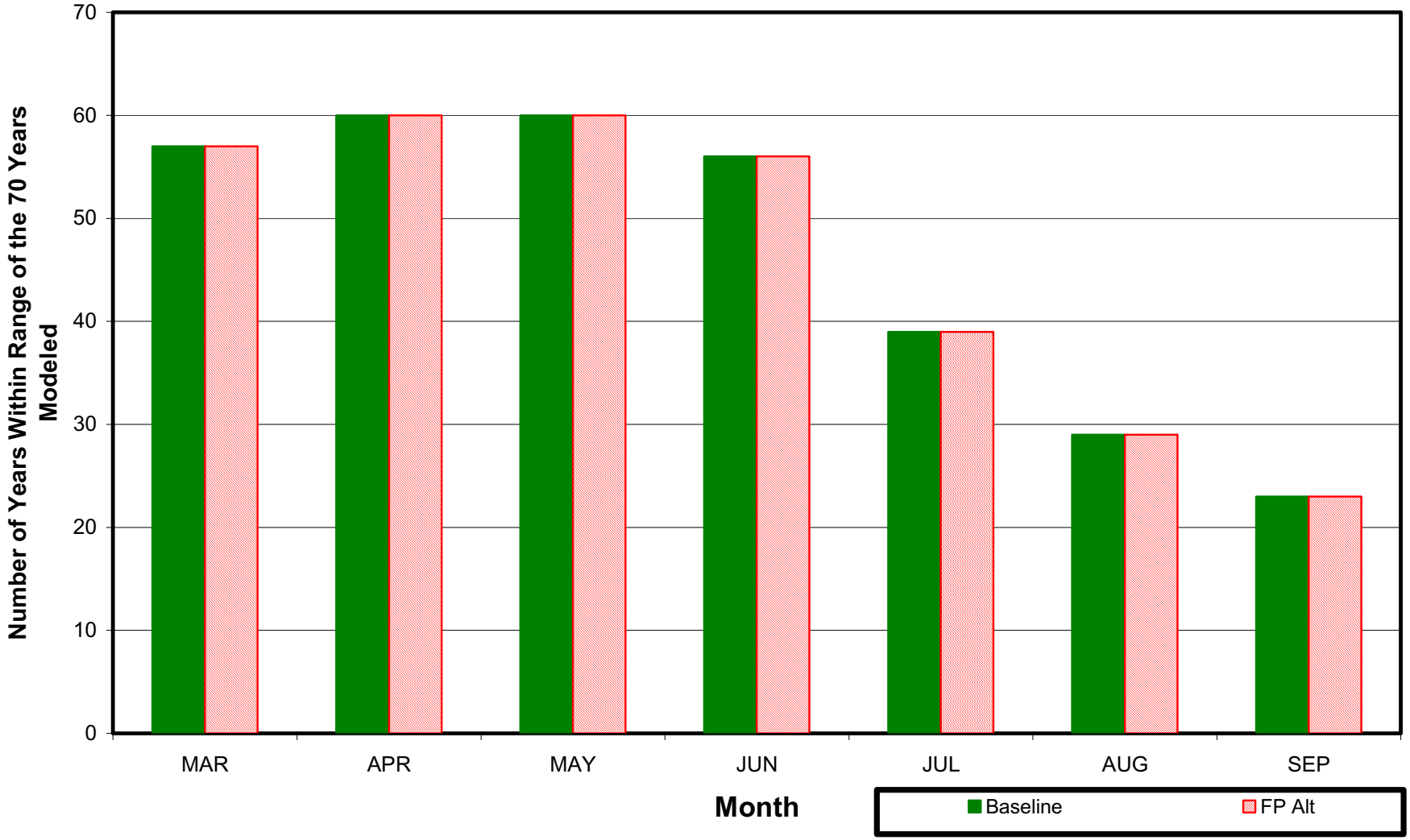
Number of Years Shasta Reservoir End of Month Elevation is Above 1017 feet Under Baseline and FP Alt Conditions



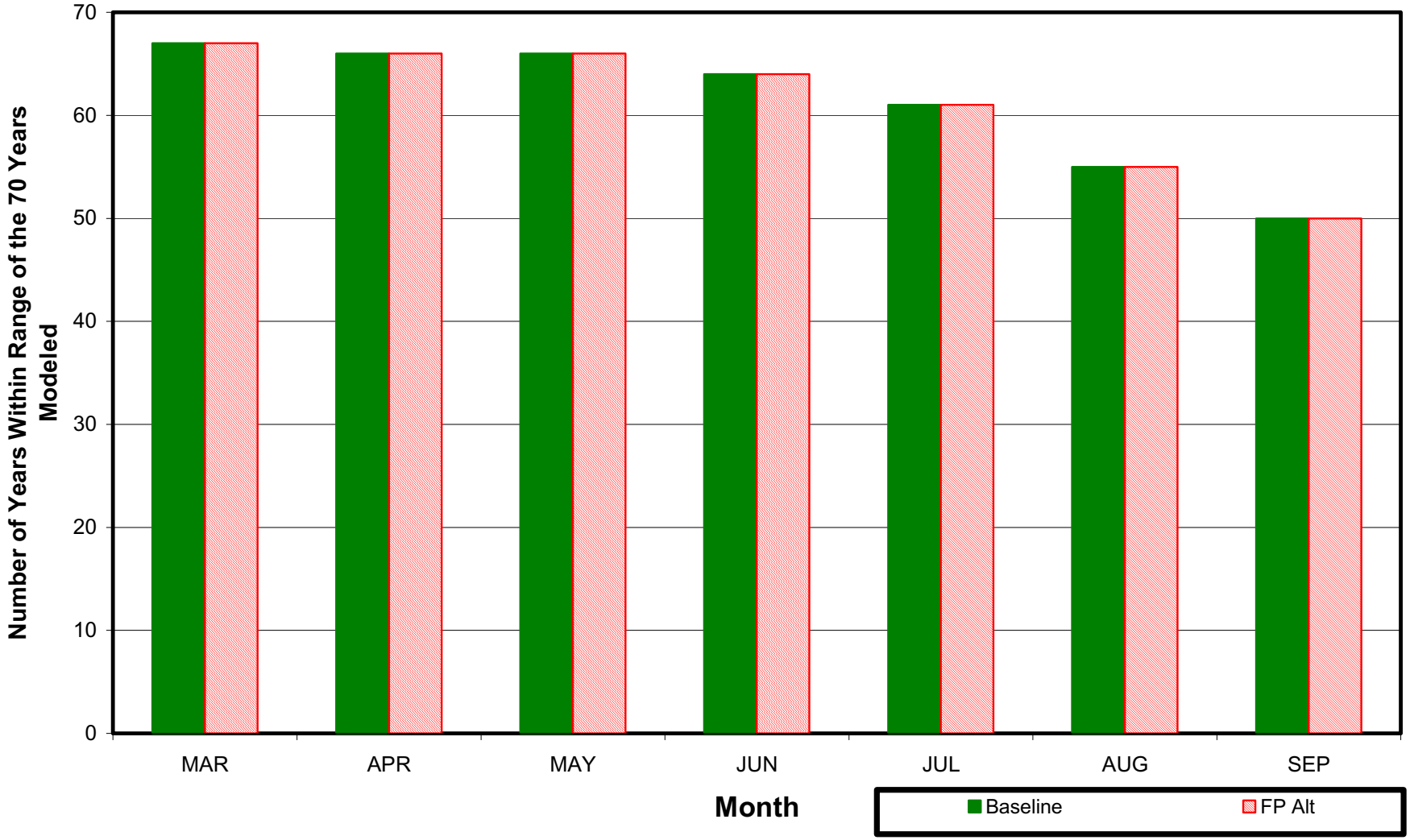
Number of Years Shasta Reservoir End of Month Elevation is Above 941 feet Under Baseline and FP Alt Conditions



Number of Years Shasta Reservoir End of Month Elevation is Above 1007 feet Under Baseline and FP Alt Conditions

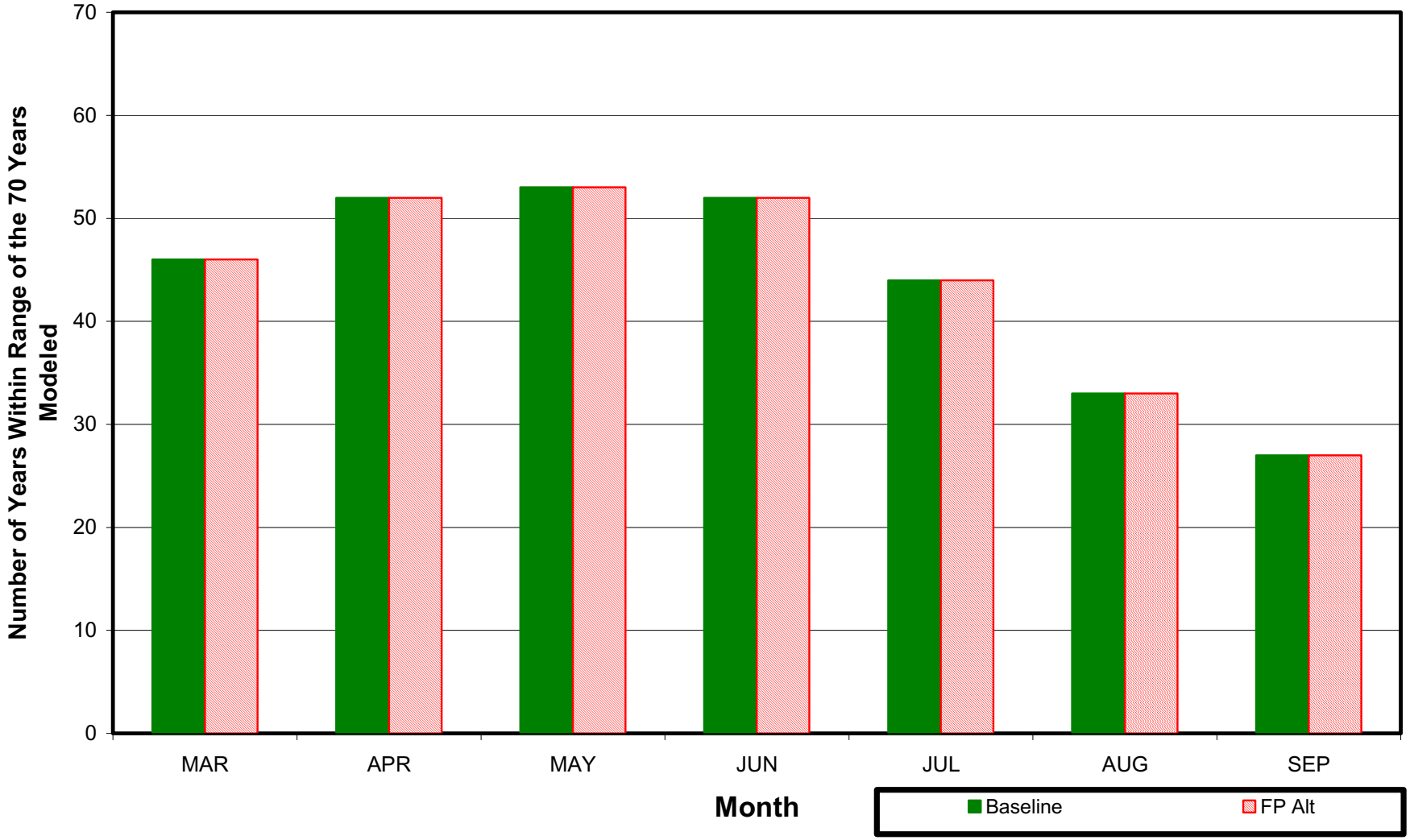


Number of Years Shasta Reservoir End of Month Elevation is Above 967 feet Under Baseline and FP Alt Conditions

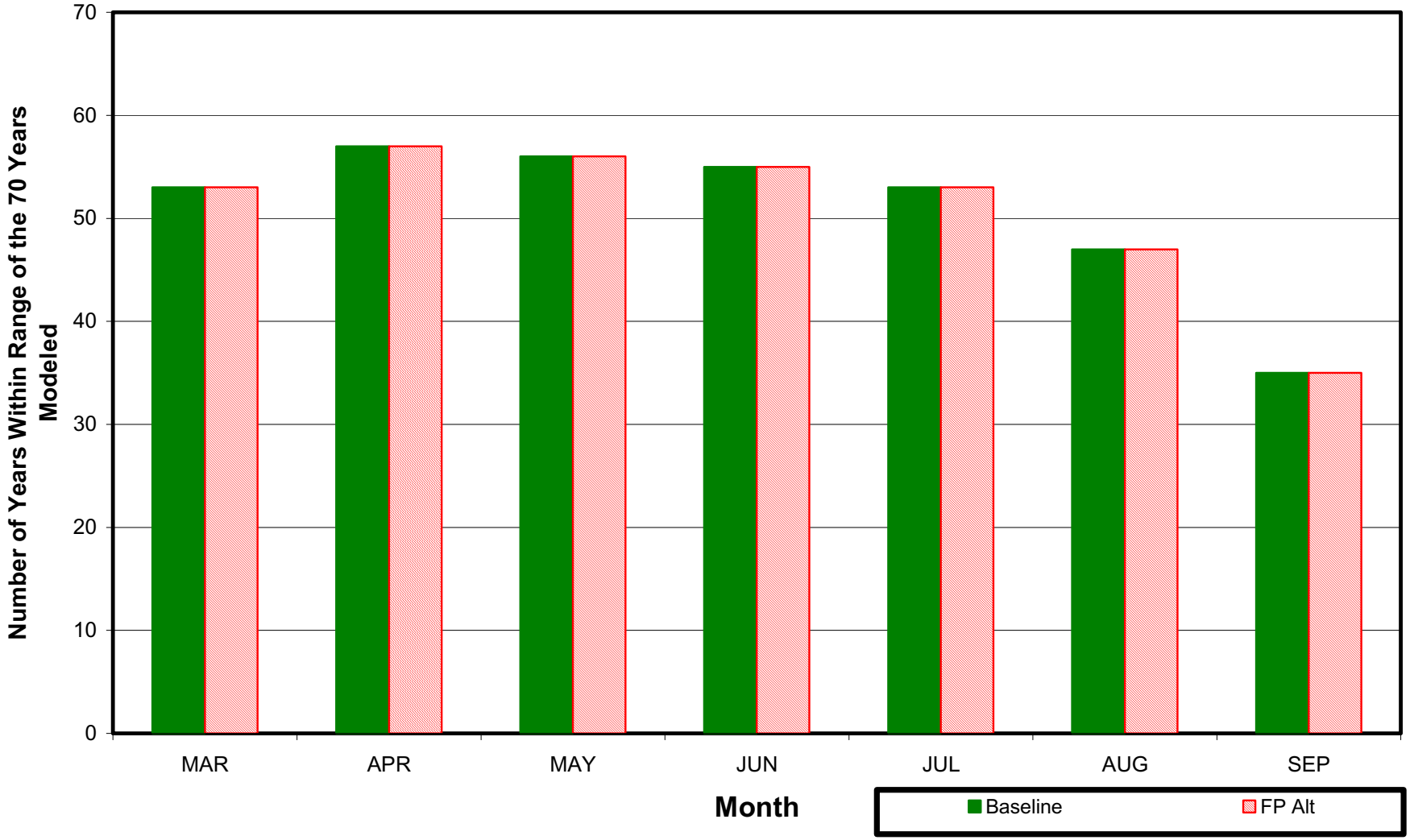


Recreation Facility Usability on Trinity Reservoir Under Baseline and FP Alt Conditions									
Number of Years of the 72-Year Record at Specified Levels									
Month	Number of Years Fairview Boat Ramp Usable (>=2310 ft)			Number of Years Main Arm Boat Ramp Usable (>=2,295 ft)			Number of Years Stuart Fork Arm Boat Ramp Usable (>=2,170 ft)		
	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff	Baseline	FP Alt	Diff
May	53	53	0	56	56	0	72	72	0
Jun	52	52	0	55	55	0	72	72	0
Jul	44	44	0	53	53	0	72	72	0
Aug	33	33	0	47	47	0	72	72	0
Sep	27	27	0	35	35	0	70	70	0
Total			0			0			0

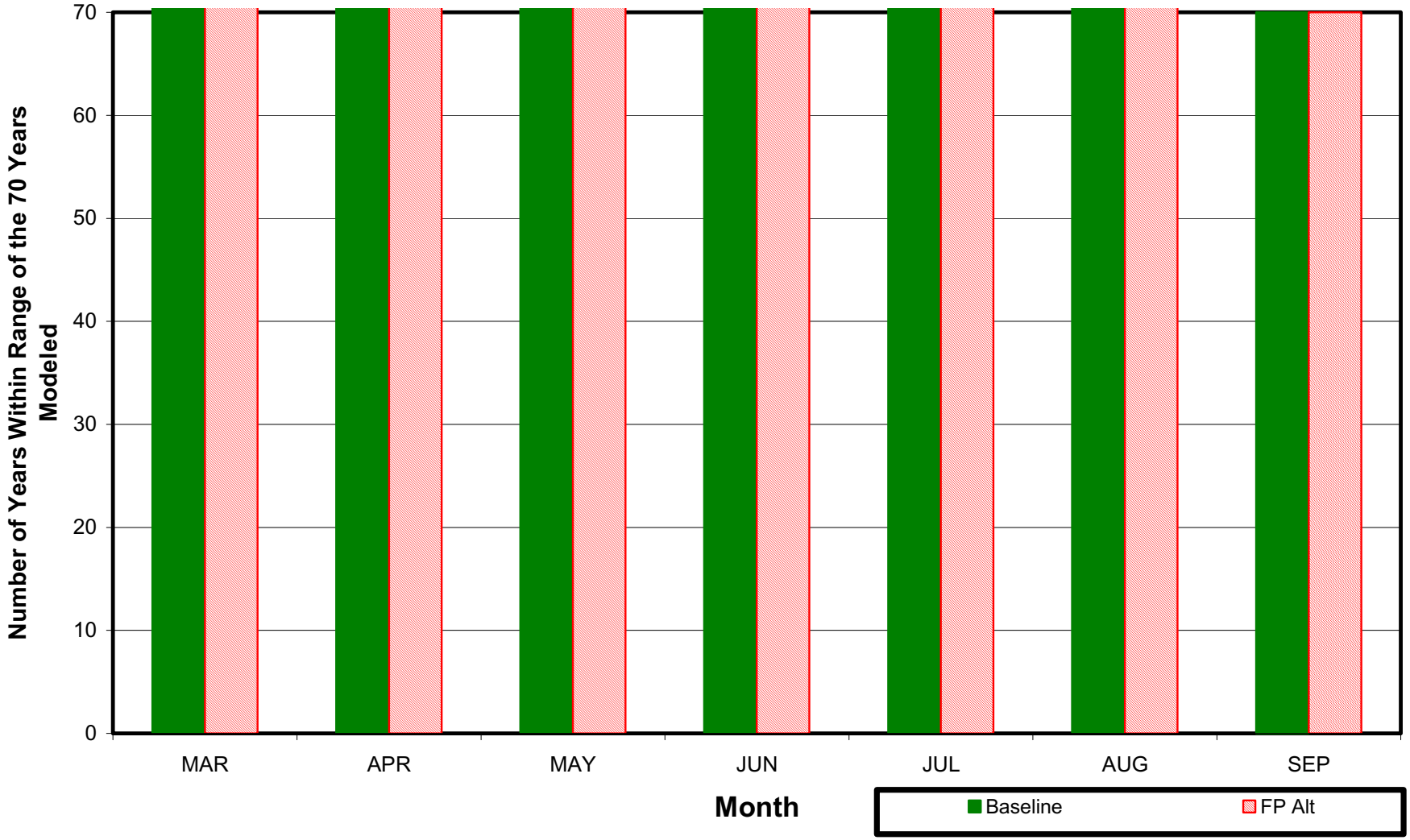
Number of Years Trinity Reservoir End of Month Elevation is Above 2310 feet Under Baseline and FP Alt Conditions



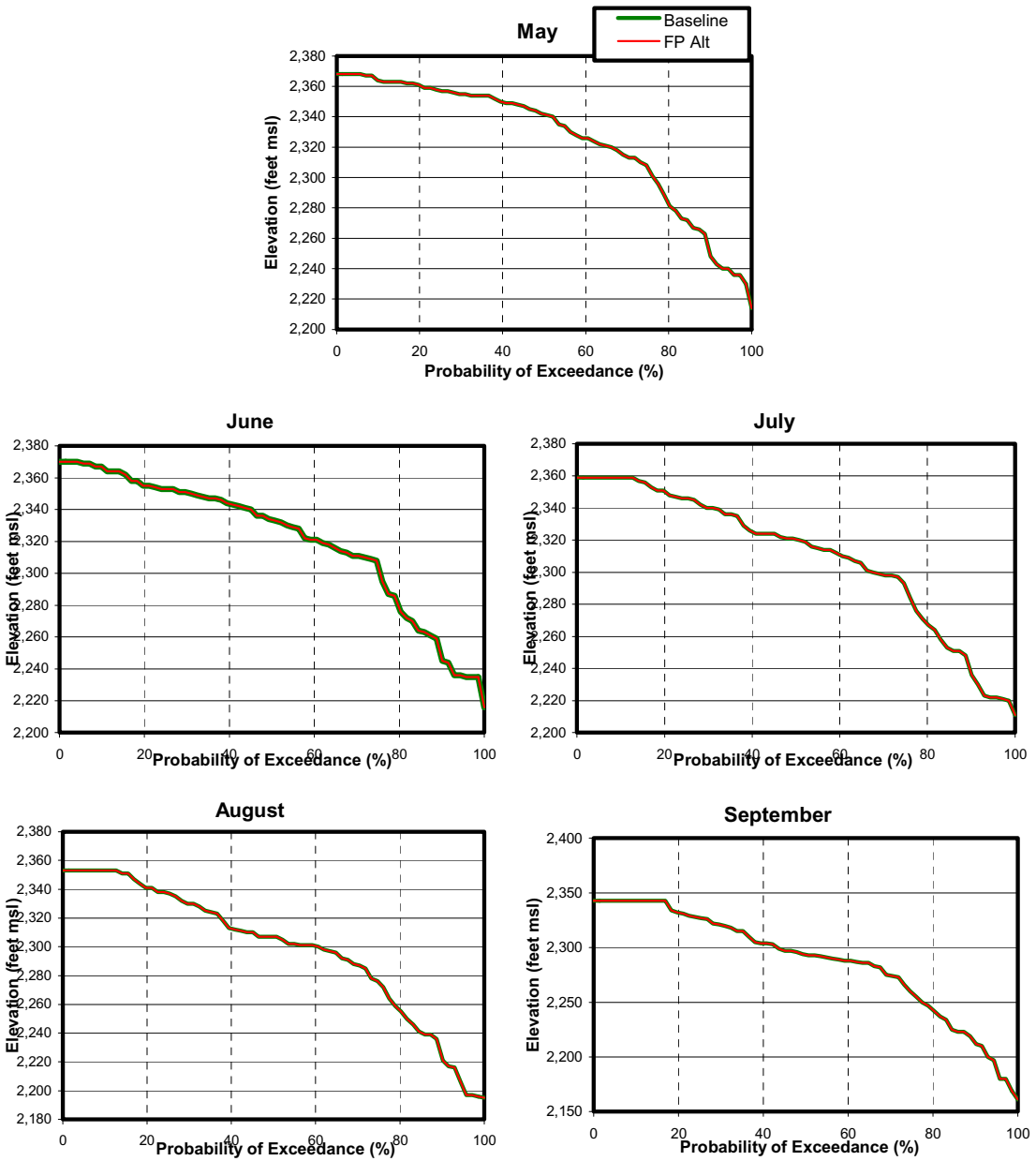
Number of Years Trinity Reservoir End of Month Elevation is Above 2295 feet Under Baseline and FP Alt Conditions



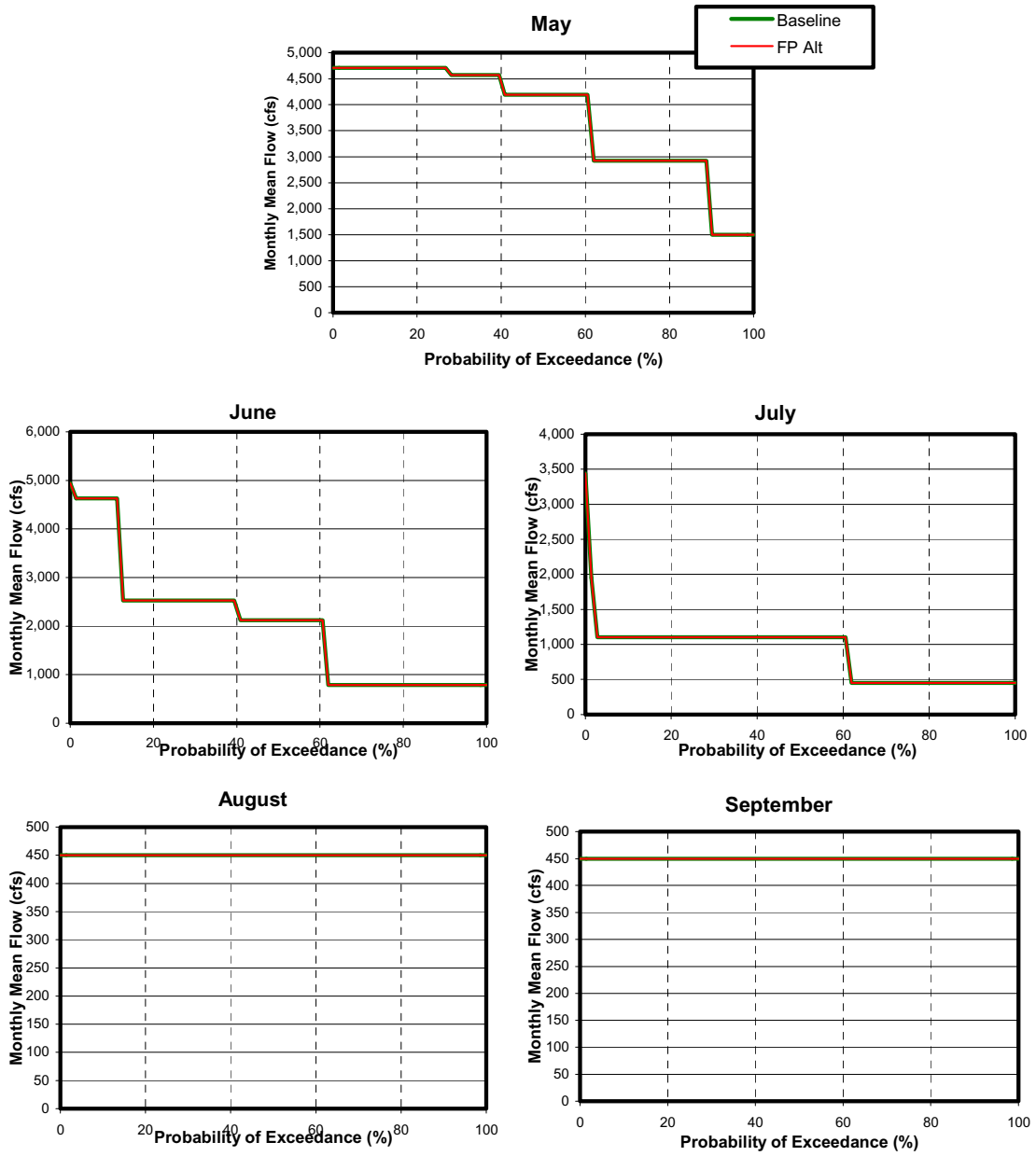
Number of Years Trinity Reservoir End of Month Elevation is Above 2170 feet Under Baseline and FP Alt Conditions



Trinity Reservoir End of Month Elevation Under Baseline and FP Alt Conditions



Trinity River Release From Lewiston Dam Under Baseline and FP Alt Conditions



Recreation Facility Usability on French Meadows Reservoir Under Baseline and FP Alt Conditions			
	Number of Years of the 72-Year Record at Specified Levels		
Month	Number of Years Boat Ramps Usable (>=5,196 ft)		
	Baseline	FP Alt	Diff
May	0	0	0
Jun	0	0	0
Jul	0	0	0
Aug	0	0	0
Sep	0	0	0
Total			0

Recreation Facility Usability on Hell Hole Reservoir Under Baseline and FP Alt Conditions			
	Number of Years of the 72-Year Record at Specified Levels		
Month	Number of Years Boat Ramp Usable (>=4,530 ft)		
	Baseline	FP Alt	Diff
May	0	0	0
Jun	0	0	0
Jul	0	0	0
Aug	0	0	0
Sep	0	0	0
Total			0

Folsom Reservoir End of Month Elevation Under Baseline and FP Alt Conditions									
Month	Maximum Elevation[1] (feet msl)			Minimum Elevation[1] (feet msl)			Average Elevation[1] (feet msl)		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Jan	424	424	0	358	358	0	411	411	0
Feb	424	424	0	351	351	0	414	414	0
Mar	437	437	0	357	357	0	425	425	0
Apr	449	449	0	357	357	0	438	438	0
May	466	466	0	357	357	0	449	449	0
Jun	466	466	0	342	342	0	444	444	0
Jul	463	463	0	330	328	-2	428	427	-1
Aug	449	449	0	330	329	-1	421	420	-1
Sep	434	434	0	330	330	0	411	411	0
Oct	441	441	0	330	330	0	409	409	0
Nov	424	424	0	330	330	0	407	407	0
Dec	424	424	0	359	359	0	408	408	0

[1] During 72 years modeled.

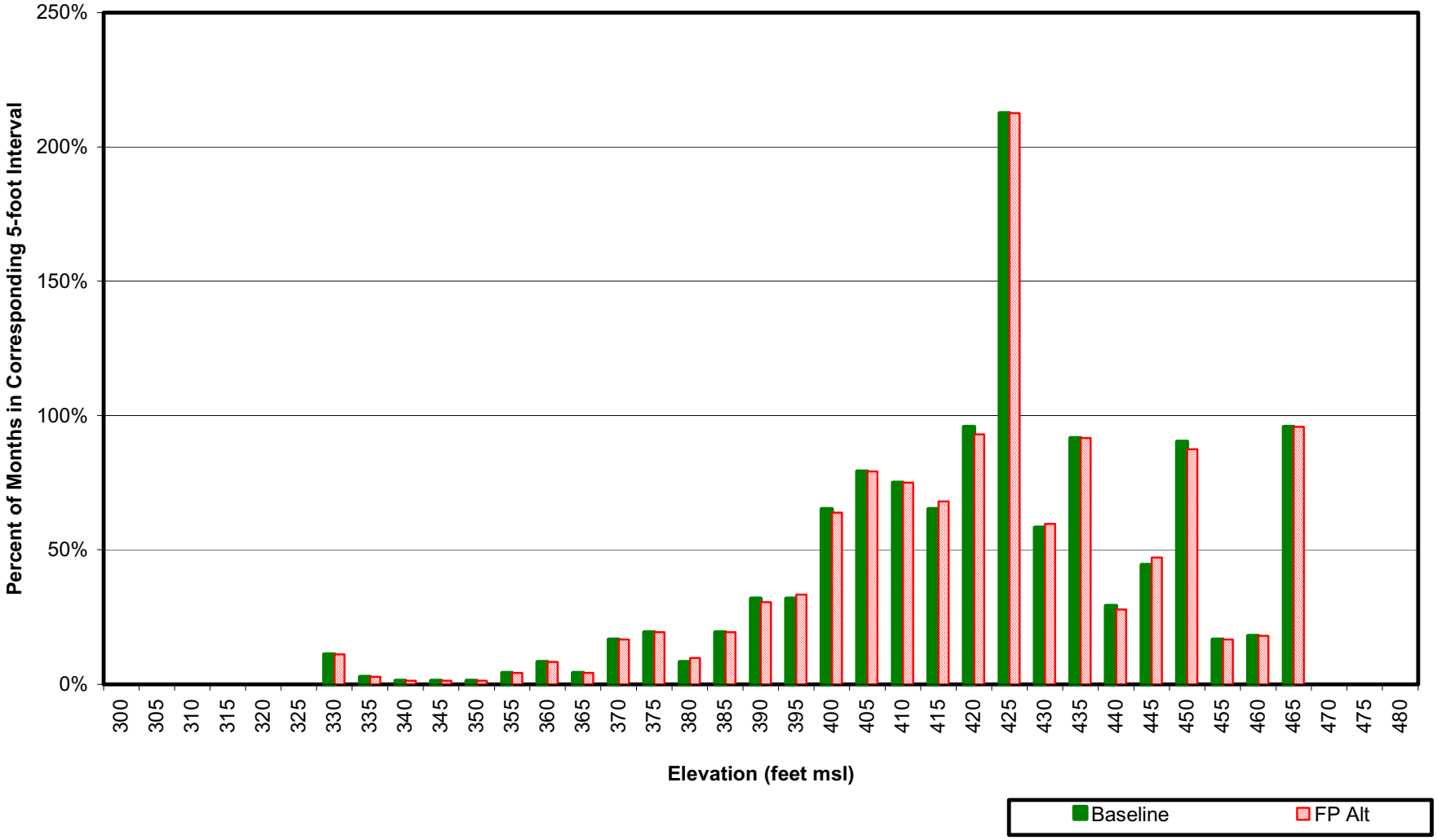
Shasta Reservoir End of Month Elevation Under Baseline and FP Alt Conditions									
Month	Maximum Elevation[1] (feet msl)			Minimum Elevation[1] (feet msl)			Average Elevation[1] (feet msl)		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Jan	1037	1037	0	856	856	0	998	998	0
Feb	1050	1050	0	860	860	0	1011	1011	0
Mar	1057	1057	0	915	915	0	1027	1027	0
Apr	1067	1067	0	914	914	0	1037	1037	0
May	1067	1067	0	918	918	0	1036	1036	0
Jun	1065	1065	0	896	896	0	1024	1024	0
Jul	1054	1053	-1	852	850	-2	1001	1001	0
Aug	1037	1036	-1	834	834	0	984	983	-1
Sep	1024	1023	-1	834	834	0	977	977	0
Oct	1017	1017	0	834	834	0	973	973	0
Nov	1017	1017	0	834	834	0	977	977	0
Dec	1022	1022	0	852	852	0	985	985	0

[1] During 72 years modeled.

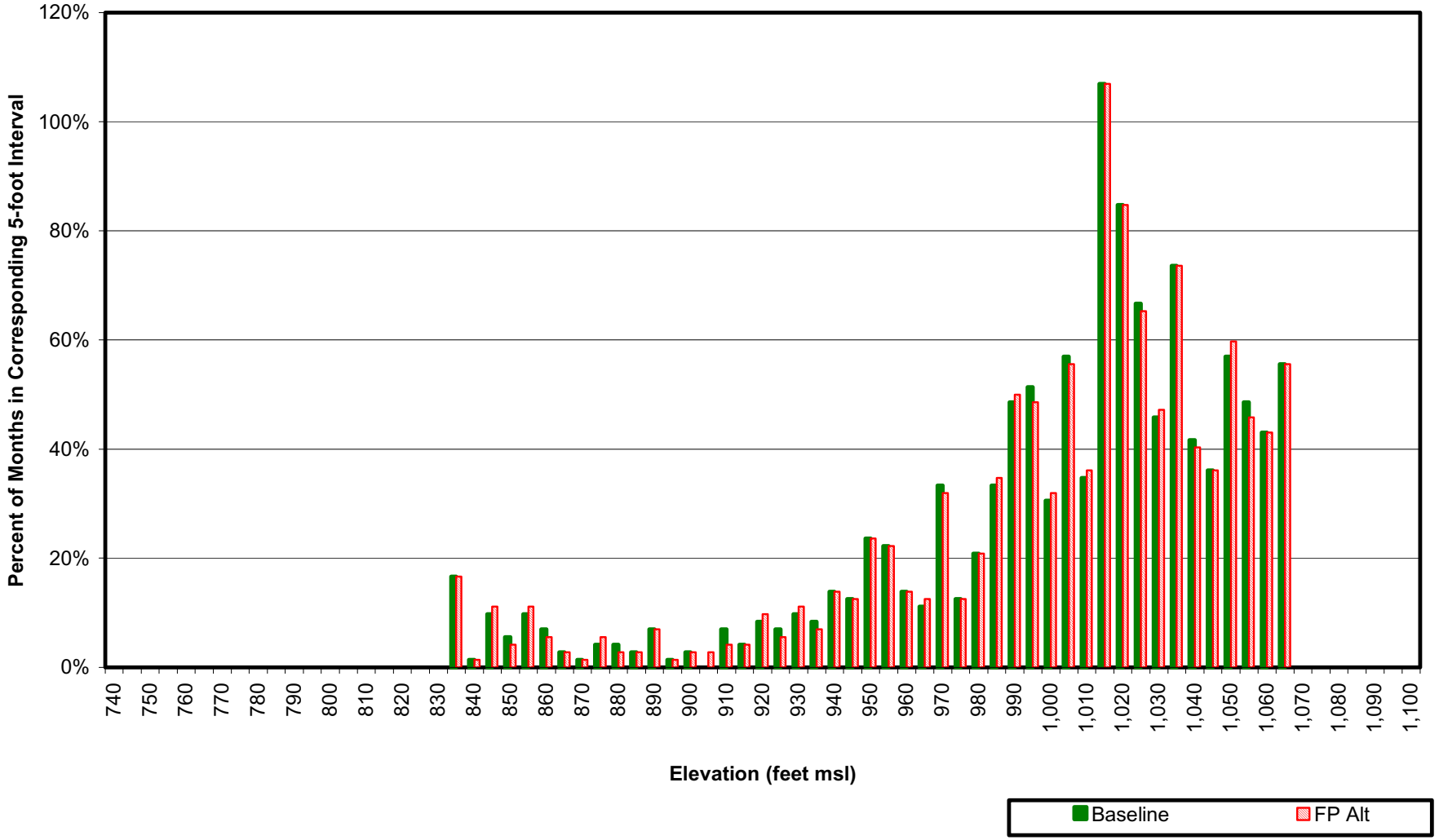
Trinity Reservoir End of Month Elevation Under Baseline and FP Alt Conditions									
Month	Maximum Elevation[1] (feet msl)			Minimum Elevation[1] (feet msl)			Average Elevation[1] (feet msl)		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Jan	2337	2337	0	2162	2162	0	2295	2295	0
Feb	2354	2354	0	2167	2167	0	2307	2307	0
Mar	2350	2350	0	2198	2198	0	2314	2314	0
Apr	2368	2368	0	2211	2211	0	2327	2327	0
May	2368	2368	0	2214	2214	0	2325	2325	0
Jun	2370	2370	0	2216	2216	0	2321	2321	0
Jul	2359	2359	0	2211	2211	0	2310	2310	0
Aug	2353	2353	0	2195	2195	0	2299	2299	0
Sep	2343	2343	0	2161	2161	0	2287	2287	0
Oct	2332	2332	0	2145	2145	0	2283	2283	0
Nov	2332	2332	0	2158	2158	0	2284	2284	0
Dec	2332	2332	0	2160	2160	0	2289	2289	0

[1] During 72 years modeled.

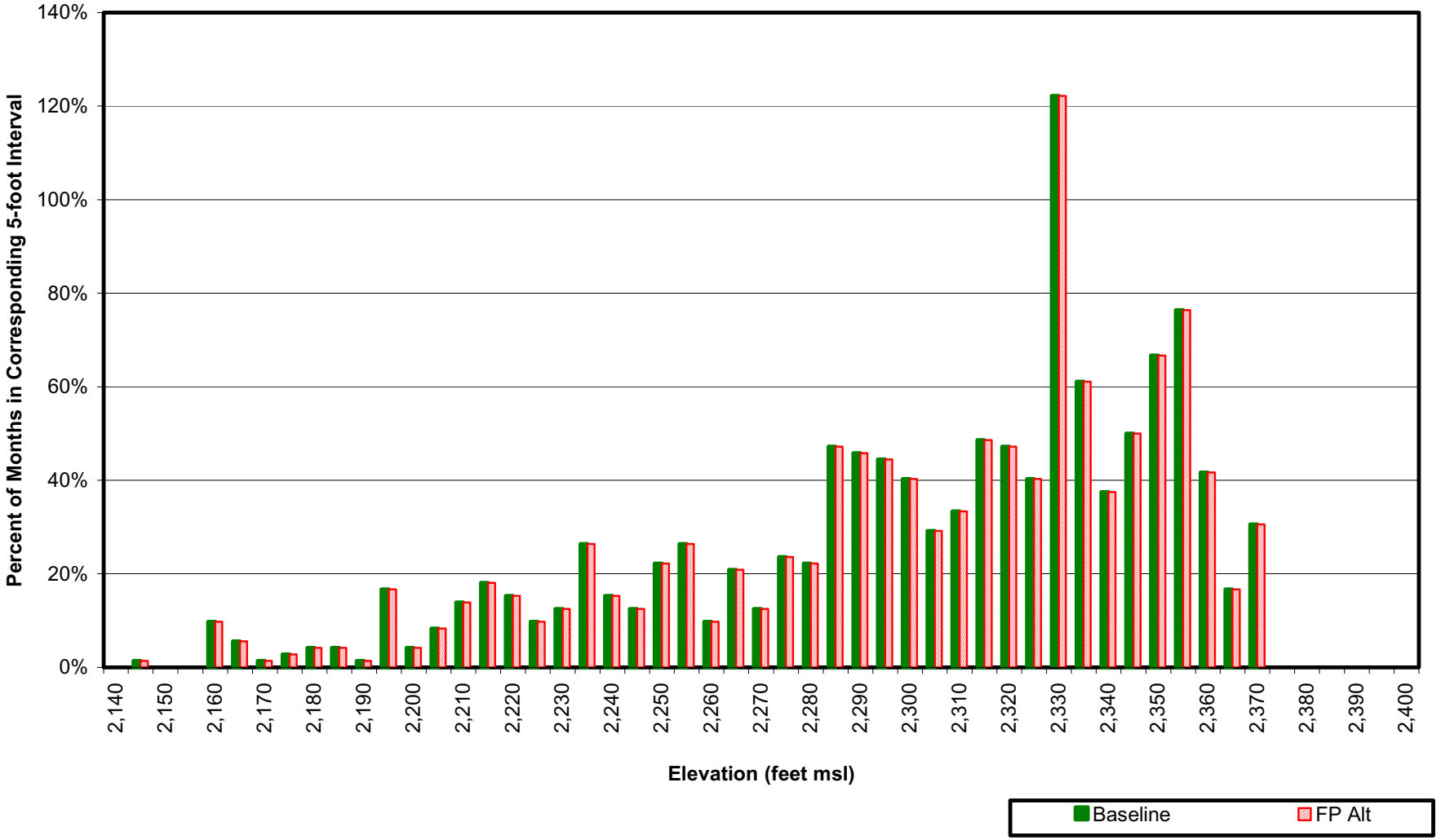
Distribution of Folsom Reservoir End of Month Elevation Under Baseline and FP Alt Conditions



Distribution of Shasta Reservoir End of Month Elevation Under Baseline and FP Alt Conditions



Distribution of Trinity Reservoir End of Month Elevation Under Baseline and FP Alt Conditions



Number of Inundation and Drawdown Events in Folsom Reservoir End of Month Elevation Under Baseline and FP Alt Conditions				
Elevation Threshold (ft msl)	# Months Threshold Crossed[1]		Difference	
	Baseline	FP Alt	(# Months)	(%)
390	32	34	2	0.1
385	24	24	0	0.0
380	22	22	0	0.0
375	22	22	0	0.0
370	14	14	0	0.0
365	12	12	0	0.0
360	12	12	0	0.0
355	8	8	0	0.0
350	6	6	0	0.0
345	6	6	0	0.0
340	6	6	0	0.0
335	6	6	0	0.0
330	0	2	2	0.0

[1] Based on 72 years modeled.

Number of Inundation and Drawdown Events in Folsom Reservoir End of Month Elevation Under Baseline and FP Alt Conditions				
Elevation Threshold (ft msl)	# Months Threshold Crossed[1]		Difference	
	Baseline	FP Alt	(# Months)	(%)
550	0	0	0	0.0
545	0	0	0	0.0
540	0	0	0	0.0
535	0	0	0	0.0
530	0	0	0	0.0
525	0	0	0	0.0
520	0	0	0	0.0
515	0	0	0	0.0
510	0	0	0	0.0
505	0	0	0	0.0
500	0	0	0	0.0
495	0	0	0	0.0
490	0	0	0	0.0
485	0	0	0	0.0
480	0	0	0	0.0
475	0	0	0	0.0
470	0	0	0	0.0
465	76	76	0	0.0
460	80	80	0	0.0
455	86	86	0	0.0
450	90	90	0	0.0
445	92	92	0	0.0
440	108	108	0	0.0
435	120	120	0	0.0
430	122	122	0	0.0
425	127	127	0	0.0
420	121	121	0	0.0
415	107	107	0	0.0
410	109	109	0	0.0
405	94	96	2	0.0
400	56	58	2	0.0
395	44	44	0	0.0
390	32	34	2	0.1
385	24	24	0	0.0
380	22	22	0	0.0
375	22	22	0	0.0
370	14	14	0	0.0
365	12	12	0	0.0
360	12	12	0	0.0
355	8	8	0	0.0
350	6	6	0	0.0
345	6	6	0	0.0
340	6	6	0	0.0
335	6	6	0	0.0
330	0	2	2	0.0
325	0	0	0	0.0
320	0	0	0	0.0
315	0	0	0	0.0
310	0	0	0	0.0
305	0	0	0	0.0
300	0	0	0	0.0

[1] Based on 72 years modeled.

Number of Inundation and Drawdown Events in Shasta Reservoir End of Month Elevation Under Baseline and FP Alt Conditions				
Elevation Threshold (ft msl)	# Months Threshold Crossed[1]		Difference	
	Baseline	FP Alt	(# Months)	(%)
1100	0	0	0	0.0
1095	0	0	0	0.0
1090	0	0	0	0.0
1085	0	0	0	0.0
1080	0	0	0	0.0
1075	0	0	0	0.0
1070	0	0	0	0.0
1065	38	38	0	0.0
1060	62	62	0	0.0
1055	76	76	0	0.0
1050	84	84	0	0.0
1045	90	90	0	0.0
1040	106	106	0	0.0
1035	114	114	0	0.0
1030	118	118	0	0.0
1025	120	120	0	0.0
1020	121	121	0	0.0
1015	99	99	0	0.0
1010	81	81	0	0.0
1005	79	79	0	0.0
1000	73	73	0	0.0
995	69	69	0	0.0
990	64	64	0	0.0
985	52	52	0	0.0
980	42	42	0	0.0
975	38	38	0	0.0
970	36	36	0	0.0
965	34	34	0	0.0
960	36	36	0	0.0
955	32	32	0	0.0
950	28	28	0	0.0
945	22	22	0	0.0
940	20	20	0	0.0
935	20	20	0	0.0
930	20	20	0	0.0
925	18	18	0	0.0
920	16	16	0	0.0
915	20	20	0	0.0
910	16	16	0	0.0
905	16	16	0	0.0
900	16	16	0	0.0
895	16	16	0	0.0
890	16	16	0	0.0
885	16	16	0	0.0
880	14	14	0	0.0
875	14	14	0	0.0
870	14	14	0	0.0
865	14	14	0	0.0
860	14	14	0	0.0
855	14	14	0	0.0
850	12	12	0	0.0

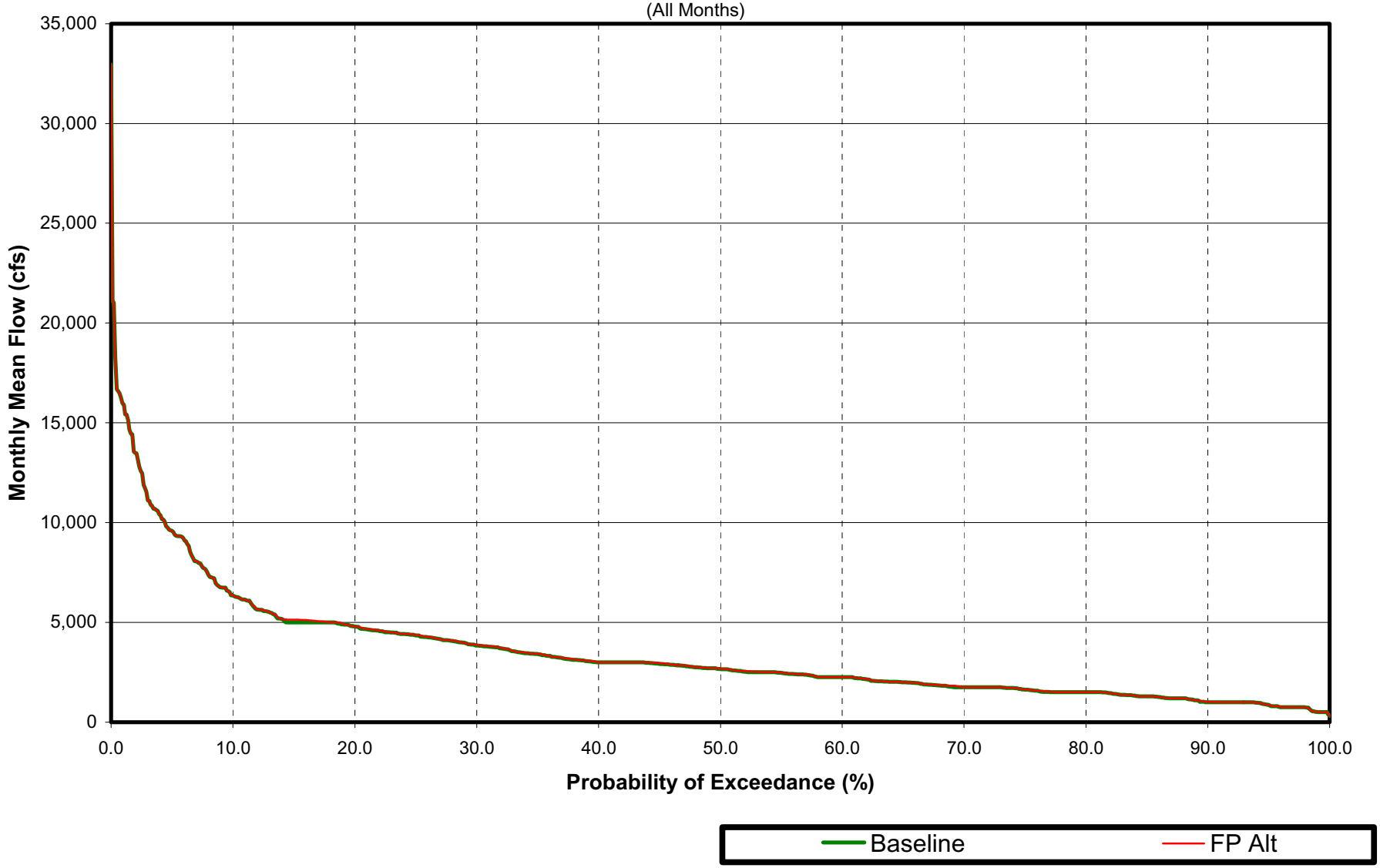
[1] Based on 72 years modeled.

Number of Inundation and Drawdown Events in Trinity Reservoir End of Month Elevation Under Baseline and FP Alt Conditions				
Elevation Threshold (ft msl)	# Months Threshold Crossed[1]		Difference	
	Baseline	FP Alt	(# Months)	(%)
2400	0	0	0	0.0
2395	0	0	0	0.0
2390	0	0	0	0.0
2385	0	0	0	0.0
2380	0	0	0	0.0
2375	0	0	0	0.0
2370	8	8	0	0.0
2365	30	30	0	0.0
2360	44	44	0	0.0
2355	58	58	0	0.0
2350	66	66	0	0.0
2345	76	76	0	0.0
2340	78	78	0	0.0
2335	80	80	0	0.0
2330	53	53	0	0.0
2325	53	53	0	0.0
2320	61	61	0	0.0
2315	55	55	0	0.0
2310	55	55	0	0.0
2305	54	54	0	0.0
2300	52	52	0	0.0
2295	48	48	0	0.0
2290	44	44	0	0.0
2285	34	34	0	0.0
2280	24	24	0	0.0
2275	24	24	0	0.0
2270	24	24	0	0.0
2265	26	26	0	0.0
2260	26	26	0	0.0
2255	26	26	0	0.0
2250	24	24	0	0.0
2245	22	22	0	0.0
2240	22	22	0	0.0
2235	26	26	0	0.0
2230	22	22	0	0.0
2225	22	22	0	0.0
2220	20	20	0	0.0
2215	20	20	0	0.0
2210	18	18	0	0.0
2205	12	12	0	0.0
2200	12	12	0	0.0
2195	10	10	0	0.0
2190	10	10	0	0.0
2185	10	10	0	0.0
2180	8	8	0	0.0
2175	8	8	0	0.0
2170	8	8	0	0.0
2165	8	8	0	0.0
2160	2	2	0	0.0
2155	2	2	0	0.0
2150	2	2	0	0.0

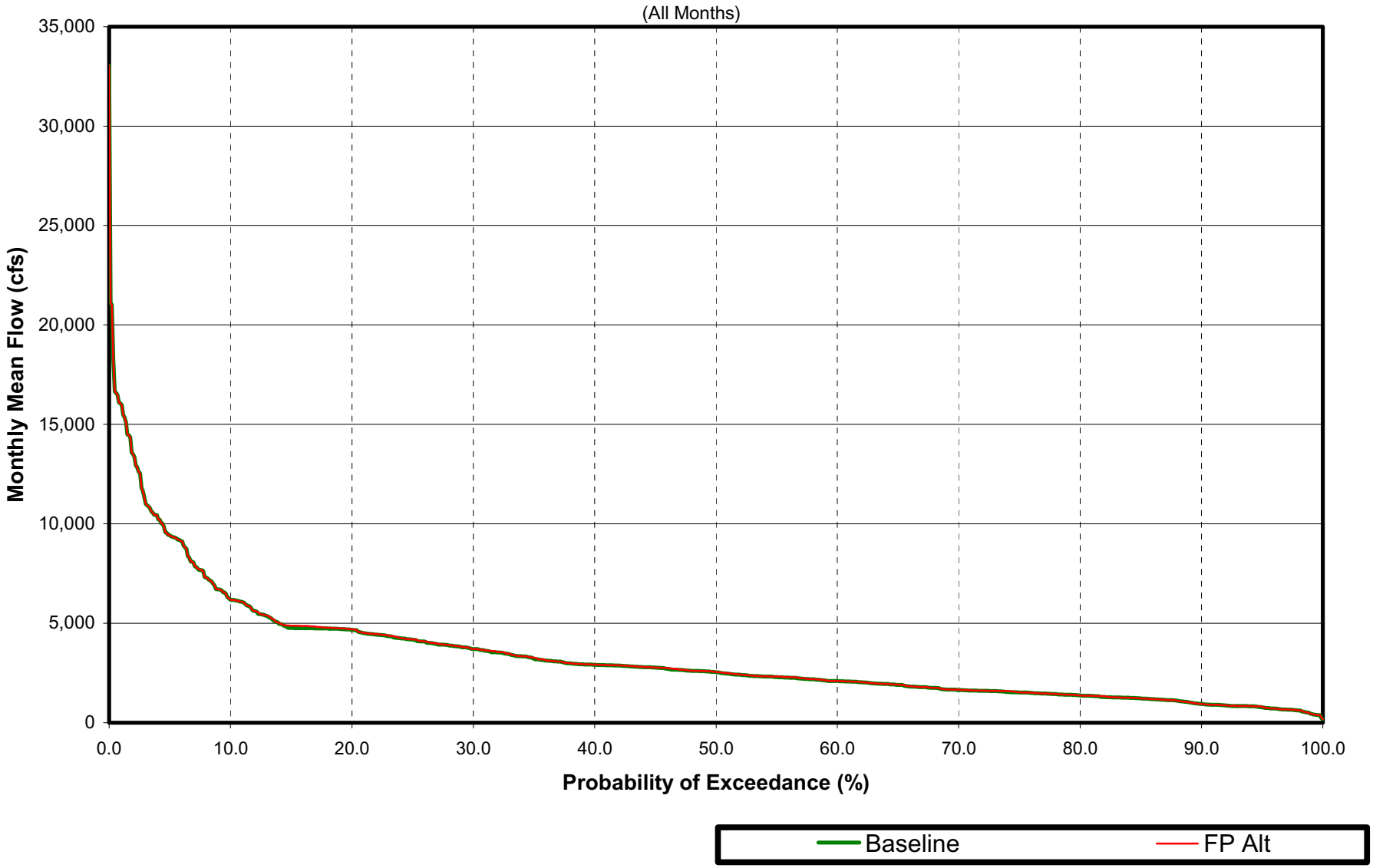
[1] Based on 72 years modeled.

Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions

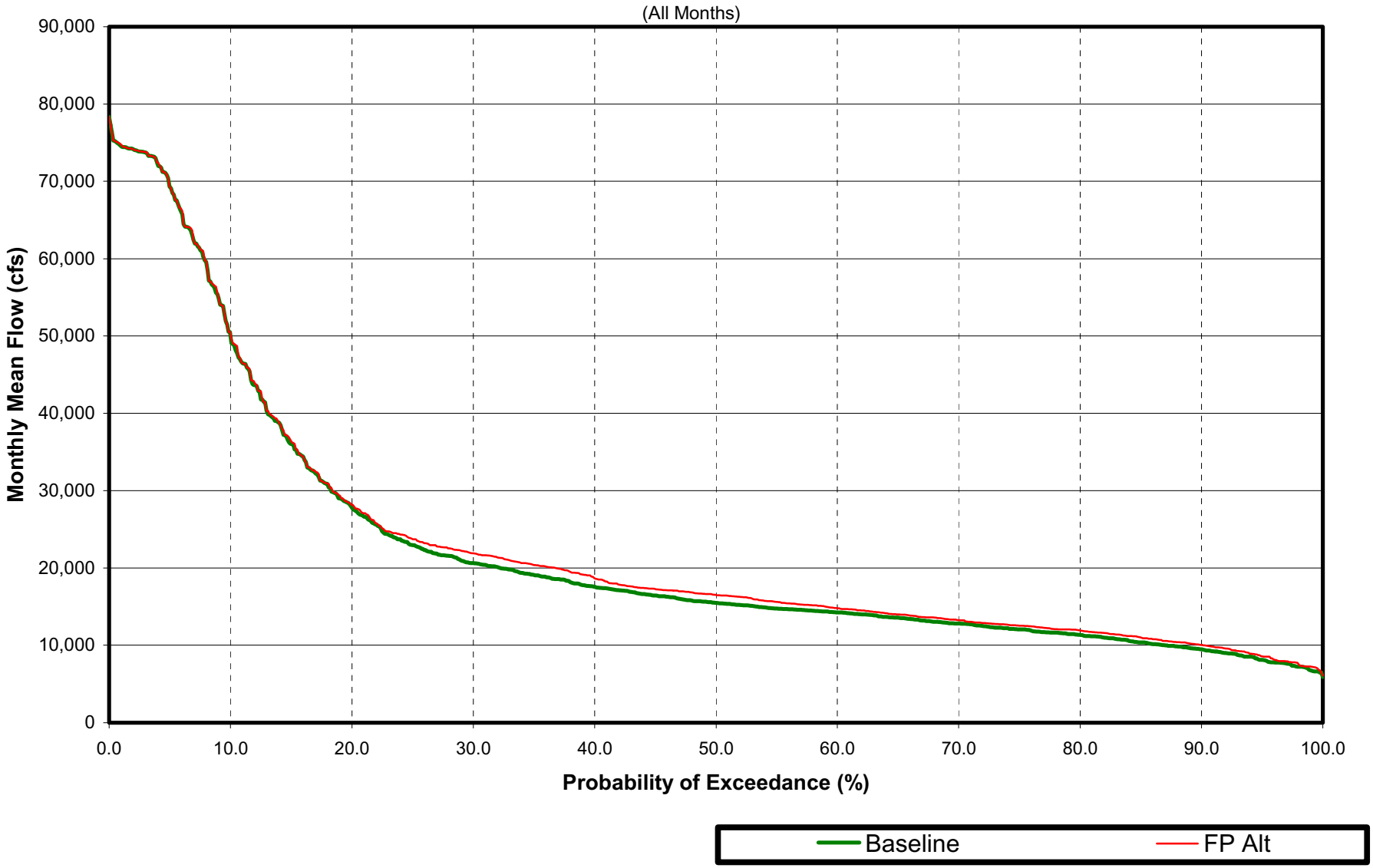
(All Months)



Lower American River Flow at the Mouth Under Baseline and FP Alt Conditions



Sacramento River Flow at Freeport Under Baseline and FP Alt Conditions



Minimum Monthly Mean Release From Nimbus Dam Under Baseline and FP Alt Conditions				
Month	Minimum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	500	500	0	0.0
Nov	500	500	0	0.0
Dec	500	500	0	0.0
Jan	750	750	0	0.0
Feb	640	640	0	0.0
Mar	548	548	0	0.0
Apr	318	318	0	0.0
May	500	500	0	0.0
Jun	1,000	1,000	0	0.0
Jul	750	850	100	13.3
Aug	400	439	39	9.8
Sep	500	524	24	4.8

[1] Based on 72 years modeled.

[2] Relative difference of the monthly minimum.

Minimum Monthly Mean Flow at the Mouth Under Baseline and FP Alt Conditions				
Month	Minimum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	375	375	0	0.0
Nov	392	392	0	0.0
Dec	500	500	0	0.0
Jan	655	655	0	0.0
Feb	545	545	0	0.0
Mar	457	457	0	0.0
Apr	188	188	0	0.0
May	388	388	0	0.0
Jun	816	816	0	0.0
Jul	561	661	100	17.8
Aug	233	272	39	16.7
Sep	385	409	24	6.2

[1] Based on 72 years modeled.

[2] Relative difference of the monthly minimum.

Minimum Monthly Mean Release From Keswick Dam Under Baseline and FP Alt Conditions				
Month	Minimum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	3,750	3,750	0	0.0
Nov	3,000	3,000	0	0.0
Dec	3,000	3,000	0	0.0
Jan	3,000	3,000	0	0.0
Feb	3,000	3,000	0	0.0
Mar	3,000	3,000	0	0.0
Apr	3,250	3,250	0	0.0
May	4,135	4,135	0	0.0
Jun	6,841	6,841	0	0.0
Jul	9,174	9,422	248	2.7
Aug	7,157	6,930	-227	-3.2
Sep	4,500	4,258	-242	-5.4

[1] Based on 72 years modeled.

[2] Relative difference of the monthly minimum.

Minimum Monthly Mean Flow at Freeport Under Baseline and FP Alt Conditions				
Month	Minimum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	5,902	6,089	187	3.2
Nov	7,092	7,118	26	0.4
Dec	6,716	6,724	8	0.1
Jan	6,460	6,464	4	0.1
Feb	7,254	7,258	4	0.1
Mar	7,308	7,312	4	0.1
Apr	7,592	8,706	1,114	14.7
May	6,451	7,191	740	11.5
Jun	8,488	9,341	853	10.0
Jul	8,458	13,665	5,207	61.6
Aug	7,060	10,476	3,416	48.4
Sep	6,611	7,038	427	6.5

[1] Based on 72 years modeled.

[2] Relative difference of the monthly minimum.

Maximum Monthly Mean Release From Nimbus Dam Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	4,277	4,277	0	0.0
Nov	16,681	16,681	0	0.0
Dec	20,997	20,997	0	0.0
Jan	21,102	21,102	0	0.0
Feb	32,947	32,947	0	0.0
Mar	16,480	16,480	0	0.0
Apr	14,459	14,459	0	0.0
May	11,546	11,546	0	0.0
Jun	14,668	14,668	0	0.0
Jul	7,978	8,013	35	0.4
Aug	5,000	5,056	56	1.1
Sep	5,273	5,373	100	1.9

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Maximum Monthly Mean Flow at the Mouth Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	4,150	4,150	0	0.0
Nov	16,651	16,651	0	0.0
Dec	21,003	21,003	0	0.0
Jan	21,098	21,098	0	0.0
Feb	33,032	33,032	0	0.0
Mar	16,580	16,580	0	0.0
Apr	14,495	14,495	0	0.0
May	11,358	11,358	0	0.0
Jun	14,457	14,457	0	0.0
Jul	7,681	7,715	34	0.4
Aug	4,763	4,818	55	1.2
Sep	5,109	5,208	99	1.9

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Maximum Monthly Mean Release From Keswick Dam Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	9,869	9,869	0	0.0
Nov	25,592	25,592	0	0.0
Dec	26,961	26,961	0	0.0
Jan	52,775	52,775	0	0.0
Feb	53,771	53,771	0	0.0
Mar	45,897	45,897	0	0.0
Apr	27,676	27,676	0	0.0
May	14,154	14,154	0	0.0
Jun	15,000	15,000	0	0.0
Jul	18,212	18,541	329	1.8
Aug	13,947	13,947	0	0.0
Sep	12,549	12,549	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Maximum Monthly Mean Flow at Freeport Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	32,102	32,102	0	0.0
Nov	64,442	64,448	6	0.0
Dec	75,066	75,068	2	0.0
Jan	76,393	76,396	3	0.0
Feb	78,339	78,338	-1	0.0
Mar	77,254	77,257	3	0.0
Apr	74,442	75,119	677	0.9
May	59,611	59,692	81	0.1
Jun	55,394	55,592	198	0.4
Jul	26,605	27,086	481	1.8
Aug	18,893	20,066	1,173	6.2
Sep	26,844	29,336	2,492	9.3

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Flow Ranges Affecting Riparian Vegetation in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions						
Month	Number of Years[1] Above Specified Threshold					
	>= 5,000 cfs			>= 10,000 cfs		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Mar	15	15	0	6	6	0
Apr	14	14	0	2	2	0
May	13	13	0	3	3	0
Jun	23	23	0	3	3	0
Jul	30	34	4	0	0	0
Aug	1	1	0	0	0	0
Sep	1	1	0	0	0	0
Oct	0	0	0	0	0	0
Nov	4	4	0	2	2	0
Dec	13	13	0	5	5	0
Jan	19	19	0	8	8	0
Feb	26	26	0	10	10	0
Total	159	163	4	39	39	0

[1] Based on 72 years modeled.

Flow Ranges Affecting Riparian Vegetation in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions												
Month	Number of Years[1] Below Specified Threshold											
	< 1,765 cfs			< 2,000 cfs			< 3,000 cfs			< 4,500 cfs		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Mar	18	18	0	22	22	0	32	32	0	53	53	0
Apr	19	19	0	21	21	0	25	25	0	54	54	0
May	10	10	0	10	10	0	33	33	0	54	54	0
Jun	7	7	0	9	9	0	21	21	0	48	48	0
Jul	6	1	-5	7	7	0	15	14	-1	34	33	-1
Aug	17	15	-2	21	20	-1	58	58	0	71	70	-1
Sep	24	24	0	24	24	0	36	36	0	63	62	-1
Oct	51	51	0	58	58	0	70	70	0	72	72	0
Total	152	145	-7	172	171	-1	290	289	-1	449	446	-3

[1] Based on 72 years modeled.

Flow Ranges Affecting Riparian Vegetation in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions															
Month	Years[1] Above Specified Threshold														
	>= 1,765 cfs					>= 2,000 cfs					>= 3,000 cfs				
	Number of Years		Percentage of Years			Number of Years		Percentage of Years			Number of Years		Percentage of Years		
	Baseline	FP Alt	Baseline	FP Alt	Difference	Baseline	FP Alt	Baseline	FP Alt	Difference	Baseline	FP Alt	Baseline	FP Alt	Difference
Mar	54	54	75%	75%	0%	50	50	69%	69%	0%	40	40	56%	56%	0%
Apr	53	53	74%	74%	0%	51	51	71%	71%	0%	47	47	65%	65%	0%
May	62	62	86%	86%	0%	62	62	86%	86%	0%	39	39	54%	54%	0%
Jun	65	65	90%	90%	0%	63	63	88%	88%	0%	51	51	71%	71%	0%
Jul	66	71	92%	99%	7%	65	65	90%	90%	0%	57	58	79%	81%	1%
Aug	55	57	76%	79%	3%	51	52	71%	72%	1%	14	14	19%	19%	0%
Sep	48	48	67%	67%	0%	48	48	67%	67%	0%	36	36	50%	50%	0%
Oct	21	21	29%	29%	0%	14	14	19%	19%	0%	2	2	3%	3%	0%
Total	424	431	74%	75%	1%	404	405	70%	70%	0%	286	287	50%	50%	0%

[1] Based on 72 years modeled.

Flow Ranges Affecting Riparian Vegetation in the Lower American River Below H Street Bridge Under Baseline and FP Alt Conditions															
Month	Years[1] Above Specified Threshold														
	>= 1,765 cfs					>= 2,000 cfs					>= 3,000 cfs				
	Number of Years		Percentage of Years			Number of Years		Percentage of Years			Number of Years		Percentage of Years		
	Baseline	FP Alt	Baseline	FP Alt	Difference	Baseline	FP Alt	Baseline	FP Alt	Difference	Baseline	FP Alt	Baseline	FP Alt	Difference
Mar	54	54	75%	75%	0%	51	51	71%	71%	0%	34	34	47%	47%	0%
Apr	52	52	72%	72%	0%	51	51	71%	71%	0%	32	32	44%	44%	0%
May	62	62	86%	86%	0%	62	62	86%	86%	0%	32	32	44%	44%	0%
Jun	64	64	89%	89%	0%	59	59	82%	82%	0%	38	38	53%	53%	0%
Jul	65	65	90%	90%	0%	65	65	90%	90%	0%	53	54	74%	75%	1%
Aug	51	52	71%	72%	1%	48	48	67%	67%	0%	10	11	14%	15%	1%
Sep	48	48	67%	67%	0%	48	48	67%	67%	0%	33	33	46%	46%	0%
Oct	17	17	24%	24%	0%	10	10	14%	14%	0%	2	2	3%	3%	0%
Total	413	414	72%	72%	0%	394	394	68%	68%	0%	234	236	41%	41%	0%

[1] Based on 72 years modeled.

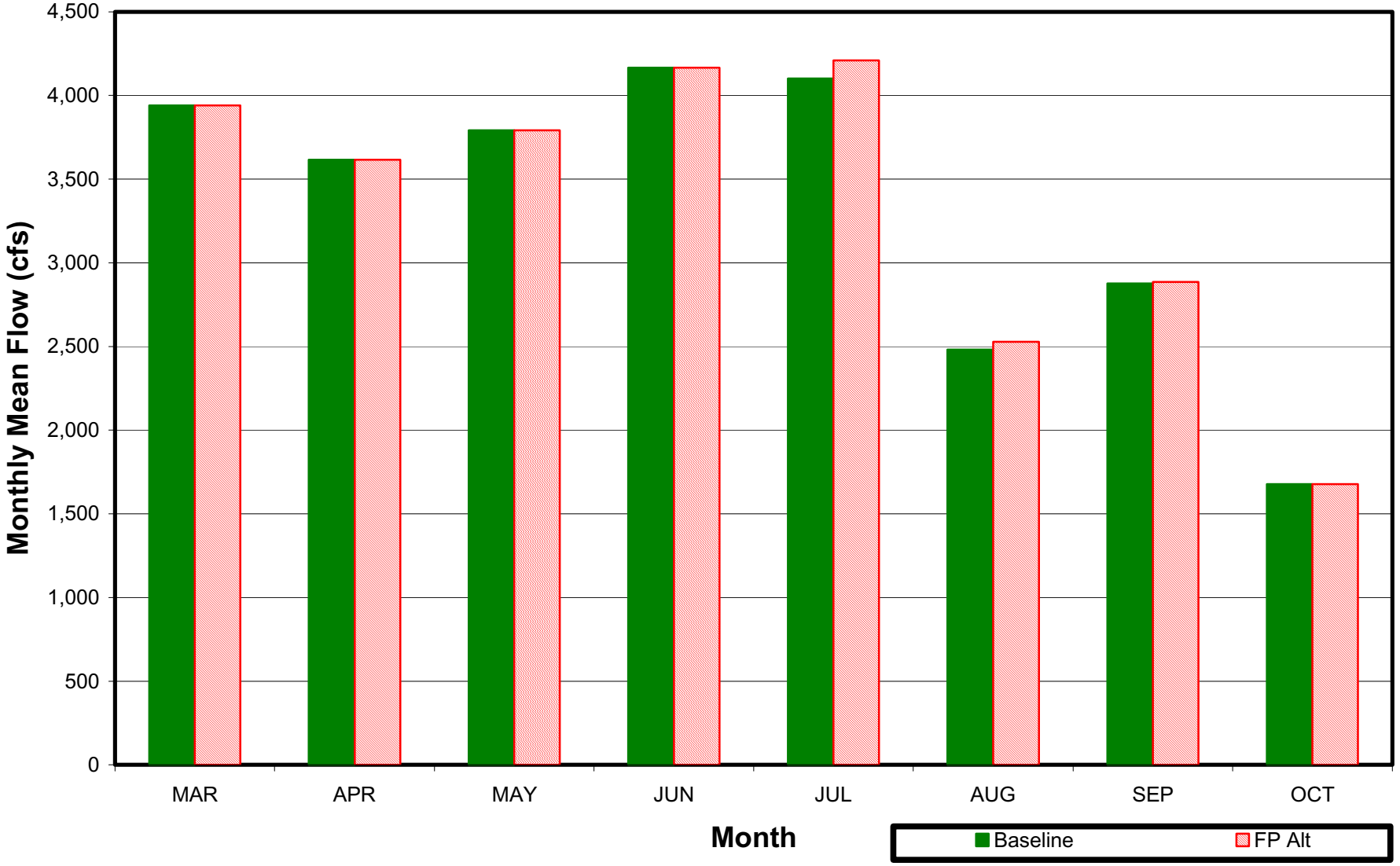
Flow Ranges Affecting Riparian Vegetation in the Lower American River Below H Street Bridge Under Baseline and FP Alt Conditions												
Month	Number of Years[1] Below Specified Threshold											
	< 1,765 cfs			< 2,000 cfs			< 3,000 cfs			< 4,500 cfs		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Mar	18	18	0	21	21	0	38	38	0	53	53	0
Apr	20	20	0	21	21	0	40	40	0	55	55	0
May	10	10	0	10	10	0	40	40	0	55	55	0
Jun	8	8	0	13	13	0	34	34	0	49	49	0
Jul	7	7	0	7	7	0	19	18	-1	38	37	-1
Aug	21	20	-1	24	24	0	62	61	-1	71	71	0
Sep	24	24	0	24	24	0	39	39	0	68	68	0
Oct	55	55	0	62	62	0	70	70	0	72	72	0
Total	163	162	-1	182	182	0	342	340	-2	461	460	-1

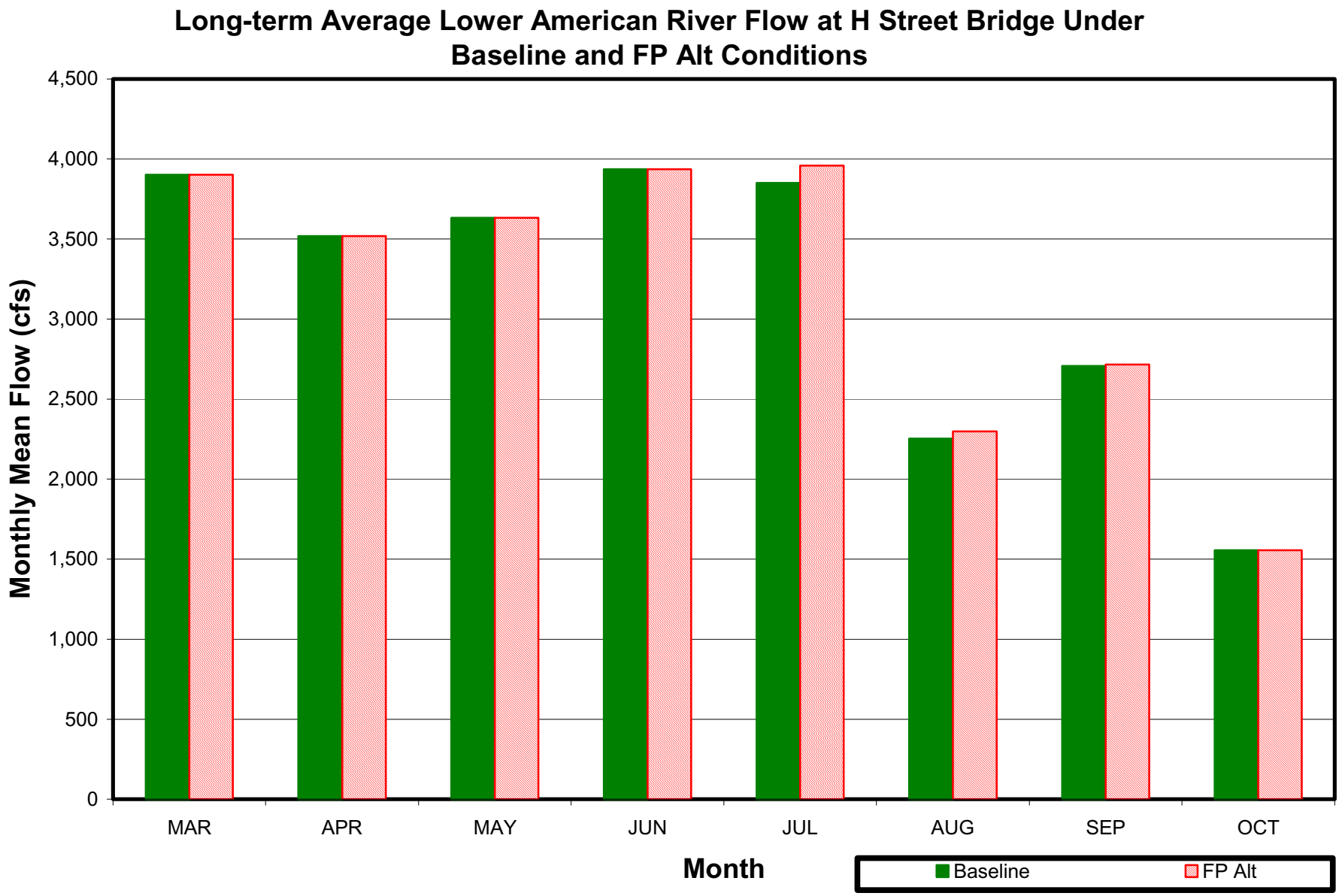
[1] Based on 72 years modeled.

Flow Ranges Affecting Riparian Vegetation in the Lower American River Below H Street Bridge Under Baseline and FP Alt Conditions						
Month	Number of Years[1] Above Specified Threshold					
	>= 5,000 cfs			>= 10,000 cfs		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Mar	14	14	0	6	6	0
Apr	13	13	0	2	2	0
May	13	13	0	3	3	0
Jun	15	15	0	3	3	0
Jul	3	4	1	0	0	0
Aug	0	0	0	0	0	0
Sep	1	1	0	0	0	0
Oct	0	0	0	0	0	0
Nov	4	4	0	2	2	0
Dec	13	13	0	5	5	0
Jan	19	19	0	8	8	0
Feb	26	26	0	10	10	0
Total	121	122	1	39	39	0

[1] Based on 72 years modeled.

Long-term Average Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions




Long-term Average Lower American River Flow at H Street Bridge Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt

Flow Ranges Affecting Backwater Recharge in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions												
Month	Number of Years[1] Below Specifed Threshold						Percent of Years Above Flow Threshold					
	<2,700 cfs			<4,000 cfs			>=2,700 cfs			>=4,000 cfs		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Mar	31	31	0	48	48	0	57%	57%	0%	33%	33%	0%
Apr	23	23	0	49	49	0	68%	68%	0%	32%	32%	0%
May	30	30	0	48	48	0	58%	58%	0%	33%	33%	0%
Jun	19	19	0	43	43	0	74%	74%	0%	40%	40%	0%
Jul	11	10	-1	29	28	-1	85%	86%	1%	60%	61%	1%
Aug	46	44	-2	68	68	0	36%	39%	3%	6%	6%	0%
Sep	32	32	0	48	48	0	56%	56%	0%	33%	33%	0%
Oct	68	68	0	71	71	0	6%	6%	0%	1%	1%	0%
Nov	51	51	0	64	64	0	29%	29%	0%	11%	11%	0%
Dec	48	48	0	57	57	0	33%	33%	0%	21%	21%	0%
Jan	44	44	0	50	50	0	39%	39%	0%	31%	31%	0%
Feb	32	32	0	42	42	0	56%	56%	0%	42%	42%	0%
Total	435	432	-3	617	616	-1	50%	50%	0%	29%	29%	0%

[1] Based on 72 years modeled.

Flow Ranges Affecting Backwater Recharge in the Lower American River Below H Street Bridge Under Baseline and FP Alt Conditions												
Month	Number of Years[1] Below Specifed Threshold						Percent of Years Above Flow Threshold					
	<2,700 cfs			<4,000 cfs			>=2,700 cfs			>=4,000 cfs		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Mar	31	31	0	49	49	0	57%	57%	0%	32%	32%	0%
Apr	24	24	0	52	52	0	67%	67%	0%	28%	28%	0%
May	32	32	0	51	51	0	56%	56%	0%	29%	29%	0%
Jun	19	19	0	47	47	0	74%	74%	0%	35%	35%	0%
Jul	14	12	-2	32	30	-2	81%	83%	3%	56%	58%	3%
Aug	57	54	-3	68	68	0	21%	25%	4%	6%	6%	0%
Sep	36	36	0	52	52	0	50%	50%	0%	28%	28%	0%
Oct	69	69	0	71	71	0	4%	4%	0%	1%	1%	0%
Nov	53	53	0	64	64	0	26%	26%	0%	11%	11%	0%
Dec	55	55	0	57	57	0	24%	24%	0%	21%	21%	0%
Jan	44	44	0	50	50	0	39%	39%	0%	31%	31%	0%
Feb	32	32	0	42	42	0	56%	56%	0%	42%	42%	0%
Total	466	461	-5	635	633	-2	46%	47%	1%	27%	27%	0%

[1] Based on 72 years modeled.

Maximum Monthly Mean Release From Nimbus Dam Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	4,277	4,277	0	0.0
Nov	16,681	16,681	0	0.0
Dec	20,997	20,997	0	0.0
Jan	21,102	21,102	0	0.0
Feb	32,947	32,947	0	0.0
Mar	16,480	16,480	0	0.0
Apr	14,459	14,459	0	0.0
May	11,546	11,546	0	0.0
Jun	14,668	14,668	0	0.0
Jul	7,978	8,013	35	0.4
Aug	5,000	5,056	56	1.1
Sep	5,273	5,373	100	1.9

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Maximum Monthly Mean Release From Keswick Dam Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	9,869	9,869	0	0.0
Nov	25,592	25,592	0	0.0
Dec	26,961	26,961	0	0.0
Jan	52,775	52,775	0	0.0
Feb	53,771	53,771	0	0.0
Mar	45,897	45,897	0	0.0
Apr	27,676	27,676	0	0.0
May	14,154	14,154	0	0.0
Jun	15,000	15,000	0	0.0
Jul	18,212	18,541	329	1.8
Aug	13,947	13,947	0	0.0
Sep	12,549	12,549	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Maximum Monthly Mean Flow at Freeport Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	32,102	32,102	0	0.0
Nov	64,442	64,448	6	0.0
Dec	75,066	75,068	2	0.0
Jan	76,393	76,396	3	0.0
Feb	78,339	78,338	-1	0.0
Mar	77,254	77,257	3	0.0
Apr	74,442	75,119	677	0.9
May	59,611	59,692	81	0.1
Jun	55,394	55,592	198	0.4
Jul	26,605	27,086	481	1.8
Aug	18,893	20,066	1,173	6.2
Sep	26,844	29,336	2,492	9.3

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Maximum Monthly Mean Flow at the Mouth Under Baseline and FP Alt Conditions				
Month	Maximum Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	4,150	4,150	0	0.0
Nov	16,651	16,651	0	0.0
Dec	21,003	21,003	0	0.0
Jan	21,098	21,098	0	0.0
Feb	33,032	33,032	0	0.0
Mar	16,580	16,580	0	0.0
Apr	14,495	14,495	0	0.0
May	11,358	11,358	0	0.0
Jun	14,457	14,457	0	0.0
Jul	7,681	7,715	34	0.4
Aug	4,763	4,818	55	1.2
Sep	5,109	5,208	99	1.9

[1] Based on 72 years modeled.

[2] Relative difference of the monthly maximum.

Long-term Average Flow at the Mouth Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1557	1557	0	0.0
Nov	2426	2426	0	0.0
Dec	3441	3441	0	0.0
Jan	4077	4077	0	0.0
Feb	4949	4949	0	0.0
Mar	3902	3902	0	0.0
Apr	3518	3518	0	0.0
May	3632	3632	0	0.0
Jun	3936	3936	0	0.0
Jul	3851	3958	107	2.8
Aug	2253	2299	46	2.0
Sep	2707	2716	9	0.3

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Flow at H Street Bridge Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1557	1557	0	0.0
Nov	2426	2426	0	0.0
Dec	3441	3441	0	0.0
Jan	4077	4077	0	0.0
Feb	4949	4949	0	0.0
Mar	3902	3902	0	0.0
Apr	3518	3518	0	0.0
May	3632	3632	0	0.0
Jun	3936	3936	0	0.0
Jul	3851	3958	107	2.8
Aug	2253	2299	46	2.0
Sep	2707	2716	9	0.3

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Effects on the Aesthetic Value of Folsom Reservoir Under Baseline and FP Alt Conditions				
Month	**Number of Years[1] that Surface Elevation Differs by the Following Amounts When FP Alt is Compared to Baseline**			
	10' to 15' Lower	**15' to 20' Lower**	**>20' Lower**	**Total > 10' Lower**
Jan	0	0	0	0
Feb	0	0	0	0
Mar	0	0	0	0
Apr	0	0	0	0
May	0	0	0	0
Jun	0	0	0	0
Jul	0	0	0	0
Aug	0	0	0	0
Sep	0	0	0	0
Oct	0	0	0	0
Nov	0	0	0	0
Dec	0	0	0	0
Total	0	0	0	0
Percent	0%	0%	0%	0%

[1]Based on 72 years modeled.

Effects on the Aesthetic Value of Shasta Reservoir Under Baseline and FP Alt Conditions				
Month	**Number of Years[1] that Surface Elevation Differs by the Following Amounts When FP Alt is Compared to Baseline**			
	10' to 15' Lower	**15' to 20' Lower**	**>20' Lower**	**Total > 10' Lower**
Jan	0	0	0	0
Feb	0	0	0	0
Mar	0	0	0	0
Apr	0	0	0	0
May	0	0	0	0
Jun	0	0	0	0
Jul	0	0	0	0
Aug	0	0	0	0
Sep	0	0	0	0
Oct	0	0	0	0
Nov	0	0	0	0
Dec	0	0	0	0
Total	0	0	0	0
Percent	0%	0%	0%	0%

[1]Based on 72 years modeled.

Effects on the Aesthetic Value of Trinity Reservoir Under Baseline and FP Alt Conditions				
Month	**Number of Years[1] that Surface Elevation Differs by the Following Amounts When FP Alt is Compared to Baseline**			
	10' to 15' Lower	**15' to 20' Lower**	**>20' Lower**	**Total > 10' Lower**
Jan	0	0	0	0
Feb	0	0	0	0
Mar	0	0	0	0
Apr	0	0	0	0
May	0	0	0	0
Jun	0	0	0	0
Jul	0	0	0	0
Aug	0	0	0	0
Sep	0	0	0	0
Oct	0	0	0	0
Nov	0	0	0	0
Dec	0	0	0	0
Total	0	0	0	0
Percent	0%	0%	0%	0%

[1]Based on 72 years modeled.

Long-term Average Folsom Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Jan	473	473	0	0.0
Feb	495	495	0	0.0
Mar	584	584	0	0.0
Apr	703	703	0	0.0
May	815	815	0	0.0
Jun	769	769	0	0.0
Jul	626	622	-4	-0.6
Aug	568	565	-3	-0.5
Sep	488	488	0	0.0
Oct	469	469	0	0.0
Nov	451	451	0	0.0
Dec	457	457	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Shasta Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Jan	2914	2914	0	0.0
Feb	3184	3184	0	0.0
Mar	3544	3544	0	0.0
Apr	3793	3793	0	0.0
May	3780	3780	0	0.0
Jun	3495	3495	0	0.0
Jul	3018	2999	-19	-0.6
Aug	2655	2645	-10	-0.4
Sep	2511	2510	-1	0.0
Oct	2432	2432	0	0.0
Nov	2509	2509	0	0.0
Dec	2672	2672	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Trinity Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Jan	1460	1460	0	0.0
Feb	1563	1563	0	0.0
Mar	1680	1680	0	0.0
Apr	1830	1830	0	0.0
May	1818	1818	0	0.0
Jun	1768	1768	0	0.0
Jul	1632	1632	0	0.0
Aug	1502	1502	0	0.0
Sep	1376	1376	0	0.0
Oct	1336	1336	0	0.0
Nov	1353	1353	0	0.0
Dec	1400	1400	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Release From Nimbus Dam Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1678	1678	0	0.0
Nov	2502	2502	0	0.0
Dec	3498	3498	0	0.0
Jan	4124	4124	0	0.0
Feb	4989	4989	0	0.0
Mar	3941	3941	0	0.0
Apr	3616	3616	0	0.0
May	3793	3793	0	0.0
Jun	4166	4166	0	0.0
Jul	4100	4208	108	2.6
Aug	2482	2528	46	1.9
Sep	2876	2885	9	0.3

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Flow at the Mouth Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1557	1557	0	0.0
Nov	2426	2426	0	0.0
Dec	3441	3441	0	0.0
Jan	4077	4077	0	0.0
Feb	4949	4949	0	0.0
Mar	3902	3902	0	0.0
Apr	3518	3518	0	0.0
May	3632	3632	0	0.0
Jun	3936	3936	0	0.0
Jul	3851	3958	107	2.8
Aug	2253	2299	46	2.0
Sep	2707	2716	9	0.3

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Release From Keswick Dam Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	5842	5842	0	0.0
Nov	4854	4854	0	0.0
Dec	6672	6672	0	0.0
Jan	7951	7951	0	0.0
Feb	10056	10056	0	0.0
Mar	8249	8249	0	0.0
Apr	7706	7706	0	0.0
May	8381	8381	0	0.0
Jun	10529	10529	0	0.0
Jul	13284	13398	114	0.9
Aug	10556	10498	-58	-0.5
Sep	7278	7222	-56	-0.8

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Flow at Freeport Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	11956	12044	88	0.7
Nov	14769	14783	14	0.1
Dec	24922	24927	5	0.0
Jan	33069	33071	2	0.0
Feb	39225	39226	1	0.0
Mar	34296	34299	3	0.0
Apr	25184	25665	481	1.9
May	19724	20076	352	1.8
Jun	18183	18533	350	1.9
Jul	17777	20919	3142	17.7
Aug	13762	15929	2167	15.7
Sep	13729	14373	644	4.7

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Usable Splittail Habitat below Nimbus Dam Under Baseline and FP Alt Conditions										
Month	Usable Habitat[1] (acres)		Difference		Years Unchanged[2]		Years Increased[2]		Years Decreased[2]	
	Baseline	FP Alt	(acres)	(%)[3]	Number	Percent	Total	From Zero	Total	To Zero
Feb	3.6	3.6	0.0	0.0	0	0%	0	0	0	0
Mar	1.7	1.7	0.0	0.0	0	0%	0	0	0	0
Apr	1.0	1.0	0.0	0.0	0	0%	0	0	0	0
May	1.3	1.3	0.0	0.0	0	0%	0	0	0	0

[1] Usable habitat is inundated riparian vegetation over 2.4 acres.

[2] Based on 72 years modeled.

[3] Relative difference of the monthly long-term average.

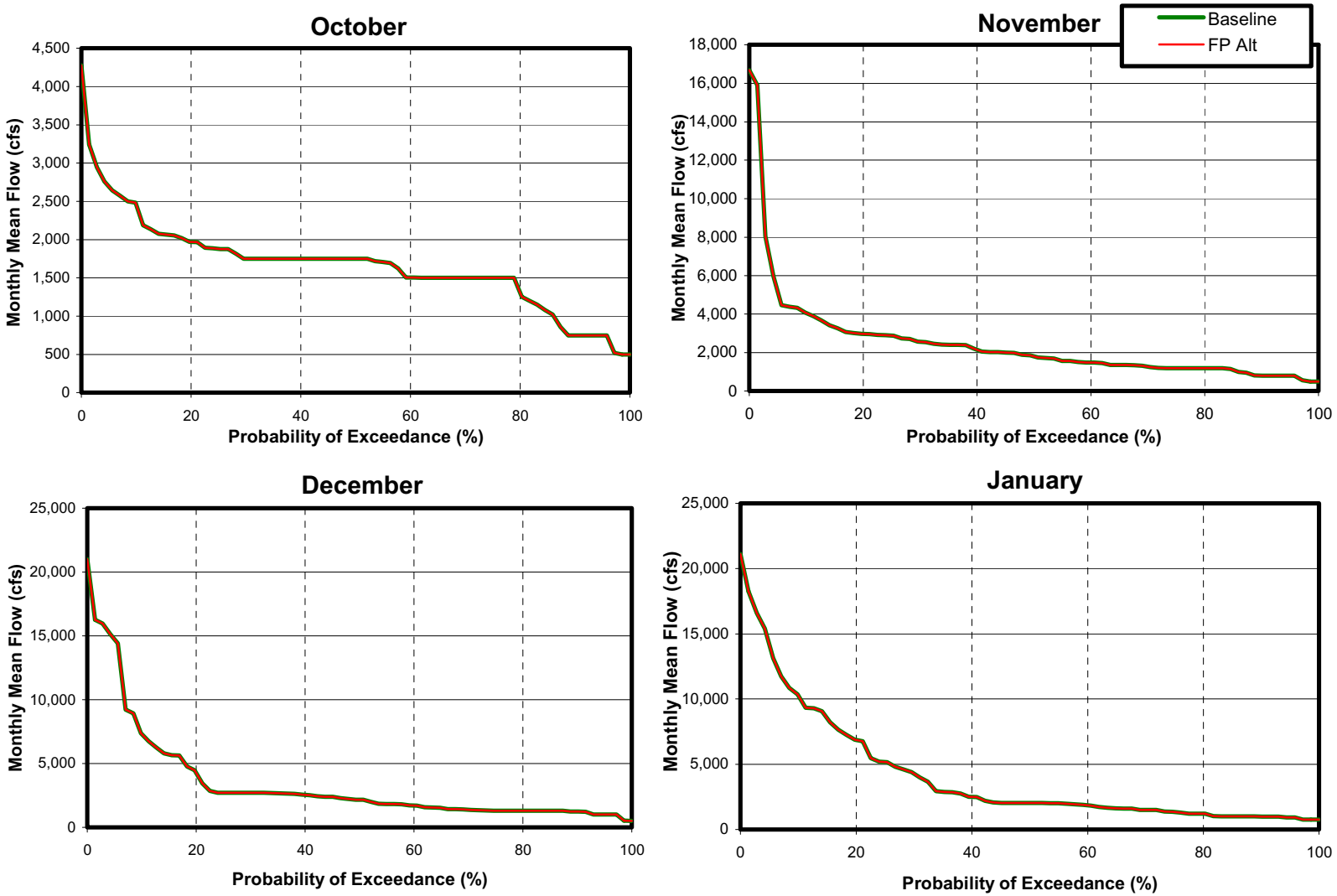
Long-term Average Usable Splittail Habitat at Watt Avenue Under Baseline and FP Alt Conditions										
Month	Usable Habitat[1] (acres)		Difference		Years Unchanged[2]		Years Increased[2]		Years Decreased[2]	
	Baseline	FP Alt	(acres)	(%)[3]	Number	Percent	Total	From Zero	Total	To Zero
Feb	3.5	3.5	0.0	0.0	0	0%	0	0	0	0
Mar	1.7	1.7	0.0	0.0	0	0%	0	0	0	0
Apr	0.9	0.9	0.0	0.0	0	0%	0	0	0	0
May	1.2	1.2	0.0	0.0	0	0%	0	0	0	0

[1] Usable habitat is inundated riparian vegetation over 2.4 acres.

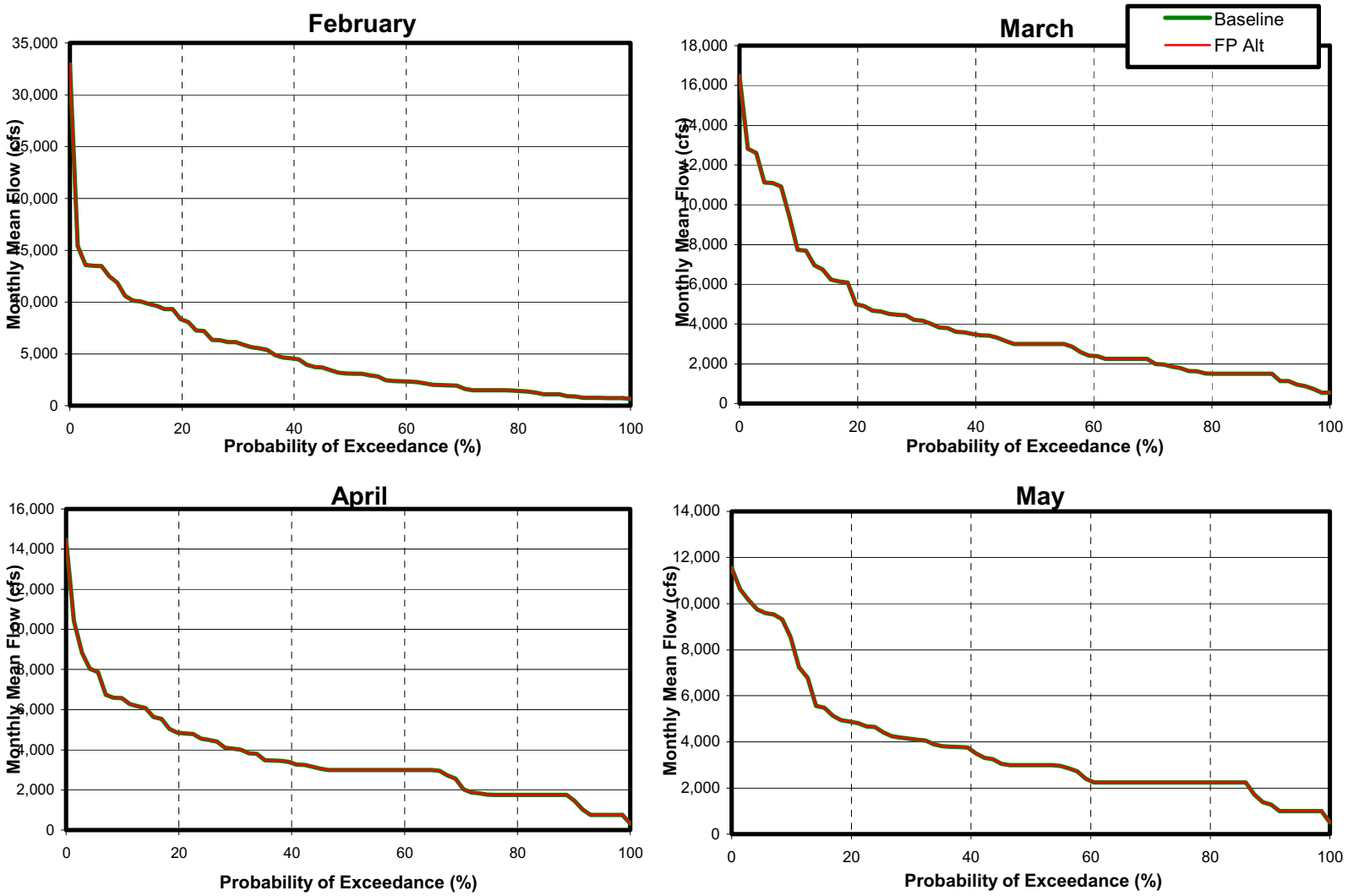
[2] Based on 72 years modeled.

[3] Relative difference of the monthly long-term average.

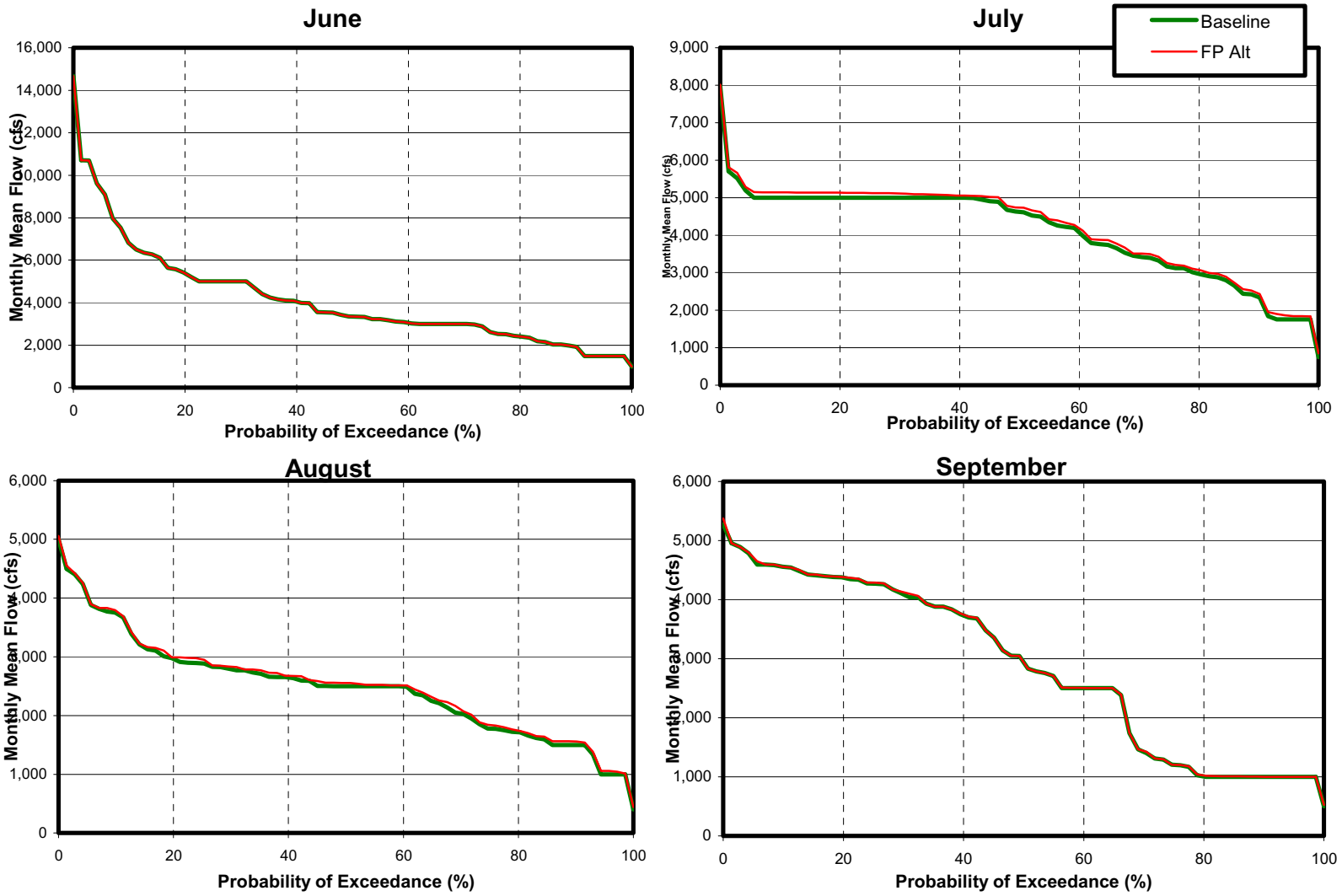
Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions



Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions



Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions

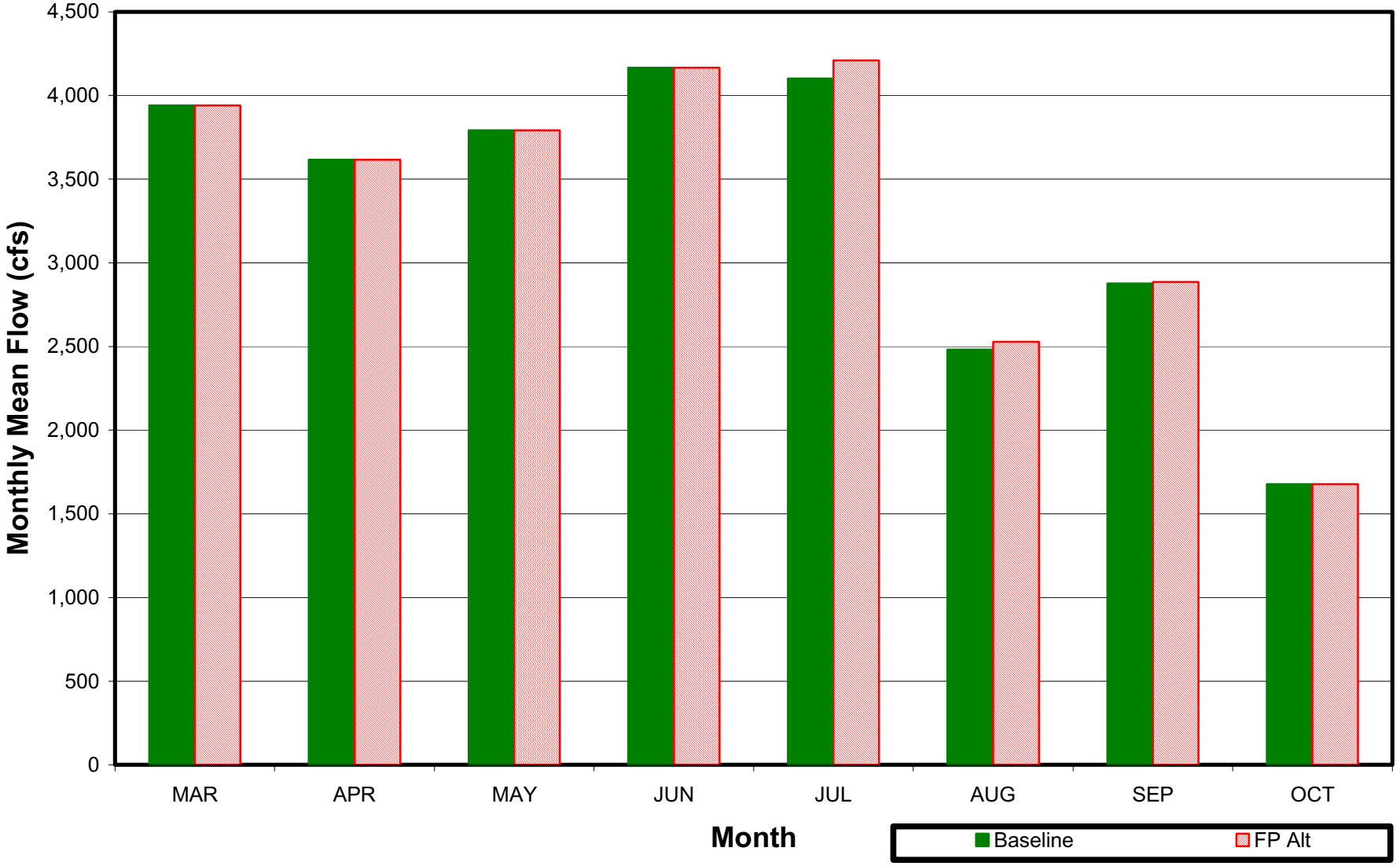


Long-term Average Release From Nimbus Dam Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1678	1678	0	0.0
Nov	2502	2502	0	0.0
Dec	3498	3498	0	0.0
Jan	4124	4124	0	0.0
Feb	4989	4989	0	0.0
Mar	3941	3941	0	0.0
Apr	3616	3616	0	0.0
May	3793	3793	0	0.0
Jun	4166	4166	0	0.0
Jul	4100	4208	108	2.6
Aug	2482	2528	46	1.9
Sep	2876	2885	9	0.3

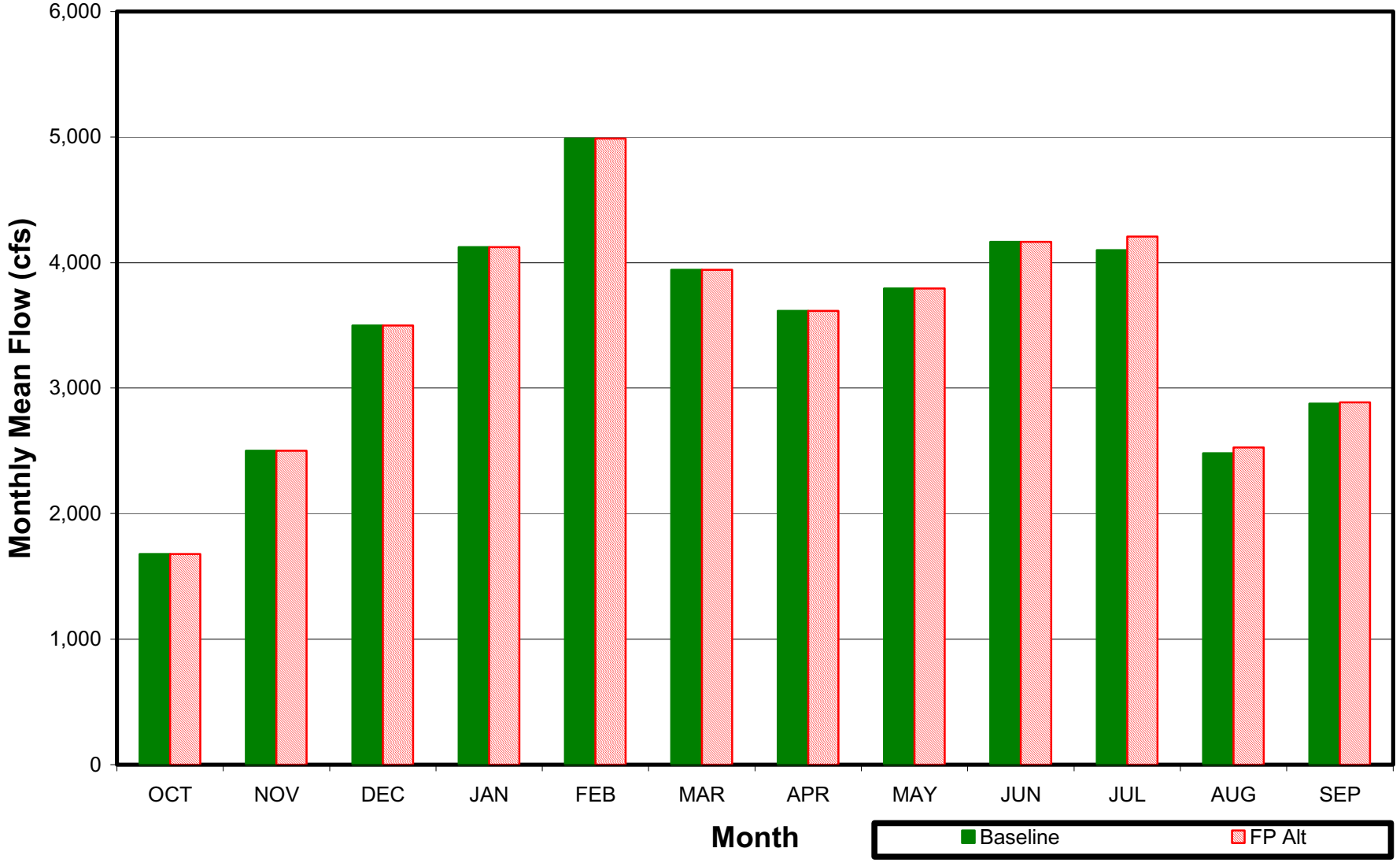
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

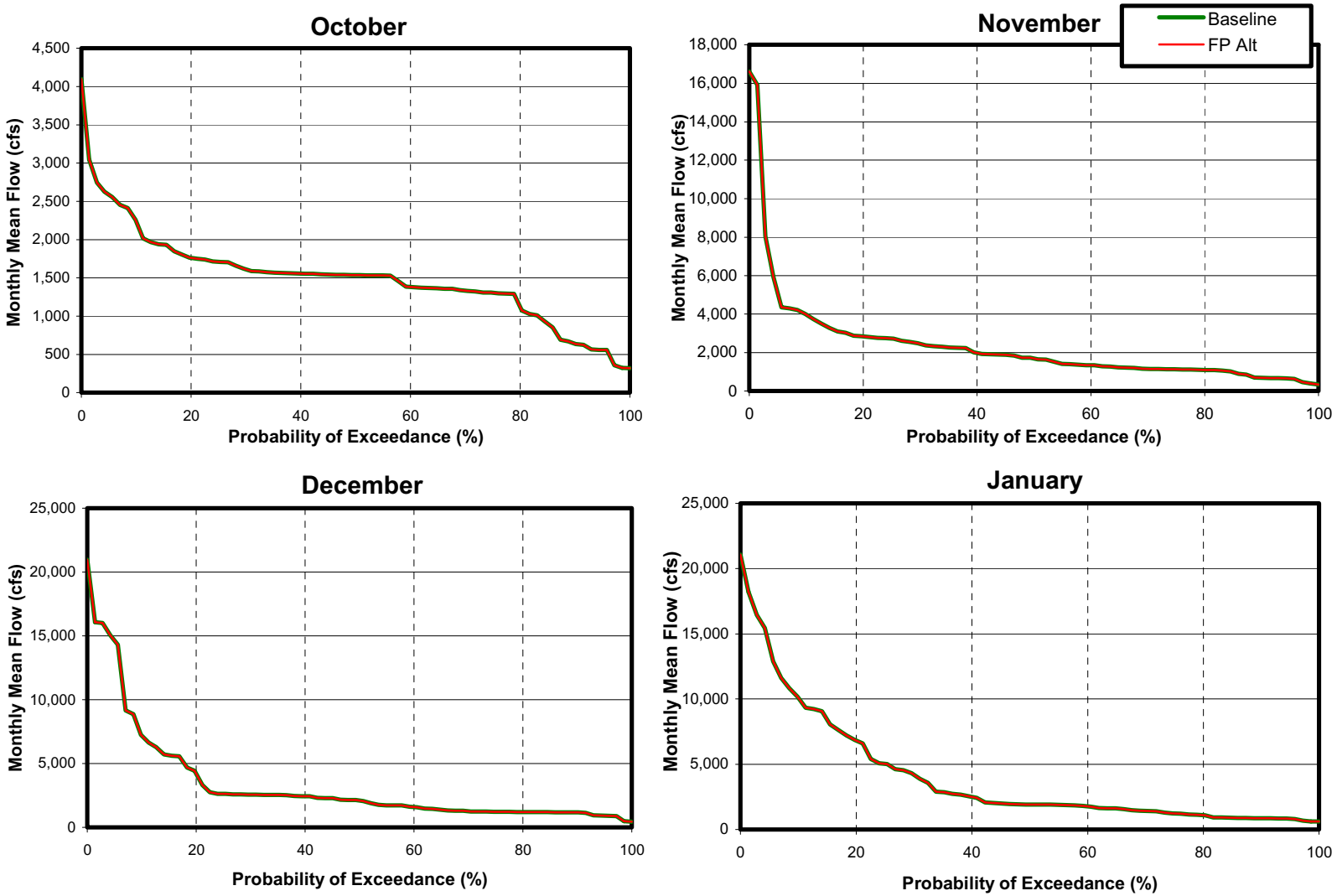
Long-term Average Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions



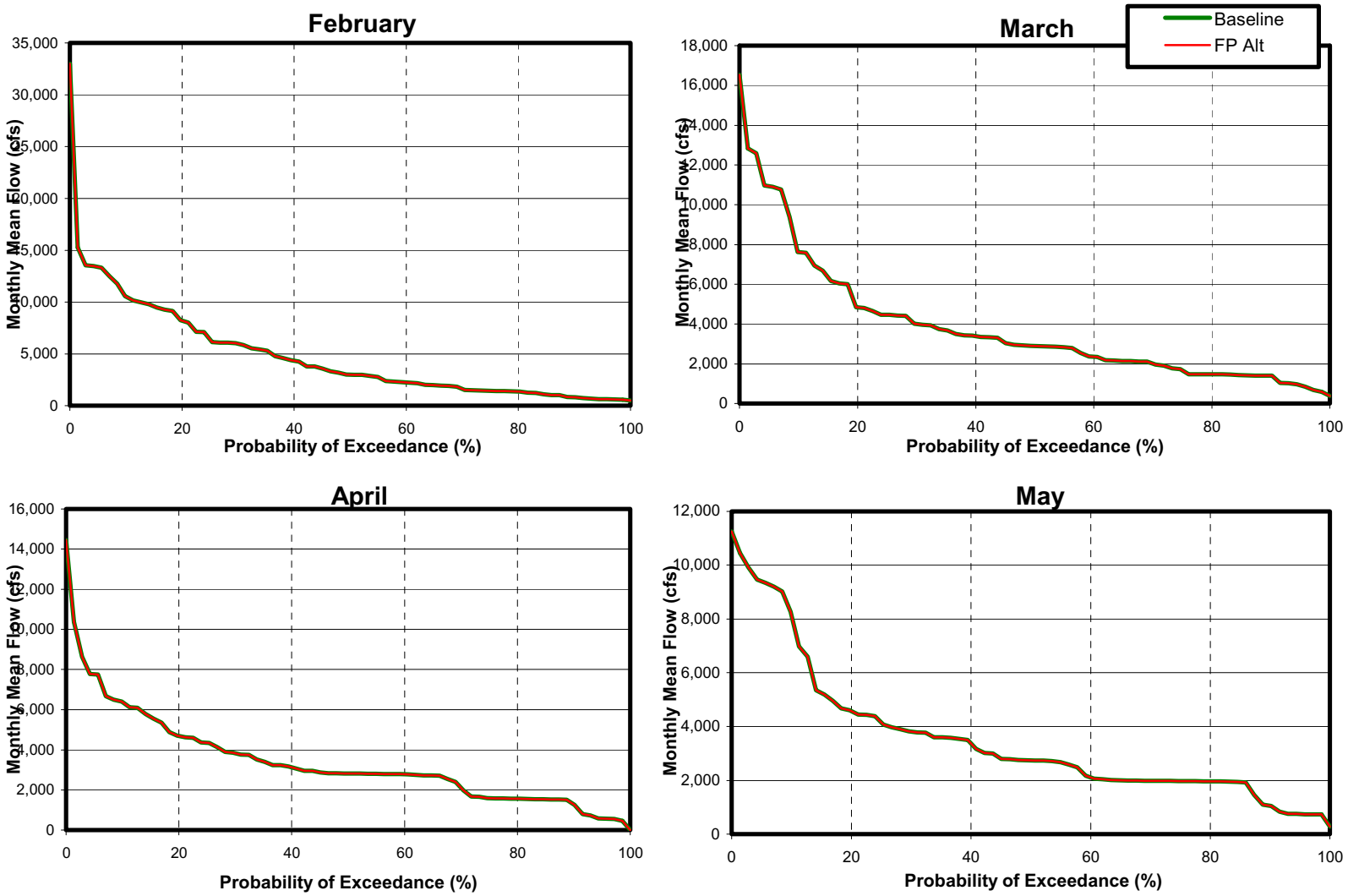
Long-term Average Lower American River Release From Nimbus Dam Under Baseline and FP Alt Conditions



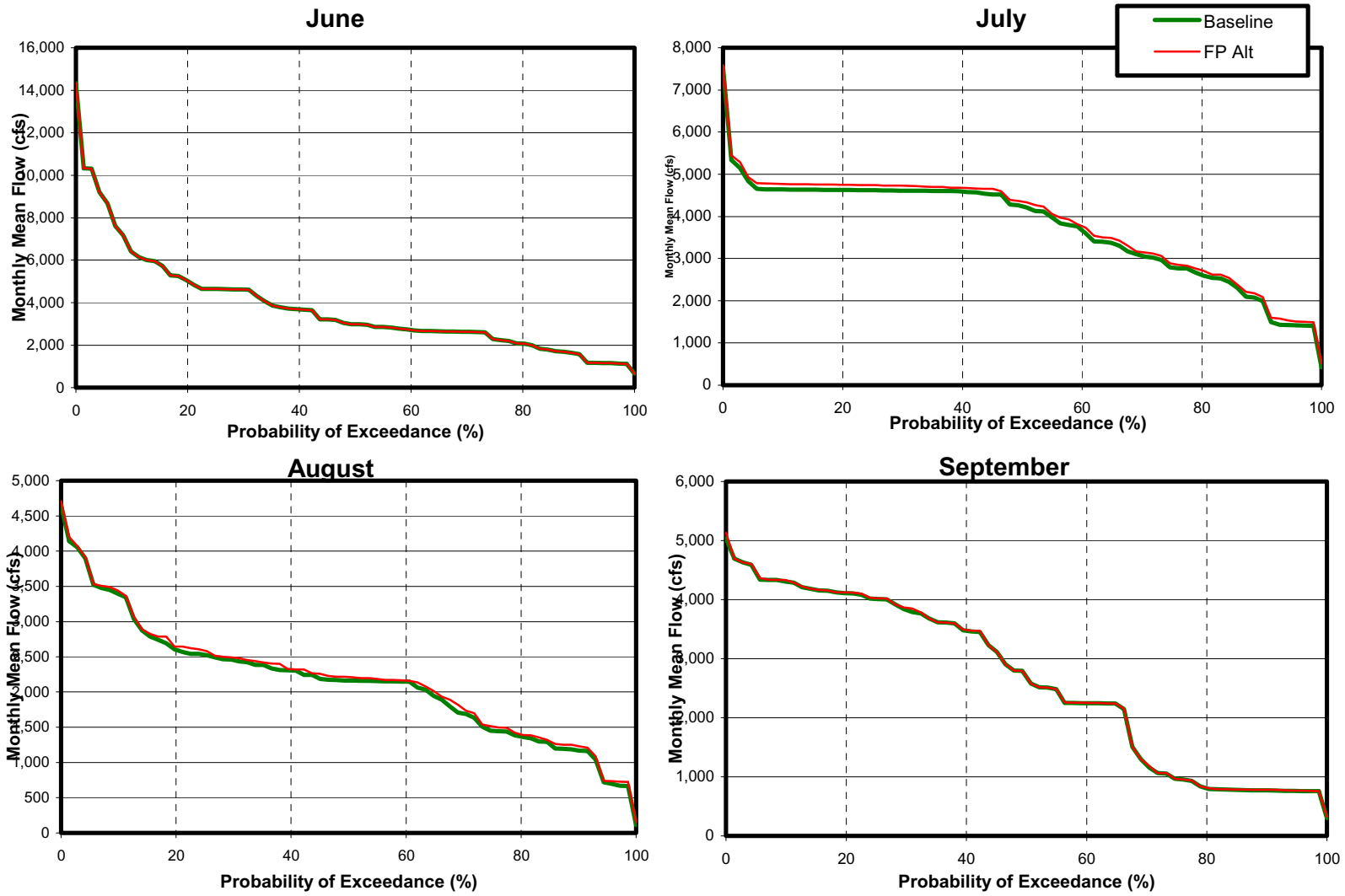
Lower American River Flow at Watt Avenue Under Baseline and FP Alt Conditions



Lower American River Flow at Watt Avenue Under Baseline and FP Alt Conditions



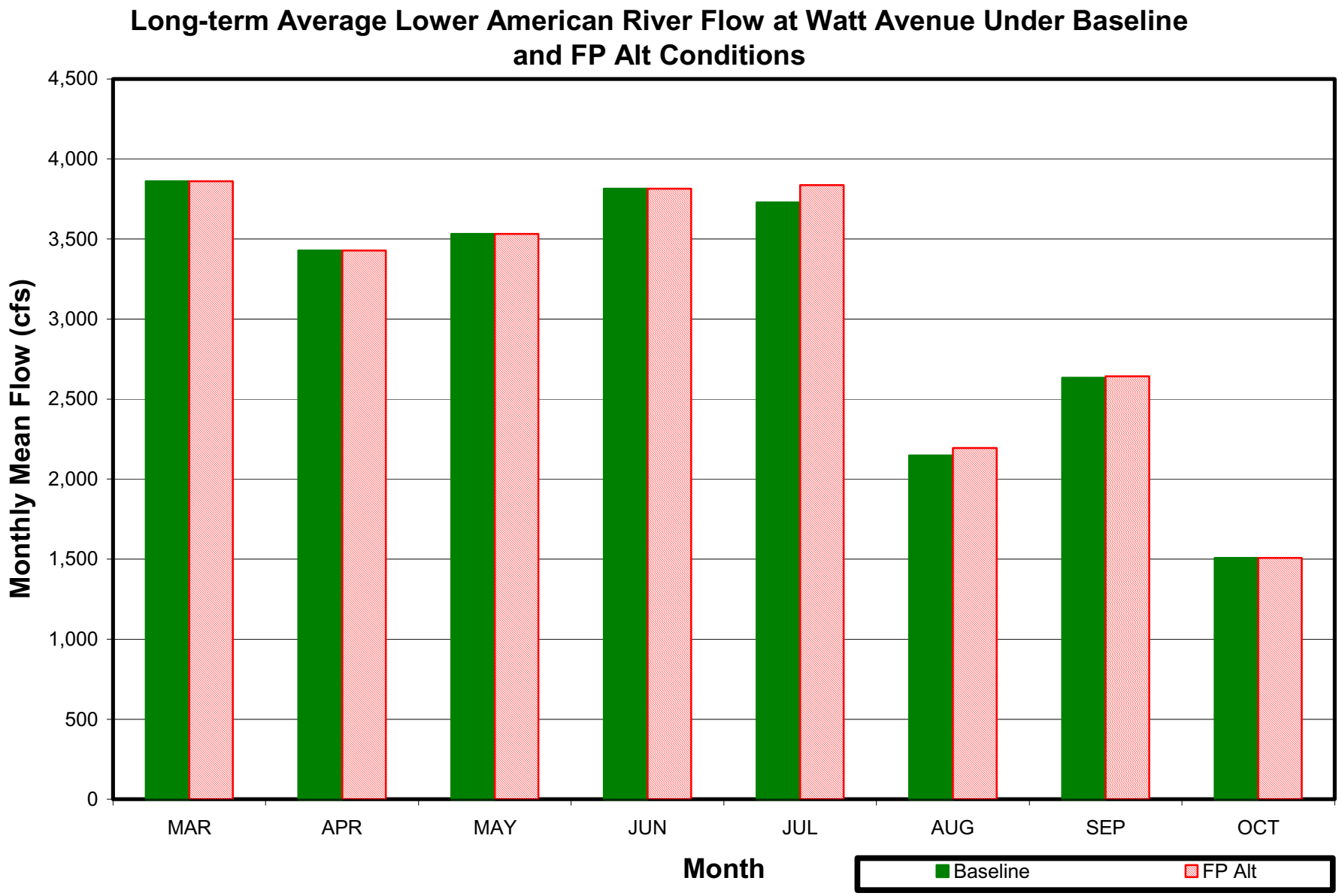
Lower American River Flow at Watt Avenue Under Baseline and FP Alt Conditions



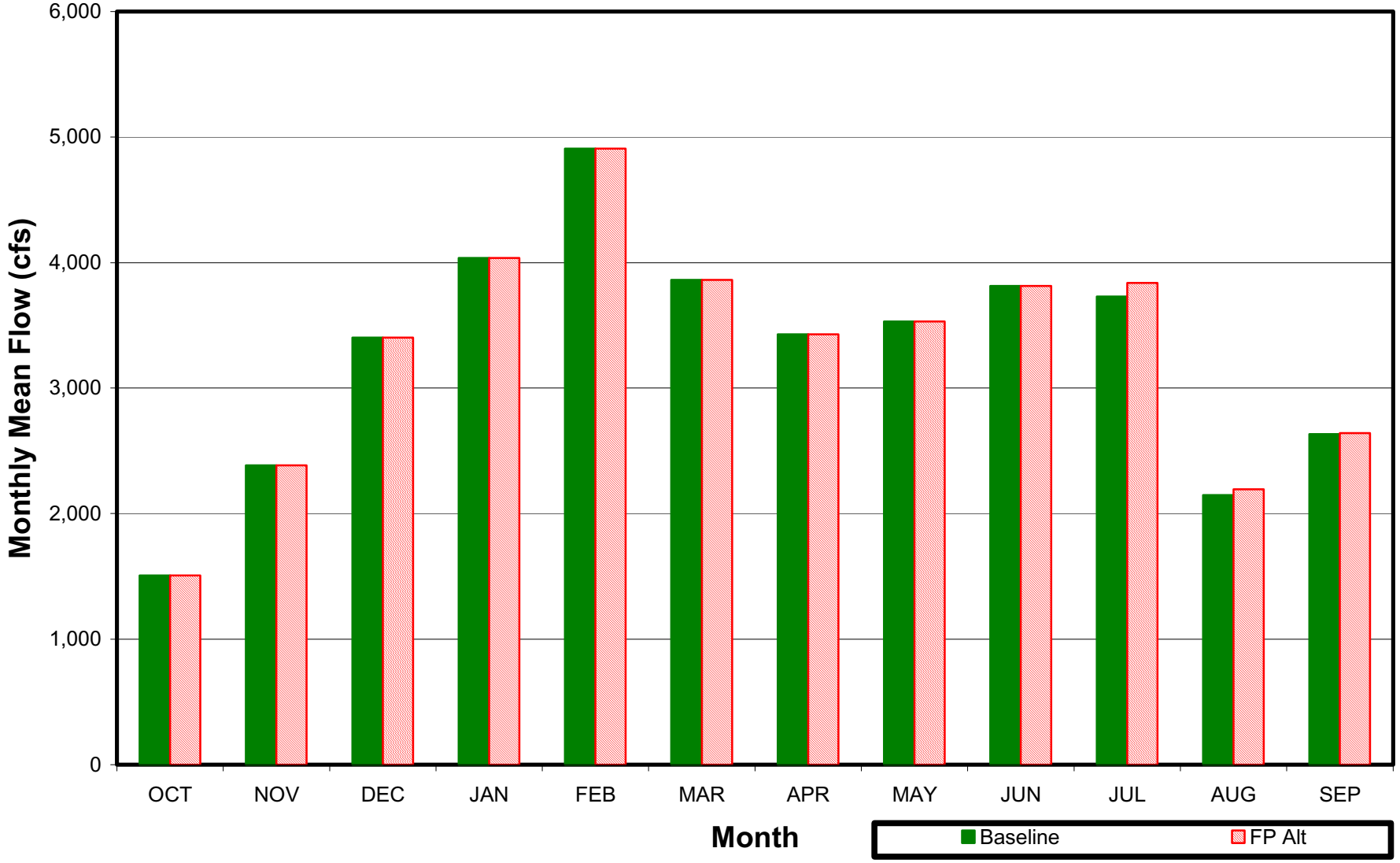
Long-term Average Flow at Watt Avenue Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1507	1507	0	0.0
Nov	2385	2385	0	0.0
Dec	3402	3402	0	0.0
Jan	4038	4038	0	0.0
Feb	4906	4906	0	0.0
Mar	3861	3861	0	0.0
Apr	3428	3428	0	0.0
May	3531	3531	0	0.0
Jun	3814	3814	0	0.0
Jul	3729	3837	108	2.9
Aug	2148	2194	46	2.1
Sep	2633	2642	9	0.3

[1] Based on 72 years modeled.

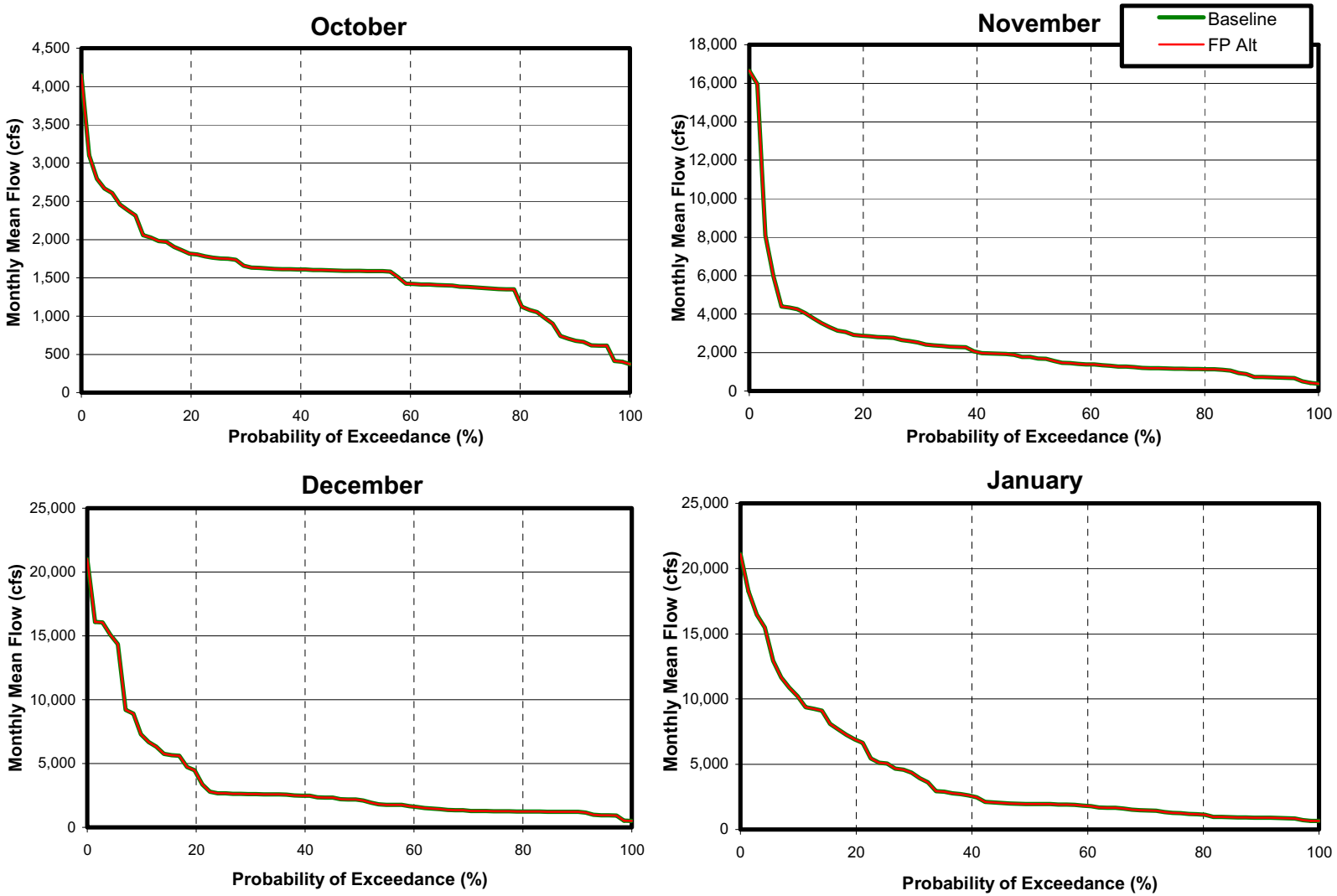
[2] Relative difference of the monthly long-term average.


Long-term Average Lower American River Flow at Watt Avenue Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt

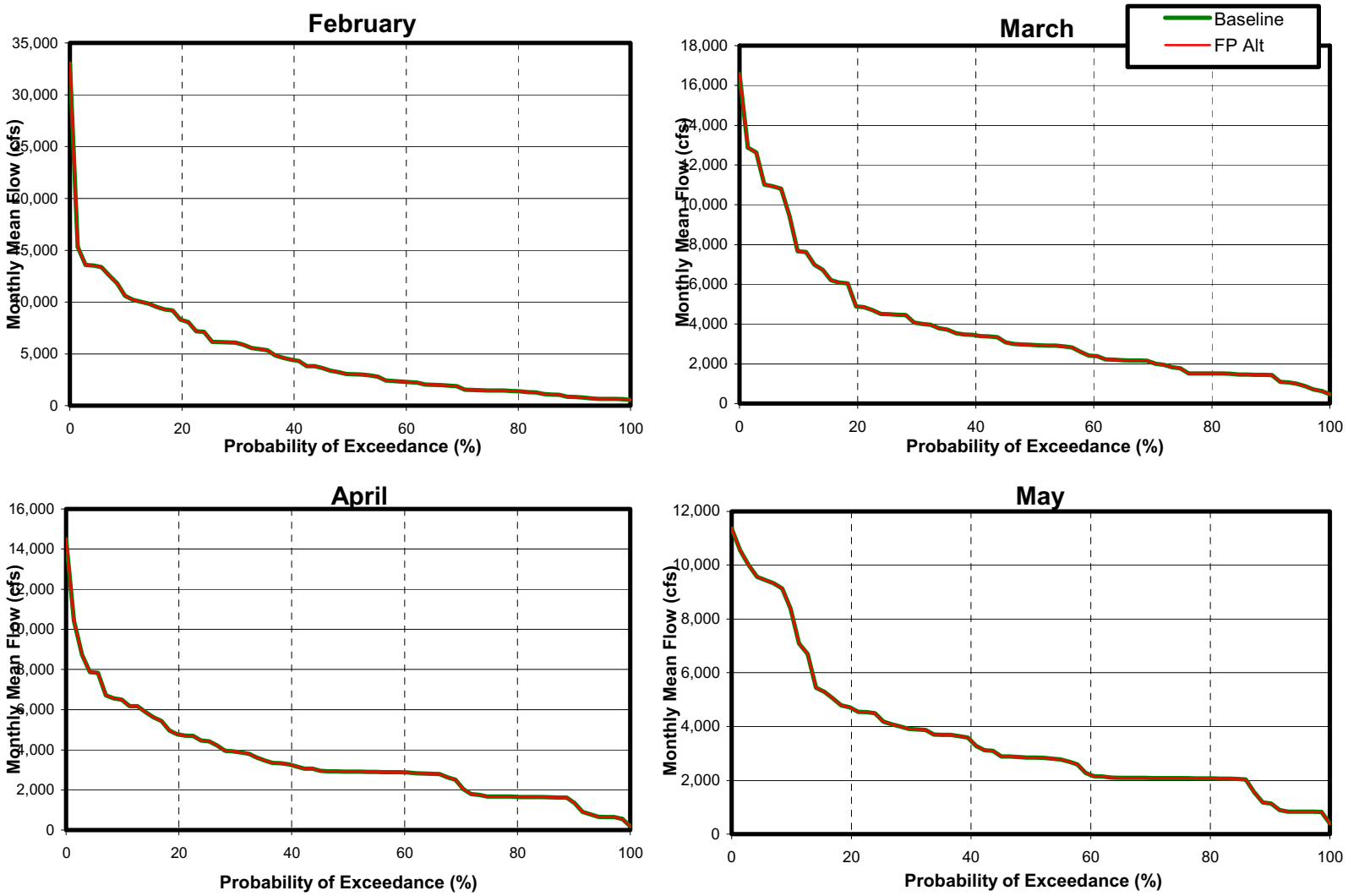
Long-term Average Lower American River Flow at Watt Avenue Under Baseline and FP Alt Conditions



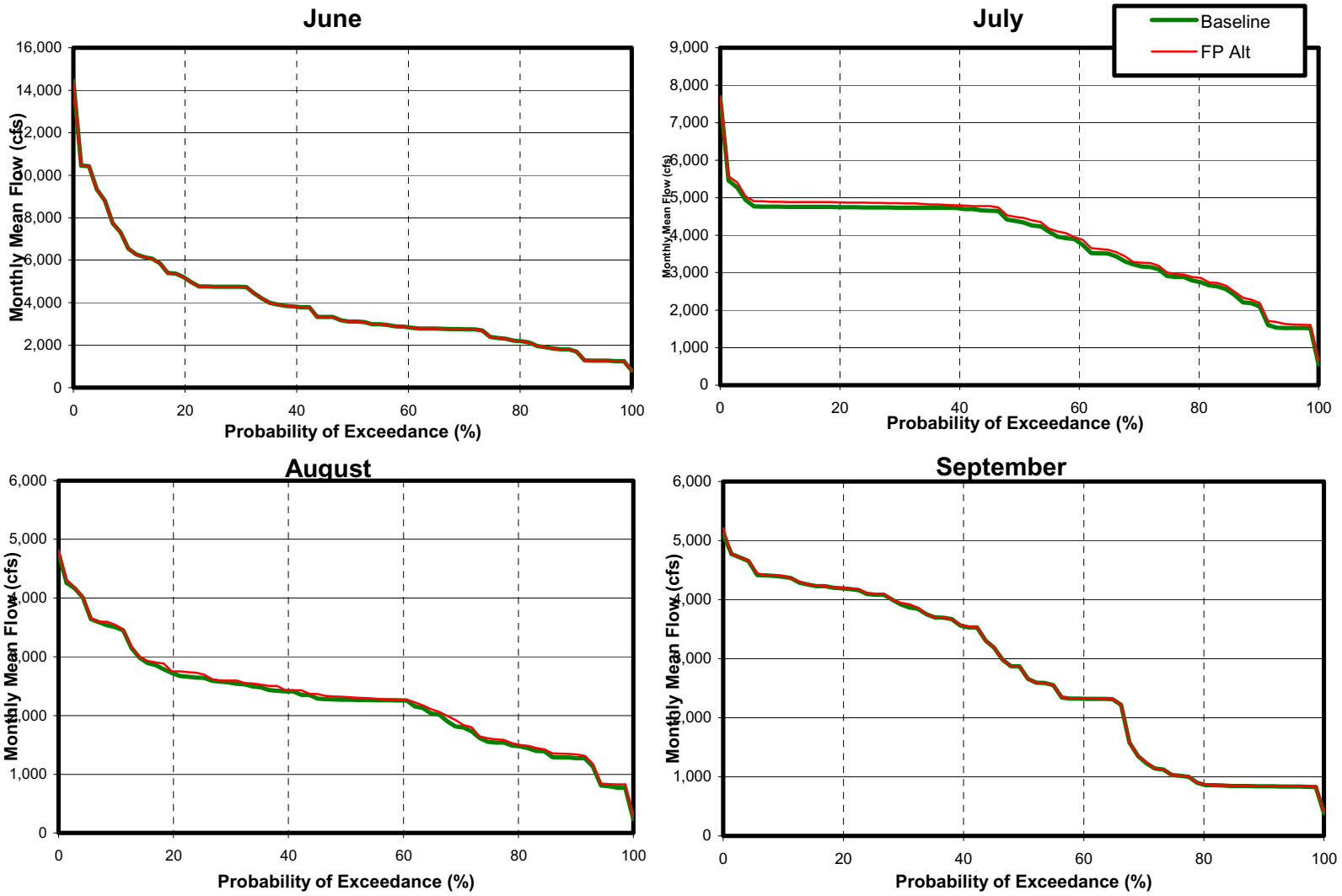
Lower American River Flow at H Street Bridge Under Baseline and FP Alt Conditions



Lower American River Flow at H Street Bridge Under Baseline and FP Alt Conditions



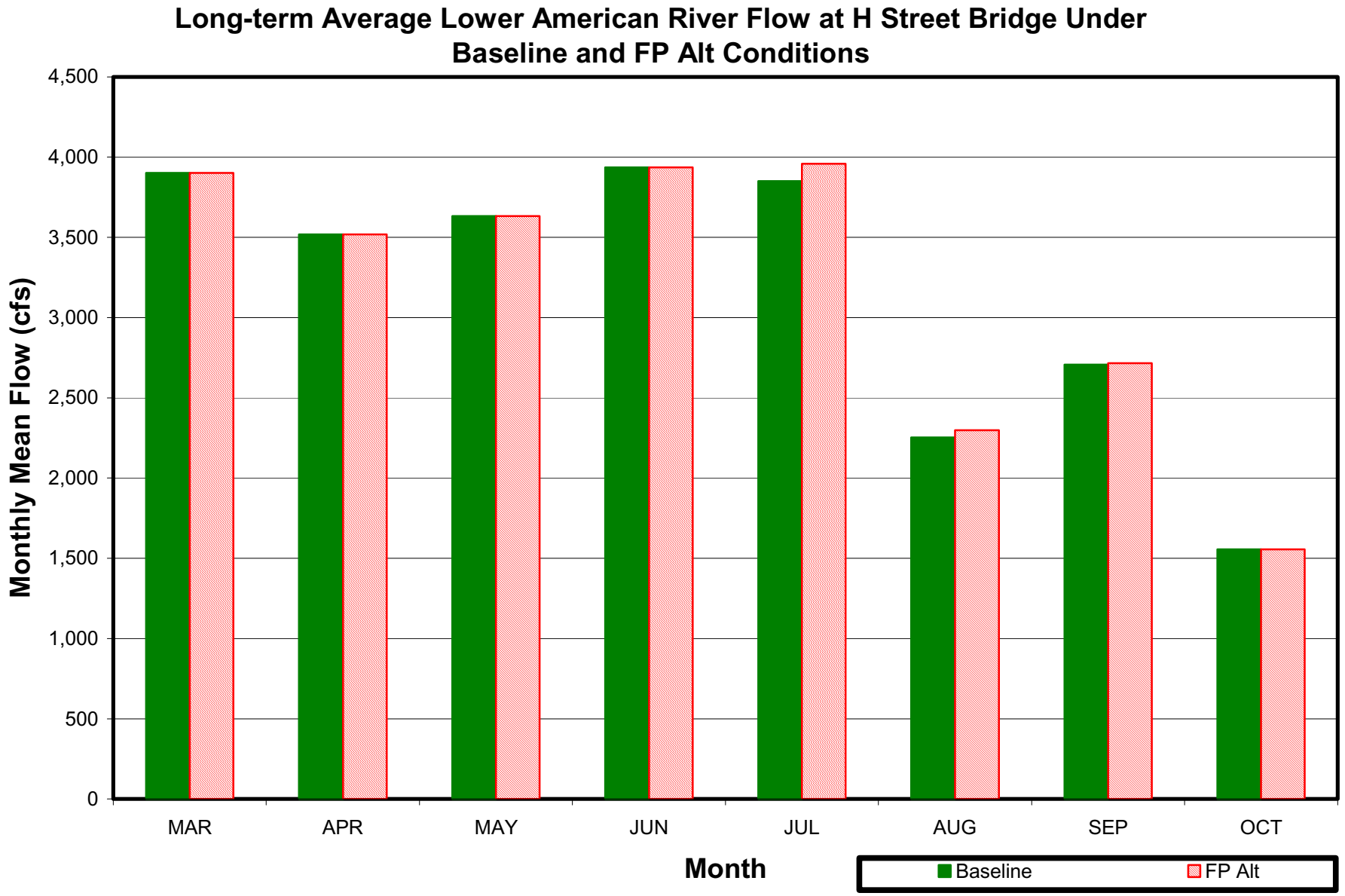
Lower American River Flow at H Street Bridge Under Baseline and FP Alt Conditions

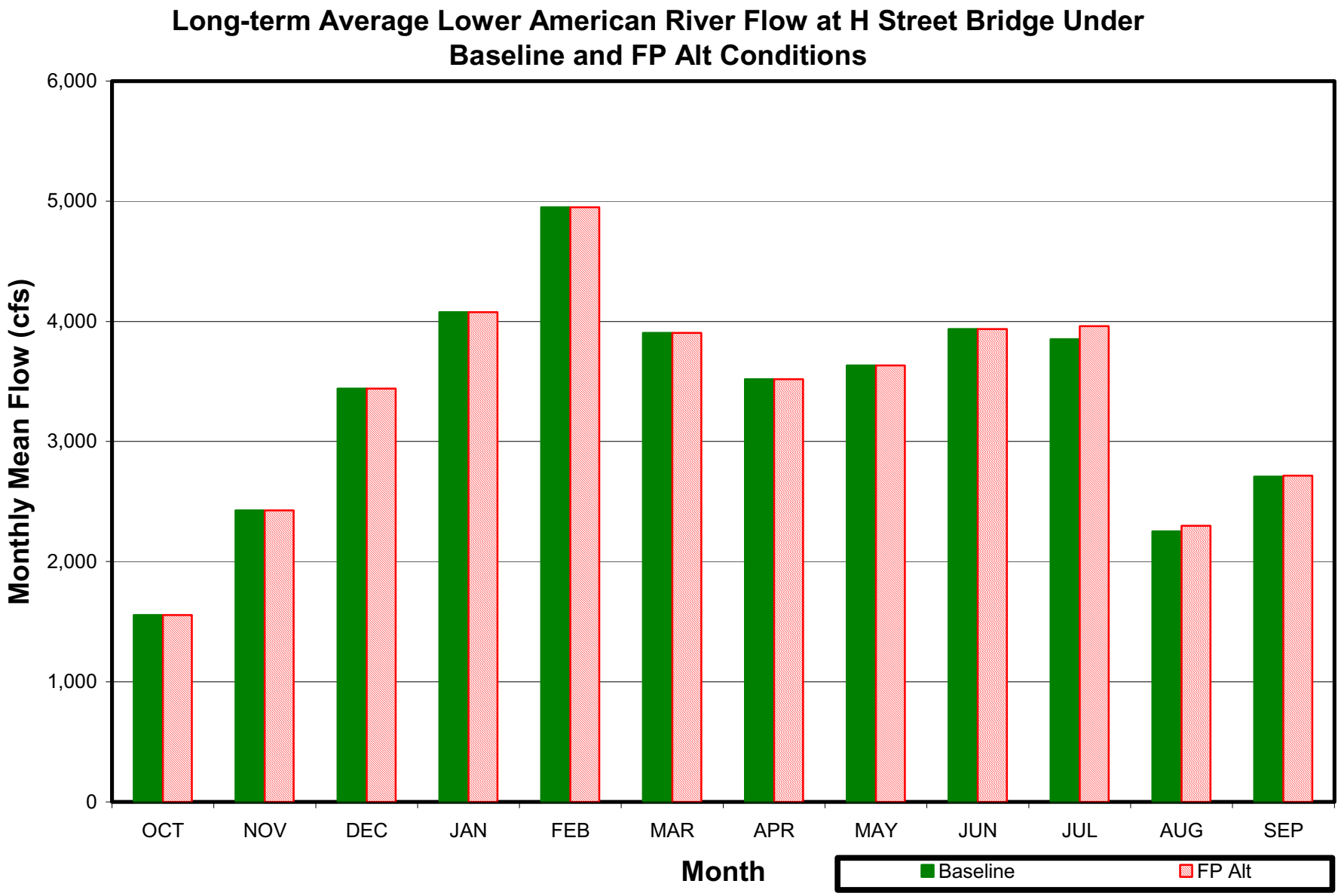


Long-term Average Flow at H Street Bridge Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1557	1557	0	0.0
Nov	2426	2426	0	0.0
Dec	3441	3441	0	0.0
Jan	4077	4077	0	0.0
Feb	4949	4949	0	0.0
Mar	3902	3902	0	0.0
Apr	3518	3518	0	0.0
May	3632	3632	0	0.0
Jun	3936	3936	0	0.0
Jul	3851	3958	107	2.8
Aug	2253	2299	46	2.0
Sep	2707	2716	9	0.3

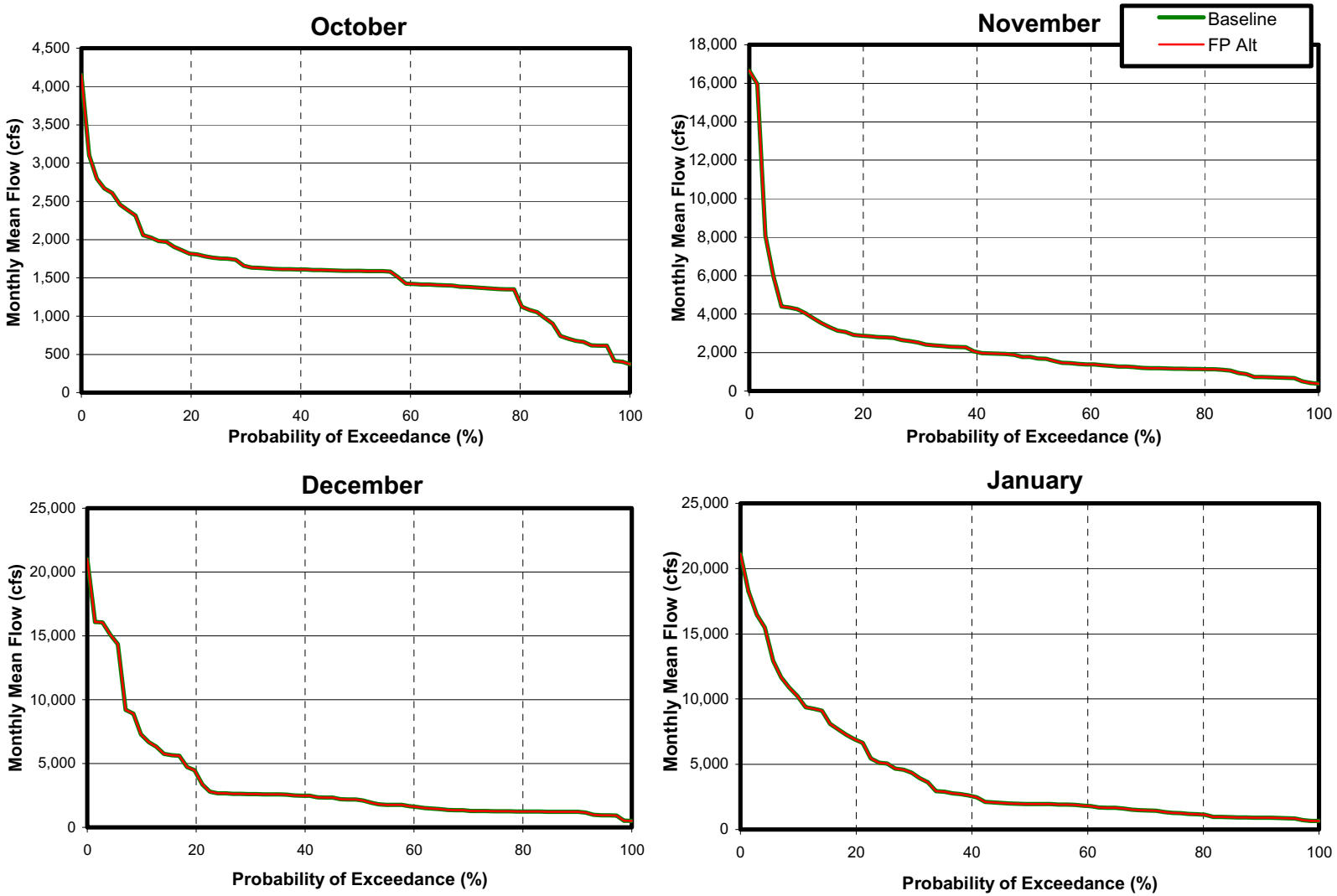
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

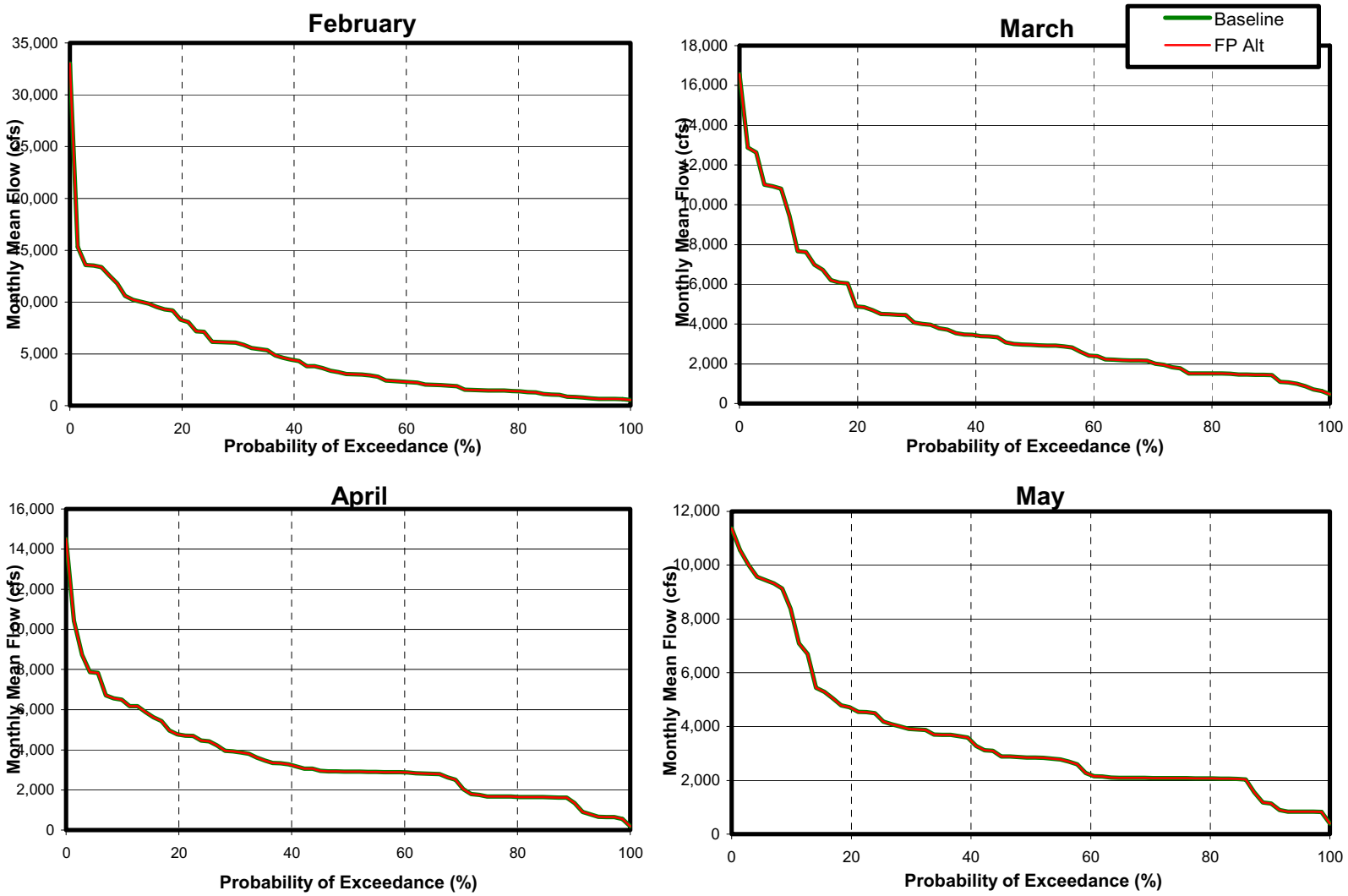

Long-term Average Lower American River Flow at H Street Bridge Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt


Long-term Average Lower American River Flow at H Street Bridge Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
6,000
5,000
4,000
3,000
2,000
1,000
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Month
Baseline
FP Alt

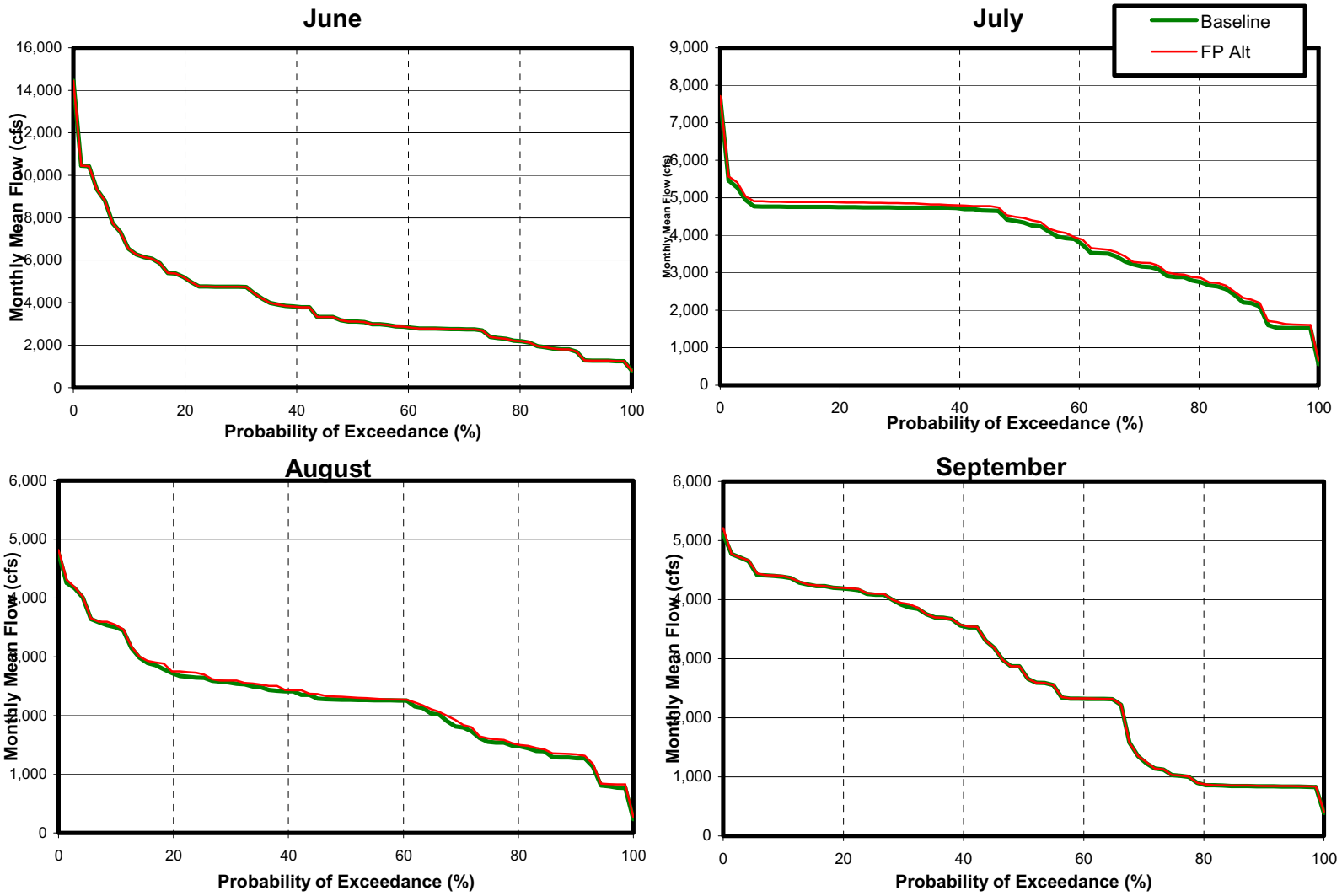
Lower American River Flow at the Mouth Under Baseline and FP Alt Conditions



Lower American River Flow at the Mouth Under Baseline and FP Alt Conditions



Lower American River Flow at the Mouth Under Baseline and FP Alt Conditions

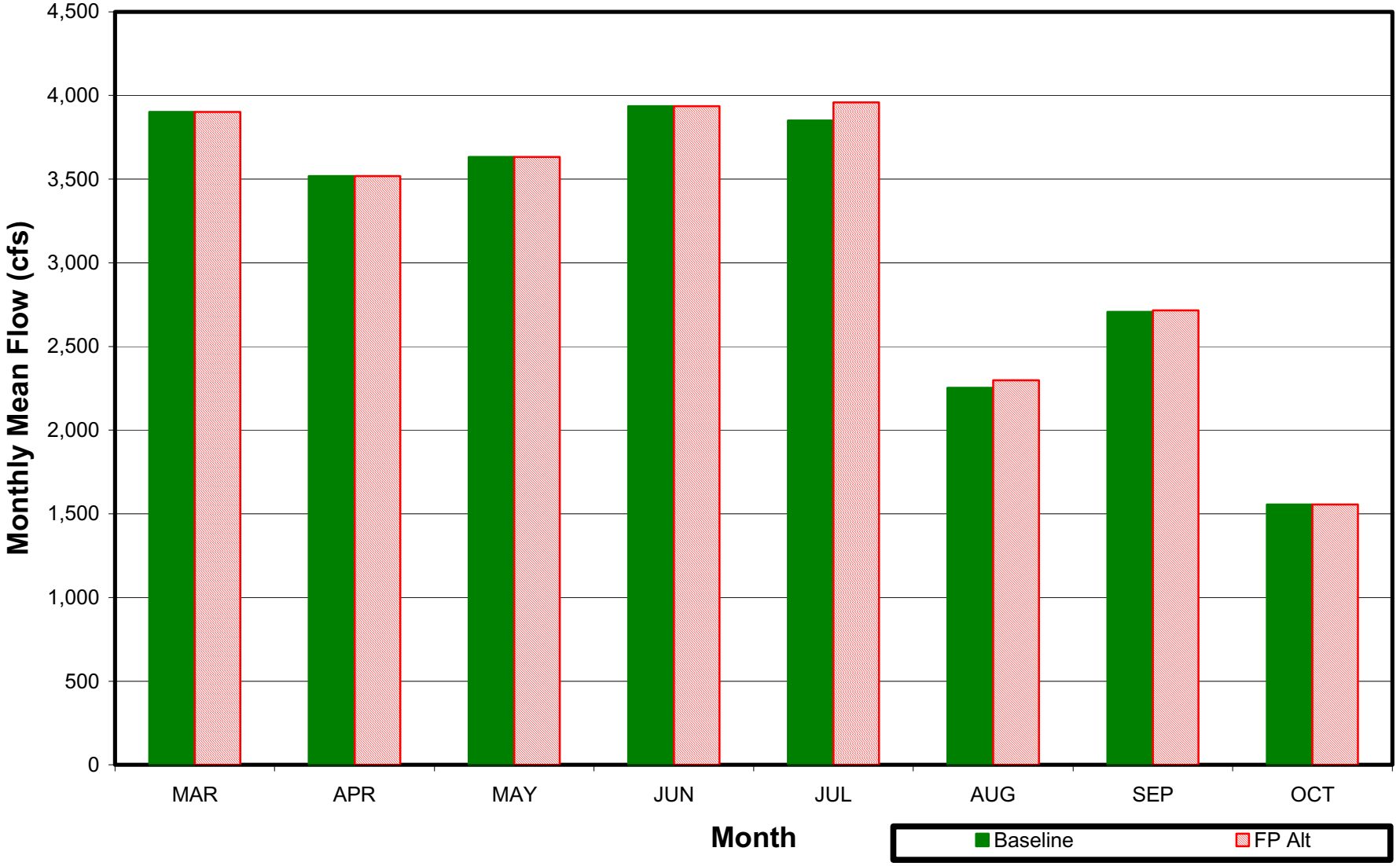


Long-term Average Flow at the Mouth Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1557	1557	0	0.0
Nov	2426	2426	0	0.0
Dec	3441	3441	0	0.0
Jan	4077	4077	0	0.0
Feb	4949	4949	0	0.0
Mar	3902	3902	0	0.0
Apr	3518	3518	0	0.0
May	3632	3632	0	0.0
Jun	3936	3936	0	0.0
Jul	3851	3958	107	2.8
Aug	2253	2299	46	2.0
Sep	2707	2716	9	0.3

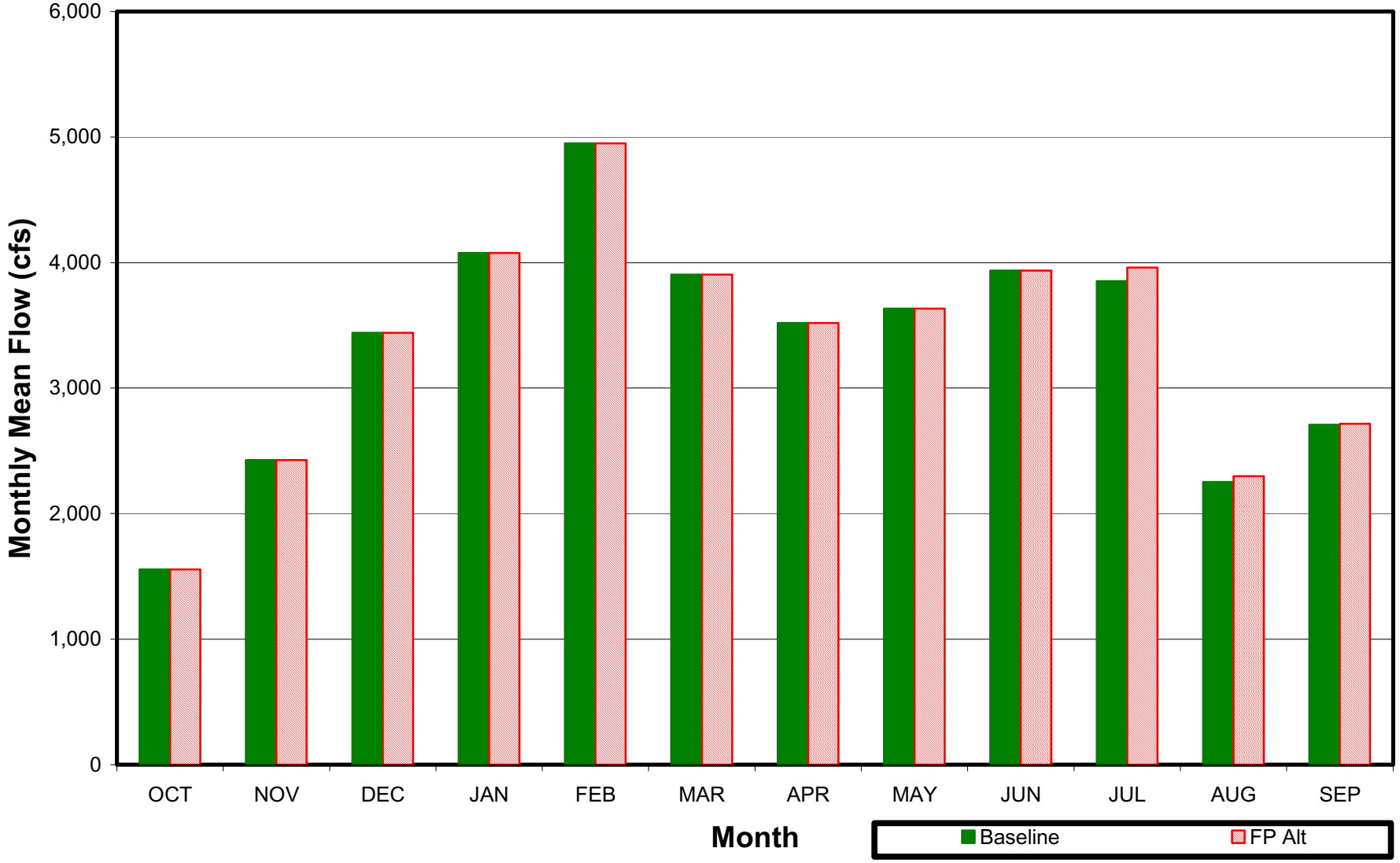
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

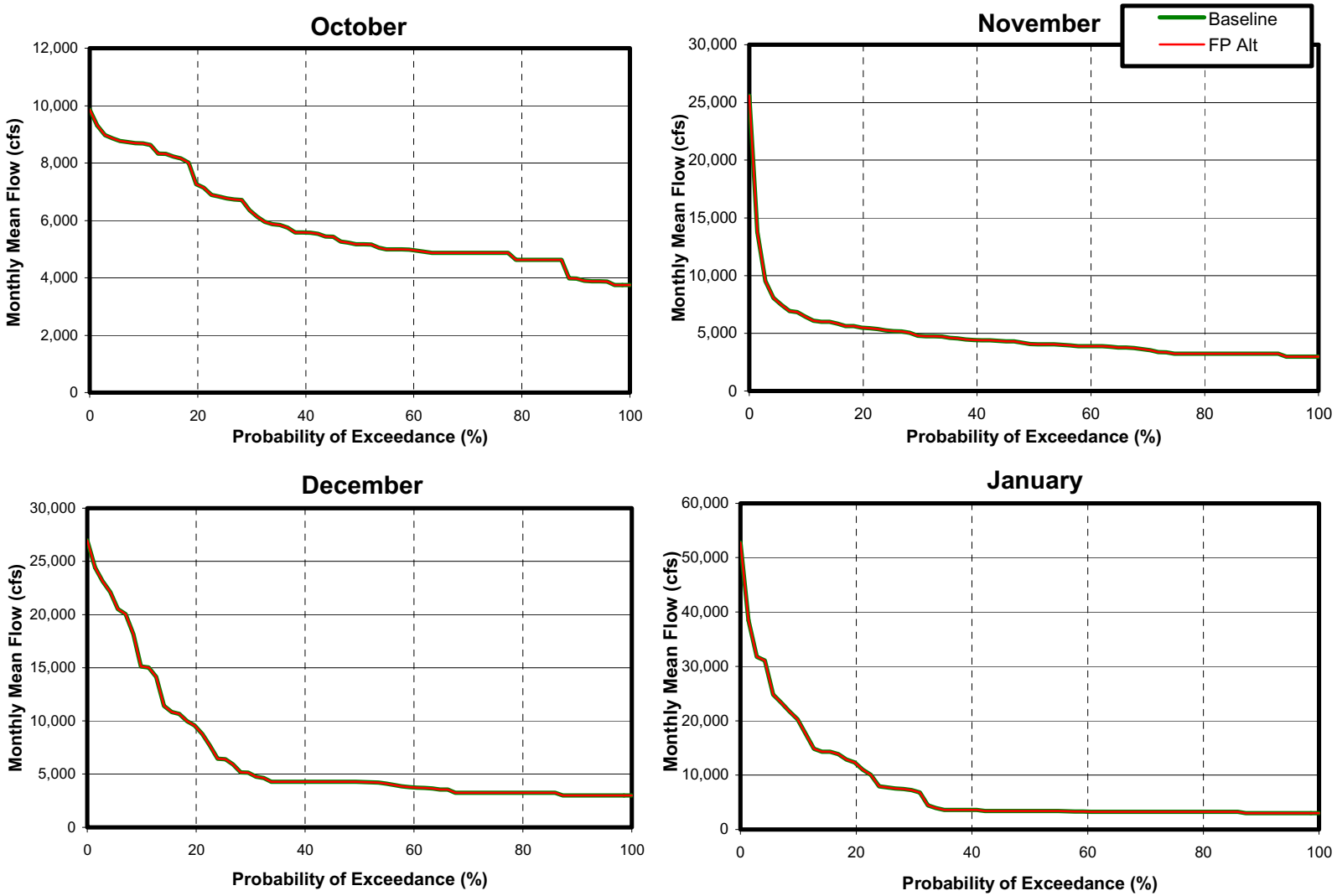
Long-term Average Lower American River Flow at the Mouth Under Baseline and FP Alt Conditions



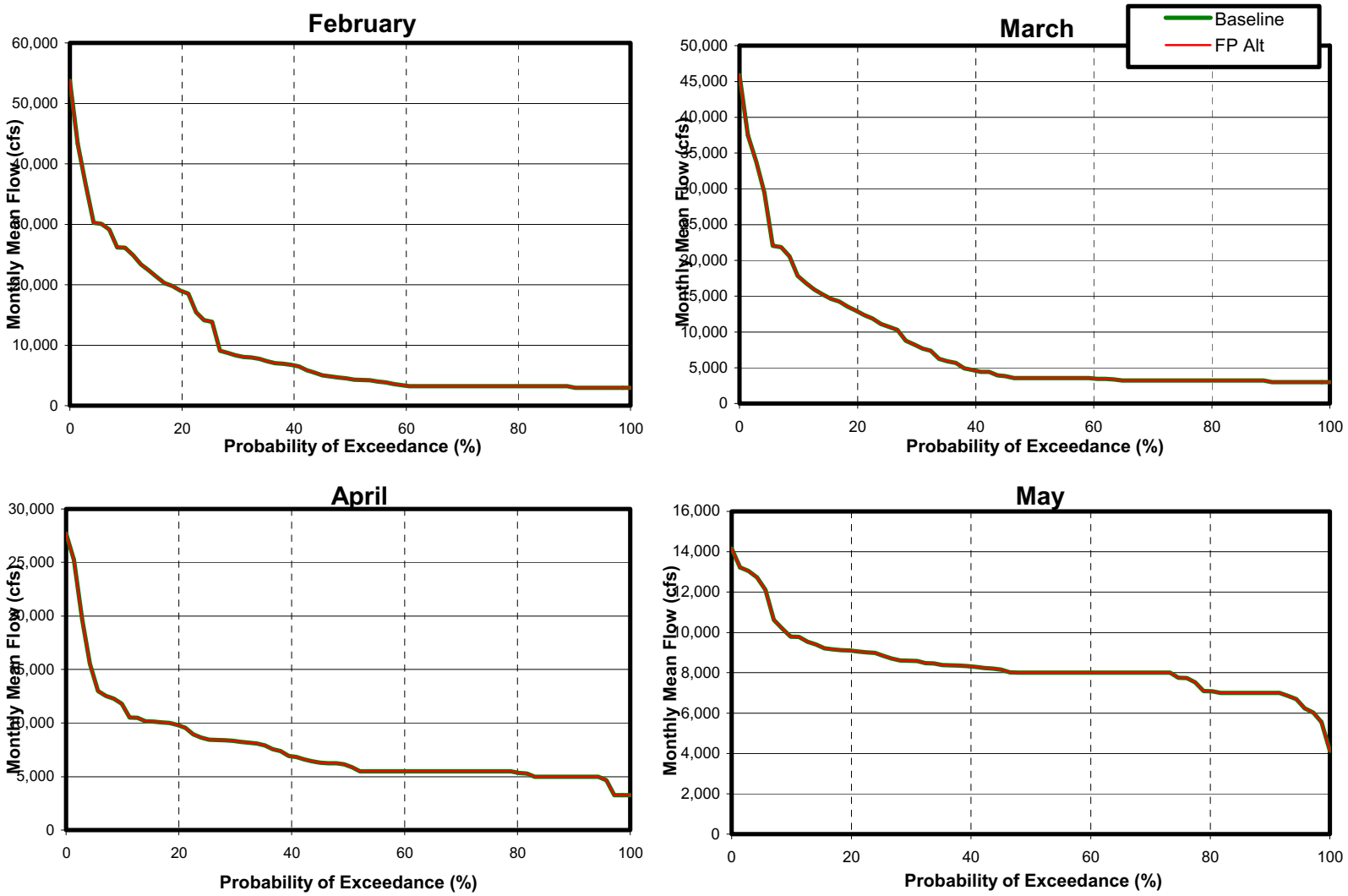
Long-term Average Lower American River Flow at the Mouth Under Baseline and FP Alt Conditions



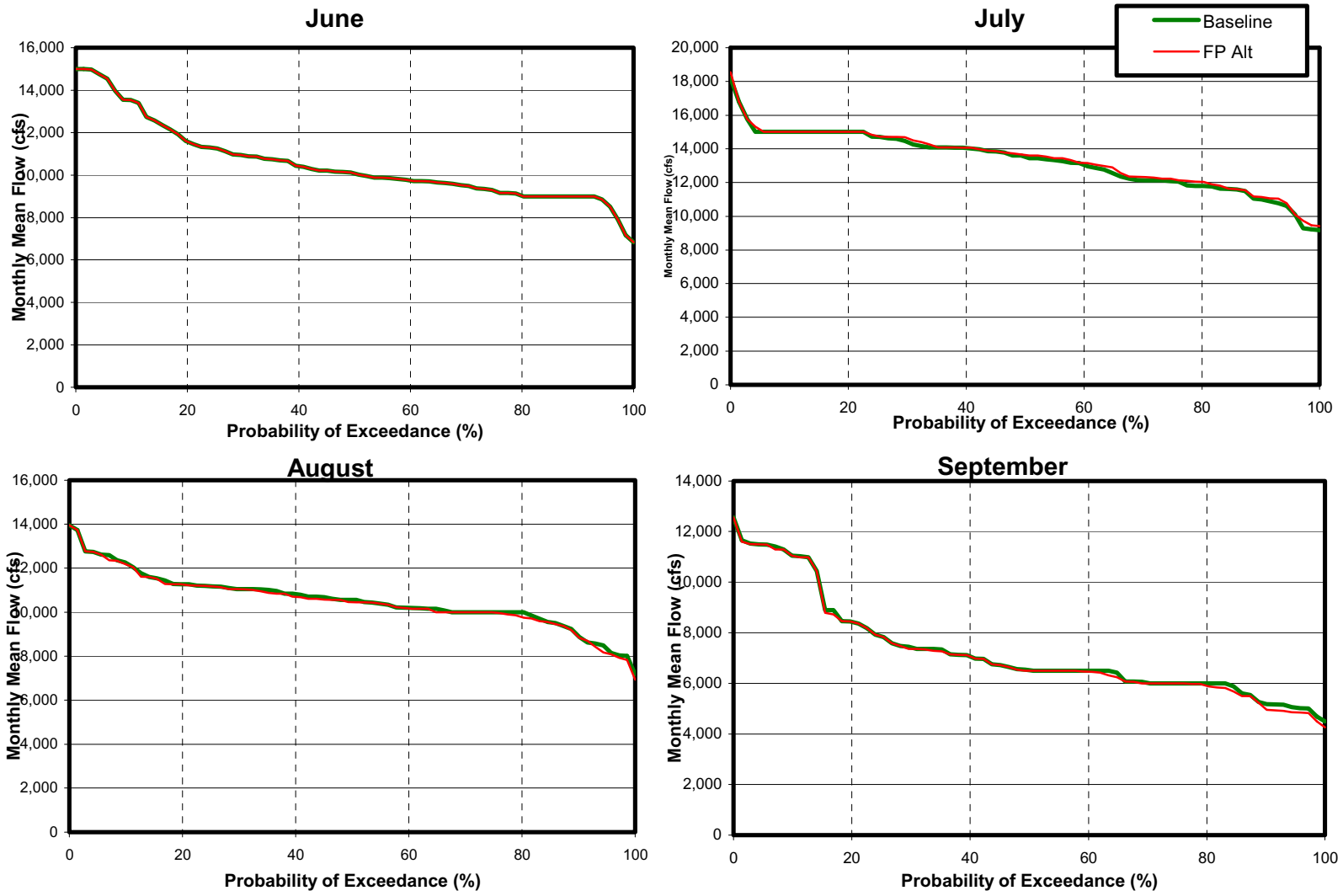
Sacramento River Release From Keswick Dam Under Baseline and FP Alt Conditions



Sacramento River Release From Keswick Dam Under Baseline and FP Alt Conditions



Sacramento River Release From Keswick Dam Under Baseline and FP Alt Conditions

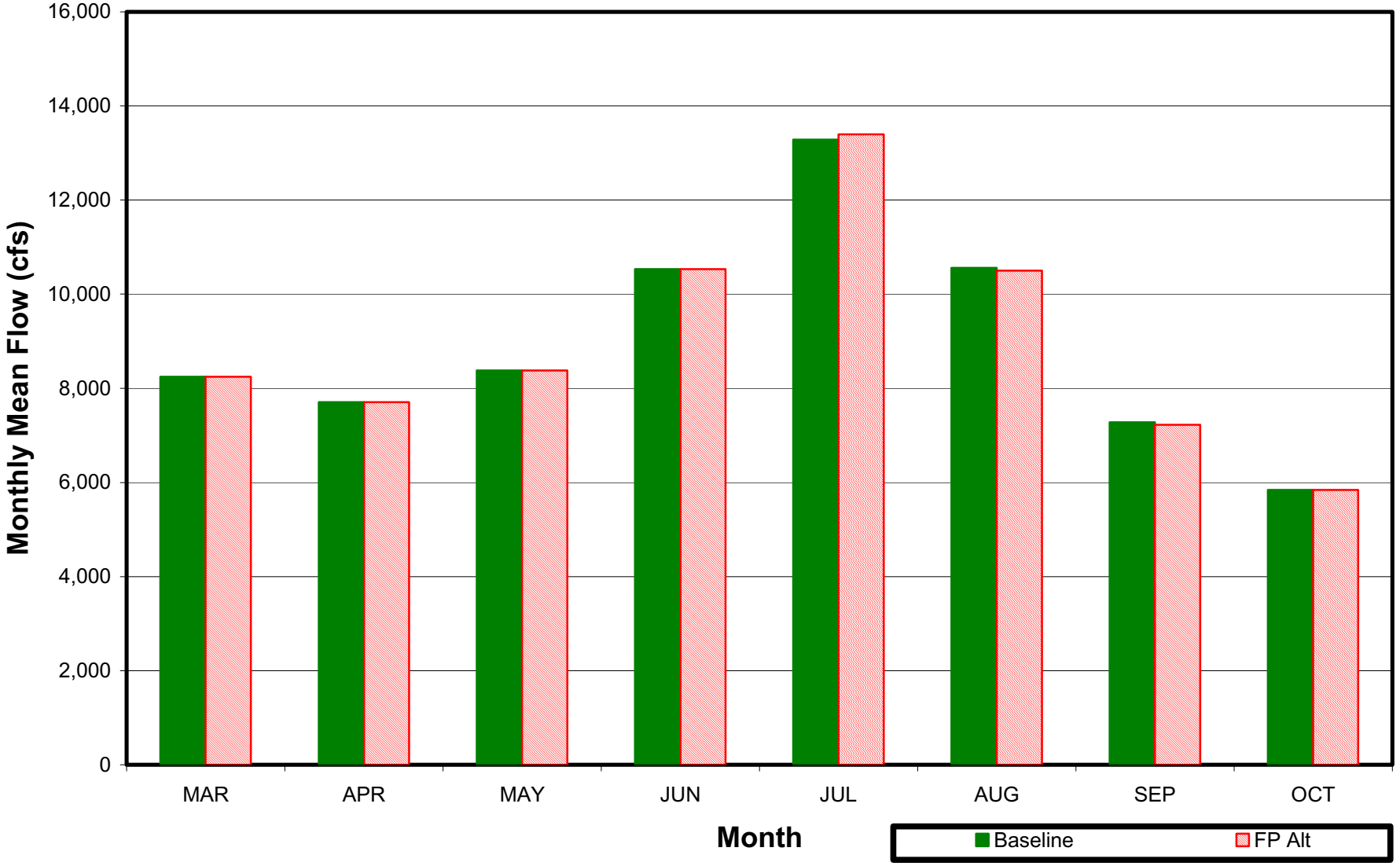


Long-term Average Release From Keswick Dam Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	5842	5842	0	0.0
Nov	4854	4854	0	0.0
Dec	6672	6672	0	0.0
Jan	7951	7951	0	0.0
Feb	10056	10056	0	0.0
Mar	8249	8249	0	0.0
Apr	7706	7706	0	0.0
May	8381	8381	0	0.0
Jun	10529	10529	0	0.0
Jul	13284	13398	114	0.9
Aug	10556	10498	-58	-0.5
Sep	7278	7222	-56	-0.8

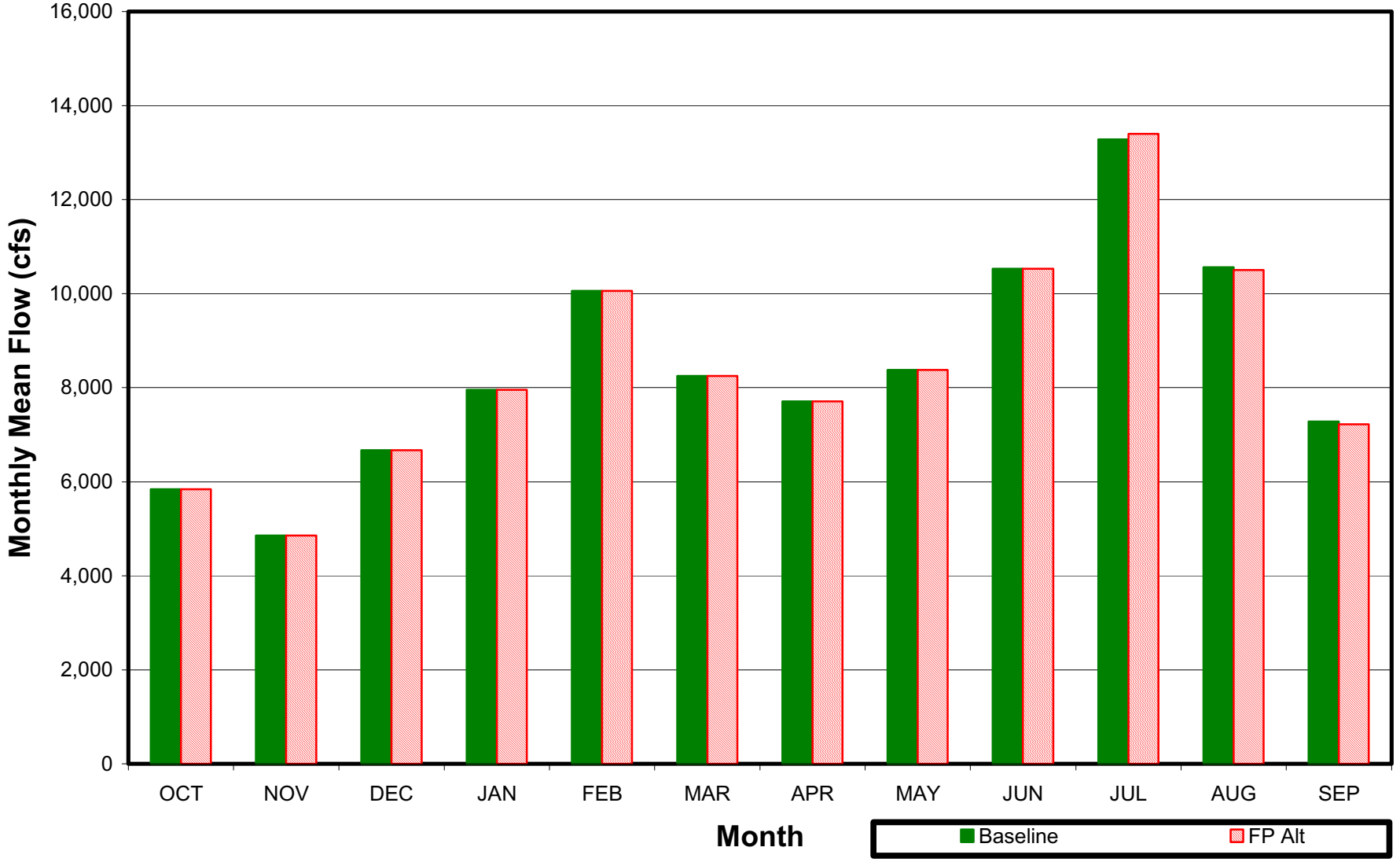
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

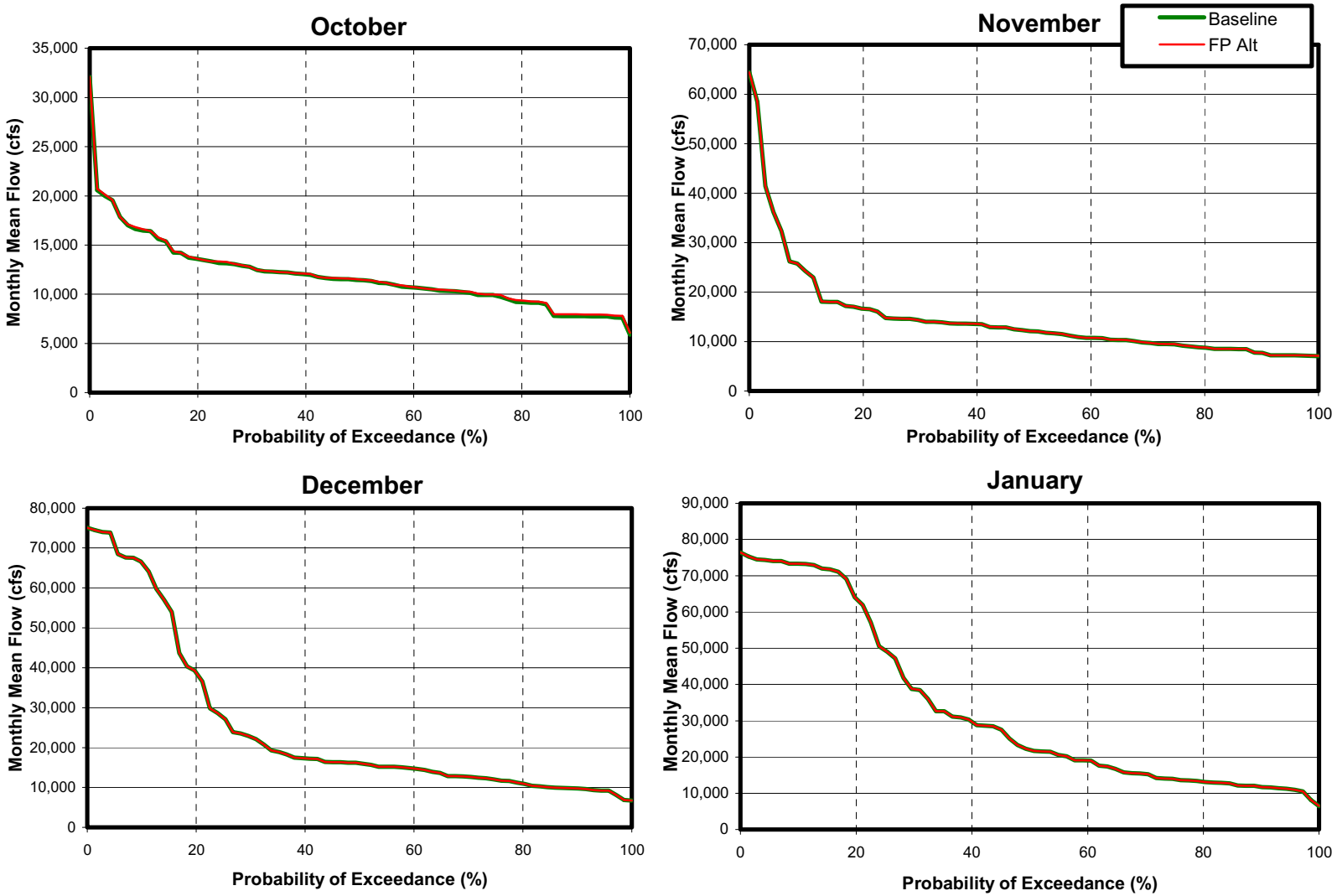
Long-term Average Sacramento River Release From Keswick Dam Under Baseline and FP Alt Conditions



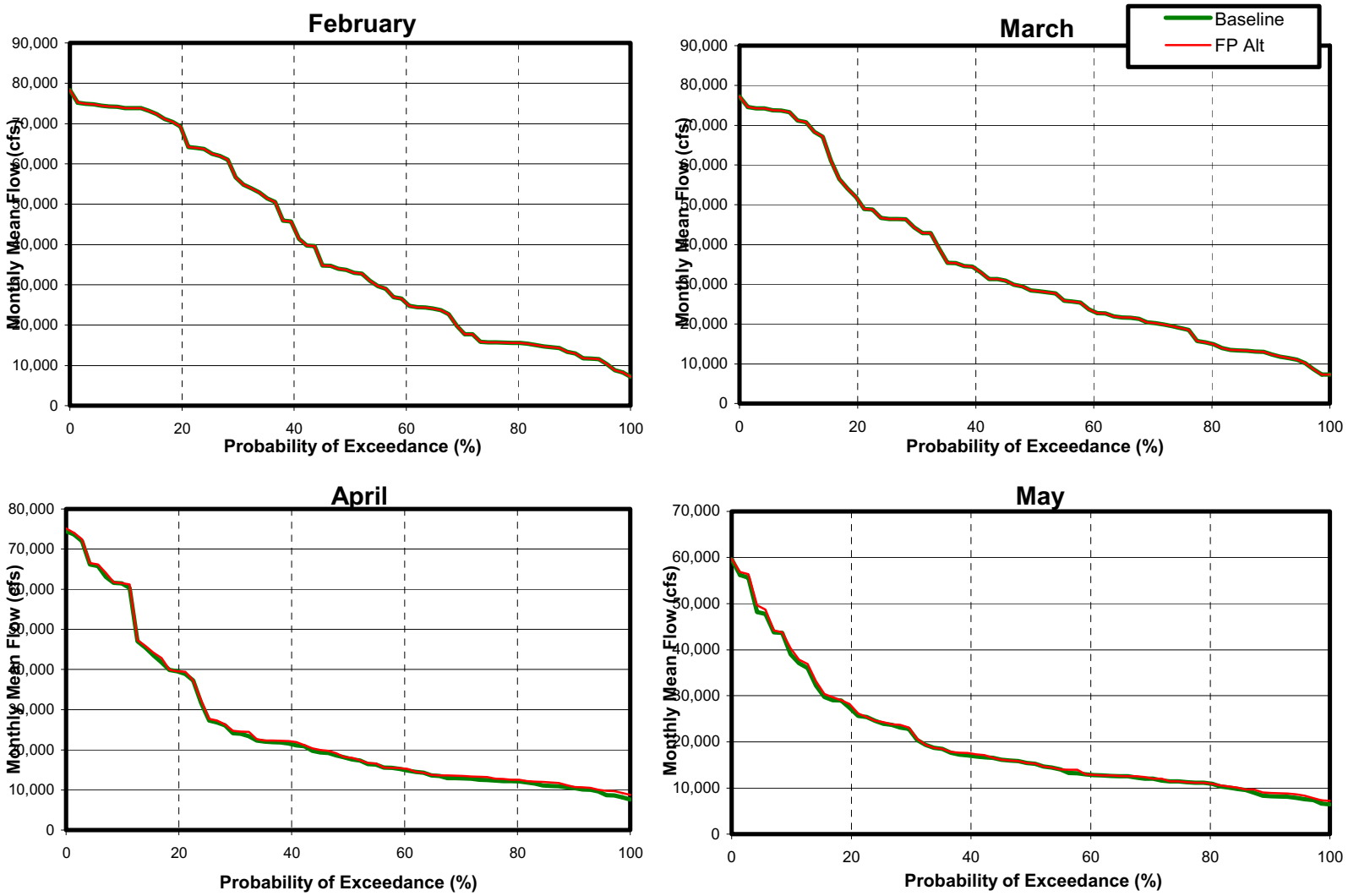
Long-term Average Sacramento River Release From Keswick Dam Under Baseline and FP Alt Conditions



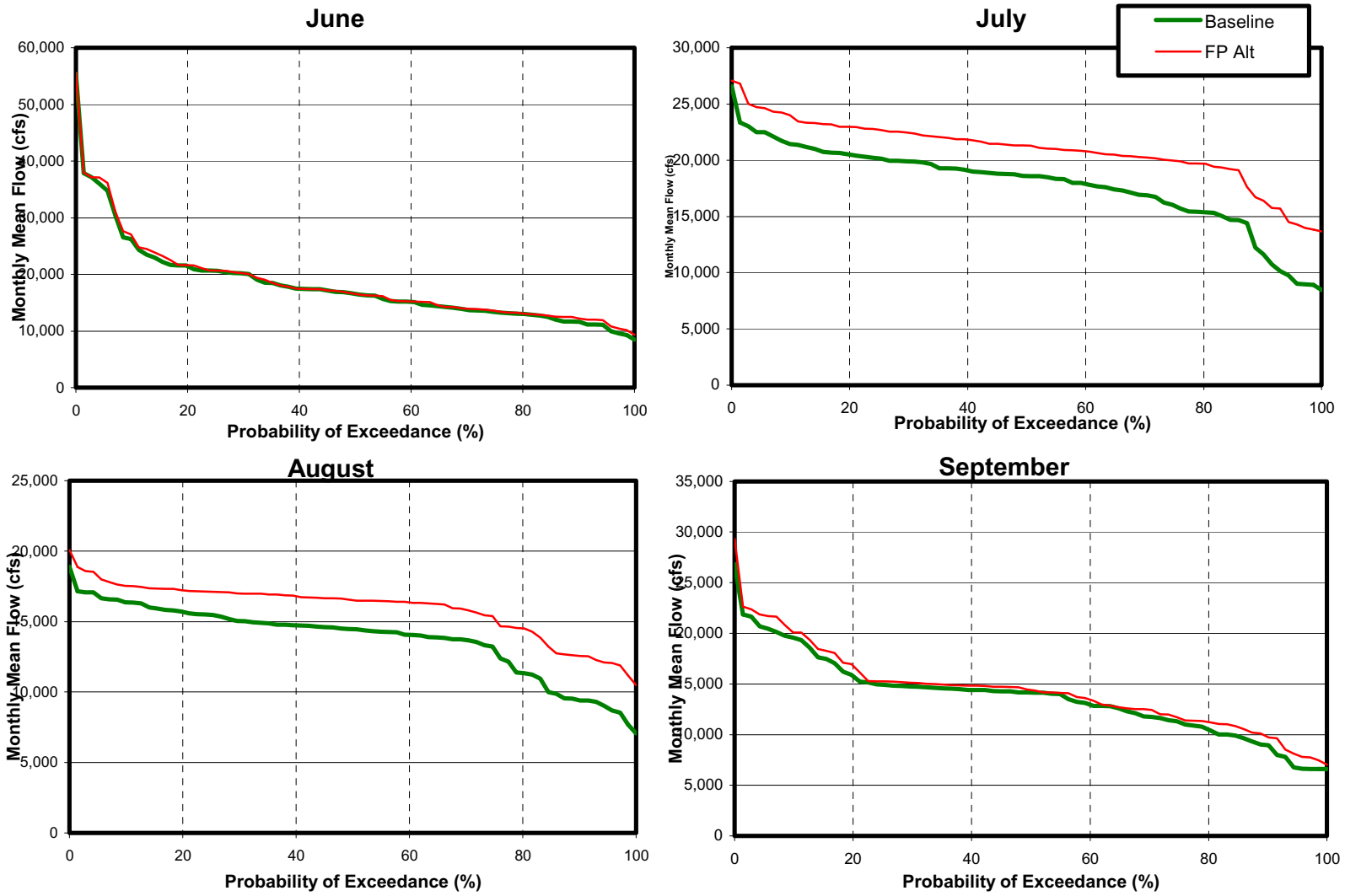
Sacramento River Flow at Freeport Under Baseline and FP Alt Conditions



Sacramento River Flow at Freeport Under Baseline and FP Alt Conditions



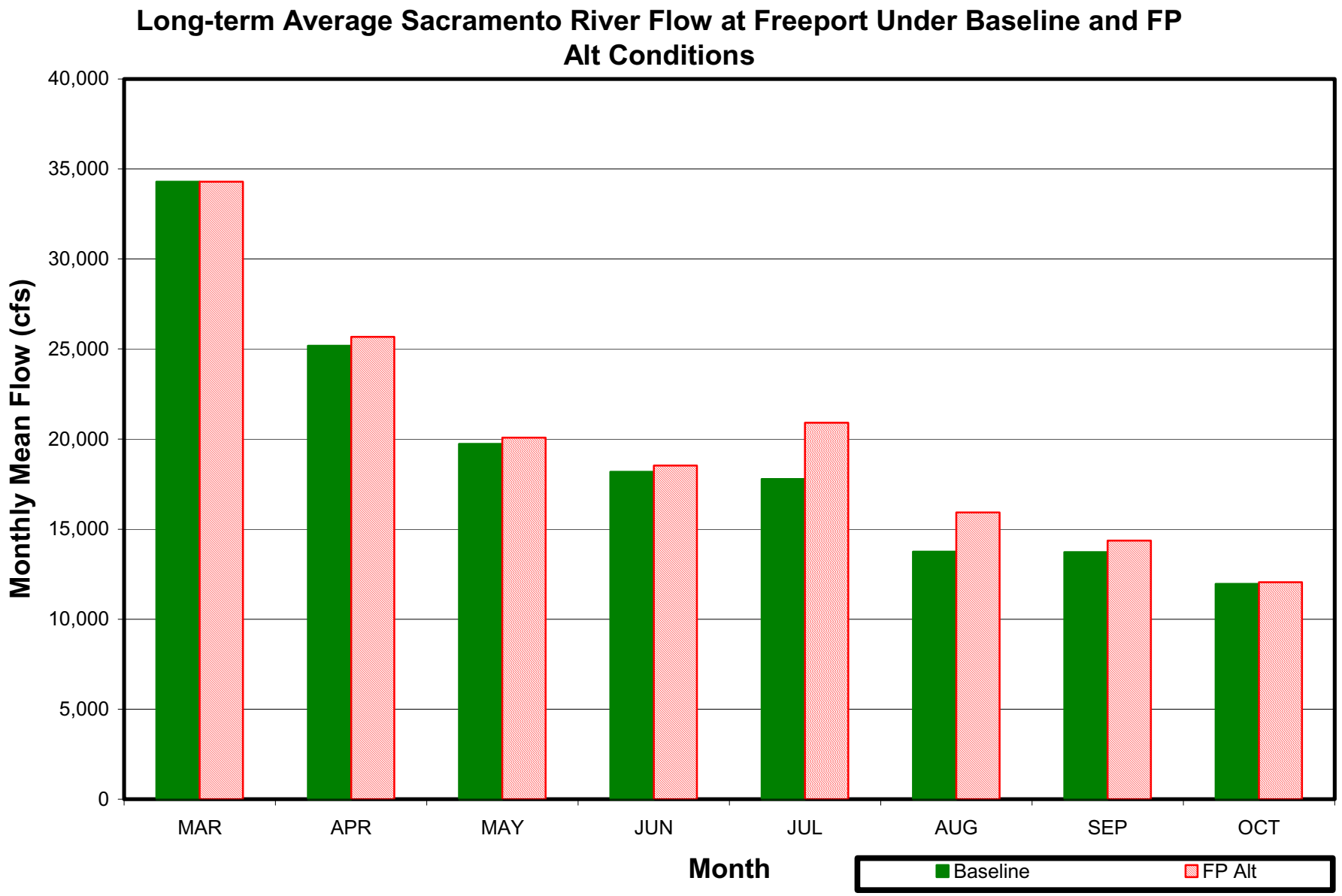
Sacramento River Flow at Freeport Under Baseline and FP Alt Conditions

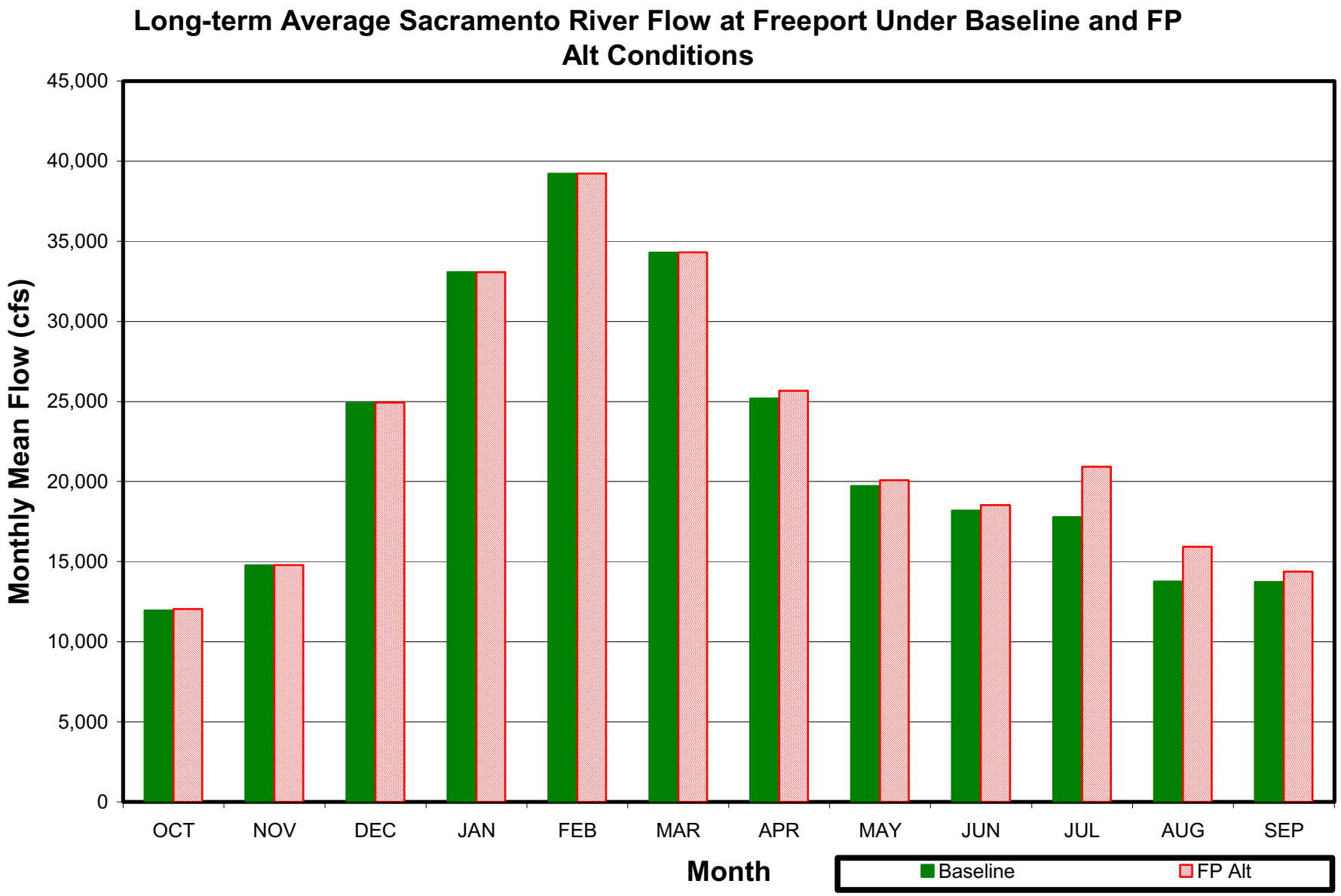


Long-term Average Flow at Freeport Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	11956	12044	88	0.7
Nov	14769	14783	14	0.1
Dec	24922	24927	5	0.0
Jan	33069	33071	2	0.0
Feb	39225	39226	1	0.0
Mar	34296	34299	3	0.0
Apr	25184	25665	481	1.9
May	19724	20076	352	1.8
Jun	18183	18533	350	1.9
Jul	17777	20919	3142	17.7
Aug	13762	15929	2167	15.7
Sep	13729	14373	644	4.7

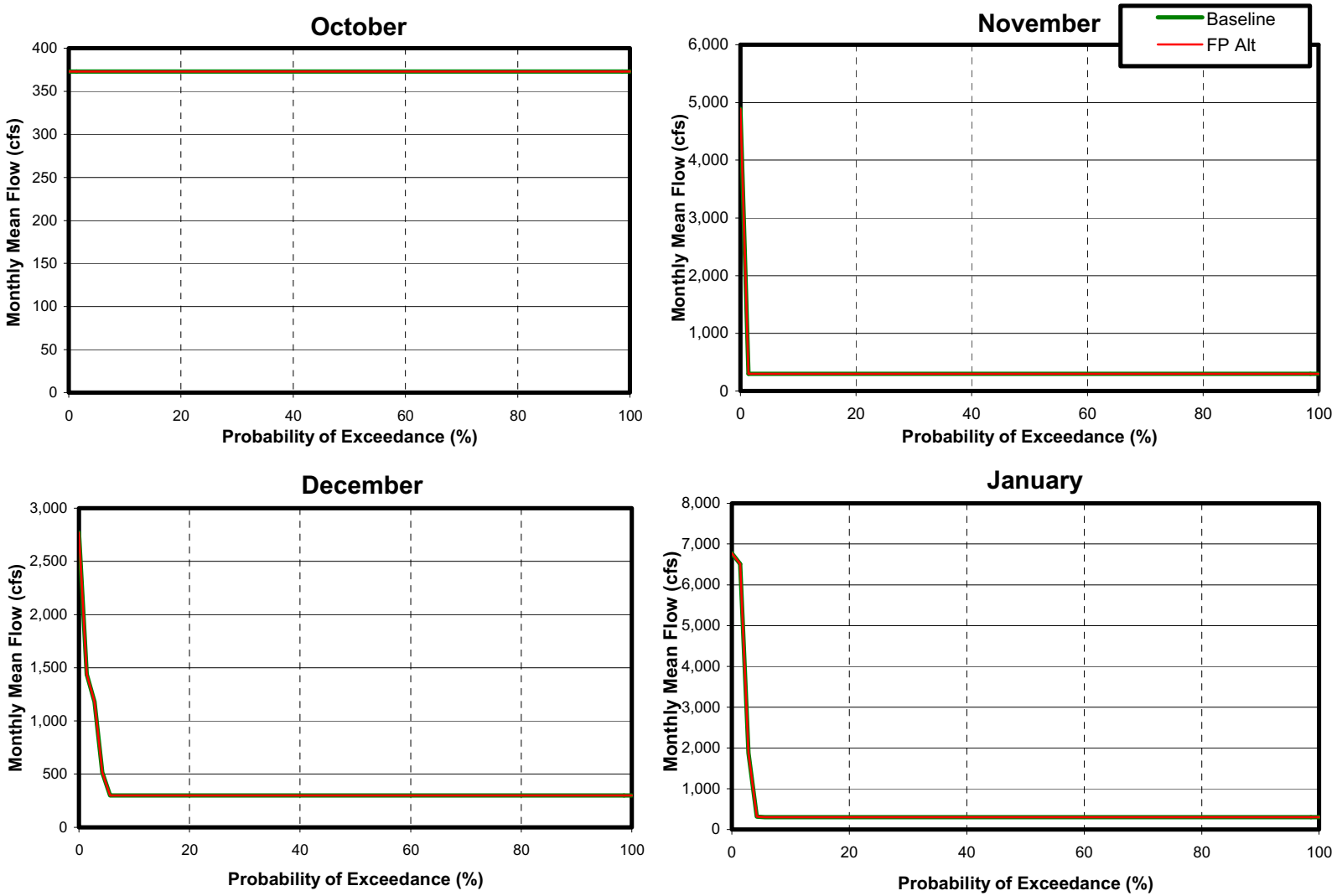
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

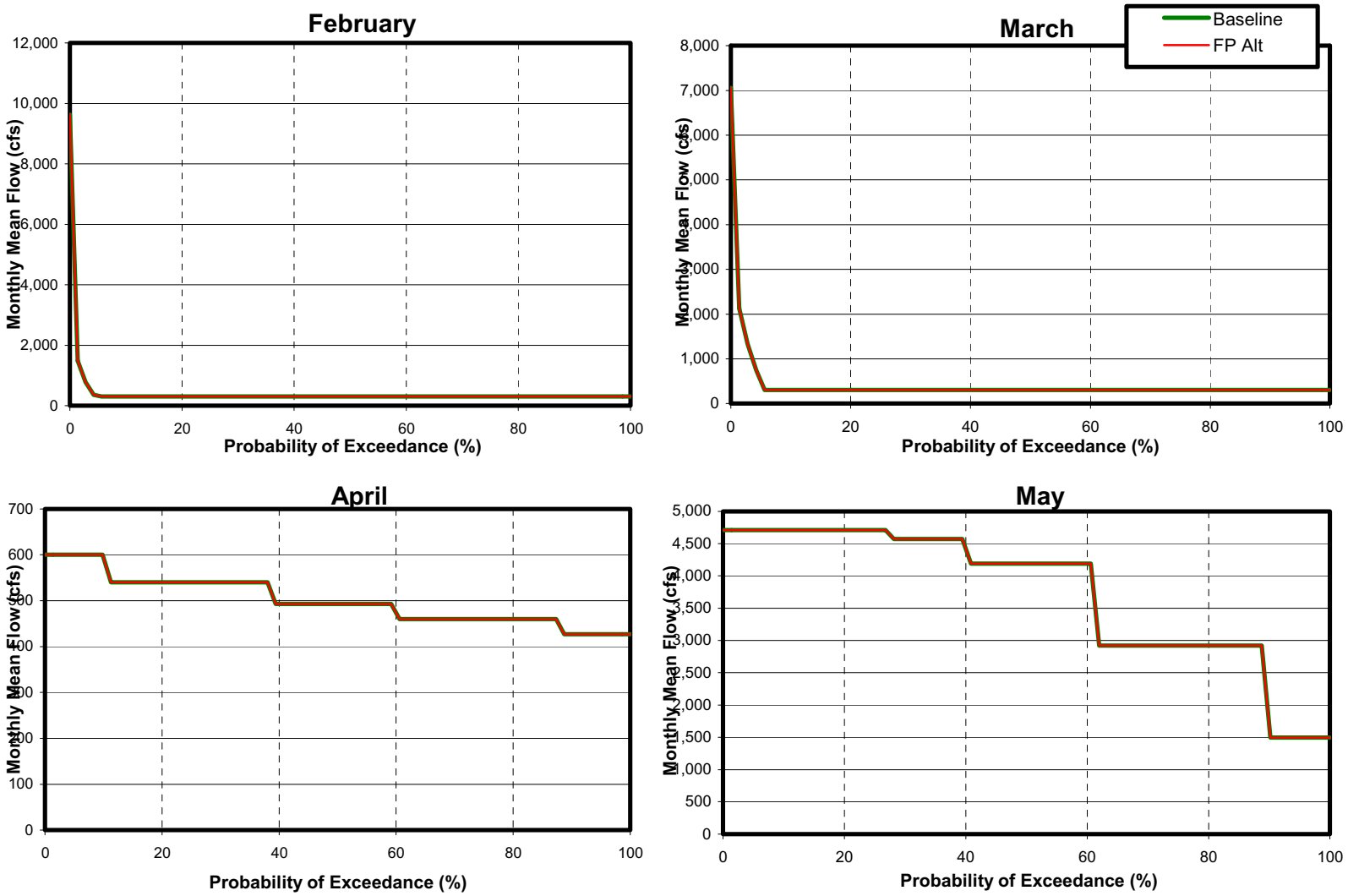

Long-term Average Sacramento River Flow at Freeport Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt


Long-term Average Sacramento River Flow at Freeport Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Month
Baseline
FP Alt

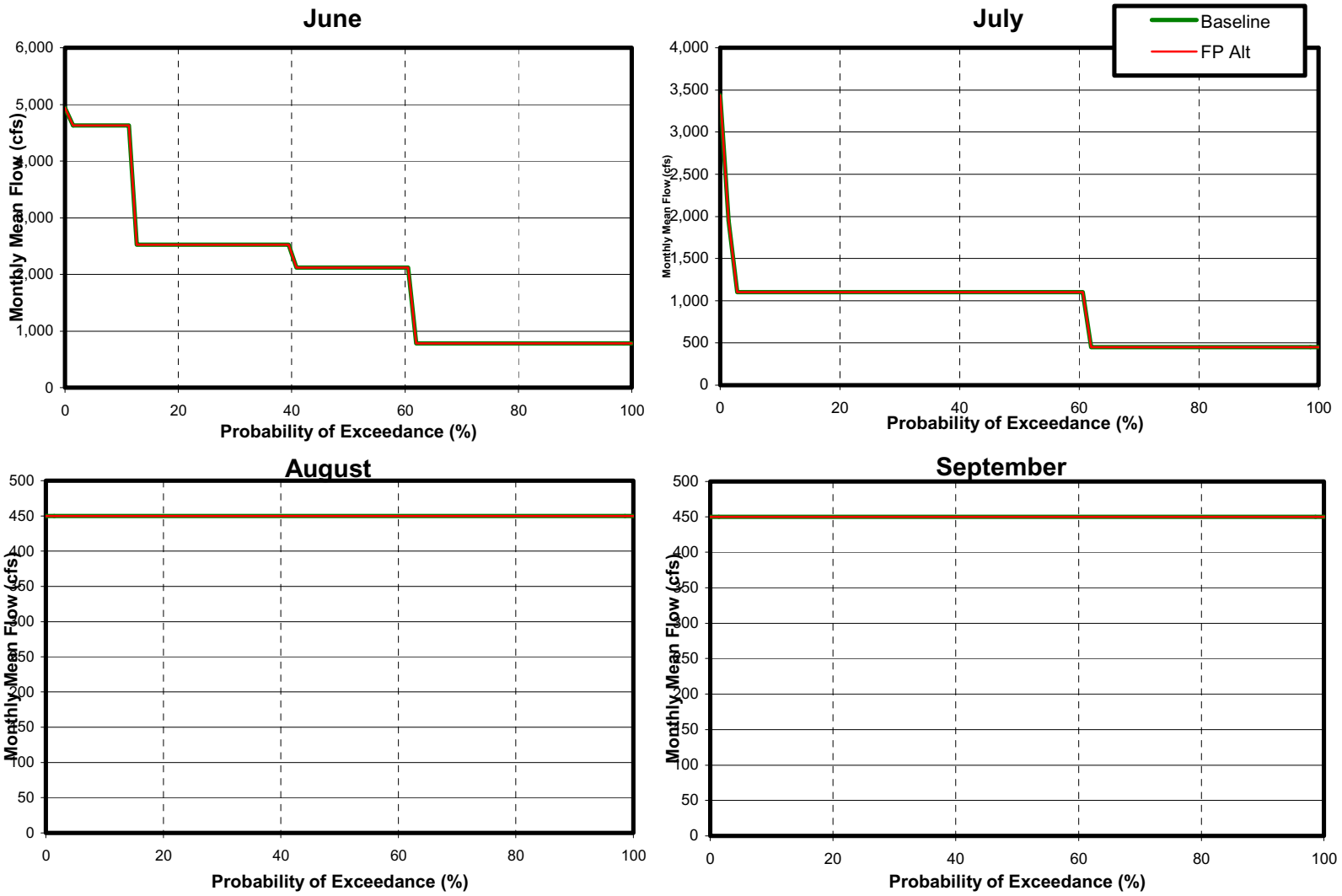
Trinity River Release From Lewiston Dam Under Baseline and FP Alt Conditions



Trinity River Release From Lewiston Dam Under Baseline and FP Alt Conditions



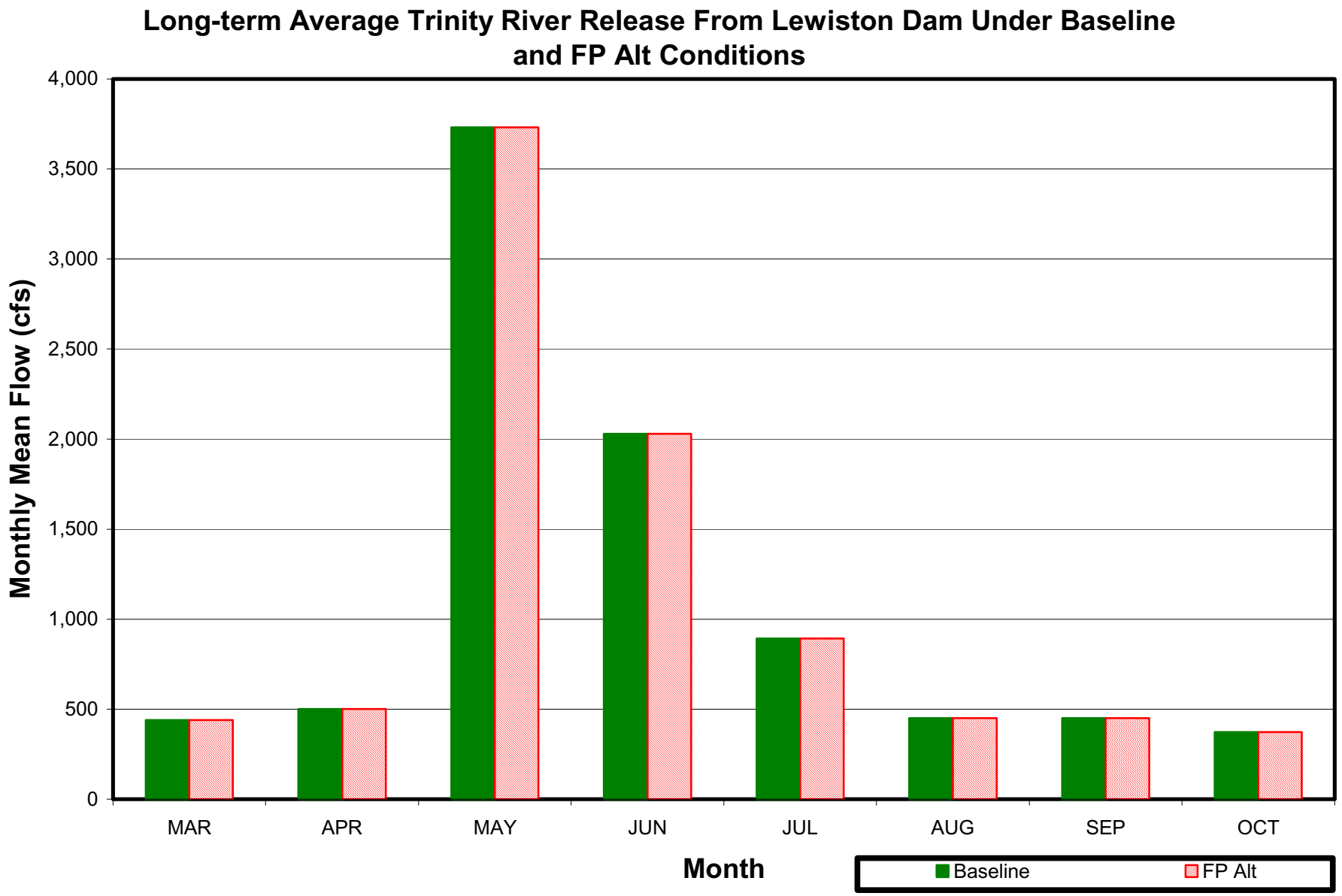
Trinity River Release From Lewiston Dam Under Baseline and FP Alt Conditions

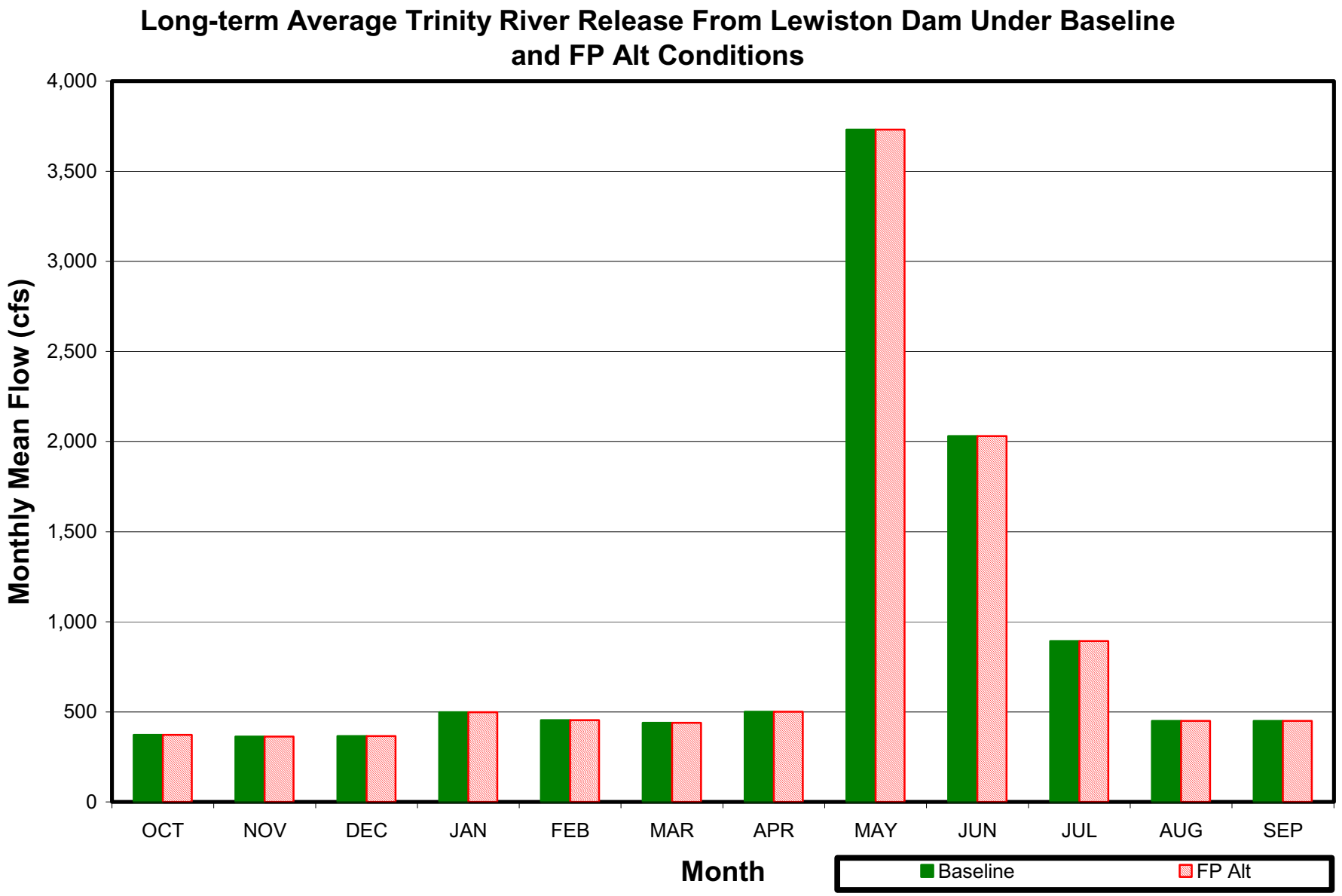


Long-term Average Release From Lewiston Dam Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	373	373	0	0.0
Nov	364	364	0	0.0
Dec	365	365	0	0.0
Jan	498	498	0	0.0
Feb	454	454	0	0.0
Mar	440	440	0	0.0
Apr	501	501	0	0.0
May	3731	3731	0	0.0
Jun	2030	2030	0	0.0
Jul	893	893	0	0.0
Aug	450	450	0	0.0
Sep	450	450	0	0.0

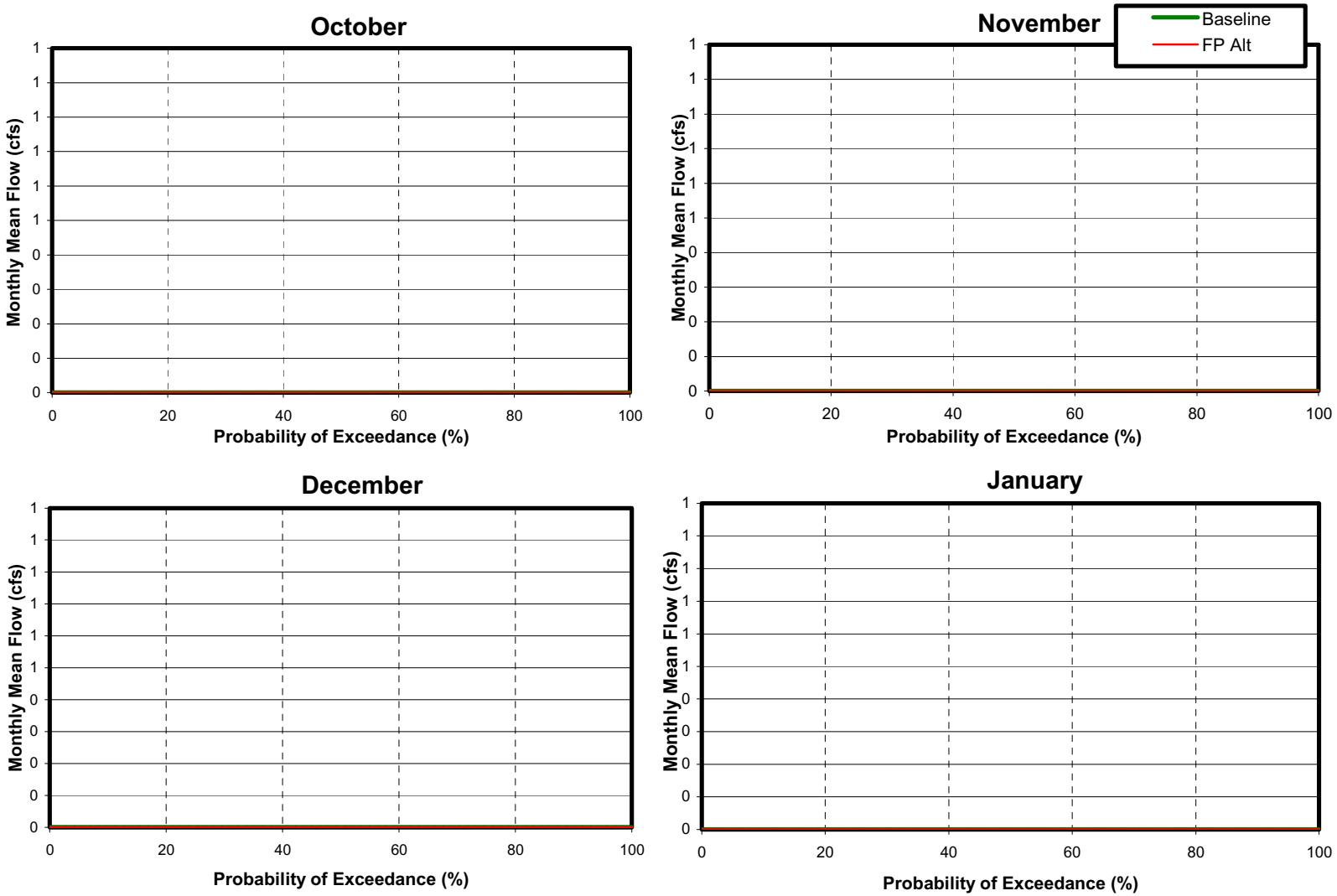
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

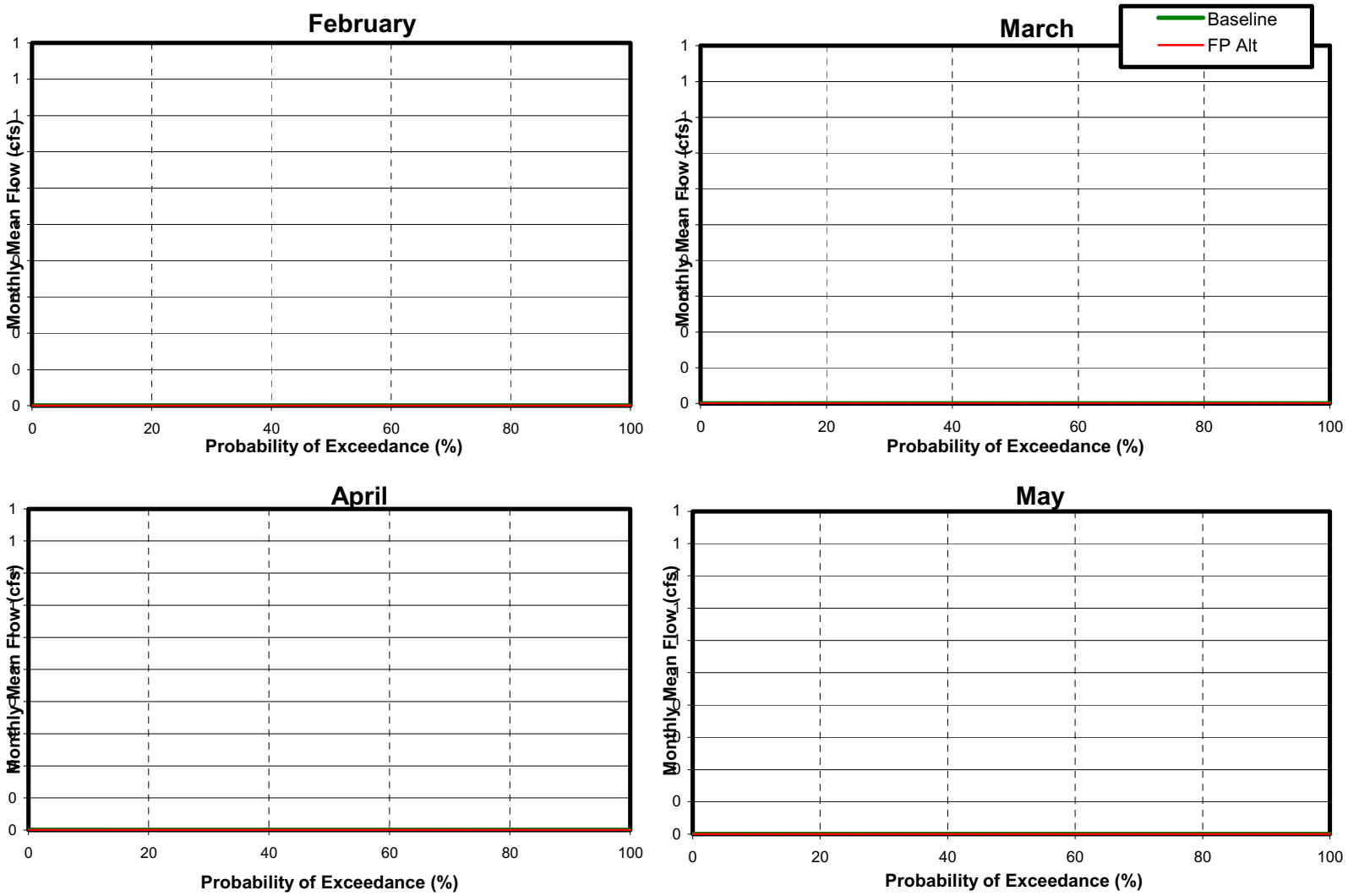

Long-term Average Trinity River Release From Lewiston Dam Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt


Long-term Average Trinity River Release From Lewiston Dam Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Month
Baseline
FP Alt

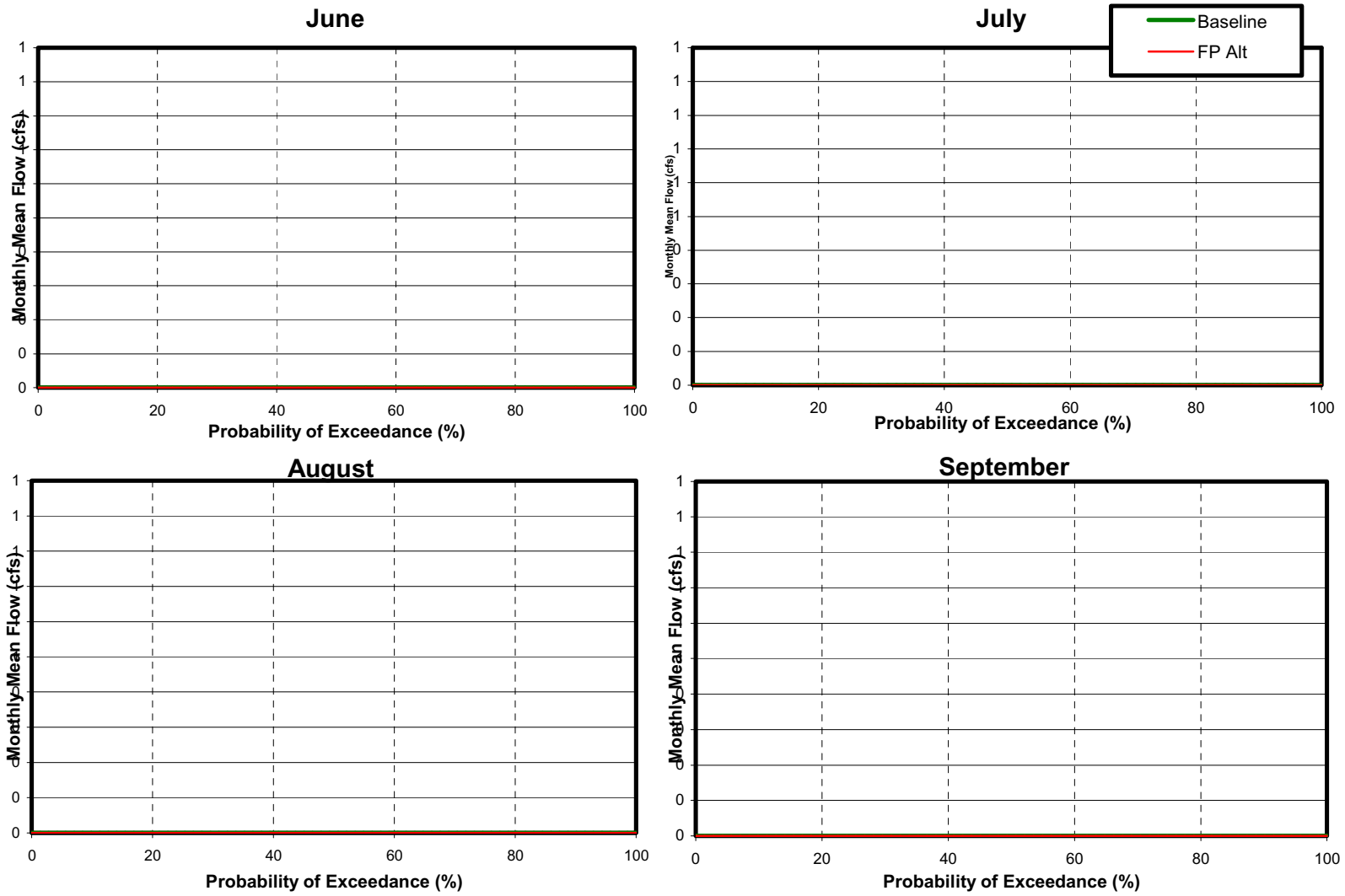
Upper American River Flow Below the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



Upper American River Flow Below the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



Upper American River Flow Below the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions

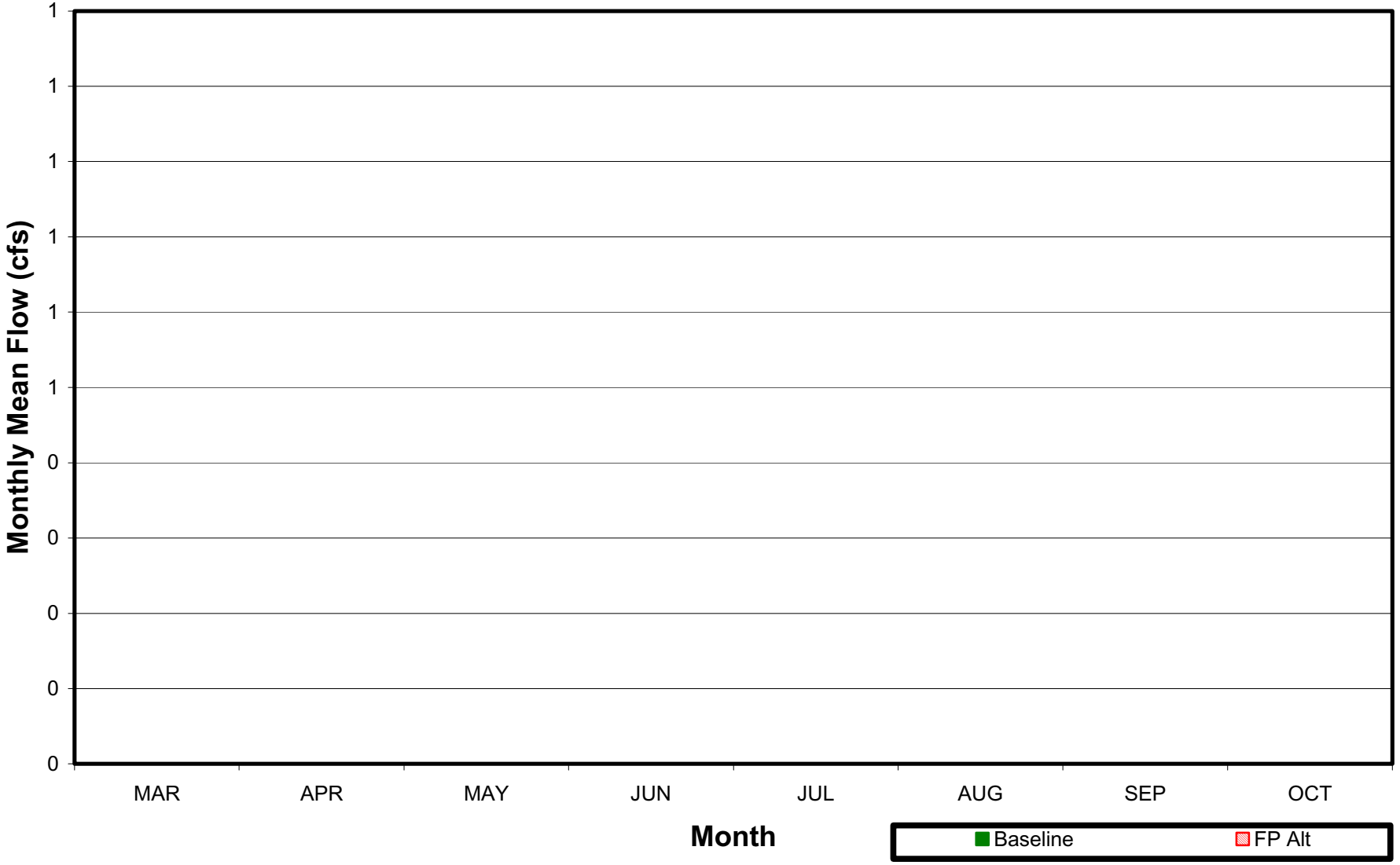


Long-term Average Flow Below the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	0	0	0	#DIV/0!
Nov	0	0	0	#DIV/0!
Dec	0	0	0	#DIV/0!
Jan	0	0	0	#DIV/0!
Feb	0	0	0	#DIV/0!
Mar	0	0	0	#DIV/0!
Apr	0	0	0	#DIV/0!
May	0	0	0	#DIV/0!
Jun	0	0	0	#DIV/0!
Jul	0	0	0	#DIV/0!
Aug	0	0	0	#DIV/0!
Sep	0	0	0	#DIV/0!

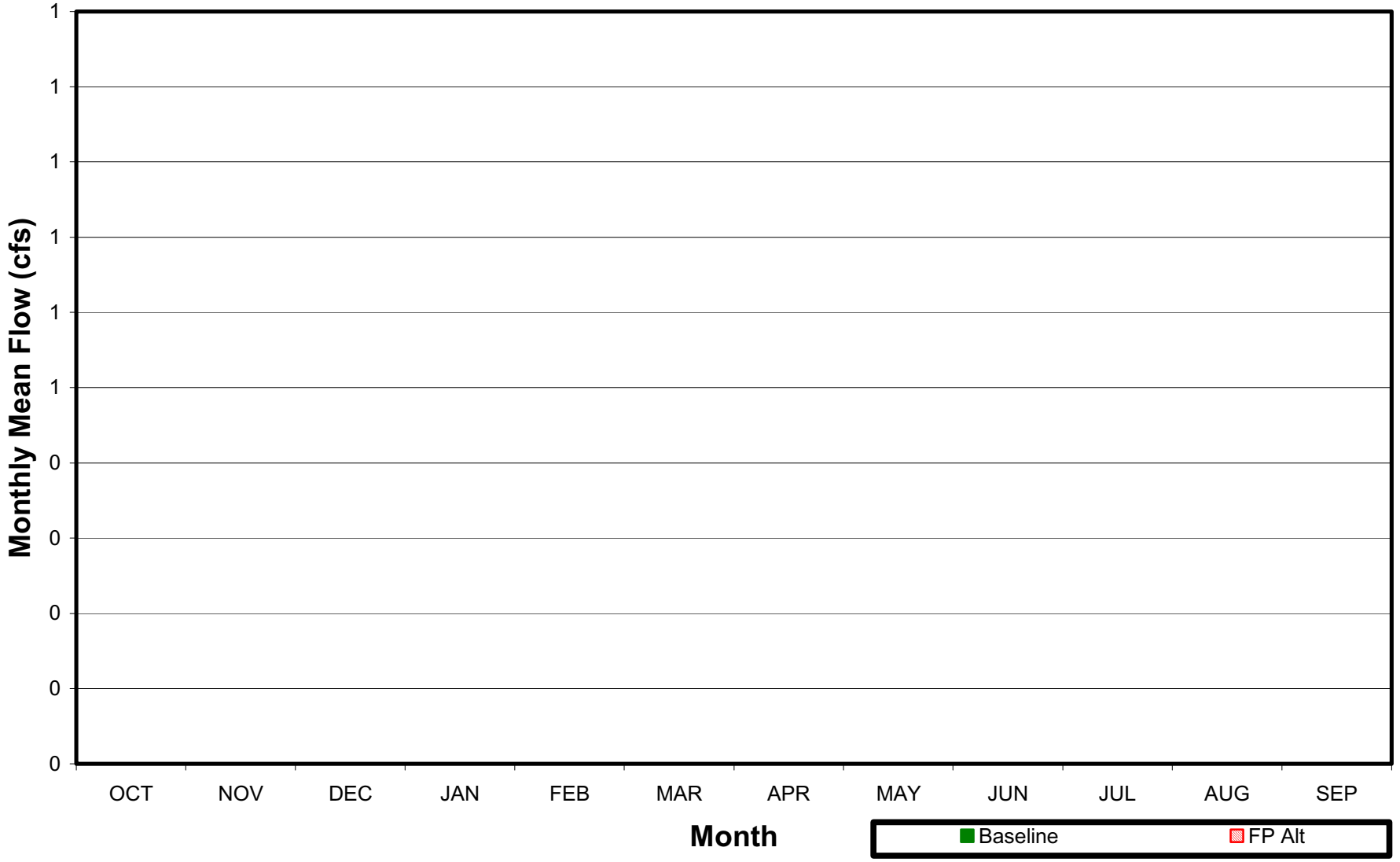
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

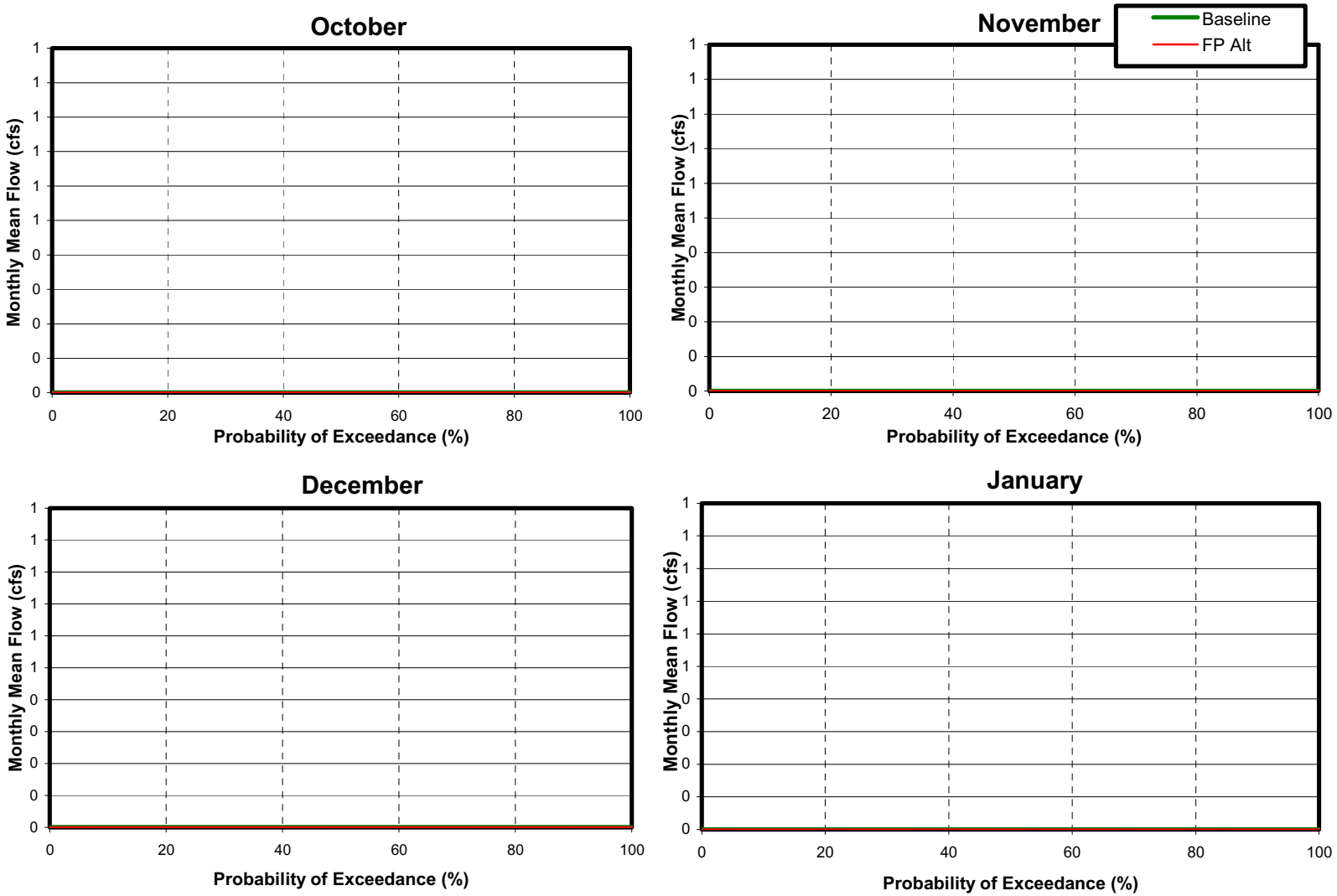
Long-term Average Upper American River Flow Below the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



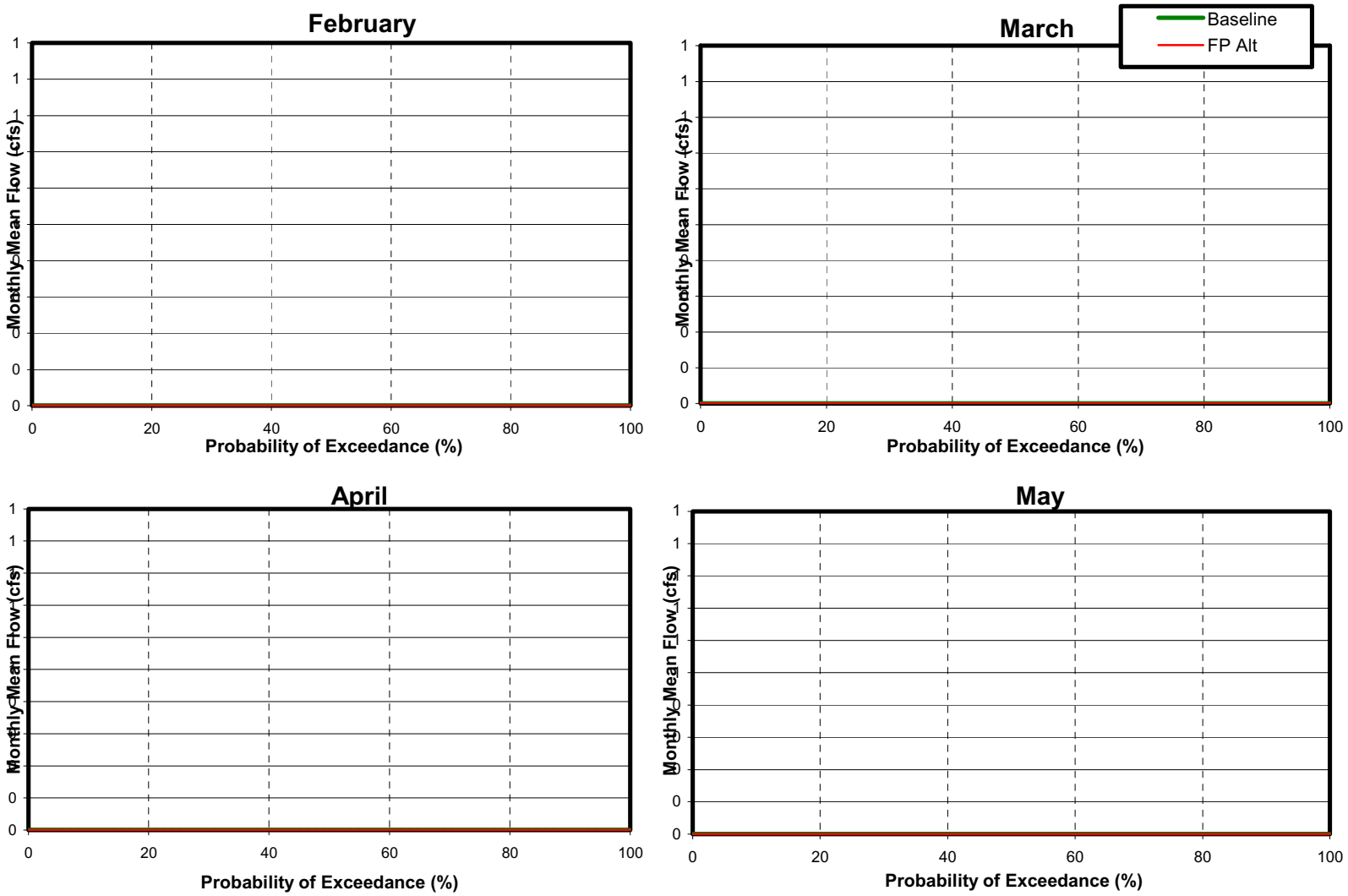
Long-term Average Upper American River Flow Below the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



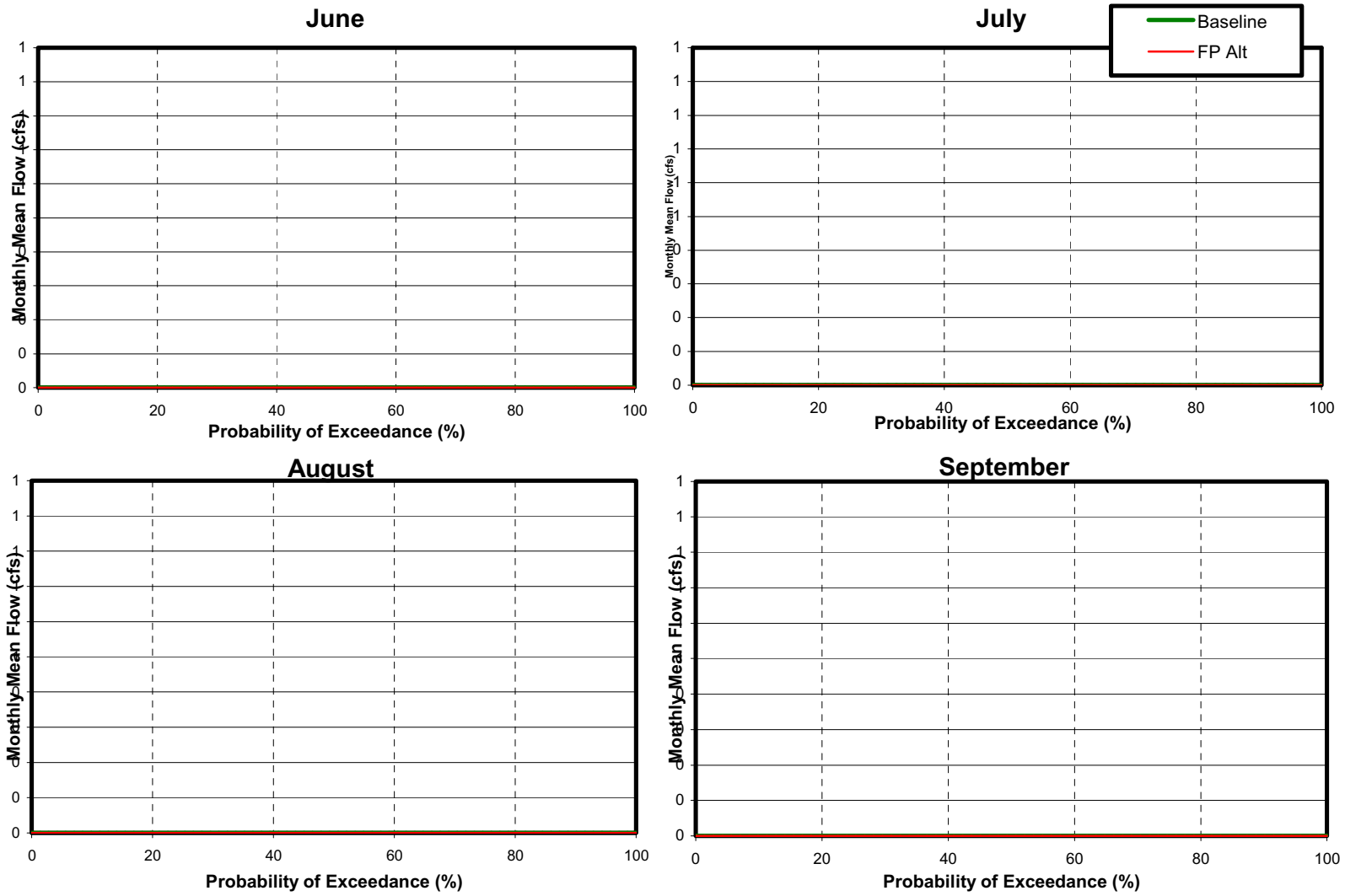
Upper American River Flow Above the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



Upper American River Flow Above the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



Upper American River Flow Above the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions

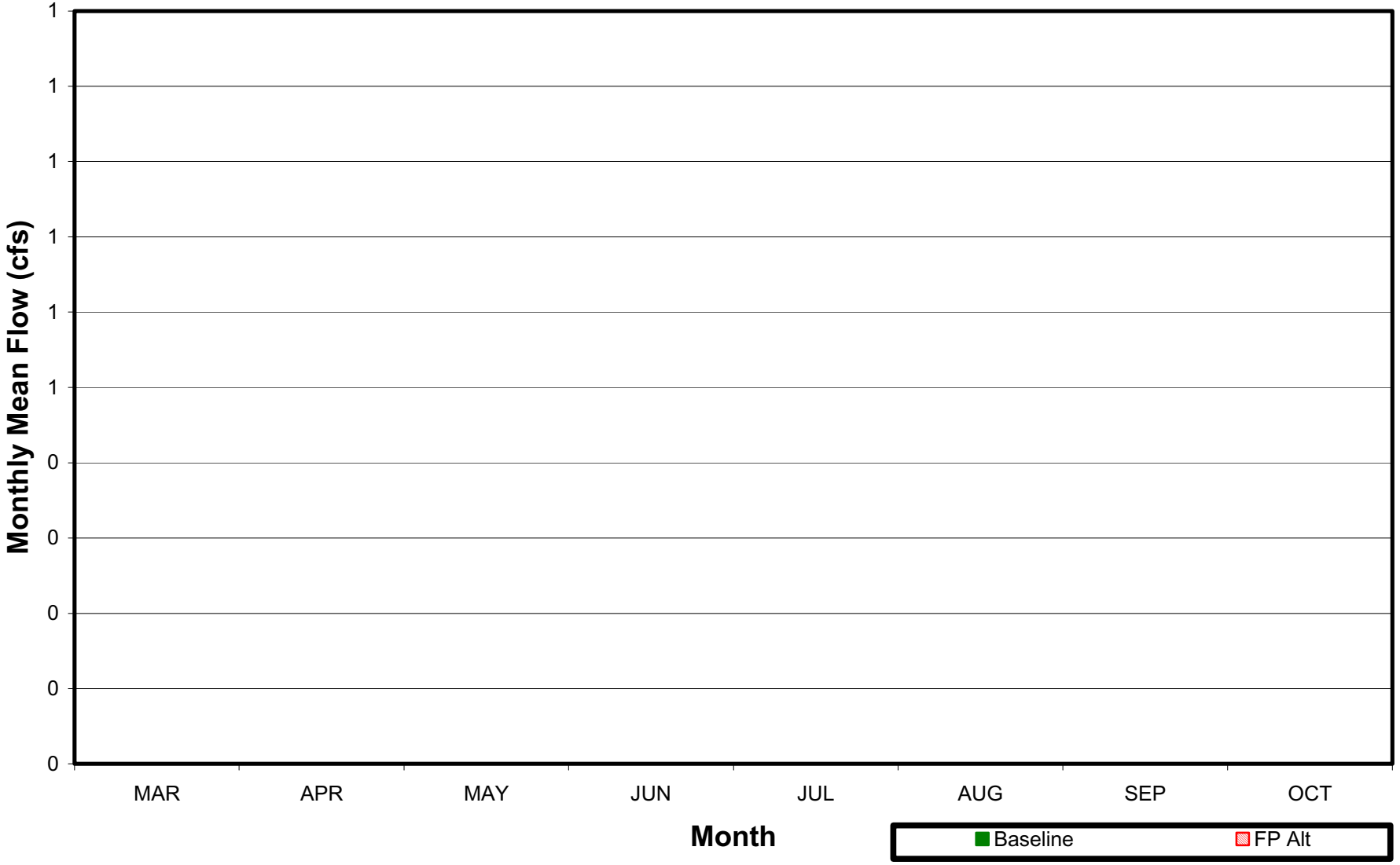


Long-term Average Flow Above the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	0	0	0	#DIV/0!
Nov	0	0	0	#DIV/0!
Dec	0	0	0	#DIV/0!
Jan	0	0	0	#DIV/0!
Feb	0	0	0	#DIV/0!
Mar	0	0	0	#DIV/0!
Apr	0	0	0	#DIV/0!
May	0	0	0	#DIV/0!
Jun	0	0	0	#DIV/0!
Jul	0	0	0	#DIV/0!
Aug	0	0	0	#DIV/0!
Sep	0	0	0	#DIV/0!

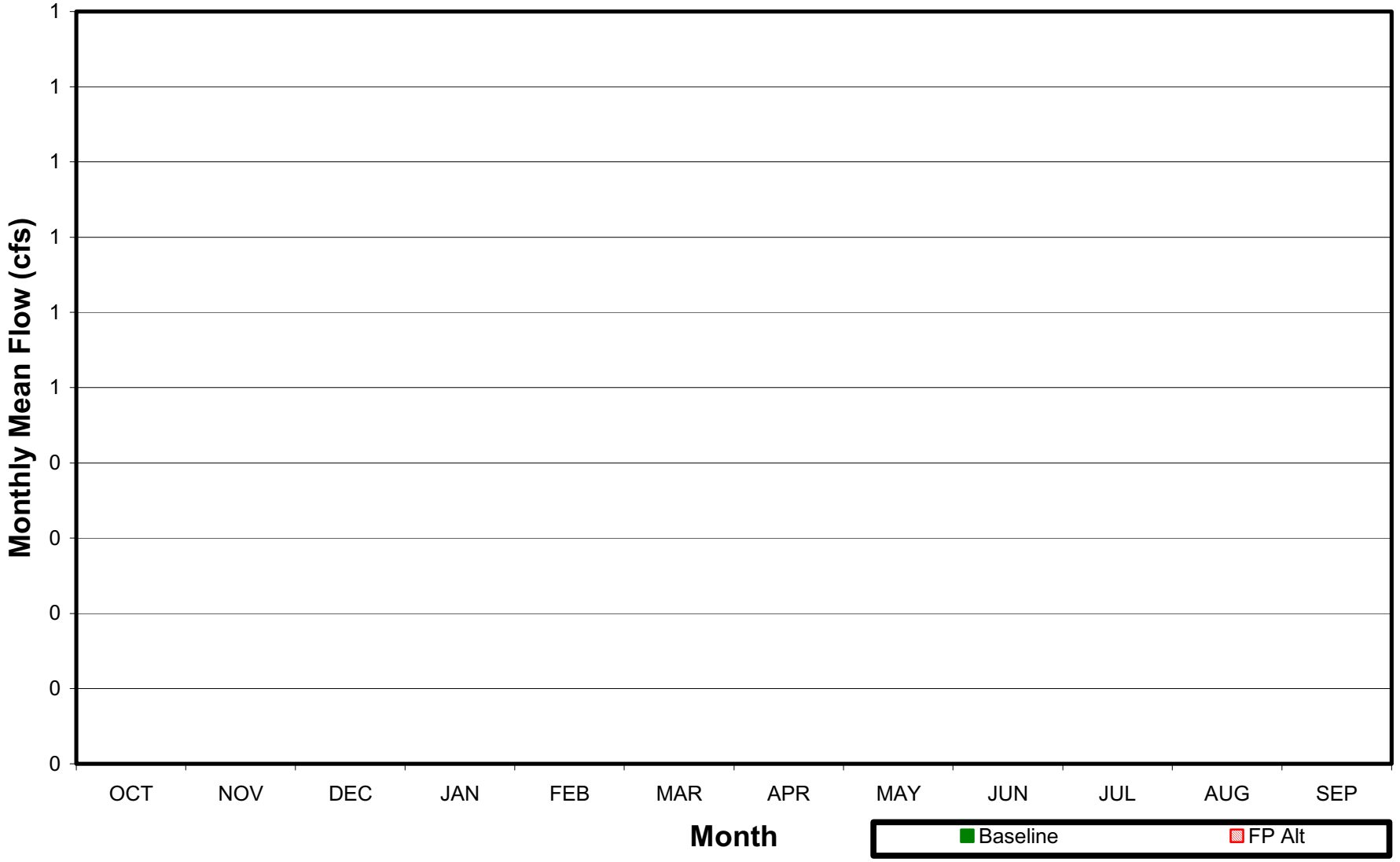
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

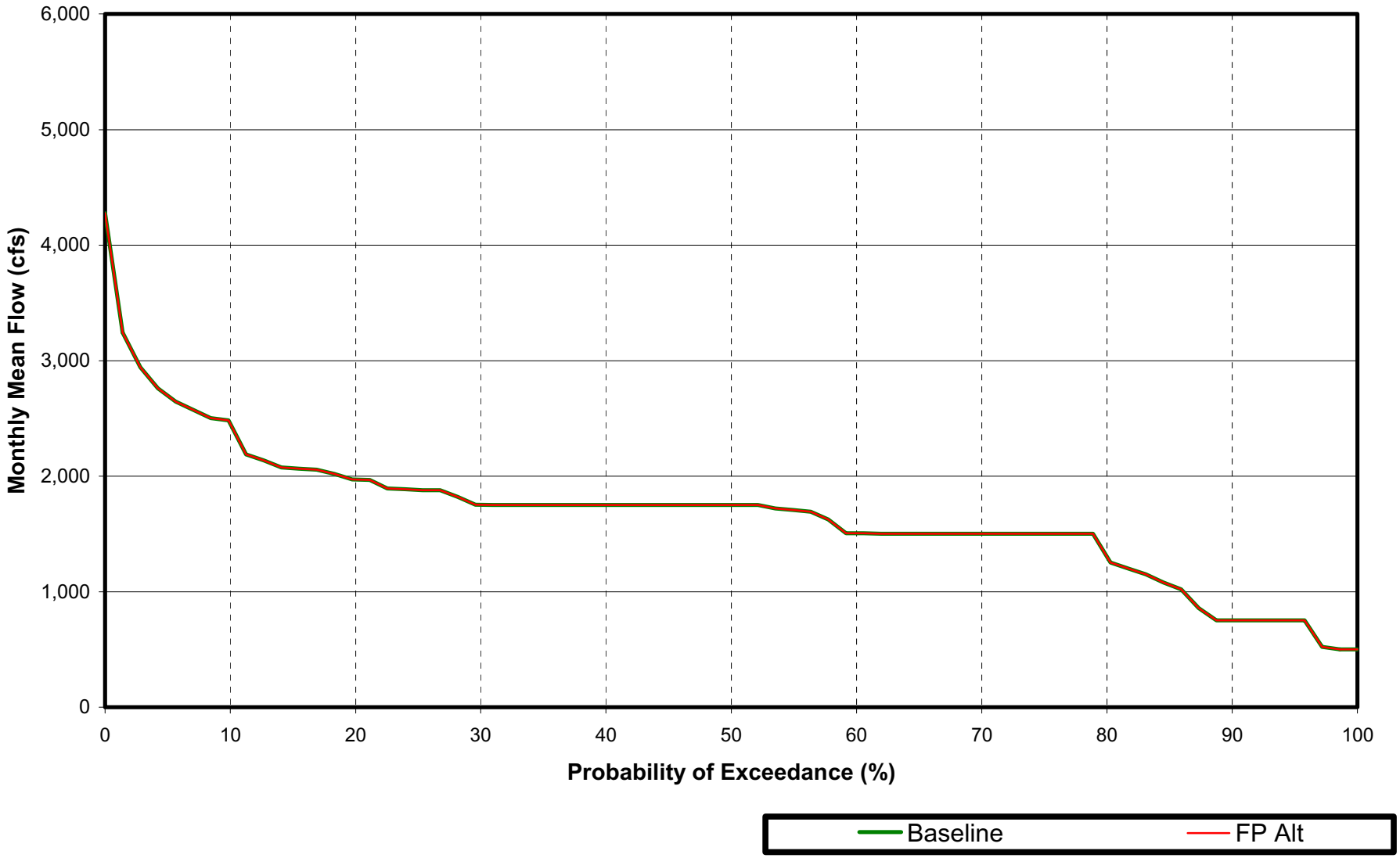
Long-term Average Upper American River Flow Above the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



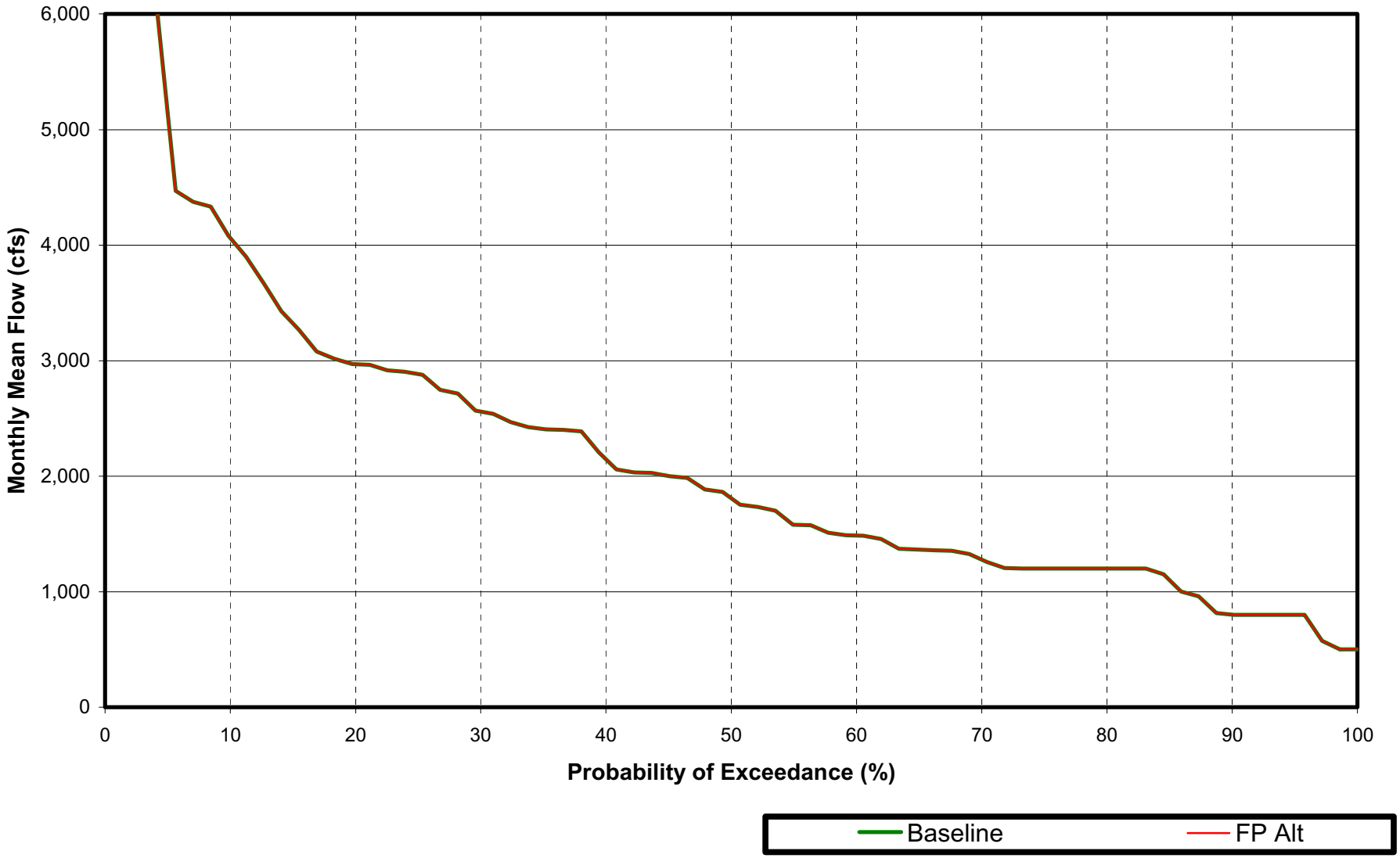
Long-term Average Upper American River Flow Above the Auburn Dam Site Diversion Under Baseline and FP Alt Conditions



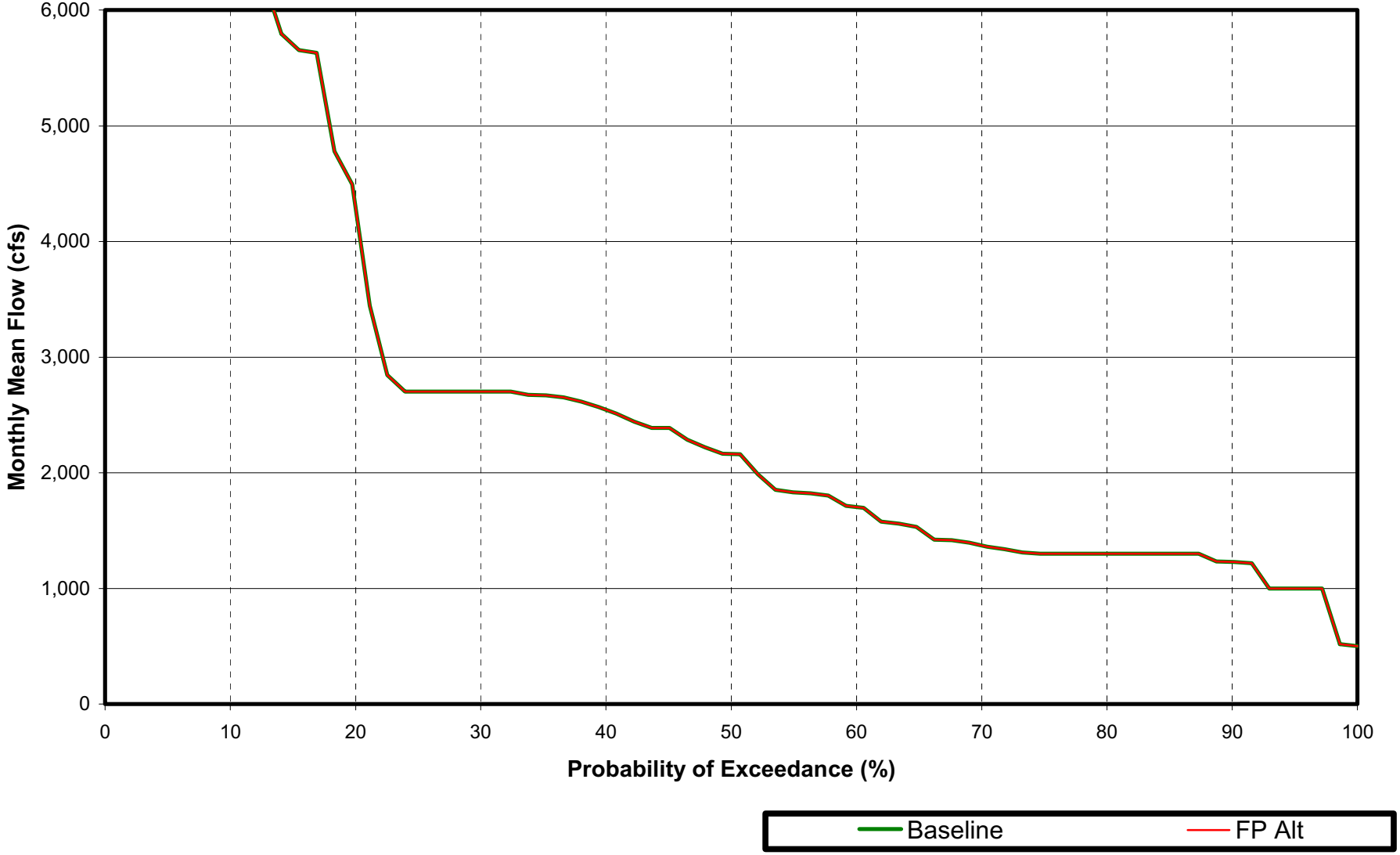
Lower American River Release From Nimbus Dam During October Under Baseline and FP Alt Conditions



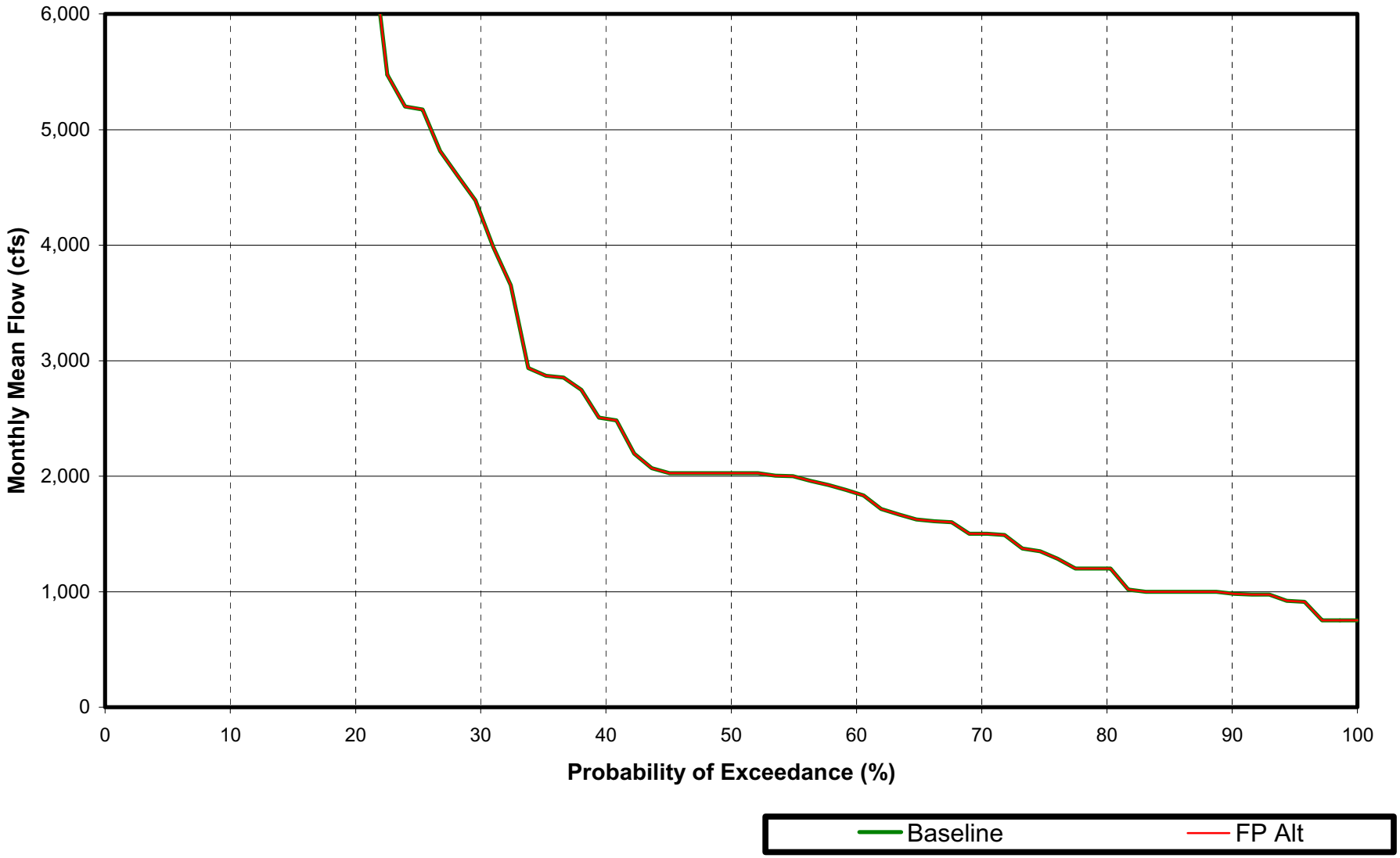
Lower American River Release From Nimbus Dam During November Under Baseline and FP Alt Conditions



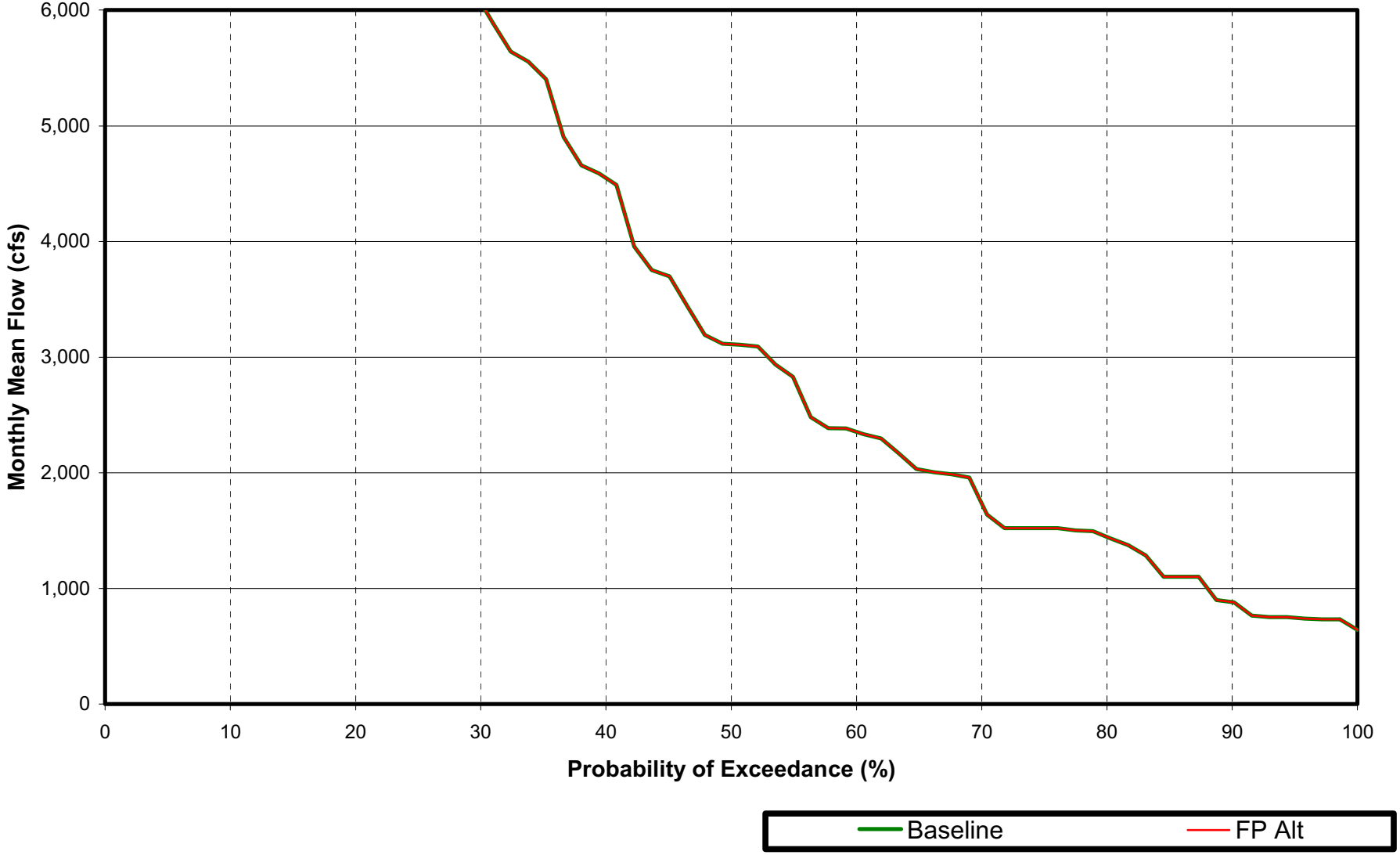
Lower American River Release From Nimbus Dam During December Under Baseline and FP Alt Conditions



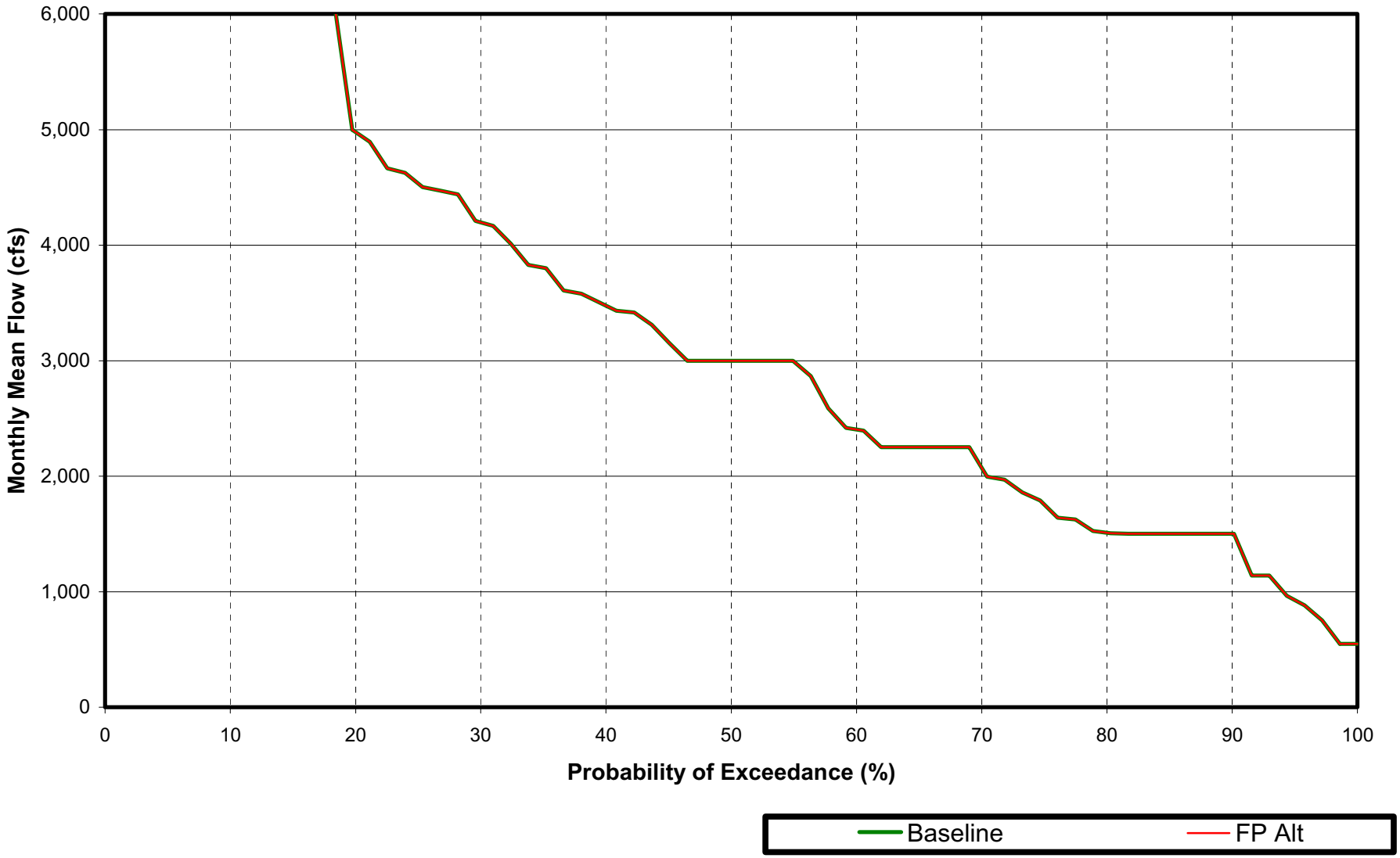
Lower American River Release From Nimbus Dam During January Under Baseline and FP Alt Conditions



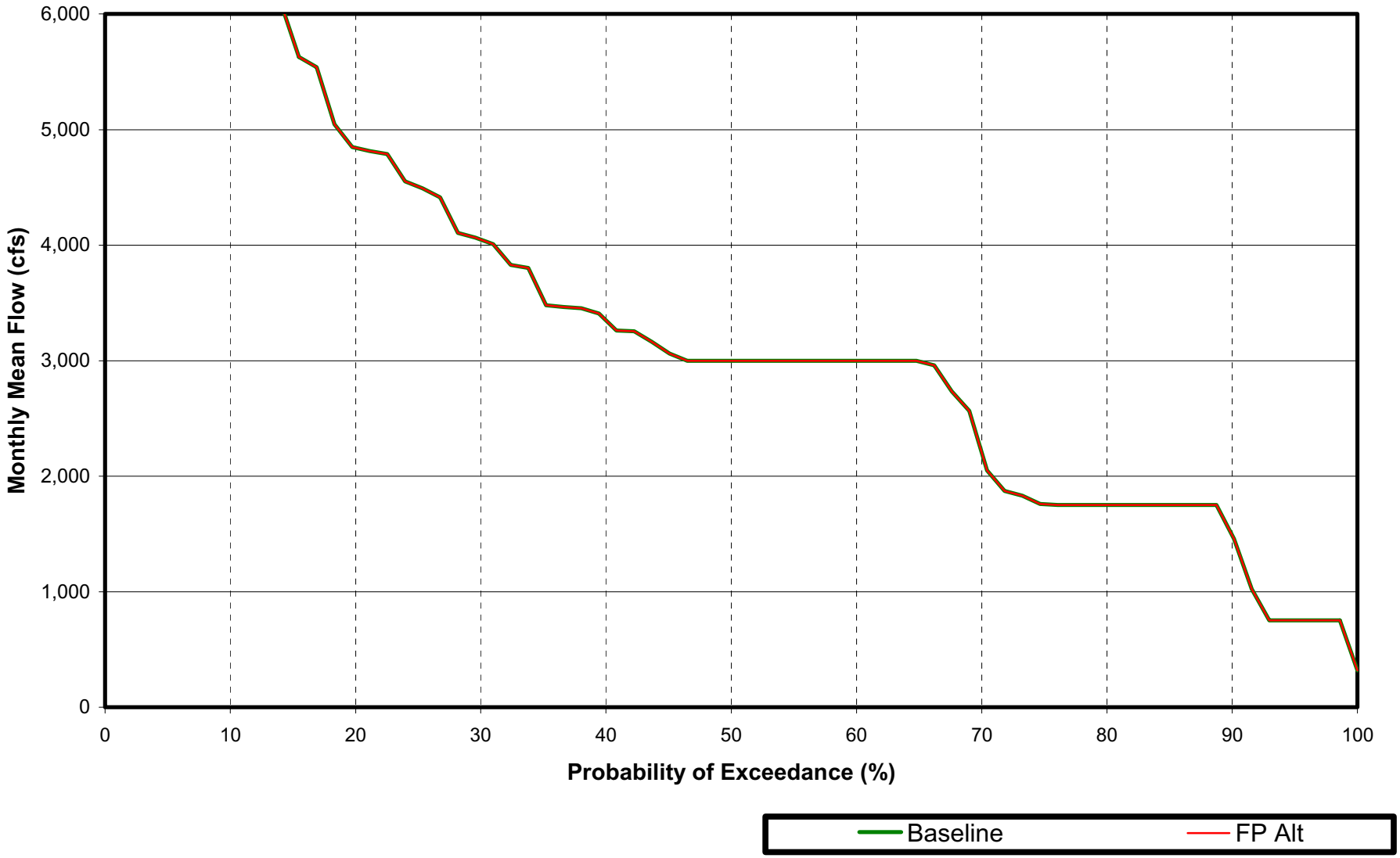
Lower American River Release From Nimbus Dam During February Under Baseline and FP Alt Conditions



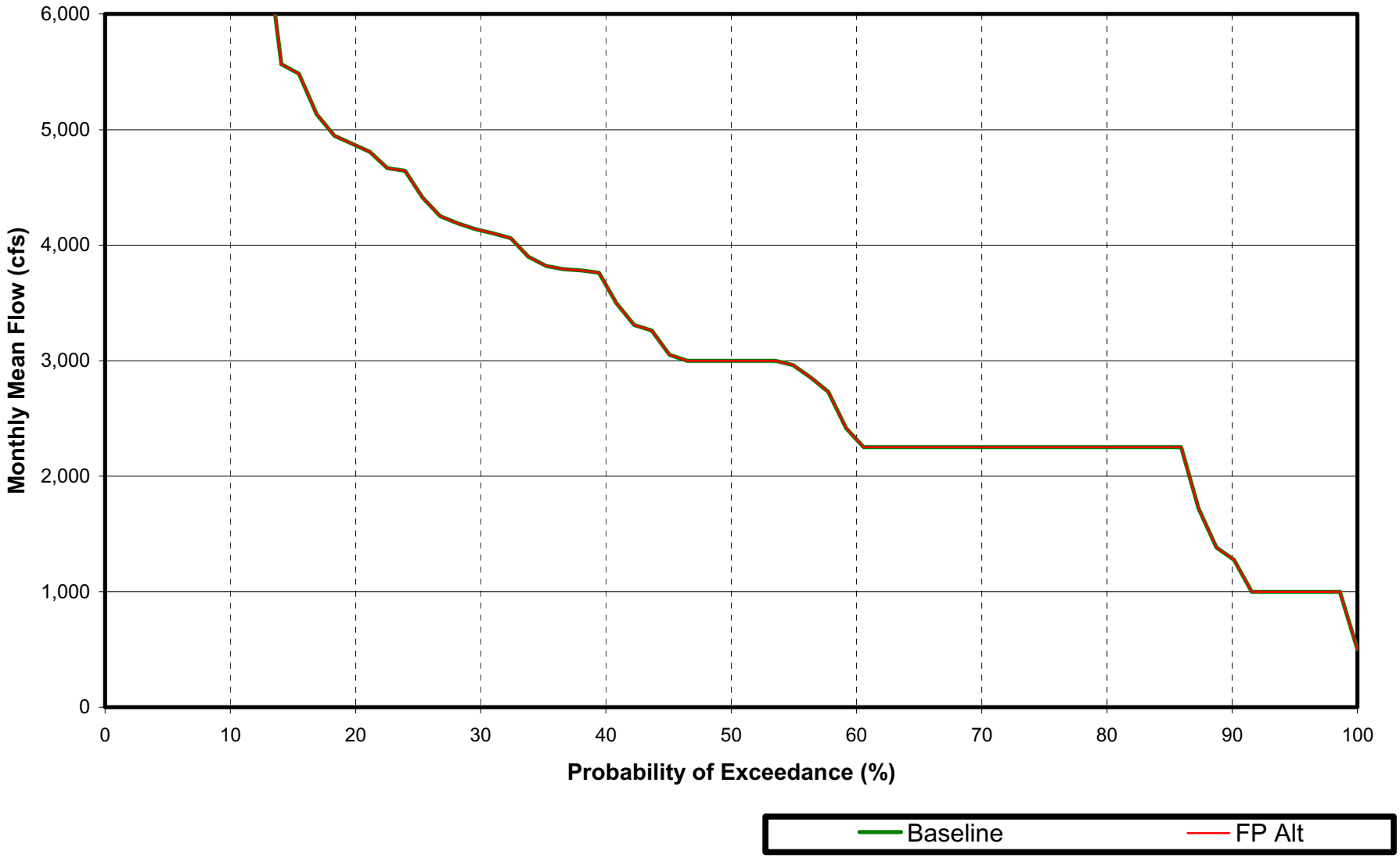
Lower American River Release From Nimbus Dam During March Under Baseline and FP Alt Conditions



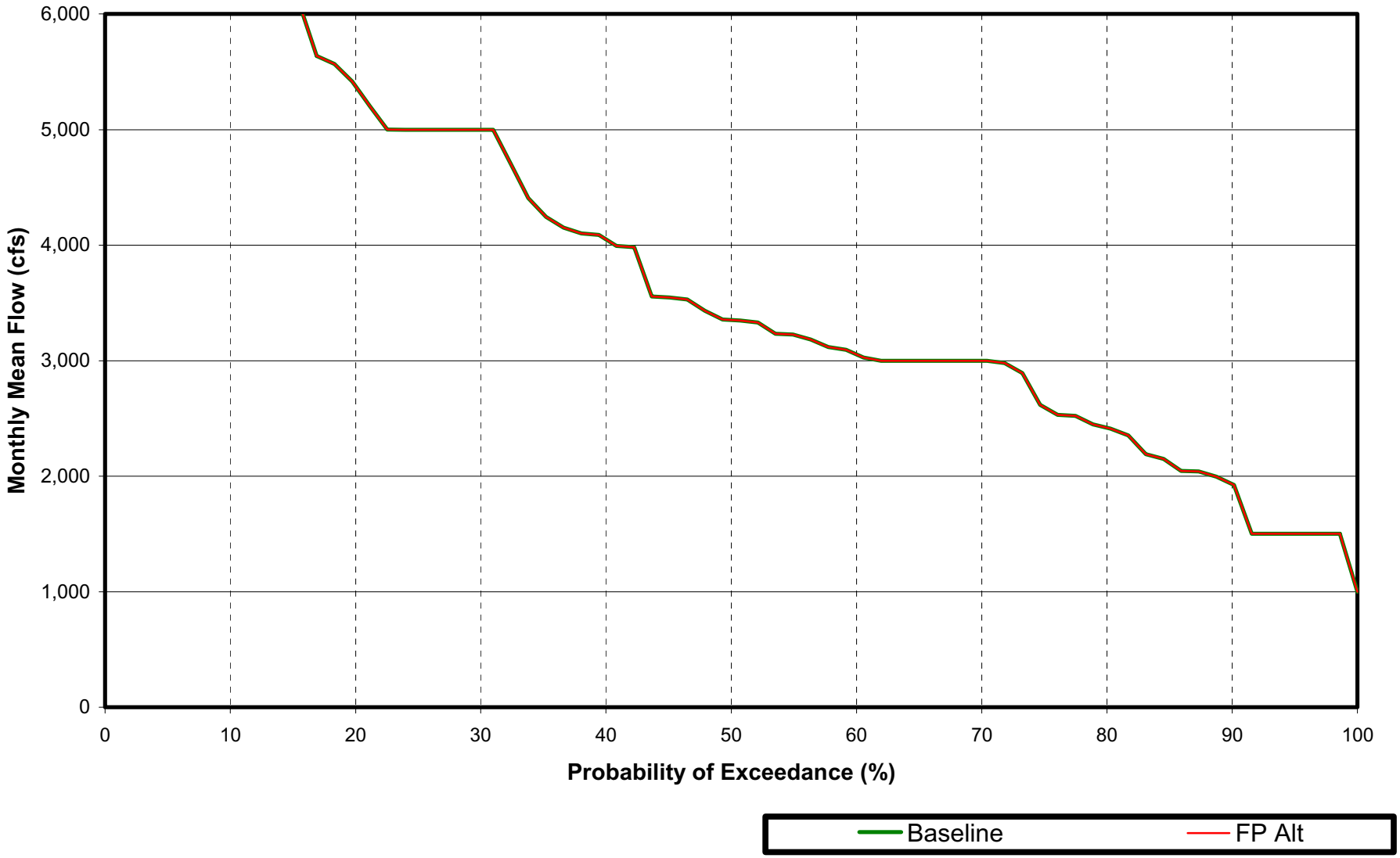
Lower American River Release From Nimbus Dam During April Under Baseline and FP Alt Conditions



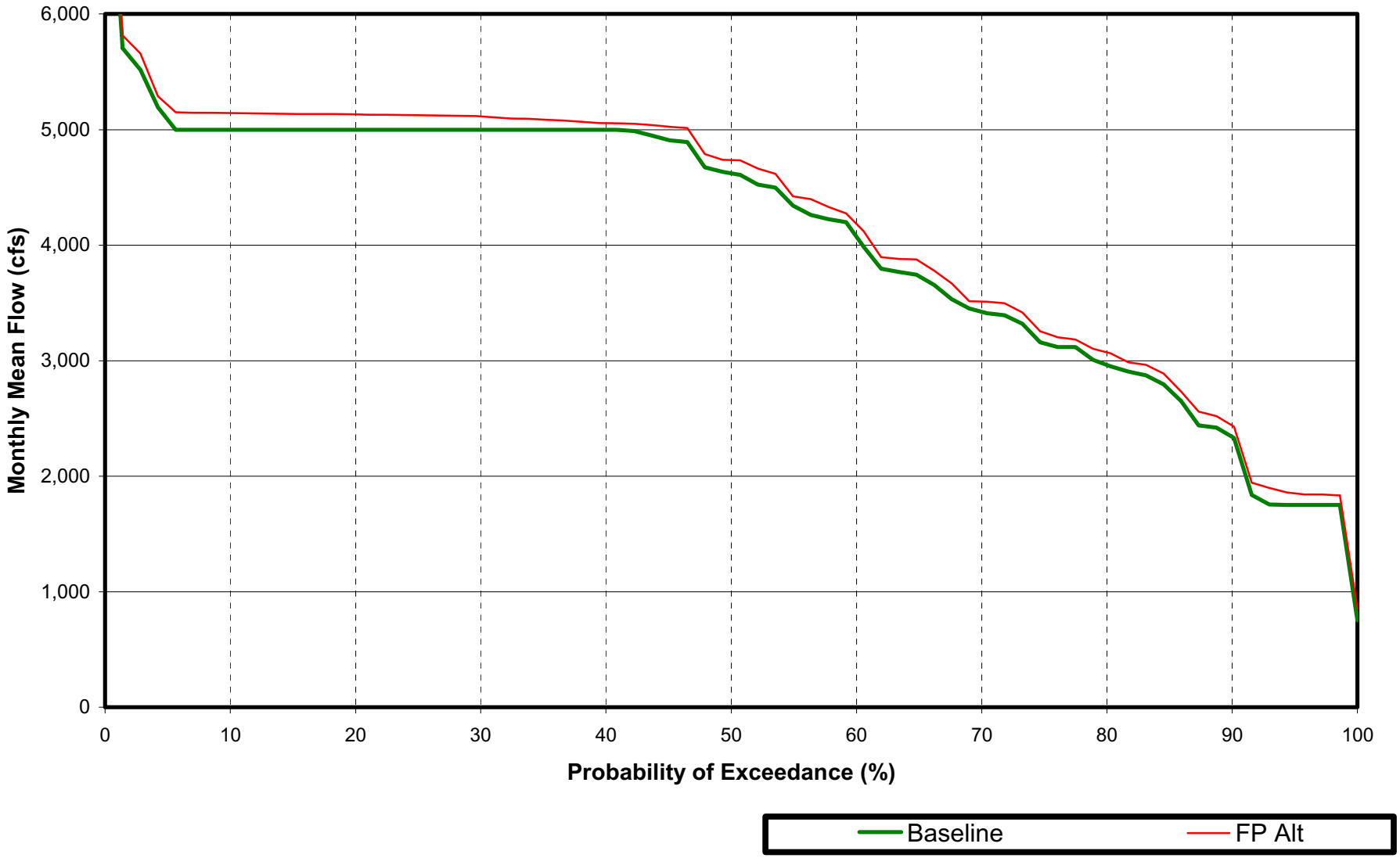
Lower American River Release From Nimbus Dam During May Under Baseline and FP Alt Conditions



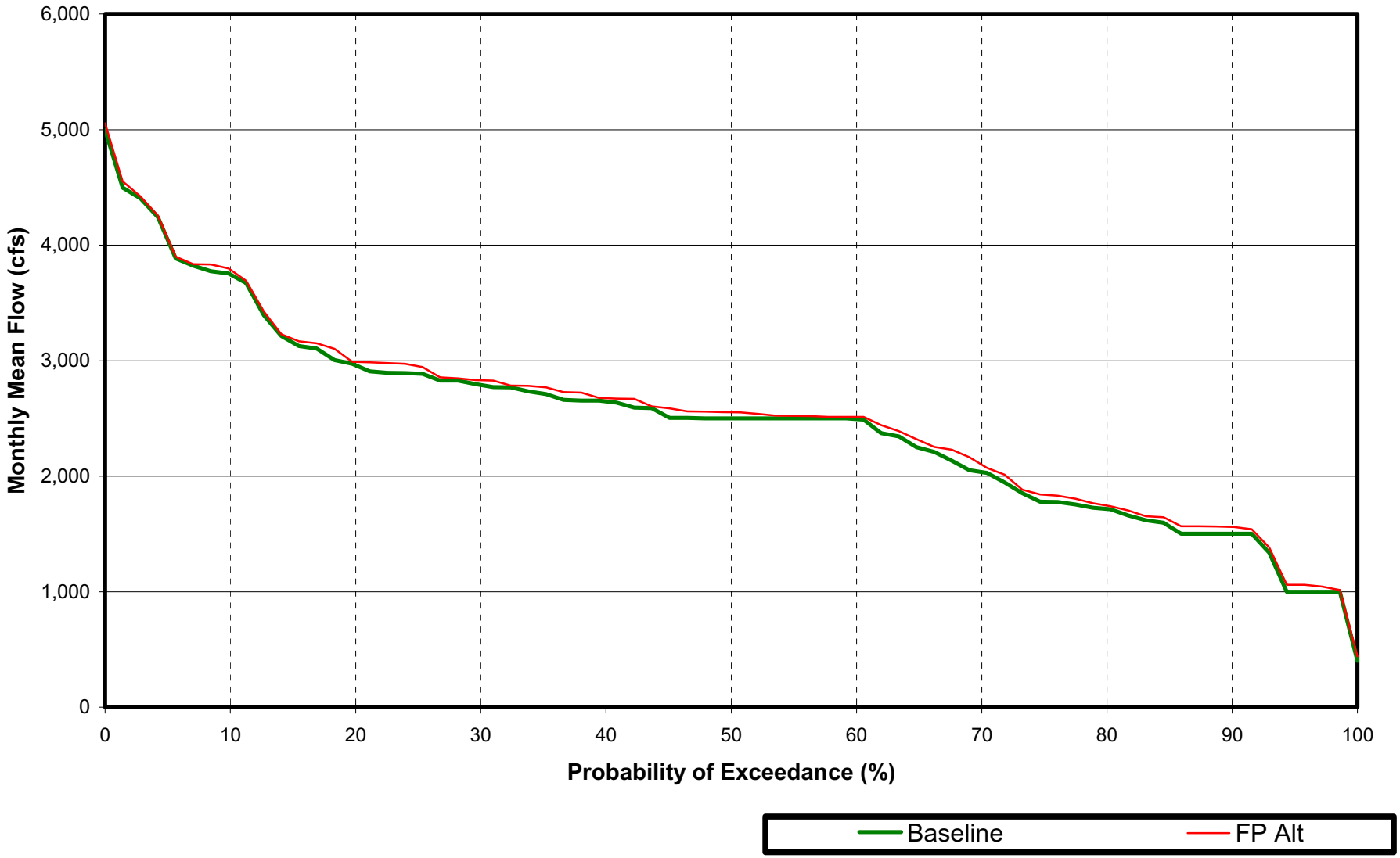
Lower American River Release From Nimbus Dam During June Under Baseline and FP Alt Conditions



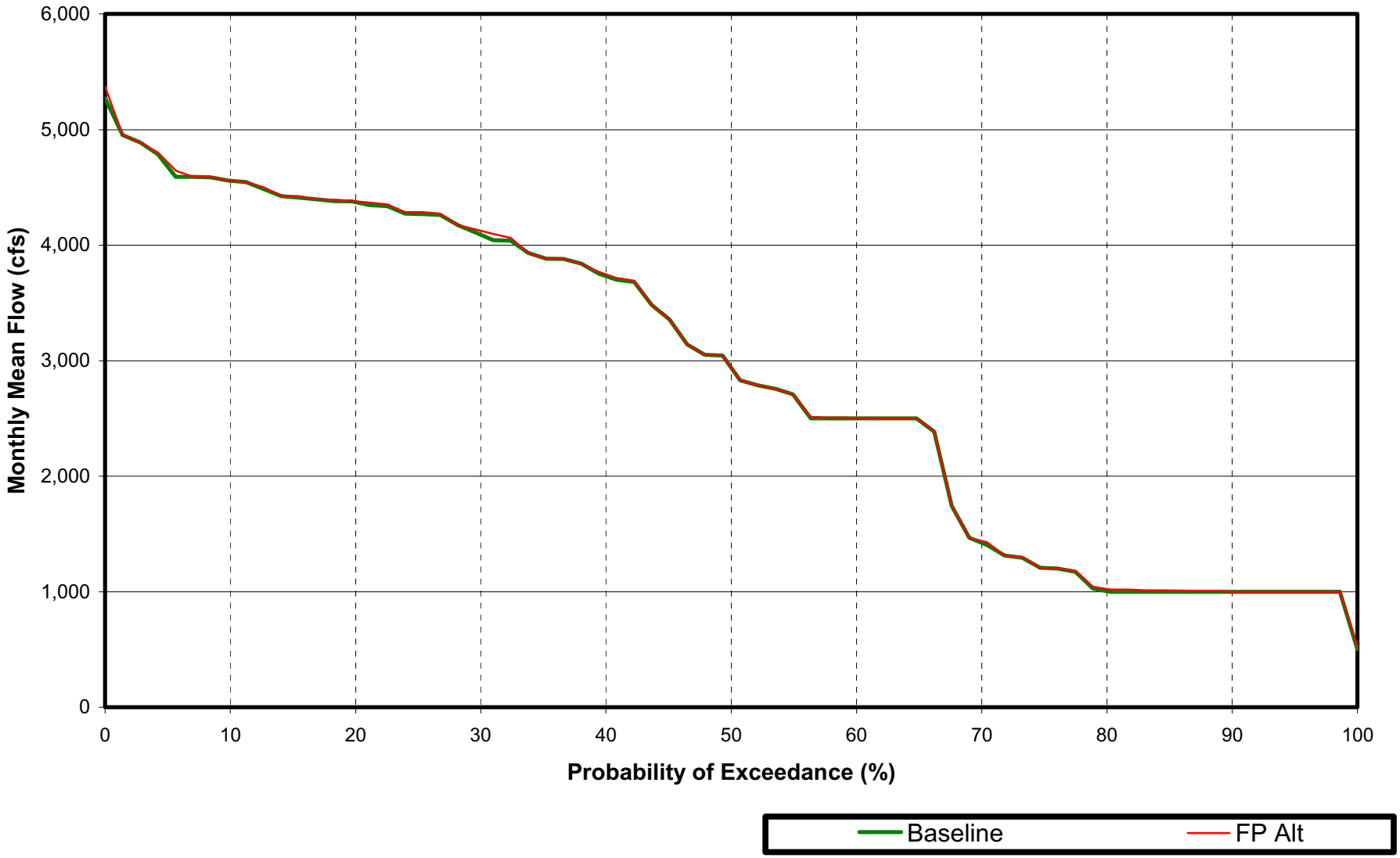
Lower American River Release From Nimbus Dam During July Under Baseline and FP Alt Conditions



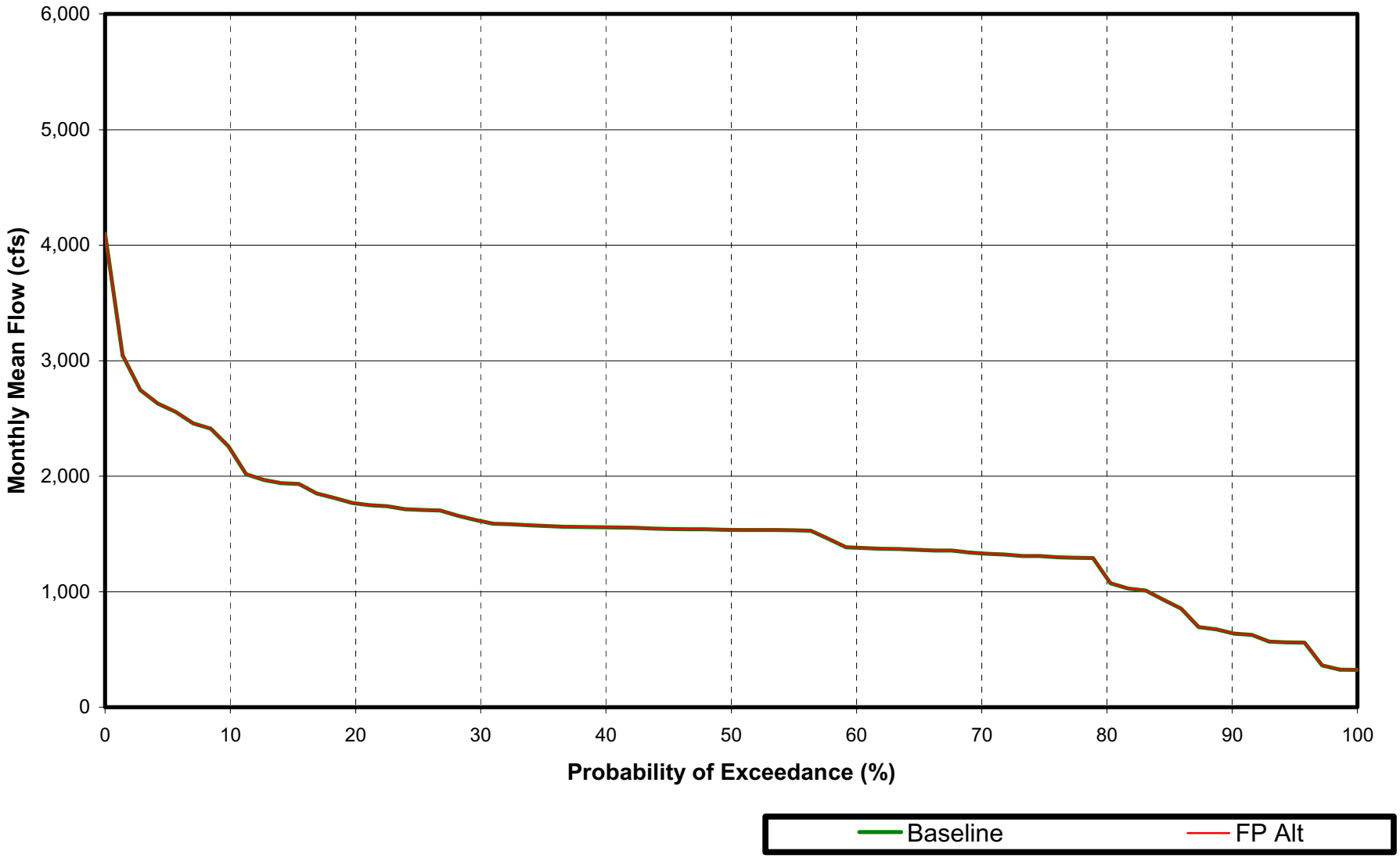
Lower American River Release From Nimbus Dam During August Under Baseline and FP Alt Conditions



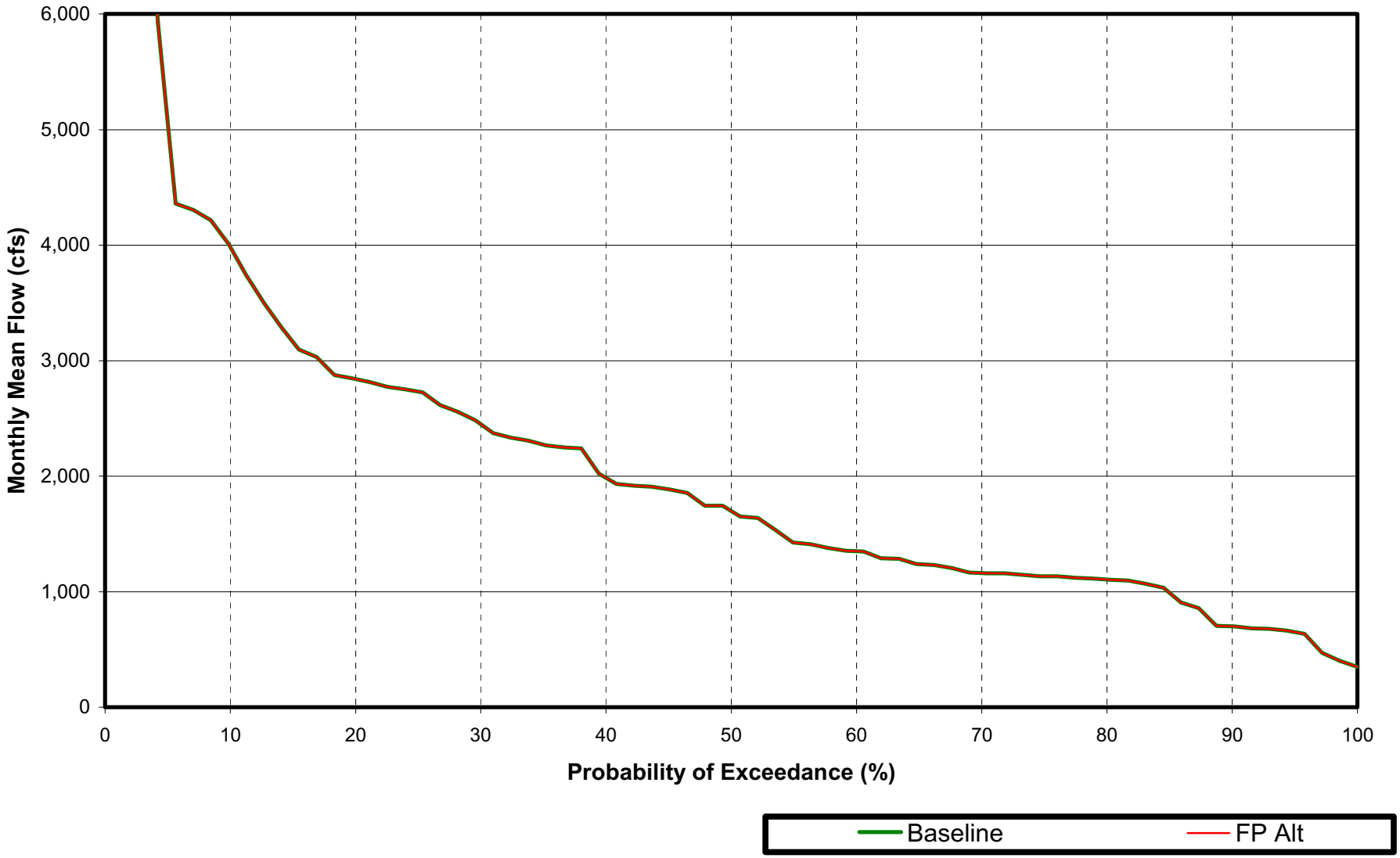
Lower American River Release From Nimbus Dam During September Under Baseline and FP Alt Conditions



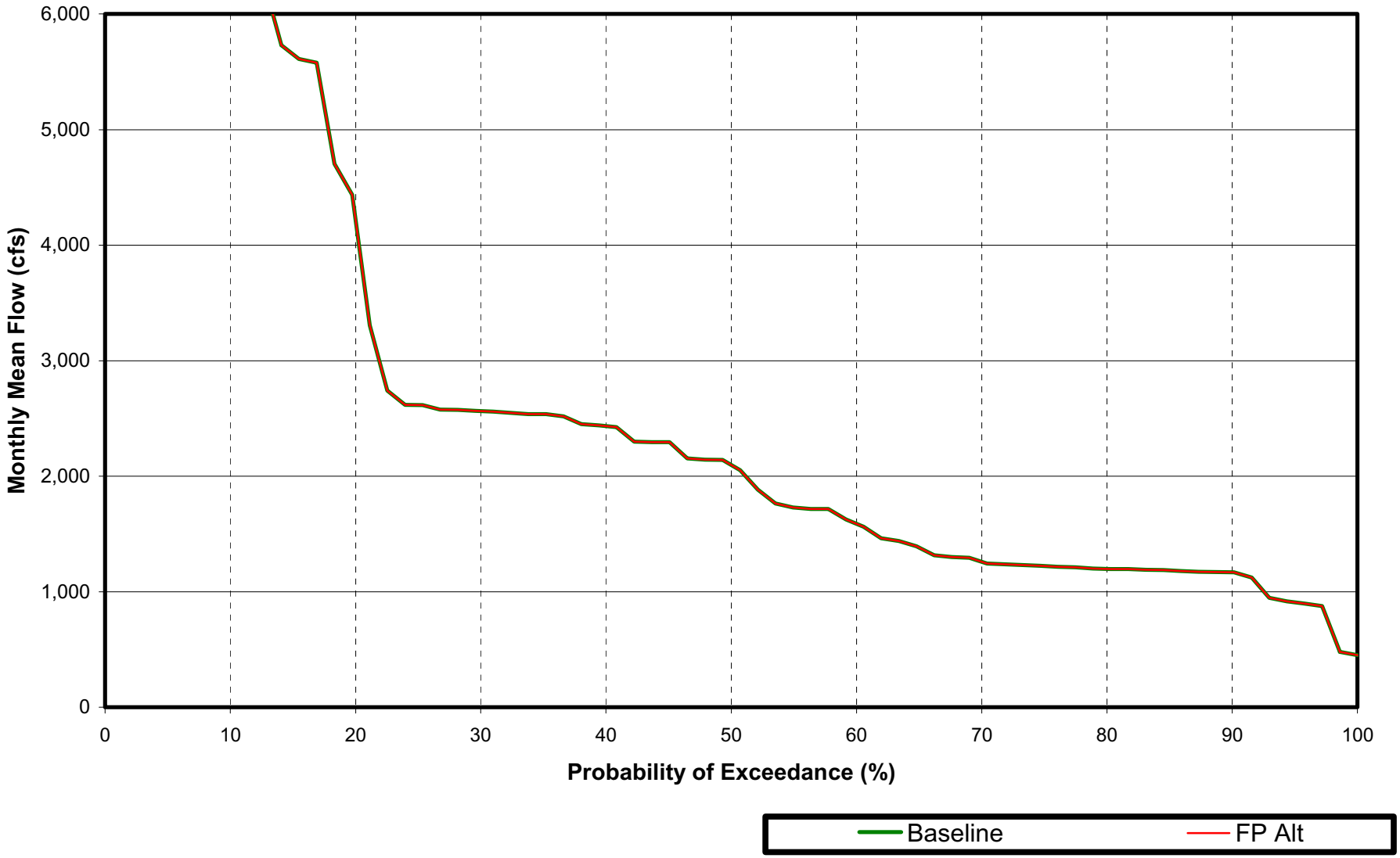
Lower American River Flow at Watt Avenue During October Under Baseline and FP Alt Conditions



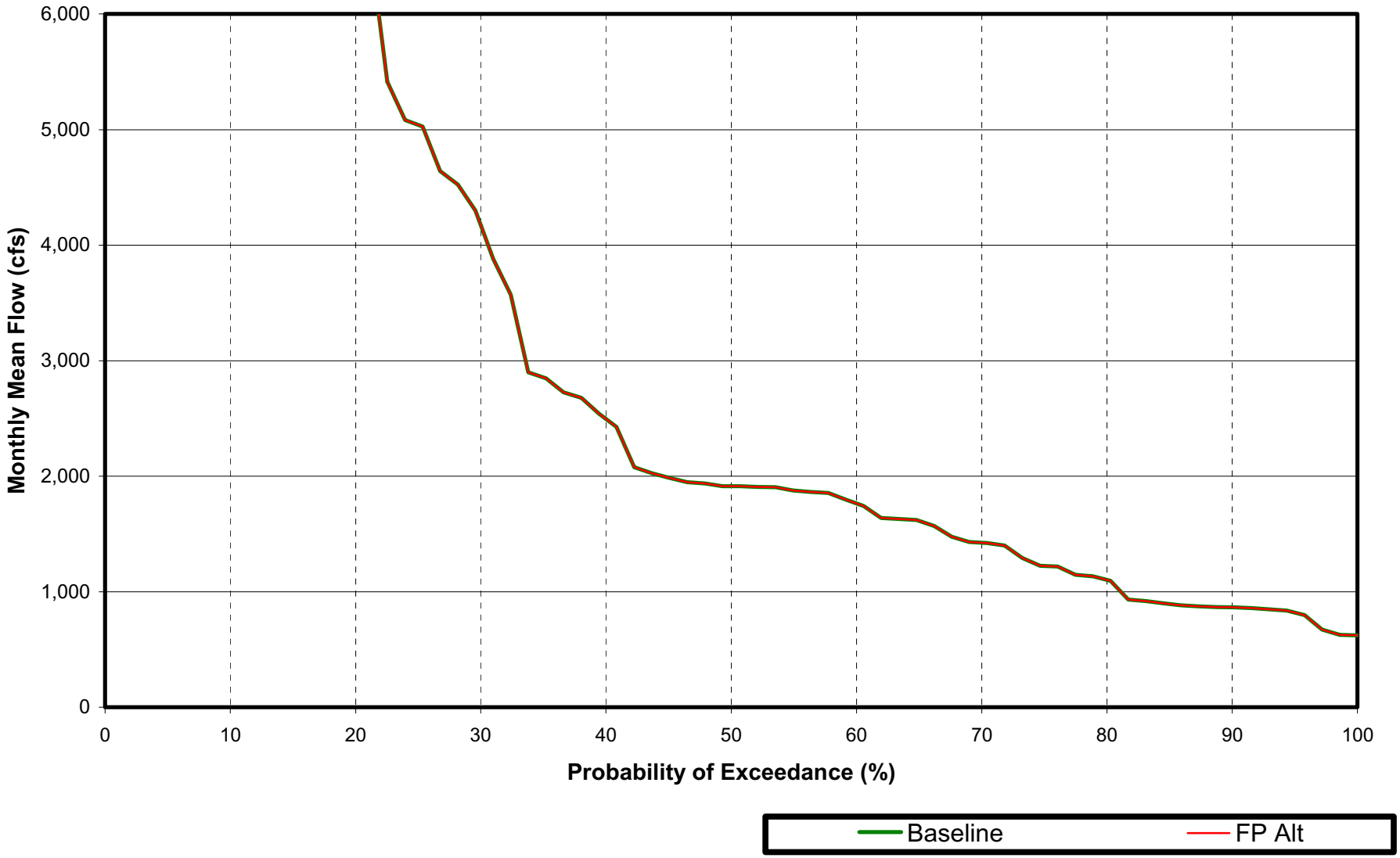
Lower American River Flow at Watt Avenue During November Under Baseline and FP Alt Conditions



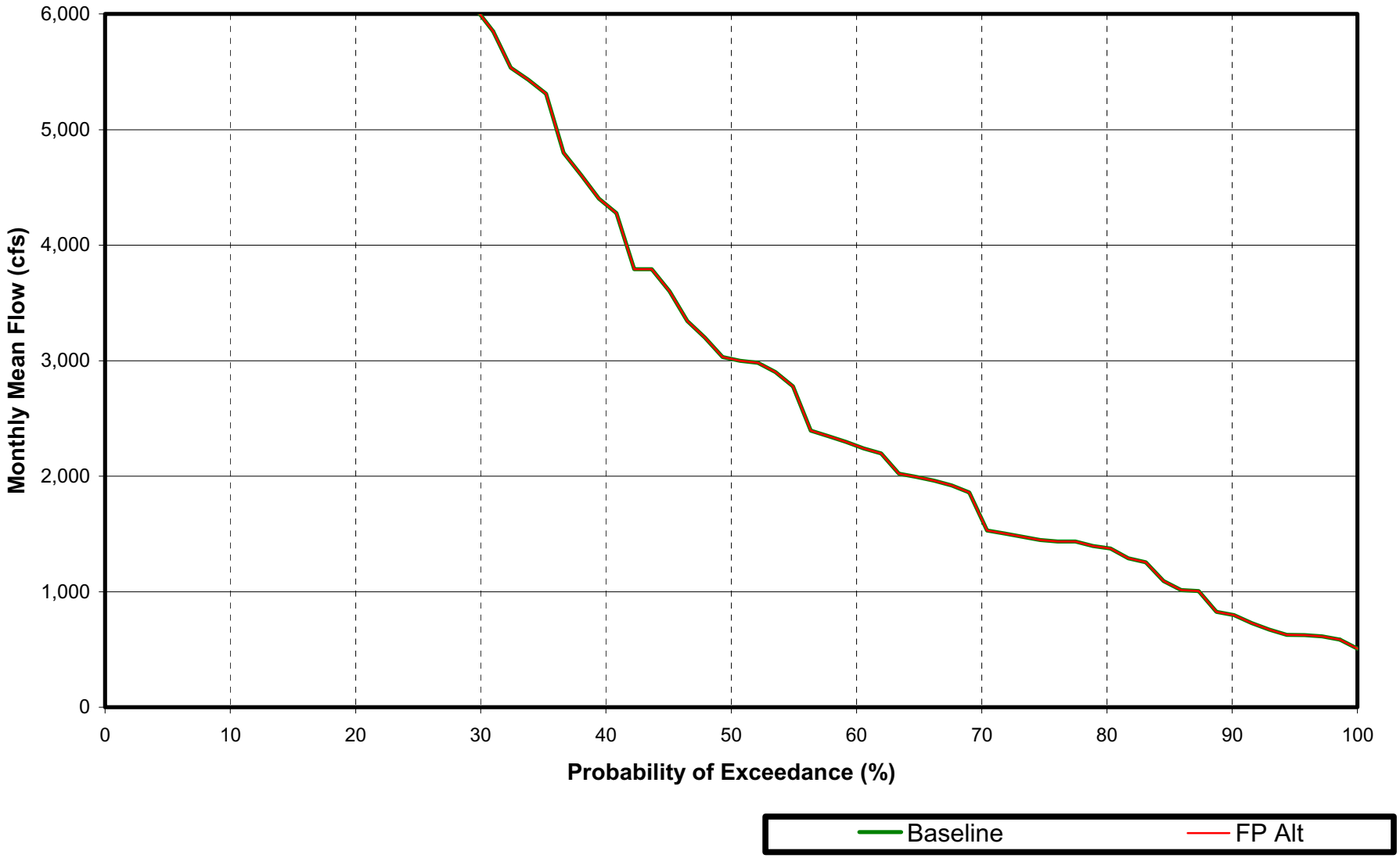
Lower American River Flow at Watt Avenue During December Under Baseline and FP Alt Conditions



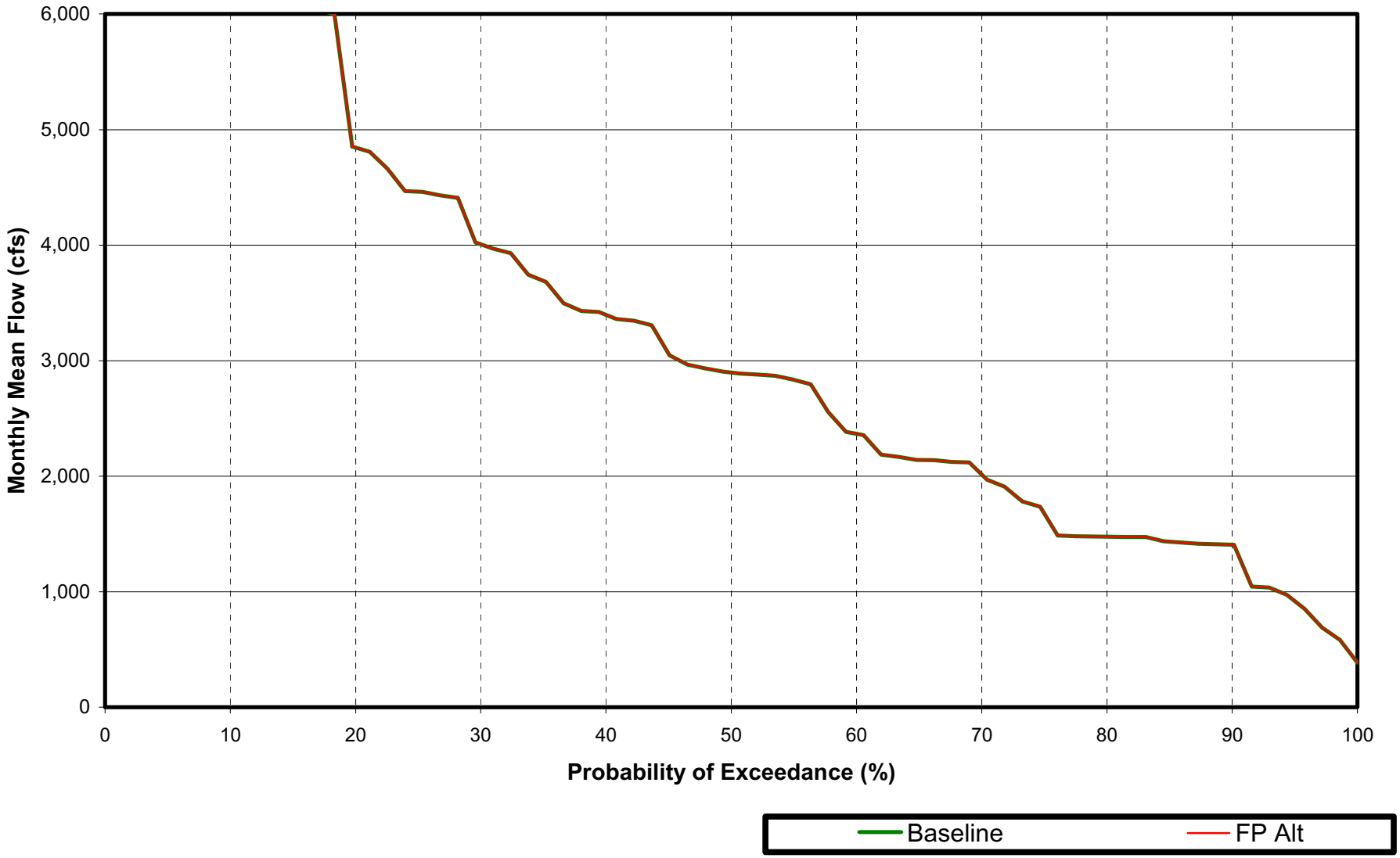
Lower American River Flow at Watt Avenue During January Under Baseline and FP Alt Conditions



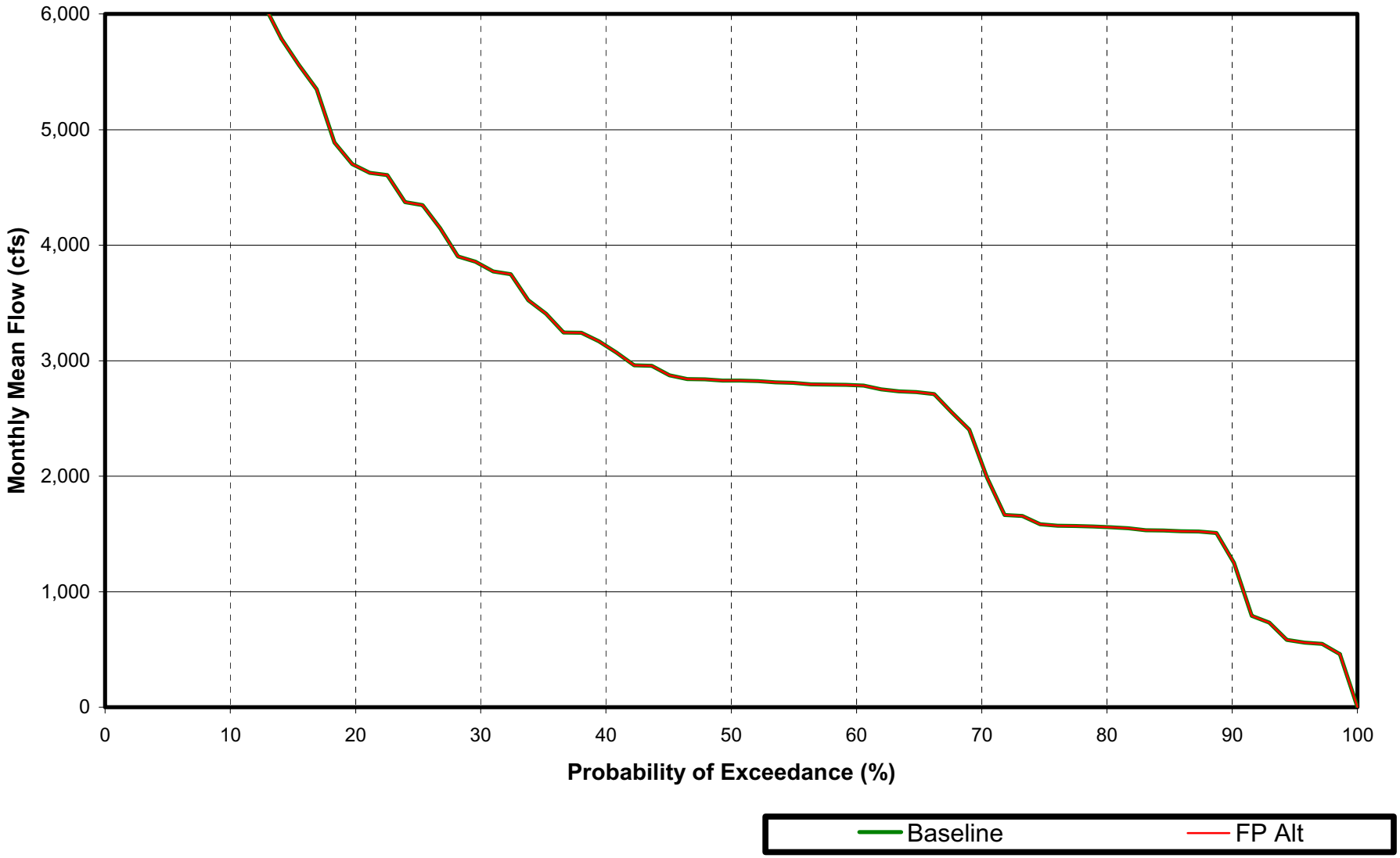
Lower American River Flow at Watt Avenue During February Under Baseline and FP Alt Conditions



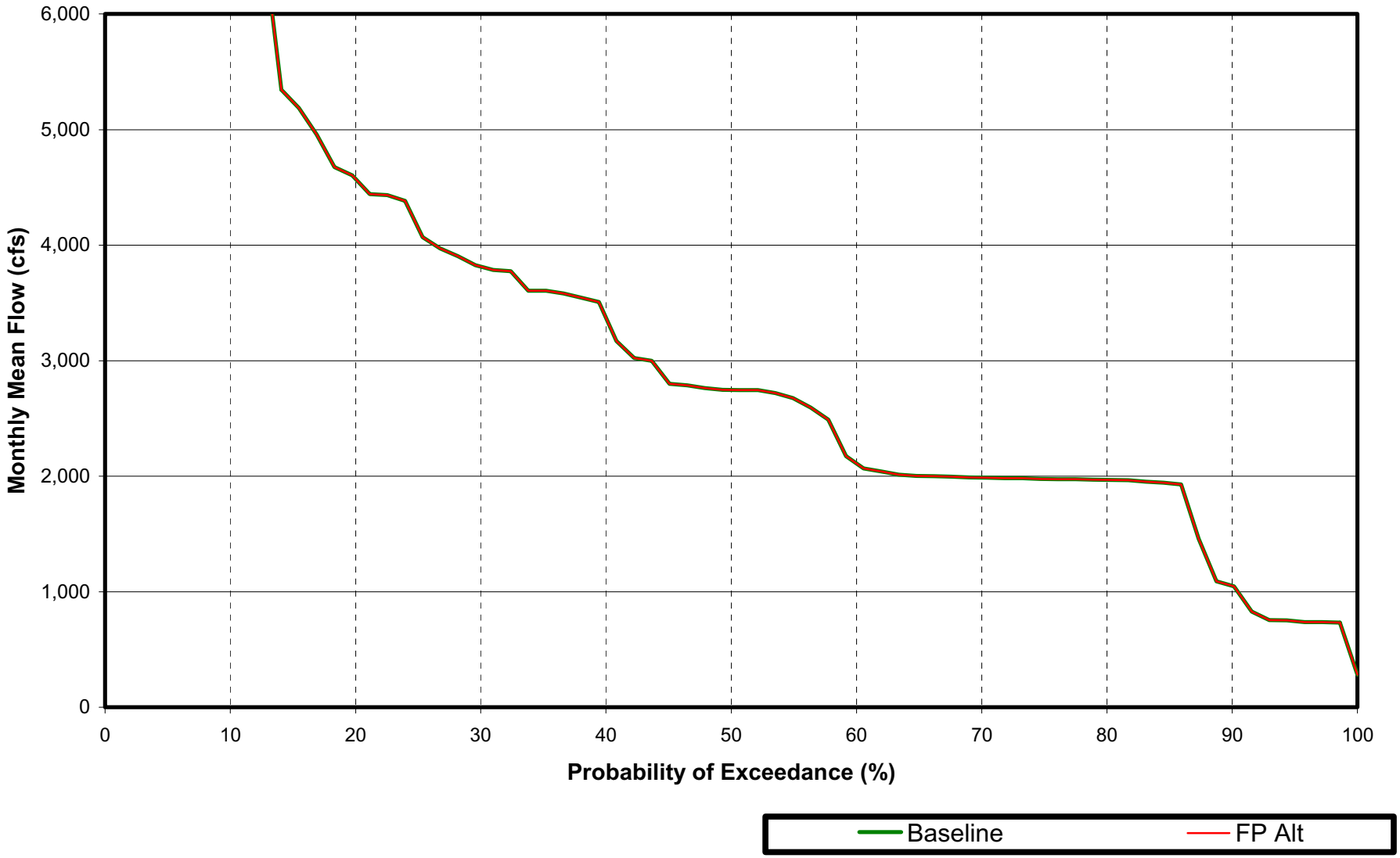
Lower American River Flow at Watt Avenue During March Under Baseline and FP Alt Conditions



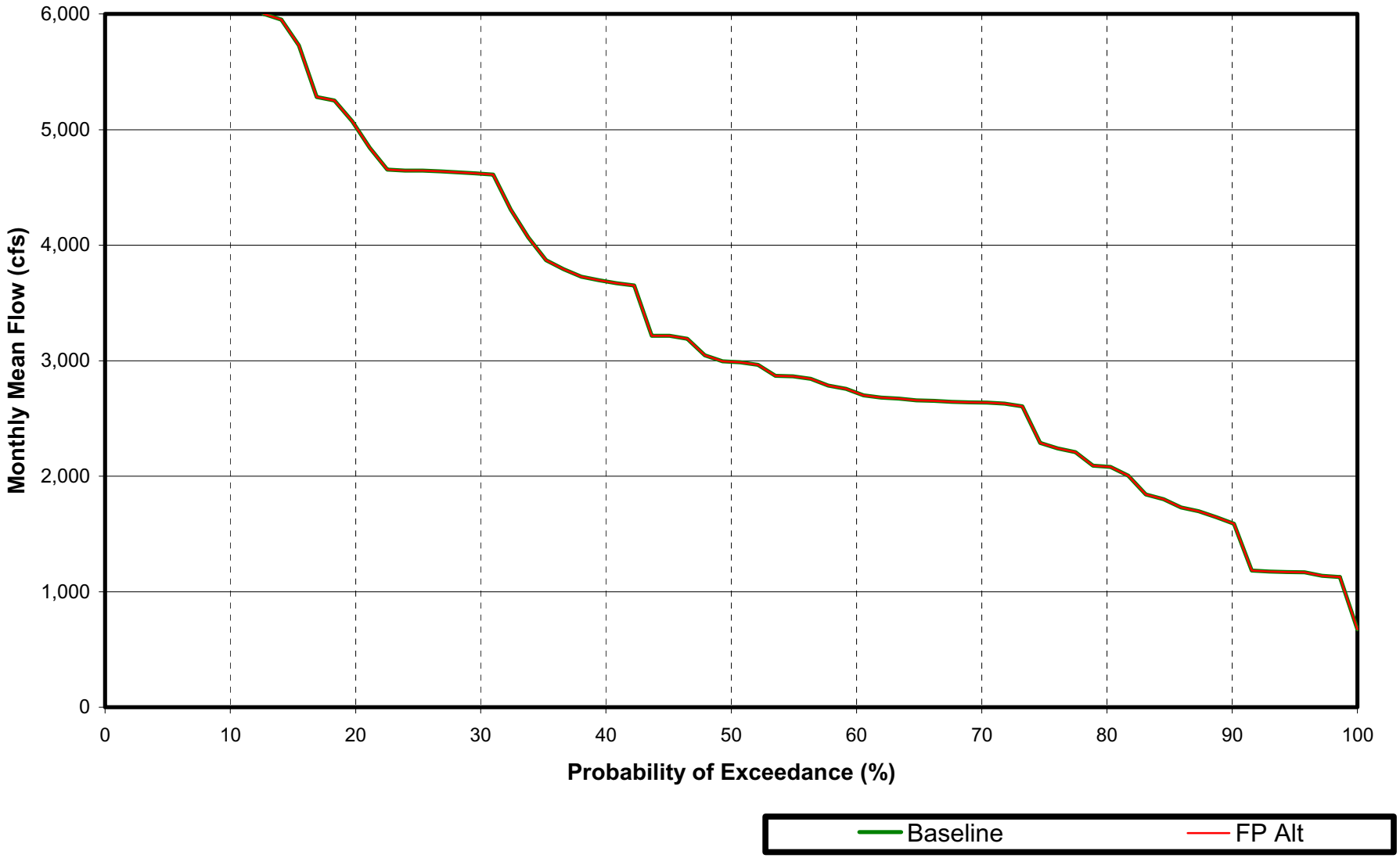
Lower American River Flow at Watt Avenue During April Under Baseline and FP Alt Conditions



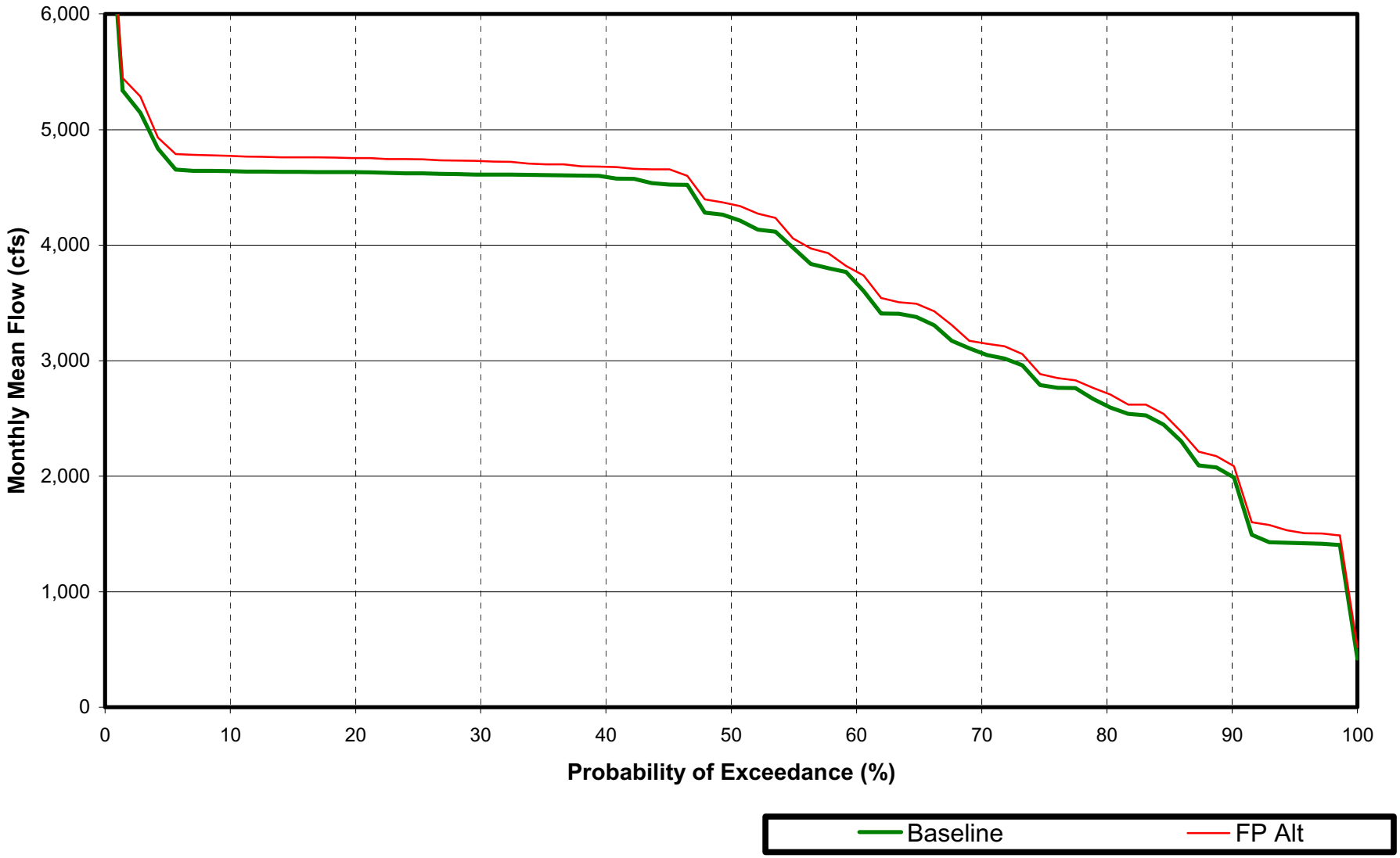
Lower American River Flow at Watt Avenue During May Under Baseline and FP Alt Conditions



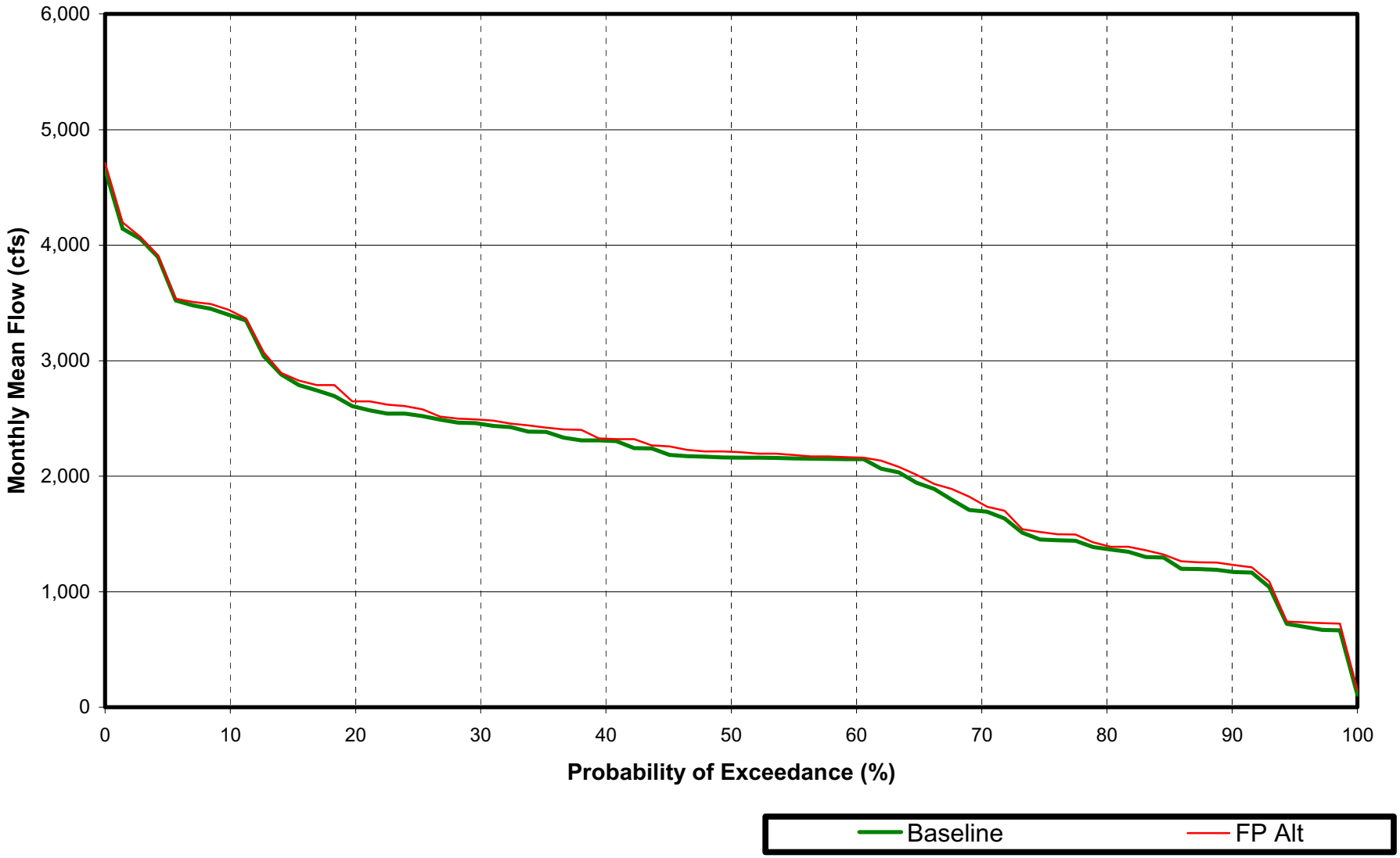
Lower American River Flow at Watt Avenue During June Under Baseline and FP Alt Conditions



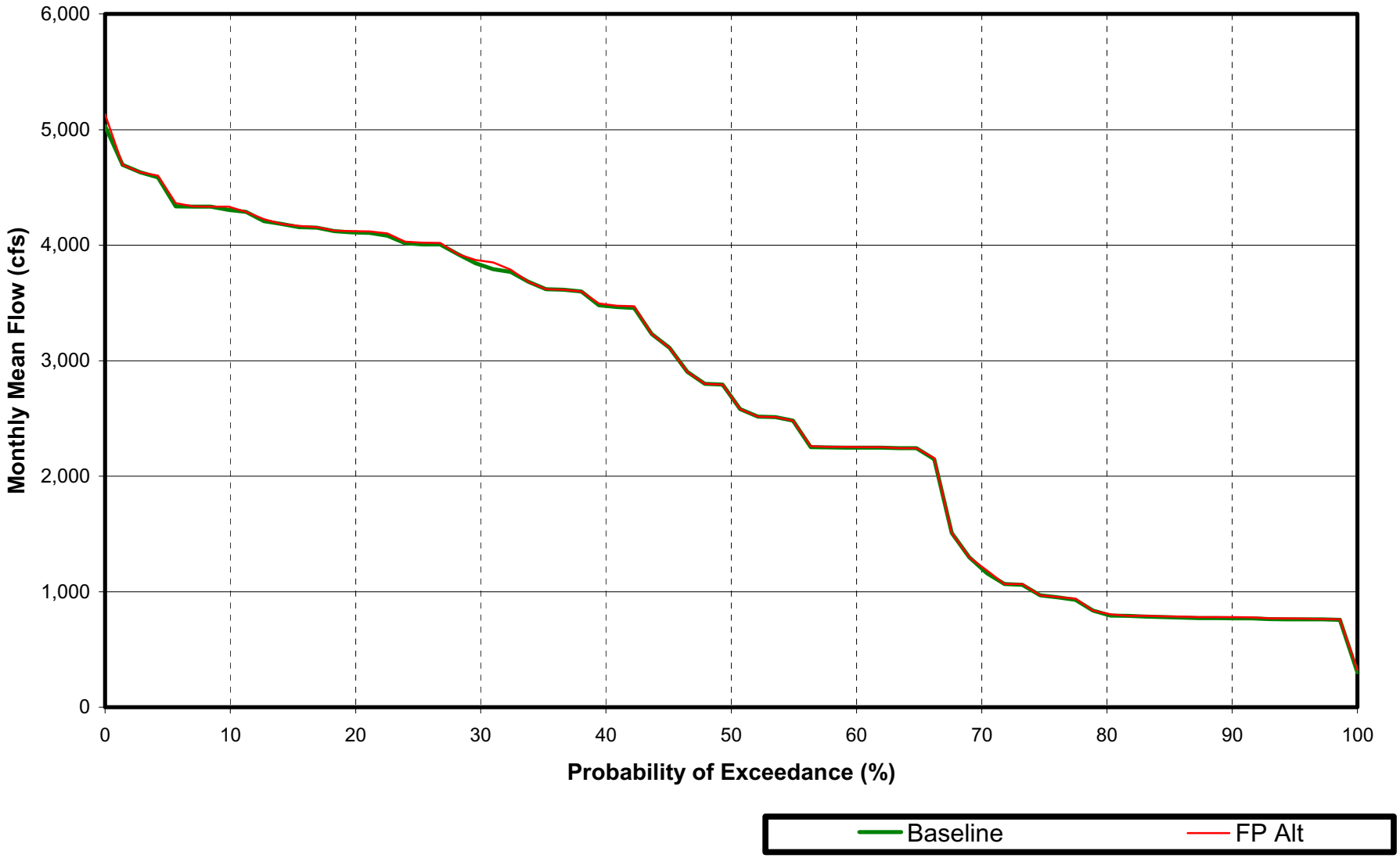
Lower American River Flow at Watt Avenue During July Under Baseline and FP Alt Conditions



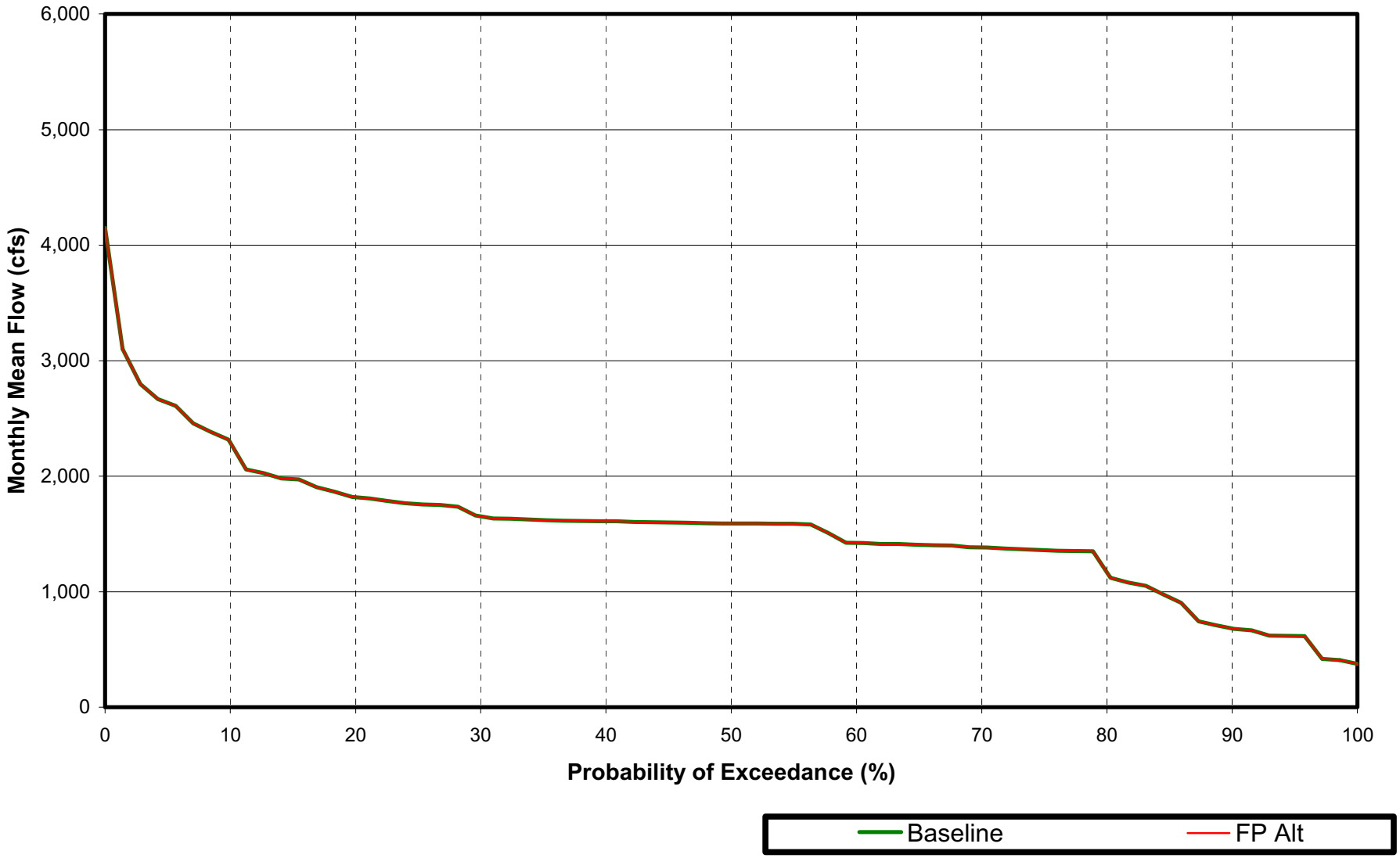
Lower American River Flow at Watt Avenue During August Under Baseline and FP Alt Conditions



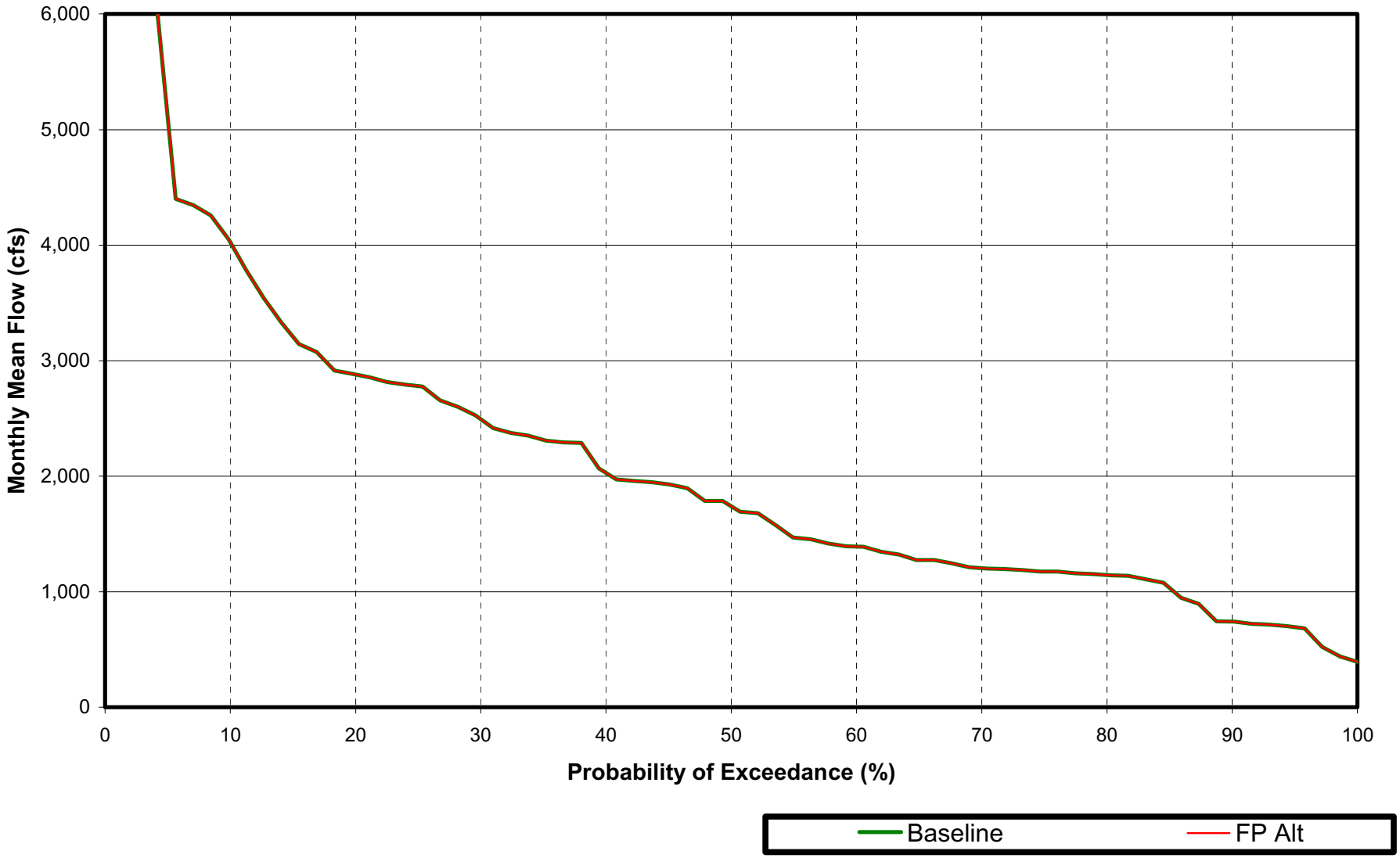
Lower American River Flow at Watt Avenue During September Under Baseline and FP Alt Conditions



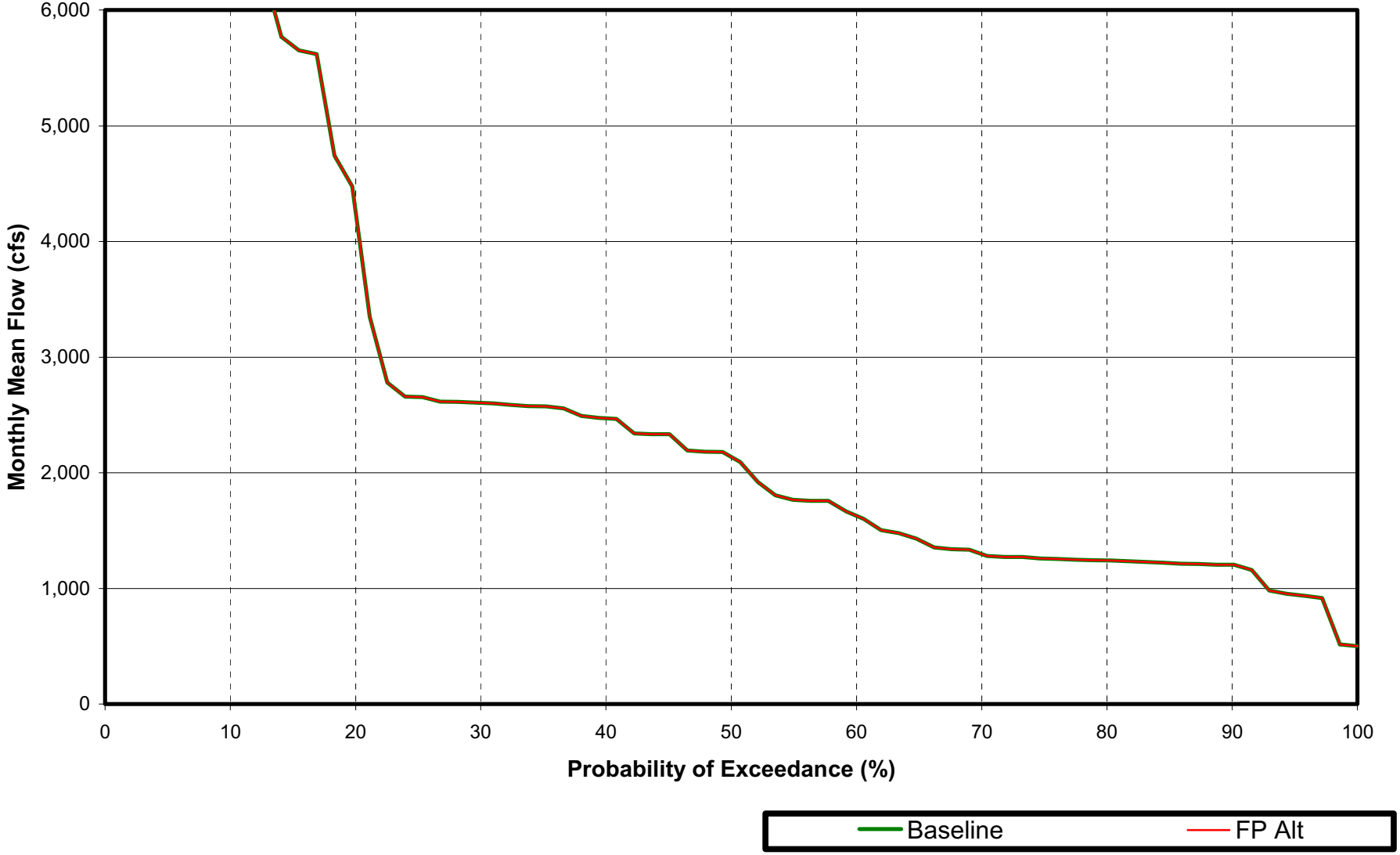
Lower American River Flow at H Street Bridge During October Under Baseline and FP Alt Conditions



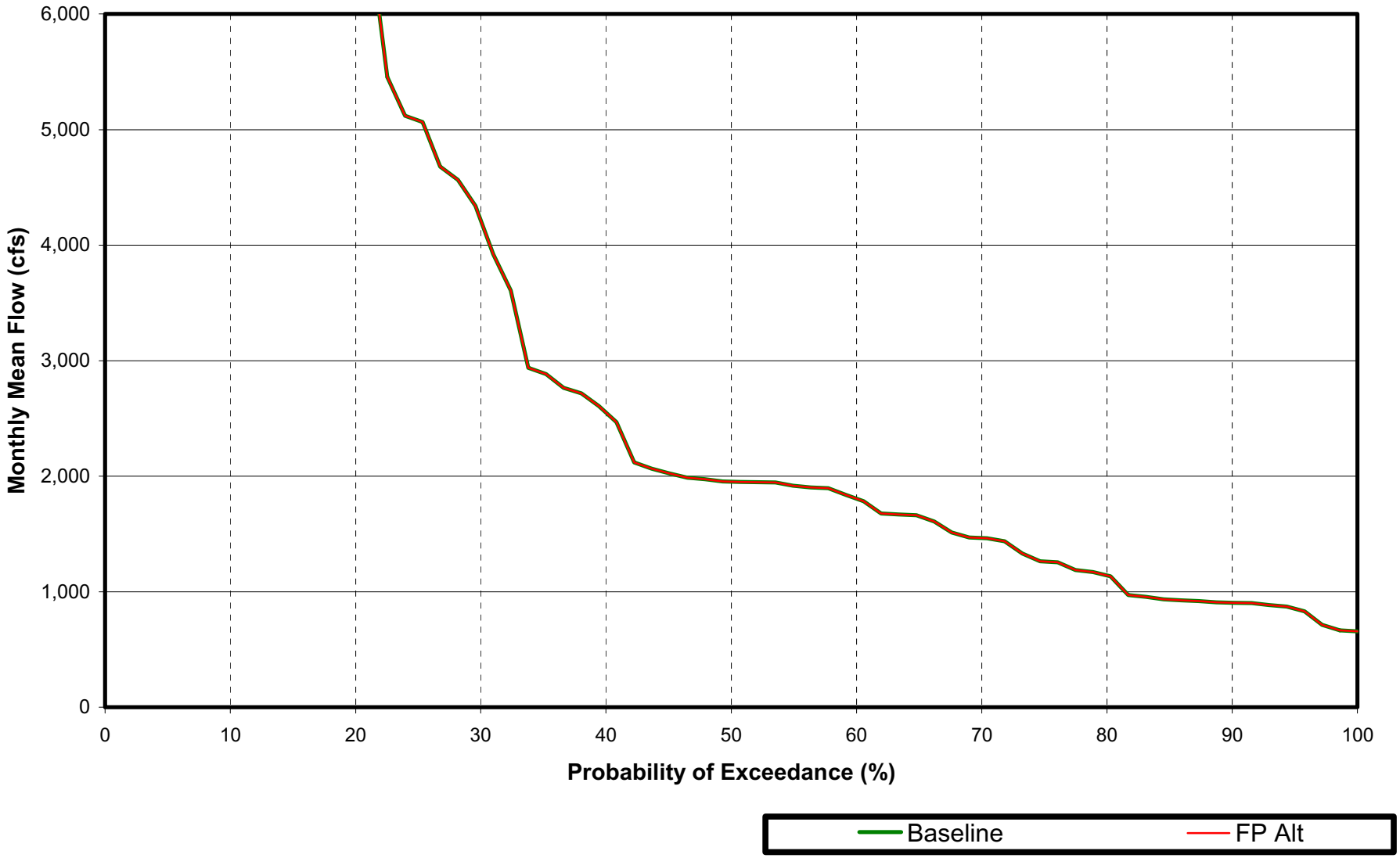
Lower American River Flow at H Street Bridge During November Under Baseline and FP Alt Conditions



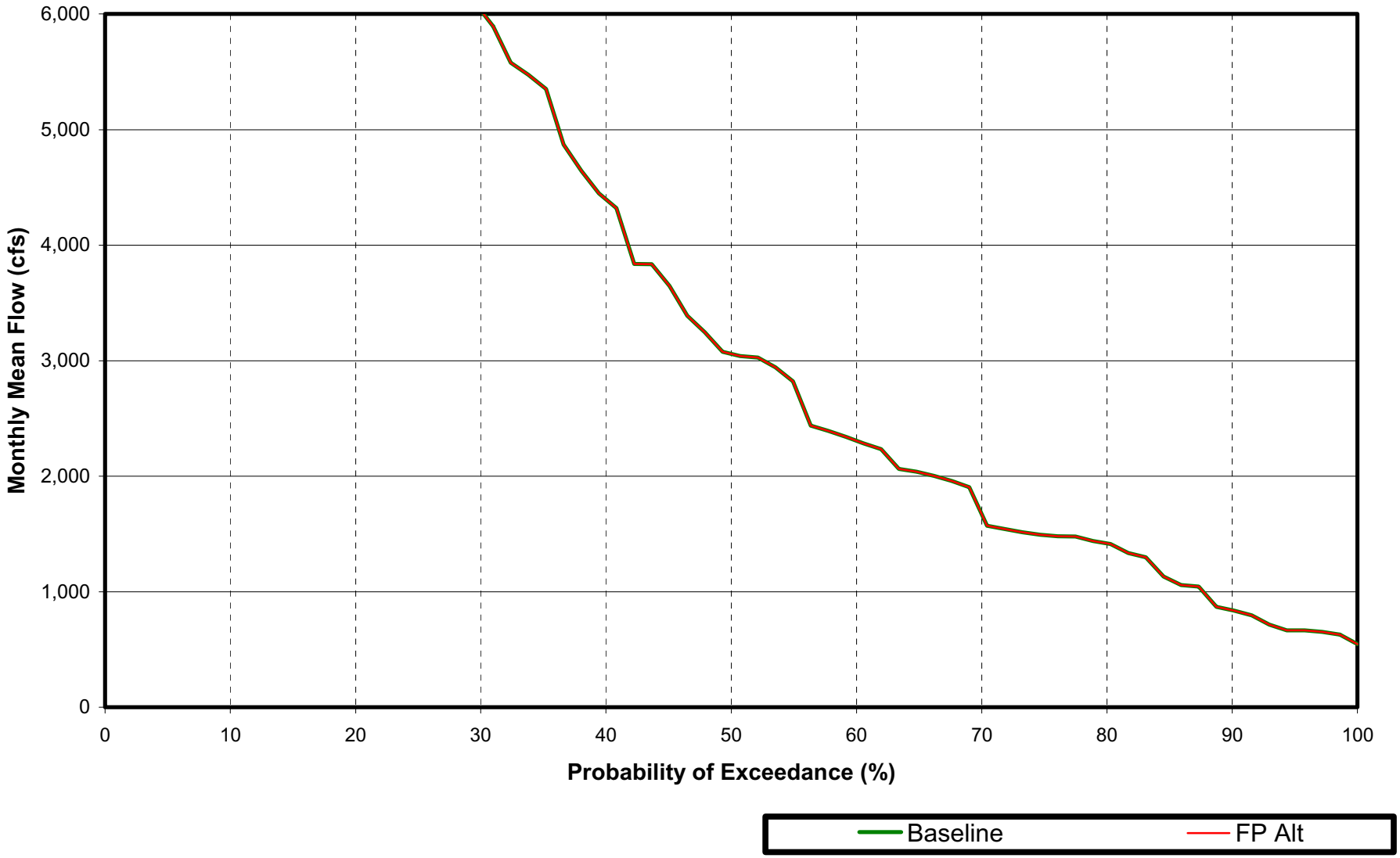
Lower American River Flow at H Street Bridge During December Under Baseline and FP Alt Conditions



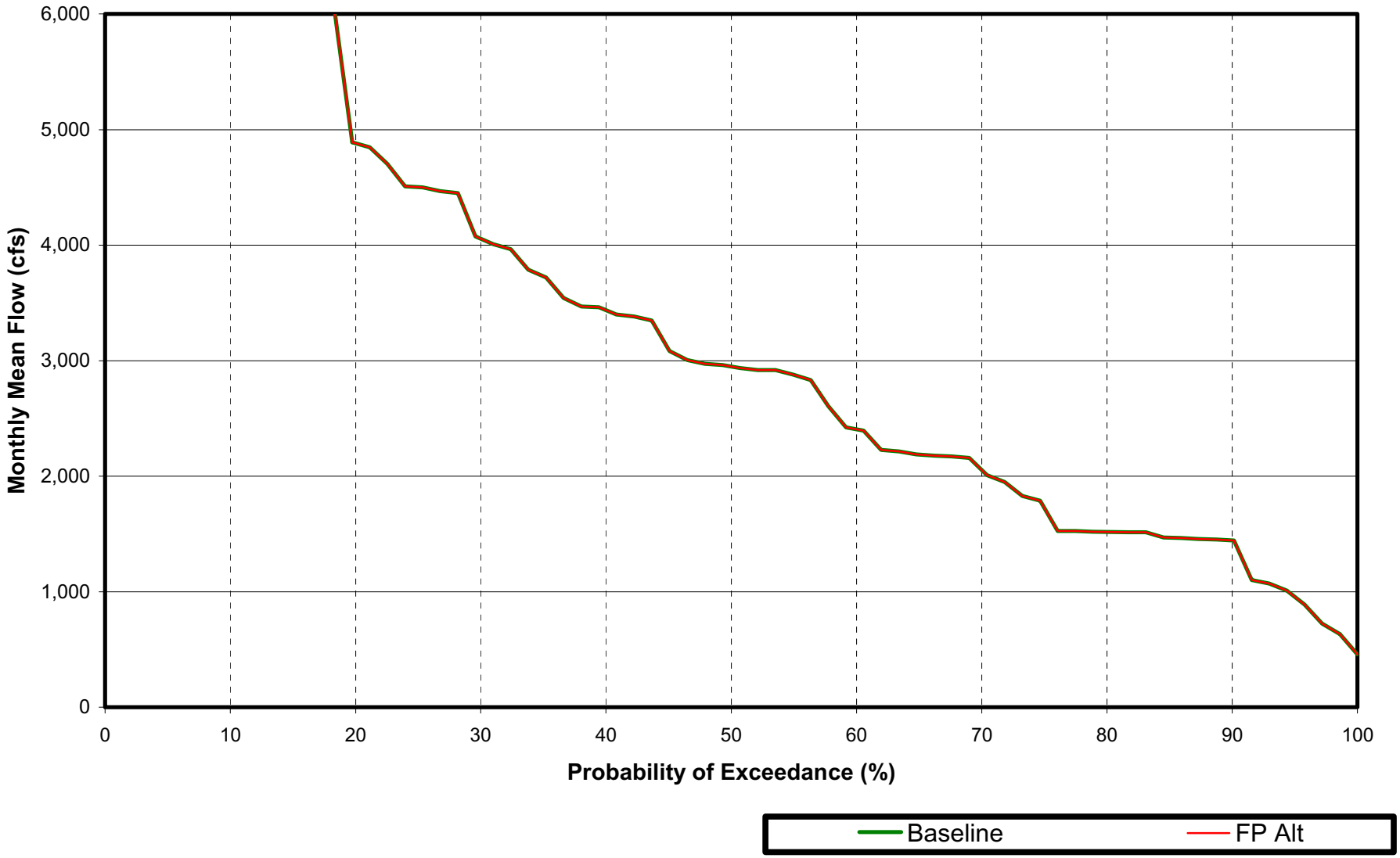
Lower American River Flow at H Street Bridge During January Under Baseline and FP Alt Conditions



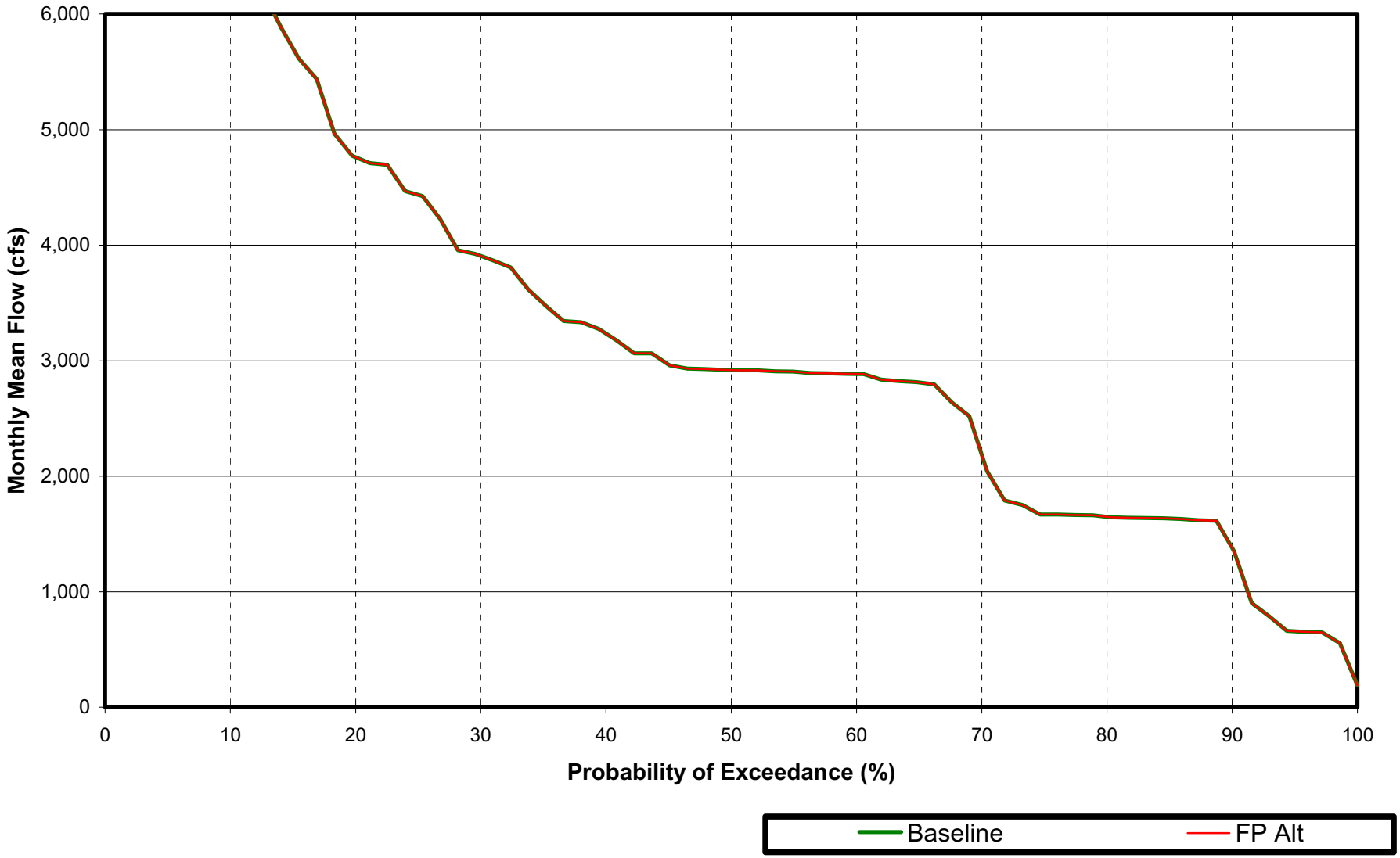
Lower American River Flow at H Street Bridge During February Under Baseline and FP Alt Conditions



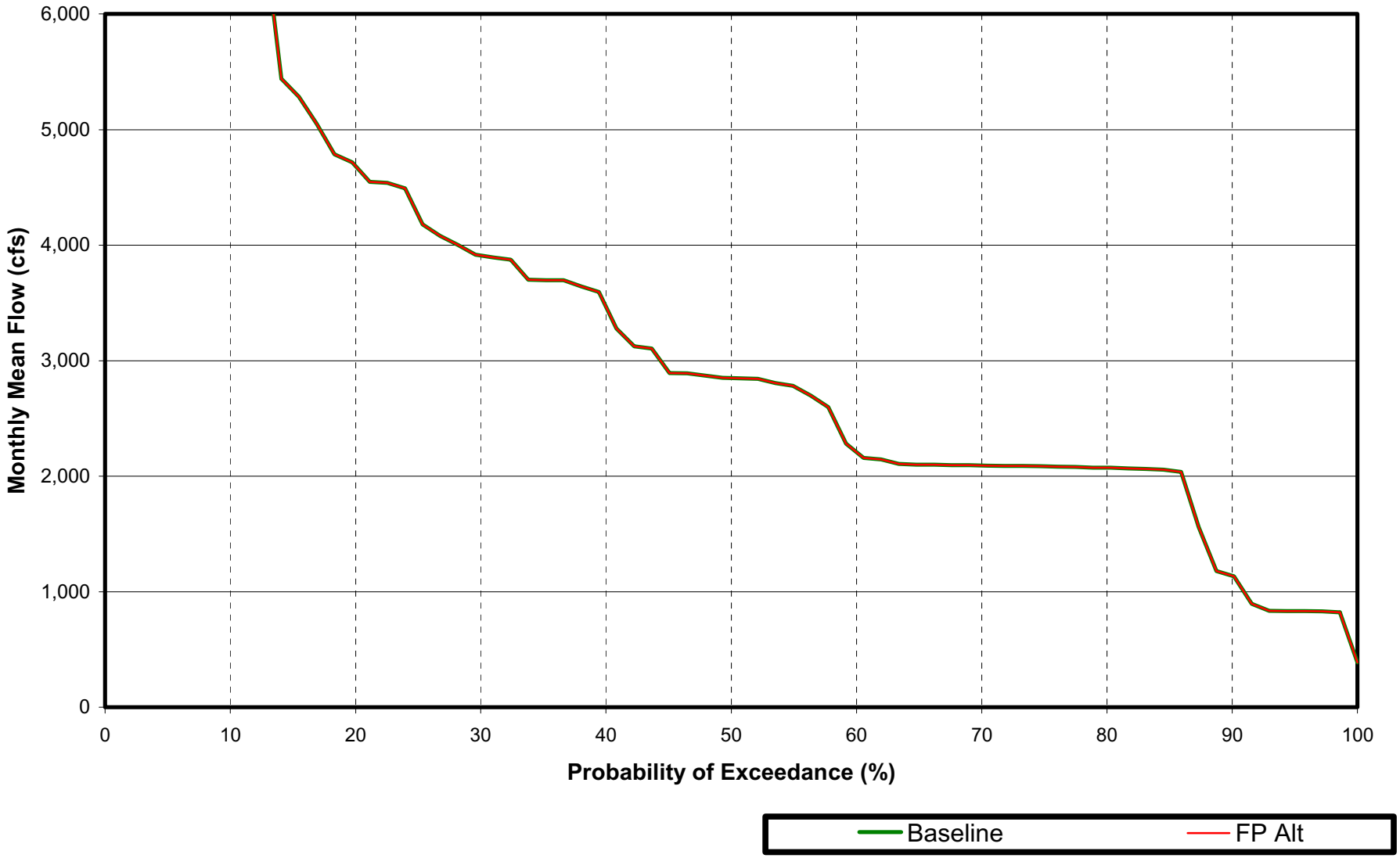
Lower American River Flow at H Street Bridge During March Under Baseline and FP Alt Conditions



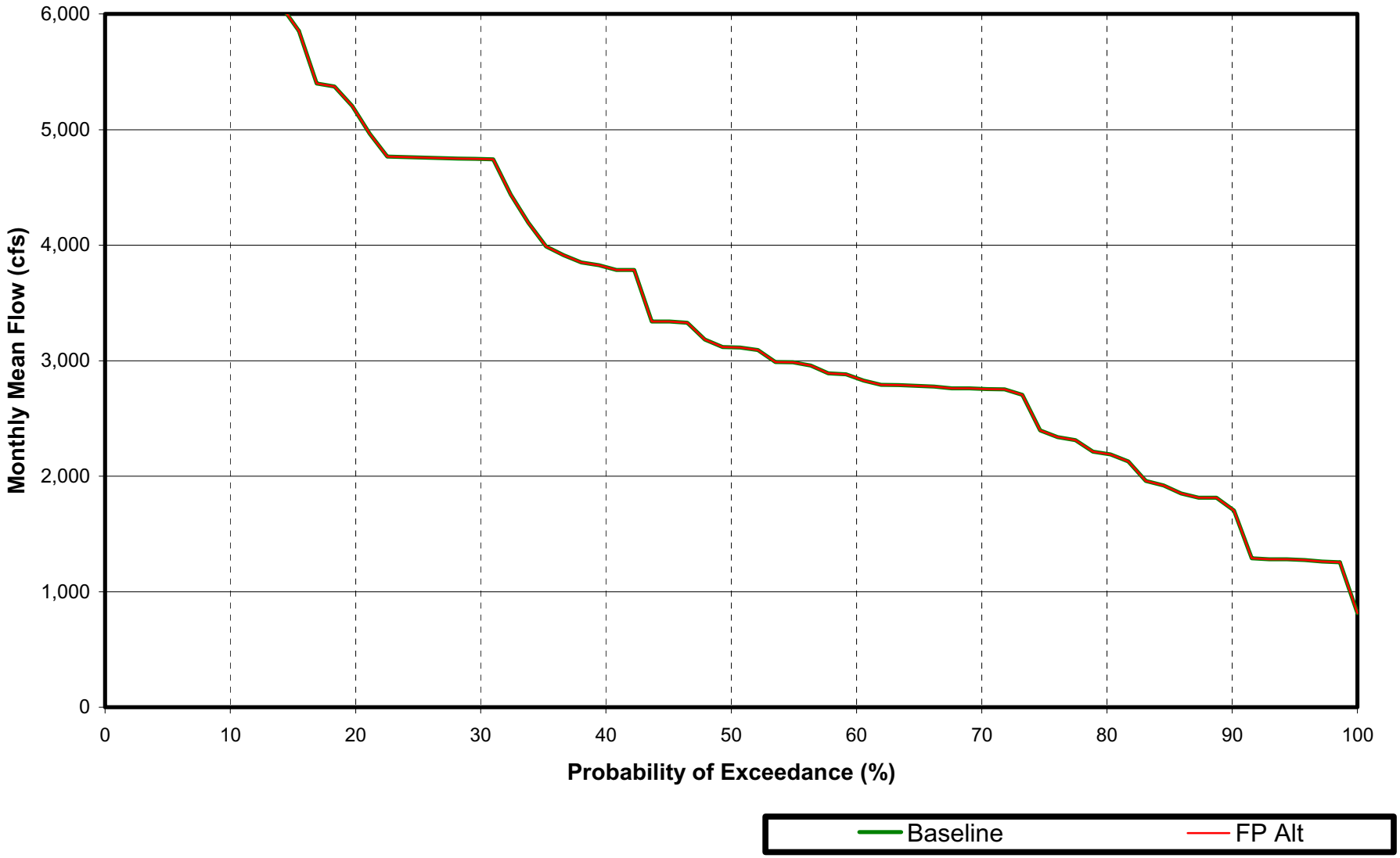
Lower American River Flow at H Street Bridge During April Under Baseline and FP Alt Conditions



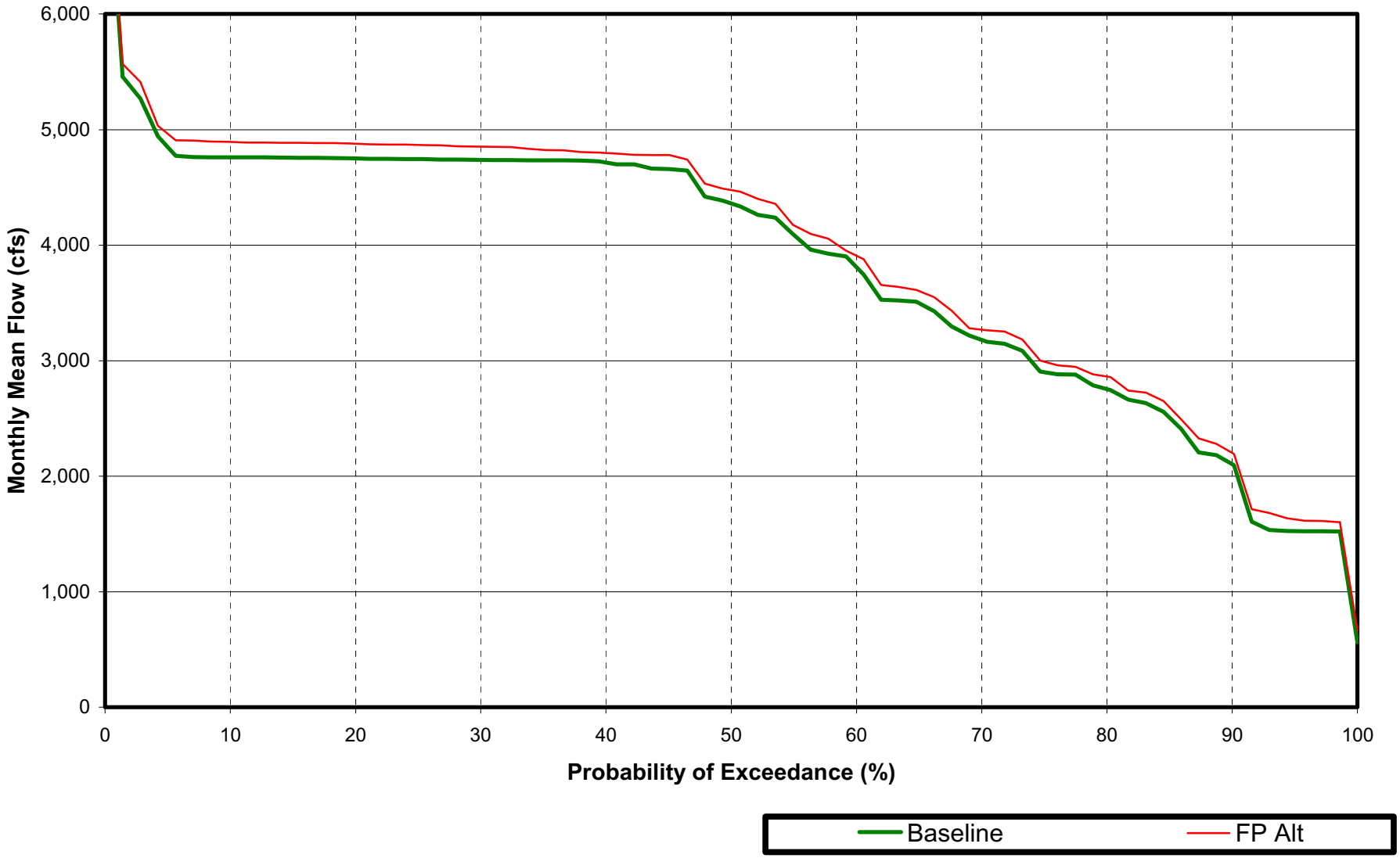
Lower American River Flow at H Street Bridge During May Under Baseline and FP Alt Conditions



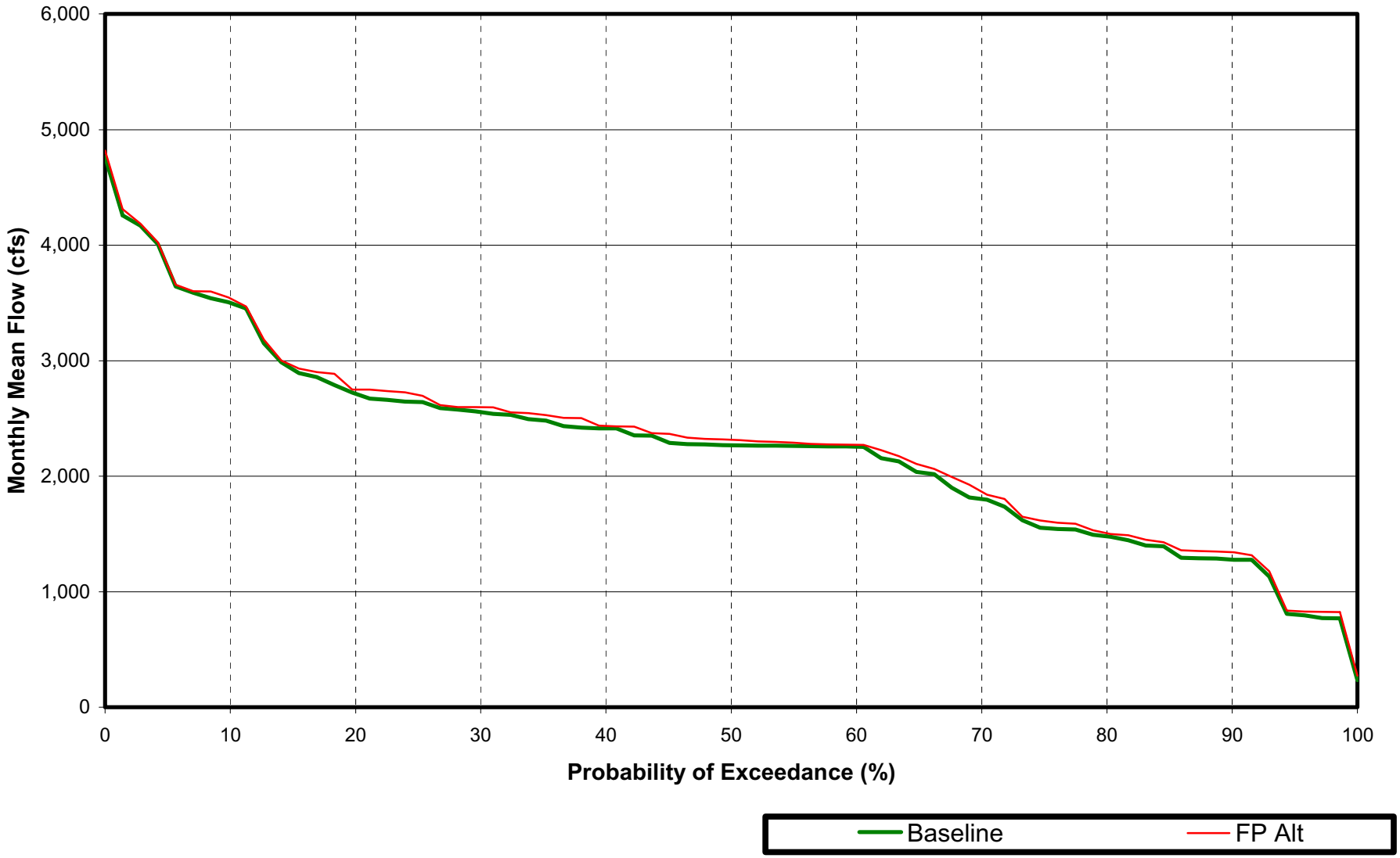
Lower American River Flow at H Street Bridge During June Under Baseline and FP Alt Conditions



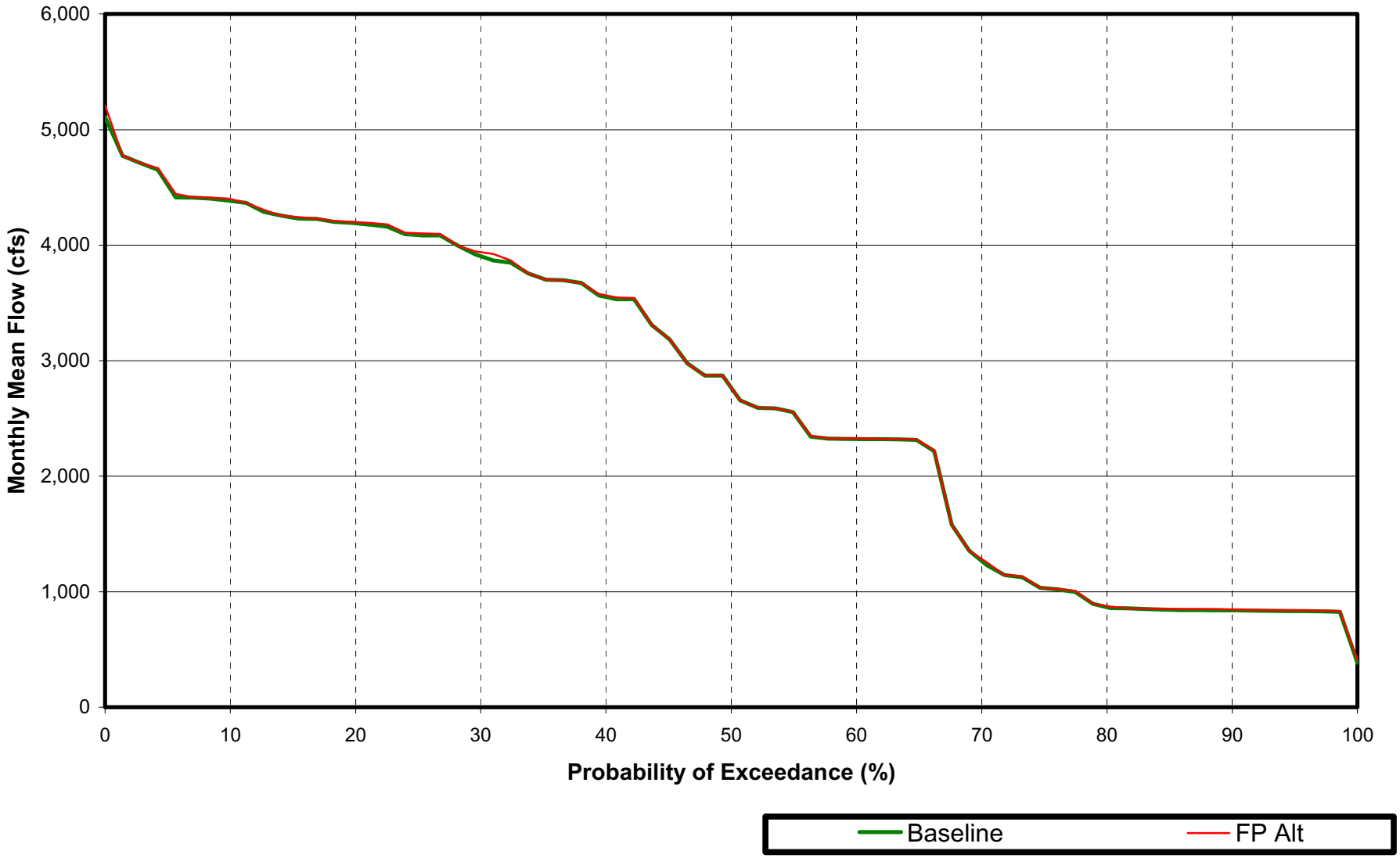
Lower American River Flow at H Street Bridge During July Under Baseline and FP Alt Conditions



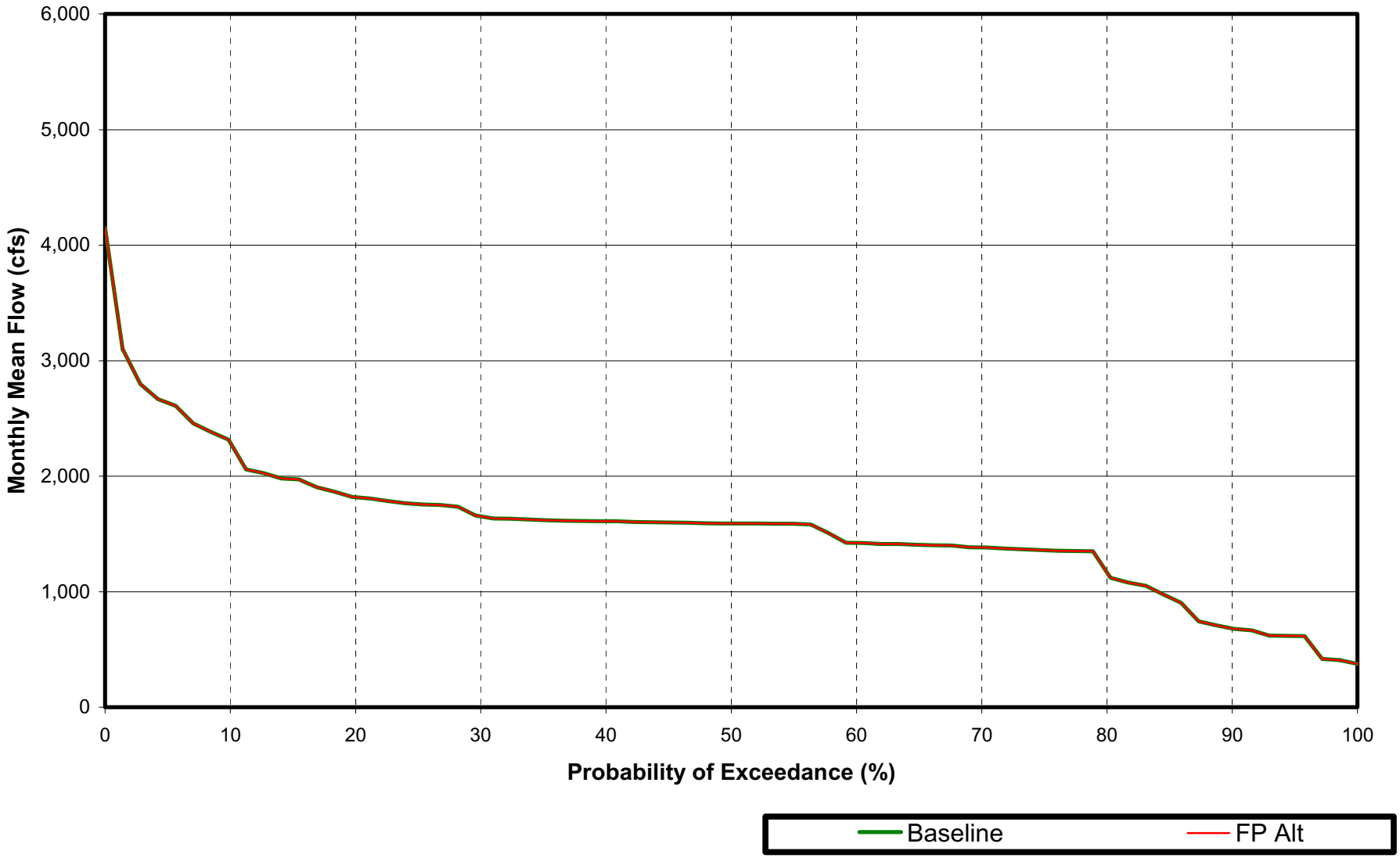
Lower American River Flow at H Street Bridge During August Under Baseline and FP Alt Conditions



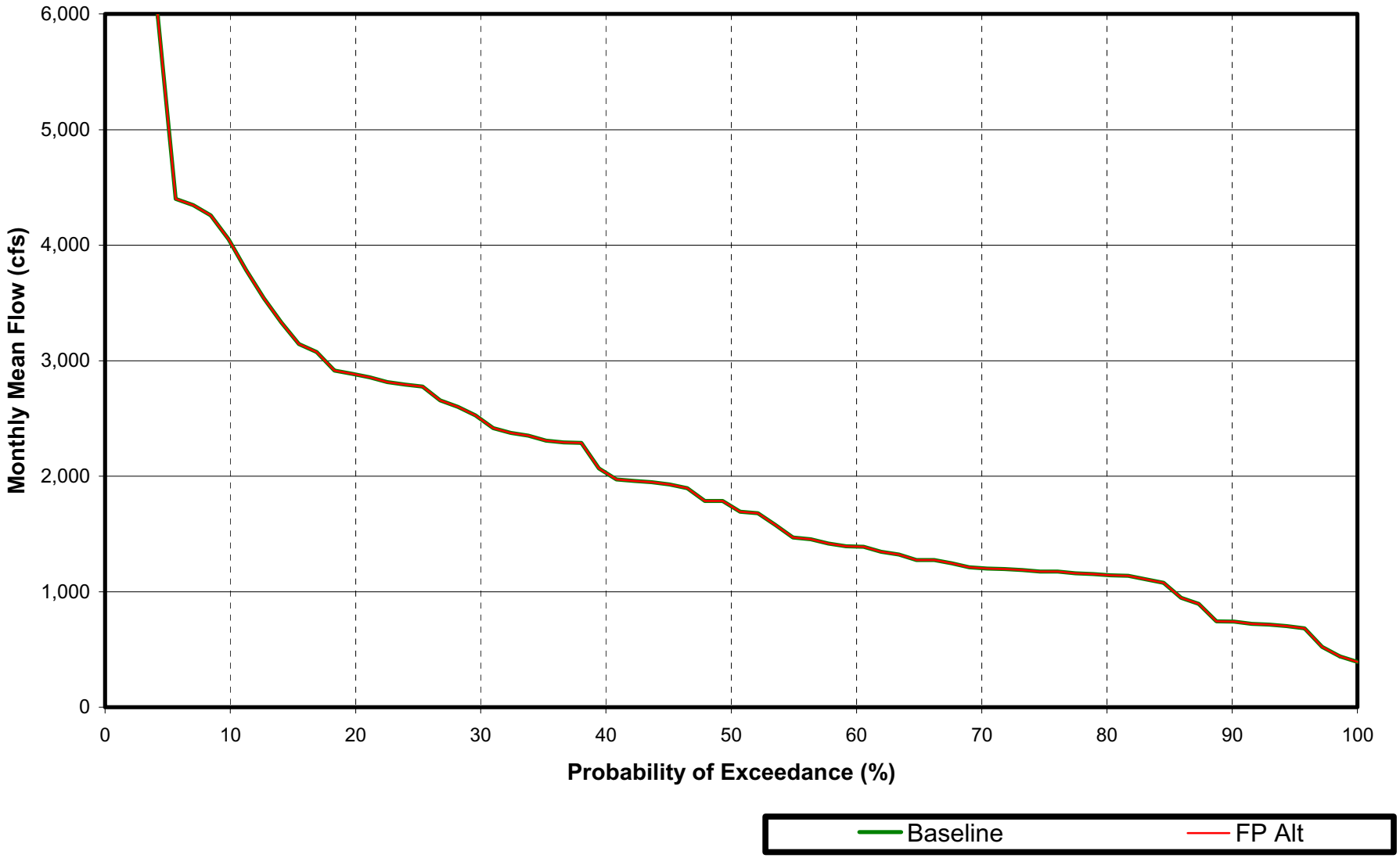
Lower American River Flow at H Street Bridge During September Under Baseline and FP Alt Conditions



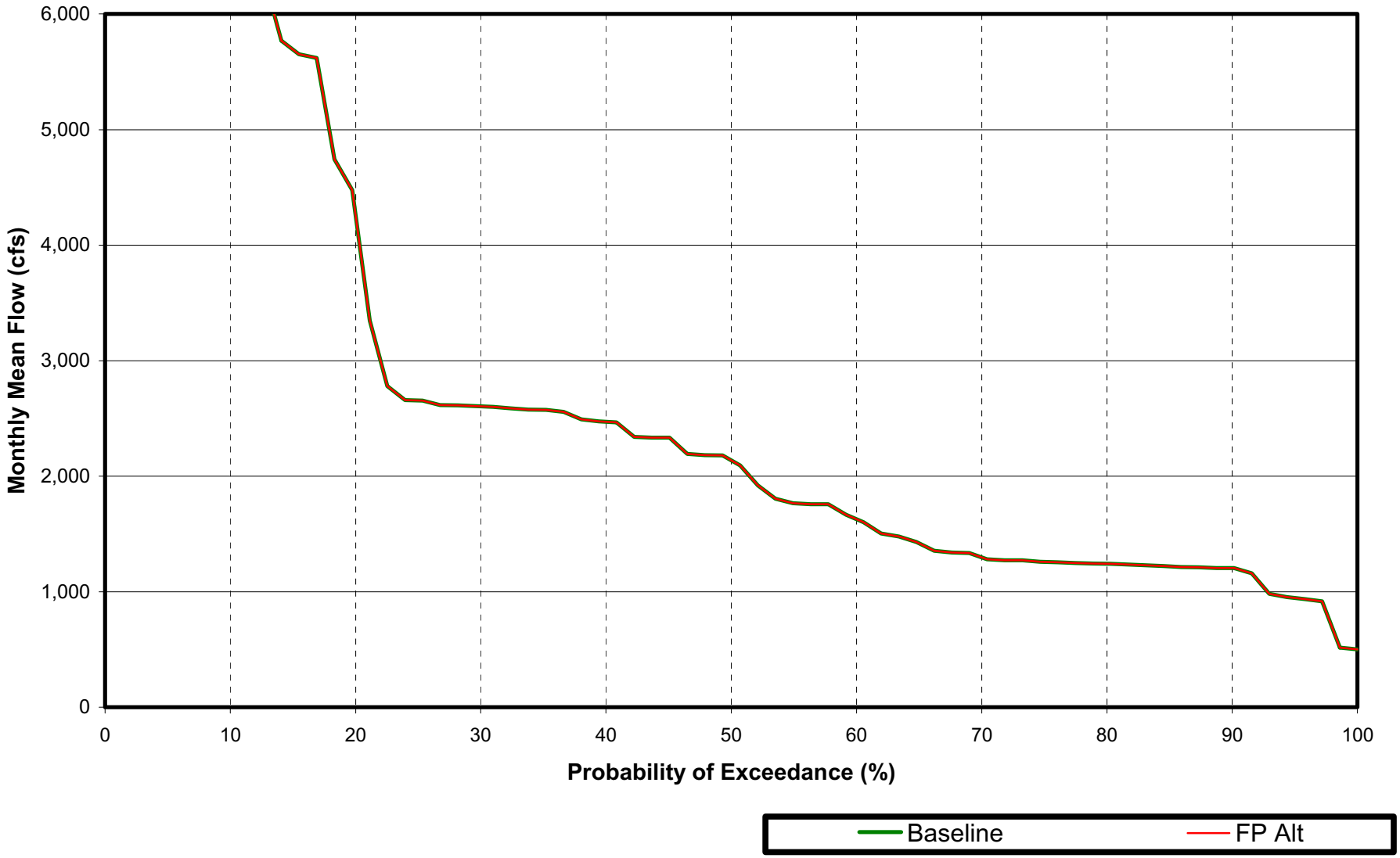
Lower American River Flow at the Mouth During October Under Baseline and FP Alt Conditions



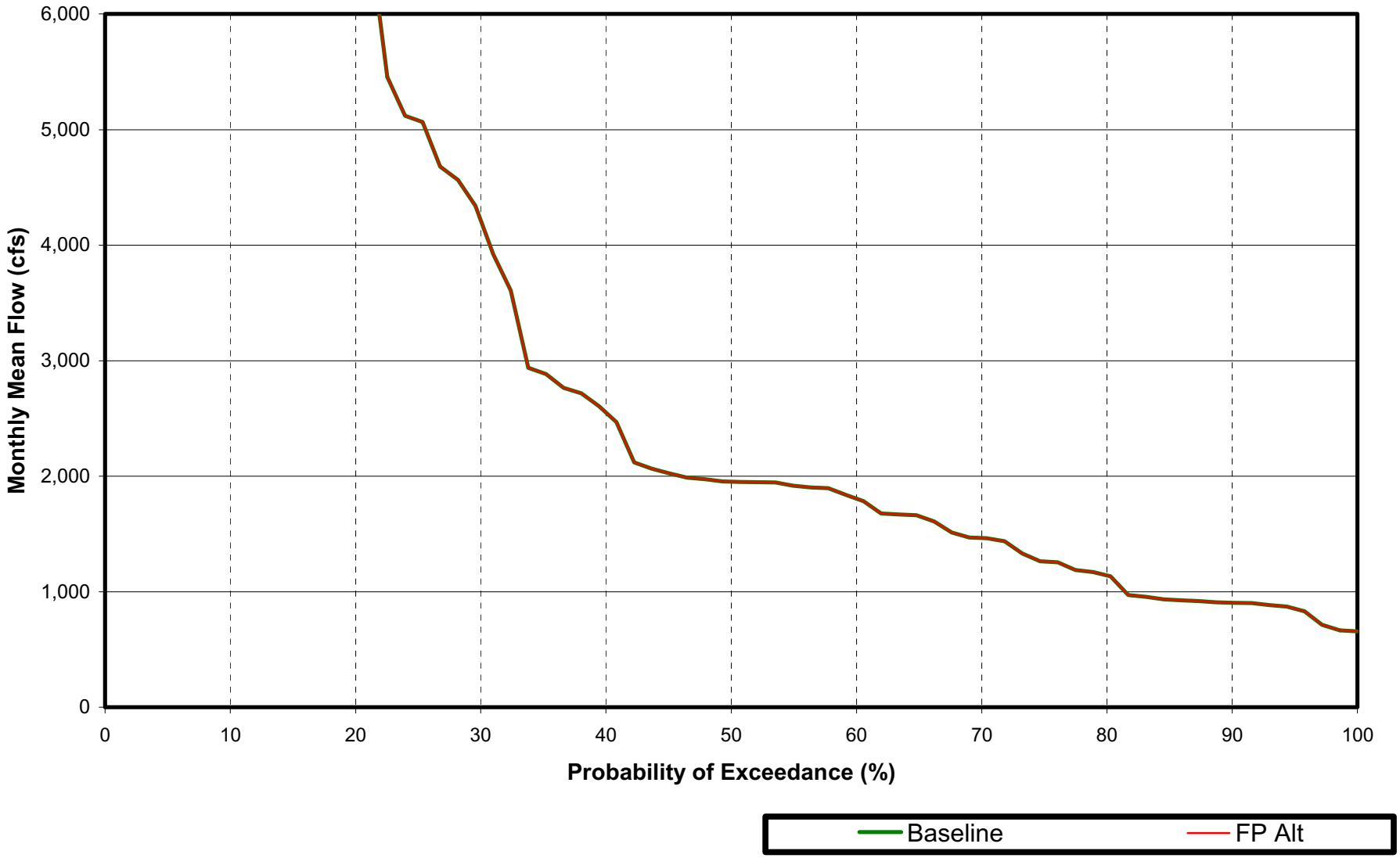
Lower American River Flow at the Mouth During November Under Baseline and FP Alt Conditions



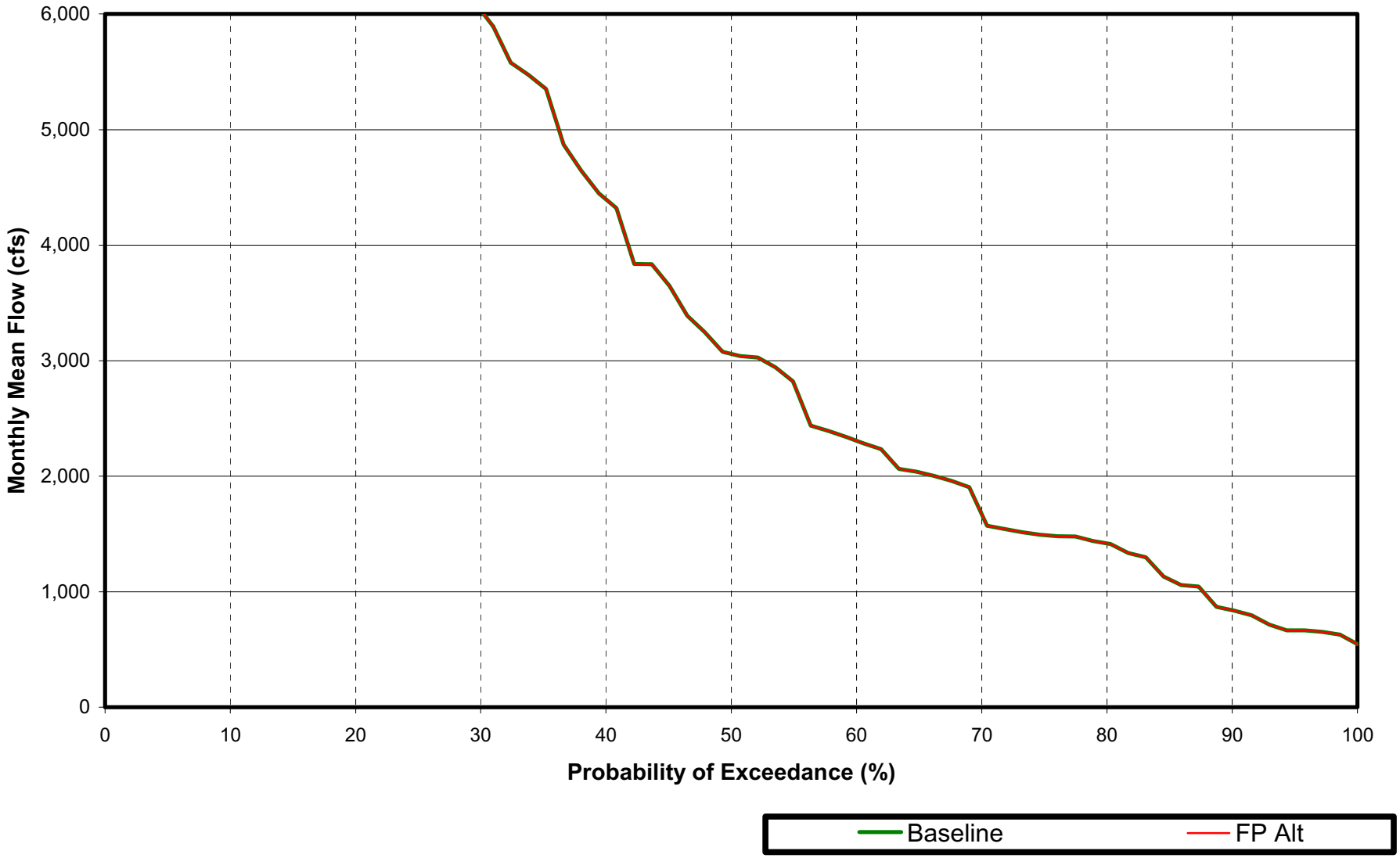
Lower American River Flow at the Mouth During December Under Baseline and FP Alt Conditions



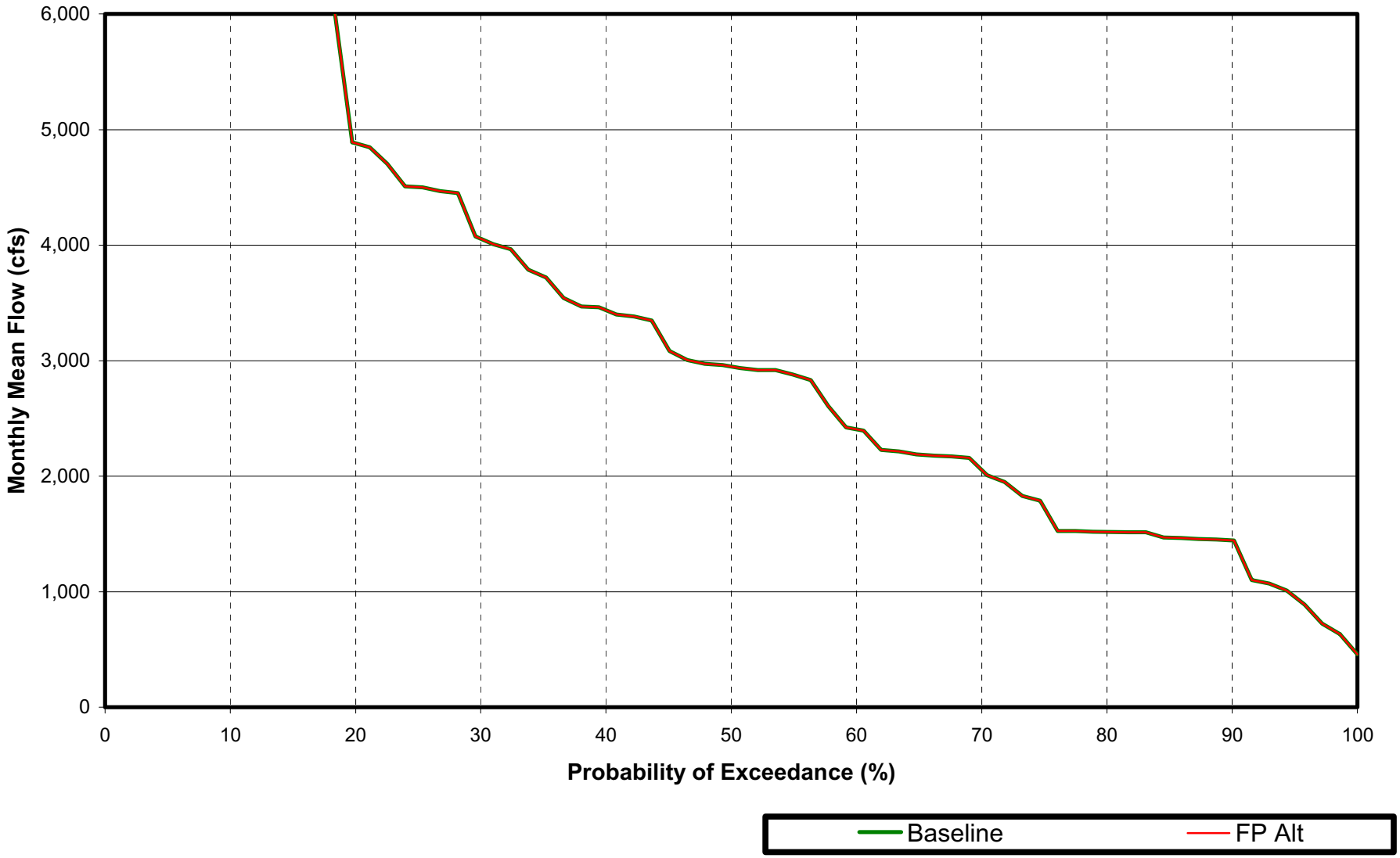
Lower American River Flow at the Mouth During January Under Baseline and FP Alt Conditions



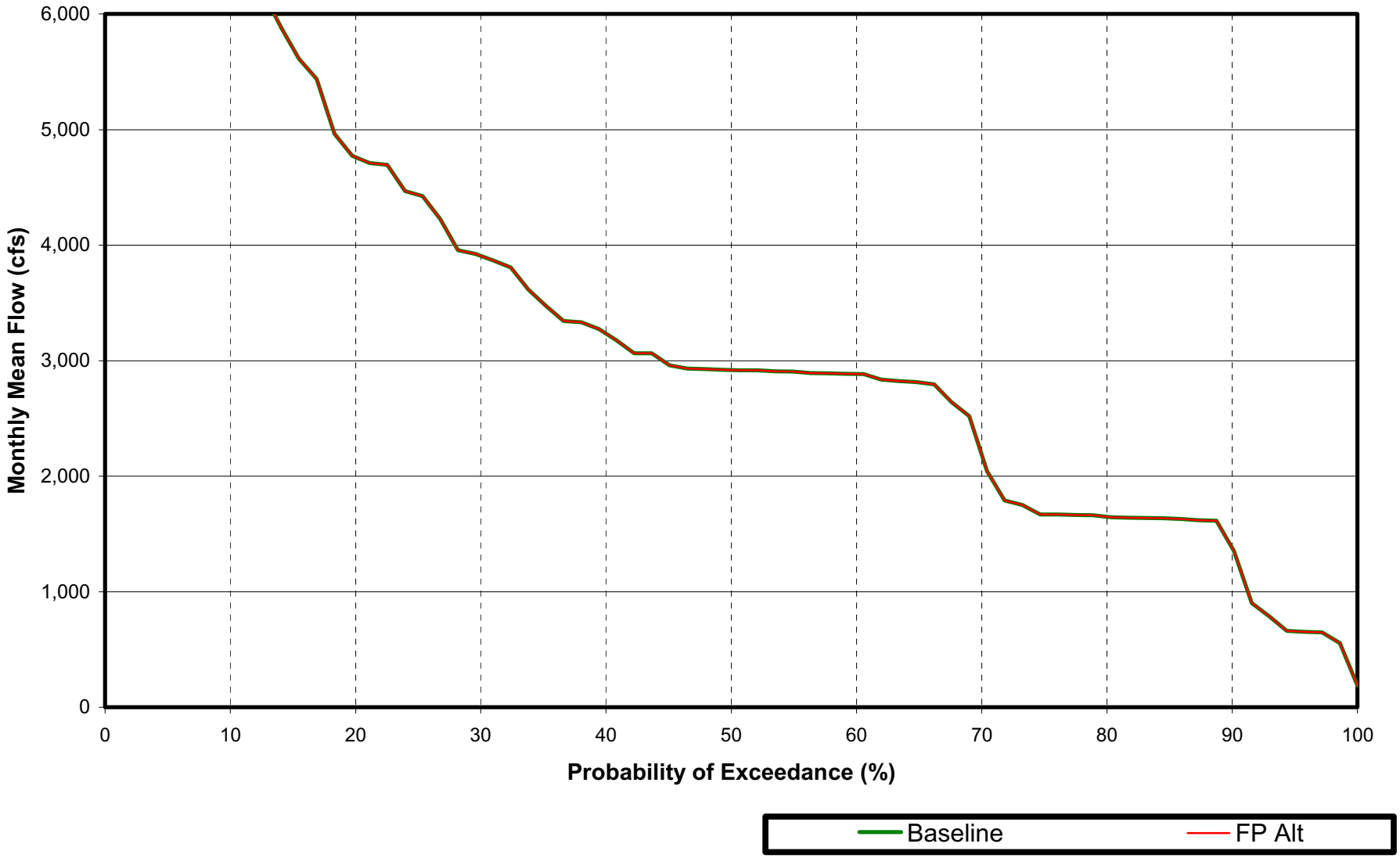
Lower American River Flow at the Mouth During February Under Baseline and FP Alt Conditions



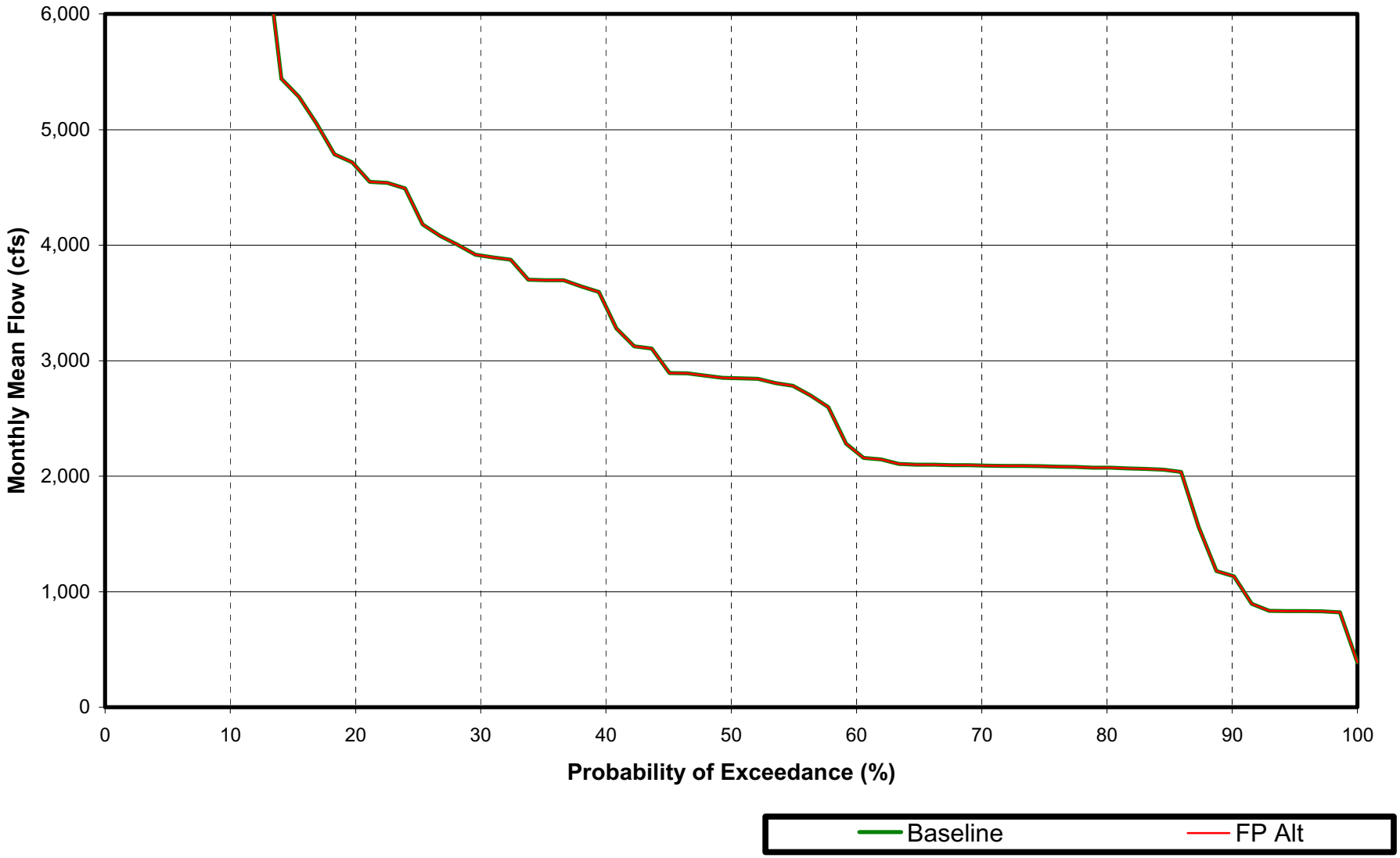
Lower American River Flow at the Mouth During March Under Baseline and FP Alt Conditions



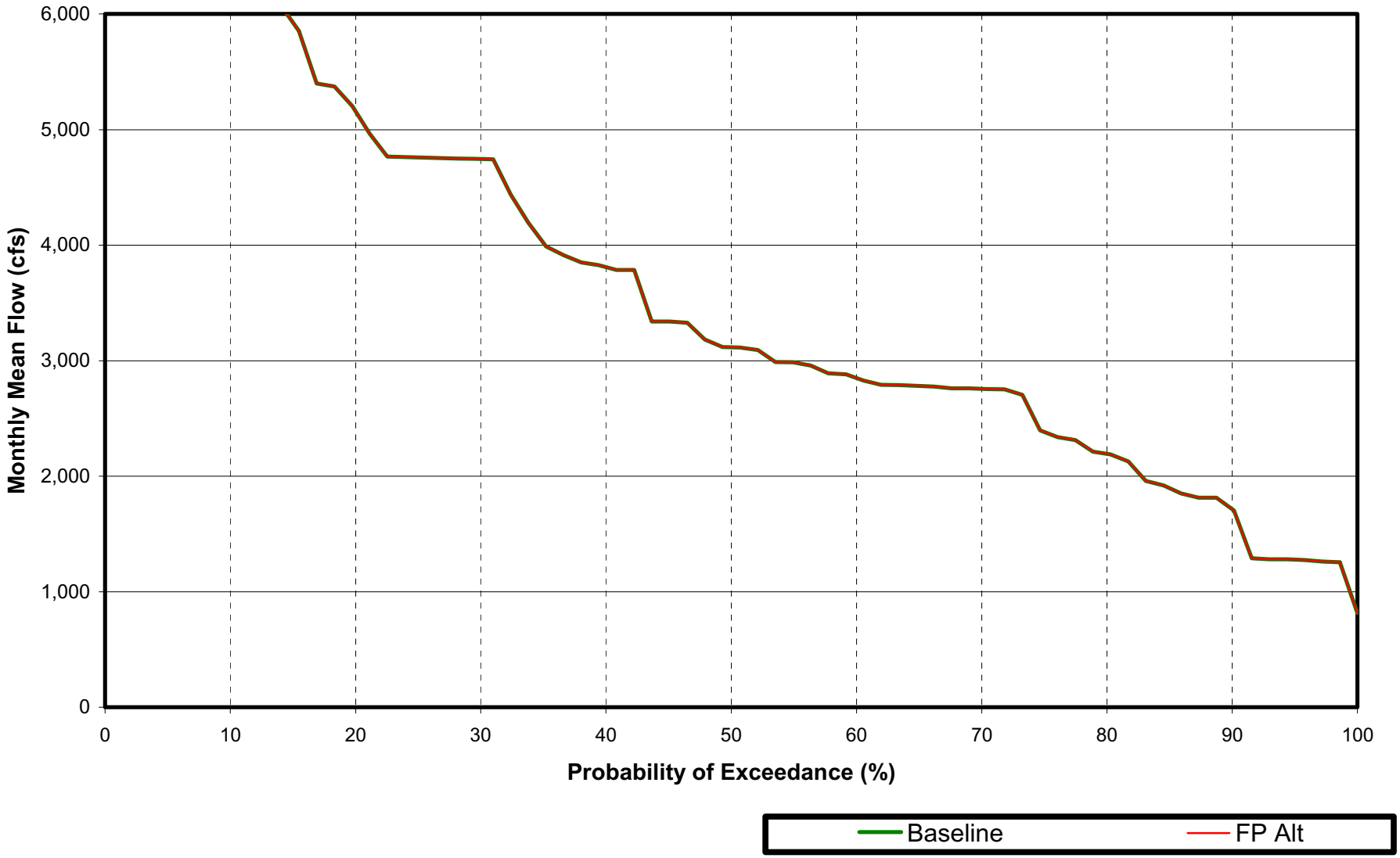
Lower American River Flow at the Mouth During April Under Baseline and FP Alt Conditions



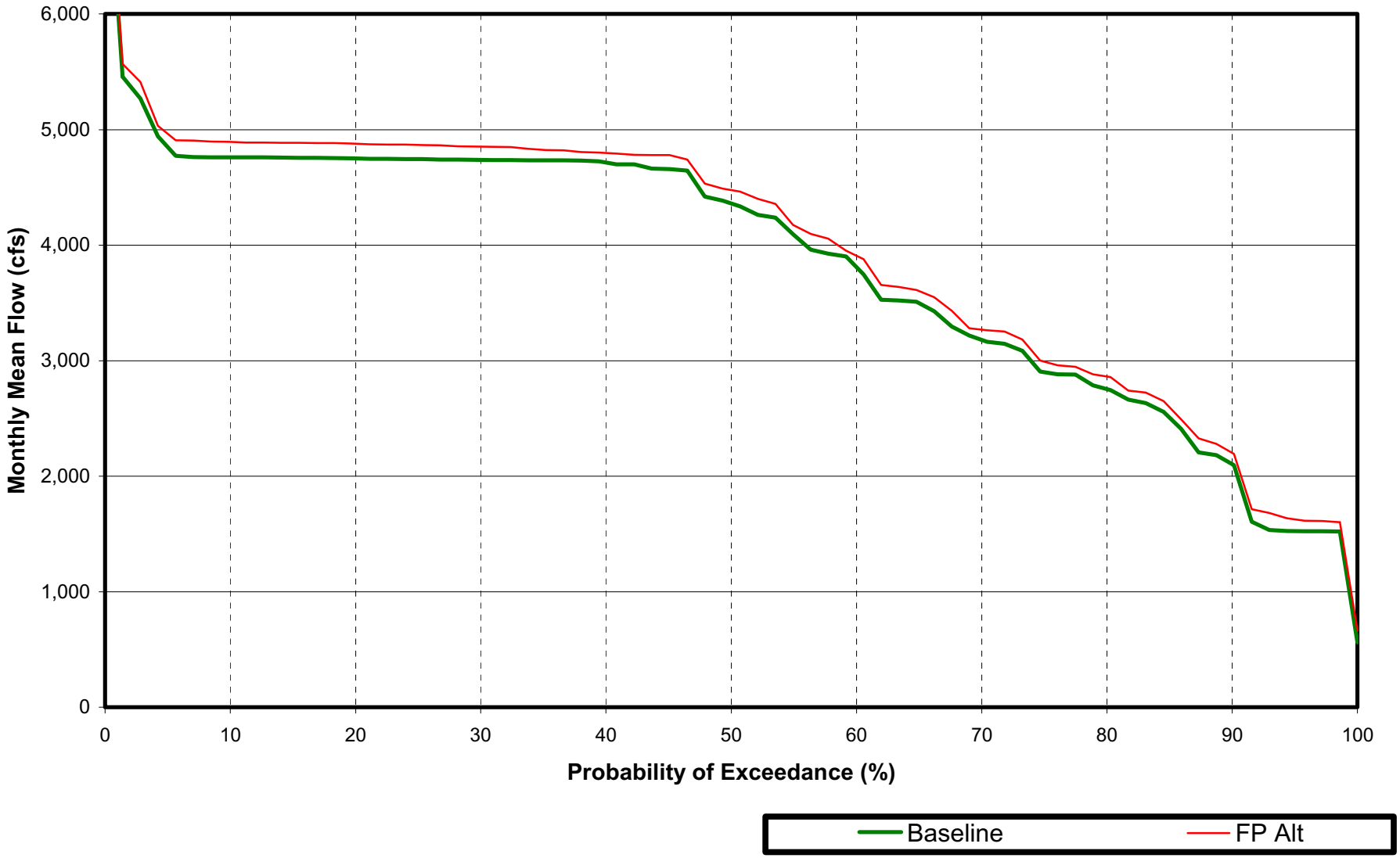
Lower American River Flow at the Mouth During May Under Baseline and FP Alt Conditions



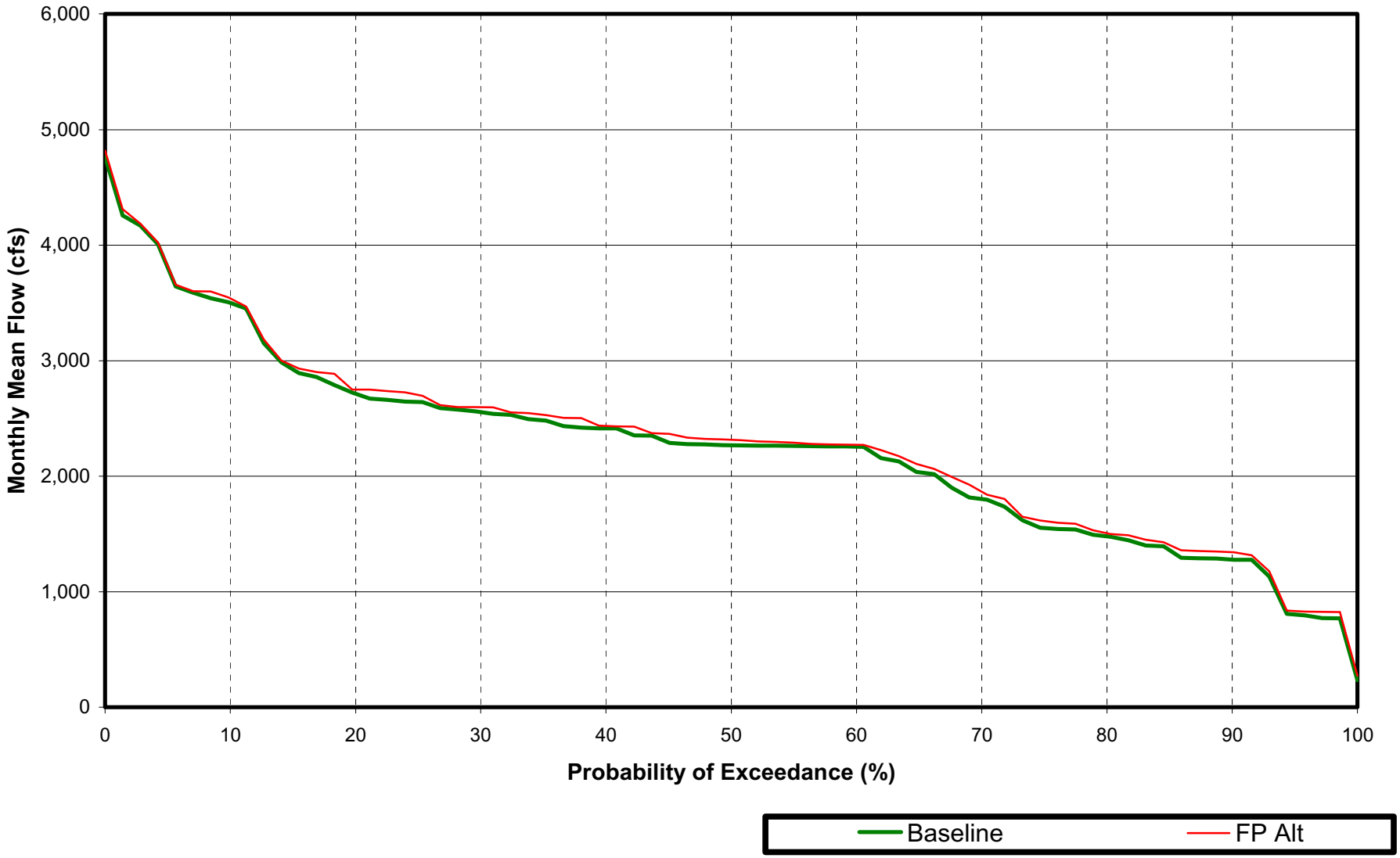
Lower American River Flow at the Mouth During June Under Baseline and FP Alt Conditions



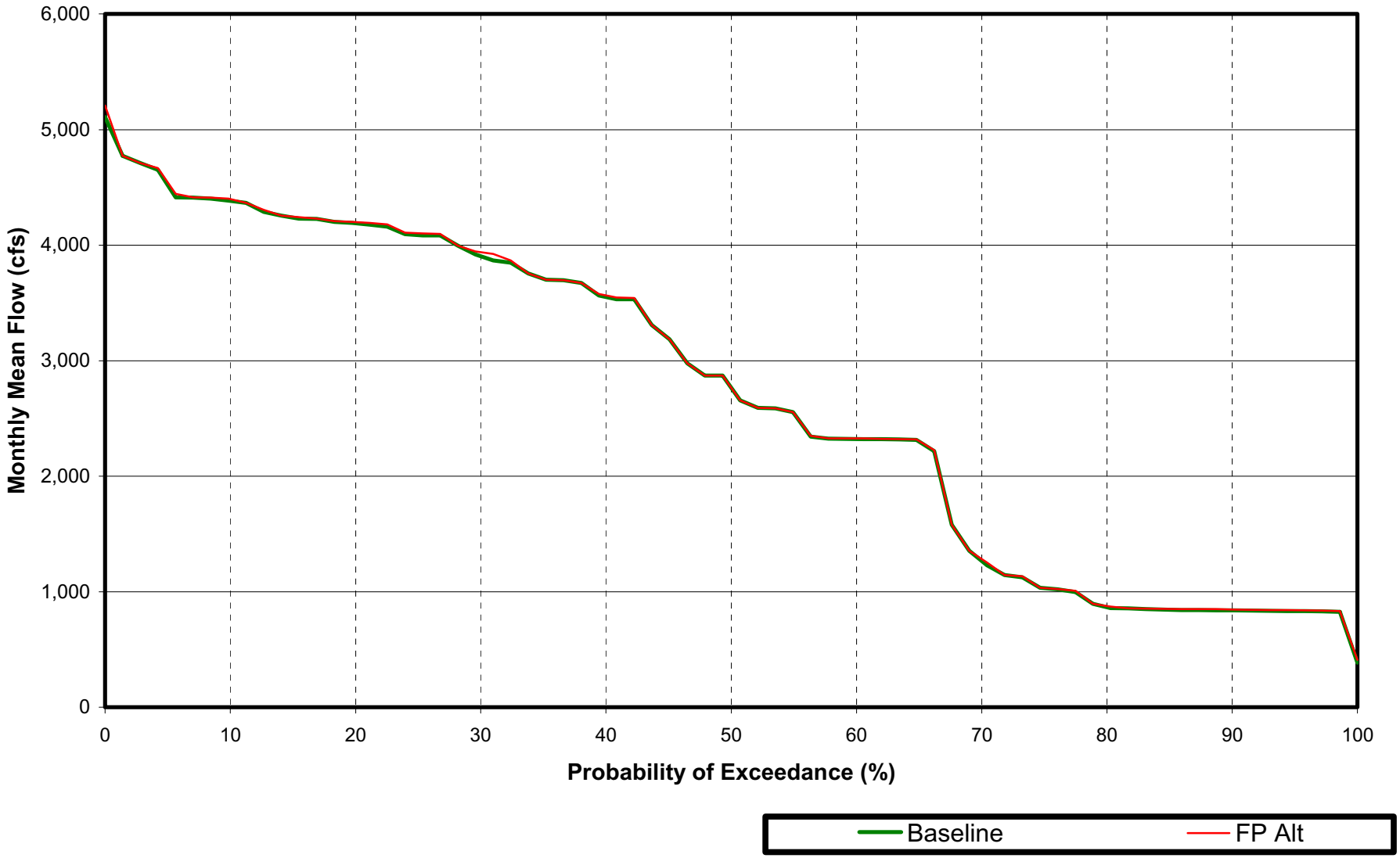
Lower American River Flow at the Mouth During July Under Baseline and FP Alt Conditions



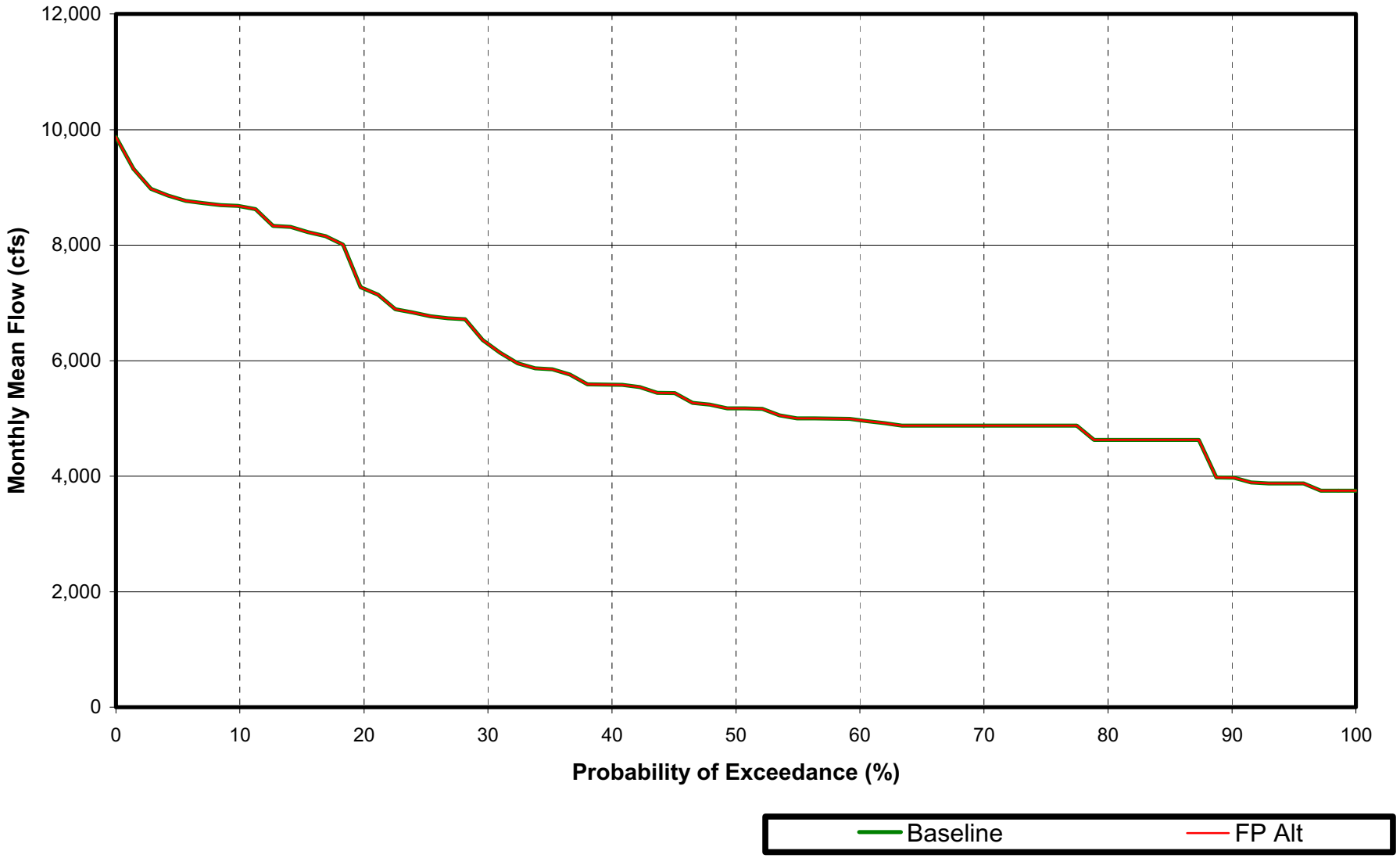
Lower American River Flow at the Mouth During August Under Baseline and FP Alt Conditions



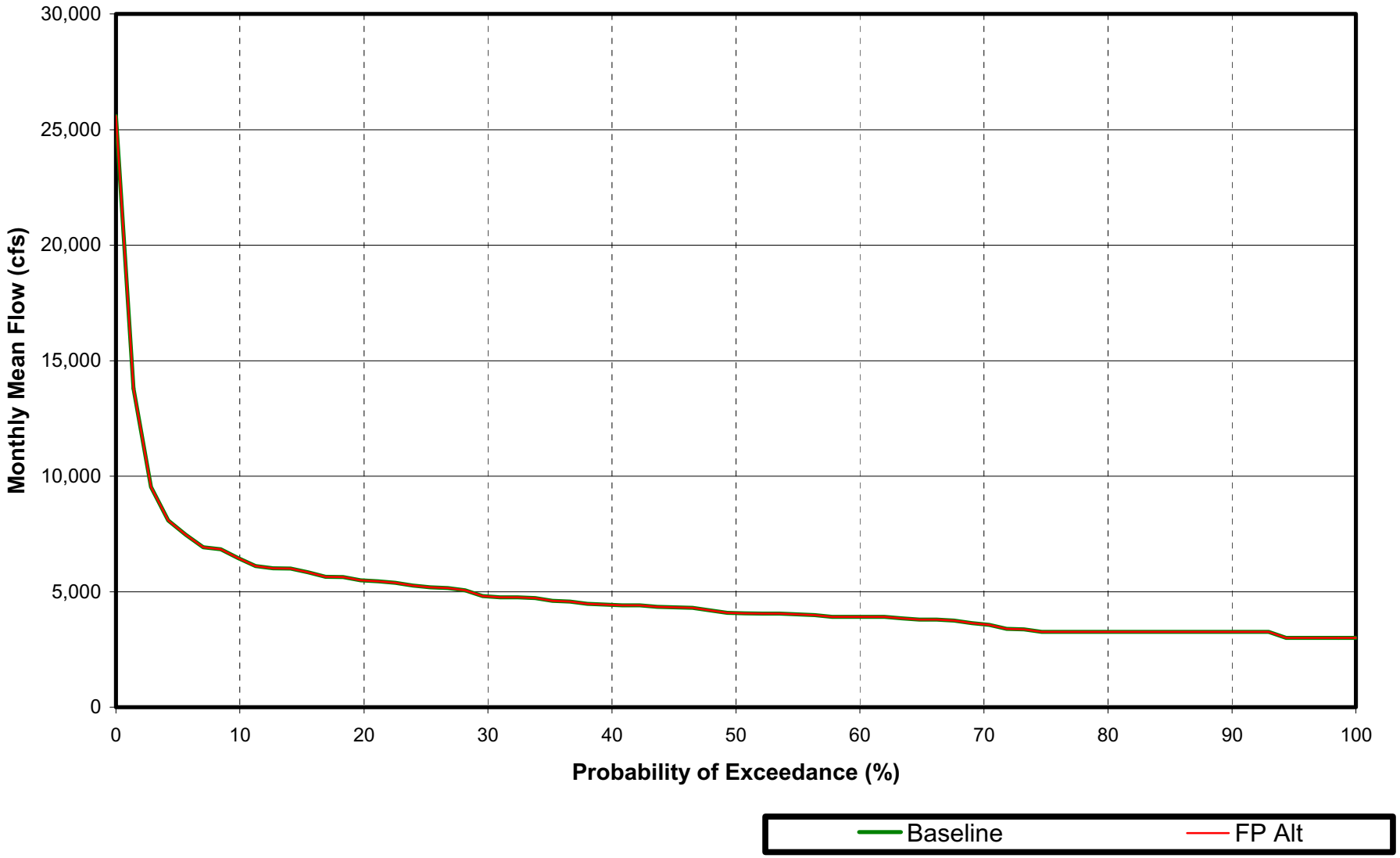
Lower American River Flow at the Mouth During September Under Baseline and FP Alt Conditions



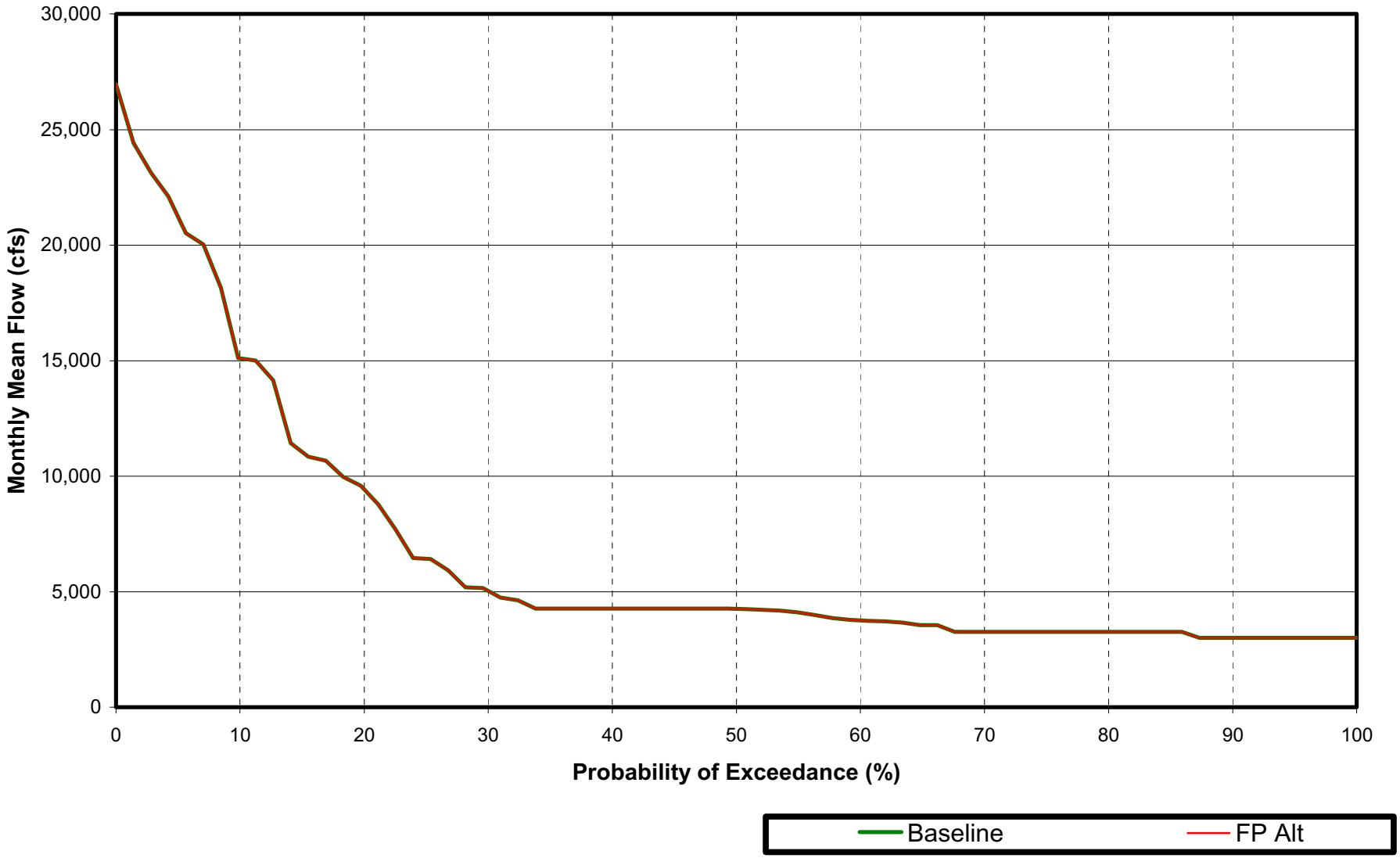
Sacramento River Release From Keswick Dam During October Under Baseline and FP Alt Conditions



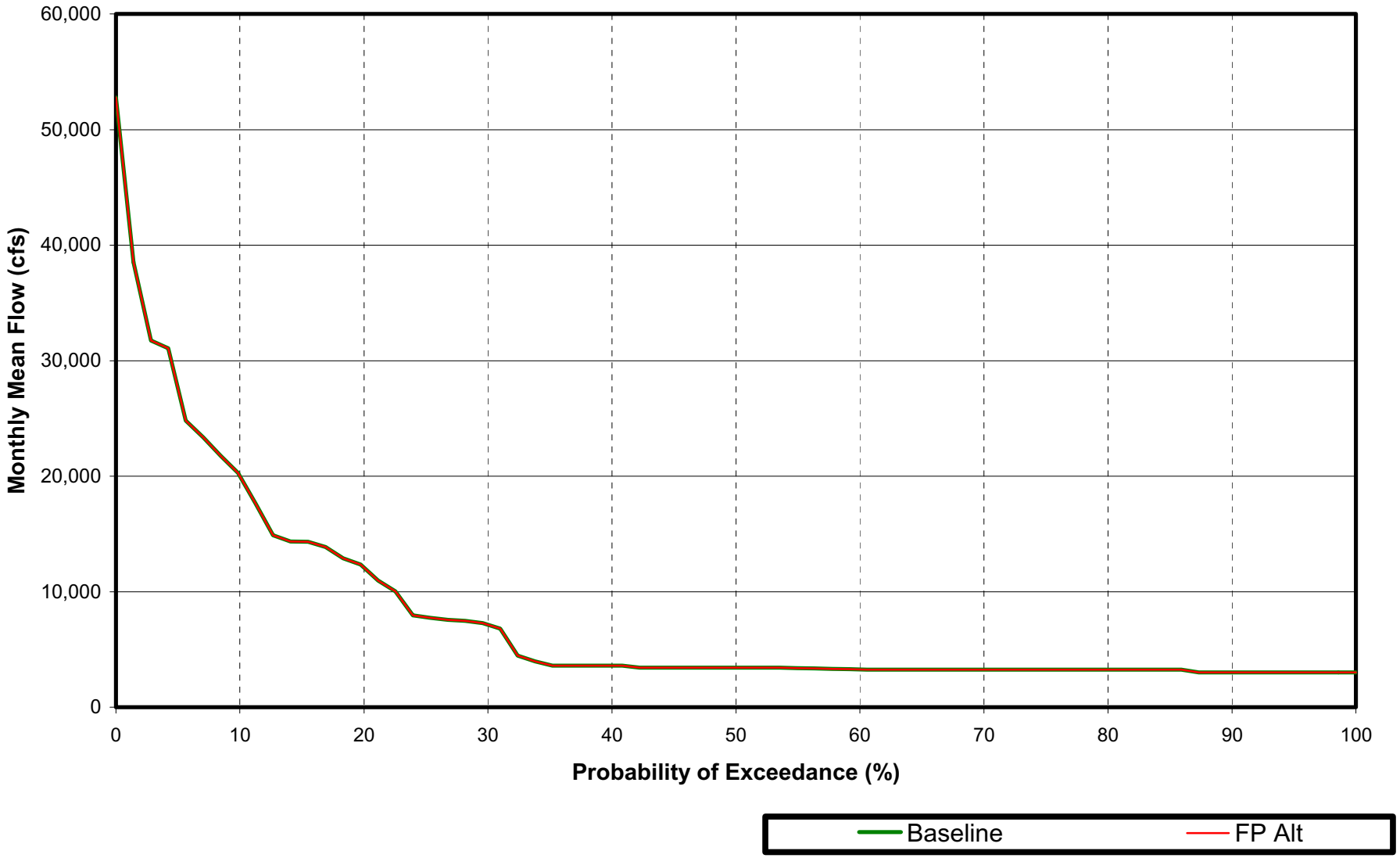
Sacramento River Release From Keswick Dam During November Under Baseline and FP Alt Conditions



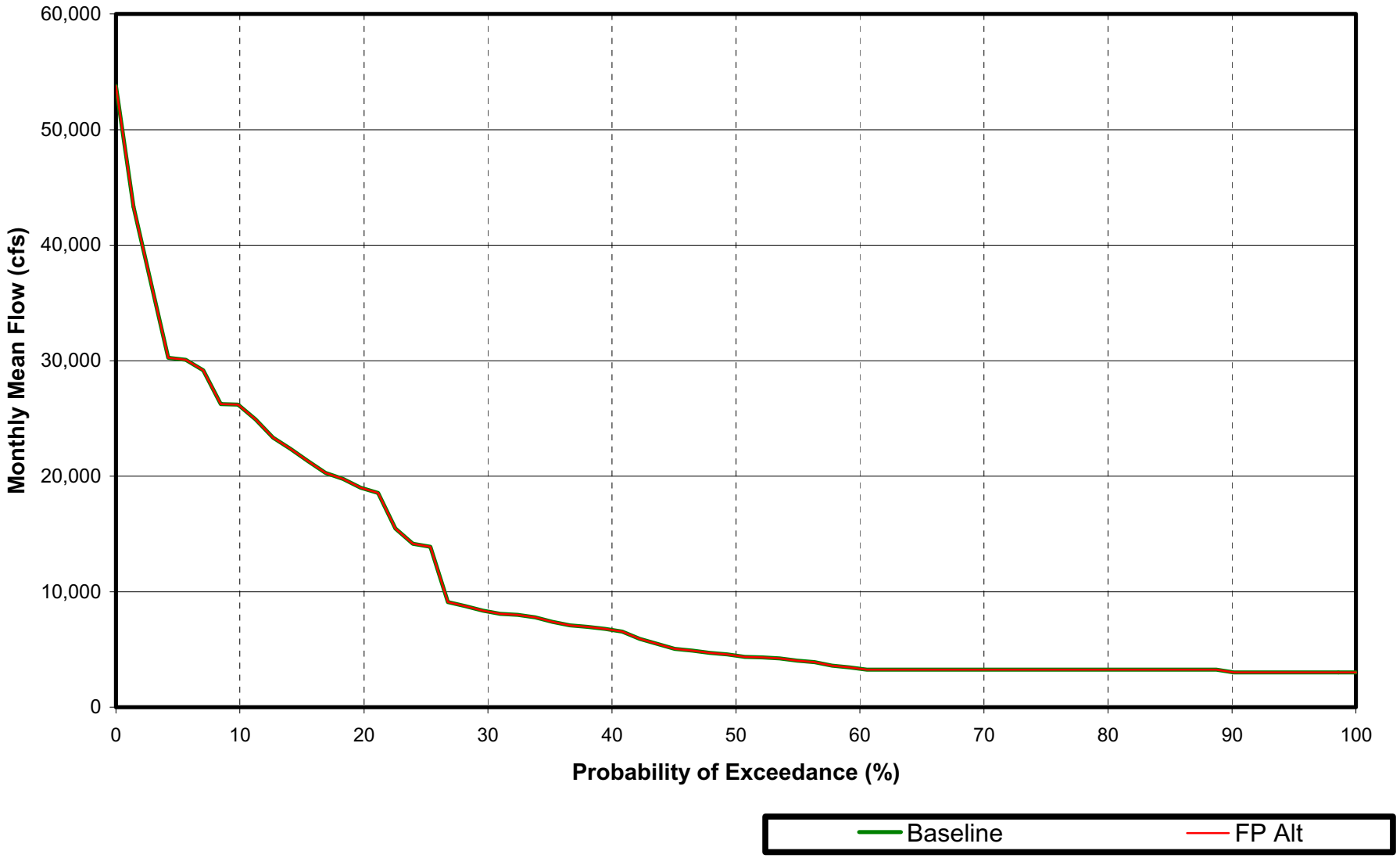
Sacramento River Release From Keswick Dam During December Under Baseline and FP Alt Conditions



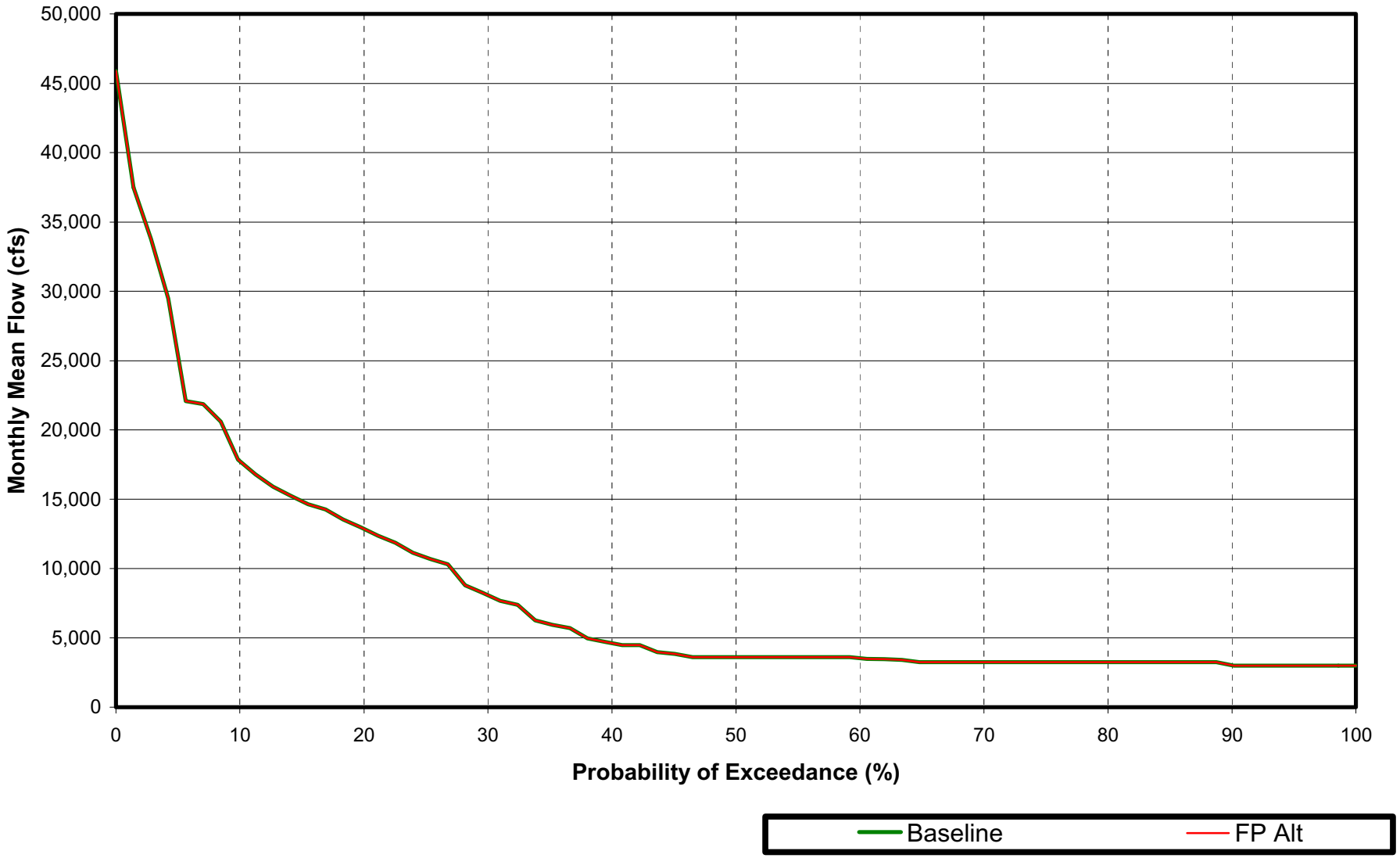
Sacramento River Release From Keswick Dam During January Under Baseline and FP Alt Conditions



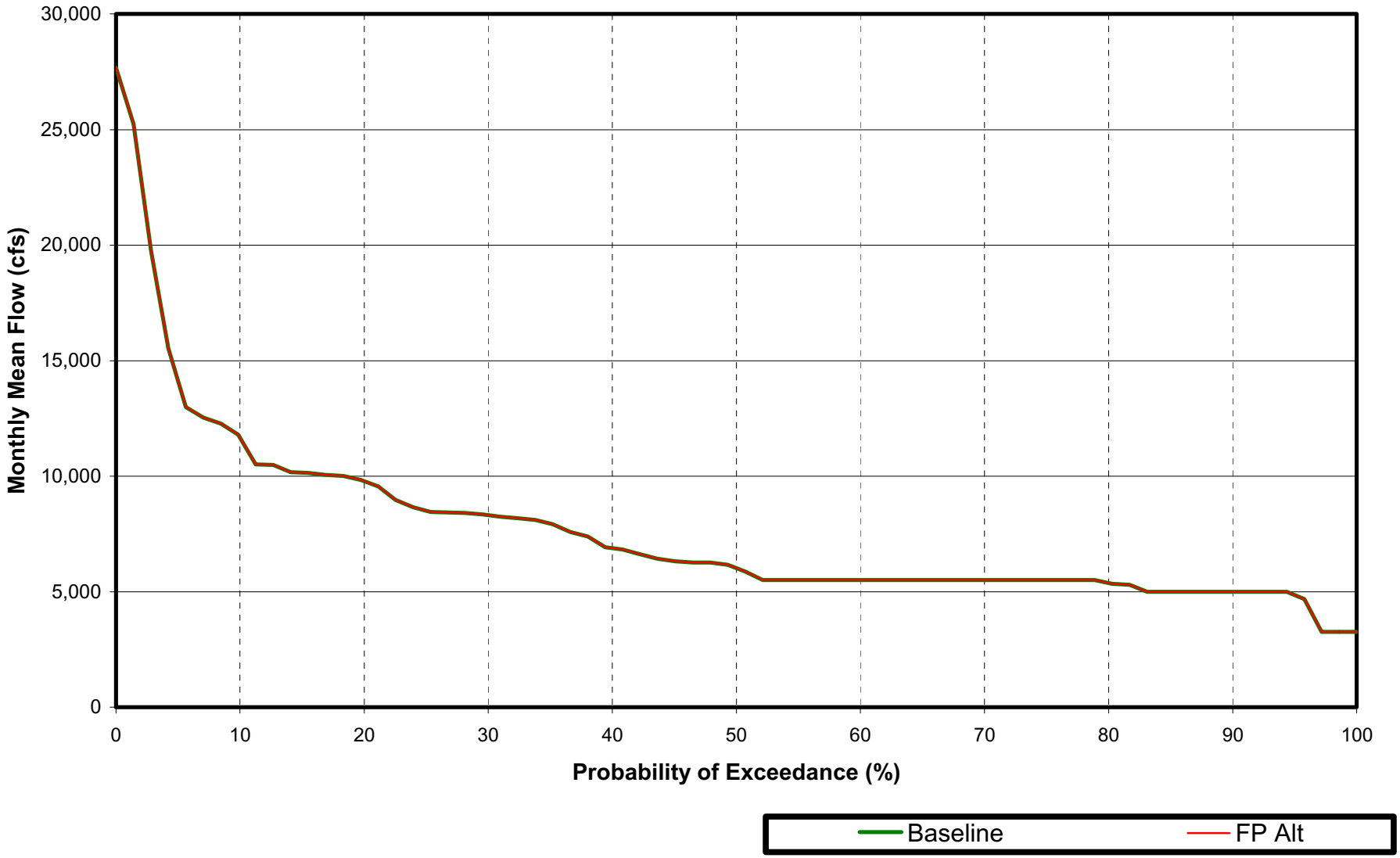
Sacramento River Release From Keswick Dam During February Under Baseline and FP Alt Conditions



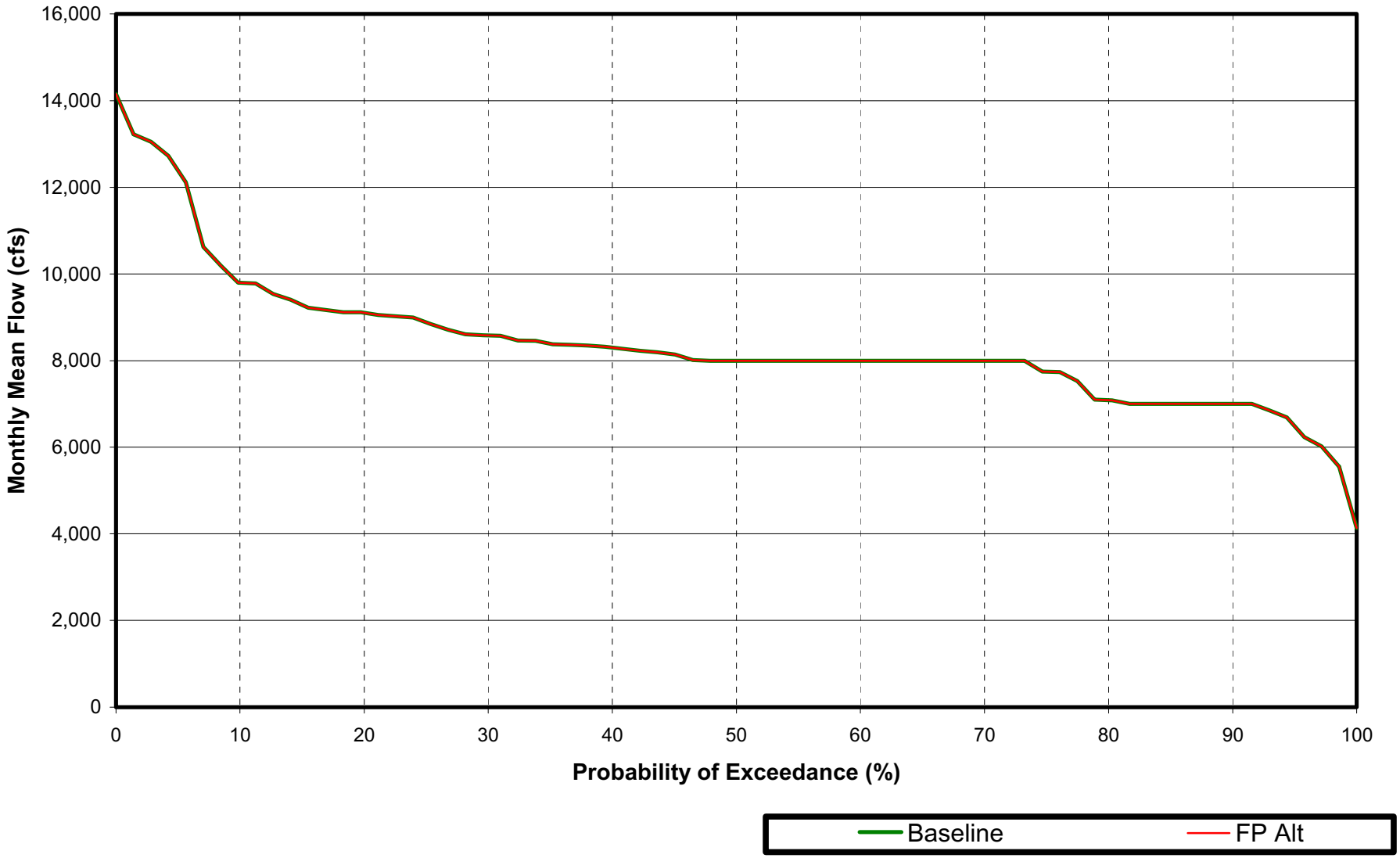
Sacramento River Release From Keswick Dam During March Under Baseline and FP Alt Conditions



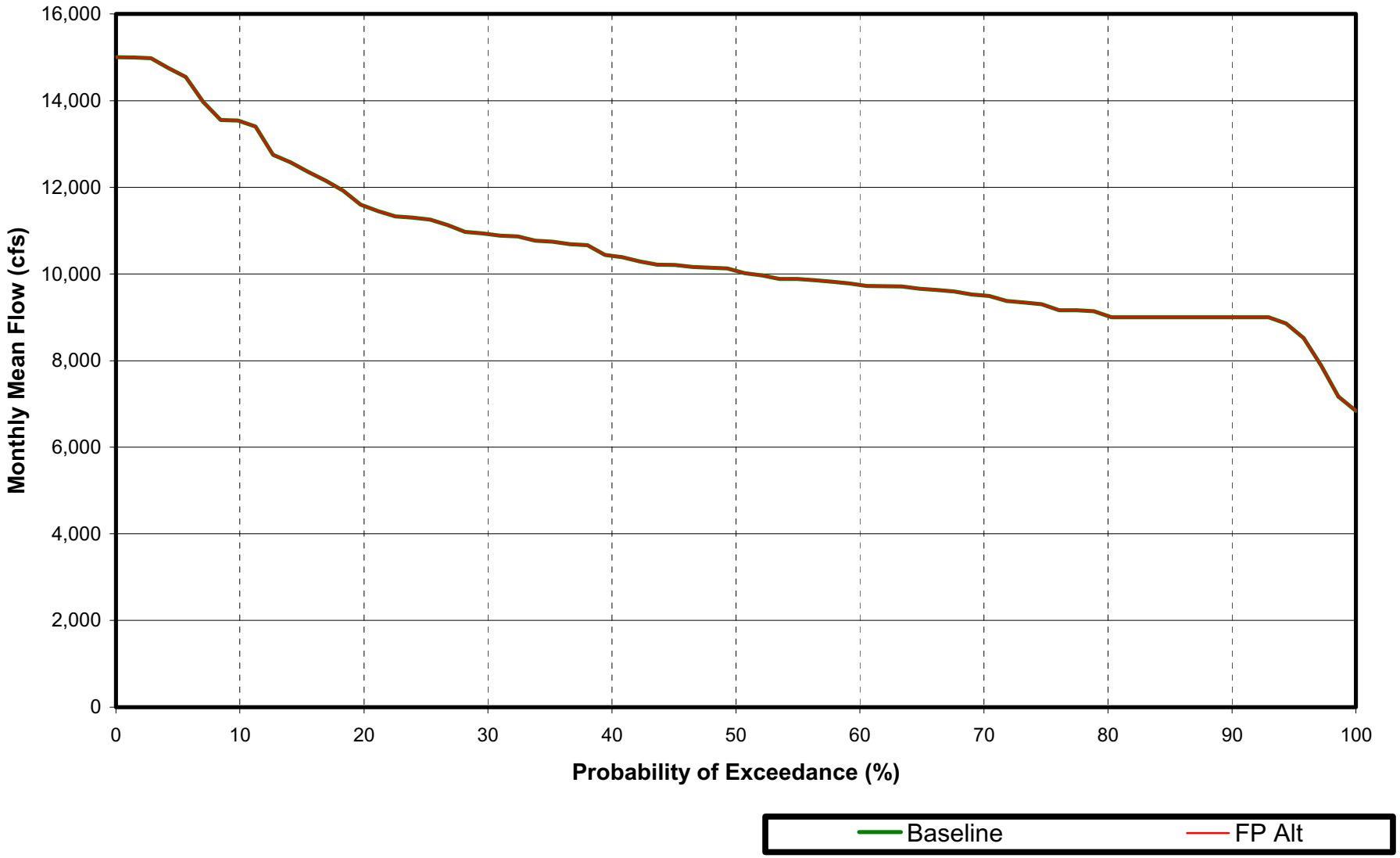
Sacramento River Release From Keswick Dam During April Under Baseline and FP Alt Conditions



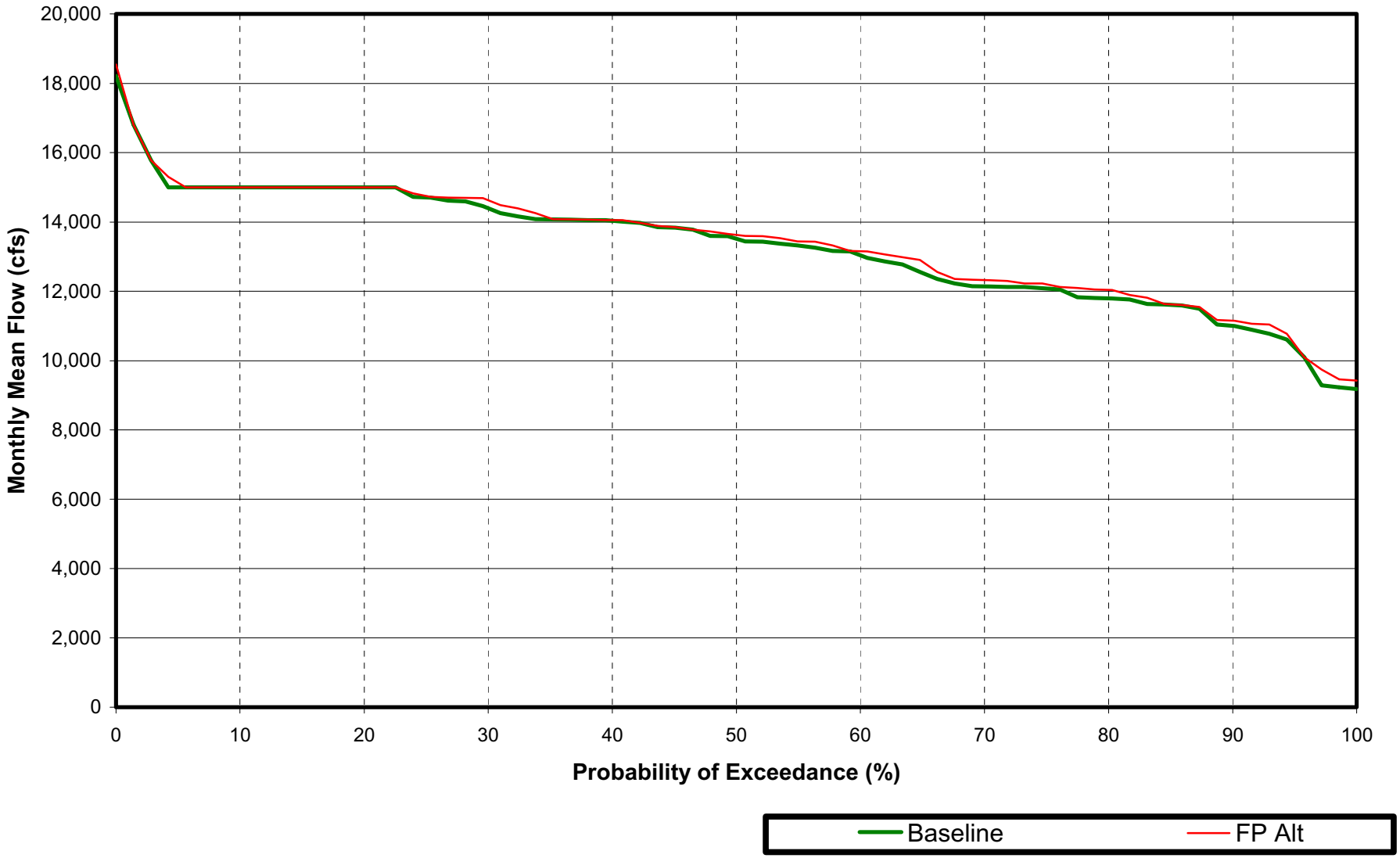
Sacramento River Release From Keswick Dam During May Under Baseline and FP Alt Conditions



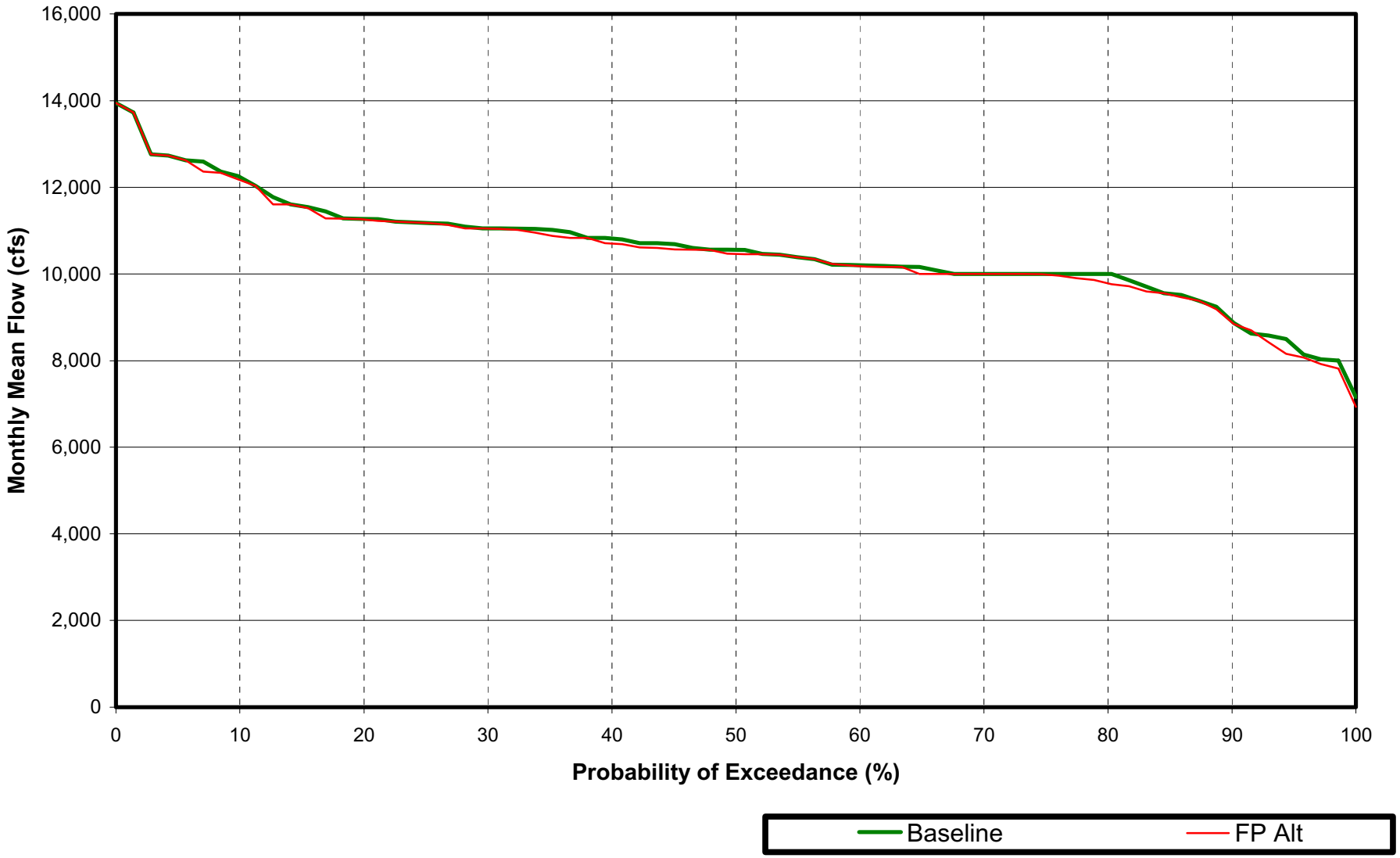
Sacramento River Release From Keswick Dam During June Under Baseline and FP Alt Conditions



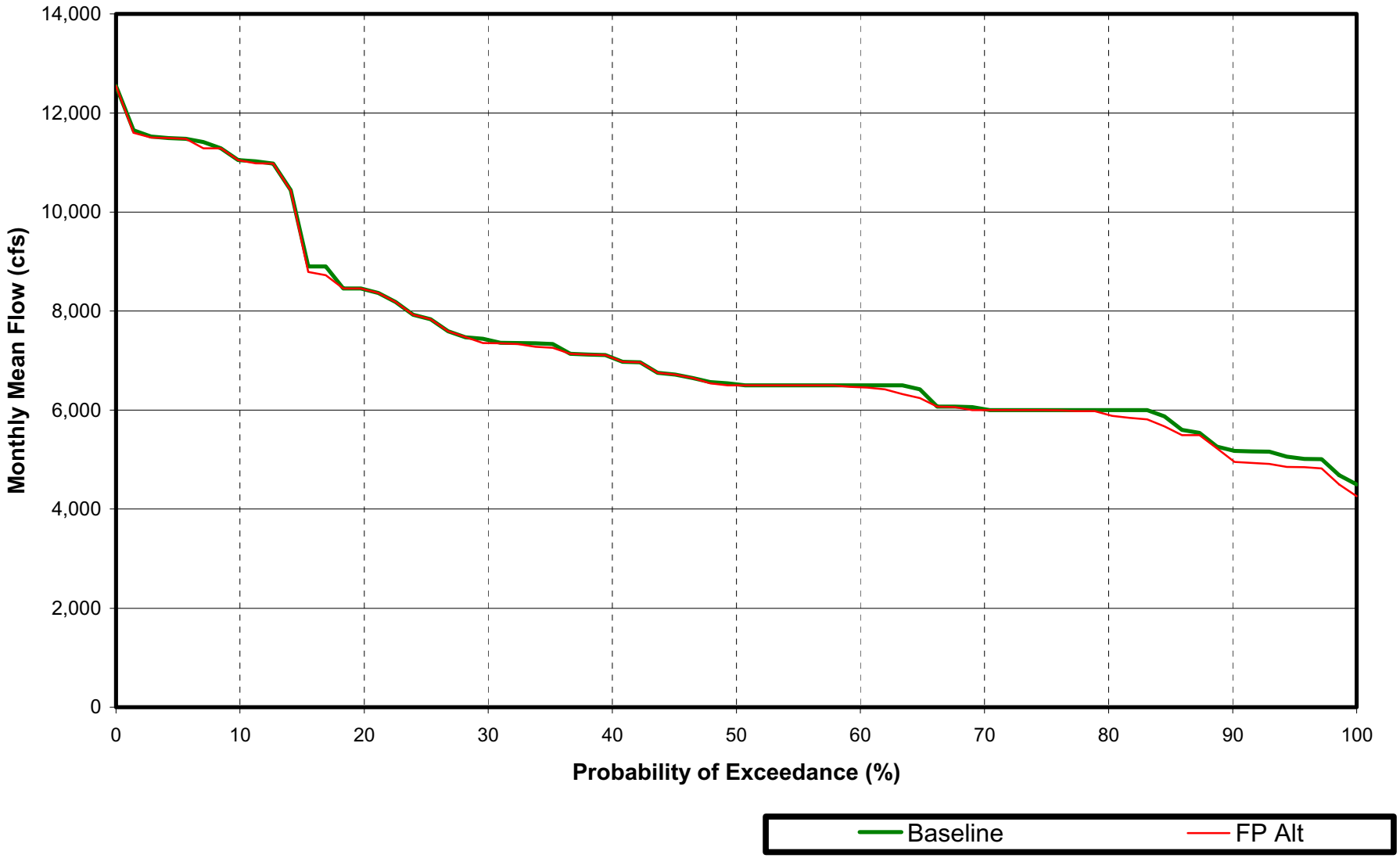
Sacramento River Release From Keswick Dam During July Under Baseline and FP Alt Conditions



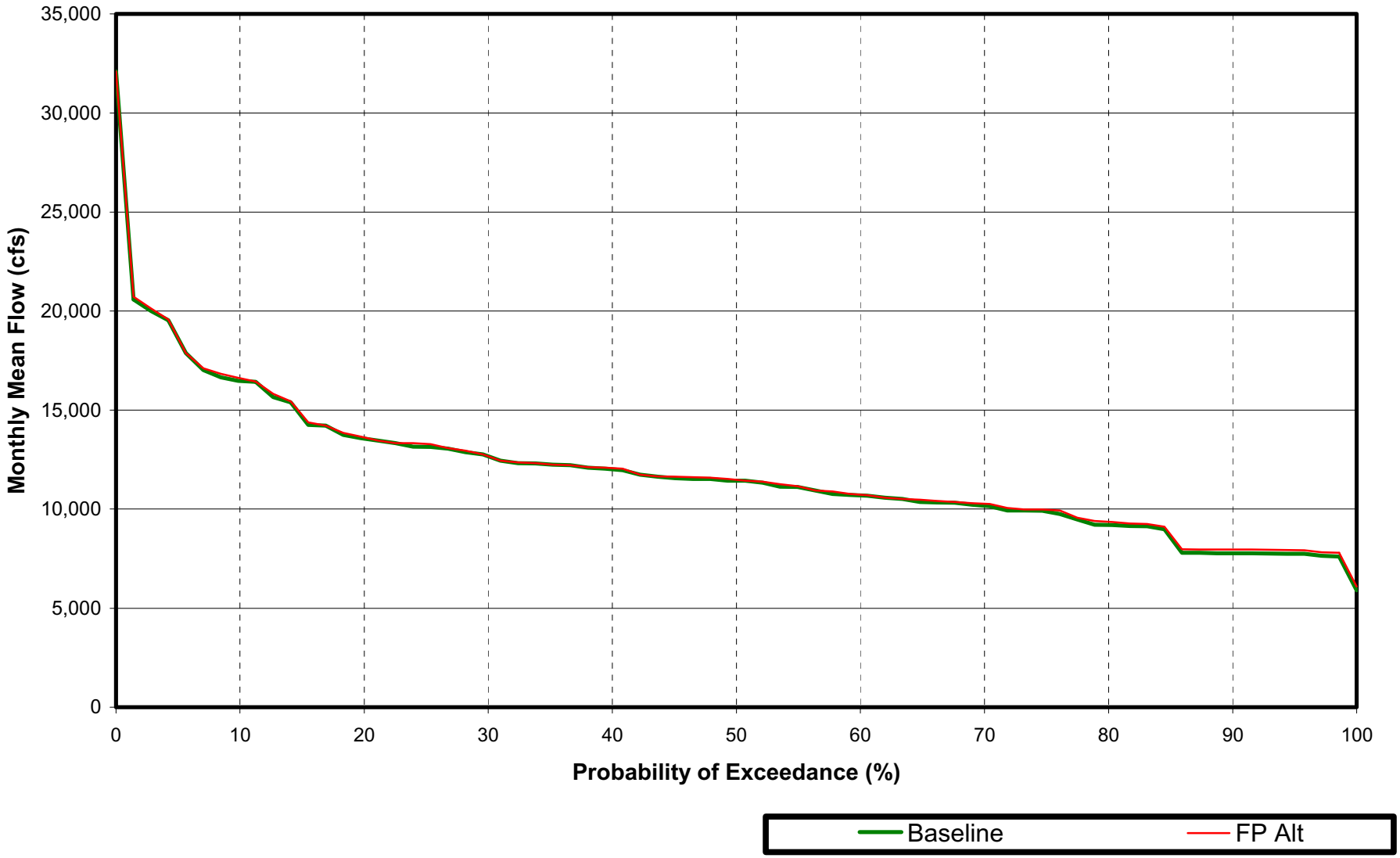
Sacramento River Release From Keswick Dam During August Under Baseline and FP Alt Conditions



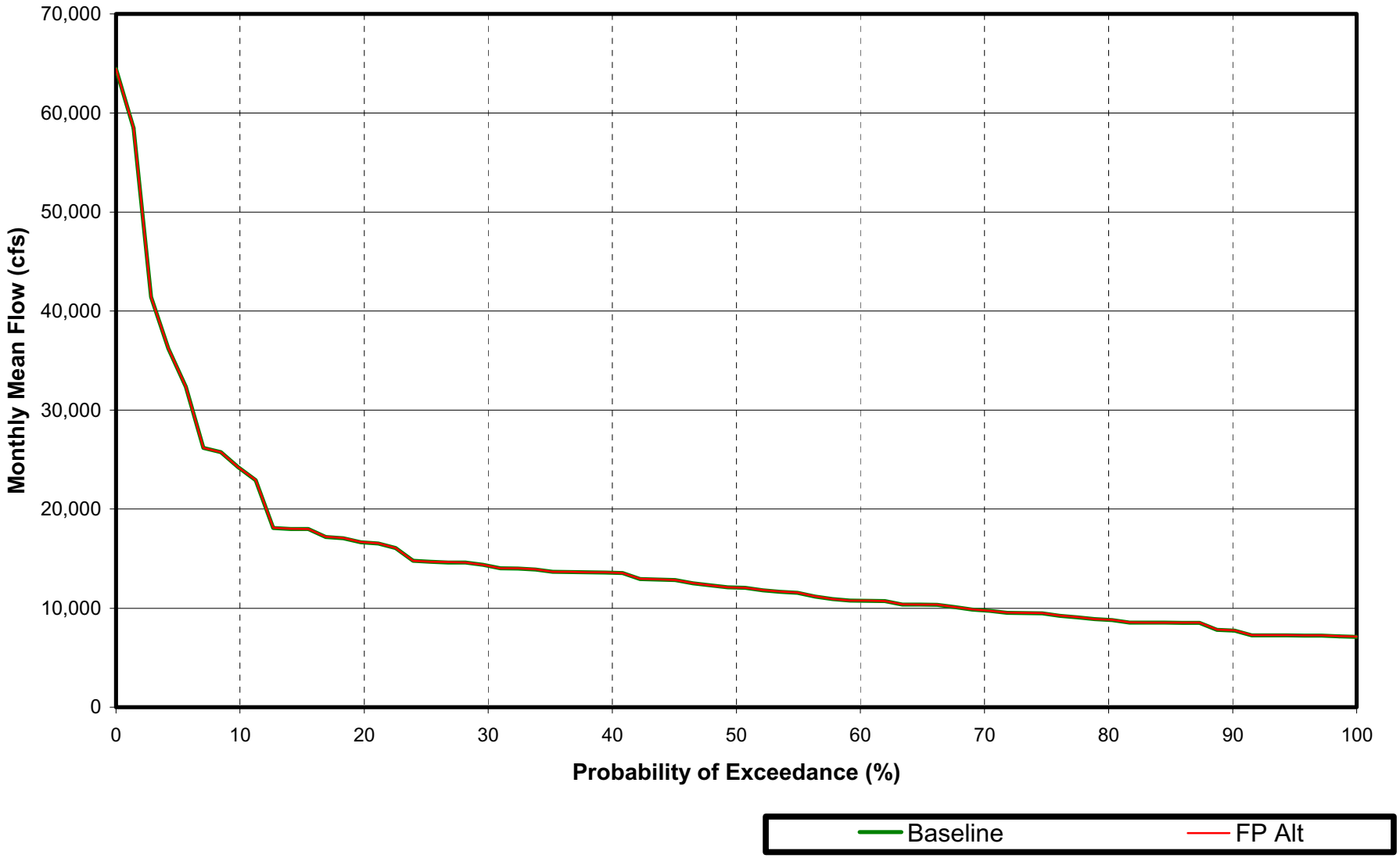
Sacramento River Release From Keswick Dam During September Under Baseline and FP Alt Conditions



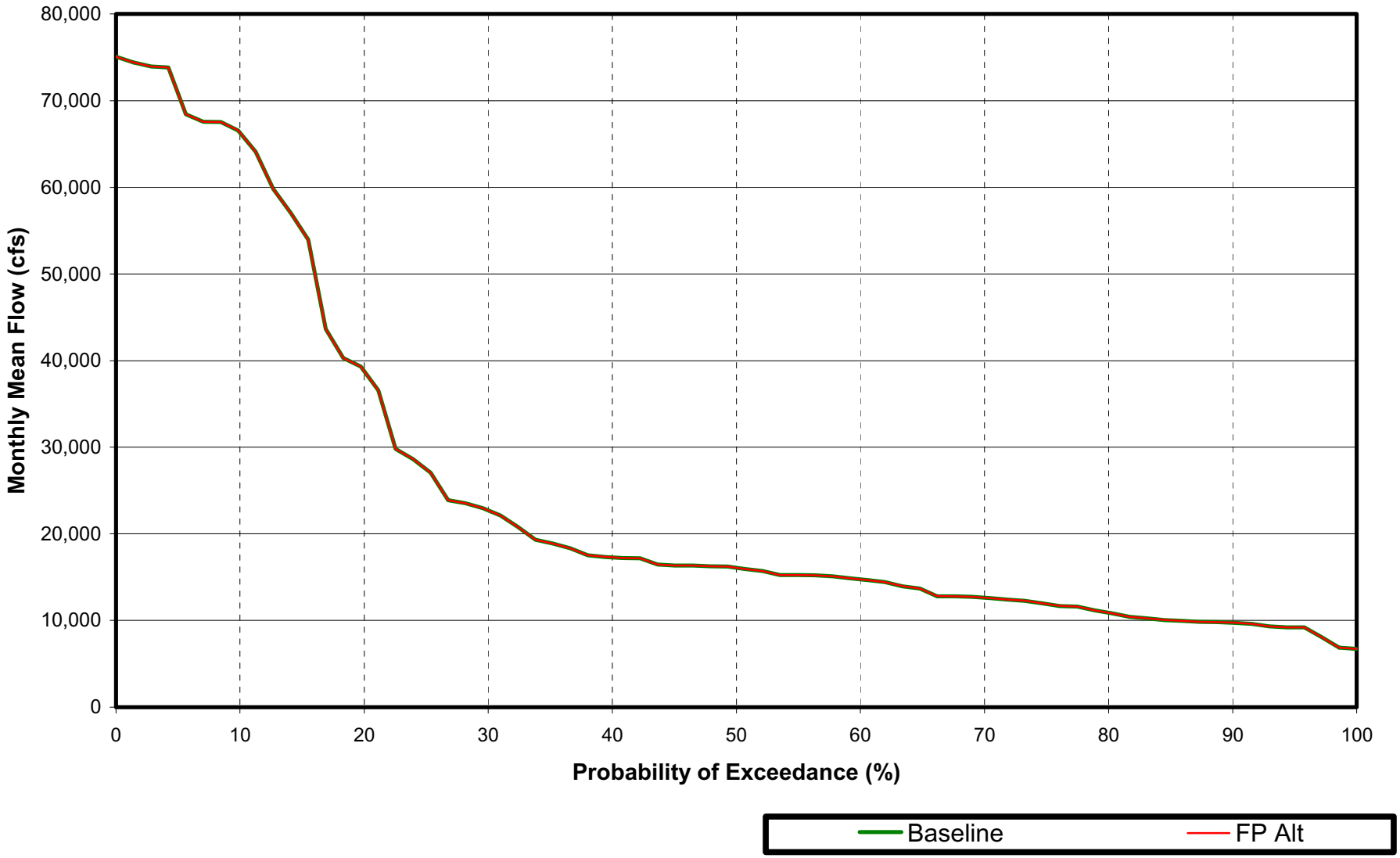
Sacramento River Flow at Freeport During October Under Baseline and FP Alt Conditions



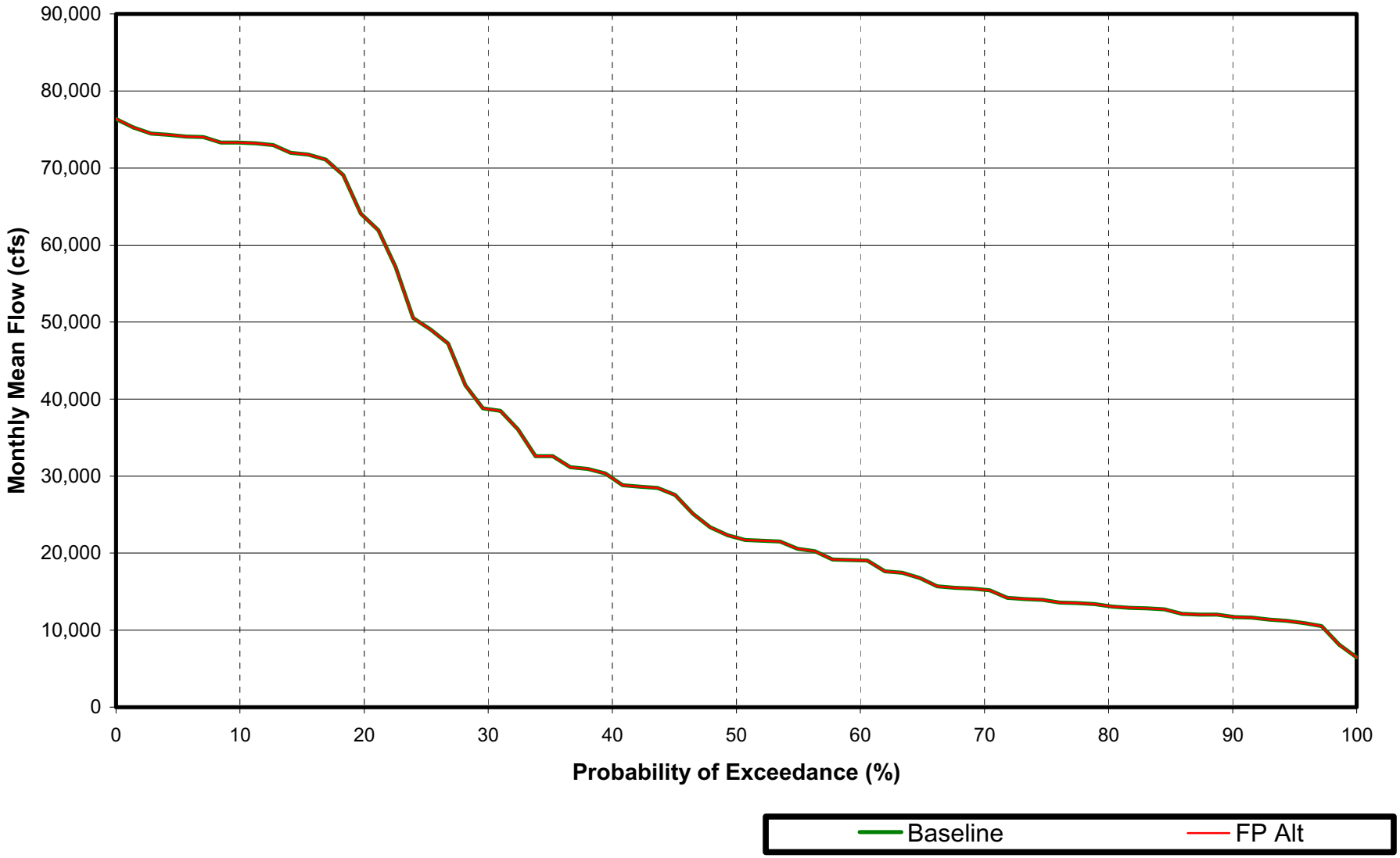
Sacramento River Flow at Freeport During November Under Baseline and FP Alt Conditions



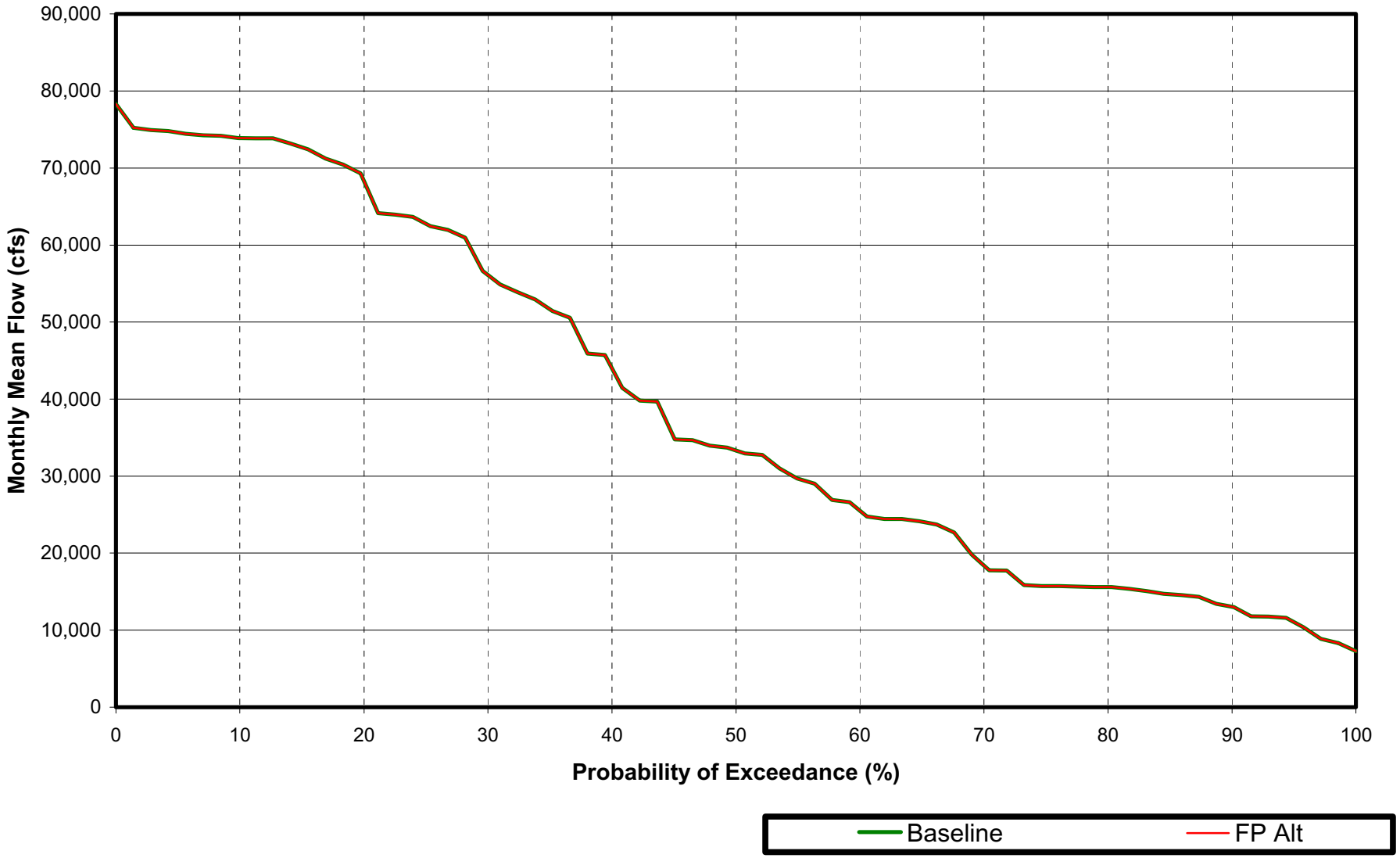
Sacramento River Flow at Freeport During December Under Baseline and FP Alt Conditions



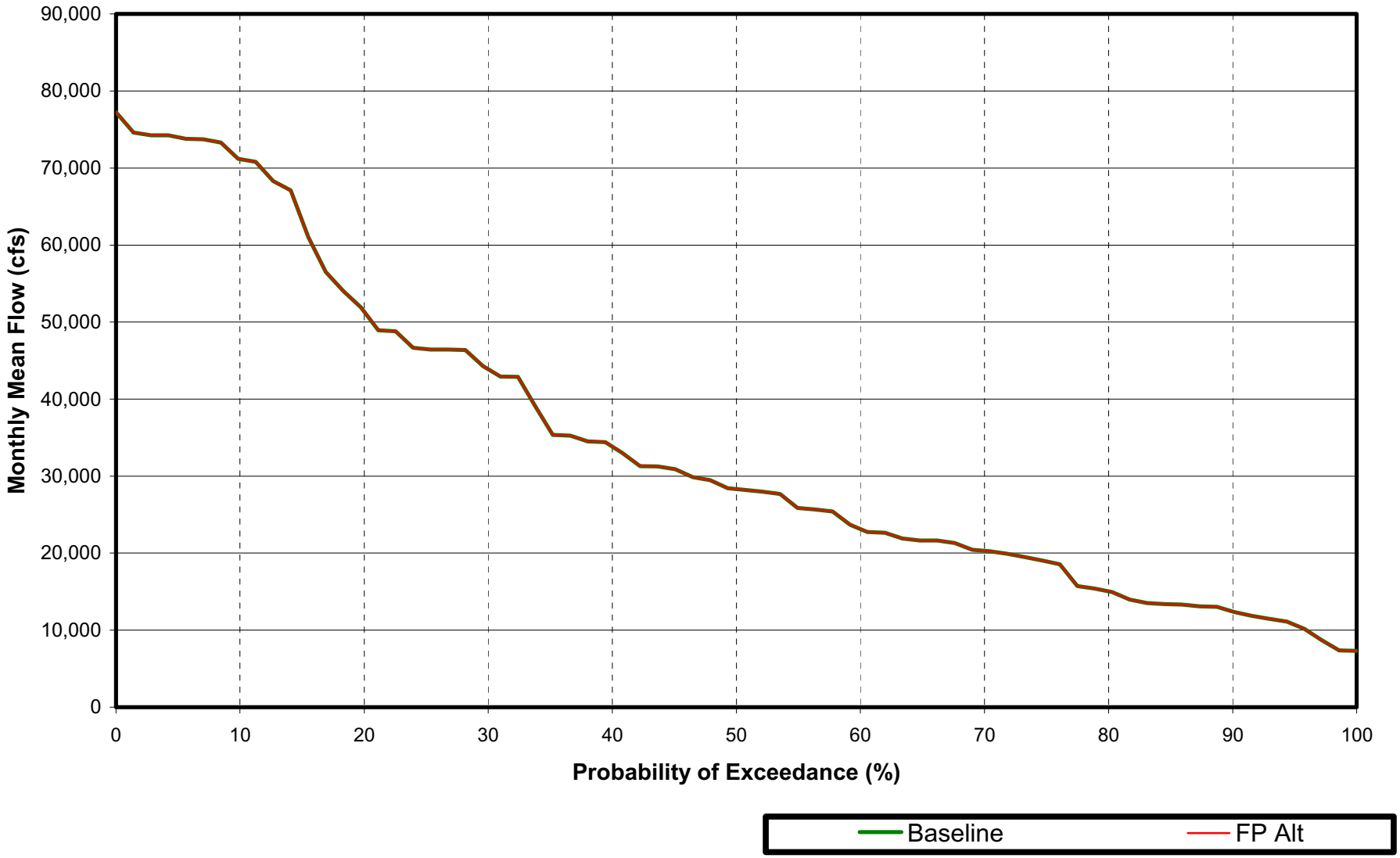
Sacramento River Flow at Freeport During January Under Baseline and FP Alt Conditions



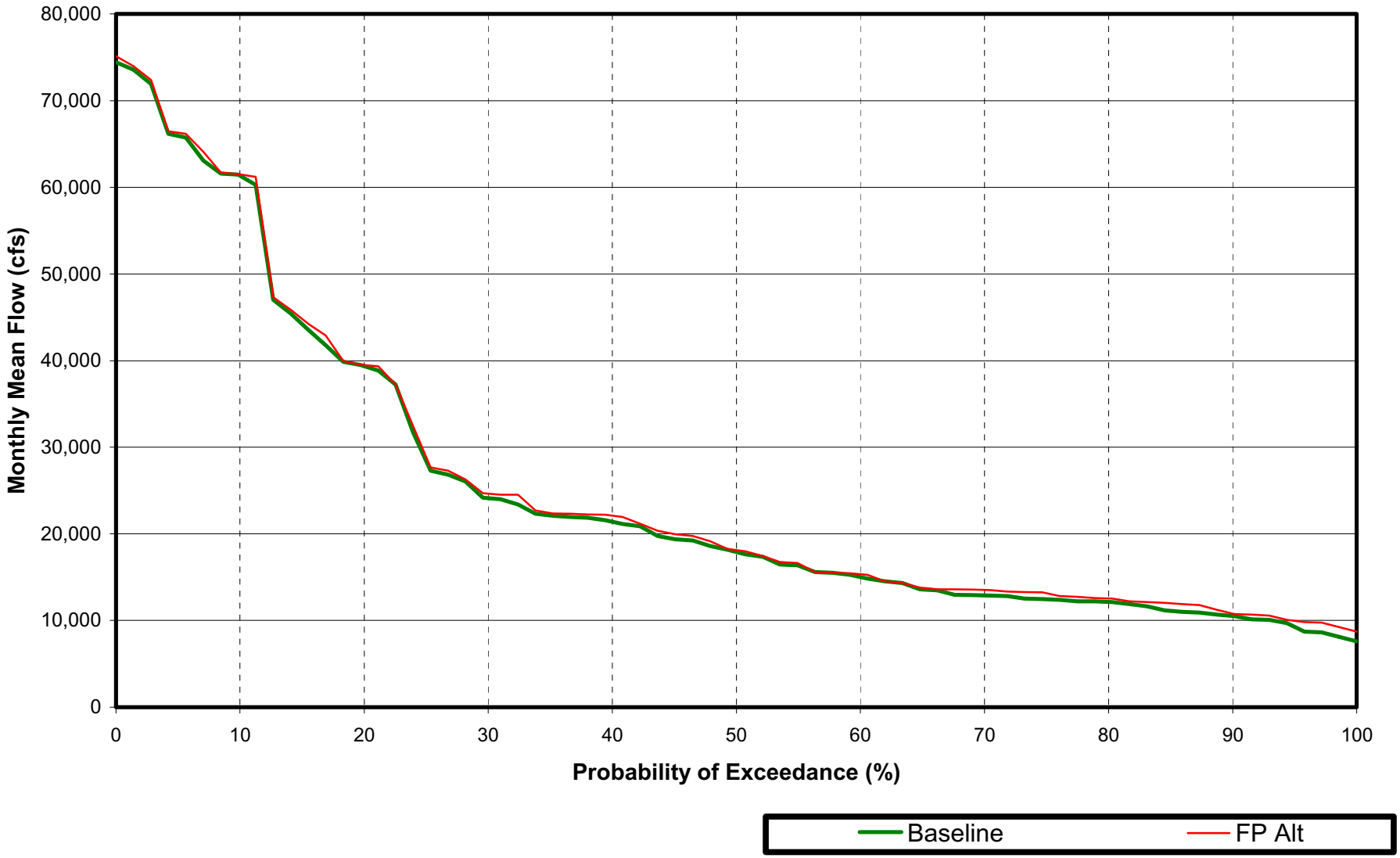
Sacramento River Flow at Freeport During February Under Baseline and FP Alt Conditions



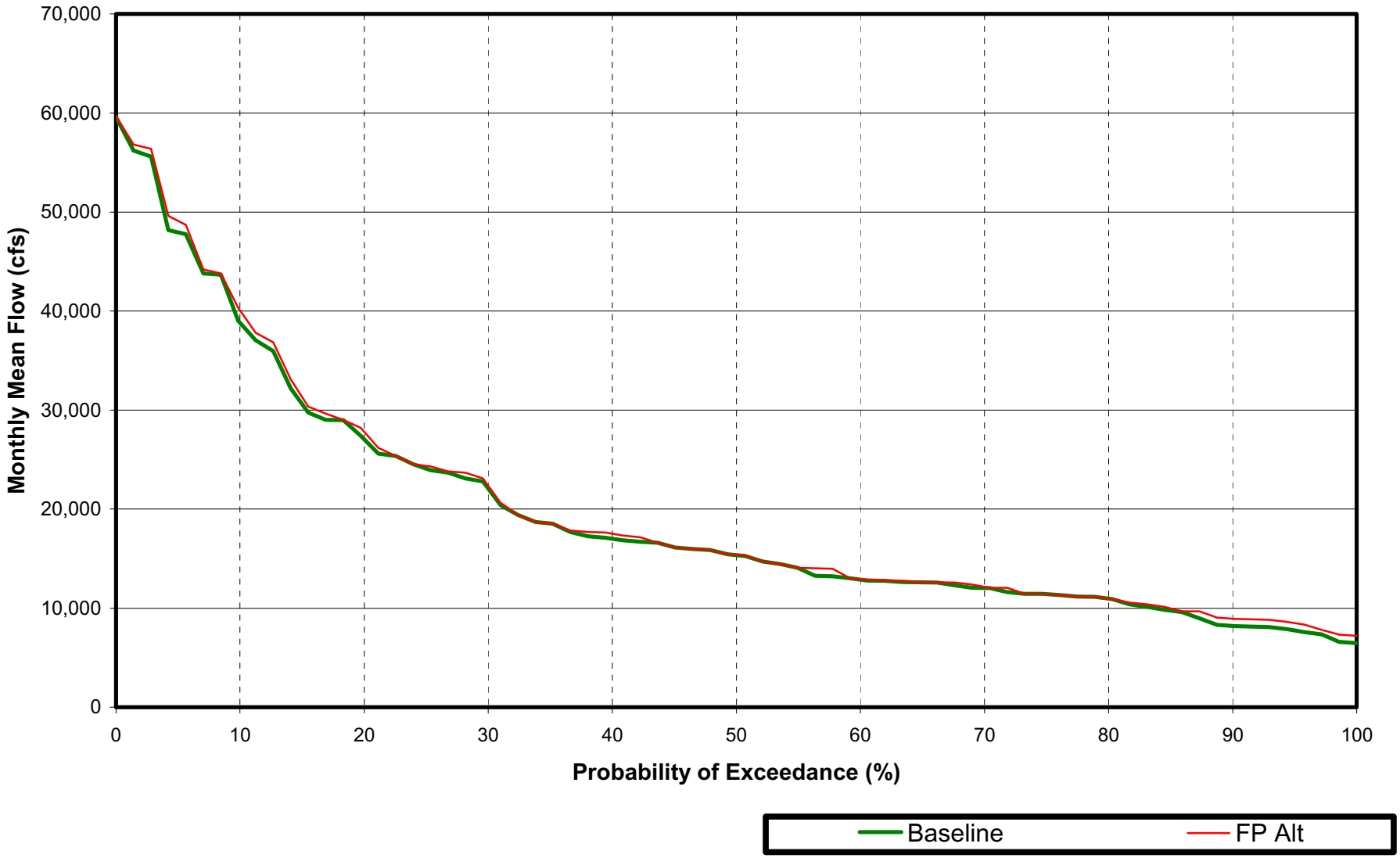
Sacramento River Flow at Freeport During March Under Baseline and FP Alt Conditions



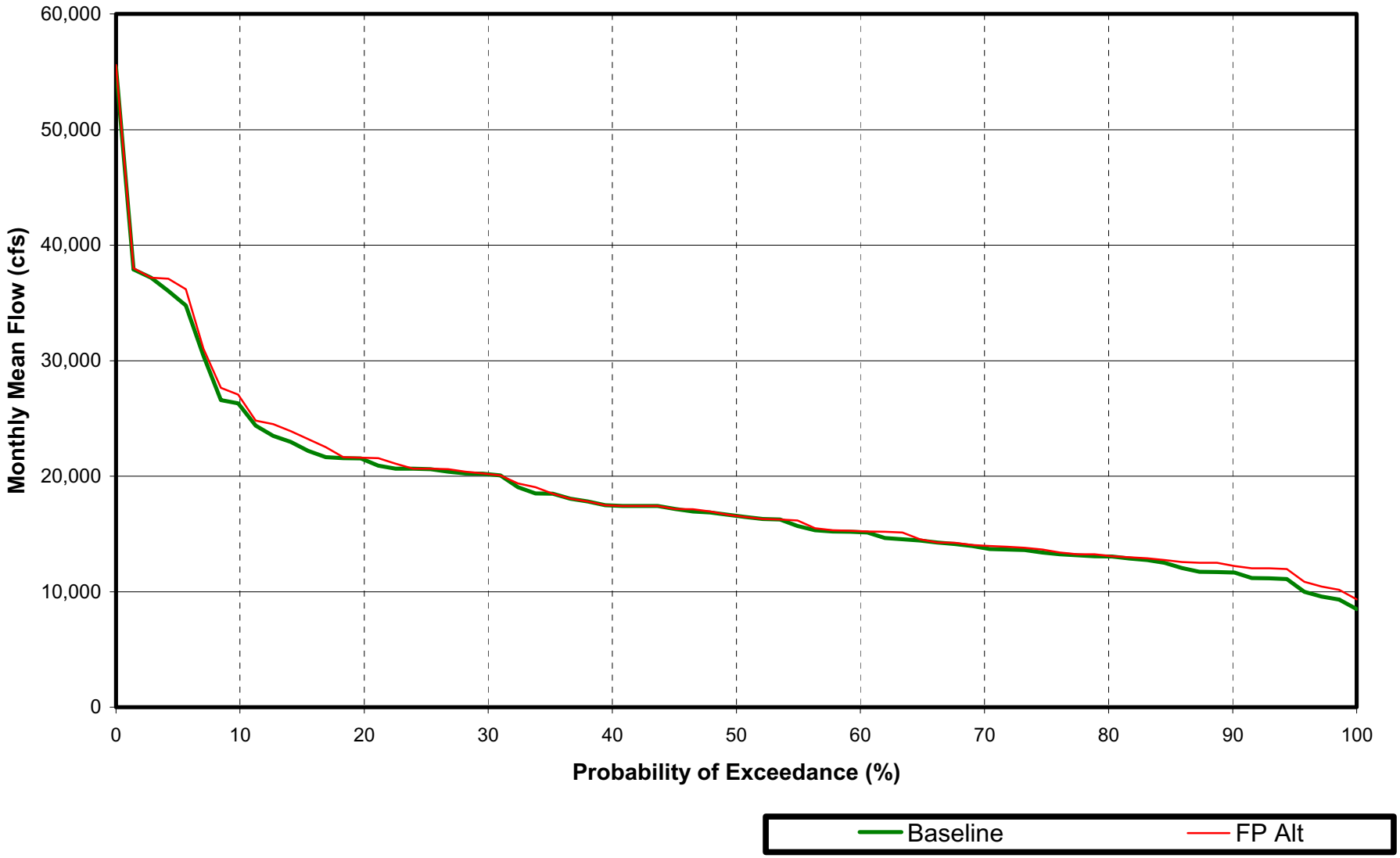
Sacramento River Flow at Freeport During April Under Baseline and FP Alt Conditions



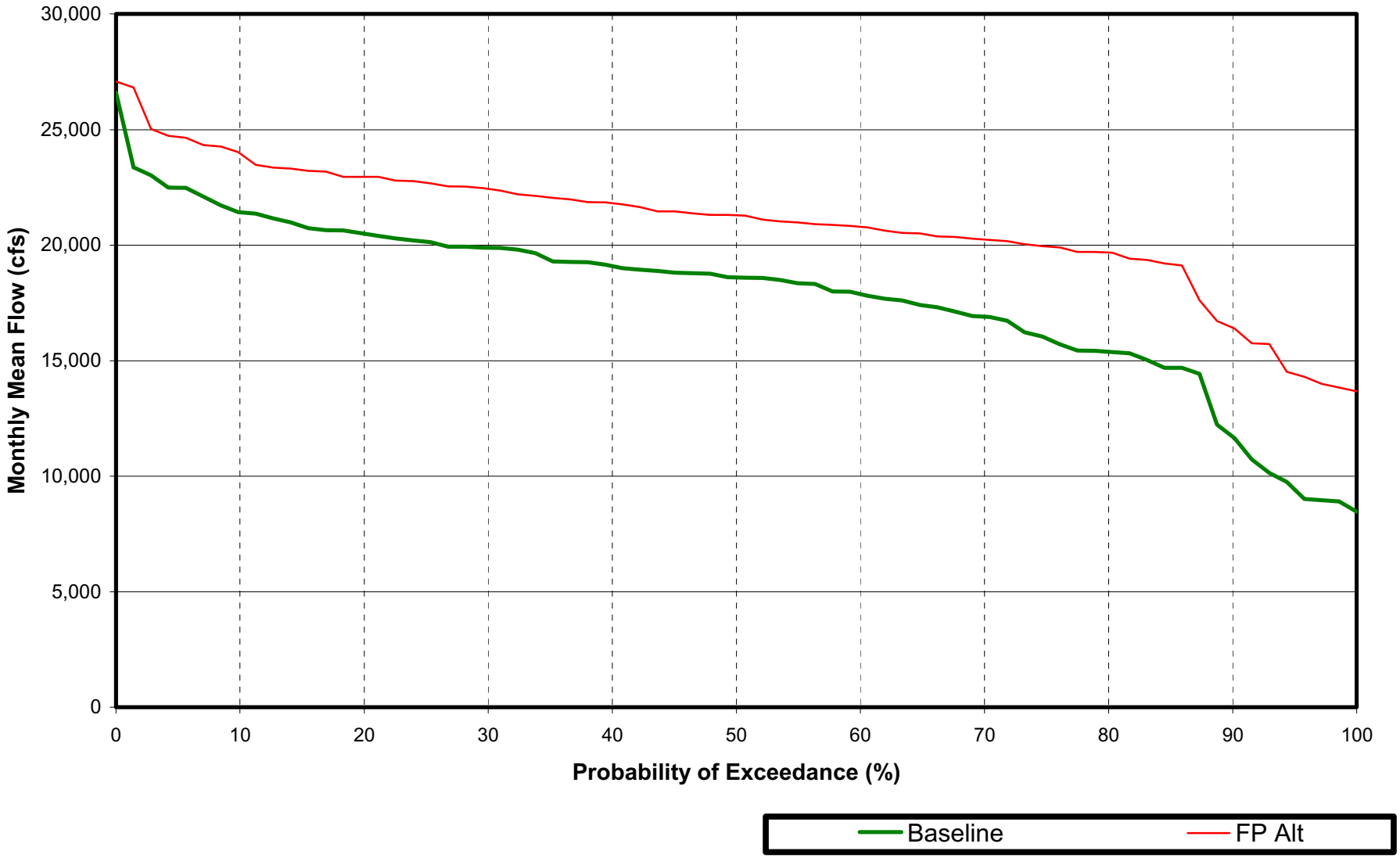
Sacramento River Flow at Freeport During May Under Baseline and FP Alt Conditions



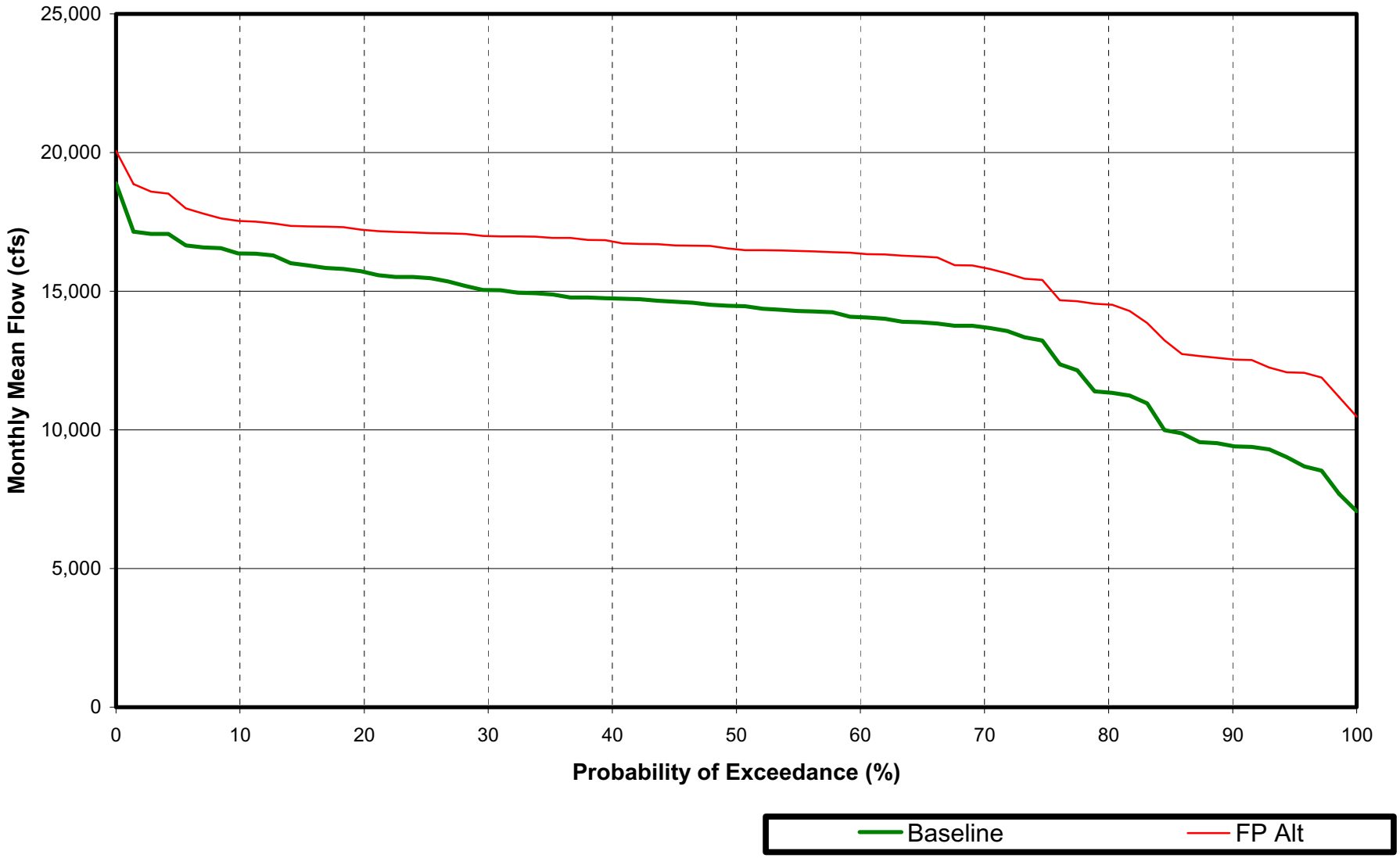
Sacramento River Flow at Freeport During June Under Baseline and FP Alt Conditions



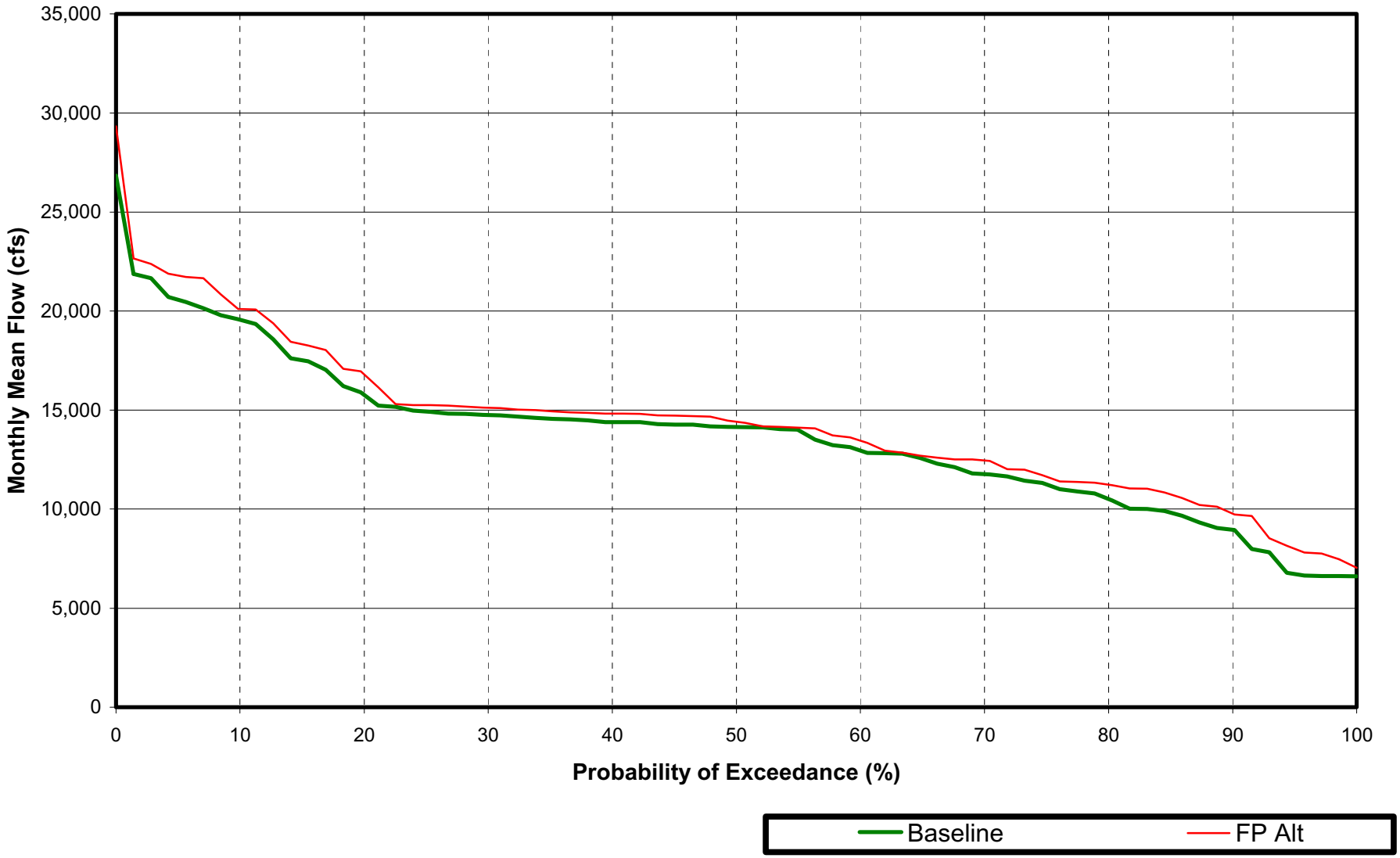
Sacramento River Flow at Freeport During July Under Baseline and FP Alt Conditions



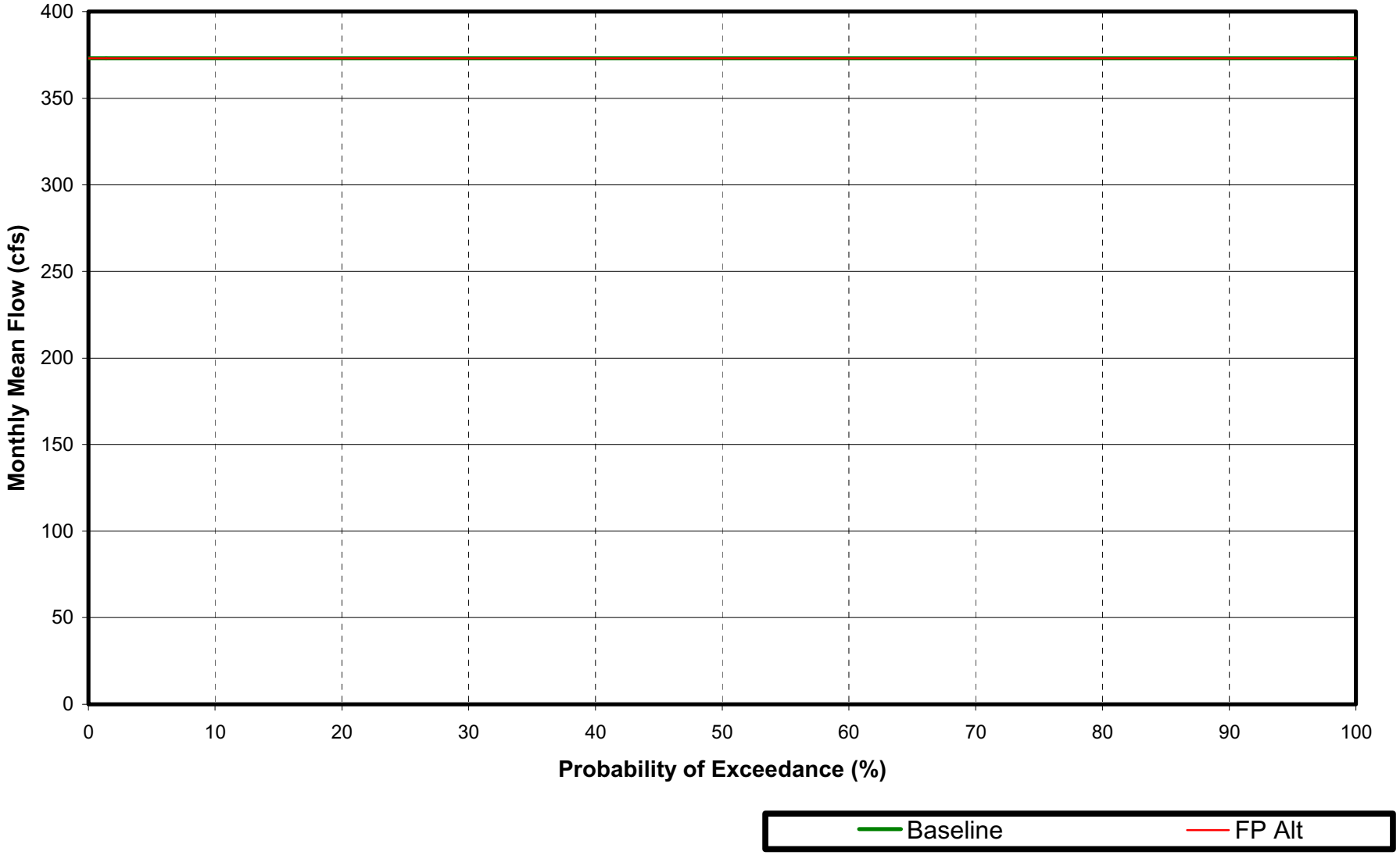
Sacramento River Flow at Freeport During August Under Baseline and FP Alt Conditions



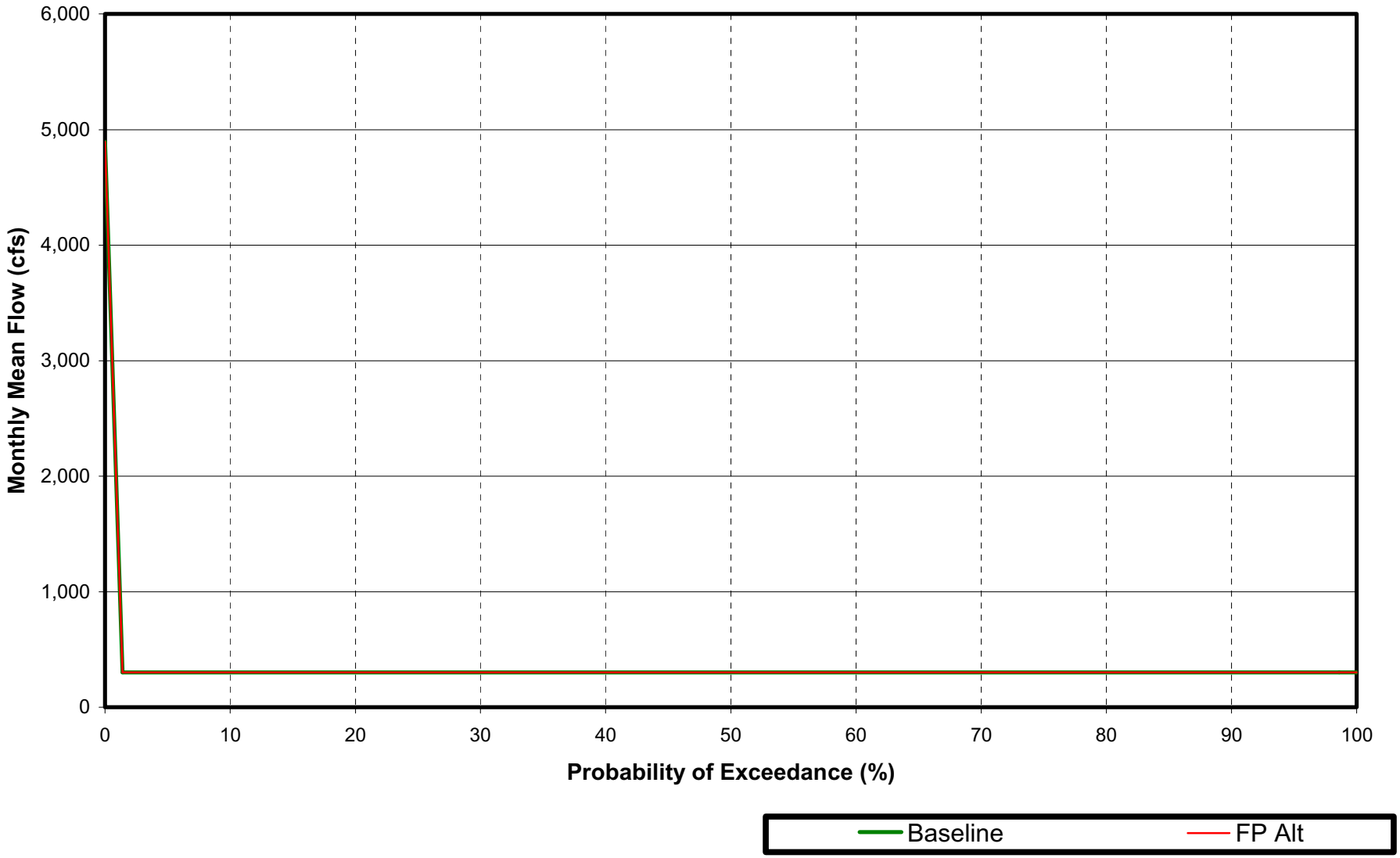
Sacramento River Flow at Freeport During September Under Baseline and FP Alt Conditions



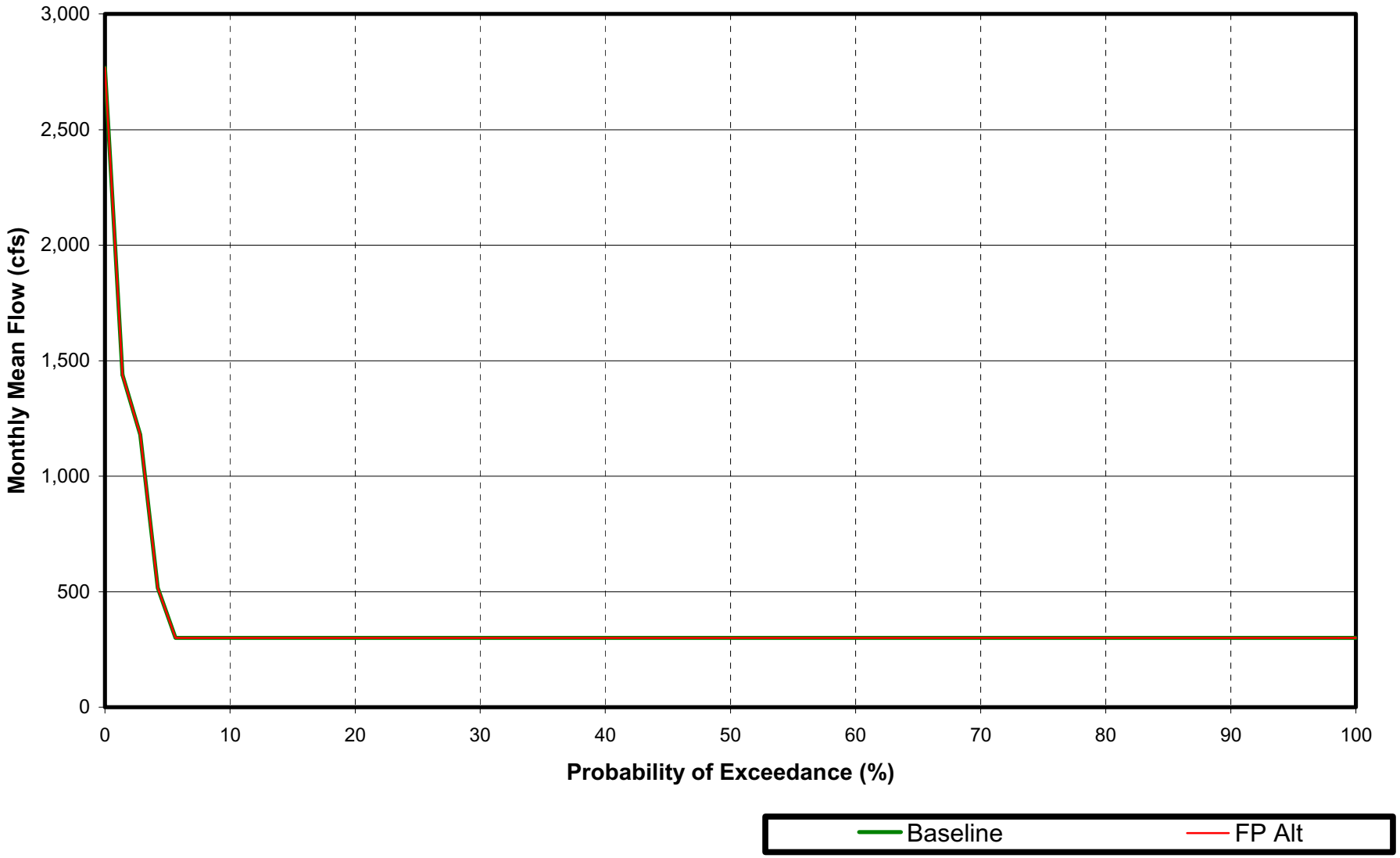
Trinity River Release From Lewiston Dam During October Under Baseline and FP Alt Conditions



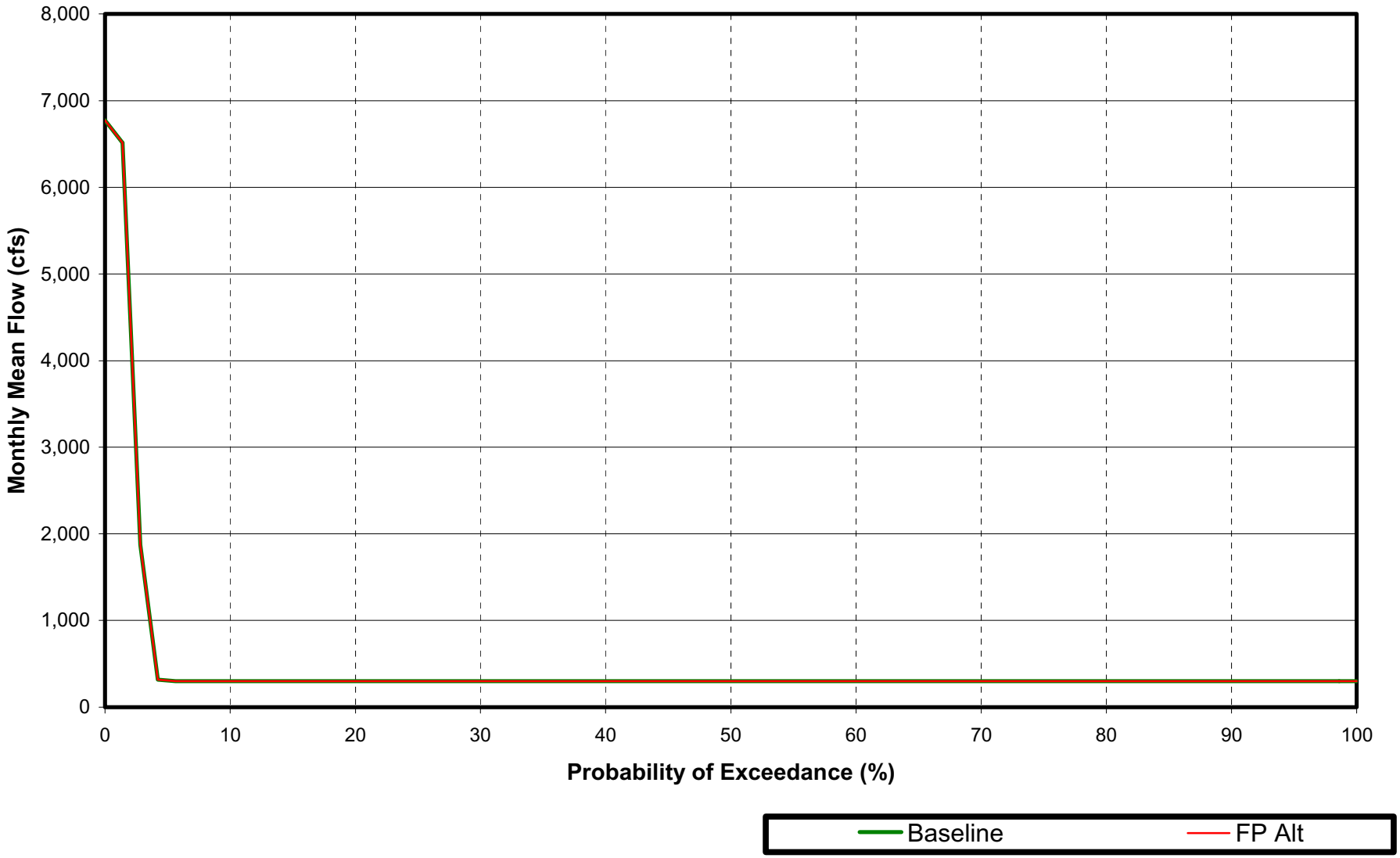
Trinity River Release From Lewiston Dam During November Under Baseline and FP Alt Conditions



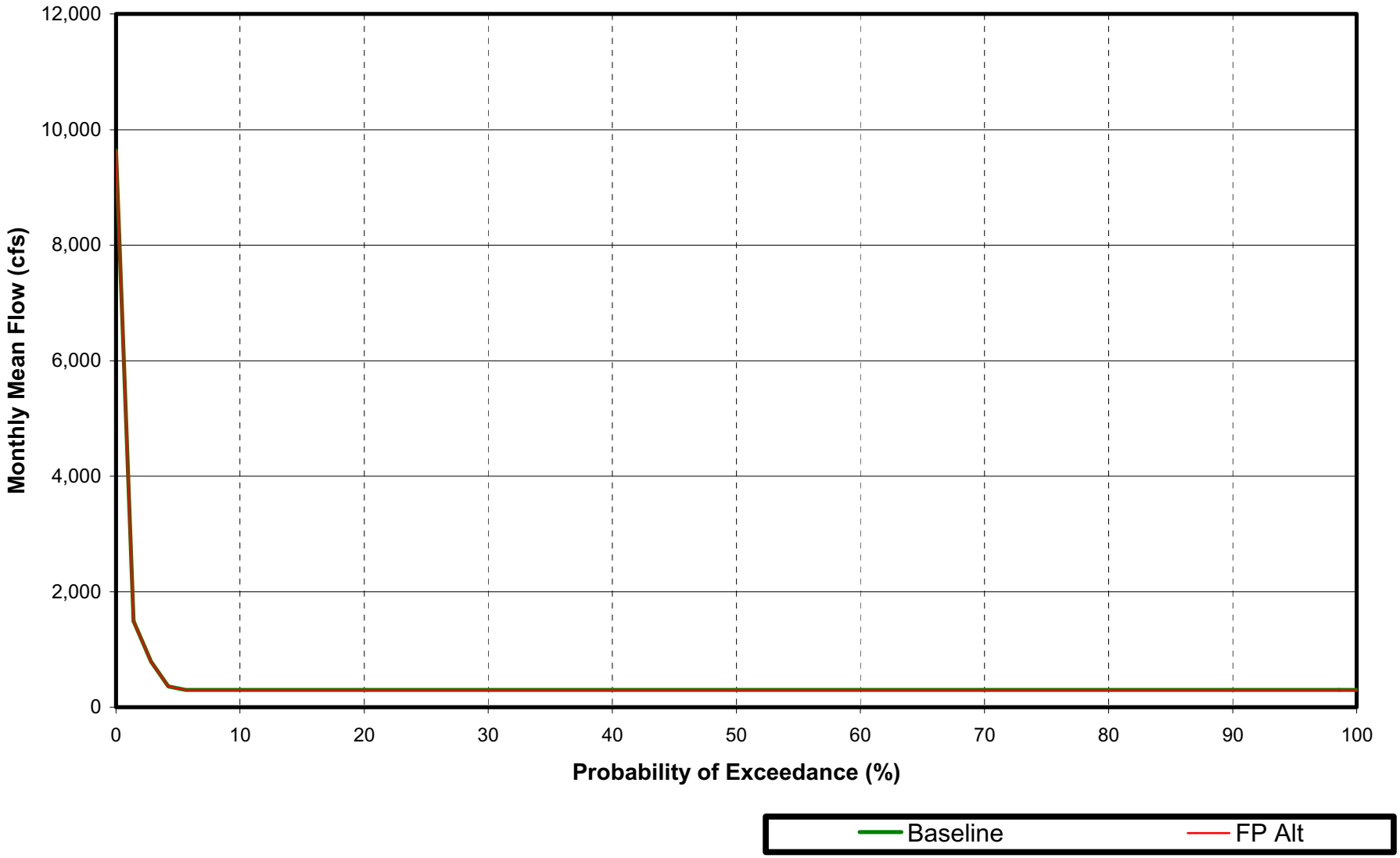
Trinity River Release From Lewiston Dam During December Under Baseline and FP Alt Conditions



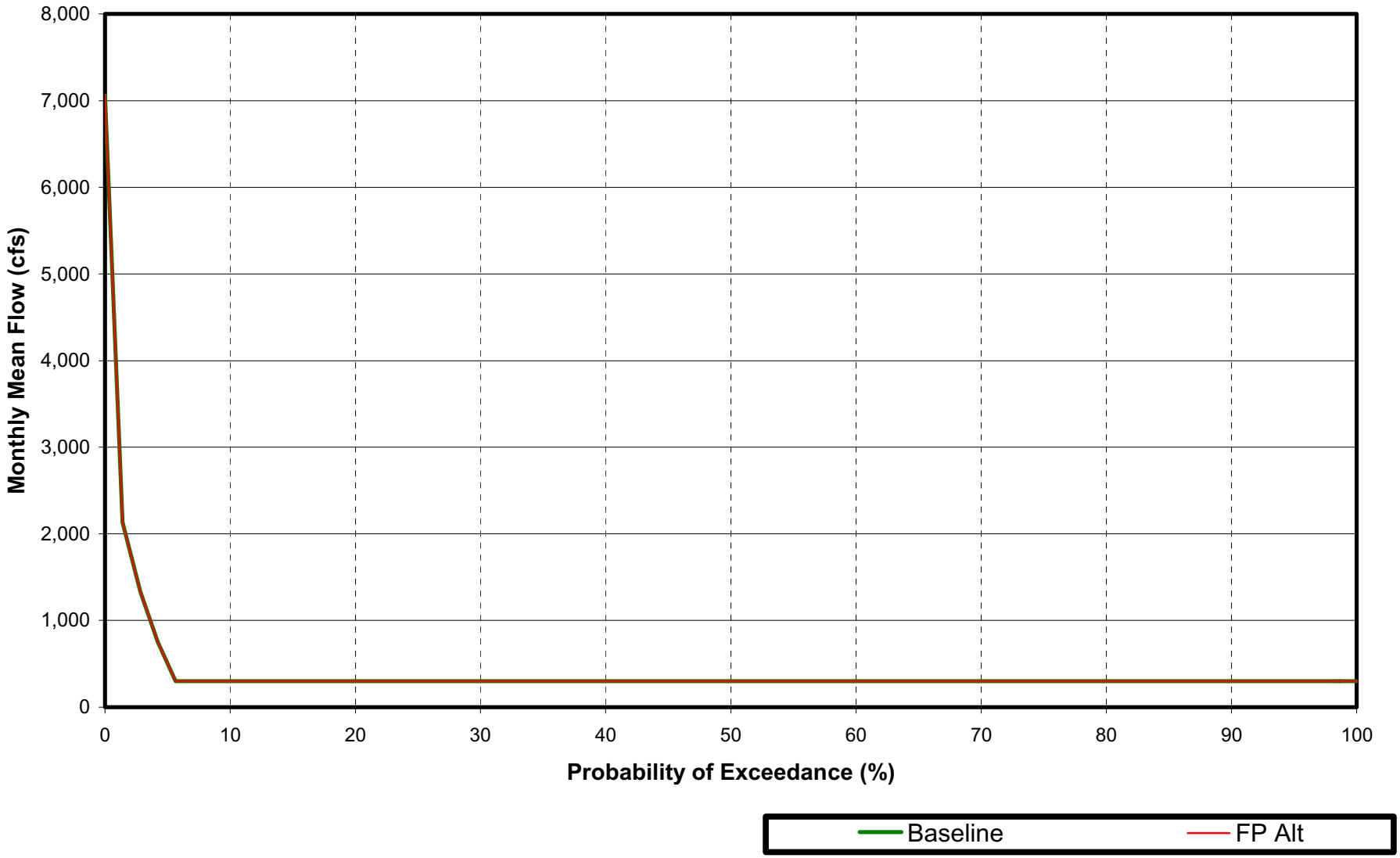
Trinity River Release From Lewiston Dam During January Under Baseline and FP Alt Conditions



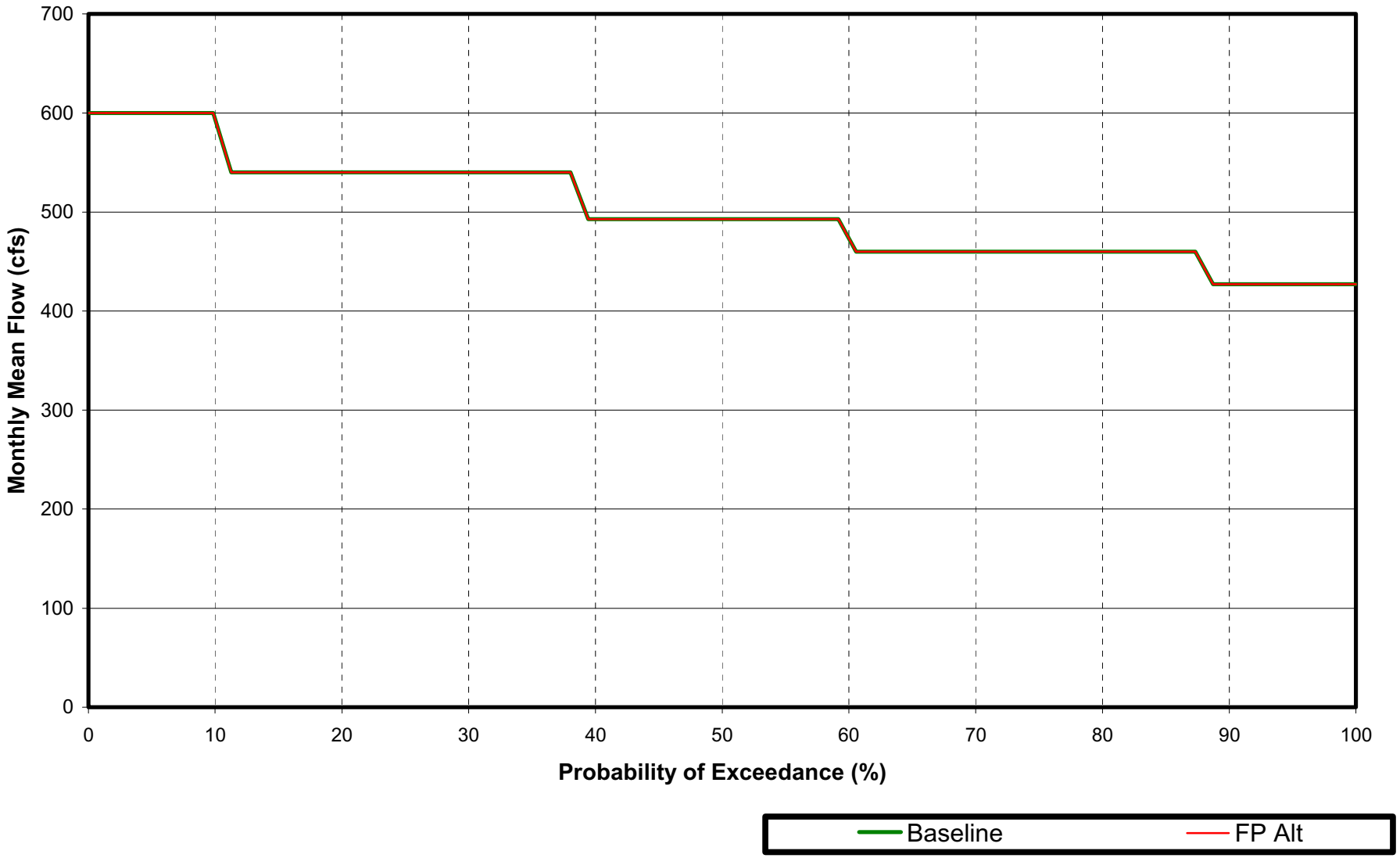
Trinity River Release From Lewiston Dam During February Under Baseline and FP Alt Conditions



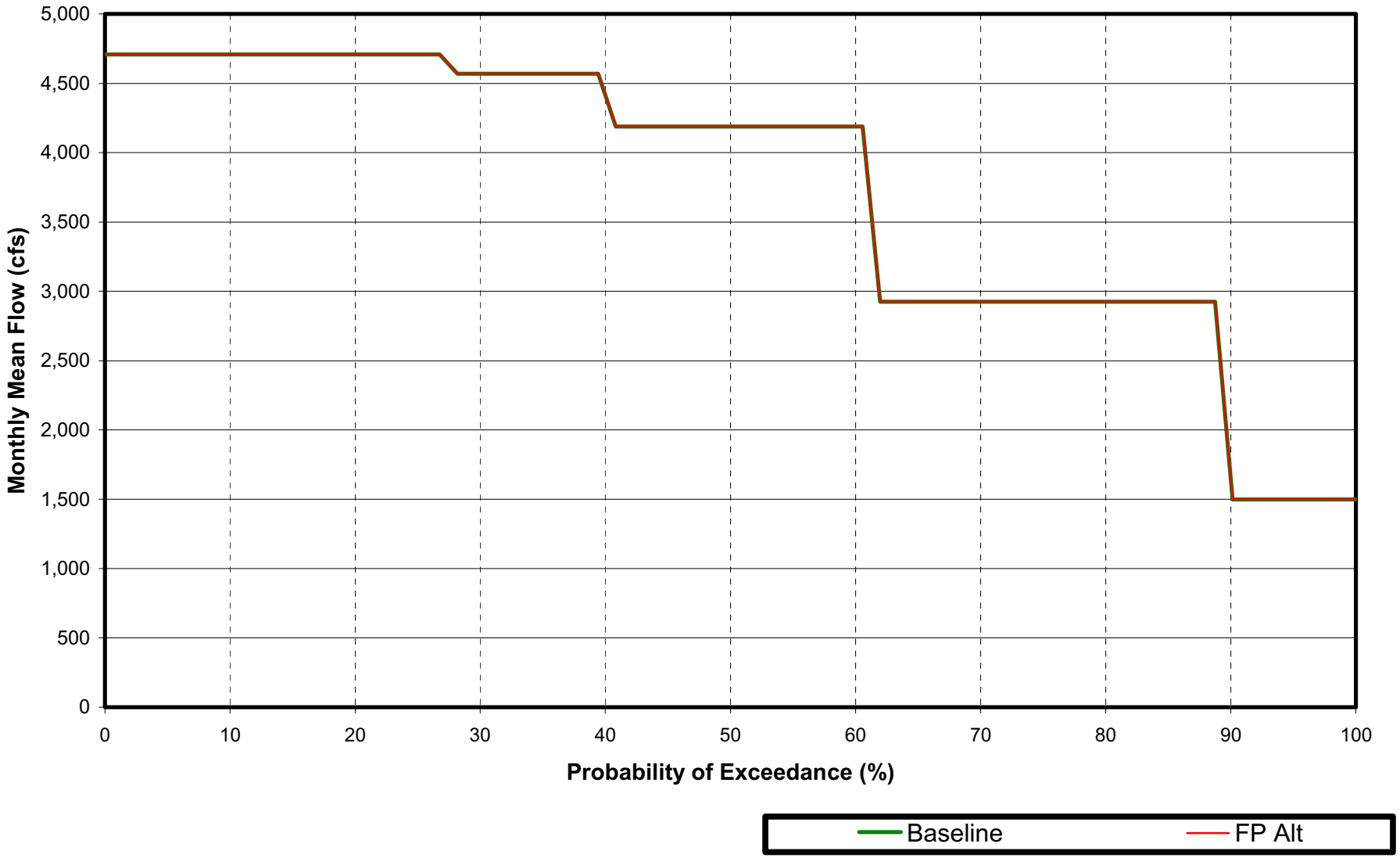
Trinity River Release From Lewiston Dam During March Under Baseline and FP Alt Conditions



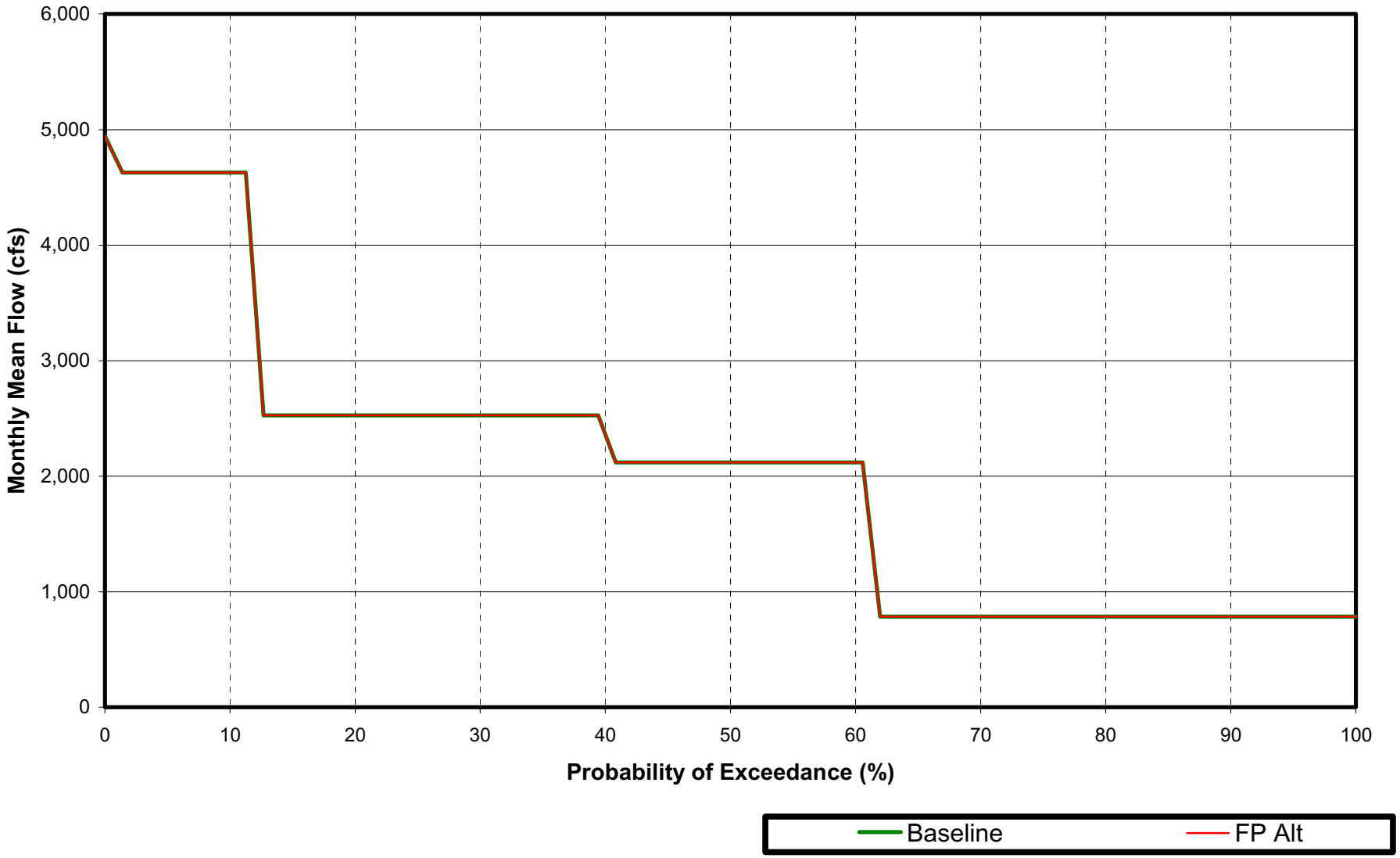
Trinity River Release From Lewiston Dam During April Under Baseline and FP Alt Conditions



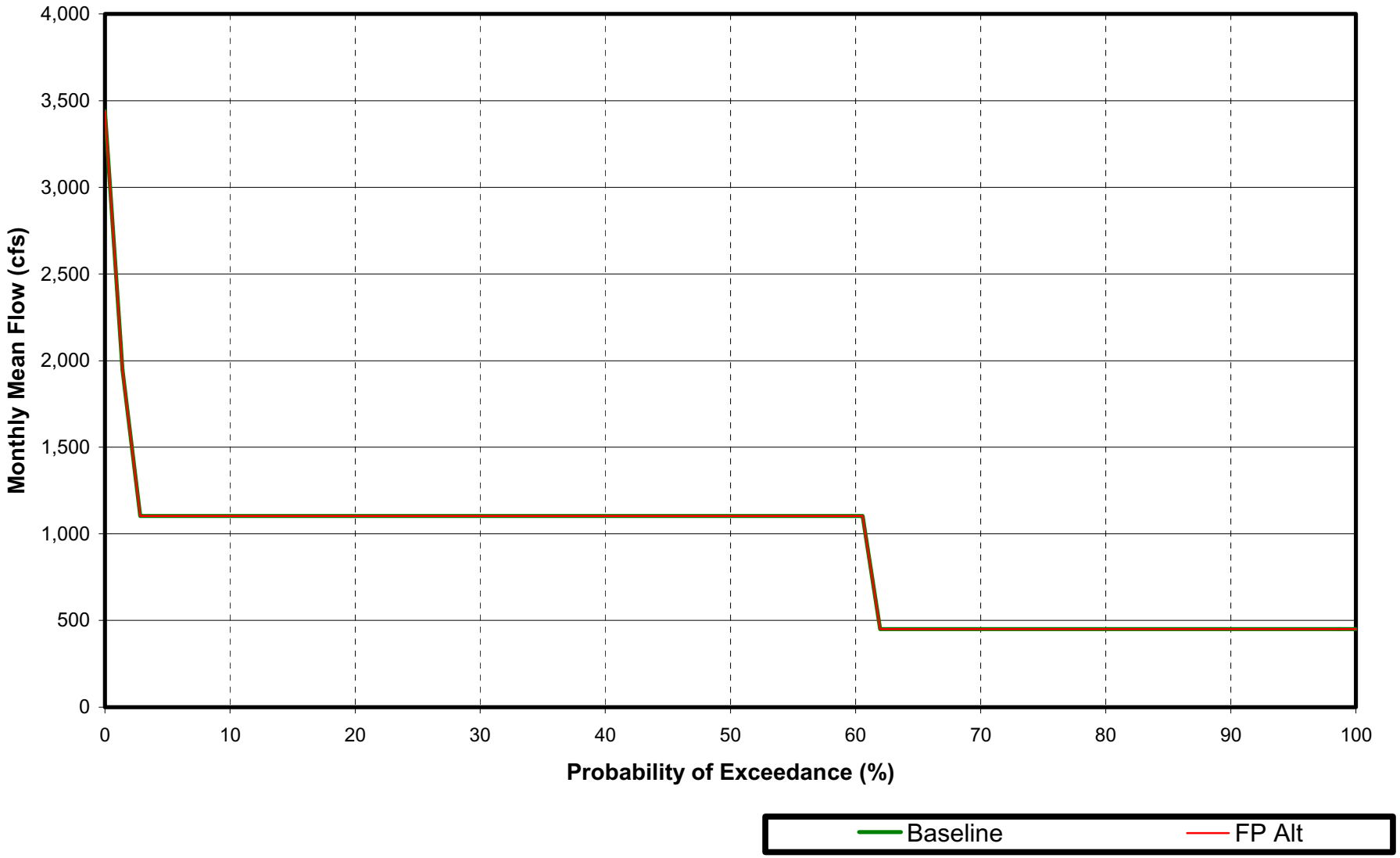
Trinity River Release From Lewiston Dam During May Under Baseline and FP Alt Conditions



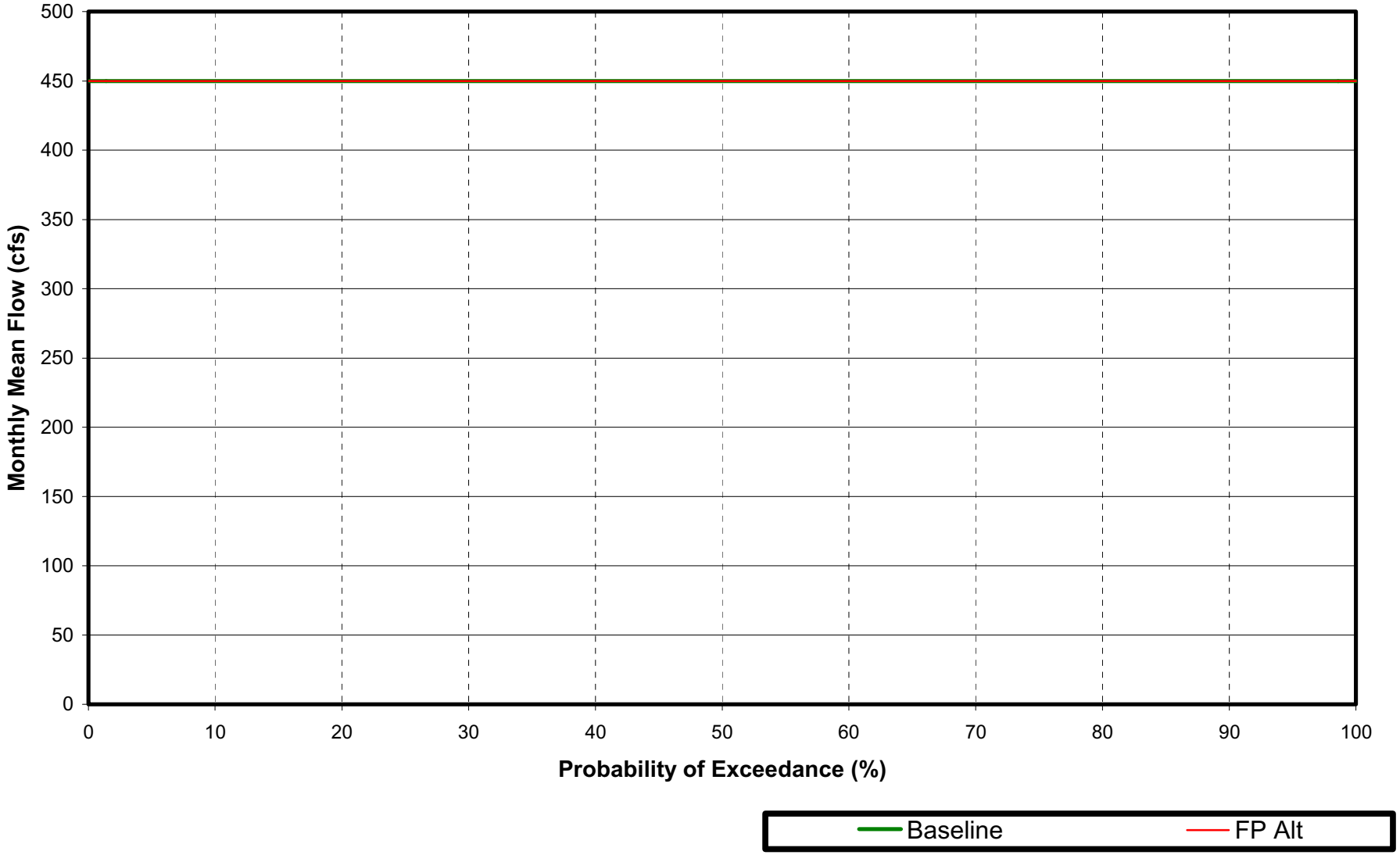
Trinity River Release From Lewiston Dam During June Under Baseline and FP Alt Conditions



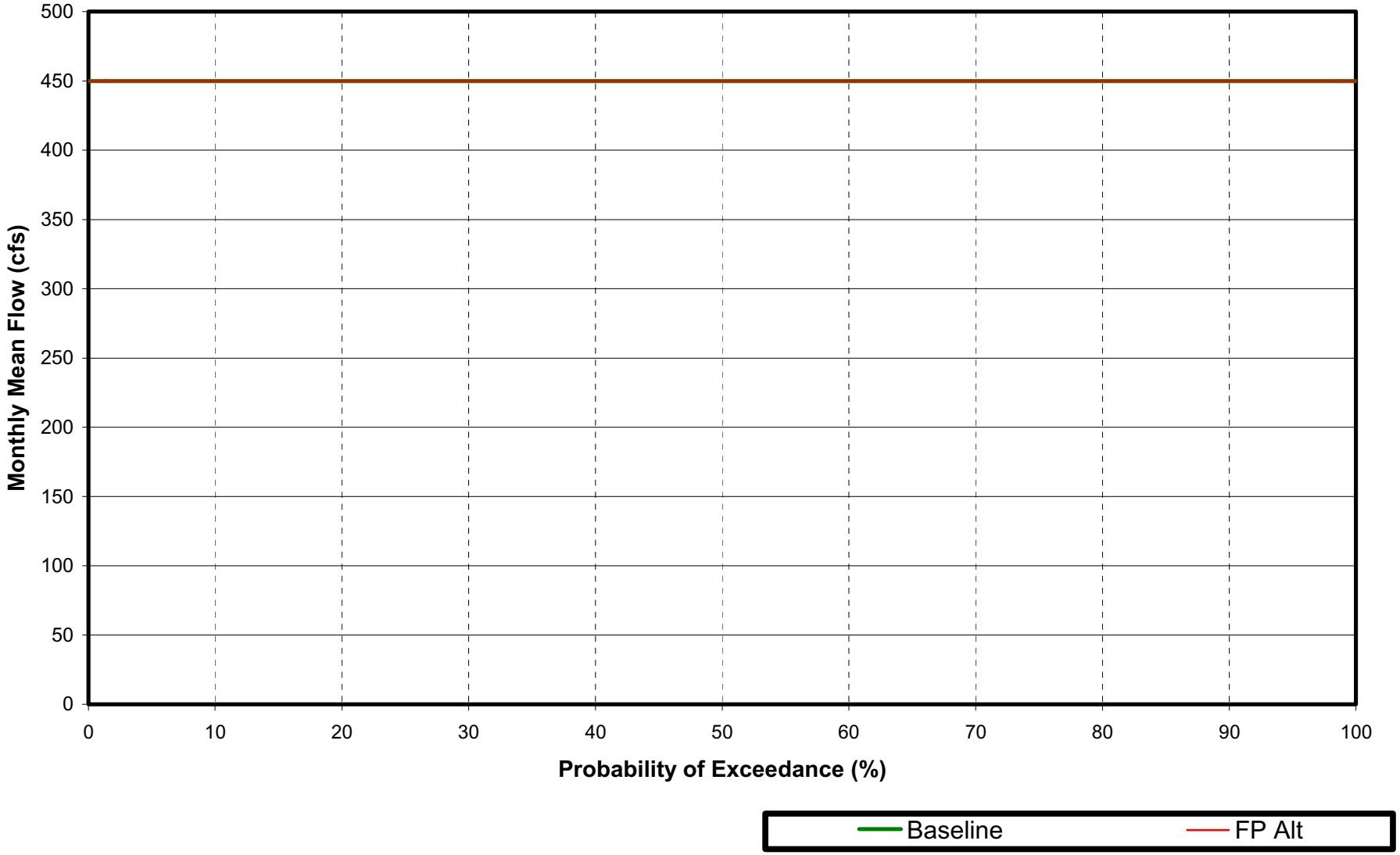
Trinity River Release From Lewiston Dam During July Under Baseline and FP Alt Conditions



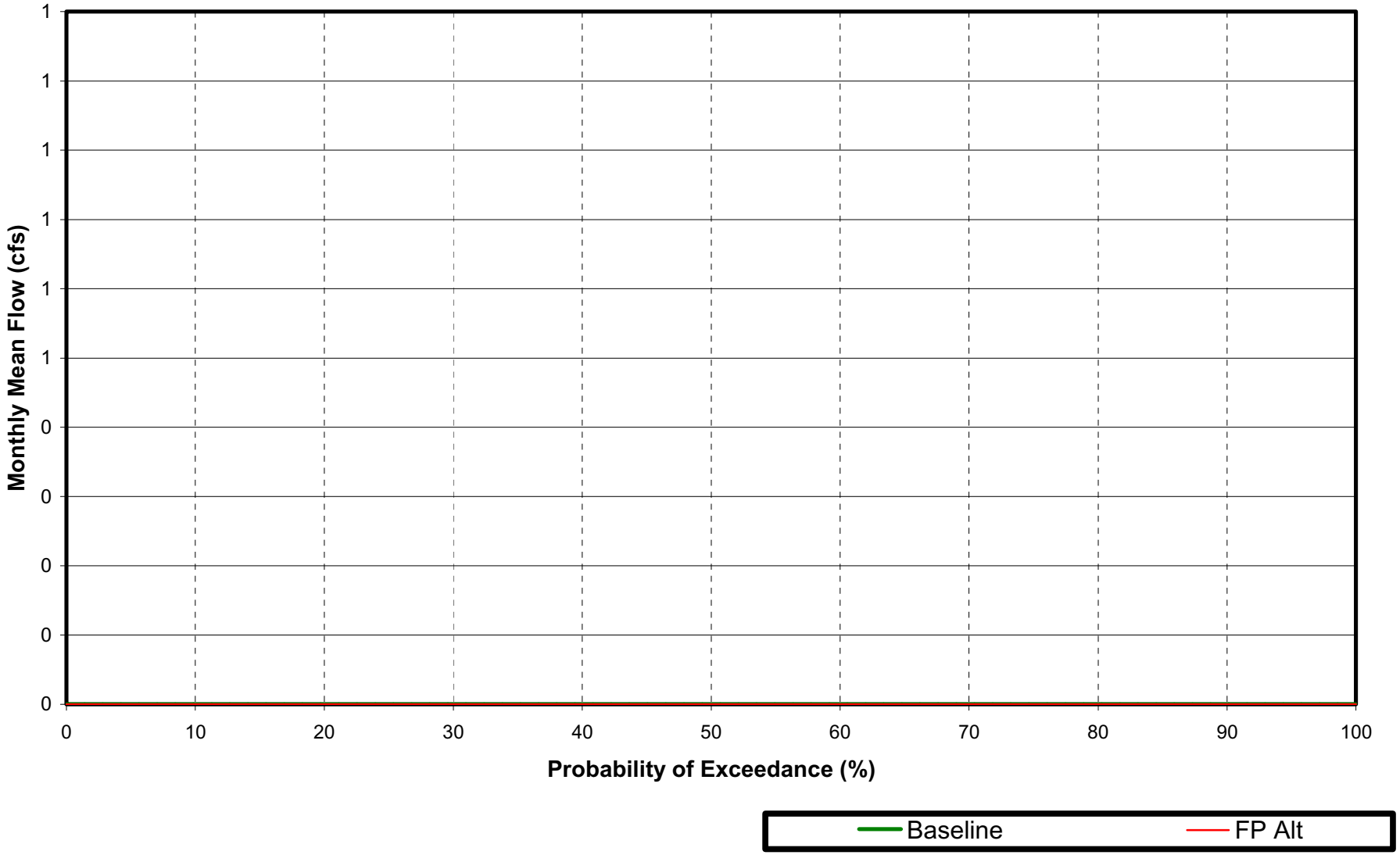
Trinity River Release From Lewiston Dam During August Under Baseline and FP Alt Conditions



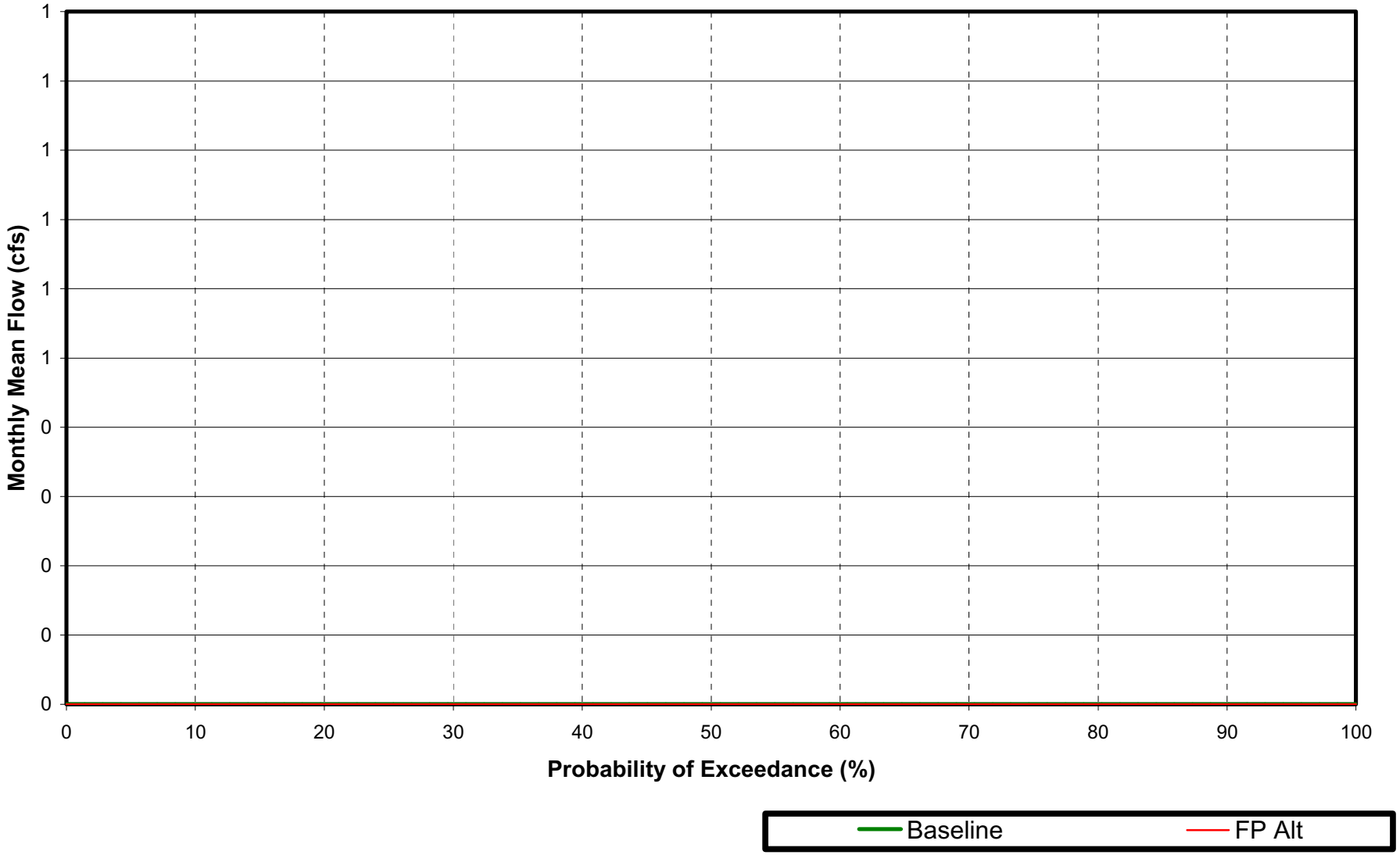
Trinity River Release From Lewiston Dam During September Under Baseline and FP Alt Conditions



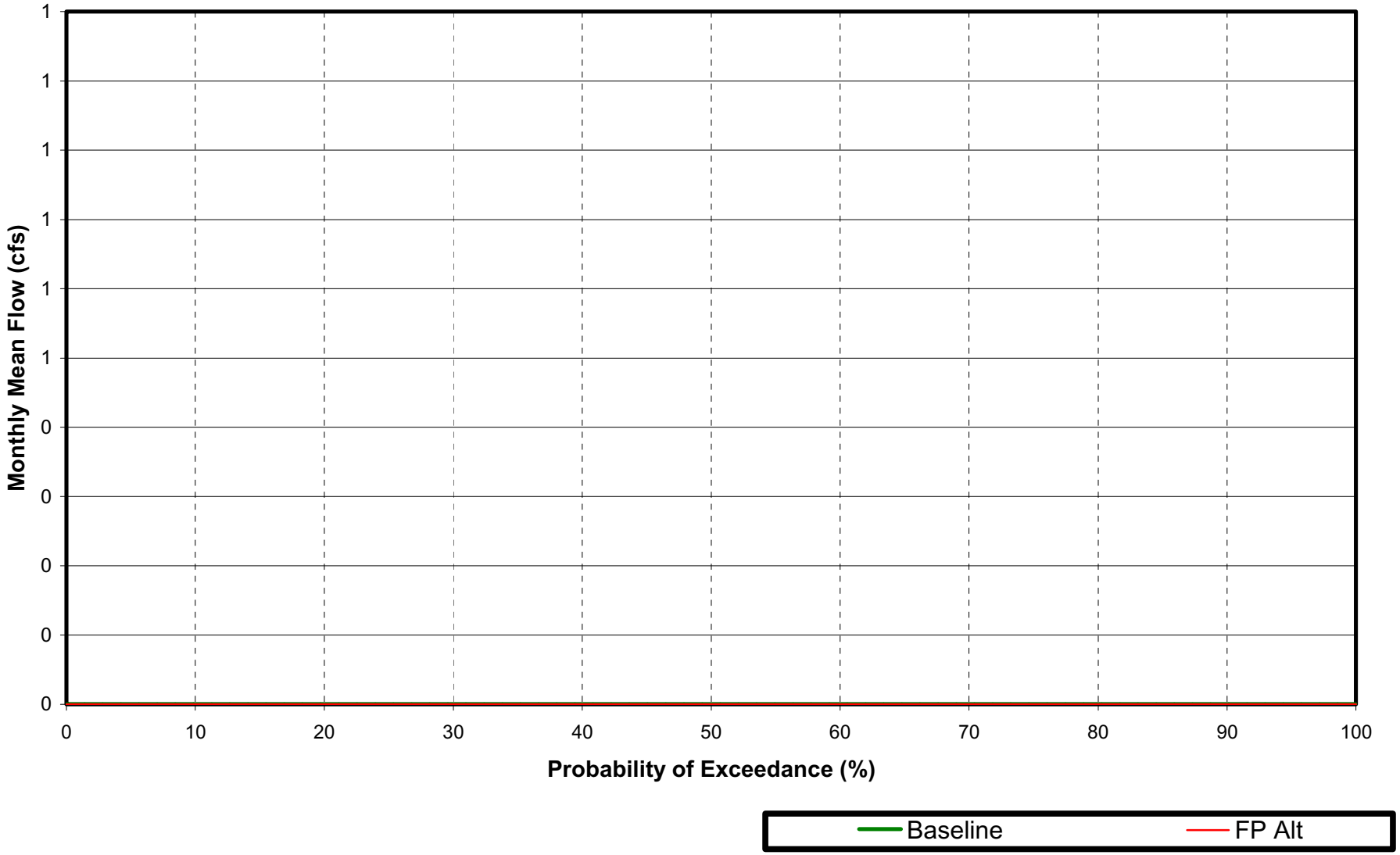
Upper American River Flow Below the Auburn Dam Site Diversion During October Under Baseline and FP Alt Conditions



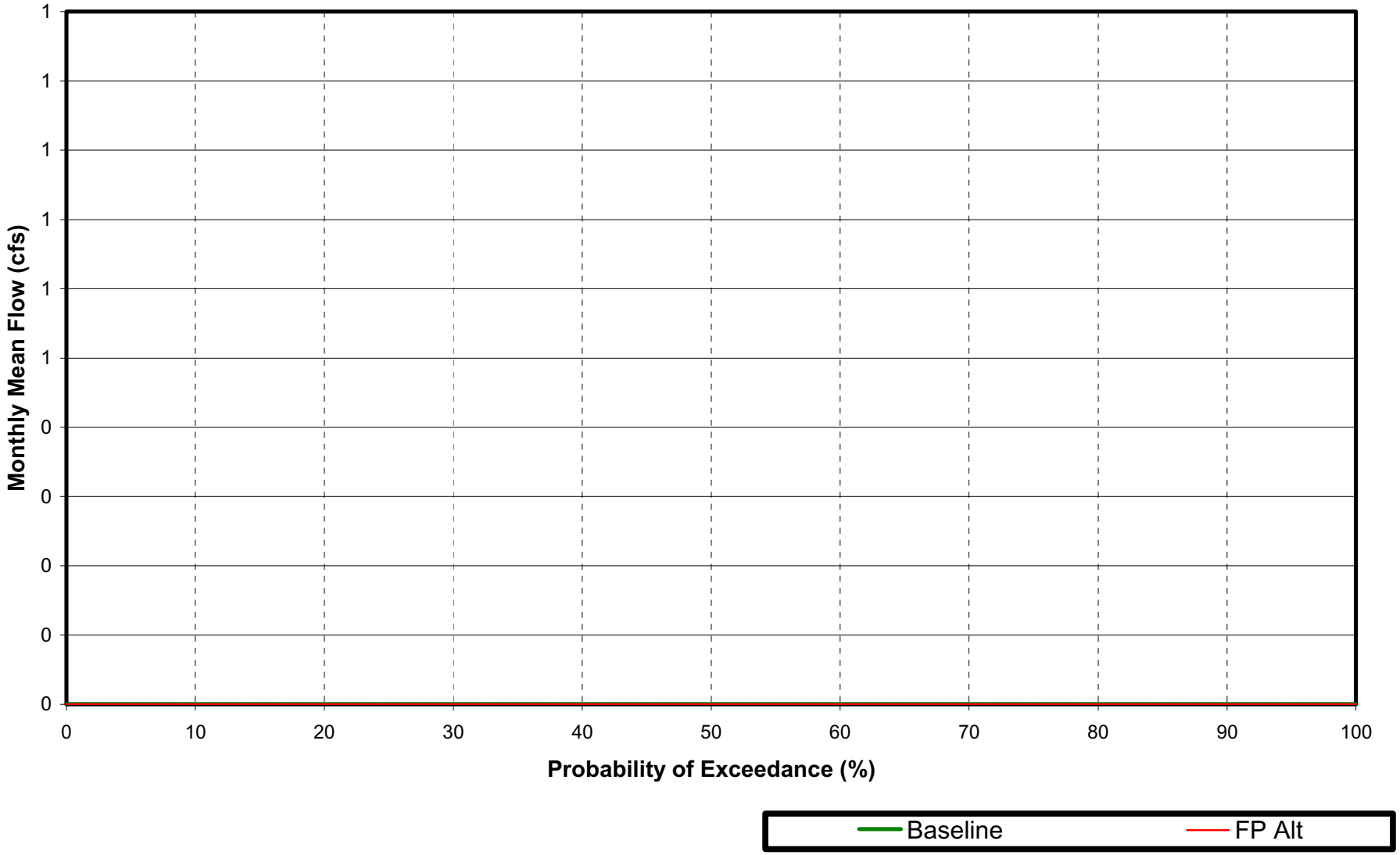
Upper American River Flow Below the Auburn Dam Site Diversion During November Under Baseline and FP Alt Conditions



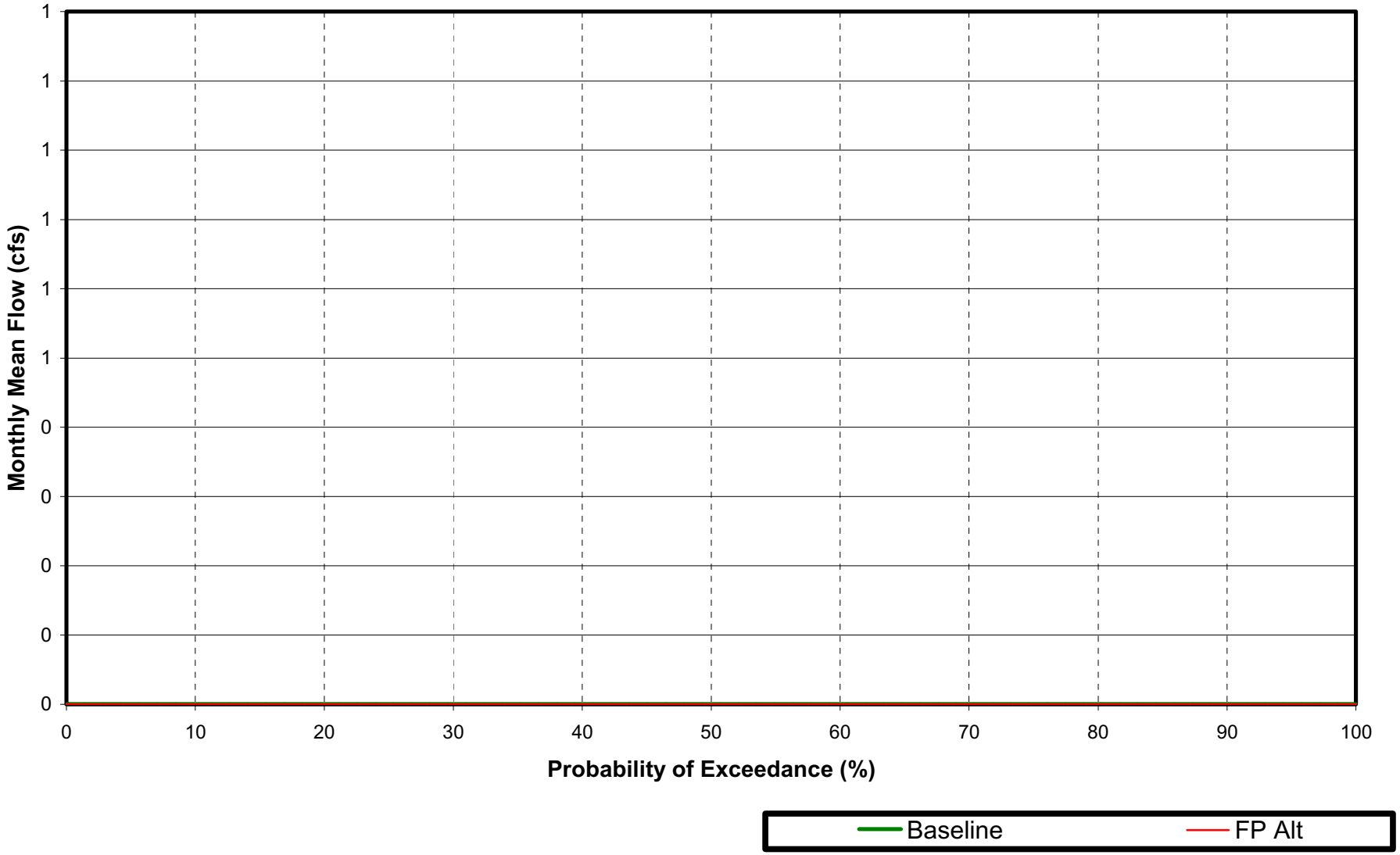
Upper American River Flow Below the Auburn Dam Site Diversion During December Under Baseline and FP Alt Conditions



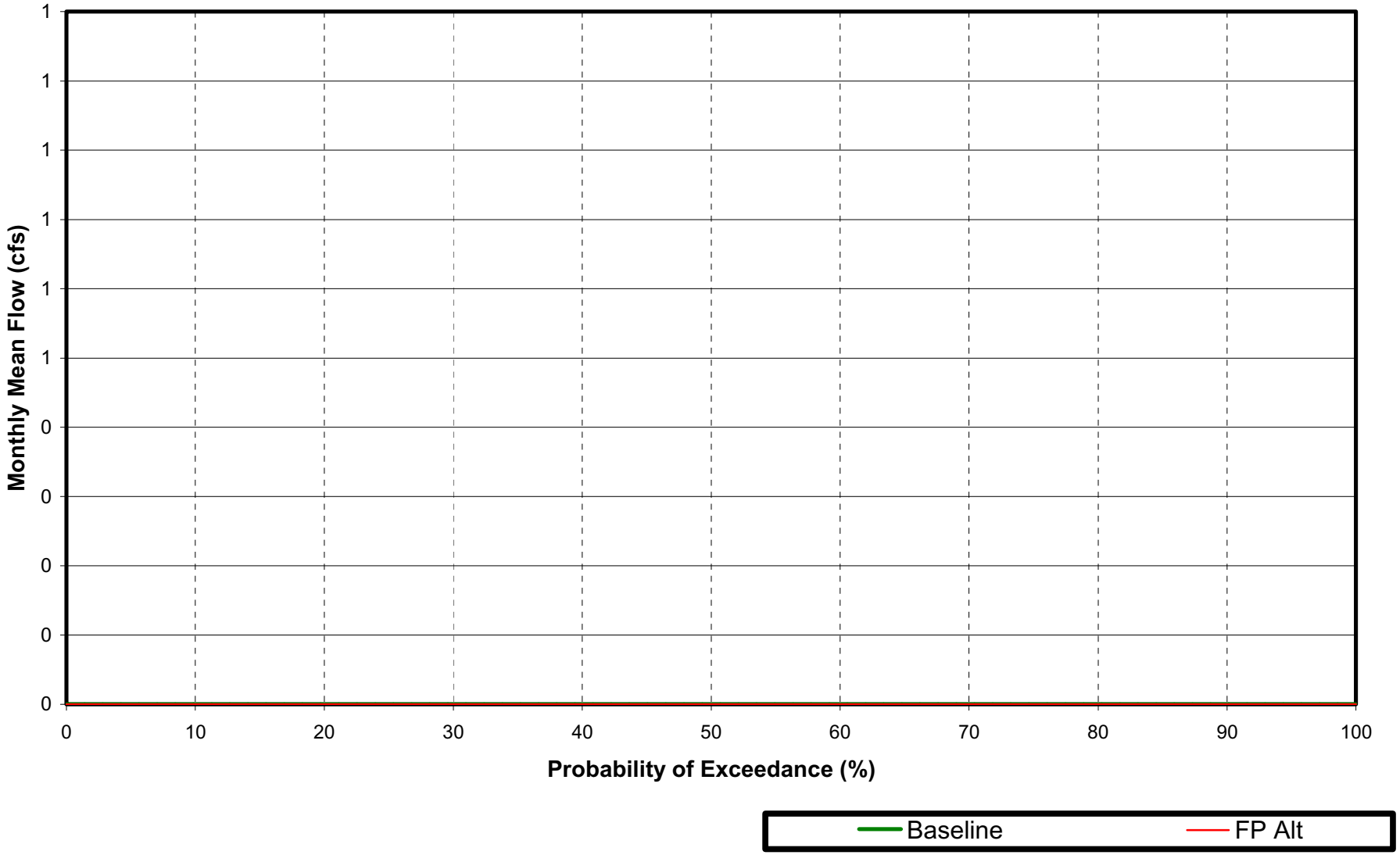
Upper American River Flow Below the Auburn Dam Site Diversion During January Under Baseline and FP Alt Conditions



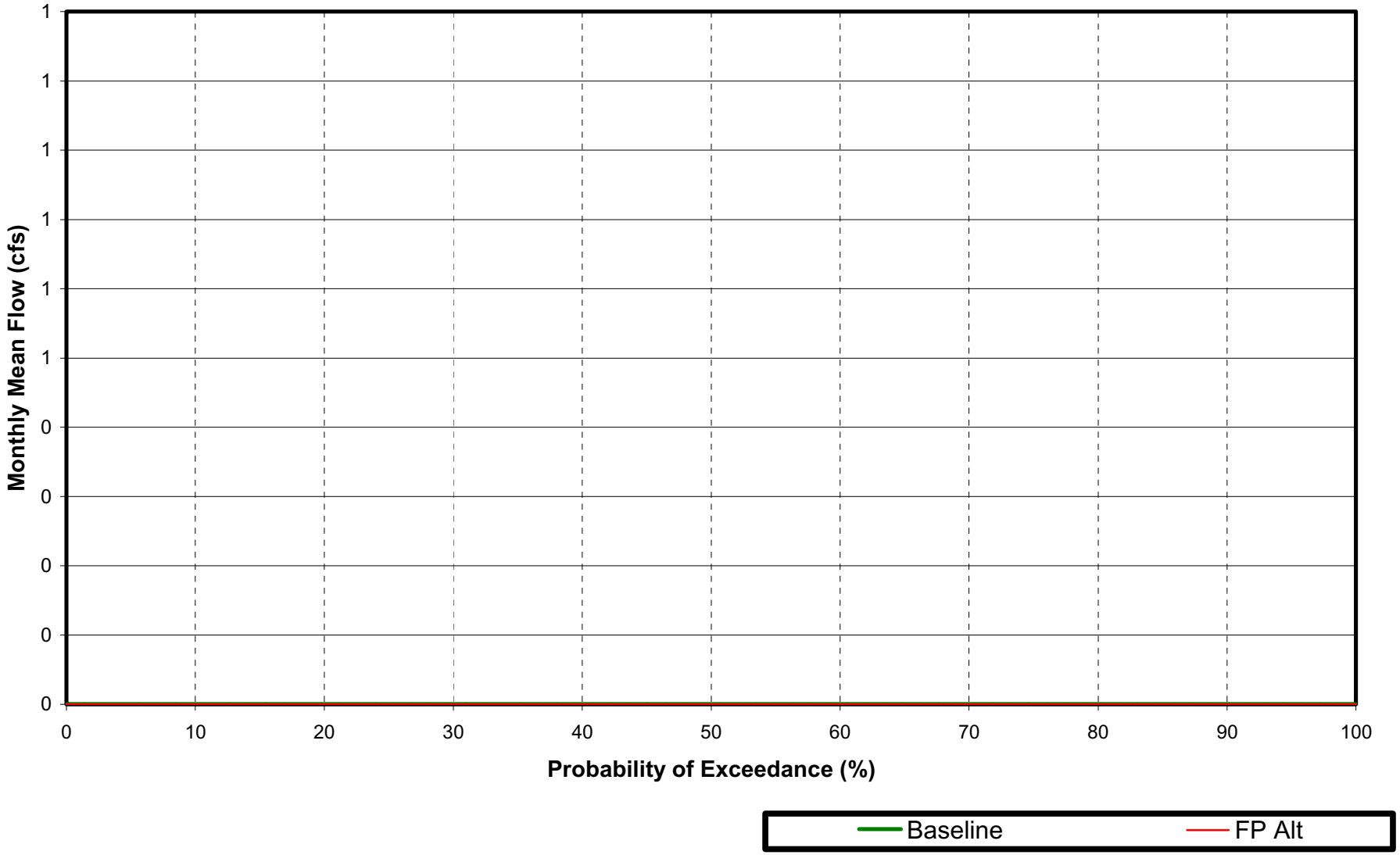
Upper American River Flow Below the Auburn Dam Site Diversion During February Under Baseline and FP Alt Conditions



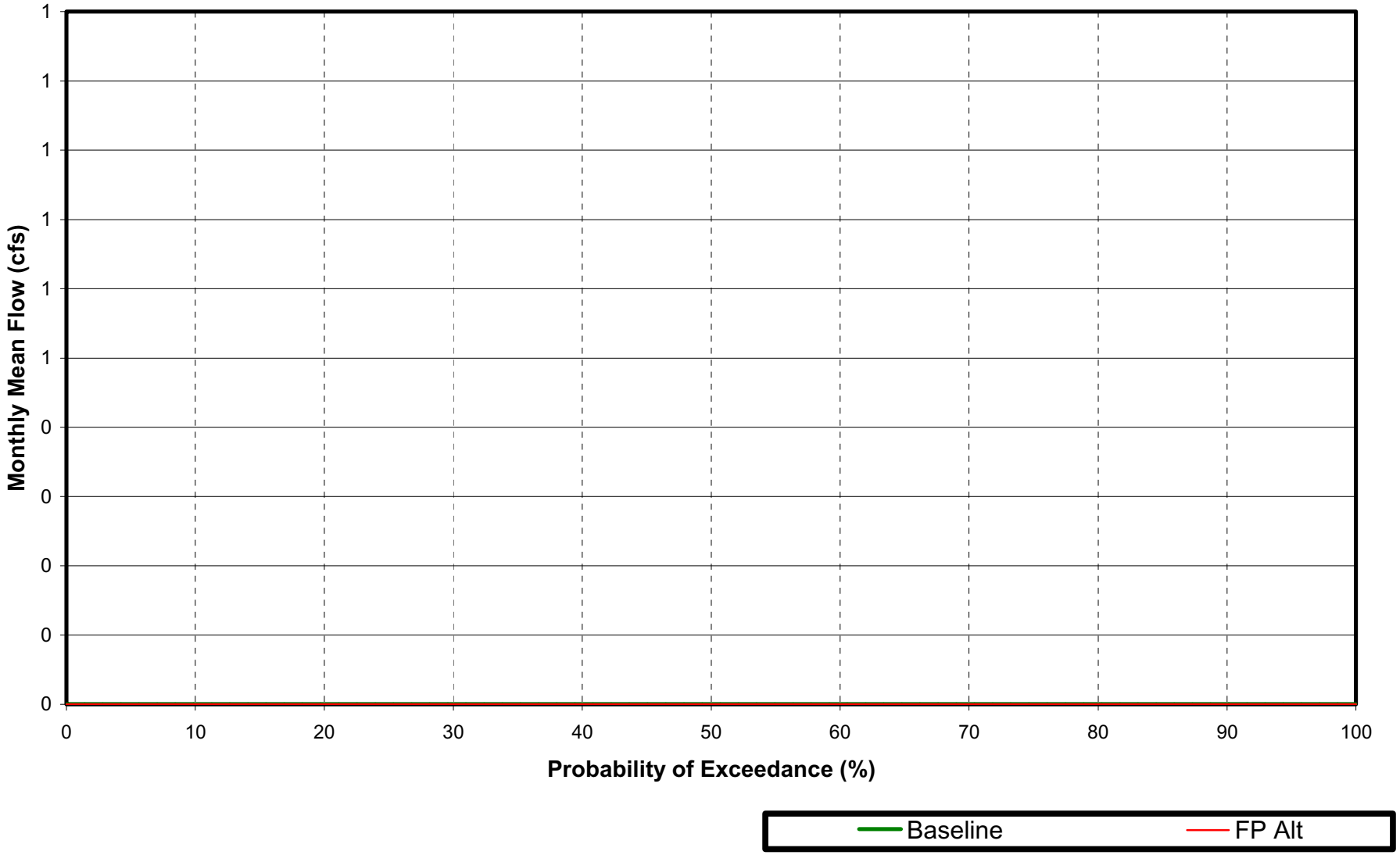
Upper American River Flow Below the Auburn Dam Site Diversion During March Under Baseline and FP Alt Conditions



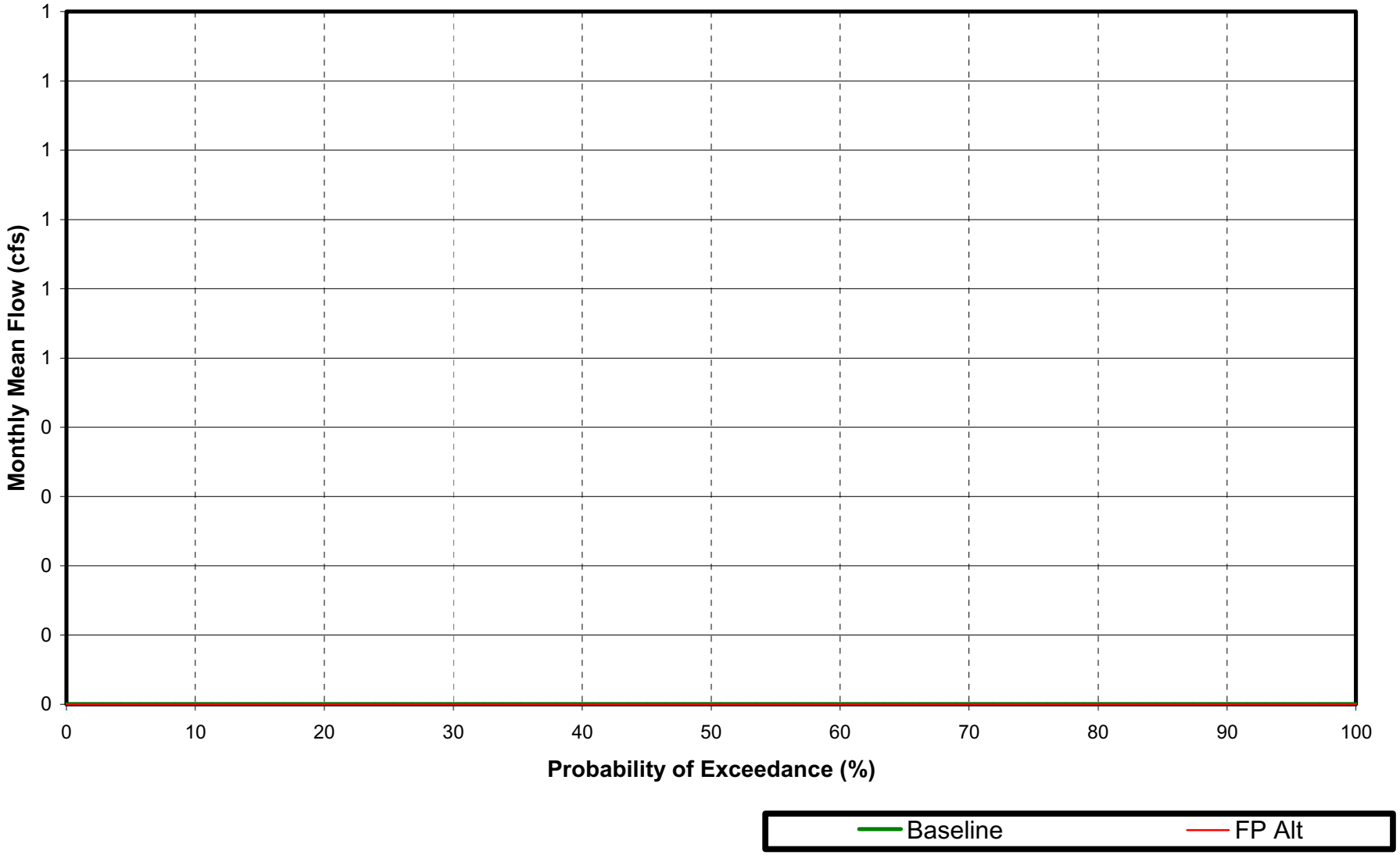
Upper American River Flow Below the Auburn Dam Site Diversion During April Under Baseline and FP Alt Conditions



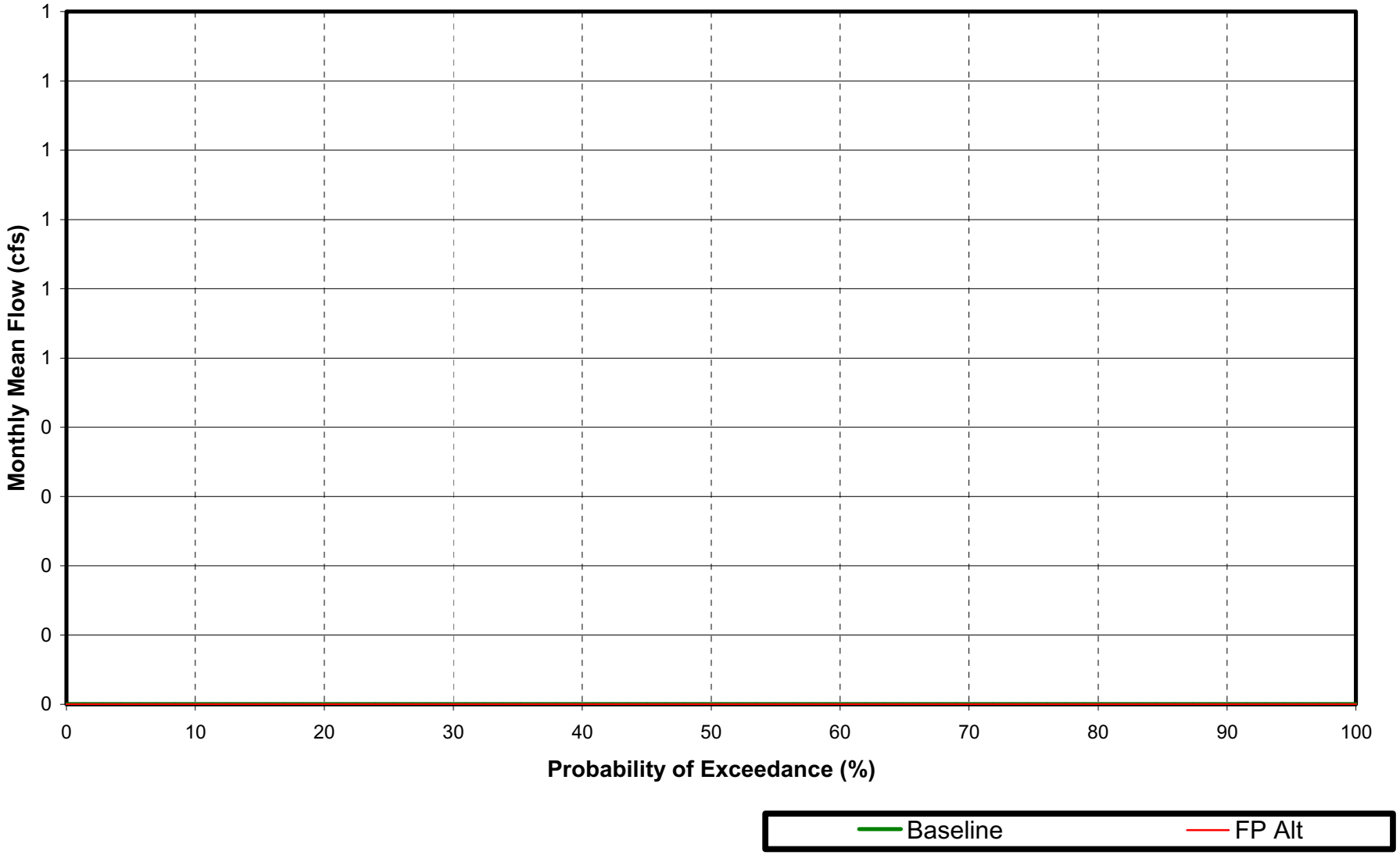
Upper American River Flow Below the Auburn Dam Site Diversion During May Under Baseline and FP Alt Conditions



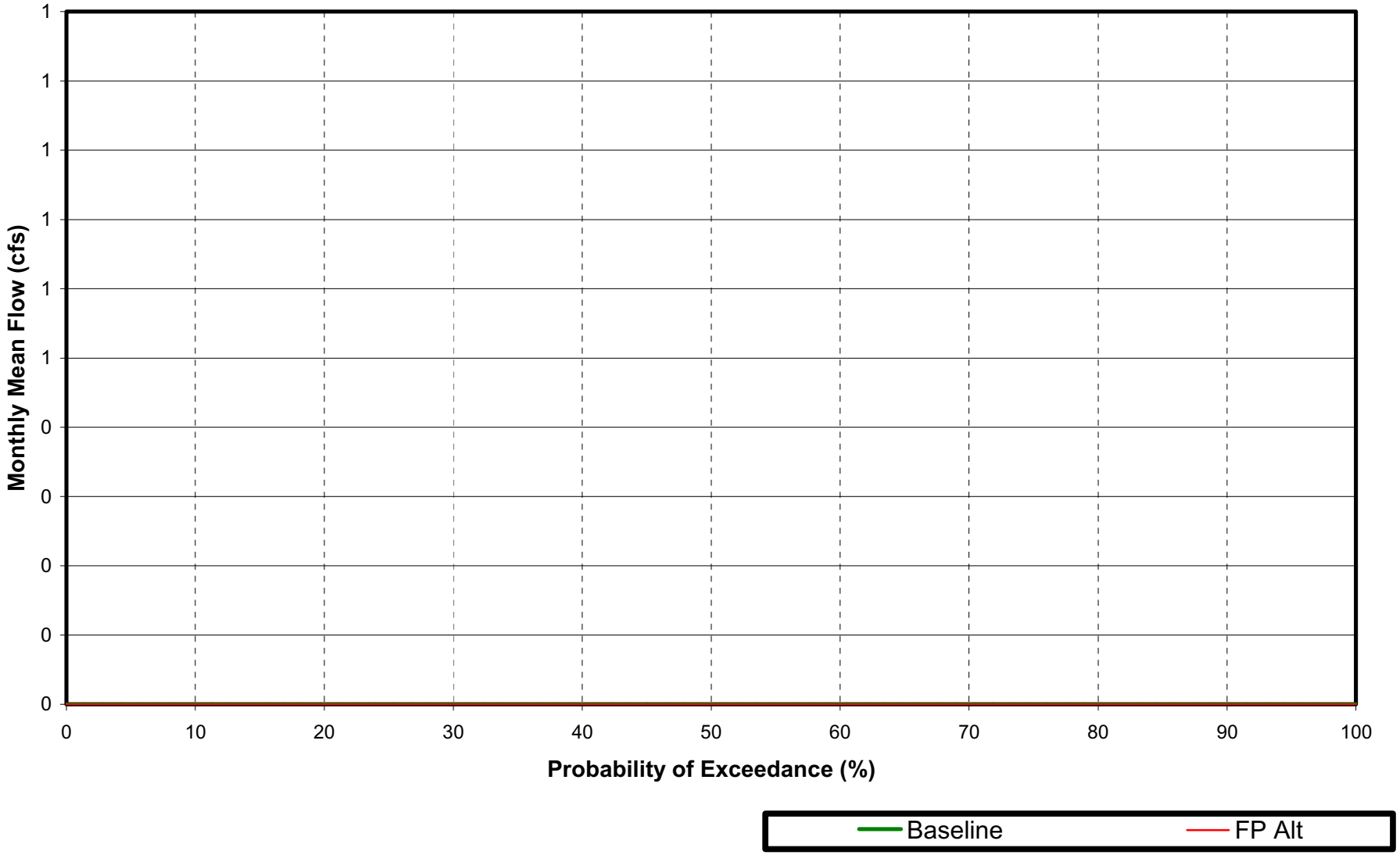
Upper American River Flow Below the Auburn Dam Site Diversion During June Under Baseline and FP Alt Conditions



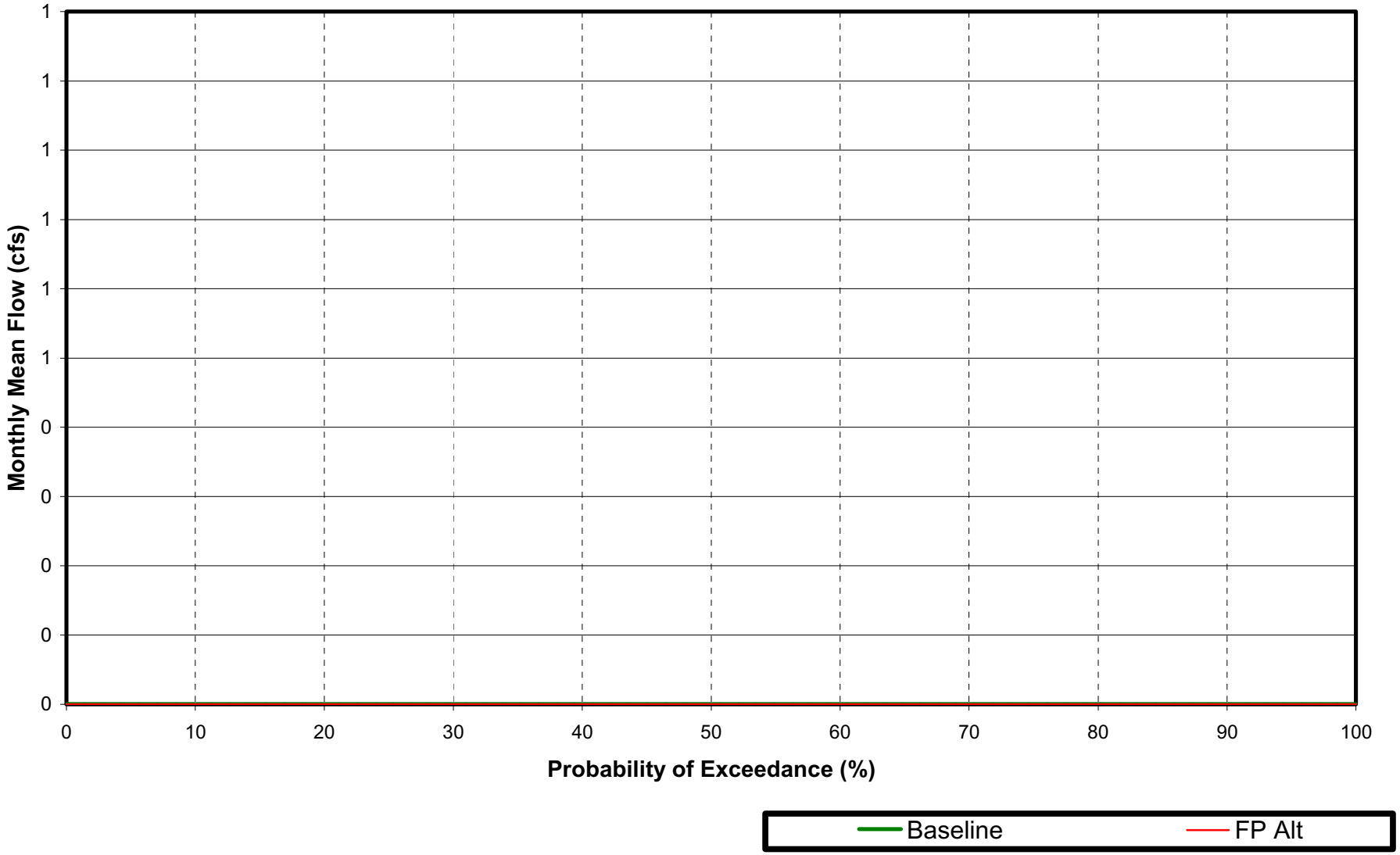
Upper American River Flow Below the Auburn Dam Site Diversion During July Under Baseline and FP Alt Conditions



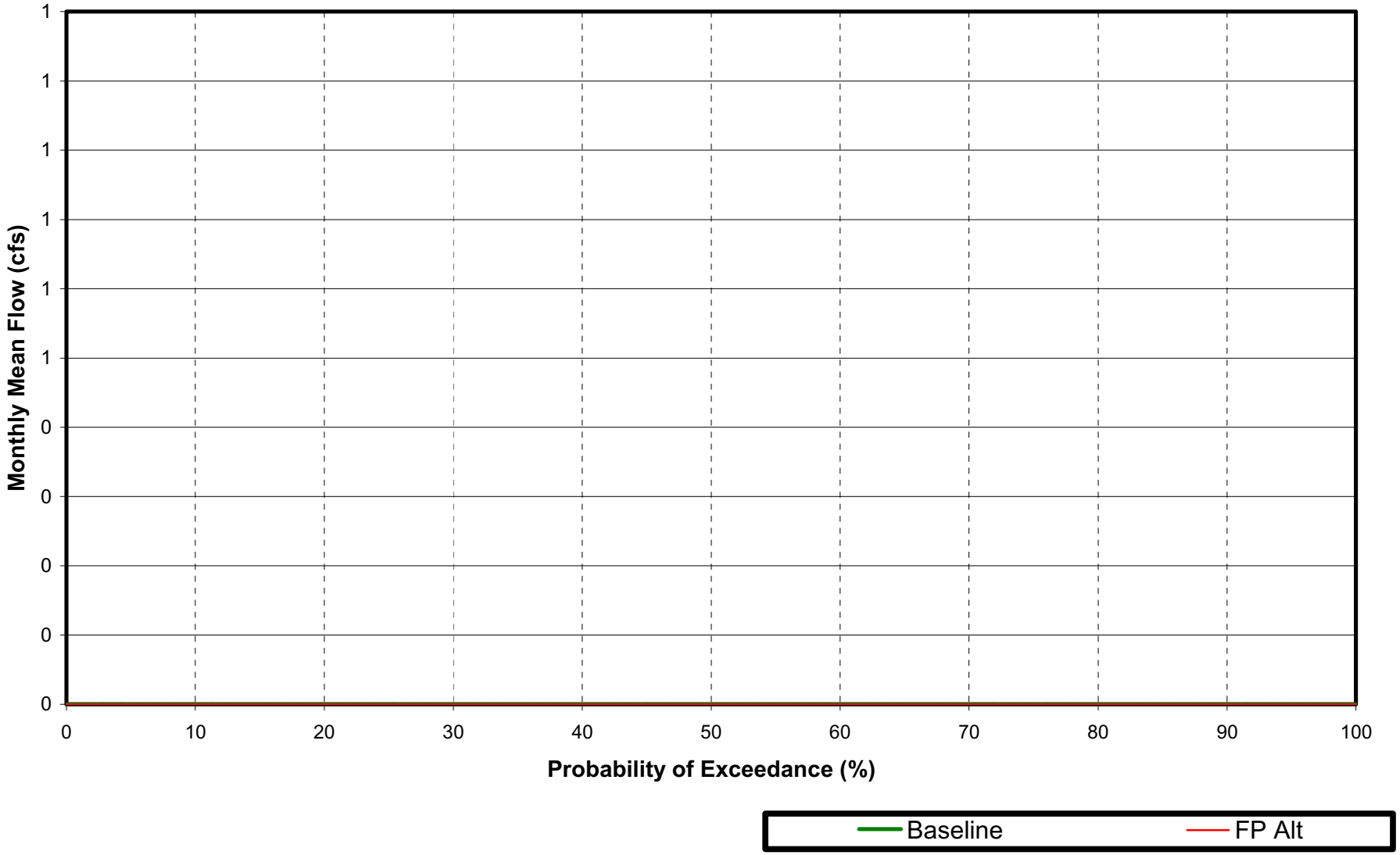
Upper American River Flow Below the Auburn Dam Site Diversion During August Under Baseline and FP Alt Conditions



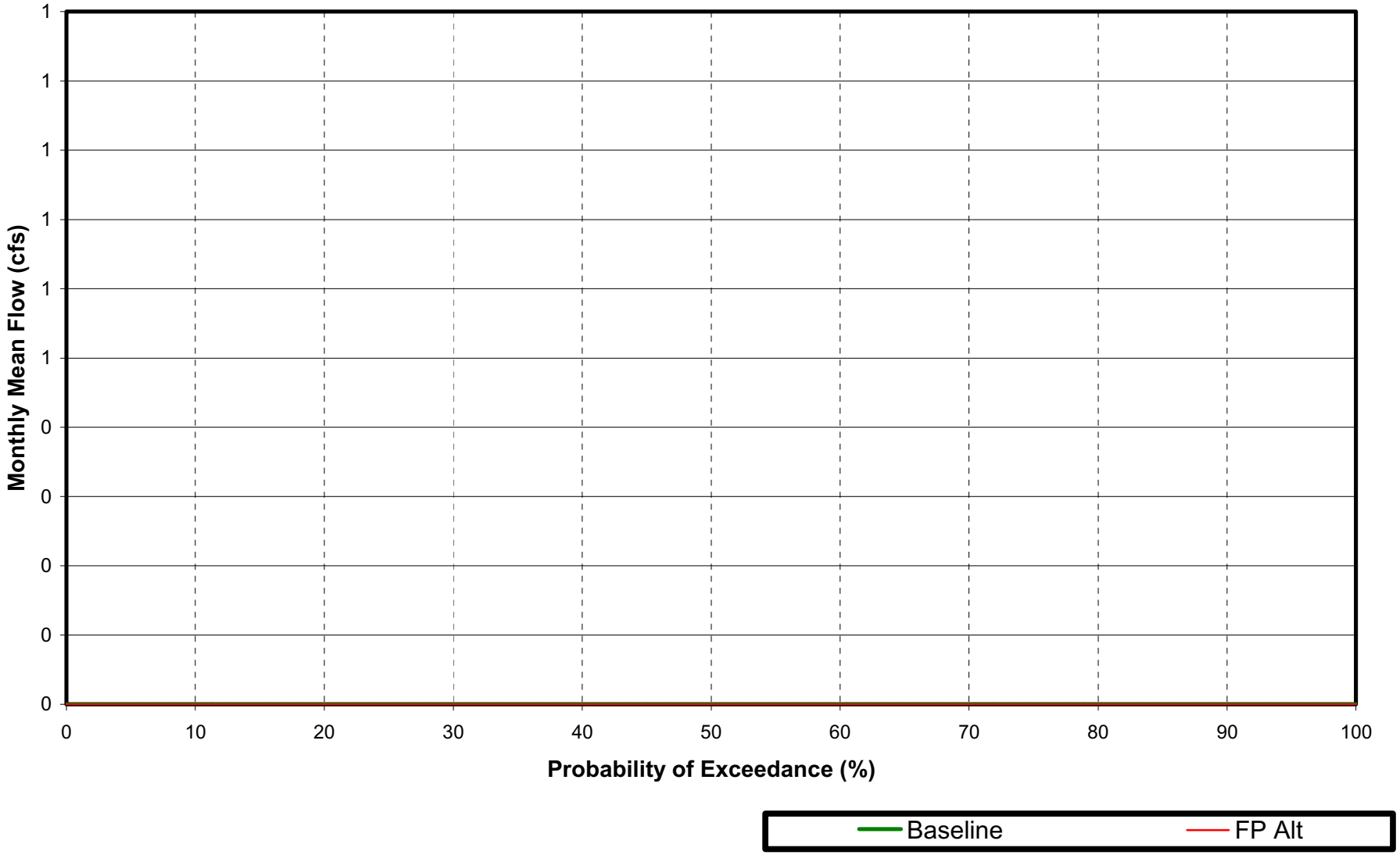
Upper American River Flow Below the Auburn Dam Site Diversion During September Under Baseline and FP Alt Conditions



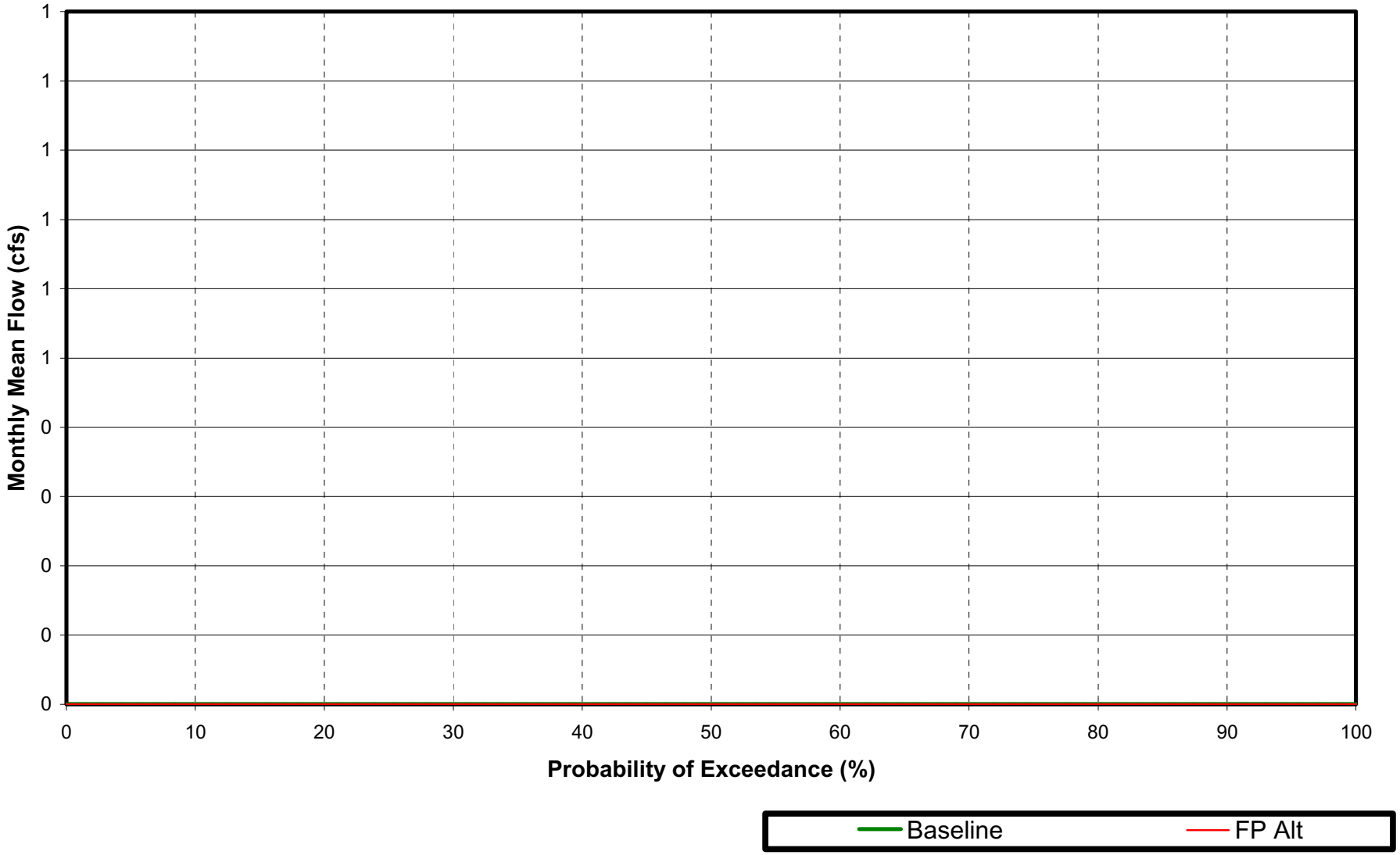
Upper American River Flow Above the Auburn Dam Site Diversion During October Under Baseline and FP Alt Conditions



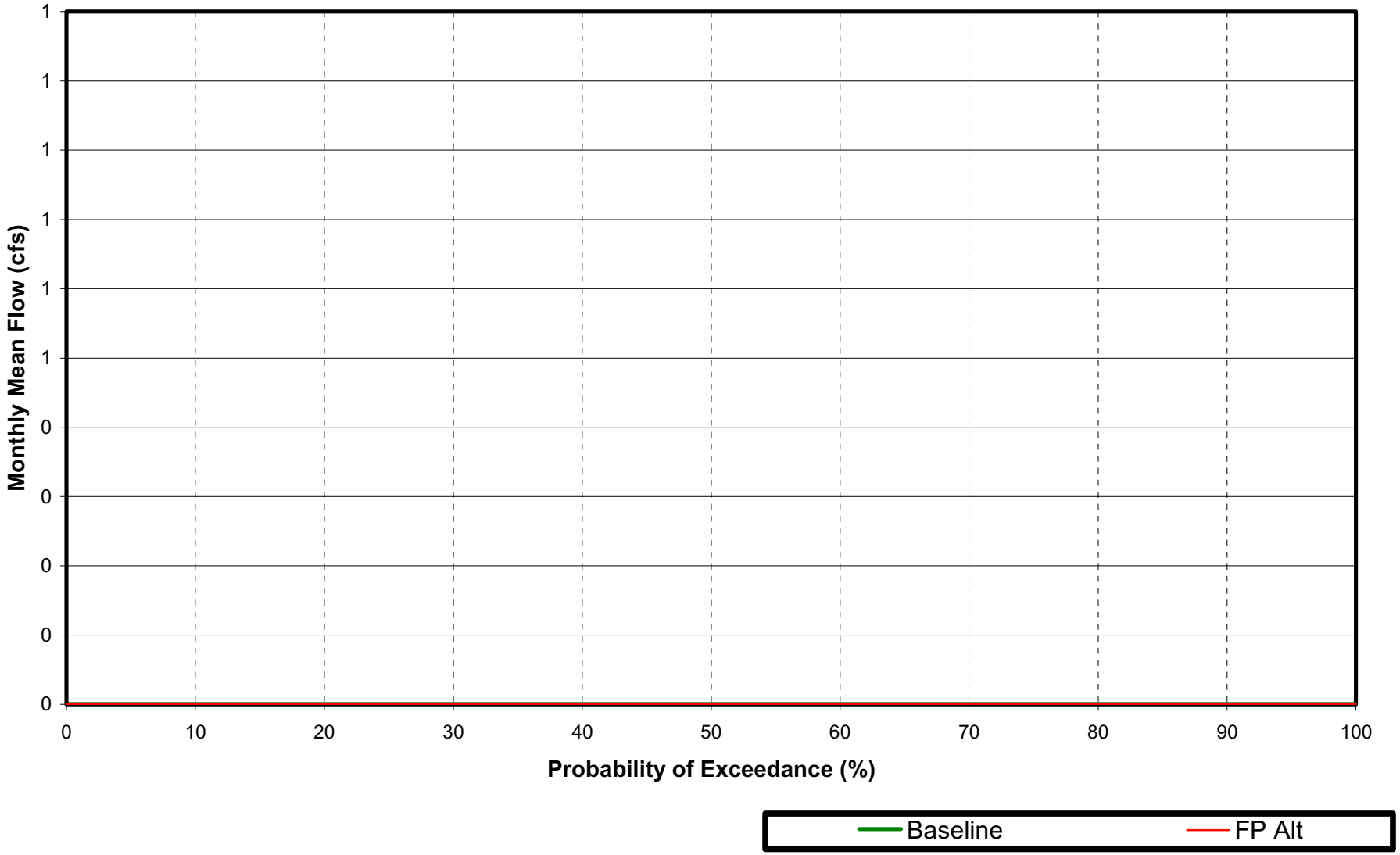
Upper American River Flow Above the Auburn Dam Site Diversion During November Under Baseline and FP Alt Conditions



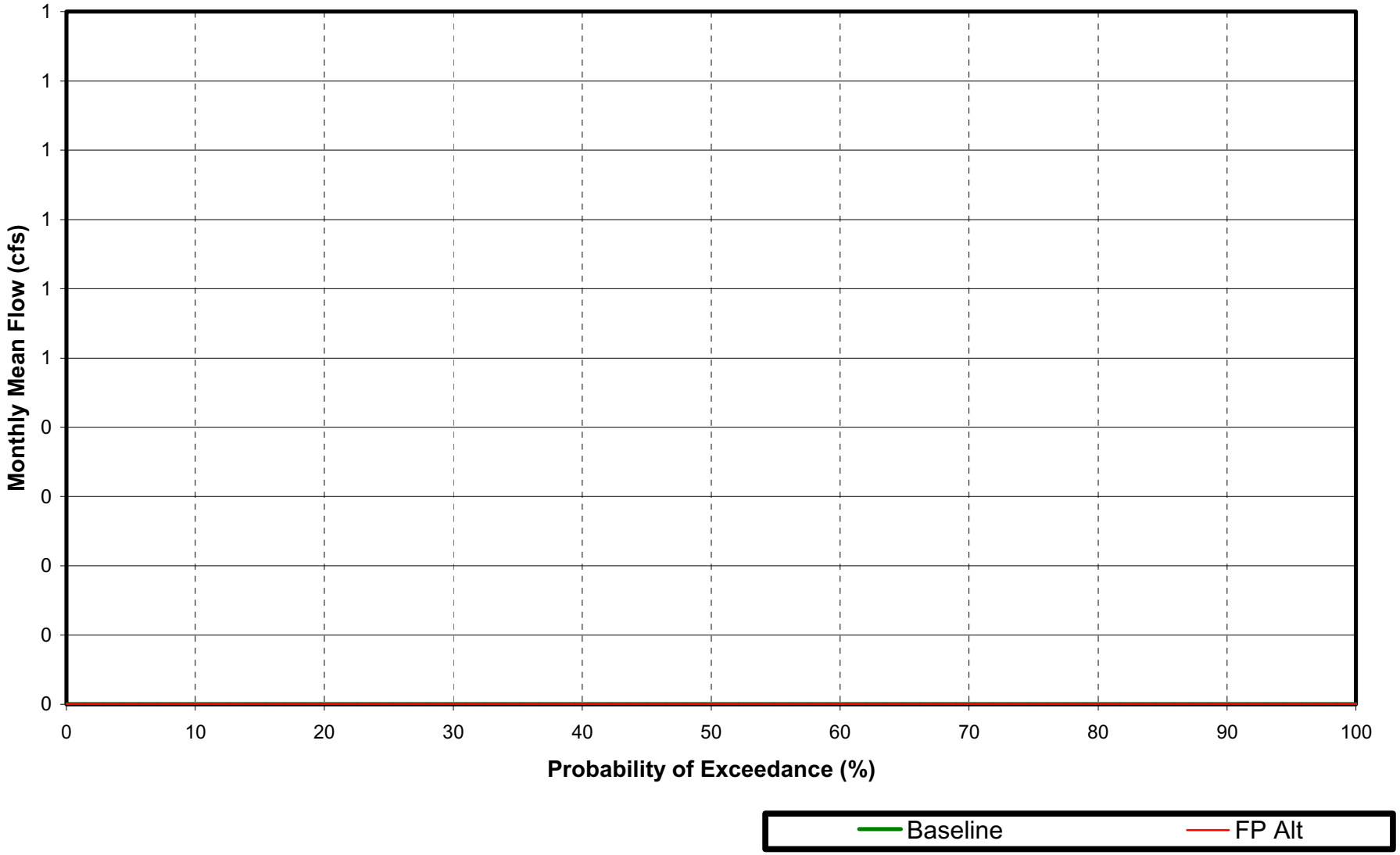
Upper American River Flow Above the Auburn Dam Site Diversion During December Under Baseline and FP Alt Conditions



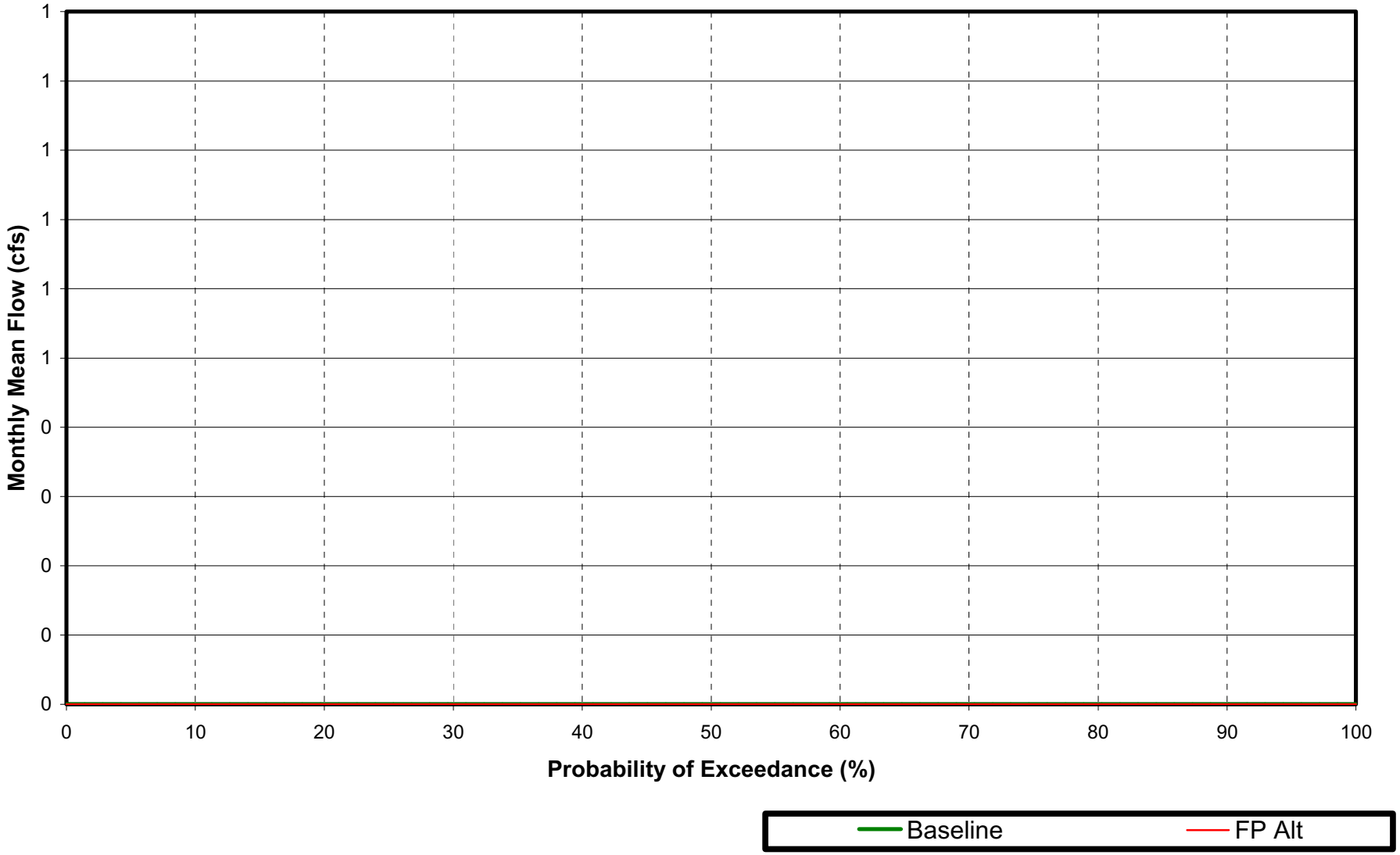
Upper American River Flow Above the Auburn Dam Site Diversion During January Under Baseline and FP Alt Conditions



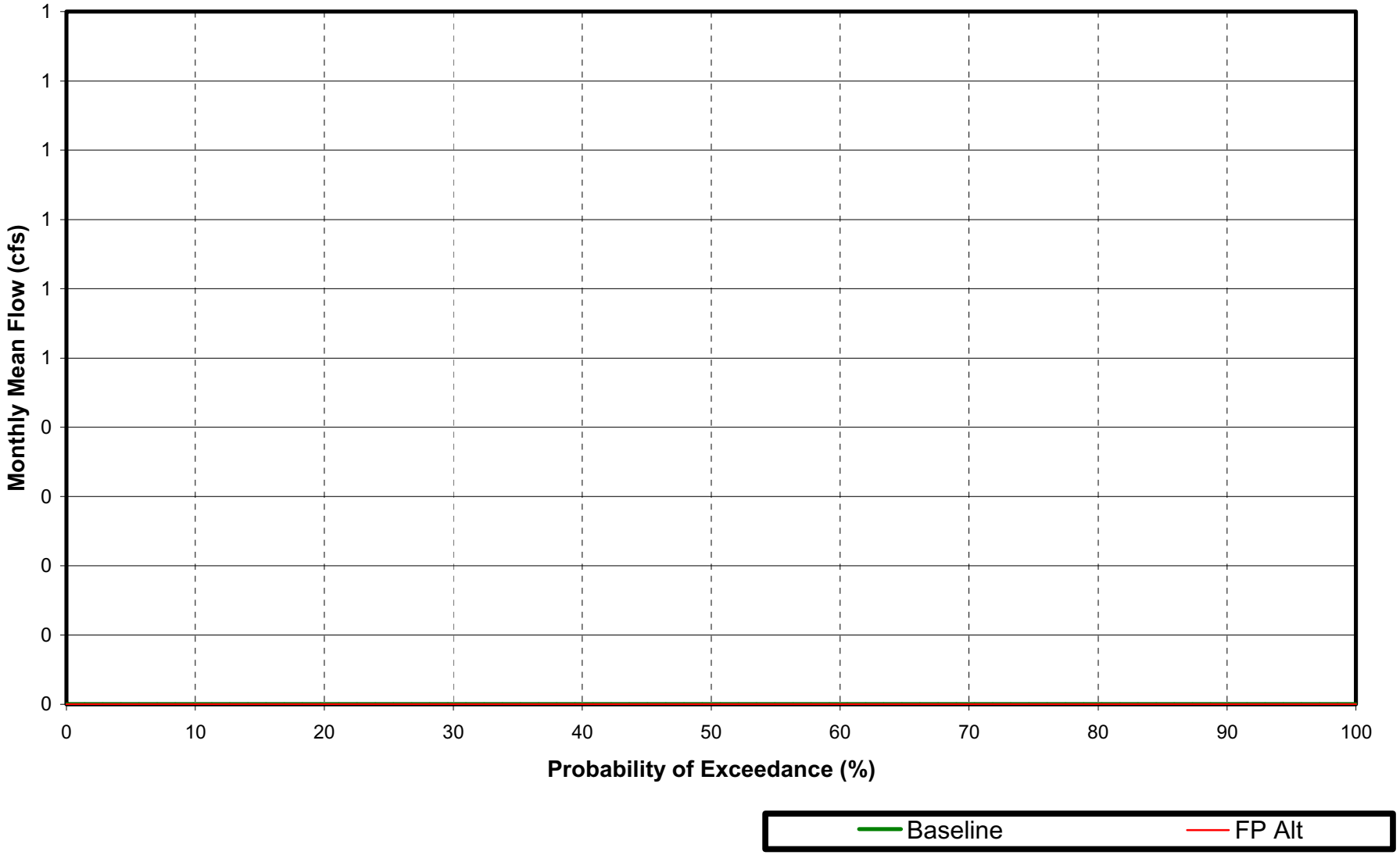
Upper American River Flow Above the Auburn Dam Site Diversion During February Under Baseline and FP Alt Conditions



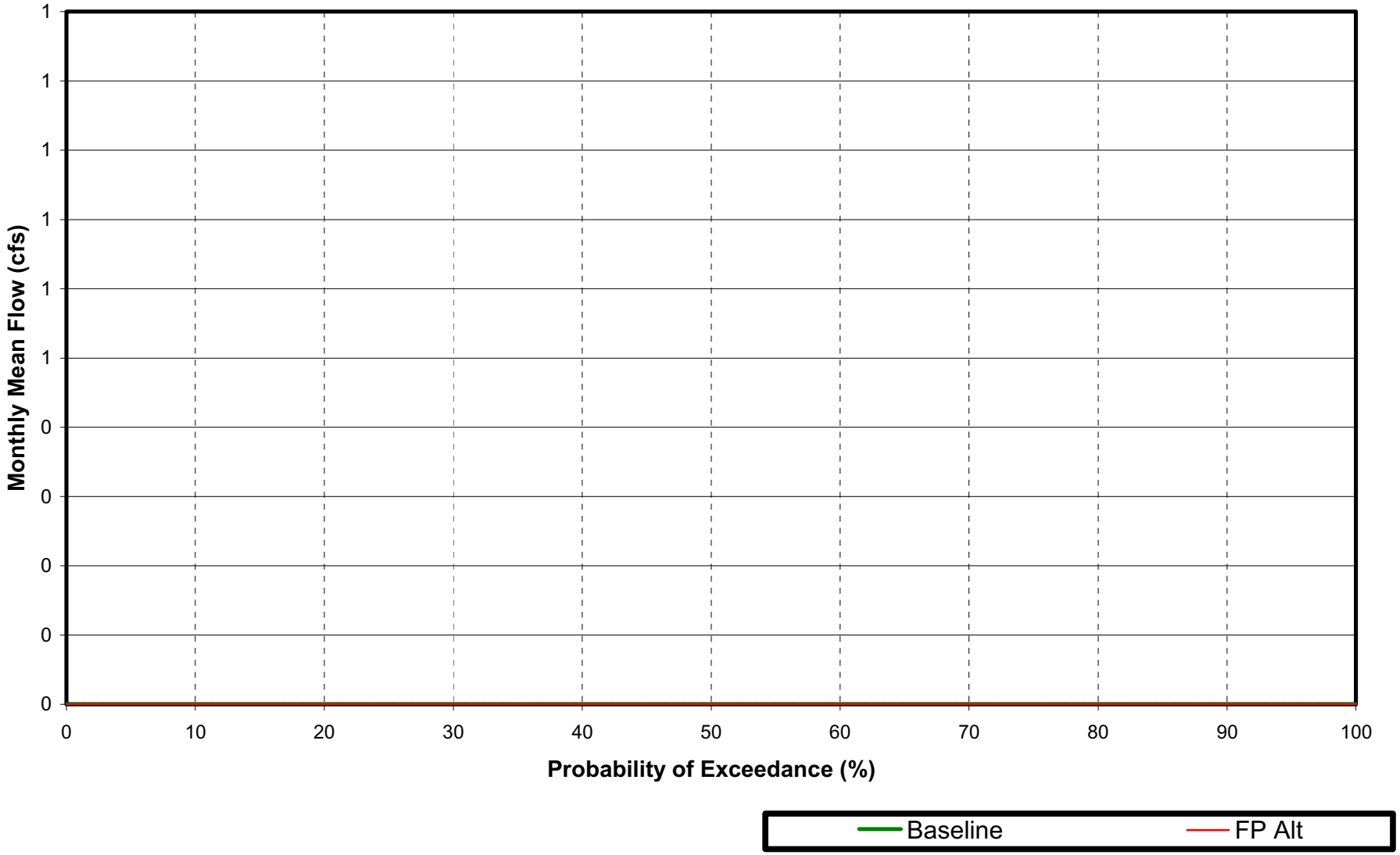
Upper American River Flow Above the Auburn Dam Site Diversion During March Under Baseline and FP Alt Conditions



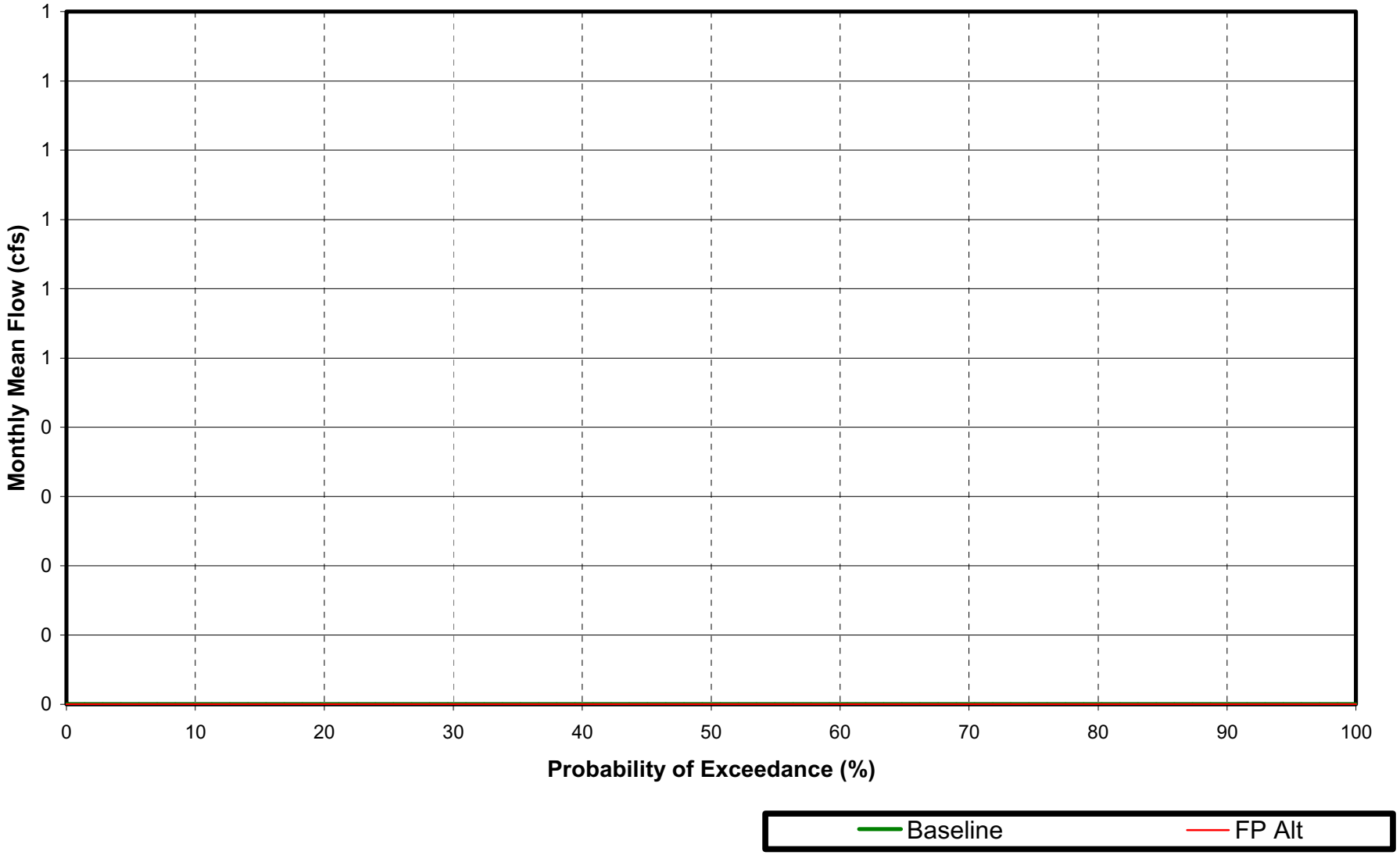
Upper American River Flow Above the Auburn Dam Site Diversion During April Under Baseline and FP Alt Conditions



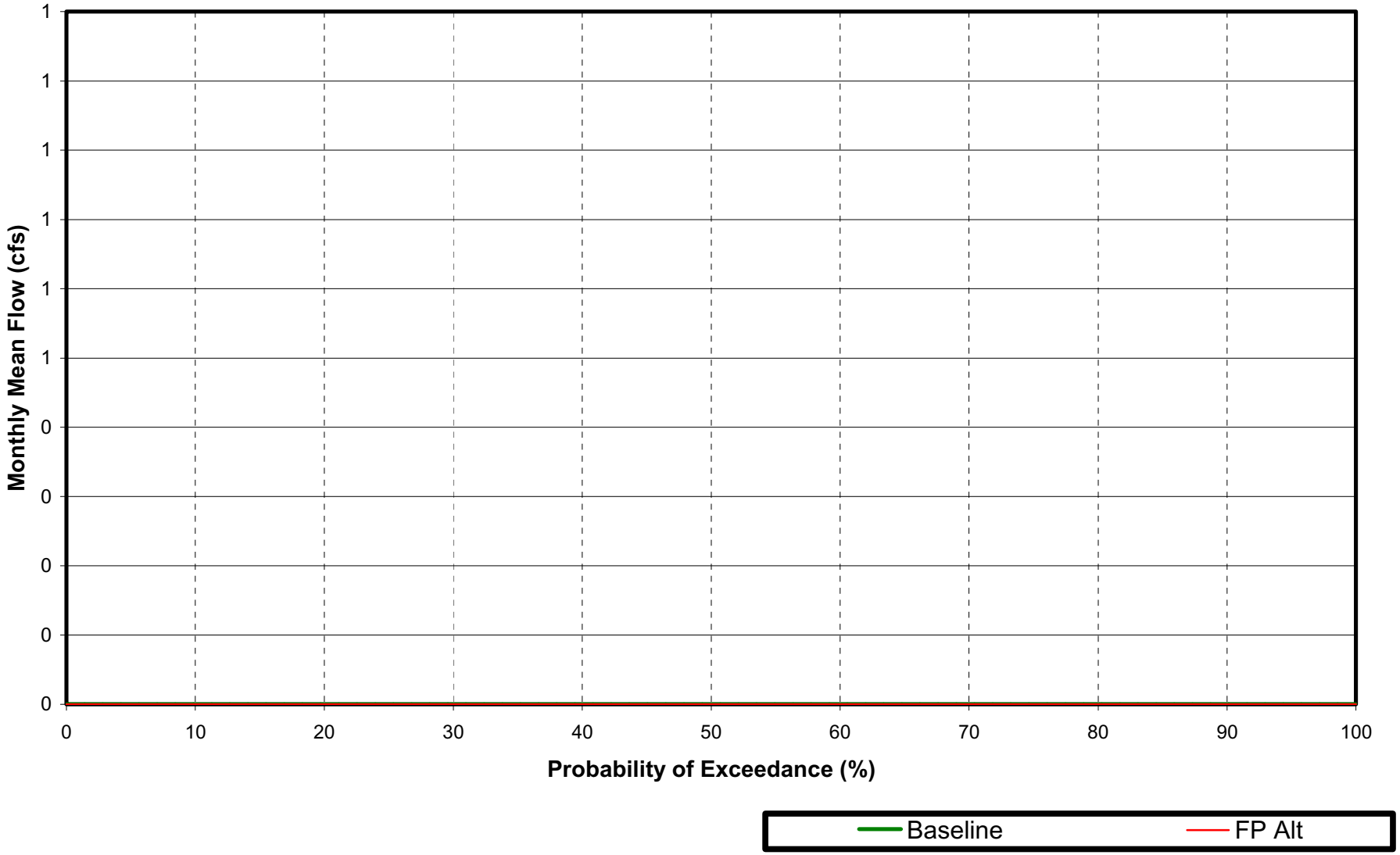
Upper American River Flow Above the Auburn Dam Site Diversion During May Under Baseline and FP Alt Conditions



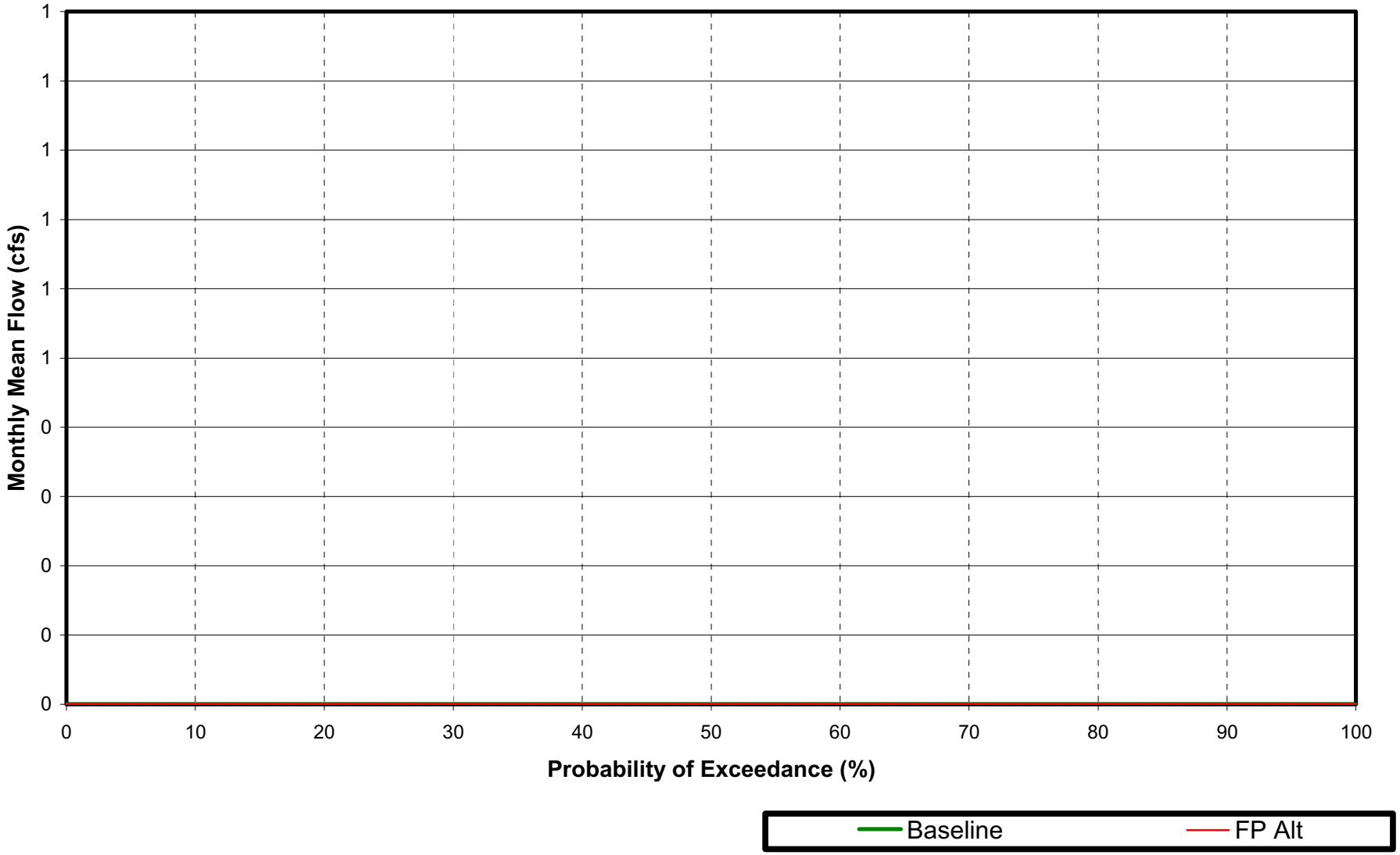
Upper American River Flow Above the Auburn Dam Site Diversion During June Under Baseline and FP Alt Conditions



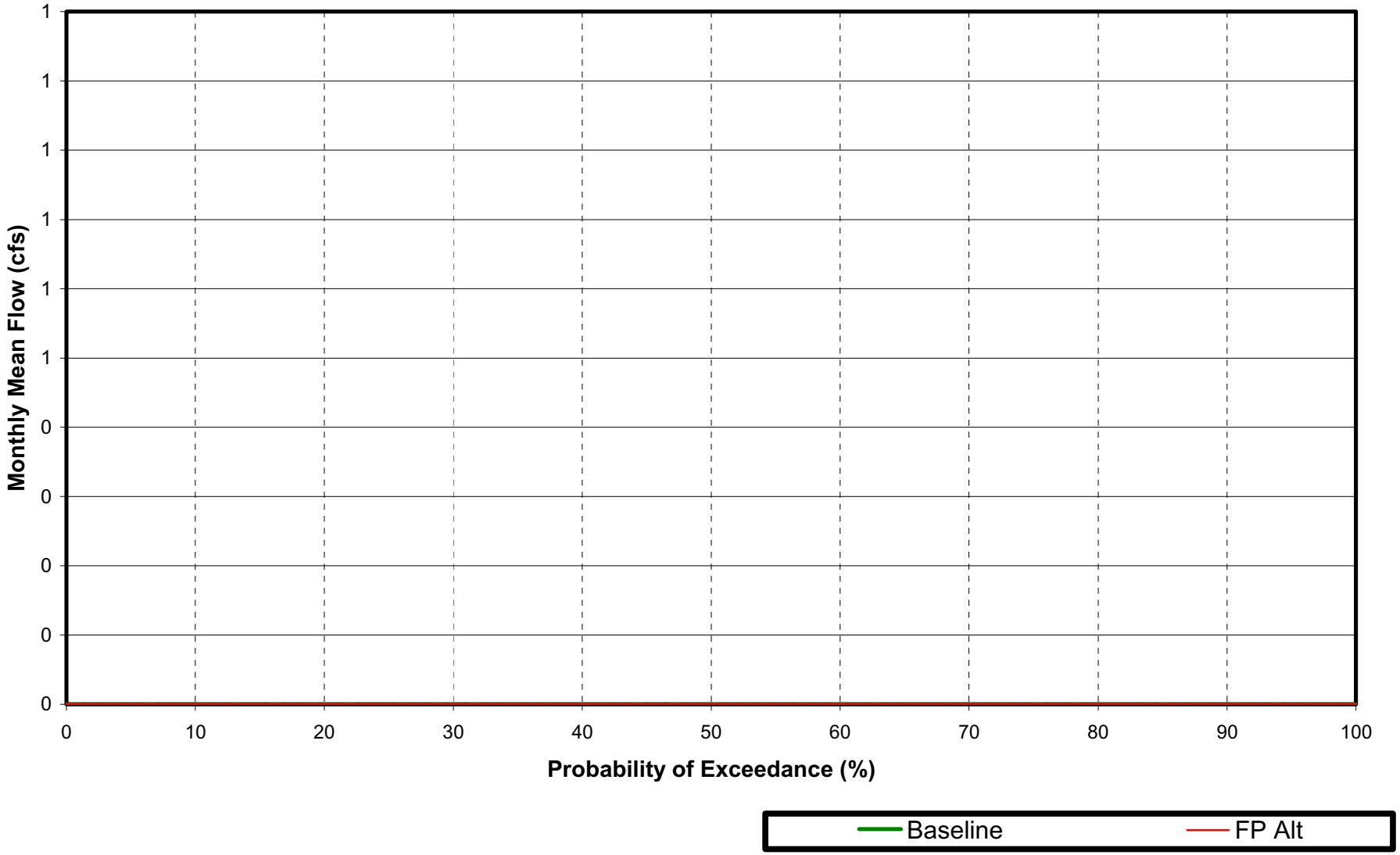
Upper American River Flow Above the Auburn Dam Site Diversion During July Under Baseline and FP Alt Conditions



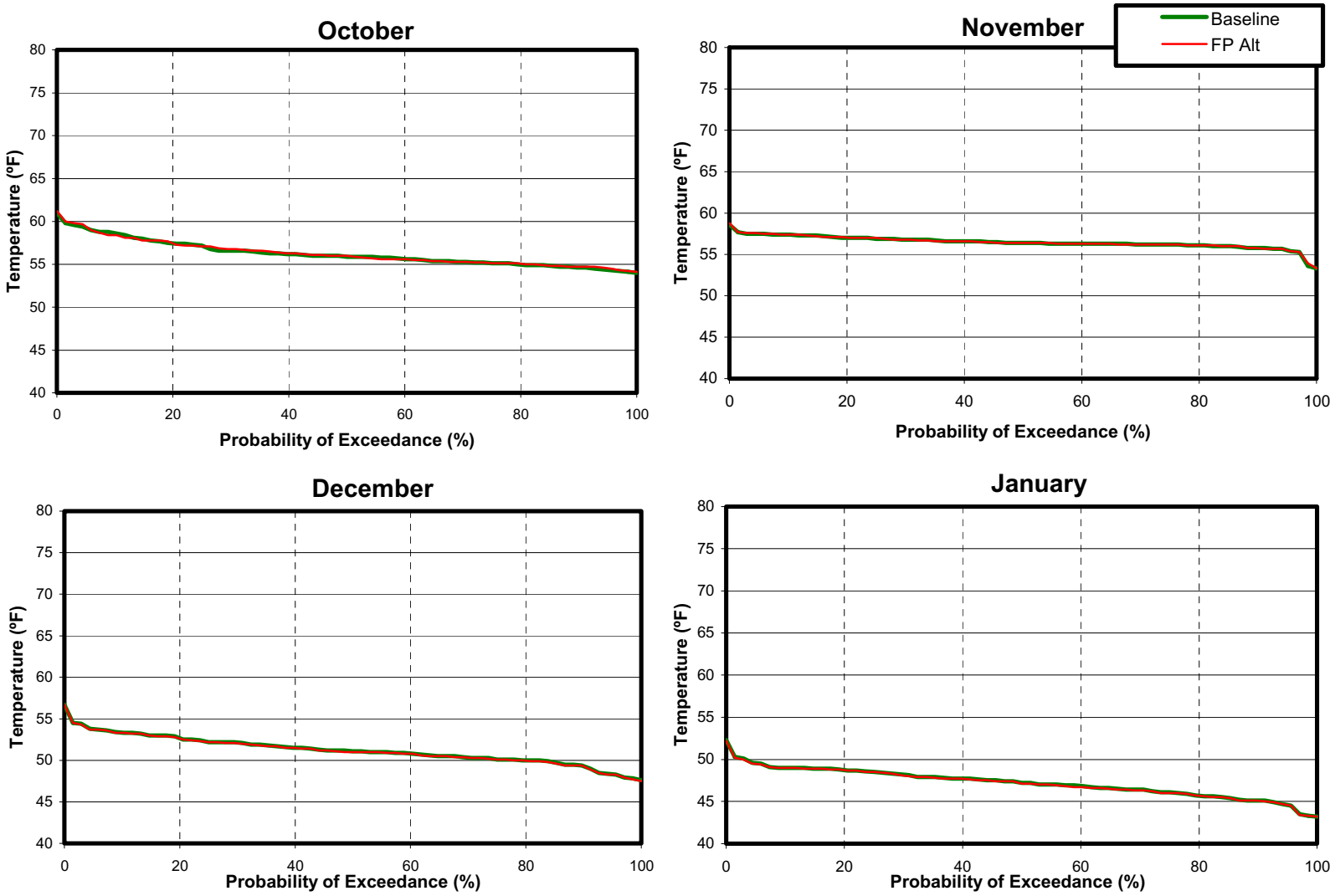
Upper American River Flow Above the Auburn Dam Site Diversion During August Under Baseline and FP Alt Conditions



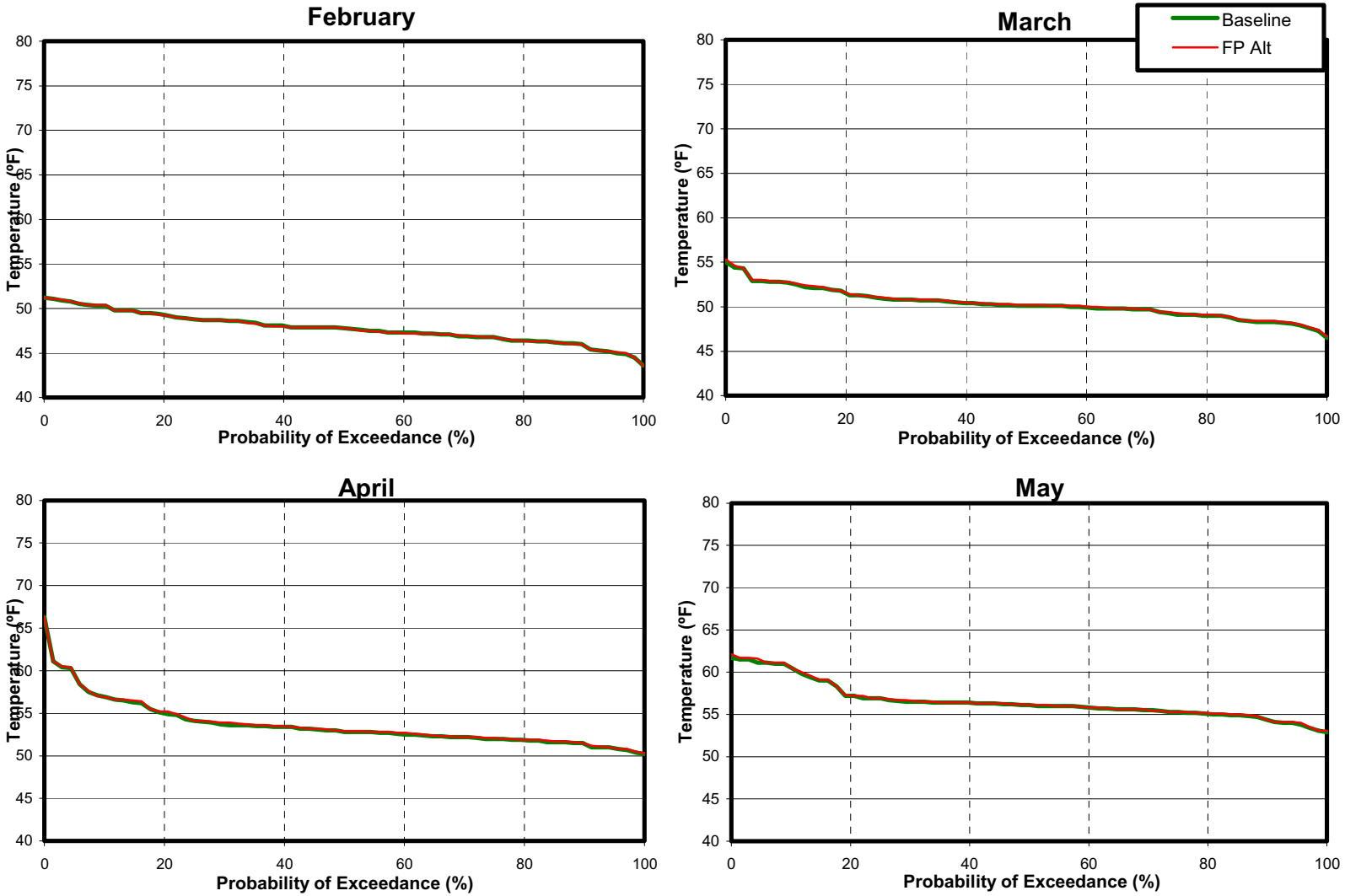
Upper American River Flow Above the Auburn Dam Site Diversion During September Under Baseline and FP Alt Conditions



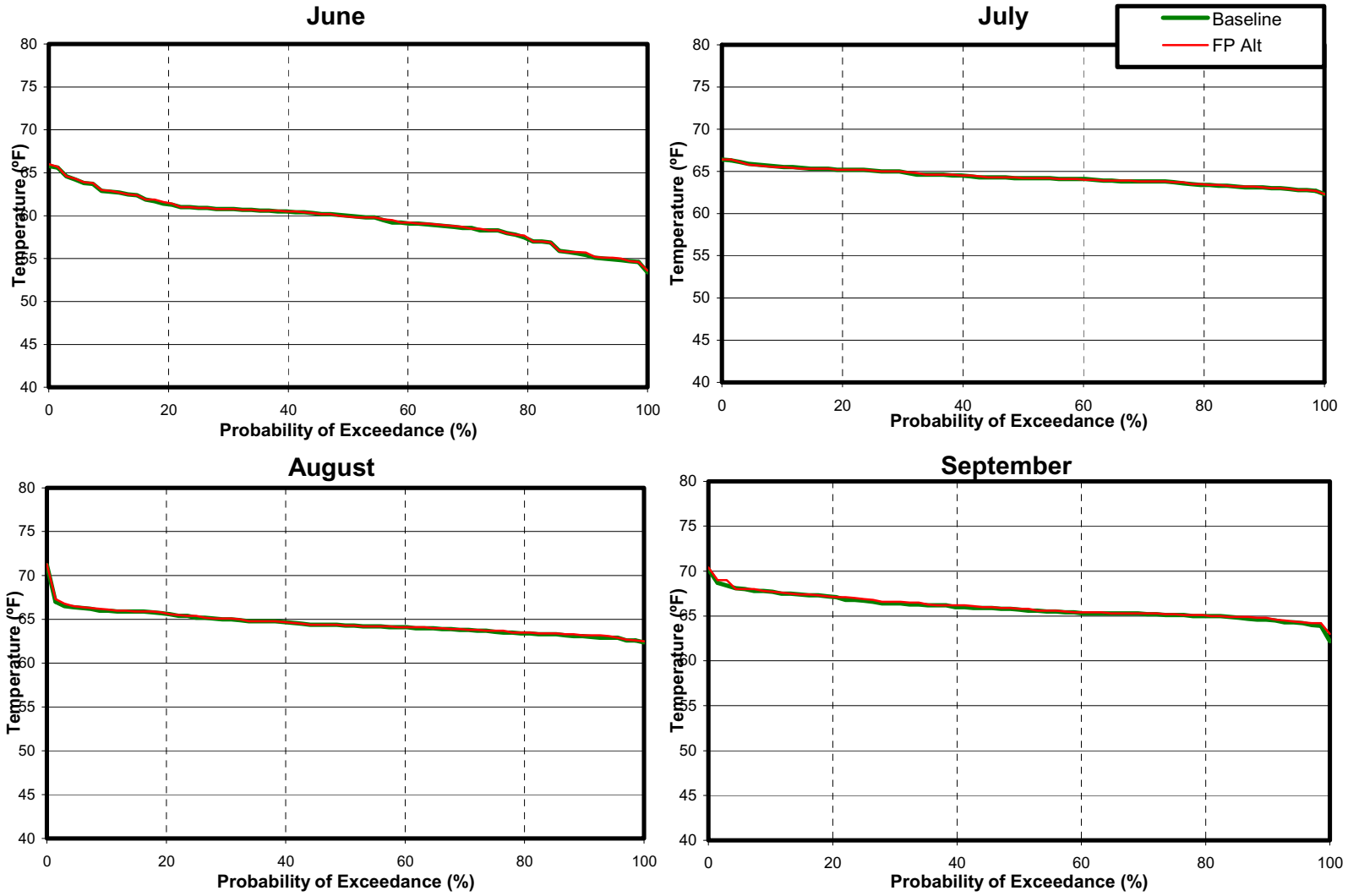
Temperature in the American River below Nimbus Dam Under Baseline and FP Alt Conditions



Temperature in the American River below Nimbus Dam Under Baseline and FP Alt Conditions



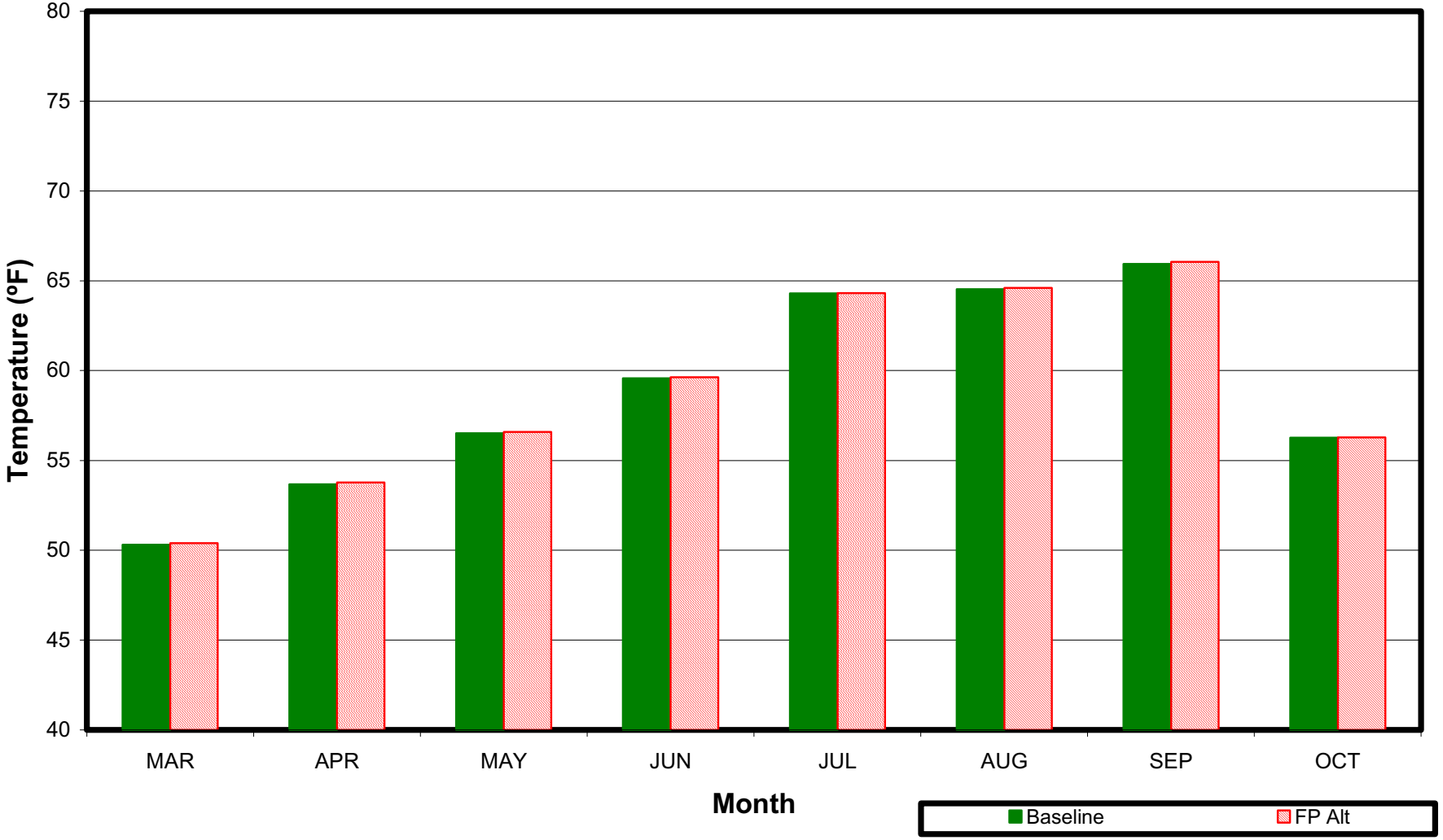
Temperature in the American River below Nimbus Dam Under Baseline and FP Alt Conditions



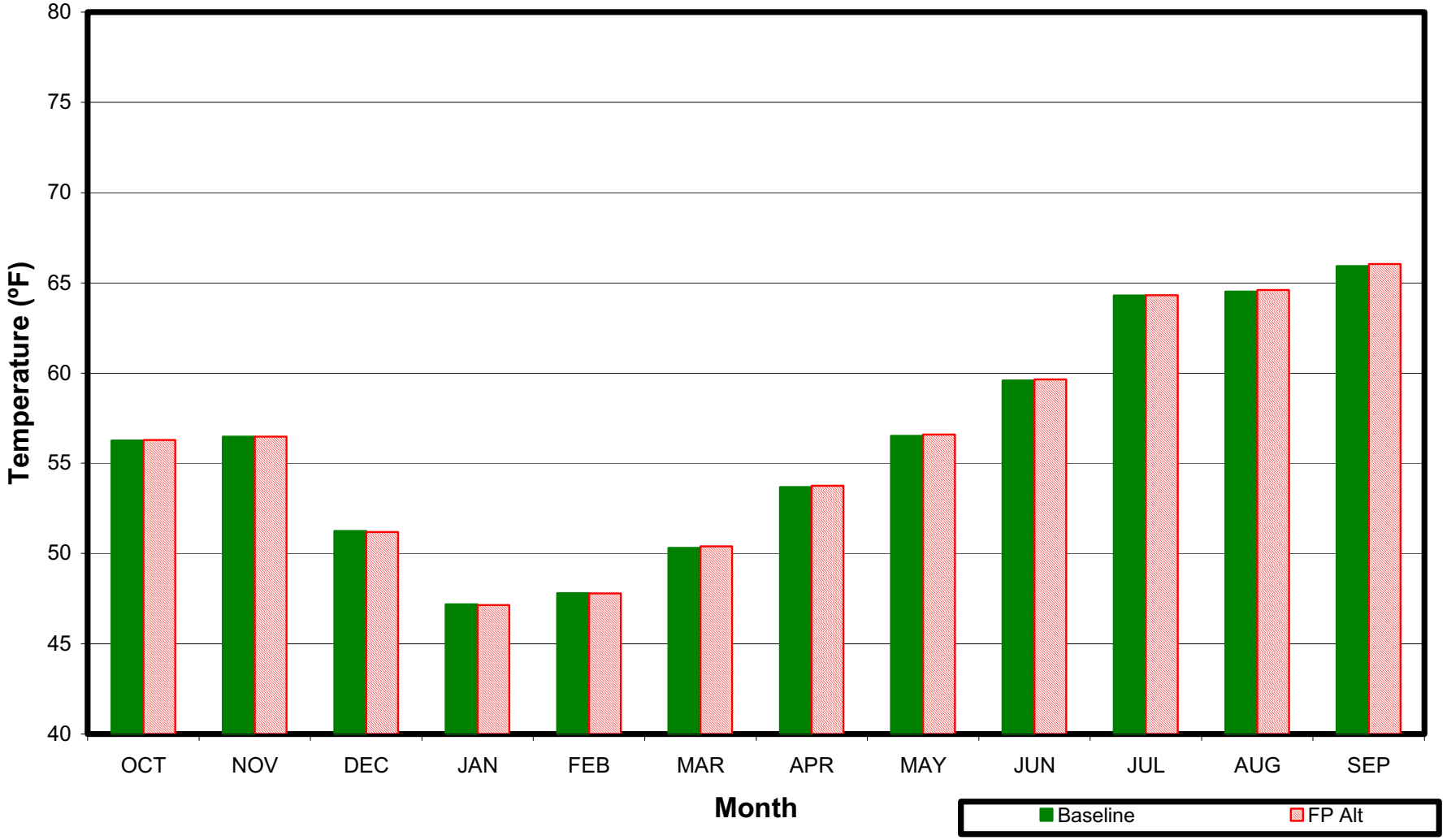
Long-term Average Water Temperature in the American River below Nimbus Dam Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	56.3	56.3	0.0
Nov	56.5	56.5	0.0
Dec	51.2	51.2	0.0
Jan	47.2	47.1	-0.1
Feb	47.8	47.8	0.0
Mar	50.3	50.4	0.1
Apr	53.7	53.8	0.1
May	56.5	56.6	0.1
Jun	59.6	59.6	0.0
Jul	64.3	64.3	0.0
Aug	64.5	64.6	0.1
Sep	65.9	66.1	0.2

[1] Based on 69 years modeled.

Long-term Average Temperature in the American River below Nimbus Dam Under Baseline and FP Alt Conditions



Long-term Average Temperature in the American River below Nimbus Dam Under Baseline and FP Alt Conditions



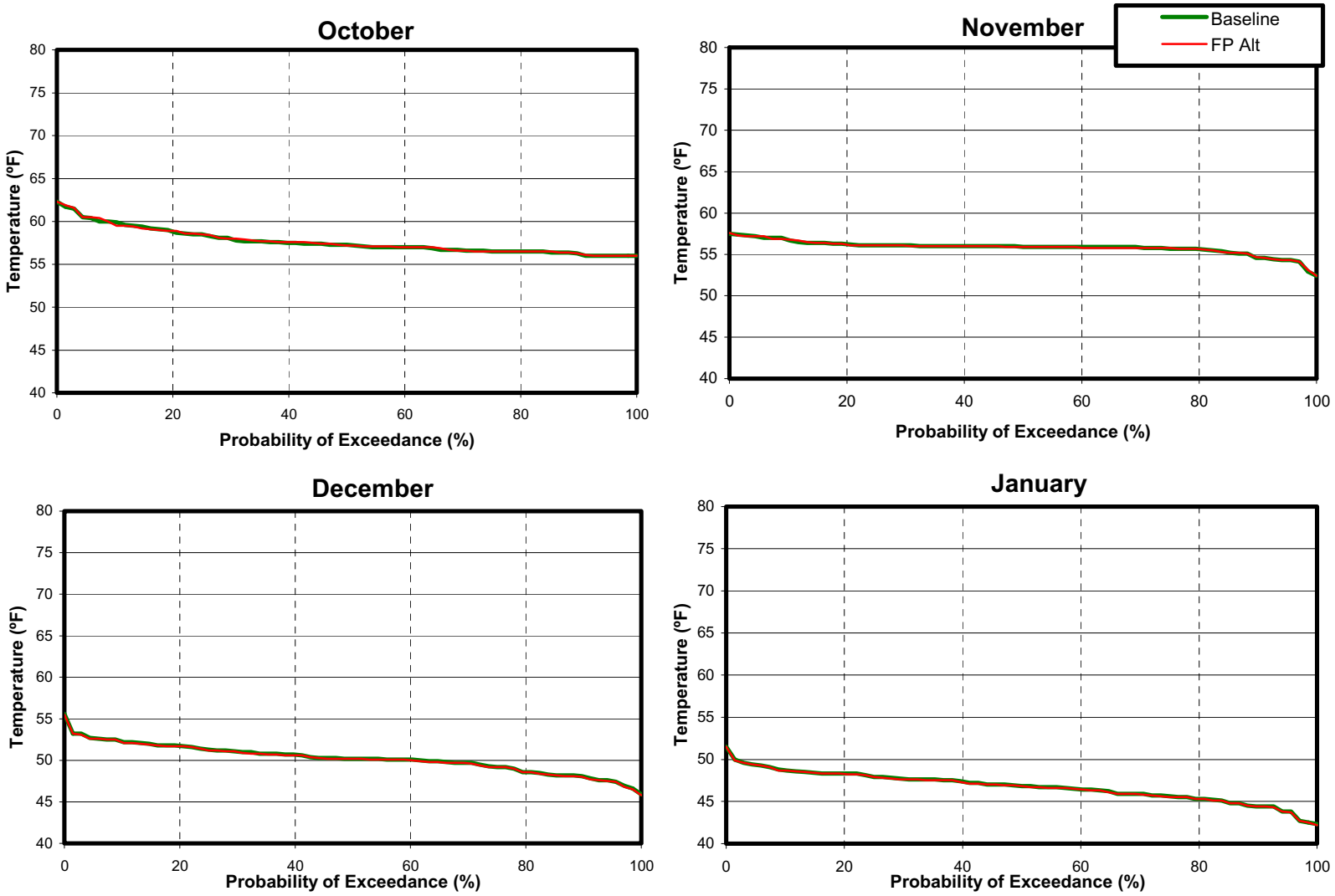
Water Temperature Exceeding Index Temperatures in the American River below Nimbus Dam Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

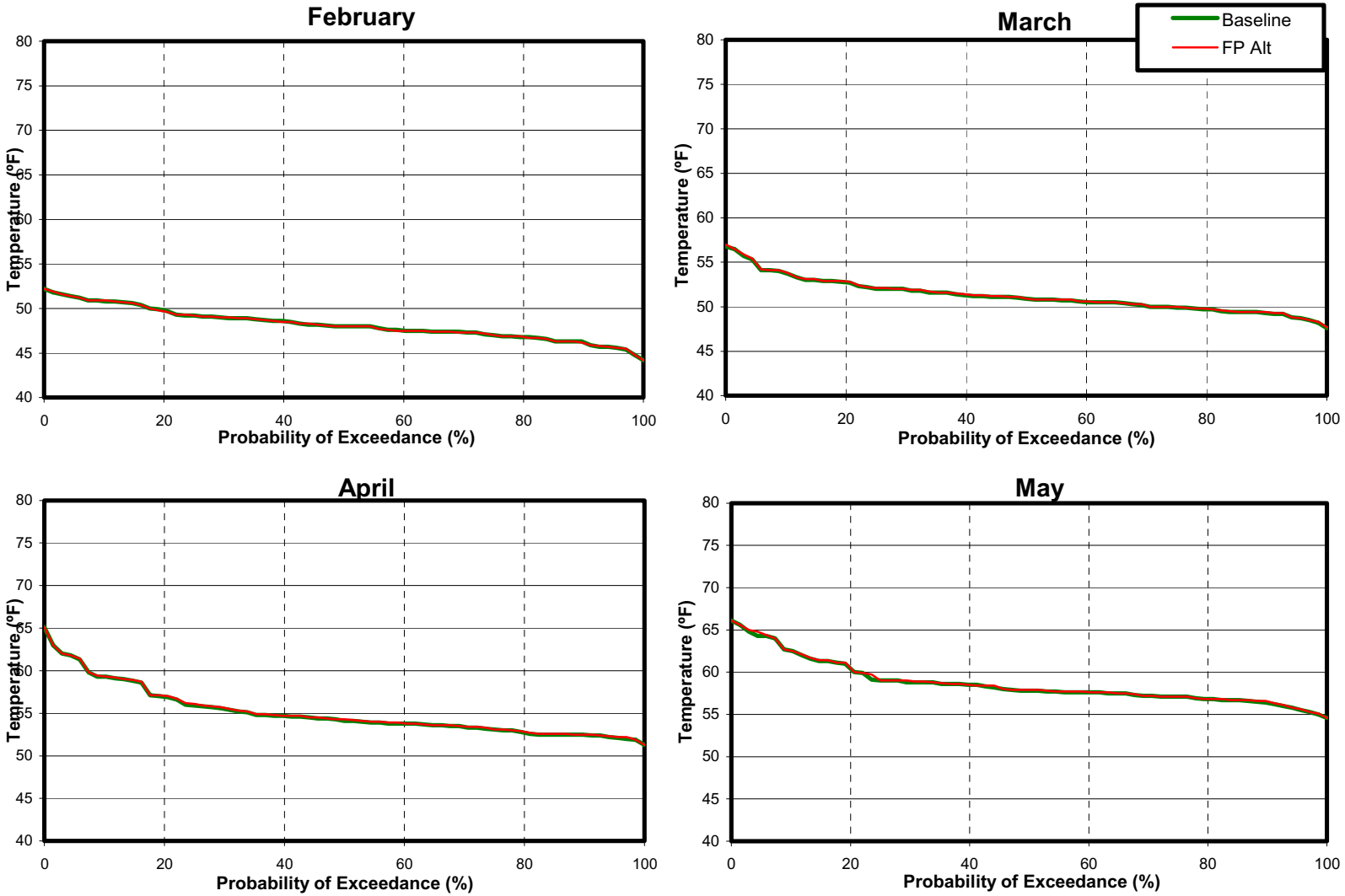
Index:	56º F		60º F		65º F		68º F		70º F	
Month	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	30 (57.6º)	32 (57.6º)	1 (61º)	1 (61.2º)	0	0	0	0	0	0
Nov	56 (56.7º)	57 (56.7º)	0	0	0	0	0	0	0	0
Dec	1 (56.7º)	1 (56.7º)	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0
Apr	12 (58.6º)	12 (58.7º)	4 (62º)	4 (62.1º)	1 (66.3º)	1 (66.3º)	0	0	0	0
May	35 (57.9º)	37 (57.9º)	8 (61.2º)	8 (61.3º)	0	0	0	0	0	0
Jun	58 (60.4º)	58 (60.5º)	34 (61.7º)	33 (61.8º)	2 (65.7º)	2 (65.8º)	0	0	0	0
Jul	69 (64.3º)	69 (64.3º)	69 (64.3º)	69 (64.3º)	18 (65.6º)	18 (65.5º)	0	0	0	0
Aug	69 (64.5º)	69 (64.6º)	69 (64.5º)	69 (64.6º)	20 (66.1º)	22 (66.1º)	1 (71.2º)	1 (71.3º)	1 (71.2º)	1 (71.3º)
Sep	69 (65.9º)	69 (66.1º)	69 (65.9º)	69 (66.1º)	53 (66.4º)	55 (66.4º)	4 (68.8º)	3 (69.5º)	1 (70.2º)	1 (70.4º)

[1] Based on 69 years modeled.

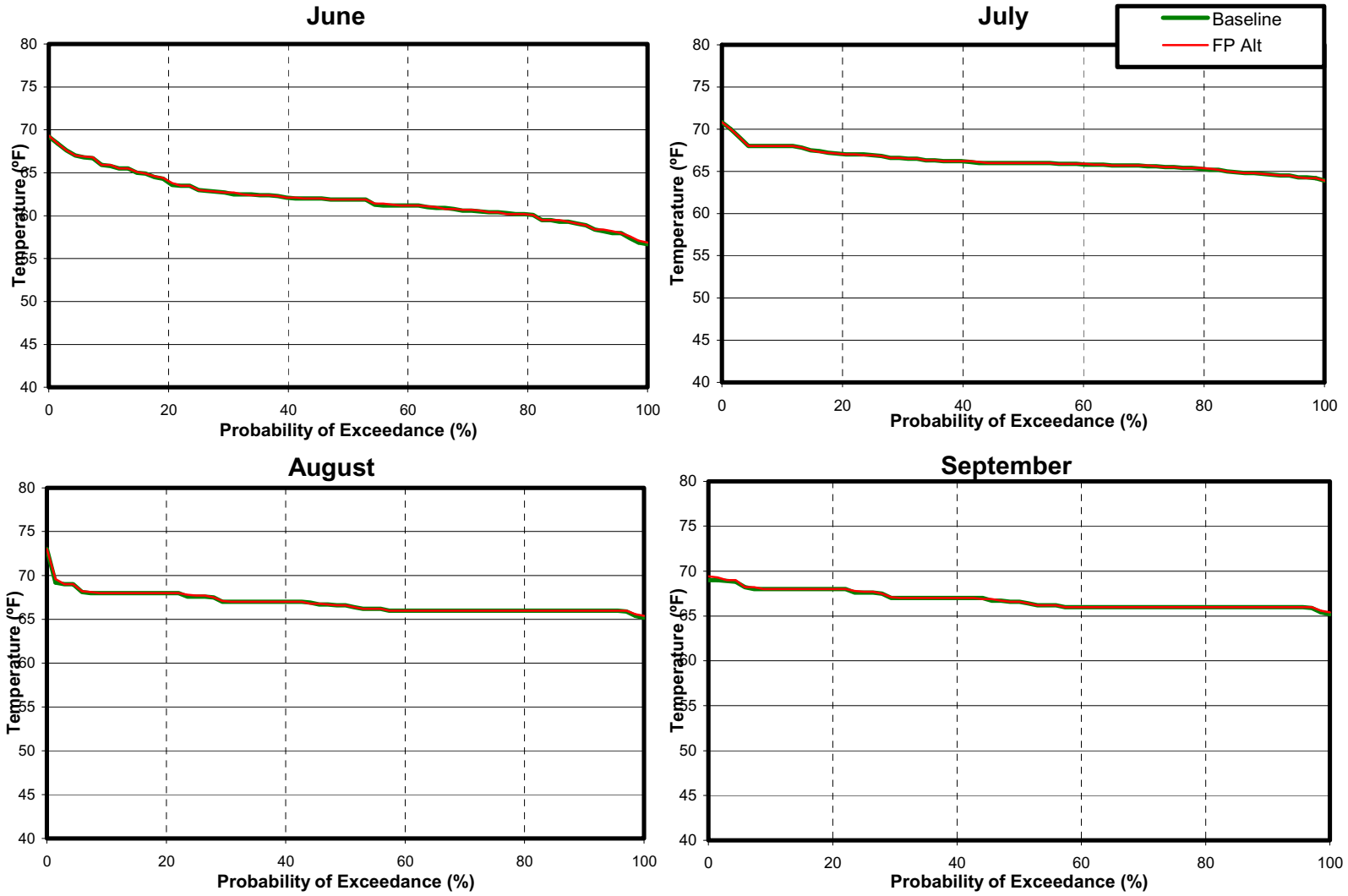
Temperature in the American River at Watt Ave Under Baseline and FP Alt Conditions



Temperature in the American River at Watt Ave Under Baseline and FP Alt Conditions



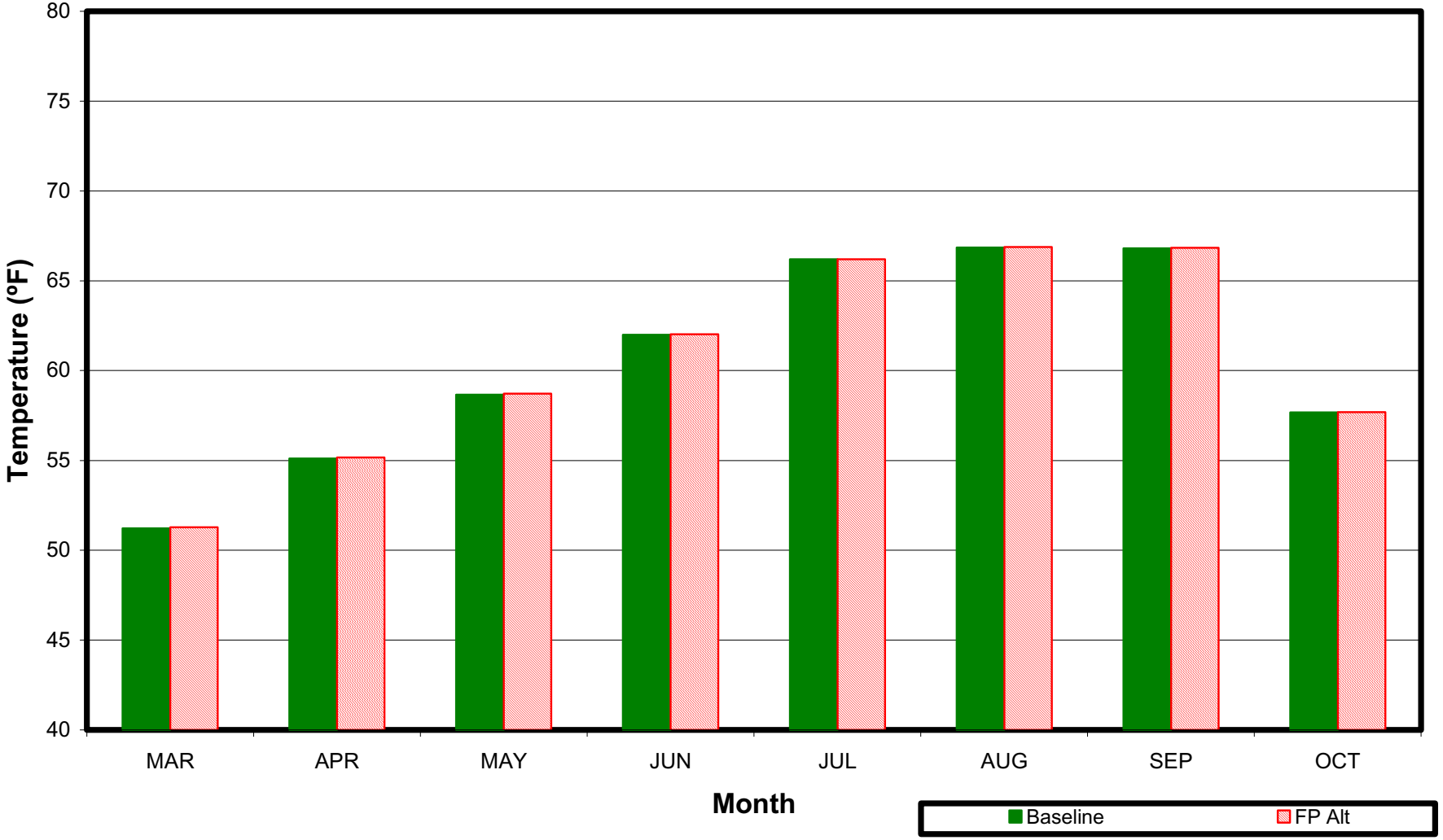
Temperature in the American River at Watt Ave Under Baseline and FP Alt Conditions



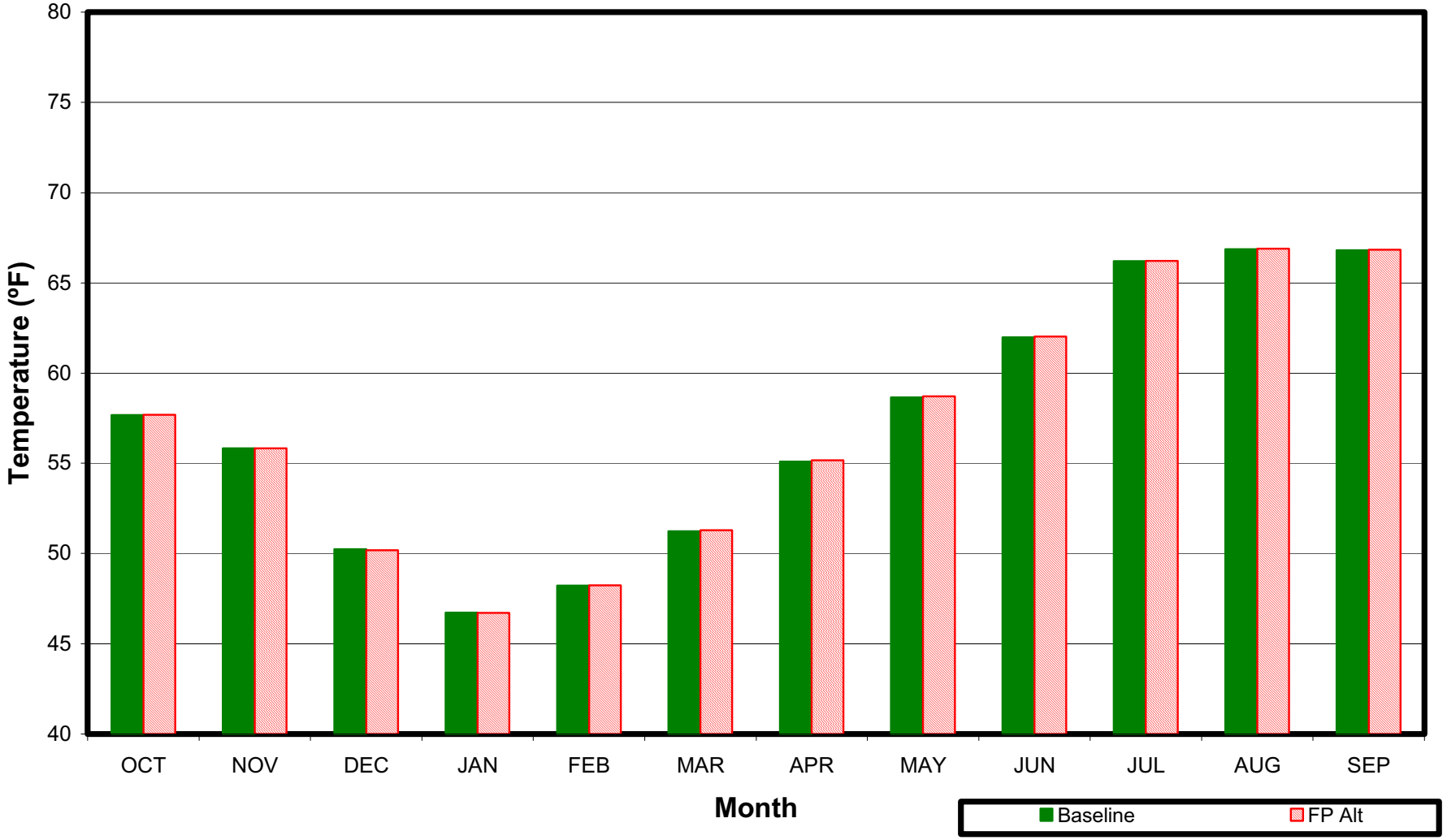
Long-term Average Water Temperature in the American River at Watt Ave Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	57.7	57.7	0.0
Nov	55.8	55.8	0.0
Dec	50.2	50.2	0.0
Jan	46.7	46.7	0.0
Feb	48.2	48.2	0.0
Mar	51.2	51.3	0.1
Apr	55.1	55.2	0.1
May	58.7	58.7	0.0
Jun	62.0	62.0	0.0
Jul	66.2	66.2	0.0
Aug	66.9	66.9	0.0
Sep	66.8	66.8	0.0

[1] Based on 69 years modeled.

Long-term Average Temperature in the American River at Watt Ave Under Baseline and FP Alt Conditions



Long-term Average Temperature in the American River at Watt Ave Under Baseline and FP Alt Conditions



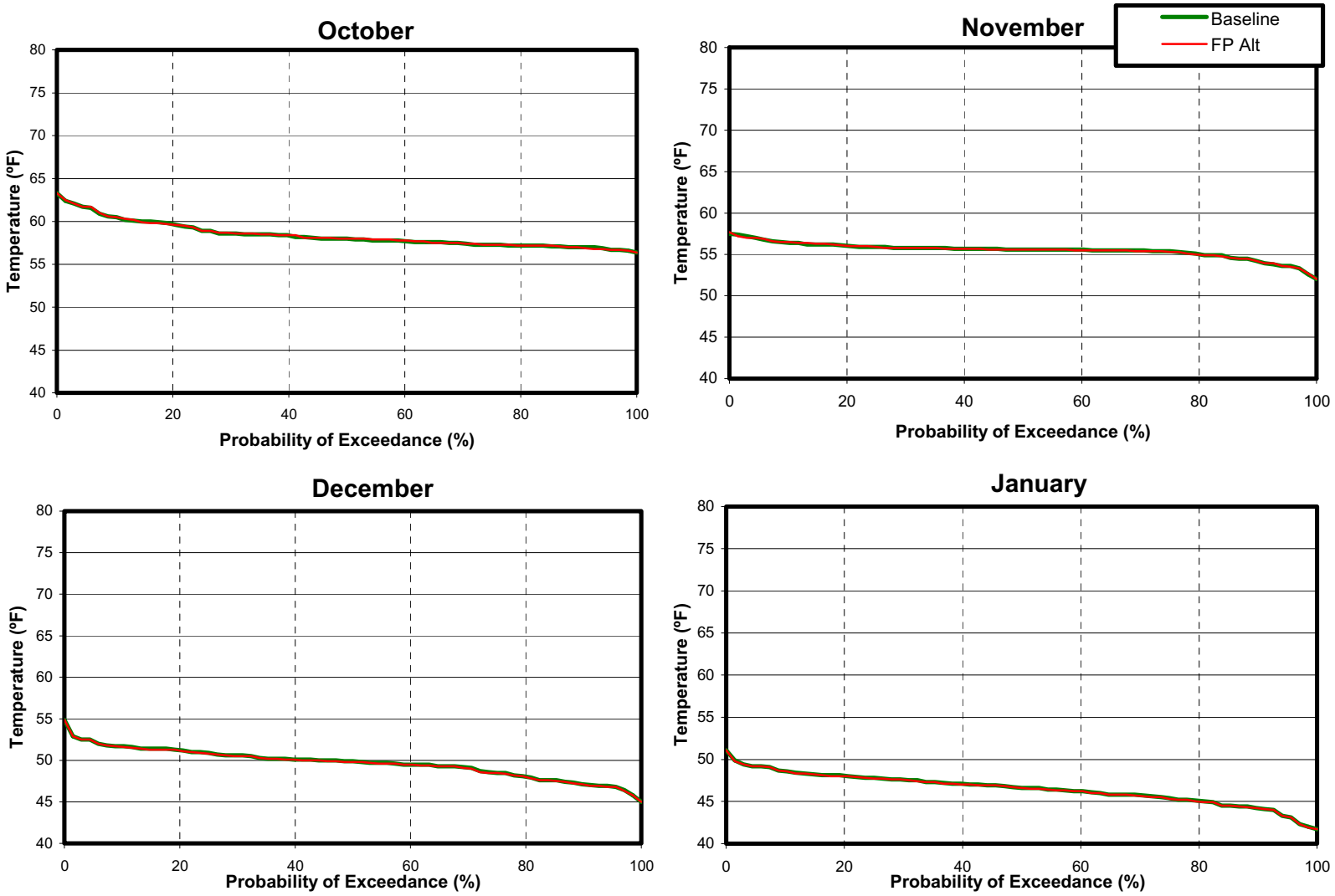
Water Temperature Exceeding Index Temperatures in the American River at Watt Ave Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

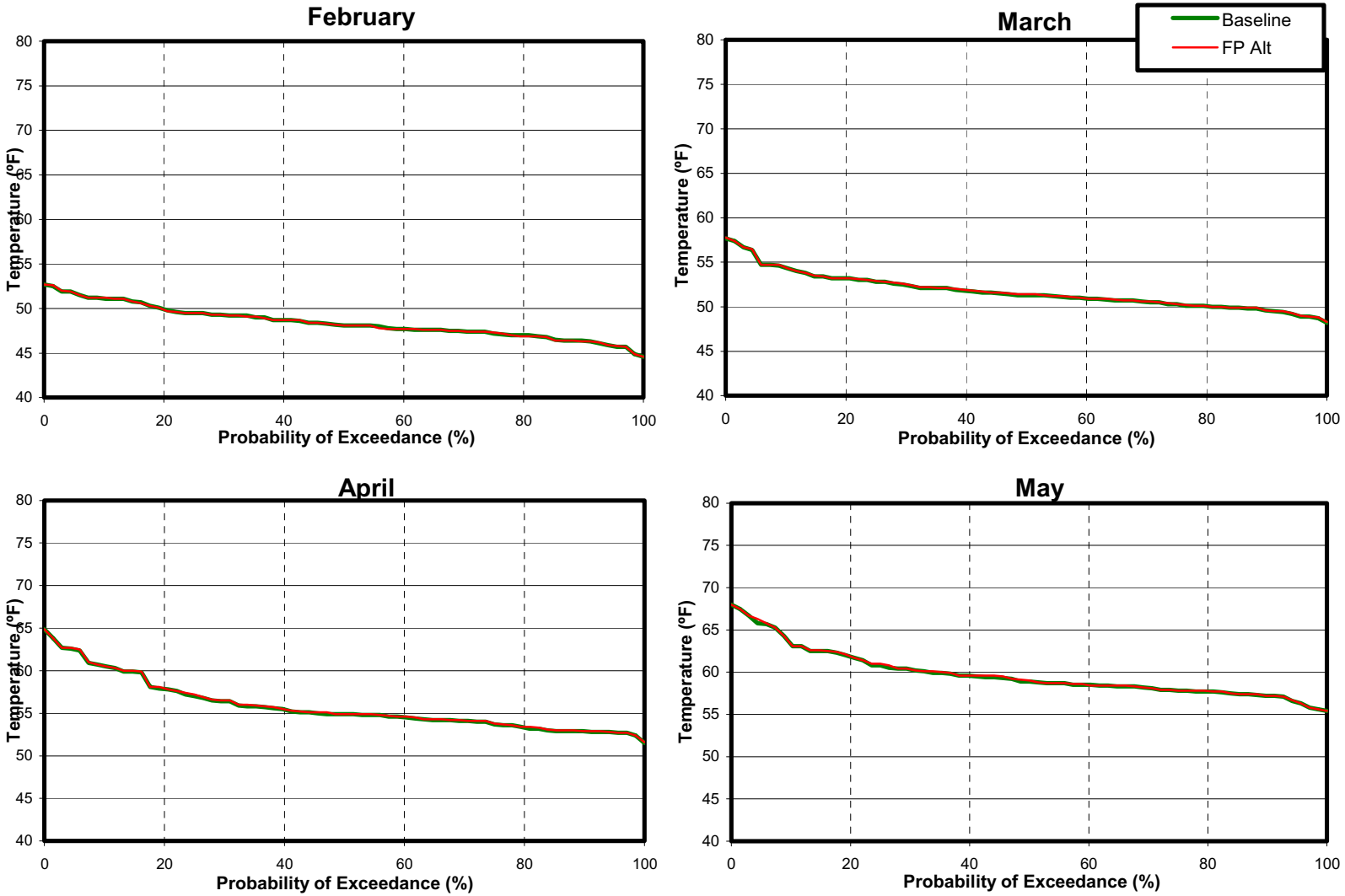
Index:	56º F		60º F		65º F		68º F		70º F	
Month	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	62 (57.9º)	63 (57.9º)	5 (61.3º)	6 (61.2º)	0	0	0	0	0	0
Nov	22 (56.6º)	21 (56.6º)	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	2 (56.6º)	2 (56.8º)	0	0	0	0	0	0	0	0
Apr	16 (59.7º)	18 (59.3º)	5 (62.6º)	5 (62.7º)	1 (65.1º)	1 (65.1º)	0	0	0	0
May	63 (59º)	64 (59º)	14 (63º)	14 (63.1º)	2 (65.8º)	2 (65.8º)	0	0	0	0
Jun	69 (62º)	69 (62º)	56 (62.8º)	56 (62.8º)	10 (66.8º)	11 (66.7º)	2 (68.8º)	2 (68.9º)	0	0
Jul	69 (66.2º)	69 (66.2º)	69 (66.2º)	69 (66.2º)	57 (66.6º)	57 (66.6º)	3 (69.9º)	3 (69.9º)	1 (70.8º)	1 (70.8º)
Aug	69 (66.9º)	69 (66.9º)	69 (66.9º)	69 (66.9º)	69 (66.9º)	69 (66.9º)	5 (69.7º)	6 (69.5º)	1 (73º)	1 (73º)
Sep	69 (66.8º)	69 (66.8º)	69 (66.8º)	69 (66.8º)	69 (66.8º)	69 (66.8º)	5 (68.8º)	6 (68.8º)	0	0

[1] Based on 69 years modeled.

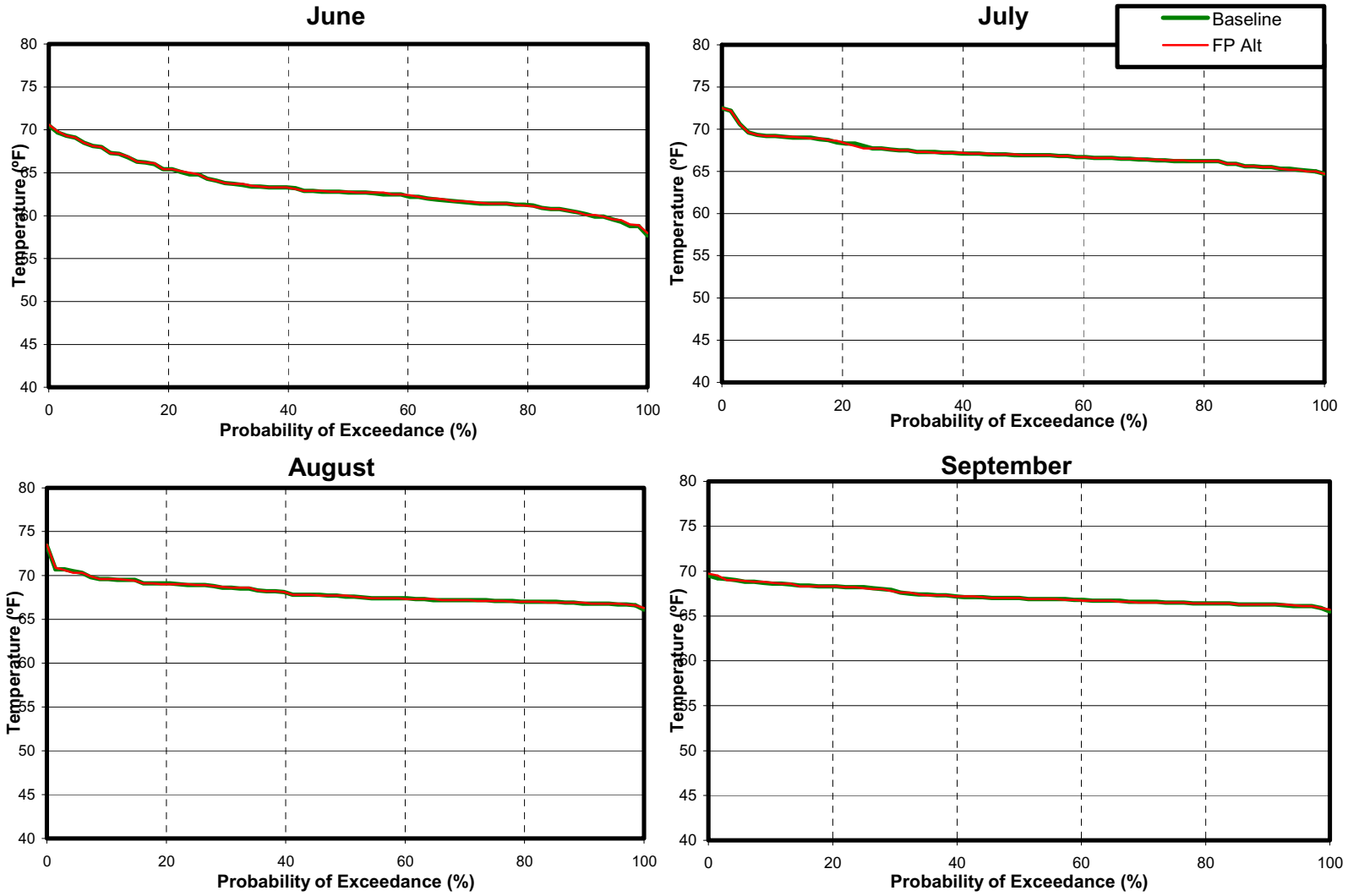
Temperature in the American River at the Mouth Under Baseline and FP Alt Conditions



Temperature in the American River at the Mouth Under Baseline and FP Alt Conditions



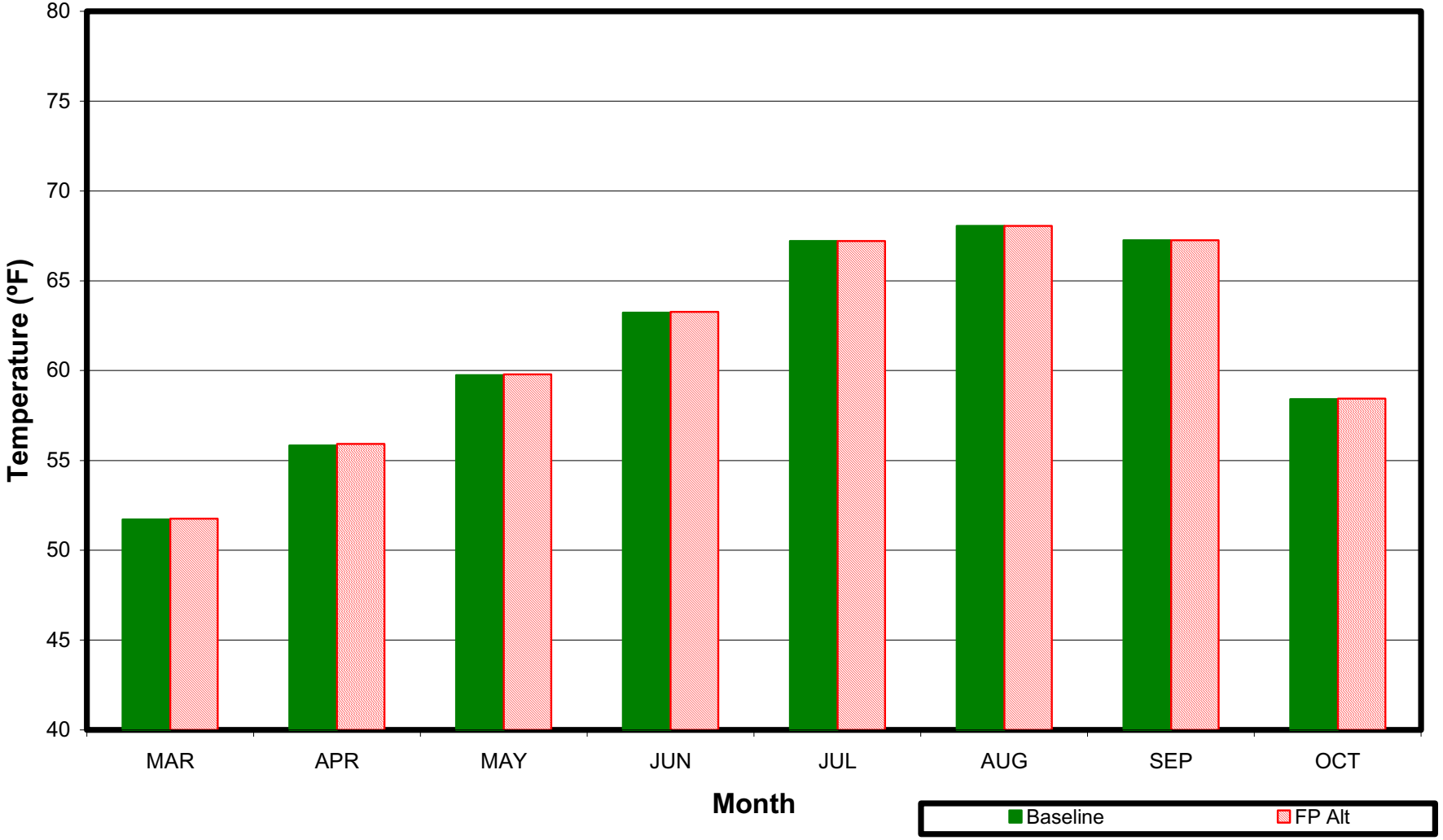
Temperature in the American River at the Mouth Under Baseline and FP Alt Conditions



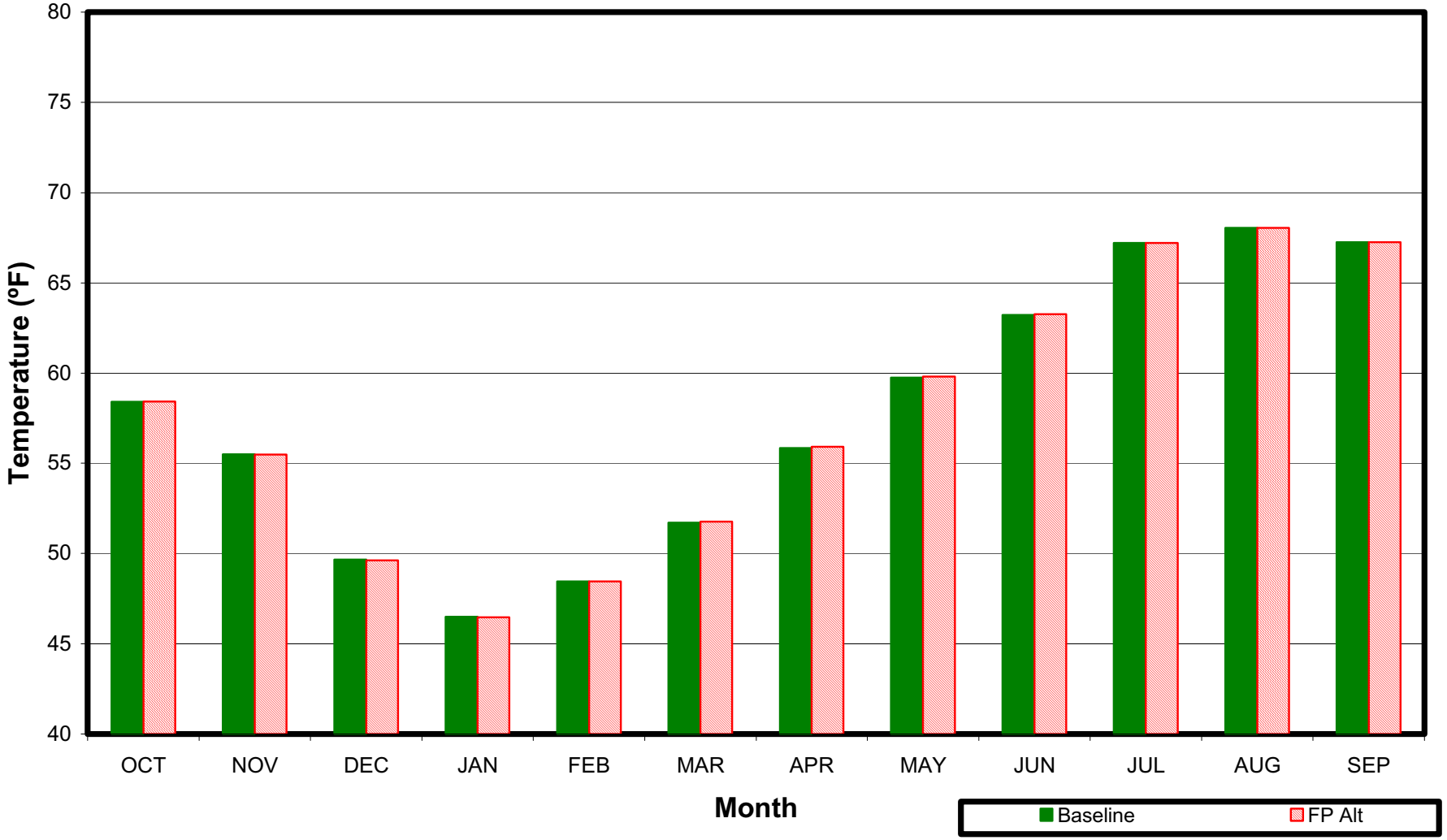
Long-term Average Water Temperature in the American River at the Mouth Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	58.4	58.4	0.0
Nov	55.5	55.5	0.0
Dec	49.7	49.6	-0.1
Jan	46.5	46.5	0.0
Feb	48.5	48.5	0.0
Mar	51.7	51.8	0.1
Apr	55.8	55.9	0.1
May	59.7	59.8	0.1
Jun	63.2	63.3	0.1
Jul	67.2	67.2	0.0
Aug	68.1	68.1	0.0
Sep	67.3	67.3	0.0

[1] Based on 69 years modeled.

Long-term Average Temperature in the American River at the Mouth Under Baseline and FP Alt Conditions



Long-term Average Temperature in the American River at the Mouth Under Baseline and FP Alt Conditions



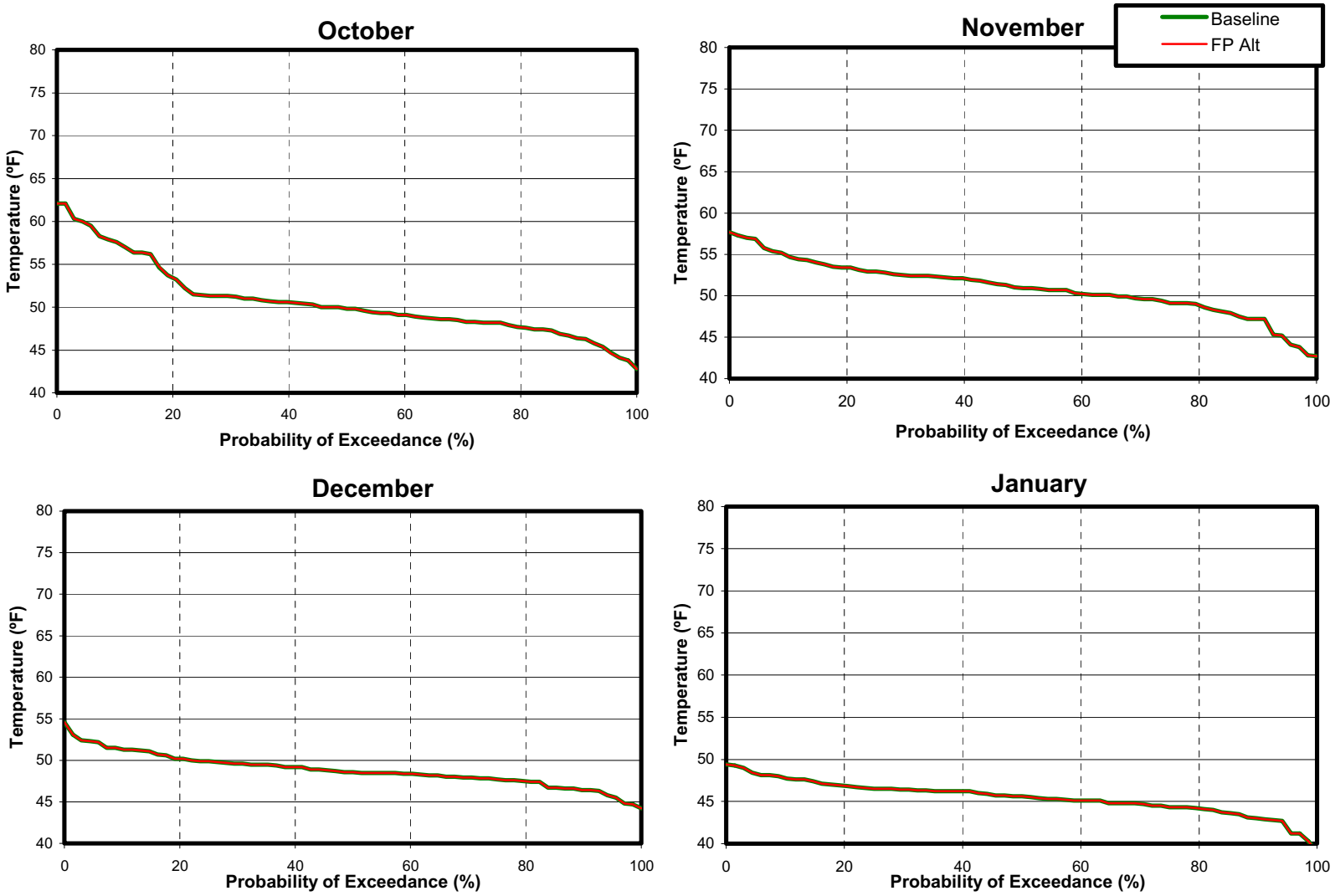
Water Temperature Exceeding Index Temperatures in the American River at the Mouth Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

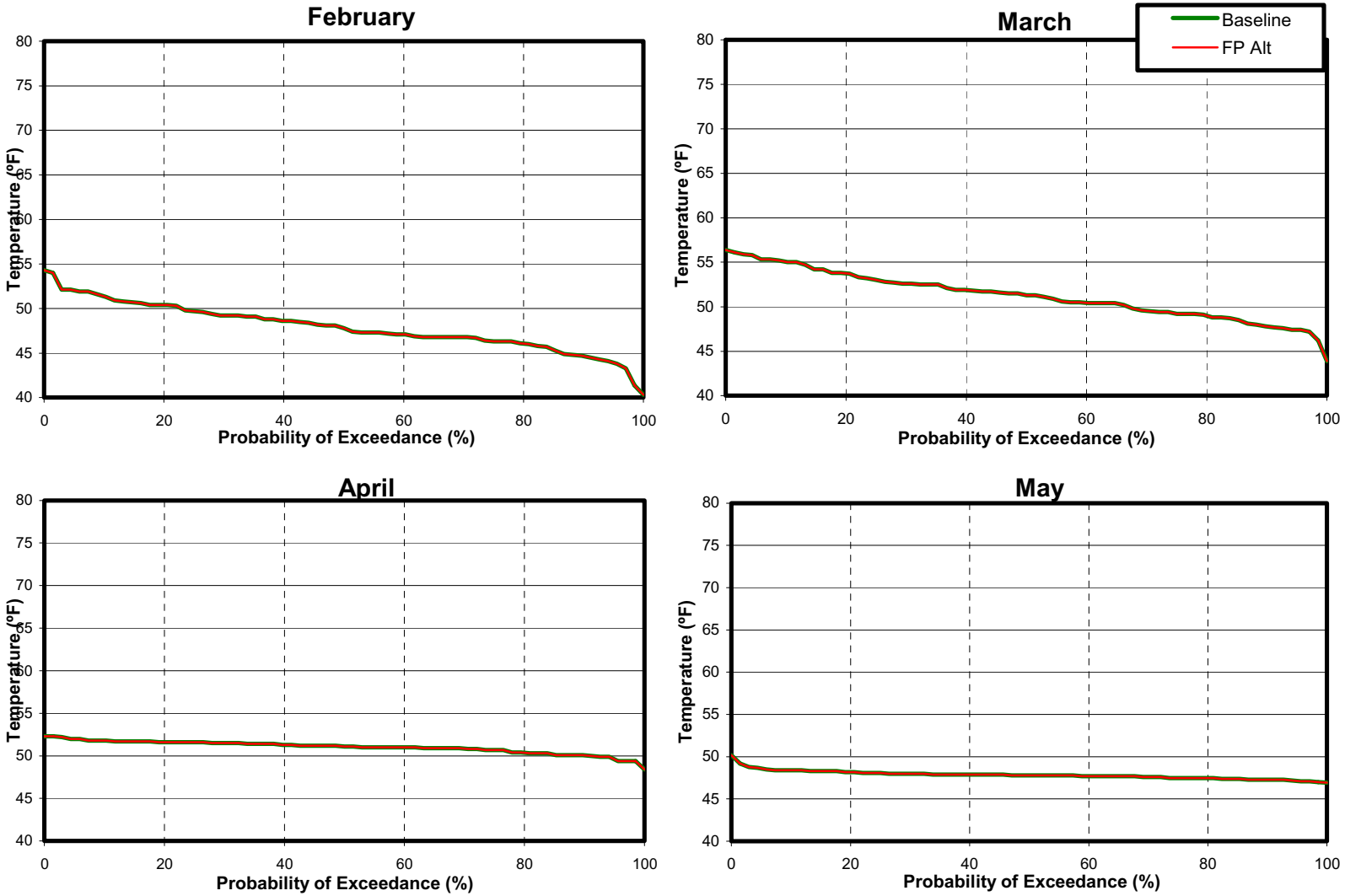
Index:	56º F		60º F		65º F		68º F		70º F	
Month	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	69 (58.4º)	69 (58.4º)	10 (61.3º)	10 (61.4º)	0	0	0	0	0	0
Nov	14 (56.6º)	14 (56.7º)	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	4 (57.1º)	4 (57.1º)	0	0	0	0	0	0	0	0
Apr	22 (59.6º)	22 (59.6º)	9 (62.1º)	9 (62.1º)	0	0	0	0	0	0
May	66 (59.9º)	66 (60º)	23 (62.9º)	24 (62.9º)	6 (66.5º)	6 (66.6º)	0	0	0	0
Jun	69 (63.2º)	69 (63.3º)	62 (63.7º)	63 (63.7º)	16 (67.4º)	16 (67.5º)	6 (69.2º)	6 (69.2º)	1 (70.5º)	1 (70.6º)
Jul	69 (67.2º)	69 (67.2º)	69 (67.2º)	69 (67.2º)	67 (67.3º)	66 (67.3º)	16 (69.4º)	15 (69.5º)	3 (71.8º)	3 (71.8º)
Aug	69 (68.1º)	69 (68.1º)	69 (68.1º)	69 (68.1º)	69 (68.1º)	69 (68.1º)	28 (69.3º)	28 (69.3º)	5 (71.1º)	5 (71.1º)
Sep	69 (67.3º)	69 (67.3º)	69 (67.3º)	69 (67.3º)	69 (67.3º)	69 (67.3º)	19 (68.6º)	18 (68.6º)	0	0

[1] Based on 69 years modeled.

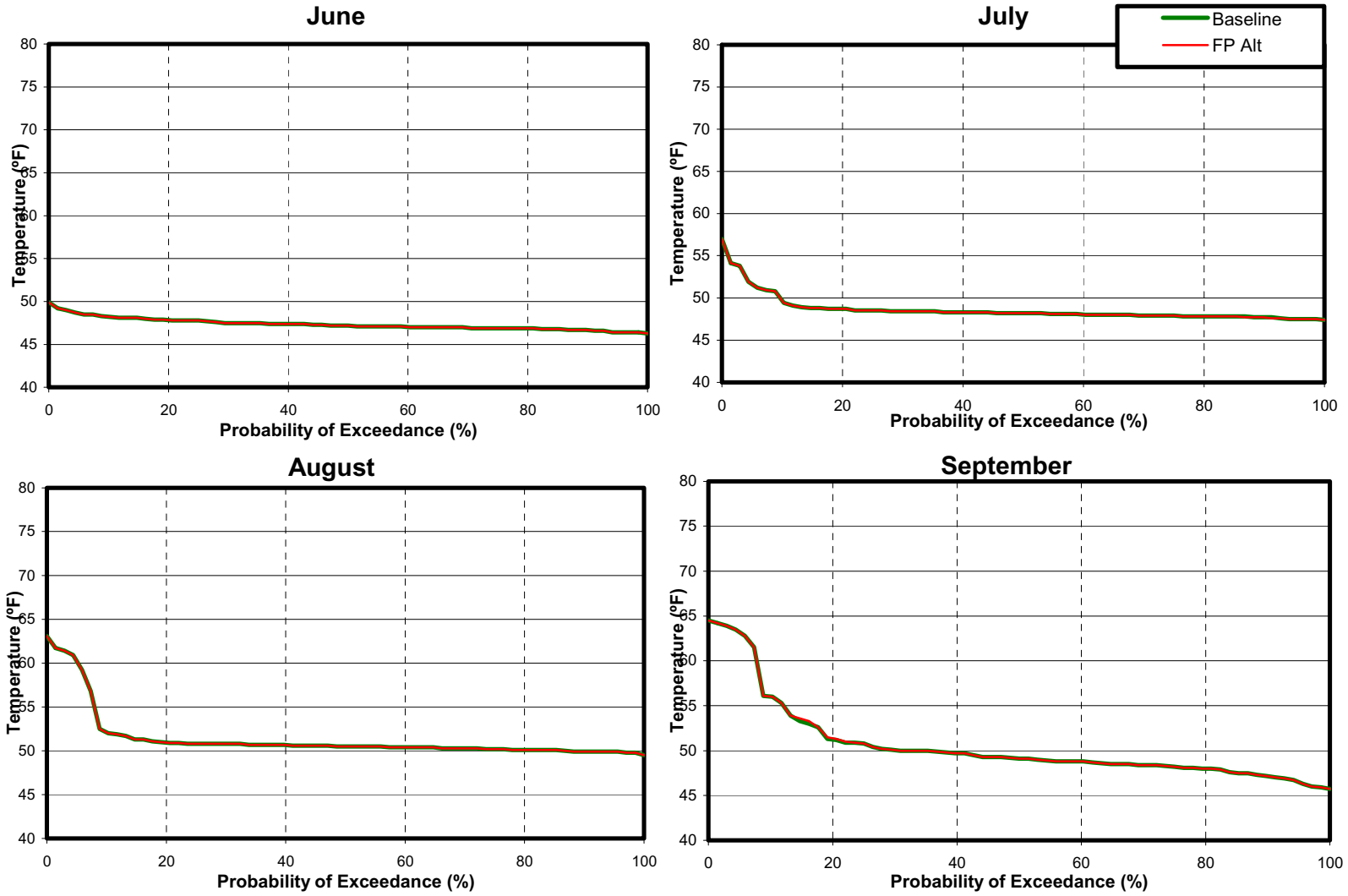
Temperature in the Sacramento River below Keswick Dam Under Baseline and FP Alt Conditions



Temperature in the Sacramento River below Keswick Dam Under Baseline and FP Alt Conditions



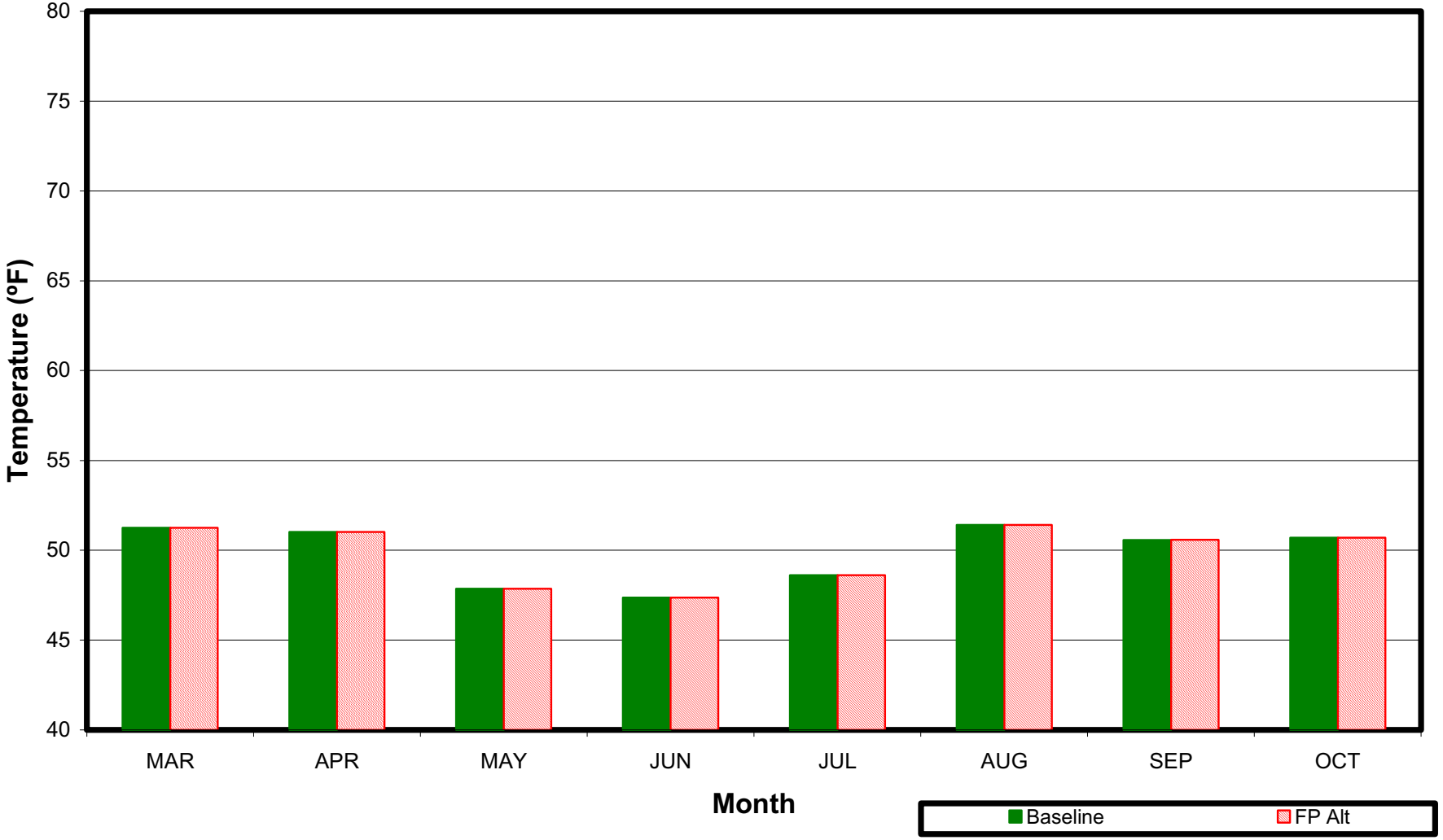
Temperature in the Sacramento River below Keswick Dam Under Baseline and FP Alt Conditions



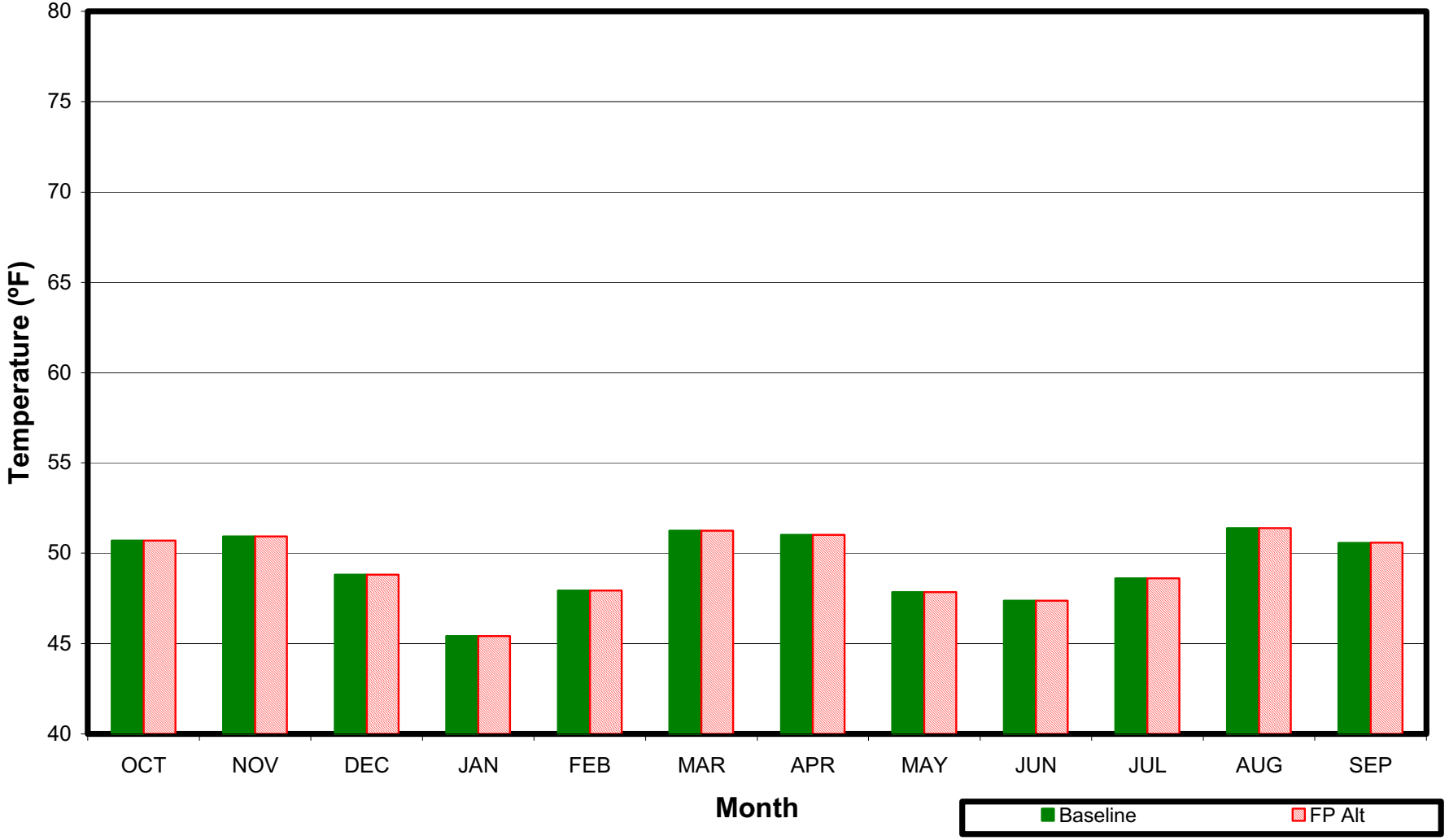
Long-term Average Water Temperature in the Sacramento River below Keswick Dam Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	50.7	50.7	0.0
Nov	50.9	50.9	0.0
Dec	48.8	48.8	0.0
Jan	45.4	45.4	0.0
Feb	47.9	47.9	0.0
Mar	51.3	51.3	0.0
Apr	51.0	51.0	0.0
May	47.9	47.9	0.0
Jun	47.4	47.4	0.0
Jul	48.6	48.6	0.0
Aug	51.4	51.4	0.0
Sep	50.6	50.6	0.0

[1] Based on 69 years modeled.

Long-term Average Temperature in the Sacramento River below Keswick Dam Under Baseline and FP Alt Conditions



Long-term Average Temperature in the Sacramento River below Keswick Dam Under Baseline and FP Alt Conditions



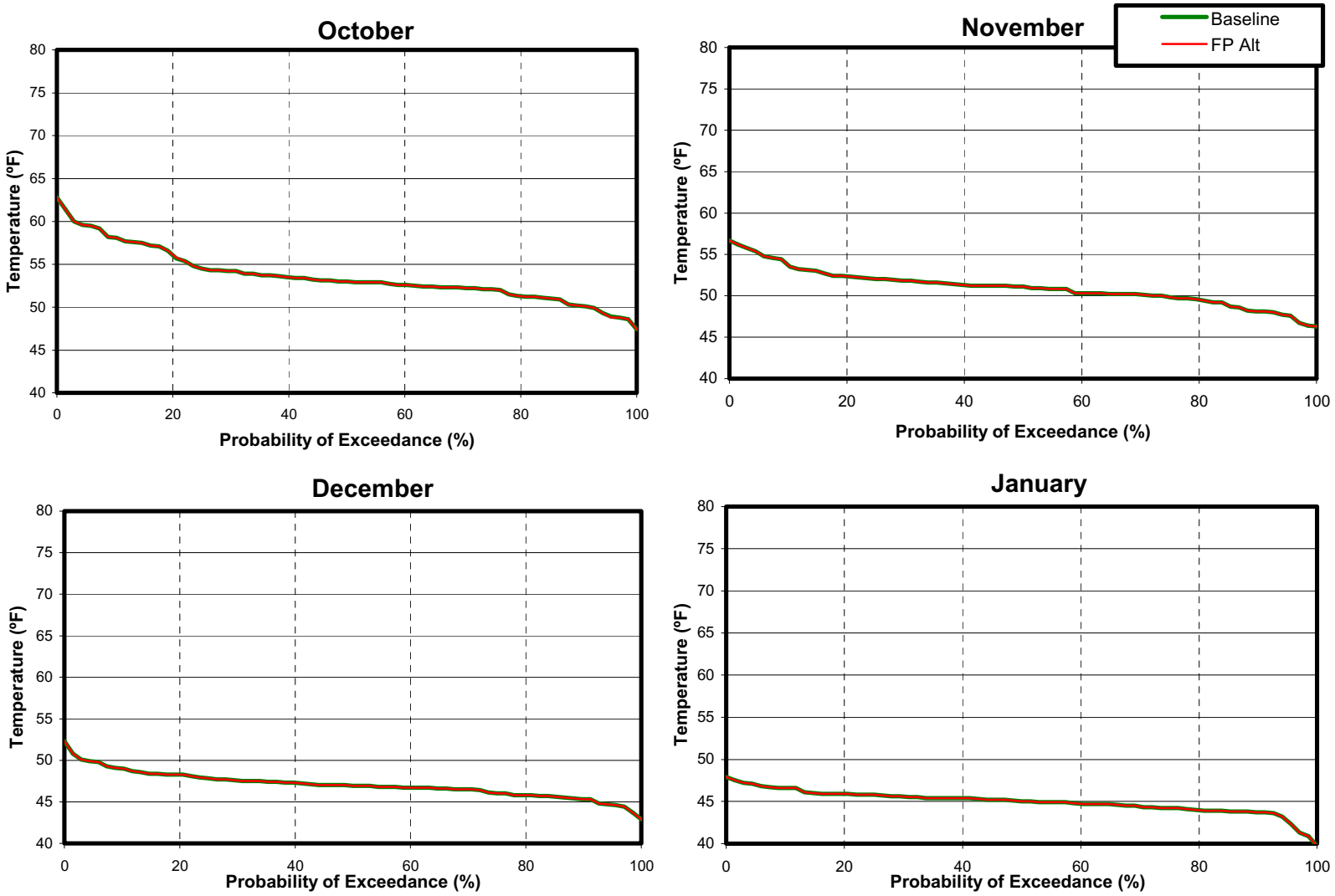
Water Temperature Exceeding Index Temperatures in the Sacramento River below Keswick Dam Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

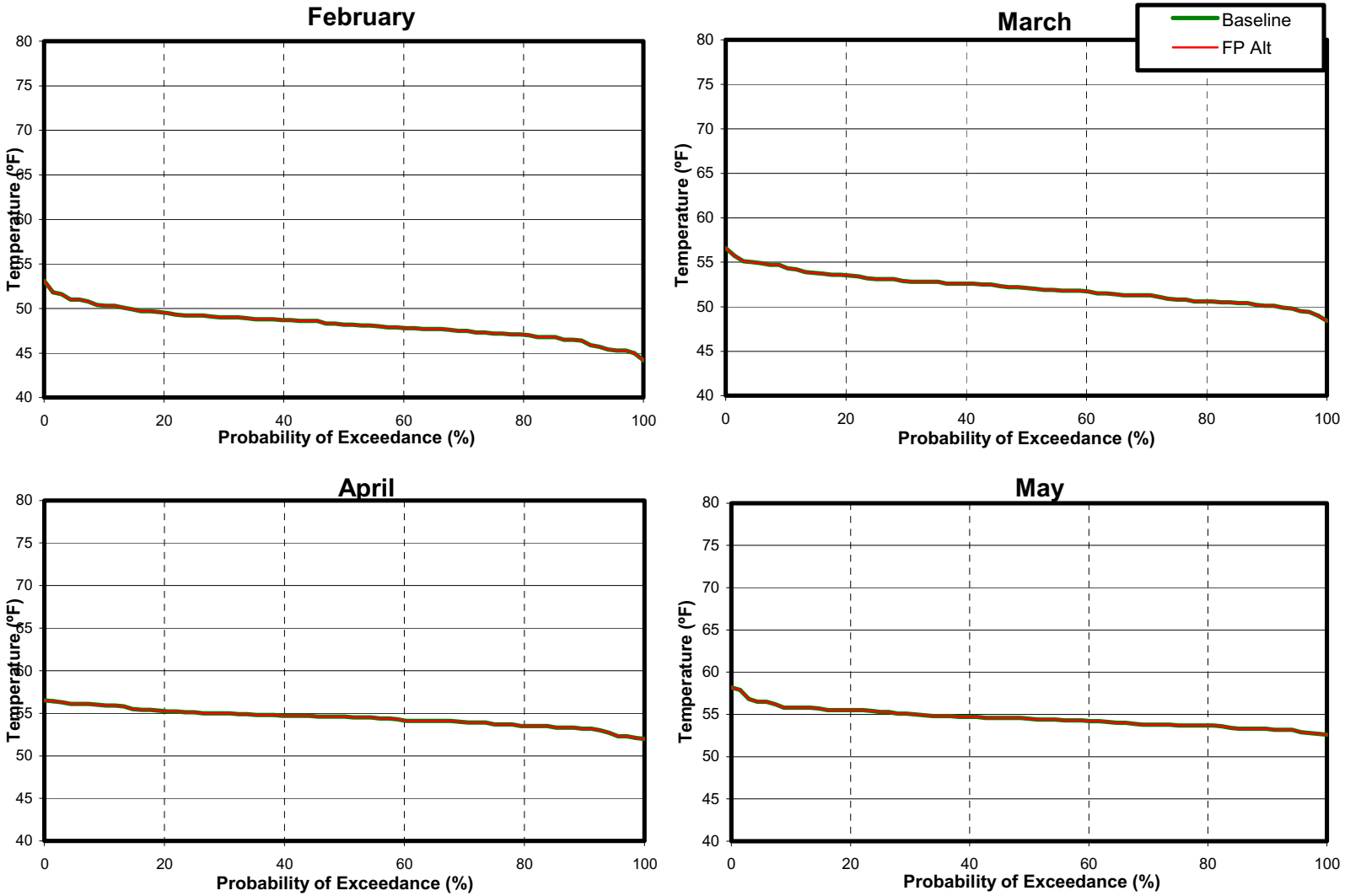
Index:	56º F		60º F		65º F		68º F		70º F	
Month	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	12 (58.6º)	12 (58.6º)	3 (61.5º)	3 (61.5º)	0	0	0	0	0	0
Nov	4 (57.2º)	4 (57.2º)	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	2 (56.3º)	2 (56.3º)	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0	0	0
Jul	1 (57º)	1 (57º)	0	0	0	0	0	0	0	0
Aug	6 (60.5º)	6 (60.5º)	4 (61.8º)	4 (61.8º)	0	0	0	0	0	0
Sep	7 (62.4º)	7 (62.4º)	6 (63.4º)	6 (63.4º)	0	0	0	0	0	0

[1] Based on 69 years modeled.

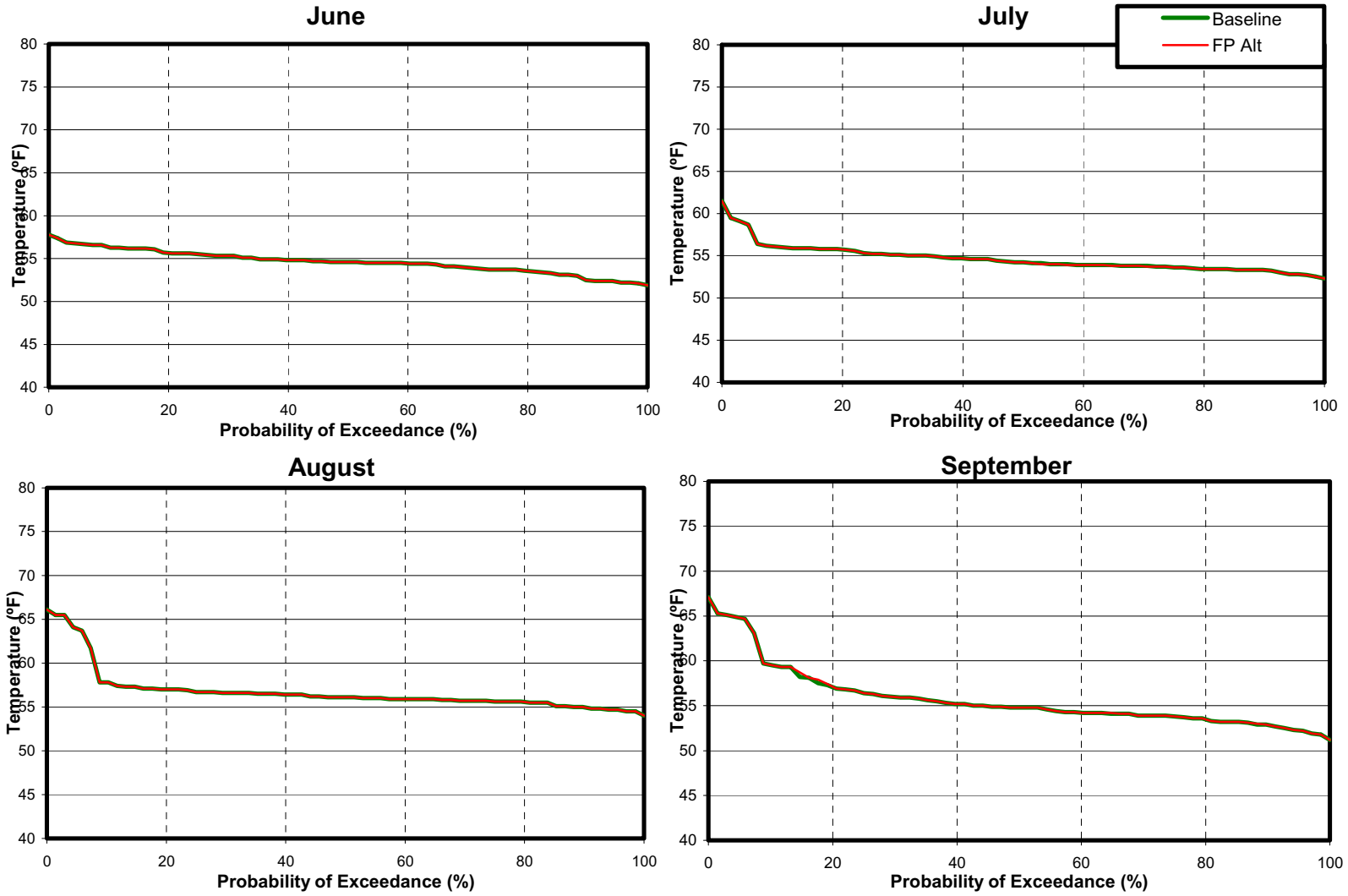
Temperature in the Sacramento River at Bend Bridge Under Baseline and FP Alt Conditions



Temperature in the Sacramento River at Bend Bridge Under Baseline and FP Alt Conditions



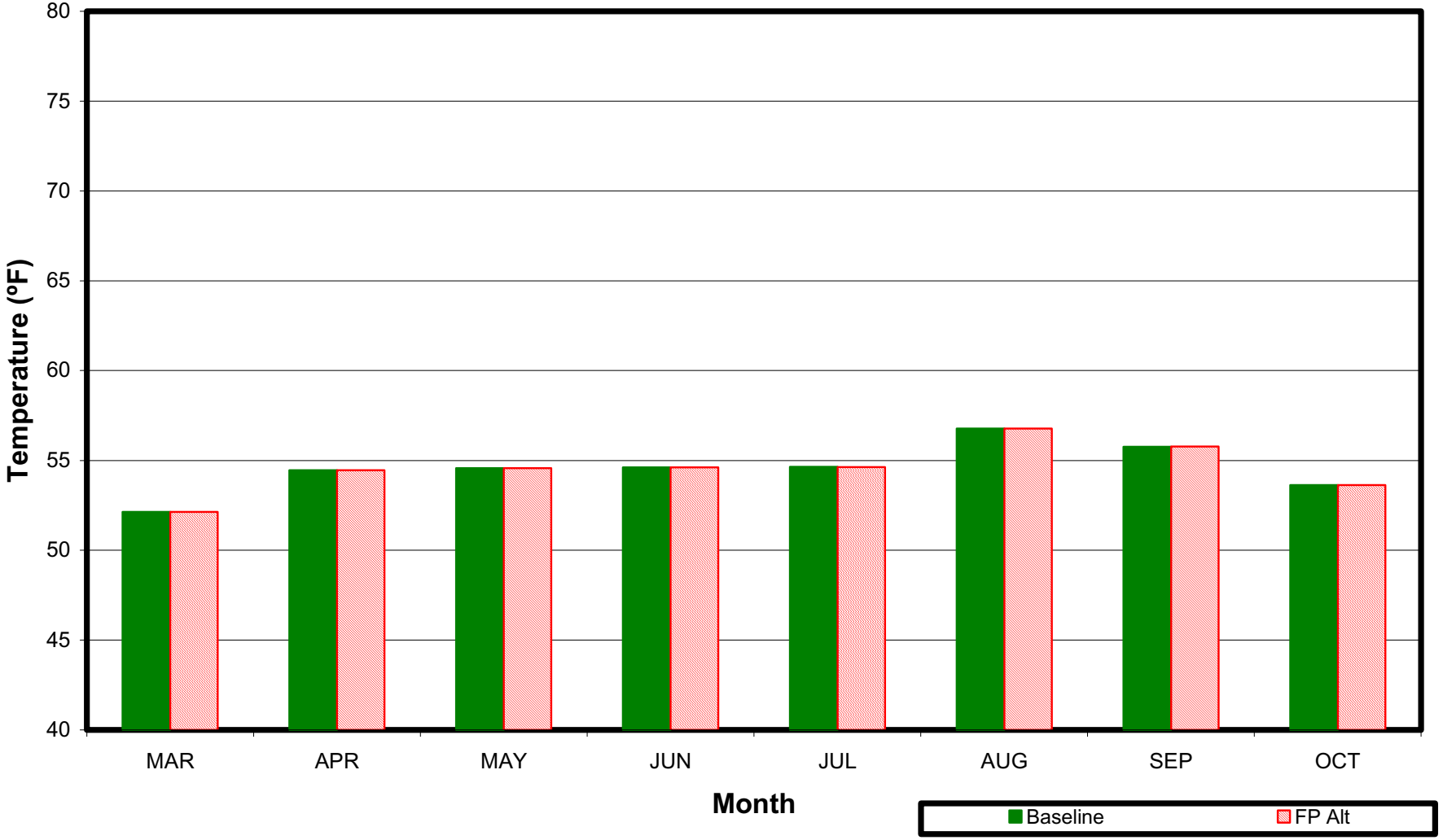
Temperature in the Sacramento River at Bend Bridge Under Baseline and FP Alt Conditions



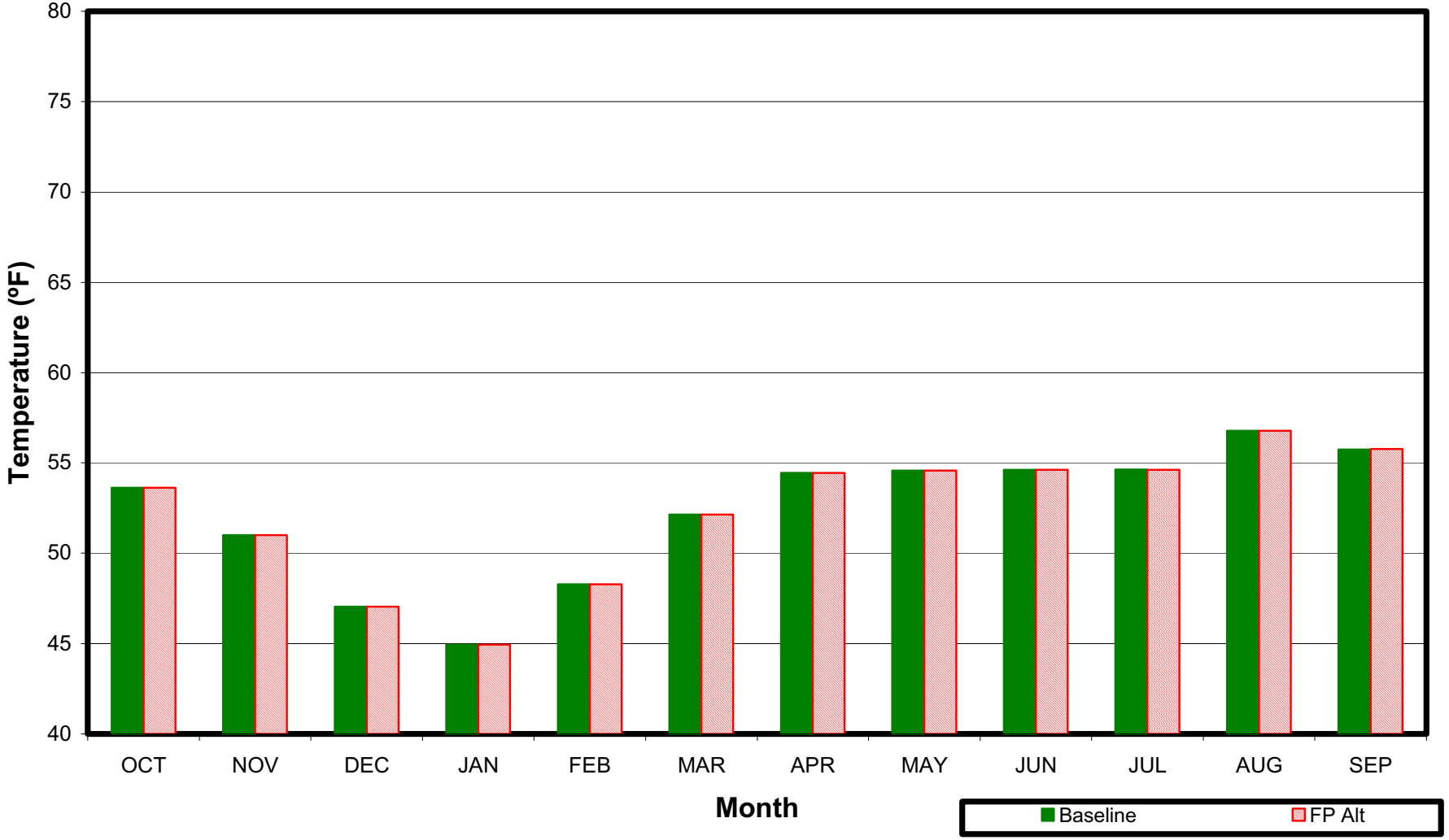
Long-term Average Water Temperature in the Sacramento River at Bend Bridge Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	53.6	53.6	0.0
Nov	51.0	51.0	0.0
Dec	47.0	47.0	0.0
Jan	44.9	44.9	0.0
Feb	48.3	48.3	0.0
Mar	52.1	52.1	0.0
Apr	54.5	54.5	0.0
May	54.6	54.6	0.0
Jun	54.6	54.6	0.0
Jul	54.6	54.6	0.0
Aug	56.8	56.8	0.0
Sep	55.8	55.8	0.0

[1] Based on 69 years modeled.

Long-term Average Temperature in the Sacramento River at Bend Bridge Under Baseline and FP Alt Conditions



Long-term Average Temperature in the Sacramento River at Bend Bridge Under Baseline and FP Alt Conditions



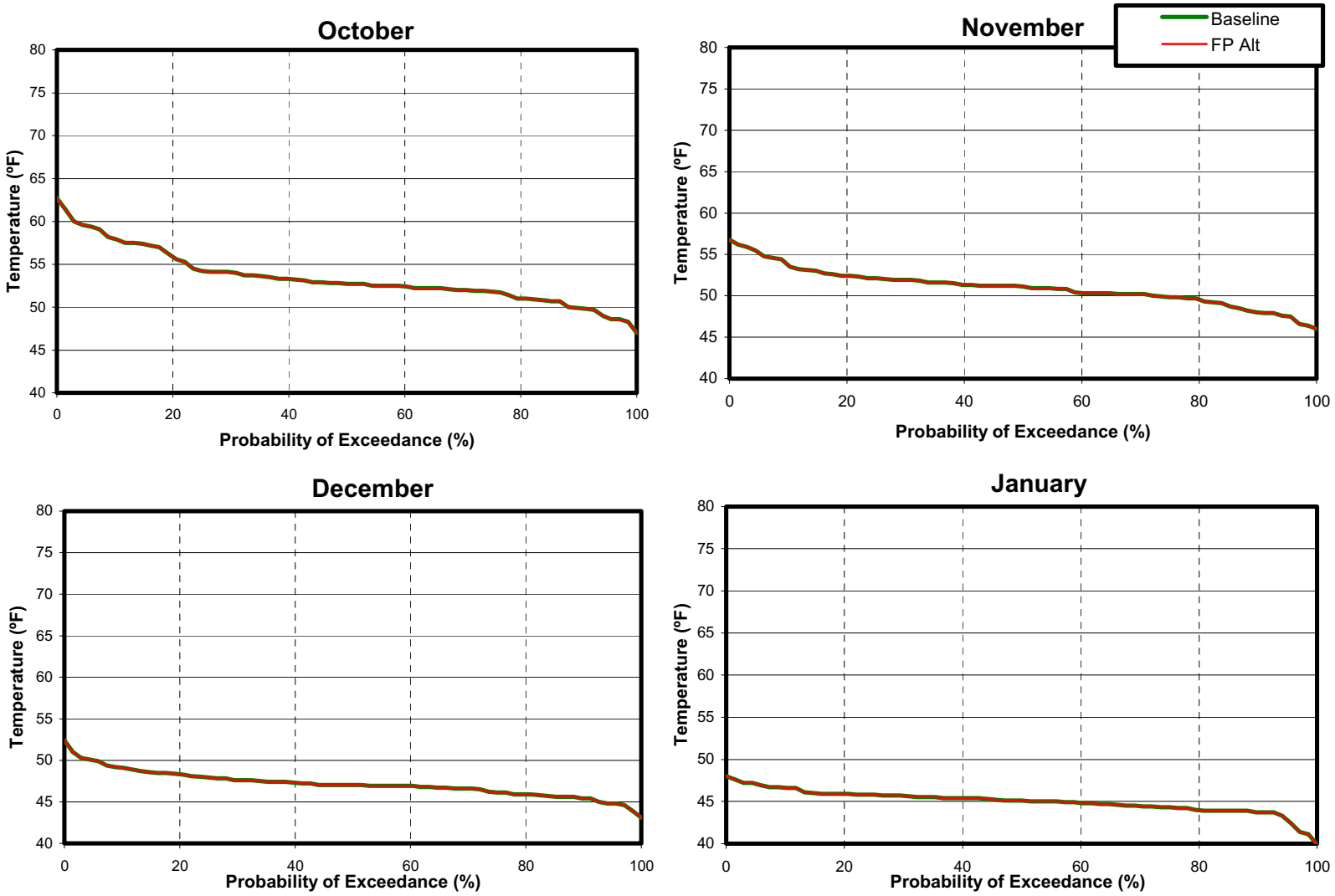
Water Temperature Exceeding Index Temperatures in the Sacramento River at Bend Bridge Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

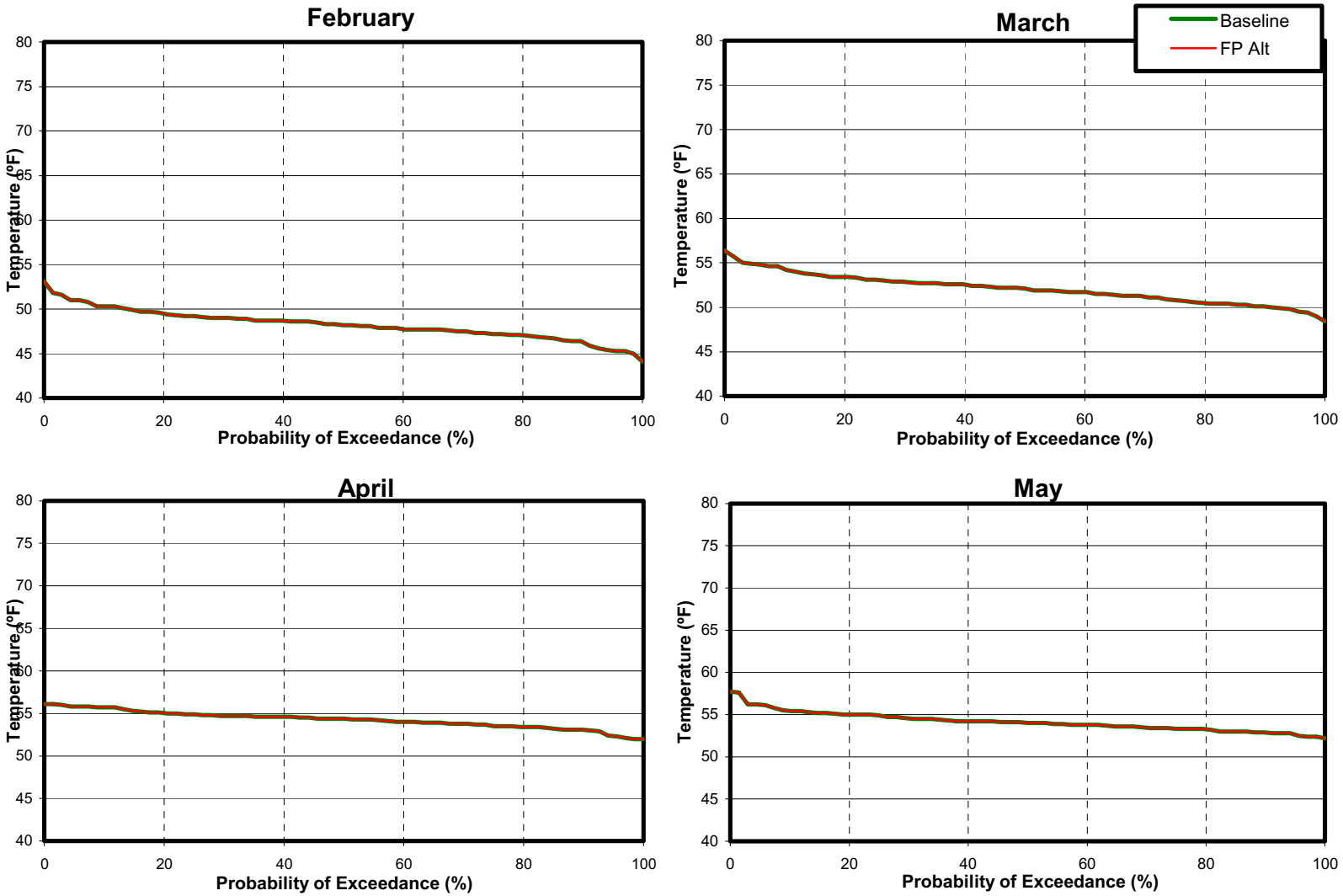
Index:	56º F		60º F		65º F		68º F		70º F	
Month	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	14 (58.7º)	14 (58.7º)	2 (62.1º)	2 (62.1º)	0	0	0	0	0	0
Nov	2 (56.5º)	2 (56.5º)	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	1 (56.6º)	1 (56.6º)	0	0	0	0	0	0	0	0
Apr	6 (56.2º)	6 (56.2º)	0	0	0	0	0	0	0	0
May	6 (57º)	6 (57º)	0	0	0	0	0	0	0	0
Jun	13 (56.6º)	13 (56.6º)	0	0	0	0	0	0	0	0
Jul	7 (58.2º)	7 (58.2º)	1 (61.5º)	1 (61.5º)	0	0	0	0	0	0
Aug	36 (58º)	36 (58º)	6 (64.4º)	6 (64.4º)	3 (65.7º)	3 (65.7º)	0	0	0	0
Sep	20 (59.9º)	20 (60º)	6 (65º)	6 (65º)	3 (65.8º)	3 (65.8º)	0	0	0	0

[1] Based on 69 years modeled.

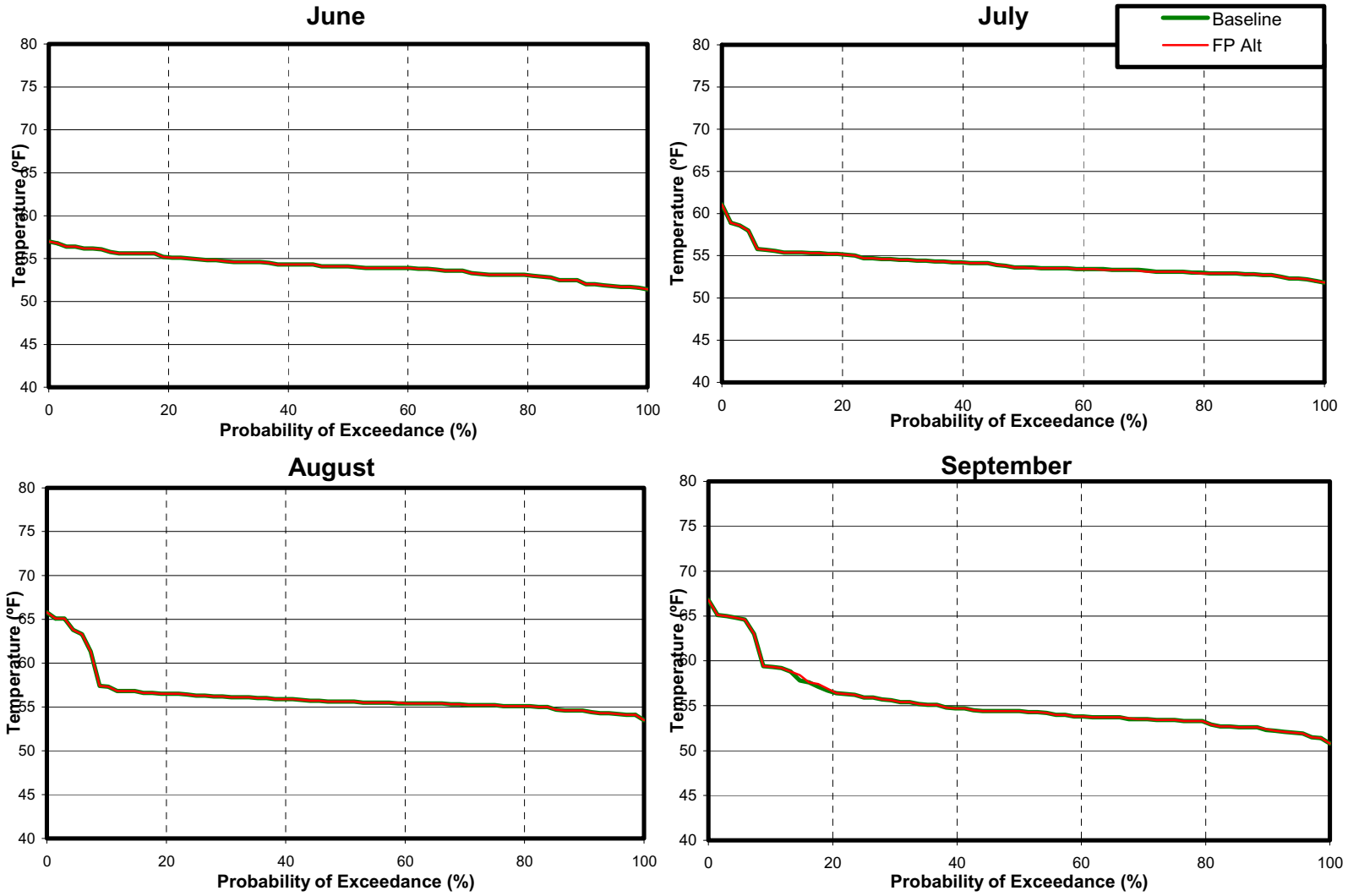
Temperature in the Sacramento River at Jellys Ferry Under Baseline and FP Alt Conditions



Temperature in the Sacramento River at Jellys Ferry Under Baseline and FP Alt Conditions



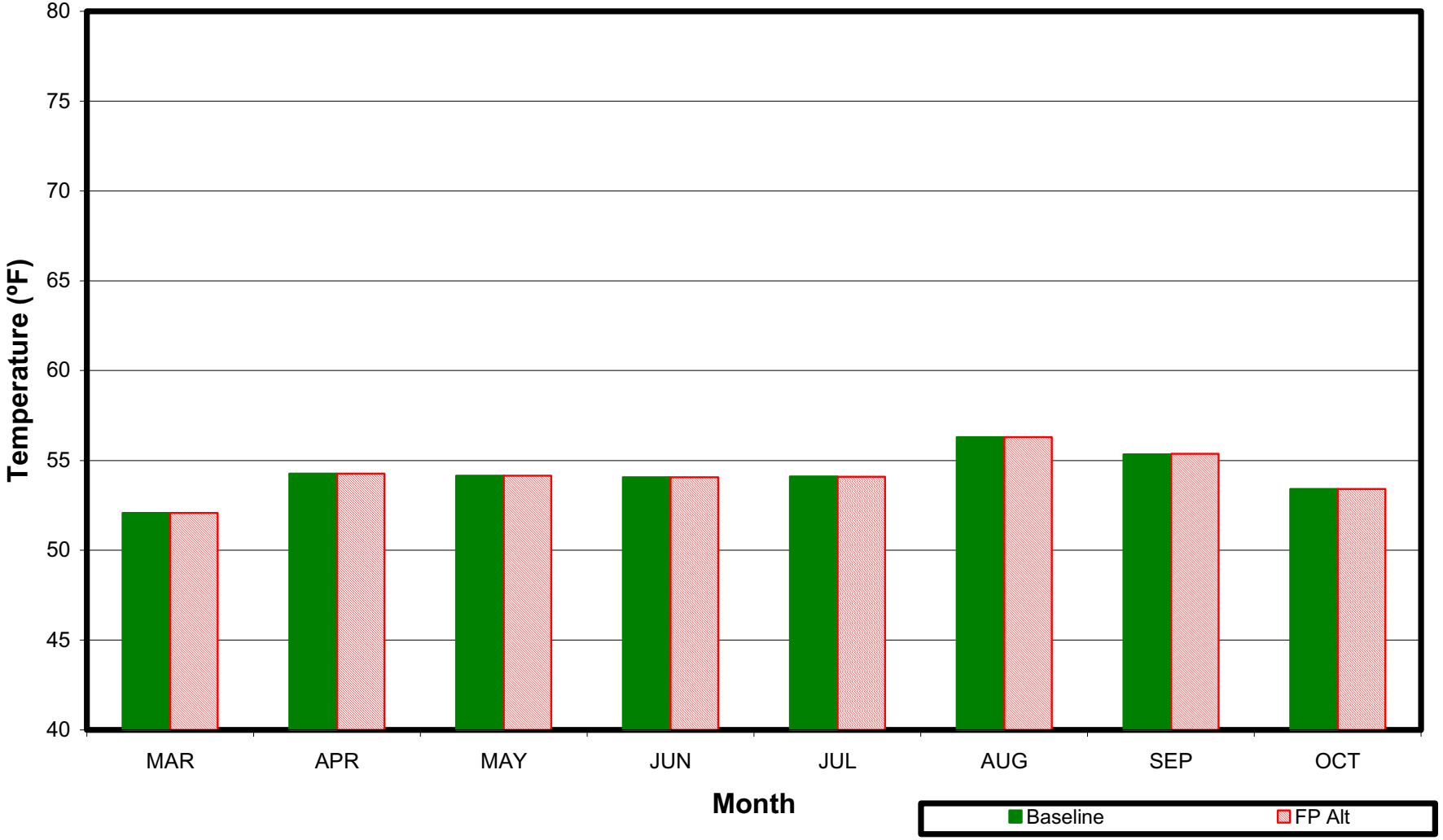
Temperature in the Sacramento River at Jellys Ferry Under Baseline and FP Alt Conditions



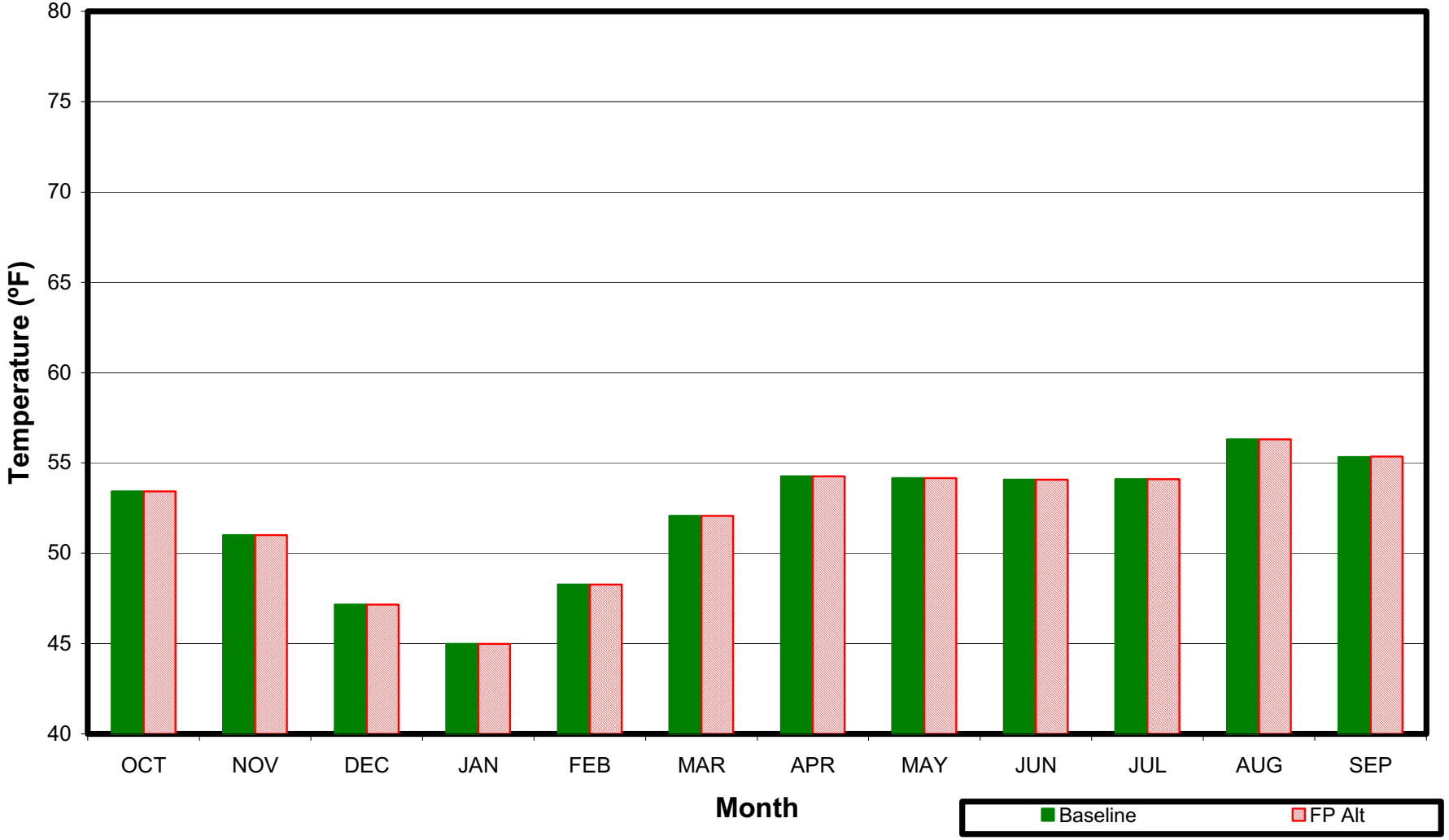
Long-term Average Water Temperature in the Sacramento River at Jellys Ferry Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	53.4	53.4	0.0
Nov	51.0	51.0	0.0
Dec	47.1	47.1	0.0
Jan	45.0	45.0	0.0
Feb	48.3	48.3	0.0
Mar	52.1	52.1	0.0
Apr	54.3	54.3	0.0
May	54.2	54.2	0.0
Jun	54.1	54.1	0.0
Jul	54.1	54.1	0.0
Aug	56.3	56.3	0.0
Sep	55.3	55.4	0.1

[1] Based on 69 years modeled.

Long-term Average Temperature in the Sacramento River at Jellys Ferry Under Baseline and FP Alt Conditions



Long-term Average Temperature in the Sacramento River at Jellys Ferry Under Baseline and FP Alt Conditions



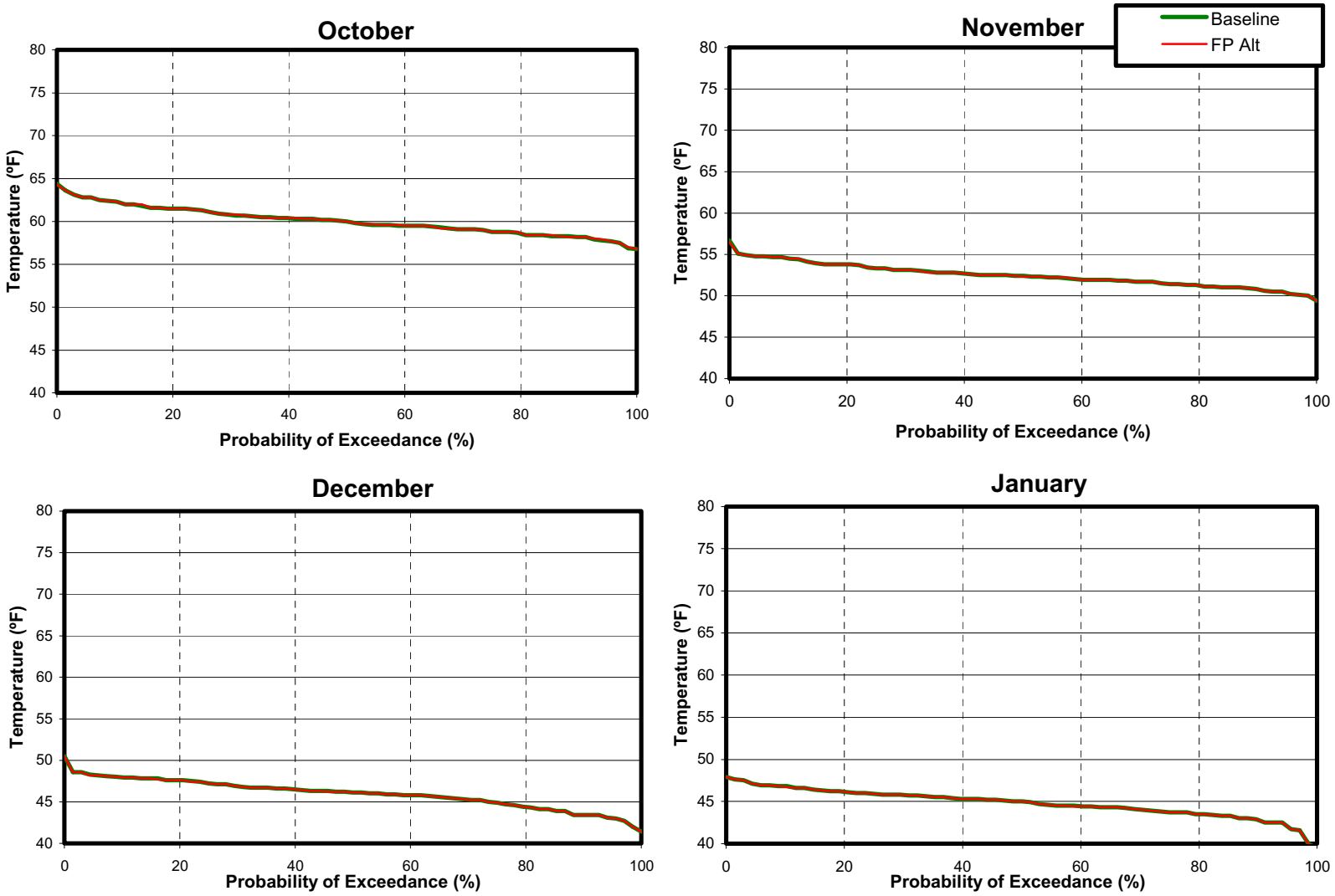
Water Temperature Exceeding Index Temperatures in the Sacramento River at Jellys Ferry Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

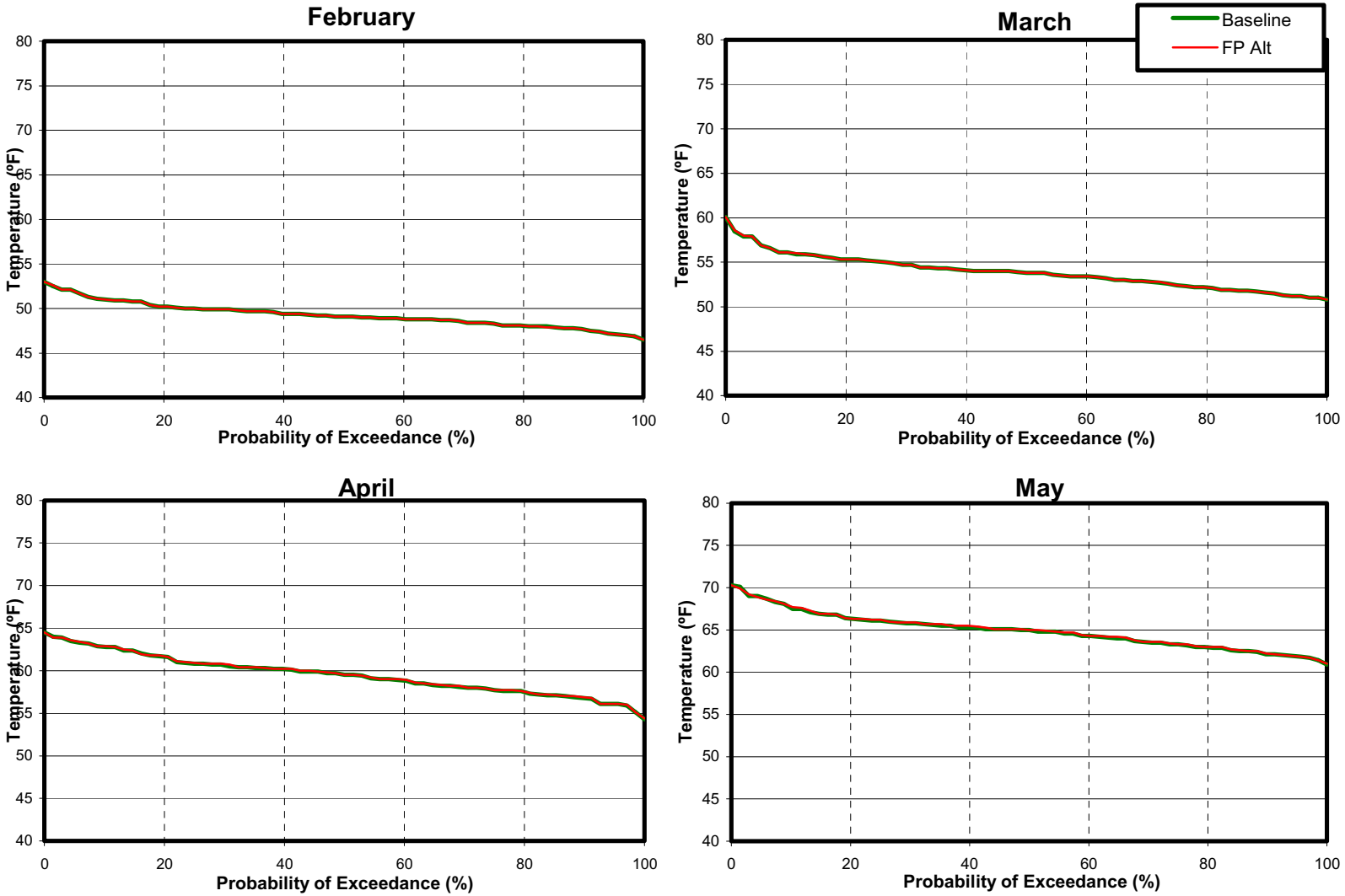
Index:	56º F		60º F		65º F		68º F		70º F	
Month	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	14 (58.7º)	14 (58.7º)	2 (62.1º)	2 (62.1º)	0	0	0	0	0	0
Nov	2 (56.5º)	2 (56.5º)	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	1 (56.4º)	1 (56.4º)	0	0	0	0	0	0	0	0
Apr	2 (56.1º)	2 (56.1º)	0	0	0	0	0	0	0	0
May	5 (56.8º)	5 (56.8º)	0	0	0	0	0	0	0	0
Jun	7 (56.4º)	7 (56.4º)	0	0	0	0	0	0	0	0
Jul	4 (59.1º)	4 (59.1º)	1 (61.1º)	1 (61.1º)	0	0	0	0	0	0
Aug	24 (58.4º)	24 (58.4º)	6 (64.1º)	6 (64.1º)	3 (65.3º)	3 (65.3º)	0	0	0	0
Sep	17 (60.2º)	17 (60.3º)	6 (64.9º)	6 (64.9º)	2 (66º)	2 (66º)	0	0	0	0

[1] Based on 69 years modeled.

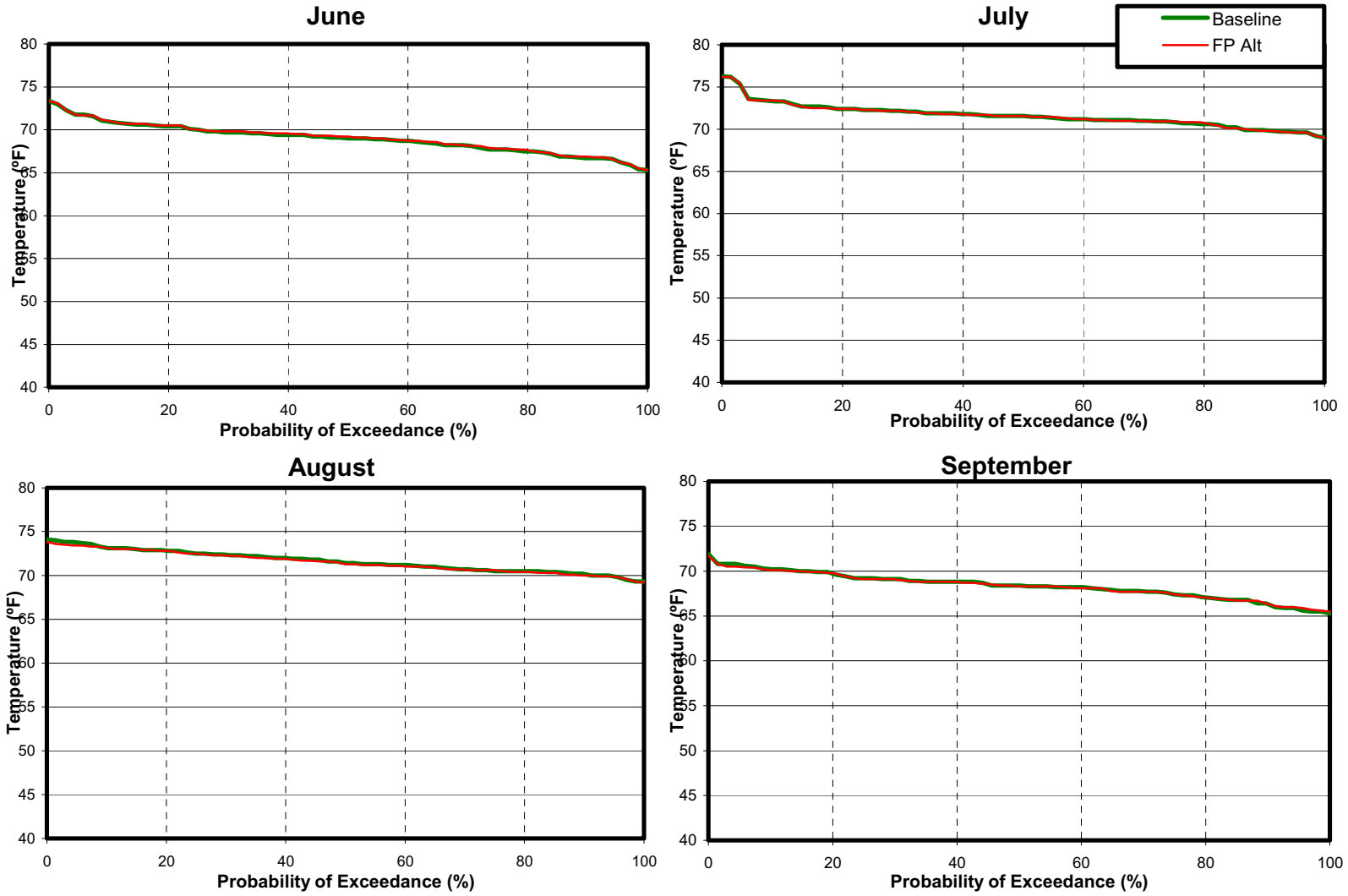
Temperature in the Sacramento River at Freeport Under Baseline and FP Alt Conditions



Temperature in the Sacramento River at Freeport Under Baseline and FP Alt Conditions



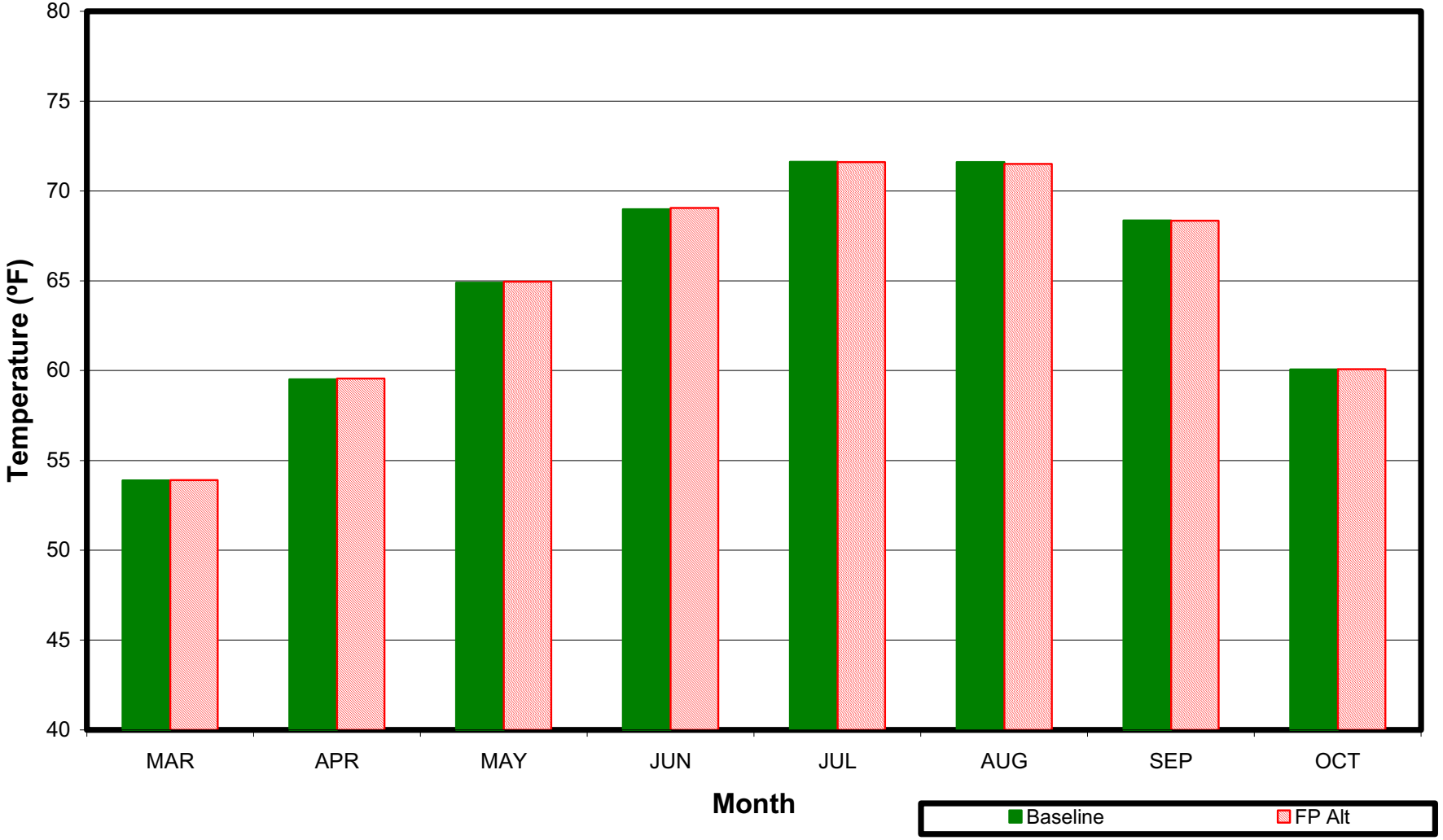
Temperature in the Sacramento River at Freeport Under Baseline and FP Alt Conditions



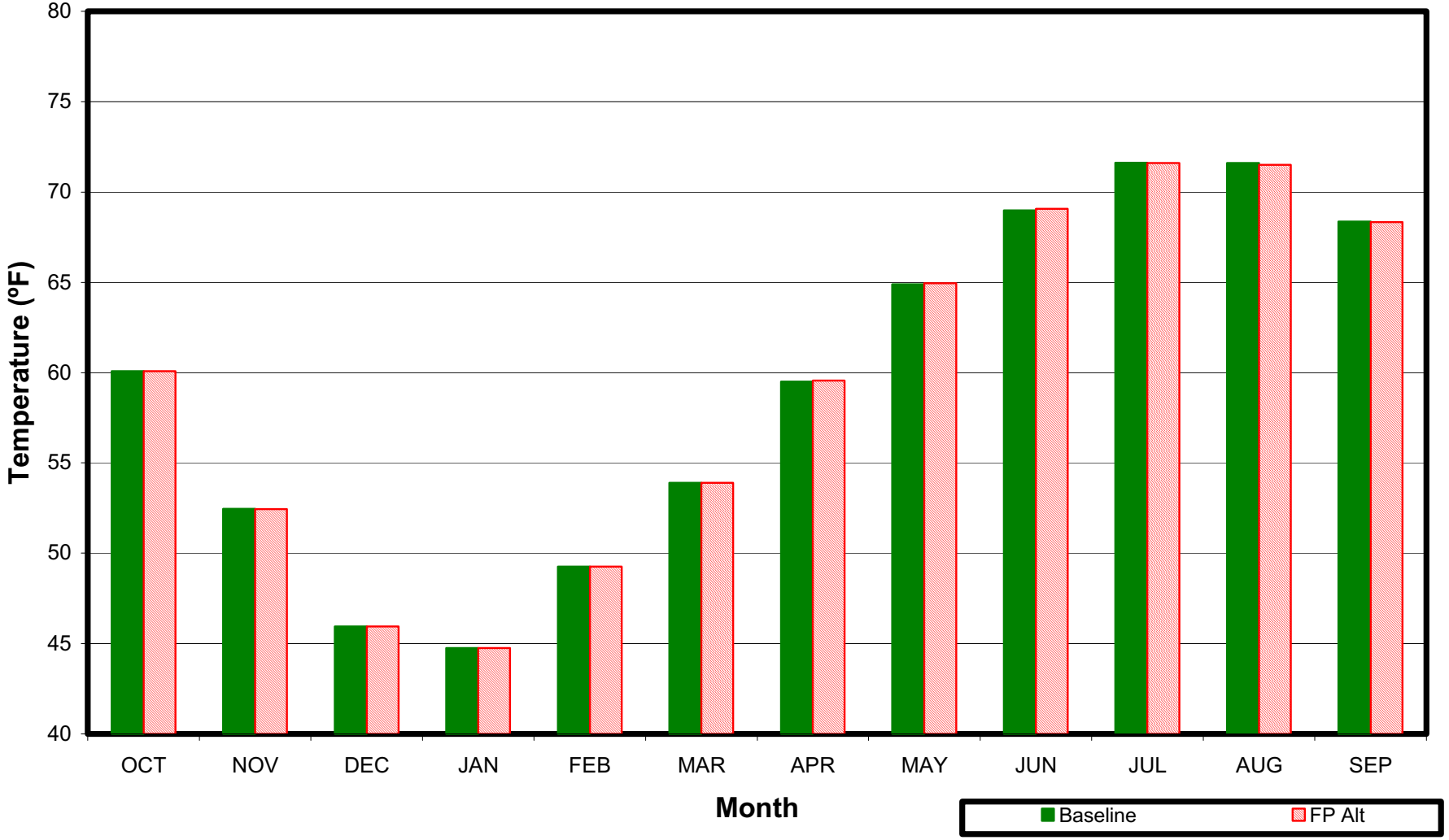
Long-term Average Water Temperature in the Sacramento River at Freeport Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	60.1	60.1	0.0
Nov	52.5	52.5	0.0
Dec	46.0	45.9	-0.1
Jan	44.8	44.8	0.0
Feb	49.3	49.3	0.0
Mar	53.9	53.9	0.0
Apr	59.5	59.6	0.1
May	64.9	65.0	0.1
Jun	69.0	69.1	0.1
Jul	71.6	71.6	0.0
Aug	71.6	71.5	-0.1
Sep	68.4	68.3	-0.1

[1] Based on 69 years modeled.

Long-term Average Temperature in the Sacramento River at Freeport Under Baseline and FP Alt Conditions



Long-term Average Temperature in the Sacramento River at Freeport Under Baseline and FP Alt Conditions



Water Temperature Exceeding Index Temperatures in the Sacramento River at Freeport Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

Index:	56º F		60º F		65º F		68º F		70º F	
Month	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	69 (60.1º)	69 (60.1º)	34 (61.4º)	34 (61.4º)	0	0	0	0	0	0
Nov	1 (56.7º)	1 (56.5º)	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	8 (57.5º)	8 (57.5º)	1 (60.1º)	1 (60.1º)	0	0	0	0	0	0
Apr	66 (59.7º)	66 (59.8º)	29 (61.7º)	29 (61.8º)	0	0	0	0	0	0
May	69 (64.9º)	69 (65º)	69 (64.9º)	69 (65º)	33 (66.6º)	34 (66.7º)	7 (69.1º)	7 (69.1º)	2 (70.2º)	1 (70.3º)
Jun	69 (69º)	69 (69.1º)	69 (69º)	69 (69.1º)	69 (69º)	69 (69.1º)	49 (69.8º)	50 (69.9º)	17 (71.2º)	17 (71.2º)
Jul	69 (71.6º)	69 (71.6º)	69 (71.6º)	69 (71.6º)	69 (71.6º)	69 (71.6º)	69 (71.6º)	69 (71.6º)	59 (72º)	59 (71.9º)
Aug	69 (71.6º)	69 (71.5º)	69 (71.6º)	69 (71.5º)	69 (71.6º)	69 (71.5º)	69 (71.6º)	69 (71.5º)	62 (71.8º)	61 (71.7º)
Sep	69 (68.4º)	69 (68.3º)	69 (68.4º)	69 (68.3º)	69 (68.4º)	69 (68.3º)	43 (69.3º)	44 (69.2º)	10 (70.6º)	9 (70.5º)

[1] Based on 69 years modeled.

Long-term Average Water Temperature at the Mouth of the Lower American River and at Freeport on the Sacramento River Under Baseline and FP Alt Conditions

Month	Water Temperature[1] (ºF)					
	American River Mouth			Sacramento River at Freeport		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Oct	58.4	58.4	0.0	60.1	60.1	0.0
Nov	55.5	55.5	0.0	52.5	52.5	0.0
Dec	49.7	49.6	-0.1	46.0	45.9	-0.1
Jan	46.5	46.5	0.0	44.8	44.8	0.0
Feb	48.5	48.5	0.0	49.3	49.3	0.0
Mar	51.7	51.8	0.1	53.9	53.9	0.0
Apr	55.8	55.9	0.1	59.5	59.6	0.1
May	59.7	59.8	0.1	64.9	65.0	0.1
Jun	63.2	63.3	0.1	69.0	69.1	0.1
Jul	67.2	67.2	0.0	71.6	71.6	0.0
Aug	68.1	68.1	0.0	71.6	71.5	-0.1
Sep	67.3	67.3	0.0	68.4	68.3	-0.1

[1] Based on 69 years modeled.

Water Temperatures Exceeding Index Temperatures at Nimbus Dam or Watt Avenue Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index exceeded

Month	Index:	56º F		60º F		65º F		70º F	
	Location[2]	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	Watt	62 (57.9º)	63 (57.9º)	5 (61.3º)	6 (61.2º)	0	0	0	0
Nov	Nimbus	56 (56.7º)	57 (56.7º)	0	0	0	0	0	0
Dec	Nimbus	1 (56.7º)	1 (56.7º)	0	0	0	0	0	0
Jan	Nimbus	0	0	0	0	0	0	0	0
Feb	Nimbus	0	0	0	0	0	0	0	0
Mar	Watt	2 (56.6º)	2 (56.8º)	0	0	0	0	0	0
Apr	Watt	16 (59.7º)	18 (59.3º)	5 (62.6º)	5 (62.7º)	1 (65.1º)	1 (65.1º)	0	0
May	Watt	63 (59º)	64 (59º)	14 (63º)	14 (63.1º)	2 (65.8º)	2 (65.8º)	0	0
Jun	Watt	69 (62º)	69 (62º)	56 (62.8º)	56 (62.8º)	10 (66.8º)	11 (66.7º)	0	0
Jul	Watt	69 (66.2º)	69 (66.2º)	69 (66.2º)	69 (66.2º)	57 (66.6º)	57 (66.6º)	1 (70.8º)	1 (70.8º)
Aug	Watt	69 (66.9º)	69 (66.9º)	69 (66.9º)	69 (66.9º)	69 (66.9º)	69 (66.9º)	1 (73º)	1 (73º)
Sep	Watt	69 (66.8º)	69 (66.8º)	69 (66.8º)	69 (66.8º)	69 (66.8º)	69 (66.8º)	0	0

[1] Based on 69 years modeled

[2] Nimbus temperature is shown for November through February because it is expected to be higher than Watt during these months. Watt temperature is shown for March through October because it is expected to be higher than Nimbus during these months.

Water Temperatures Exceeding Index Temperature at Keswick Dam and Bend Bridge Under Baseline and FP Alt Conditions

Number of years[1] exceeding index and, in parentheses, average temperature in years when index is exceeded

Month	56º F				60º F			
	Keswick Dam		Bend Bridge		Keswick Dam		Bend Bridge	
	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
Oct	12 (58.6º)	12 (58.6º)	14 (58.7º)	14 (58.7º)	3 (61.5º)	3 (61.5º)	2 (62.1º)	2 (62.1º)
Nov	4 (57.2º)	4 (57.2º)	2 (56.5º)	2 (56.5º)	0	0	0	0
Dec	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	2 (56.3º)	2 (56.3º)	1 (56.6º)	1 (56.6º)	0	0	0	0
Apr	0	0	6 (56.2º)	6 (56.2º)	0	0	0	0
May	0	0	6 (57º)	6 (57º)	0	0	0	0
Jun	0	0	13 (56.6º)	13 (56.6º)	0	0	0	0
Jul	1 (57º)	1 (57º)	7 (58.2º)	7 (58.2º)	0	0	1 (61.5º)	1 (61.5º)
Aug	6 (60.5º)	6 (60.5º)	36 (58º)	36 (58º)	4 (61.8º)	4 (61.8º)	6 (64.4º)	6 (64.4º)
Sep	7 (62.4º)	7 (62.4º)	20 (59.9º)	20 (60º)	6 (63.4º)	6 (63.4º)	6 (65º)	6 (65º)

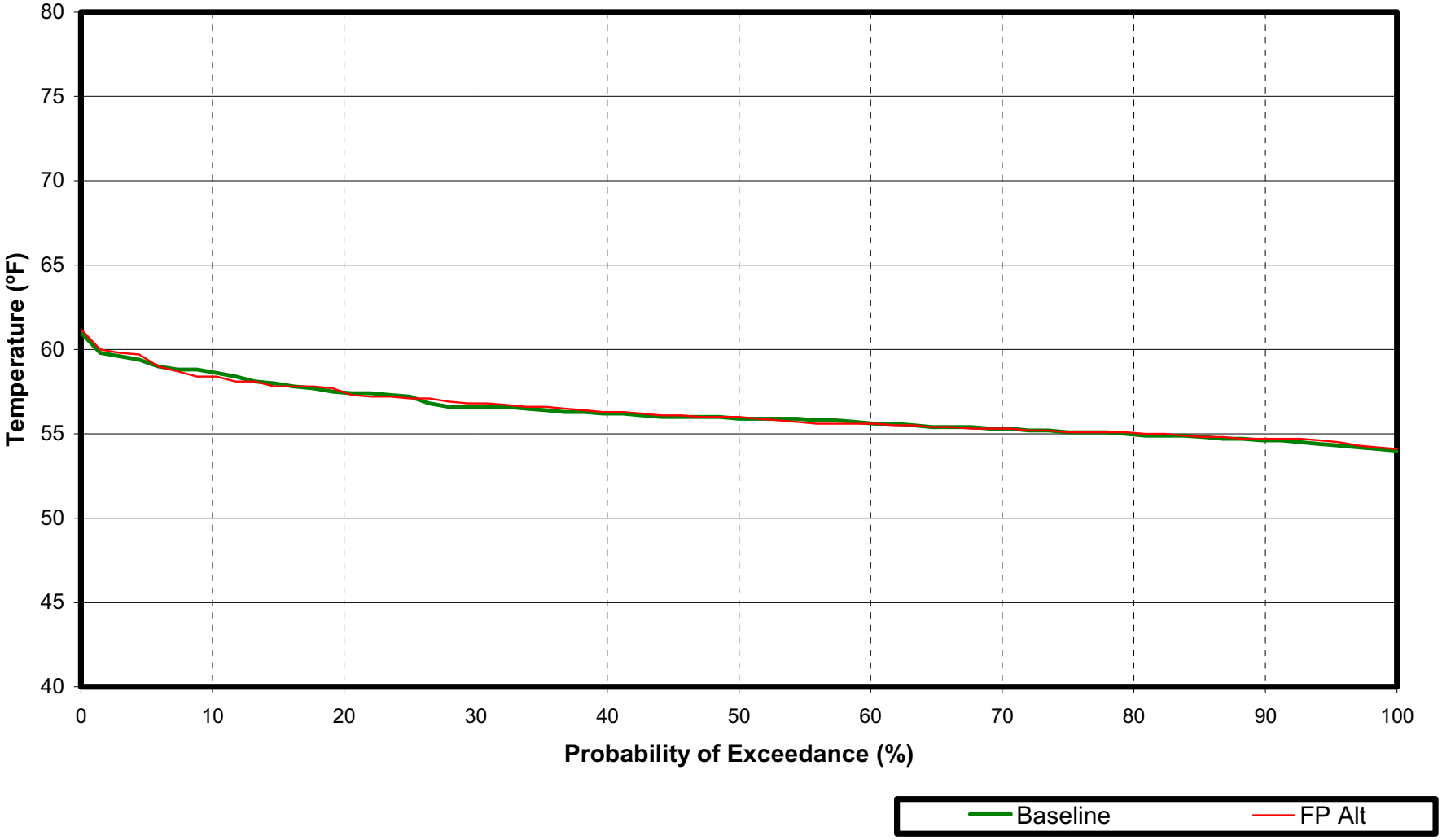
[1] Based on 69 years modeled

Long-term Average Water Temperature at Nimbus Dam or Watt Avenue Under Baseline and FP Alt Conditions				
Month	Location[2]	Water Temperature[1] (ºF)		
		Baseline	FP Alt	Difference
Oct	Watt	57.7	57.7	0.0
Nov	Nimbus	56.5	56.5	0.0
Dec	Nimbus	51.2	51.2	0.0
Jan	Nimbus	47.2	47.1	-0.1
Feb	Nimbus	47.8	47.8	0.0
Mar	Watt	51.2	51.3	0.1
Apr	Watt	55.1	55.2	0.1
May	Watt	58.7	58.7	0.0
Jun	Watt	62.0	62.0	0.0
Jul	Watt	66.2	66.2	0.0
Aug	Watt	66.9	66.9	0.0
Sep	Watt	66.8	66.8	0.0

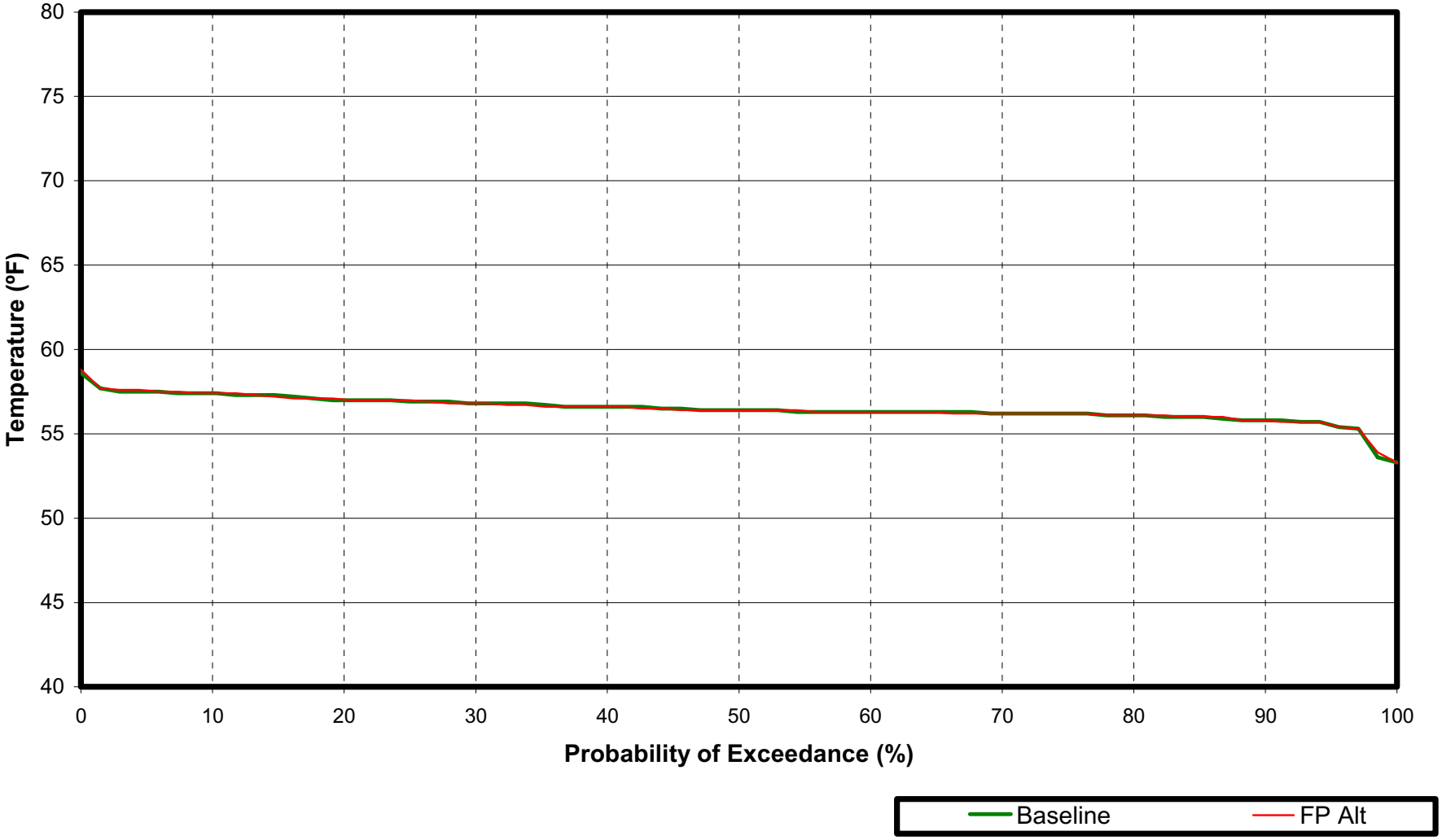
[1] Based on 69 years modeled.

[2] Nimbus temperature is shown for November through February because it is expected to be higher than Watt during these months. Watt temperature is shown for March through October because it is expected to be higher than Nimbus during these months.

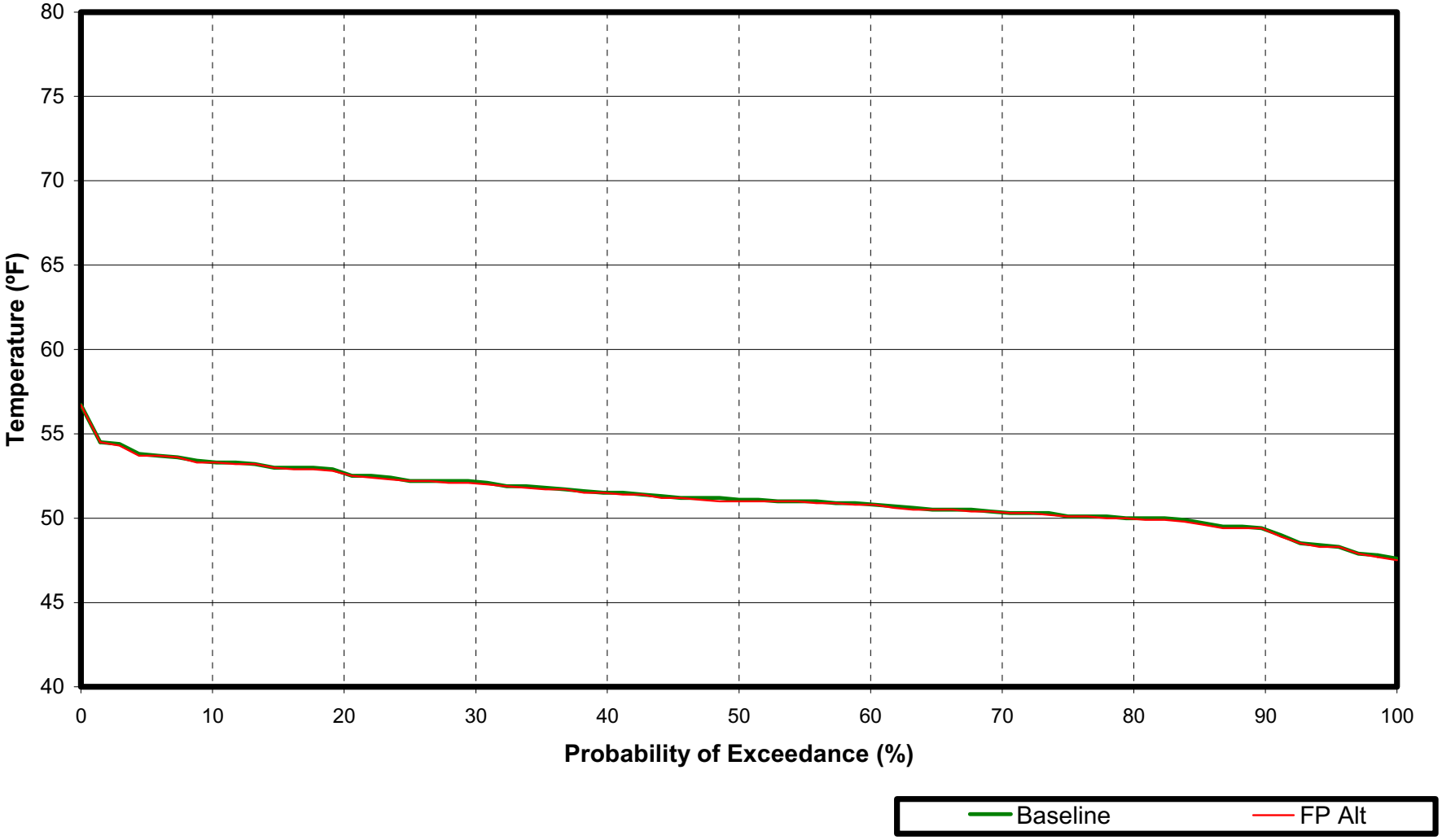
Temperature in the American River below Nimbus Dam During October Under Baseline and FP Alt Conditions



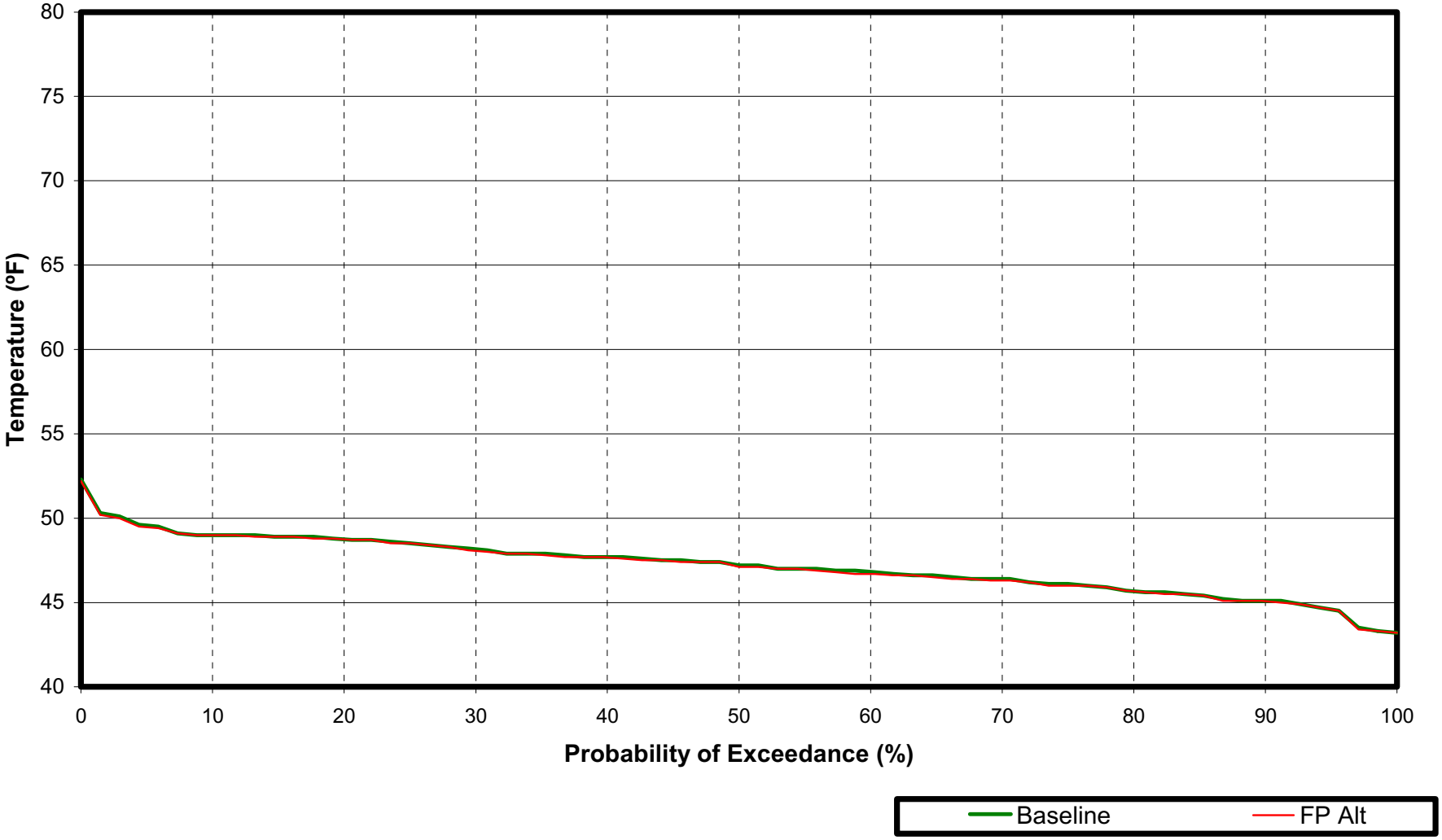
Temperature in the American River below Nimbus Dam During November Under Baseline and FP Alt Conditions



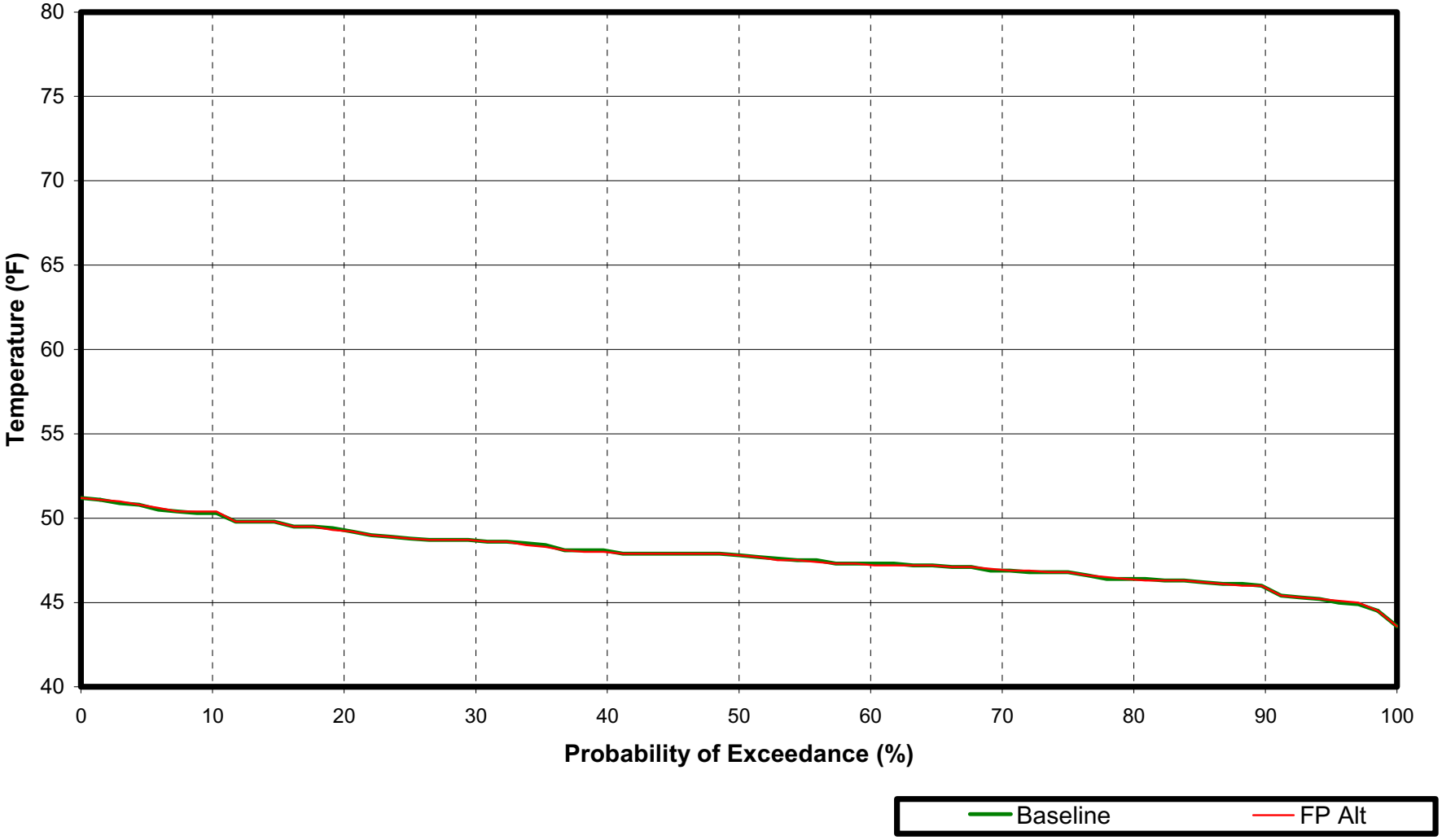
Temperature in the American River below Nimbus Dam During December Under Baseline and FP Alt Conditions



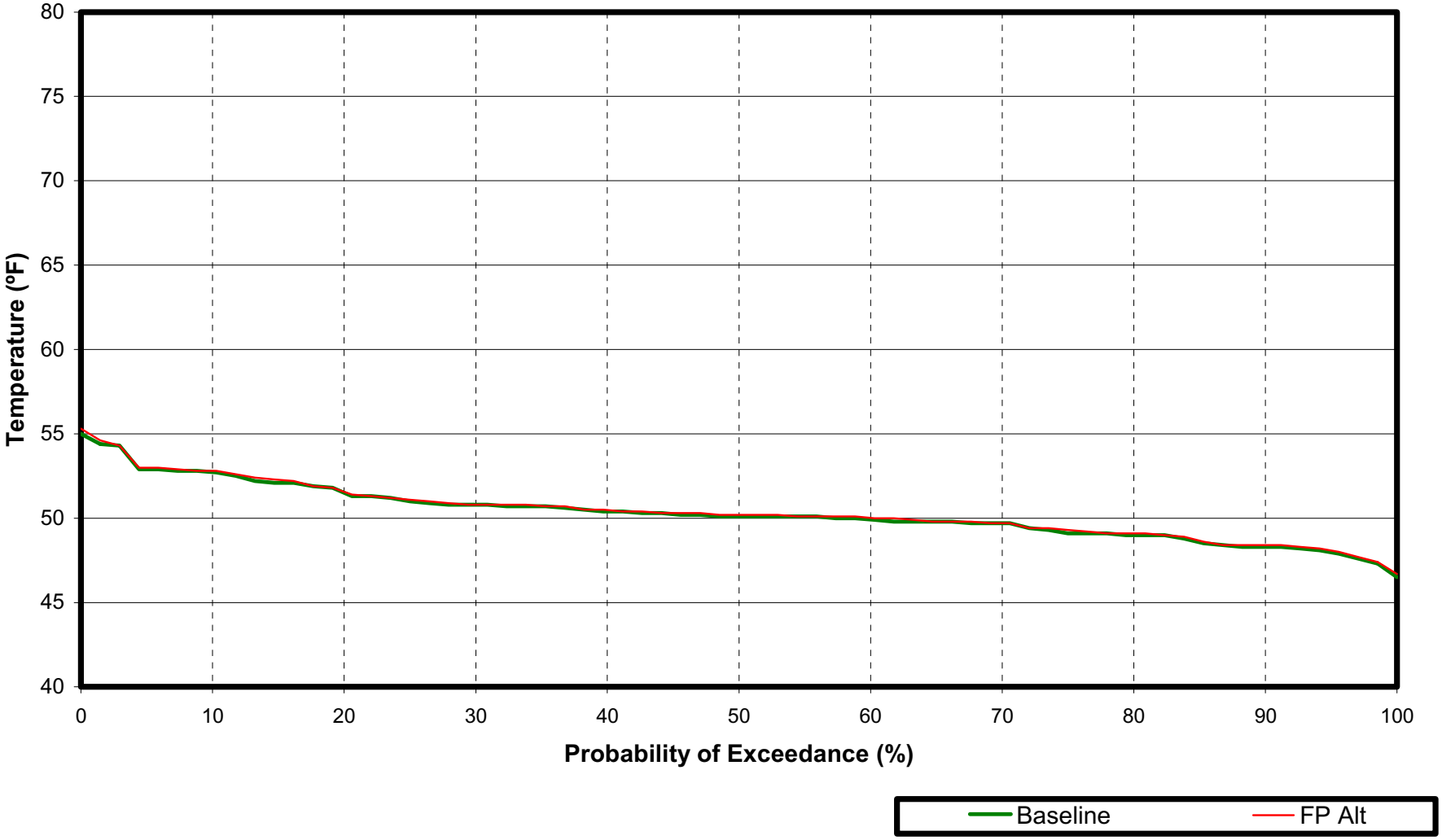
Temperature in the American River below Nimbus Dam During January Under Baseline and FP Alt Conditions



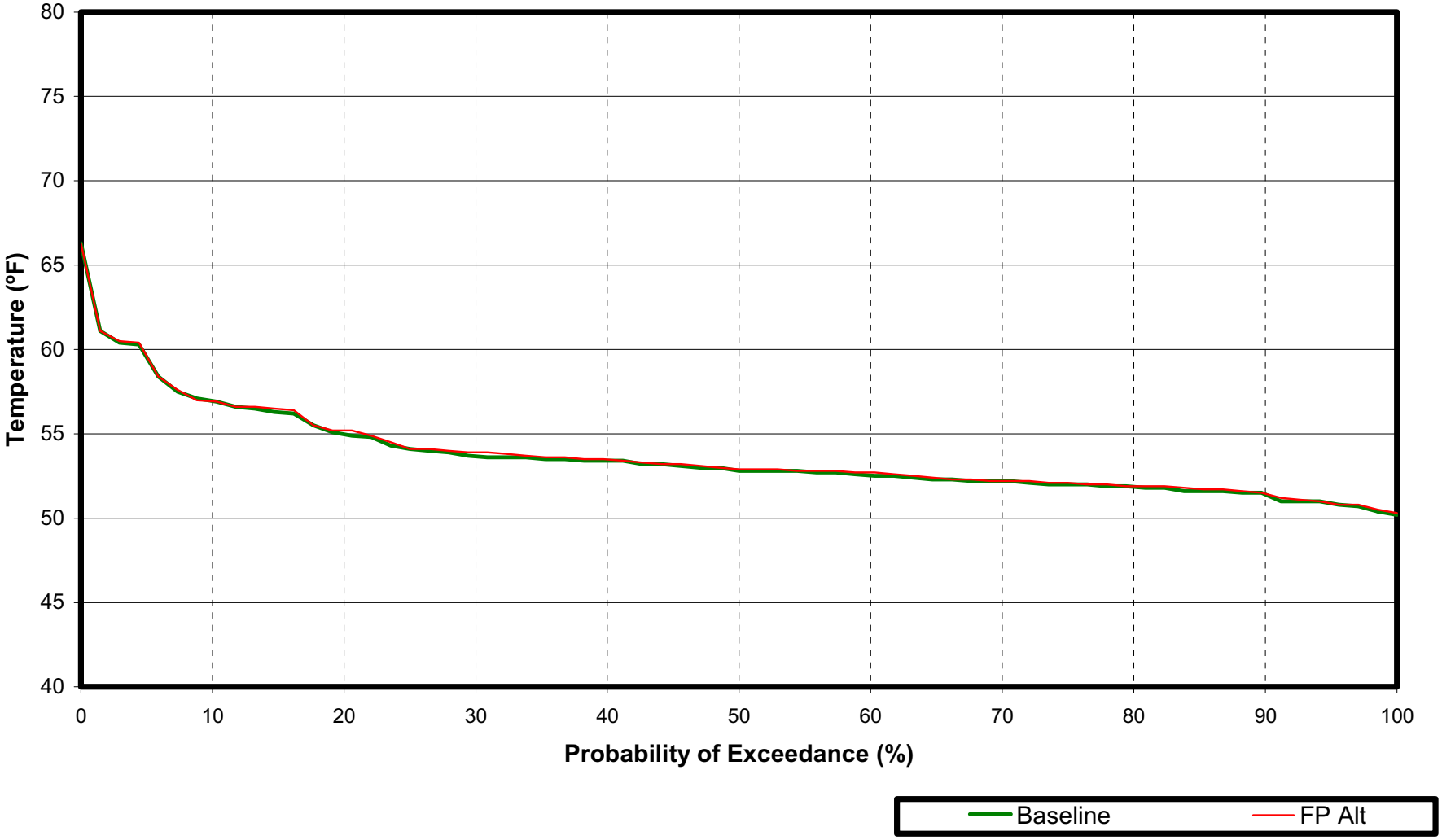
Temperature in the American River below Nimbus Dam During February Under Baseline and FP Alt Conditions



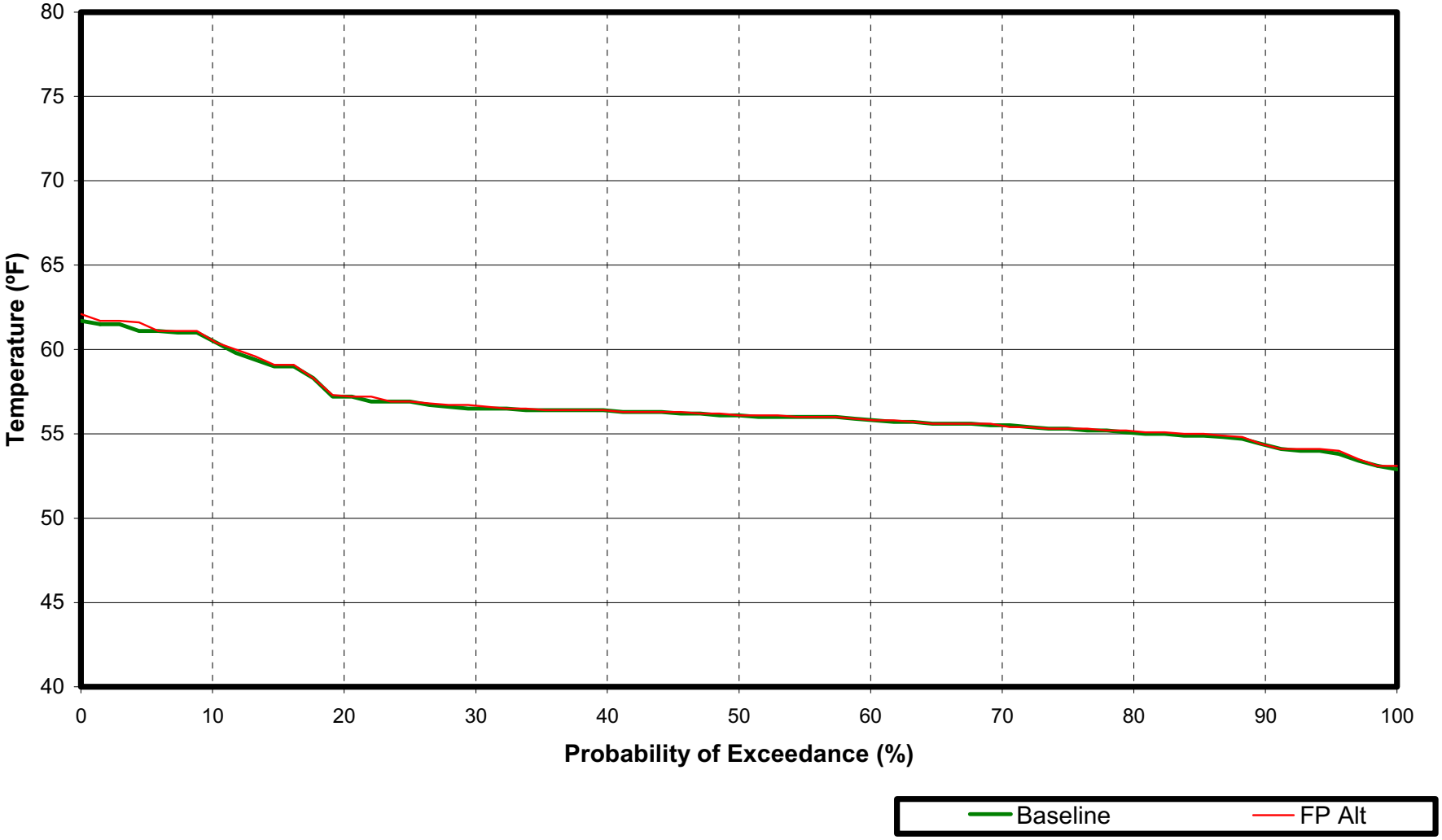
Temperature in the American River below Nimbus Dam During March Under Baseline and FP Alt Conditions



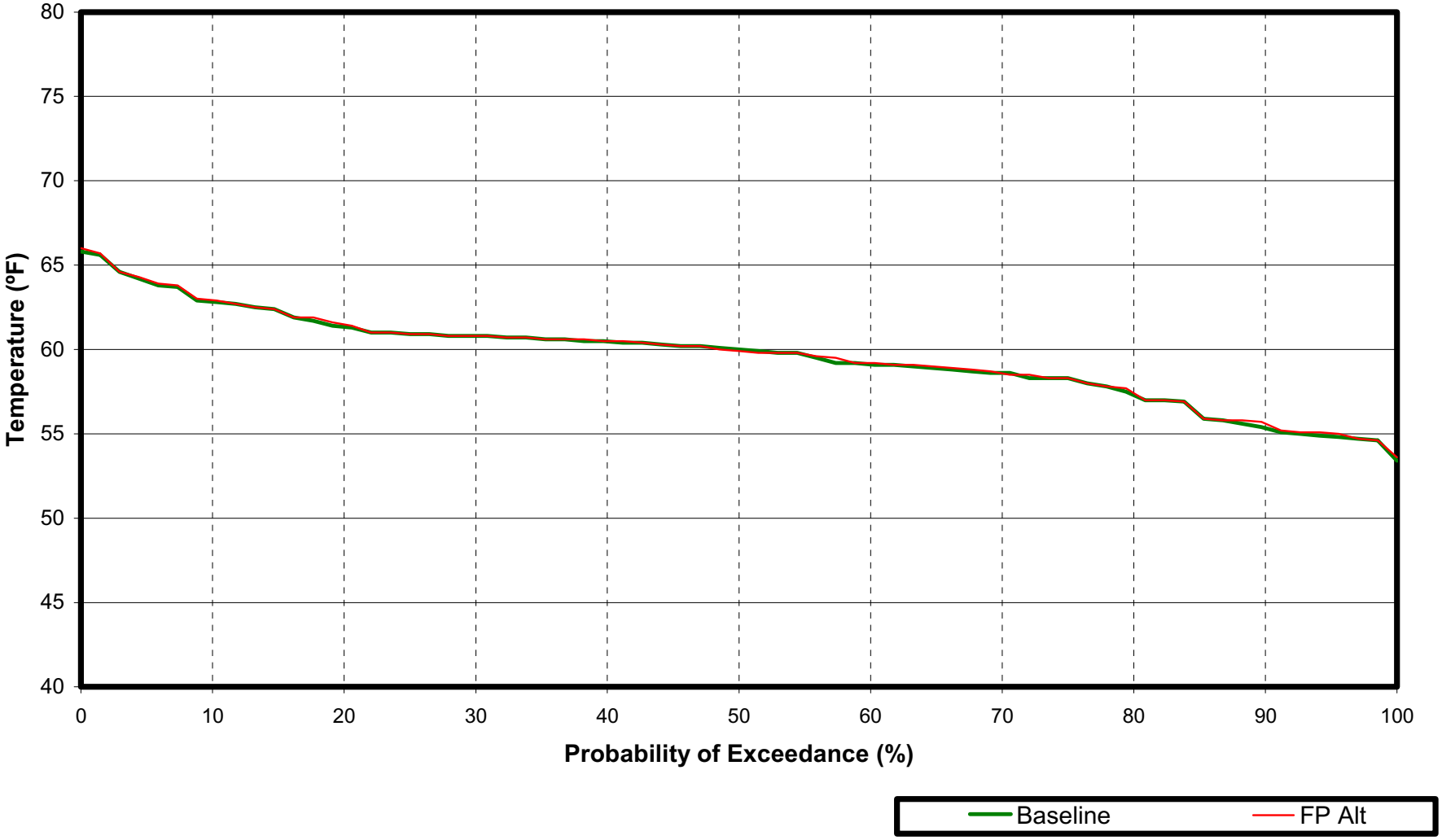
Temperature in the American River below Nimbus Dam During April Under Baseline and FP Alt Conditions



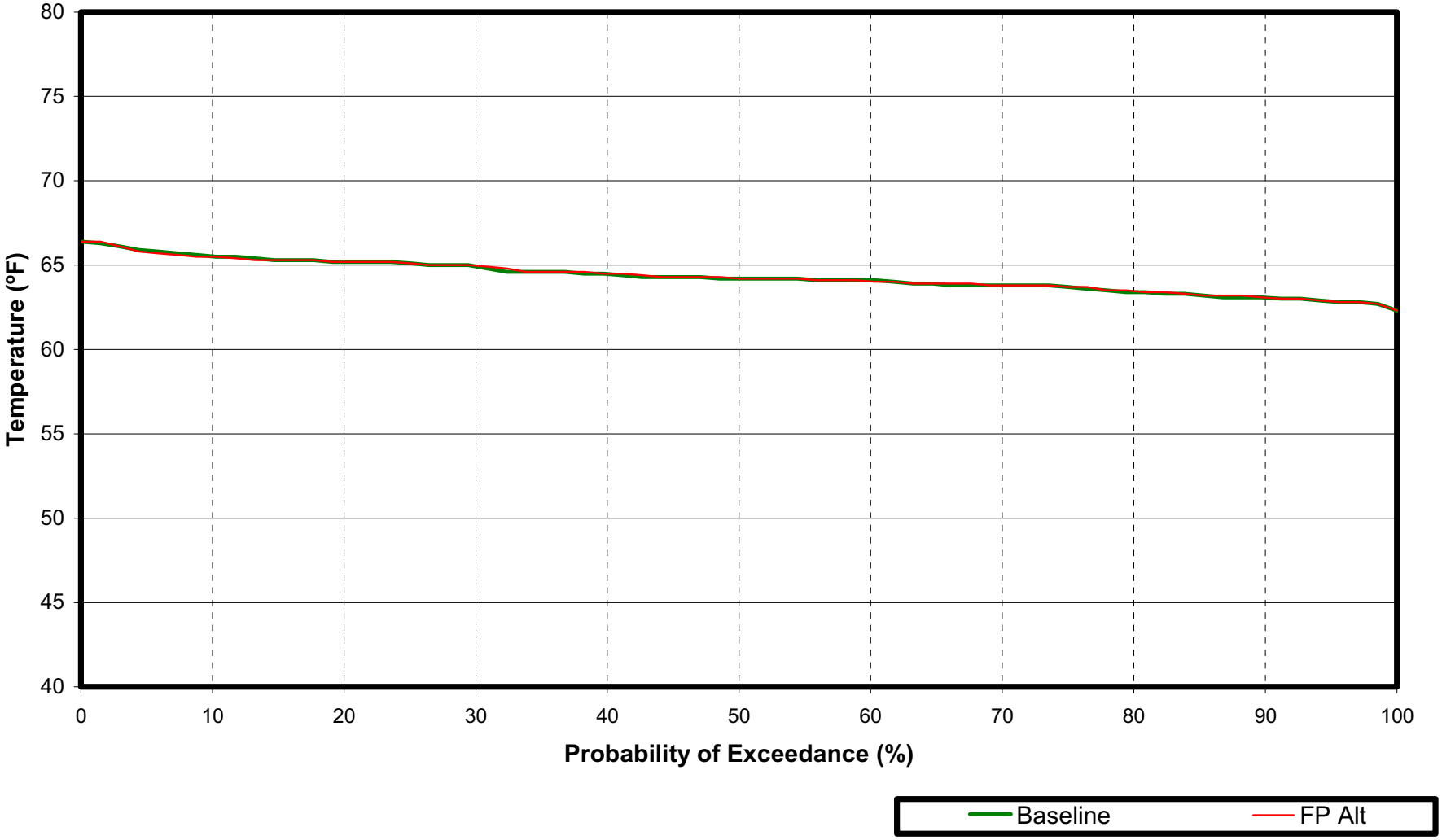
Temperature in the American River below Nimbus Dam During May Under Baseline and FP Alt Conditions



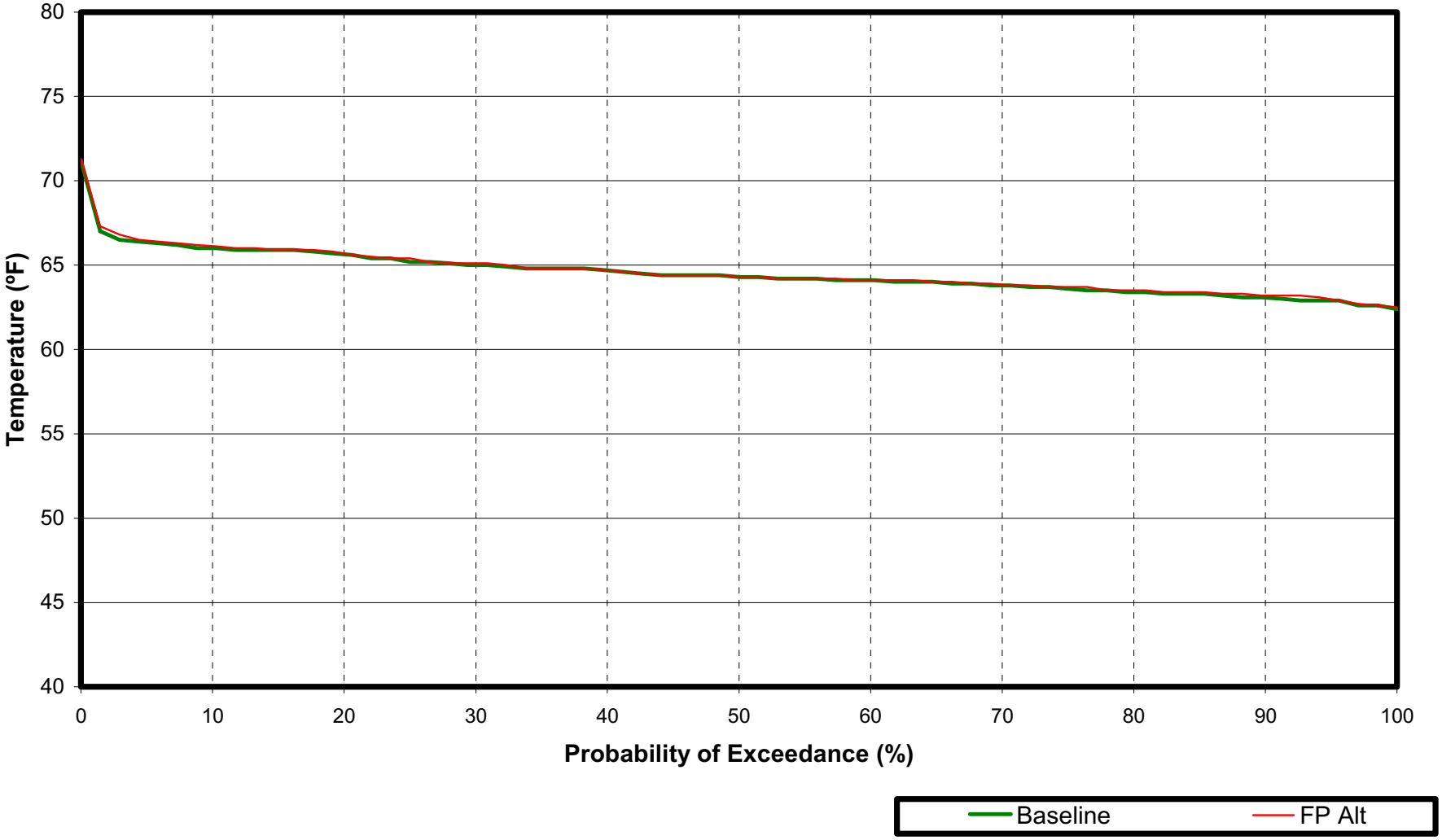
Temperature in the American River below Nimbus Dam During June Under Baseline and FP Alt Conditions



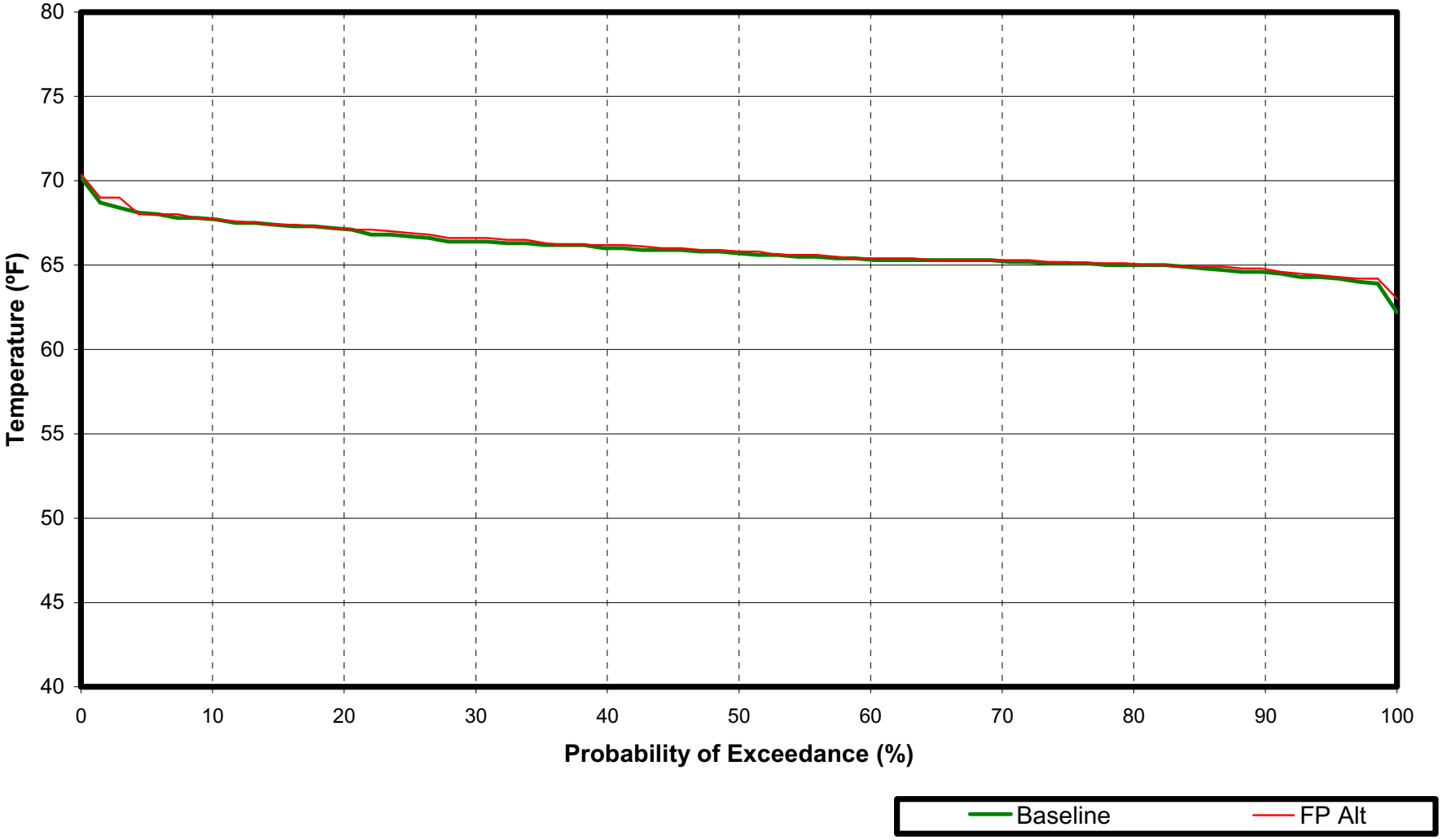
Temperature in the American River below Nimbus Dam During July Under Baseline and FP Alt Conditions



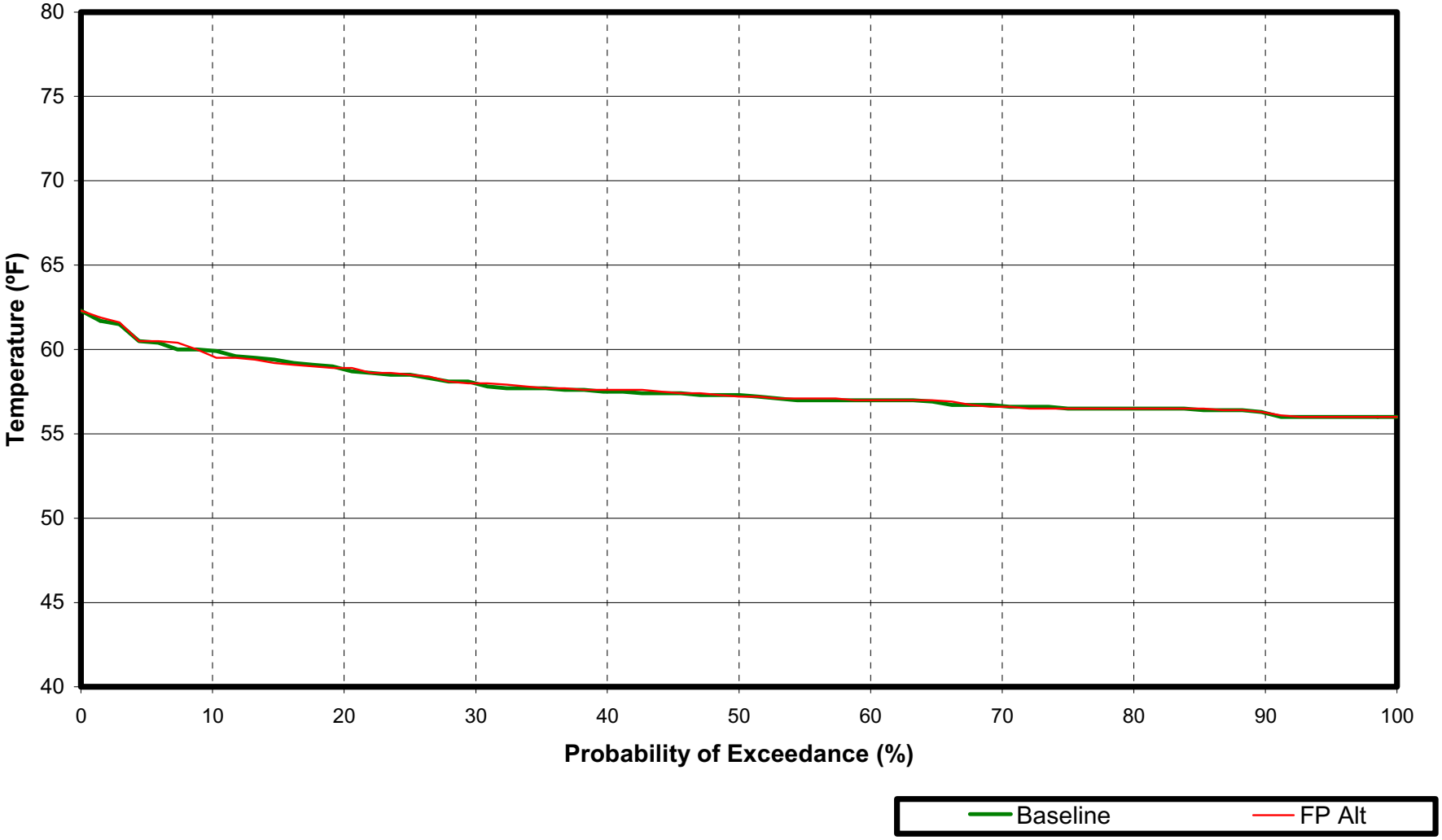
Temperature in the American River below Nimbus Dam During August Under Baseline and FP Alt Conditions



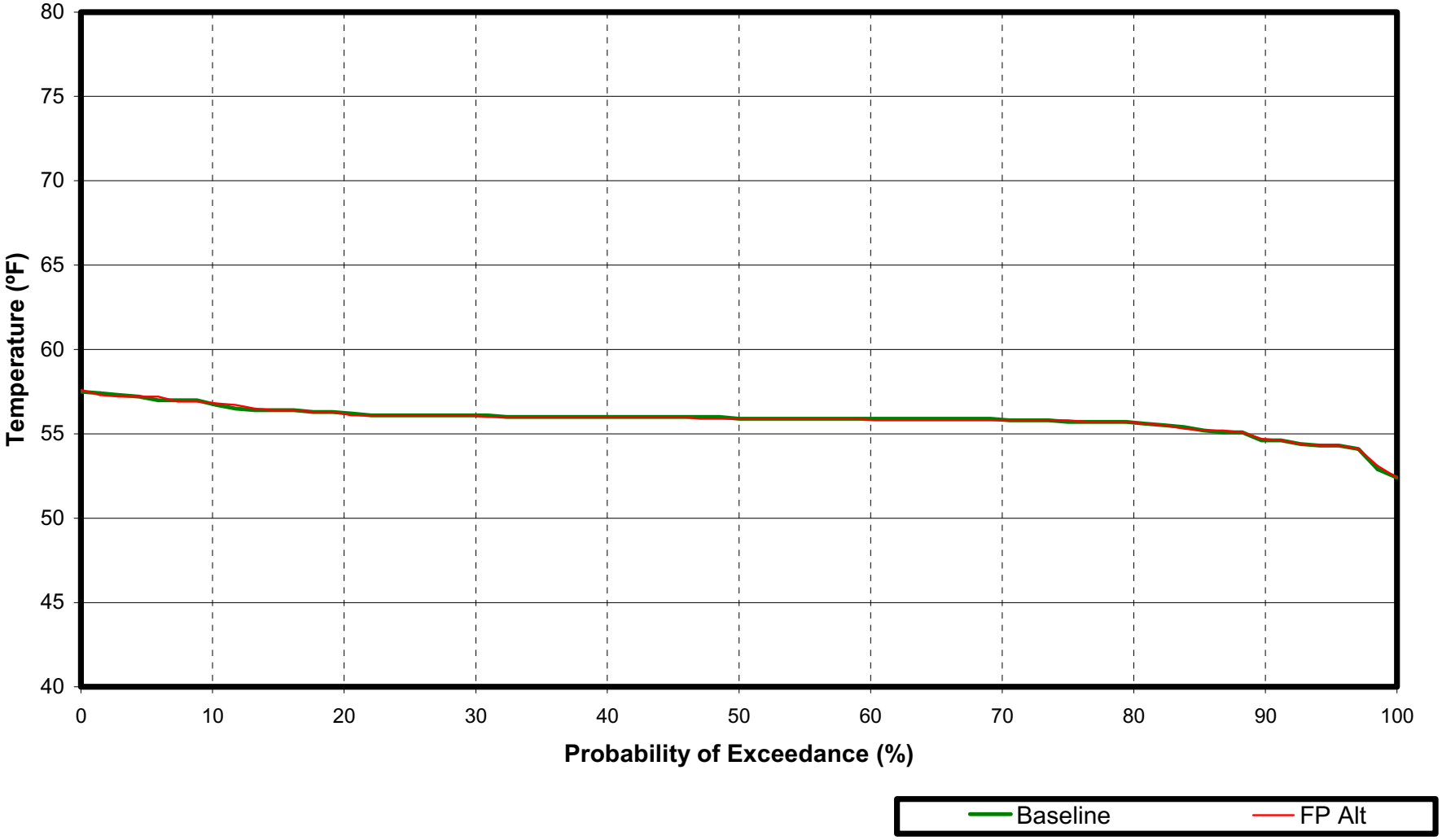
Temperature in the American River below Nimbus Dam During September Under Baseline and FP Alt Conditions



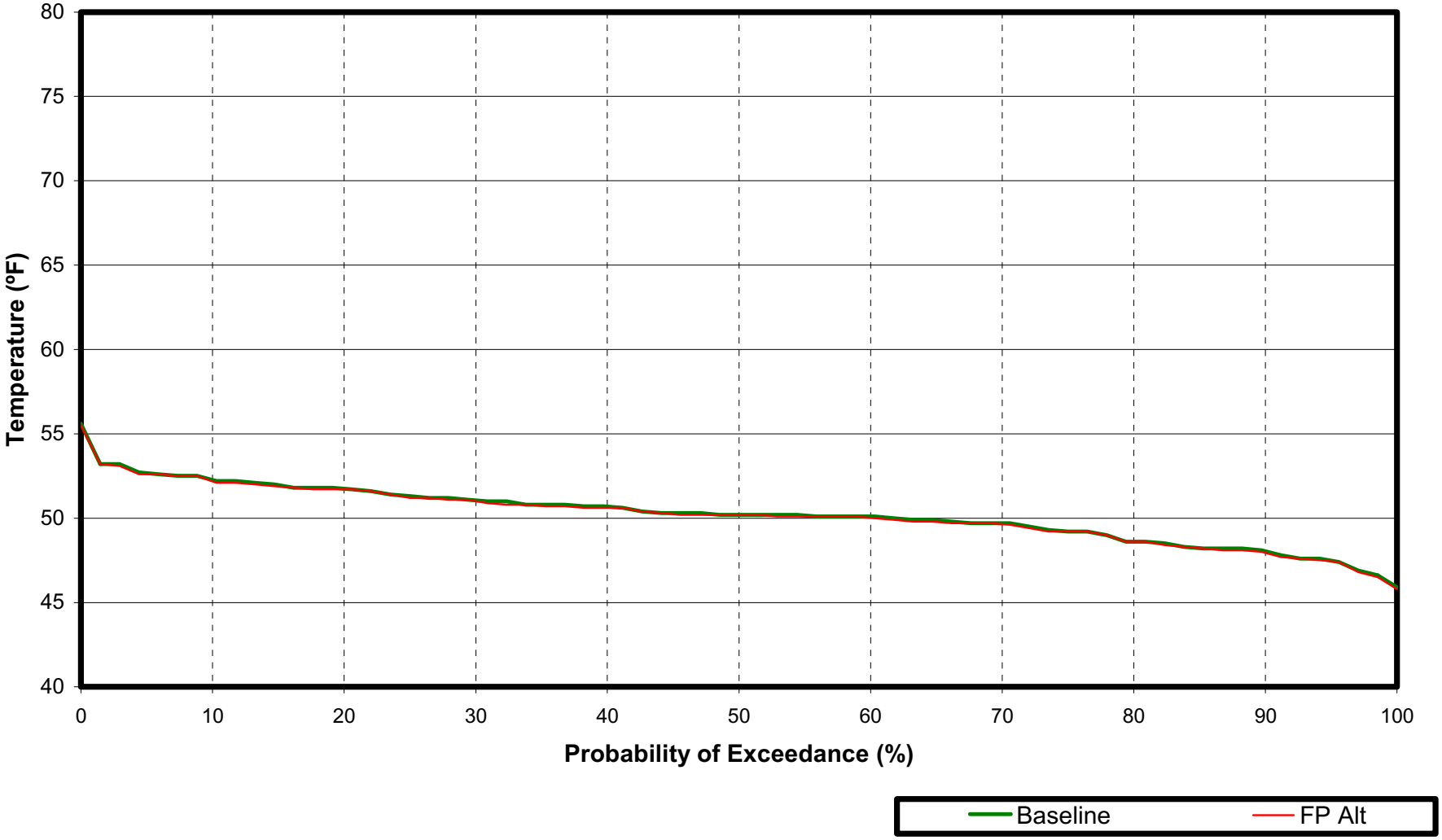
Temperature in the American River at Watt Ave During October Under Baseline and FP Alt Conditions



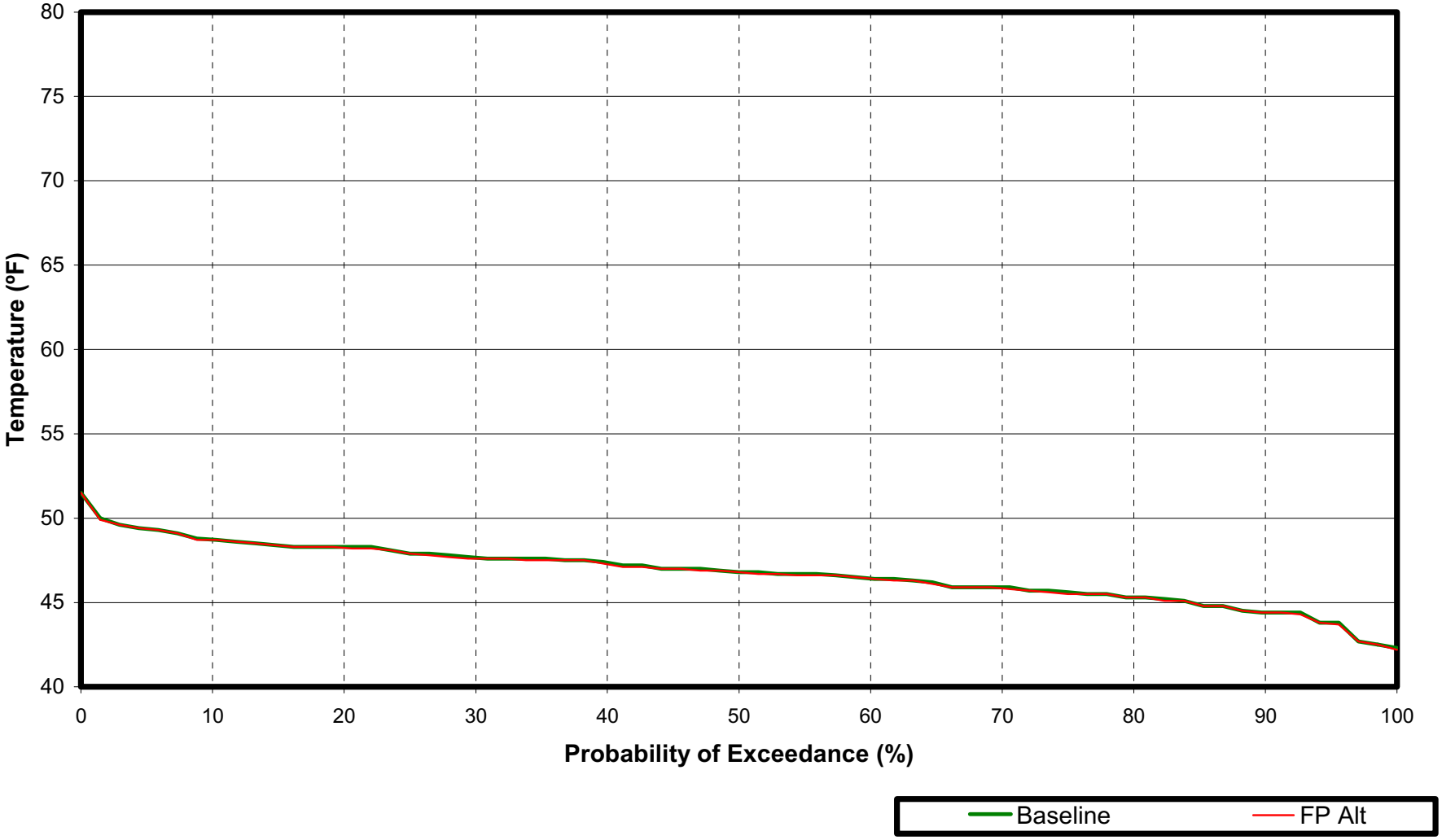
Temperature in the American River at Watt Ave During November Under Baseline and FP Alt Conditions



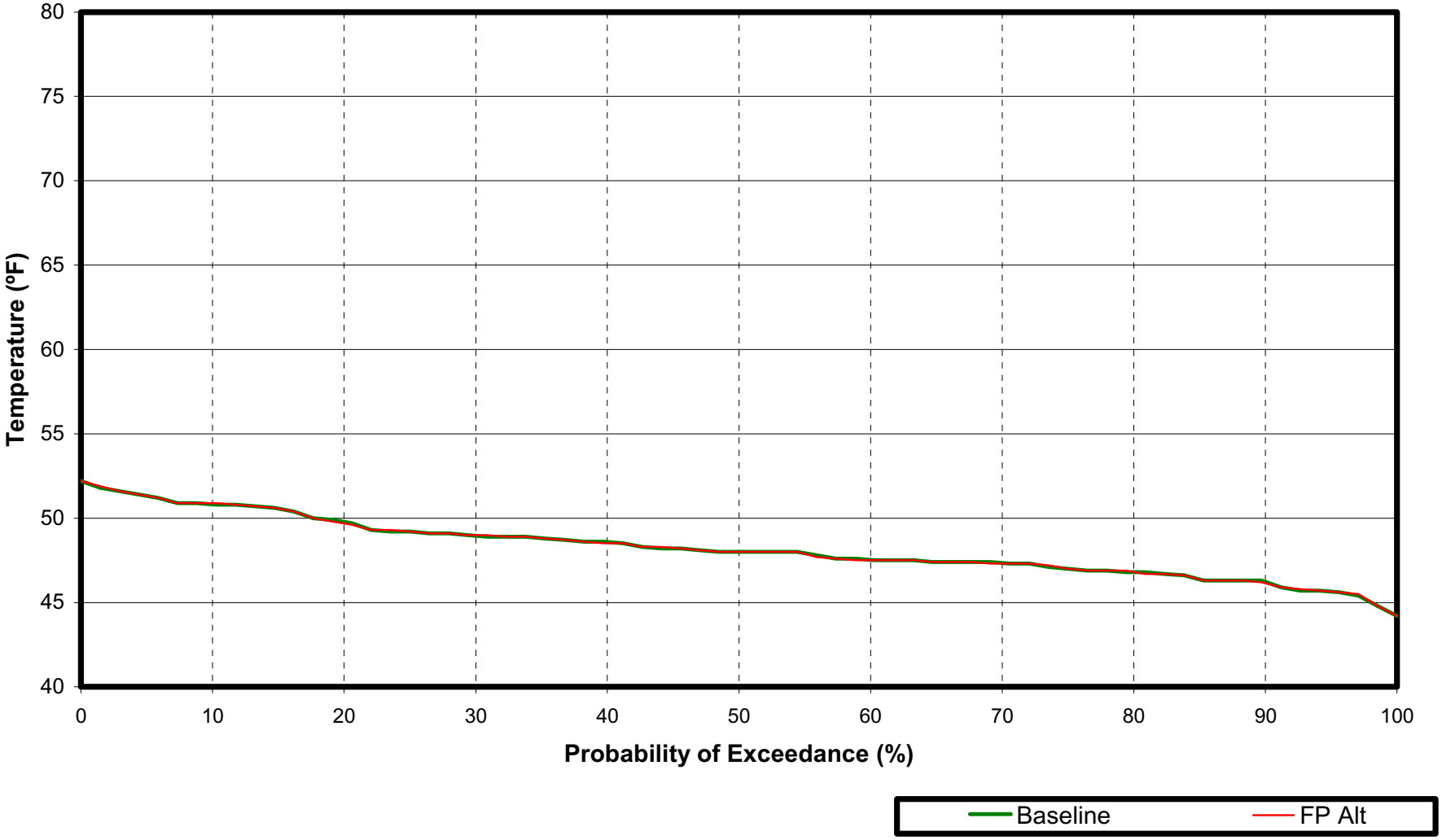
Temperature in the American River at Watt Ave During December Under Baseline and FP Alt Conditions



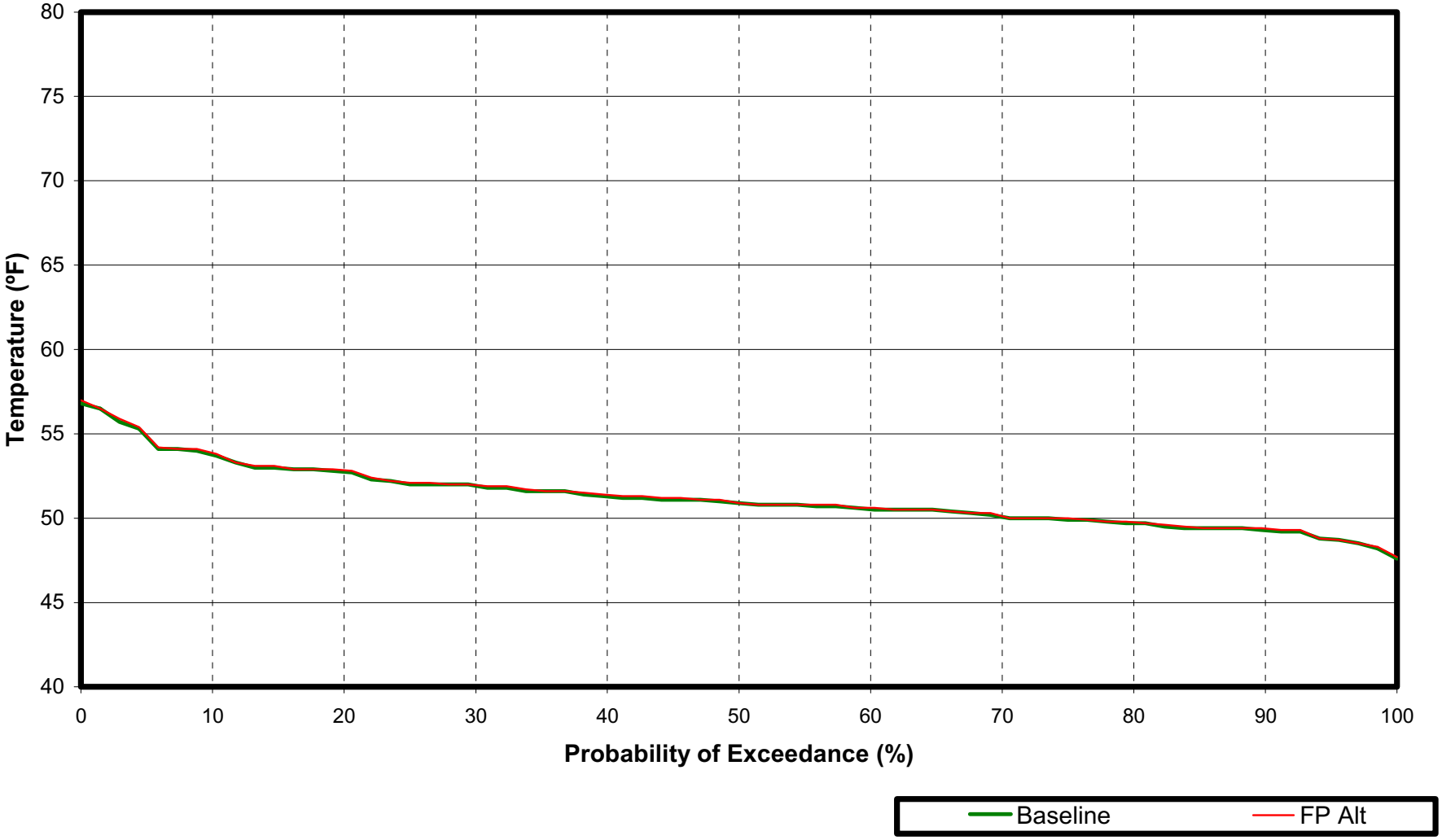
Temperature in the American River at Watt Ave During January Under Baseline and FP Alt Conditions



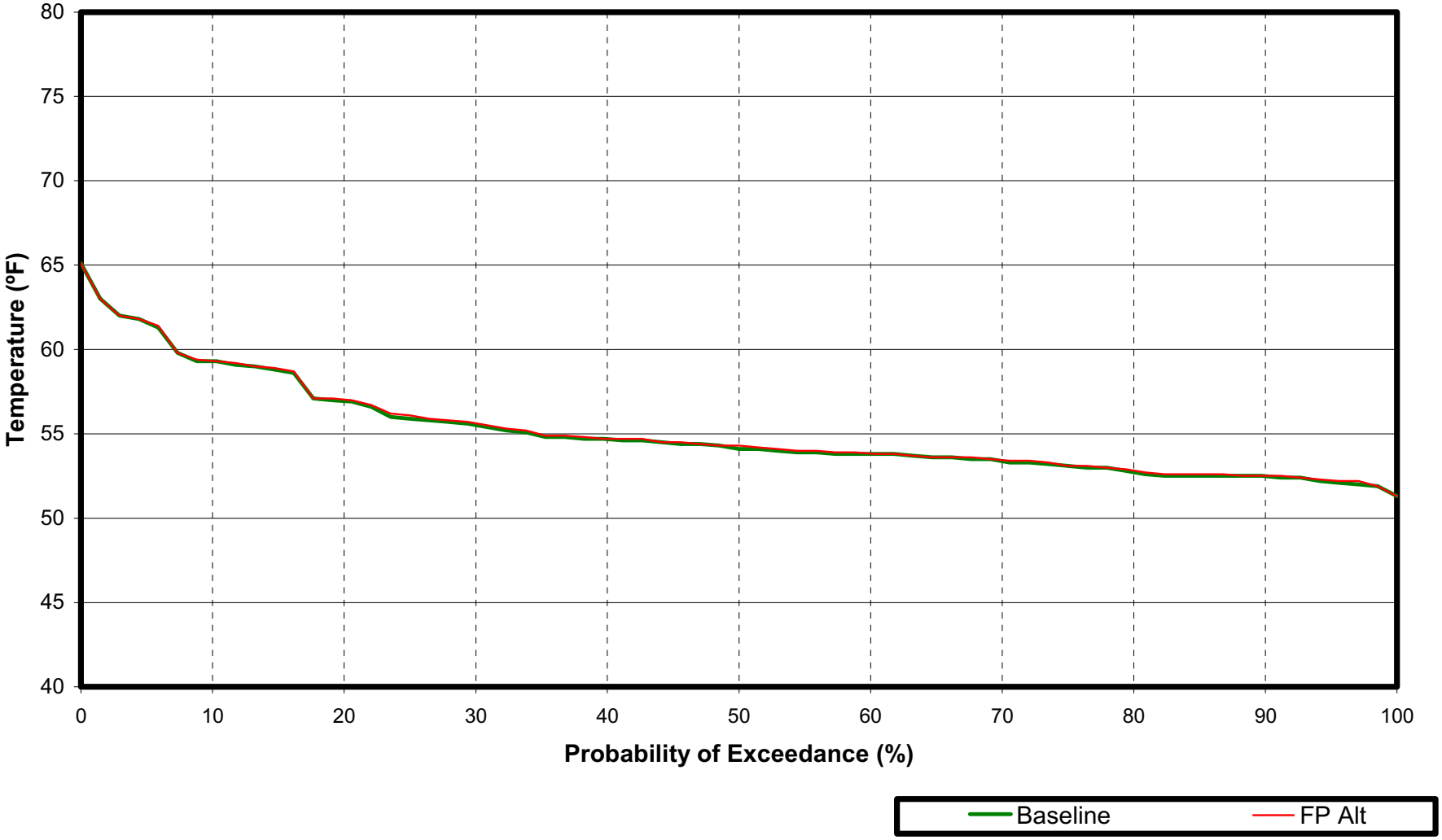
Temperature in the American River at Watt Ave During February Under Baseline and FP Alt Conditions



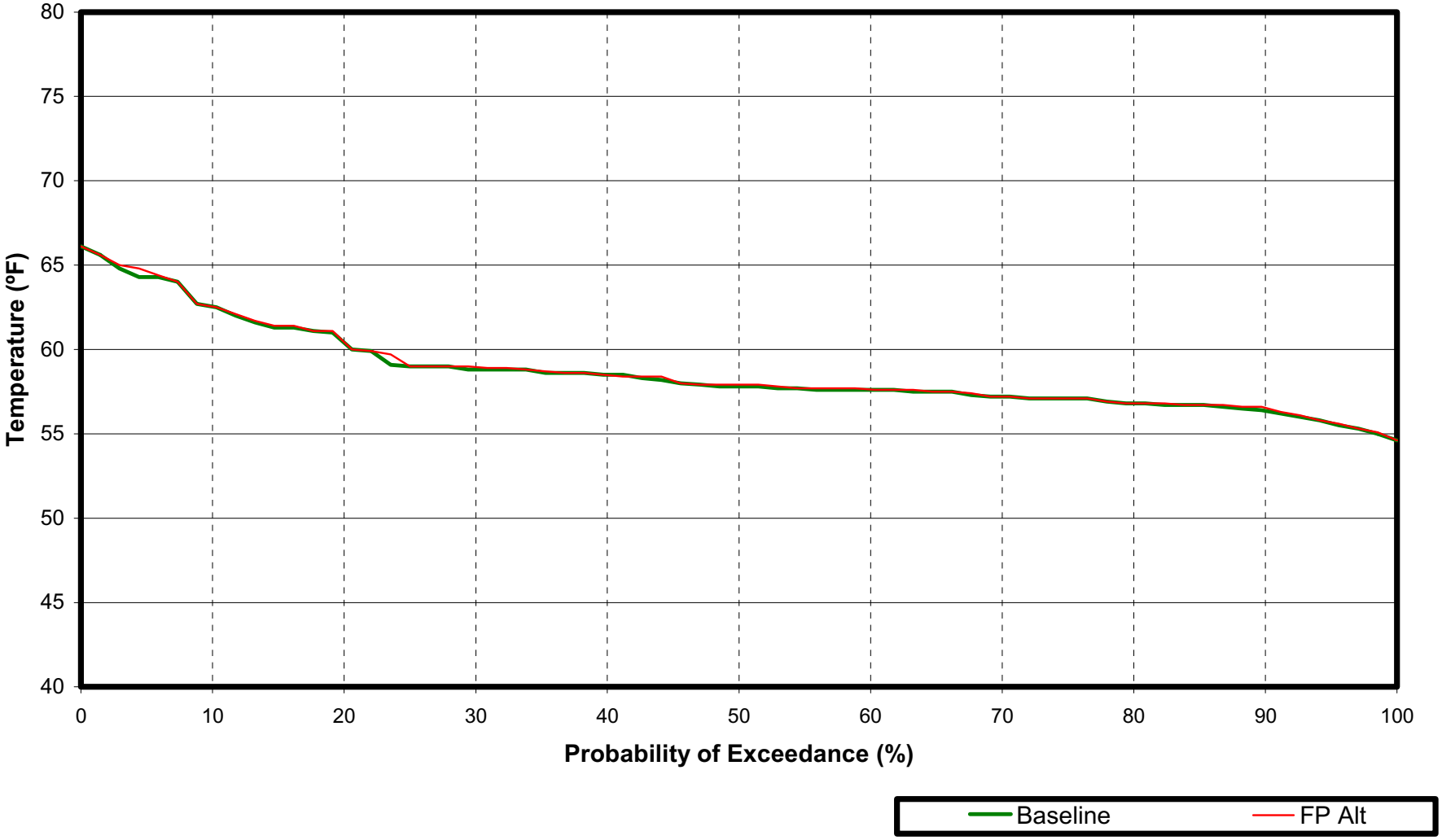
Temperature in the American River at Watt Ave During March Under Baseline and FP Alt Conditions



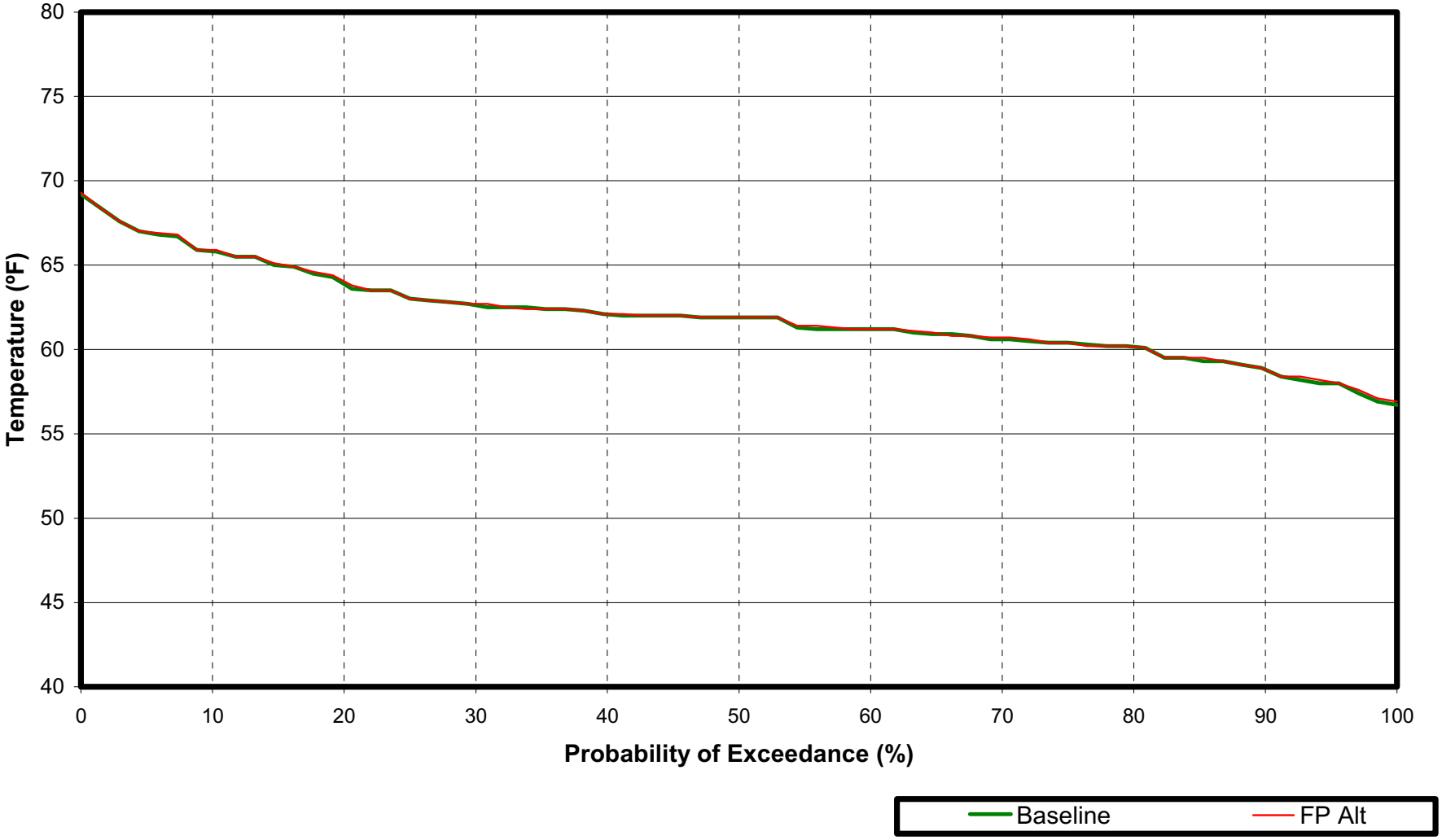
Temperature in the American River at Watt Ave During April Under Baseline and FP Alt Conditions



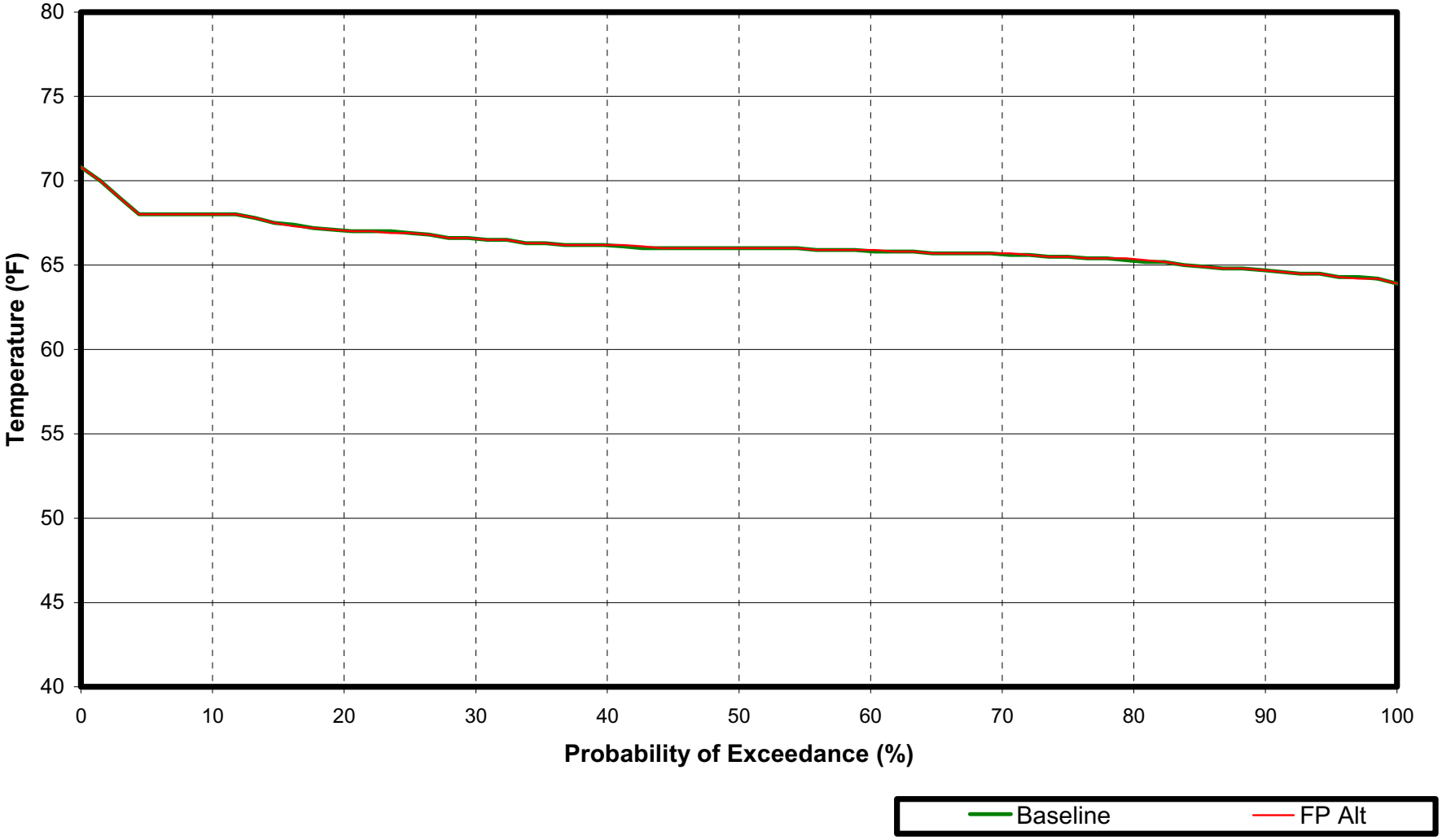
Temperature in the American River at Watt Ave During May Under Baseline and FP Alt Conditions



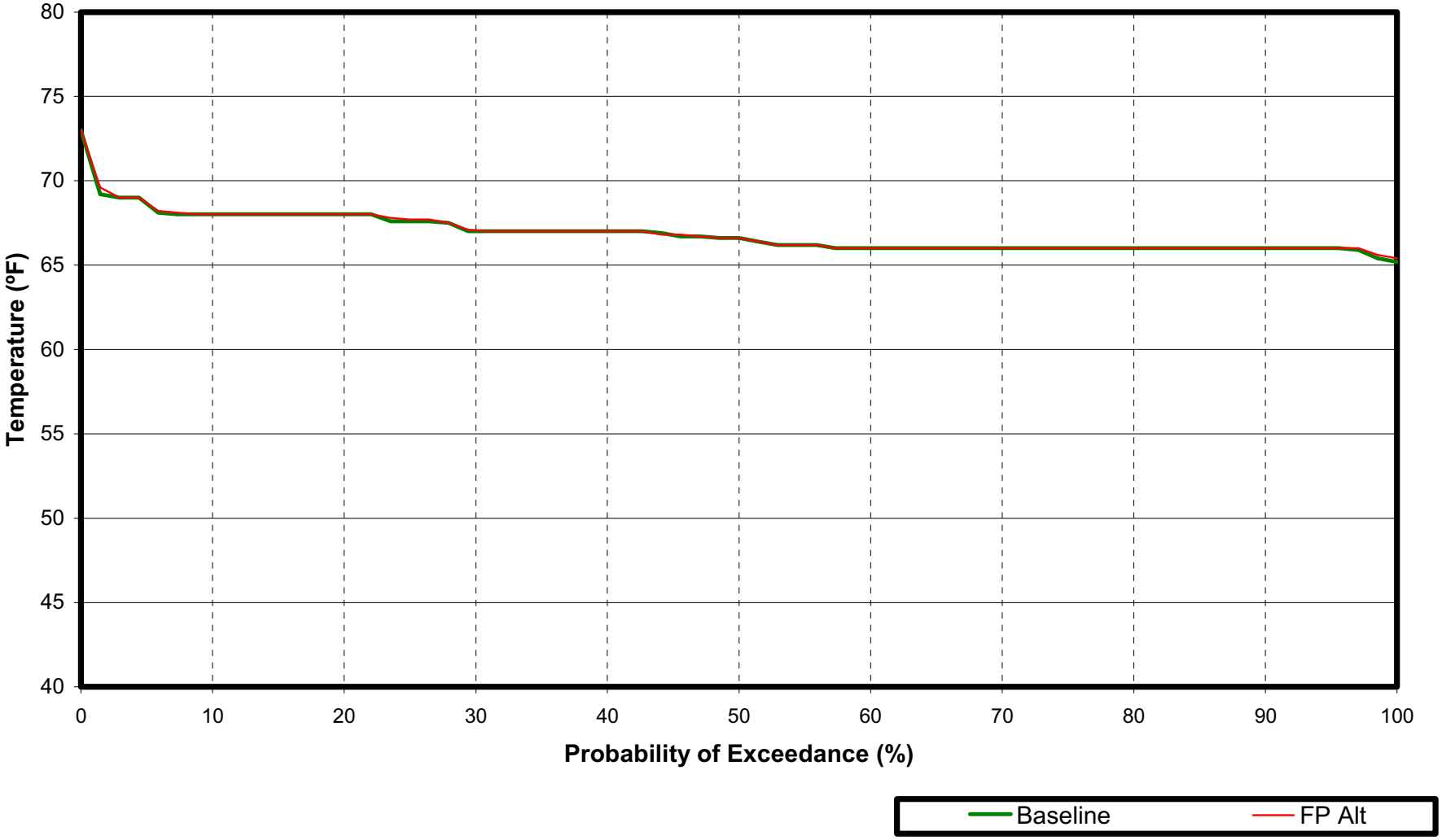
Temperature in the American River at Watt Ave During June Under Baseline and FP Alt Conditions



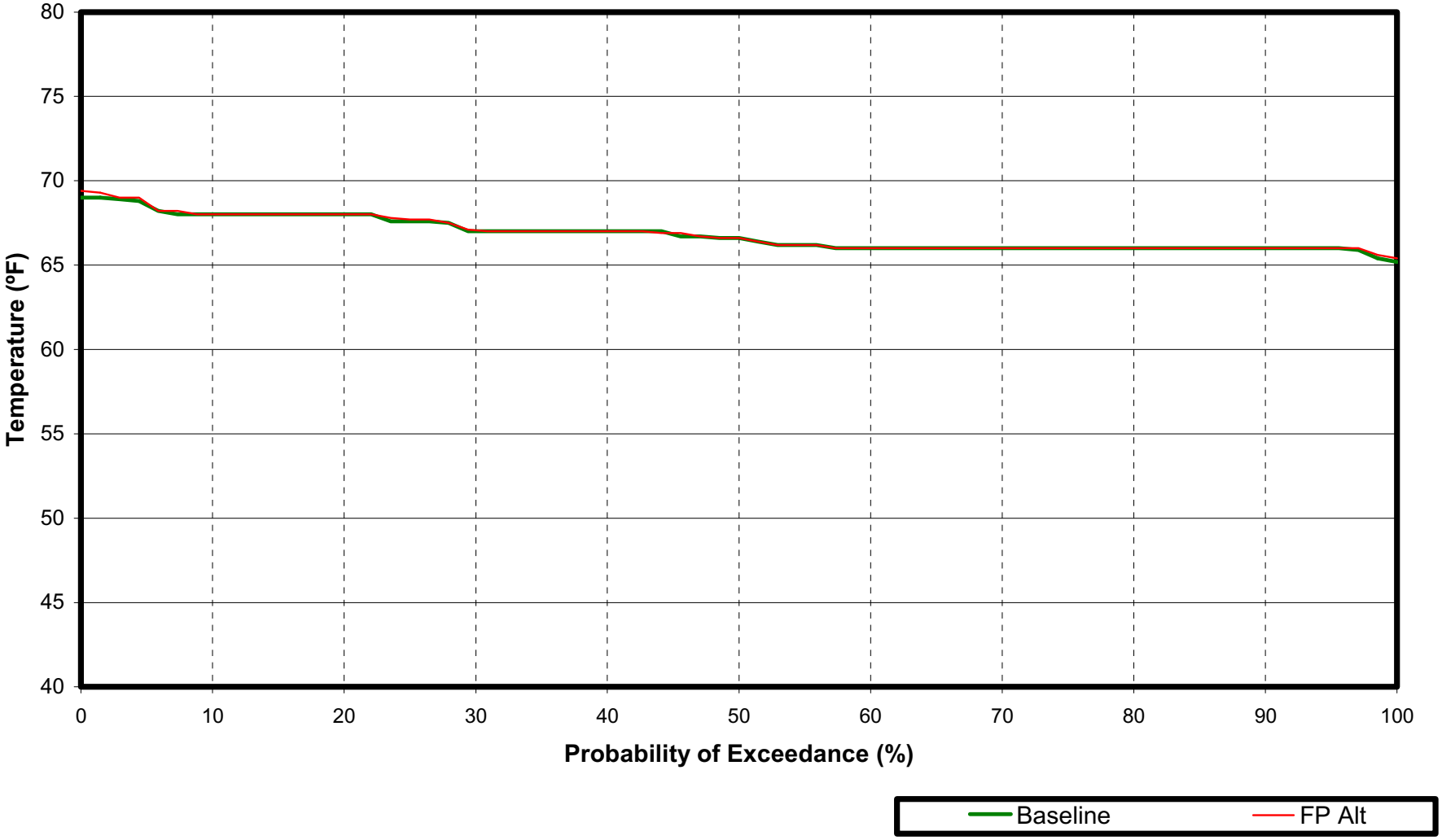
Temperature in the American River at Watt Ave During July Under Baseline and FP Alt Conditions



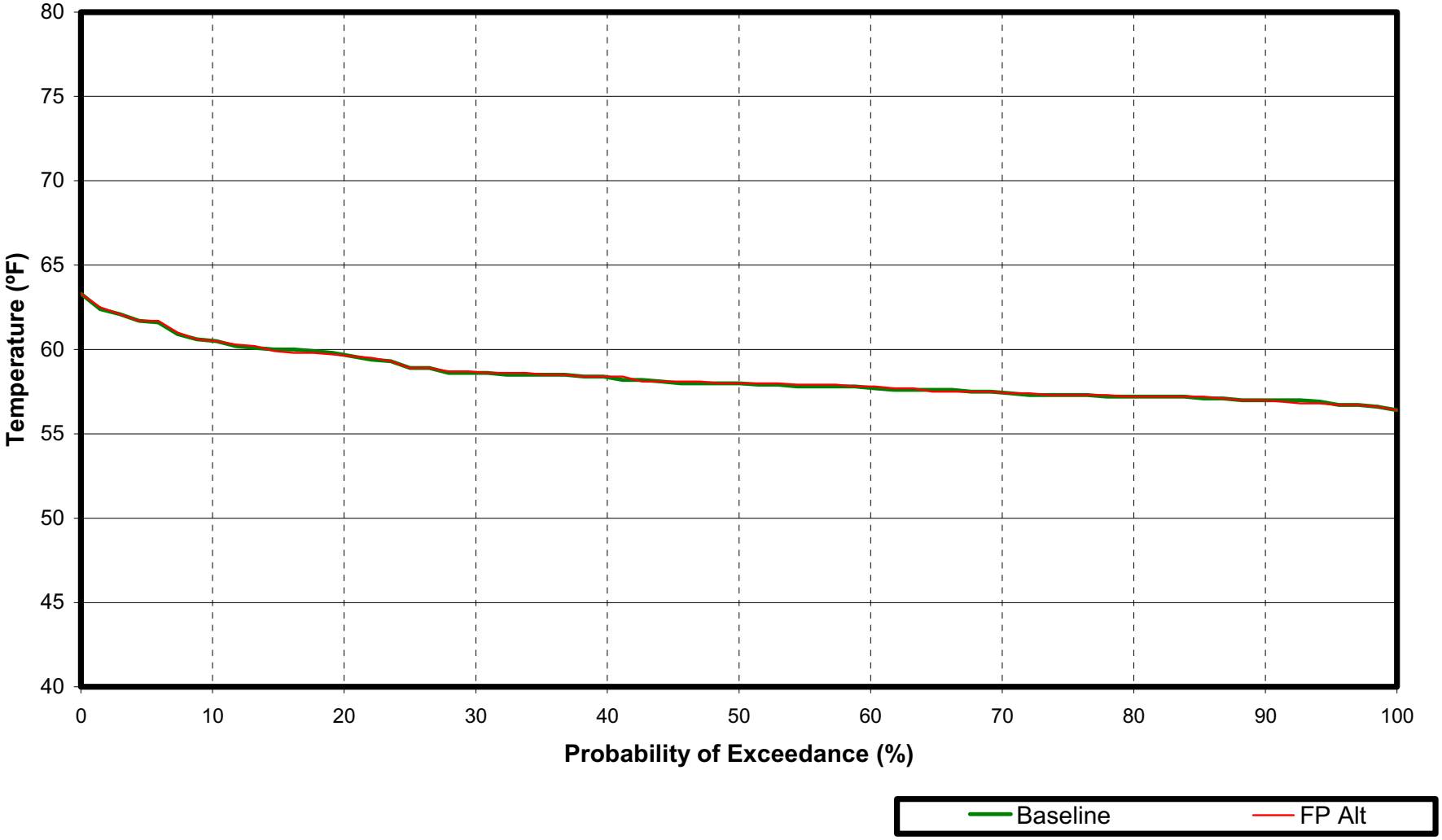
Temperature in the American River at Watt Ave During August Under Baseline and FP Alt Conditions



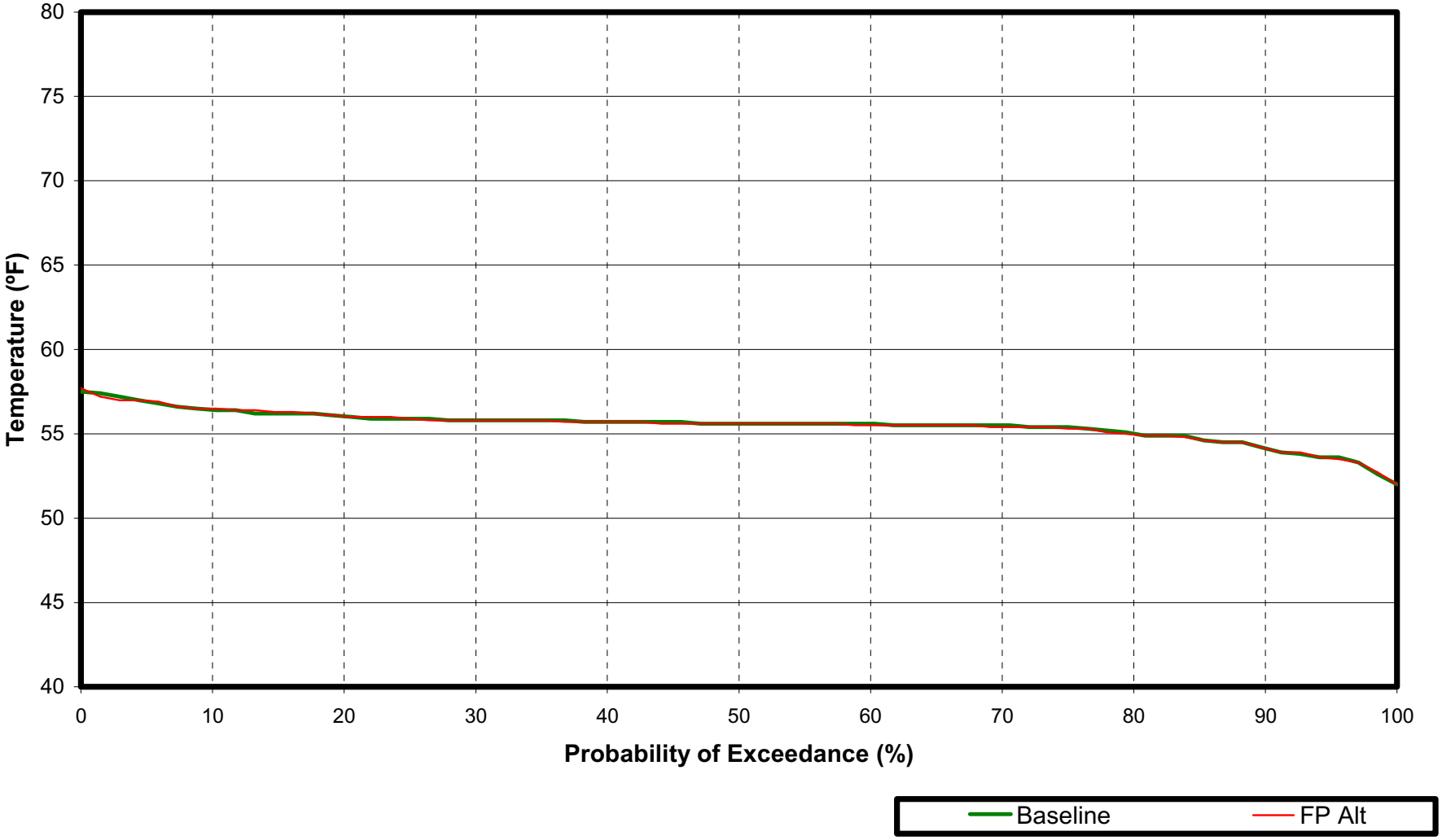
Temperature in the American River at Watt Ave During September Under Baseline and FP Alt Conditions



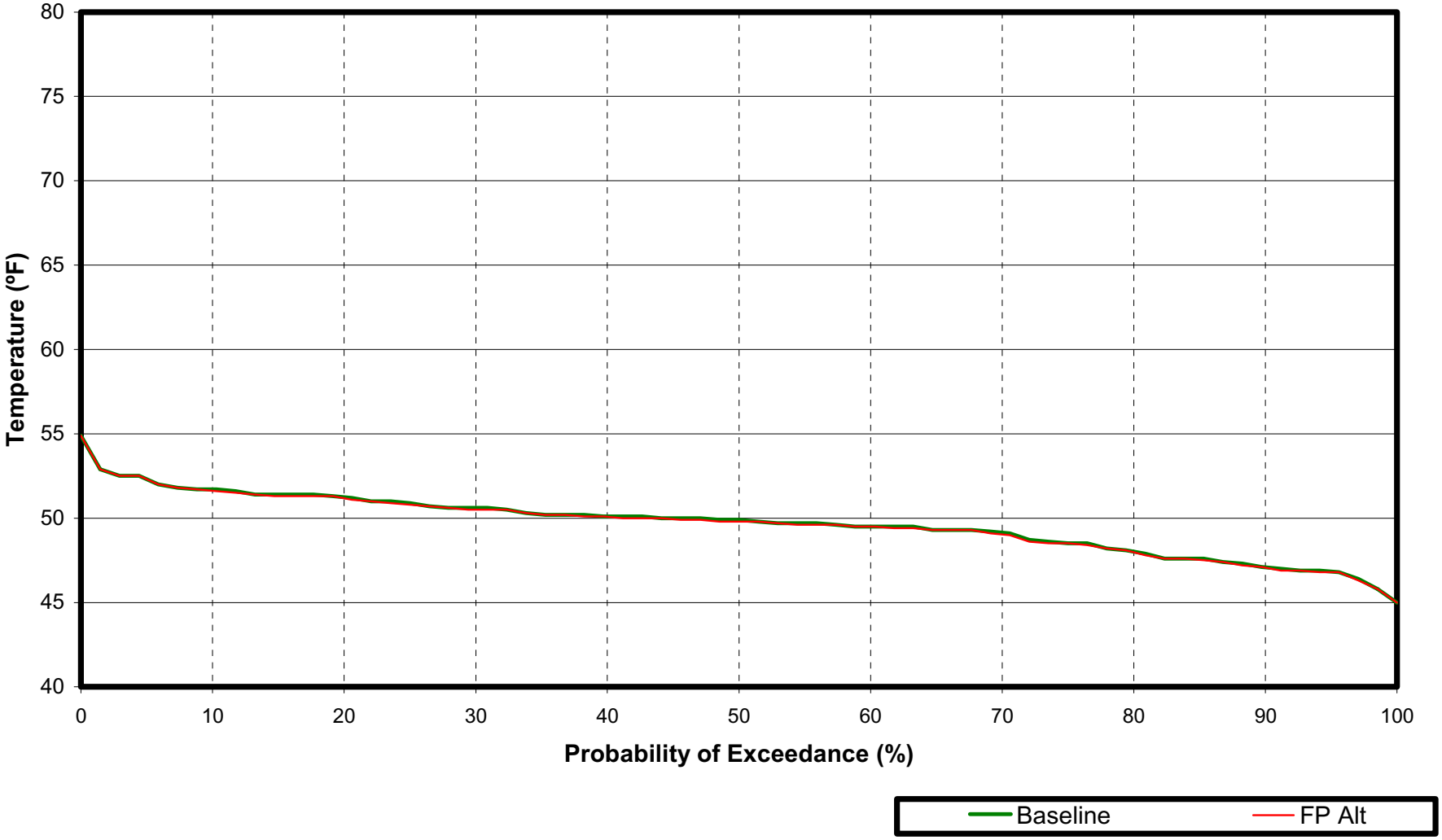
Temperature in the American River at the Mouth During October Under Baseline and FP Alt Conditions



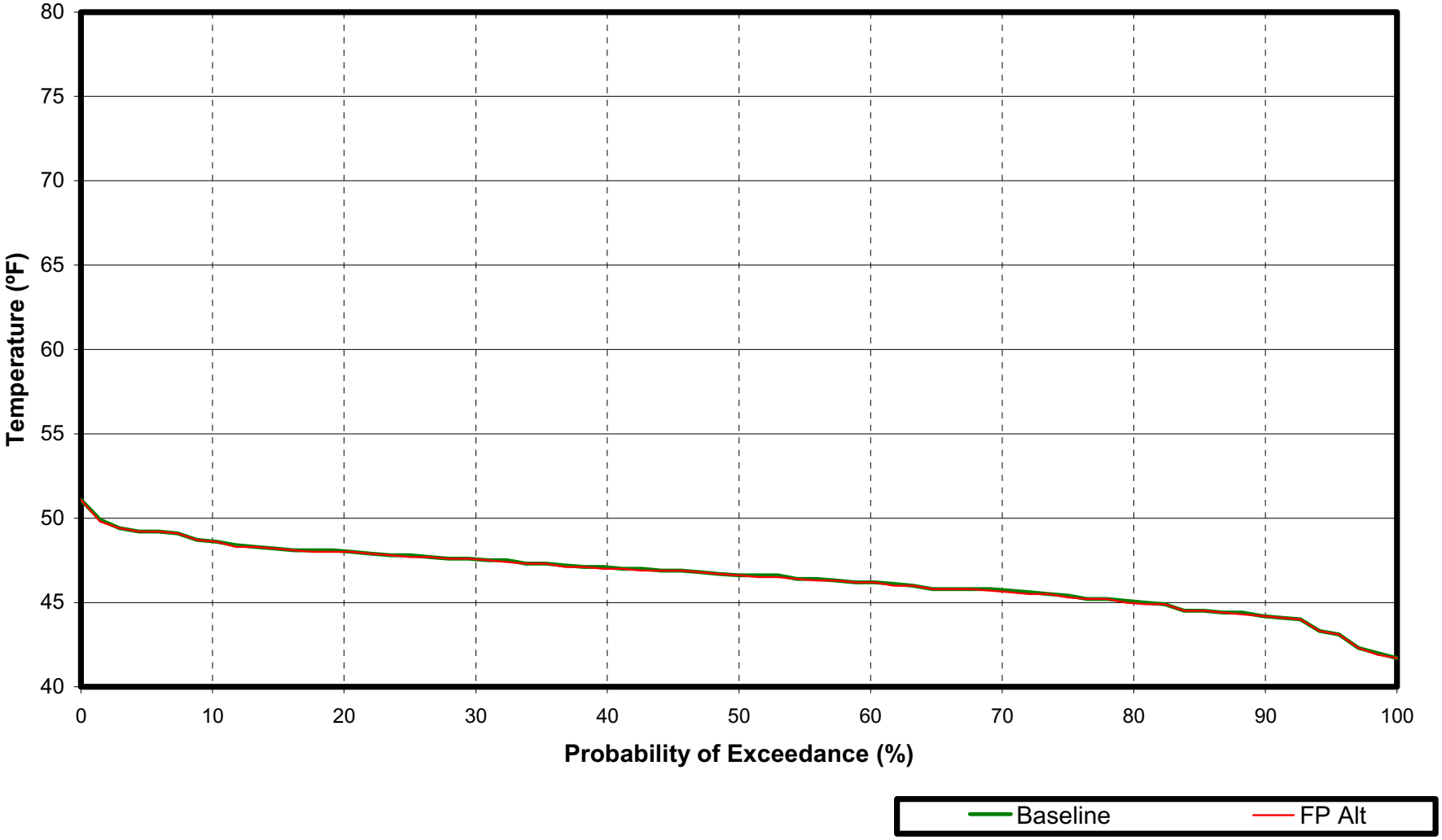
Temperature in the American River at the Mouth During November Under Baseline and FP Alt Conditions



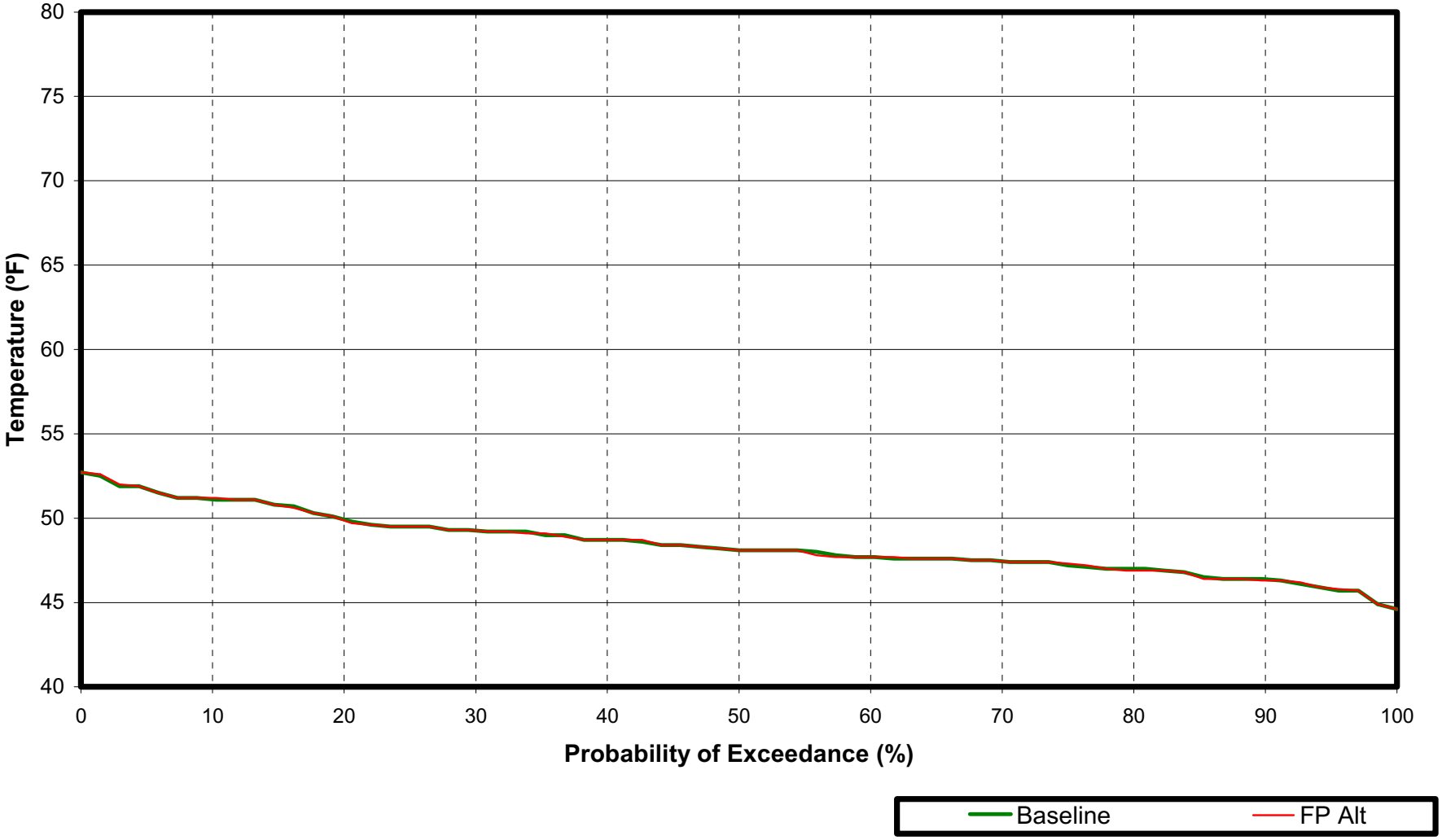
Temperature in the American River at the Mouth During December Under Baseline and FP Alt Conditions



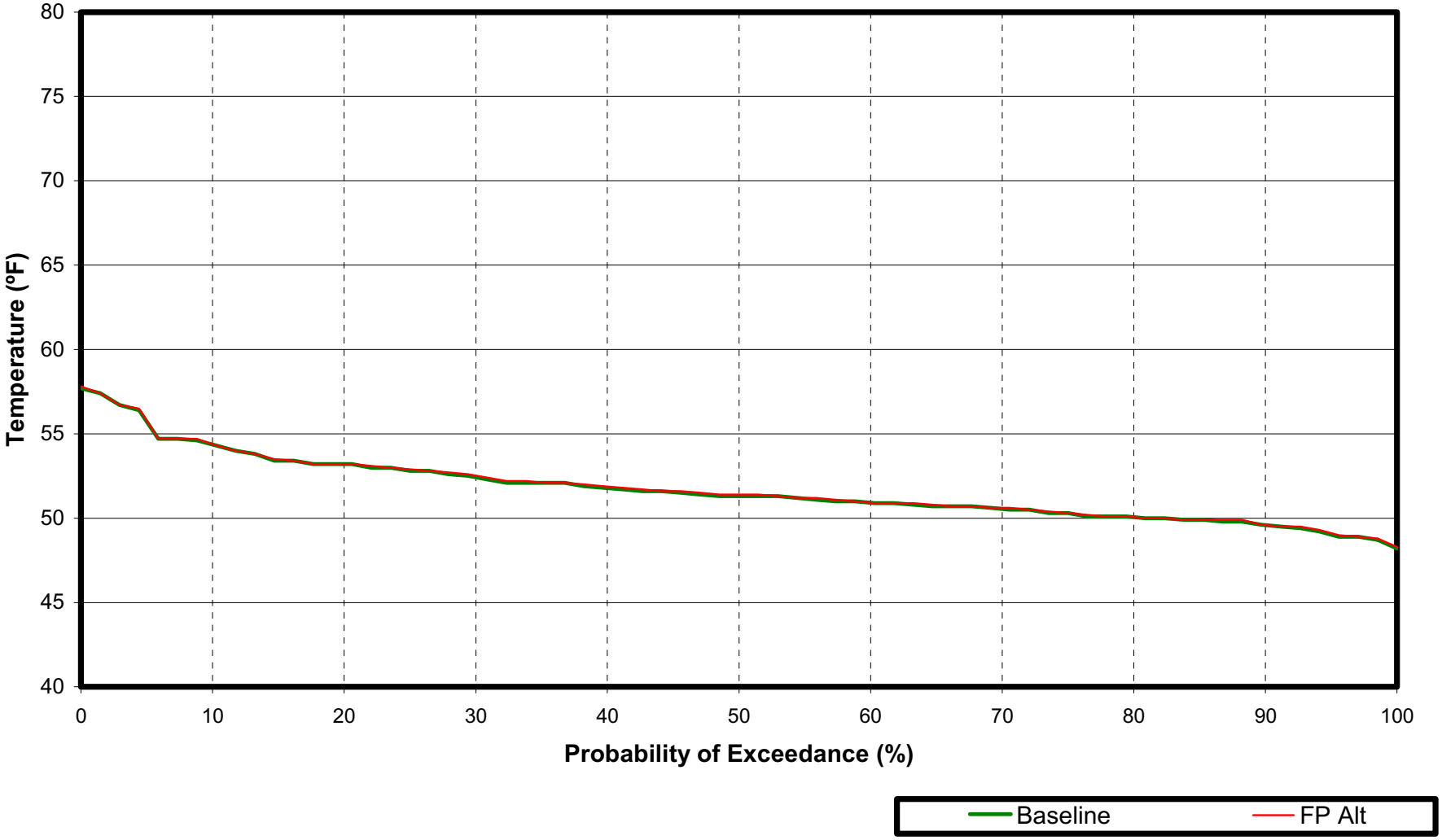
Temperature in the American River at the Mouth During January Under Baseline and FP Alt Conditions



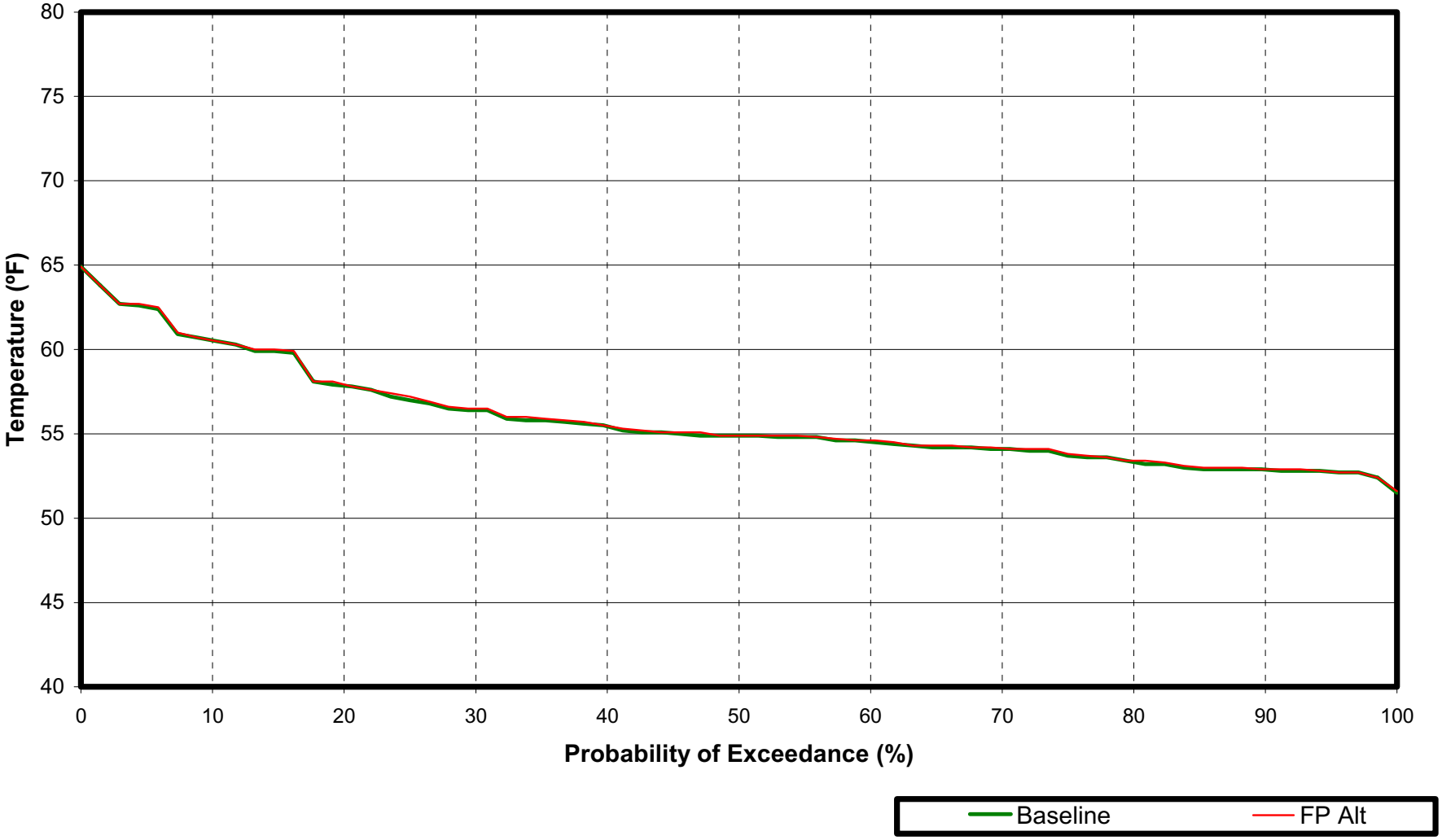
Temperature in the American River at the Mouth During February Under Baseline and FP Alt Conditions



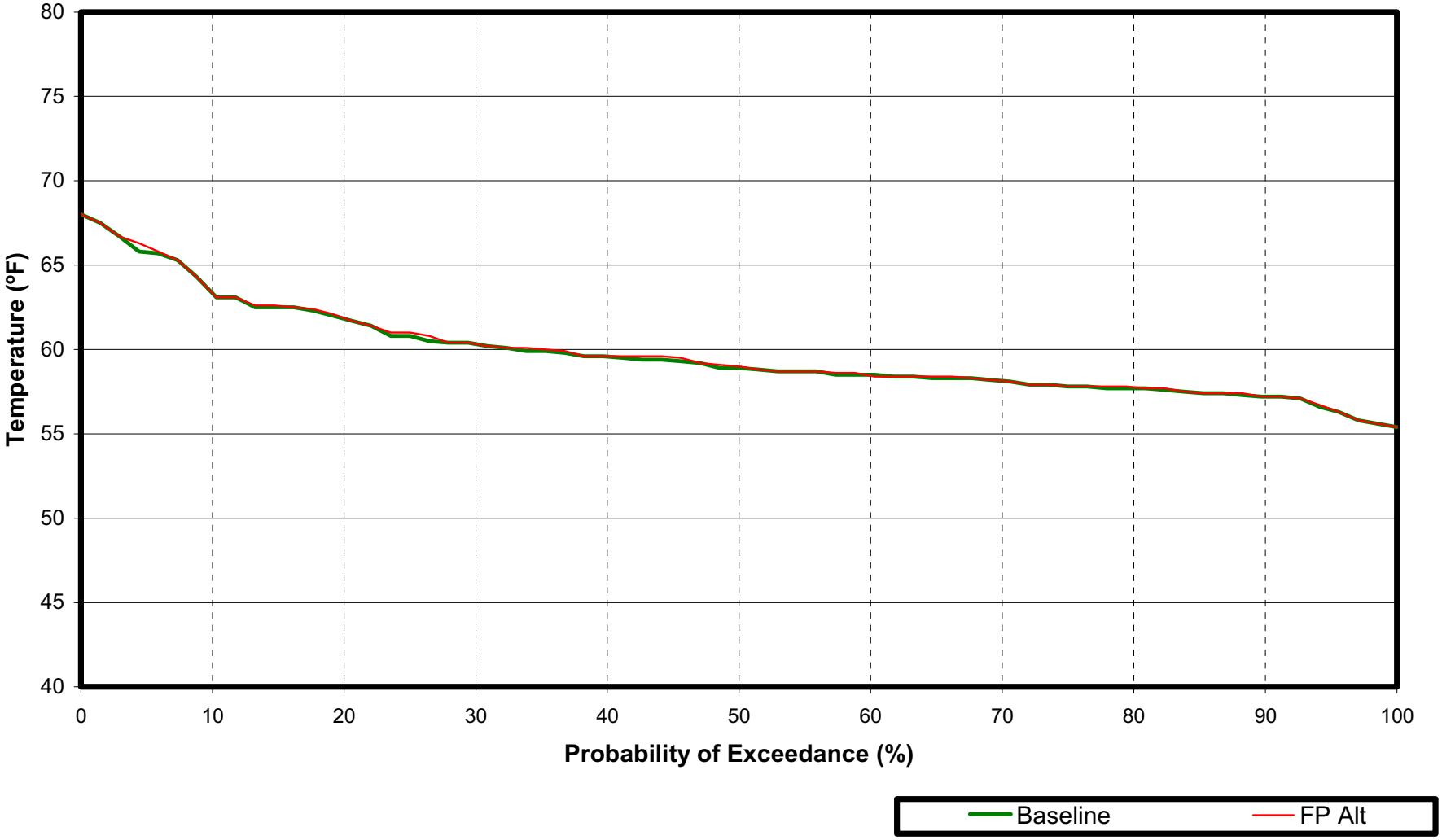
Temperature in the American River at the Mouth During March Under Baseline and FP Alt Conditions



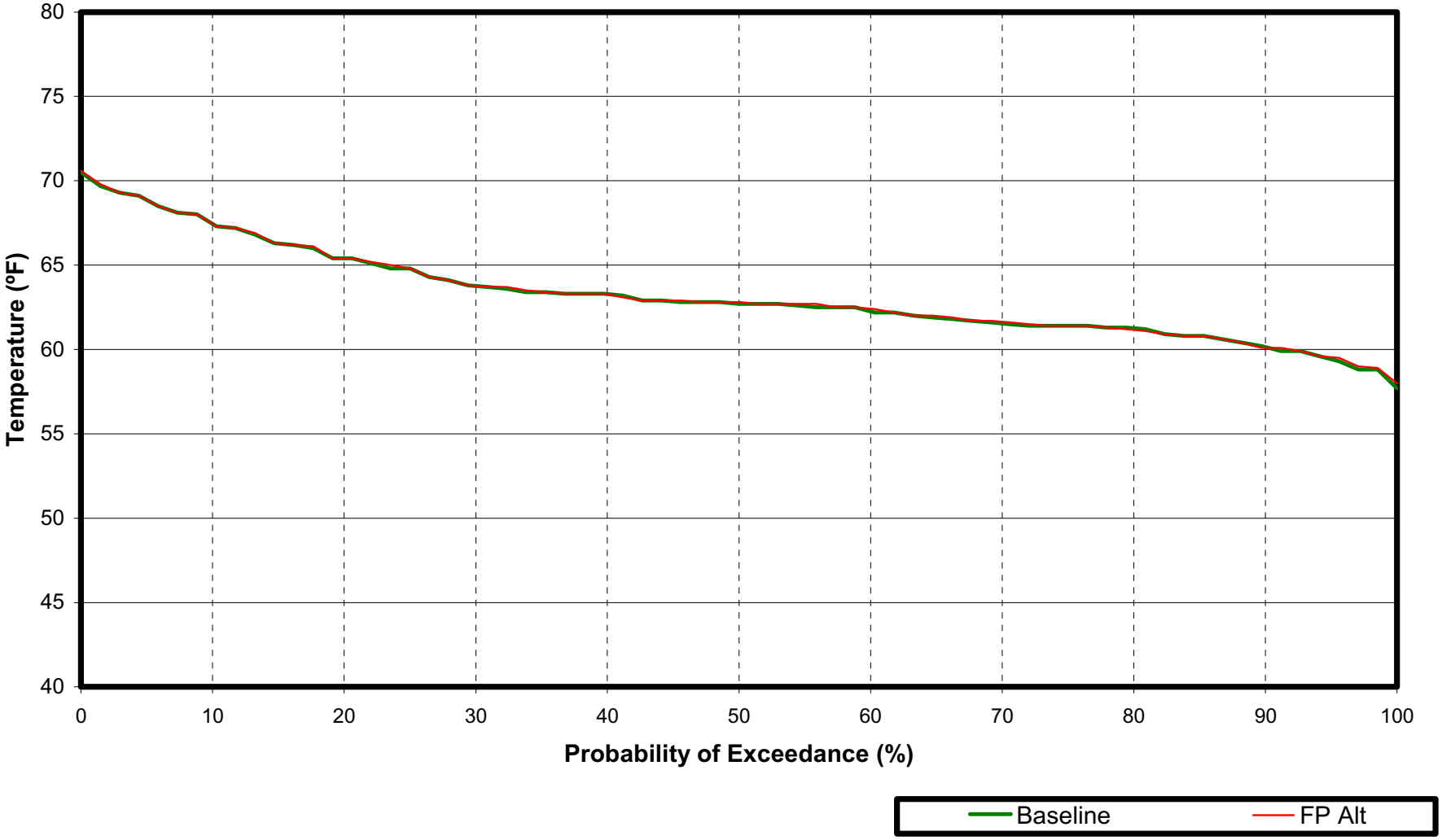
Temperature in the American River at the Mouth During April Under Baseline and FP Alt Conditions



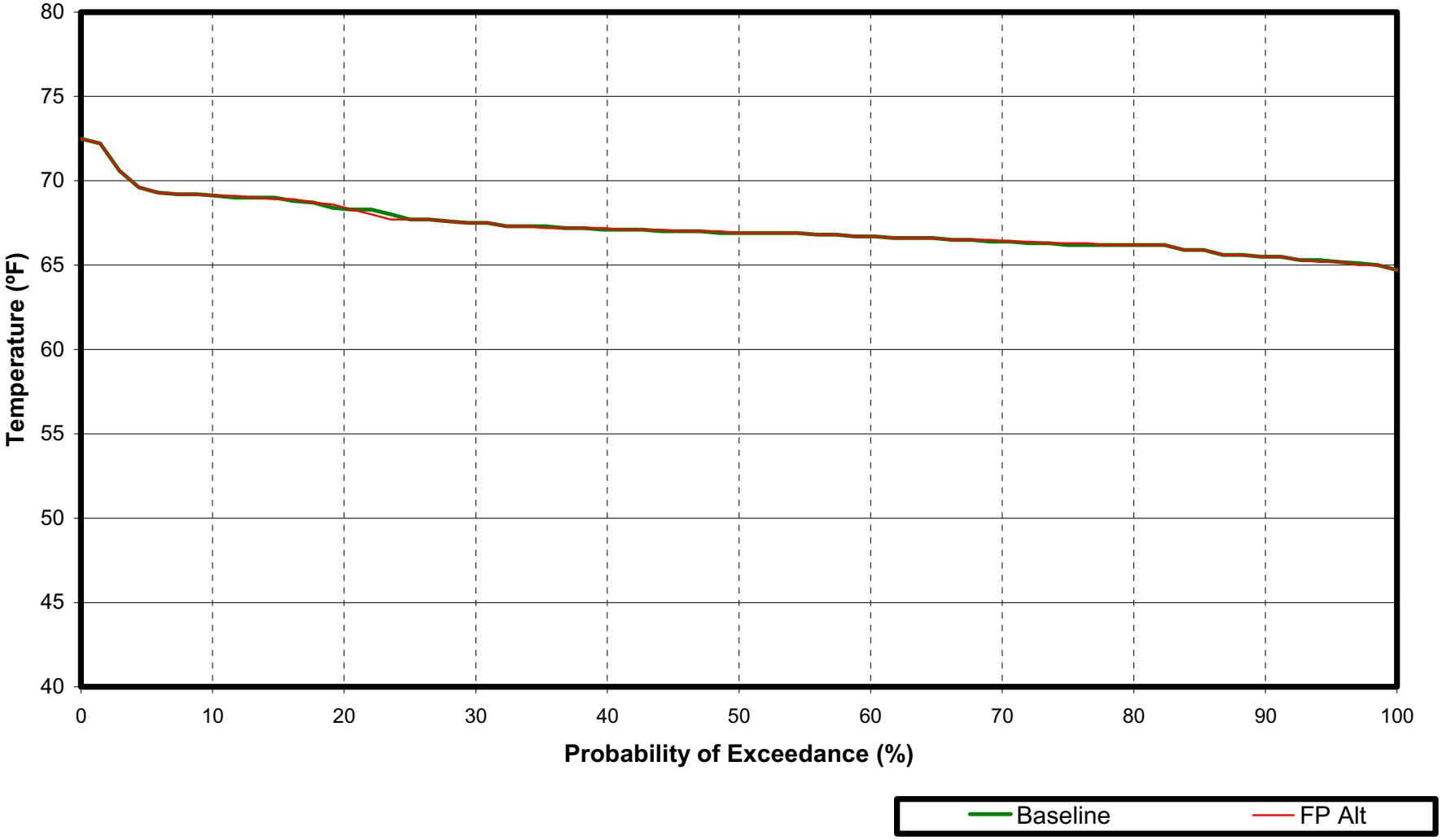
Temperature in the American River at the Mouth During May Under Baseline and FP Alt Conditions



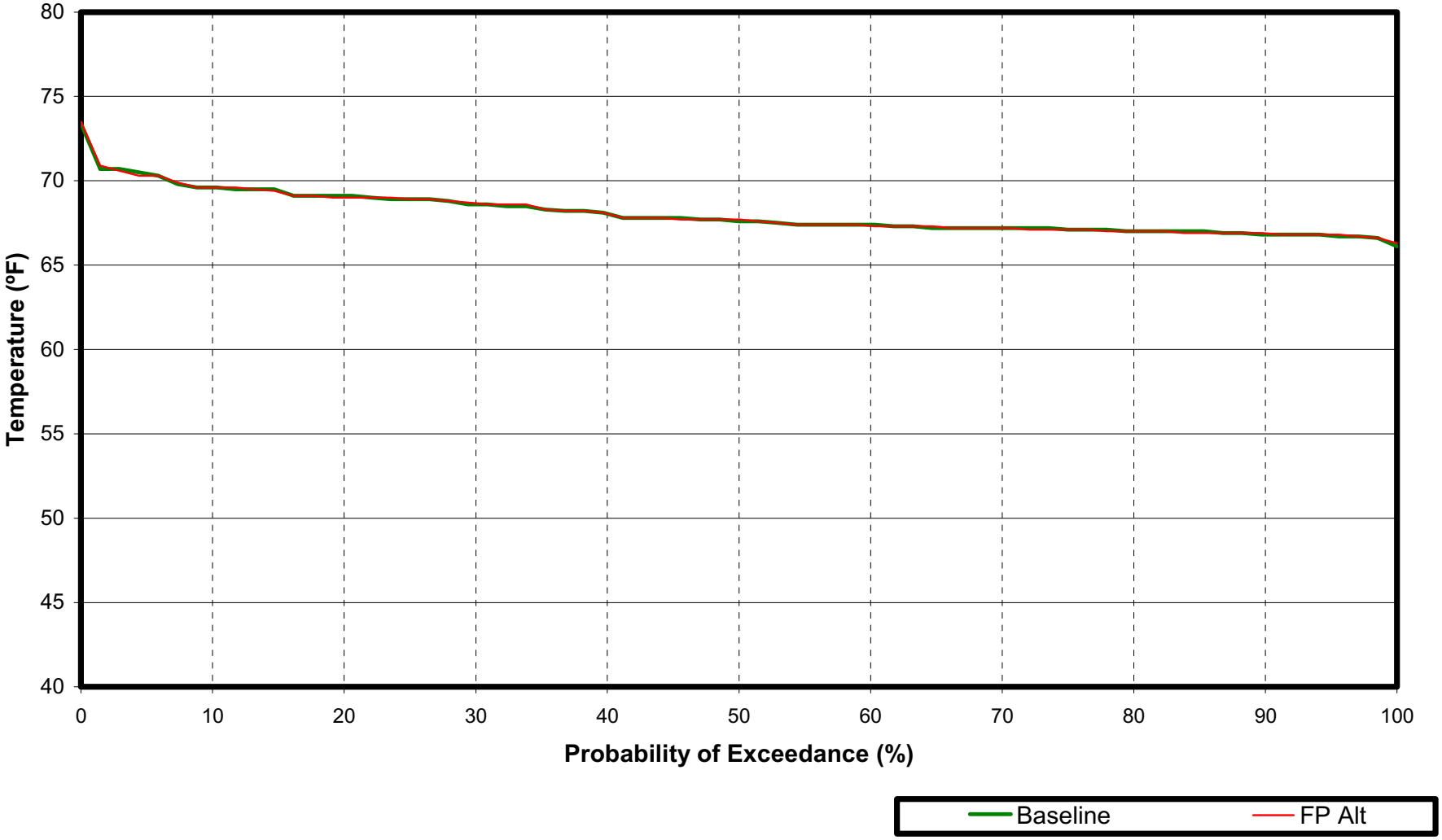
Temperature in the American River at the Mouth During June Under Baseline and FP Alt Conditions



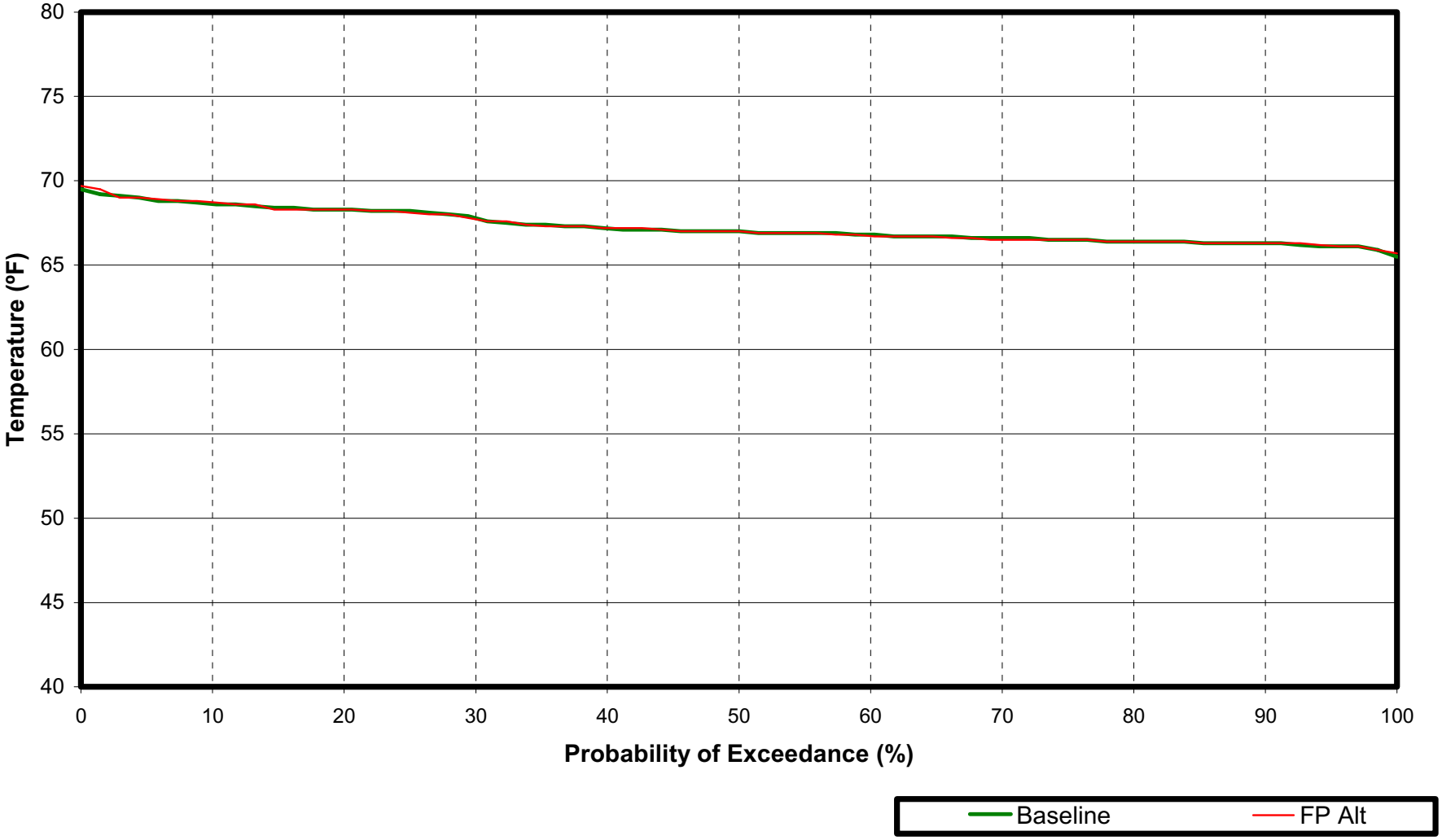
Temperature in the American River at the Mouth During July Under Baseline and FP Alt Conditions



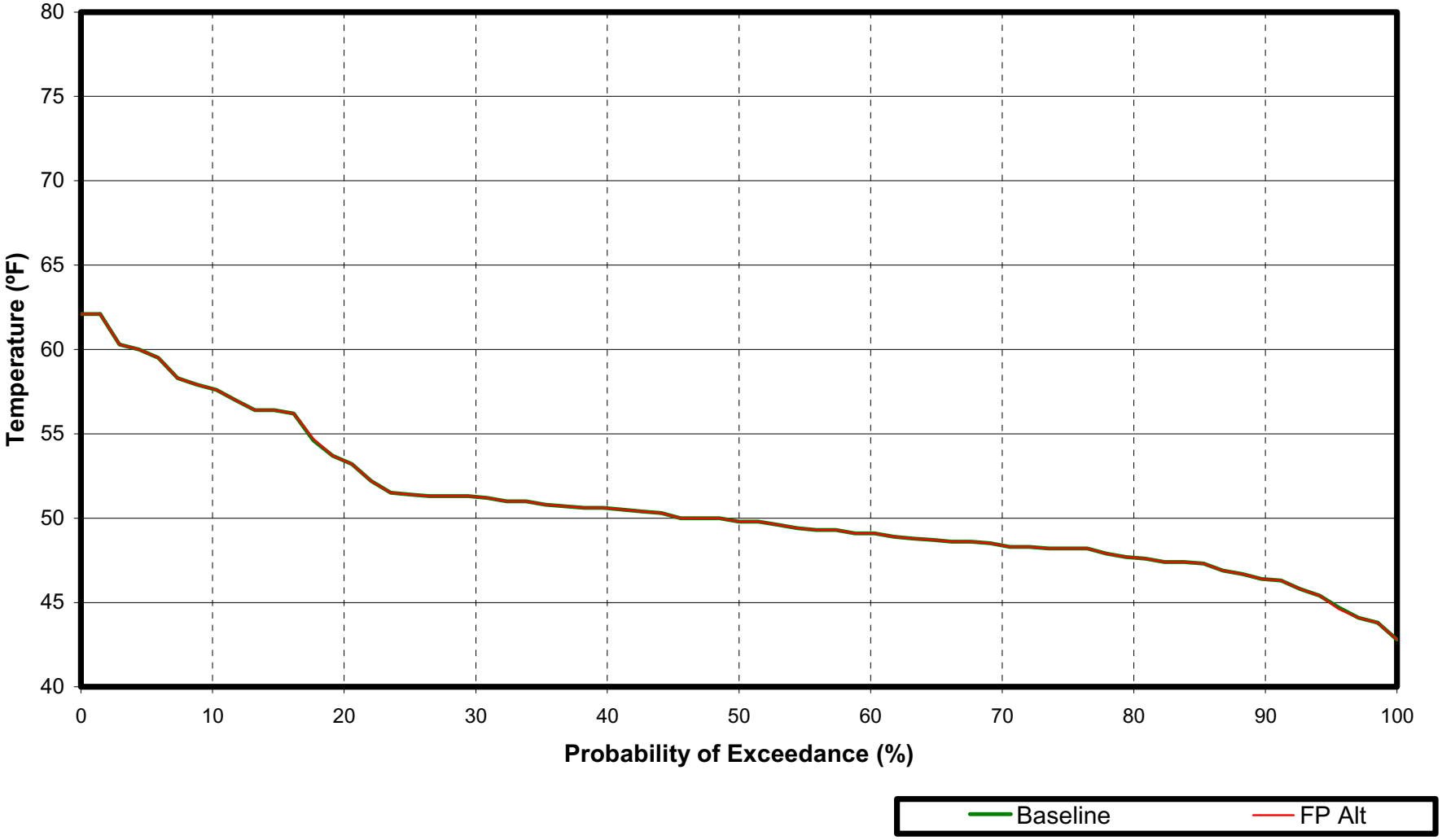
Temperature in the American River at the Mouth During August Under Baseline and FP Alt Conditions



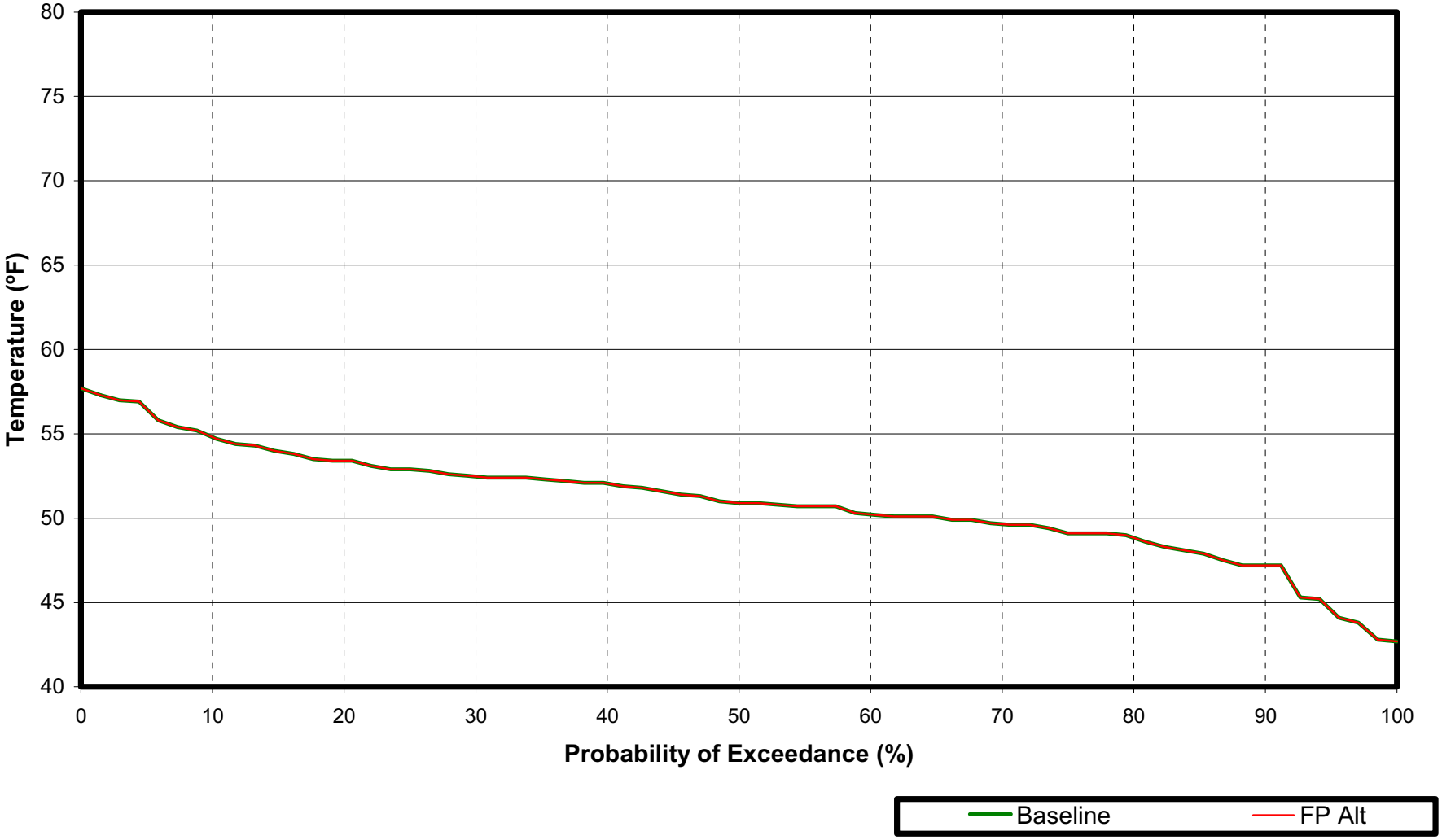
Temperature in the American River at the Mouth During September Under Baseline and FP Alt Conditions



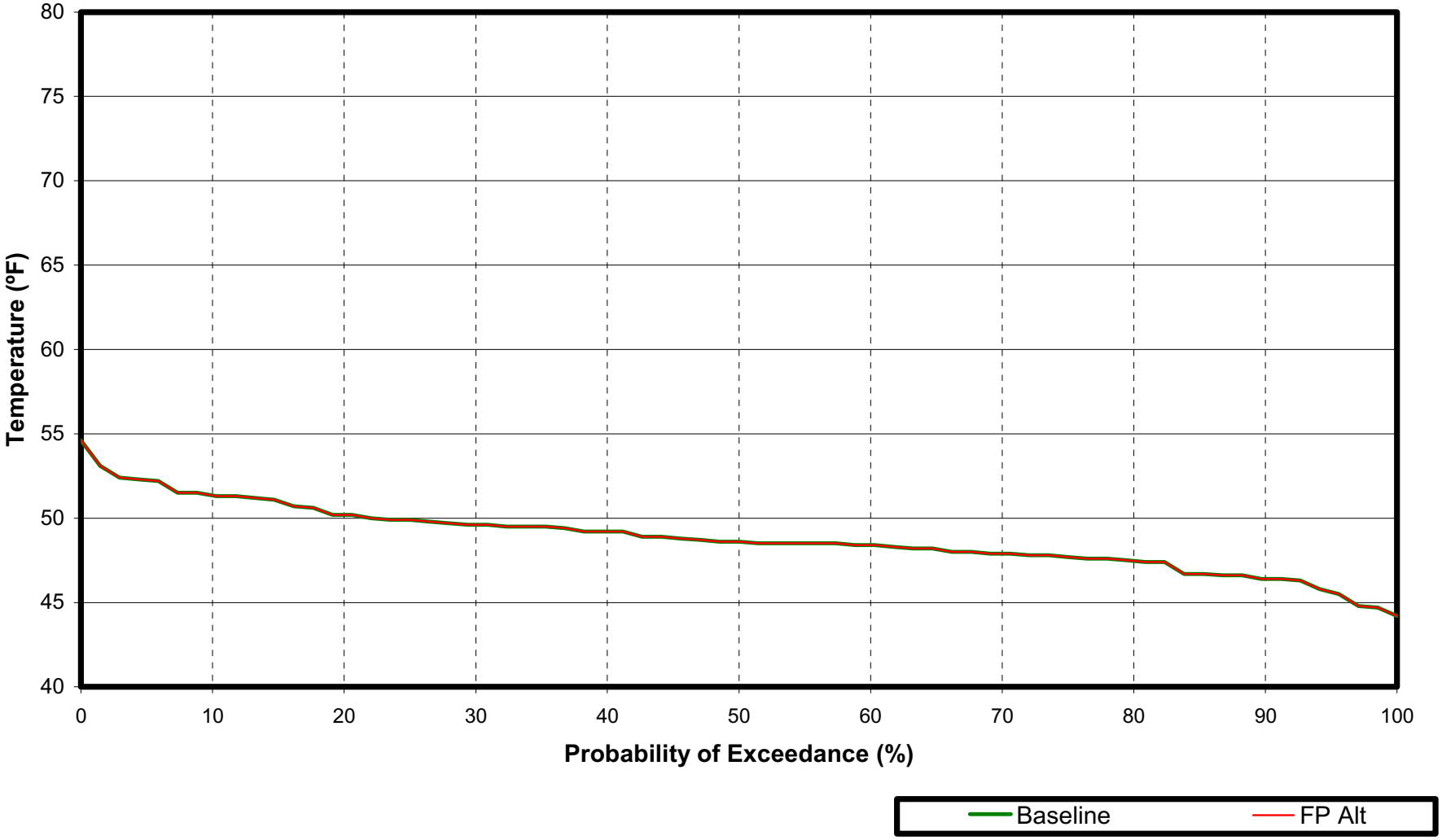
Temperature in the Sacramento River below Keswick Dam During October Under Baseline and FP Alt Conditions



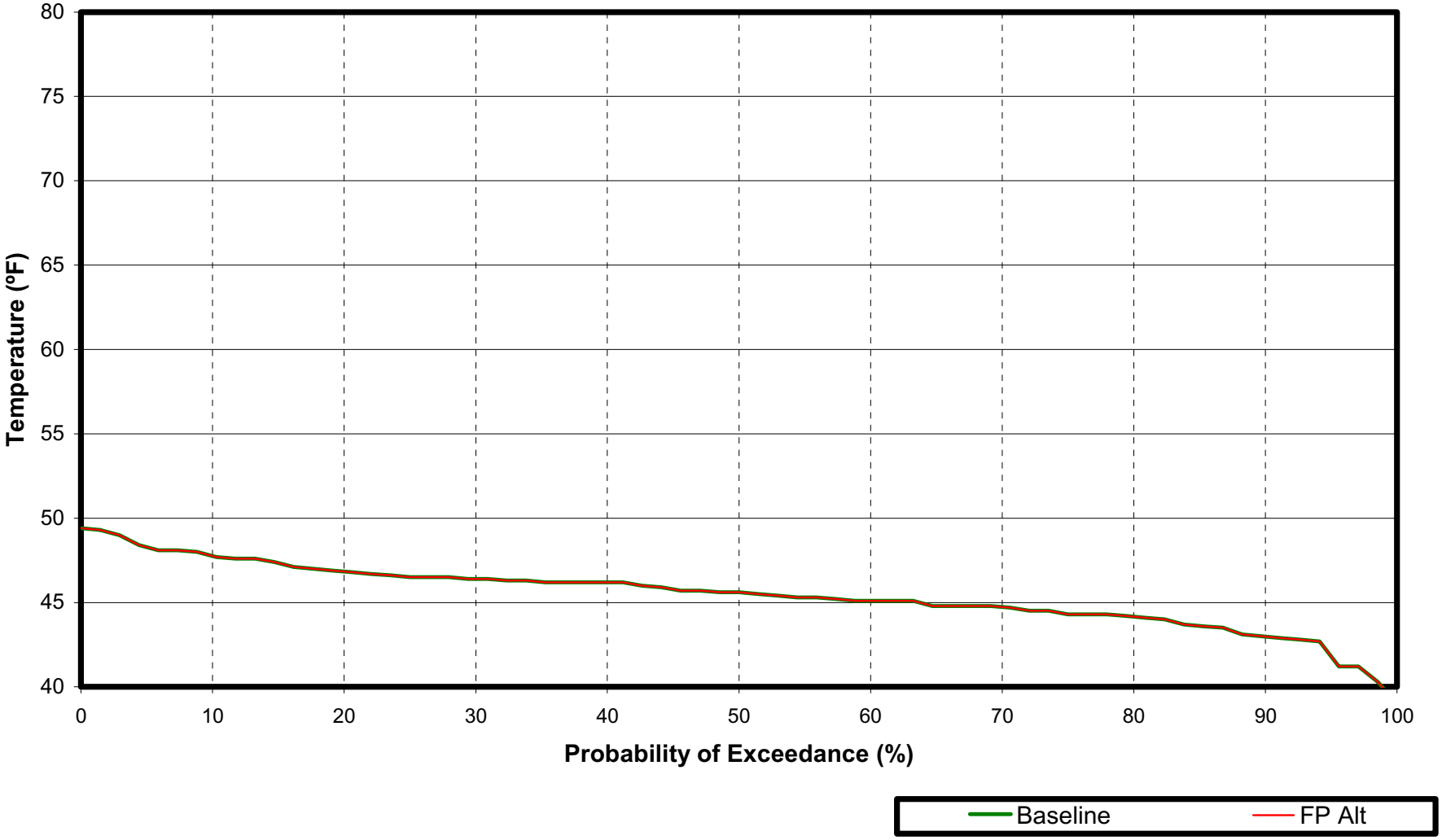
Temperature in the Sacramento River below Keswick Dam During November Under Baseline and FP Alt Conditions



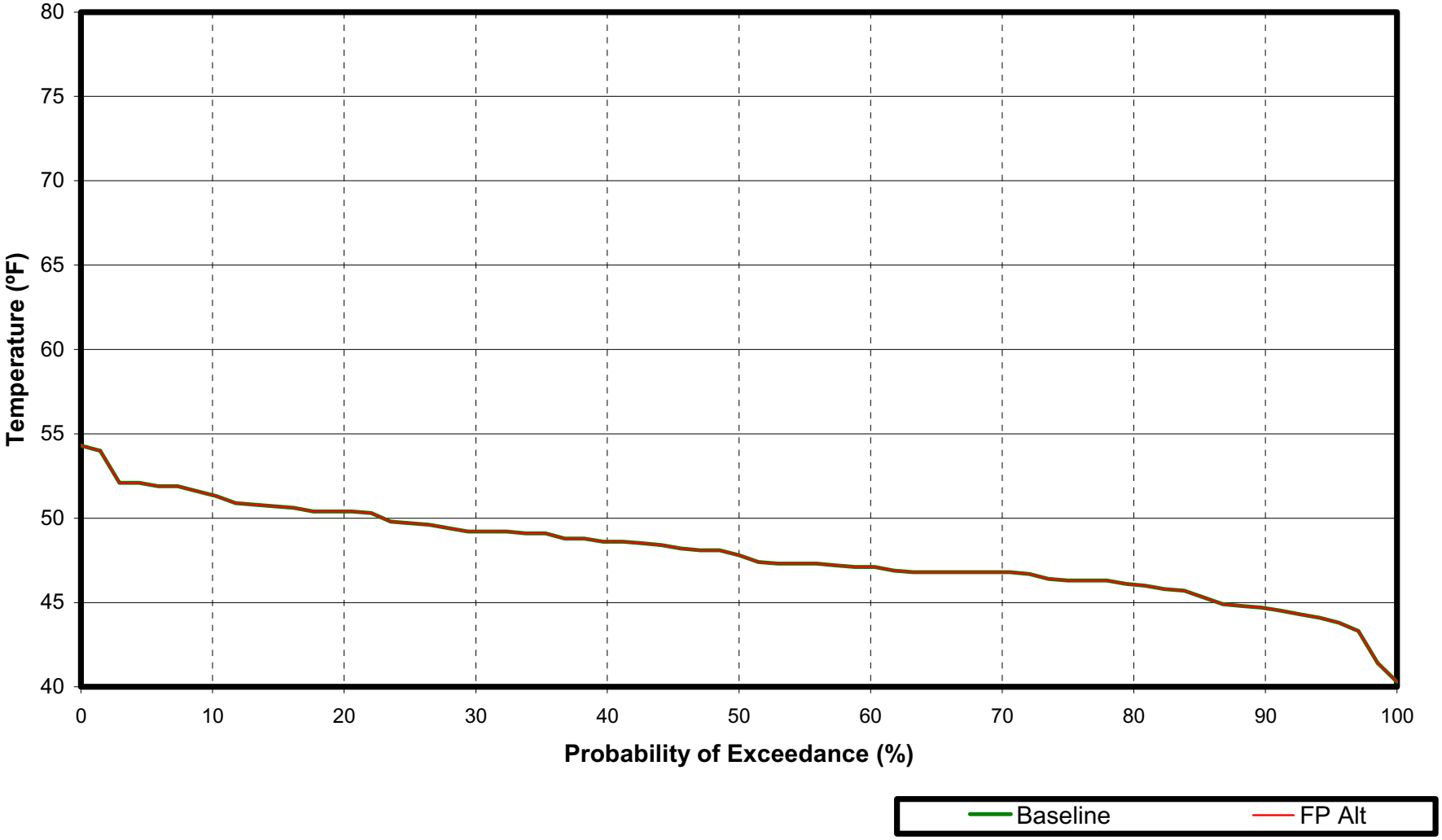
Temperature in the Sacramento River below Keswick Dam During December Under Baseline and FP Alt Conditions



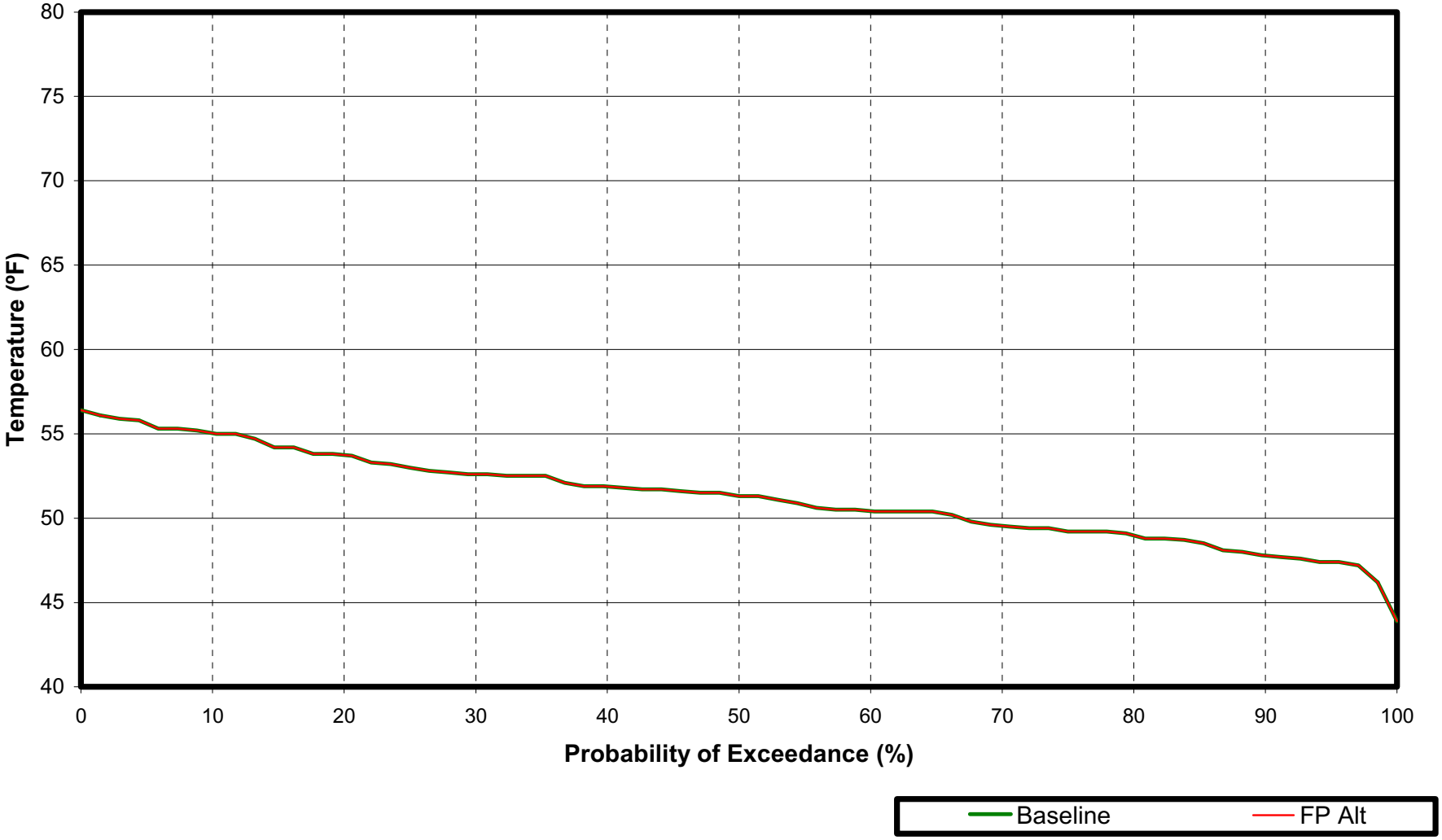
Temperature in the Sacramento River below Keswick Dam During January Under Baseline and FP Alt Conditions



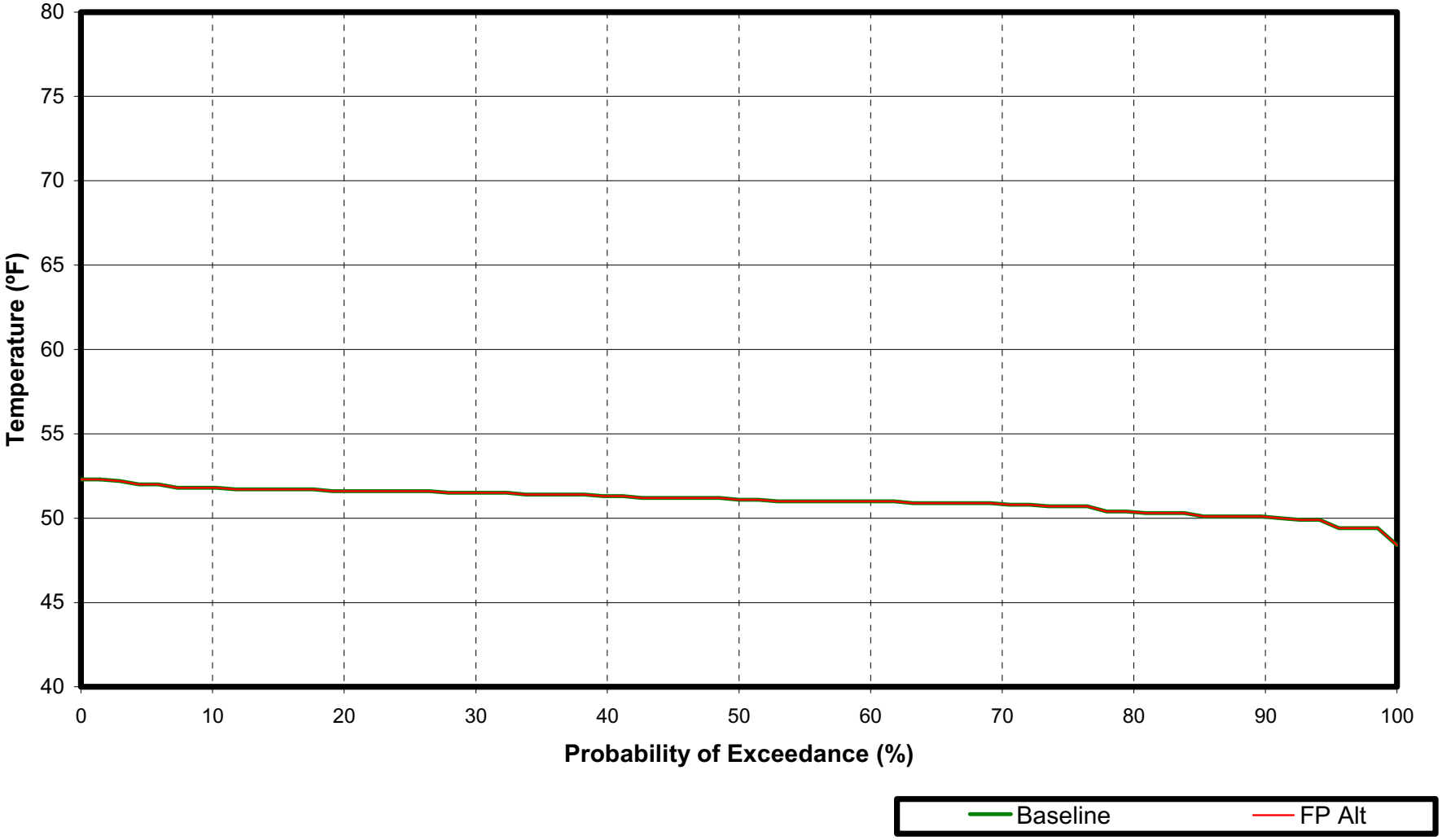
Temperature in the Sacramento River below Keswick Dam During February Under Baseline and FP Alt Conditions



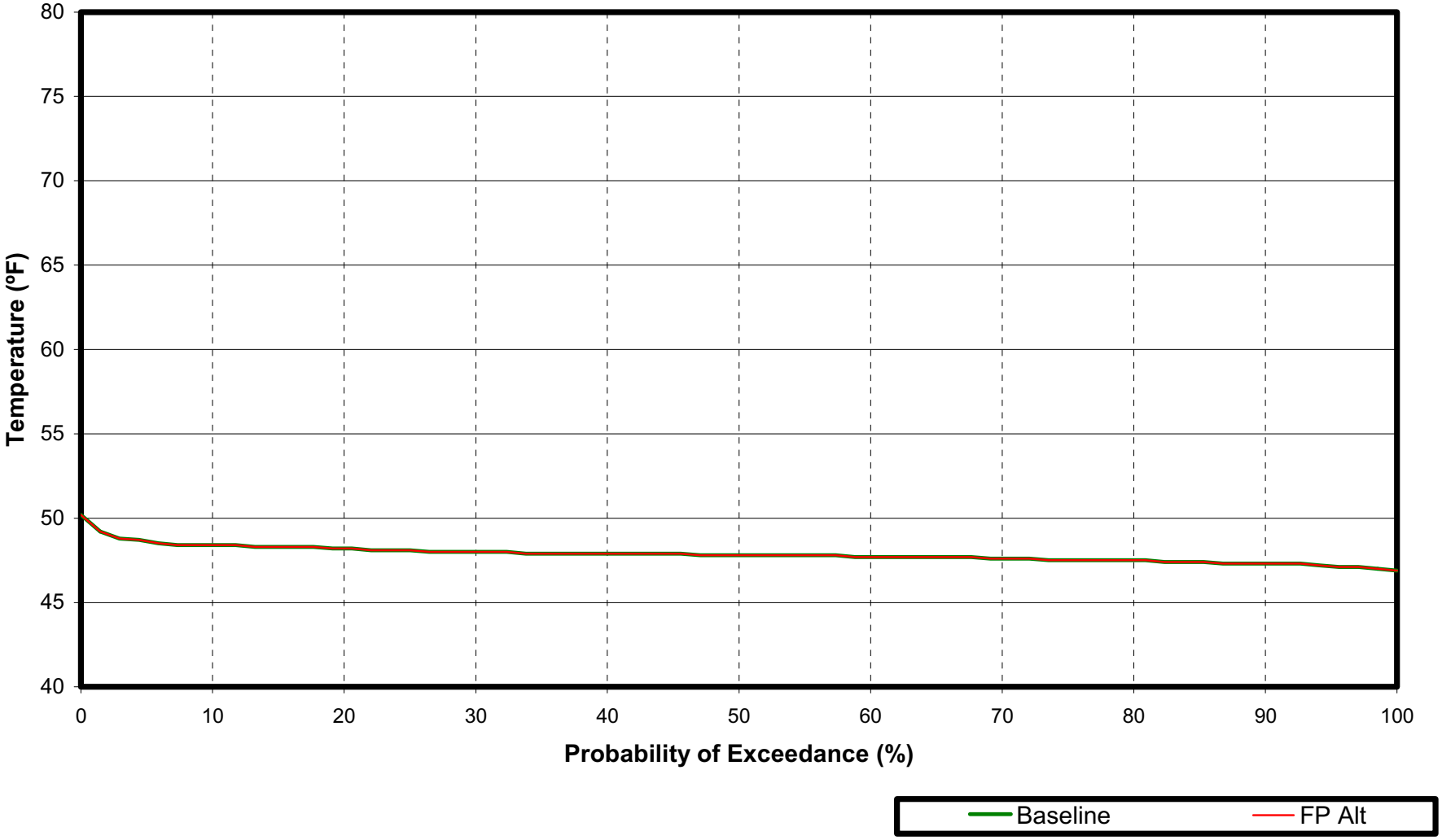
Temperature in the Sacramento River below Keswick Dam During March Under Baseline and FP Alt Conditions



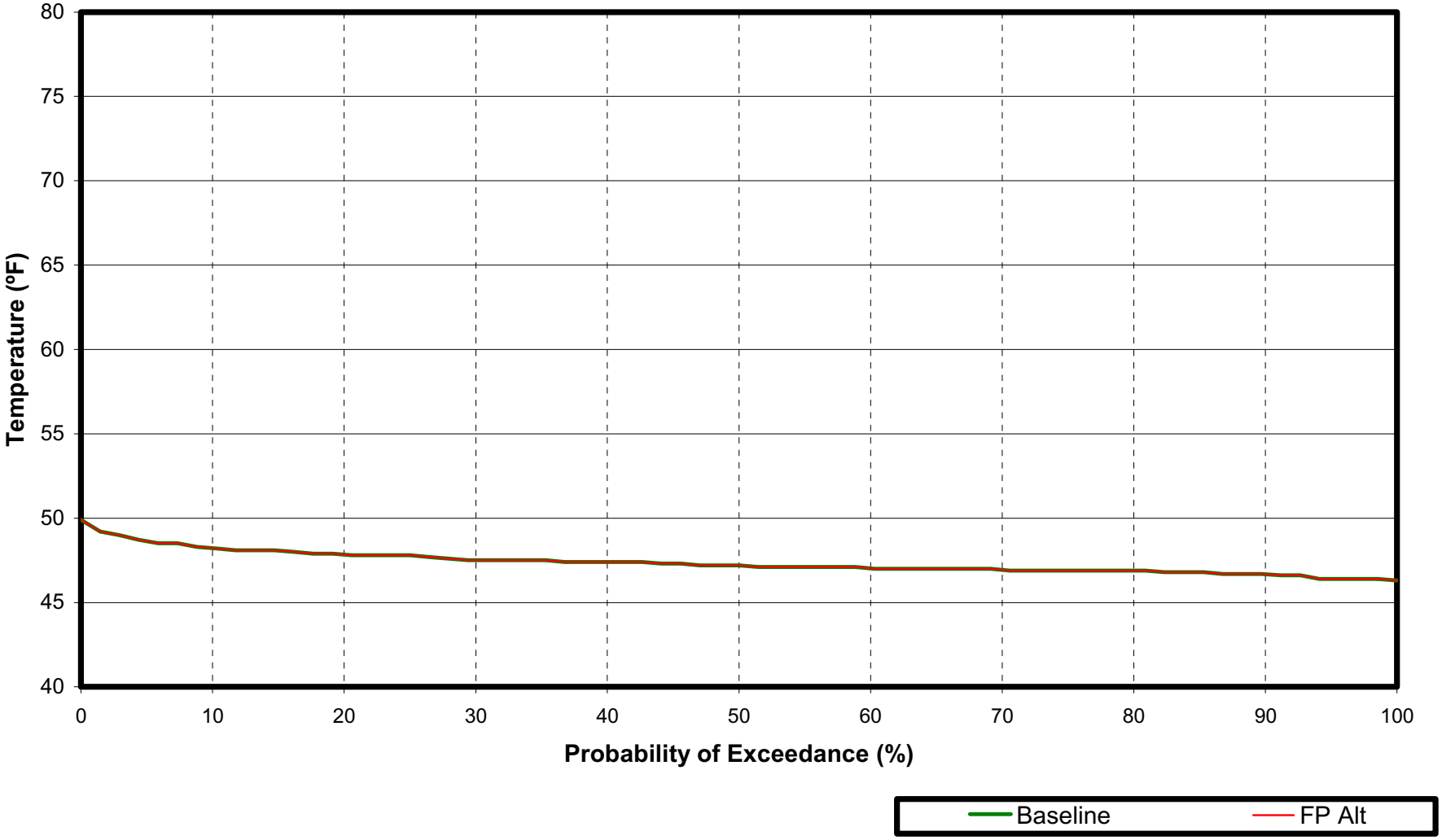
Temperature in the Sacramento River below Keswick Dam During April Under Baseline and FP Alt Conditions



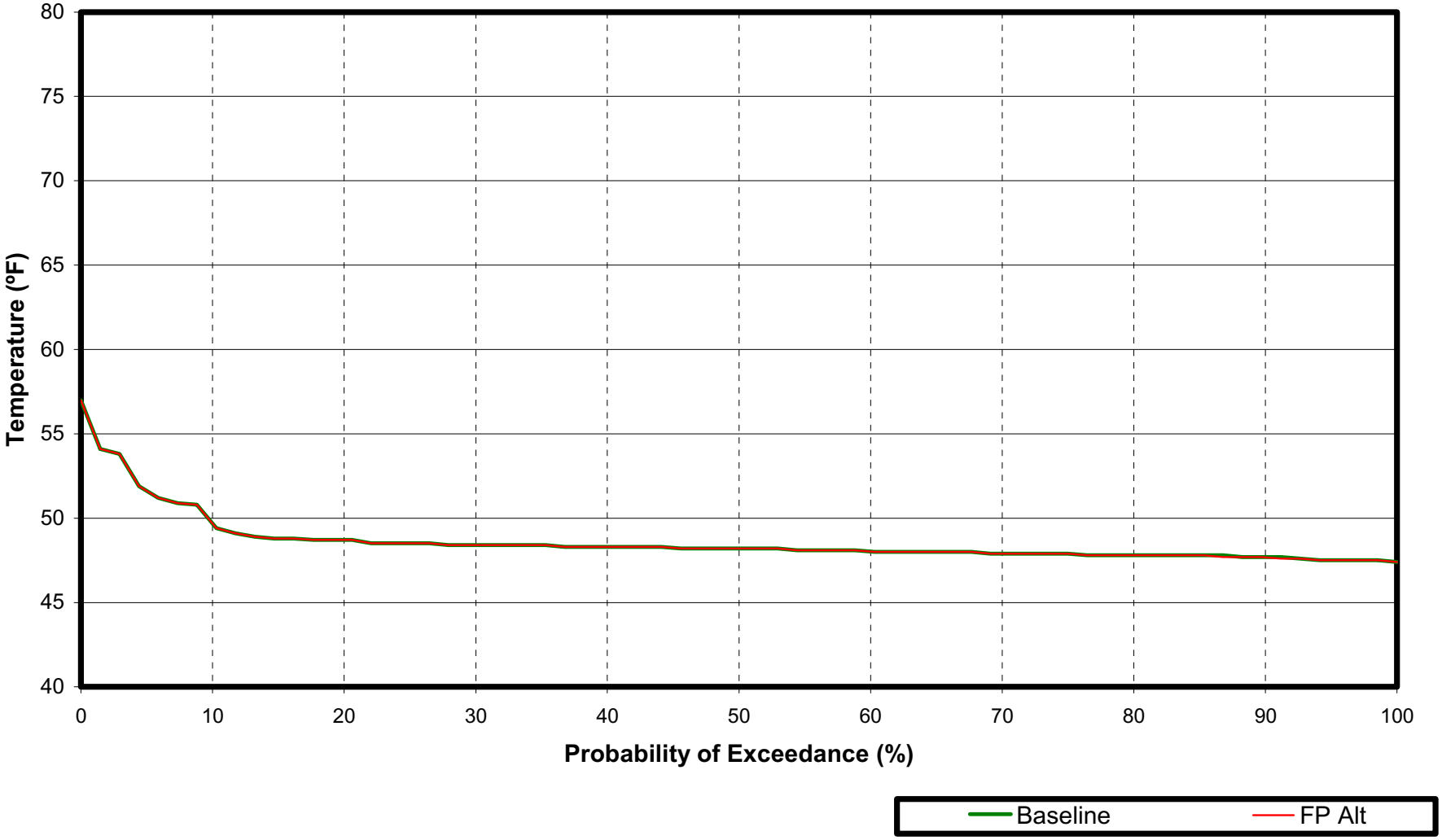
Temperature in the Sacramento River below Keswick Dam During May Under Baseline and FP Alt Conditions



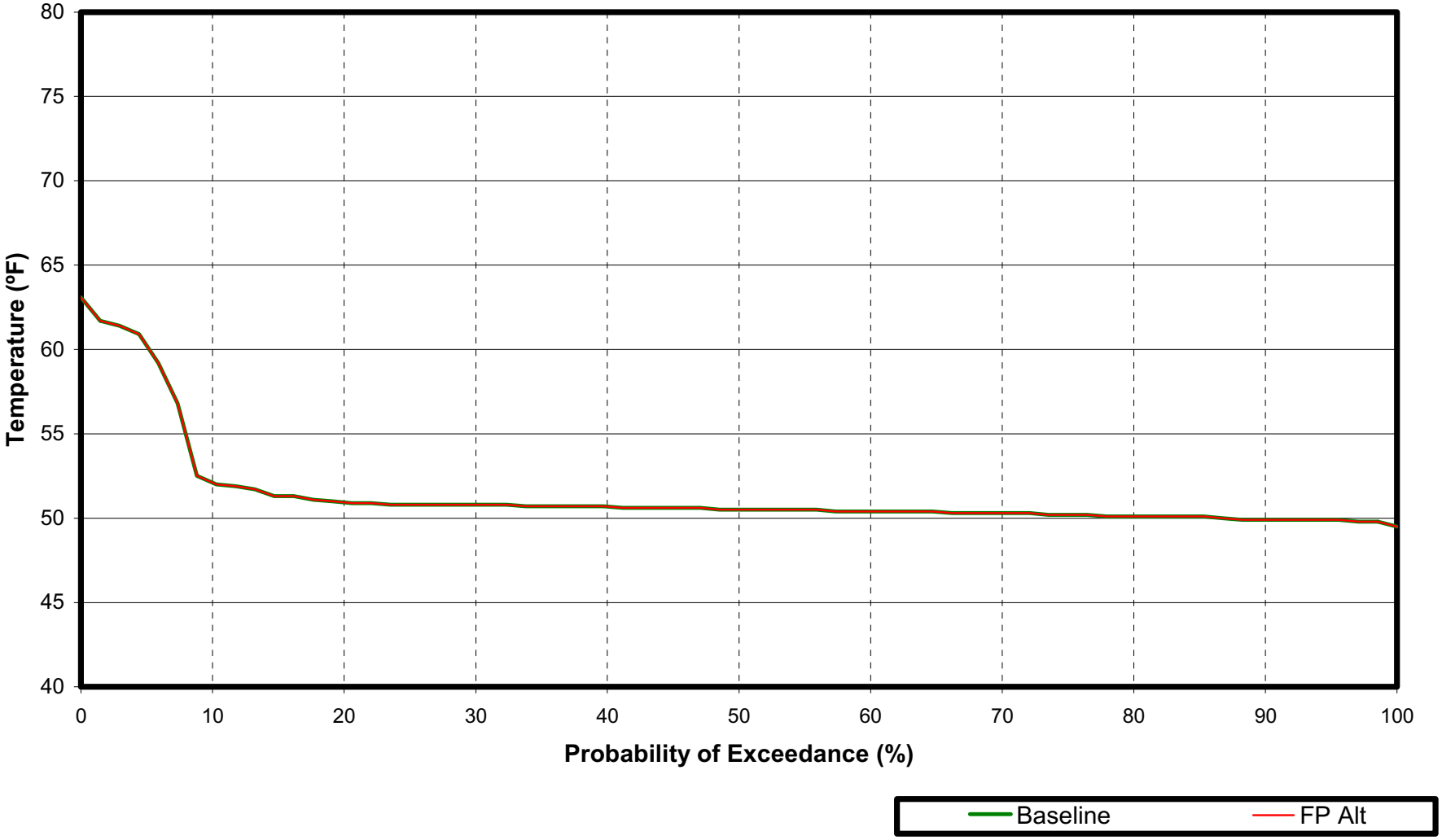
Temperature in the Sacramento River below Keswick Dam During June Under Baseline and FP Alt Conditions



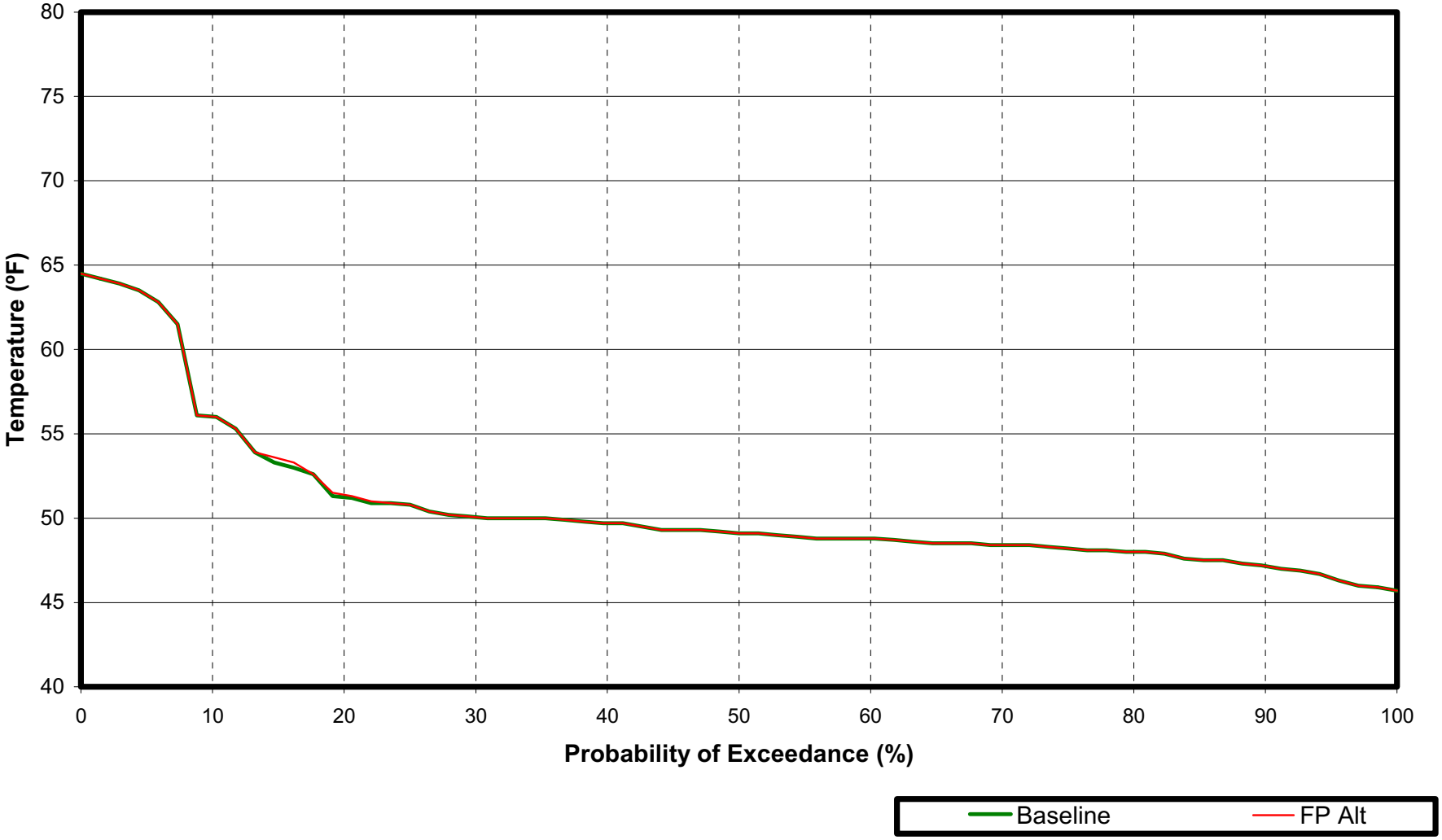
Temperature in the Sacramento River below Keswick Dam During July Under Baseline and FP Alt Conditions



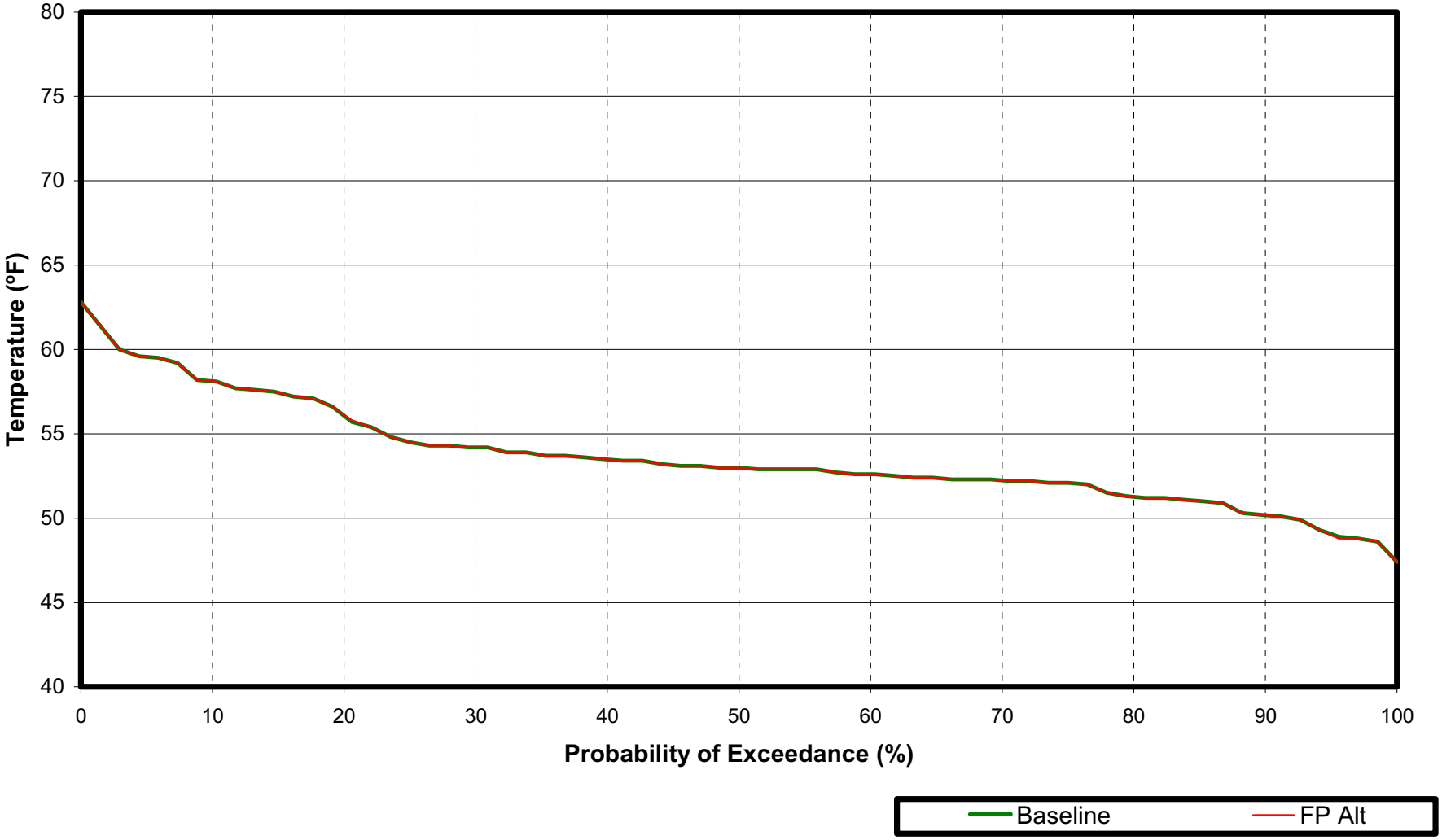
Temperature in the Sacramento River below Keswick Dam During August Under Baseline and FP Alt Conditions



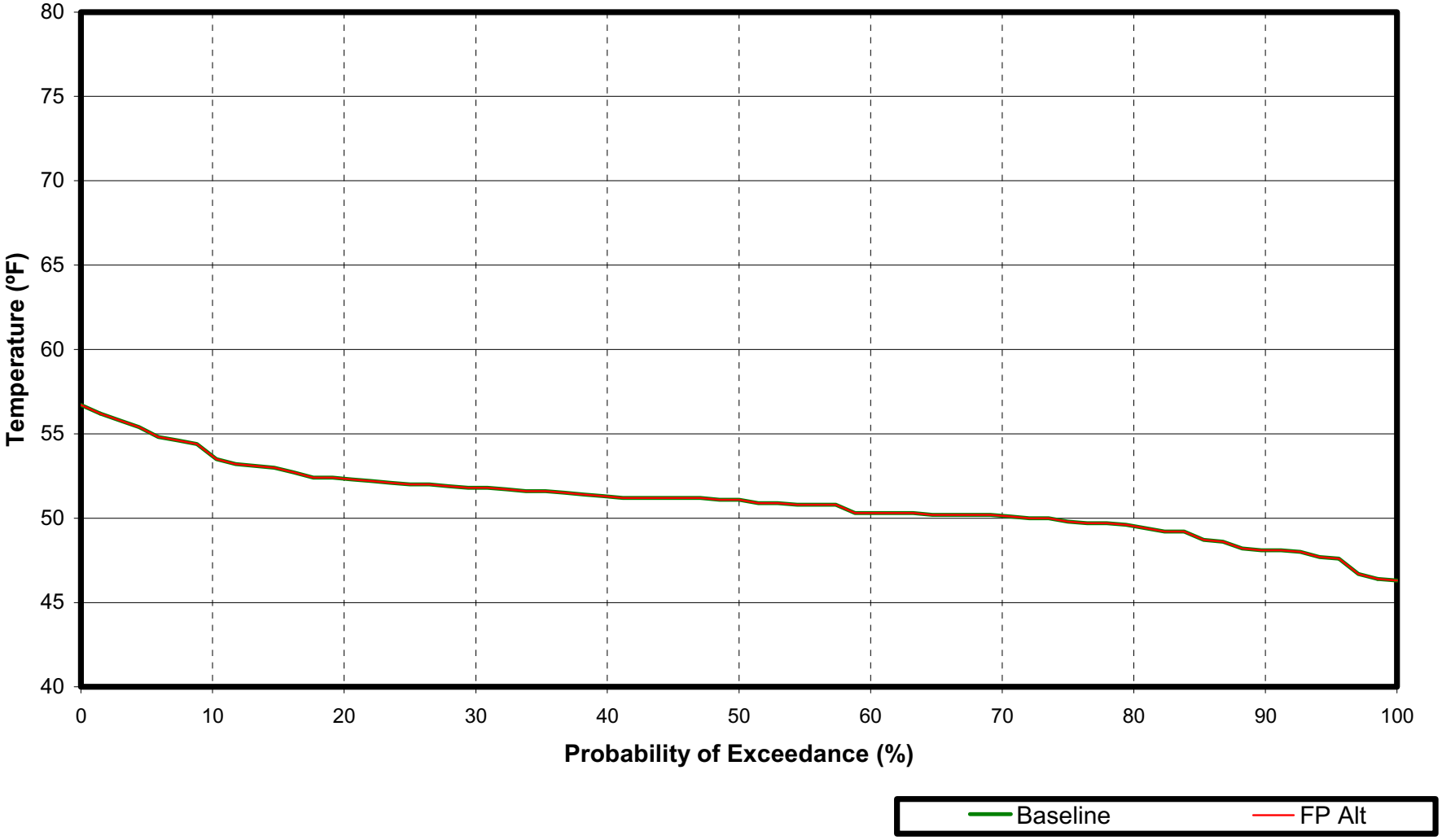
Temperature in the Sacramento River below Keswick Dam During September Under Baseline and FP Alt Conditions



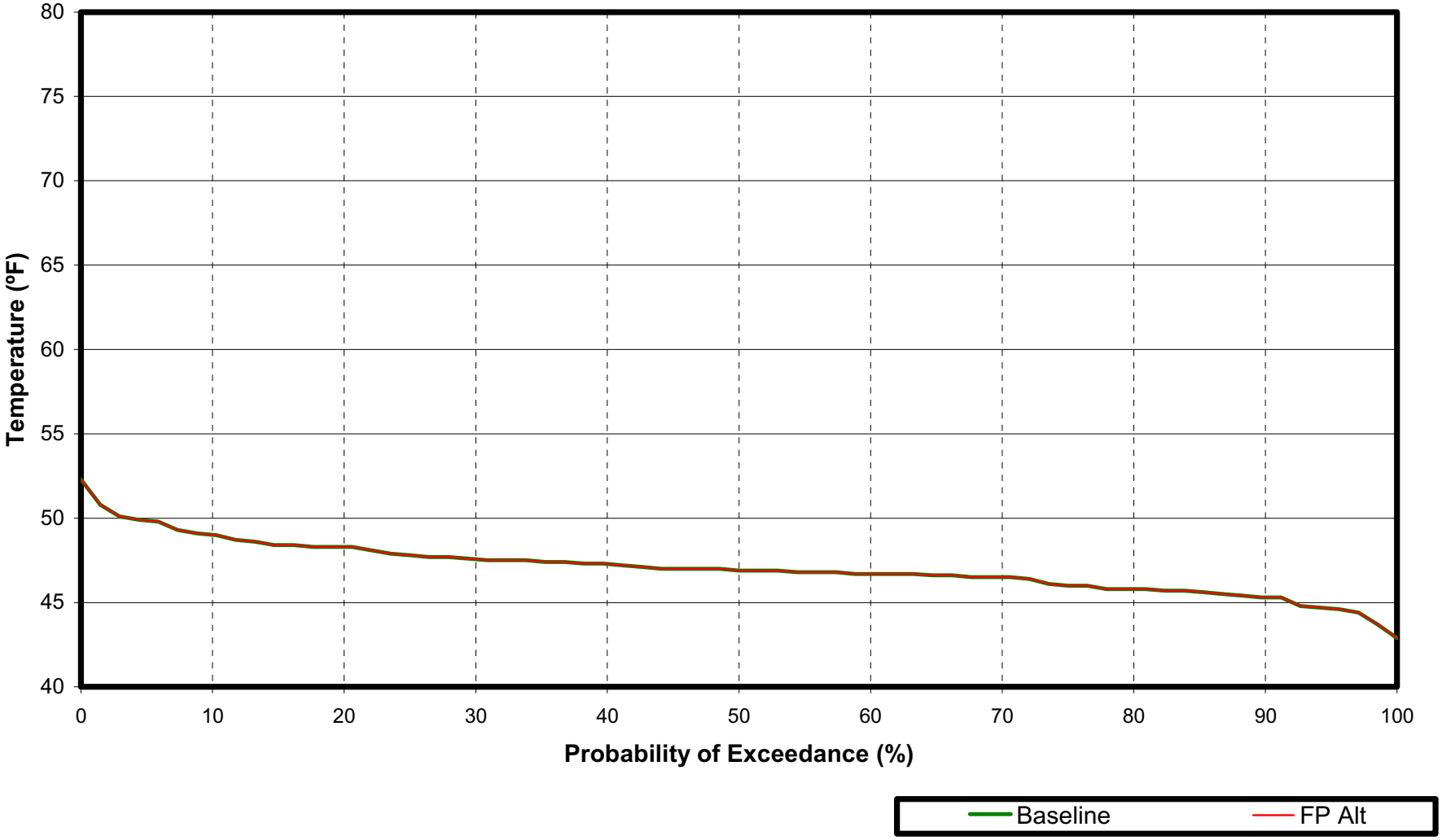
Temperature in the Sacramento River at Bend Bridge During October Under Baseline and FP Alt Conditions



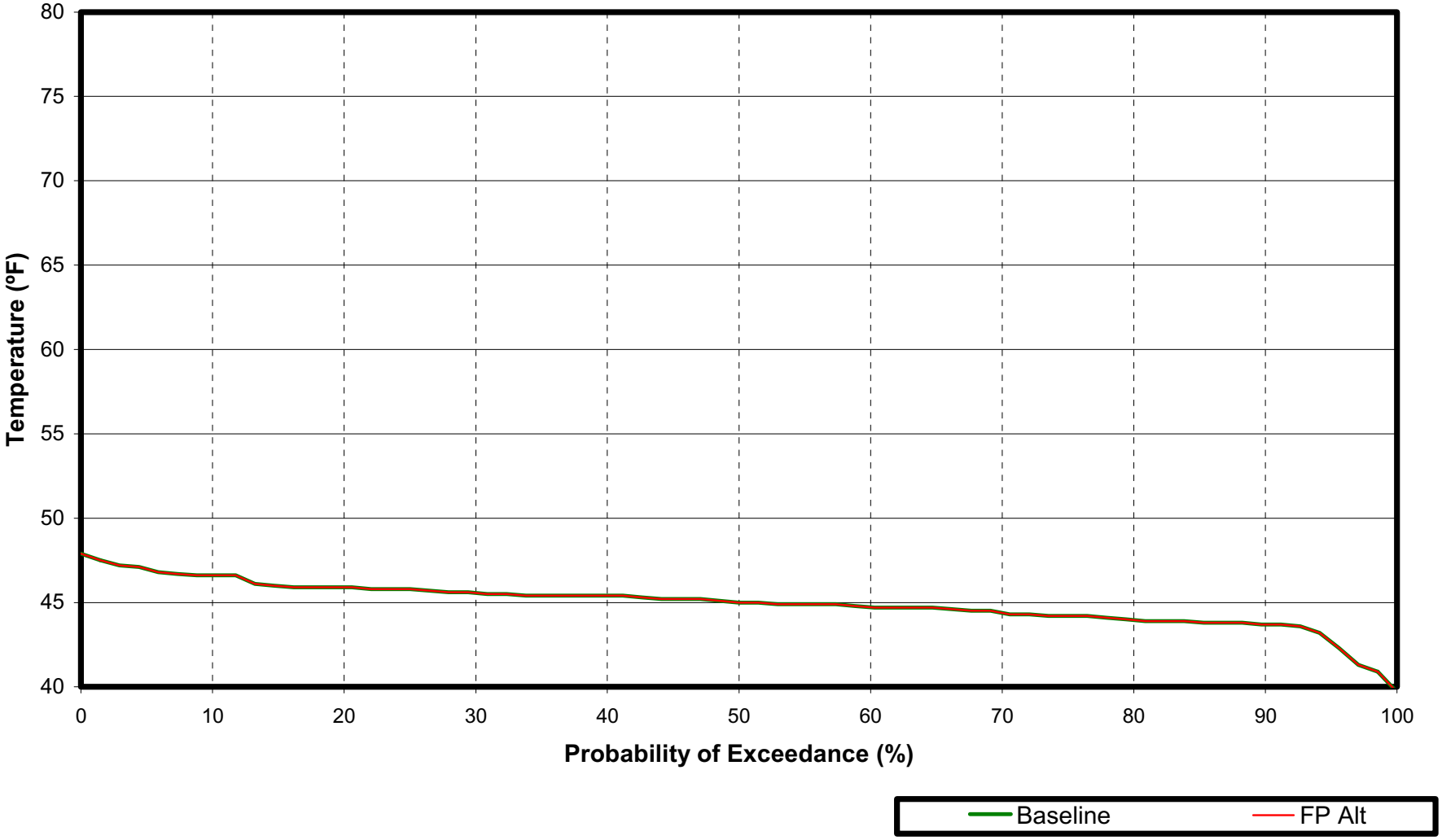
Temperature in the Sacramento River at Bend Bridge During November Under Baseline and FP Alt Conditions



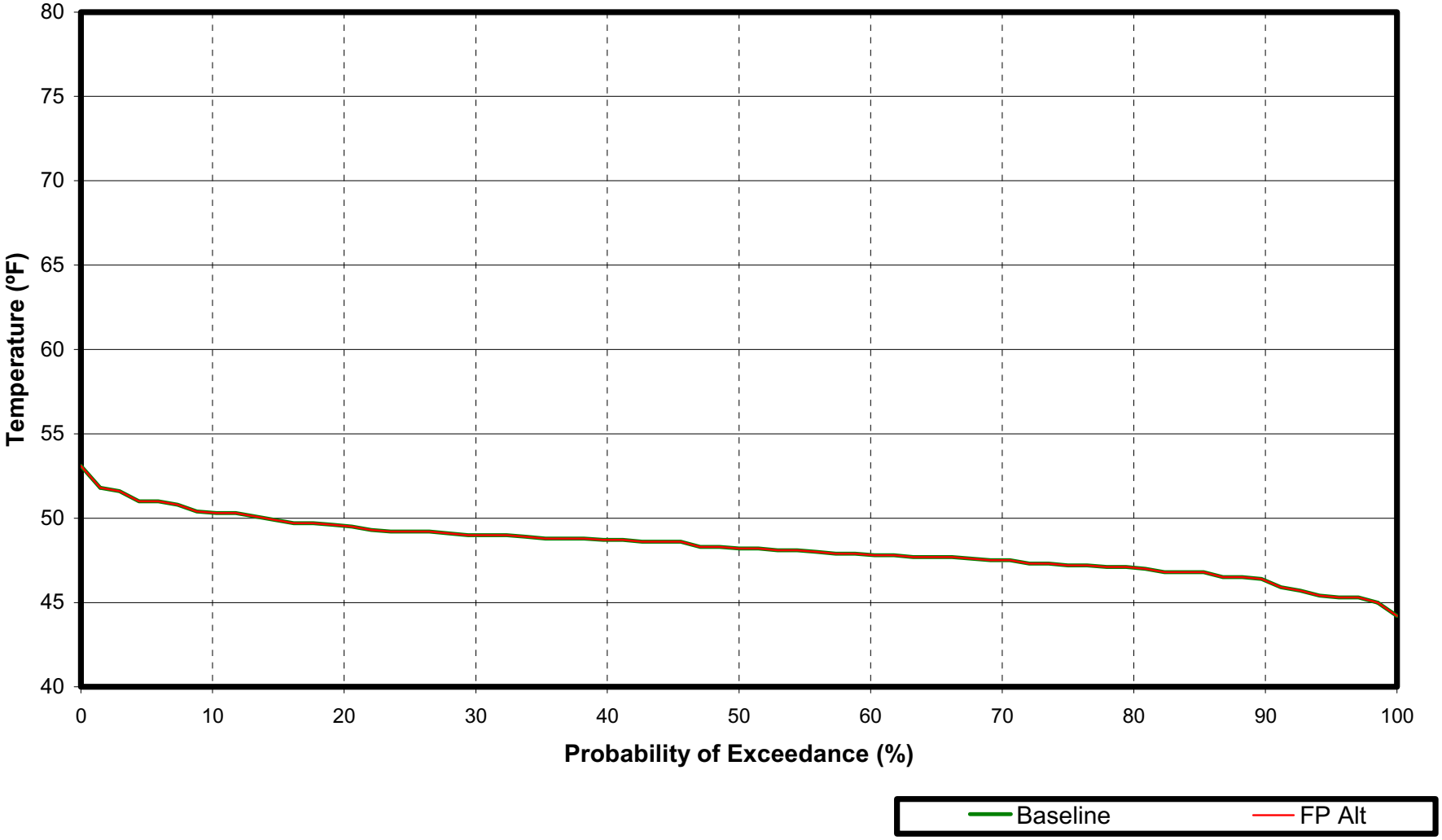
Temperature in the Sacramento River at Bend Bridge During December Under Baseline and FP Alt Conditions



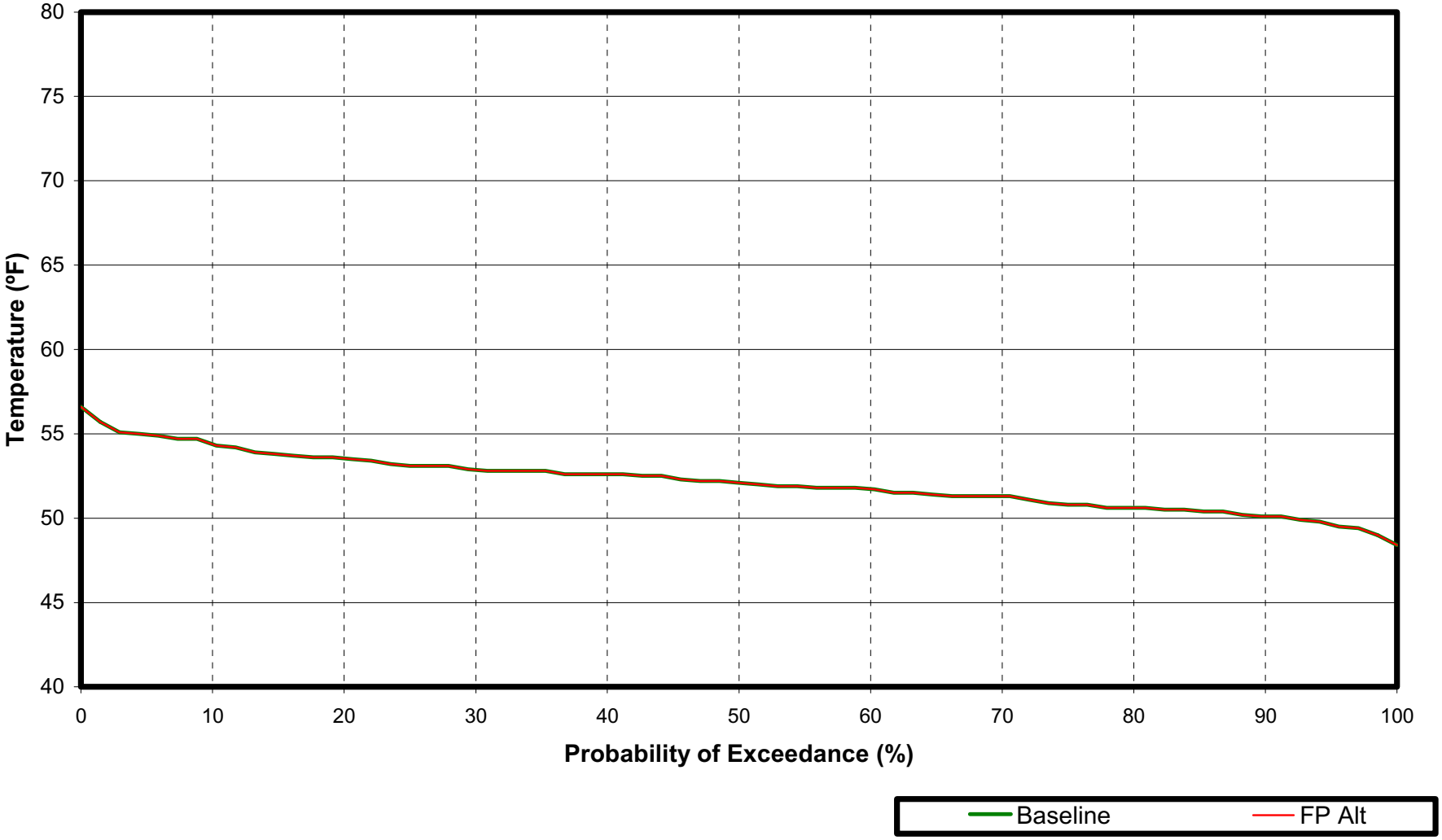
Temperature in the Sacramento River at Bend Bridge During January Under Baseline and FP Alt Conditions



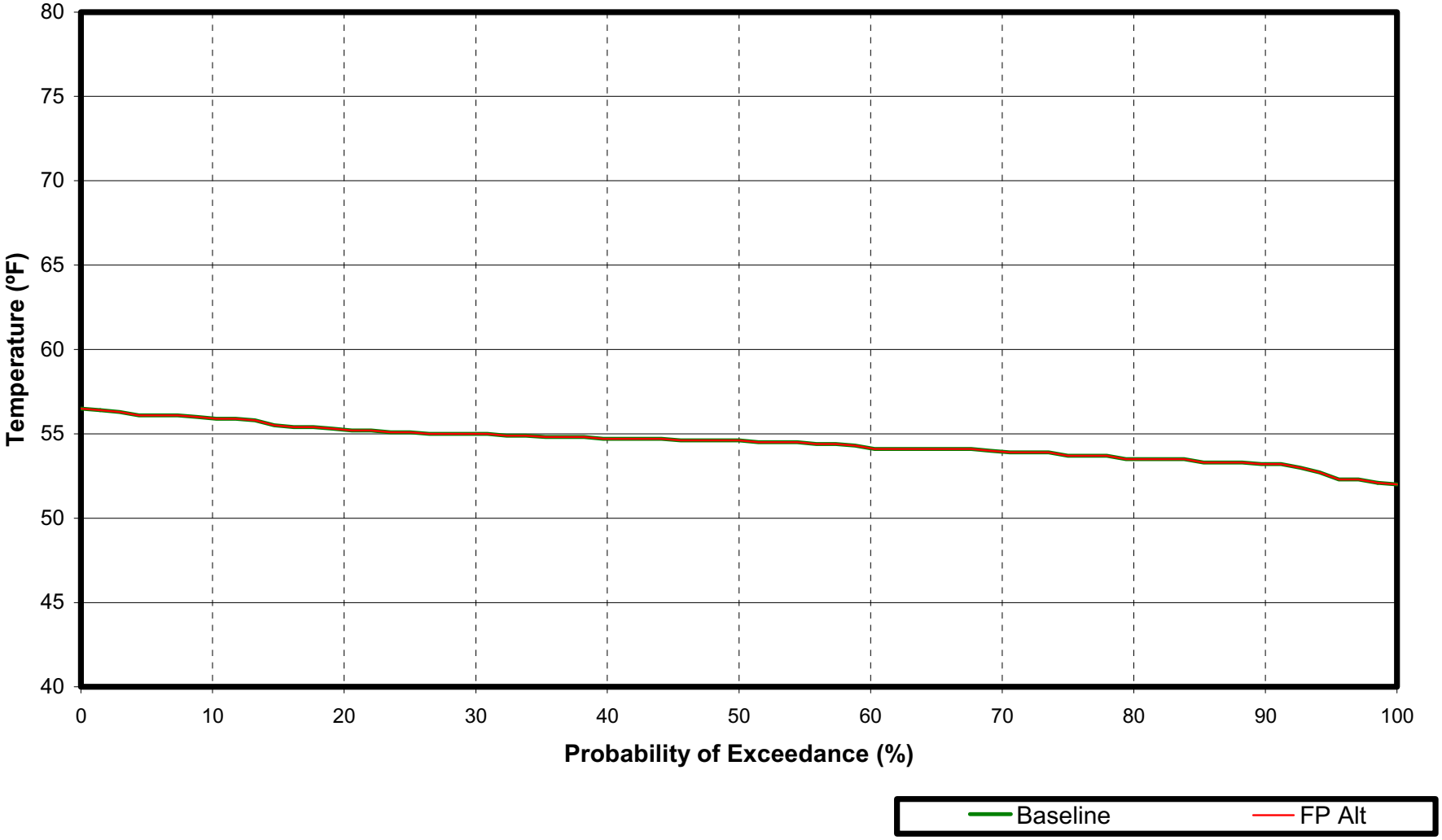
Temperature in the Sacramento River at Bend Bridge During February Under Baseline and FP Alt Conditions



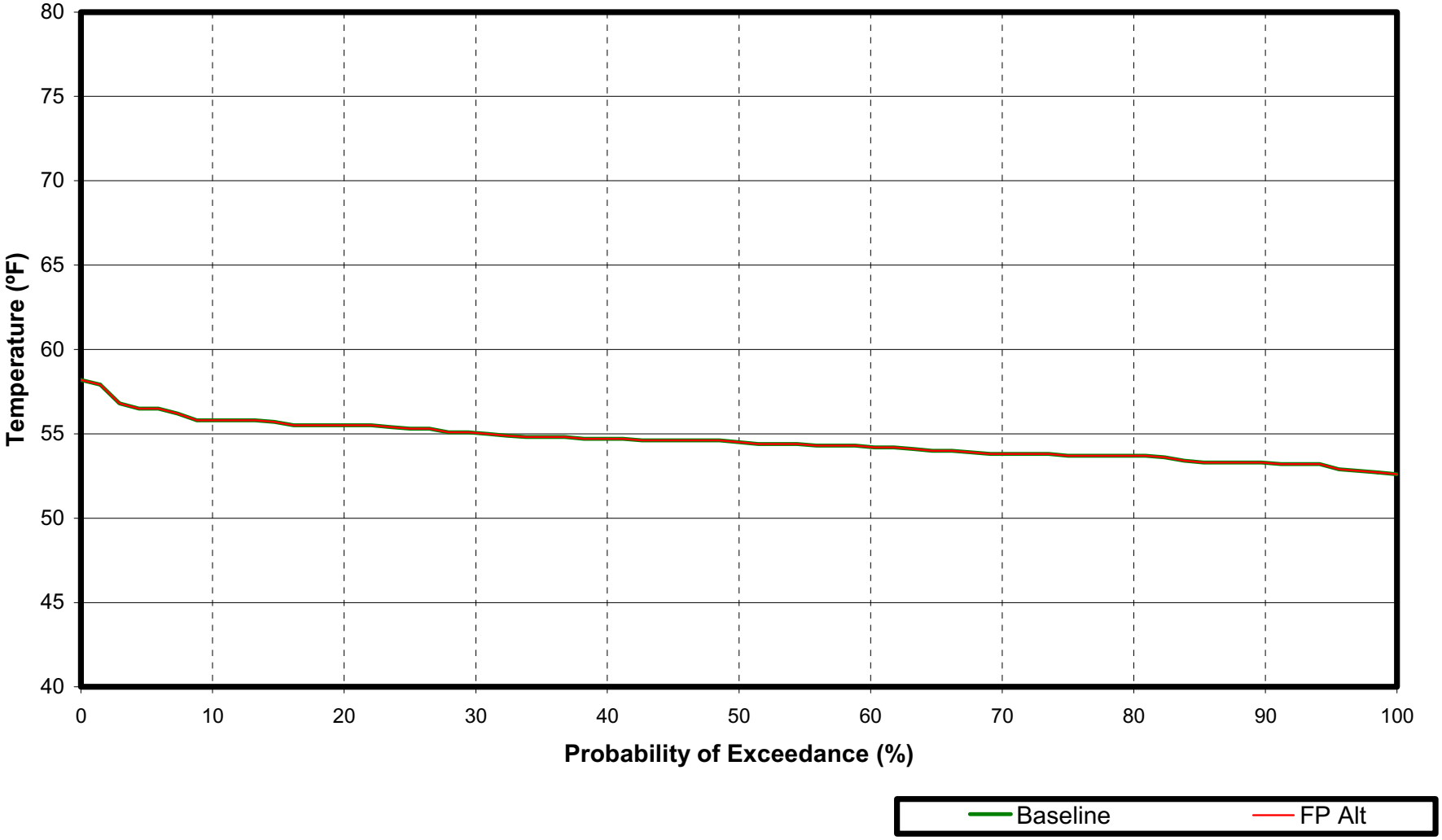
Temperature in the Sacramento River at Bend Bridge During March Under Baseline and FP Alt Conditions



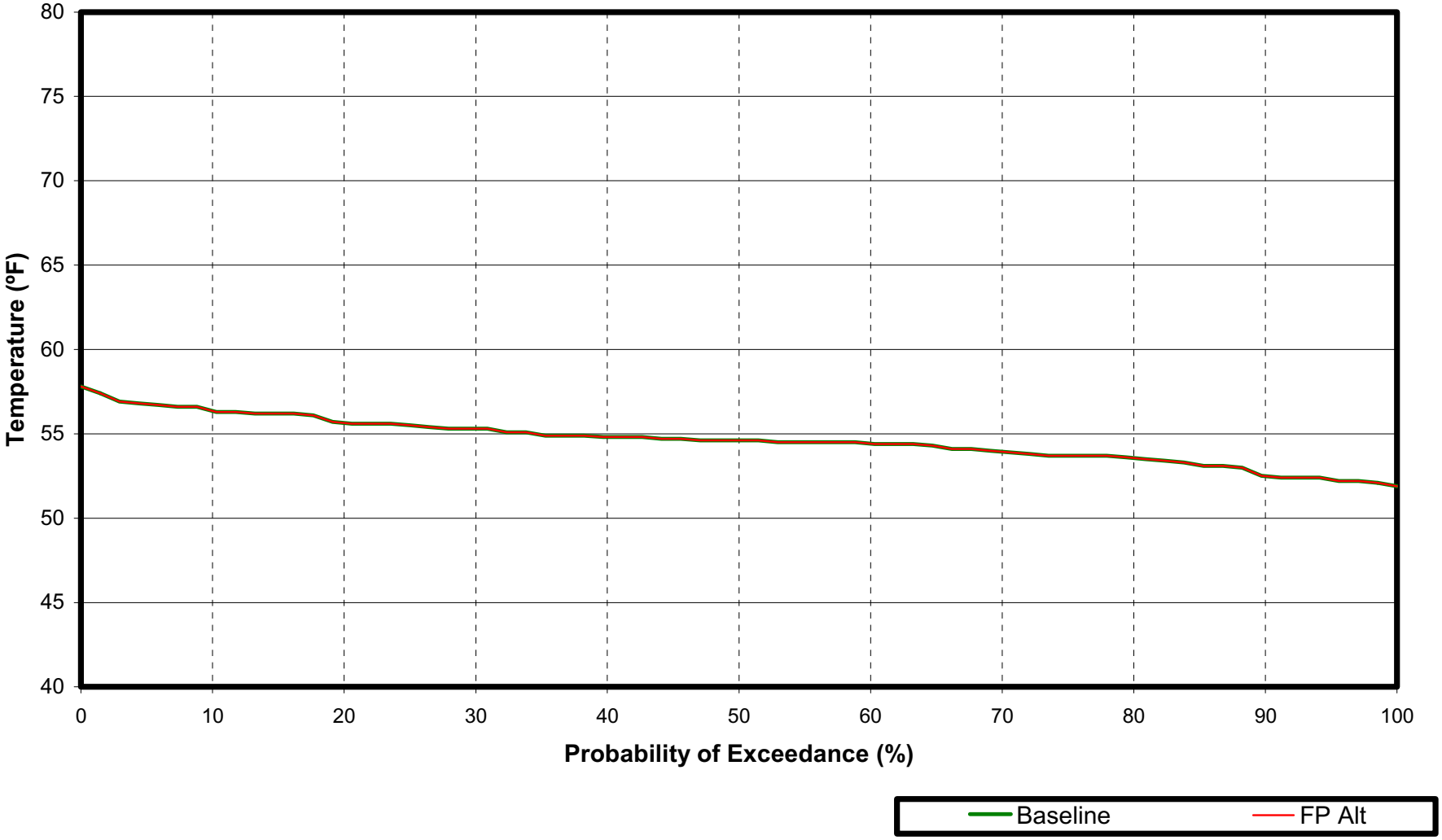
Temperature in the Sacramento River at Bend Bridge During April Under Baseline and FP Alt Conditions



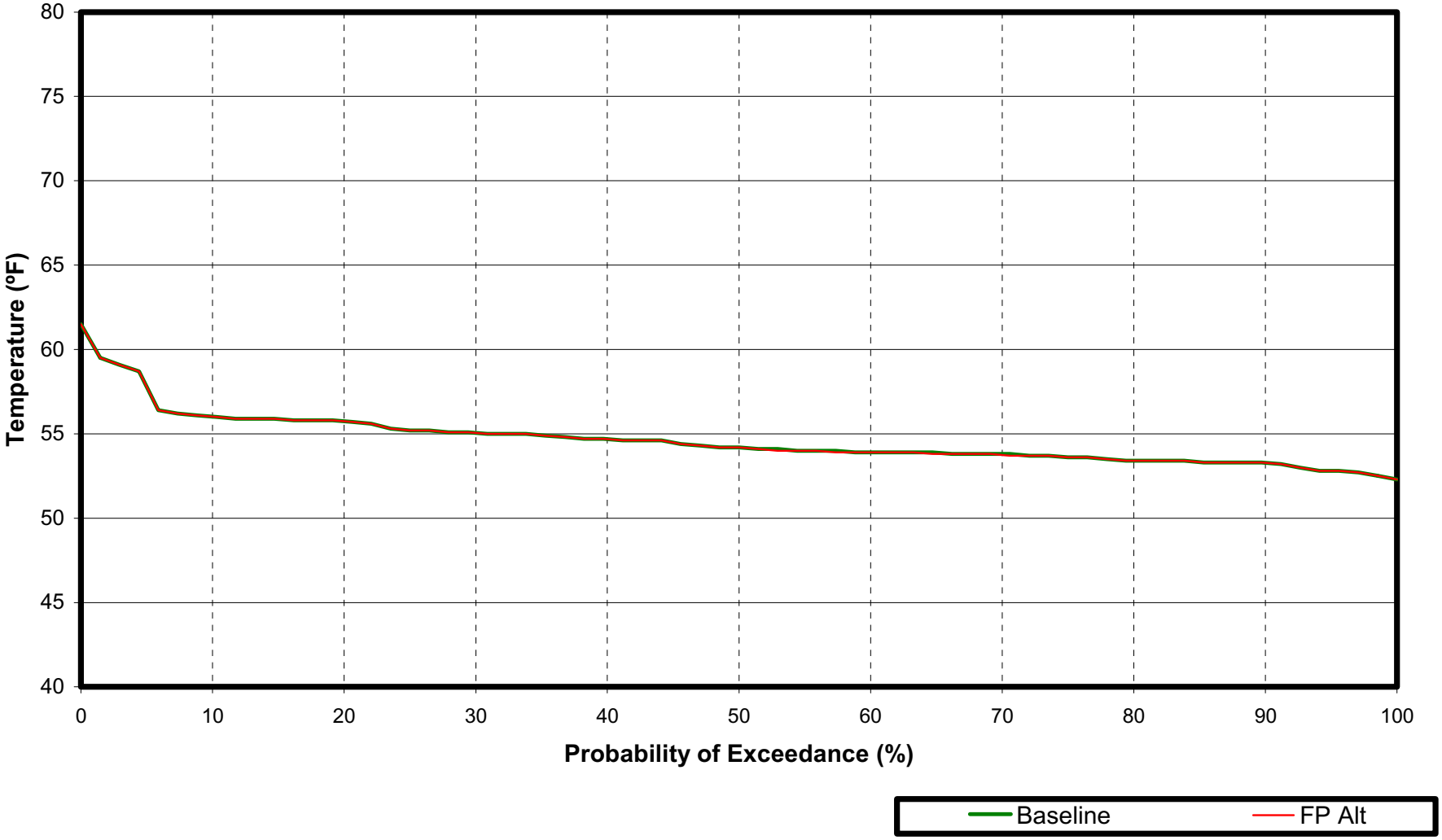
Temperature in the Sacramento River at Bend Bridge During May Under Baseline and FP Alt Conditions



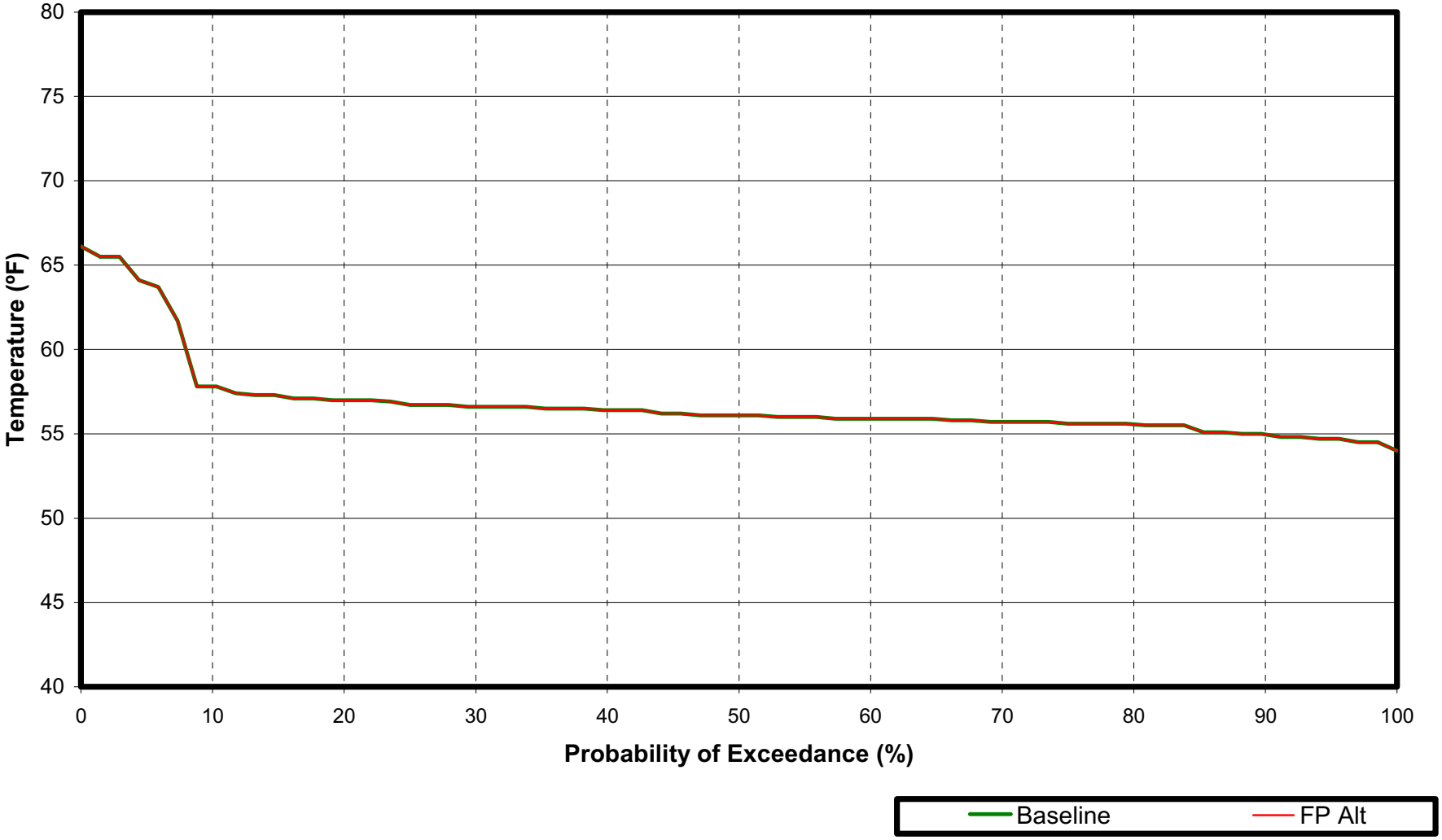
Temperature in the Sacramento River at Bend Bridge During June Under Baseline and FP Alt Conditions



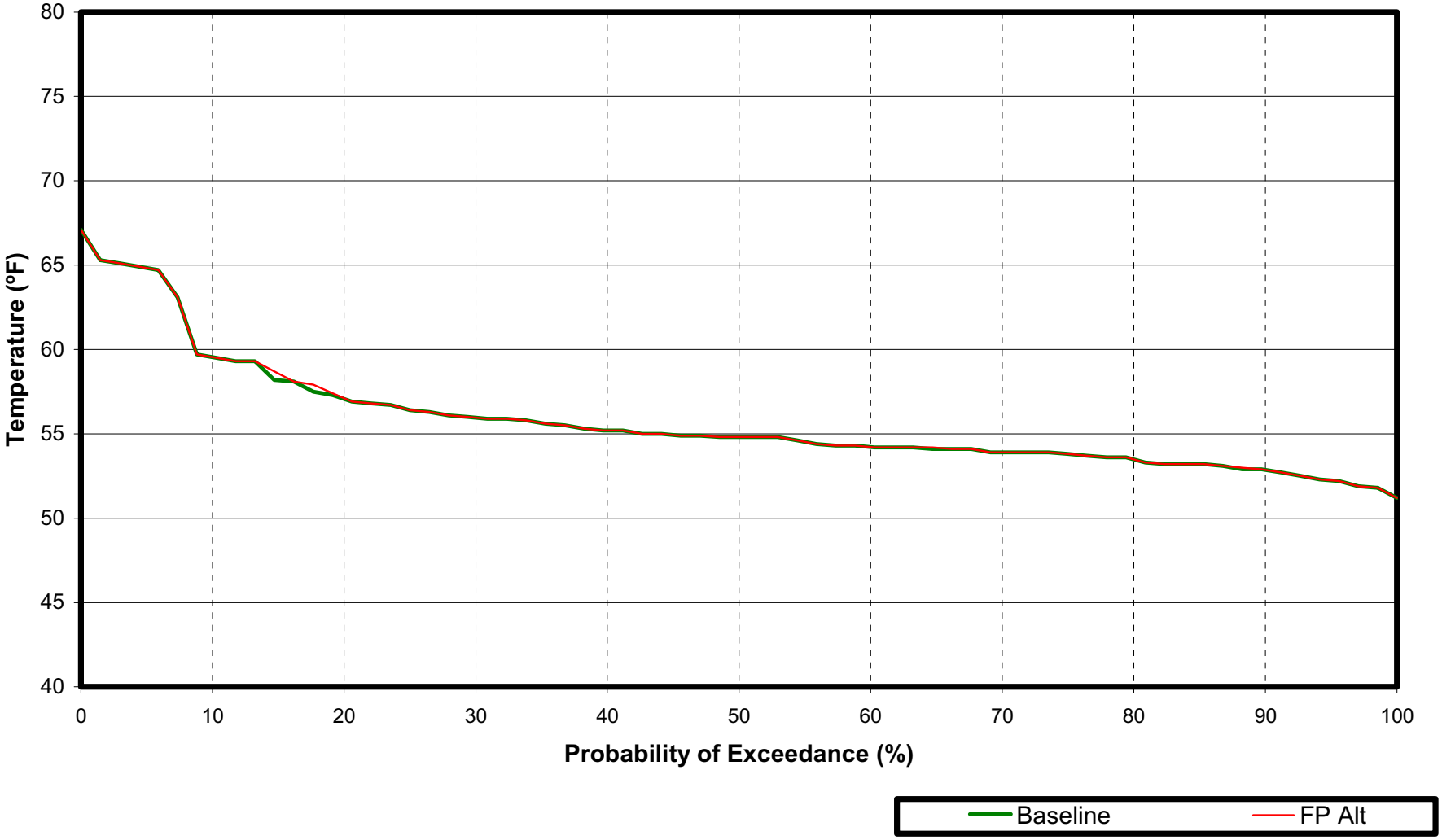
Temperature in the Sacramento River at Bend Bridge During July Under Baseline and FP Alt Conditions



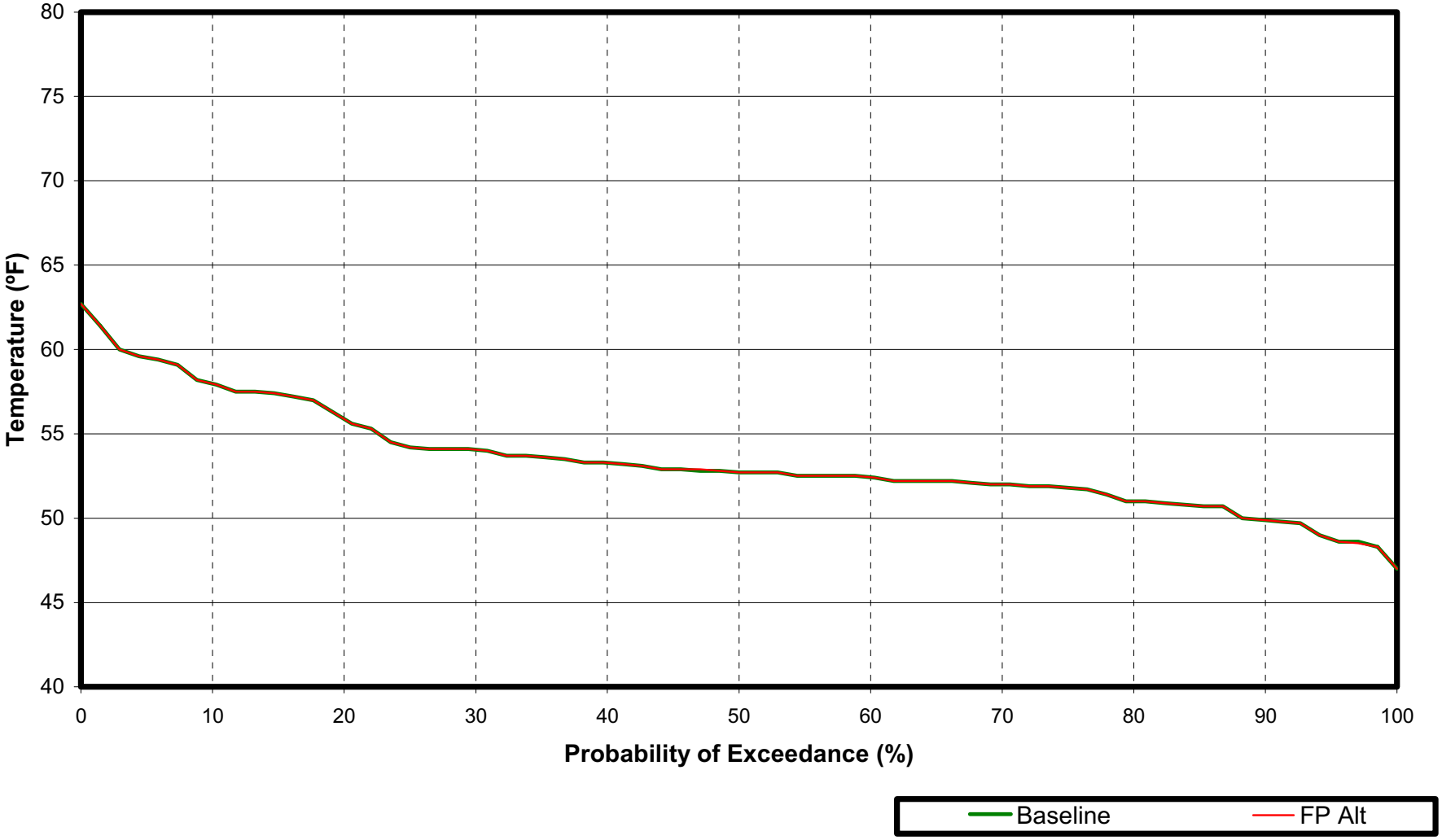
Temperature in the Sacramento River at Bend Bridge During August Under Baseline and FP Alt Conditions



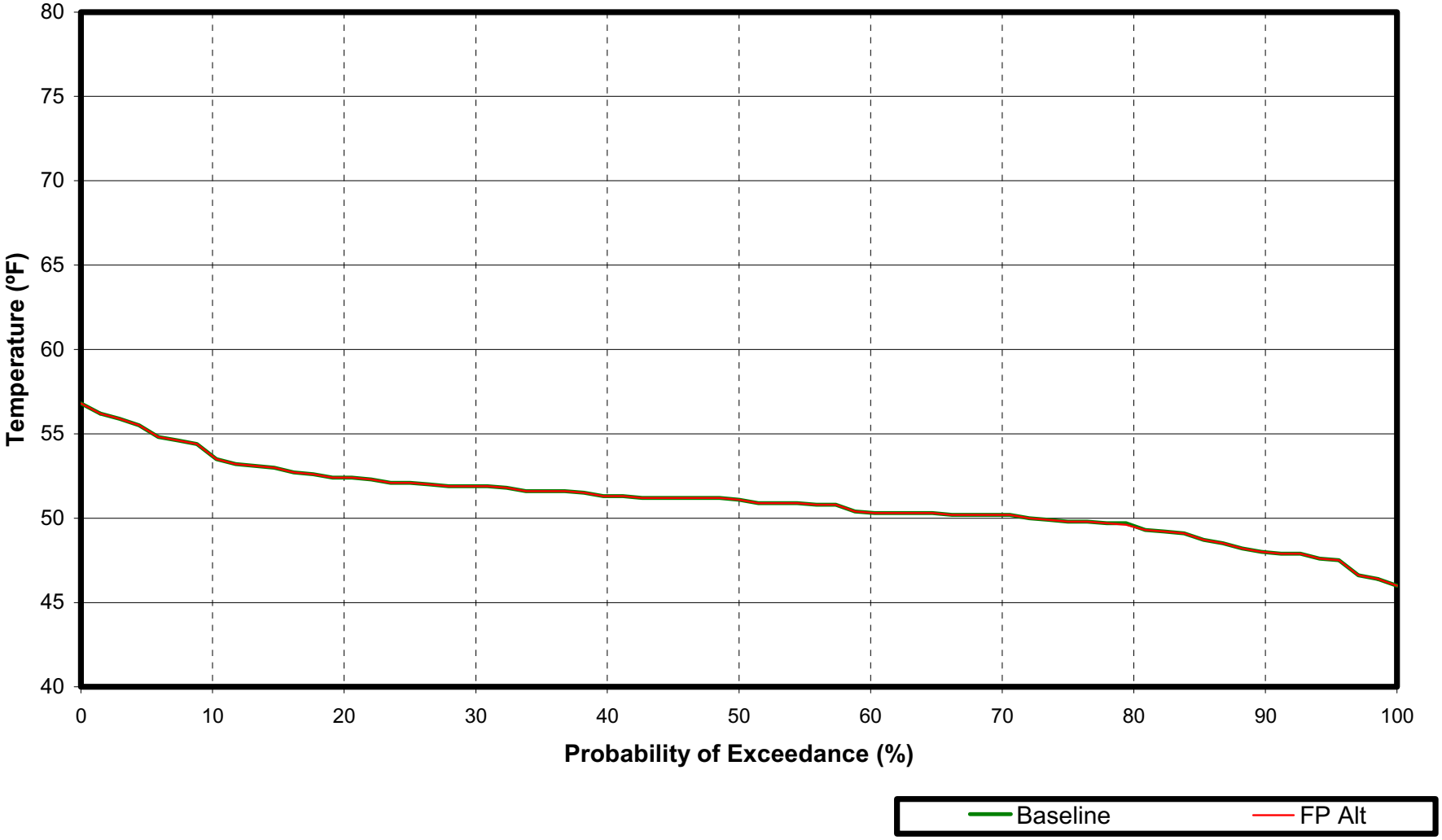
Temperature in the Sacramento River at Bend Bridge During September Under Baseline and FP Alt Conditions



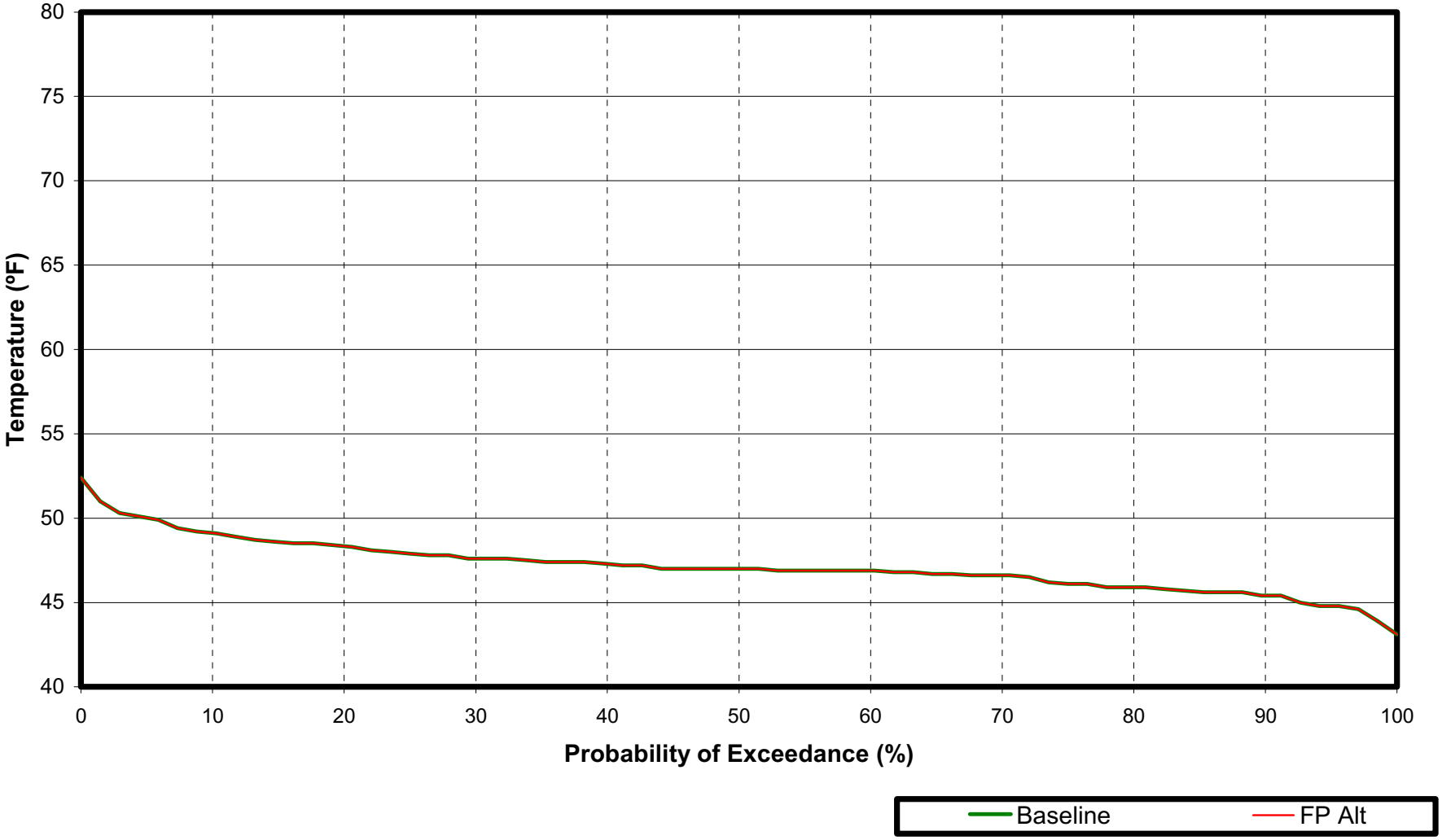
Temperature in the Sacramento River at Jellys Ferry During October Under Baseline and FP Alt Conditions



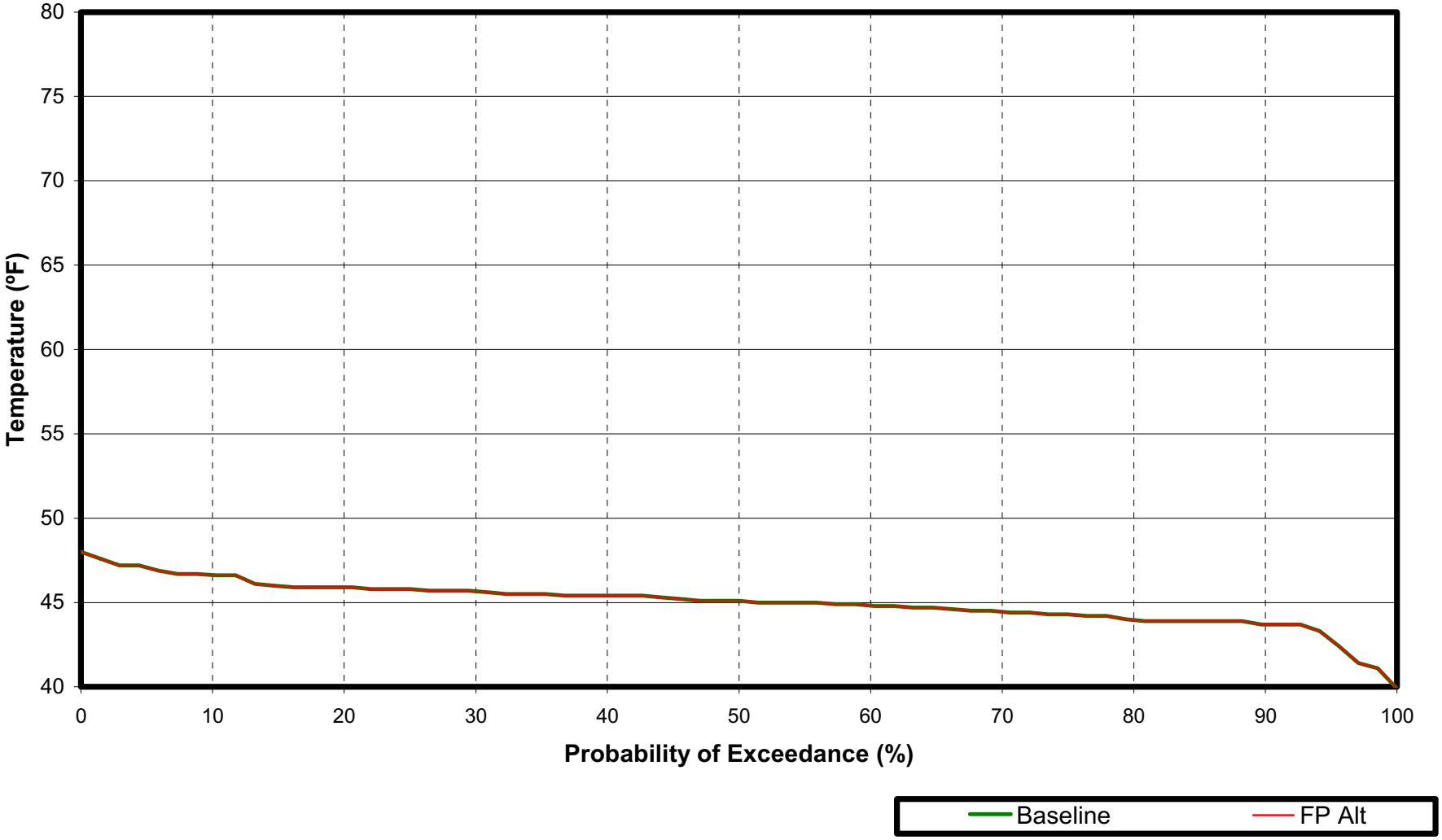
Temperature in the Sacramento River at Jellys Ferry During November Under Baseline and FP Alt Conditions



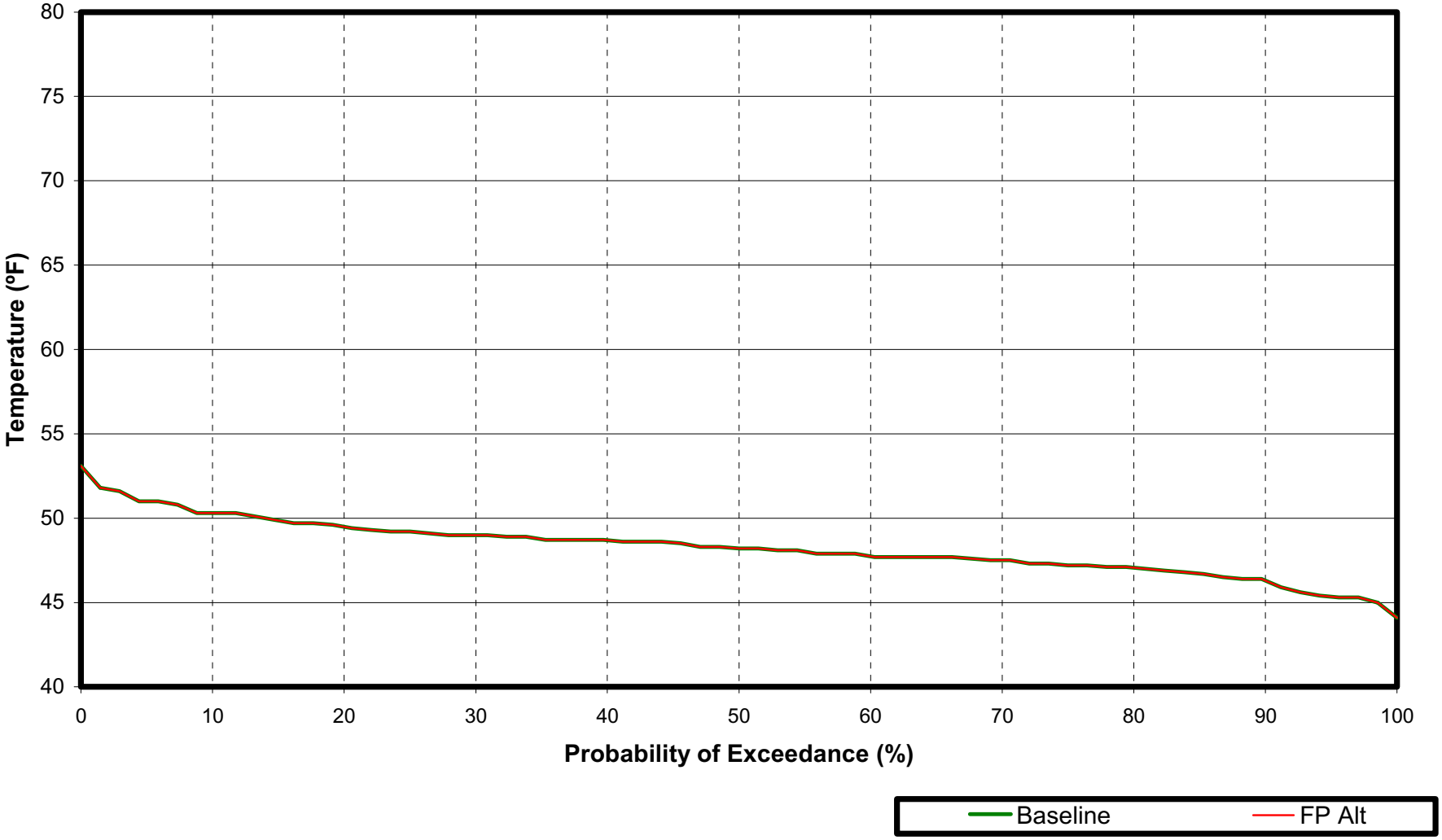
Temperature in the Sacramento River at Jellys Ferry During December Under Baseline and FP Alt Conditions



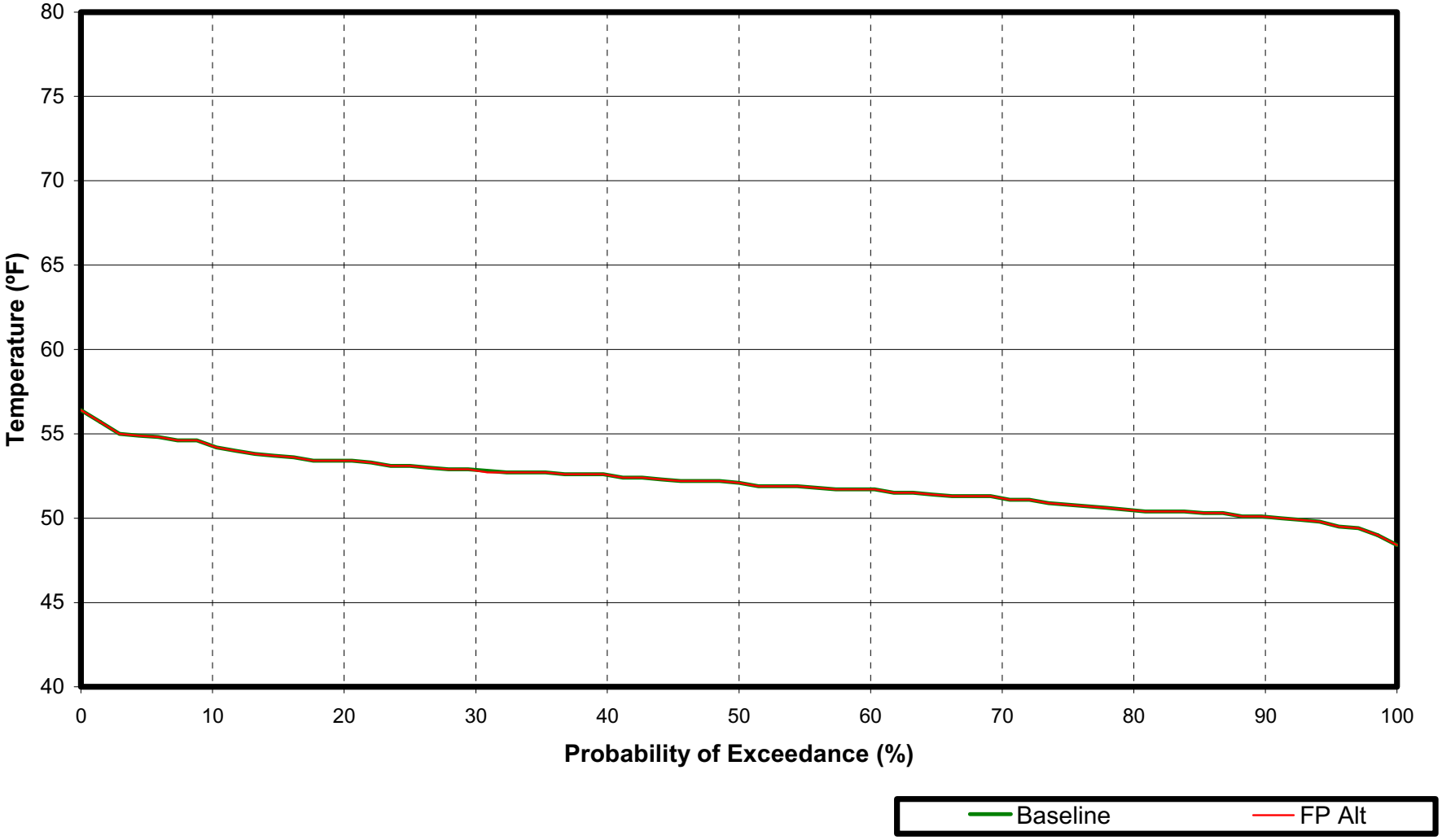
Temperature in the Sacramento River at Jellys Ferry During January Under Baseline and FP Alt Conditions



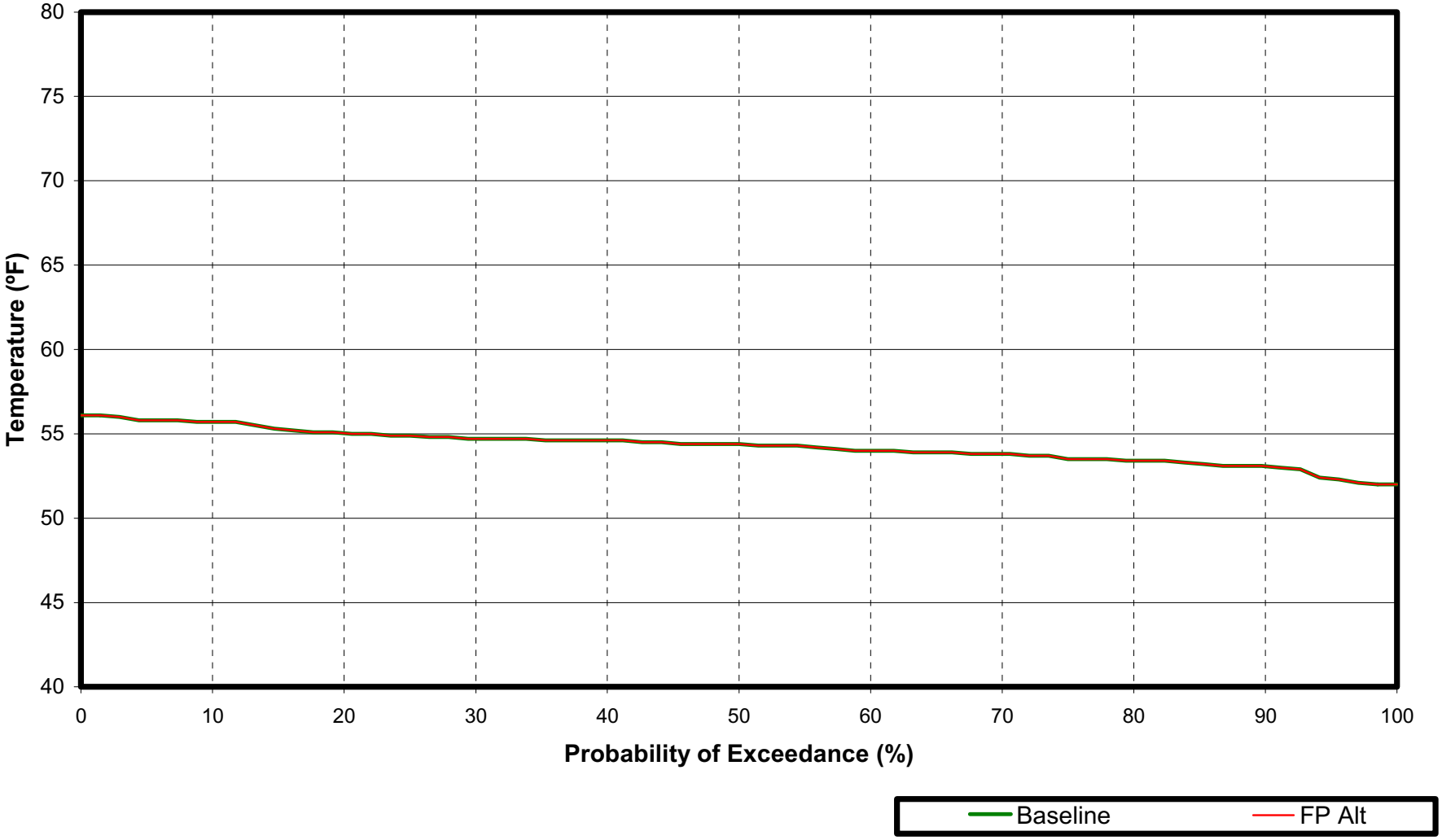
Temperature in the Sacramento River at Jellys Ferry During February Under Baseline and FP Alt Conditions



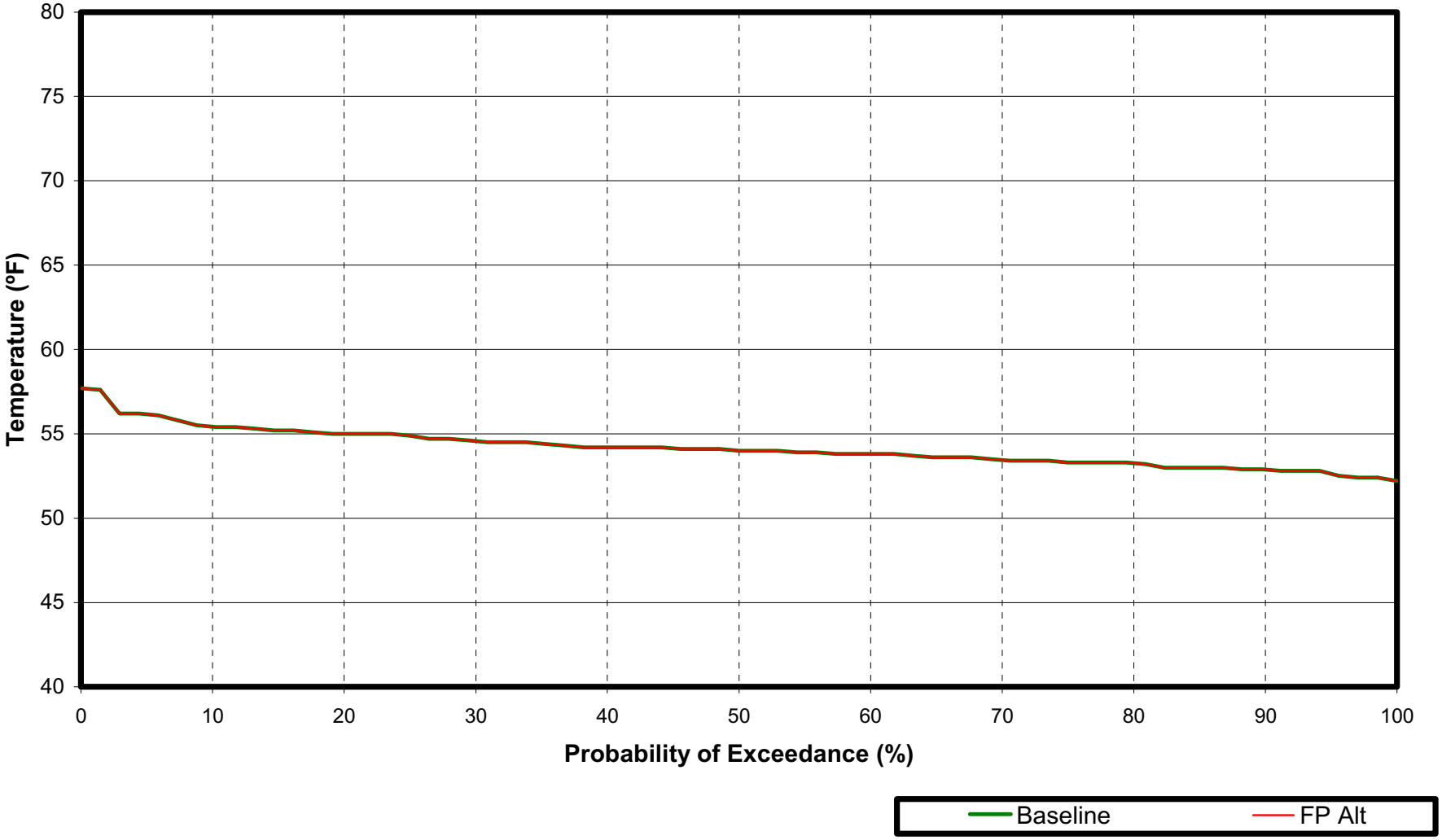
Temperature in the Sacramento River at Jellys Ferry During March Under Baseline and FP Alt Conditions



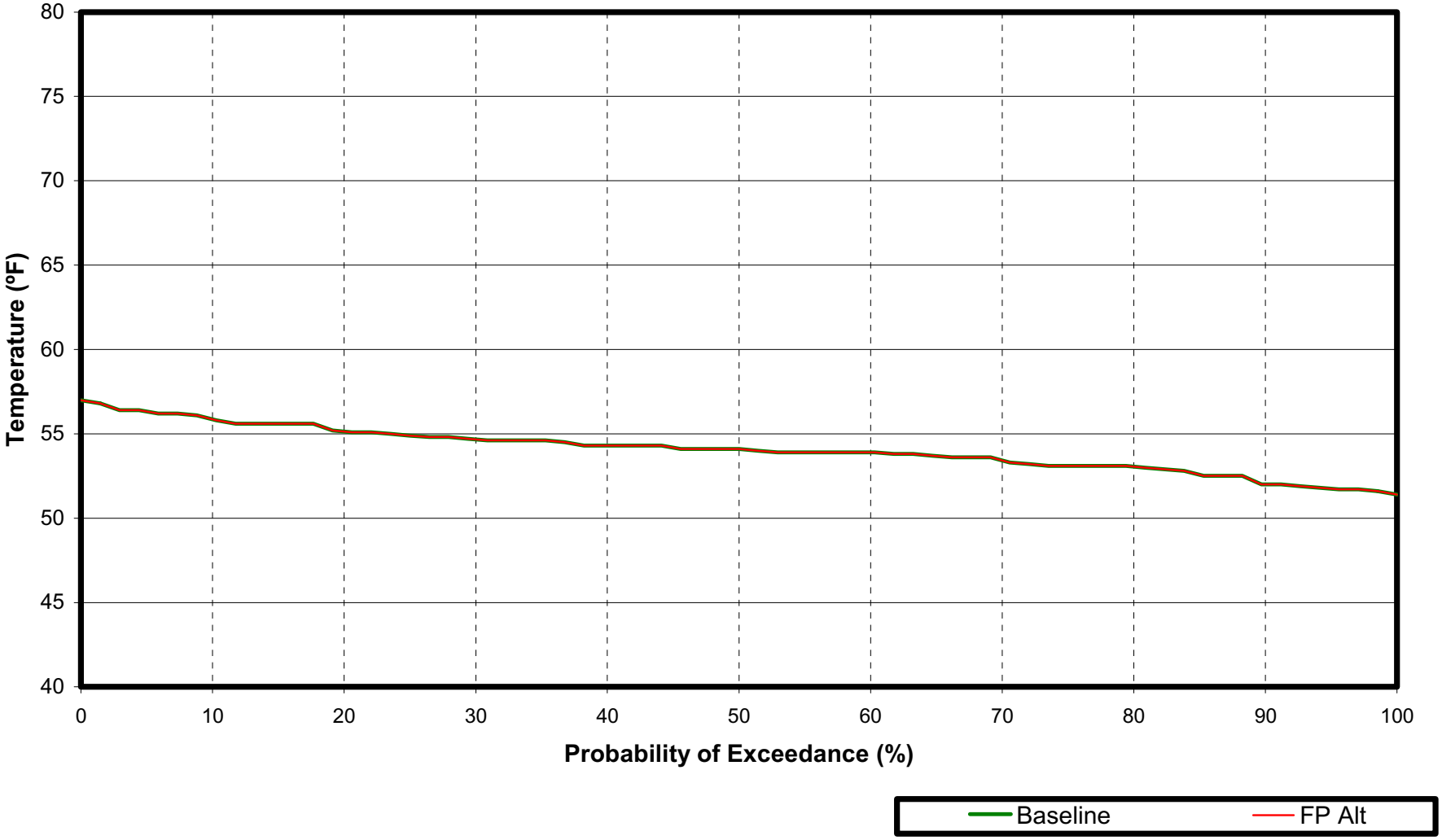
Temperature in the Sacramento River at Jellys Ferry During April Under Baseline and FP Alt Conditions



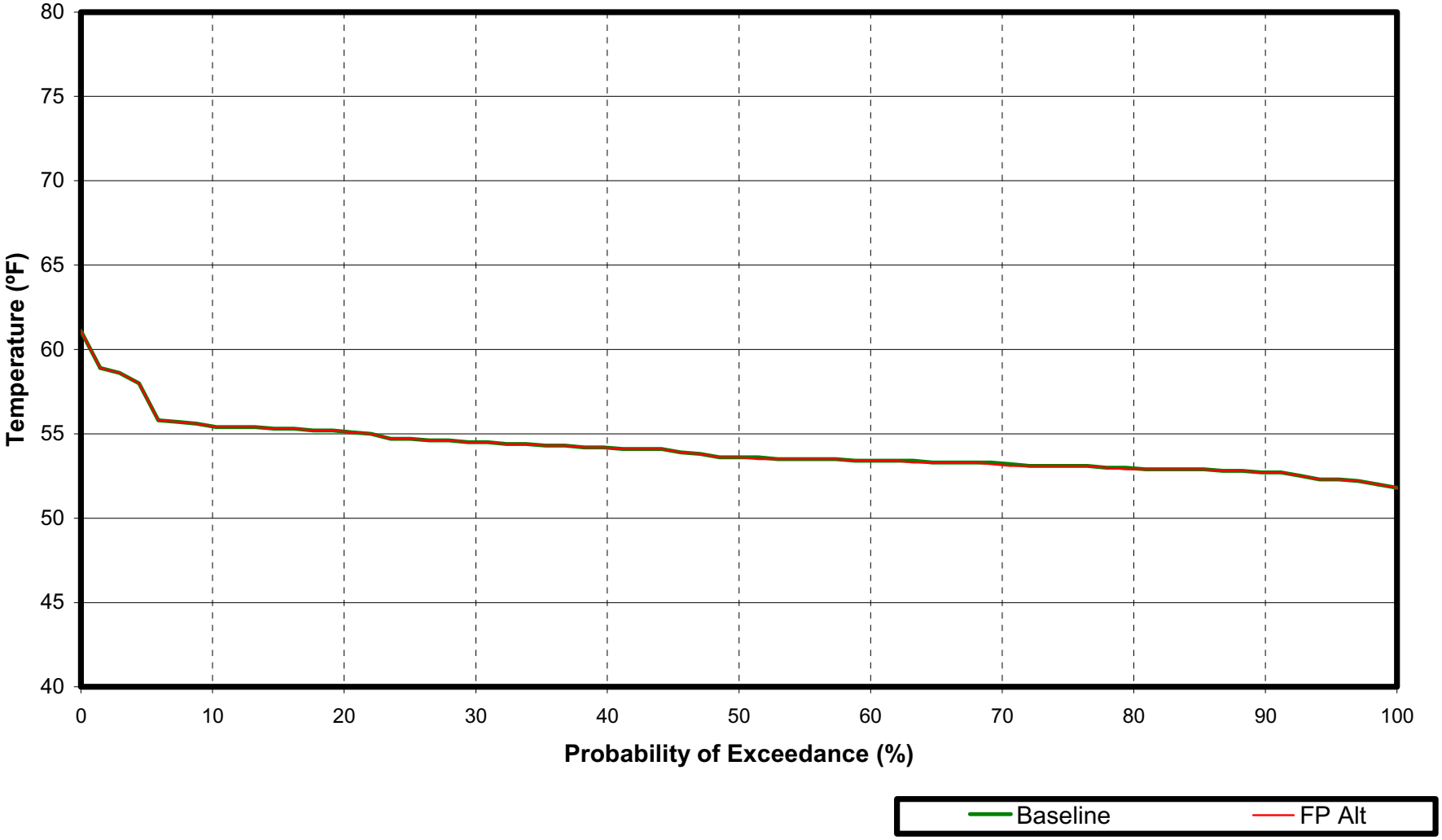
Temperature in the Sacramento River at Jellys Ferry During May Under Baseline and FP Alt Conditions



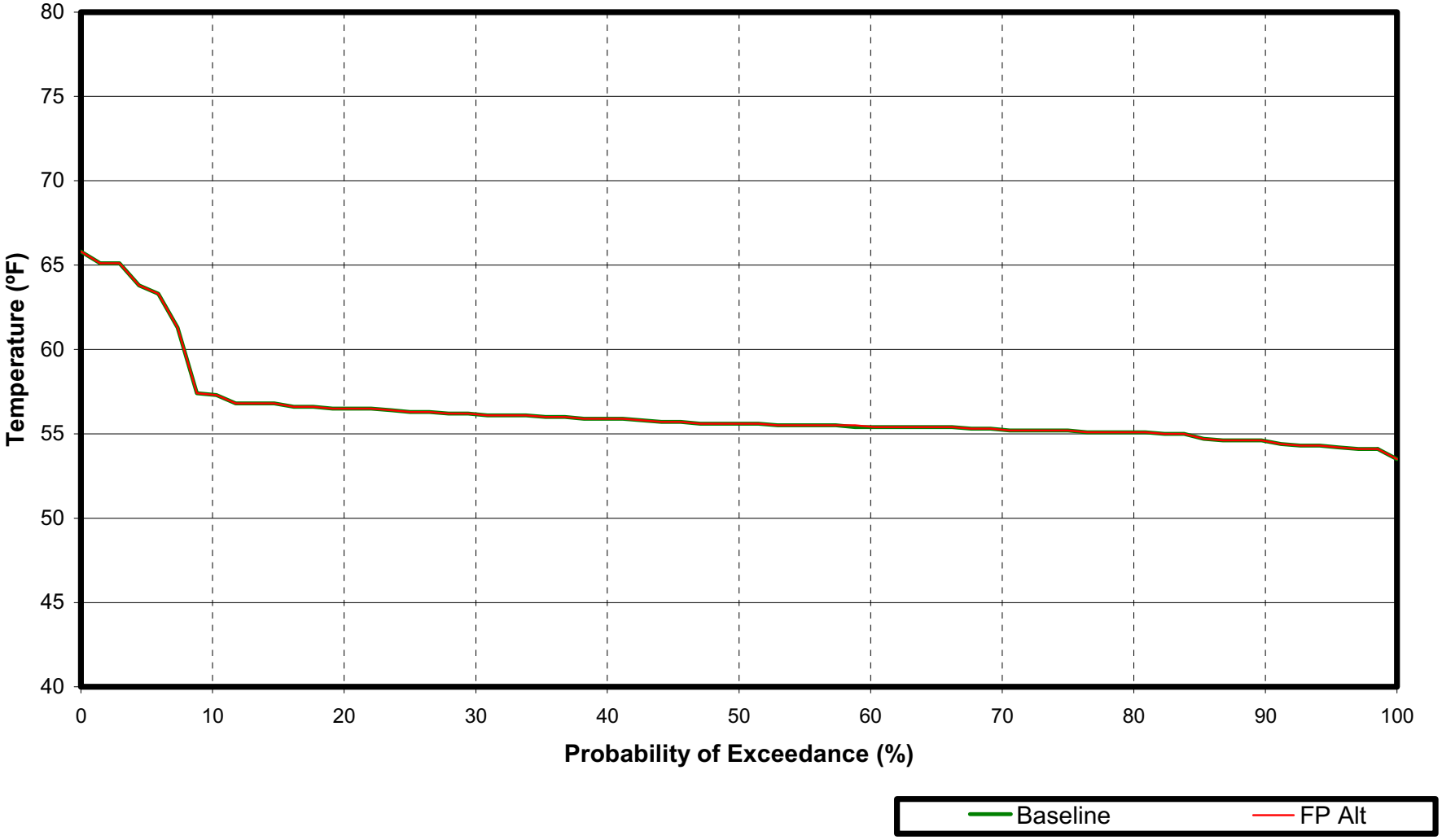
Temperature in the Sacramento River at Jellys Ferry During June Under Baseline and FP Alt Conditions



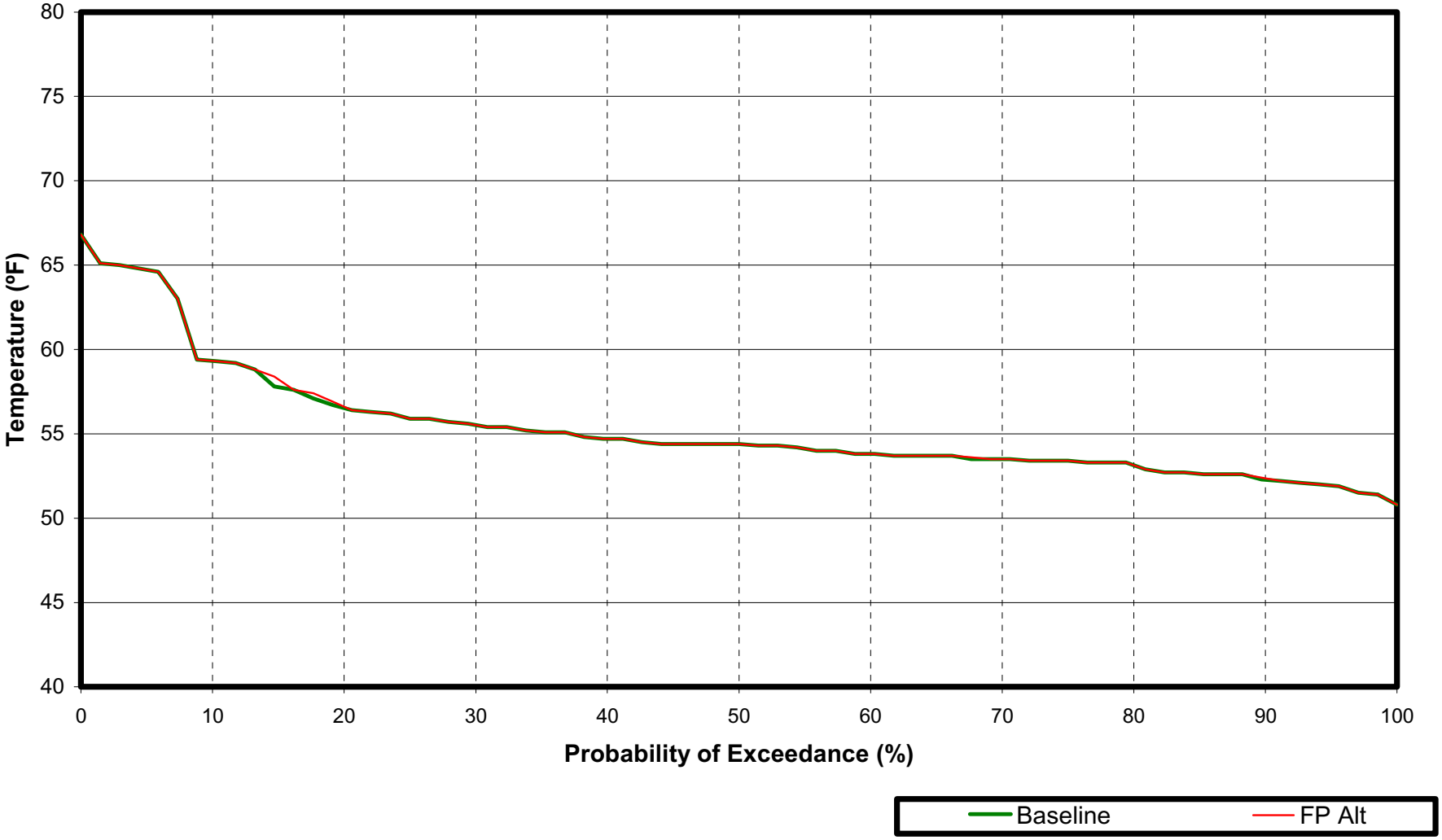
Temperature in the Sacramento River at Jellys Ferry During July Under Baseline and FP Alt Conditions



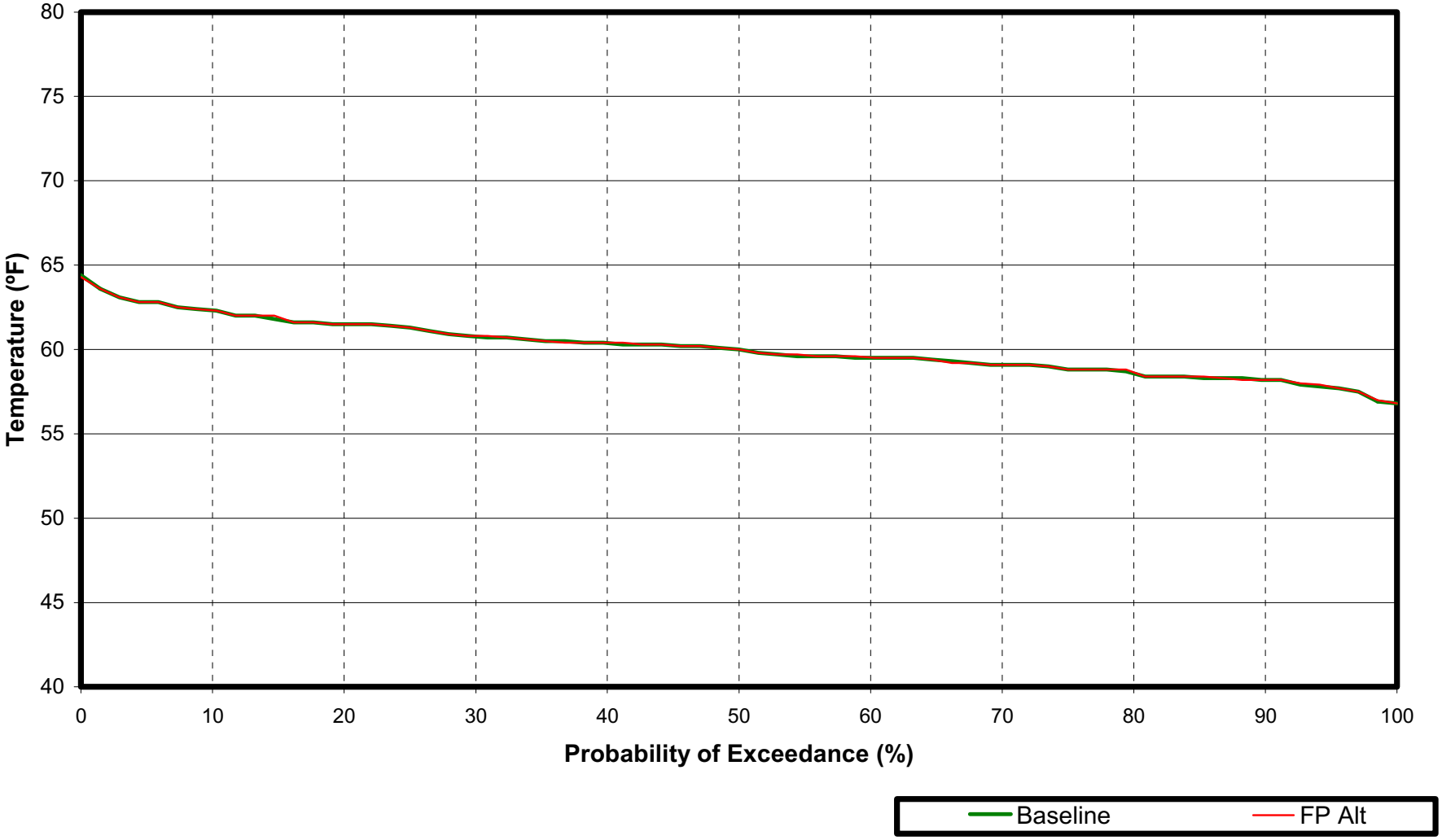
Temperature in the Sacramento River at Jellys Ferry During August Under Baseline and FP Alt Conditions



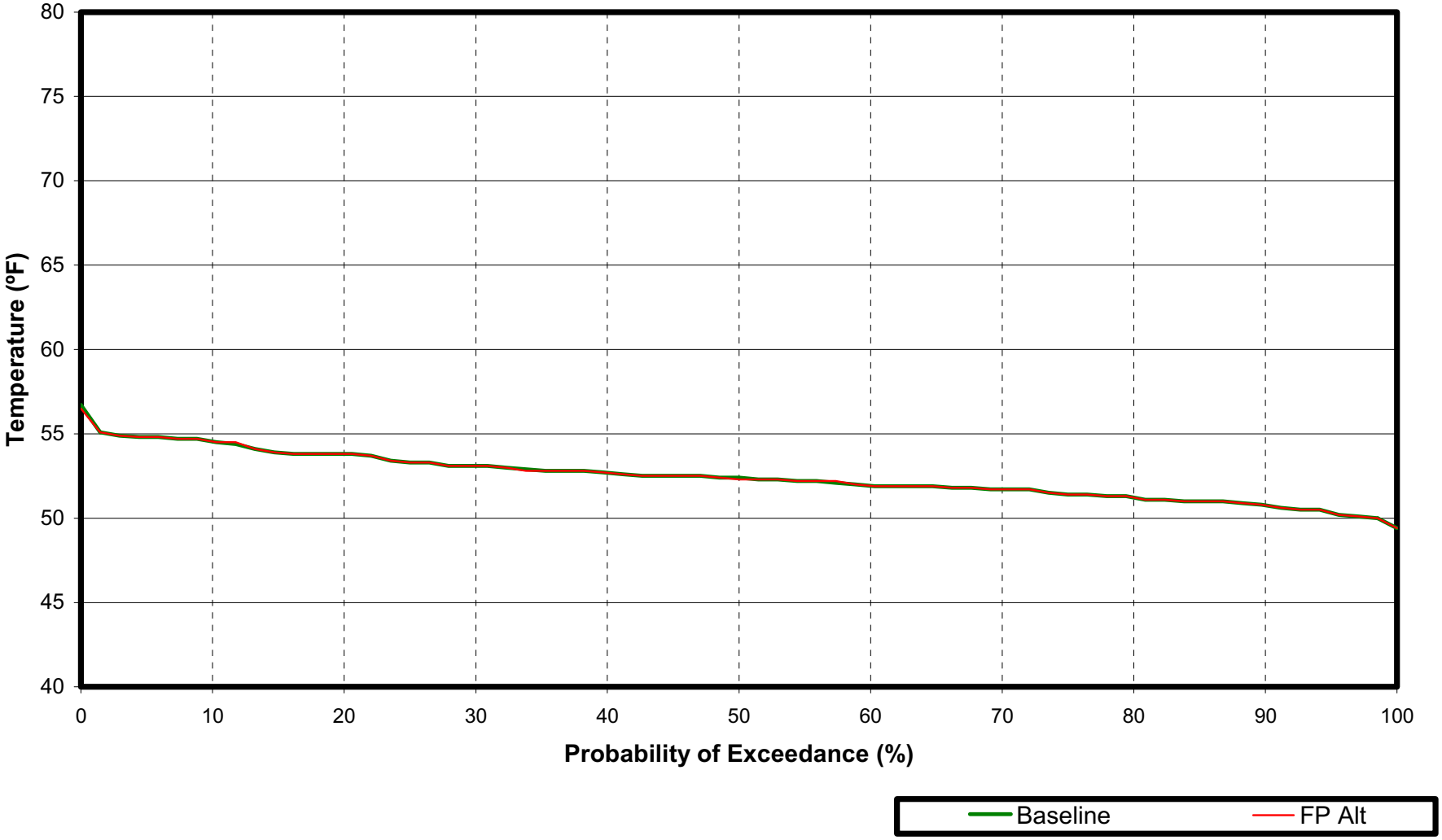
Temperature in the Sacramento River at Jellys Ferry During September Under Baseline and FP Alt Conditions



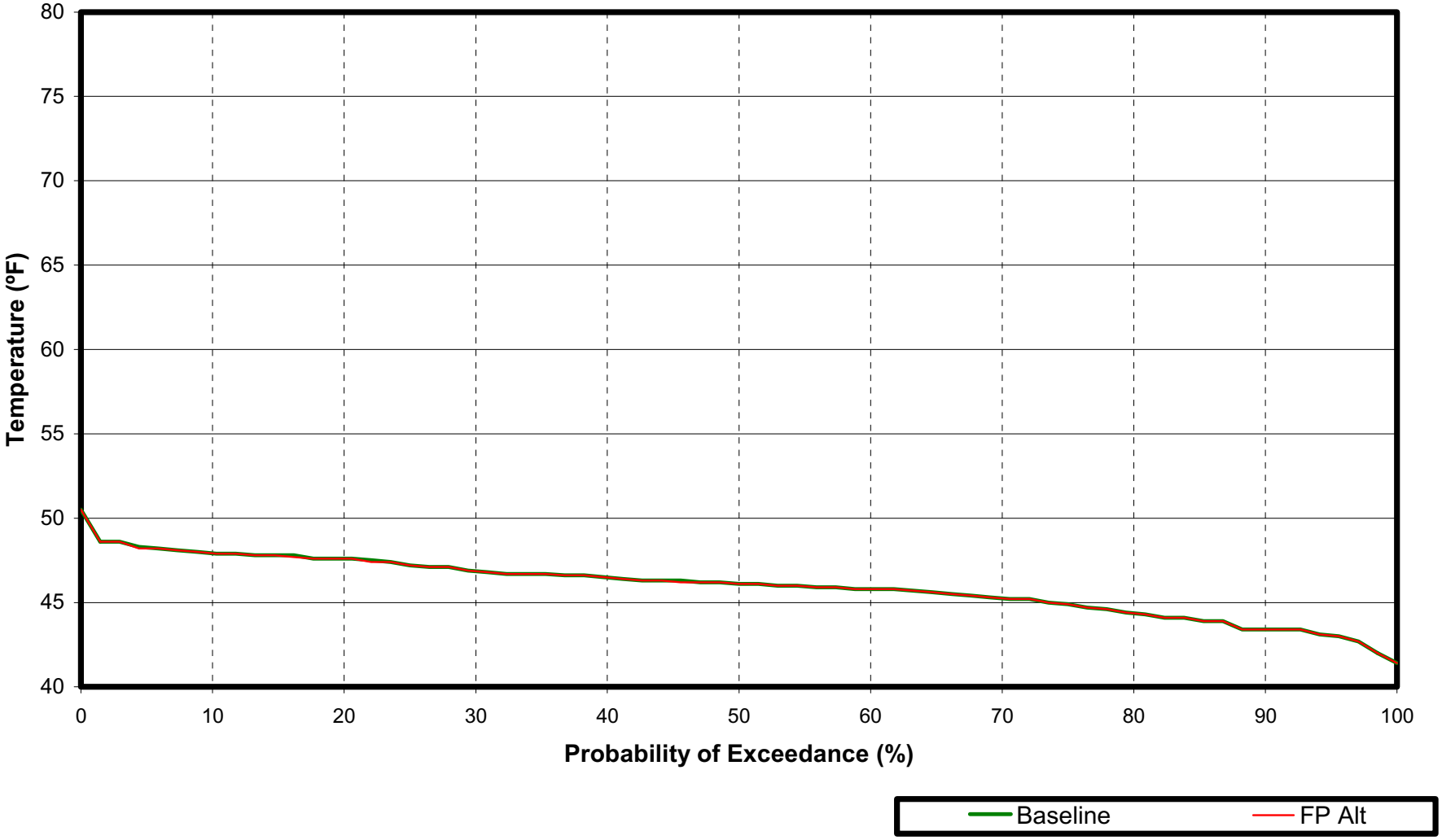
Temperature in the Sacramento River at Freeport During October Under Baseline and FP Alt Conditions



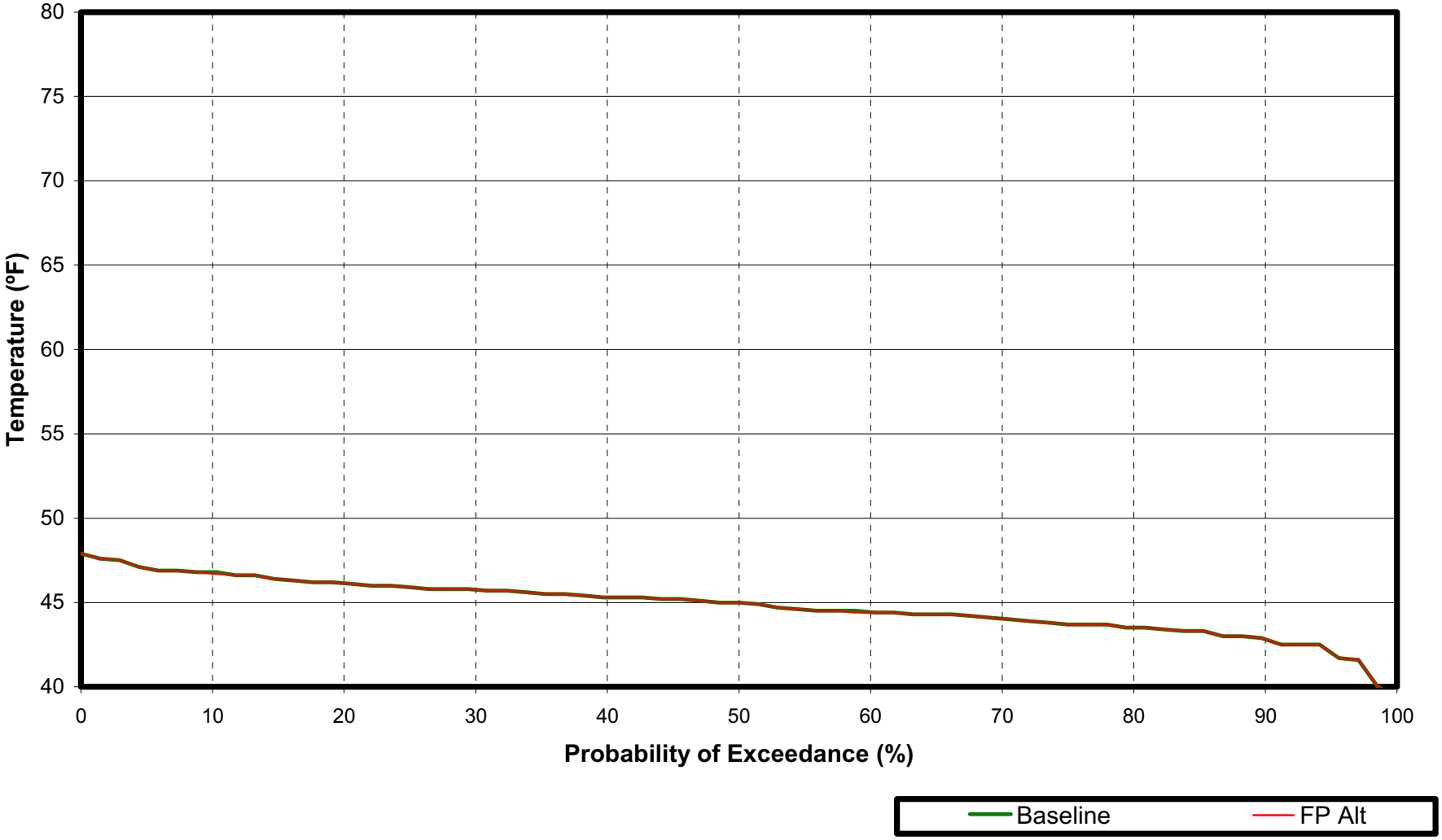
Temperature in the Sacramento River at Freeport During November Under Baseline and FP Alt Conditions



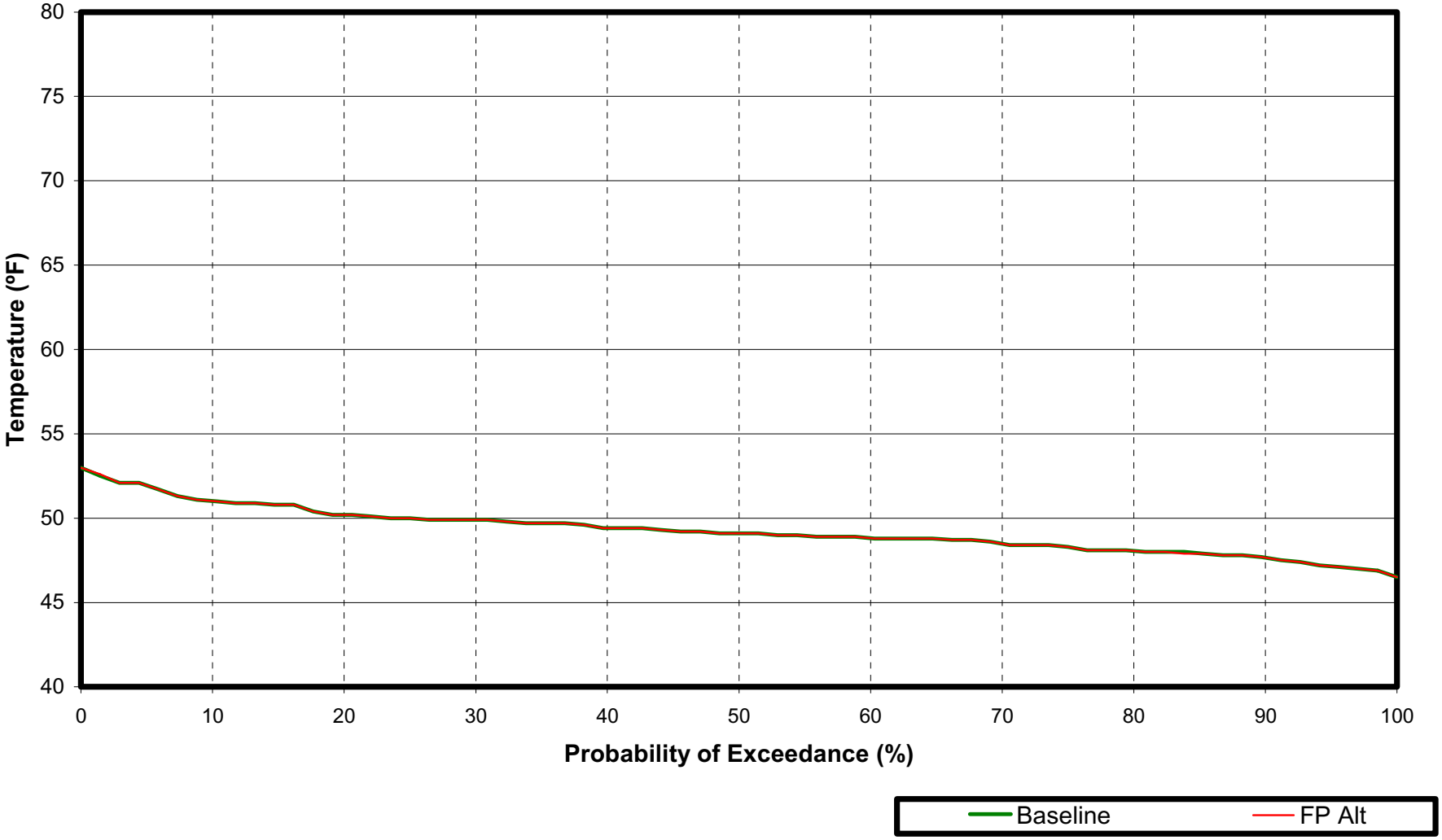
Temperature in the Sacramento River at Freeport During December Under Baseline and FP Alt Conditions



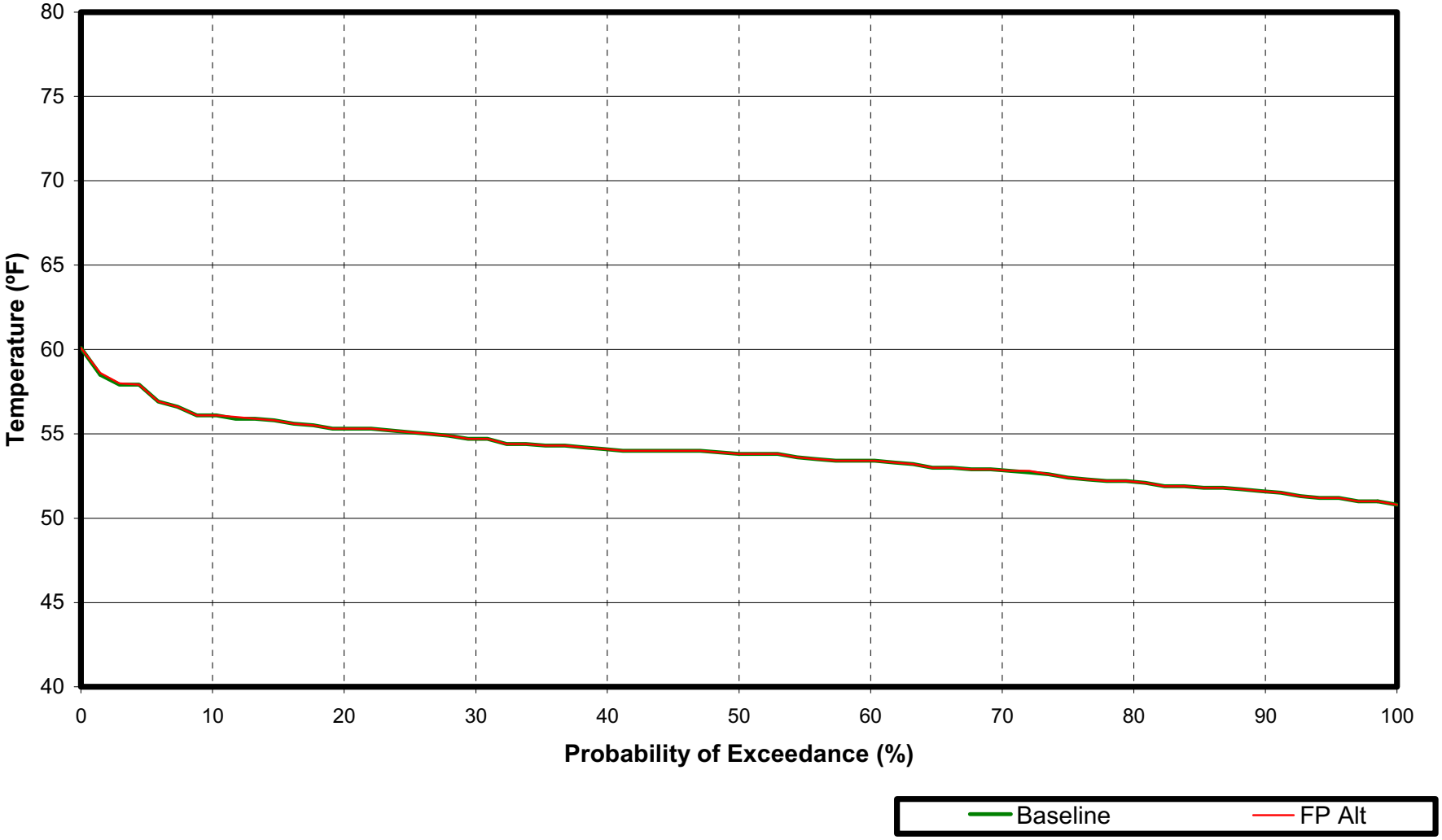
Temperature in the Sacramento River at Freeport During January Under Baseline and FP Alt Conditions



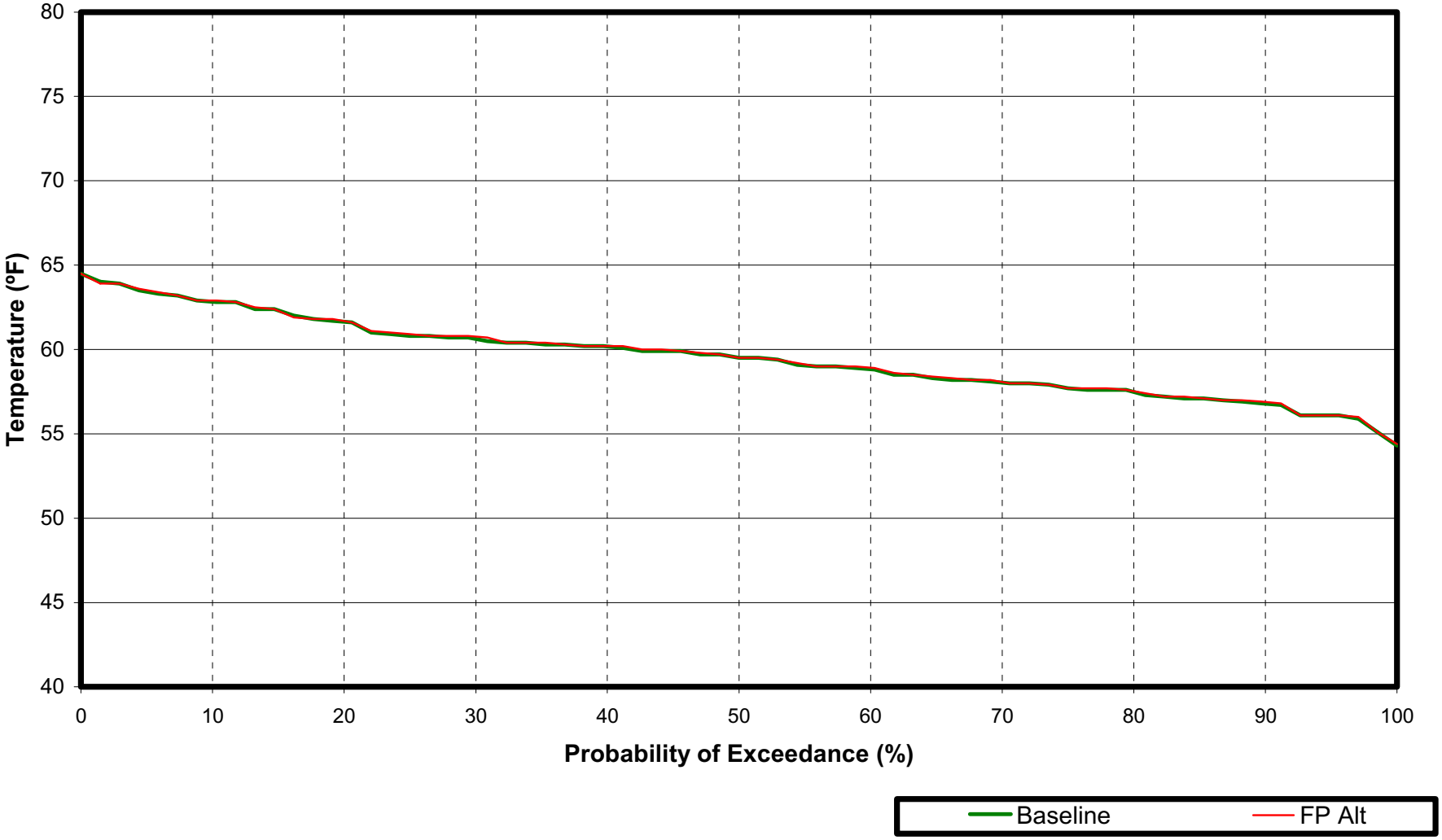
Temperature in the Sacramento River at Freeport During February Under Baseline and FP Alt Conditions



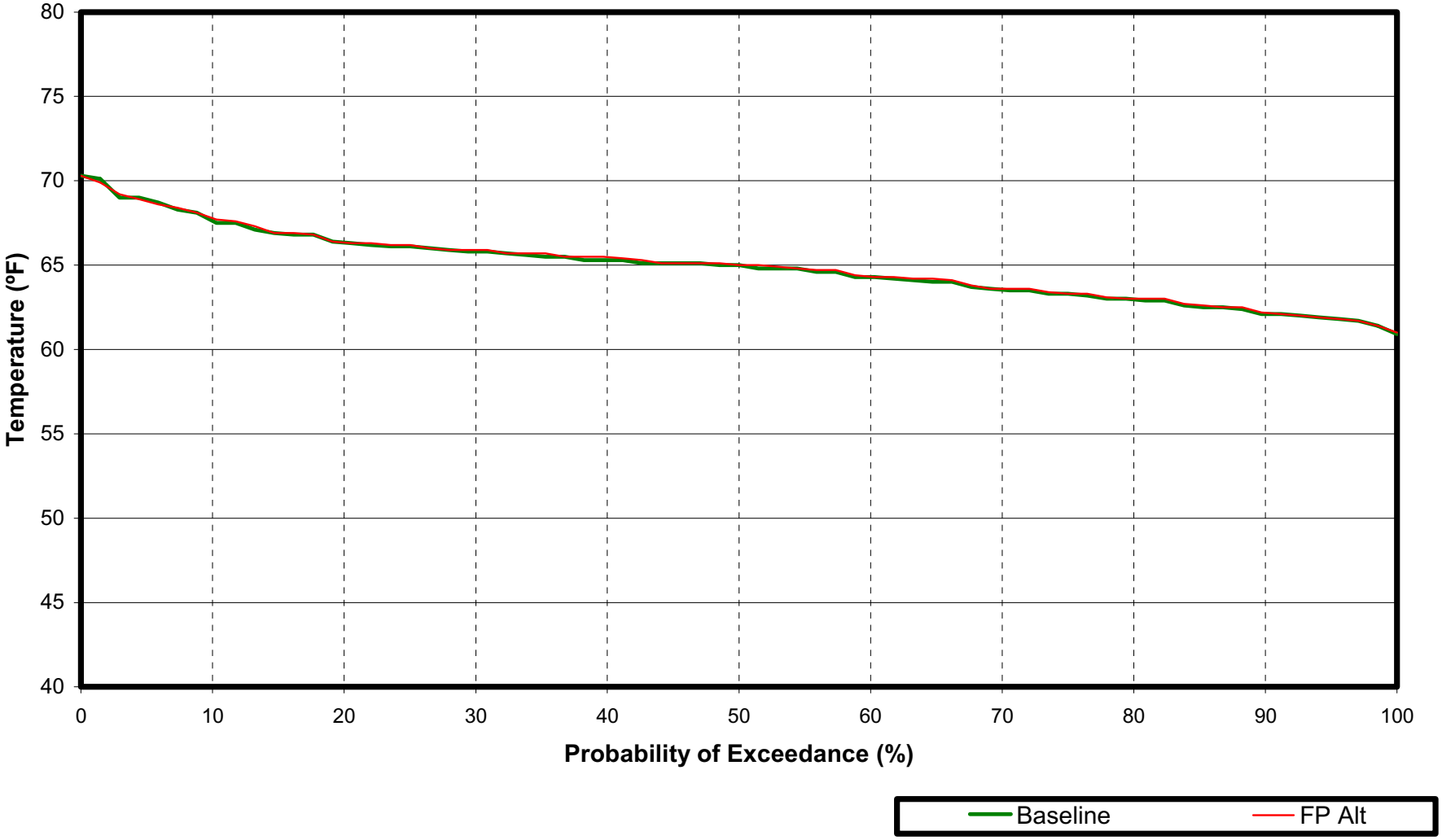
Temperature in the Sacramento River at Freeport During March Under Baseline and FP Alt Conditions



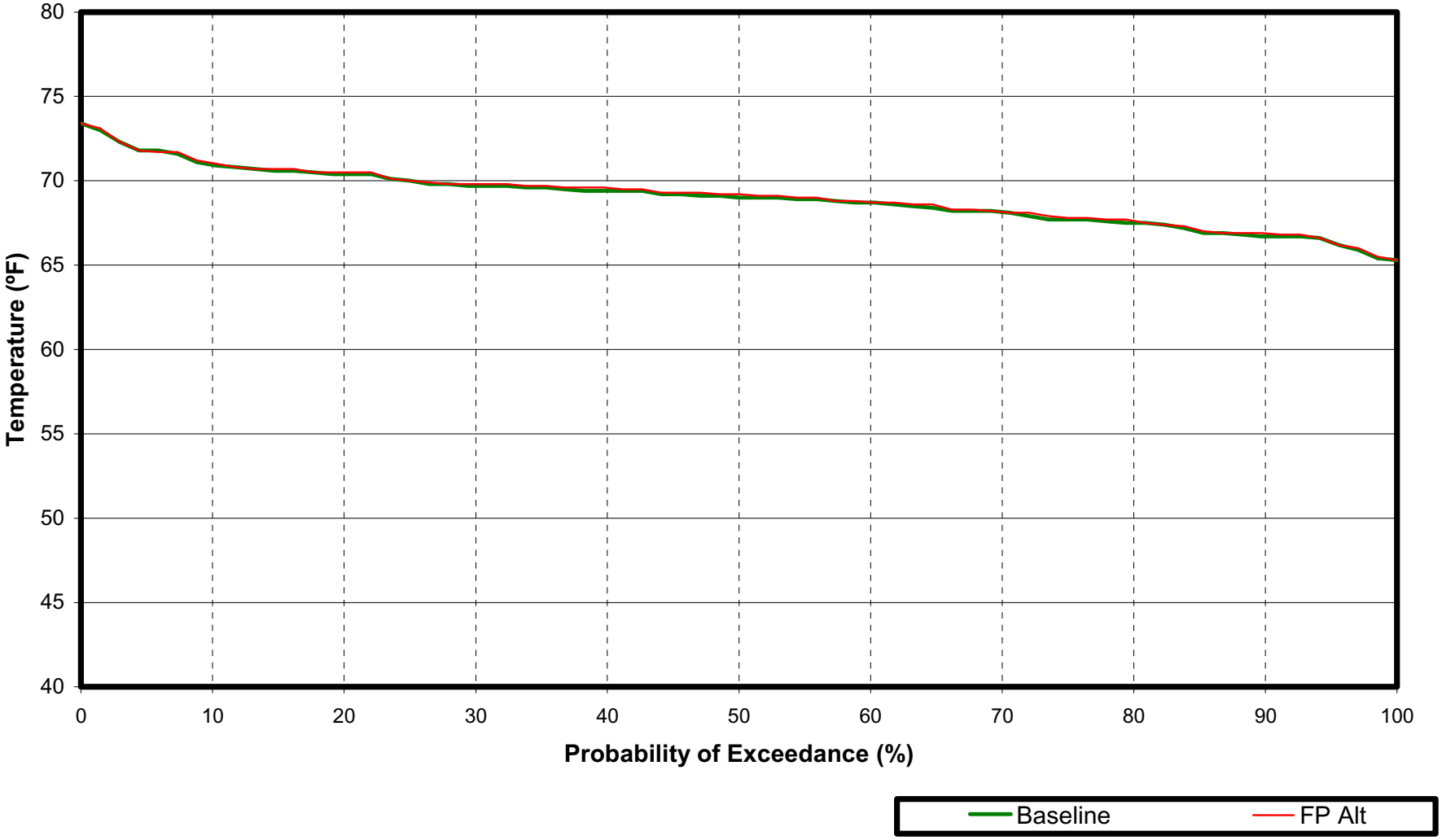
Temperature in the Sacramento River at Freeport During April Under Baseline and FP Alt Conditions



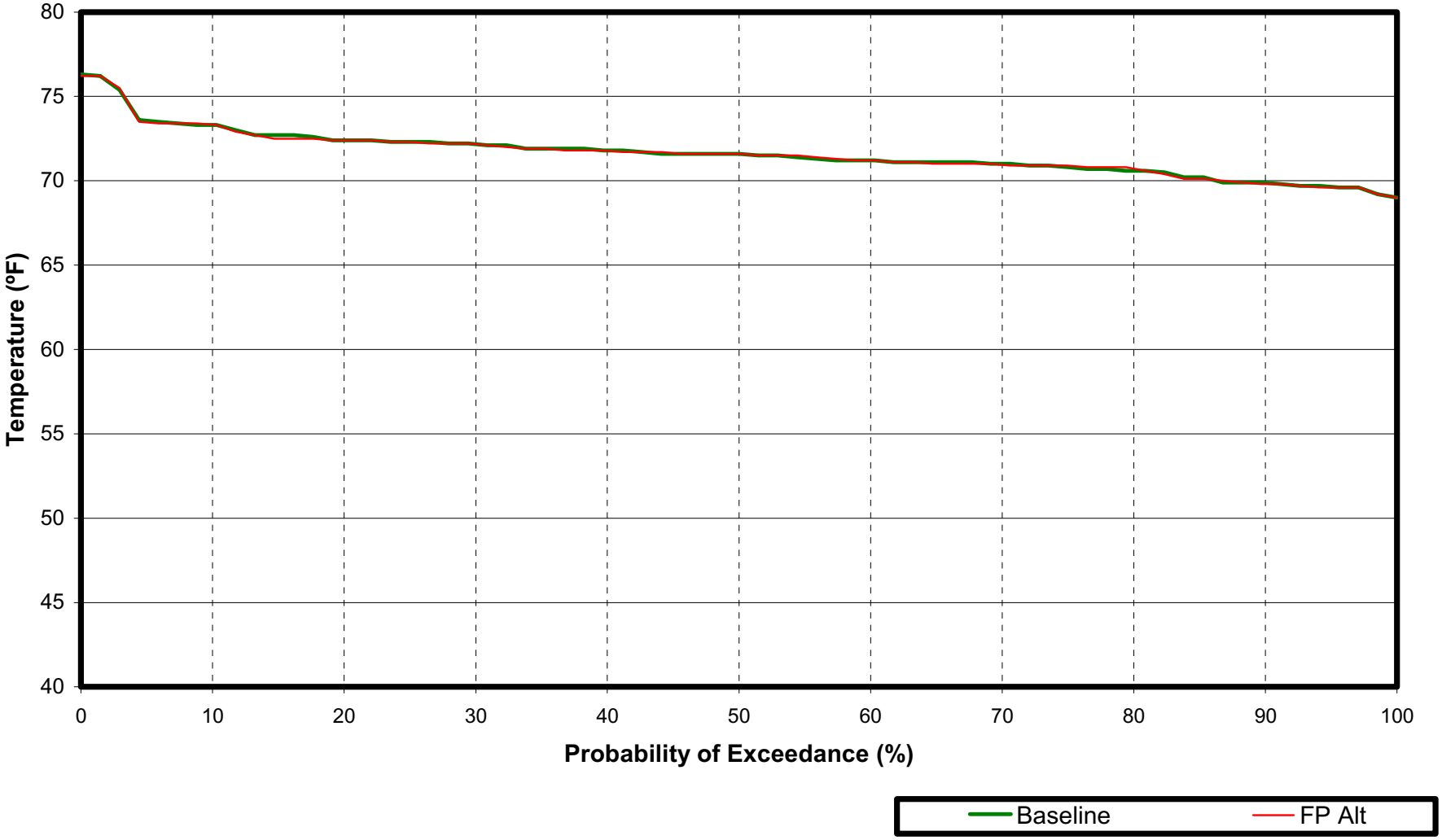
Temperature in the Sacramento River at Freeport During May Under Baseline and FP Alt Conditions



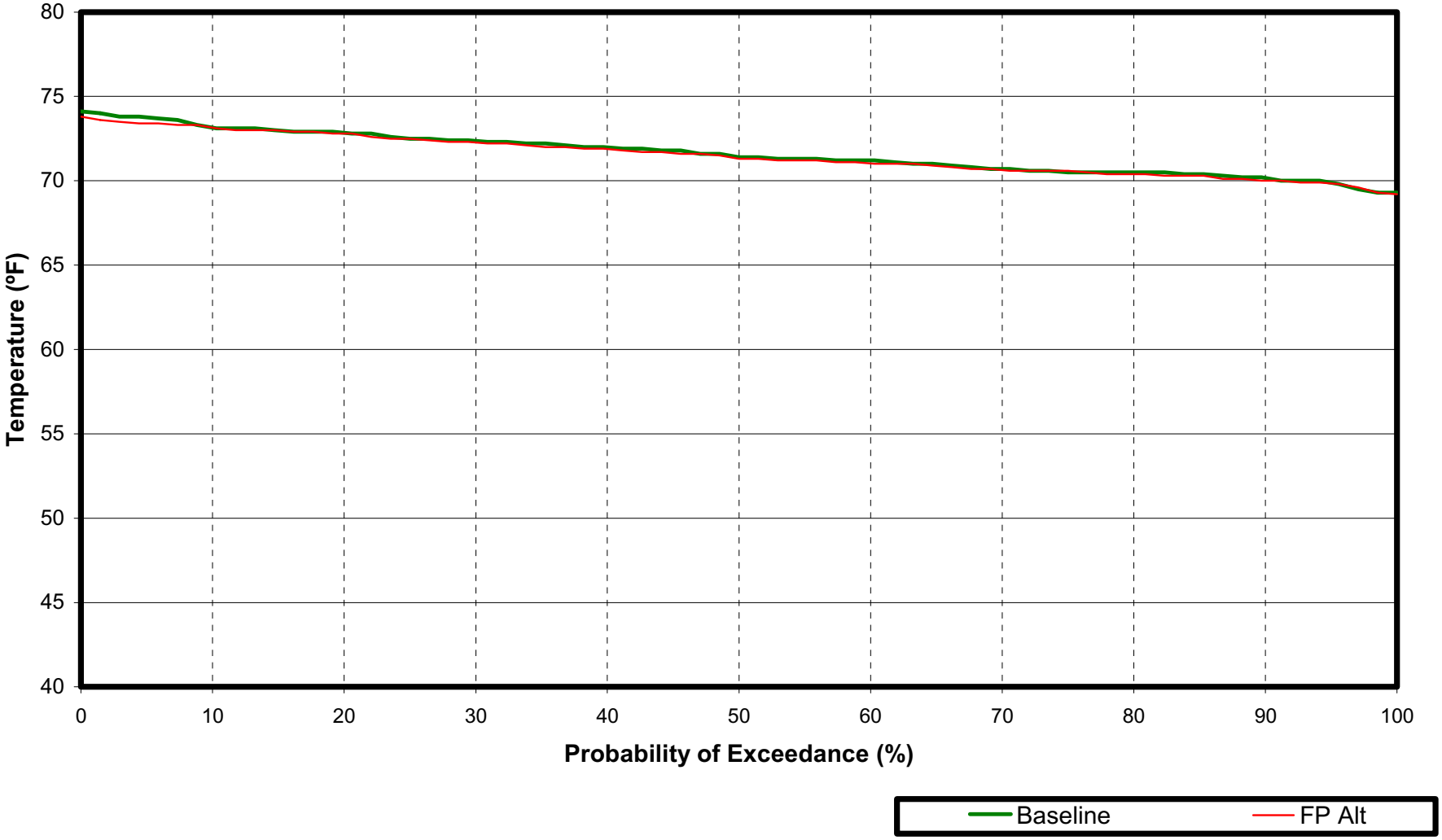
Temperature in the Sacramento River at Freeport During June Under Baseline and FP Alt Conditions



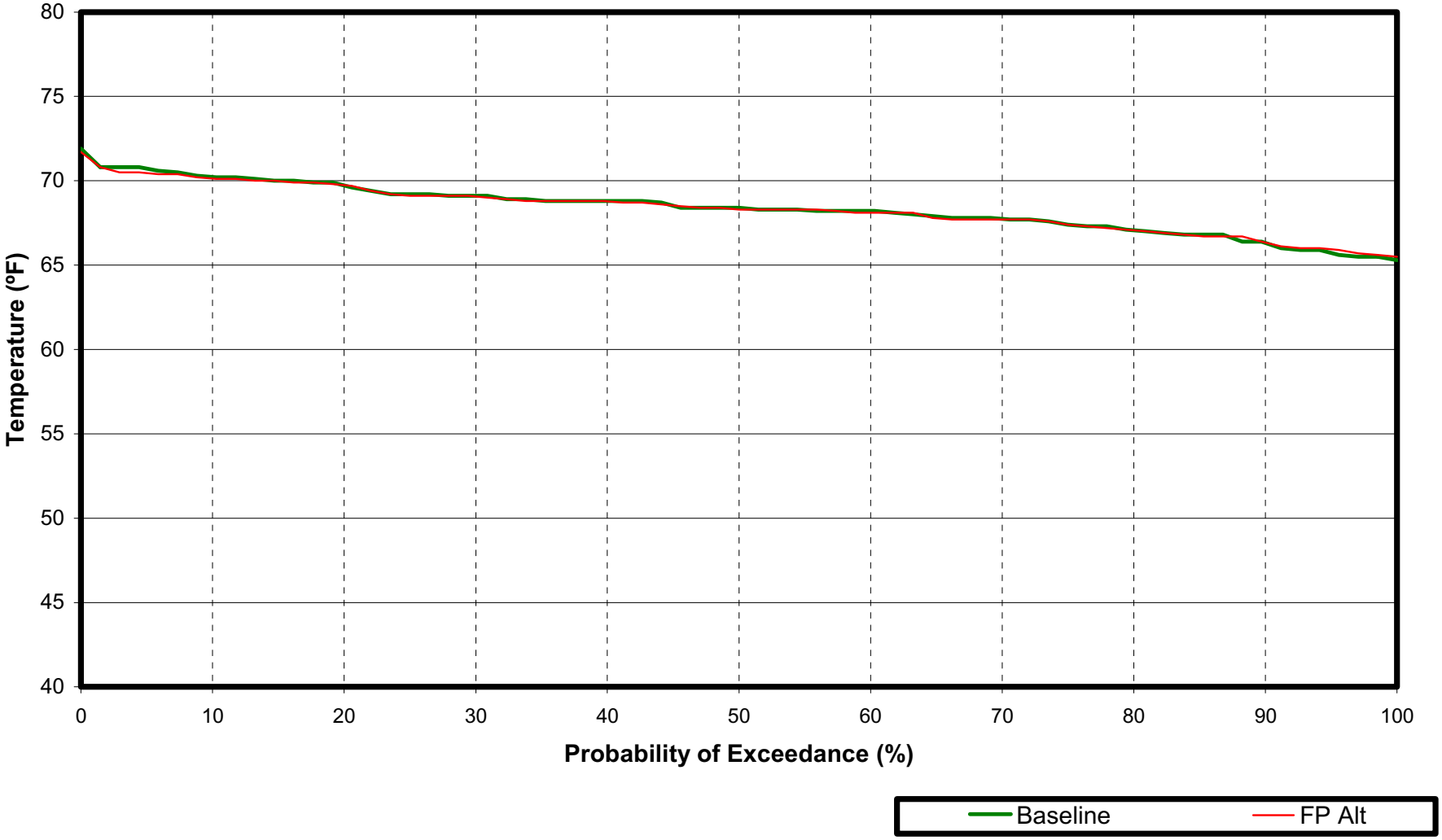
Temperature in the Sacramento River at Freeport During July Under Baseline and FP Alt Conditions



Temperature in the Sacramento River at Freeport During August Under Baseline and FP Alt Conditions



Temperature in the Sacramento River at Freeport During September Under Baseline and FP Alt Conditions

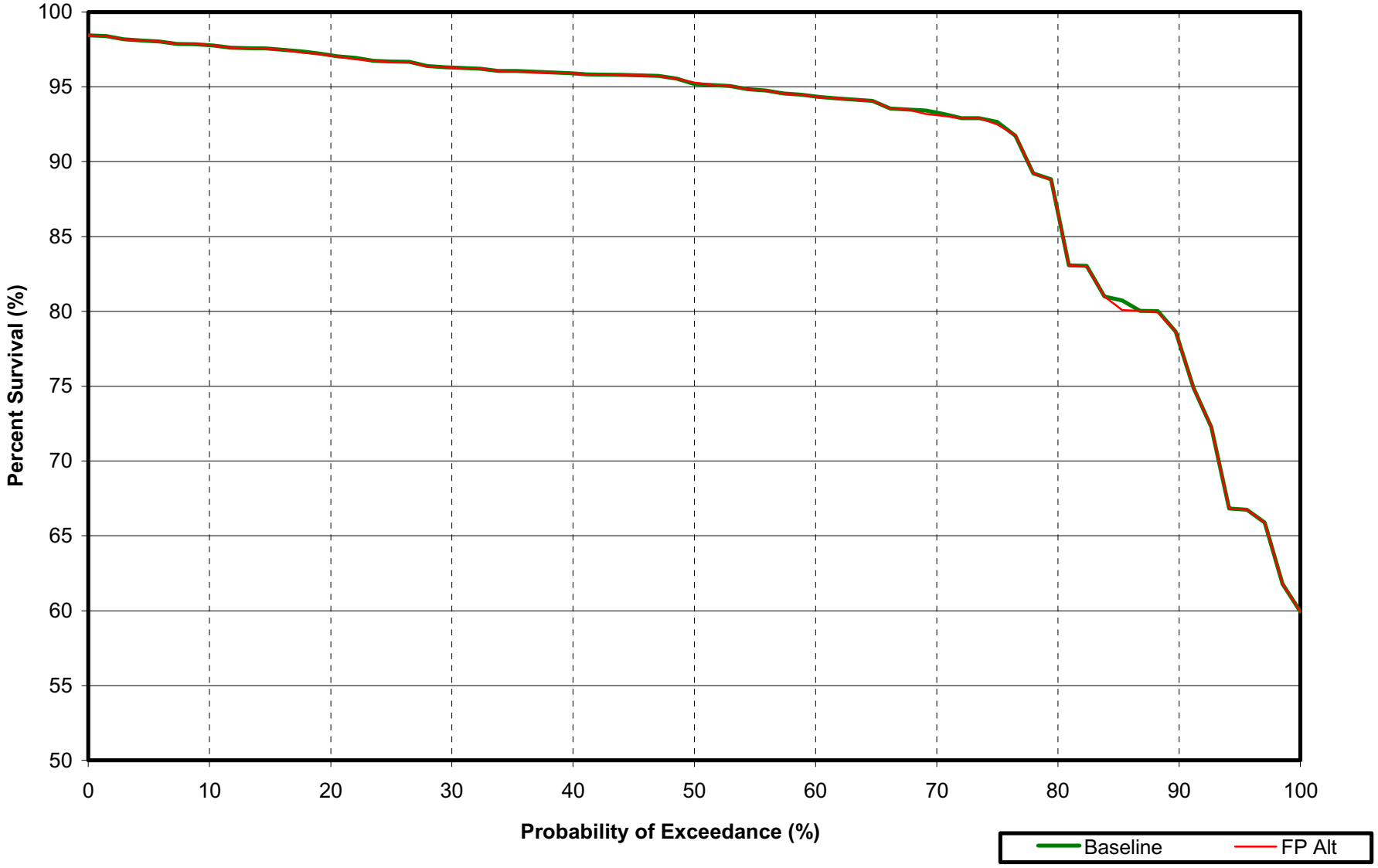


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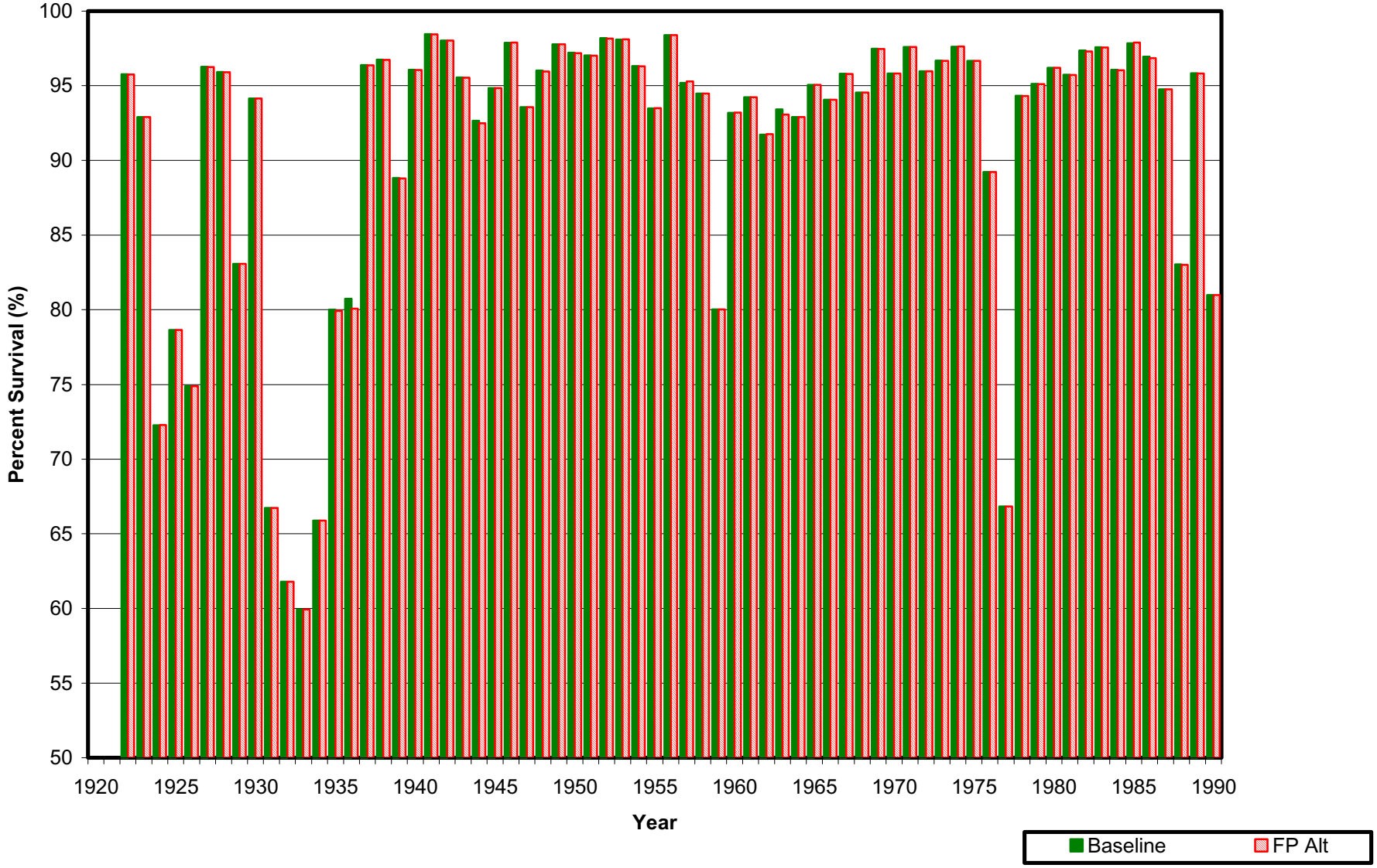
Chinook Salmon Survival (%)

Year	Sacramento River								American River	
	Fall Run		Late-Fall Run		Winter Run		Spring Run		Fall Run	
	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt	Baseline	FP Alt
1922	95.8	95.8	99.7	99.7	98.8	98.7	97.0	97.0	92.5	92.2
1923	92.9	92.9	99.0	99.0	95.8	95.8	97.6	97.6	93.1	93.1
1924	72.3	72.3	99.2	99.2	7.1	7.1	5.3	5.3	89.7	89.6
1925	78.6	78.6	99.1	99.1	98.3	98.3	78.0	78.0	90.5	90.6
1926	74.9	74.9	98.2	98.2	97.5	97.5	73.9	73.9	90.2	90.1
1927	96.3	96.2	99.9	99.9	99.2	99.2	97.5	97.4	93.3	93.3
1928	95.9	95.9	99.4	99.4	98.3	98.3	96.8	96.8	92.7	92.6
1929	83.1	83.1	97.4	97.4	99.1	99.1	95.5	95.5	93.7	93.5
1930	94.1	94.1	99.3	99.3	96.8	96.8	97.1	97.1	92.9	92.9
1931	66.7	66.7	98.6	98.6	30.1	30.1	2.0	2.0	89.0	89.1
1932	61.8	61.8	96.7	96.7	67.6	67.6	0.4	0.4	83.3	83.3
1933	59.9	59.9	96.9	96.9	70.4	70.4	0.2	0.2	87.0	86.5
1934	65.9	65.9	96.6	96.7	29.0	29.0	1.9	1.9	86.3	86.2
1935	80.0	79.9	98.3	98.3	97.5	97.5	83.4	83.3	91.3	90.8
1936	80.7	80.1	97.3	97.3	95.4	95.4	92.5	91.1	86.0	85.8
1937	96.4	96.4	99.7	99.7	98.9	98.9	96.8	96.7	93.5	93.4
1938	96.7	96.7	99.4	99.3	98.2	98.2	96.6	96.6	91.8	92.2
1939	88.8	88.8	98.5	98.5	98.2	98.2	96.4	96.4	88.3	88.0
1940	96.1	96.1	99.5	99.5	98.6	98.6	97.3	97.3	86.8	86.9
1941	98.4	98.4	99.9	99.9	99.3	99.2	98.0	98.0	93.3	93.3
1942	98.0	98.0	99.9	99.9	98.9	98.9	97.4	97.4	92.9	92.9
1943	95.5	95.5	99.7	99.7	99.1	99.1	97.4	97.4	93.2	93.2
1944	92.7	92.5	99.8	99.8	98.5	98.5	95.6	95.4	93.0	92.7
1945	94.8	94.8	99.8	99.8	99.1	99.1	97.3	97.3	92.1	92.1
1946	97.9	97.9	99.7	99.7	99.3	99.3	98.4	98.4	93.0	93.2
1947	93.6	93.6	99.2	99.2	96.0	96.0	97.6	97.6	93.9	93.8
1948	96.0	95.9	99.9	99.9	98.7	98.7	96.4	96.3	93.0	93.5
1949	97.8	97.8	99.3	99.3	98.8	98.8	98.1	98.1	93.6	93.5
1950	97.2	97.2	99.6	99.6	98.8	98.8	97.2	97.2	88.3	88.3
1951	97.0	97.0	99.7	99.7	99.1	99.1	97.6	97.6	92.1	92.0
1952	98.2	98.2	99.9	99.9	99.1	99.1	97.2	97.1	92.5	92.1
1953	98.1	98.1	100.0	100.0	99.1	99.1	97.6	97.6	91.9	92.3
1954	96.3	96.3	99.9	99.9	99.5	99.5	97.6	97.6	93.0	93.0
1955	93.5	93.5	99.6	99.6	98.5	98.5	96.1	96.1	93.5	93.7
1956	98.4	98.4	99.8	99.8	98.6	98.6	96.9	96.9	91.9	91.5
1957	95.2	95.3	99.7	99.7	98.8	98.8	97.0	97.0	90.4	90.0
1958	94.5	94.5	97.3	97.3	98.7	98.7	96.6	96.5	82.9	82.8
1959	80.0	80.0	96.7	96.7	94.7	94.7	92.7	92.7	79.1	78.1
1960	93.2	93.2	99.8	99.8	97.9	97.9	95.9	95.9	92.3	92.3
1961	94.2	94.2	99.7	99.7	99.0	99.0	96.9	96.9	92.6	92.4
1962	91.7	91.8	99.5	99.5	98.6	98.6	96.2	96.2	90.4	90.4
1963	93.4	93.1	99.4	99.4	98.4	98.4	94.5	94.0	93.8	93.8
1964	92.9	92.9	99.9	99.9	99.2	99.2	96.4	96.4	93.6	93.5
1965	95.1	95.1	99.7	99.7	96.4	96.4	97.0	97.0	93.0	93.2
1966	94.1	94.1	99.5	99.5	99.2	99.2	97.1	97.1	90.2	89.8
1967	95.8	95.8	99.8	99.8	98.9	98.9	96.4	96.4	83.6	83.6
1968	94.6	94.5	99.7	99.7	98.9	98.9	96.4	96.4	91.7	91.4
1969	97.5	97.5	99.9	99.9	99.0	98.9	96.5	96.5	92.3	92.3
1970	95.8	95.8	99.6	99.6	98.6	98.6	96.5	96.5	93.2	92.8
1971	97.6	97.6	99.9	99.9	98.7	98.7	96.1	96.1	93.5	93.5
1972	96.0	96.0	99.8	99.8	99.4	99.4	97.0	97.0	93.0	93.1
1973	96.7	96.7	99.2	99.2	98.2	98.2	96.4	96.4	91.8	93.2
1974	97.6	97.6	99.7	99.7	98.2	98.1	96.1	96.0	92.7	92.6
1975	96.7	96.7	99.8	99.8	98.7	98.7	96.8	96.7	93.9	93.8
1976	89.2	89.2	98.9	98.9	98.1	98.1	92.3	92.3	87.7	87.5
1977	66.8	66.8	98.6	98.6	43.2	43.2	2.5	2.5	82.1	81.4
1978	94.3	94.3	99.7	99.7	96.5	96.5	96.3	96.2	89.4	89.6
1979	95.1	95.1	99.6	99.6	98.9	98.9	97.1	97.1	91.9	91.8
1980	96.2	96.2	99.9	99.9	99.4	99.4	97.5	97.5	92.1	92.1
1981	95.7	95.7	99.4	99.4	98.8	98.8	96.7	96.7	84.0	85.0
1982	97.4	97.3	99.5	99.5	99.0	98.9	97.0	96.9	93.1	93.1
1983	97.6	97.5	99.9	99.9	99.5	99.5	98.4	98.4	86.6	86.9
1984	96.1	96.0	99.7	99.7	99.2	99.2	97.0	97.0	90.1	89.4
1985	97.8	97.9	99.4	99.4	99.1	99.1	98.1	98.1	93.0	92.9
1986	96.9	96.8	99.8	99.8	99.0	99.0	97.6	97.6	90.7	90.7
1987	94.8	94.8	99.8	99.8	99.2	99.2	96.0	96.0	87.8	87.6
1988	83.0	83.0	99.2	99.2	96.0	96.0	92.7	92.7	85.9	85.9
1989	95.8	95.8	99.6	99.6	99.0	99.0	97.3	97.3	91.2	91.3
1990	81.0	81.0	98.9	98.9	98.0	98.0	88.8	88.8	91.2	90.7
Avg	91.2	91.1	99.3	99.3	93.4	93.4	87.5	87.4	90.6	90.6
Min	59.9	59.9	96.6	96.7	7.1	7.1	0.2	0.2	79.1	78.1
Max	98.4	98.4	100.0	100.0	99.5	99.5	98.4	98.4	93.9	93.8

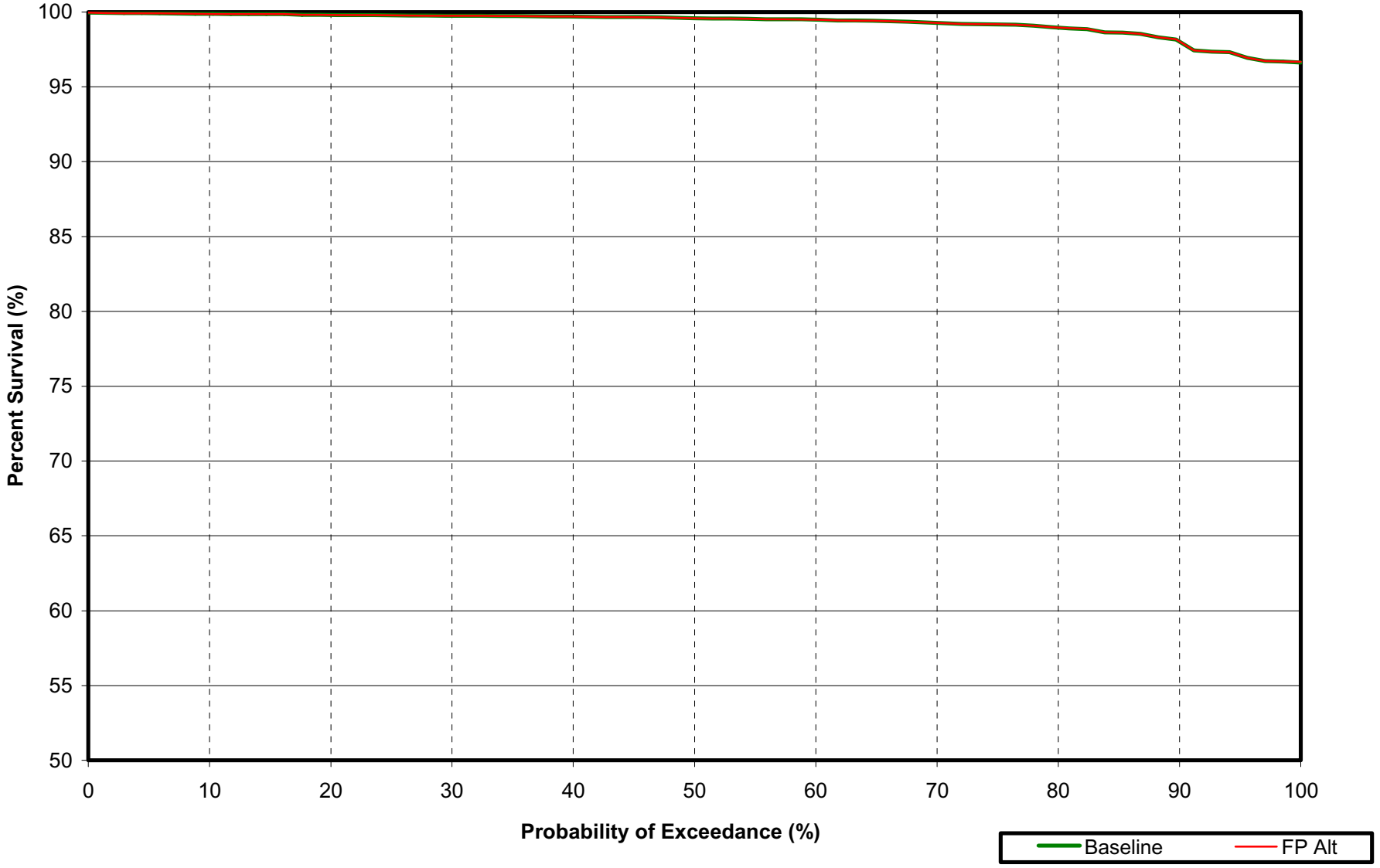
Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Fall Run



Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Fall Run



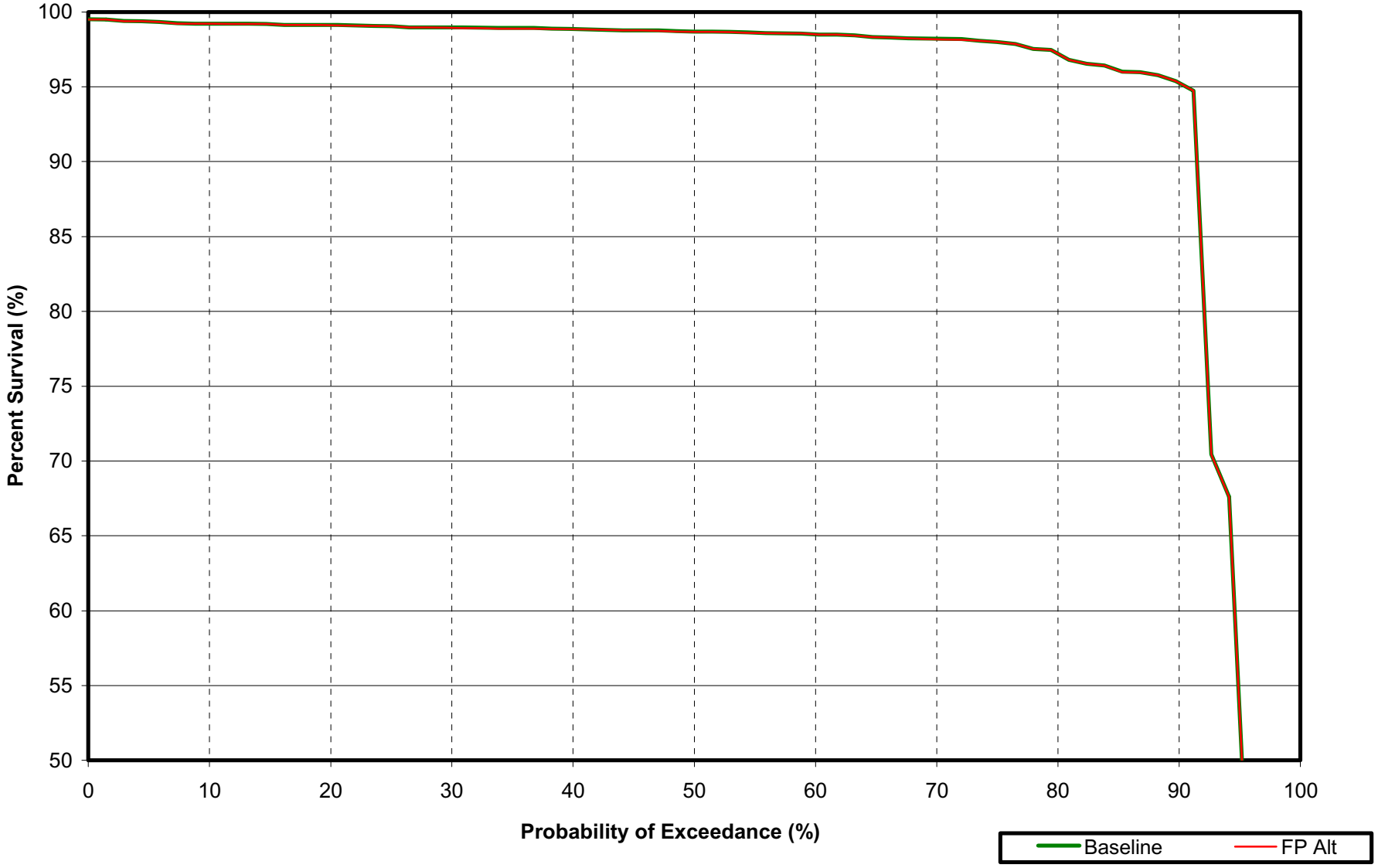
Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Late Fall Run



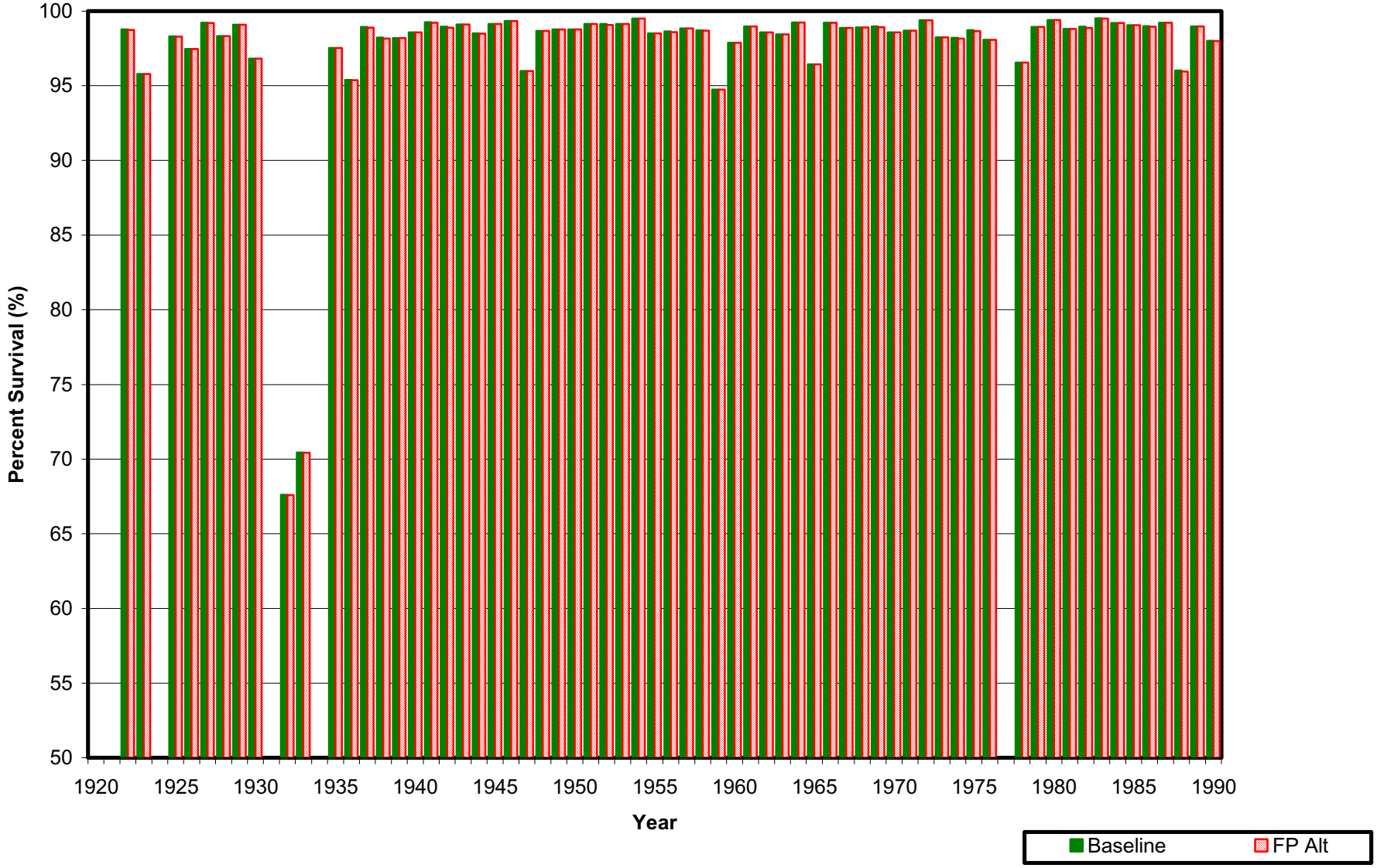
Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Late Fall Run



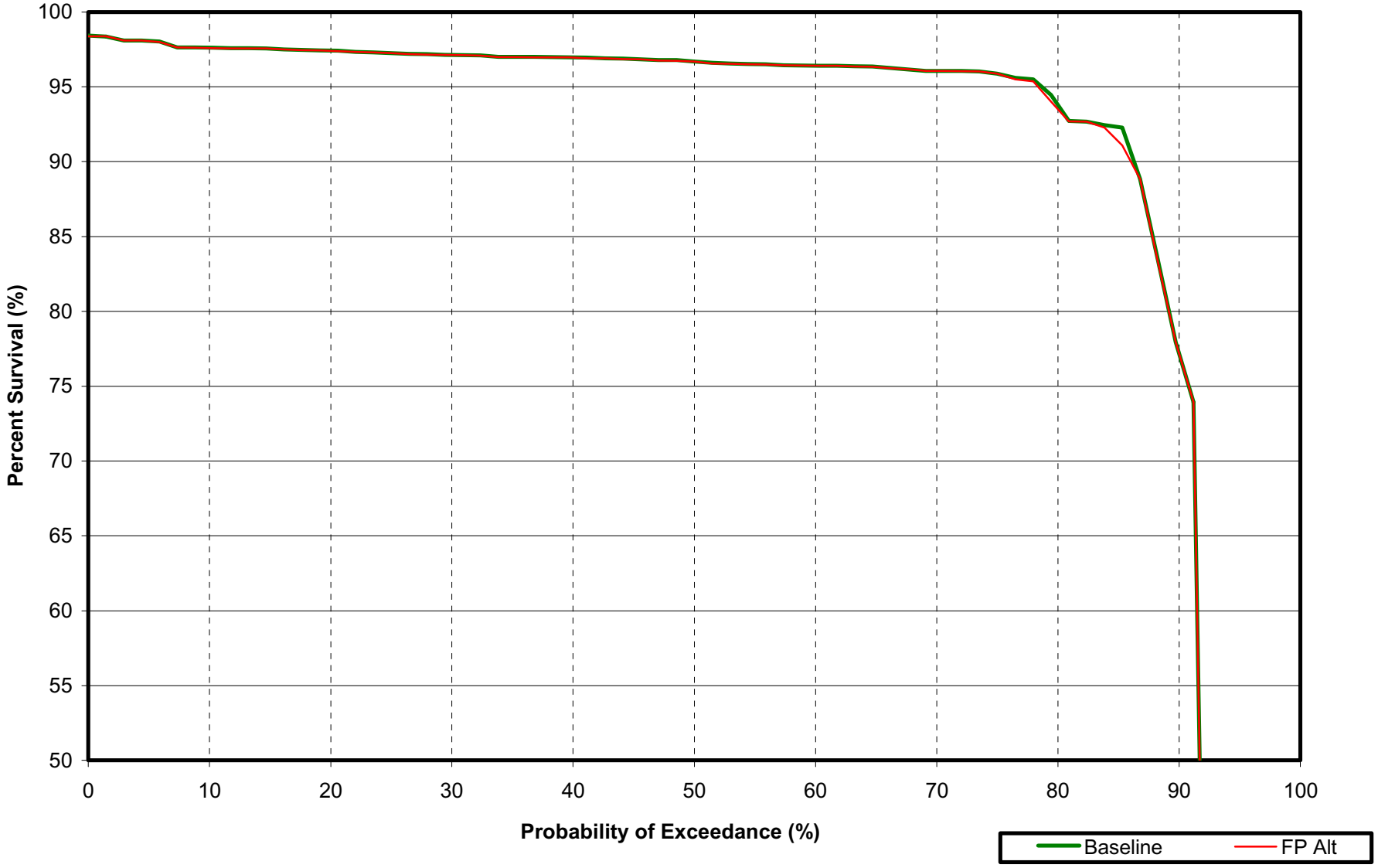
Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Winter Run



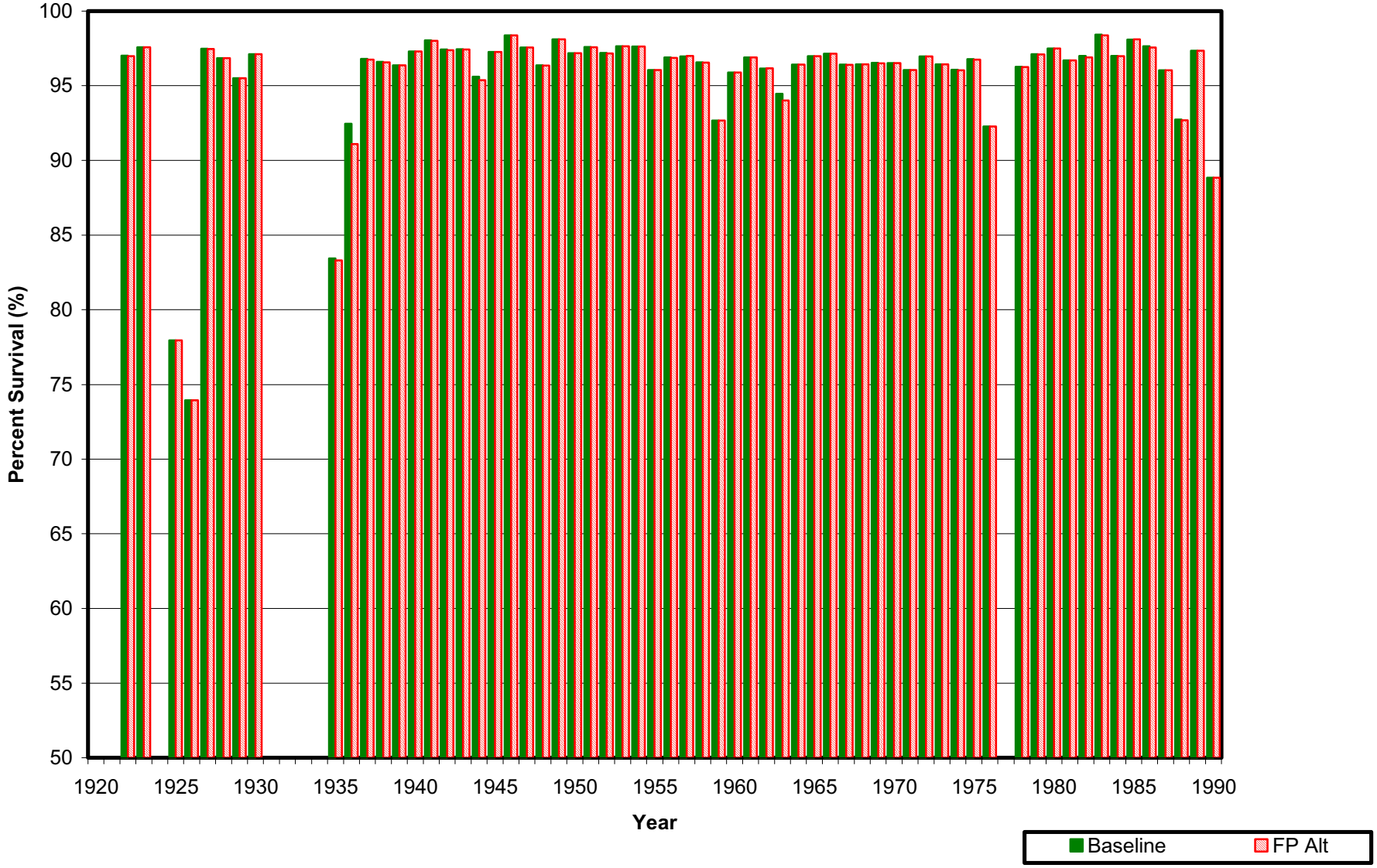
Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Winter Run



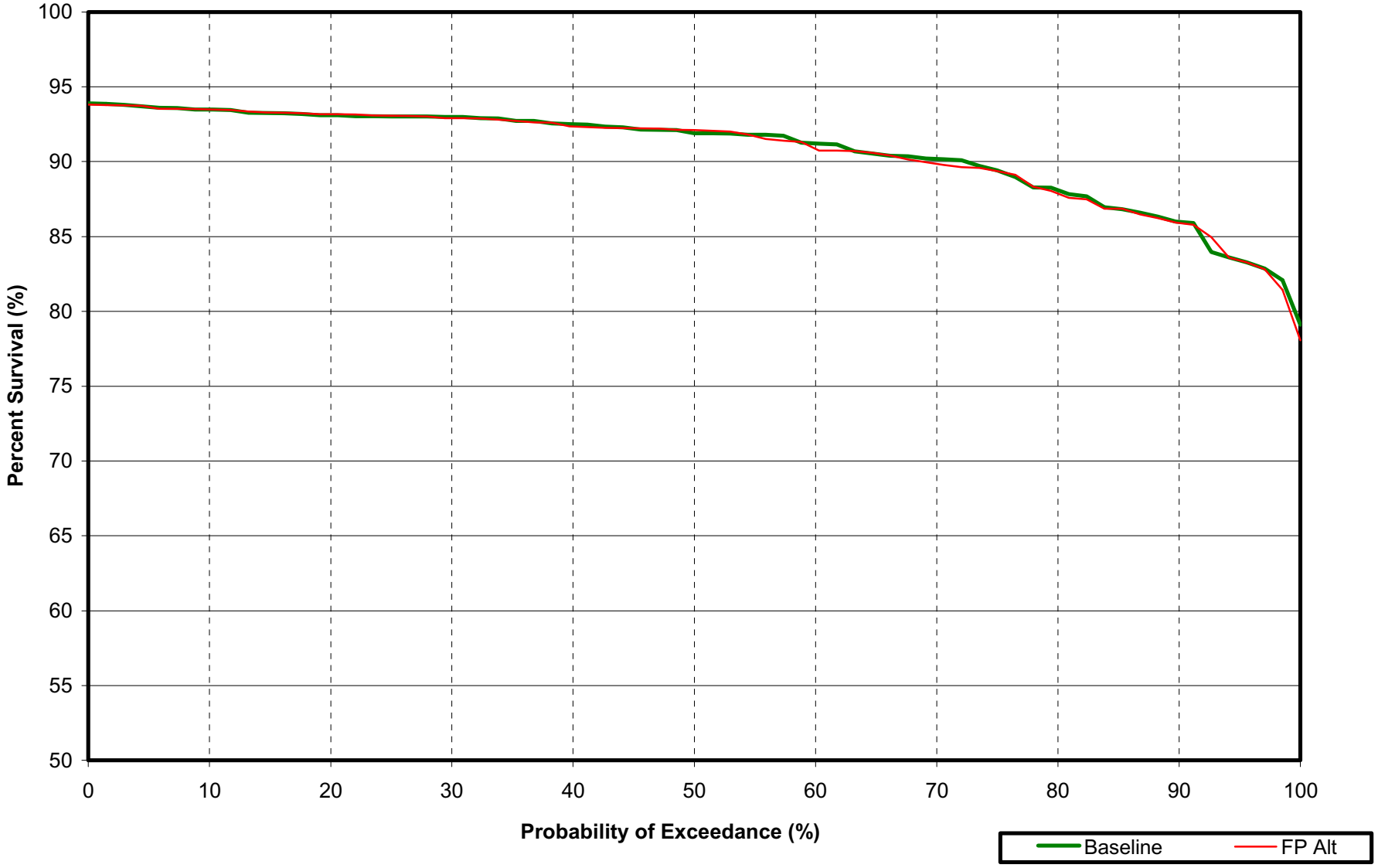
Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Spring Run



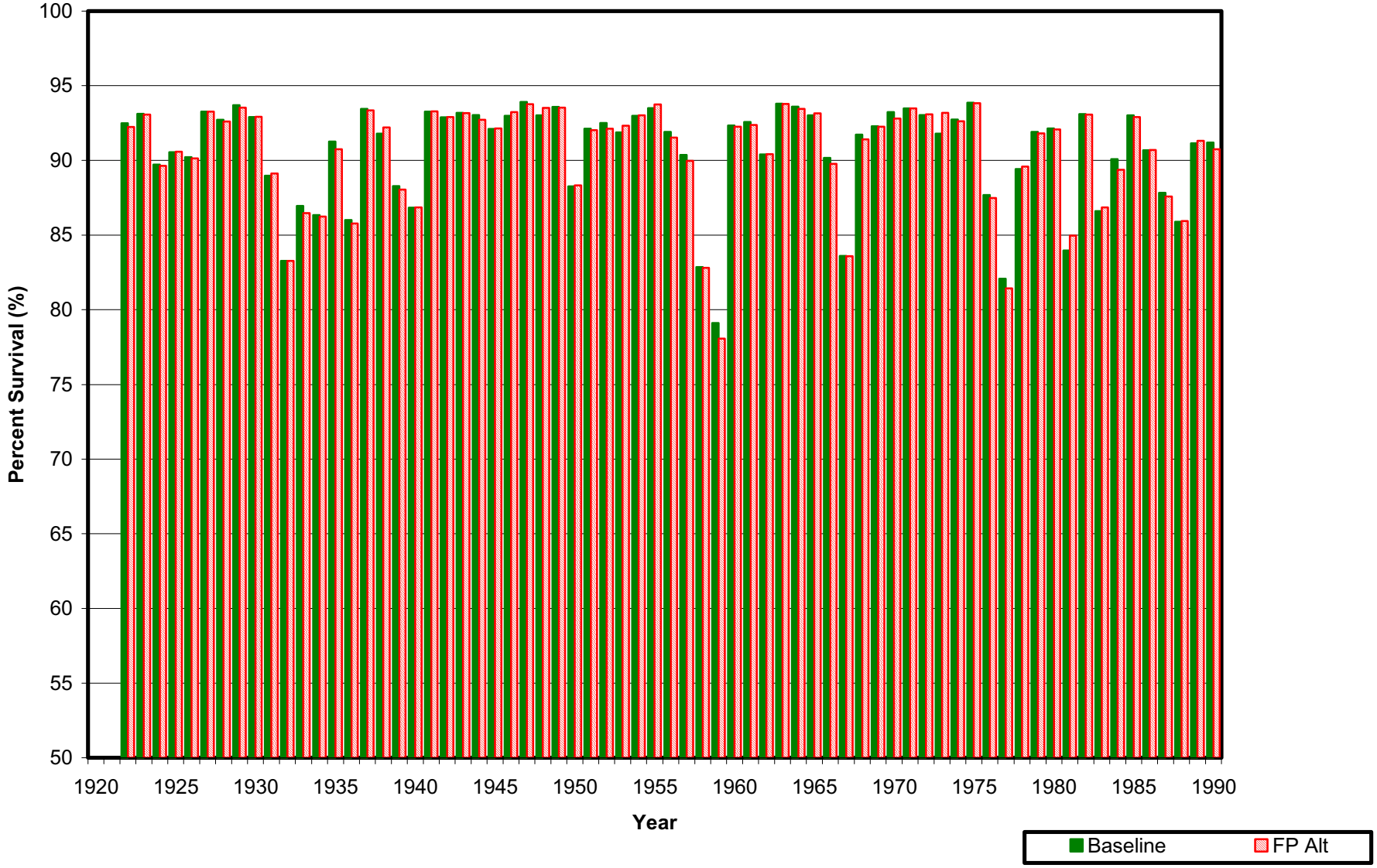
Sacramento River Salmon Survival Under Baseline and FP Alt Conditions - Spring Run



American River Salmon Survival Under Baseline and FP Alt Conditions - Fall Run



American River Salmon Survival Under Baseline and FP Alt Conditions - Fall Run



Long-term Average Folsom Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Apr	703	703	0	0.0
May	815	815	0	0.0
Jun	769	769	0	0.0
Jul	626	622	-4	-0.6
Aug	568	565	-3	-0.5
Sep	488	488	0	0.0
Oct	469	469	0	0.0
Nov	451	451	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Shasta Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Apr	3793	3793	0	0.0
May	3780	3780	0	0.0
Jun	3495	3495	0	0.0
Jul	3018	2999	-19	-0.6
Aug	2655	2645	-10	-0.4
Sep	2511	2510	-1	0.0
Oct	2432	2432	0	0.0
Nov	2509	2509	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Trinity Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Apr	1830	1830	0	0.0
May	1818	1818	0	0.0
Jun	1768	1768	0	0.0
Jul	1632	1632	0	0.0
Aug	1502	1502	0	0.0
Sep	1376	1376	0	0.0
Oct	1336	1336	0	0.0
Nov	1353	1353	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average French Meadows Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Apr	0	0	0	#DIV/0!
May	0	0	0	#DIV/0!
Jun	0	0	0	#DIV/0!
Jul	0	0	0	#DIV/0!
Aug	0	0	0	#DIV/0!
Sep	0	0	0	#DIV/0!
Oct	0	0	0	#DIV/0!
Nov	0	0	0	#DIV/0!

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Hell Hole Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Apr	0	0	0	#DIV/0!
May	0	0	0	#DIV/0!
Jun	0	0	0	#DIV/0!
Jul	0	0	0	#DIV/0!
Aug	0	0	0	#DIV/0!
Sep	0	0	0	#DIV/0!
Oct	0	0	0	#DIV/0!
Nov	0	0	0	#DIV/0!

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Folsom Reservoir End of Month Elevation Under Baseline and FP Alt Conditions			
Month	**Average Elevation[1] (feet msl)**		
	Baseline	**FP Alt**	**Difference**
Mar	425	425	0
Apr	438	438	0
May	449	449	0
Jun	444	444	0
Jul	428	427	-1
Aug	421	420	-1
Sep	411	411	0
[1] Based on 72 years modeled.			

Long-term Average Surface Elevation and Number of Years with Elevation Decrease Greater than 9 feet in Folsom Reservoir Under Baseline and FP Alt Conditions					
Month	Average Reservoir Surface Elevation[1] (feet msl)			No. Years[1] w/Monthly Elevation Decrease During Month > 9 ft	
	Baseline	FP Alt	Difference	Baseline	FP Alt
Mar	425	425	0	2	2
Apr	438	438	0	1	1
May	449	449	0	2	2
Jun	444	444	0	20	20
Jul	428	427	-1	64	64
[1] Based on 72 years modeled.					

Long-term Average Shasta Reservoir End of Month Elevation Under Baseline and FP Alt Conditions			
Month	**Average Elevation[1] (feet msl)**		
	Baseline	**FP Alt**	**Difference**
Mar	1027	1027	0
Apr	1037	1037	0
May	1036	1036	0
Jun	1024	1024	0
Jul	1001	1001	0
Aug	984	983	-1
Sep	977	977	0
[1] Based on 72 years modeled.			

Long-term Average Surface Elevation and Number of Years with Elevation Decrease Greater than 9 feet in Shasta Reservoir Under Baseline and FP Alt Conditions					
Month	Average Reservoir Surface Elevation[1] (feet msl)			No. Years[1] w/Monthly Elevation Decrease During Month > 9 ft	
	Baseline	FP Alt	Difference	Baseline	FP Alt
Mar	1027	1027	0	1	1
Apr	1037	1037	0	4	4
May	1036	1036	0	9	9
Jun	1024	1024	0	46	46
Jul	1001	1001	0	70	72
[1] Based on 72 years modeled.					

Long-term Average Trinity Reservoir End of Month Elevation Under Baseline and FP Alt Conditions			
Month	**Average Elevation[1] (feet msl)**		
	Baseline	**FP Alt**	**Difference**
Mar	2314	2314	0
Apr	2327	2327	0
May	2325	2325	0
Jun	2321	2321	0
Jul	2310	2310	0
Aug	2299	2299	0
Sep	2287	2287	0
[1] Based on 72 years modeled.			

Long-term Average Surface Elevation and Number of Years with Elevation Decrease Greater than 9 feet in Trinity Reservoir Under Baseline and FP Alt Conditions					
Month	Average Reservoir Surface Elevation[1] (feet msl)			No. Years[1] w/Monthly Elevation Decrease During Month > 9 ft	
	Baseline	FP Alt	Difference	Baseline	FP Alt
Mar	2314	2314	0	0	0
Apr	2327	2327	0	1	1
May	2325	2325	0	5	5
Jun	2321	2321	0	7	7
Jul	2310	2310	0	47	47

[1] Based on 72 years modeled.

Long-term Average French Meadows Reservoir End of Month Elevation Under Baseline and FP Alt Conditions			
Month	**Average Elevation[1] (feet msl)**		
	Baseline	**FP Alt**	**Difference**
Mar	5098	5098	0
Apr	5098	5098	0
May	5098	5098	0
Jun	5098	5098	0
Jul	5098	5098	0
Aug	5098	5098	0
Sep	5098	5098	0
[1] Based on 72 years modeled.			

Long-term Average Hell Hole Reservoir End of Month Elevation Under Baseline and FP Alt Conditions			
Month	**Average Elevation[1] (feet msl)**		
	Baseline	**FP Alt**	**Difference**
Mar	4321	4321	0
Apr	4321	4321	0
May	4321	4321	0
Jun	4321	4321	0
Jul	4321	4321	0
Aug	4321	4321	0
Sep	4321	4321	0
[1] Based on 72 years modeled.			

Long-term Average Number of Acres of Folsom Reservoir Littoral Habitat Under Baseline and FP Alt Conditions				
Month	Average Amount Of Littoral Habitat[1] (acres)		Difference	
	Baseline	FP Alt	(acres)	(%)[2]
Mar	1,253	1,253	0	0.0
Apr	2,207	2,207	0	0.0
May	2,713	2,713	0	0.0
Jun	2,420	2,420	0	0.0
Jul	1,573	1,573	0	0.0
Aug	1,285	1,285	0	0.0
Sep	780	780	0	0.0
Oct	605	605	0	0.0
Nov	445	445	0	0.0
Dec	436	436	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Number of Acres of Shasta Reservoir Littoral Habitat Under Baseline and FP Alt Conditions				
Month	Average Amount Of Littoral Habitat[1] (acres)		Difference	
	Baseline	FP Alt	(acres)	(%)[2]
Mar	3,257	3,257	0	0.0
Apr	4,218	4,218	0	0.0
May	4,145	4,145	0	0.0
Jun	3,179	3,179	0	0.0
Jul	1,719	1,719	0	0.0
Aug	813	813	0	0.0
Sep	435	435	0	0.0
Oct	216	216	0	0.0
Nov	268	268	0	0.0
Dec	539	539	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Number of Acres of Trinity Reservoir Littoral Habitat Under Baseline and FP Alt Conditions				
Month	Average Amount Of Littoral Habitat[1] (acres)		Difference	
	Baseline	FP Alt	(acres)	(%)[2]
Mar	3,545	3,545	0	0.0
Apr	4,148	4,148	0	0.0
May	4,077	4,077	0	0.0
Jun	3,856	3,856	0	0.0
Jul	3,313	3,313	0	0.0
Aug	2,799	2,799	0	0.0
Sep	2,288	2,288	0	0.0
Oct	2,137	2,137	0	0.0
Nov	2,195	2,195	0	0.0
Dec	2,412	2,412	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Series of Flow Ranges Affecting Riparian Vegetation in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions

Threshold:	<1765

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,350	5,403	3,417	4,552	9,586	9,613	5,000	2,500	4,544	2,501	2,001	1,801	
FP Alt	1,350	5,403	3,417	4,552	9,586	9,613	5,150	2,513	4,544	2,501	2,001	1,801	
Change	0	0	0	0	0	0	150	13	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,597	3,106	3,000	3,454	4,665	3,095	5,000	2,733	4,558	1,878	2,567	6,261	
FP Alt	4,597	3,106	3,000	3,454	4,665	3,095	5,129	2,767	4,558	1,878	2,567	6,261	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,100	2,393	750	1,000	1,500	1,750	1,337	1,000	1,967	1,573	1,416	
FP Alt	1,200	1,100	2,393	750	1,000	1,500	1,859	1,382	1,008	1,967	1,573	1,416	
Change	0	0	0	0	0	0	109	45	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	4,657	5,000	3,000	3,759	5,000	5,000	2,885	2,500	750	800	1,000	
FP Alt	1,000	4,657	5,000	3,000	3,759	5,000	5,058	2,990	2,500	750	800	1,000	
Change	0	0	0	0	0	0	58	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,001	1,501	1,500	750	2,250	2,979	3,159	1,000	1,000	3,243	2,964	2,668	
FP Alt	2,001	1,501	1,500	750	2,250	2,979	3,254	1,059	1,008	3,243	2,964	2,668	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,652	13,471	4,624	7,865	4,876	5,568	5,000	2,660	4,591	1,500	1,200	2,566	
FP Alt	3,652	13,471	4,624	7,865	4,876	5,568	5,146	2,677	4,591	1,500	1,200	2,566	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,925	2,334	12,819	4,848	2,729	2,045	4,890	3,127	2,500	1,879	2,424	2,386	
FP Alt	1,925	2,334	12,819	4,848	2,729	2,045	5,013	3,167	2,500	1,879	2,424	2,386	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	900	882	1,829	1,000	2,894	2,648	2,250	1,171	1,500	1,256	1,300	
FP Alt	1,200	900	882	1,829	1,000	2,894	2,730	2,321	1,181	1,500	1,256	1,300	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,637	2,864	1,750	2,250	3,232	4,342	2,709	1,000	1,505	1,204	1,300	
FP Alt	1,200	1,637	2,864	1,750	2,250	3,232	4,422	2,780	1,012	1,505	1,204	1,300	
Change	0	0	0	0	0	0	80	71	12	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,019	764	750	1,023	1,000	2,529	2,420	1,753	1,028	1,887	1,510	1,359	
FP Alt	1,019	764	750	1,023	1,000	2,529	2,519	1,803	1,042	1,887	1,510	1,359	
Change	0	0	0	0	0	0	99	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	913	2,297	3,000	3,000	3,000	5,000	5,194	3,774	2,500	1,691	1,353	1,217	
FP Alt	913	2,297	3,000	3,000	3,000	5,000	5,288	3,832	2,512	1,691	1,353	1,217	
Change	0	0	0	0	0	0	94	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	3,117	2,872	2,372	1,206	2,943	3,666	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	3,117	2,964	2,442	1,206	2,943	3,666	2,700	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	1,100	1,638	3,261	1,381	2,522	1,754	1,595	1,000	1,151	1,370	1,233	
FP Alt	1,000	1,100	1,638	3,261	1,381	2,522	1,841	1,652	1,019	1,151	1,370	1,233	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	922	750	1,500	6,736	4,806	4,102	5,000	3,754	2,785	1,707	1,365	1,229	
FP Alt	922	750	1,500	6,736	4,806	4,102	5,120	3,796	2,785	1,707	1,365	1,229	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,173	13,556	4,209	5,628	4,138	5,001	5,000	2,795	3,932	2,572	2,058	1,852	
FP Alt	5,173	13,556	4,209	5,628	4,138	5,001	5,127	2,831	3,932	2,572	2,058	1,852	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,489	2,937	4,472	4,414	4,102	3,000	5,000	2,827	3,050	2,758	2,206	1,986	
FP Alt	1,489	2,937	4,472	4,414	4,102	3,000	5,137	2,853	3,050	2,758	2,206	1,986	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,867	9,816	11,086	8,033	9,751	9,091	4,261	3,820	4,410	1,750	2,028	6,744	
FP Alt	2,867	9,816	11,086	8,033	9,751	9,091	4,397	3,833	4,424	1,750	2,028	6,744	
Change	0	0	0	0	0	0	136	13	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,831	1,373	1,500	1,750	1,275	2,042	2,438	1,658	1,000	1,750	2,713	2,441	
FP Alt	1,831	1,373	1,500	1,750	1,275	2,042	2,558	1,701	1,000	1,750	2,713	2,441	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,852	10,591	10,912	6,083	3,309	3,329	5,000	2,051	2,829	1,080	1,700	1,530	
FP Alt	2,852	10,591	10,912	6,083	3,309	3,329	5,050	2,164	2,829	1,080	1,700	1,530	
Change	0	0	0	0	0	0	50	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,474	8,078	4,894	3,802	5,134	3,547	4,673	2,909	3,752	4,277	2,400	2,160	
FP Alt	5,474	8,078	4,894	3,802	5,134	3,547	4,786	2,945	3,766	4,277	2,400	2,160	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,287	10,054	3,000	5,540	6,772	7,534	5,000	2,973	4,379	1,750	2,746	5,630	
FP Alt	9,287	10,054	3,000	5,540	6,772	7,534	5,135	2,987	4,394	1,750	2,746	5,630	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,841	7,258	12,601	5,046	3,000	3,000	5,000	2,500	4,887	1,750	4,470	4,778	
FP Alt	10,841	7,258	12,601	5,046	3,000	3,000	5,143	2,520	4,887	1,750	4,470	4,778	
Change	0	0	0	0	0	0	143	20	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,431	1,970	3,000	2,250	3,182	3,410	1,777	3,356	1,972	1,578	1,420	
FP Alt	1,500	1,431	1,970	3,000	2,250	3,182	3,509	1,841	3,356	1,972	1,578	1,420	
Change	0	0	0	0	0	0	99	64	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,608	9,316	2,250	3,000	2,851	3,555	5,000	2,593	4,381	1,500	1,200	1,300	
FP Alt	1,608	9,316	2,250	3,000	2,851	3,555	5,085	2,671	4,381	1,500	1,200	1,300	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,201	3,441	3,000	3,163	3,791	4,088	5,000	2,135	4,395	2,076	2,387	8,925	
FP Alt	5,201	3,441	3,000	3,163	3,791	4,088	5,068	2,229	4,395	2,076	2,387	8,925	
Change	0	0	0	0	0	0	68	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,372	1,100	1,995	3,000	2,250	1,924	3,117	2,636	2,500	2,057	2,032	1,829	
FP Alt	1,372	1,100	1,995	3,000	2,250	1,924	3,183	2,727	2,506	2,057	2,032	1,829	
Change	0	0	0	0	0	0	66	91	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,033	1,525	2,050	3,780	5,416	4,947	2,893	3,882	750	800	1,300	
FP Alt	1,000	2,033	1,525	2,050	3,780	5,416	5,024	2,979	3,882	750	800	1,300	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,494	3,311	3,463	3,000	4,152	4,633	2,769	2,500	1,750	1,885	1,696	
FP Alt	1,500	1,494	3,311	3,463	3,000	4,152	4,738	2,825	2,502	1,750	1,885	1,696	
Change	0	0	0	0	0	0	105	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,747	5,641	3,151	4,813	4,188	4,245	5,000	2,500	4,423	1,500	1,488	1,339	
FP Alt	2,747	5,641	3,151	4,813	4,188	4,245	5,108	2,554	4,423	1,500	1,488	1,339	
Change	0	0	0	0	0	0	108	54	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,361	8,371	3,827	3,254	3,818	3,000	5,000	2,500	4,173	2,065	16,681	16,253	
FP Alt	10,361	8,371	3,827	3,254	3,818	3,000	5,124	2,538	4,173	2,065	16,681	16,253	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,069	9,639	6,228	8,829	11,546	10,697	5,000	5,000	4,110	1,894	1,864	4,494	
FP Alt	9,069	9,639	6,228	8,829	11,546	10,697	5,080	5,056	4,137	1,894	1,864	4,494	
Change	0	0	0	0	0	0	80	56	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,269	2,385	1,789	3,000	3,000	6,284	4,608	3,672	4,347	1,750	2,876	2,650	
FP Alt	7,269	2,385	1,789	3,000	3,000	6,284	4,734	3,690	4,367	1,750	2,876	2,650	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,005	2,829	4,439	4,490	3,260	3,000	3,392	2,500	2,500	1,750	2,971	2,673	
FP Alt	2,005	2,829	4,439	4,490	3,260	3,000	3,497	2,557	2,500	1,750	2,971	2,673	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,882	3,091	2,250	1,750	2,250	3,000	3,118	2,653	1,000	1,500	1,200	1,300	
FP Alt	1,882	3,091	2,250	1,750	2,250	3,000	3,202	2,723	1,010	1,500	1,200	1,300	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,591	6,360	3,000	3,000	5,565	6,102	5,000	2,767	4,337	1,624	1,483	15,971	
FP Alt	16,591	6,360	3,000	3,000	5,565	6,102	5,133	2,782	4,353	1,624	1,483	15,971	
Change	0	0	0	0	0	0	133	15	16	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,960	2,382	4,502	3,000	2,250	3,993	5,000	3,104	2,707	1,750	2,904	2,613	
FP Alt	1,960	2,382	4,502	3,000	2,250	3,993	5,117	3,150	2,707	1,750	2,904	2,613	
Change	0	0	0	0	0	0	117	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,936	10,140	6,739	10,416	10,164	7,967	3,766	4,404	4,043	1,500	1,326	2,387	
FP Alt	2,936	10,140	6,739	10,416	10,164	7,967	3,894	4,421	4,062	1,500	1,326	2,387	
Change	0	0	0	0	0	0	128	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,623	3,191	2,250	1,750	2,250	2,448	4,989	1,000	1,000	1,750	2,405	2,164	
FP Alt	1,623	3,191	2,250	1,750	2,250	2,448	5,093	1,059	1,000	1,750	2,405	2,164	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	879	4,014	3,479	2,250	3,028	2,794	2,344	1,403	750	800	1,000	
FP Alt	750	879	4,014	3,479	2,250	3,028	2,888	2,390	1,426	750	800	1,000	
Change	0	0	0	0	0	0	94	46	23	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	750	1,500	1,750	2,250	1,500	3,654	1,500	1,000	1,500	1,200	1,300	
FP Alt	1,000	750	1,500	1,750	2,250	1,500	3,777	1,540	1,000	1,500	1,200	1,300	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	1,987	3,000	3,061	3,000	3,000	5,000	2,489	3,045	750	800	1,000	
FP Alt	750	1,987	3,000	3,061	3,000	3,000	5,128	2,523	3,045	750	800	1,000	
Change	0	0	0	0	0	0	128	34	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,985	11,887	2,250	6,171	7,235	3,431	5,000	2,825	3,880	2,644	4,375	3,445	
FP Alt	3,985	11,887	2,250	6,171	7,235	3,431	5,142	2,846	3,880	2,644	4,375	3,445	
Change	0	0	0	0	0	0	142	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,069	2,480	1,860	1,750	2,250	2,617	3,450	3,005	1,200	1,750	4,080	2,700	
FP Alt	2,069	2,480	1,860	1,750	2,250	2,617	3,514	3,102	1,202	1,750	4,080	2,700	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,119	5,554	2,250	4,788	4,251	3,356	5,517	2,500	4,591	1,500	1,200	20,997	
FP Alt	13,119	5,554	2,250	4,788	4,251	3,356	5,658	2,522	4,591	1,500	1,200	20,997	
Change	0	0	0	0	0	0	141	22	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,194	1,958	3,000	1,750	2,250	2,149	3,007	1,947	1,000	2,482	1,985	1,821	
FP Alt	2,194	1,958	3,000	1,750	2,250	2,149	3,103	2,014	1,000	2,482	1,985	1,821	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,887	4,489	6,142	4,009	8,548	10,703	4,224	4,498	4,585	1,500	1,200	2,511	
FP Alt	6,887	4,489	6,142	4,009	8,548	10,703	4,275	4,552	4,645	1,500	1,200	2,511	
Change	0	0	0	0	0	0	51	54	60	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	6,147	2,250	1,750	2,250	2,353	3,531	1,618	1,312	1,750	3,428	2,700	
FP Alt	2,025	6,147	2,250	1,750	2,250	2,353	3,668	1,643	1,312	1,750	3,428	2,700	
Change	0	0	0	0	0	0	137	25	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,403	9,315	3,799	6,570	9,322	6,830	5,000	2,504	4,261	1,500	1,731	1,558	
FP Alt	15,403	9,315	3,799	6,570	9,322	6,830	5,096	2,559	4,273	1,500	1,731	1,558	

Change	0	0	0	0	0	0	96	55	12	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,102	6,318	2,417	3,000	2,250	3,000	5,000	1,725	2,754	1,750	2,916	5,654	
FP Alt	21,102	6,318	2,417	3,000	2,250	3,000	5,123	1,765	2,754	1,750	2,916	5,654	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,814	3,957	3,578	3,408	3,051	5,204	5,000	2,500	4,040	859	1,150	5,795	
FP Alt	4,814	3,957	3,578	3,408	3,051	5,204	5,056	2,551	4,098	859	1,150	5,795	
Change	0	0	0	0	0	0	56	51	58	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	3,116	4,166	1,758	2,250	5,000	4,497	2,028	1,000	1,750	3,016	2,700	
FP Alt	2,025	3,116	4,166	1,758	2,250	5,000	4,616	2,071	1,000	1,750	3,016	2,700	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,337	7,204	3,505	3,000	4,061	5,000	4,905	1,854	3,139	1,500	1,200	2,844	
FP Alt	9,337	7,204	3,505	3,000	4,061	5,000	5,039	1,884	3,139	1,500	1,200	2,844	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,740	4,589	9,385	6,278	4,944	4,406	3,742	4,242	4,485	1,504	5,965	7,367	
FP Alt	11,740	4,589	9,385	6,278	4,944	4,406	3,875	4,256	4,500	1,504	5,965	7,367	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	3,751	4,664	3,000	4,642	6,516	4,198	3,214	4,269	1,750	2,468	2,221	
FP Alt	1,666	3,751	4,664	3,000	4,642	6,516	4,330	3,228	4,286	1,750	2,468	2,221	
Change	0	0	0	0	0	0	132	14	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	1,500	1,750	1,000	1,000	1,750	3,898	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	1,500	1,898	1,014	1,000	1,750	3,898	2,700	
Change	0	0	0	0	0	0	148	14	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	318	500	1,000	750	400	500	750	800	1,300	
FP Alt	975	731	548	318	500	1,000	850	439	524	750	800	1,300	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,506	4,902	6,085	4,064	4,411	4,702	5,000	2,500	3,699	500	574	516	
FP Alt	2,506	4,902	6,085	4,064	4,411	4,702	5,135	2,513	3,714	500	574	516	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,483	3,698	3,432	3,000	3,496	5,000	4,524	1,713	3,482	2,188	1,751	1,576	
FP Alt	2,483	3,698	3,432	3,000	3,496	5,000	4,662	1,738	3,482	2,188	1,751	1,576	
Change	0	0	0	0	0	0	138	25	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,252	13,496	3,607	3,000	3,000	3,226	5,000	2,588	4,273	1,500	1,357	1,394	
FP Alt	18,252	13,496	3,607	3,000	3,000	3,226	5,135	2,603	4,286	1,500	1,357	1,394	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	1,750	2,250	1,500	3,318	1,500	1,000	1,750	3,268	2,700	
FP Alt	2,025	1,519	1,500	1,750	2,250	1,500	3,416	1,565	1,000	1,750	3,268	2,700	
Change	0	0	0	0	0	0	98	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,229	15,420	7,697	14,459	9,528	6,360	3,988	3,883	4,784	750	4,333	14,422	
FP Alt	8,229	15,420	7,697	14,459	9,528	6,360	4,121	3,898	4,799	750	4,333	14,422	
Change	0	0	0	0	0	0	133	15	15	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,652	12,469	16,480	6,594	10,629	14,668	7,978	3,392	5,273	2,136	8,058	9,229	
FP Alt	7,652	12,469	16,480	6,594	10,629	14,668	8,013	3,424	5,373	2,136	8,058	9,229	
Change	0	0	0	0	0	0	35	32	100	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,758	5,884	2,586	2,564	2,415	3,982	5,704	1,775	3,837	1,751	15,897	15,134	
FP Alt	6,758	5,884	2,586	2,564	2,415	3,982	5,813	1,829	3,837	1,751	15,897	15,134	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	3,000	2,250	3,348	2,905	2,504	1,740	1,718	3,079	2,700	
FP Alt	2,025	1,519	1,500	3,000	2,250	3,348	2,985	2,587	1,740	1,718	3,079	2,700	
Change	0	0	0	0	0	0	80	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,388	32,947	11,118	2,734	2,962	3,529	5,000	2,500	3,679	1,199	959	1,300	
FP Alt	4,388	32,947	11,118	2,734	2,962	3,529	5,139	2,512	3,691	1,199	959	1,300	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,714	1,285	964	1,750	1,716	2,191	1,836	1,000	1,000	2,020	2,539	2,285	
FP Alt	1,714	1,285	964	1,750	1,716	2,191	1,944	1,044	1,011	2,020	2,539	2,285	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,166	1,624	750	2,250	1,500	1,750	1,500	2,384	1,020	816	1,300	
FP Alt	1,000	2,166	1,624	750	2,250	1,500	1,840	1,565	2,392	1,020	816	1,300	
Change	0	0	0	0	0	0	90	65	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	640	6,957	3,827	3,899	5,000	3,794	2,896	1,465	521	500	1,000	
FP Alt	750	640	6,957	3,827	3,899	5,000	3,879	2,974	1,465	521	500	1,000	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,284	2,005	1,504	1,457	1,000	2,410	2,331	1,500	1,293	1,500	1,200	1,712	
FP Alt	1,284	2,005	1,504	1,457	1,000	2,410	2,428	1,559	1,300	1,500	1,200	1,712	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	1,872	2,250	1,995	2,951	2,209	2,500	1,252	1,002	1,300	
FP Alt	975	731	548	1,872	2,250	1,995	3,063	2,253	2,507	1,252	1,002	1,300	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	982	737	1,500	2,961	2,250	1,500	1,750	1,500	1,000	1,819	1,455	1,310	
FP Alt	982	737	1,500	2,961	2,250	1,500	1,832	1,563	1,018	1,819	1,455	1,310	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,601	6,144	7,737	4,106	5,483	5,636	5,000	2,652	4,952	500	500	500	
FP Alt	1,601	6,144	7,737	4,106	5,483	5,636	5,146	2,668	4,952	500	500	500	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Riparian Vegetation in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions

Threshold:	<2000

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,350	5,403	3,417	4,552	9,586	9,613	5,000	2,500	4,544	2,501	2,001	1,801	
FP Alt	1,350	5,403	3,417	4,552	9,586	9,613	5,150	2,513	4,544	2,501	2,001	1,801	
Change	0	0	0	0	0	0	150	13	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,597	3,106	3,000	3,454	4,665	3,095	5,000	2,733	4,558	1,878	2,567	6,261	
FP Alt	4,597	3,106	3,000	3,454	4,665	3,095	5,129	2,767	4,558	1,878	2,567	6,261	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,100	2,393	750	1,000	1,500	1,750	1,337	1,000	1,967	1,573	1,416	
FP Alt	1,200	1,100	2,393	750	1,000	1,500	1,859	1,382	1,008	1,967	1,573	1,416	
Change	0	0	0	0	0	0	109	45	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	4,657	5,000	3,000	3,759	5,000	5,000	2,885	2,500	750	800	1,000	
FP Alt	1,000	4,657	5,000	3,000	3,759	5,000	5,058	2,990	2,500	750	800	1,000	
Change	0	0	0	0	0	0	58	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,001	1,501	1,500	750	2,250	2,979	3,159	1,000	1,000	3,243	2,964	2,668	
FP Alt	2,001	1,501	1,500	750	2,250	2,979	3,254	1,059	1,008	3,243	2,964	2,668	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,652	13,471	4,624	7,865	4,876	5,568	5,000	2,660	4,591	1,500	1,200	2,566	
FP Alt	3,652	13,471	4,624	7,865	4,876	5,568	5,146	2,677	4,591	1,500	1,200	2,566	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,925	2,334	12,819	4,848	2,729	2,045	4,890	3,127	2,500	1,879	2,424	2,386	
FP Alt	1,925	2,334	12,819	4,848	2,729	2,045	5,013	3,167	2,500	1,879	2,424	2,386	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	900	882	1,829	1,000	2,894	2,648	2,250	1,171	1,500	1,256	1,300	
FP Alt	1,200	900	882	1,829	1,000	2,894	2,730	2,321	1,181	1,500	1,256	1,300	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,637	2,864	1,750	2,250	3,232	4,342	2,709	1,000	1,505	1,204	1,300	
FP Alt	1,200	1,637	2,864	1,750	2,250	3,232	4,422	2,780	1,012	1,505	1,204	1,300	
Change	0	0	0	0	0	0	80	71	12	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,019	764	750	1,023	1,000	2,529	2,420	1,753	1,028	1,887	1,510	1,359	
FP Alt	1,019	764	750	1,023	1,000	2,529	2,519	1,803	1,042	1,887	1,510	1,359	
Change	0	0	0	0	0	0	99	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	913	2,297	3,000	3,000	3,000	5,000	5,194	3,774	2,500	1,691	1,353	1,217	
FP Alt	913	2,297	3,000	3,000	3,000	5,000	5,288	3,832	2,512	1,691	1,353	1,217	
Change	0	0	0	0	0	0	94	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	3,117	2,872	2,372	1,206	2,943	3,666	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	3,117	2,964	2,442	1,206	2,943	3,666	2,700	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	1,100	1,638	3,261	1,381	2,522	1,754	1,595	1,000	1,151	1,370	1,233	
FP Alt	1,000	1,100	1,638	3,261	1,381	2,522	1,841	1,652	1,019	1,151	1,370	1,233	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	922	750	1,500	6,736	4,806	4,102	5,000	3,754	2,785	1,707	1,365	1,229	
FP Alt	922	750	1,500	6,736	4,806	4,102	5,120	3,796	2,785	1,707	1,365	1,229	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,173	13,556	4,209	5,628	4,138	5,001	5,000	2,795	3,932	2,572	2,058	1,852	
FP Alt	5,173	13,556	4,209	5,628	4,138	5,001	5,127	2,831	3,932	2,572	2,058	1,852	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,489	2,937	4,472	4,414	4,102	3,000	5,000	2,827	3,050	2,758	2,206	1,986	
FP Alt	1,489	2,937	4,472	4,414	4,102	3,000	5,137	2,853	3,050	2,758	2,206	1,986	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,867	9,816	11,086	8,033	9,751	9,091	4,261	3,820	4,410	1,750	2,028	6,744	
FP Alt	2,867	9,816	11,086	8,033	9,751	9,091	4,397	3,833	4,424	1,750	2,028	6,744	
Change	0	0	0	0	0	0	136	13	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,831	1,373	1,500	1,750	1,275	2,042	2,438	1,658	1,000	1,750	2,713	2,441	
FP Alt	1,831	1,373	1,500	1,750	1,275	2,042	2,558	1,701	1,000	1,750	2,713	2,441	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,852	10,591	10,912	6,083	3,309	3,329	5,000	2,051	2,829	1,080	1,700	1,530	
FP Alt	2,852	10,591	10,912	6,083	3,309	3,329	5,050	2,164	2,829	1,080	1,700	1,530	
Change	0	0	0	0	0	0	50	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,474	8,078	4,894	3,802	5,134	3,547	4,673	2,909	3,752	4,277	2,400	2,160	
FP Alt	5,474	8,078	4,894	3,802	5,134	3,547	4,786	2,945	3,766	4,277	2,400	2,160	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,287	10,054	3,000	5,540	6,772	7,534	5,000	2,973	4,379	1,750	2,746	5,630	
FP Alt	9,287	10,054	3,000	5,540	6,772	7,534	5,135	2,987	4,394	1,750	2,746	5,630	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,841	7,258	12,601	5,046	3,000	3,000	5,000	2,500	4,887	1,750	4,470	4,778	
FP Alt	10,841	7,258	12,601	5,046	3,000	3,000	5,143	2,520	4,887	1,750	4,470	4,778	
Change	0	0	0	0	0	0	143	20	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,431	1,970	3,000	2,250	3,182	3,410	1,777	3,356	1,972	1,578	1,420	
FP Alt	1,500	1,431	1,970	3,000	2,250	3,182	3,509	1,841	3,356	1,972	1,578	1,420	
Change	0	0	0	0	0	0	99	64	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,608	9,316	2,250	3,000	2,851	3,555	5,000	2,593	4,381	1,500	1,200	1,300	
FP Alt	1,608	9,316	2,250	3,000	2,851	3,555	5,085	2,671	4,381	1,500	1,200	1,300	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,201	3,441	3,000	3,163	3,791	4,088	5,000	2,135	4,395	2,076	2,387	8,925	
FP Alt	5,201	3,441	3,000	3,163	3,791	4,088	5,068	2,229	4,395	2,076	2,387	8,925	
Change	0	0	0	0	0	0	68	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,372	1,100	1,995	3,000	2,250	1,924	3,117	2,636	2,500	2,057	2,032	1,829	
FP Alt	1,372	1,100	1,995	3,000	2,250	1,924	3,183	2,727	2,506	2,057	2,032	1,829	
Change	0	0	0	0	0	0	66	91	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,033	1,525	2,050	3,780	5,416	4,947	2,893	3,882	750	800	1,300	
FP Alt	1,000	2,033	1,525	2,050	3,780	5,416	5,024	2,979	3,882	750	800	1,300	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,494	3,311	3,463	3,000	4,152	4,633	2,769	2,500	1,750	1,885	1,696	
FP Alt	1,500	1,494	3,311	3,463	3,000	4,152	4,738	2,825	2,502	1,750	1,885	1,696	
Change	0	0	0	0	0	0	105	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,747	5,641	3,151	4,813	4,188	4,245	5,000	2,500	4,423	1,500	1,488	1,339	
FP Alt	2,747	5,641	3,151	4,813	4,188	4,245	5,108	2,554	4,423	1,500	1,488	1,339	
Change	0	0	0	0	0	0	108	54	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,361	8,371	3,827	3,254	3,818	3,000	5,000	2,500	4,173	2,065	16,681	16,253	
FP Alt	10,361	8,371	3,827	3,254	3,818	3,000	5,124	2,538	4,173	2,065	16,681	16,253	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,069	9,639	6,228	8,829	11,546	10,697	5,000	5,000	4,110	1,894	1,864	4,494	
FP Alt	9,069	9,639	6,228	8,829	11,546	10,697	5,080	5,056	4,137	1,894	1,864	4,494	
Change	0	0	0	0	0	0	80	56	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,269	2,385	1,789	3,000	3,000	6,284	4,608	3,672	4,347	1,750	2,876	2,650	
FP Alt	7,269	2,385	1,789	3,000	3,000	6,284	4,734	3,690	4,367	1,750	2,876	2,650	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,005	2,829	4,439	4,490	3,260	3,000	3,392	2,500	2,500	1,750	2,971	2,673	
FP Alt	2,005	2,829	4,439	4,490	3,260	3,000	3,497	2,557	2,500	1,750	2,971	2,673	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,882	3,091	2,250	1,750	2,250	3,000	3,118	2,653	1,000	1,500	1,200	1,300	
FP Alt	1,882	3,091	2,250	1,750	2,250	3,000	3,202	2,723	1,010	1,500	1,200	1,300	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,591	6,360	3,000	3,000	5,565	6,102	5,000	2,767	4,337	1,624	1,483	15,971	
FP Alt	16,591	6,360	3,000	3,000	5,565	6,102	5,133	2,782	4,353	1,624	1,483	15,971	
Change	0	0	0	0	0	0	133	15	16	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,960	2,382	4,502	3,000	2,250	3,993	5,000	3,104	2,707	1,750	2,904	2,613	
FP Alt	1,960	2,382	4,502	3,000	2,250	3,993	5,117	3,150	2,707	1,750	2,904	2,613	
Change	0	0	0	0	0	0	117	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,936	10,140	6,739	10,416	10,164	7,967	3,766	4,404	4,043	1,500	1,326	2,387	
FP Alt	2,936	10,140	6,739	10,416	10,164	7,967	3,894	4,421	4,062	1,500	1,326	2,387	
Change	0	0	0	0	0	0	128	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,623	3,191	2,250	1,750	2,250	2,448	4,989	1,000	1,000	1,750	2,405	2,164	
FP Alt	1,623	3,191	2,250	1,750	2,250	2,448	5,093	1,059	1,000	1,750	2,405	2,164	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	879	4,014	3,479	2,250	3,028	2,794	2,344	1,403	750	800	1,000	
FP Alt	750	879	4,014	3,479	2,250	3,028	2,888	2,390	1,426	750	800	1,000	
Change	0	0	0	0	0	0	94	46	23	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	750	1,500	1,750	2,250	1,500	3,654	1,500	1,000	1,500	1,200	1,300	
FP Alt	1,000	750	1,500	1,750	2,250	1,500	3,777	1,540	1,000	1,500	1,200	1,300	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	1,987	3,000	3,061	3,000	3,000	5,000	2,489	3,045	750	800	1,000	
FP Alt	750	1,987	3,000	3,061	3,000	3,000	5,128	2,523	3,045	750	800	1,000	
Change	0	0	0	0	0	0	128	34	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,985	11,887	2,250	6,171	7,235	3,431	5,000	2,825	3,880	2,644	4,375	3,445	
FP Alt	3,985	11,887	2,250	6,171	7,235	3,431	5,142	2,846	3,880	2,644	4,375	3,445	
Change	0	0	0	0	0	0	142	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,069	2,480	1,860	1,750	2,250	2,617	3,450	3,005	1,200	1,750	4,080	2,700	
FP Alt	2,069	2,480	1,860	1,750	2,250	2,617	3,514	3,102	1,202	1,750	4,080	2,700	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,119	5,554	2,250	4,788	4,251	3,356	5,517	2,500	4,591	1,500	1,200	20,997	
FP Alt	13,119	5,554	2,250	4,788	4,251	3,356	5,658	2,522	4,591	1,500	1,200	20,997	
Change	0	0	0	0	0	0	141	22	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,194	1,958	3,000	1,750	2,250	2,149	3,007	1,947	1,000	2,482	1,985	1,821	
FP Alt	2,194	1,958	3,000	1,750	2,250	2,149	3,103	2,014	1,000	2,482	1,985	1,821	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,887	4,489	6,142	4,009	8,548	10,703	4,224	4,498	4,585	1,500	1,200	2,511	
FP Alt	6,887	4,489	6,142	4,009	8,548	10,703	4,275	4,552	4,645	1,500	1,200	2,511	
Change	0	0	0	0	0	0	51	54	60	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	6,147	2,250	1,750	2,250	2,353	3,531	1,618	1,312	1,750	3,428	2,700	
FP Alt	2,025	6,147	2,250	1,750	2,250	2,353	3,668	1,643	1,312	1,750	3,428	2,700	
Change	0	0	0	0	0	0	137	25	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,403	9,315	3,799	6,570	9,322	6,830	5,000	2,504	4,261	1,500	1,731	1,558	
FP Alt	15,403	9,315	3,799	6,570	9,322	6,830	5,096	2,559	4,273	1,500	1,731	1,558	

Change	0	0	0	0	0	0	96	55	12	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,102	6,318	2,417	3,000	2,250	3,000	5,000	1,725	2,754	1,750	2,916	5,654	
FP Alt	21,102	6,318	2,417	3,000	2,250	3,000	5,123	1,765	2,754	1,750	2,916	5,654	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,814	3,957	3,578	3,408	3,051	5,204	5,000	2,500	4,040	859	1,150	5,795	
FP Alt	4,814	3,957	3,578	3,408	3,051	5,204	5,056	2,551	4,098	859	1,150	5,795	
Change	0	0	0	0	0	0	56	51	58	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	3,116	4,166	1,758	2,250	5,000	4,497	2,028	1,000	1,750	3,016	2,700	
FP Alt	2,025	3,116	4,166	1,758	2,250	5,000	4,616	2,071	1,000	1,750	3,016	2,700	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,337	7,204	3,505	3,000	4,061	5,000	4,905	1,854	3,139	1,500	1,200	2,844	
FP Alt	9,337	7,204	3,505	3,000	4,061	5,000	5,039	1,884	3,139	1,500	1,200	2,844	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,740	4,589	9,385	6,278	4,944	4,406	3,742	4,242	4,485	1,504	5,965	7,367	
FP Alt	11,740	4,589	9,385	6,278	4,944	4,406	3,875	4,256	4,500	1,504	5,965	7,367	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	3,751	4,664	3,000	4,642	6,516	4,198	3,214	4,269	1,750	2,468	2,221	
FP Alt	1,666	3,751	4,664	3,000	4,642	6,516	4,330	3,228	4,286	1,750	2,468	2,221	
Change	0	0	0	0	0	0	132	14	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	1,500	1,750	1,000	1,000	1,750	3,898	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	1,500	1,898	1,014	1,000	1,750	3,898	2,700	
Change	0	0	0	0	0	0	148	14	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	318	500	1,000	750	400	500	750	800	1,300	
FP Alt	975	731	548	318	500	1,000	850	439	524	750	800	1,300	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,506	4,902	6,085	4,064	4,411	4,702	5,000	2,500	3,699	500	574	516	
FP Alt	2,506	4,902	6,085	4,064	4,411	4,702	5,135	2,513	3,714	500	574	516	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,483	3,698	3,432	3,000	3,496	5,000	4,524	1,713	3,482	2,188	1,751	1,576	
FP Alt	2,483	3,698	3,432	3,000	3,496	5,000	4,662	1,738	3,482	2,188	1,751	1,576	
Change	0	0	0	0	0	0	138	25	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,252	13,496	3,607	3,000	3,000	3,226	5,000	2,588	4,273	1,500	1,357	1,394	
FP Alt	18,252	13,496	3,607	3,000	3,000	3,226	5,135	2,603	4,286	1,500	1,357	1,394	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	1,750	2,250	1,500	3,318	1,500	1,000	1,750	3,268	2,700	
FP Alt	2,025	1,519	1,500	1,750	2,250	1,500	3,416	1,565	1,000	1,750	3,268	2,700	
Change	0	0	0	0	0	0	98	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,229	15,420	7,697	14,459	9,528	6,360	3,988	3,883	4,784	750	4,333	14,422	
FP Alt	8,229	15,420	7,697	14,459	9,528	6,360	4,121	3,898	4,799	750	4,333	14,422	
Change	0	0	0	0	0	0	133	15	15	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,652	12,469	16,480	6,594	10,629	14,668	7,978	3,392	5,273	2,136	8,058	9,229	
FP Alt	7,652	12,469	16,480	6,594	10,629	14,668	8,013	3,424	5,373	2,136	8,058	9,229	
Change	0	0	0	0	0	0	35	32	100	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,758	5,884	2,586	2,564	2,415	3,982	5,704	1,775	3,837	1,751	15,897	15,134	
FP Alt	6,758	5,884	2,586	2,564	2,415	3,982	5,813	1,829	3,837	1,751	15,897	15,134	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	3,000	2,250	3,348	2,905	2,504	1,740	1,718	3,079	2,700	
FP Alt	2,025	1,519	1,500	3,000	2,250	3,348	2,985	2,587	1,740	1,718	3,079	2,700	
Change	0	0	0	0	0	0	80	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,388	32,947	11,118	2,734	2,962	3,529	5,000	2,500	3,679	1,199	959	1,300	
FP Alt	4,388	32,947	11,118	2,734	2,962	3,529	5,139	2,512	3,691	1,199	959	1,300	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,714	1,285	964	1,750	1,716	2,191	1,836	1,000	1,000	2,020	2,539	2,285	
FP Alt	1,714	1,285	964	1,750	1,716	2,191	1,944	1,044	1,011	2,020	2,539	2,285	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,166	1,624	750	2,250	1,500	1,750	1,500	2,384	1,020	816	1,300	
FP Alt	1,000	2,166	1,624	750	2,250	1,500	1,840	1,565	2,392	1,020	816	1,300	
Change	0	0	0	0	0	0	90	65	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	640	6,957	3,827	3,899	5,000	3,794	2,896	1,465	521	500	1,000	
FP Alt	750	640	6,957	3,827	3,899	5,000	3,879	2,974	1,465	521	500	1,000	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,284	2,005	1,504	1,457	1,000	2,410	2,331	1,500	1,293	1,500	1,200	1,712	
FP Alt	1,284	2,005	1,504	1,457	1,000	2,410	2,428	1,559	1,300	1,500	1,200	1,712	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	1,872	2,250	1,995	2,951	2,209	2,500	1,252	1,002	1,300	
FP Alt	975	731	548	1,872	2,250	1,995	3,063	2,253	2,507	1,252	1,002	1,300	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	982	737	1,500	2,961	2,250	1,500	1,750	1,500	1,000	1,819	1,455	1,310	
FP Alt	982	737	1,500	2,961	2,250	1,500	1,832	1,563	1,018	1,819	1,455	1,310	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,601	6,144	7,737	4,106	5,483	5,636	5,000	2,652	4,952	500	500	500	
FP Alt	1,601	6,144	7,737	4,106	5,483	5,636	5,146	2,668	4,952	500	500	500	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Riparian Vegetation in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions

Threshold:	<3000

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,350	5,403	3,417	4,552	9,586	9,613	5,000	2,500	4,544	2,501	2,001	1,801	
FP Alt	1,350	5,403	3,417	4,552	9,586	9,613	5,150	2,513	4,544	2,501	2,001	1,801	
Change	0	0	0	0	0	0	150	13	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,597	3,106	3,000	3,454	4,665	3,095	5,000	2,733	4,558	1,878	2,567	6,261	
FP Alt	4,597	3,106	3,000	3,454	4,665	3,095	5,129	2,767	4,558	1,878	2,567	6,261	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,100	2,393	750	1,000	1,500	1,750	1,337	1,000	1,967	1,573	1,416	
FP Alt	1,200	1,100	2,393	750	1,000	1,500	1,859	1,382	1,008	1,967	1,573	1,416	
Change	0	0	0	0	0	0	109	45	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	4,657	5,000	3,000	3,759	5,000	5,000	2,885	2,500	750	800	1,000	
FP Alt	1,000	4,657	5,000	3,000	3,759	5,000	5,058	2,990	2,500	750	800	1,000	
Change	0	0	0	0	0	0	58	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,001	1,501	1,500	750	2,250	2,979	3,159	1,000	1,000	3,243	2,964	2,668	
FP Alt	2,001	1,501	1,500	750	2,250	2,979	3,254	1,059	1,008	3,243	2,964	2,668	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,652	13,471	4,624	7,865	4,876	5,568	5,000	2,660	4,591	1,500	1,200	2,566	
FP Alt	3,652	13,471	4,624	7,865	4,876	5,568	5,146	2,677	4,591	1,500	1,200	2,566	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,925	2,334	12,819	4,848	2,729	2,045	4,890	3,127	2,500	1,879	2,424	2,386	
FP Alt	1,925	2,334	12,819	4,848	2,729	2,045	5,013	3,167	2,500	1,879	2,424	2,386	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	900	882	1,829	1,000	2,894	2,648	2,250	1,171	1,500	1,256	1,300	
FP Alt	1,200	900	882	1,829	1,000	2,894	2,730	2,321	1,181	1,500	1,256	1,300	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,637	2,864	1,750	2,250	3,232	4,342	2,709	1,000	1,505	1,204	1,300	
FP Alt	1,200	1,637	2,864	1,750	2,250	3,232	4,422	2,780	1,012	1,505	1,204	1,300	
Change	0	0	0	0	0	0	80	71	12	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,019	764	750	1,023	1,000	2,529	2,420	1,753	1,028	1,887	1,510	1,359	
FP Alt	1,019	764	750	1,023	1,000	2,529	2,519	1,803	1,042	1,887	1,510	1,359	
Change	0	0	0	0	0	0	99	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	913	2,297	3,000	3,000	3,000	5,000	5,194	3,774	2,500	1,691	1,353	1,217	
FP Alt	913	2,297	3,000	3,000	3,000	5,000	5,288	3,832	2,512	1,691	1,353	1,217	
Change	0	0	0	0	0	0	94	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	3,117	2,872	2,372	1,206	2,943	3,666	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	3,117	2,964	2,442	1,206	2,943	3,666	2,700	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	1,100	1,638	3,261	1,381	2,522	1,754	1,595	1,000	1,151	1,370	1,233	
FP Alt	1,000	1,100	1,638	3,261	1,381	2,522	1,841	1,652	1,019	1,151	1,370	1,233	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	922	750	1,500	6,736	4,806	4,102	5,000	3,754	2,785	1,707	1,365	1,229	
FP Alt	922	750	1,500	6,736	4,806	4,102	5,120	3,796	2,785	1,707	1,365	1,229	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,173	13,556	4,209	5,628	4,138	5,001	5,000	2,795	3,932	2,572	2,058	1,852	
FP Alt	5,173	13,556	4,209	5,628	4,138	5,001	5,127	2,831	3,932	2,572	2,058	1,852	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,489	2,937	4,472	4,414	4,102	3,000	5,000	2,827	3,050	2,758	2,206	1,986	
FP Alt	1,489	2,937	4,472	4,414	4,102	3,000	5,137	2,853	3,050	2,758	2,206	1,986	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,867	9,816	11,086	8,033	9,751	9,091	4,261	3,820	4,410	1,750	2,028	6,744	
FP Alt	2,867	9,816	11,086	8,033	9,751	9,091	4,397	3,833	4,424	1,750	2,028	6,744	
Change	0	0	0	0	0	0	136	13	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,831	1,373	1,500	1,750	1,275	2,042	2,438	1,658	1,000	1,750	2,713	2,441	
FP Alt	1,831	1,373	1,500	1,750	1,275	2,042	2,558	1,701	1,000	1,750	2,713	2,441	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,852	10,591	10,912	6,083	3,309	3,329	5,000	2,051	2,829	1,080	1,700	1,530	
FP Alt	2,852	10,591	10,912	6,083	3,309	3,329	5,050	2,164	2,829	1,080	1,700	1,530	
Change	0	0	0	0	0	0	50	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,474	8,078	4,894	3,802	5,134	3,547	4,673	2,909	3,752	4,277	2,400	2,160	
FP Alt	5,474	8,078	4,894	3,802	5,134	3,547	4,786	2,945	3,766	4,277	2,400	2,160	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,287	10,054	3,000	5,540	6,772	7,534	5,000	2,973	4,379	1,750	2,746	5,630	
FP Alt	9,287	10,054	3,000	5,540	6,772	7,534	5,135	2,987	4,394	1,750	2,746	5,630	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,841	7,258	12,601	5,046	3,000	3,000	5,000	2,500	4,887	1,750	4,470	4,778	
FP Alt	10,841	7,258	12,601	5,046	3,000	3,000	5,143	2,520	4,887	1,750	4,470	4,778	
Change	0	0	0	0	0	0	143	20	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,431	1,970	3,000	2,250	3,182	3,410	1,777	3,356	1,972	1,578	1,420	
FP Alt	1,500	1,431	1,970	3,000	2,250	3,182	3,509	1,841	3,356	1,972	1,578	1,420	
Change	0	0	0	0	0	0	99	64	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,608	9,316	2,250	3,000	2,851	3,555	5,000	2,593	4,381	1,500	1,200	1,300	
FP Alt	1,608	9,316	2,250	3,000	2,851	3,555	5,085	2,671	4,381	1,500	1,200	1,300	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,201	3,441	3,000	3,163	3,791	4,088	5,000	2,135	4,395	2,076	2,387	8,925	
FP Alt	5,201	3,441	3,000	3,163	3,791	4,088	5,068	2,229	4,395	2,076	2,387	8,925	
Change	0	0	0	0	0	0	68	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,372	1,100	1,995	3,000	2,250	1,924	3,117	2,636	2,500	2,057	2,032	1,829	
FP Alt	1,372	1,100	1,995	3,000	2,250	1,924	3,183	2,727	2,506	2,057	2,032	1,829	
Change	0	0	0	0	0	0	66	91	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,033	1,525	2,050	3,780	5,416	4,947	2,893	3,882	750	800	1,300	
FP Alt	1,000	2,033	1,525	2,050	3,780	5,416	5,024	2,979	3,882	750	800	1,300	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,494	3,311	3,463	3,000	4,152	4,633	2,769	2,500	1,750	1,885	1,696	
FP Alt	1,500	1,494	3,311	3,463	3,000	4,152	4,738	2,825	2,502	1,750	1,885	1,696	
Change	0	0	0	0	0	0	105	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,747	5,641	3,151	4,813	4,188	4,245	5,000	2,500	4,423	1,500	1,488	1,339	
FP Alt	2,747	5,641	3,151	4,813	4,188	4,245	5,108	2,554	4,423	1,500	1,488	1,339	
Change	0	0	0	0	0	0	108	54	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,361	8,371	3,827	3,254	3,818	3,000	5,000	2,500	4,173	2,065	16,681	16,253	
FP Alt	10,361	8,371	3,827	3,254	3,818	3,000	5,124	2,538	4,173	2,065	16,681	16,253	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,069	9,639	6,228	8,829	11,546	10,697	5,000	5,000	4,110	1,894	1,864	4,494	
FP Alt	9,069	9,639	6,228	8,829	11,546	10,697	5,080	5,056	4,137	1,894	1,864	4,494	
Change	0	0	0	0	0	0	80	56	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,269	2,385	1,789	3,000	3,000	6,284	4,608	3,672	4,347	1,750	2,876	2,650	
FP Alt	7,269	2,385	1,789	3,000	3,000	6,284	4,734	3,690	4,367	1,750	2,876	2,650	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,005	2,829	4,439	4,490	3,260	3,000	3,392	2,500	2,500	1,750	2,971	2,673	
FP Alt	2,005	2,829	4,439	4,490	3,260	3,000	3,497	2,557	2,500	1,750	2,971	2,673	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,882	3,091	2,250	1,750	2,250	3,000	3,118	2,653	1,000	1,500	1,200	1,300	
FP Alt	1,882	3,091	2,250	1,750	2,250	3,000	3,202	2,723	1,010	1,500	1,200	1,300	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,591	6,360	3,000	3,000	5,565	6,102	5,000	2,767	4,337	1,624	1,483	15,971	
FP Alt	16,591	6,360	3,000	3,000	5,565	6,102	5,133	2,782	4,353	1,624	1,483	15,971	
Change	0	0	0	0	0	0	133	15	16	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,960	2,382	4,502	3,000	2,250	3,993	5,000	3,104	2,707	1,750	2,904	2,613	
FP Alt	1,960	2,382	4,502	3,000	2,250	3,993	5,117	3,150	2,707	1,750	2,904	2,613	
Change	0	0	0	0	0	0	117	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,936	10,140	6,739	10,416	10,164	7,967	3,766	4,404	4,043	1,500	1,326	2,387	
FP Alt	2,936	10,140	6,739	10,416	10,164	7,967	3,894	4,421	4,062	1,500	1,326	2,387	
Change	0	0	0	0	0	0	128	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,623	3,191	2,250	1,750	2,250	2,448	4,989	1,000	1,000	1,750	2,405	2,164	
FP Alt	1,623	3,191	2,250	1,750	2,250	2,448	5,093	1,059	1,000	1,750	2,405	2,164	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	879	4,014	3,479	2,250	3,028	2,794	2,344	1,403	750	800	1,000	
FP Alt	750	879	4,014	3,479	2,250	3,028	2,888	2,390	1,426	750	800	1,000	
Change	0	0	0	0	0	0	94	46	23	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	750	1,500	1,750	2,250	1,500	3,654	1,500	1,000	1,500	1,200	1,300	
FP Alt	1,000	750	1,500	1,750	2,250	1,500	3,777	1,540	1,000	1,500	1,200	1,300	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	1,987	3,000	3,061	3,000	3,000	5,000	2,489	3,045	750	800	1,000	
FP Alt	750	1,987	3,000	3,061	3,000	3,000	5,128	2,523	3,045	750	800	1,000	
Change	0	0	0	0	0	0	128	34	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,985	11,887	2,250	6,171	7,235	3,431	5,000	2,825	3,880	2,644	4,375	3,445	
FP Alt	3,985	11,887	2,250	6,171	7,235	3,431	5,142	2,846	3,880	2,644	4,375	3,445	
Change	0	0	0	0	0	0	142	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,069	2,480	1,860	1,750	2,250	2,617	3,450	3,005	1,200	1,750	4,080	2,700	
FP Alt	2,069	2,480	1,860	1,750	2,250	2,617	3,514	3,102	1,202	1,750	4,080	2,700	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,119	5,554	2,250	4,788	4,251	3,356	5,517	2,500	4,591	1,500	1,200	20,997	
FP Alt	13,119	5,554	2,250	4,788	4,251	3,356	5,658	2,522	4,591	1,500	1,200	20,997	
Change	0	0	0	0	0	0	141	22	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,194	1,958	3,000	1,750	2,250	2,149	3,007	1,947	1,000	2,482	1,985	1,821	
FP Alt	2,194	1,958	3,000	1,750	2,250	2,149	3,103	2,014	1,000	2,482	1,985	1,821	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,887	4,489	6,142	4,009	8,548	10,703	4,224	4,498	4,585	1,500	1,200	2,511	
FP Alt	6,887	4,489	6,142	4,009	8,548	10,703	4,275	4,552	4,645	1,500	1,200	2,511	
Change	0	0	0	0	0	0	51	54	60	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	6,147	2,250	1,750	2,250	2,353	3,531	1,618	1,312	1,750	3,428	2,700	
FP Alt	2,025	6,147	2,250	1,750	2,250	2,353	3,668	1,643	1,312	1,750	3,428	2,700	
Change	0	0	0	0	0	0	137	25	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,403	9,315	3,799	6,570	9,322	6,830	5,000	2,504	4,261	1,500	1,731	1,558	
FP Alt	15,403	9,315	3,799	6,570	9,322	6,830	5,096	2,559	4,273	1,500	1,731	1,558	

Change	0	0	0	0	0	0	96	55	12	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,102	6,318	2,417	3,000	2,250	3,000	5,000	1,725	2,754	1,750	2,916	5,654	
FP Alt	21,102	6,318	2,417	3,000	2,250	3,000	5,123	1,765	2,754	1,750	2,916	5,654	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,814	3,957	3,578	3,408	3,051	5,204	5,000	2,500	4,040	859	1,150	5,795	
FP Alt	4,814	3,957	3,578	3,408	3,051	5,204	5,056	2,551	4,098	859	1,150	5,795	
Change	0	0	0	0	0	0	56	51	58	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	3,116	4,166	1,758	2,250	5,000	4,497	2,028	1,000	1,750	3,016	2,700	
FP Alt	2,025	3,116	4,166	1,758	2,250	5,000	4,616	2,071	1,000	1,750	3,016	2,700	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,337	7,204	3,505	3,000	4,061	5,000	4,905	1,854	3,139	1,500	1,200	2,844	
FP Alt	9,337	7,204	3,505	3,000	4,061	5,000	5,039	1,884	3,139	1,500	1,200	2,844	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,740	4,589	9,385	6,278	4,944	4,406	3,742	4,242	4,485	1,504	5,965	7,367	
FP Alt	11,740	4,589	9,385	6,278	4,944	4,406	3,875	4,256	4,500	1,504	5,965	7,367	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	3,751	4,664	3,000	4,642	6,516	4,198	3,214	4,269	1,750	2,468	2,221	
FP Alt	1,666	3,751	4,664	3,000	4,642	6,516	4,330	3,228	4,286	1,750	2,468	2,221	
Change	0	0	0	0	0	0	132	14	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	1,500	1,750	1,000	1,000	1,750	3,898	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	1,500	1,898	1,014	1,000	1,750	3,898	2,700	
Change	0	0	0	0	0	0	148	14	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	318	500	1,000	750	400	500	750	800	1,300	
FP Alt	975	731	548	318	500	1,000	850	439	524	750	800	1,300	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,506	4,902	6,085	4,064	4,411	4,702	5,000	2,500	3,699	500	574	516	
FP Alt	2,506	4,902	6,085	4,064	4,411	4,702	5,135	2,513	3,714	500	574	516	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,483	3,698	3,432	3,000	3,496	5,000	4,524	1,713	3,482	2,188	1,751	1,576	
FP Alt	2,483	3,698	3,432	3,000	3,496	5,000	4,662	1,738	3,482	2,188	1,751	1,576	
Change	0	0	0	0	0	0	138	25	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,252	13,496	3,607	3,000	3,000	3,226	5,000	2,588	4,273	1,500	1,357	1,394	
FP Alt	18,252	13,496	3,607	3,000	3,000	3,226	5,135	2,603	4,286	1,500	1,357	1,394	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	1,750	2,250	1,500	3,318	1,500	1,000	1,750	3,268	2,700	
FP Alt	2,025	1,519	1,500	1,750	2,250	1,500	3,416	1,565	1,000	1,750	3,268	2,700	
Change	0	0	0	0	0	0	98	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,229	15,420	7,697	14,459	9,528	6,360	3,988	3,883	4,784	750	4,333	14,422	
FP Alt	8,229	15,420	7,697	14,459	9,528	6,360	4,121	3,898	4,799	750	4,333	14,422	
Change	0	0	0	0	0	0	133	15	15	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,652	12,469	16,480	6,594	10,629	14,668	7,978	3,392	5,273	2,136	8,058	9,229	
FP Alt	7,652	12,469	16,480	6,594	10,629	14,668	8,013	3,424	5,373	2,136	8,058	9,229	
Change	0	0	0	0	0	0	35	32	100	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,758	5,884	2,586	2,564	2,415	3,982	5,704	1,775	3,837	1,751	15,897	15,134	
FP Alt	6,758	5,884	2,586	2,564	2,415	3,982	5,813	1,829	3,837	1,751	15,897	15,134	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	3,000	2,250	3,348	2,905	2,504	1,740	1,718	3,079	2,700	
FP Alt	2,025	1,519	1,500	3,000	2,250	3,348	2,985	2,587	1,740	1,718	3,079	2,700	
Change	0	0	0	0	0	0	80	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,388	32,947	11,118	2,734	2,962	3,529	5,000	2,500	3,679	1,199	959	1,300	
FP Alt	4,388	32,947	11,118	2,734	2,962	3,529	5,139	2,512	3,691	1,199	959	1,300	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,714	1,285	964	1,750	1,716	2,191	1,836	1,000	1,000	2,020	2,539	2,285	
FP Alt	1,714	1,285	964	1,750	1,716	2,191	1,944	1,044	1,011	2,020	2,539	2,285	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,166	1,624	750	2,250	1,500	1,750	1,500	2,384	1,020	816	1,300	
FP Alt	1,000	2,166	1,624	750	2,250	1,500	1,840	1,565	2,392	1,020	816	1,300	
Change	0	0	0	0	0	0	90	65	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	640	6,957	3,827	3,899	5,000	3,794	2,896	1,465	521	500	1,000	
FP Alt	750	640	6,957	3,827	3,899	5,000	3,879	2,974	1,465	521	500	1,000	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,284	2,005	1,504	1,457	1,000	2,410	2,331	1,500	1,293	1,500	1,200	1,712	
FP Alt	1,284	2,005	1,504	1,457	1,000	2,410	2,428	1,559	1,300	1,500	1,200	1,712	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	1,872	2,250	1,995	2,951	2,209	2,500	1,252	1,002	1,300	
FP Alt	975	731	548	1,872	2,250	1,995	3,063	2,253	2,507	1,252	1,002	1,300	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	982	737	1,500	2,961	2,250	1,500	1,750	1,500	1,000	1,819	1,455	1,310	
FP Alt	982	737	1,500	2,961	2,250	1,500	1,832	1,563	1,018	1,819	1,455	1,310	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,601	6,144	7,737	4,106	5,483	5,636	5,000	2,652	4,952	500	500	500	
FP Alt	1,601	6,144	7,737	4,106	5,483	5,636	5,146	2,668	4,952	500	500	500	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Riparian Vegetation in the Lower American River Below H St Bridge Under Baseline and FP Alt Conditions

Threshold:	<1765

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,330	5,475	3,399	4,467	9,444	9,337	4,698	2,261	4,366	2,383	1,897	1,803	
FP Alt	1,330	5,475	3,399	4,467	9,444	9,337	4,848	2,273	4,366	2,383	1,897	1,803	
Change	0	0	0	0	0	0	150	12	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,564	3,076	2,963	3,473	4,539	2,880	4,754	2,493	4,403	1,754	2,525	6,325	
FP Alt	4,564	3,076	2,963	3,473	4,539	2,880	4,883	2,527	4,403	1,754	2,525	6,325	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,186	1,131	2,393	650	830	1,274	1,525	1,131	835	1,819	1,454	1,334	
FP Alt	1,186	1,131	2,393	650	830	1,274	1,634	1,177	843	1,819	1,454	1,334	
Change	0	0	0	0	0	0	109	46	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	909	4,642	4,889	2,835	3,594	4,753	4,735	2,644	2,322	708	713	981	
FP Alt	909	4,642	4,889	2,835	3,594	4,753	4,792	2,749	2,322	708	713	981	
Change	0	0	0	0	0	0	57	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,951	1,569	1,455	784	2,145	2,760	2,906	770	833	3,100	2,853	2,574	
FP Alt	1,951	1,569	1,455	784	2,145	2,760	3,001	829	841	3,100	2,853	2,574	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,606	13,506	4,509	7,826	4,715	5,374	4,739	2,419	4,411	1,422	1,196	2,474	
FP Alt	3,606	13,506	4,509	7,826	4,715	5,374	4,885	2,436	4,411	1,422	1,196	2,474	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,897	2,339	12,871	4,694	2,597	1,850	4,657	2,892	2,318	1,750	2,350	2,334	
FP Alt	1,897	2,339	12,871	4,694	2,597	1,850	4,780	2,931	2,318	1,750	2,350	2,334	
Change	0	0	0	0	0	0	123	39	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,132	869	888	1,749	833	2,702	2,409	2,036	997	1,354	1,188	1,235	
FP Alt	1,132	869	888	1,749	833	2,702	2,491	2,107	1,007	1,354	1,188	1,235	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,169	1,542	2,830	1,637	2,088	2,987	4,095	2,481	826	1,373	1,076	1,272	
FP Alt	1,169	1,542	2,830	1,637	2,088	2,987	4,176	2,552	837	1,373	1,076	1,272	
Change	0	0	0	0	0	0	81	71	11	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	970	713	722	901	832	2,338	2,182	1,538	858	1,764	1,417	1,248	
FP Alt	970	713	722	901	832	2,338	2,280	1,588	872	1,764	1,417	1,248	
Change	0	0	0	0	0	0	98	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	831	2,233	2,877	2,814	2,805	4,761	4,941	3,540	2,314	1,580	1,274	1,258	
FP Alt	831	2,233	2,877	2,814	2,805	4,761	5,034	3,598	2,326	1,580	1,274	1,258	
Change	0	0	0	0	0	0	93	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,974	1,411	1,071	553	835	2,890	2,631	2,155	1,033	2,795	3,540	2,611	
FP Alt	1,974	1,411	1,071	553	835	2,890	2,723	2,225	1,033	2,795	3,540	2,611	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	918	1,044	1,518	3,063	1,178	2,311	1,523	1,392	836	1,051	1,245	1,221	
FP Alt	918	1,044	1,518	3,063	1,178	2,311	1,610	1,449	855	1,051	1,245	1,221	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	904	651	1,469	6,708	4,547	3,824	4,734	3,505	2,590	1,587	1,321	1,158	
FP Alt	904	651	1,469	6,708	4,547	3,824	4,854	3,547	2,590	1,587	1,321	1,158	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,121	13,567	4,009	5,438	3,916	4,756	4,743	2,560	3,754	2,457	1,949	1,764	
FP Alt	5,121	13,567	4,009	5,438	3,916	4,756	4,870	2,596	3,754	2,457	1,949	1,764	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,436	2,942	4,466	4,228	3,872	2,750	4,757	2,589	2,870	2,607	2,067	1,921	
FP Alt	1,436	2,942	4,466	4,228	3,872	2,750	4,895	2,615	2,870	2,607	2,067	1,921	
Change	0	0	0	0	0	0	138	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,763	9,843	11,003	7,862	9,565	8,810	3,962	3,587	4,228	1,608	1,971	6,689	
FP Alt	2,763	9,843	11,003	7,862	9,565	8,810	4,098	3,599	4,242	1,608	1,971	6,689	
Change	0	0	0	0	0	0	136	12	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,781	1,334	1,514	1,638	1,132	1,811	2,206	1,444	850	1,617	2,600	2,340	
FP Alt	1,781	1,334	1,514	1,638	1,132	1,811	2,326	1,487	850	1,617	2,600	2,340	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,883	10,606	10,799	5,880	3,124	3,091	4,755	1,814	2,656	976	1,577	1,430	
FP Alt	2,883	10,606	10,799	5,880	3,124	3,091	4,804	1,927	2,656	976	1,577	1,430	
Change	0	0	0	0	0	0	49	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,455	8,060	4,846	3,805	5,050	3,328	4,419	2,659	3,563	4,150	2,291	2,193	
FP Alt	5,455	8,060	4,846	3,805	5,050	3,328	4,532	2,695	3,577	4,150	2,291	2,193	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,259	10,017	2,973	5,614	6,700	7,326	4,734	2,722	4,192	1,624	2,655	5,651	
FP Alt	9,259	10,017	2,973	5,614	6,700	7,326	4,869	2,736	4,207	1,624	2,655	5,651	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,877	7,187	12,624	4,963	2,892	2,825	4,760	2,260	4,709	1,589	4,400	4,742	
FP Alt	10,877	7,187	12,624	4,963	2,892	2,825	4,903	2,279	4,709	1,589	4,400	4,742	
Change	0	0	0	0	0	0	143	19	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,469	1,513	1,951	2,928	2,095	2,957	3,164	1,552	3,184	1,806	1,468	1,339	
FP Alt	1,469	1,513	1,951	2,928	2,095	2,957	3,263	1,615	3,184	1,806	1,468	1,339	
Change	0	0	0	0	0	0	99	63	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,512	9,306	2,178	2,894	2,696	3,338	4,747	2,352	4,201	1,384	1,153	1,228	
FP Alt	1,512	9,306	2,178	2,894	2,696	3,338	4,832	2,430	4,201	1,384	1,153	1,228	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,067	3,388	3,006	3,063	3,642	3,848	4,751	1,900	4,230	1,981	2,306	8,904	
FP Alt	5,067	3,388	3,006	3,063	3,642	3,848	4,820	1,994	4,230	1,981	2,306	8,904	
Change	0	0	0	0	0	0	69	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,263	1,057	2,008	2,883	2,073	1,701	2,880	2,412	2,320	1,905	1,959	1,755	
FP Alt	1,263	1,057	2,008	2,883	2,073	1,701	2,946	2,502	2,326	1,905	1,959	1,755	
Change	0	0	0	0	0	0	66	90	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	902	1,959	1,516	2,043	3,695	5,205	4,662	2,639	3,696	664	720	1,210	
FP Alt	902	1,959	1,516	2,043	3,695	5,205	4,739	2,725	3,696	664	720	1,210	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,462	1,477	3,382	3,343	2,841	3,912	4,384	2,538	2,324	1,603	1,784	1,664	
FP Alt	1,462	1,477	3,382	3,343	2,841	3,912	4,488	2,594	2,326	1,603	1,784	1,664	
Change	0	0	0	0	0	0	104	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,716	5,579	3,084	4,710	4,002	3,989	4,740	2,257	4,255	1,351	1,389	1,254	
FP Alt	2,716	5,579	3,084	4,710	4,002	3,989	4,849	2,312	4,255	1,351	1,389	1,254	
Change	0	0	0	0	0	0	109	55	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,213	8,308	3,787	3,177	3,699	2,775	4,759	2,263	3,996	1,971	16,651	16,100	
FP Alt	10,213	8,308	3,787	3,177	3,699	2,775	4,883	2,301	3,996	1,971	16,651	16,100	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,104	9,533	6,200	8,741	11,358	10,428	4,698	4,763	3,918	1,783	1,783	4,475	
FP Alt	9,104	9,533	6,200	8,741	11,358	10,428	4,779	4,818	3,945	1,783	1,783	4,475	
Change	0	0	0	0	0	0	81	55	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,256	2,284	1,785	2,960	2,849	6,069	4,336	3,450	4,159	1,586	2,792	2,657	
FP Alt	7,256	2,284	1,785	2,960	2,849	6,069	4,462	3,468	4,179	1,586	2,792	2,657	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,954	2,820	4,449	4,423	3,105	2,781	3,146	2,277	2,321	1,597	2,886	2,556	
FP Alt	1,954	2,820	4,449	4,423	3,105	2,781	3,251	2,334	2,321	1,597	2,886	2,556	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,835	3,027	2,170	1,668	2,089	2,760	2,877	2,433	841	1,349	1,138	1,272	
FP Alt	1,835	3,027	2,170	1,668	2,089	2,760	2,961	2,503	851	1,349	1,138	1,272	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,477	6,172	2,920	2,932	5,439	5,854	4,731	2,530	4,177	1,507	1,392	16,042	
FP Alt	16,477	6,172	2,920	2,932	5,439	5,854	4,864	2,544	4,192	1,507	1,392	16,042	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,903	2,392	4,500	2,916	2,157	3,784	4,736	2,856	2,553	1,630	2,773	2,490	
FP Alt	1,903	2,392	4,500	2,916	2,157	3,784	4,852	2,902	2,553	1,630	2,773	2,490	
Change	0	0	0	0	0	0	116	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,939	10,206	6,720	10,433	10,017	7,740	3,509	4,168	3,846	1,401	1,210	2,334	
FP Alt	2,939	10,206	6,720	10,433	10,017	7,740	3,636	4,185	3,865	1,401	1,210	2,334	
Change	0	0	0	0	0	0	127	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,660	3,245	2,214	1,667	2,090	2,212	4,758	767	896	1,592	2,287	2,093	
FP Alt	1,660	3,245	2,214	1,667	2,090	2,212	4,862	826	896	1,592	2,287	2,093	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	711	836	3,965	3,331	2,063	2,790	2,555	2,128	1,228	615	682	916	
FP Alt	711	836	3,965	3,331	2,063	2,790	2,648	2,174	1,252	615	682	916	
Change	0	0	0	0	0	0	93	46	24	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	935	664	1,442	1,613	2,057	1,260	3,426	1,275	838	1,361	1,158	1,205	
FP Alt	935	664	1,442	1,613	2,057	1,260	3,549	1,315	838	1,361	1,158	1,205	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	664	2,038	2,918	2,886	2,781	2,752	4,758	2,254	2,869	617	740	937	
FP Alt	664	2,038	2,918	2,886	2,781	2,752	4,886	2,289	2,869	617	740	937	
Change	0	0	0	0	0	0	128	35	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,919	11,808	2,158	6,176	7,091	3,183	4,745	2,575	3,699	2,667	4,258	3,346	
FP Alt	3,919	11,808	2,158	6,176	7,091	3,183	4,886	2,596	3,699	2,667	4,258	3,346	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,065	2,436	1,828	1,635	2,074	2,395	3,217	2,787	1,021	1,633	4,051	2,586	
FP Alt	2,065	2,436	1,828	1,635	2,074	2,395	3,281	2,884	1,023	1,633	4,051	2,586	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,912	5,352	2,188	4,772	4,079	3,114	5,270	2,275	4,413	1,411	1,141	21,003	
FP Alt	12,912	5,352	2,188	4,772	4,079	3,114	5,411	2,296	4,413	1,411	1,141	21,003	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,118	1,904	2,937	1,617	2,068	1,919	2,784	1,734	832	2,316	1,928	1,755	
FP Alt	2,118	1,904	2,937	1,617	2,068	1,919	2,880	1,801	832	2,316	1,928	1,755	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,907	4,321	6,082	3,957	8,380	10,446	3,901	4,257	4,385	1,366	1,200	2,465	
FP Alt	6,907	4,321	6,082	3,957	8,380	10,446	3,952	4,311	4,444	1,366	1,200	2,465	
Change	0	0	0	0	0	0	51	54	59	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,024	6,144	2,227	1,662	2,107	2,127	3,295	1,400	1,143	1,590	3,330	2,605	
FP Alt	2,024	6,144	2,227	1,662	2,107	2,127	3,432	1,426	1,143	1,590	3,330	2,605	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,476	9,190	3,720	6,499	9,132	6,552	4,725	2,268	4,084	1,381	1,678	1,503	
FP Alt	15,476	9,190	3,720	6,499	9,132	6,552	4,821	2,322	4,097	1,381	1,678	1,503	

Change	0	0	0	0	0	0	96	54	13	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,098	6,094	2,422	2,921	2,096	2,788	4,762	1,491	2,586	1,613	2,813	5,619	
FP Alt	21,098	6,094	2,422	2,921	2,096	2,788	4,885	1,531	2,586	1,613	2,813	5,619	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,680	3,835	3,542	3,274	2,890	4,962	4,744	2,267	3,866	741	1,173	5,769	
FP Alt	4,680	3,835	3,542	3,274	2,890	4,962	4,800	2,318	3,923	741	1,173	5,769	
Change	0	0	0	0	0	0	56	51	57	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,917	3,041	4,075	1,628	2,080	4,766	4,237	1,795	857	1,596	2,915	2,654	
FP Alt	1,917	3,041	4,075	1,628	2,080	4,766	4,356	1,838	857	1,596	2,915	2,654	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,367	7,147	3,461	2,890	3,892	4,747	4,645	1,617	2,978	1,420	1,175	2,779	
FP Alt	9,367	7,147	3,461	2,890	3,892	4,747	4,779	1,647	2,978	1,420	1,175	2,779	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,656	4,447	9,431	6,172	4,785	4,195	3,521	4,009	4,288	1,400	5,969	7,293	
FP Alt	11,656	4,447	9,431	6,172	4,785	4,195	3,655	4,023	4,304	1,400	5,969	7,293	
Change	0	0	0	0	0	0	134	14	16	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,607	3,834	4,702	2,916	4,491	6,274	3,924	2,986	4,084	1,611	2,373	2,180	
FP Alt	1,607	3,834	4,702	2,916	4,491	6,274	4,056	3,001	4,101	1,611	2,373	2,180	
Change	0	0	0	0	0	0	132	15	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,948	1,478	1,100	647	822	1,288	1,532	808	845	1,659	3,784	2,576	
FP Alt	1,948	1,478	1,100	647	822	1,288	1,680	823	845	1,659	3,784	2,576	
Change	0	0	0	0	0	0	148	15	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	884	626	457	188	388	816	561	233	385	619	700	1,205	
FP Alt	884	626	457	188	388	816	661	272	409	619	700	1,205	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,606	4,870	6,037	3,923	4,179	4,437	4,737	2,258	3,531	417	521	500	
FP Alt	2,606	4,870	6,037	3,923	4,179	4,437	4,872	2,271	3,546	417	521	500	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,466	3,645	3,346	2,822	3,278	4,741	4,261	1,475	3,309	2,027	1,691	1,477	
FP Alt	2,466	3,645	3,346	2,822	3,278	4,741	4,399	1,499	3,309	2,027	1,691	1,477	
Change	0	0	0	0	0	0	138	24	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,243	13,355	3,469	2,908	2,845	2,989	4,771	2,350	4,095	1,405	1,273	1,354	
FP Alt	18,243	13,355	3,469	2,908	2,845	2,989	4,906	2,365	4,108	1,405	1,273	1,354	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,988	1,438	1,513	1,644	2,087	1,255	3,086	1,275	842	1,590	3,143	2,613	
FP Alt	1,988	1,438	1,513	1,644	2,087	1,255	3,183	1,340	842	1,590	3,143	2,613	
Change	0	0	0	0	0	0	97	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,097	15,342	7,671	14,495	9,323	6,139	3,744	3,642	4,650	677	4,346	14,354	
FP Alt	8,097	15,342	7,671	14,495	9,323	6,139	3,877	3,656	4,666	677	4,346	14,354	
Change	0	0	0	0	0	0	133	14	16	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,677	12,549	16,580	6,558	10,557	14,457	7,681	3,151	5,109	2,058	8,096	9,196	
FP Alt	7,677	12,549	16,580	6,558	10,557	14,457	7,715	3,183	5,208	2,058	8,096	9,196	
Change	0	0	0	0	0	0	34	32	99	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,652	5,892	2,605	2,518	2,281	3,784	5,458	1,542	3,672	1,609	15,958	15,082	
FP Alt	6,652	5,892	2,605	2,518	2,281	3,784	5,567	1,596	3,672	1,609	15,958	15,082	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,945	1,492	1,524	2,905	2,083	3,117	2,661	2,288	1,579	1,601	3,074	2,598	
FP Alt	1,945	1,492	1,524	2,905	2,083	3,117	2,740	2,371	1,579	1,601	3,074	2,598	
Change	0	0	0	0	0	0	79	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,339	33,032	10,933	2,637	2,870	3,338	4,753	2,263	3,530	1,080	947	1,241	
FP Alt	4,339	33,032	10,933	2,637	2,870	3,338	4,892	2,275	3,542	1,080	947	1,241	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,676	1,298	1,010	1,661	1,559	1,958	1,604	793	839	1,865	2,416	2,182	
FP Alt	1,676	1,298	1,010	1,661	1,559	1,958	1,712	837	850	1,865	2,416	2,182	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	956	2,062	1,524	659	2,100	1,280	1,523	1,292	2,217	903	741	1,281	
FP Alt	956	2,062	1,524	659	2,100	1,280	1,613	1,358	2,225	903	741	1,281	
Change	0	0	0	0	0	0	90	66	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	655	545	6,971	3,615	3,696	4,749	3,527	2,670	1,353	375	438	953	
FP Alt	655	545	6,971	3,615	3,696	4,749	3,611	2,748	1,353	375	438	953	
Change	0	0	0	0	0	0	84	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,255	2,003	1,464	1,351	896	2,189	2,095	1,287	1,125	1,412	1,107	1,599	
FP Alt	1,255	2,003	1,464	1,351	896	2,189	2,192	1,346	1,132	1,412	1,107	1,599	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	871	663	631	1,788	2,099	1,811	2,744	2,018	2,342	1,121	896	1,214	
FP Alt	871	663	631	1,788	2,099	1,811	2,856	2,062	2,349	1,121	896	1,214	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	926	794	1,450	2,794	2,036	1,279	1,519	1,289	831	1,734	1,344	1,244	
FP Alt	926	794	1,450	2,794	2,036	1,279	1,601	1,352	849	1,734	1,344	1,244	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	6,128	7,626	3,867	5,284	5,398	4,732	2,412	4,772	406	392	515	
FP Alt	1,666	6,128	7,626	3,867	5,284	5,398	4,878	2,428	4,772	406	392	515	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Riparian Vegetation in the Lower American River Below H St Bridge Under Baseline and FP Alt Conditions

Threshold:	<2000

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,330	5,475	3,399	4,467	9,444	9,337	4,698	2,261	4,366	2,383	1,897	1,803	
FP Alt	1,330	5,475	3,399	4,467	9,444	9,337	4,848	2,273	4,366	2,383	1,897	1,803	
Change	0	0	0	0	0	0	150	12	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,564	3,076	2,963	3,473	4,539	2,880	4,754	2,493	4,403	1,754	2,525	6,325	
FP Alt	4,564	3,076	2,963	3,473	4,539	2,880	4,883	2,527	4,403	1,754	2,525	6,325	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,186	1,131	2,393	650	830	1,274	1,525	1,131	835	1,819	1,454	1,334	
FP Alt	1,186	1,131	2,393	650	830	1,274	1,634	1,177	843	1,819	1,454	1,334	
Change	0	0	0	0	0	0	109	46	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	909	4,642	4,889	2,835	3,594	4,753	4,735	2,644	2,322	708	713	981	
FP Alt	909	4,642	4,889	2,835	3,594	4,753	4,792	2,749	2,322	708	713	981	
Change	0	0	0	0	0	0	57	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,951	1,569	1,455	784	2,145	2,760	2,906	770	833	3,100	2,853	2,574	
FP Alt	1,951	1,569	1,455	784	2,145	2,760	3,001	829	841	3,100	2,853	2,574	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,606	13,506	4,509	7,826	4,715	5,374	4,739	2,419	4,411	1,422	1,196	2,474	
FP Alt	3,606	13,506	4,509	7,826	4,715	5,374	4,885	2,436	4,411	1,422	1,196	2,474	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,897	2,339	12,871	4,694	2,597	1,850	4,657	2,892	2,318	1,750	2,350	2,334	
FP Alt	1,897	2,339	12,871	4,694	2,597	1,850	4,780	2,931	2,318	1,750	2,350	2,334	
Change	0	0	0	0	0	0	123	39	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,132	869	888	1,749	833	2,702	2,409	2,036	997	1,354	1,188	1,235	
FP Alt	1,132	869	888	1,749	833	2,702	2,491	2,107	1,007	1,354	1,188	1,235	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,169	1,542	2,830	1,637	2,088	2,987	4,095	2,481	826	1,373	1,076	1,272	
FP Alt	1,169	1,542	2,830	1,637	2,088	2,987	4,176	2,552	837	1,373	1,076	1,272	
Change	0	0	0	0	0	0	81	71	11	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	970	713	722	901	832	2,338	2,182	1,538	858	1,764	1,417	1,248	
FP Alt	970	713	722	901	832	2,338	2,280	1,588	872	1,764	1,417	1,248	
Change	0	0	0	0	0	0	98	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	831	2,233	2,877	2,814	2,805	4,761	4,941	3,540	2,314	1,580	1,274	1,258	
FP Alt	831	2,233	2,877	2,814	2,805	4,761	5,034	3,598	2,326	1,580	1,274	1,258	
Change	0	0	0	0	0	0	93	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,974	1,411	1,071	553	835	2,890	2,631	2,155	1,033	2,795	3,540	2,611	
FP Alt	1,974	1,411	1,071	553	835	2,890	2,723	2,225	1,033	2,795	3,540	2,611	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	918	1,044	1,518	3,063	1,178	2,311	1,523	1,392	836	1,051	1,245	1,221	
FP Alt	918	1,044	1,518	3,063	1,178	2,311	1,610	1,449	855	1,051	1,245	1,221	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	904	651	1,469	6,708	4,547	3,824	4,734	3,505	2,590	1,587	1,321	1,158	
FP Alt	904	651	1,469	6,708	4,547	3,824	4,854	3,547	2,590	1,587	1,321	1,158	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,121	13,567	4,009	5,438	3,916	4,756	4,743	2,560	3,754	2,457	1,949	1,764	
FP Alt	5,121	13,567	4,009	5,438	3,916	4,756	4,870	2,596	3,754	2,457	1,949	1,764	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,436	2,942	4,466	4,228	3,872	2,750	4,757	2,589	2,870	2,607	2,067	1,921	
FP Alt	1,436	2,942	4,466	4,228	3,872	2,750	4,895	2,615	2,870	2,607	2,067	1,921	
Change	0	0	0	0	0	0	138	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,763	9,843	11,003	7,862	9,565	8,810	3,962	3,587	4,228	1,608	1,971	6,689	
FP Alt	2,763	9,843	11,003	7,862	9,565	8,810	4,098	3,599	4,242	1,608	1,971	6,689	
Change	0	0	0	0	0	0	136	12	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,781	1,334	1,514	1,638	1,132	1,811	2,206	1,444	850	1,617	2,600	2,340	
FP Alt	1,781	1,334	1,514	1,638	1,132	1,811	2,326	1,487	850	1,617	2,600	2,340	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,883	10,606	10,799	5,880	3,124	3,091	4,755	1,814	2,656	976	1,577	1,430	
FP Alt	2,883	10,606	10,799	5,880	3,124	3,091	4,804	1,927	2,656	976	1,577	1,430	
Change	0	0	0	0	0	0	49	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,455	8,060	4,846	3,805	5,050	3,328	4,419	2,659	3,563	4,150	2,291	2,193	
FP Alt	5,455	8,060	4,846	3,805	5,050	3,328	4,532	2,695	3,577	4,150	2,291	2,193	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,259	10,017	2,973	5,614	6,700	7,326	4,734	2,722	4,192	1,624	2,655	5,651	
FP Alt	9,259	10,017	2,973	5,614	6,700	7,326	4,869	2,736	4,207	1,624	2,655	5,651	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,877	7,187	12,624	4,963	2,892	2,825	4,760	2,260	4,709	1,589	4,400	4,742	
FP Alt	10,877	7,187	12,624	4,963	2,892	2,825	4,903	2,279	4,709	1,589	4,400	4,742	
Change	0	0	0	0	0	0	143	19	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,469	1,513	1,951	2,928	2,095	2,957	3,164	1,552	3,184	1,806	1,468	1,339	
FP Alt	1,469	1,513	1,951	2,928	2,095	2,957	3,263	1,615	3,184	1,806	1,468	1,339	
Change	0	0	0	0	0	0	99	63	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,512	9,306	2,178	2,894	2,696	3,338	4,747	2,352	4,201	1,384	1,153	1,228	
FP Alt	1,512	9,306	2,178	2,894	2,696	3,338	4,832	2,430	4,201	1,384	1,153	1,228	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,067	3,388	3,006	3,063	3,642	3,848	4,751	1,900	4,230	1,981	2,306	8,904	
FP Alt	5,067	3,388	3,006	3,063	3,642	3,848	4,820	1,994	4,230	1,981	2,306	8,904	
Change	0	0	0	0	0	0	69	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,263	1,057	2,008	2,883	2,073	1,701	2,880	2,412	2,320	1,905	1,959	1,755	
FP Alt	1,263	1,057	2,008	2,883	2,073	1,701	2,946	2,502	2,326	1,905	1,959	1,755	
Change	0	0	0	0	0	0	66	90	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	902	1,959	1,516	2,043	3,695	5,205	4,662	2,639	3,696	664	720	1,210	
FP Alt	902	1,959	1,516	2,043	3,695	5,205	4,739	2,725	3,696	664	720	1,210	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,462	1,477	3,382	3,343	2,841	3,912	4,384	2,538	2,324	1,603	1,784	1,664	
FP Alt	1,462	1,477	3,382	3,343	2,841	3,912	4,488	2,594	2,326	1,603	1,784	1,664	
Change	0	0	0	0	0	0	104	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,716	5,579	3,084	4,710	4,002	3,989	4,740	2,257	4,255	1,351	1,389	1,254	
FP Alt	2,716	5,579	3,084	4,710	4,002	3,989	4,849	2,312	4,255	1,351	1,389	1,254	
Change	0	0	0	0	0	0	109	55	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,213	8,308	3,787	3,177	3,699	2,775	4,759	2,263	3,996	1,971	16,651	16,100	
FP Alt	10,213	8,308	3,787	3,177	3,699	2,775	4,883	2,301	3,996	1,971	16,651	16,100	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,104	9,533	6,200	8,741	11,358	10,428	4,698	4,763	3,918	1,783	1,783	4,475	
FP Alt	9,104	9,533	6,200	8,741	11,358	10,428	4,779	4,818	3,945	1,783	1,783	4,475	
Change	0	0	0	0	0	0	81	55	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,256	2,284	1,785	2,960	2,849	6,069	4,336	3,450	4,159	1,586	2,792	2,657	
FP Alt	7,256	2,284	1,785	2,960	2,849	6,069	4,462	3,468	4,179	1,586	2,792	2,657	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,954	2,820	4,449	4,423	3,105	2,781	3,146	2,277	2,321	1,597	2,886	2,556	
FP Alt	1,954	2,820	4,449	4,423	3,105	2,781	3,251	2,334	2,321	1,597	2,886	2,556	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,835	3,027	2,170	1,668	2,089	2,760	2,877	2,433	841	1,349	1,138	1,272	
FP Alt	1,835	3,027	2,170	1,668	2,089	2,760	2,961	2,503	851	1,349	1,138	1,272	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,477	6,172	2,920	2,932	5,439	5,854	4,731	2,530	4,177	1,507	1,392	16,042	
FP Alt	16,477	6,172	2,920	2,932	5,439	5,854	4,864	2,544	4,192	1,507	1,392	16,042	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,903	2,392	4,500	2,916	2,157	3,784	4,736	2,856	2,553	1,630	2,773	2,490	
FP Alt	1,903	2,392	4,500	2,916	2,157	3,784	4,852	2,902	2,553	1,630	2,773	2,490	
Change	0	0	0	0	0	0	116	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,939	10,206	6,720	10,433	10,017	7,740	3,509	4,168	3,846	1,401	1,210	2,334	
FP Alt	2,939	10,206	6,720	10,433	10,017	7,740	3,636	4,185	3,865	1,401	1,210	2,334	
Change	0	0	0	0	0	0	127	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,660	3,245	2,214	1,667	2,090	2,212	4,758	767	896	1,592	2,287	2,093	
FP Alt	1,660	3,245	2,214	1,667	2,090	2,212	4,862	826	896	1,592	2,287	2,093	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	711	836	3,965	3,331	2,063	2,790	2,555	2,128	1,228	615	682	916	
FP Alt	711	836	3,965	3,331	2,063	2,790	2,648	2,174	1,252	615	682	916	
Change	0	0	0	0	0	0	93	46	24	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	935	664	1,442	1,613	2,057	1,260	3,426	1,275	838	1,361	1,158	1,205	
FP Alt	935	664	1,442	1,613	2,057	1,260	3,549	1,315	838	1,361	1,158	1,205	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	664	2,038	2,918	2,886	2,781	2,752	4,758	2,254	2,869	617	740	937	
FP Alt	664	2,038	2,918	2,886	2,781	2,752	4,886	2,289	2,869	617	740	937	
Change	0	0	0	0	0	0	128	35	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,919	11,808	2,158	6,176	7,091	3,183	4,745	2,575	3,699	2,667	4,258	3,346	
FP Alt	3,919	11,808	2,158	6,176	7,091	3,183	4,886	2,596	3,699	2,667	4,258	3,346	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,065	2,436	1,828	1,635	2,074	2,395	3,217	2,787	1,021	1,633	4,051	2,586	
FP Alt	2,065	2,436	1,828	1,635	2,074	2,395	3,281	2,884	1,023	1,633	4,051	2,586	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,912	5,352	2,188	4,772	4,079	3,114	5,270	2,275	4,413	1,411	1,141	21,003	
FP Alt	12,912	5,352	2,188	4,772	4,079	3,114	5,411	2,296	4,413	1,411	1,141	21,003	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,118	1,904	2,937	1,617	2,068	1,919	2,784	1,734	832	2,316	1,928	1,755	
FP Alt	2,118	1,904	2,937	1,617	2,068	1,919	2,880	1,801	832	2,316	1,928	1,755	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,907	4,321	6,082	3,957	8,380	10,446	3,901	4,257	4,385	1,366	1,200	2,465	
FP Alt	6,907	4,321	6,082	3,957	8,380	10,446	3,952	4,311	4,444	1,366	1,200	2,465	
Change	0	0	0	0	0	0	51	54	59	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,024	6,144	2,227	1,662	2,107	2,127	3,295	1,400	1,143	1,590	3,330	2,605	
FP Alt	2,024	6,144	2,227	1,662	2,107	2,127	3,432	1,426	1,143	1,590	3,330	2,605	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,476	9,190	3,720	6,499	9,132	6,552	4,725	2,268	4,084	1,381	1,678	1,503	
FP Alt	15,476	9,190	3,720	6,499	9,132	6,552	4,821	2,322	4,097	1,381	1,678	1,503	

Change	0	0	0	0	0	0	96	54	13	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,098	6,094	2,422	2,921	2,096	2,788	4,762	1,491	2,586	1,613	2,813	5,619	
FP Alt	21,098	6,094	2,422	2,921	2,096	2,788	4,885	1,531	2,586	1,613	2,813	5,619	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,680	3,835	3,542	3,274	2,890	4,962	4,744	2,267	3,866	741	1,173	5,769	
FP Alt	4,680	3,835	3,542	3,274	2,890	4,962	4,800	2,318	3,923	741	1,173	5,769	
Change	0	0	0	0	0	0	56	51	57	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,917	3,041	4,075	1,628	2,080	4,766	4,237	1,795	857	1,596	2,915	2,654	
FP Alt	1,917	3,041	4,075	1,628	2,080	4,766	4,356	1,838	857	1,596	2,915	2,654	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,367	7,147	3,461	2,890	3,892	4,747	4,645	1,617	2,978	1,420	1,175	2,779	
FP Alt	9,367	7,147	3,461	2,890	3,892	4,747	4,779	1,647	2,978	1,420	1,175	2,779	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,656	4,447	9,431	6,172	4,785	4,195	3,521	4,009	4,288	1,400	5,969	7,293	
FP Alt	11,656	4,447	9,431	6,172	4,785	4,195	3,655	4,023	4,304	1,400	5,969	7,293	
Change	0	0	0	0	0	0	134	14	16	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,607	3,834	4,702	2,916	4,491	6,274	3,924	2,986	4,084	1,611	2,373	2,180	
FP Alt	1,607	3,834	4,702	2,916	4,491	6,274	4,056	3,001	4,101	1,611	2,373	2,180	
Change	0	0	0	0	0	0	132	15	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,948	1,478	1,100	647	822	1,288	1,532	808	845	1,659	3,784	2,576	
FP Alt	1,948	1,478	1,100	647	822	1,288	1,680	823	845	1,659	3,784	2,576	
Change	0	0	0	0	0	0	148	15	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	884	626	457	188	388	816	561	233	385	619	700	1,205	
FP Alt	884	626	457	188	388	816	661	272	409	619	700	1,205	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,606	4,870	6,037	3,923	4,179	4,437	4,737	2,258	3,531	417	521	500	
FP Alt	2,606	4,870	6,037	3,923	4,179	4,437	4,872	2,271	3,546	417	521	500	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,466	3,645	3,346	2,822	3,278	4,741	4,261	1,475	3,309	2,027	1,691	1,477	
FP Alt	2,466	3,645	3,346	2,822	3,278	4,741	4,399	1,499	3,309	2,027	1,691	1,477	
Change	0	0	0	0	0	0	138	24	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,243	13,355	3,469	2,908	2,845	2,989	4,771	2,350	4,095	1,405	1,273	1,354	
FP Alt	18,243	13,355	3,469	2,908	2,845	2,989	4,906	2,365	4,108	1,405	1,273	1,354	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,988	1,438	1,513	1,644	2,087	1,255	3,086	1,275	842	1,590	3,143	2,613	
FP Alt	1,988	1,438	1,513	1,644	2,087	1,255	3,183	1,340	842	1,590	3,143	2,613	
Change	0	0	0	0	0	0	97	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,097	15,342	7,671	14,495	9,323	6,139	3,744	3,642	4,650	677	4,346	14,354	
FP Alt	8,097	15,342	7,671	14,495	9,323	6,139	3,877	3,656	4,666	677	4,346	14,354	
Change	0	0	0	0	0	0	133	14	16	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,677	12,549	16,580	6,558	10,557	14,457	7,681	3,151	5,109	2,058	8,096	9,196	
FP Alt	7,677	12,549	16,580	6,558	10,557	14,457	7,715	3,183	5,208	2,058	8,096	9,196	
Change	0	0	0	0	0	0	34	32	99	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,652	5,892	2,605	2,518	2,281	3,784	5,458	1,542	3,672	1,609	15,958	15,082	
FP Alt	6,652	5,892	2,605	2,518	2,281	3,784	5,567	1,596	3,672	1,609	15,958	15,082	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,945	1,492	1,524	2,905	2,083	3,117	2,661	2,288	1,579	1,601	3,074	2,598	
FP Alt	1,945	1,492	1,524	2,905	2,083	3,117	2,740	2,371	1,579	1,601	3,074	2,598	
Change	0	0	0	0	0	0	79	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,339	33,032	10,933	2,637	2,870	3,338	4,753	2,263	3,530	1,080	947	1,241	
FP Alt	4,339	33,032	10,933	2,637	2,870	3,338	4,892	2,275	3,542	1,080	947	1,241	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,676	1,298	1,010	1,661	1,559	1,958	1,604	793	839	1,865	2,416	2,182	
FP Alt	1,676	1,298	1,010	1,661	1,559	1,958	1,712	837	850	1,865	2,416	2,182	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	956	2,062	1,524	659	2,100	1,280	1,523	1,292	2,217	903	741	1,281	
FP Alt	956	2,062	1,524	659	2,100	1,280	1,613	1,358	2,225	903	741	1,281	
Change	0	0	0	0	0	0	90	66	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	655	545	6,971	3,615	3,696	4,749	3,527	2,670	1,353	375	438	953	
FP Alt	655	545	6,971	3,615	3,696	4,749	3,611	2,748	1,353	375	438	953	
Change	0	0	0	0	0	0	84	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,255	2,003	1,464	1,351	896	2,189	2,095	1,287	1,125	1,412	1,107	1,599	
FP Alt	1,255	2,003	1,464	1,351	896	2,189	2,192	1,346	1,132	1,412	1,107	1,599	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	871	663	631	1,788	2,099	1,811	2,744	2,018	2,342	1,121	896	1,214	
FP Alt	871	663	631	1,788	2,099	1,811	2,856	2,062	2,349	1,121	896	1,214	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	926	794	1,450	2,794	2,036	1,279	1,519	1,289	831	1,734	1,344	1,244	
FP Alt	926	794	1,450	2,794	2,036	1,279	1,601	1,352	849	1,734	1,344	1,244	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	6,128	7,626	3,867	5,284	5,398	4,732	2,412	4,772	406	392	515	
FP Alt	1,666	6,128	7,626	3,867	5,284	5,398	4,878	2,428	4,772	406	392	515	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Riparian Vegetation in the Lower American River Below H St Bridge Under Baseline and FP Alt Conditions

Threshold:	<3000

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,330	5,475	3,399	4,467	9,444	9,337	4,698	2,261	4,366	2,383	1,897	1,803	
FP Alt	1,330	5,475	3,399	4,467	9,444	9,337	4,848	2,273	4,366	2,383	1,897	1,803	
Change	0	0	0	0	0	0	150	12	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,564	3,076	2,963	3,473	4,539	2,880	4,754	2,493	4,403	1,754	2,525	6,325	
FP Alt	4,564	3,076	2,963	3,473	4,539	2,880	4,883	2,527	4,403	1,754	2,525	6,325	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,186	1,131	2,393	650	830	1,274	1,525	1,131	835	1,819	1,454	1,334	
FP Alt	1,186	1,131	2,393	650	830	1,274	1,634	1,177	843	1,819	1,454	1,334	
Change	0	0	0	0	0	0	109	46	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	909	4,642	4,889	2,835	3,594	4,753	4,735	2,644	2,322	708	713	981	
FP Alt	909	4,642	4,889	2,835	3,594	4,753	4,792	2,749	2,322	708	713	981	
Change	0	0	0	0	0	0	57	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,951	1,569	1,455	784	2,145	2,760	2,906	770	833	3,100	2,853	2,574	
FP Alt	1,951	1,569	1,455	784	2,145	2,760	3,001	829	841	3,100	2,853	2,574	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,606	13,506	4,509	7,826	4,715	5,374	4,739	2,419	4,411	1,422	1,196	2,474	
FP Alt	3,606	13,506	4,509	7,826	4,715	5,374	4,885	2,436	4,411	1,422	1,196	2,474	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,897	2,339	12,871	4,694	2,597	1,850	4,657	2,892	2,318	1,750	2,350	2,334	
FP Alt	1,897	2,339	12,871	4,694	2,597	1,850	4,780	2,931	2,318	1,750	2,350	2,334	
Change	0	0	0	0	0	0	123	39	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,132	869	888	1,749	833	2,702	2,409	2,036	997	1,354	1,188	1,235	
FP Alt	1,132	869	888	1,749	833	2,702	2,491	2,107	1,007	1,354	1,188	1,235	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,169	1,542	2,830	1,637	2,088	2,987	4,095	2,481	826	1,373	1,076	1,272	
FP Alt	1,169	1,542	2,830	1,637	2,088	2,987	4,176	2,552	837	1,373	1,076	1,272	
Change	0	0	0	0	0	0	81	71	11	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	970	713	722	901	832	2,338	2,182	1,538	858	1,764	1,417	1,248	
FP Alt	970	713	722	901	832	2,338	2,280	1,588	872	1,764	1,417	1,248	
Change	0	0	0	0	0	0	98	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	831	2,233	2,877	2,814	2,805	4,761	4,941	3,540	2,314	1,580	1,274	1,258	
FP Alt	831	2,233	2,877	2,814	2,805	4,761	5,034	3,598	2,326	1,580	1,274	1,258	
Change	0	0	0	0	0	0	93	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,974	1,411	1,071	553	835	2,890	2,631	2,155	1,033	2,795	3,540	2,611	
FP Alt	1,974	1,411	1,071	553	835	2,890	2,723	2,225	1,033	2,795	3,540	2,611	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	918	1,044	1,518	3,063	1,178	2,311	1,523	1,392	836	1,051	1,245	1,221	
FP Alt	918	1,044	1,518	3,063	1,178	2,311	1,610	1,449	855	1,051	1,245	1,221	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	904	651	1,469	6,708	4,547	3,824	4,734	3,505	2,590	1,587	1,321	1,158	
FP Alt	904	651	1,469	6,708	4,547	3,824	4,854	3,547	2,590	1,587	1,321	1,158	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,121	13,567	4,009	5,438	3,916	4,756	4,743	2,560	3,754	2,457	1,949	1,764	
FP Alt	5,121	13,567	4,009	5,438	3,916	4,756	4,870	2,596	3,754	2,457	1,949	1,764	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,436	2,942	4,466	4,228	3,872	2,750	4,757	2,589	2,870	2,607	2,067	1,921	
FP Alt	1,436	2,942	4,466	4,228	3,872	2,750	4,895	2,615	2,870	2,607	2,067	1,921	
Change	0	0	0	0	0	0	138	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,763	9,843	11,003	7,862	9,565	8,810	3,962	3,587	4,228	1,608	1,971	6,689	
FP Alt	2,763	9,843	11,003	7,862	9,565	8,810	4,098	3,599	4,242	1,608	1,971	6,689	
Change	0	0	0	0	0	0	136	12	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,781	1,334	1,514	1,638	1,132	1,811	2,206	1,444	850	1,617	2,600	2,340	
FP Alt	1,781	1,334	1,514	1,638	1,132	1,811	2,326	1,487	850	1,617	2,600	2,340	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,883	10,606	10,799	5,880	3,124	3,091	4,755	1,814	2,656	976	1,577	1,430	
FP Alt	2,883	10,606	10,799	5,880	3,124	3,091	4,804	1,927	2,656	976	1,577	1,430	
Change	0	0	0	0	0	0	49	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,455	8,060	4,846	3,805	5,050	3,328	4,419	2,659	3,563	4,150	2,291	2,193	
FP Alt	5,455	8,060	4,846	3,805	5,050	3,328	4,532	2,695	3,577	4,150	2,291	2,193	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,259	10,017	2,973	5,614	6,700	7,326	4,734	2,722	4,192	1,624	2,655	5,651	
FP Alt	9,259	10,017	2,973	5,614	6,700	7,326	4,869	2,736	4,207	1,624	2,655	5,651	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,877	7,187	12,624	4,963	2,892	2,825	4,760	2,260	4,709	1,589	4,400	4,742	
FP Alt	10,877	7,187	12,624	4,963	2,892	2,825	4,903	2,279	4,709	1,589	4,400	4,742	
Change	0	0	0	0	0	0	143	19	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,469	1,513	1,951	2,928	2,095	2,957	3,164	1,552	3,184	1,806	1,468	1,339	
FP Alt	1,469	1,513	1,951	2,928	2,095	2,957	3,263	1,615	3,184	1,806	1,468	1,339	
Change	0	0	0	0	0	0	99	63	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,512	9,306	2,178	2,894	2,696	3,338	4,747	2,352	4,201	1,384	1,153	1,228	
FP Alt	1,512	9,306	2,178	2,894	2,696	3,338	4,832	2,430	4,201	1,384	1,153	1,228	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,067	3,388	3,006	3,063	3,642	3,848	4,751	1,900	4,230	1,981	2,306	8,904	
FP Alt	5,067	3,388	3,006	3,063	3,642	3,848	4,820	1,994	4,230	1,981	2,306	8,904	
Change	0	0	0	0	0	0	69	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,263	1,057	2,008	2,883	2,073	1,701	2,880	2,412	2,320	1,905	1,959	1,755	
FP Alt	1,263	1,057	2,008	2,883	2,073	1,701	2,946	2,502	2,326	1,905	1,959	1,755	
Change	0	0	0	0	0	0	66	90	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	902	1,959	1,516	2,043	3,695	5,205	4,662	2,639	3,696	664	720	1,210	
FP Alt	902	1,959	1,516	2,043	3,695	5,205	4,739	2,725	3,696	664	720	1,210	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,462	1,477	3,382	3,343	2,841	3,912	4,384	2,538	2,324	1,603	1,784	1,664	
FP Alt	1,462	1,477	3,382	3,343	2,841	3,912	4,488	2,594	2,326	1,603	1,784	1,664	
Change	0	0	0	0	0	0	104	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,716	5,579	3,084	4,710	4,002	3,989	4,740	2,257	4,255	1,351	1,389	1,254	
FP Alt	2,716	5,579	3,084	4,710	4,002	3,989	4,849	2,312	4,255	1,351	1,389	1,254	
Change	0	0	0	0	0	0	109	55	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,213	8,308	3,787	3,177	3,699	2,775	4,759	2,263	3,996	1,971	16,651	16,100	
FP Alt	10,213	8,308	3,787	3,177	3,699	2,775	4,883	2,301	3,996	1,971	16,651	16,100	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,104	9,533	6,200	8,741	11,358	10,428	4,698	4,763	3,918	1,783	1,783	4,475	
FP Alt	9,104	9,533	6,200	8,741	11,358	10,428	4,779	4,818	3,945	1,783	1,783	4,475	
Change	0	0	0	0	0	0	81	55	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,256	2,284	1,785	2,960	2,849	6,069	4,336	3,450	4,159	1,586	2,792	2,657	
FP Alt	7,256	2,284	1,785	2,960	2,849	6,069	4,462	3,468	4,179	1,586	2,792	2,657	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,954	2,820	4,449	4,423	3,105	2,781	3,146	2,277	2,321	1,597	2,886	2,556	
FP Alt	1,954	2,820	4,449	4,423	3,105	2,781	3,251	2,334	2,321	1,597	2,886	2,556	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,835	3,027	2,170	1,668	2,089	2,760	2,877	2,433	841	1,349	1,138	1,272	
FP Alt	1,835	3,027	2,170	1,668	2,089	2,760	2,961	2,503	851	1,349	1,138	1,272	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,477	6,172	2,920	2,932	5,439	5,854	4,731	2,530	4,177	1,507	1,392	16,042	
FP Alt	16,477	6,172	2,920	2,932	5,439	5,854	4,864	2,544	4,192	1,507	1,392	16,042	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,903	2,392	4,500	2,916	2,157	3,784	4,736	2,856	2,553	1,630	2,773	2,490	
FP Alt	1,903	2,392	4,500	2,916	2,157	3,784	4,852	2,902	2,553	1,630	2,773	2,490	
Change	0	0	0	0	0	0	116	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,939	10,206	6,720	10,433	10,017	7,740	3,509	4,168	3,846	1,401	1,210	2,334	
FP Alt	2,939	10,206	6,720	10,433	10,017	7,740	3,636	4,185	3,865	1,401	1,210	2,334	
Change	0	0	0	0	0	0	127	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,660	3,245	2,214	1,667	2,090	2,212	4,758	767	896	1,592	2,287	2,093	
FP Alt	1,660	3,245	2,214	1,667	2,090	2,212	4,862	826	896	1,592	2,287	2,093	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	711	836	3,965	3,331	2,063	2,790	2,555	2,128	1,228	615	682	916	
FP Alt	711	836	3,965	3,331	2,063	2,790	2,648	2,174	1,252	615	682	916	
Change	0	0	0	0	0	0	93	46	24	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	935	664	1,442	1,613	2,057	1,260	3,426	1,275	838	1,361	1,158	1,205	
FP Alt	935	664	1,442	1,613	2,057	1,260	3,549	1,315	838	1,361	1,158	1,205	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	664	2,038	2,918	2,886	2,781	2,752	4,758	2,254	2,869	617	740	937	
FP Alt	664	2,038	2,918	2,886	2,781	2,752	4,886	2,289	2,869	617	740	937	
Change	0	0	0	0	0	0	128	35	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,919	11,808	2,158	6,176	7,091	3,183	4,745	2,575	3,699	2,667	4,258	3,346	
FP Alt	3,919	11,808	2,158	6,176	7,091	3,183	4,886	2,596	3,699	2,667	4,258	3,346	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,065	2,436	1,828	1,635	2,074	2,395	3,217	2,787	1,021	1,633	4,051	2,586	
FP Alt	2,065	2,436	1,828	1,635	2,074	2,395	3,281	2,884	1,023	1,633	4,051	2,586	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,912	5,352	2,188	4,772	4,079	3,114	5,270	2,275	4,413	1,411	1,141	21,003	
FP Alt	12,912	5,352	2,188	4,772	4,079	3,114	5,411	2,296	4,413	1,411	1,141	21,003	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,118	1,904	2,937	1,617	2,068	1,919	2,784	1,734	832	2,316	1,928	1,755	
FP Alt	2,118	1,904	2,937	1,617	2,068	1,919	2,880	1,801	832	2,316	1,928	1,755	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,907	4,321	6,082	3,957	8,380	10,446	3,901	4,257	4,385	1,366	1,200	2,465	
FP Alt	6,907	4,321	6,082	3,957	8,380	10,446	3,952	4,311	4,444	1,366	1,200	2,465	
Change	0	0	0	0	0	0	51	54	59	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,024	6,144	2,227	1,662	2,107	2,127	3,295	1,400	1,143	1,590	3,330	2,605	
FP Alt	2,024	6,144	2,227	1,662	2,107	2,127	3,432	1,426	1,143	1,590	3,330	2,605	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,476	9,190	3,720	6,499	9,132	6,552	4,725	2,268	4,084	1,381	1,678	1,503	
FP Alt	15,476	9,190	3,720	6,499	9,132	6,552	4,821	2,322	4,097	1,381	1,678	1,503	

Change	0	0	0	0	0	0	96	54	13	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,098	6,094	2,422	2,921	2,096	2,788	4,762	1,491	2,586	1,613	2,813	5,619	
FP Alt	21,098	6,094	2,422	2,921	2,096	2,788	4,885	1,531	2,586	1,613	2,813	5,619	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,680	3,835	3,542	3,274	2,890	4,962	4,744	2,267	3,866	741	1,173	5,769	
FP Alt	4,680	3,835	3,542	3,274	2,890	4,962	4,800	2,318	3,923	741	1,173	5,769	
Change	0	0	0	0	0	0	56	51	57	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,917	3,041	4,075	1,628	2,080	4,766	4,237	1,795	857	1,596	2,915	2,654	
FP Alt	1,917	3,041	4,075	1,628	2,080	4,766	4,356	1,838	857	1,596	2,915	2,654	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,367	7,147	3,461	2,890	3,892	4,747	4,645	1,617	2,978	1,420	1,175	2,779	
FP Alt	9,367	7,147	3,461	2,890	3,892	4,747	4,779	1,647	2,978	1,420	1,175	2,779	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,656	4,447	9,431	6,172	4,785	4,195	3,521	4,009	4,288	1,400	5,969	7,293	
FP Alt	11,656	4,447	9,431	6,172	4,785	4,195	3,655	4,023	4,304	1,400	5,969	7,293	
Change	0	0	0	0	0	0	134	14	16	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,607	3,834	4,702	2,916	4,491	6,274	3,924	2,986	4,084	1,611	2,373	2,180	
FP Alt	1,607	3,834	4,702	2,916	4,491	6,274	4,056	3,001	4,101	1,611	2,373	2,180	
Change	0	0	0	0	0	0	132	15	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,948	1,478	1,100	647	822	1,288	1,532	808	845	1,659	3,784	2,576	
FP Alt	1,948	1,478	1,100	647	822	1,288	1,680	823	845	1,659	3,784	2,576	
Change	0	0	0	0	0	0	148	15	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	884	626	457	188	388	816	561	233	385	619	700	1,205	
FP Alt	884	626	457	188	388	816	661	272	409	619	700	1,205	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,606	4,870	6,037	3,923	4,179	4,437	4,737	2,258	3,531	417	521	500	
FP Alt	2,606	4,870	6,037	3,923	4,179	4,437	4,872	2,271	3,546	417	521	500	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,466	3,645	3,346	2,822	3,278	4,741	4,261	1,475	3,309	2,027	1,691	1,477	
FP Alt	2,466	3,645	3,346	2,822	3,278	4,741	4,399	1,499	3,309	2,027	1,691	1,477	
Change	0	0	0	0	0	0	138	24	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,243	13,355	3,469	2,908	2,845	2,989	4,771	2,350	4,095	1,405	1,273	1,354	
FP Alt	18,243	13,355	3,469	2,908	2,845	2,989	4,906	2,365	4,108	1,405	1,273	1,354	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,988	1,438	1,513	1,644	2,087	1,255	3,086	1,275	842	1,590	3,143	2,613	
FP Alt	1,988	1,438	1,513	1,644	2,087	1,255	3,183	1,340	842	1,590	3,143	2,613	
Change	0	0	0	0	0	0	97	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,097	15,342	7,671	14,495	9,323	6,139	3,744	3,642	4,650	677	4,346	14,354	
FP Alt	8,097	15,342	7,671	14,495	9,323	6,139	3,877	3,656	4,666	677	4,346	14,354	
Change	0	0	0	0	0	0	133	14	16	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,677	12,549	16,580	6,558	10,557	14,457	7,681	3,151	5,109	2,058	8,096	9,196	
FP Alt	7,677	12,549	16,580	6,558	10,557	14,457	7,715	3,183	5,208	2,058	8,096	9,196	
Change	0	0	0	0	0	0	34	32	99	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,652	5,892	2,605	2,518	2,281	3,784	5,458	1,542	3,672	1,609	15,958	15,082	
FP Alt	6,652	5,892	2,605	2,518	2,281	3,784	5,567	1,596	3,672	1,609	15,958	15,082	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,945	1,492	1,524	2,905	2,083	3,117	2,661	2,288	1,579	1,601	3,074	2,598	
FP Alt	1,945	1,492	1,524	2,905	2,083	3,117	2,740	2,371	1,579	1,601	3,074	2,598	
Change	0	0	0	0	0	0	79	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,339	33,032	10,933	2,637	2,870	3,338	4,753	2,263	3,530	1,080	947	1,241	
FP Alt	4,339	33,032	10,933	2,637	2,870	3,338	4,892	2,275	3,542	1,080	947	1,241	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,676	1,298	1,010	1,661	1,559	1,958	1,604	793	839	1,865	2,416	2,182	
FP Alt	1,676	1,298	1,010	1,661	1,559	1,958	1,712	837	850	1,865	2,416	2,182	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	956	2,062	1,524	659	2,100	1,280	1,523	1,292	2,217	903	741	1,281	
FP Alt	956	2,062	1,524	659	2,100	1,280	1,613	1,358	2,225	903	741	1,281	
Change	0	0	0	0	0	0	90	66	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	655	545	6,971	3,615	3,696	4,749	3,527	2,670	1,353	375	438	953	
FP Alt	655	545	6,971	3,615	3,696	4,749	3,611	2,748	1,353	375	438	953	
Change	0	0	0	0	0	0	84	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,255	2,003	1,464	1,351	896	2,189	2,095	1,287	1,125	1,412	1,107	1,599	
FP Alt	1,255	2,003	1,464	1,351	896	2,189	2,192	1,346	1,132	1,412	1,107	1,599	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	871	663	631	1,788	2,099	1,811	2,744	2,018	2,342	1,121	896	1,214	
FP Alt	871	663	631	1,788	2,099	1,811	2,856	2,062	2,349	1,121	896	1,214	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	926	794	1,450	2,794	2,036	1,279	1,519	1,289	831	1,734	1,344	1,244	
FP Alt	926	794	1,450	2,794	2,036	1,279	1,601	1,352	849	1,734	1,344	1,244	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	6,128	7,626	3,867	5,284	5,398	4,732	2,412	4,772	406	392	515	
FP Alt	1,666	6,128	7,626	3,867	5,284	5,398	4,878	2,428	4,772	406	392	515	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Backwater Recharge in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions

Threshold:	<2700

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,350	5,403	3,417	4,552	9,586	9,613	5,000	2,500	4,544	2,501	2,001	1,801	
FP Alt	1,350	5,403	3,417	4,552	9,586	9,613	5,150	2,513	4,544	2,501	2,001	1,801	
Change	0	0	0	0	0	0	150	13	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,597	3,106	3,000	3,454	4,665	3,095	5,000	2,733	4,558	1,878	2,567	6,261	
FP Alt	4,597	3,106	3,000	3,454	4,665	3,095	5,129	2,767	4,558	1,878	2,567	6,261	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,100	2,393	750	1,000	1,500	1,750	1,337	1,000	1,967	1,573	1,416	
FP Alt	1,200	1,100	2,393	750	1,000	1,500	1,859	1,382	1,008	1,967	1,573	1,416	
Change	0	0	0	0	0	0	109	45	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	4,657	5,000	3,000	3,759	5,000	5,000	2,885	2,500	750	800	1,000	
FP Alt	1,000	4,657	5,000	3,000	3,759	5,000	5,058	2,990	2,500	750	800	1,000	
Change	0	0	0	0	0	0	58	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,001	1,501	1,500	750	2,250	2,979	3,159	1,000	1,000	3,243	2,964	2,668	
FP Alt	2,001	1,501	1,500	750	2,250	2,979	3,254	1,059	1,008	3,243	2,964	2,668	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,652	13,471	4,624	7,865	4,876	5,568	5,000	2,660	4,591	1,500	1,200	2,566	
FP Alt	3,652	13,471	4,624	7,865	4,876	5,568	5,146	2,677	4,591	1,500	1,200	2,566	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,925	2,334	12,819	4,848	2,729	2,045	4,890	3,127	2,500	1,879	2,424	2,386	
FP Alt	1,925	2,334	12,819	4,848	2,729	2,045	5,013	3,167	2,500	1,879	2,424	2,386	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	900	882	1,829	1,000	2,894	2,648	2,250	1,171	1,500	1,256	1,300	
FP Alt	1,200	900	882	1,829	1,000	2,894	2,730	2,321	1,181	1,500	1,256	1,300	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,637	2,864	1,750	2,250	3,232	4,342	2,709	1,000	1,505	1,204	1,300	
FP Alt	1,200	1,637	2,864	1,750	2,250	3,232	4,422	2,780	1,012	1,505	1,204	1,300	
Change	0	0	0	0	0	0	80	71	12	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,019	764	750	1,023	1,000	2,529	2,420	1,753	1,028	1,887	1,510	1,359	
FP Alt	1,019	764	750	1,023	1,000	2,529	2,519	1,803	1,042	1,887	1,510	1,359	
Change	0	0	0	0	0	0	99	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	913	2,297	3,000	3,000	3,000	5,000	5,194	3,774	2,500	1,691	1,353	1,217	
FP Alt	913	2,297	3,000	3,000	3,000	5,000	5,288	3,832	2,512	1,691	1,353	1,217	
Change	0	0	0	0	0	0	94	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	3,117	2,872	2,372	1,206	2,943	3,666	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	3,117	2,964	2,442	1,206	2,943	3,666	2,700	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	1,100	1,638	3,261	1,381	2,522	1,754	1,595	1,000	1,151	1,370	1,233	
FP Alt	1,000	1,100	1,638	3,261	1,381	2,522	1,841	1,652	1,019	1,151	1,370	1,233	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	922	750	1,500	6,736	4,806	4,102	5,000	3,754	2,785	1,707	1,365	1,229	
FP Alt	922	750	1,500	6,736	4,806	4,102	5,120	3,796	2,785	1,707	1,365	1,229	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,173	13,556	4,209	5,628	4,138	5,001	5,000	2,795	3,932	2,572	2,058	1,852	
FP Alt	5,173	13,556	4,209	5,628	4,138	5,001	5,127	2,831	3,932	2,572	2,058	1,852	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,489	2,937	4,472	4,414	4,102	3,000	5,000	2,827	3,050	2,758	2,206	1,986	
FP Alt	1,489	2,937	4,472	4,414	4,102	3,000	5,137	2,853	3,050	2,758	2,206	1,986	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,867	9,816	11,086	8,033	9,751	9,091	4,261	3,820	4,410	1,750	2,028	6,744	
FP Alt	2,867	9,816	11,086	8,033	9,751	9,091	4,397	3,833	4,424	1,750	2,028	6,744	
Change	0	0	0	0	0	0	136	13	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,831	1,373	1,500	1,750	1,275	2,042	2,438	1,658	1,000	1,750	2,713	2,441	
FP Alt	1,831	1,373	1,500	1,750	1,275	2,042	2,558	1,701	1,000	1,750	2,713	2,441	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,852	10,591	10,912	6,083	3,309	3,329	5,000	2,051	2,829	1,080	1,700	1,530	
FP Alt	2,852	10,591	10,912	6,083	3,309	3,329	5,050	2,164	2,829	1,080	1,700	1,530	
Change	0	0	0	0	0	0	50	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,474	8,078	4,894	3,802	5,134	3,547	4,673	2,909	3,752	4,277	2,400	2,160	
FP Alt	5,474	8,078	4,894	3,802	5,134	3,547	4,786	2,945	3,766	4,277	2,400	2,160	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,287	10,054	3,000	5,540	6,772	7,534	5,000	2,973	4,379	1,750	2,746	5,630	
FP Alt	9,287	10,054	3,000	5,540	6,772	7,534	5,135	2,987	4,394	1,750	2,746	5,630	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,841	7,258	12,601	5,046	3,000	3,000	5,000	2,500	4,887	1,750	4,470	4,778	
FP Alt	10,841	7,258	12,601	5,046	3,000	3,000	5,143	2,520	4,887	1,750	4,470	4,778	
Change	0	0	0	0	0	0	143	20	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,431	1,970	3,000	2,250	3,182	3,410	1,777	3,356	1,972	1,578	1,420	
FP Alt	1,500	1,431	1,970	3,000	2,250	3,182	3,509	1,841	3,356	1,972	1,578	1,420	
Change	0	0	0	0	0	0	99	64	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,608	9,316	2,250	3,000	2,851	3,555	5,000	2,593	4,381	1,500	1,200	1,300	
FP Alt	1,608	9,316	2,250	3,000	2,851	3,555	5,085	2,671	4,381	1,500	1,200	1,300	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,201	3,441	3,000	3,163	3,791	4,088	5,000	2,135	4,395	2,076	2,387	8,925	
FP Alt	5,201	3,441	3,000	3,163	3,791	4,088	5,068	2,229	4,395	2,076	2,387	8,925	
Change	0	0	0	0	0	0	68	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,372	1,100	1,995	3,000	2,250	1,924	3,117	2,636	2,500	2,057	2,032	1,829	
FP Alt	1,372	1,100	1,995	3,000	2,250	1,924	3,183	2,727	2,506	2,057	2,032	1,829	
Change	0	0	0	0	0	0	66	91	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,033	1,525	2,050	3,780	5,416	4,947	2,893	3,882	750	800	1,300	
FP Alt	1,000	2,033	1,525	2,050	3,780	5,416	5,024	2,979	3,882	750	800	1,300	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,494	3,311	3,463	3,000	4,152	4,633	2,769	2,500	1,750	1,885	1,696	
FP Alt	1,500	1,494	3,311	3,463	3,000	4,152	4,738	2,825	2,502	1,750	1,885	1,696	
Change	0	0	0	0	0	0	105	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,747	5,641	3,151	4,813	4,188	4,245	5,000	2,500	4,423	1,500	1,488	1,339	
FP Alt	2,747	5,641	3,151	4,813	4,188	4,245	5,108	2,554	4,423	1,500	1,488	1,339	
Change	0	0	0	0	0	0	108	54	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,361	8,371	3,827	3,254	3,818	3,000	5,000	2,500	4,173	2,065	16,681	16,253	
FP Alt	10,361	8,371	3,827	3,254	3,818	3,000	5,124	2,538	4,173	2,065	16,681	16,253	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,069	9,639	6,228	8,829	11,546	10,697	5,000	5,000	4,110	1,894	1,864	4,494	
FP Alt	9,069	9,639	6,228	8,829	11,546	10,697	5,080	5,056	4,137	1,894	1,864	4,494	
Change	0	0	0	0	0	0	80	56	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,269	2,385	1,789	3,000	3,000	6,284	4,608	3,672	4,347	1,750	2,876	2,650	
FP Alt	7,269	2,385	1,789	3,000	3,000	6,284	4,734	3,690	4,367	1,750	2,876	2,650	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,005	2,829	4,439	4,490	3,260	3,000	3,392	2,500	2,500	1,750	2,971	2,673	
FP Alt	2,005	2,829	4,439	4,490	3,260	3,000	3,497	2,557	2,500	1,750	2,971	2,673	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,882	3,091	2,250	1,750	2,250	3,000	3,118	2,653	1,000	1,500	1,200	1,300	
FP Alt	1,882	3,091	2,250	1,750	2,250	3,000	3,202	2,723	1,010	1,500	1,200	1,300	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,591	6,360	3,000	3,000	5,565	6,102	5,000	2,767	4,337	1,624	1,483	15,971	
FP Alt	16,591	6,360	3,000	3,000	5,565	6,102	5,133	2,782	4,353	1,624	1,483	15,971	
Change	0	0	0	0	0	0	133	15	16	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,960	2,382	4,502	3,000	2,250	3,993	5,000	3,104	2,707	1,750	2,904	2,613	
FP Alt	1,960	2,382	4,502	3,000	2,250	3,993	5,117	3,150	2,707	1,750	2,904	2,613	
Change	0	0	0	0	0	0	117	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,936	10,140	6,739	10,416	10,164	7,967	3,766	4,404	4,043	1,500	1,326	2,387	
FP Alt	2,936	10,140	6,739	10,416	10,164	7,967	3,894	4,421	4,062	1,500	1,326	2,387	
Change	0	0	0	0	0	0	128	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,623	3,191	2,250	1,750	2,250	2,448	4,989	1,000	1,000	1,750	2,405	2,164	
FP Alt	1,623	3,191	2,250	1,750	2,250	2,448	5,093	1,059	1,000	1,750	2,405	2,164	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	879	4,014	3,479	2,250	3,028	2,794	2,344	1,403	750	800	1,000	
FP Alt	750	879	4,014	3,479	2,250	3,028	2,888	2,390	1,426	750	800	1,000	
Change	0	0	0	0	0	0	94	46	23	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	750	1,500	1,750	2,250	1,500	3,654	1,500	1,000	1,500	1,200	1,300	
FP Alt	1,000	750	1,500	1,750	2,250	1,500	3,777	1,540	1,000	1,500	1,200	1,300	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	1,987	3,000	3,061	3,000	3,000	5,000	2,489	3,045	750	800	1,000	
FP Alt	750	1,987	3,000	3,061	3,000	3,000	5,128	2,523	3,045	750	800	1,000	
Change	0	0	0	0	0	0	128	34	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,985	11,887	2,250	6,171	7,235	3,431	5,000	2,825	3,880	2,644	4,375	3,445	
FP Alt	3,985	11,887	2,250	6,171	7,235	3,431	5,142	2,846	3,880	2,644	4,375	3,445	
Change	0	0	0	0	0	0	142	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,069	2,480	1,860	1,750	2,250	2,617	3,450	3,005	1,200	1,750	4,080	2,700	
FP Alt	2,069	2,480	1,860	1,750	2,250	2,617	3,514	3,102	1,202	1,750	4,080	2,700	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,119	5,554	2,250	4,788	4,251	3,356	5,517	2,500	4,591	1,500	1,200	20,997	
FP Alt	13,119	5,554	2,250	4,788	4,251	3,356	5,658	2,522	4,591	1,500	1,200	20,997	
Change	0	0	0	0	0	0	141	22	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,194	1,958	3,000	1,750	2,250	2,149	3,007	1,947	1,000	2,482	1,985	1,821	
FP Alt	2,194	1,958	3,000	1,750	2,250	2,149	3,103	2,014	1,000	2,482	1,985	1,821	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,887	4,489	6,142	4,009	8,548	10,703	4,224	4,498	4,585	1,500	1,200	2,511	
FP Alt	6,887	4,489	6,142	4,009	8,548	10,703	4,275	4,552	4,645	1,500	1,200	2,511	
Change	0	0	0	0	0	0	51	54	60	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	6,147	2,250	1,750	2,250	2,353	3,531	1,618	1,312	1,750	3,428	2,700	
FP Alt	2,025	6,147	2,250	1,750	2,250	2,353	3,668	1,643	1,312	1,750	3,428	2,700	
Change	0	0	0	0	0	0	137	25	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,403	9,315	3,799	6,570	9,322	6,830	5,000	2,504	4,261	1,500	1,731	1,558	
FP Alt	15,403	9,315	3,799	6,570	9,322	6,830	5,096	2,559	4,273	1,500	1,731	1,558	

Change	0	0	0	0	0	0	96	55	12	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,102	6,318	2,417	3,000	2,250	3,000	5,000	1,725	2,754	1,750	2,916	5,654	
FP Alt	21,102	6,318	2,417	3,000	2,250	3,000	5,123	1,765	2,754	1,750	2,916	5,654	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,814	3,957	3,578	3,408	3,051	5,204	5,000	2,500	4,040	859	1,150	5,795	
FP Alt	4,814	3,957	3,578	3,408	3,051	5,204	5,056	2,551	4,098	859	1,150	5,795	
Change	0	0	0	0	0	0	56	51	58	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	3,116	4,166	1,758	2,250	5,000	4,497	2,028	1,000	1,750	3,016	2,700	
FP Alt	2,025	3,116	4,166	1,758	2,250	5,000	4,616	2,071	1,000	1,750	3,016	2,700	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,337	7,204	3,505	3,000	4,061	5,000	4,905	1,854	3,139	1,500	1,200	2,844	
FP Alt	9,337	7,204	3,505	3,000	4,061	5,000	5,039	1,884	3,139	1,500	1,200	2,844	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,740	4,589	9,385	6,278	4,944	4,406	3,742	4,242	4,485	1,504	5,965	7,367	
FP Alt	11,740	4,589	9,385	6,278	4,944	4,406	3,875	4,256	4,500	1,504	5,965	7,367	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	3,751	4,664	3,000	4,642	6,516	4,198	3,214	4,269	1,750	2,468	2,221	
FP Alt	1,666	3,751	4,664	3,000	4,642	6,516	4,330	3,228	4,286	1,750	2,468	2,221	
Change	0	0	0	0	0	0	132	14	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	1,500	1,750	1,000	1,000	1,750	3,898	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	1,500	1,898	1,014	1,000	1,750	3,898	2,700	
Change	0	0	0	0	0	0	148	14	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	318	500	1,000	750	400	500	750	800	1,300	
FP Alt	975	731	548	318	500	1,000	850	439	524	750	800	1,300	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,506	4,902	6,085	4,064	4,411	4,702	5,000	2,500	3,699	500	574	516	
FP Alt	2,506	4,902	6,085	4,064	4,411	4,702	5,135	2,513	3,714	500	574	516	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,483	3,698	3,432	3,000	3,496	5,000	4,524	1,713	3,482	2,188	1,751	1,576	
FP Alt	2,483	3,698	3,432	3,000	3,496	5,000	4,662	1,738	3,482	2,188	1,751	1,576	
Change	0	0	0	0	0	0	138	25	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,252	13,496	3,607	3,000	3,000	3,226	5,000	2,588	4,273	1,500	1,357	1,394	
FP Alt	18,252	13,496	3,607	3,000	3,000	3,226	5,135	2,603	4,286	1,500	1,357	1,394	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	1,750	2,250	1,500	3,318	1,500	1,000	1,750	3,268	2,700	
FP Alt	2,025	1,519	1,500	1,750	2,250	1,500	3,416	1,565	1,000	1,750	3,268	2,700	
Change	0	0	0	0	0	0	98	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,229	15,420	7,697	14,459	9,528	6,360	3,988	3,883	4,784	750	4,333	14,422	
FP Alt	8,229	15,420	7,697	14,459	9,528	6,360	4,121	3,898	4,799	750	4,333	14,422	
Change	0	0	0	0	0	0	133	15	15	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,652	12,469	16,480	6,594	10,629	14,668	7,978	3,392	5,273	2,136	8,058	9,229	
FP Alt	7,652	12,469	16,480	6,594	10,629	14,668	8,013	3,424	5,373	2,136	8,058	9,229	
Change	0	0	0	0	0	0	35	32	100	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,758	5,884	2,586	2,564	2,415	3,982	5,704	1,775	3,837	1,751	15,897	15,134	
FP Alt	6,758	5,884	2,586	2,564	2,415	3,982	5,813	1,829	3,837	1,751	15,897	15,134	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	3,000	2,250	3,348	2,905	2,504	1,740	1,718	3,079	2,700	
FP Alt	2,025	1,519	1,500	3,000	2,250	3,348	2,985	2,587	1,740	1,718	3,079	2,700	
Change	0	0	0	0	0	0	80	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,388	32,947	11,118	2,734	2,962	3,529	5,000	2,500	3,679	1,199	959	1,300	
FP Alt	4,388	32,947	11,118	2,734	2,962	3,529	5,139	2,512	3,691	1,199	959	1,300	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,714	1,285	964	1,750	1,716	2,191	1,836	1,000	1,000	2,020	2,539	2,285	
FP Alt	1,714	1,285	964	1,750	1,716	2,191	1,944	1,044	1,011	2,020	2,539	2,285	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,166	1,624	750	2,250	1,500	1,750	1,500	2,384	1,020	816	1,300	
FP Alt	1,000	2,166	1,624	750	2,250	1,500	1,840	1,565	2,392	1,020	816	1,300	
Change	0	0	0	0	0	0	90	65	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	640	6,957	3,827	3,899	5,000	3,794	2,896	1,465	521	500	1,000	
FP Alt	750	640	6,957	3,827	3,899	5,000	3,879	2,974	1,465	521	500	1,000	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,284	2,005	1,504	1,457	1,000	2,410	2,331	1,500	1,293	1,500	1,200	1,712	
FP Alt	1,284	2,005	1,504	1,457	1,000	2,410	2,428	1,559	1,300	1,500	1,200	1,712	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	1,872	2,250	1,995	2,951	2,209	2,500	1,252	1,002	1,300	
FP Alt	975	731	548	1,872	2,250	1,995	3,063	2,253	2,507	1,252	1,002	1,300	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	982	737	1,500	2,961	2,250	1,500	1,750	1,500	1,000	1,819	1,455	1,310	
FP Alt	982	737	1,500	2,961	2,250	1,500	1,832	1,563	1,018	1,819	1,455	1,310	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,601	6,144	7,737	4,106	5,483	5,636	5,000	2,652	4,952	500	500	500	
FP Alt	1,601	6,144	7,737	4,106	5,483	5,636	5,146	2,668	4,952	500	500	500	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Backwater Recharge in the Lower American River Below Nimbus Dam Under Baseline and FP Alt Conditions

Threshold:	<4000

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,350	5,403	3,417	4,552	9,586	9,613	5,000	2,500	4,544	2,501	2,001	1,801	
FP Alt	1,350	5,403	3,417	4,552	9,586	9,613	5,150	2,513	4,544	2,501	2,001	1,801	
Change	0	0	0	0	0	0	150	13	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,597	3,106	3,000	3,454	4,665	3,095	5,000	2,733	4,558	1,878	2,567	6,261	
FP Alt	4,597	3,106	3,000	3,454	4,665	3,095	5,129	2,767	4,558	1,878	2,567	6,261	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,100	2,393	750	1,000	1,500	1,750	1,337	1,000	1,967	1,573	1,416	
FP Alt	1,200	1,100	2,393	750	1,000	1,500	1,859	1,382	1,008	1,967	1,573	1,416	
Change	0	0	0	0	0	0	109	45	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	4,657	5,000	3,000	3,759	5,000	5,000	2,885	2,500	750	800	1,000	
FP Alt	1,000	4,657	5,000	3,000	3,759	5,000	5,058	2,990	2,500	750	800	1,000	
Change	0	0	0	0	0	0	58	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,001	1,501	1,500	750	2,250	2,979	3,159	1,000	1,000	3,243	2,964	2,668	
FP Alt	2,001	1,501	1,500	750	2,250	2,979	3,254	1,059	1,008	3,243	2,964	2,668	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,652	13,471	4,624	7,865	4,876	5,568	5,000	2,660	4,591	1,500	1,200	2,566	
FP Alt	3,652	13,471	4,624	7,865	4,876	5,568	5,146	2,677	4,591	1,500	1,200	2,566	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,925	2,334	12,819	4,848	2,729	2,045	4,890	3,127	2,500	1,879	2,424	2,386	
FP Alt	1,925	2,334	12,819	4,848	2,729	2,045	5,013	3,167	2,500	1,879	2,424	2,386	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	900	882	1,829	1,000	2,894	2,648	2,250	1,171	1,500	1,256	1,300	
FP Alt	1,200	900	882	1,829	1,000	2,894	2,730	2,321	1,181	1,500	1,256	1,300	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,200	1,637	2,864	1,750	2,250	3,232	4,342	2,709	1,000	1,505	1,204	1,300	
FP Alt	1,200	1,637	2,864	1,750	2,250	3,232	4,422	2,780	1,012	1,505	1,204	1,300	
Change	0	0	0	0	0	0	80	71	12	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,019	764	750	1,023	1,000	2,529	2,420	1,753	1,028	1,887	1,510	1,359	
FP Alt	1,019	764	750	1,023	1,000	2,529	2,519	1,803	1,042	1,887	1,510	1,359	
Change	0	0	0	0	0	0	99	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	913	2,297	3,000	3,000	3,000	5,000	5,194	3,774	2,500	1,691	1,353	1,217	
FP Alt	913	2,297	3,000	3,000	3,000	5,000	5,288	3,832	2,512	1,691	1,353	1,217	
Change	0	0	0	0	0	0	94	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	3,117	2,872	2,372	1,206	2,943	3,666	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	3,117	2,964	2,442	1,206	2,943	3,666	2,700	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	1,100	1,638	3,261	1,381	2,522	1,754	1,595	1,000	1,151	1,370	1,233	
FP Alt	1,000	1,100	1,638	3,261	1,381	2,522	1,841	1,652	1,019	1,151	1,370	1,233	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	922	750	1,500	6,736	4,806	4,102	5,000	3,754	2,785	1,707	1,365	1,229	
FP Alt	922	750	1,500	6,736	4,806	4,102	5,120	3,796	2,785	1,707	1,365	1,229	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,173	13,556	4,209	5,628	4,138	5,001	5,000	2,795	3,932	2,572	2,058	1,852	
FP Alt	5,173	13,556	4,209	5,628	4,138	5,001	5,127	2,831	3,932	2,572	2,058	1,852	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,489	2,937	4,472	4,414	4,102	3,000	5,000	2,827	3,050	2,758	2,206	1,986	
FP Alt	1,489	2,937	4,472	4,414	4,102	3,000	5,137	2,853	3,050	2,758	2,206	1,986	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,867	9,816	11,086	8,033	9,751	9,091	4,261	3,820	4,410	1,750	2,028	6,744	
FP Alt	2,867	9,816	11,086	8,033	9,751	9,091	4,397	3,833	4,424	1,750	2,028	6,744	
Change	0	0	0	0	0	0	136	13	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,831	1,373	1,500	1,750	1,275	2,042	2,438	1,658	1,000	1,750	2,713	2,441	
FP Alt	1,831	1,373	1,500	1,750	1,275	2,042	2,558	1,701	1,000	1,750	2,713	2,441	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,852	10,591	10,912	6,083	3,309	3,329	5,000	2,051	2,829	1,080	1,700	1,530	
FP Alt	2,852	10,591	10,912	6,083	3,309	3,329	5,050	2,164	2,829	1,080	1,700	1,530	
Change	0	0	0	0	0	0	50	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,474	8,078	4,894	3,802	5,134	3,547	4,673	2,909	3,752	4,277	2,400	2,160	
FP Alt	5,474	8,078	4,894	3,802	5,134	3,547	4,786	2,945	3,766	4,277	2,400	2,160	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,287	10,054	3,000	5,540	6,772	7,534	5,000	2,973	4,379	1,750	2,746	5,630	
FP Alt	9,287	10,054	3,000	5,540	6,772	7,534	5,135	2,987	4,394	1,750	2,746	5,630	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,841	7,258	12,601	5,046	3,000	3,000	5,000	2,500	4,887	1,750	4,470	4,778	
FP Alt	10,841	7,258	12,601	5,046	3,000	3,000	5,143	2,520	4,887	1,750	4,470	4,778	
Change	0	0	0	0	0	0	143	20	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,431	1,970	3,000	2,250	3,182	3,410	1,777	3,356	1,972	1,578	1,420	
FP Alt	1,500	1,431	1,970	3,000	2,250	3,182	3,509	1,841	3,356	1,972	1,578	1,420	
Change	0	0	0	0	0	0	99	64	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,608	9,316	2,250	3,000	2,851	3,555	5,000	2,593	4,381	1,500	1,200	1,300	
FP Alt	1,608	9,316	2,250	3,000	2,851	3,555	5,085	2,671	4,381	1,500	1,200	1,300	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,201	3,441	3,000	3,163	3,791	4,088	5,000	2,135	4,395	2,076	2,387	8,925	
FP Alt	5,201	3,441	3,000	3,163	3,791	4,088	5,068	2,229	4,395	2,076	2,387	8,925	
Change	0	0	0	0	0	0	68	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,372	1,100	1,995	3,000	2,250	1,924	3,117	2,636	2,500	2,057	2,032	1,829	
FP Alt	1,372	1,100	1,995	3,000	2,250	1,924	3,183	2,727	2,506	2,057	2,032	1,829	
Change	0	0	0	0	0	0	66	91	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,033	1,525	2,050	3,780	5,416	4,947	2,893	3,882	750	800	1,300	
FP Alt	1,000	2,033	1,525	2,050	3,780	5,416	5,024	2,979	3,882	750	800	1,300	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,500	1,494	3,311	3,463	3,000	4,152	4,633	2,769	2,500	1,750	1,885	1,696	
FP Alt	1,500	1,494	3,311	3,463	3,000	4,152	4,738	2,825	2,502	1,750	1,885	1,696	
Change	0	0	0	0	0	0	105	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,747	5,641	3,151	4,813	4,188	4,245	5,000	2,500	4,423	1,500	1,488	1,339	
FP Alt	2,747	5,641	3,151	4,813	4,188	4,245	5,108	2,554	4,423	1,500	1,488	1,339	
Change	0	0	0	0	0	0	108	54	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,361	8,371	3,827	3,254	3,818	3,000	5,000	2,500	4,173	2,065	16,681	16,253	
FP Alt	10,361	8,371	3,827	3,254	3,818	3,000	5,124	2,538	4,173	2,065	16,681	16,253	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,069	9,639	6,228	8,829	11,546	10,697	5,000	5,000	4,110	1,894	1,864	4,494	
FP Alt	9,069	9,639	6,228	8,829	11,546	10,697	5,080	5,056	4,137	1,894	1,864	4,494	
Change	0	0	0	0	0	0	80	56	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,269	2,385	1,789	3,000	3,000	6,284	4,608	3,672	4,347	1,750	2,876	2,650	
FP Alt	7,269	2,385	1,789	3,000	3,000	6,284	4,734	3,690	4,367	1,750	2,876	2,650	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,005	2,829	4,439	4,490	3,260	3,000	3,392	2,500	2,500	1,750	2,971	2,673	
FP Alt	2,005	2,829	4,439	4,490	3,260	3,000	3,497	2,557	2,500	1,750	2,971	2,673	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,882	3,091	2,250	1,750	2,250	3,000	3,118	2,653	1,000	1,500	1,200	1,300	
FP Alt	1,882	3,091	2,250	1,750	2,250	3,000	3,202	2,723	1,010	1,500	1,200	1,300	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,591	6,360	3,000	3,000	5,565	6,102	5,000	2,767	4,337	1,624	1,483	15,971	
FP Alt	16,591	6,360	3,000	3,000	5,565	6,102	5,133	2,782	4,353	1,624	1,483	15,971	
Change	0	0	0	0	0	0	133	15	16	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,960	2,382	4,502	3,000	2,250	3,993	5,000	3,104	2,707	1,750	2,904	2,613	
FP Alt	1,960	2,382	4,502	3,000	2,250	3,993	5,117	3,150	2,707	1,750	2,904	2,613	
Change	0	0	0	0	0	0	117	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,936	10,140	6,739	10,416	10,164	7,967	3,766	4,404	4,043	1,500	1,326	2,387	
FP Alt	2,936	10,140	6,739	10,416	10,164	7,967	3,894	4,421	4,062	1,500	1,326	2,387	
Change	0	0	0	0	0	0	128	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,623	3,191	2,250	1,750	2,250	2,448	4,989	1,000	1,000	1,750	2,405	2,164	
FP Alt	1,623	3,191	2,250	1,750	2,250	2,448	5,093	1,059	1,000	1,750	2,405	2,164	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	879	4,014	3,479	2,250	3,028	2,794	2,344	1,403	750	800	1,000	
FP Alt	750	879	4,014	3,479	2,250	3,028	2,888	2,390	1,426	750	800	1,000	
Change	0	0	0	0	0	0	94	46	23	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	750	1,500	1,750	2,250	1,500	3,654	1,500	1,000	1,500	1,200	1,300	
FP Alt	1,000	750	1,500	1,750	2,250	1,500	3,777	1,540	1,000	1,500	1,200	1,300	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	1,987	3,000	3,061	3,000	3,000	5,000	2,489	3,045	750	800	1,000	
FP Alt	750	1,987	3,000	3,061	3,000	3,000	5,128	2,523	3,045	750	800	1,000	
Change	0	0	0	0	0	0	128	34	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,985	11,887	2,250	6,171	7,235	3,431	5,000	2,825	3,880	2,644	4,375	3,445	
FP Alt	3,985	11,887	2,250	6,171	7,235	3,431	5,142	2,846	3,880	2,644	4,375	3,445	
Change	0	0	0	0	0	0	142	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,069	2,480	1,860	1,750	2,250	2,617	3,450	3,005	1,200	1,750	4,080	2,700	
FP Alt	2,069	2,480	1,860	1,750	2,250	2,617	3,514	3,102	1,202	1,750	4,080	2,700	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,119	5,554	2,250	4,788	4,251	3,356	5,517	2,500	4,591	1,500	1,200	20,997	
FP Alt	13,119	5,554	2,250	4,788	4,251	3,356	5,658	2,522	4,591	1,500	1,200	20,997	
Change	0	0	0	0	0	0	141	22	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,194	1,958	3,000	1,750	2,250	2,149	3,007	1,947	1,000	2,482	1,985	1,821	
FP Alt	2,194	1,958	3,000	1,750	2,250	2,149	3,103	2,014	1,000	2,482	1,985	1,821	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,887	4,489	6,142	4,009	8,548	10,703	4,224	4,498	4,585	1,500	1,200	2,511	
FP Alt	6,887	4,489	6,142	4,009	8,548	10,703	4,275	4,552	4,645	1,500	1,200	2,511	
Change	0	0	0	0	0	0	51	54	60	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	6,147	2,250	1,750	2,250	2,353	3,531	1,618	1,312	1,750	3,428	2,700	
FP Alt	2,025	6,147	2,250	1,750	2,250	2,353	3,668	1,643	1,312	1,750	3,428	2,700	
Change	0	0	0	0	0	0	137	25	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,403	9,315	3,799	6,570	9,322	6,830	5,000	2,504	4,261	1,500	1,731	1,558	
FP Alt	15,403	9,315	3,799	6,570	9,322	6,830	5,096	2,559	4,273	1,500	1,731	1,558	

Change	0	0	0	0	0	0	96	55	12	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,102	6,318	2,417	3,000	2,250	3,000	5,000	1,725	2,754	1,750	2,916	5,654	
FP Alt	21,102	6,318	2,417	3,000	2,250	3,000	5,123	1,765	2,754	1,750	2,916	5,654	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,814	3,957	3,578	3,408	3,051	5,204	5,000	2,500	4,040	859	1,150	5,795	
FP Alt	4,814	3,957	3,578	3,408	3,051	5,204	5,056	2,551	4,098	859	1,150	5,795	
Change	0	0	0	0	0	0	56	51	58	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	3,116	4,166	1,758	2,250	5,000	4,497	2,028	1,000	1,750	3,016	2,700	
FP Alt	2,025	3,116	4,166	1,758	2,250	5,000	4,616	2,071	1,000	1,750	3,016	2,700	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,337	7,204	3,505	3,000	4,061	5,000	4,905	1,854	3,139	1,500	1,200	2,844	
FP Alt	9,337	7,204	3,505	3,000	4,061	5,000	5,039	1,884	3,139	1,500	1,200	2,844	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,740	4,589	9,385	6,278	4,944	4,406	3,742	4,242	4,485	1,504	5,965	7,367	
FP Alt	11,740	4,589	9,385	6,278	4,944	4,406	3,875	4,256	4,500	1,504	5,965	7,367	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	3,751	4,664	3,000	4,642	6,516	4,198	3,214	4,269	1,750	2,468	2,221	
FP Alt	1,666	3,751	4,664	3,000	4,642	6,516	4,330	3,228	4,286	1,750	2,468	2,221	
Change	0	0	0	0	0	0	132	14	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,139	750	1,000	1,500	1,750	1,000	1,000	1,750	3,898	2,700	
FP Alt	2,025	1,519	1,139	750	1,000	1,500	1,898	1,014	1,000	1,750	3,898	2,700	
Change	0	0	0	0	0	0	148	14	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	318	500	1,000	750	400	500	750	800	1,300	
FP Alt	975	731	548	318	500	1,000	850	439	524	750	800	1,300	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,506	4,902	6,085	4,064	4,411	4,702	5,000	2,500	3,699	500	574	516	
FP Alt	2,506	4,902	6,085	4,064	4,411	4,702	5,135	2,513	3,714	500	574	516	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,483	3,698	3,432	3,000	3,496	5,000	4,524	1,713	3,482	2,188	1,751	1,576	
FP Alt	2,483	3,698	3,432	3,000	3,496	5,000	4,662	1,738	3,482	2,188	1,751	1,576	
Change	0	0	0	0	0	0	138	25	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,252	13,496	3,607	3,000	3,000	3,226	5,000	2,588	4,273	1,500	1,357	1,394	
FP Alt	18,252	13,496	3,607	3,000	3,000	3,226	5,135	2,603	4,286	1,500	1,357	1,394	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	1,750	2,250	1,500	3,318	1,500	1,000	1,750	3,268	2,700	
FP Alt	2,025	1,519	1,500	1,750	2,250	1,500	3,416	1,565	1,000	1,750	3,268	2,700	
Change	0	0	0	0	0	0	98	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,229	15,420	7,697	14,459	9,528	6,360	3,988	3,883	4,784	750	4,333	14,422	
FP Alt	8,229	15,420	7,697	14,459	9,528	6,360	4,121	3,898	4,799	750	4,333	14,422	
Change	0	0	0	0	0	0	133	15	15	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,652	12,469	16,480	6,594	10,629	14,668	7,978	3,392	5,273	2,136	8,058	9,229	
FP Alt	7,652	12,469	16,480	6,594	10,629	14,668	8,013	3,424	5,373	2,136	8,058	9,229	
Change	0	0	0	0	0	0	35	32	100	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,758	5,884	2,586	2,564	2,415	3,982	5,704	1,775	3,837	1,751	15,897	15,134	
FP Alt	6,758	5,884	2,586	2,564	2,415	3,982	5,813	1,829	3,837	1,751	15,897	15,134	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,025	1,519	1,500	3,000	2,250	3,348	2,905	2,504	1,740	1,718	3,079	2,700	
FP Alt	2,025	1,519	1,500	3,000	2,250	3,348	2,985	2,587	1,740	1,718	3,079	2,700	
Change	0	0	0	0	0	0	80	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,388	32,947	11,118	2,734	2,962	3,529	5,000	2,500	3,679	1,199	959	1,300	
FP Alt	4,388	32,947	11,118	2,734	2,962	3,529	5,139	2,512	3,691	1,199	959	1,300	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,714	1,285	964	1,750	1,716	2,191	1,836	1,000	1,000	2,020	2,539	2,285	
FP Alt	1,714	1,285	964	1,750	1,716	2,191	1,944	1,044	1,011	2,020	2,539	2,285	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,000	2,166	1,624	750	2,250	1,500	1,750	1,500	2,384	1,020	816	1,300	
FP Alt	1,000	2,166	1,624	750	2,250	1,500	1,840	1,565	2,392	1,020	816	1,300	
Change	0	0	0	0	0	0	90	65	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	750	640	6,957	3,827	3,899	5,000	3,794	2,896	1,465	521	500	1,000	
FP Alt	750	640	6,957	3,827	3,899	5,000	3,879	2,974	1,465	521	500	1,000	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,284	2,005	1,504	1,457	1,000	2,410	2,331	1,500	1,293	1,500	1,200	1,712	
FP Alt	1,284	2,005	1,504	1,457	1,000	2,410	2,428	1,559	1,300	1,500	1,200	1,712	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	975	731	548	1,872	2,250	1,995	2,951	2,209	2,500	1,252	1,002	1,300	
FP Alt	975	731	548	1,872	2,250	1,995	3,063	2,253	2,507	1,252	1,002	1,300	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	982	737	1,500	2,961	2,250	1,500	1,750	1,500	1,000	1,819	1,455	1,310	
FP Alt	982	737	1,500	2,961	2,250	1,500	1,832	1,563	1,018	1,819	1,455	1,310	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,601	6,144	7,737	4,106	5,483	5,636	5,000	2,652	4,952	500	500	500	
FP Alt	1,601	6,144	7,737	4,106	5,483	5,636	5,146	2,668	4,952	500	500	500	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Backwater Recharge in the Lower American River Below H St Bridge Under Baseline and FP Alt Conditions

Threshold:	<2700

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,330	5,475	3,399	4,467	9,444	9,337	4,698	2,261	4,366	2,383	1,897	1,803	
FP Alt	1,330	5,475	3,399	4,467	9,444	9,337	4,848	2,273	4,366	2,383	1,897	1,803	
Change	0	0	0	0	0	0	150	12	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,564	3,076	2,963	3,473	4,539	2,880	4,754	2,493	4,403	1,754	2,525	6,325	
FP Alt	4,564	3,076	2,963	3,473	4,539	2,880	4,883	2,527	4,403	1,754	2,525	6,325	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,186	1,131	2,393	650	830	1,274	1,525	1,131	835	1,819	1,454	1,334	
FP Alt	1,186	1,131	2,393	650	830	1,274	1,634	1,177	843	1,819	1,454	1,334	
Change	0	0	0	0	0	0	109	46	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	909	4,642	4,889	2,835	3,594	4,753	4,735	2,644	2,322	708	713	981	
FP Alt	909	4,642	4,889	2,835	3,594	4,753	4,792	2,749	2,322	708	713	981	
Change	0	0	0	0	0	0	57	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,951	1,569	1,455	784	2,145	2,760	2,906	770	833	3,100	2,853	2,574	
FP Alt	1,951	1,569	1,455	784	2,145	2,760	3,001	829	841	3,100	2,853	2,574	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,606	13,506	4,509	7,826	4,715	5,374	4,739	2,419	4,411	1,422	1,196	2,474	
FP Alt	3,606	13,506	4,509	7,826	4,715	5,374	4,885	2,436	4,411	1,422	1,196	2,474	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,897	2,339	12,871	4,694	2,597	1,850	4,657	2,892	2,318	1,750	2,350	2,334	
FP Alt	1,897	2,339	12,871	4,694	2,597	1,850	4,780	2,931	2,318	1,750	2,350	2,334	
Change	0	0	0	0	0	0	123	39	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,132	869	888	1,749	833	2,702	2,409	2,036	997	1,354	1,188	1,235	
FP Alt	1,132	869	888	1,749	833	2,702	2,491	2,107	1,007	1,354	1,188	1,235	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,169	1,542	2,830	1,637	2,088	2,987	4,095	2,481	826	1,373	1,076	1,272	
FP Alt	1,169	1,542	2,830	1,637	2,088	2,987	4,176	2,552	837	1,373	1,076	1,272	
Change	0	0	0	0	0	0	81	71	11	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	970	713	722	901	832	2,338	2,182	1,538	858	1,764	1,417	1,248	
FP Alt	970	713	722	901	832	2,338	2,280	1,588	872	1,764	1,417	1,248	
Change	0	0	0	0	0	0	98	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	831	2,233	2,877	2,814	2,805	4,761	4,941	3,540	2,314	1,580	1,274	1,258	
FP Alt	831	2,233	2,877	2,814	2,805	4,761	5,034	3,598	2,326	1,580	1,274	1,258	
Change	0	0	0	0	0	0	93	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,974	1,411	1,071	553	835	2,890	2,631	2,155	1,033	2,795	3,540	2,611	
FP Alt	1,974	1,411	1,071	553	835	2,890	2,723	2,225	1,033	2,795	3,540	2,611	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	918	1,044	1,518	3,063	1,178	2,311	1,523	1,392	836	1,051	1,245	1,221	
FP Alt	918	1,044	1,518	3,063	1,178	2,311	1,610	1,449	855	1,051	1,245	1,221	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	904	651	1,469	6,708	4,547	3,824	4,734	3,505	2,590	1,587	1,321	1,158	
FP Alt	904	651	1,469	6,708	4,547	3,824	4,854	3,547	2,590	1,587	1,321	1,158	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,121	13,567	4,009	5,438	3,916	4,756	4,743	2,560	3,754	2,457	1,949	1,764	
FP Alt	5,121	13,567	4,009	5,438	3,916	4,756	4,870	2,596	3,754	2,457	1,949	1,764	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,436	2,942	4,466	4,228	3,872	2,750	4,757	2,589	2,870	2,607	2,067	1,921	
FP Alt	1,436	2,942	4,466	4,228	3,872	2,750	4,895	2,615	2,870	2,607	2,067	1,921	
Change	0	0	0	0	0	0	138	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,763	9,843	11,003	7,862	9,565	8,810	3,962	3,587	4,228	1,608	1,971	6,689	
FP Alt	2,763	9,843	11,003	7,862	9,565	8,810	4,098	3,599	4,242	1,608	1,971	6,689	
Change	0	0	0	0	0	0	136	12	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,781	1,334	1,514	1,638	1,132	1,811	2,206	1,444	850	1,617	2,600	2,340	
FP Alt	1,781	1,334	1,514	1,638	1,132	1,811	2,326	1,487	850	1,617	2,600	2,340	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,883	10,606	10,799	5,880	3,124	3,091	4,755	1,814	2,656	976	1,577	1,430	
FP Alt	2,883	10,606	10,799	5,880	3,124	3,091	4,804	1,927	2,656	976	1,577	1,430	
Change	0	0	0	0	0	0	49	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,455	8,060	4,846	3,805	5,050	3,328	4,419	2,659	3,563	4,150	2,291	2,193	
FP Alt	5,455	8,060	4,846	3,805	5,050	3,328	4,532	2,695	3,577	4,150	2,291	2,193	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,259	10,017	2,973	5,614	6,700	7,326	4,734	2,722	4,192	1,624	2,655	5,651	
FP Alt	9,259	10,017	2,973	5,614	6,700	7,326	4,869	2,736	4,207	1,624	2,655	5,651	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,877	7,187	12,624	4,963	2,892	2,825	4,760	2,260	4,709	1,589	4,400	4,742	
FP Alt	10,877	7,187	12,624	4,963	2,892	2,825	4,903	2,279	4,709	1,589	4,400	4,742	
Change	0	0	0	0	0	0	143	19	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,469	1,513	1,951	2,928	2,095	2,957	3,164	1,552	3,184	1,806	1,468	1,339	
FP Alt	1,469	1,513	1,951	2,928	2,095	2,957	3,263	1,615	3,184	1,806	1,468	1,339	
Change	0	0	0	0	0	0	99	63	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,512	9,306	2,178	2,894	2,696	3,338	4,747	2,352	4,201	1,384	1,153	1,228	
FP Alt	1,512	9,306	2,178	2,894	2,696	3,338	4,832	2,430	4,201	1,384	1,153	1,228	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,067	3,388	3,006	3,063	3,642	3,848	4,751	1,900	4,230	1,981	2,306	8,904	
FP Alt	5,067	3,388	3,006	3,063	3,642	3,848	4,820	1,994	4,230	1,981	2,306	8,904	
Change	0	0	0	0	0	0	69	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,263	1,057	2,008	2,883	2,073	1,701	2,880	2,412	2,320	1,905	1,959	1,755	
FP Alt	1,263	1,057	2,008	2,883	2,073	1,701	2,946	2,502	2,326	1,905	1,959	1,755	
Change	0	0	0	0	0	0	66	90	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	902	1,959	1,516	2,043	3,695	5,205	4,662	2,639	3,696	664	720	1,210	
FP Alt	902	1,959	1,516	2,043	3,695	5,205	4,739	2,725	3,696	664	720	1,210	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,462	1,477	3,382	3,343	2,841	3,912	4,384	2,538	2,324	1,603	1,784	1,664	
FP Alt	1,462	1,477	3,382	3,343	2,841	3,912	4,488	2,594	2,326	1,603	1,784	1,664	
Change	0	0	0	0	0	0	104	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,716	5,579	3,084	4,710	4,002	3,989	4,740	2,257	4,255	1,351	1,389	1,254	
FP Alt	2,716	5,579	3,084	4,710	4,002	3,989	4,849	2,312	4,255	1,351	1,389	1,254	
Change	0	0	0	0	0	0	109	55	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,213	8,308	3,787	3,177	3,699	2,775	4,759	2,263	3,996	1,971	16,651	16,100	
FP Alt	10,213	8,308	3,787	3,177	3,699	2,775	4,883	2,301	3,996	1,971	16,651	16,100	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,104	9,533	6,200	8,741	11,358	10,428	4,698	4,763	3,918	1,783	1,783	4,475	
FP Alt	9,104	9,533	6,200	8,741	11,358	10,428	4,779	4,818	3,945	1,783	1,783	4,475	
Change	0	0	0	0	0	0	81	55	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,256	2,284	1,785	2,960	2,849	6,069	4,336	3,450	4,159	1,586	2,792	2,657	
FP Alt	7,256	2,284	1,785	2,960	2,849	6,069	4,462	3,468	4,179	1,586	2,792	2,657	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,954	2,820	4,449	4,423	3,105	2,781	3,146	2,277	2,321	1,597	2,886	2,556	
FP Alt	1,954	2,820	4,449	4,423	3,105	2,781	3,251	2,334	2,321	1,597	2,886	2,556	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,835	3,027	2,170	1,668	2,089	2,760	2,877	2,433	841	1,349	1,138	1,272	
FP Alt	1,835	3,027	2,170	1,668	2,089	2,760	2,961	2,503	851	1,349	1,138	1,272	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,477	6,172	2,920	2,932	5,439	5,854	4,731	2,530	4,177	1,507	1,392	16,042	
FP Alt	16,477	6,172	2,920	2,932	5,439	5,854	4,864	2,544	4,192	1,507	1,392	16,042	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,903	2,392	4,500	2,916	2,157	3,784	4,736	2,856	2,553	1,630	2,773	2,490	
FP Alt	1,903	2,392	4,500	2,916	2,157	3,784	4,852	2,902	2,553	1,630	2,773	2,490	
Change	0	0	0	0	0	0	116	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,939	10,206	6,720	10,433	10,017	7,740	3,509	4,168	3,846	1,401	1,210	2,334	
FP Alt	2,939	10,206	6,720	10,433	10,017	7,740	3,636	4,185	3,865	1,401	1,210	2,334	
Change	0	0	0	0	0	0	127	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,660	3,245	2,214	1,667	2,090	2,212	4,758	767	896	1,592	2,287	2,093	
FP Alt	1,660	3,245	2,214	1,667	2,090	2,212	4,862	826	896	1,592	2,287	2,093	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	711	836	3,965	3,331	2,063	2,790	2,555	2,128	1,228	615	682	916	
FP Alt	711	836	3,965	3,331	2,063	2,790	2,648	2,174	1,252	615	682	916	
Change	0	0	0	0	0	0	93	46	24	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	935	664	1,442	1,613	2,057	1,260	3,426	1,275	838	1,361	1,158	1,205	
FP Alt	935	664	1,442	1,613	2,057	1,260	3,549	1,315	838	1,361	1,158	1,205	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	664	2,038	2,918	2,886	2,781	2,752	4,758	2,254	2,869	617	740	937	
FP Alt	664	2,038	2,918	2,886	2,781	2,752	4,886	2,289	2,869	617	740	937	
Change	0	0	0	0	0	0	128	35	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,919	11,808	2,158	6,176	7,091	3,183	4,745	2,575	3,699	2,667	4,258	3,346	
FP Alt	3,919	11,808	2,158	6,176	7,091	3,183	4,886	2,596	3,699	2,667	4,258	3,346	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,065	2,436	1,828	1,635	2,074	2,395	3,217	2,787	1,021	1,633	4,051	2,586	
FP Alt	2,065	2,436	1,828	1,635	2,074	2,395	3,281	2,884	1,023	1,633	4,051	2,586	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,912	5,352	2,188	4,772	4,079	3,114	5,270	2,275	4,413	1,411	1,141	21,003	
FP Alt	12,912	5,352	2,188	4,772	4,079	3,114	5,411	2,296	4,413	1,411	1,141	21,003	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,118	1,904	2,937	1,617	2,068	1,919	2,784	1,734	832	2,316	1,928	1,755	
FP Alt	2,118	1,904	2,937	1,617	2,068	1,919	2,880	1,801	832	2,316	1,928	1,755	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,907	4,321	6,082	3,957	8,380	10,446	3,901	4,257	4,385	1,366	1,200	2,465	
FP Alt	6,907	4,321	6,082	3,957	8,380	10,446	3,952	4,311	4,444	1,366	1,200	2,465	
Change	0	0	0	0	0	0	51	54	59	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,024	6,144	2,227	1,662	2,107	2,127	3,295	1,400	1,143	1,590	3,330	2,605	
FP Alt	2,024	6,144	2,227	1,662	2,107	2,127	3,432	1,426	1,143	1,590	3,330	2,605	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,476	9,190	3,720	6,499	9,132	6,552	4,725	2,268	4,084	1,381	1,678	1,503	
FP Alt	15,476	9,190	3,720	6,499	9,132	6,552	4,821	2,322	4,097	1,381	1,678	1,503	

Change	0	0	0	0	0	0	96	54	13	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,098	6,094	2,422	2,921	2,096	2,788	4,762	1,491	2,586	1,613	2,813	5,619	
FP Alt	21,098	6,094	2,422	2,921	2,096	2,788	4,885	1,531	2,586	1,613	2,813	5,619	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,680	3,835	3,542	3,274	2,890	4,962	4,744	2,267	3,866	741	1,173	5,769	
FP Alt	4,680	3,835	3,542	3,274	2,890	4,962	4,800	2,318	3,923	741	1,173	5,769	
Change	0	0	0	0	0	0	56	51	57	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,917	3,041	4,075	1,628	2,080	4,766	4,237	1,795	857	1,596	2,915	2,654	
FP Alt	1,917	3,041	4,075	1,628	2,080	4,766	4,356	1,838	857	1,596	2,915	2,654	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,367	7,147	3,461	2,890	3,892	4,747	4,645	1,617	2,978	1,420	1,175	2,779	
FP Alt	9,367	7,147	3,461	2,890	3,892	4,747	4,779	1,647	2,978	1,420	1,175	2,779	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,656	4,447	9,431	6,172	4,785	4,195	3,521	4,009	4,288	1,400	5,969	7,293	
FP Alt	11,656	4,447	9,431	6,172	4,785	4,195	3,655	4,023	4,304	1,400	5,969	7,293	
Change	0	0	0	0	0	0	134	14	16	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,607	3,834	4,702	2,916	4,491	6,274	3,924	2,986	4,084	1,611	2,373	2,180	
FP Alt	1,607	3,834	4,702	2,916	4,491	6,274	4,056	3,001	4,101	1,611	2,373	2,180	
Change	0	0	0	0	0	0	132	15	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,948	1,478	1,100	647	822	1,288	1,532	808	845	1,659	3,784	2,576	
FP Alt	1,948	1,478	1,100	647	822	1,288	1,680	823	845	1,659	3,784	2,576	
Change	0	0	0	0	0	0	148	15	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	884	626	457	188	388	816	561	233	385	619	700	1,205	
FP Alt	884	626	457	188	388	816	661	272	409	619	700	1,205	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,606	4,870	6,037	3,923	4,179	4,437	4,737	2,258	3,531	417	521	500	
FP Alt	2,606	4,870	6,037	3,923	4,179	4,437	4,872	2,271	3,546	417	521	500	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,466	3,645	3,346	2,822	3,278	4,741	4,261	1,475	3,309	2,027	1,691	1,477	
FP Alt	2,466	3,645	3,346	2,822	3,278	4,741	4,399	1,499	3,309	2,027	1,691	1,477	
Change	0	0	0	0	0	0	138	24	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,243	13,355	3,469	2,908	2,845	2,989	4,771	2,350	4,095	1,405	1,273	1,354	
FP Alt	18,243	13,355	3,469	2,908	2,845	2,989	4,906	2,365	4,108	1,405	1,273	1,354	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,988	1,438	1,513	1,644	2,087	1,255	3,086	1,275	842	1,590	3,143	2,613	
FP Alt	1,988	1,438	1,513	1,644	2,087	1,255	3,183	1,340	842	1,590	3,143	2,613	
Change	0	0	0	0	0	0	97	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,097	15,342	7,671	14,495	9,323	6,139	3,744	3,642	4,650	677	4,346	14,354	
FP Alt	8,097	15,342	7,671	14,495	9,323	6,139	3,877	3,656	4,666	677	4,346	14,354	
Change	0	0	0	0	0	0	133	14	16	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,677	12,549	16,580	6,558	10,557	14,457	7,681	3,151	5,109	2,058	8,096	9,196	
FP Alt	7,677	12,549	16,580	6,558	10,557	14,457	7,715	3,183	5,208	2,058	8,096	9,196	
Change	0	0	0	0	0	0	34	32	99	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,652	5,892	2,605	2,518	2,281	3,784	5,458	1,542	3,672	1,609	15,958	15,082	
FP Alt	6,652	5,892	2,605	2,518	2,281	3,784	5,567	1,596	3,672	1,609	15,958	15,082	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,945	1,492	1,524	2,905	2,083	3,117	2,661	2,288	1,579	1,601	3,074	2,598	
FP Alt	1,945	1,492	1,524	2,905	2,083	3,117	2,740	2,371	1,579	1,601	3,074	2,598	
Change	0	0	0	0	0	0	79	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,339	33,032	10,933	2,637	2,870	3,338	4,753	2,263	3,530	1,080	947	1,241	
FP Alt	4,339	33,032	10,933	2,637	2,870	3,338	4,892	2,275	3,542	1,080	947	1,241	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,676	1,298	1,010	1,661	1,559	1,958	1,604	793	839	1,865	2,416	2,182	
FP Alt	1,676	1,298	1,010	1,661	1,559	1,958	1,712	837	850	1,865	2,416	2,182	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	956	2,062	1,524	659	2,100	1,280	1,523	1,292	2,217	903	741	1,281	
FP Alt	956	2,062	1,524	659	2,100	1,280	1,613	1,358	2,225	903	741	1,281	
Change	0	0	0	0	0	0	90	66	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	655	545	6,971	3,615	3,696	4,749	3,527	2,670	1,353	375	438	953	
FP Alt	655	545	6,971	3,615	3,696	4,749	3,611	2,748	1,353	375	438	953	
Change	0	0	0	0	0	0	84	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,255	2,003	1,464	1,351	896	2,189	2,095	1,287	1,125	1,412	1,107	1,599	
FP Alt	1,255	2,003	1,464	1,351	896	2,189	2,192	1,346	1,132	1,412	1,107	1,599	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	871	663	631	1,788	2,099	1,811	2,744	2,018	2,342	1,121	896	1,214	
FP Alt	871	663	631	1,788	2,099	1,811	2,856	2,062	2,349	1,121	896	1,214	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	926	794	1,450	2,794	2,036	1,279	1,519	1,289	831	1,734	1,344	1,244	
FP Alt	926	794	1,450	2,794	2,036	1,279	1,601	1,352	849	1,734	1,344	1,244	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	6,128	7,626	3,867	5,284	5,398	4,732	2,412	4,772	406	392	515	
FP Alt	1,666	6,128	7,626	3,867	5,284	5,398	4,878	2,428	4,772	406	392	515	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Backwater Recharge in the Lower American River Below H St Bridge Under Baseline and FP Alt Conditions

Threshold:	<4000

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,330	5,475	3,399	4,467	9,444	9,337	4,698	2,261	4,366	2,383	1,897	1,803	
FP Alt	1,330	5,475	3,399	4,467	9,444	9,337	4,848	2,273	4,366	2,383	1,897	1,803	
Change	0	0	0	0	0	0	150	12	0	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,564	3,076	2,963	3,473	4,539	2,880	4,754	2,493	4,403	1,754	2,525	6,325	
FP Alt	4,564	3,076	2,963	3,473	4,539	2,880	4,883	2,527	4,403	1,754	2,525	6,325	
Change	0	0	0	0	0	0	129	34	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,186	1,131	2,393	650	830	1,274	1,525	1,131	835	1,819	1,454	1,334	
FP Alt	1,186	1,131	2,393	650	830	1,274	1,634	1,177	843	1,819	1,454	1,334	
Change	0	0	0	0	0	0	109	46	8	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	909	4,642	4,889	2,835	3,594	4,753	4,735	2,644	2,322	708	713	981	
FP Alt	909	4,642	4,889	2,835	3,594	4,753	4,792	2,749	2,322	708	713	981	
Change	0	0	0	0	0	0	57	105	0	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,951	1,569	1,455	784	2,145	2,760	2,906	770	833	3,100	2,853	2,574	
FP Alt	1,951	1,569	1,455	784	2,145	2,760	3,001	829	841	3,100	2,853	2,574	
Change	0	0	0	0	0	0	95	59	8	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,606	13,506	4,509	7,826	4,715	5,374	4,739	2,419	4,411	1,422	1,196	2,474	
FP Alt	3,606	13,506	4,509	7,826	4,715	5,374	4,885	2,436	4,411	1,422	1,196	2,474	
Change	0	0	0	0	0	0	146	17	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,897	2,339	12,871	4,694	2,597	1,850	4,657	2,892	2,318	1,750	2,350	2,334	
FP Alt	1,897	2,339	12,871	4,694	2,597	1,850	4,780	2,931	2,318	1,750	2,350	2,334	
Change	0	0	0	0	0	0	123	39	0	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,132	869	888	1,749	833	2,702	2,409	2,036	997	1,354	1,188	1,235	
FP Alt	1,132	869	888	1,749	833	2,702	2,491	2,107	1,007	1,354	1,188	1,235	
Change	0	0	0	0	0	0	82	71	10	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,169	1,542	2,830	1,637	2,088	2,987	4,095	2,481	826	1,373	1,076	1,272	
FP Alt	1,169	1,542	2,830	1,637	2,088	2,987	4,176	2,552	837	1,373	1,076	1,272	
Change	0	0	0	0	0	0	81	71	11	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	970	713	722	901	832	2,338	2,182	1,538	858	1,764	1,417	1,248	
FP Alt	970	713	722	901	832	2,338	2,280	1,588	872	1,764	1,417	1,248	
Change	0	0	0	0	0	0	98	50	14	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	831	2,233	2,877	2,814	2,805	4,761	4,941	3,540	2,314	1,580	1,274	1,258	
FP Alt	831	2,233	2,877	2,814	2,805	4,761	5,034	3,598	2,326	1,580	1,274	1,258	
Change	0	0	0	0	0	0	93	58	12	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,974	1,411	1,071	553	835	2,890	2,631	2,155	1,033	2,795	3,540	2,611	
FP Alt	1,974	1,411	1,071	553	835	2,890	2,723	2,225	1,033	2,795	3,540	2,611	
Change	0	0	0	0	0	0	92	70	0	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	918	1,044	1,518	3,063	1,178	2,311	1,523	1,392	836	1,051	1,245	1,221	
FP Alt	918	1,044	1,518	3,063	1,178	2,311	1,610	1,449	855	1,051	1,245	1,221	
Change	0	0	0	0	0	0	87	57	19	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	904	651	1,469	6,708	4,547	3,824	4,734	3,505	2,590	1,587	1,321	1,158	
FP Alt	904	651	1,469	6,708	4,547	3,824	4,854	3,547	2,590	1,587	1,321	1,158	
Change	0	0	0	0	0	0	120	42	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,121	13,567	4,009	5,438	3,916	4,756	4,743	2,560	3,754	2,457	1,949	1,764	
FP Alt	5,121	13,567	4,009	5,438	3,916	4,756	4,870	2,596	3,754	2,457	1,949	1,764	
Change	0	0	0	0	0	0	127	36	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,436	2,942	4,466	4,228	3,872	2,750	4,757	2,589	2,870	2,607	2,067	1,921	
FP Alt	1,436	2,942	4,466	4,228	3,872	2,750	4,895	2,615	2,870	2,607	2,067	1,921	
Change	0	0	0	0	0	0	138	26	0	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,763	9,843	11,003	7,862	9,565	8,810	3,962	3,587	4,228	1,608	1,971	6,689	
FP Alt	2,763	9,843	11,003	7,862	9,565	8,810	4,098	3,599	4,242	1,608	1,971	6,689	
Change	0	0	0	0	0	0	136	12	14	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,781	1,334	1,514	1,638	1,132	1,811	2,206	1,444	850	1,617	2,600	2,340	
FP Alt	1,781	1,334	1,514	1,638	1,132	1,811	2,326	1,487	850	1,617	2,600	2,340	
Change	0	0	0	0	0	0	120	43	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,883	10,606	10,799	5,880	3,124	3,091	4,755	1,814	2,656	976	1,577	1,430	
FP Alt	2,883	10,606	10,799	5,880	3,124	3,091	4,804	1,927	2,656	976	1,577	1,430	
Change	0	0	0	0	0	0	49	113	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,455	8,060	4,846	3,805	5,050	3,328	4,419	2,659	3,563	4,150	2,291	2,193	
FP Alt	5,455	8,060	4,846	3,805	5,050	3,328	4,532	2,695	3,577	4,150	2,291	2,193	
Change	0	0	0	0	0	0	113	36	14	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,259	10,017	2,973	5,614	6,700	7,326	4,734	2,722	4,192	1,624	2,655	5,651	
FP Alt	9,259	10,017	2,973	5,614	6,700	7,326	4,869	2,736	4,207	1,624	2,655	5,651	
Change	0	0	0	0	0	0	135	14	15	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,877	7,187	12,624	4,963	2,892	2,825	4,760	2,260	4,709	1,589	4,400	4,742	
FP Alt	10,877	7,187	12,624	4,963	2,892	2,825	4,903	2,279	4,709	1,589	4,400	4,742	
Change	0	0	0	0	0	0	143	19	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,469	1,513	1,951	2,928	2,095	2,957	3,164	1,552	3,184	1,806	1,468	1,339	
FP Alt	1,469	1,513	1,951	2,928	2,095	2,957	3,263	1,615	3,184	1,806	1,468	1,339	
Change	0	0	0	0	0	0	99	63	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,512	9,306	2,178	2,894	2,696	3,338	4,747	2,352	4,201	1,384	1,153	1,228	
FP Alt	1,512	9,306	2,178	2,894	2,696	3,338	4,832	2,430	4,201	1,384	1,153	1,228	
Change	0	0	0	0	0	0	85	78	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	5,067	3,388	3,006	3,063	3,642	3,848	4,751	1,900	4,230	1,981	2,306	8,904	
FP Alt	5,067	3,388	3,006	3,063	3,642	3,848	4,820	1,994	4,230	1,981	2,306	8,904	
Change	0	0	0	0	0	0	69	94	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,263	1,057	2,008	2,883	2,073	1,701	2,880	2,412	2,320	1,905	1,959	1,755	
FP Alt	1,263	1,057	2,008	2,883	2,073	1,701	2,946	2,502	2,326	1,905	1,959	1,755	
Change	0	0	0	0	0	0	66	90	6	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	902	1,959	1,516	2,043	3,695	5,205	4,662	2,639	3,696	664	720	1,210	
FP Alt	902	1,959	1,516	2,043	3,695	5,205	4,739	2,725	3,696	664	720	1,210	
Change	0	0	0	0	0	0	77	86	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,462	1,477	3,382	3,343	2,841	3,912	4,384	2,538	2,324	1,603	1,784	1,664	
FP Alt	1,462	1,477	3,382	3,343	2,841	3,912	4,488	2,594	2,326	1,603	1,784	1,664	
Change	0	0	0	0	0	0	104	56	2	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,716	5,579	3,084	4,710	4,002	3,989	4,740	2,257	4,255	1,351	1,389	1,254	
FP Alt	2,716	5,579	3,084	4,710	4,002	3,989	4,849	2,312	4,255	1,351	1,389	1,254	
Change	0	0	0	0	0	0	109	55	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,213	8,308	3,787	3,177	3,699	2,775	4,759	2,263	3,996	1,971	16,651	16,100	
FP Alt	10,213	8,308	3,787	3,177	3,699	2,775	4,883	2,301	3,996	1,971	16,651	16,100	
Change	0	0	0	0	0	0	124	38	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,104	9,533	6,200	8,741	11,358	10,428	4,698	4,763	3,918	1,783	1,783	4,475	
FP Alt	9,104	9,533	6,200	8,741	11,358	10,428	4,779	4,818	3,945	1,783	1,783	4,475	
Change	0	0	0	0	0	0	81	55	27	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	7,256	2,284	1,785	2,960	2,849	6,069	4,336	3,450	4,159	1,586	2,792	2,657	
FP Alt	7,256	2,284	1,785	2,960	2,849	6,069	4,462	3,468	4,179	1,586	2,792	2,657	
Change	0	0	0	0	0	0	126	18	20	0	0	0	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,954	2,820	4,449	4,423	3,105	2,781	3,146	2,277	2,321	1,597	2,886	2,556	
FP Alt	1,954	2,820	4,449	4,423	3,105	2,781	3,251	2,334	2,321	1,597	2,886	2,556	
Change	0	0	0	0	0	0	105	57	0	0	0	0	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,835	3,027	2,170	1,668	2,089	2,760	2,877	2,433	841	1,349	1,138	1,272	
FP Alt	1,835	3,027	2,170	1,668	2,089	2,760	2,961	2,503	851	1,349	1,138	1,272	
Change	0	0	0	0	0	0	84	70	10	0	0	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,477	6,172	2,920	2,932	5,439	5,854	4,731	2,530	4,177	1,507	1,392	16,042	
FP Alt	16,477	6,172	2,920	2,932	5,439	5,854	4,864	2,544	4,192	1,507	1,392	16,042	
Change	0	0	0	0	0	0	133	14	15	0	0	0	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,903	2,392	4,500	2,916	2,157	3,784	4,736	2,856	2,553	1,630	2,773	2,490	
FP Alt	1,903	2,392	4,500	2,916	2,157	3,784	4,852	2,902	2,553	1,630	2,773	2,490	
Change	0	0	0	0	0	0	116	46	0	0	0	0	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,939	10,206	6,720	10,433	10,017	7,740	3,509	4,168	3,846	1,401	1,210	2,334	
FP Alt	2,939	10,206	6,720	10,433	10,017	7,740	3,636	4,185	3,865	1,401	1,210	2,334	
Change	0	0	0	0	0	0	127	17	19	0	0	0	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,660	3,245	2,214	1,667	2,090	2,212	4,758	767	896	1,592	2,287	2,093	
FP Alt	1,660	3,245	2,214	1,667	2,090	2,212	4,862	826	896	1,592	2,287	2,093	
Change	0	0	0	0	0	0	104	59	0	0	0	0	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	711	836	3,965	3,331	2,063	2,790	2,555	2,128	1,228	615	682	916	
FP Alt	711	836	3,965	3,331	2,063	2,790	2,648	2,174	1,252	615	682	916	
Change	0	0	0	0	0	0	93	46	24	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	935	664	1,442	1,613	2,057	1,260	3,426	1,275	838	1,361	1,158	1,205	
FP Alt	935	664	1,442	1,613	2,057	1,260	3,549	1,315	838	1,361	1,158	1,205	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	664	2,038	2,918	2,886	2,781	2,752	4,758	2,254	2,869	617	740	937	
FP Alt	664	2,038	2,918	2,886	2,781	2,752	4,886	2,289	2,869	617	740	937	
Change	0	0	0	0	0	0	128	35	0	0	0	0	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,919	11,808	2,158	6,176	7,091	3,183	4,745	2,575	3,699	2,667	4,258	3,346	
FP Alt	3,919	11,808	2,158	6,176	7,091	3,183	4,886	2,596	3,699	2,667	4,258	3,346	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,065	2,436	1,828	1,635	2,074	2,395	3,217	2,787	1,021	1,633	4,051	2,586	
FP Alt	2,065	2,436	1,828	1,635	2,074	2,395	3,281	2,884	1,023	1,633	4,051	2,586	
Change	0	0	0	0	0	0	64	97	2	0	0	0	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,912	5,352	2,188	4,772	4,079	3,114	5,270	2,275	4,413	1,411	1,141	21,003	
FP Alt	12,912	5,352	2,188	4,772	4,079	3,114	5,411	2,296	4,413	1,411	1,141	21,003	
Change	0	0	0	0	0	0	141	21	0	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,118	1,904	2,937	1,617	2,068	1,919	2,784	1,734	832	2,316	1,928	1,755	
FP Alt	2,118	1,904	2,937	1,617	2,068	1,919	2,880	1,801	832	2,316	1,928	1,755	
Change	0	0	0	0	0	0	96	67	0	0	0	0	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,907	4,321	6,082	3,957	8,380	10,446	3,901	4,257	4,385	1,366	1,200	2,465	
FP Alt	6,907	4,321	6,082	3,957	8,380	10,446	3,952	4,311	4,444	1,366	1,200	2,465	
Change	0	0	0	0	0	0	51	54	59	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,024	6,144	2,227	1,662	2,107	2,127	3,295	1,400	1,143	1,590	3,330	2,605	
FP Alt	2,024	6,144	2,227	1,662	2,107	2,127	3,432	1,426	1,143	1,590	3,330	2,605	
Change	0	0	0	0	0	0	137	26	0	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,476	9,190	3,720	6,499	9,132	6,552	4,725	2,268	4,084	1,381	1,678	1,503	
FP Alt	15,476	9,190	3,720	6,499	9,132	6,552	4,821	2,322	4,097	1,381	1,678	1,503	

Change	0	0	0	0	0	0	96	54	13	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,098	6,094	2,422	2,921	2,096	2,788	4,762	1,491	2,586	1,613	2,813	5,619	
FP Alt	21,098	6,094	2,422	2,921	2,096	2,788	4,885	1,531	2,586	1,613	2,813	5,619	
Change	0	0	0	0	0	0	123	40	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,680	3,835	3,542	3,274	2,890	4,962	4,744	2,267	3,866	741	1,173	5,769	
FP Alt	4,680	3,835	3,542	3,274	2,890	4,962	4,800	2,318	3,923	741	1,173	5,769	
Change	0	0	0	0	0	0	56	51	57	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,917	3,041	4,075	1,628	2,080	4,766	4,237	1,795	857	1,596	2,915	2,654	
FP Alt	1,917	3,041	4,075	1,628	2,080	4,766	4,356	1,838	857	1,596	2,915	2,654	
Change	0	0	0	0	0	0	119	43	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	9,367	7,147	3,461	2,890	3,892	4,747	4,645	1,617	2,978	1,420	1,175	2,779	
FP Alt	9,367	7,147	3,461	2,890	3,892	4,747	4,779	1,647	2,978	1,420	1,175	2,779	
Change	0	0	0	0	0	0	134	30	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,656	4,447	9,431	6,172	4,785	4,195	3,521	4,009	4,288	1,400	5,969	7,293	
FP Alt	11,656	4,447	9,431	6,172	4,785	4,195	3,655	4,023	4,304	1,400	5,969	7,293	
Change	0	0	0	0	0	0	134	14	16	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,607	3,834	4,702	2,916	4,491	6,274	3,924	2,986	4,084	1,611	2,373	2,180	
FP Alt	1,607	3,834	4,702	2,916	4,491	6,274	4,056	3,001	4,101	1,611	2,373	2,180	
Change	0	0	0	0	0	0	132	15	17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,948	1,478	1,100	647	822	1,288	1,532	808	845	1,659	3,784	2,576	
FP Alt	1,948	1,478	1,100	647	822	1,288	1,680	823	845	1,659	3,784	2,576	
Change	0	0	0	0	0	0	148	15	0	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	884	626	457	188	388	816	561	233	385	619	700	1,205	
FP Alt	884	626	457	188	388	816	661	272	409	619	700	1,205	
Change	0	0	0	0	0	0	100	39	24	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,606	4,870	6,037	3,923	4,179	4,437	4,737	2,258	3,531	417	521	500	
FP Alt	2,606	4,870	6,037	3,923	4,179	4,437	4,872	2,271	3,546	417	521	500	
Change	0	0	0	0	0	0	135	13	15	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	2,466	3,645	3,346	2,822	3,278	4,741	4,261	1,475	3,309	2,027	1,691	1,477	
FP Alt	2,466	3,645	3,346	2,822	3,278	4,741	4,399	1,499	3,309	2,027	1,691	1,477	
Change	0	0	0	0	0	0	138	24	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	18,243	13,355	3,469	2,908	2,845	2,989	4,771	2,350	4,095	1,405	1,273	1,354	
FP Alt	18,243	13,355	3,469	2,908	2,845	2,989	4,906	2,365	4,108	1,405	1,273	1,354	
Change	0	0	0	0	0	0	135	15	13	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,988	1,438	1,513	1,644	2,087	1,255	3,086	1,275	842	1,590	3,143	2,613	
FP Alt	1,988	1,438	1,513	1,644	2,087	1,255	3,183	1,340	842	1,590	3,143	2,613	
Change	0	0	0	0	0	0	97	65	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,097	15,342	7,671	14,495	9,323	6,139	3,744	3,642	4,650	677	4,346	14,354	
FP Alt	8,097	15,342	7,671	14,495	9,323	6,139	3,877	3,656	4,666	677	4,346	14,354	
Change	0	0	0	0	0	0	133	14	16	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,677	12,549	16,580	6,558	10,557	14,457	7,681	3,151	5,109	2,058	8,096	9,196	
FP Alt	7,677	12,549	16,580	6,558	10,557	14,457	7,715	3,183	5,208	2,058	8,096	9,196	
Change	0	0	0	0	0	0	34	32	99	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,652	5,892	2,605	2,518	2,281	3,784	5,458	1,542	3,672	1,609	15,958	15,082	
FP Alt	6,652	5,892	2,605	2,518	2,281	3,784	5,567	1,596	3,672	1,609	15,958	15,082	
Change	0	0	0	0	0	0	109	54	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,945	1,492	1,524	2,905	2,083	3,117	2,661	2,288	1,579	1,601	3,074	2,598	
FP Alt	1,945	1,492	1,524	2,905	2,083	3,117	2,740	2,371	1,579	1,601	3,074	2,598	
Change	0	0	0	0	0	0	79	83	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,339	33,032	10,933	2,637	2,870	3,338	4,753	2,263	3,530	1,080	947	1,241	
FP Alt	4,339	33,032	10,933	2,637	2,870	3,338	4,892	2,275	3,542	1,080	947	1,241	
Change	0	0	0	0	0	0	139	12	12	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,676	1,298	1,010	1,661	1,559	1,958	1,604	793	839	1,865	2,416	2,182	
FP Alt	1,676	1,298	1,010	1,661	1,559	1,958	1,712	837	850	1,865	2,416	2,182	
Change	0	0	0	0	0	0	108	44	11	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	956	2,062	1,524	659	2,100	1,280	1,523	1,292	2,217	903	741	1,281	
FP Alt	956	2,062	1,524	659	2,100	1,280	1,613	1,358	2,225	903	741	1,281	
Change	0	0	0	0	0	0	90	66	8	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	655	545	6,971	3,615	3,696	4,749	3,527	2,670	1,353	375	438	953	
FP Alt	655	545	6,971	3,615	3,696	4,749	3,611	2,748	1,353	375	438	953	
Change	0	0	0	0	0	0	84	78	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,255	2,003	1,464	1,351	896	2,189	2,095	1,287	1,125	1,412	1,107	1,599	
FP Alt	1,255	2,003	1,464	1,351	896	2,189	2,192	1,346	1,132	1,412	1,107	1,599	
Change	0	0	0	0	0	0	97	59	7	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	871	663	631	1,788	2,099	1,811	2,744	2,018	2,342	1,121	896	1,214	
FP Alt	871	663	631	1,788	2,099	1,811	2,856	2,062	2,349	1,121	896	1,214	
Change	0	0	0	0	0	0	112	44	7	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	926	794	1,450	2,794	2,036	1,279	1,519	1,289	831	1,734	1,344	1,244	
FP Alt	926	794	1,450	2,794	2,036	1,279	1,601	1,352	849	1,734	1,344	1,244	
Change	0	0	0	0	0	0	82	63	18	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	1,666	6,128	7,626	3,867	5,284	5,398	4,732	2,412	4,772	406	392	515	
FP Alt	1,666	6,128	7,626	3,867	5,284	5,398	4,878	2,428	4,772	406	392	515	
Change	0	0	0	0	0	0	146	16	0	0	0	0	

Series of Flow Ranges Affecting Riparian Vegetation in the Sacramento River Below Freeport Under Baseline and FP Alt Conditions

Threshold:	n/r

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,488	34,677	29,484	23,991	47,773	36,012	18,796	13,678	14,259	12,317	10,779	17,196	
FP Alt	15,488	34,677	29,484	24,710	48,709	37,091	22,132	16,335	14,669	12,317	10,779	17,196	
Change	0	0	0	719	936	1,079	3,336	2,657	410	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	28,626	14,713	13,974	24,157	16,691	17,793	17,303	14,057	14,823	11,121	12,879	29,813	
FP Alt	28,630	14,718	13,978	24,503	17,143	17,793	21,311	15,801	14,823	11,260	12,904	29,821	
Change	4	5	4	346	452	0	4,008	1,744	0	139	25	8	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,138	15,595	10,162	8,114	7,575	9,312	11,640	7,060	6,611	10,215	9,215	10,234	
FP Alt	12,141	15,594	10,165	9,228	8,315	10,165	16,716	10,476	7,469	10,291	9,231	10,239	
Change	3	-1	3	1,114	740	853	5,076	3,416	858	76	16	5	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,031	63,942	25,647	22,080	15,253	12,873	15,706	11,331	10,428	7,610	7,709	12,431	
FP Alt	12,035	63,946	25,651	22,678	15,331	12,963	19,962	14,292	10,846	7,797	7,734	12,439	
Change	4	4	4	598	78	90	4,256	2,961	418	187	25	8	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	17,650	39,657	13,401	21,120	13,276	13,035	15,024	11,388	9,322	9,141	8,513	9,726	
FP Alt	17,654	39,662	13,405	22,234	14,016	13,888	19,111	14,640	11,371	9,266	8,538	9,734	
Change	4	5	4	1,114	740	853	4,087	3,252	2,049	125	25	8	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	30,935	74,814	42,877	45,445	25,610	20,607	20,206	14,517	14,755	9,744	22,931	19,314	
FP Alt	30,939	74,819	42,880	45,879	26,178	20,607	23,465	17,103	15,128	9,931	22,957	19,322	
Change	4	5	3	434	568	0	3,259	2,586	373	187	26	8	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	22,315	24,137	74,254	26,851	17,260	13,592	19,268	13,226	12,831	10,314	16,651	15,105	
FP Alt	22,318	24,133	74,257	27,684	17,639	14,030	24,319	16,478	12,855	10,409	16,671	15,112	
Change	3	-4	3	833	379	438	5,051	3,252	24	95	20	7	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,839	15,656	11,079	7,592	8,123	12,039	8,458	9,525	6,644	11,967	11,796	11,979	
FP Alt	12,843	15,660	11,083	8,706	8,863	12,892	13,665	12,600	7,752	12,120	11,821	11,987	
Change	4	4	4	1,114	740	853	5,207	3,075	1,108	153	25	8	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,590	17,726	31,312	12,975	12,798	14,117	16,724	14,730	10,014	7,771	7,234	17,525	
FP Alt	21,594	17,731	31,316	13,588	12,895	14,229	20,837	17,800	10,563	7,958	7,259	17,533	
Change	4	5	4	613	97	112	4,113	3,070	549	187	25	8	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,923	10,349	7,347	8,634	8,063	9,584	14,424	8,685	6,616	8,977	9,049	9,932	
FP Alt	12,927	10,354	7,351	9,747	8,803	10,436	19,200	12,059	7,803	9,104	9,074	9,940	
Change	4	5	4	1,113	740	852	4,776	3,374	1,187	127	25	8	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	20,233	15,858	13,045	12,398	13,228	14,416	10,720	9,993	10,007	7,755	7,092	18,879	
FP Alt	20,237	15,857	13,049	13,511	13,968	15,269	15,748	13,236	11,049	7,942	7,118	18,888	
Change	4	-1	4	1,113	740	853	5,028	3,243	1,042	187	26	9	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,202	11,768	13,330	10,930	6,451	9,992	8,949	8,528	6,620	9,209	8,513	10,039	
FP Alt	14,206	11,773	13,334	12,043	7,191	10,844	14,287	12,083	7,038	9,396	8,538	10,047	
Change	4	5	4	1,113	740	852	5,338	3,555	418	187	25	8	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	19,154	14,331	12,344	11,633	7,862	11,169	9,749	9,405	7,817	7,775	7,239	13,967	
FP Alt	19,158	14,336	12,348	12,746	8,602	12,022	13,994	12,669	9,644	7,962	7,264	13,975	
Change	4	5	4	1,113	740	853	4,245	3,264	1,827	187	25	8	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	28,483	12,992	25,405	47,029	23,689	21,644	18,757	14,710	12,301	7,766	11,175	9,831	
FP Alt	28,487	12,997	25,409	47,304	23,689	21,643	21,849	17,142	12,506	7,953	11,200	9,840	
Change	4	5	4	275	0	-1	3,092	2,432	205	187	25	9	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	38,469	60,979	28,429	21,861	15,857	18,495	18,310	14,590	13,227	12,304	9,491	12,799	
FP Alt	38,471	60,974	28,431	22,344	15,857	18,495	22,541	17,344	13,342	12,364	9,504	12,803	
Change	2	-5	2	483	0	0	4,231	2,754	115	60	13	4	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,699	33,705	39,002	23,394	17,102	18,510	14,694	14,010	12,126	11,530	10,354	12,810	
FP Alt	12,702	33,709	39,005	24,508	17,842	19,363	20,229	17,314	12,597	11,636	10,376	12,818	
Change	3	4	3	1,114	740	853	5,535	3,304	471	106	22	8	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	31,159	74,253	74,618	60,274	55,599	34,769	17,125	13,756	16,207	10,706	24,229	53,959	
FP Alt	31,163	74,257	74,622	61,210	56,814	36,169	20,627	16,653	17,094	10,893	24,254	53,967	
Change	4	4	4	936	1,215	1,400	3,502	2,897	887	187	25	8	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,530	11,576	13,532	10,502	10,917	12,494	17,810	14,330	11,438	15,647	13,888	14,677	
FP Alt	13,535	11,580	13,536	10,740	10,916	12,494	20,377	16,283	12,517	15,812	13,913	14,685	
Change	5	4	4	238	-1	0	2,567	1,953	1,079	165	25	8	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	32,602	54,864	73,729	66,149	19,399	17,467	22,100	15,579	12,587	9,921	8,522	10,847	
FP Alt	32,604	54,859	73,730	66,149	19,399	17,467	22,673	17,331	12,707	9,974	8,533	10,850	
Change	2	-5	1	0	0	0	573	1,752	120	53	11	3	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	72,981	73,834	70,811	63,084	39,021	20,918	17,601	12,373	17,464	12,099	12,055	39,316	
FP Alt	72,981	73,834	70,811	64,089	40,325	21,610	22,763	14,673	18,259	12,099	12,055	39,316	
Change	0	0	0	1,005	1,304	692	5,162	2,300	795	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	71,092	74,433	22,641	43,550	32,182	26,571	18,344	13,880	17,620	13,155	13,589	67,572	
FP Alt	71,096	74,437	22,645	44,253	33,099	27,627	21,370	16,554	18,447	13,329	13,614	67,580	
Change	4	4	4	703	917	1,056	3,026	2,674	827	174	25	8	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	71,978	51,446	67,092	26,067	18,514	16,926	20,292	14,462	14,135	13,137	17,179	28,635	
FP Alt	71,981	51,450	67,096	26,298	18,514	16,926	23,311	16,643	14,463	13,275	17,204	28,643	
Change	3	4	4	231	0	0	3,019	2,181	328	138	25	8	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,050	23,705	19,480	10,062	11,449	15,190	18,990	13,760	13,513	11,341	9,516	10,413	
FP Alt	14,051	23,701	19,482	10,062	11,449	15,190	19,706	15,401	14,358	11,392	9,527	10,417	
Change	1	-4	2	0	0	0	716	1,641	845	51	11	4	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,062	45,929	21,902	12,233	14,070	17,402	20,652	15,801	14,034	10,509	14,015	16,248	
FP Alt	13,062	45,929	21,902	12,233	14,070	17,402	21,304	16,855	14,080	10,509	14,015	16,248	
Change	0	0	0	0	0	0	652	1,054	46	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	49,042	24,407	20,437	11,917	14,446	17,146	19,934	15,514	14,132	10,951	13,534	64,088	
FP Alt	49,042	24,407	20,437	11,917	14,446	17,146	20,873	16,926	14,176	10,951	13,534	64,088	
Change	0	0	0	0	0	0	939	1,412	44	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,186	17,766	20,240	14,317	12,057	14,525	19,807	17,076	12,800	10,354	10,911	15,240	
FP Alt	11,186	17,766	20,240	14,317	12,057	14,525	20,042	18,520	12,959	10,354	10,911	15,240	
Change	0	0	0	0	0	0	235	1,444	159	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,767	14,564	15,392	27,294	29,007	21,555	20,636	16,558	15,218	10,566	10,355	9,813	
FP Alt	16,767	14,560	15,392	27,294	29,007	21,555	21,464	17,450	15,175	10,566	10,355	9,813	
Change	0	-4	0	0	0	0	828	892	-43	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,905	11,741	46,432	12,880	13,018	16,453	16,041	13,340	11,652	12,249	9,735	12,755	
FP Alt	10,905	11,741	46,432	13,283	13,018	16,453	20,281	15,639	11,718	12,249	9,735	12,755	
Change	0	0	0	403	0	0	4,240	2,299	66	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	20,569	34,766	19,900	19,760	17,692	20,646	20,738	16,583	14,972	9,478	9,543	9,318	
FP Alt	20,572	34,769	19,903	19,760	17,692	20,646	21,981	17,628	15,100	9,566	9,562	9,324	
Change	3	3	3	0	0	0	1,243	1,045	128	88	19	6	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	61,947	64,137	27,682	15,287	18,702	13,236	22,480	15,924	14,914	11,445	41,426	74,402	
FP Alt	61,946	64,137	27,682	15,287	18,702	13,236	24,264	17,126	14,938	11,445	41,426	74,402	
Change	-1	0	0	0	0	0	1,784	1,202	24	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	73,285	72,407	56,483	61,459	59,611	37,885	19,282	14,655	21,654	11,742	13,632	40,315	
FP Alt	73,285	72,400	56,483	61,521	59,692	37,979	20,766	16,323	22,651	11,742	13,632	40,315	
Change	0	-7	0	62	81	94	1,484	1,668	997	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	73,206	22,675	21,314	16,452	23,931	24,363	20,401	14,750	19,350	16,419	12,310	43,655
FP Alt	73,206	22,675	21,314	16,746	24,316	24,807	22,793	16,732	20,102	16,432	12,313	43,656
Change	0	0	0	294	385	444	2,392	1,982	752	13	3	1

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	32,600	63,677	48,956	39,496	24,553	13,634	21,714	13,901	14,561	13,590	18,093	15,217	
FP Alt	32,602	63,680	48,958	39,518	24,553	13,634	23,178	15,940	15,244	13,655	18,107	15,221	
Change	2	3	2	22	0	0	1,464	2,039	683	65	14	4	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	19,051	15,078	11,450	12,950	11,629	15,670	14,687	11,230	10,895	13,452	13,659	20,787	
FP Alt	19,052	15,078	11,450	13,815	12,048	16,154	19,410	14,552	11,399	13,457	13,660	20,787	
Change	1	0	0	865	419	484	4,723	3,322	504	5	1	0	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	75,276	69,309	34,425	19,367	37,059	20,212	17,983	15,036	18,584	9,193	11,664	73,952	
FP Alt	75,280	69,306	34,429	19,947	37,817	21,086	21,643	16,699	19,385	9,350	11,689	73,960	
Change	4	-3	4	580	758	874	3,660	1,663	801	157	25	8	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,690	32,761	46,379	20,877	16,589	16,652	20,989	13,567	14,608	14,250	12,936	11,685	
FP Alt	15,694	32,766	46,383	21,148	16,589	16,652	23,346	16,253	15,253	14,373	12,961	11,693	
Change	4	5	4	271	0	0	2,357	2,686	645	123	25	8	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	38,797	75,234	73,299	73,582	43,661	30,437	17,990	15,518	20,463	15,385	14,680	23,874	
FP Alt	38,799	75,235	73,301	73,986	44,189	31,046	20,989	16,456	21,655	15,444	14,693	23,878	
Change	2	1	2	404	528	609	2,999	938	1,192	59	13	4	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	36,050	52,915	21,617	10,691	12,759	18,034	21,155	15,842	14,285	17,023	12,515	12,592	
FP Alt	36,053	52,918	21,620	10,691	12,759	18,034	22,465	17,225	14,699	17,112	12,534	12,598	
Change	3	3	3	0	0	0	1,310	1,383	414	89	19	6	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,611	29,692	21,631	11,179	12,305	13,696	16,885	14,947	9,907	11,523	8,528	11,628	
FP Alt	11,611	29,684	21,631	11,779	12,384	13,787	21,031	17,362	11,031	11,523	8,528	11,628	
Change	0	-8	0	600	79	91	4,146	2,415	1,124	0	0	0	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,670	29,027	18,555	13,483	10,382	13,052	18,779	17,074	11,801	9,126	11,543	15,708	
FP Alt	11,674	29,032	18,559	13,617	10,382	13,052	21,277	18,867	12,436	9,251	11,569	15,716	
Change	4	5	4	134	0	0	2,498	1,793	635	125	26	8	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,365	45,734	25,836	12,546	12,582	15,179	21,365	16,008	14,395	13,054	10,108	16,346	
FP Alt	11,366	45,735	25,837	12,546	12,582	15,178	22,526	17,513	15,225	13,083	10,114	16,348	
Change	1	1	1	0	0	-1	1,161	1,505	830	29	6	2	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,180	70,429	30,912	71,921	29,735	20,643	19,146	14,778	14,668	32,102	16,063	27,062	
FP Alt	15,180	70,429	30,912	72,392	30,350	20,643	23,212	16,983	14,812	32,102	16,063	27,062	
Change	0	0	0	471	615	0	4,066	2,205	144	0	0	0	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,508	15,721	11,840	15,587	11,161	13,939	19,934	17,153	11,759	13,743	26,172	13,695	
FP Alt	21,512	15,717	11,844	15,587	11,161	13,938	20,170	18,592	11,995	13,846	26,194	13,702	
Change	4	-4	4	0	0	-1	236	1,439	236	103	22	7	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	74,315	30,995	22,749	39,868	23,098	13,386	21,430	15,466	14,010	10,774	14,372	67,547	
FP Alt	74,315	30,995	22,749	39,960	23,098	13,386	24,729	16,713	14,108	10,774	14,372	67,547	
Change	0	0	0	92	0	0	3,299	1,247	98	0	0	0	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	30,361	24,751	28,204	13,621	14,716	16,229	20,134	14,619	12,841	10,671	17,988	15,239	
FP Alt	30,362	24,751	28,205	13,621	14,716	16,229	21,099	16,482	13,616	10,691	17,992	15,241	
Change	1	0	1	0	0	0	965	1,863	775	20	4	2	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	41,757	53,883	54,027	37,211	43,789	37,160	15,371	16,364	21,873	12,769	14,789	36,563	
FP Alt	41,757	53,883	54,027	37,211	43,789	37,160	16,391	17,172	22,378	12,769	14,789	36,563	
Change	0	0	0	0	0	0	1,020	808	505	0	0	0	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	28,820	61,966	34,521	15,501	11,164	17,409	19,892	14,085	14,265	17,879	14,612	16,237	
FP Alt	28,820	61,958	34,521	15,509	11,164	17,409	22,043	15,449	14,854	17,879	14,612	16,237	
Change	0	-8	0	8	0	0	2,151	1,364	589	0	0	0	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	74,022	73,880	46,448	41,774	48,183	21,545	16,930	10,952	20,143	12,453	12,114	23,517	
FP Alt	74,022	73,879	46,448	42,887	49,626	23,208	19,713	13,858	21,721	12,454	12,114	23,517	

Change	0	-1	0	1,113	1,443	1,663	2,783	2,906	1,578	1	0	0	

1970	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	76,393	71,210	32,987	16,362	11,317	15,303	23,358	14,272	14,481	16,645	14,004	59,812	
FP Alt	76,396	71,215	32,991	16,638	11,317	15,303	26,826	16,218	14,879	16,832	14,029	59,820	
Change	3	5	4	276	0	0	3,468	1,946	398	187	25	8	

1971	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	47,213	26,894	48,817	21,929	25,382	20,245	23,017	16,285	19,592	9,918	17,060	57,050	
FP Alt	47,215	26,897	48,819	21,929	25,382	20,245	24,019	17,073	20,084	9,979	17,072	57,055	
Change	2	3	2	0	0	0	1,002	788	492	61	12	5	

1972	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	17,443	24,413	35,266	12,489	11,458	20,068	19,249	14,777	10,794	14,214	13,679	16,448	
FP Alt	17,443	24,405	35,266	12,594	11,458	20,068	21,864	16,483	11,211	14,214	13,679	16,448	
Change	0	-8	0	105	0	0	2,615	1,706	417	0	0	0	

1973	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	73,311	73,165	51,917	17,637	16,849	20,388	19,881	14,373	14,174	11,563	17,996	22,946	
FP Alt	73,312	73,166	51,917	17,998	17,320	20,388	22,947	16,444	14,817	11,586	18,001	22,948	
Change	1	1	0	361	471	0	3,066	2,071	643	23	5	2	

1974	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	74,475	39,801	73,785	65,723	22,816	22,183	18,609	14,476	20,712	12,877	58,503	68,437	
FP Alt	74,477	39,804	73,787	66,482	23,804	22,511	22,355	16,924	21,883	12,956	58,519	68,443	
Change	2	3	2	759	988	328	3,746	2,448	1,171	79	16	6	

1975	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	15,400	62,462	71,190	21,576	27,404	22,968	18,576	14,242	19,784	16,477	14,618	16,349	
FP Alt	15,404	62,466	71,194	22,187	28,202	23,888	21,464	16,415	20,830	16,622	14,644	16,358	
Change	4	4	4	611	798	920	2,888	2,173	1,046	145	26	9	

1976	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	13,593	13,426	14,948	9,681	7,346	11,701	18,586	9,870	11,322	20,001	16,532	15,946	
FP Alt	13,597	13,426	14,952	10,561	7,786	12,209	24,642	12,255	11,336	20,128	16,557	15,954	
Change	4	0	4	880	440	508	6,056	2,385	14	127	25	8	

1977	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	8,119	7,254	7,308	8,702	6,587	11,644	15,429	9,014	6,787	7,800	7,791	9,195	
FP Alt	8,123	7,258	7,312	9,815	7,327	12,497	20,526	11,887	8,144	7,959	7,816	9,203	
Change	4	4	4	1,113	740	853	5,097	2,873	1,357	159	25	8	

1978	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	64,096	50,553	61,061	31,709	20,401	16,849	17,674	15,353	15,892	5,902	7,149	14,439	
FP Alt	64,100	50,558	61,065	32,432	20,640	17,125	22,950	17,093	16,965	6,089	7,175	14,447	
Change	4	5	4	723	239	276	5,276	1,740	1,073	187	26	8	

1979	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	21,702	41,453	29,870	17,365	16,130	19,047	18,929	15,725	14,392	10,328	9,858	9,184	
FP Alt	21,706	41,457	29,874	17,428	16,130	19,047	21,758	16,984	14,718	10,468	9,884	9,192	
Change	4	4	4	63	0	0	2,829	1,259	326	140	26	8	

1980	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	74,072	74,173	44,318	18,598	15,957	12,743	15,316	15,188	14,391	11,640	12,849	18,338	
FP Alt	74,073	74,165	44,318	19,133	15,957	12,743	20,503	16,844	14,999	11,654	12,852	18,339	
Change	1	-8	0	535	0	0	5,187	1,656	608	14	3	1	

1981	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	23,352	26,590	27,993	14,544	10,131	15,118	18,876	15,048	14,525	10,137	10,739	14,878	
FP Alt	23,356	26,595	27,997	14,544	10,131	15,118	20,354	16,657	15,026	10,254	10,765	14,886	
Change	4	5	4	0	0	0	1,478	1,609	501	117	26	8	

1982	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	69,078	73,854	68,303	74,442	35,979	23,477	16,232	14,880	17,036	12,049	32,340	73,836	
FP Alt	69,077	73,854	68,303	75,119	36,862	24,495	19,348	16,399	18,032	12,049	32,340	73,835	
Change	-1	0	0	677	883	1,018	3,116	1,519	996	0	0	-1	

1983	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	71,744	74,936	77,254	61,571	56,203	55,394	26,605	18,893	26,844	20,585	36,217	66,576	
FP Alt	71,748	74,940	77,257	61,702	56,374	55,592	27,086	20,066	29,336	20,720	36,242	66,584	
Change	4	4	3	131	171	198	481	1,173	2,492	135	25	8	

1984	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	50,529	33,954	35,337	18,162	12,601	17,415	22,482	13,841	14,153	19,541	64,442	75,066	
FP Alt	50,530	33,946	35,338	18,252	12,601	17,414	25,031	15,925	14,153	19,570	64,448	75,068	
Change	1	-8	1	90	0	-1	2,549	2,084	0	29	6	2	

1985	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	13,392	15,369	15,741	12,827	12,643	14,246	19,655	16,662	14,813	11,138	25,749	22,125	
FP Alt	13,393	15,370	15,742	12,827	12,643	14,246	19,902	17,541	15,294	11,158	25,753	22,126	
Change	1	1	1	0	0	0	247	879	481	20	4	1	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	25,116	78,339	74,252	19,236	12,038	14,635	17,405	14,290	15,155	13,328	10,715	17,224	
FP Alt	25,116	78,338	74,252	20,349	12,778	15,488	22,951	16,971	16,141	13,328	10,715	17,224	
Change	0	-1	0	1,113	740	853	5,546	2,681	986	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,957	19,808	23,689	14,840	9,615	13,142	15,443	12,150	11,009	11,435	10,361	11,173	
FP Alt	13,961	19,813	23,693	15,442	9,698	13,238	19,678	14,517	12,017	11,622	10,386	11,181	
Change	4	5	4	602	83	96	4,235	2,367	1,008	187	25	8	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	27,544	15,716	8,697	10,123	9,828	11,709	9,007	9,387	9,044	9,927	8,525	17,335	
FP Alt	27,548	15,714	8,701	11,236	10,568	12,562	14,514	12,541	9,728	10,052	8,550	17,343	
Change	4	-2	4	1,113	740	853	5,507	3,154	684	125	25	8	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,026	8,291	46,676	22,322	15,435	16,275	20,523	16,349	13,133	7,790	8,775	9,602	
FP Alt	12,030	8,296	46,681	22,322	15,435	16,275	20,905	17,987	13,720	7,977	8,800	9,610	
Change	4	5	5	0	0	0	382	1,638	587	187	25	8	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	19,104	15,615	13,087	11,020	8,165	11,165	10,138	9,296	7,990	12,223	8,891	8,075	
FP Alt	19,104	15,615	13,087	12,133	8,905	12,018	15,718	12,523	8,520	12,223	8,891	8,075	
Change	0	0	0	1,113	740	853	5,580	3,227	530	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,460	8,859	31,266	12,232	8,951	8,488	12,226	7,693	9,657	7,745	7,224	6,716	
FP Alt	6,464	8,863	31,270	13,345	9,691	9,341	17,615	11,182	10,112	7,932	7,250	6,724	
Change	4	4	4	1,113	740	853	5,389	3,489	455	187	26	8	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,500	32,964	19,034	12,137	8,295	11,093	8,898	9,555	8,945	7,637	7,209	6,852	
FP Alt	10,504	32,962	19,038	13,251	9,035	11,946	13,830	12,740	10,204	7,824	7,234	6,860	
Change	4	-2	4	1,114	740	853	4,932	3,185	1,259	187	25	8	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	57,134	56,626	42,924	38,850	28,979	26,284	18,485	14,925	14,728	7,738	7,230	12,291	
FP Alt	57,138	56,630	42,928	39,362	29,649	27,057	22,192	16,998	14,728	7,925	7,256	12,299	
Change	4	4	4	512	670	773	3,707	2,073	0	187	26	8	

Series of Flow Ranges Affecting Riparian Vegetation in the Sacramento River Below Freeport Under Baseline and FP Alt Conditions

Difference:	n/r

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,488	34,677	29,484	23,991	47,773	36,012	18,796	13,678	14,259	12,317	10,779	17,196	
FP Alt	15,488	34,677	29,484	24,710	48,709	37,091	22,132	16,335	14,669	12,317	10,779	17,196	
Change	0.0	0.0	0.0	719.0	936.0	1,079.0	3,336.0	2,657.0	410.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	3.0%	2.0%	3.0%	17.7%	19.4%	2.9%	0.0%	0.0%	0.0%	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	28,626	14,713	13,974	24,157	16,691	17,793	17,303	14,057	14,823	11,121	12,879	29,813	
FP Alt	28,630	14,718	13,978	24,503	17,143	17,793	21,311	15,801	14,823	11,260	12,904	29,821	
Change	4.0	5.0	4.0	346.0	452.0	0.0	4,008.0	1,744.0	0.0	139.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	1.4%	2.7%	0.0%	23.2%	12.4%	0.0%	1.2%	0.2%	0.0%	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,138	15,595	10,162	8,114	7,575	9,312	11,640	7,060	6,611	10,215	9,215	10,234	
FP Alt	12,141	15,594	10,165	9,228	8,315	10,165	16,716	10,476	7,469	10,291	9,231	10,239	
Change	3.0	-1.0	3.0	1,114.0	740.0	853.0	5,076.0	3,416.0	858.0	76.0	16.0	5.0	
% Change	0.0%	0.0%	0.0%	13.7%	9.8%	9.2%	43.6%	48.4%	13.0%	0.7%	0.2%	0.0%	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,031	63,942	25,647	22,080	15,253	12,873	15,706	11,331	10,428	7,610	7,709	12,431	
FP Alt	12,035	63,946	25,651	22,678	15,331	12,963	19,962	14,292	10,846	7,797	7,734	12,439	
Change	4.0	4.0	4.0	598.0	78.0	90.0	4,256.0	2,961.0	418.0	187.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	2.7%	0.5%	0.7%	27.1%	26.1%	4.0%	2.5%	0.3%	0.1%	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	17,650	39,657	13,401	21,120	13,276	13,035	15,024	11,388	9,322	9,141	8,513	9,726	
FP Alt	17,654	39,662	13,405	22,234	14,016	13,888	19,111	14,640	11,371	9,266	8,538	9,734	
Change	4.0	5.0	4.0	1,114.0	740.0	853.0	4,087.0	3,252.0	2,049.0	125.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	5.3%	5.6%	6.5%	27.2%	28.6%	22.0%	1.4%	0.3%	0.1%	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	30,935	74,814	42,877	45,445	25,610	20,607	20,206	14,517	14,755	9,744	22,931	19,314	
FP Alt	30,939	74,819	42,880	45,879	26,178	20,607	23,465	17,103	15,128	9,931	22,957	19,322	
Change	4.0	5.0	3.0	434.0	568.0	0.0	3,259.0	2,586.0	373.0	187.0	26.0	8.0	
% Change	0.0%	0.0%	0.0%	1.0%	2.2%	0.0%	16.1%	17.8%	2.5%	1.9%	0.1%	0.0%	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	22,315	24,137	74,254	26,851	17,260	13,592	19,268	13,226	12,831	10,314	16,651	15,105	
FP Alt	22,318	24,133	74,257	27,684	17,639	14,030	24,319	16,478	12,855	10,409	16,671	15,112	
Change	3.0	-4.0	3.0	833.0	379.0	438.0	5,051.0	3,252.0	24.0	95.0	20.0	7.0	
% Change	0.0%	0.0%	0.0%	3.1%	2.2%	3.2%	26.2%	24.6%	0.2%	0.9%	0.1%	0.0%	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,839	15,656	11,079	7,592	8,123	12,039	8,458	9,525	6,644	11,967	11,796	11,979	
FP Alt	12,843	15,660	11,083	8,706	8,863	12,892	13,665	12,600	7,752	12,120	11,821	11,987	
Change	4.0	4.0	4.0	1,114.0	740.0	853.0	5,207.0	3,075.0	1,108.0	153.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	14.7%	9.1%	7.1%	61.6%	32.3%	16.7%	1.3%	0.2%	0.1%	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,590	17,726	31,312	12,975	12,798	14,117	16,724	14,730	10,014	7,771	7,234	17,525	
FP Alt	21,594	17,731	31,316	13,588	12,895	14,229	20,837	17,800	10,563	7,958	7,259	17,533	
Change	4.0	5.0	4.0	613.0	97.0	112.0	4,113.0	3,070.0	549.0	187.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	4.7%	0.8%	0.8%	24.6%	20.8%	5.5%	2.4%	0.3%	0.0%	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,923	10,349	7,347	8,634	8,063	9,584	14,424	8,685	6,616	8,977	9,049	9,932	
FP Alt	12,927	10,354	7,351	9,747	8,803	10,436	19,200	12,059	7,803	9,104	9,074	9,940	
Change	4.0	5.0	4.0	1,113.0	740.0	852.0	4,776.0	3,374.0	1,187.0	127.0	25.0	8.0	
% Change	0.0%	0.0%	0.1%	12.9%	9.2%	8.9%	33.1%	38.8%	17.9%	1.4%	0.3%	0.1%	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	20,233	15,858	13,045	12,398	13,228	14,416	10,720	9,993	10,007	7,755	7,092	18,879	
FP Alt	20,237	15,857	13,049	13,511	13,968	15,269	15,748	13,236	11,049	7,942	7,118	18,888	
Change	4.0	-1.0	4.0	1,113.0	740.0	853.0	5,028.0	3,243.0	1,042.0	187.0	26.0	9.0	
% Change	0.0%	0.0%	0.0%	9.0%	5.6%	5.9%	46.9%	32.5%	10.4%	2.4%	0.4%	0.0%	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,202	11,768	13,330	10,930	6,451	9,992	8,949	8,528	6,620	9,209	8,513	10,039	
FP Alt	14,206	11,773	13,334	12,043	7,191	10,844	14,287	12,083	7,038	9,396	8,538	10,047	
Change	4.0	5.0	4.0	1,113.0	740.0	852.0	5,338.0	3,555.0	418.0	187.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	10.2%	11.5%	8.5%	59.6%	41.7%	6.3%	2.0%	0.3%	0.1%	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	19,154	14,331	12,344	11,633	7,862	11,169	9,749	9,405	7,817	7,775	7,239	13,967	
FP Alt	19,158	14,336	12,348	12,746	8,602	12,022	13,994	12,669	9,644	7,962	7,264	13,975	
Change	4.0	5.0	4.0	1,113.0	740.0	853.0	4,245.0	3,264.0	1,827.0	187.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	9.6%	9.4%	7.6%	43.5%	34.7%	23.4%	2.4%	0.3%	0.1%	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	28,483	12,992	25,405	47,029	23,689	21,644	18,757	14,710	12,301	7,766	11,175	9,831	
FP Alt	28,487	12,997	25,409	47,304	23,689	21,643	21,849	17,142	12,506	7,953	11,200	9,840	
Change	4.0	5.0	4.0	275.0	0.0	-1.0	3,092.0	2,432.0	205.0	187.0	25.0	9.0	
% Change	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	16.5%	16.5%	1.7%	2.4%	0.2%	0.1%	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	38,469	60,979	28,429	21,861	15,857	18,495	18,310	14,590	13,227	12,304	9,491	12,799	
FP Alt	38,471	60,974	28,431	22,344	15,857	18,495	22,541	17,344	13,342	12,364	9,504	12,803	
Change	2.0	-5.0	2.0	483.0	0.0	0.0	4,231.0	2,754.0	115.0	60.0	13.0	4.0	
% Change	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	23.1%	18.9%	0.9%	0.5%	0.1%	0.0%	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,699	33,705	39,002	23,394	17,102	18,510	14,694	14,010	12,126	11,530	10,354	12,810	
FP Alt	12,702	33,709	39,005	24,508	17,842	19,363	20,229	17,314	12,597	11,636	10,376	12,818	
Change	3.0	4.0	3.0	1,114.0	740.0	853.0	5,535.0	3,304.0	471.0	106.0	22.0	8.0	
% Change	0.0%	0.0%	0.0%	4.8%	4.3%	4.6%	37.7%	23.6%	3.9%	0.9%	0.2%	0.1%	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	31,159	74,253	74,618	60,274	55,599	34,769	17,125	13,756	16,207	10,706	24,229	53,959	
FP Alt	31,163	74,257	74,622	61,210	56,814	36,169	20,627	16,653	17,094	10,893	24,254	53,967	
Change	4.0	4.0	4.0	936.0	1,215.0	1,400.0	3,502.0	2,897.0	887.0	187.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	1.6%	2.2%	4.0%	20.4%	21.1%	5.5%	1.7%	0.1%	0.0%	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,530	11,576	13,532	10,502	10,917	12,494	17,810	14,330	11,438	15,647	13,888	14,677	
FP Alt	13,535	11,580	13,536	10,740	10,916	12,494	20,377	16,283	12,517	15,812	13,913	14,685	
Change	5.0	4.0	4.0	238.0	-1.0	0.0	2,567.0	1,953.0	1,079.0	165.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	2.3%	0.0%	0.0%	14.4%	13.6%	9.4%	1.1%	0.2%	0.1%	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	32,602	54,864	73,729	66,149	19,399	17,467	22,100	15,579	12,587	9,921	8,522	10,847	
FP Alt	32,604	54,859	73,730	66,149	19,399	17,467	22,673	17,331	12,707	9,974	8,533	10,850	
Change	2.0	-5.0	1.0	0.0	0.0	0.0	573.0	1,752.0	120.0	53.0	11.0	3.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	11.2%	1.0%	0.5%	0.1%	0.0%	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	72,981	73,834	70,811	63,084	39,021	20,918	17,601	12,373	17,464	12,099	12,055	39,316	
FP Alt	72,981	73,834	70,811	64,089	40,325	21,610	22,763	14,673	18,259	12,099	12,055	39,316	
Change	0.0	0.0	0.0	1,005.0	1,304.0	692.0	5,162.0	2,300.0	795.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	1.6%	3.3%	3.3%	29.3%	18.6%	4.6%	0.0%	0.0%	0.0%	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	71,092	74,433	22,641	43,550	32,182	26,571	18,344	13,880	17,620	13,155	13,589	67,572	
FP Alt	71,096	74,437	22,645	44,253	33,099	27,627	21,370	16,554	18,447	13,329	13,614	67,580	
Change	4.0	4.0	4.0	703.0	917.0	1,056.0	3,026.0	2,674.0	827.0	174.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	1.6%	2.8%	4.0%	16.5%	19.3%	4.7%	1.3%	0.2%	0.0%	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	71,978	51,446	67,092	26,067	18,514	16,926	20,292	14,462	14,135	13,137	17,179	28,635	
FP Alt	71,981	51,450	67,096	26,298	18,514	16,926	23,311	16,643	14,463	13,275	17,204	28,643	
Change	3.0	4.0	4.0	231.0	0.0	0.0	3,019.0	2,181.0	328.0	138.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	14.9%	15.1%	2.3%	1.1%	0.1%	0.0%	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,050	23,705	19,480	10,062	11,449	15,190	18,990	13,760	13,513	11,341	9,516	10,413	
FP Alt	14,051	23,701	19,482	10,062	11,449	15,190	19,706	15,401	14,358	11,392	9,527	10,417	
Change	1.0	-4.0	2.0	0.0	0.0	0.0	716.0	1,641.0	845.0	51.0	11.0	4.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	11.9%	6.3%	0.4%	0.1%	0.0%	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,062	45,929	21,902	12,233	14,070	17,402	20,652	15,801	14,034	10,509	14,015	16,248	
FP Alt	13,062	45,929	21,902	12,233	14,070	17,402	21,304	16,855	14,080	10,509	14,015	16,248	
Change	0.0	0.0	0.0	0.0	0.0	0.0	652.0	1,054.0	46.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	6.7%	0.3%	0.0%	0.0%	0.0%	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	49,042	24,407	20,437	11,917	14,446	17,146	19,934	15,514	14,132	10,951	13,534	64,088	
FP Alt	49,042	24,407	20,437	11,917	14,446	17,146	20,873	16,926	14,176	10,951	13,534	64,088	
Change	0.0	0.0	0.0	0.0	0.0	0.0	939.0	1,412.0	44.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.7%	9.1%	0.3%	0.0%	0.0%	0.0%	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,186	17,766	20,240	14,317	12,057	14,525	19,807	17,076	12,800	10,354	10,911	15,240	
FP Alt	11,186	17,766	20,240	14,317	12,057	14,525	20,042	18,520	12,959	10,354	10,911	15,240	
Change	0.0	0.0	0.0	0.0	0.0	0.0	235.0	1,444.0	159.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	8.5%	1.2%	0.0%	0.0%	0.0%	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	16,767	14,564	15,392	27,294	29,007	21,555	20,636	16,558	15,218	10,566	10,355	9,813	
FP Alt	16,767	14,560	15,392	27,294	29,007	21,555	21,464	17,450	15,175	10,566	10,355	9,813	
Change	0.0	-4.0	0.0	0.0	0.0	0.0	828.0	892.0	-43.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	5.4%	-0.3%	0.0%	0.0%	0.0%	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,905	11,741	46,432	12,880	13,018	16,453	16,041	13,340	11,652	12,249	9,735	12,755	
FP Alt	10,905	11,741	46,432	13,283	13,018	16,453	20,281	15,639	11,718	12,249	9,735	12,755	
Change	0.0	0.0	0.0	403.0	0.0	0.0	4,240.0	2,299.0	66.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	3.1%	0.0%	0.0%	26.4%	17.2%	0.6%	0.0%	0.0%	0.0%	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	20,569	34,766	19,900	19,760	17,692	20,646	20,738	16,583	14,972	9,478	9,543	9,318	
FP Alt	20,572	34,769	19,903	19,760	17,692	20,646	21,981	17,628	15,100	9,566	9,562	9,324	
Change	3.0	3.0	3.0	0.0	0.0	0.0	1,243.0	1,045.0	128.0	88.0	19.0	6.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	6.3%	0.9%	0.9%	0.2%	0.1%	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	61,947	64,137	27,682	15,287	18,702	13,236	22,480	15,924	14,914	11,445	41,426	74,402	
FP Alt	61,946	64,137	27,682	15,287	18,702	13,236	24,264	17,126	14,938	11,445	41,426	74,402	
Change	-1.0	0.0	0.0	0.0	0.0	0.0	1,784.0	1,202.0	24.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	7.5%	0.2%	0.0%	0.0%	0.0%	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	73,285	72,407	56,483	61,459	59,611	37,885	19,282	14,655	21,654	11,742	13,632	40,315	
FP Alt	73,285	72,400	56,483	61,521	59,692	37,979	20,766	16,323	22,651	11,742	13,632	40,315	
Change	0.0	-7.0	0.0	62.0	81.0	94.0	1,484.0	1,668.0	997.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	7.7%	11.4%	4.6%	0.0%	0.0%	0.0%	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	73,206	22,675	21,314	16,452	23,931	24,363	20,401	14,750	19,350	16,419	12,310	43,655	
FP Alt	73,206	22,675	21,314	16,746	24,316	24,807	22,793	16,732	20,102	16,432	12,313	43,656	
Change	0.0	0.0	0.0	294.0	385.0	444.0	2,392.0	1,982.0	752.0	13.0	3.0	1.0	
% Change	0.0%	0.0%	0.0%	1.8%	1.6%	1.8%	11.7%	13.4%	3.9%	0.1%	0.0%	0.0%	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	32,600	63,677	48,956	39,496	24,553	13,634	21,714	13,901	14,561	13,590	18,093	15,217	
FP Alt	32,602	63,680	48,958	39,518	24,553	13,634	23,178	15,940	15,244	13,655	18,107	15,221	
Change	2.0	3.0	2.0	22.0	0.0	0.0	1,464.0	2,039.0	683.0	65.0	14.0	4.0	
% Change	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	6.7%	14.7%	4.7%	0.5%	0.1%	0.0%	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	19,051	15,078	11,450	12,950	11,629	15,670	14,687	11,230	10,895	13,452	13,659	20,787	
FP Alt	19,052	15,078	11,450	13,815	12,048	16,154	19,410	14,552	11,399	13,457	13,660	20,787	
Change	1.0	0.0	0.0	865.0	419.0	484.0	4,723.0	3,322.0	504.0	5.0	1.0	0.0	
% Change	0.0%	0.0%	0.0%	6.7%	3.6%	3.1%	32.2%	29.6%	4.6%	0.0%	0.0%	0.0%	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	75,276	69,309	34,425	19,367	37,059	20,212	17,983	15,036	18,584	9,193	11,664	73,952	
FP Alt	75,280	69,306	34,429	19,947	37,817	21,086	21,643	16,699	19,385	9,350	11,689	73,960	
Change	4.0	-3.0	4.0	580.0	758.0	874.0	3,660.0	1,663.0	801.0	157.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	3.0%	2.0%	4.3%	20.4%	11.1%	4.3%	1.7%	0.2%	0.0%	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,690	32,761	46,379	20,877	16,589	16,652	20,989	13,567	14,608	14,250	12,936	11,685	
FP Alt	15,694	32,766	46,383	21,148	16,589	16,652	23,346	16,253	15,253	14,373	12,961	11,693	
Change	4.0	5.0	4.0	271.0	0.0	0.0	2,357.0	2,686.0	645.0	123.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	11.2%	19.8%	4.4%	0.9%	0.2%	0.1%	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	38,797	75,234	73,299	73,582	43,661	30,437	17,990	15,518	20,463	15,385	14,680	23,874	
FP Alt	38,799	75,235	73,301	73,986	44,189	31,046	20,989	16,456	21,655	15,444	14,693	23,878	
Change	2.0	1.0	2.0	404.0	528.0	609.0	2,999.0	938.0	1,192.0	59.0	13.0	4.0	
% Change	0.0%	0.0%	0.0%	0.5%	1.2%	2.0%	16.7%	6.0%	5.8%	0.4%	0.1%	0.0%	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	36,050	52,915	21,617	10,691	12,759	18,034	21,155	15,842	14,285	17,023	12,515	12,592	
FP Alt	36,053	52,918	21,620	10,691	12,759	18,034	22,465	17,225	14,699	17,112	12,534	12,598	
Change	3.0	3.0	3.0	0.0	0.0	0.0	1,310.0	1,383.0	414.0	89.0	19.0	6.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	8.7%	2.9%	0.5%	0.2%	0.0%	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,611	29,692	21,631	11,179	12,305	13,696	16,885	14,947	9,907	11,523	8,528	11,628	
FP Alt	11,611	29,684	21,631	11,779	12,384	13,787	21,031	17,362	11,031	11,523	8,528	11,628	
Change	0.0	-8.0	0.0	600.0	79.0	91.0	4,146.0	2,415.0	1,124.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	5.4%	0.6%	0.7%	24.6%	16.2%	11.3%	0.0%	0.0%	0.0%	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	11,670	29,027	18,555	13,483	10,382	13,052	18,779	17,074	11,801	9,126	11,543	15,708	

FP Alt	11,674	29,032	18,559	13,617	10,382	13,052	21,277	18,867	12,436	9,251	11,569	15,716	
Change	4.0	5.0	4.0	134.0	0.0	0.0	2,498.0	1,793.0	635.0	125.0	26.0	8.0	
% Change	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	13.3%	10.5%	5.4%	1.4%	0.2%	0.1%	

1962	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	11,365	45,734	25,836	12,546	12,582	15,179	21,365	16,008	14,395	13,054	10,108	16,346	
FP Alt	11,366	45,735	25,837	12,546	12,582	15,178	22,526	17,513	15,225	13,083	10,114	16,348	
Change	1.0	1.0	1.0	0.0	0.0	-1.0	1,161.0	1,505.0	830.0	29.0	6.0	2.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.4%	9.4%	5.8%	0.2%	0.1%	0.0%	

1963	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	15,180	70,429	30,912	71,921	29,735	20,643	19,146	14,778	14,668	32,102	16,063	27,062	
FP Alt	15,180	70,429	30,912	72,392	30,350	20,643	23,212	16,983	14,812	32,102	16,063	27,062	
Change	0.0	0.0	0.0	471.0	615.0	0.0	4,066.0	2,205.0	144.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.7%	2.1%	0.0%	21.2%	14.9%	1.0%	0.0%	0.0%	0.0%	

1964	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	21,508	15,721	11,840	15,587	11,161	13,939	19,934	17,153	11,759	13,743	26,172	13,695	
FP Alt	21,512	15,717	11,844	15,587	11,161	13,938	20,170	18,592	11,995	13,846	26,194	13,702	
Change	4.0	-4.0	4.0	0.0	0.0	-1.0	236.0	1,439.0	236.0	103.0	22.0	7.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	8.4%	2.0%	0.7%	0.1%	0.1%	

1965	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	74,315	30,995	22,749	39,868	23,098	13,386	21,430	15,466	14,010	10,774	14,372	67,547	
FP Alt	74,315	30,995	22,749	39,960	23,098	13,386	24,729	16,713	14,108	10,774	14,372	67,547	
Change	0.0	0.0	0.0	92.0	0.0	0.0	3,299.0	1,247.0	98.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	15.4%	8.1%	0.7%	0.0%	0.0%	0.0%	

1966	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	30,361	24,751	28,204	13,621	14,716	16,229	20,134	14,619	12,841	10,671	17,988	15,239	
FP Alt	30,362	24,751	28,205	13,621	14,716	16,229	21,099	16,482	13,616	10,691	17,992	15,241	
Change	1.0	0.0	1.0	0.0	0.0	0.0	965.0	1,863.0	775.0	20.0	4.0	2.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	12.7%	6.0%	0.2%	0.0%	0.0%	

1967	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	41,757	53,883	54,027	37,211	43,789	37,160	15,371	16,364	21,873	12,769	14,789	36,563	
FP Alt	41,757	53,883	54,027	37,211	43,789	37,160	16,391	17,172	22,378	12,769	14,789	36,563	
Change	0.0	0.0	0.0	0.0	0.0	0.0	1,020.0	808.0	505.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.6%	4.9%	2.3%	0.0%	0.0%	0.0%	

1968	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	28,820	61,966	34,521	15,501	11,164	17,409	19,892	14,085	14,265	17,879	14,612	16,237	
FP Alt	28,820	61,958	34,521	15,509	11,164	17,409	22,043	15,449	14,854	17,879	14,612	16,237	
Change	0.0	-8.0	0.0	8.0	0.0	0.0	2,151.0	1,364.0	589.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	10.8%	9.7%	4.1%	0.0%	0.0%	0.0%	

1969	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	74,022	73,880	46,448	41,774	48,183	21,545	16,930	10,952	20,143	12,453	12,114	23,517	
FP Alt	74,022	73,879	46,448	42,887	49,626	23,208	19,713	13,858	21,721	12,454	12,114	23,517	
Change	0.0	-1.0	0.0	1,113.0	1,443.0	1,663.0	2,783.0	2,906.0	1,578.0	1.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	2.7%	3.0%	7.7%	16.4%	26.5%	7.8%	0.0%	0.0%	0.0%	

1970	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	76,393	71,210	32,987	16,362	11,317	15,303	23,358	14,272	14,481	16,645	14,004	59,812	
FP Alt	76,396	71,215	32,991	16,638	11,317	15,303	26,826	16,218	14,879	16,832	14,029	59,820	
Change	3.0	5.0	4.0	276.0	0.0	0.0	3,468.0	1,946.0	398.0	187.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	14.8%	13.6%	2.7%	1.1%	0.2%	0.0%	

1971	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	47,213	26,894	48,817	21,929	25,382	20,245	23,017	16,285	19,592	9,918	17,060	57,050	
FP Alt	47,215	26,897	48,819	21,929	25,382	20,245	24,019	17,073	20,084	9,979	17,072	57,055	
Change	2.0	3.0	2.0	0.0	0.0	0.0	1,002.0	788.0	492.0	61.0	12.0	5.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	4.8%	2.5%	0.6%	0.1%	0.0%	

1972	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	17,443	24,413	35,266	12,489	11,458	20,068	19,249	14,777	10,794	14,214	13,679	16,448	
FP Alt	17,443	24,405	35,266	12,594	11,458	20,068	21,864	16,483	11,211	14,214	13,679	16,448	
Change	0.0	-8.0	0.0	105.0	0.0	0.0	2,615.0	1,706.0	417.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	13.6%	11.5%	3.9%	0.0%	0.0%	0.0%	

1973	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	73,311	73,165	51,917	17,637	16,849	20,388	19,881	14,373	14,174	11,563	17,996	22,946	
FP Alt	73,312	73,166	51,917	17,998	17,320	20,388	22,947	16,444	14,817	11,586	18,001	22,948	
Change	1.0	1.0	0.0	361.0	471.0	0.0	3,066.0	2,071.0	643.0	23.0	5.0	2.0	
% Change	0.0%	0.0%	0.0%	2.0%	2.8%	0.0%	15.4%	14.4%	4.5%	0.2%	0.0%	0.0%	

1974	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	74,475	39,801	73,785	65,723	22,816	22,183	18,609	14,476	20,712	12,877	58,503	68,437	
FP Alt	74,477	39,804	73,787	66,482	23,804	22,511	22,355	16,924	21,883	12,956	58,519	68,443	
Change	2.0	3.0	2.0	759.0	988.0	328.0	3,746.0	2,448.0	1,171.0	79.0	16.0	6.0	
% Change	0.0%	0.0%	0.0%	1.2%	4.3%	1.5%	20.1%	16.9%	5.7%	0.6%	0.0%	0.0%	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	15,400	62,462	71,190	21,576	27,404	22,968	18,576	14,242	19,784	16,477	14,618	16,349	
FP Alt	15,404	62,466	71,194	22,187	28,202	23,888	21,464	16,415	20,830	16,622	14,644	16,358	
Change	4.0	4.0	4.0	611.0	798.0	920.0	2,888.0	2,173.0	1,046.0	145.0	26.0	9.0	
% Change	0.0%	0.0%	0.0%	2.8%	2.9%	4.0%	15.5%	15.3%	5.3%	0.9%	0.2%	0.1%	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,593	13,426	14,948	9,681	7,346	11,701	18,586	9,870	11,322	20,001	16,532	15,946	
FP Alt	13,597	13,426	14,952	10,561	7,786	12,209	24,642	12,255	11,336	20,128	16,557	15,954	
Change	4.0	0.0	4.0	880.0	440.0	508.0	6,056.0	2,385.0	14.0	127.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	9.1%	6.0%	4.3%	32.6%	24.2%	0.1%	0.6%	0.2%	0.1%	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	8,119	7,254	7,308	8,702	6,587	11,644	15,429	9,014	6,787	7,800	7,791	9,195	
FP Alt	8,123	7,258	7,312	9,815	7,327	12,497	20,526	11,887	8,144	7,959	7,816	9,203	
Change	4.0	4.0	4.0	1,113.0	740.0	853.0	5,097.0	2,873.0	1,357.0	159.0	25.0	8.0	
% Change	0.0%	0.1%	0.1%	12.8%	11.2%	7.3%	33.0%	31.9%	20.0%	2.0%	0.3%	0.1%	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	64,096	50,553	61,061	31,709	20,401	16,849	17,674	15,353	15,892	5,902	7,149	14,439	
FP Alt	64,100	50,558	61,065	32,432	20,640	17,125	22,950	17,093	16,965	6,089	7,175	14,447	
Change	4.0	5.0	4.0	723.0	239.0	276.0	5,276.0	1,740.0	1,073.0	187.0	26.0	8.0	
% Change	0.0%	0.0%	0.0%	2.3%	1.2%	1.6%	29.9%	11.3%	6.8%	3.2%	0.4%	0.1%	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,702	41,453	29,870	17,365	16,130	19,047	18,929	15,725	14,392	10,328	9,858	9,184	
FP Alt	21,706	41,457	29,874	17,428	16,130	19,047	21,758	16,984	14,718	10,468	9,884	9,192	
Change	4.0	4.0	4.0	63.0	0.0	0.0	2,829.0	1,259.0	326.0	140.0	26.0	8.0	
% Change	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	14.9%	8.0%	2.3%	1.4%	0.3%	0.1%	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	74,072	74,173	44,318	18,598	15,957	12,743	15,316	15,188	14,391	11,640	12,849	18,338	
FP Alt	74,073	74,165	44,318	19,133	15,957	12,743	20,503	16,844	14,999	11,654	12,852	18,339	
Change	1.0	-8.0	0.0	535.0	0.0	0.0	5,187.0	1,656.0	608.0	14.0	3.0	1.0	
% Change	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	33.9%	10.9%	4.2%	0.1%	0.0%	0.0%	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	23,352	26,590	27,993	14,544	10,131	15,118	18,876	15,048	14,525	10,137	10,739	14,878	
FP Alt	23,356	26,595	27,997	14,544	10,131	15,118	20,354	16,657	15,026	10,254	10,765	14,886	
Change	4.0	5.0	4.0	0.0	0.0	0.0	1,478.0	1,609.0	501.0	117.0	26.0	8.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.8%	10.7%	3.4%	1.2%	0.2%	0.1%	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	69,078	73,854	68,303	74,442	35,979	23,477	16,232	14,880	17,036	12,049	32,340	73,836	
FP Alt	69,077	73,854	68,303	75,119	36,862	24,495	19,348	16,399	18,032	12,049	32,340	73,835	
Change	-1.0	0.0	0.0	677.0	883.0	1,018.0	3,116.0	1,519.0	996.0	0.0	0.0	-1.0	
% Change	0.0%	0.0%	0.0%	0.9%	2.5%	4.3%	19.2%	10.2%	5.8%	0.0%	0.0%	0.0%	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	71,744	74,936	77,254	61,571	56,203	55,394	26,605	18,893	26,844	20,585	36,217	66,576	
FP Alt	71,748	74,940	77,257	61,702	56,374	55,592	27,086	20,066	29,336	20,720	36,242	66,584	
Change	4.0	4.0	3.0	131.0	171.0	198.0	481.0	1,173.0	2,492.0	135.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	0.2%	0.3%	0.4%	1.8%	6.2%	9.3%	0.7%	0.1%	0.0%	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	50,529	33,954	35,337	18,162	12,601	17,415	22,482	13,841	14,153	19,541	64,442	75,066	
FP Alt	50,530	33,946	35,338	18,252	12,601	17,414	25,031	15,925	14,153	19,570	64,448	75,068	
Change	1.0	-8.0	1.0	90.0	0.0	-1.0	2,549.0	2,084.0	0.0	29.0	6.0	2.0	
% Change	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	11.3%	15.1%	0.0%	0.1%	0.0%	0.0%	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,392	15,369	15,741	12,827	12,643	14,246	19,655	16,662	14,813	11,138	25,749	22,125	
FP Alt	13,393	15,370	15,742	12,827	12,643	14,246	19,902	17,541	15,294	11,158	25,753	22,126	
Change	1.0	1.0	1.0	0.0	0.0	0.0	247.0	879.0	481.0	20.0	4.0	1.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	5.3%	3.2%	0.2%	0.0%	0.0%	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	25,116	78,339	74,252	19,236	12,038	14,635	17,405	14,290	15,155	13,328	10,715	17,224	
FP Alt	25,116	78,338	74,252	20,349	12,778	15,488	22,951	16,971	16,141	13,328	10,715	17,224	
Change	0.0	-1.0	0.0	1,113.0	740.0	853.0	5,546.0	2,681.0	986.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	5.8%	6.1%	5.8%	31.9%	18.8%	6.5%	0.0%	0.0%	0.0%	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,957	19,808	23,689	14,840	9,615	13,142	15,443	12,150	11,009	11,435	10,361	11,173	
FP Alt	13,961	19,813	23,693	15,442	9,698	13,238	19,678	14,517	12,017	11,622	10,386	11,181	
Change	4.0	5.0	4.0	602.0	83.0	96.0	4,235.0	2,367.0	1,008.0	187.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	4.1%	0.9%	0.7%	27.4%	19.5%	9.2%	1.6%	0.2%	0.1%	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	27,544	15,716	8,697	10,123	9,828	11,709	9,007	9,387	9,044	9,927	8,525	17,335	

FP Alt	27,548	15,714	8,701	11,236	10,568	12,562	14,514	12,541	9,728	10,052	8,550	17,343	
Change	4.0	-2.0	4.0	1,113.0	740.0	853.0	5,507.0	3,154.0	684.0	125.0	25.0	8.0	
% Change	0.0%	0.0%	0.0%	11.0%	7.5%	7.3%	61.1%	33.6%	7.6%	1.3%	0.3%	0.0%	

1989	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	12,026	8,291	46,676	22,322	15,435	16,275	20,523	16,349	13,133	7,790	8,775	9,602	
FP Alt	12,030	8,296	46,681	22,322	15,435	16,275	20,905	17,987	13,720	7,977	8,800	9,610	
Change	4.0	5.0	5.0	0.0	0.0	0.0	382.0	1,638.0	587.0	187.0	25.0	8.0	
% Change	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.9%	10.0%	4.5%	2.4%	0.3%	0.1%	

1990	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	19,104	15,615	13,087	11,020	8,165	11,165	10,138	9,296	7,990	12,223	8,891	8,075	
FP Alt	19,104	15,615	13,087	12,133	8,905	12,018	15,718	12,523	8,520	12,223	8,891	8,075	
Change	0.0	0.0	0.0	1,113.0	740.0	853.0	5,580.0	3,227.0	530.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	10.1%	9.1%	7.6%	55.0%	34.7%	6.6%	0.0%	0.0%	0.0%	

1991	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	6,460	8,859	31,266	12,232	8,951	8,488	12,226	7,693	9,657	7,745	7,224	6,716	
FP Alt	6,464	8,863	31,270	13,345	9,691	9,341	17,615	11,182	10,112	7,932	7,250	6,724	
Change	4.0	4.0	4.0	1,113.0	740.0	853.0	5,389.0	3,489.0	455.0	187.0	26.0	8.0	
% Change	0.1%	0.0%	0.0%	9.1%	8.3%	10.0%	44.1%	45.4%	4.7%	2.4%	0.4%	0.1%	

Series of Flow Ranges Affecting Riparian Vegetation in the Sacramento River Below Keswick Dam Under Baseline and FP Alt Conditions

Threshold:	n/r

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,285	3,250	3,250	5,500	8,000	10,745	13,377	10,799	7,361	7,139	4,322	4,106	
FP Alt	3,285	3,250	3,250	5,500	8,000	10,745	13,661	10,612	7,261	7,139	4,322	4,106	
Change	0	0	0	0	0	0	284	-187	-100	0	0	0	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	10,626	11,328	13,328	11,194	6,500	4,875	3,250	3,250	
FP Alt	3,250	3,250	3,250	5,500	10,626	11,328	13,328	11,194	6,500	4,875	3,250	3,250	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,960	8,337	8,846	10,208	10,610	8,030	5,176	4,952	4,754	4,275	
FP Alt	3,250	3,250	3,960	8,337	8,846	10,208	11,039	7,817	4,954	4,952	4,754	4,275	
Change	0	0	0	0	0	0	429	-213	-222	0	0	0	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	4,951	5,000	7,000	9,880	11,829	9,852	5,260	3,750	3,000	3,000	
FP Alt	3,000	3,000	4,951	5,000	7,000	9,880	11,812	9,902	5,226	3,750	3,000	3,000	
Change	0	0	0	0	0	0	-17	50	-34	0	0	0	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,000	7,095	9,961	11,621	9,514	5,159	3,977	3,254	3,250	
FP Alt	3,250	3,250	3,250	5,000	7,095	9,961	11,892	9,460	4,935	3,977	3,254	3,250	
Change	0	0	0	0	0	0	271	-54	-224	0	0	0	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	23,327	3,600	9,839	8,606	10,209	13,603	10,461	7,928	3,875	3,250	3,250	
FP Alt	3,250	23,327	3,600	9,839	8,606	10,209	13,603	10,462	7,928	3,875	3,250	3,250	
Change	0	0	0	0	0	0	0	1	0	0	0	0	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,352	3,250	17,854	5,500	8,228	10,973	15,000	10,712	7,441	4,999	4,410	4,189	
FP Alt	3,352	3,250	17,854	5,500	8,228	10,973	15,302	10,569	7,278	4,999	4,410	4,189	
Change	0	0	0	0	0	0	302	-143	-163	0	0	0	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	6,162	7,738	8,854	11,038	10,078	5,874	6,135	4,762	4,275	
FP Alt	3,420	3,250	3,250	6,162	7,738	8,854	11,149	10,162	5,673	6,135	4,762	4,275	
Change	0	0	0	0	0	0	111	84	-201	0	0	0	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	5,000	7,000	10,161	11,590	9,703	6,000	4,916	4,348	3,000	
FP Alt	3,000	3,000	3,000	5,000	7,000	10,161	11,602	9,714	5,976	4,916	4,348	3,000	
Change	0	0	0	0	0	0	12	11	-24	0	0	0	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	8,241	8,346	8,519	11,789	8,578	5,015	4,625	3,250	3,250	
FP Alt	3,250	3,250	3,250	8,241	8,346	8,519	12,096	8,426	4,855	4,625	3,250	3,250	
Change	0	0	0	0	0	0	307	-152	-160	0	0	0	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	4,676	4,135	6,841	9,174	8,141	4,688	3,873	3,000	3,000	
FP Alt	3,000	3,000	3,000	4,676	4,135	6,841	9,422	8,074	4,501	3,873	3,000	3,000	
Change	0	0	0	0	0	0	248	-67	-187	0	0	0	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,465	8,173	6,021	7,169	9,222	8,627	5,165	3,893	3,250	3,250	
FP Alt	3,250	3,250	3,465	8,173	6,021	7,169	9,459	8,699	4,846	3,893	3,250	3,250	
Change	0	0	0	0	0	0	237	72	-319	0	0	0	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	5,345	6,849	10,124	10,887	8,003	5,012	3,973	3,000	3,000	
FP Alt	3,000	3,000	3,000	5,345	6,849	10,124	11,064	7,922	4,914	3,973	3,000	3,000	
Change	0	0	0	0	0	0	177	-81	-98	0	0	0	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	3,250	5,550	9,376	10,096	9,379	6,068	3,750	3,000	3,000	
FP Alt	3,000	3,000	3,000	3,250	5,550	9,376	10,096	9,380	6,068	3,750	3,000	3,000	
Change	0	0	0	0	0	0	0	1	0	0	0	0	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	8,000	9,000	13,152	10,561	6,500	3,875	3,250	3,250	
FP Alt	3,250	3,250	3,250	5,500	8,000	9,000	13,152	10,561	6,500	3,875	3,250	3,250	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	8,000	9,137	12,147	10,204	6,562	5,235	4,806	3,250	
FP Alt	3,250	3,250	3,250	5,500	8,000	9,137	12,901	9,759	6,242	5,235	4,806	3,250	
Change	0	0	0	0	0	0	754	-445	-320	0	0	0	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,958	30,086	33,790	12,271	8,000	9,000	11,803	10,000	8,898	4,875	3,250	5,192	
FP Alt	3,958	30,086	33,790	12,271	8,000	9,000	12,316	9,593	8,789	4,875	3,250	5,192	
Change	0	0	0	0	0	0	513	-407	-109	0	0	0	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	8,962	8,573	12,357	15,000	11,016	6,419	8,691	6,105	4,275	
FP Alt	3,420	3,250	3,250	8,962	8,573	12,357	15,000	11,016	6,419	8,691	6,105	4,275	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	26,223	20,587	5,500	8,000	10,884	14,056	11,173	6,754	4,625	4,055	3,250	
FP Alt	3,250	26,223	20,587	5,500	8,000	10,884	14,056	11,173	6,754	4,625	4,055	3,250	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	24,796	24,913	15,245	15,536	13,223	9,000	14,011	12,593	11,411	4,875	4,304	7,689	
FP Alt	24,796	24,913	15,245	15,536	13,223	9,000	14,396	12,332	11,284	4,875	4,304	7,689	
Change	0	0	0	0	0	0	385	-261	-127	0	0	0	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	20,279	29,172	3,600	5,500	9,406	9,000	12,125	11,774	11,023	8,331	4,604	20,033	
FP Alt	20,279	29,172	3,600	5,500	9,406	9,000	12,334	11,606	10,981	8,331	4,604	20,033	
Change	0	0	0	0	0	0	209	-168	-42	0	0	0	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,887	8,086	12,366	5,500	8,000	9,853	14,703	10,836	7,123	8,223	5,494	6,409	
FP Alt	12,887	8,086	12,366	5,500	8,000	9,853	14,704	10,836	7,123	8,223	5,494	6,409	
Change	0	0	0	0	0	0	1	0	0	0	0	0	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,373	3,250	3,250	6,313	7,000	9,596	13,777	10,384	6,000	5,870	4,438	4,216	
FP Alt	3,373	3,250	3,250	6,313	7,000	9,596	13,777	10,384	6,000	5,870	4,438	4,216	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,893	3,250	5,500	8,000	10,018	13,974	11,274	7,333	4,625	3,250	3,250	
FP Alt	3,250	3,893	3,250	5,500	8,000	10,018	13,974	11,275	7,333	4,625	3,250	3,250	
Change	0	0	0	0	0	0	0	1	0	0	0	0	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,259	7,759	3,250	6,615	8,585	11,299	13,437	11,605	6,978	5,584	3,629	22,103	
FP Alt	7,259	7,759	3,250	6,615	8,585	11,299	13,437	11,605	6,978	5,584	3,629	22,103	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,594	3,250	3,250	5,000	9,535	10,768	14,724	12,360	6,000	5,579	3,841	3,649	
FP Alt	3,594	3,250	3,250	5,000	9,535	10,768	14,724	12,360	6,000	5,579	3,841	3,649	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	6,536	3,600	5,500	8,000	9,000	10,774	10,556	6,715	4,625	3,250	3,250	
FP Alt	3,250	6,536	3,600	5,500	8,000	9,000	10,774	10,556	6,715	4,625	3,250	3,250	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	8,796	5,000	7,000	9,884	14,055	10,440	6,000	6,732	4,191	3,982	
FP Alt	3,250	3,250	8,796	5,000	7,000	9,884	14,055	10,440	6,000	6,732	4,191	3,982	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	5,500	8,318	10,141	11,630	10,710	6,500	6,358	5,162	4,275	
FP Alt	3,420	3,250	3,250	5,500	8,318	10,141	11,630	10,710	6,500	6,358	5,162	4,275	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,454	15,457	3,600	6,823	8,000	11,254	15,000	11,054	6,644	4,875	4,091	15,008	
FP Alt	7,454	15,457	3,600	6,823	8,000	11,254	15,000	11,054	6,644	4,875	4,091	15,008	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,927	19,000	11,859	19,754	9,021	9,000	12,554	11,043	10,980	5,755	3,906	10,665	
FP Alt	7,927	19,000	11,859	19,754	9,021	9,000	12,554	11,043	10,980	5,755	3,906	10,665	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	31,077	3,600	3,250	5,500	9,778	9,628	12,124	12,034	11,049	8,010	3,906	9,972
FP Alt	31,077	3,600	3,250	5,500	9,778	9,628	12,125	12,034	11,049	8,010	3,906	9,972
Change	0	0	0	0	0	0	1	0	0	0	0	0

1954	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	12,341	20,278	11,141	12,529	12,112	9,715	15,000	10,000	7,595	8,314	8,079	6,458	
FP Alt	12,341	20,278	11,141	12,529	12,112	9,715	15,000	10,000	7,595	8,314	8,079	6,458	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1955	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,250	4,884	3,600	8,654	7,000	10,435	14,618	11,094	6,000	6,768	3,974	3,776	
FP Alt	3,250	4,884	3,600	8,654	7,000	10,435	14,695	11,132	5,882	6,768	3,974	3,776	
Change	0	0	0	0	0	0	77	38	-118	0	0	0	

1956	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	31,735	22,347	3,600	5,500	10,190	9,000	11,492	10,000	10,443	4,625	4,577	20,517	
FP Alt	31,735	22,347	3,600	5,500	10,190	9,000	11,544	9,958	10,433	4,625	4,577	20,517	
Change	0	0	0	0	0	0	52	-42	-10	0	0	0	

1957	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,420	8,759	10,691	10,491	8,000	9,658	15,000	10,339	7,474	8,973	5,996	4,275	
FP Alt	3,420	8,759	10,691	10,491	8,000	9,658	15,000	10,340	7,475	8,973	5,996	4,275	
Change	0	0	0	0	0	0	0	1	1	0	0	0	

1958	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	13,862	53,771	22,074	12,986	9,118	9,343	14,082	12,731	11,494	4,875	7,461	10,843	
FP Alt	13,862	53,771	22,074	12,986	9,118	9,343	14,083	12,731	11,494	4,875	7,461	10,843	
Change	0	0	0	0	0	0	1	0	0	0	0	0	

1959	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	10,969	13,885	7,683	8,441	9,220	15,000	15,000	12,619	8,458	8,680	5,453	4,275	
FP Alt	10,969	13,885	7,683	8,441	9,220	15,000	15,000	12,619	8,458	8,680	5,453	4,275	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1960	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,250	3,250	3,250	5,000	7,000	10,665	14,459	11,542	6,000	7,268	4,471	4,248	
FP Alt	3,250	3,250	3,250	5,000	7,000	10,665	14,486	11,520	5,995	7,268	4,471	4,248	
Change	0	0	0	0	0	0	27	-22	-5	0	0	0	

1961	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,250	3,445	5,924	7,573	7,080	11,449	15,773	13,728	6,537	5,165	3,357	3,250	
FP Alt	3,250	3,445	5,924	7,573	7,080	11,449	15,773	13,728	6,537	5,165	3,357	3,250	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1962	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	4,447	6,945	3,600	5,500	8,141	10,689	14,075	10,836	7,357	8,154	5,268	4,275	
FP Alt	4,447	6,945	3,600	5,500	8,141	10,689	14,075	10,836	7,357	8,154	5,268	4,275	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1963	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,600	9,092	8,259	27,676	8,000	9,000	13,442	10,000	6,500	4,875	5,186	8,769	
FP Alt	3,600	9,092	8,259	27,676	8,000	9,000	13,442	10,000	6,500	4,875	5,186	8,769	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1964	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,600	4,690	4,696	10,508	7,750	9,524	14,071	11,209	6,000	5,955	9,536	5,158	
FP Alt	3,600	4,690	4,696	10,508	7,750	9,524	14,071	11,209	6,000	5,955	9,536	5,158	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1965	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	23,343	3,250	6,250	6,260	9,115	9,707	15,000	10,000	6,500	4,625	3,250	14,144	
FP Alt	23,343	3,250	6,250	6,260	9,115	9,707	15,000	10,000	6,500	4,625	3,250	14,144	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1966	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	6,794	5,906	12,973	8,101	8,456	13,973	15,000	11,053	8,364	4,996	5,644	4,625	
FP Alt	6,794	5,906	12,973	8,101	8,456	13,973	15,000	11,053	8,364	4,996	5,644	4,625	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1967	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	10,025	7,970	15,911	10,011	14,154	9,489	12,354	12,760	11,480	6,715	3,900	9,589	
FP Alt	10,025	7,970	15,911	10,011	14,154	9,489	12,354	12,761	11,480	6,715	3,900	9,589	
Change	0	0	0	0	0	0	0	1	0	0	0	0	

1968	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,600	18,549	3,410	8,423	8,000	13,408	15,000	10,161	8,454	8,766	5,837	4,750	
FP Alt	3,600	18,549	3,410	8,423	8,000	13,408	15,000	10,161	8,454	8,766	5,837	4,750	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1969	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	17,615	21,308	5,686	11,792	13,046	9,164	13,258	10,562	8,898	5,174	3,738	3,551	
FP Alt	17,615	21,308	5,686	11,792	13,046	9,164	13,537	10,451	8,725	5,174	3,738	3,551	

Change	0	0	0	0	0	0	279	-111	-173	0	0	0	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	52,775	14,145	3,600	8,399	8,017	10,287	16,809	10,605	8,181	8,727	4,416	18,147	
FP Alt	52,775	14,145	3,600	8,399	8,017	10,287	16,809	10,605	8,181	8,727	4,416	18,147	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,317	7,382	16,800	6,260	8,375	9,164	12,049	11,282	11,286	4,875	3,250	11,426	
FP Alt	14,317	7,382	16,800	6,260	8,375	9,164	12,049	11,282	11,286	4,875	3,250	11,426	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	5,030	14,623	9,554	8,194	14,547	15,000	10,687	6,500	8,858	6,923	4,275	
FP Alt	3,420	5,030	14,623	9,554	8,194	14,547	15,000	10,687	6,500	8,858	6,923	4,275	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,884	19,756	7,392	5,500	8,000	11,129	15,000	10,000	7,139	4,875	3,250	3,726	
FP Alt	14,884	19,756	7,392	5,500	8,000	11,129	15,000	10,000	7,139	4,875	3,250	3,726	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	38,498	5,479	37,497	6,922	8,000	9,000	11,762	11,446	11,652	5,538	25,592	23,124	
FP Alt	38,498	5,479	37,497	6,922	8,000	9,000	12,034	11,226	11,599	5,538	25,592	23,124	
Change	0	0	0	0	0	0	272	-220	-53	0	0	0	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	6,769	29,486	5,500	8,710	9,719	12,136	12,256	11,521	8,624	6,453	4,275	
FP Alt	3,420	6,769	29,486	5,500	8,710	9,719	12,225	12,184	11,504	8,624	6,453	4,275	
Change	0	0	0	0	0	0	89	-72	-17	0	0	0	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	4,351	3,481	5,292	7,522	12,578	14,161	8,500	6,000	9,869	5,636	4,275	
FP Alt	3,420	4,351	3,481	5,292	7,522	12,578	14,685	8,160	5,810	9,869	5,636	4,275	
Change	0	0	0	0	0	0	524	-340	-190	0	0	0	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	4,015	3,829	10,172	6,230	13,558	18,212	11,164	5,539	5,050	3,387	3,543	
FP Alt	3,000	4,015	3,829	10,172	6,230	13,558	18,541	10,880	5,492	5,050	3,387	3,543	
Change	0	0	0	0	0	0	329	-284	-47	0	0	0	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,304	8,365	14,247	6,418	9,054	10,385	14,593	10,181	6,500	5,000	3,784	3,000	
FP Alt	3,304	8,365	14,247	6,418	9,054	10,385	14,828	9,994	6,452	5,000	3,784	3,000	
Change	0	0	0	0	0	0	235	-187	-48	0	0	0	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	8,000	12,747	13,171	10,000	7,353	5,588	4,053	3,850	
FP Alt	3,250	3,250	3,250	5,500	8,000	12,747	13,171	10,000	7,353	5,588	4,053	3,850	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,344	30,251	3,600	5,500	8,000	10,871	12,225	10,163	6,500	4,875	3,250	3,250	
FP Alt	14,344	30,251	3,600	5,500	8,000	10,871	12,225	10,163	6,500	4,875	3,250	3,250	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	4,467	5,000	7,999	14,998	15,000	10,196	7,834	4,875	5,060	4,275	
FP Alt	3,420	3,250	4,467	5,000	7,999	14,998	15,000	10,196	7,834	4,875	5,060	4,275	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,726	26,183	13,536	25,246	8,000	9,000	11,000	10,000	6,500	5,435	5,380	24,416	
FP Alt	7,726	26,183	13,536	25,246	8,000	9,000	11,172	9,861	6,466	5,435	5,380	24,416	
Change	0	0	0	0	0	0	172	-139	-34	0	0	0	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,748	36,717	45,897	10,136	12,724	14,977	15,000	13,947	12,549	6,888	6,832	15,115	
FP Alt	21,748	36,717	45,897	10,136	12,724	14,977	15,000	13,947	12,549	6,888	6,832	15,115	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,553	4,223	10,301	7,916	8,367	10,940	15,000	10,000	7,116	9,319	13,793	26,961	
FP Alt	7,553	4,223	10,301	7,916	8,367	10,940	15,000	10,000	7,116	9,319	13,793	26,961	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,600	3,250	3,250	5,000	8,993	11,921	14,257	11,268	6,061	5,174	6,008	5,929	
FP Alt	3,600	3,250	3,250	5,000	8,993	11,921	14,257	11,268	6,061	5,174	6,008	5,929	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	43,319	21,861	5,500	8,275	11,599	12,957	11,045	6,500	6,831	3,900	3,705	
FP Alt	3,250	43,319	21,861	5,500	8,275	11,599	13,727	10,451	6,319	6,831	3,900	3,705	
Change	0	0	0	0	0	0	770	-594	-181	0	0	0	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	10,055	9,796	14,755	13,839	8,869	6,000	4,875	4,724	4,275	
FP Alt	3,420	3,250	3,250	10,055	9,796	14,755	13,885	8,843	5,979	4,875	4,724	4,275	
Change	0	0	0	0	0	0	46	-26	-21	0	0	0	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	7,070	4,467	5,870	7,000	13,544	12,088	10,213	6,069	5,268	4,021	3,250	
FP Alt	3,250	7,070	4,467	5,870	7,000	13,544	12,294	10,229	5,841	5,268	4,021	3,250	
Change	0	0	0	0	0	0	206	16	-228	0	0	0	

1989	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	5,000	9,168	9,300	13,854	9,556	6,000	5,850	3,000	3,000	
FP Alt	3,000	3,000	3,000	5,000	9,168	9,300	13,854	9,556	6,000	5,850	3,000	3,000	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

1990	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	4,569	3,600	7,382	7,000	9,818	12,773	9,242	5,060	4,625	3,250	3,250	
FP Alt	3,250	4,569	3,600	7,382	7,000	9,818	13,056	9,186	4,825	4,625	3,250	3,250	
Change	0	0	0	0	0	0	283	-56	-235	0	0	0	

1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	4,305	3,000	3,250	6,691	7,900	9,283	7,157	4,500	4,992	3,783	3,000	
FP Alt	3,000	4,305	3,000	3,250	6,691	7,900	9,744	6,930	4,258	4,992	3,783	3,000	
Change	0	0	0	0	0	0	461	-227	-242	0	0	0	

1992	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	3,250	8,466	12,155	12,860	10,966	5,602	3,750	3,558	3,000	
FP Alt	3,000	3,000	3,000	3,250	8,466	12,155	12,977	10,955	5,493	3,750	3,558	3,000	
Change	0	0	0	0	0	0	117	-11	-109	0	0	0	

1993	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	5,500	8,000	9,781	13,595	10,000	6,967	5,441	4,061	3,000	
FP Alt	3,000	3,000	3,000	5,500	8,000	9,781	13,595	10,000	6,967	5,441	4,061	3,000	
Change	0	0	0	0	0	0	0	0	0	0	0	0	

Series of Flow Ranges Affecting Riparian Vegetation in the Sacramento River Below Keswick Dam Under Baseline and FP Alt Conditions

Difference:	n/r

1922	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,285	3,250	3,250	5,500	8,000	10,745	13,377	10,799	7,361	7,139	4,322	4,106	
FP Alt	3,285	3,250	3,250	5,500	8,000	10,745	13,661	10,612	7,261	7,139	4,322	4,106	
Change	0.0	0.0	0.0	0.0	0.0	0.0	284.0	-187.0	-100.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	-1.7%	-1.4%	0.0%	0.0%	0.0%	

1923	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	10,626	11,328	13,328	11,194	6,500	4,875	3,250	3,250	
FP Alt	3,250	3,250	3,250	5,500	10,626	11,328	13,328	11,194	6,500	4,875	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1924	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,960	8,337	8,846	10,208	10,610	8,030	5,176	4,952	4,754	4,275	
FP Alt	3,250	3,250	3,960	8,337	8,846	10,208	11,039	7,817	4,954	4,952	4,754	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	429.0	-213.0	-222.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	-2.7%	-4.3%	0.0%	0.0%	0.0%	

1925	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	4,951	5,000	7,000	9,880	11,829	9,852	5,260	3,750	3,000	3,000	
FP Alt	3,000	3,000	4,951	5,000	7,000	9,880	11,812	9,902	5,226	3,750	3,000	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	-17.0	50.0	-34.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.5%	-0.6%	0.0%	0.0%	0.0%	

1926	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,000	7,095	9,961	11,621	9,514	5,159	3,977	3,254	3,250	
FP Alt	3,250	3,250	3,250	5,000	7,095	9,961	11,892	9,460	4,935	3,977	3,254	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	271.0	-54.0	-224.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	-0.6%	-4.3%	0.0%	0.0%	0.0%	

1927	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	23,327	3,600	9,839	8,606	10,209	13,603	10,461	7,928	3,875	3,250	3,250	
FP Alt	3,250	23,327	3,600	9,839	8,606	10,209	13,603	10,462	7,928	3,875	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1928	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,352	3,250	17,854	5,500	8,228	10,973	15,000	10,712	7,441	4,999	4,410	4,189	
FP Alt	3,352	3,250	17,854	5,500	8,228	10,973	15,302	10,569	7,278	4,999	4,410	4,189	
Change	0.0	0.0	0.0	0.0	0.0	0.0	302.0	-143.0	-163.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	-1.3%	-2.2%	0.0%	0.0%	0.0%	

1929	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	6,162	7,738	8,854	11,038	10,078	5,874	6,135	4,762	4,275	
FP Alt	3,420	3,250	3,250	6,162	7,738	8,854	11,149	10,162	5,673	6,135	4,762	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	111.0	84.0	-201.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.8%	-3.4%	0.0%	0.0%	0.0%	

1930	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	5,000	7,000	10,161	11,590	9,703	6,000	4,916	4,348	3,000	
FP Alt	3,000	3,000	3,000	5,000	7,000	10,161	11,602	9,714	5,976	4,916	4,348	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	12.0	11.0	-24.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	-0.4%	0.0%	0.0%	0.0%	

1931	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	8,241	8,346	8,519	11,789	8,578	5,015	4,625	3,250	3,250	
FP Alt	3,250	3,250	3,250	8,241	8,346	8,519	12,096	8,426	4,855	4,625	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	307.0	-152.0	-160.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	-1.8%	-3.2%	0.0%	0.0%	0.0%	

1932	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	4,676	4,135	6,841	9,174	8,141	4,688	3,873	3,000	3,000	
FP Alt	3,000	3,000	3,000	4,676	4,135	6,841	9,422	8,074	4,501	3,873	3,000	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	248.0	-67.0	-187.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	-0.8%	-4.0%	0.0%	0.0%	0.0%	

1933	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,465	8,173	6,021	7,169	9,222	8,627	5,165	3,893	3,250	3,250	
FP Alt	3,250	3,250	3,465	8,173	6,021	7,169	9,459	8,699	4,846	3,893	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	237.0	72.0	-319.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	0.8%	-6.2%	0.0%	0.0%	0.0%	

1934	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts

Baseline	3,000	3,000	3,000	5,345	6,849	10,124	10,887	8,003	5,012	3,973	3,000	3,000	
FP Alt	3,000	3,000	3,000	5,345	6,849	10,124	11,064	7,922	4,914	3,973	3,000	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	177.0	-81.0	-98.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	-1.0%	-2.0%	0.0%	0.0%	0.0%	

1935	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	3,000	3,000	3,250	5,550	9,376	10,096	9,379	6,068	3,750	3,000	3,000	
FP Alt	3,000	3,000	3,000	3,250	5,550	9,376	10,096	9,380	6,068	3,750	3,000	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1936	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	8,000	9,000	13,152	10,561	6,500	3,875	3,250	3,250	
FP Alt	3,250	3,250	3,250	5,500	8,000	9,000	13,152	10,561	6,500	3,875	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1937	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	8,000	9,137	12,147	10,204	6,562	5,235	4,806	3,250	
FP Alt	3,250	3,250	3,250	5,500	8,000	9,137	12,901	9,759	6,242	5,235	4,806	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	754.0	-445.0	-320.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	-4.4%	-4.9%	0.0%	0.0%	0.0%	

1938	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,958	30,086	33,790	12,271	8,000	9,000	11,803	10,000	8,898	4,875	3,250	5,192	
FP Alt	3,958	30,086	33,790	12,271	8,000	9,000	12,316	9,593	8,789	4,875	3,250	5,192	
Change	0.0	0.0	0.0	0.0	0.0	0.0	513.0	-407.0	-109.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	-4.1%	-1.2%	0.0%	0.0%	0.0%	

1939	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	8,962	8,573	12,357	15,000	11,016	6,419	8,691	6,105	4,275	
FP Alt	3,420	3,250	3,250	8,962	8,573	12,357	15,000	11,016	6,419	8,691	6,105	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1940	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	26,223	20,587	5,500	8,000	10,884	14,056	11,173	6,754	4,625	4,055	3,250	
FP Alt	3,250	26,223	20,587	5,500	8,000	10,884	14,056	11,173	6,754	4,625	4,055	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1941	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	24,796	24,913	15,245	15,536	13,223	9,000	14,011	12,593	11,411	4,875	4,304	7,689	
FP Alt	24,796	24,913	15,245	15,536	13,223	9,000	14,396	12,332	11,284	4,875	4,304	7,689	
Change	0.0	0.0	0.0	0.0	0.0	0.0	385.0	-261.0	-127.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	-2.1%	-1.1%	0.0%	0.0%	0.0%	

1942	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	20,279	29,172	3,600	5,500	9,406	9,000	12,125	11,774	11,023	8,331	4,604	20,033	
FP Alt	20,279	29,172	3,600	5,500	9,406	9,000	12,334	11,606	10,981	8,331	4,604	20,033	
Change	0.0	0.0	0.0	0.0	0.0	0.0	209.0	-168.0	-42.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	-1.4%	-0.4%	0.0%	0.0%	0.0%	

1943	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,887	8,086	12,366	5,500	8,000	9,853	14,703	10,836	7,123	8,223	5,494	6,409	
FP Alt	12,887	8,086	12,366	5,500	8,000	9,853	14,704	10,836	7,123	8,223	5,494	6,409	
Change	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1944	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,373	3,250	3,250	6,313	7,000	9,596	13,777	10,384	6,000	5,870	4,438	4,216	
FP Alt	3,373	3,250	3,250	6,313	7,000	9,596	13,777	10,384	6,000	5,870	4,438	4,216	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1945	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,893	3,250	5,500	8,000	10,018	13,974	11,274	7,333	4,625	3,250	3,250	
FP Alt	3,250	3,893	3,250	5,500	8,000	10,018	13,974	11,275	7,333	4,625	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1946	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,259	7,759	3,250	6,615	8,585	11,299	13,437	11,605	6,978	5,584	3,629	22,103	
FP Alt	7,259	7,759	3,250	6,615	8,585	11,299	13,437	11,605	6,978	5,584	3,629	22,103	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1947	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,594	3,250	3,250	5,000	9,535	10,768	14,724	12,360	6,000	5,579	3,841	3,649	
FP Alt	3,594	3,250	3,250	5,000	9,535	10,768	14,724	12,360	6,000	5,579	3,841	3,649	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1948	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	6,536	3,600	5,500	8,000	9,000	10,774	10,556	6,715	4,625	3,250	3,250	
FP Alt	3,250	6,536	3,600	5,500	8,000	9,000	10,774	10,556	6,715	4,625	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1949	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	8,796	5,000	7,000	9,884	14,055	10,440	6,000	6,732	4,191	3,982	
FP Alt	3,250	3,250	8,796	5,000	7,000	9,884	14,055	10,440	6,000	6,732	4,191	3,982	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1950	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	5,500	8,318	10,141	11,630	10,710	6,500	6,358	5,162	4,275	
FP Alt	3,420	3,250	3,250	5,500	8,318	10,141	11,630	10,710	6,500	6,358	5,162	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1951	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,454	15,457	3,600	6,823	8,000	11,254	15,000	11,054	6,644	4,875	4,091	15,008	
FP Alt	7,454	15,457	3,600	6,823	8,000	11,254	15,000	11,054	6,644	4,875	4,091	15,008	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1952	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,927	19,000	11,859	19,754	9,021	9,000	12,554	11,043	10,980	5,755	3,906	10,665	
FP Alt	7,927	19,000	11,859	19,754	9,021	9,000	12,554	11,043	10,980	5,755	3,906	10,665	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1953	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	31,077	3,600	3,250	5,500	9,778	9,628	12,124	12,034	11,049	8,010	3,906	9,972	
FP Alt	31,077	3,600	3,250	5,500	9,778	9,628	12,125	12,034	11,049	8,010	3,906	9,972	
Change	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1954	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	12,341	20,278	11,141	12,529	12,112	9,715	15,000	10,000	7,595	8,314	8,079	6,458	
FP Alt	12,341	20,278	11,141	12,529	12,112	9,715	15,000	10,000	7,595	8,314	8,079	6,458	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1955	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	4,884	3,600	8,654	7,000	10,435	14,618	11,094	6,000	6,768	3,974	3,776	
FP Alt	3,250	4,884	3,600	8,654	7,000	10,435	14,695	11,132	5,882	6,768	3,974	3,776	
Change	0.0	0.0	0.0	0.0	0.0	0.0	77.0	38.0	-118.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.3%	-2.0%	0.0%	0.0%	0.0%	

1956	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	31,735	22,347	3,600	5,500	10,190	9,000	11,492	10,000	10,443	4,625	4,577	20,517	
FP Alt	31,735	22,347	3,600	5,500	10,190	9,000	11,544	9,958	10,433	4,625	4,577	20,517	
Change	0.0	0.0	0.0	0.0	0.0	0.0	52.0	-42.0	-10.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	-0.4%	-0.1%	0.0%	0.0%	0.0%	

1957	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	8,759	10,691	10,491	8,000	9,658	15,000	10,339	7,474	8,973	5,996	4,275	
FP Alt	3,420	8,759	10,691	10,491	8,000	9,658	15,000	10,340	7,475	8,973	5,996	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1958	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	13,862	53,771	22,074	12,986	9,118	9,343	14,082	12,731	11,494	4,875	7,461	10,843	
FP Alt	13,862	53,771	22,074	12,986	9,118	9,343	14,083	12,731	11,494	4,875	7,461	10,843	
Change	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1959	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,969	13,885	7,683	8,441	9,220	15,000	15,000	12,619	8,458	8,680	5,453	4,275	
FP Alt	10,969	13,885	7,683	8,441	9,220	15,000	15,000	12,619	8,458	8,680	5,453	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1960	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,000	7,000	10,665	14,459	11,542	6,000	7,268	4,471	4,248	
FP Alt	3,250	3,250	3,250	5,000	7,000	10,665	14,486	11,520	5,995	7,268	4,471	4,248	
Change	0.0	0.0	0.0	0.0	0.0	0.0	27.0	-22.0	-5.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	-0.2%	-0.1%	0.0%	0.0%	0.0%	

1961	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,445	5,924	7,573	7,080	11,449	15,773	13,728	6,537	5,165	3,357	3,250	

FP Alt	3,250	3,445	5,924	7,573	7,080	11,449	15,773	13,728	6,537	5,165	3,357	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1962	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	4,447	6,945	3,600	5,500	8,141	10,689	14,075	10,836	7,357	8,154	5,268	4,275	
FP Alt	4,447	6,945	3,600	5,500	8,141	10,689	14,075	10,836	7,357	8,154	5,268	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1963	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,600	9,092	8,259	27,676	8,000	9,000	13,442	10,000	6,500	4,875	5,186	8,769	
FP Alt	3,600	9,092	8,259	27,676	8,000	9,000	13,442	10,000	6,500	4,875	5,186	8,769	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1964	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,600	4,690	4,696	10,508	7,750	9,524	14,071	11,209	6,000	5,955	9,536	5,158	
FP Alt	3,600	4,690	4,696	10,508	7,750	9,524	14,071	11,209	6,000	5,955	9,536	5,158	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1965	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	23,343	3,250	6,250	6,260	9,115	9,707	15,000	10,000	6,500	4,625	3,250	14,144	
FP Alt	23,343	3,250	6,250	6,260	9,115	9,707	15,000	10,000	6,500	4,625	3,250	14,144	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1966	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	6,794	5,906	12,973	8,101	8,456	13,973	15,000	11,053	8,364	4,996	5,644	4,625	
FP Alt	6,794	5,906	12,973	8,101	8,456	13,973	15,000	11,053	8,364	4,996	5,644	4,625	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1967	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	10,025	7,970	15,911	10,011	14,154	9,489	12,354	12,760	11,480	6,715	3,900	9,589	
FP Alt	10,025	7,970	15,911	10,011	14,154	9,489	12,354	12,761	11,480	6,715	3,900	9,589	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1968	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,600	18,549	3,410	8,423	8,000	13,408	15,000	10,161	8,454	8,766	5,837	4,750	
FP Alt	3,600	18,549	3,410	8,423	8,000	13,408	15,000	10,161	8,454	8,766	5,837	4,750	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1969	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	17,615	21,308	5,686	11,792	13,046	9,164	13,258	10,562	8,898	5,174	3,738	3,551	
FP Alt	17,615	21,308	5,686	11,792	13,046	9,164	13,537	10,451	8,725	5,174	3,738	3,551	
Change	0.0	0.0	0.0	0.0	0.0	0.0	279.0	-111.0	-173.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	-1.1%	-1.9%	0.0%	0.0%	0.0%	

1970	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	52,775	14,145	3,600	8,399	8,017	10,287	16,809	10,605	8,181	8,727	4,416	18,147	
FP Alt	52,775	14,145	3,600	8,399	8,017	10,287	16,809	10,605	8,181	8,727	4,416	18,147	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1971	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,317	7,382	16,800	6,260	8,375	9,164	12,049	11,282	11,286	4,875	3,250	11,426	
FP Alt	14,317	7,382	16,800	6,260	8,375	9,164	12,049	11,282	11,286	4,875	3,250	11,426	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1972	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	5,030	14,623	9,554	8,194	14,547	15,000	10,687	6,500	8,858	6,923	4,275	
FP Alt	3,420	5,030	14,623	9,554	8,194	14,547	15,000	10,687	6,500	8,858	6,923	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1973	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,884	19,756	7,392	5,500	8,000	11,129	15,000	10,000	7,139	4,875	3,250	3,726	
FP Alt	14,884	19,756	7,392	5,500	8,000	11,129	15,000	10,000	7,139	4,875	3,250	3,726	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1974	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	38,498	5,479	37,497	6,922	8,000	9,000	11,762	11,446	11,652	5,538	25,592	23,124	
FP Alt	38,498	5,479	37,497	6,922	8,000	9,000	12,034	11,226	11,599	5,538	25,592	23,124	
Change	0.0	0.0	0.0	0.0	0.0	0.0	272.0	-220.0	-53.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	-1.9%	-0.5%	0.0%	0.0%	0.0%	

1975	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	6,769	29,486	5,500	8,710	9,719	12,136	12,256	11,521	8,624	6,453	4,275	
FP Alt	3,420	6,769	29,486	5,500	8,710	9,719	12,225	12,184	11,504	8,624	6,453	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	89.0	-72.0	-17.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	-0.6%	-0.1%	0.0%	0.0%	0.0%	

1976	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	4,351	3,481	5,292	7,522	12,578	14,161	8,500	6,000	9,869	5,636	4,275	
FP Alt	3,420	4,351	3,481	5,292	7,522	12,578	14,685	8,160	5,810	9,869	5,636	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	524.0	-340.0	-190.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	-4.0%	-3.2%	0.0%	0.0%	0.0%	

1977	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,000	4,015	3,829	10,172	6,230	13,558	18,212	11,164	5,539	5,050	3,387	3,543	
FP Alt	3,000	4,015	3,829	10,172	6,230	13,558	18,541	10,880	5,492	5,050	3,387	3,543	
Change	0.0	0.0	0.0	0.0	0.0	0.0	329.0	-284.0	-47.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	-2.5%	-0.8%	0.0%	0.0%	0.0%	

1978	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,304	8,365	14,247	6,418	9,054	10,385	14,593	10,181	6,500	5,000	3,784	3,000	
FP Alt	3,304	8,365	14,247	6,418	9,054	10,385	14,828	9,994	6,452	5,000	3,784	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	235.0	-187.0	-48.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	-1.8%	-0.7%	0.0%	0.0%	0.0%	

1979	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	3,250	3,250	5,500	8,000	12,747	13,171	10,000	7,353	5,588	4,053	3,850	
FP Alt	3,250	3,250	3,250	5,500	8,000	12,747	13,171	10,000	7,353	5,588	4,053	3,850	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1980	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	14,344	30,251	3,600	5,500	8,000	10,871	12,225	10,163	6,500	4,875	3,250	3,250	
FP Alt	14,344	30,251	3,600	5,500	8,000	10,871	12,225	10,163	6,500	4,875	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1981	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	4,467	5,000	7,999	14,998	15,000	10,196	7,834	4,875	5,060	4,275	
FP Alt	3,420	3,250	4,467	5,000	7,999	14,998	15,000	10,196	7,834	4,875	5,060	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1982	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,726	26,183	13,536	25,246	8,000	9,000	11,000	10,000	6,500	5,435	5,380	24,416	
FP Alt	7,726	26,183	13,536	25,246	8,000	9,000	11,172	9,861	6,466	5,435	5,380	24,416	
Change	0.0	0.0	0.0	0.0	0.0	0.0	172.0	-139.0	-34.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	-1.4%	-0.5%	0.0%	0.0%	0.0%	

1983	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	21,748	36,717	45,897	10,136	12,724	14,977	15,000	13,947	12,549	6,888	6,832	15,115	
FP Alt	21,748	36,717	45,897	10,136	12,724	14,977	15,000	13,947	12,549	6,888	6,832	15,115	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1984	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	7,553	4,223	10,301	7,916	8,367	10,940	15,000	10,000	7,116	9,319	13,793	26,961	
FP Alt	7,553	4,223	10,301	7,916	8,367	10,940	15,000	10,000	7,116	9,319	13,793	26,961	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1985	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,600	3,250	3,250	5,000	8,993	11,921	14,257	11,268	6,061	5,174	6,008	5,929	
FP Alt	3,600	3,250	3,250	5,000	8,993	11,921	14,257	11,268	6,061	5,174	6,008	5,929	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1986	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	43,319	21,861	5,500	8,275	11,599	12,957	11,045	6,500	6,831	3,900	3,705	
FP Alt	3,250	43,319	21,861	5,500	8,275	11,599	13,727	10,451	6,319	6,831	3,900	3,705	
Change	0.0	0.0	0.0	0.0	0.0	0.0	770.0	-594.0	-181.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	-5.4%	-2.8%	0.0%	0.0%	0.0%	

1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,420	3,250	3,250	10,055	9,796	14,755	13,839	8,869	6,000	4,875	4,724	4,275	
FP Alt	3,420	3,250	3,250	10,055	9,796	14,755	13,885	8,843	5,979	4,875	4,724	4,275	
Change	0.0	0.0	0.0	0.0	0.0	0.0	46.0	-26.0	-21.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	-0.3%	-0.4%	0.0%	0.0%	0.0%	

1988	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Counts
Baseline	3,250	7,070	4,467	5,870	7,000	13,544	12,088	10,213	6,069	5,268	4,021	3,250	

FP Alt	3,250	7,070	4,467	5,870	7,000	13,544	12,294	10,229	5,841	5,268	4,021	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	206.0	16.0	-228.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.2%	-3.8%	0.0%	0.0%	0.0%	

1989	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,000	3,000	3,000	5,000	9,168	9,300	13,854	9,556	6,000	5,850	3,000	3,000	
FP Alt	3,000	3,000	3,000	5,000	9,168	9,300	13,854	9,556	6,000	5,850	3,000	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

1990	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,250	4,569	3,600	7,382	7,000	9,818	12,773	9,242	5,060	4,625	3,250	3,250	
FP Alt	3,250	4,569	3,600	7,382	7,000	9,818	13,056	9,186	4,825	4,625	3,250	3,250	
Change	0.0	0.0	0.0	0.0	0.0	0.0	283.0	-56.0	-235.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	-0.6%	-4.6%	0.0%	0.0%	0.0%	

1991	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Counts**
Baseline	3,000	4,305	3,000	3,250	6,691	7,900	9,283	7,157	4,500	4,992	3,783	3,000	
FP Alt	3,000	4,305	3,000	3,250	6,691	7,900	9,744	6,930	4,258	4,992	3,783	3,000	
Change	0.0	0.0	0.0	0.0	0.0	0.0	461.0	-227.0	-242.0	0.0	0.0	0.0	
% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	-3.2%	-5.4%	0.0%	0.0%	0.0%	

Long-term Average Oroville Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Apr	2953	2953	0	0.0
May	3056	3073	17	0.6
Jun	2849	2888	39	1.4
Jul	2557	2507	-50	-2.0
Aug	2218	2192	-26	-1.2
Sep	2105	2103	-2	-0.1
Oct	2047	2047	0	0.0
Nov	2099	2099	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Long-term Average Oroville Reservoir End of Month Elevation Under Baseline and FP Alt Conditions			
Month	**Average Elevation[1] (feet msl)**		
	Baseline	**FP Alt**	**Difference**
Mar	840	840	0
Apr	857	857	0
May	864	866	2
Jun	849	852	3
Jul	825	821	-4
Aug	794	791	-3
Sep	782	782	0
[1] Based on 72 years modeled.			

Oroville Reservoir End of Month Elevation Under Baseline and FP Alt Conditions									
Month	Maximum Elevation[1] (feet msl)			Minimum Elevation[1] (feet msl)			Average Elevation[1] (feet msl)		
	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference	Baseline	FP Alt	Difference
Jan	874	874	0	675	675	0	807	807	0
Feb	874	874	0	677	677	0	824	824	0
Mar	874	874	0	676	676	0	840	840	0
Apr	895	895	0	654	654	0	857	857	0
May	900	900	0	635	643	8	864	866	2
Jun	900	900	0	577	594	17	849	852	3
Jul	904	900	-4	502	492	-10	825	821	-4
Aug	901	900	-1	380	376	-4	794	791	-3
Sep	887	887	0	389	386	-3	782	782	0
Oct	874	874	0	340	340	0	775	775	0
Nov	874	874	0	364	364	0	780	780	0
Dec	874	874	0	489	489	0	791	791	0

[1] During 72 years modeled.

Long-term Average Surface Elevation and Number of Years with Elevation Decrease Greater than 9 feet in Oroville Reservoir Under Baseline and FP Alt Conditions					
Month	Average Reservoir Surface Elevation[1] (feet msl)			No. Years[1] w/Monthly Elevation Decrease During Month > 9 ft	
	Baseline	FP Alt	Difference	Baseline	FP Alt
Mar	840	840	0	2	2
Apr	857	857	0	3	3
May	864	866	2	9	7
Jun	849	852	3	50	47
Jul	825	821	-4	55	64

[1] Based on 72 years modeled.

Long-term Average Water Temperature in the Feather River below Oroville Dam Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	52.2	52.2	0.0
Nov	52.1	52.1	0.0
Dec	48.7	48.7	0.0
Jan	46.2	46.2	0.0
Feb	46.1	46.1	0.0
Mar	47.0	47.0	0.0
Apr	49.0	49.0	0.0
May	53.0	53.0	0.0
Jun	55.1	55.1	0.0
Jul	59.3	59.3	0.0
Aug	58.3	58.3	0.0
Sep	53.2	53.2	0.0

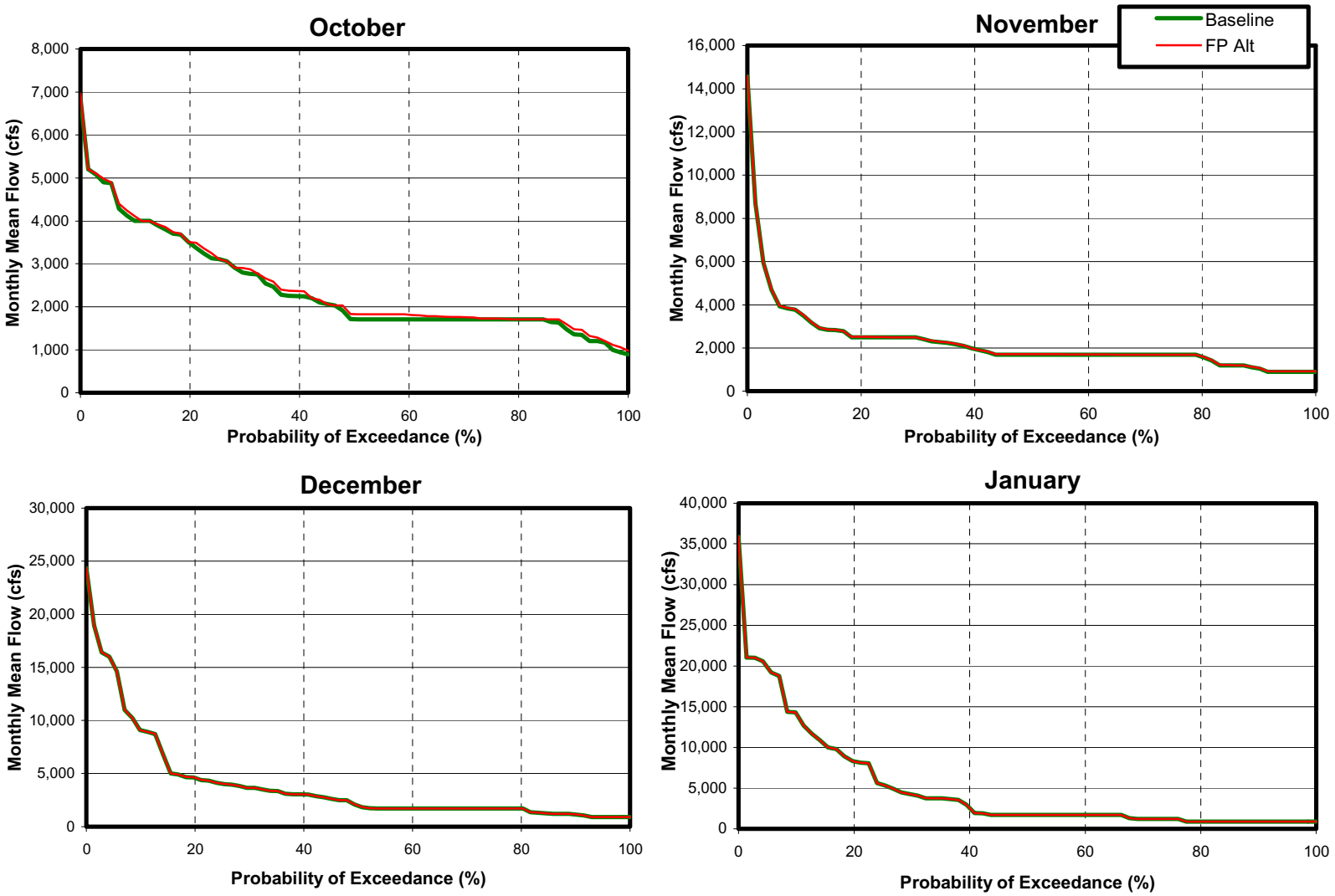
[1] Based on 69 years modeled.

Long-term Average Flow below Oroville Dam Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	2441	2509	68	2.8
Nov	2301	2315	14	0.6
Dec	3984	3989	5	0.1
Jan	5005	5007	2	0.0
Feb	5930	5931	1	0.0
Mar	6144	6146	2	0.0
Apr	3416	3734	318	9.3
May	3826	3969	143	3.7
Jun	5084	5192	108	2.1
Jul	5896	7210	1314	22.3
Aug	4434	5737	1303	29.4
Sep	1600	1977	377	23.6

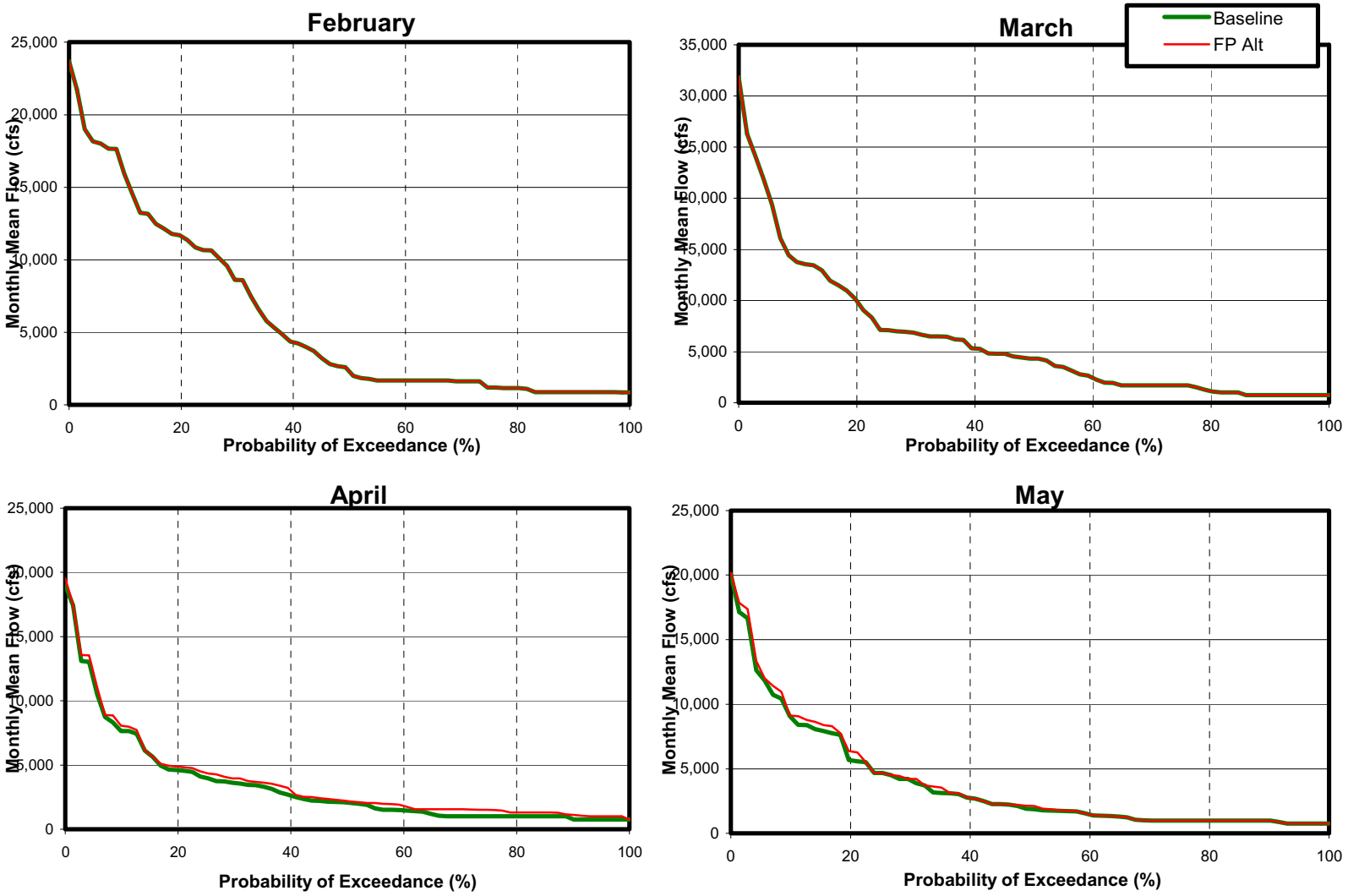
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

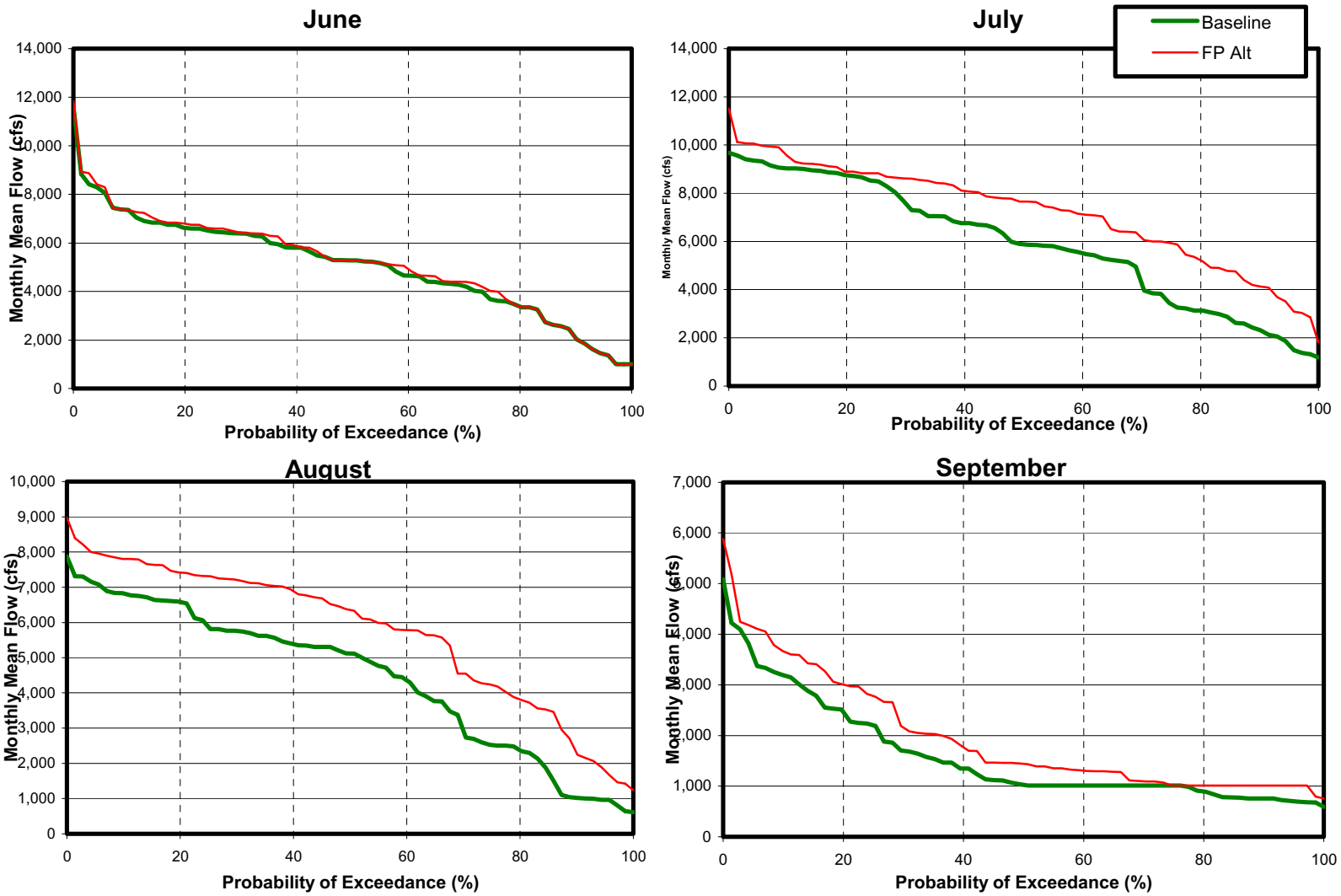
Feather River Flow below Thermalito Afterbay Under Baseline and FP Alt Conditions



Feather River Flow below Thermalito Afterbay Under Baseline and FP Alt Conditions



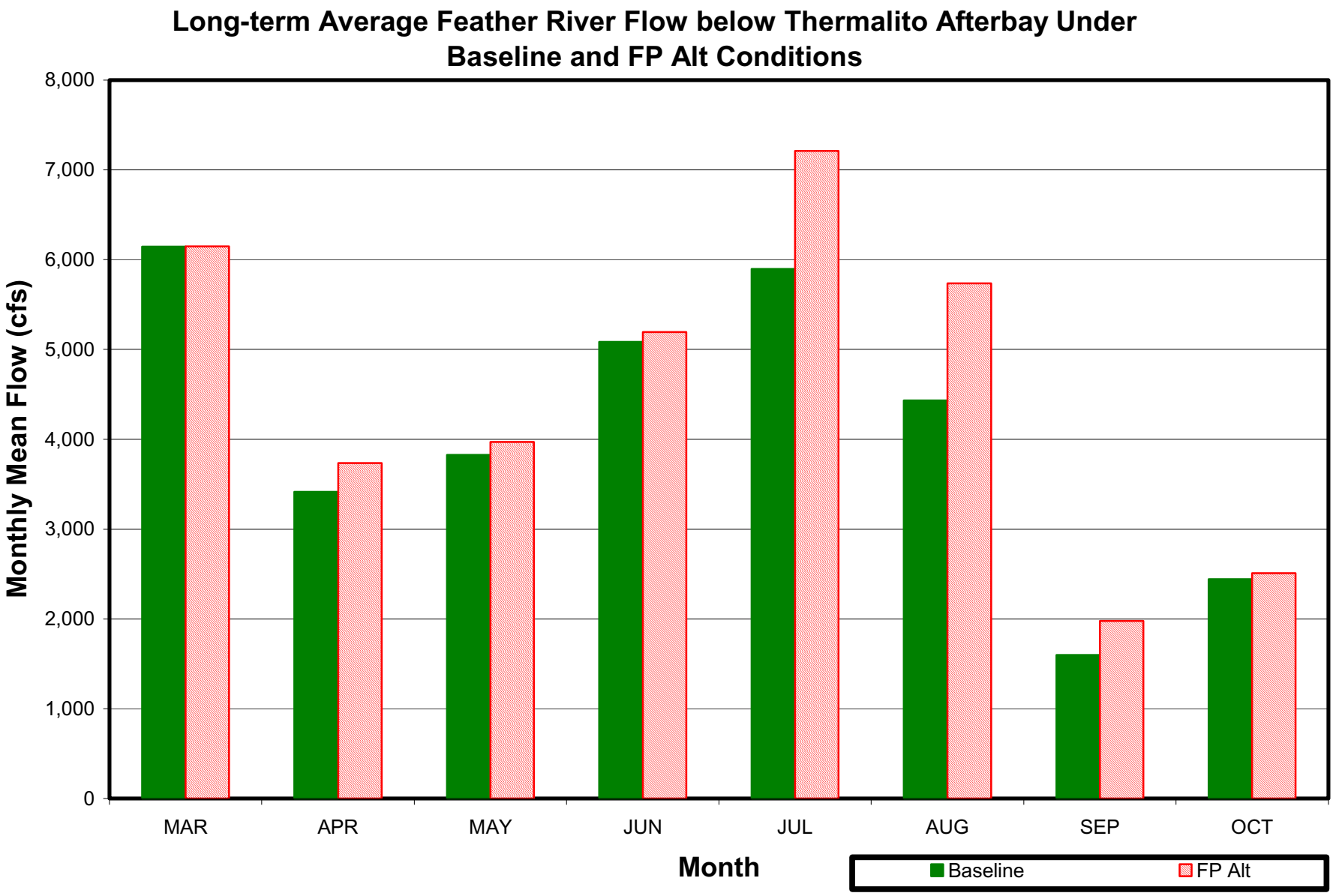
Feather River Flow below Thermalito Afterbay Under Baseline and FP Alt Conditions

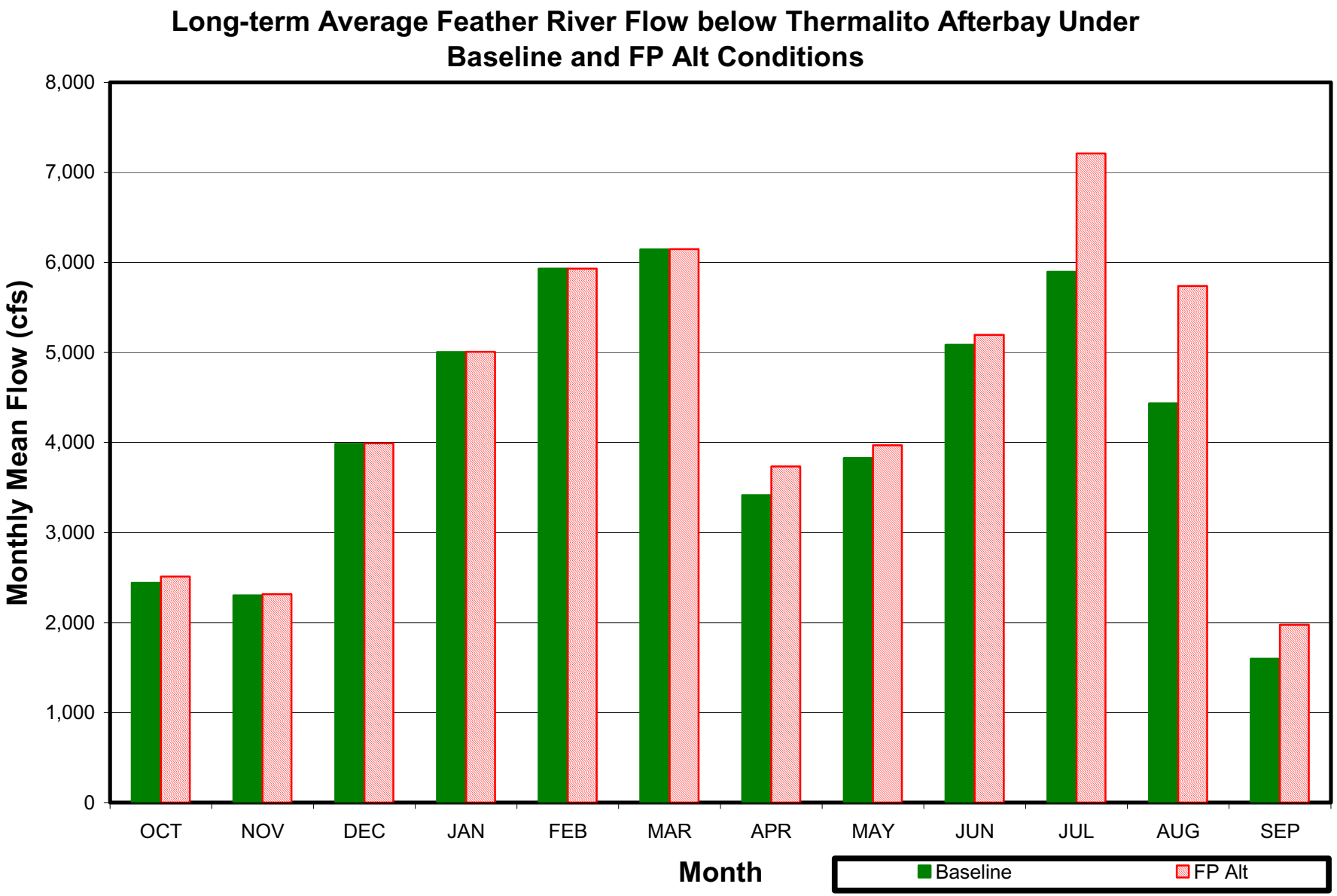


Long-term Average Flow below Thermalito Afterbay Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	2441	2509	68	2.8
Nov	2301	2315	14	0.6
Dec	3984	3989	5	0.1
Jan	5005	5007	2	0.0
Feb	5930	5931	1	0.0
Mar	6144	6146	2	0.0
Apr	3416	3734	318	9.3
May	3826	3969	143	3.7
Jun	5084	5192	108	2.1
Jul	5896	7210	1314	22.3
Aug	4434	5737	1303	29.4
Sep	1600	1977	377	23.6

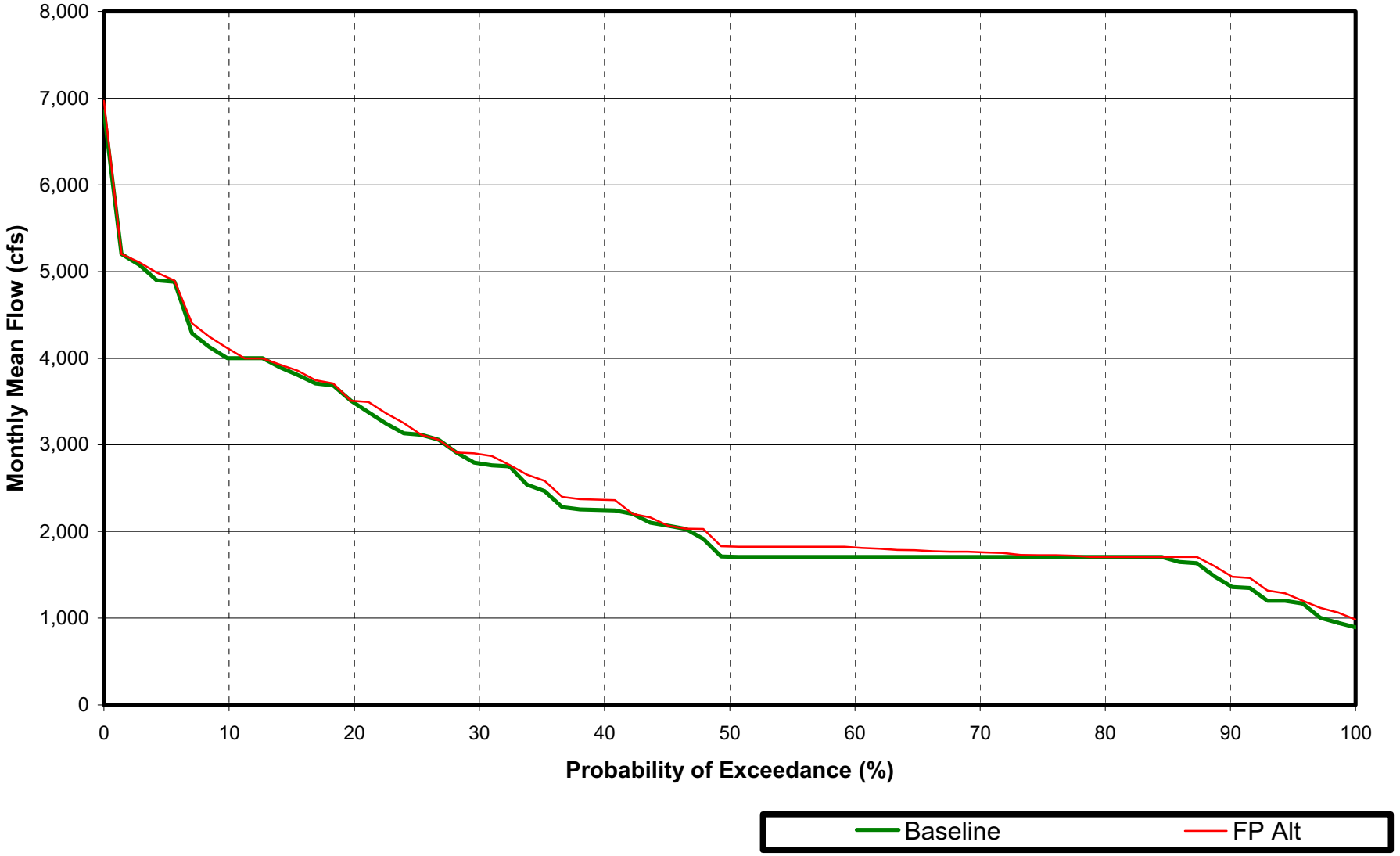
[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

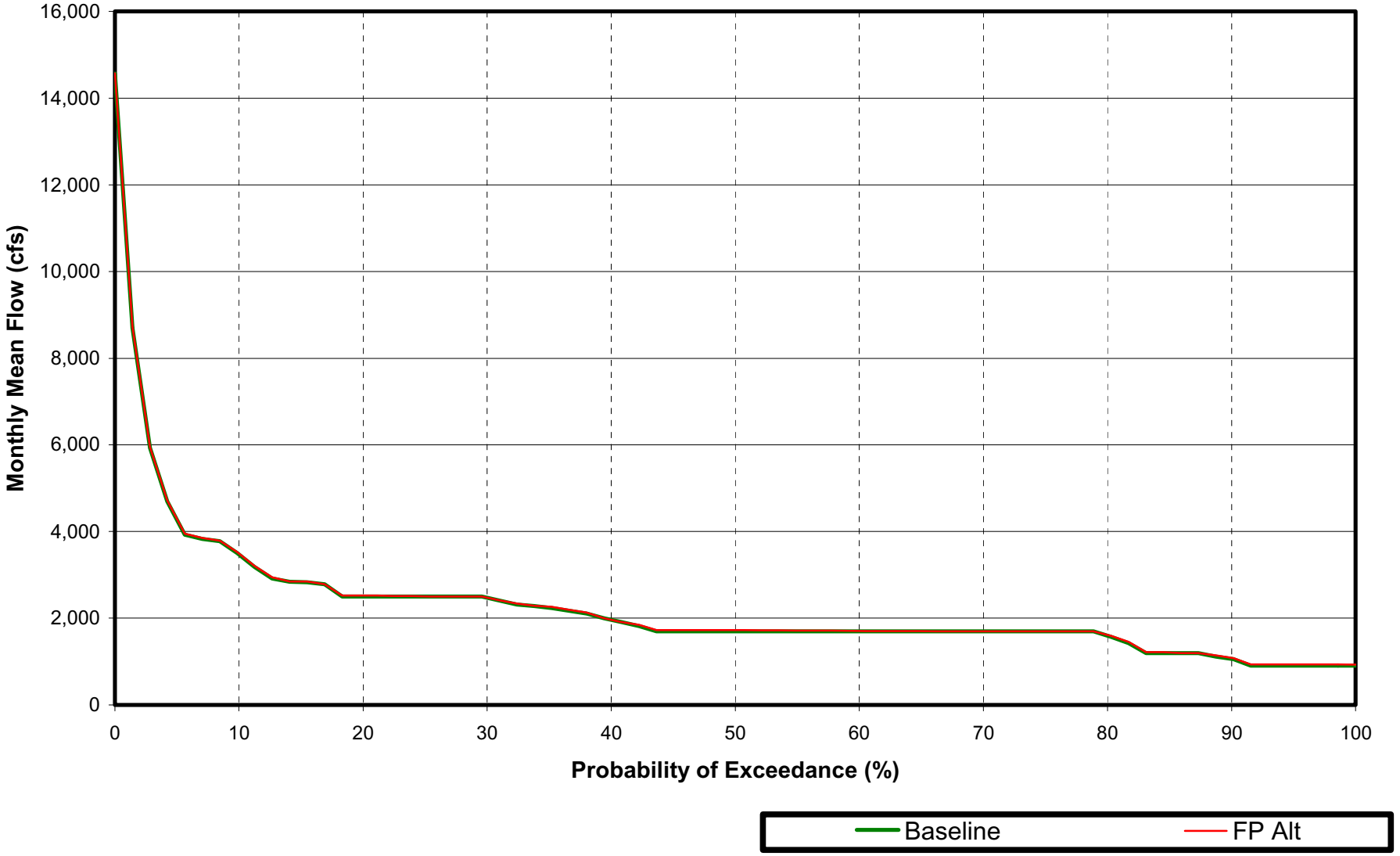

Long-term Average Feather River Flow below Thermalito Afterbay Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt


Long-term Average Feather River Flow below Thermalito Afterbay Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Month
Baseline
FP Alt

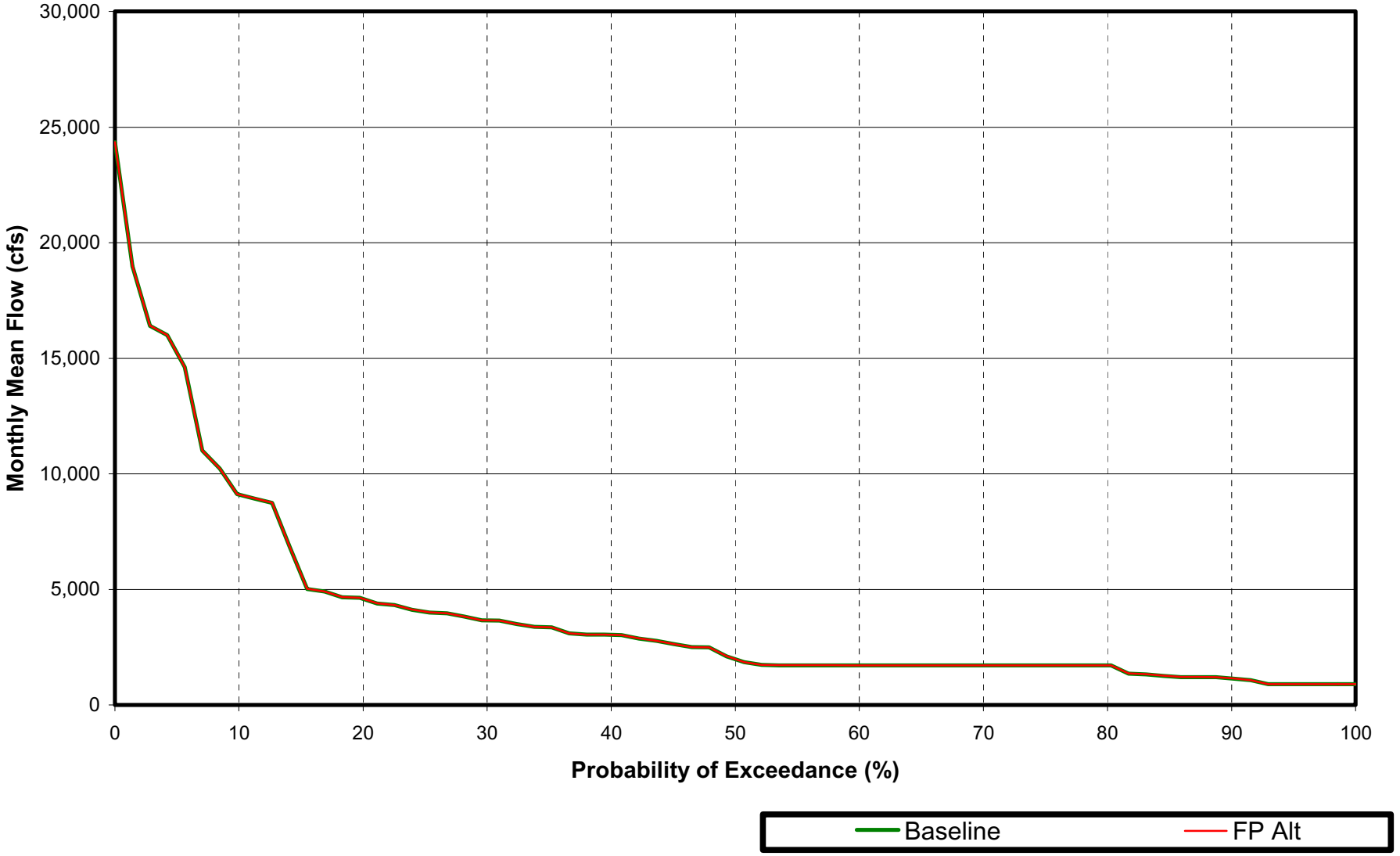
Feather River Flow below Thermalito Afterbay During October Under Baseline and FP Alt Conditions



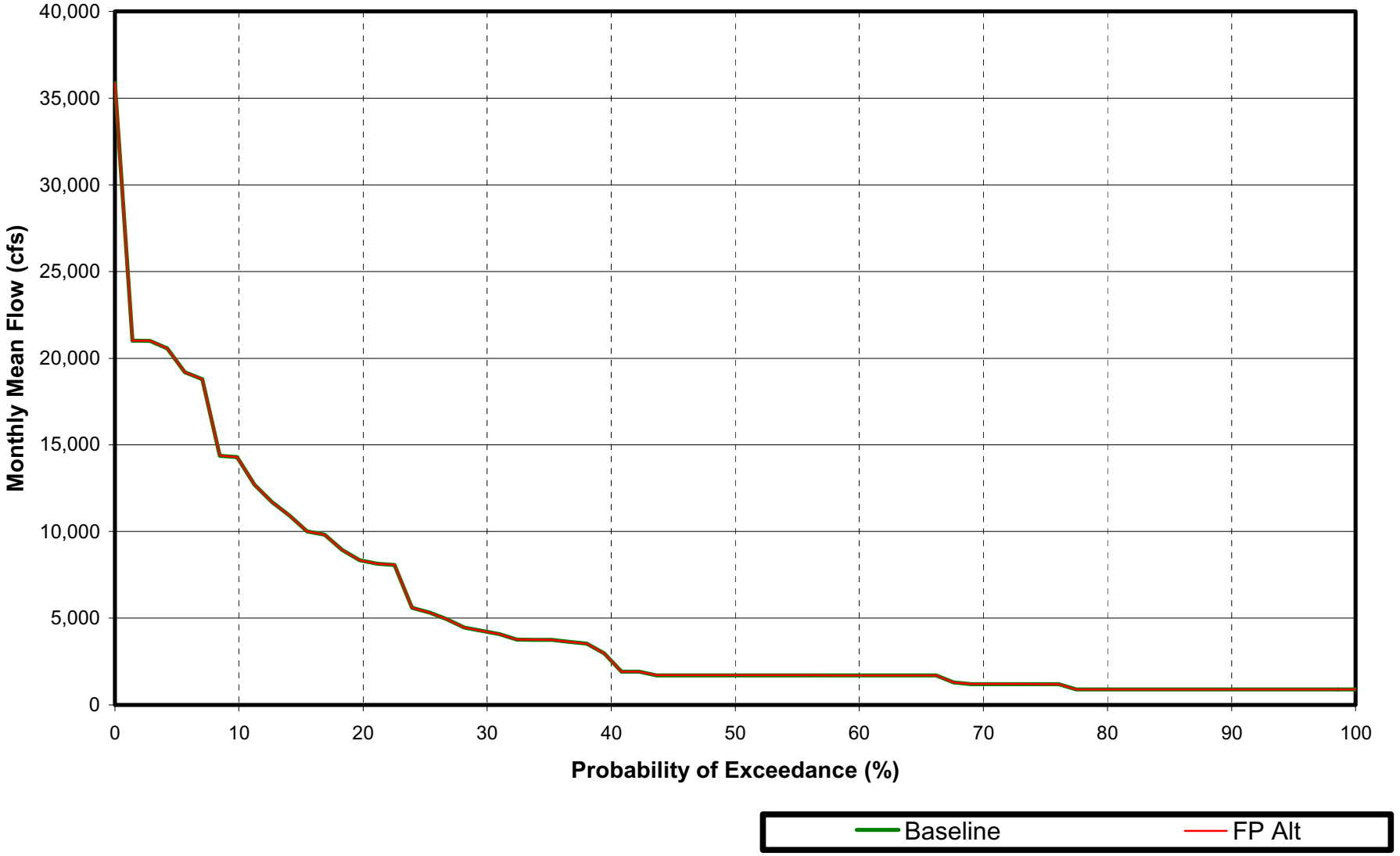
Feather River Flow below Thermalito Afterbay During November Under Baseline and FP Alt Conditions



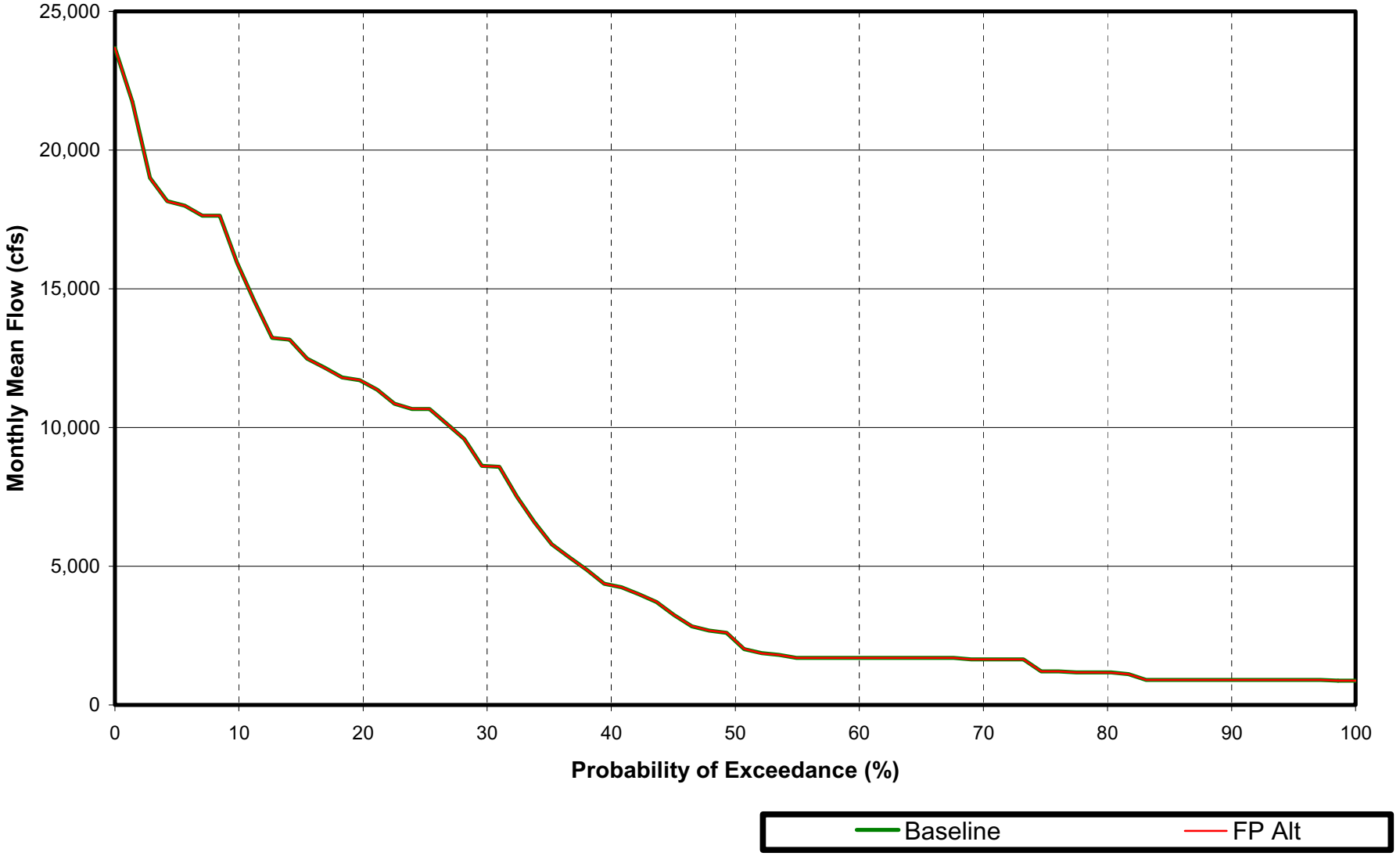
Feather River Flow below Thermalito Afterbay During December Under Baseline and FP Alt Conditions



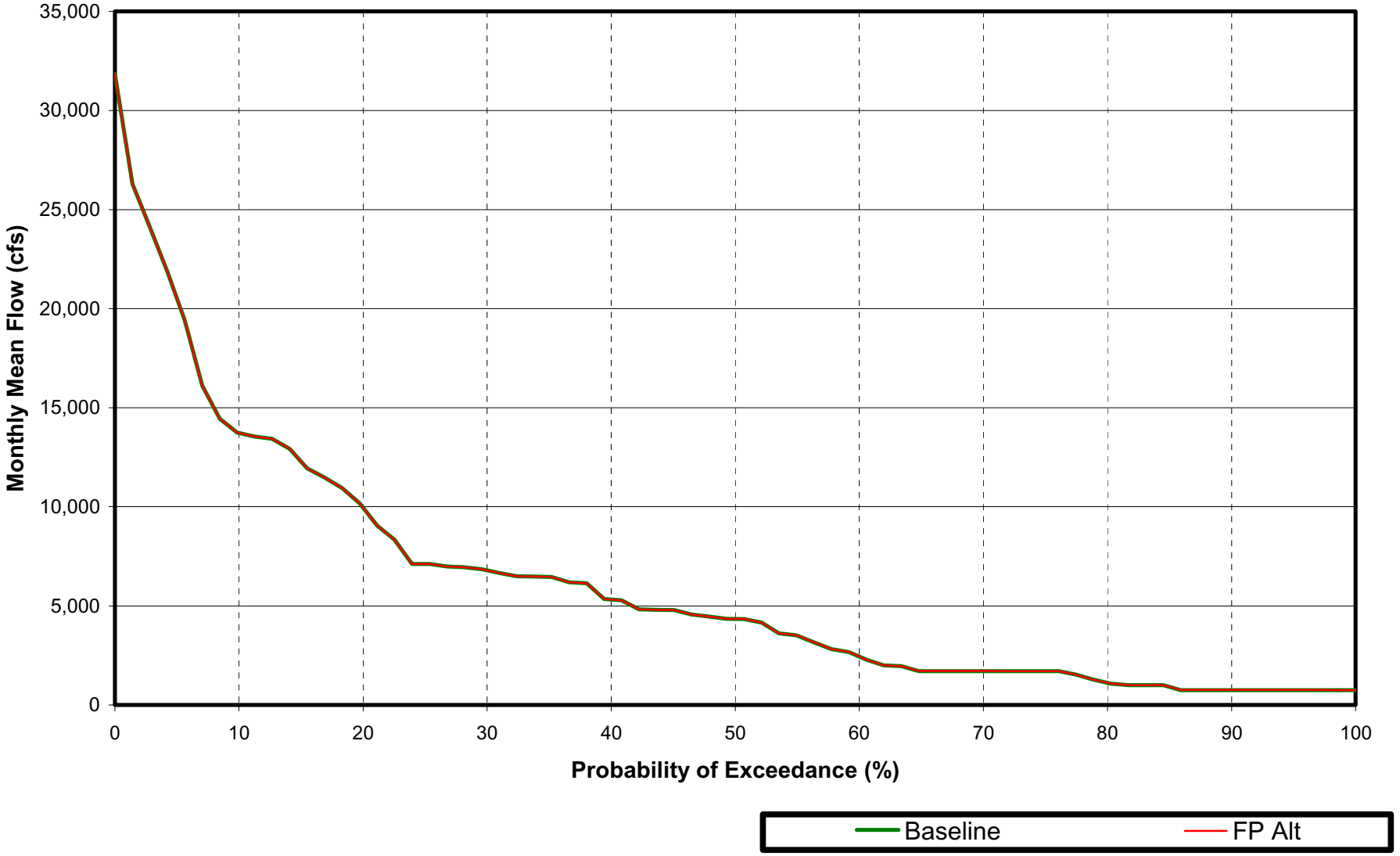
Feather River Flow below Thermalito Afterbay During January Under Baseline and FP Alt Conditions



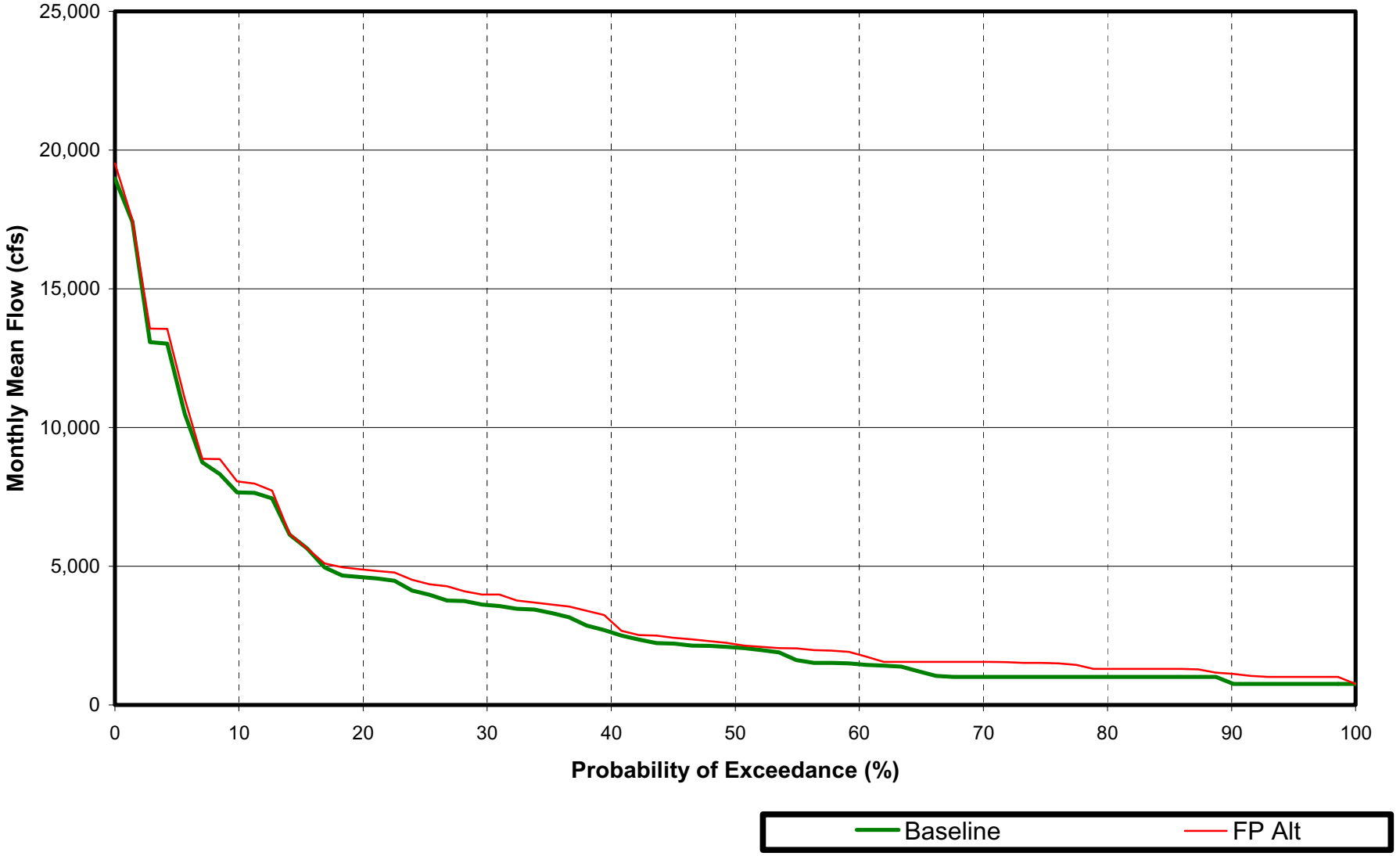
Feather River Flow below Thermalito Afterbay During February Under Baseline and FP Alt Conditions



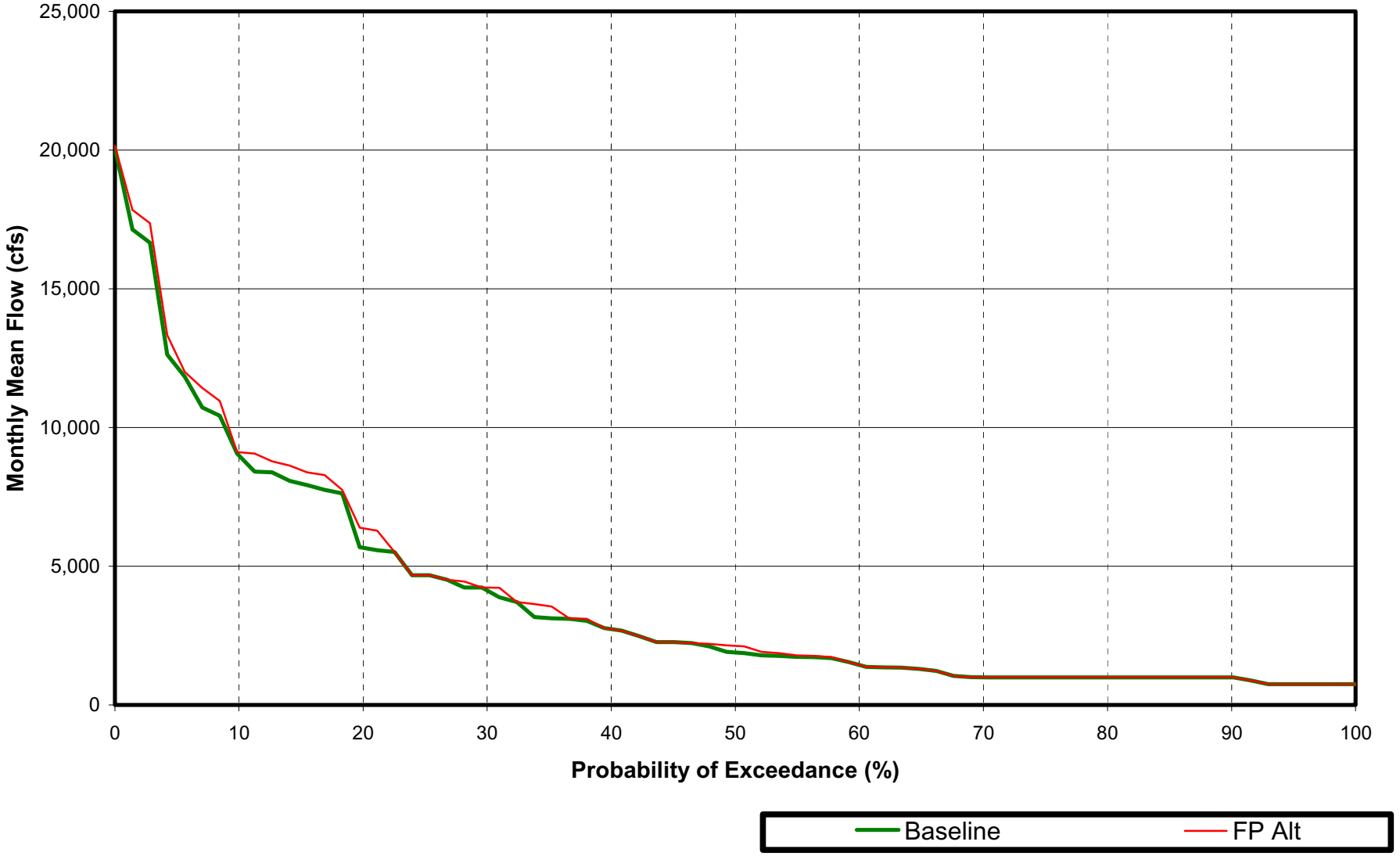
Feather River Flow below Thermalito Afterbay During March Under Baseline and FP Alt Conditions



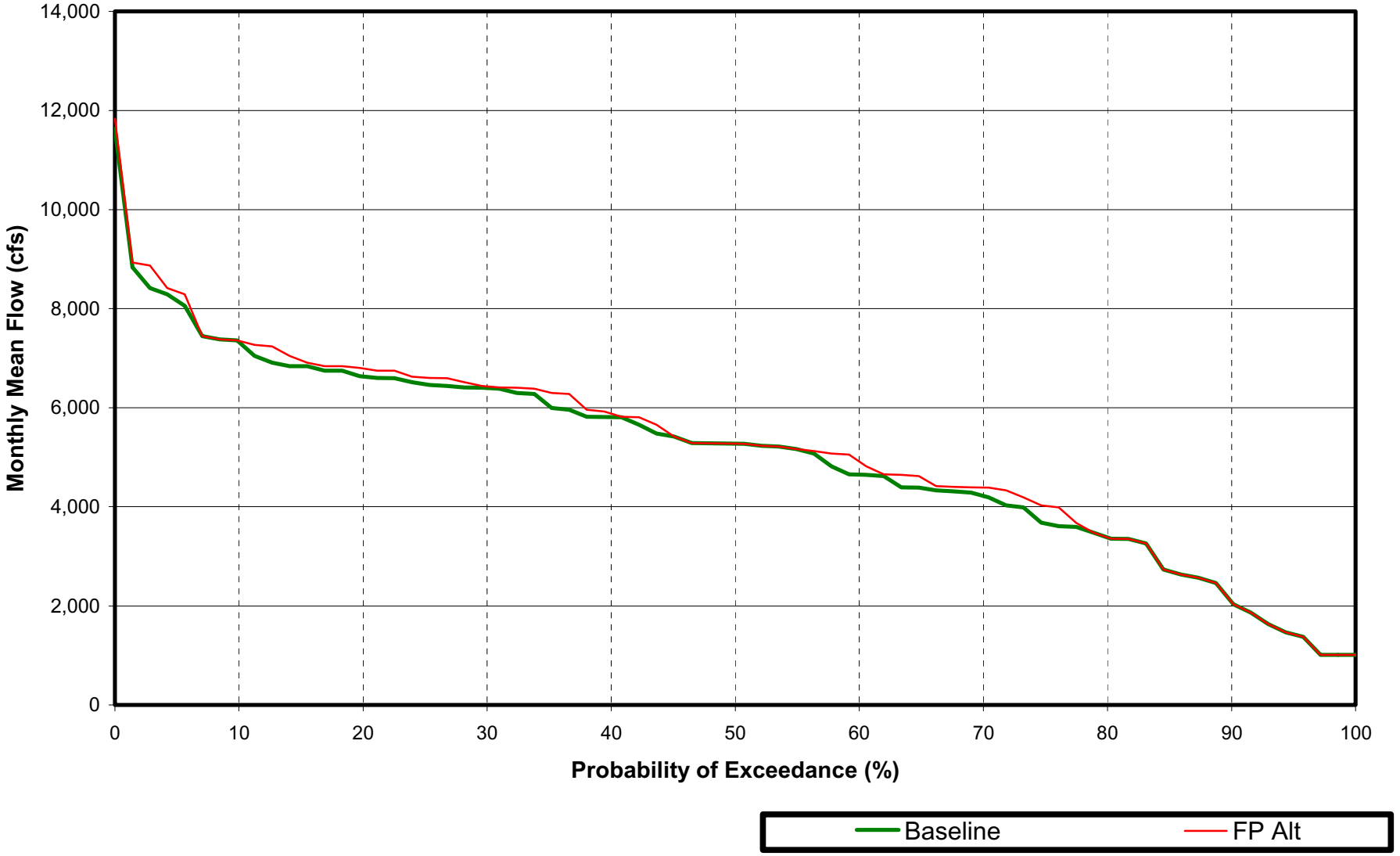
Feather River Flow below Thermalito Afterbay During April Under Baseline and FP Alt Conditions



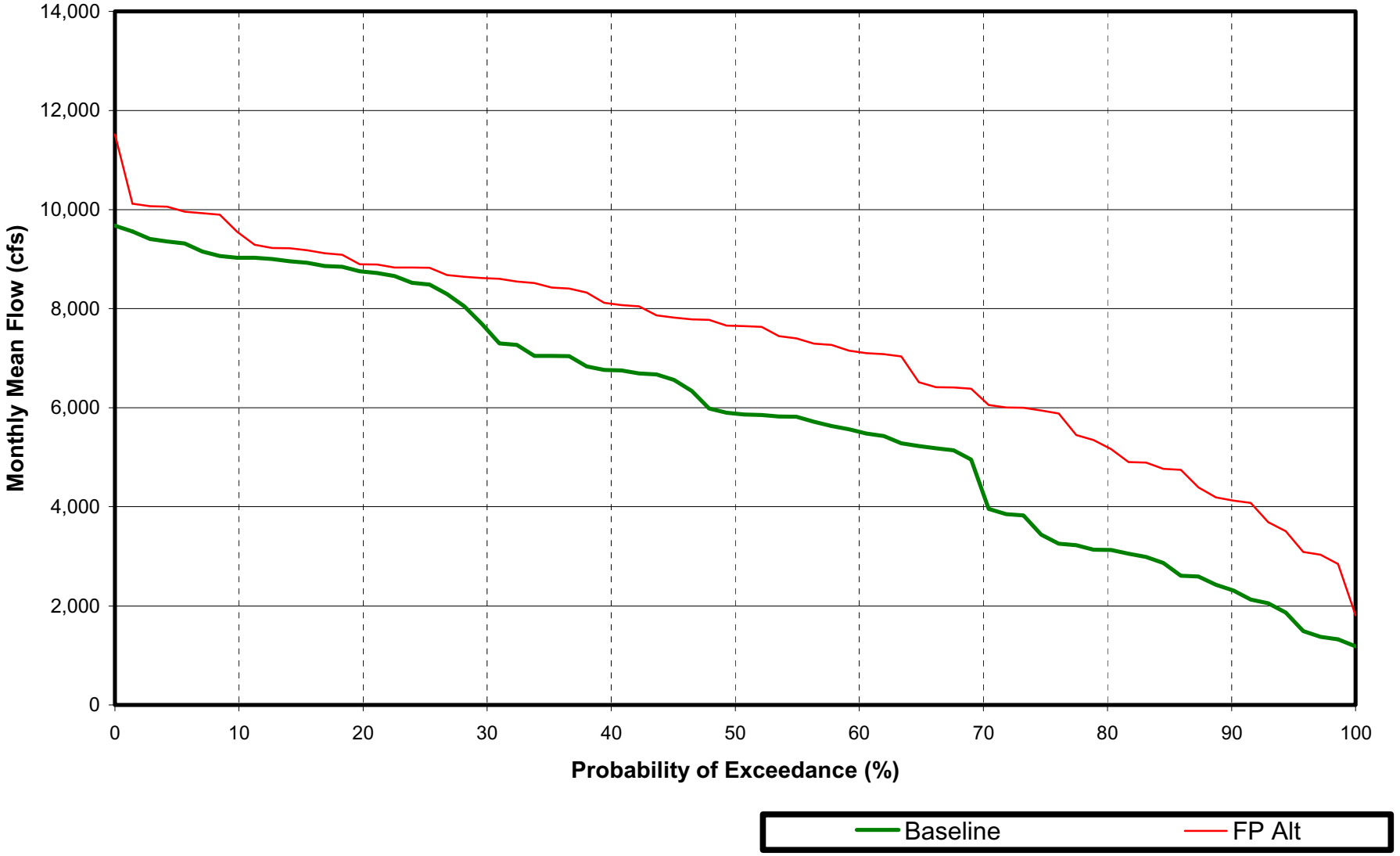
Feather River Flow below Thermalito Afterbay During May Under Baseline and FP Alt Conditions



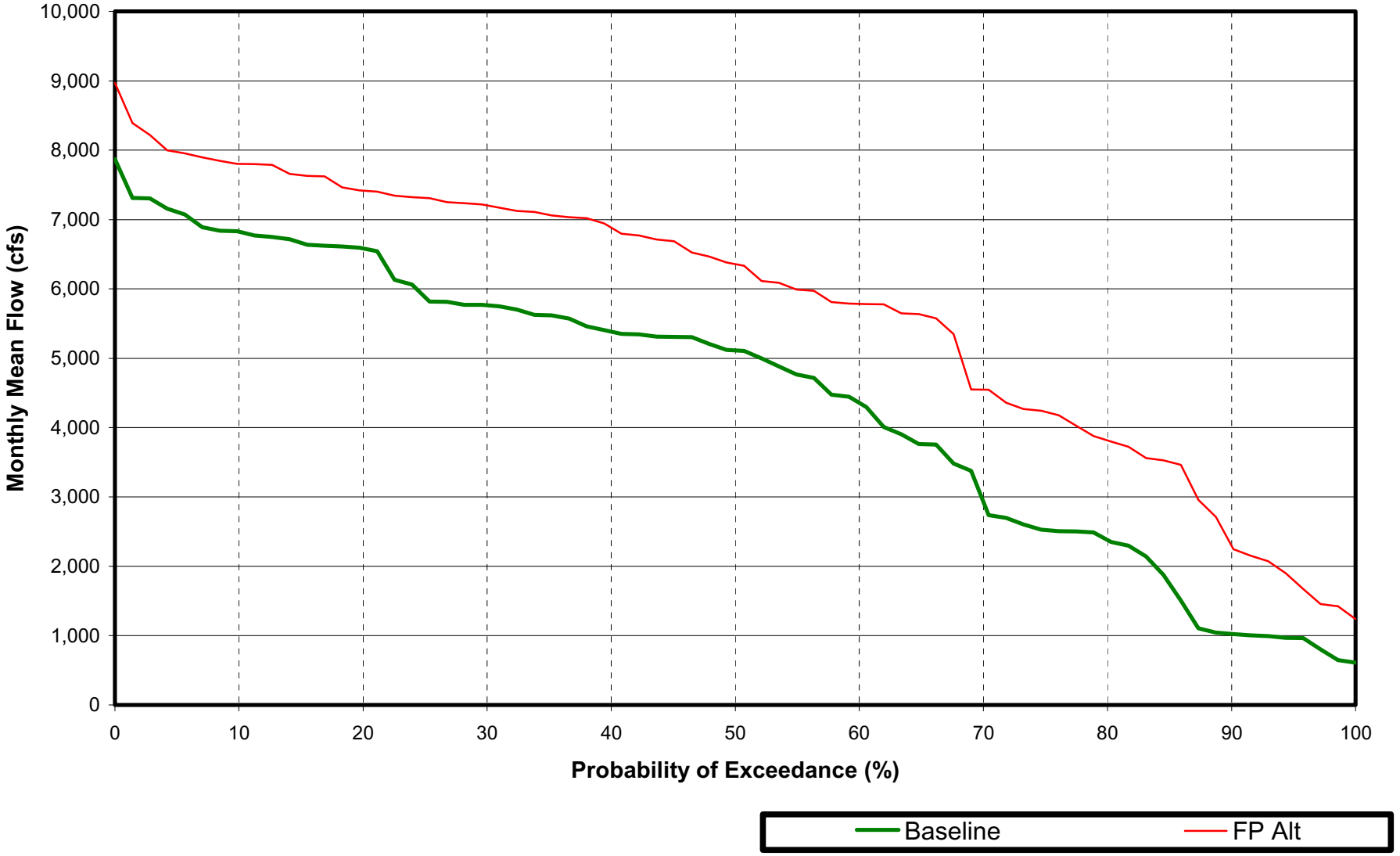
Feather River Flow below Thermalito Afterbay During June Under Baseline and FP Alt Conditions



Feather River Flow below Thermalito Afterbay During July Under Baseline and FP Alt Conditions



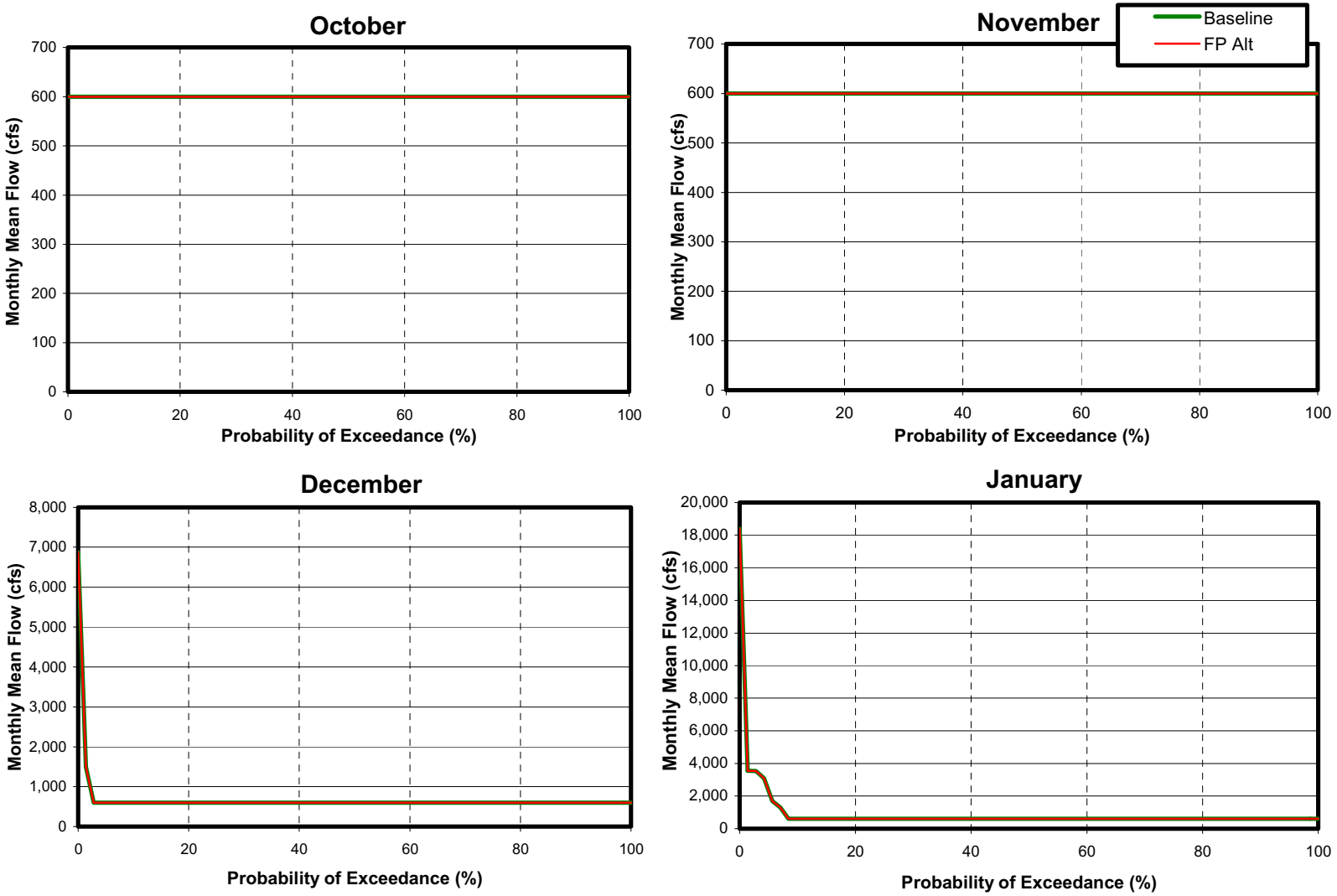
Feather River Flow below Thermalito Afterbay During August Under Baseline and FP Alt Conditions



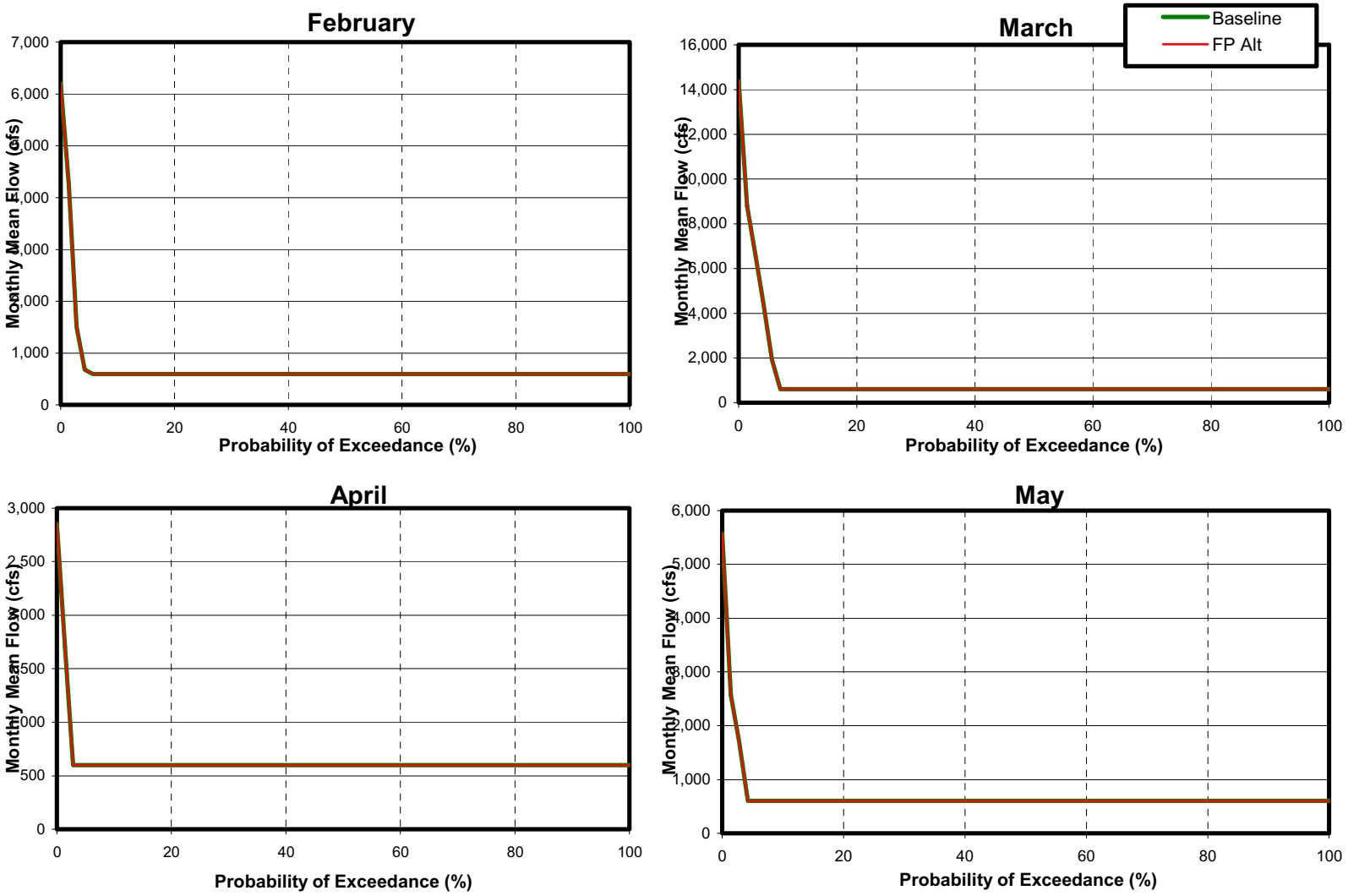
Feather River Flow below Thermalito Afterbay During September Under Baseline and FP Alt Conditions



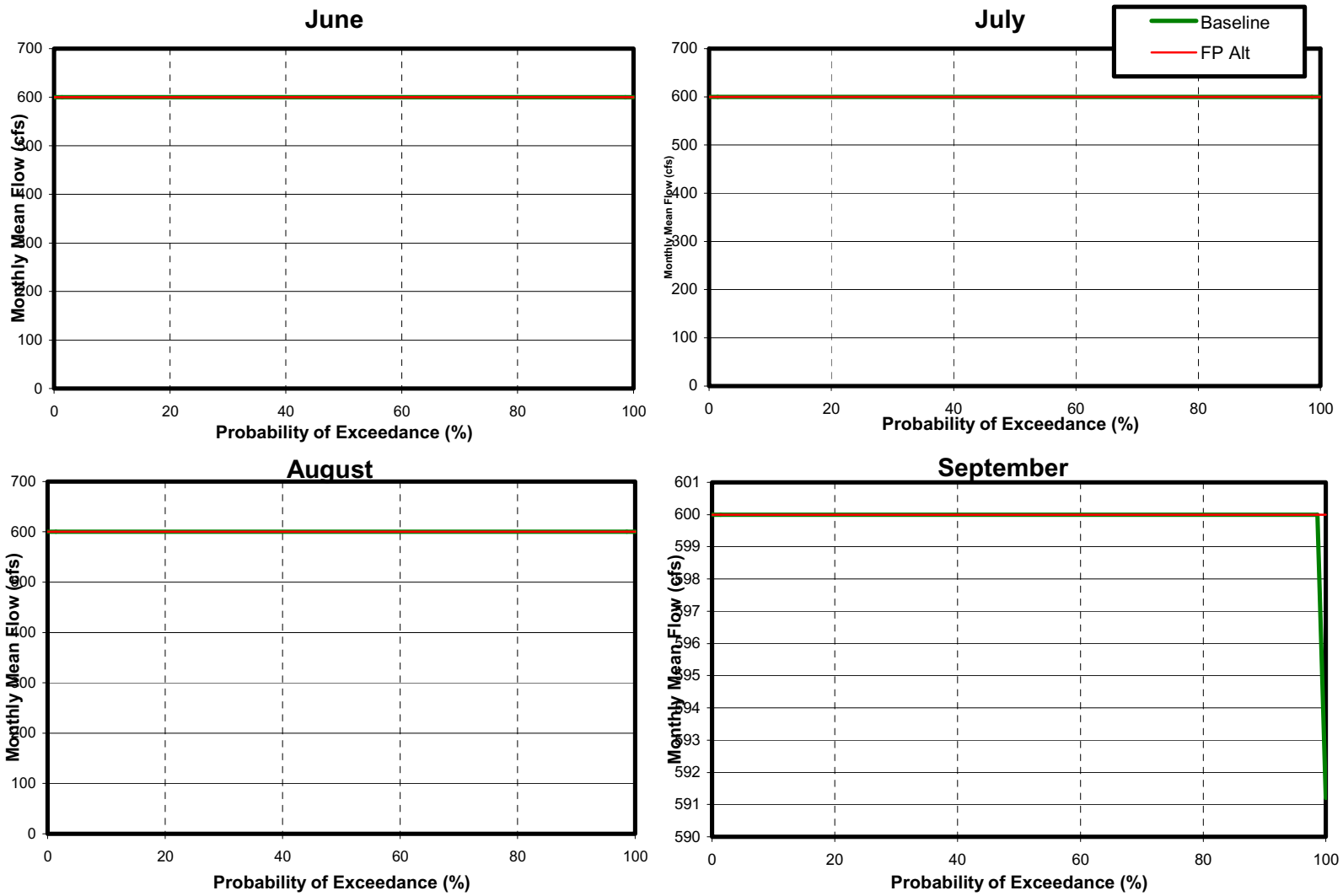
Feather River Flow below Thermalito Diversion Under Baseline and FP Alt Conditions



Feather River Flow below Thermalito Diversion Under Baseline and FP Alt Conditions



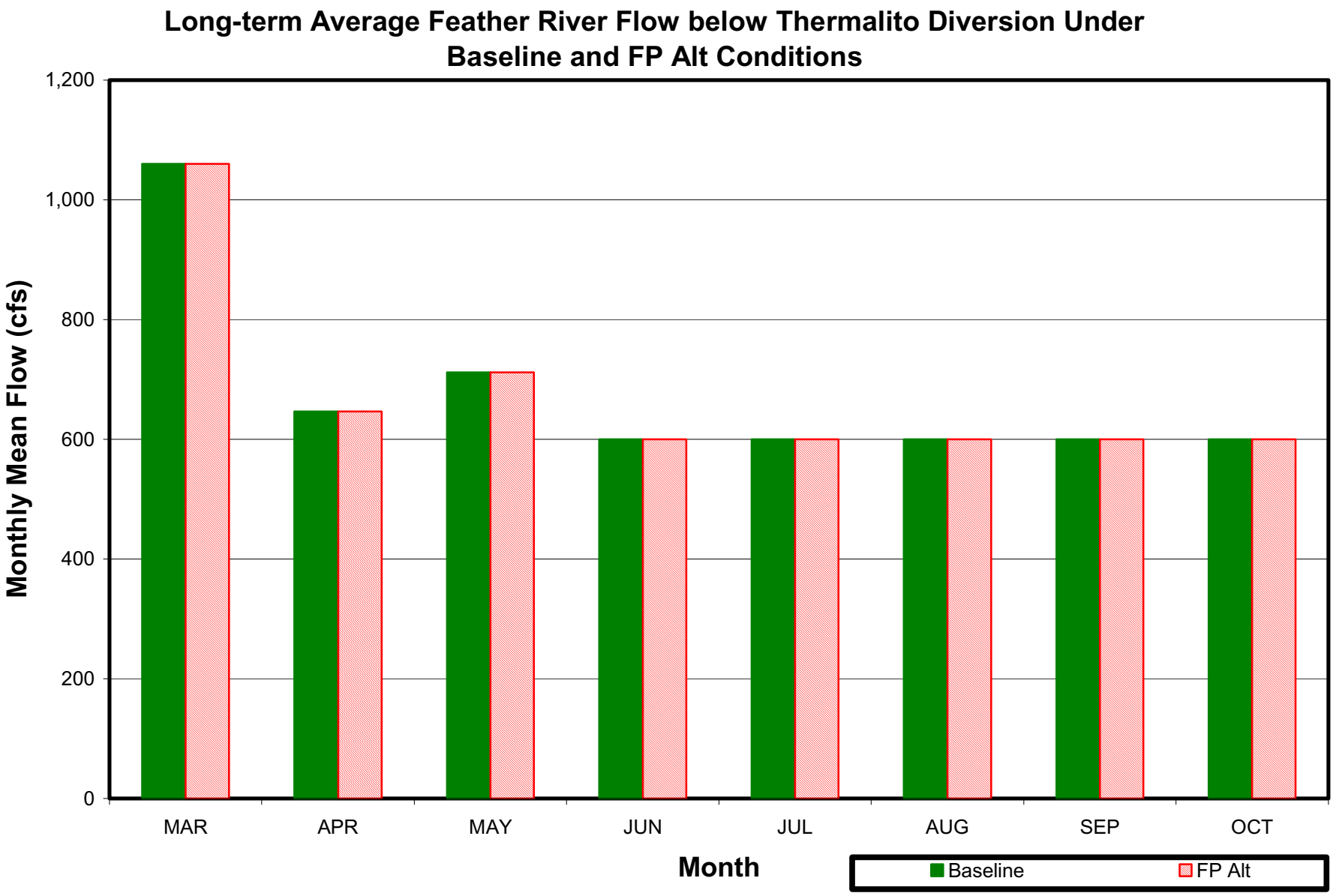
Feather River Flow below Thermalito Diversion Under Baseline and FP Alt Conditions



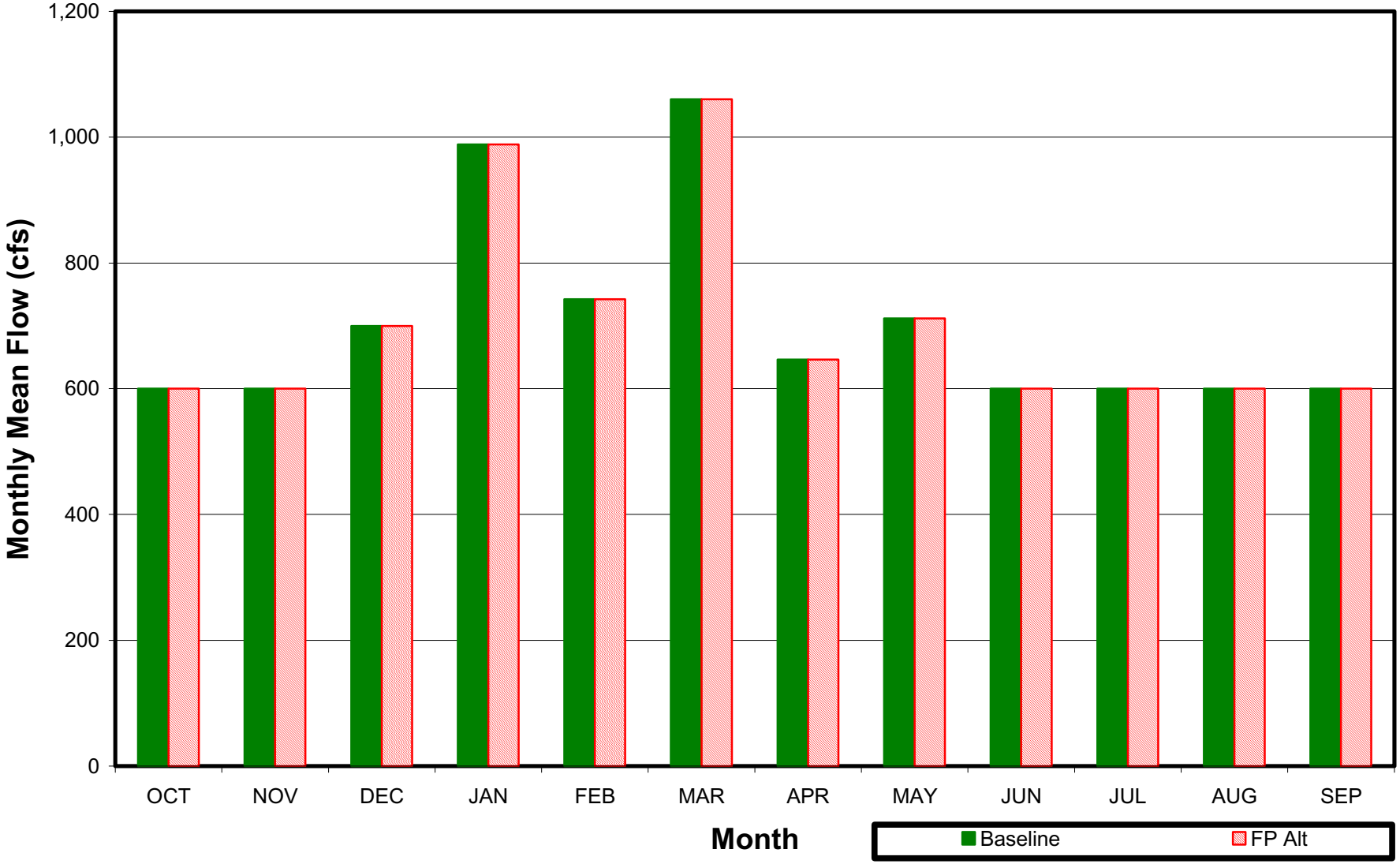
Long-term Average Flow below Thermalito Diversion Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	600	600	0	0.0
Nov	600	600	0	0.0
Dec	700	700	0	0.0
Jan	988	988	0	0.0
Feb	742	742	0	0.0
Mar	1060	1060	0	0.0
Apr	647	647	0	0.0
May	712	712	0	0.0
Jun	600	600	0	0.0
Jul	600	600	0	0.0
Aug	600	600	0	0.0
Sep	600	600	0	0.0

[1] Based on 72 years modeled.

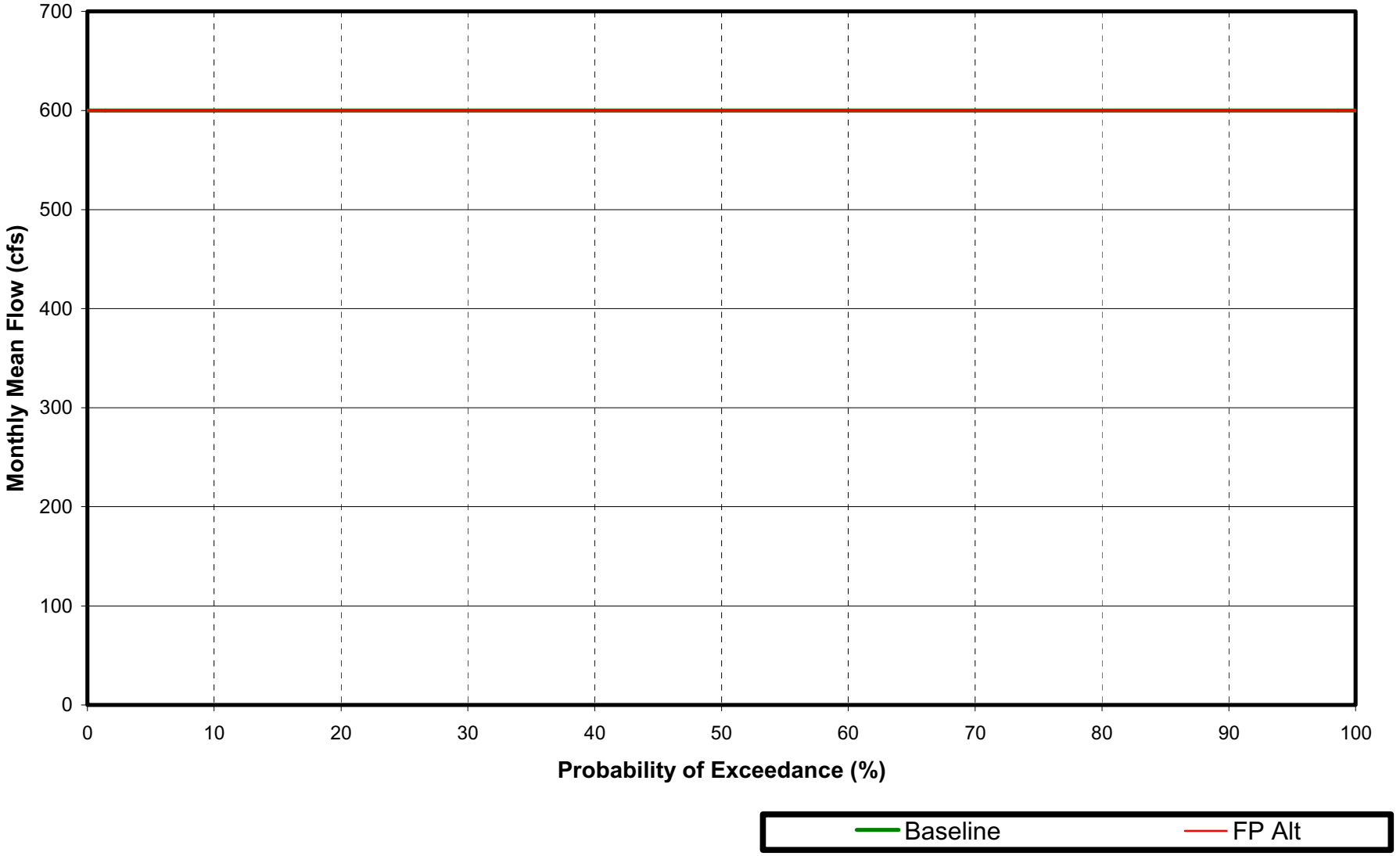
[2] Relative difference of the monthly long-term average.


Long-term Average Feather River Flow below Thermalito Diversion Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
1,200
1,000
800
600
400
200
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt

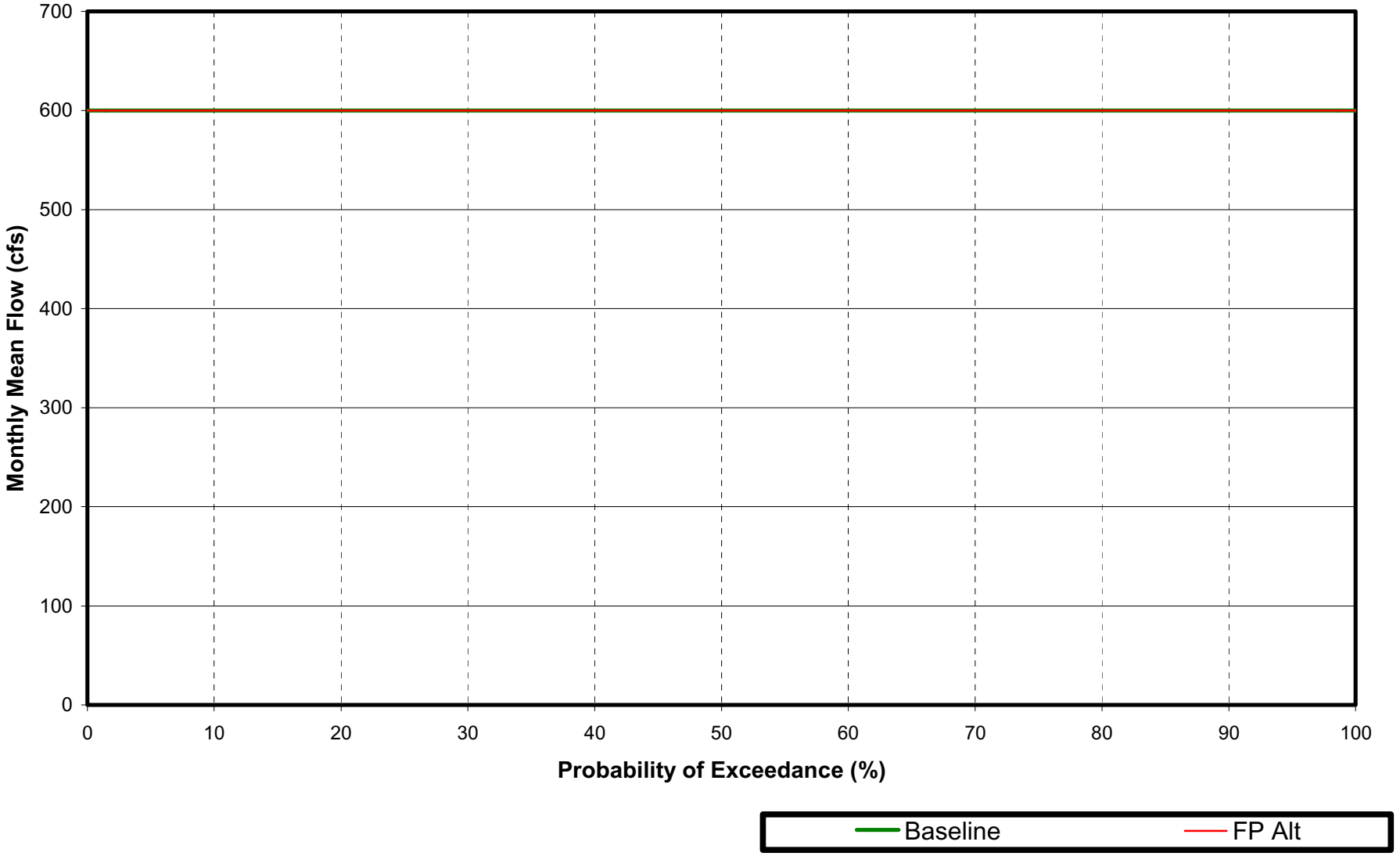
Long-term Average Feather River Flow below Thermalito Diversion Under Baseline and FP Alt Conditions



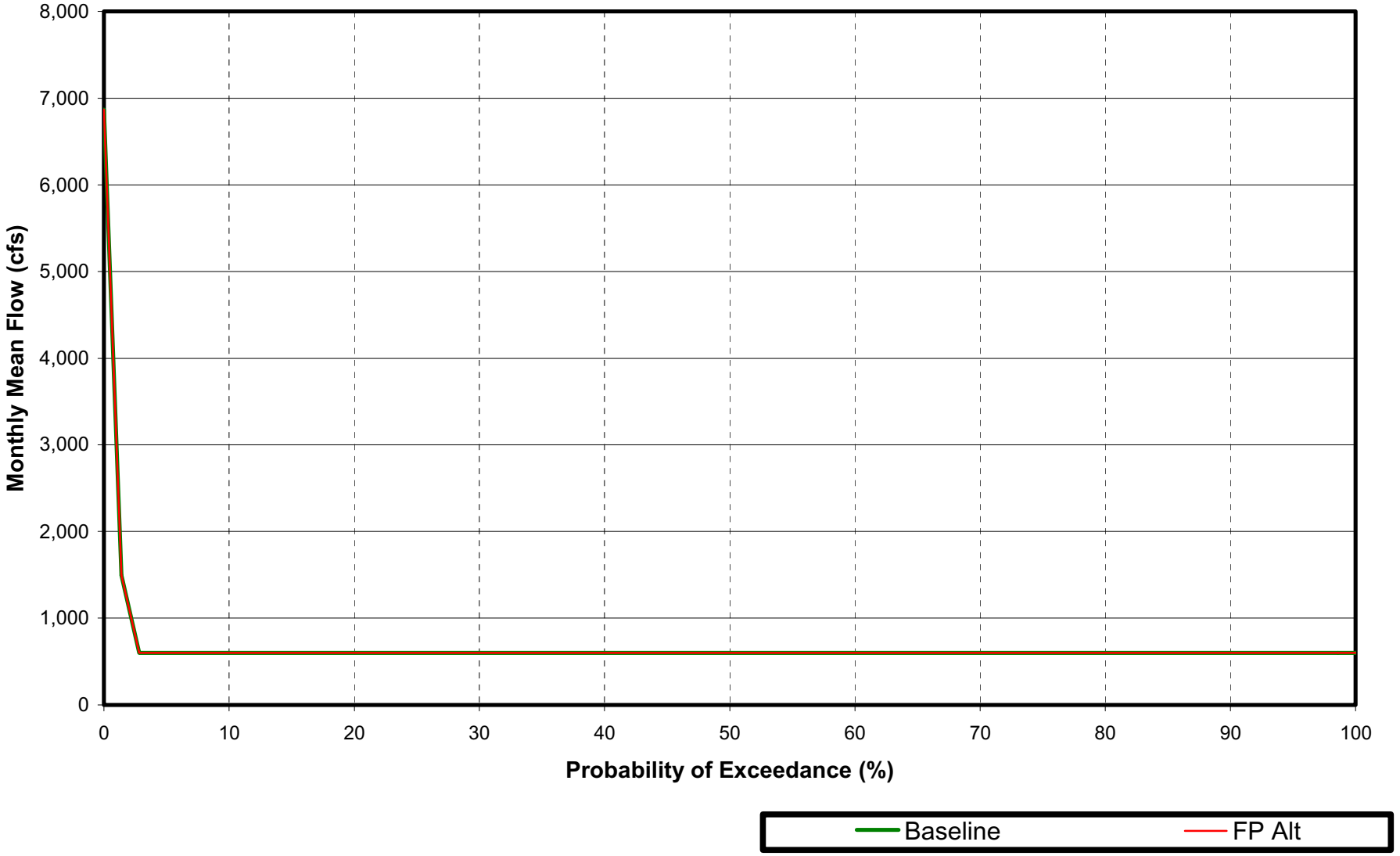
Feather River Flow below Thermalito Diversion During October Under Baseline and FP Alt Conditions



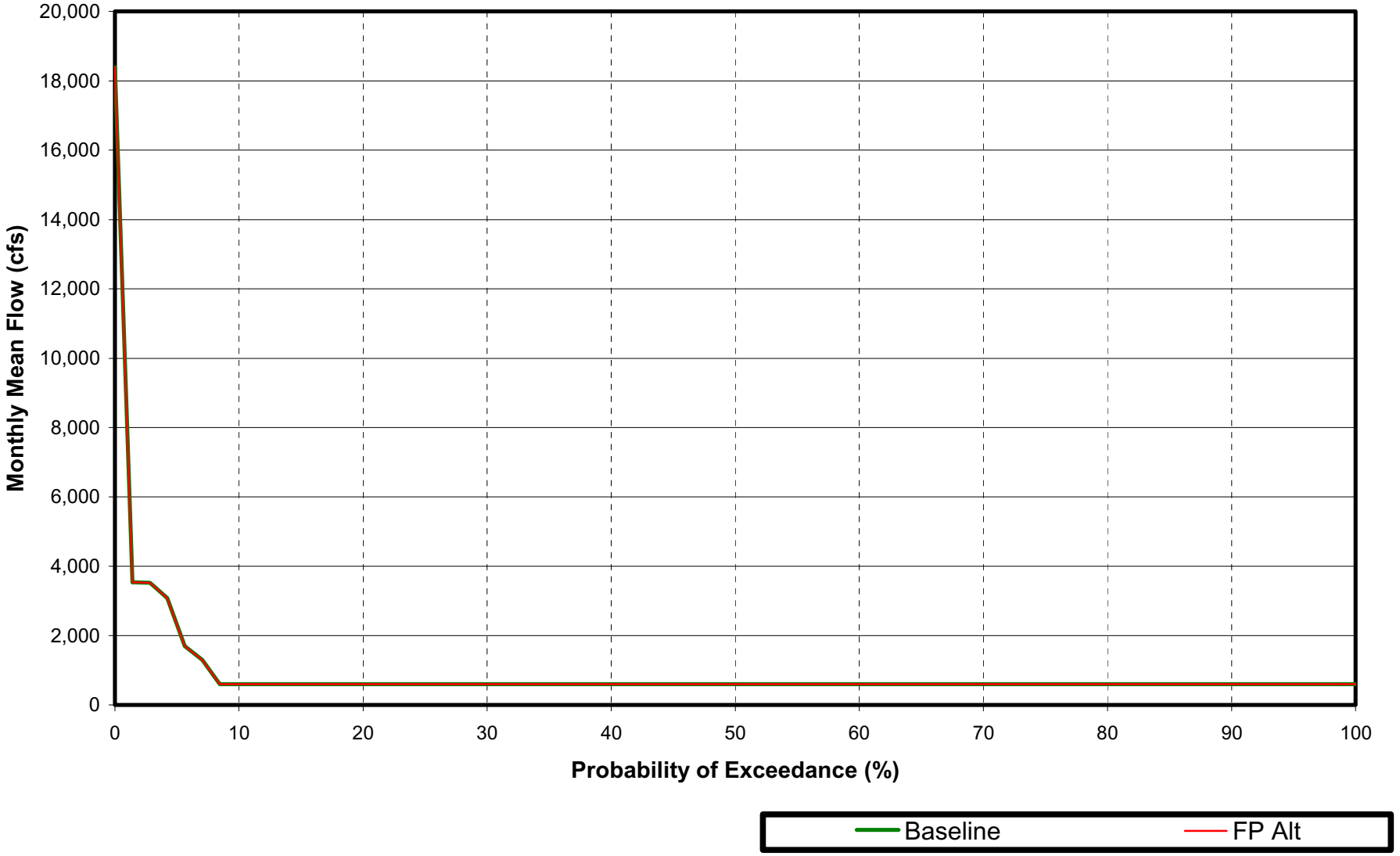
Feather River Flow below Thermalito Diversion During November Under Baseline and FP Alt Conditions



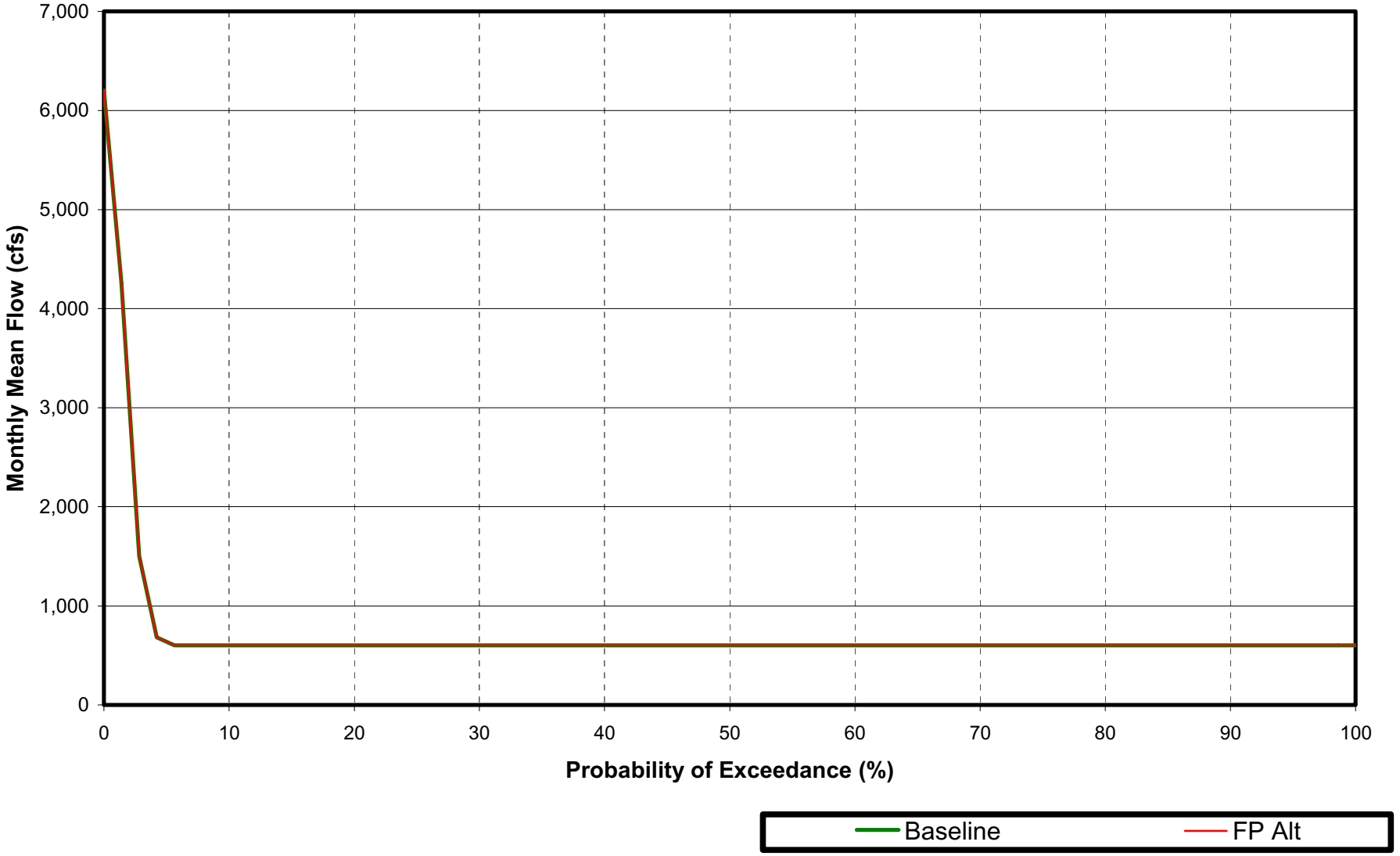
Feather River Flow below Thermalito Diversion During December Under Baseline and FP Alt Conditions



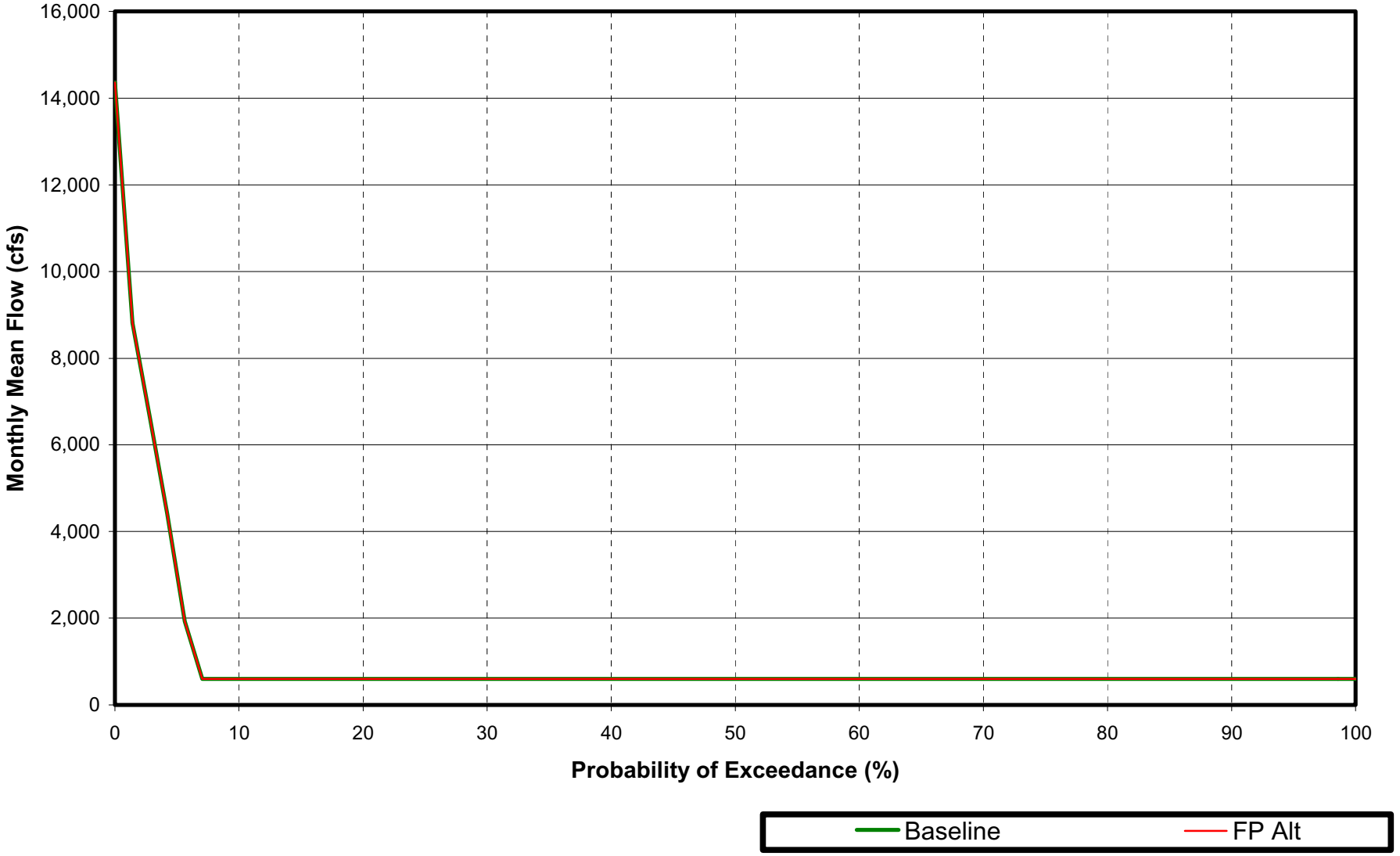
Feather River Flow below Thermalito Diversion During January Under Baseline and FP Alt Conditions



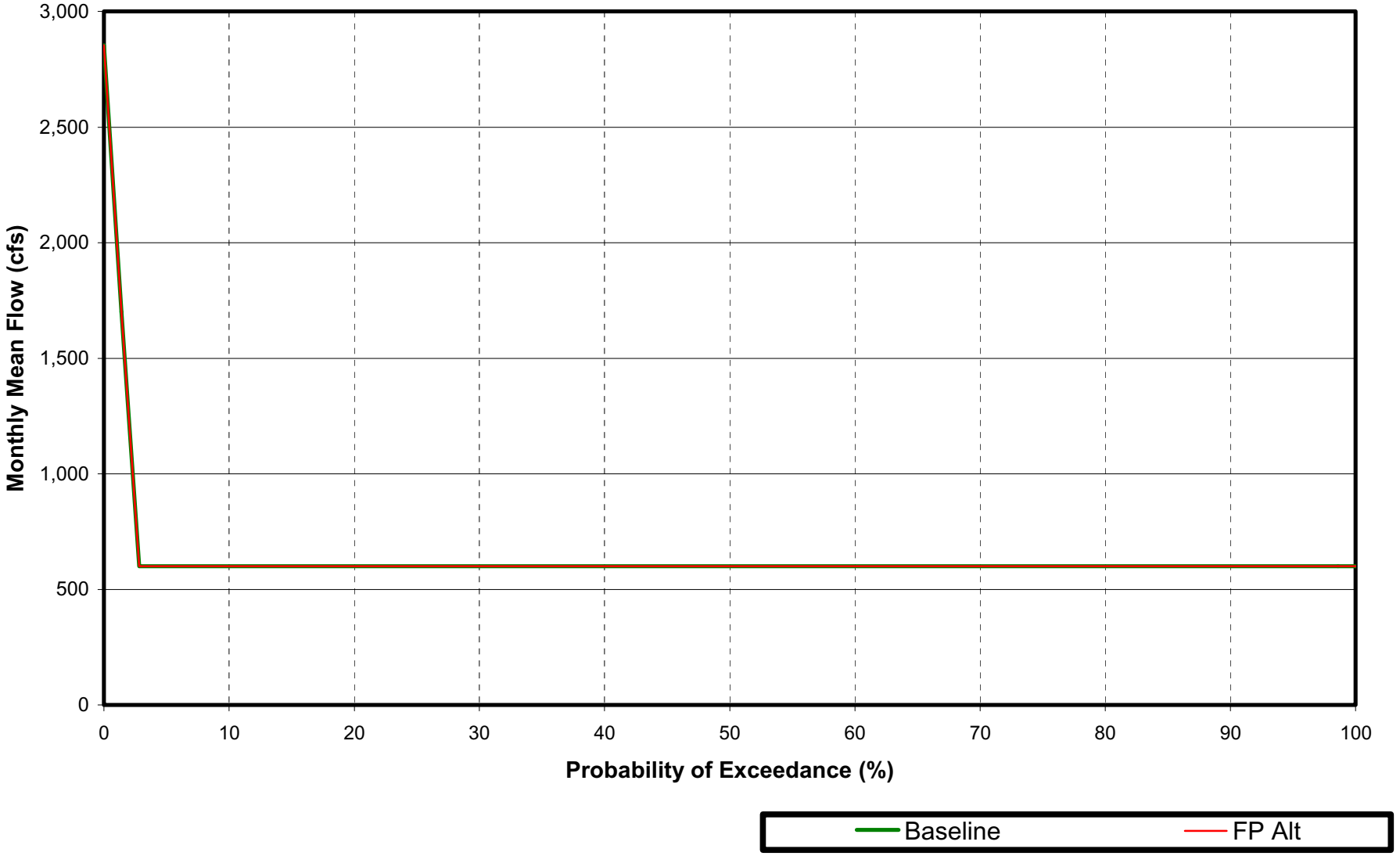
Feather River Flow below Thermalito Diversion During February Under Baseline and FP Alt Conditions



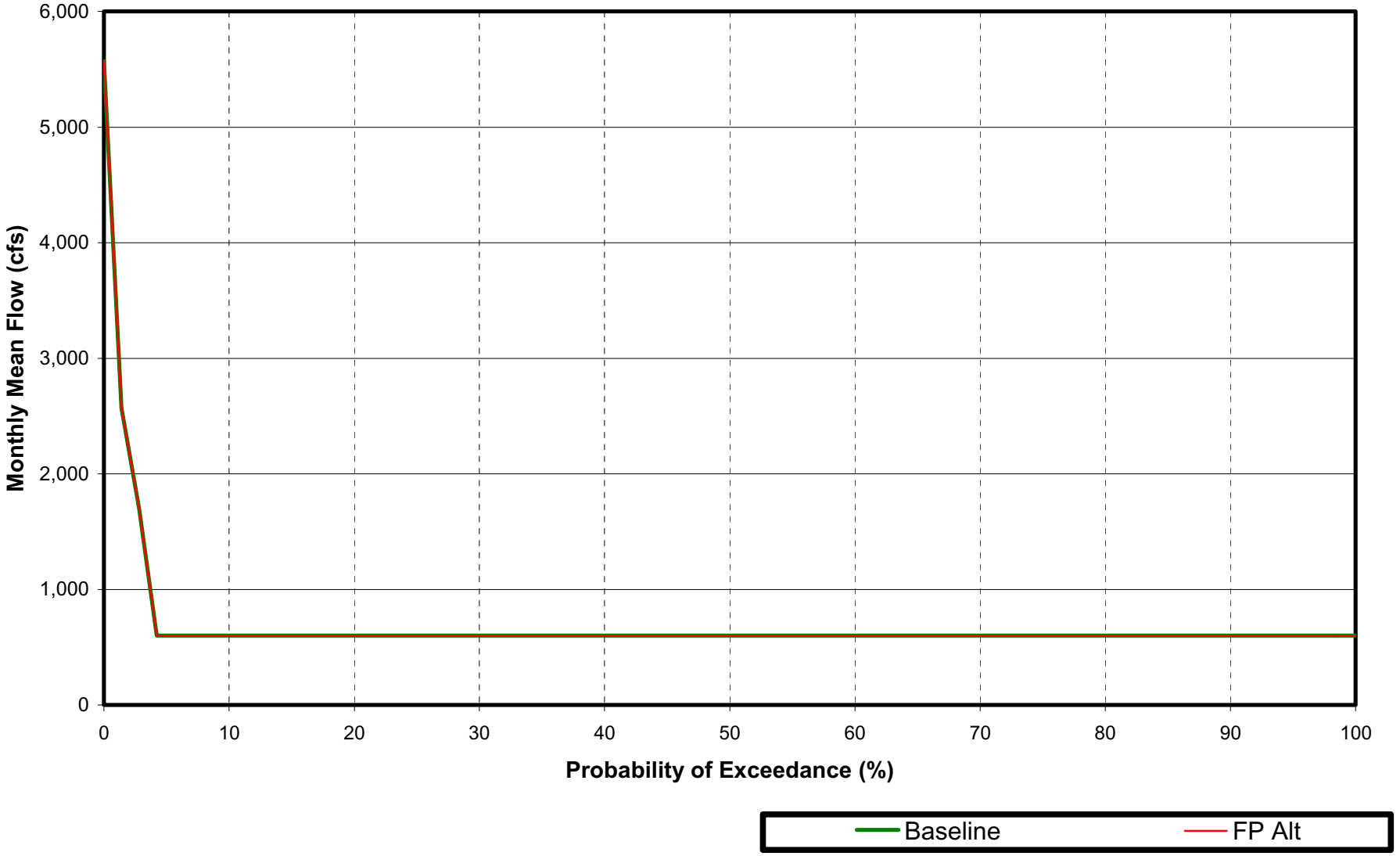
Feather River Flow below Thermalito Diversion During March Under Baseline and FP Alt Conditions



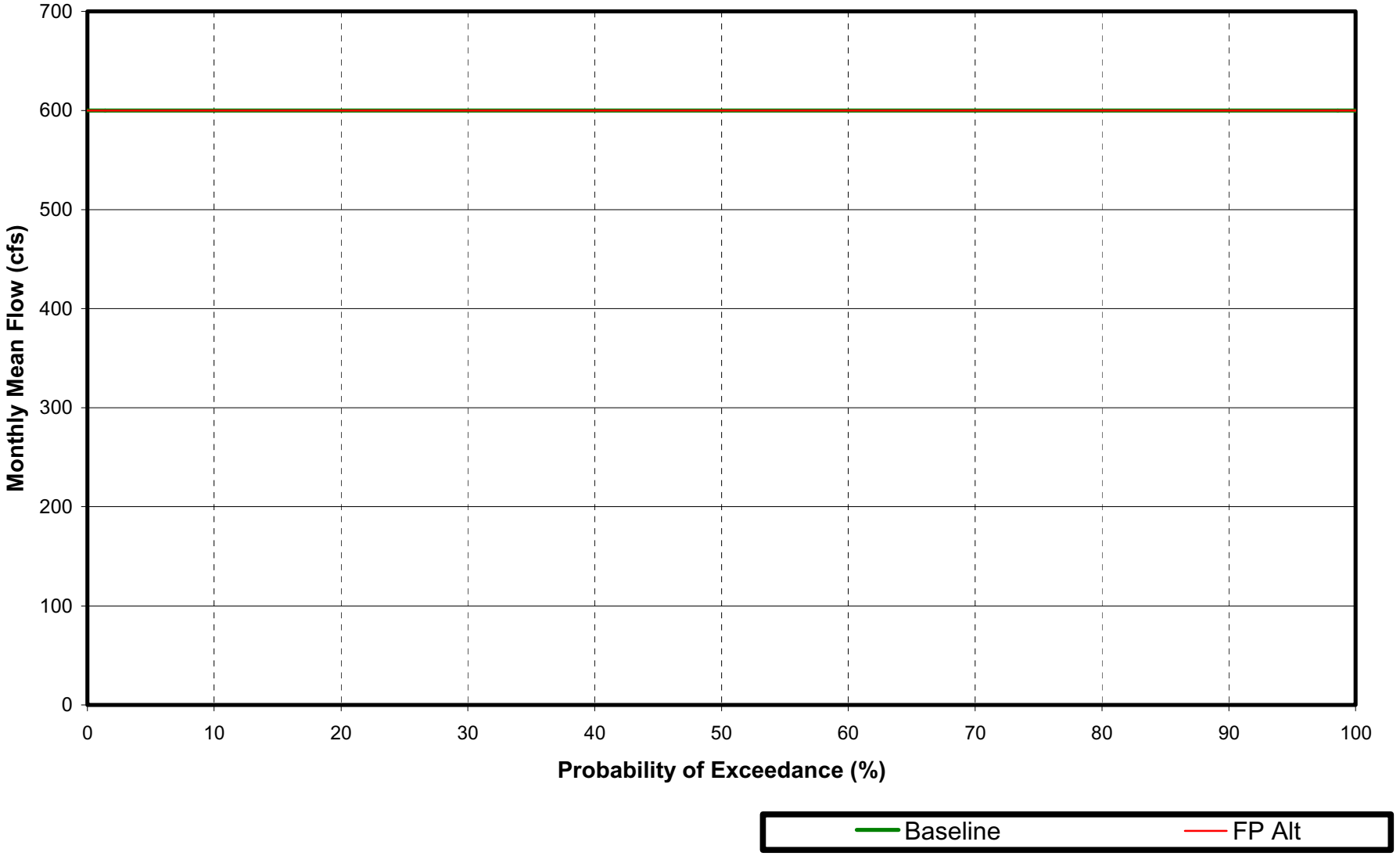
Feather River Flow below Thermalito Diversion During April Under Baseline and FP Alt Conditions



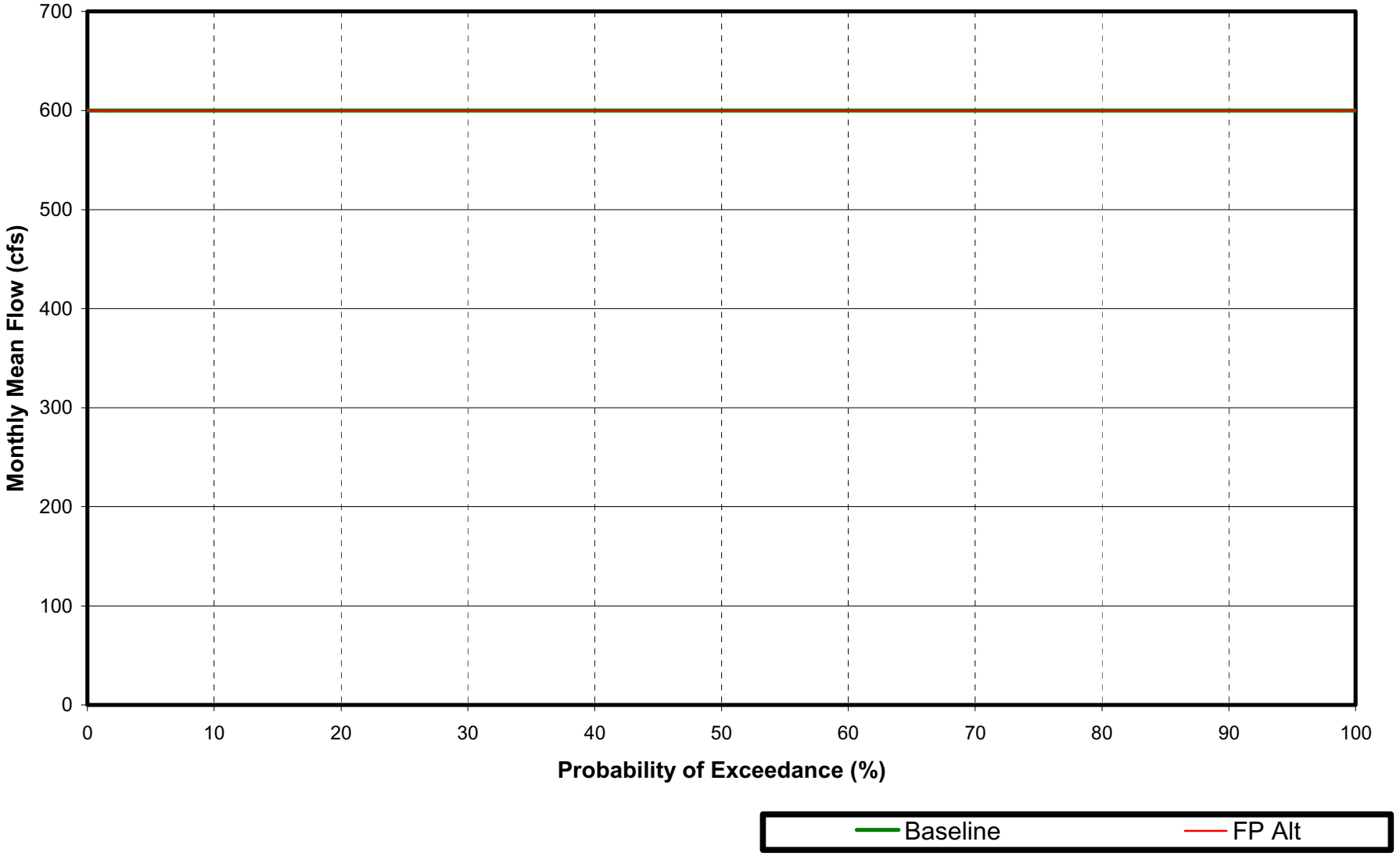
Feather River Flow below Thermalito Diversion During May Under Baseline and FP Alt Conditions



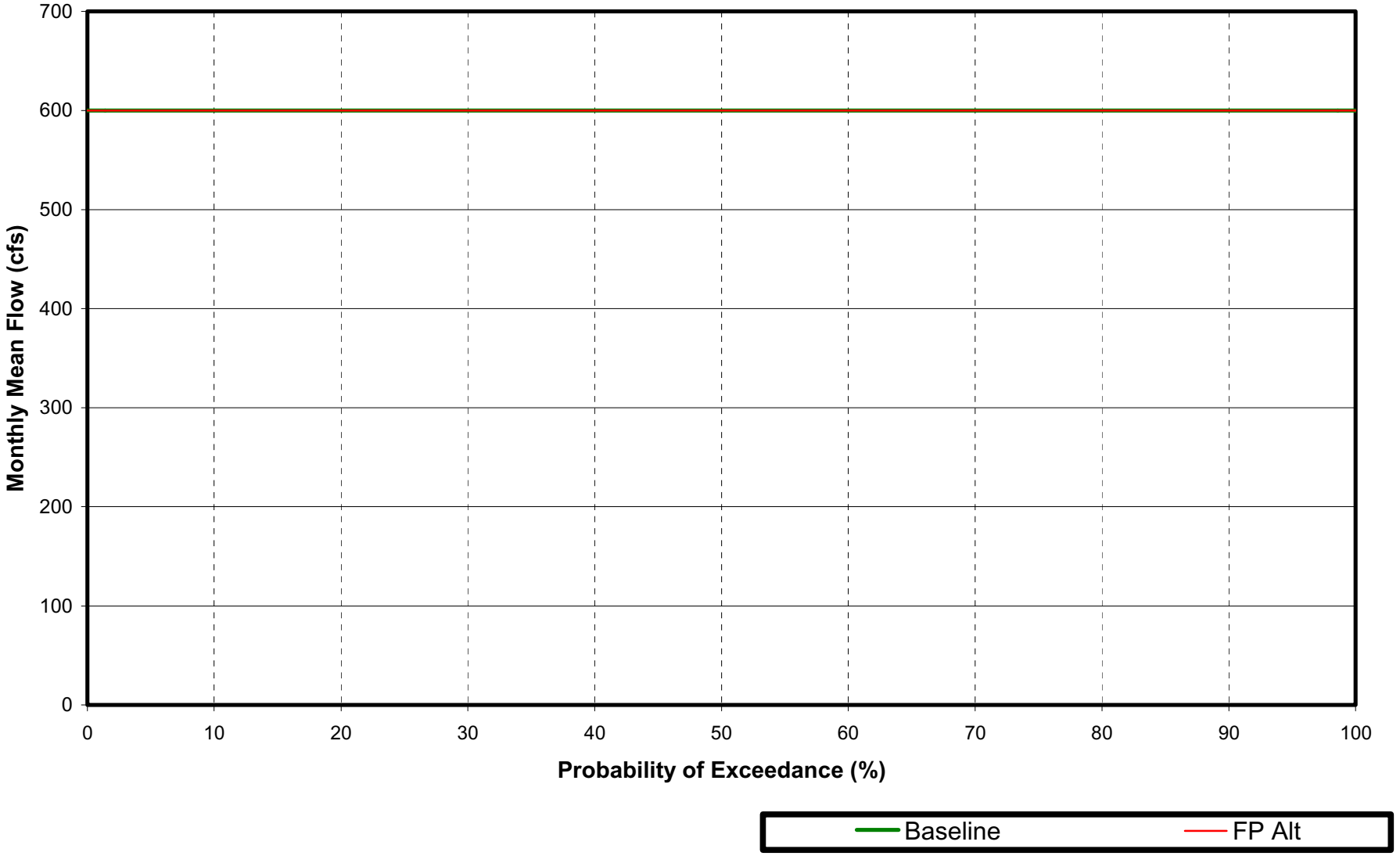
Feather River Flow below Thermalito Diversion During June Under Baseline and FP Alt Conditions



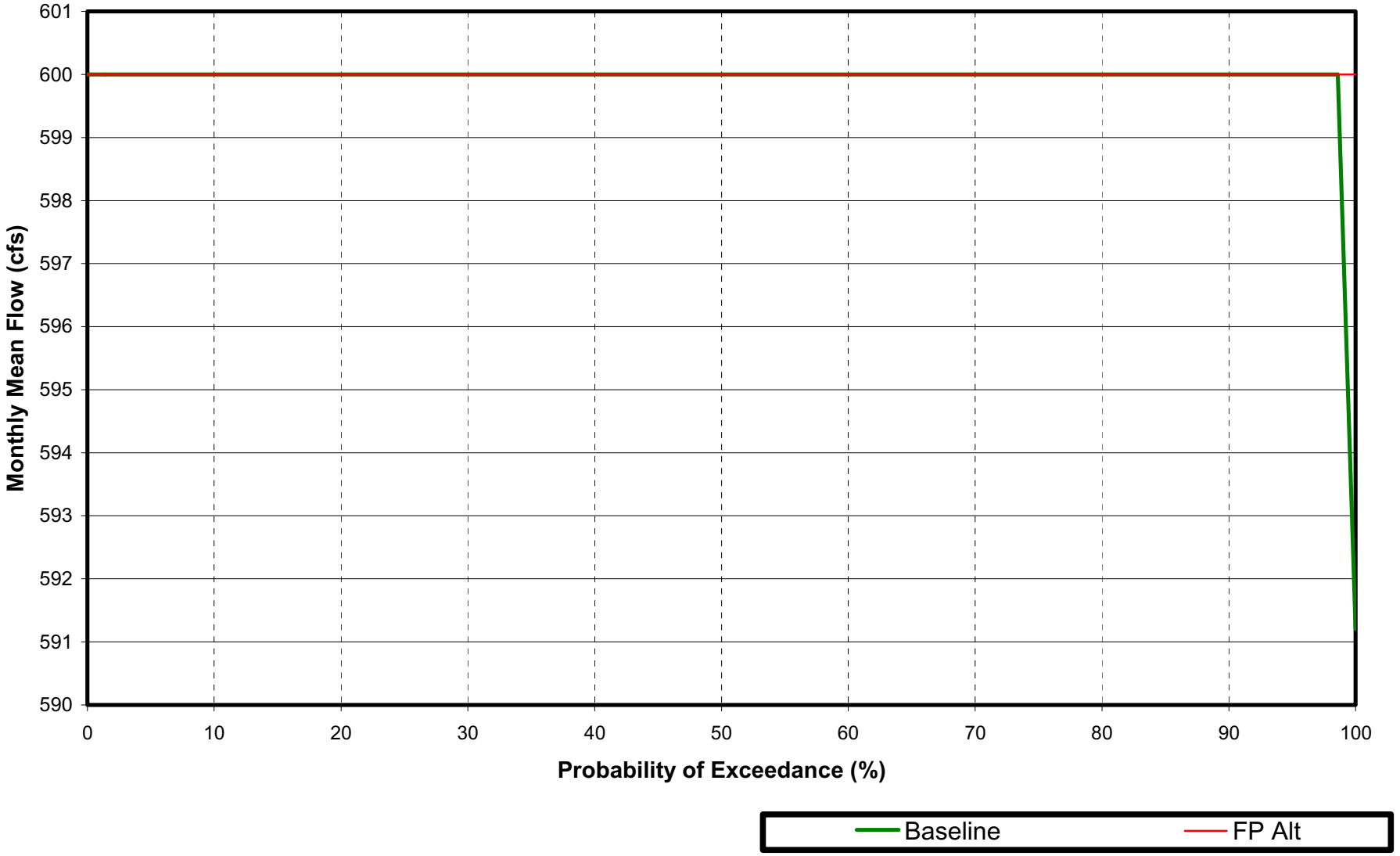
Feather River Flow below Thermalito Diversion During July Under Baseline and FP Alt Conditions



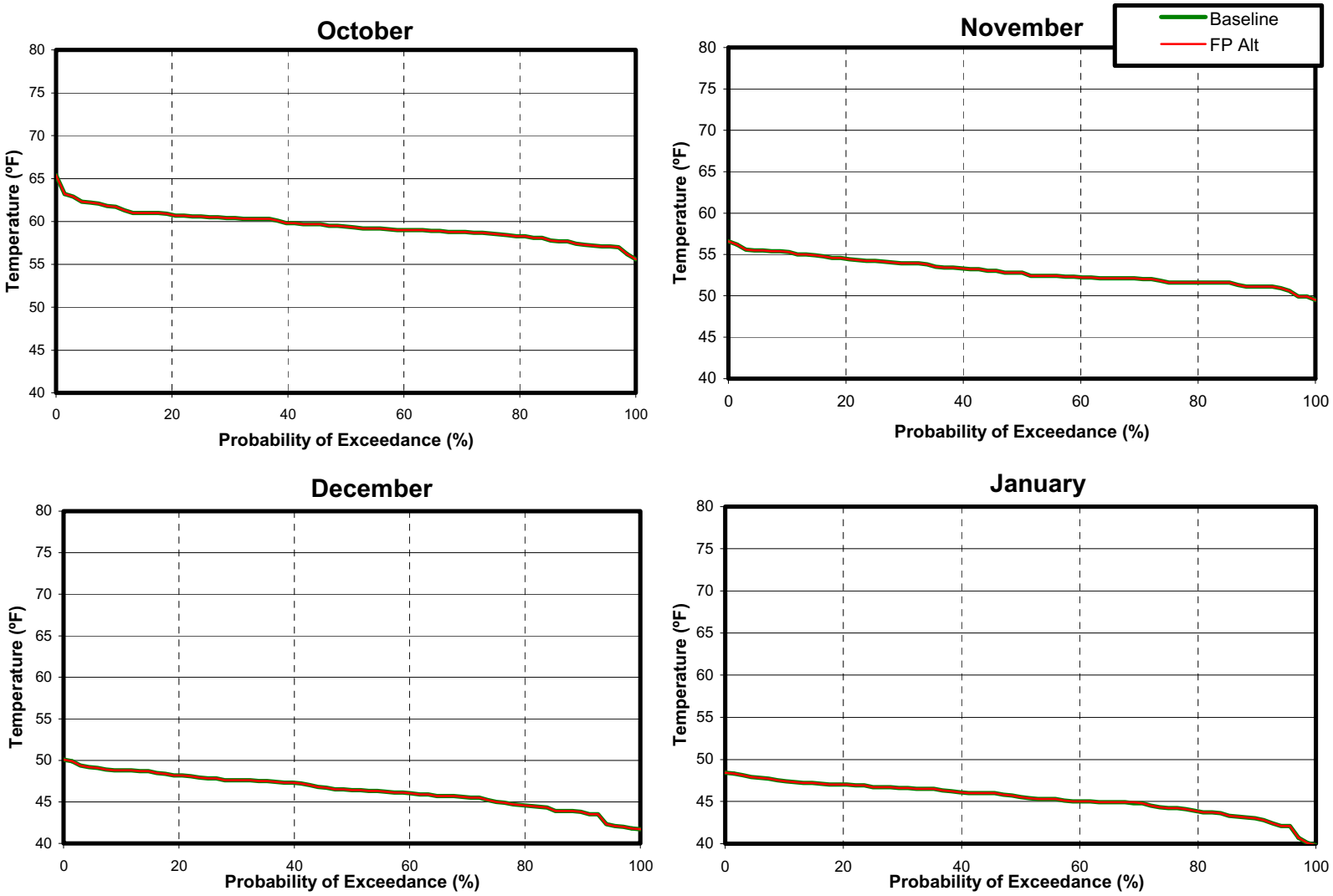
Feather River Flow below Thermalito Diversion During August Under Baseline and FP Alt Conditions



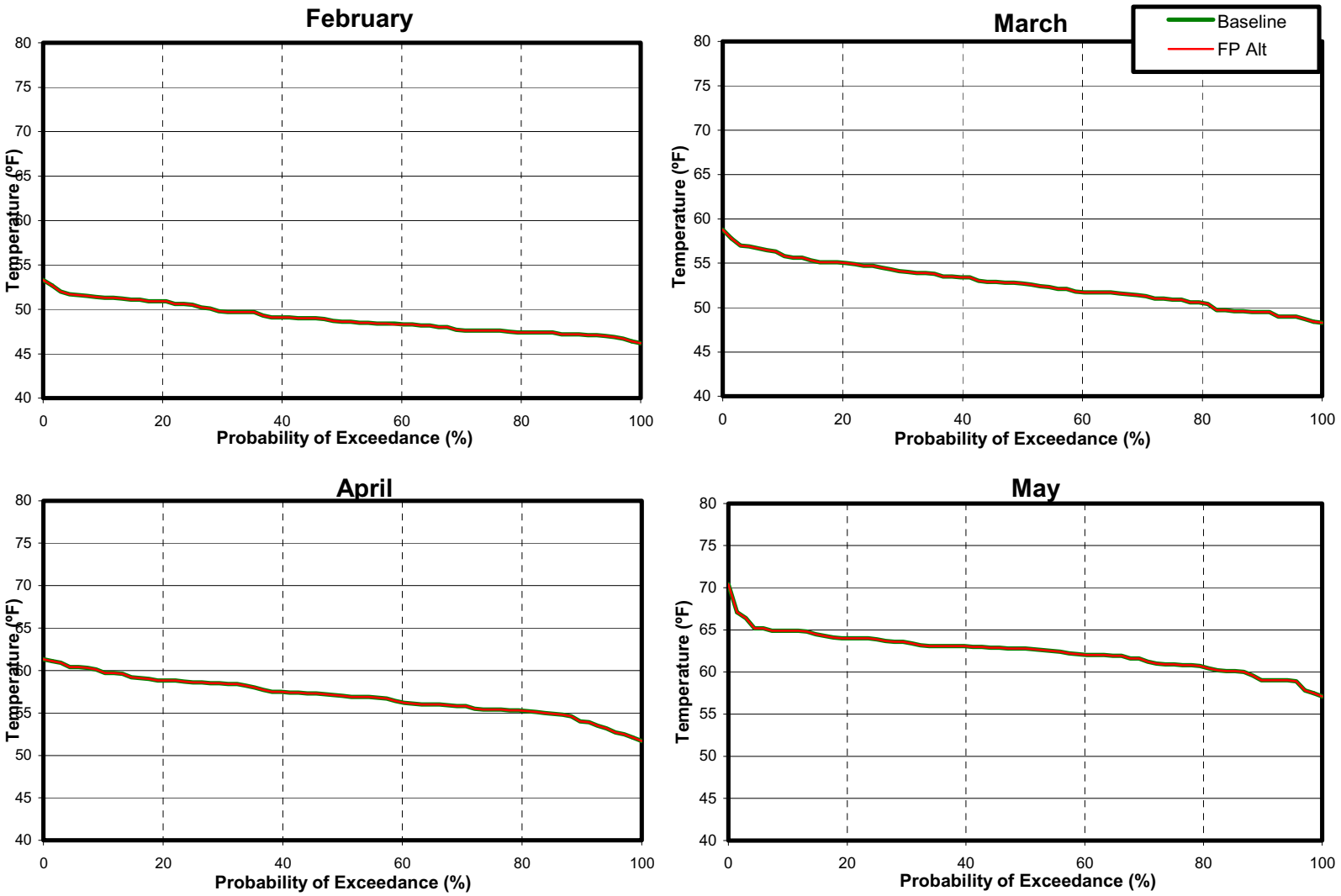
Feather River Flow below Thermalito Diversion During September Under Baseline and FP Alt Conditions



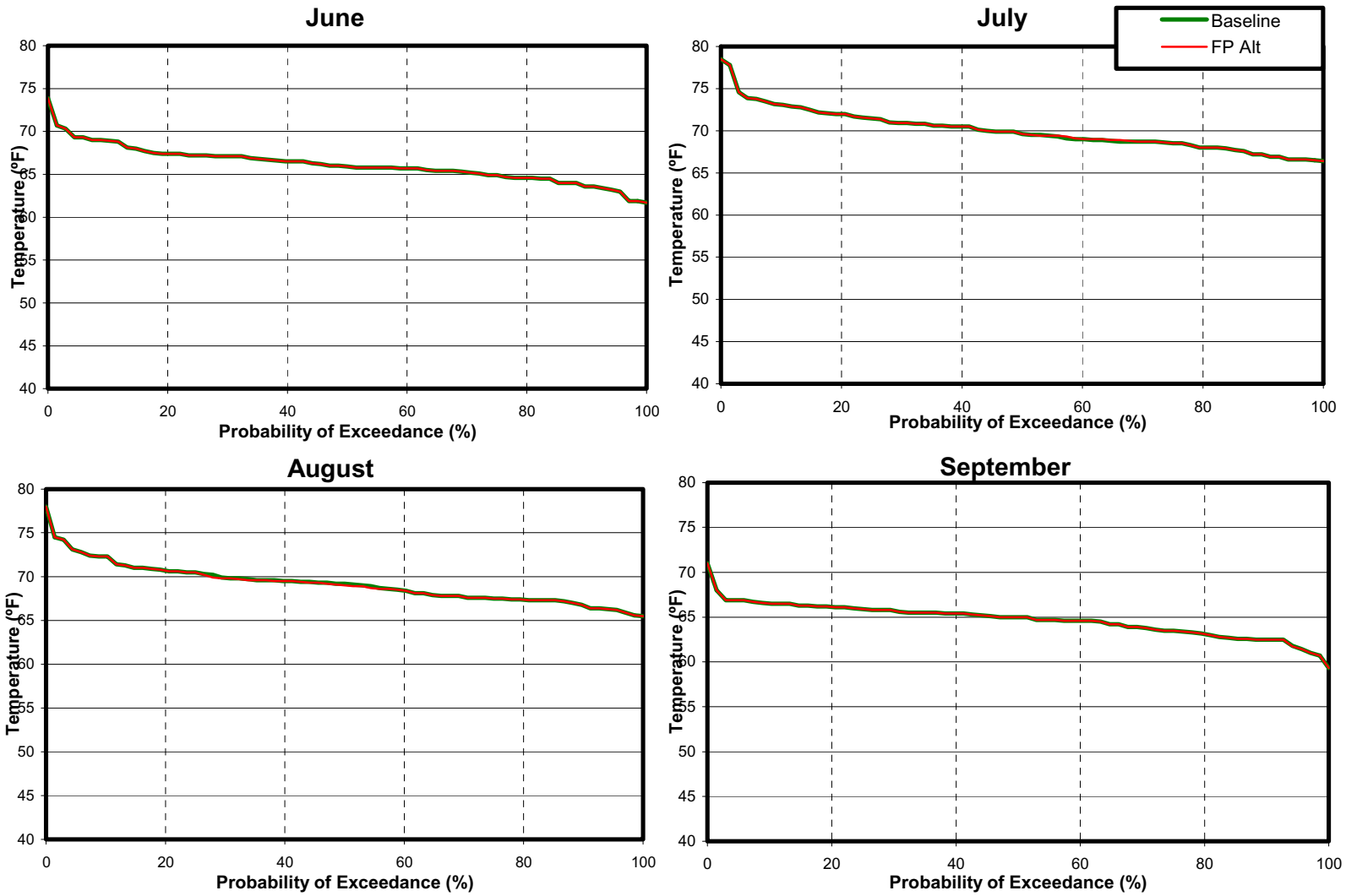
Temperature in the Feather River below Thermalito Afterbay Under Baseline and FP Alt Conditions



Temperature in the Feather River below Thermalito Afterbay Under Baseline and FP Alt Conditions



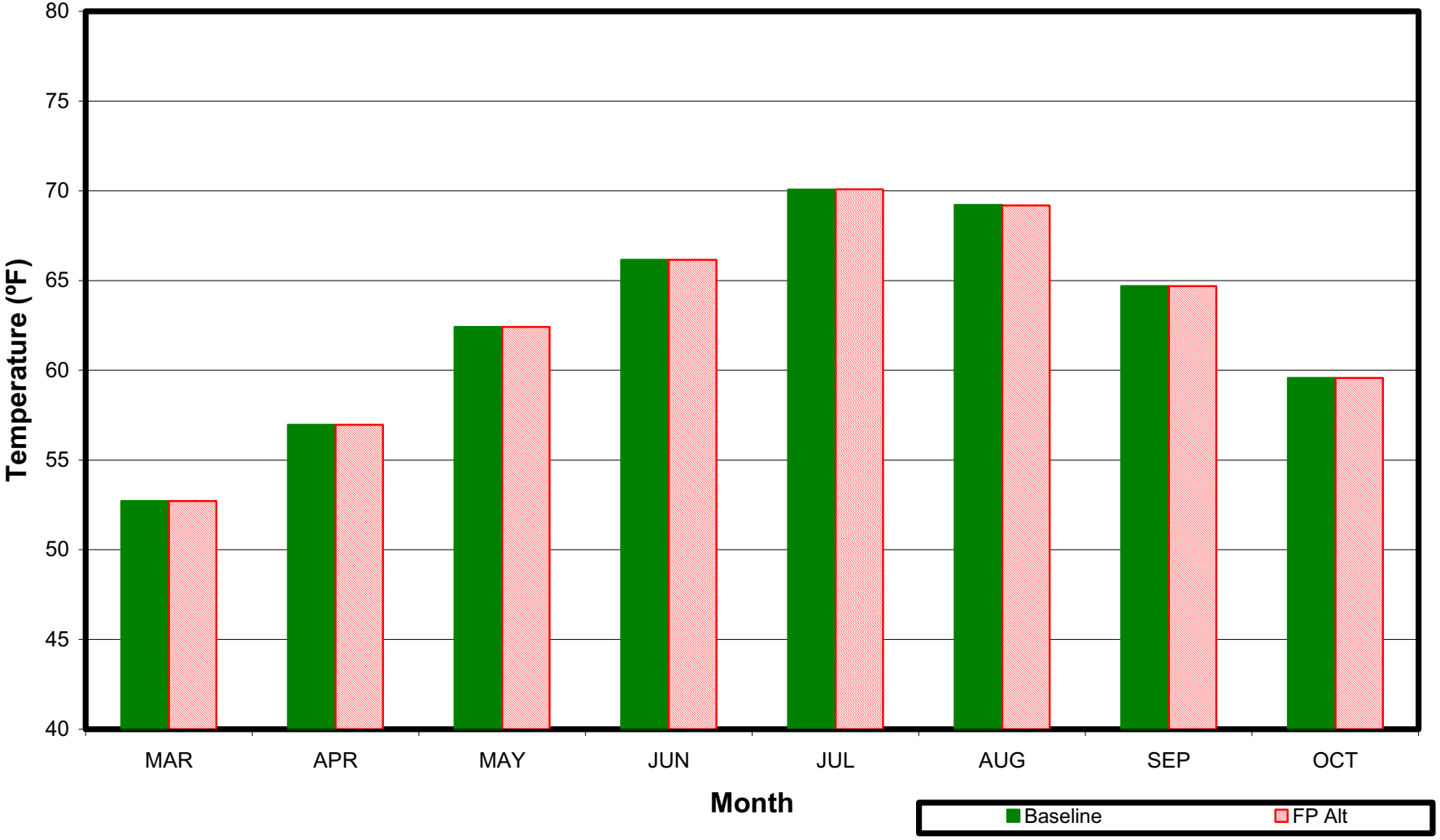
Temperature in the Feather River below Thermalito Afterbay Under Baseline and FP Alt Conditions



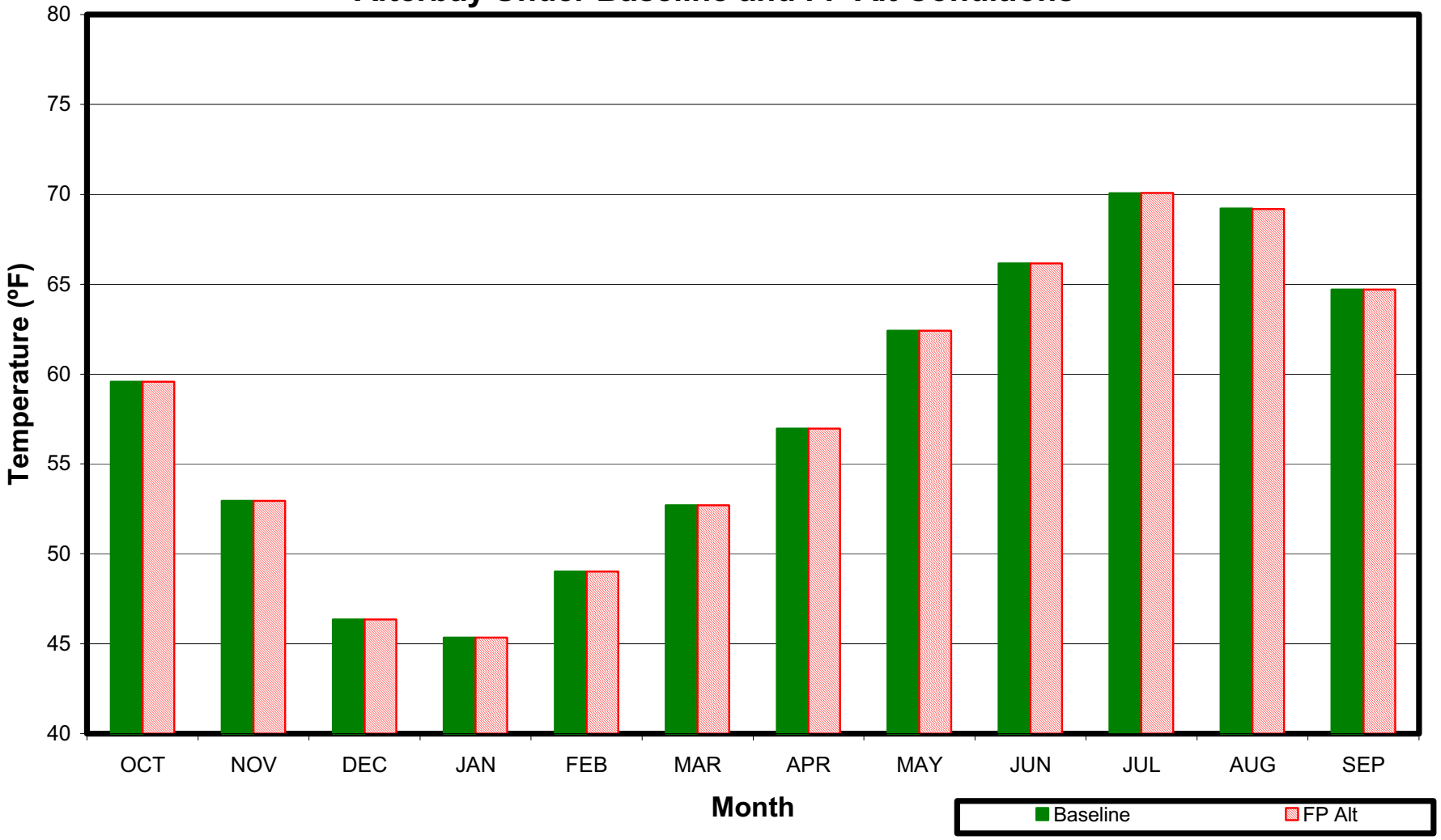
Long-term Average Water Temperature in the Feather River below Thermalito Afterbay Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	59.6	59.6	0.0
Nov	53.0	53.0	0.0
Dec	46.4	46.4	0.0
Jan	45.3	45.3	0.0
Feb	49.0	49.0	0.0
Mar	52.7	52.7	0.0
Apr	57.0	57.0	0.0
May	62.4	62.4	0.0
Jun	66.2	66.2	0.0
Jul	70.1	70.1	0.0
Aug	69.2	69.2	0.0
Sep	64.7	64.7	0.0

[1] Based on 69 years modeled.

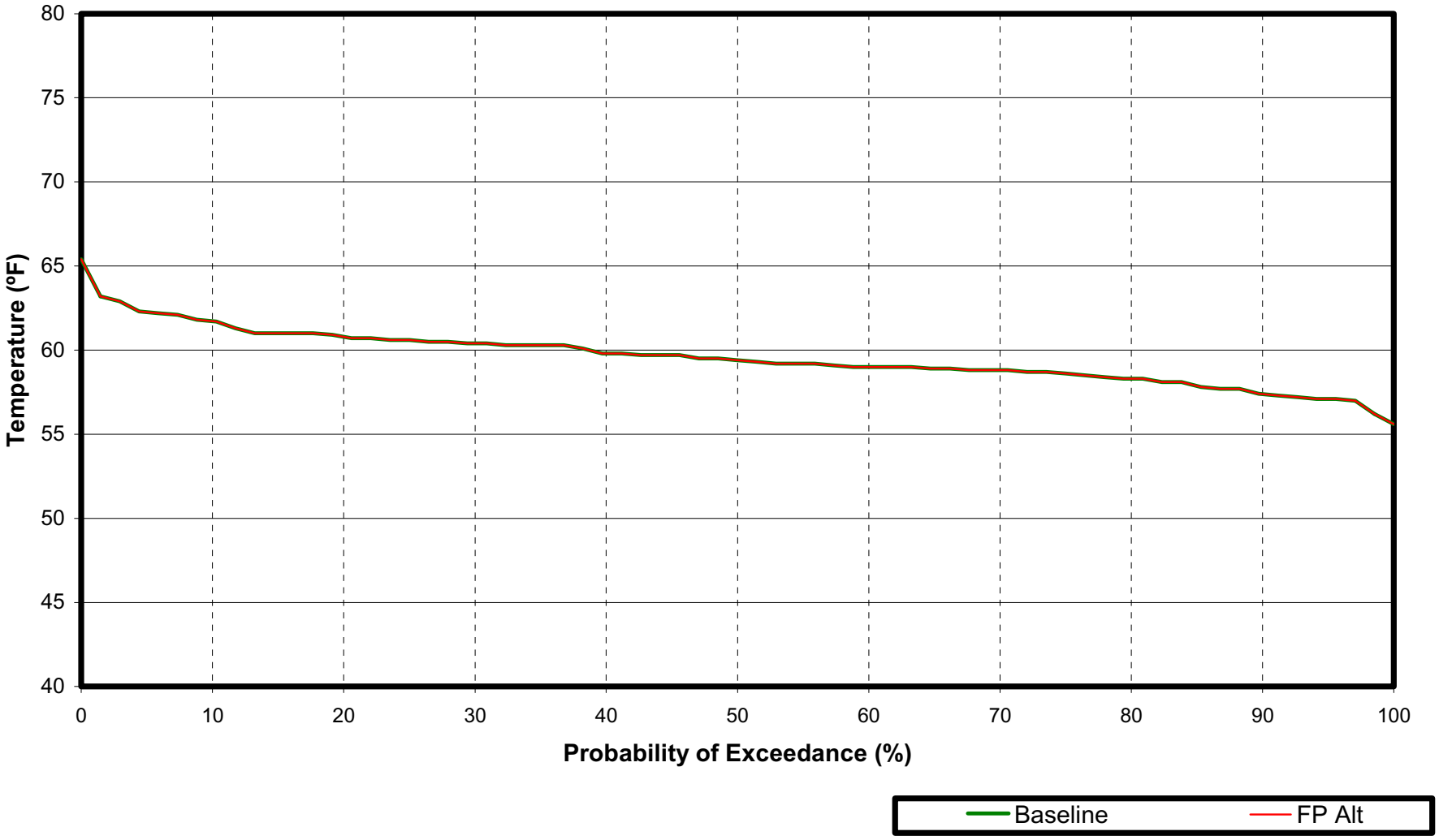
Long-term Average Temperature in the Feather River below Thermalito Afterbay Under Baseline and FP Alt Conditions



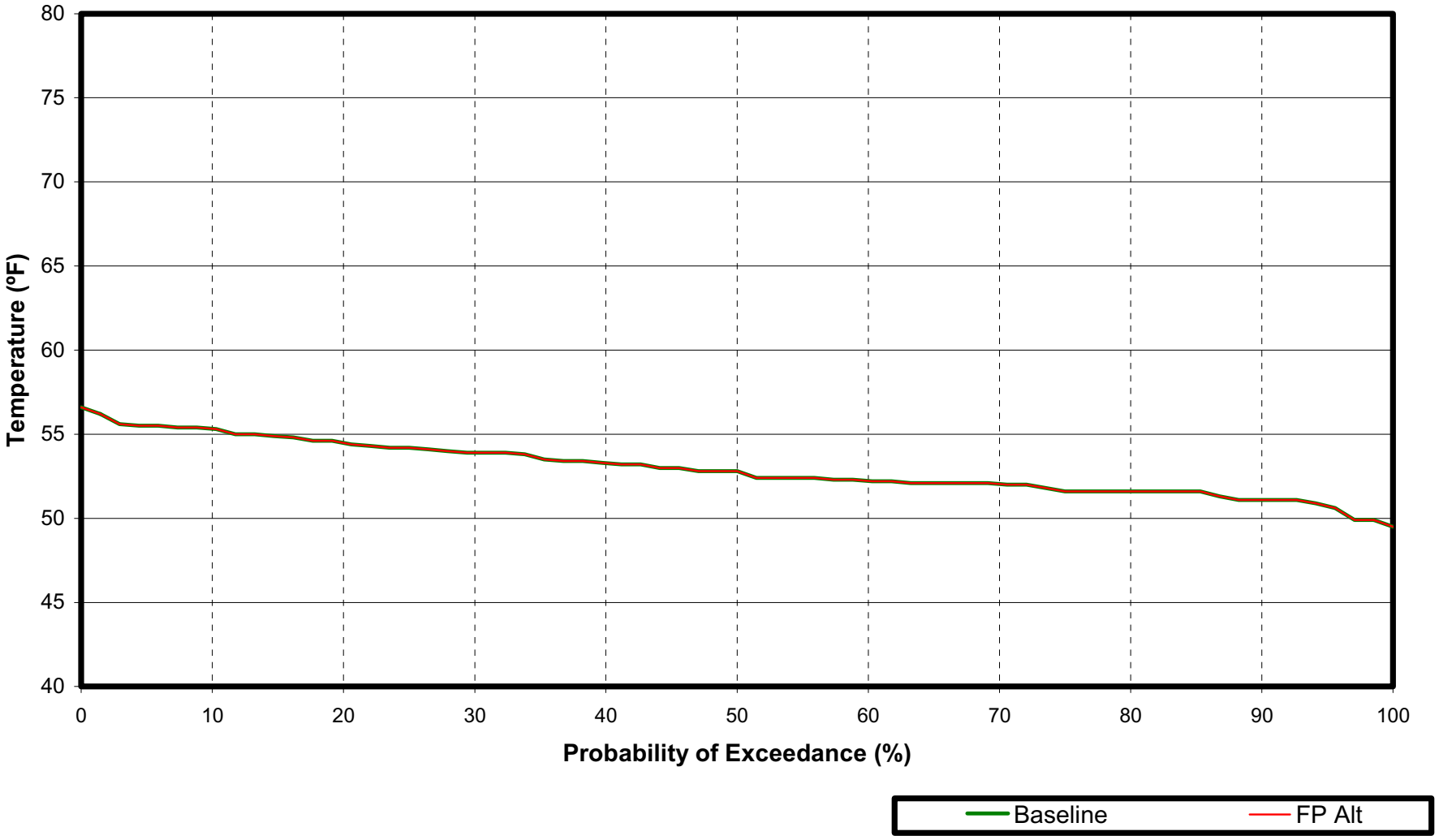
Long-term Average Temperature in the Feather River below Thermalito Afterbay Under Baseline and FP Alt Conditions



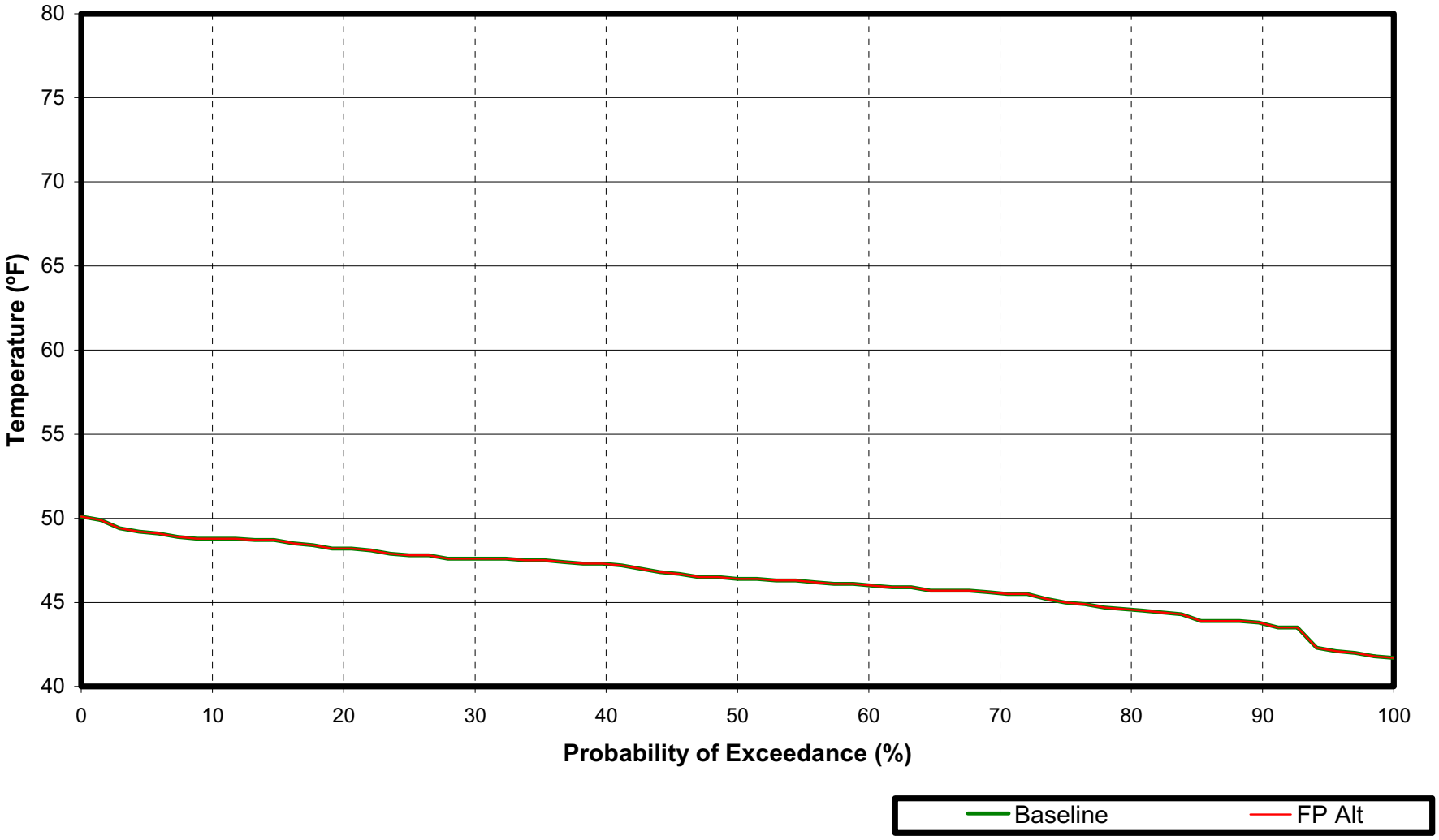
Temperature in the Feather River below Thermalito Afterbay During October Under Baseline and FP Alt Conditions



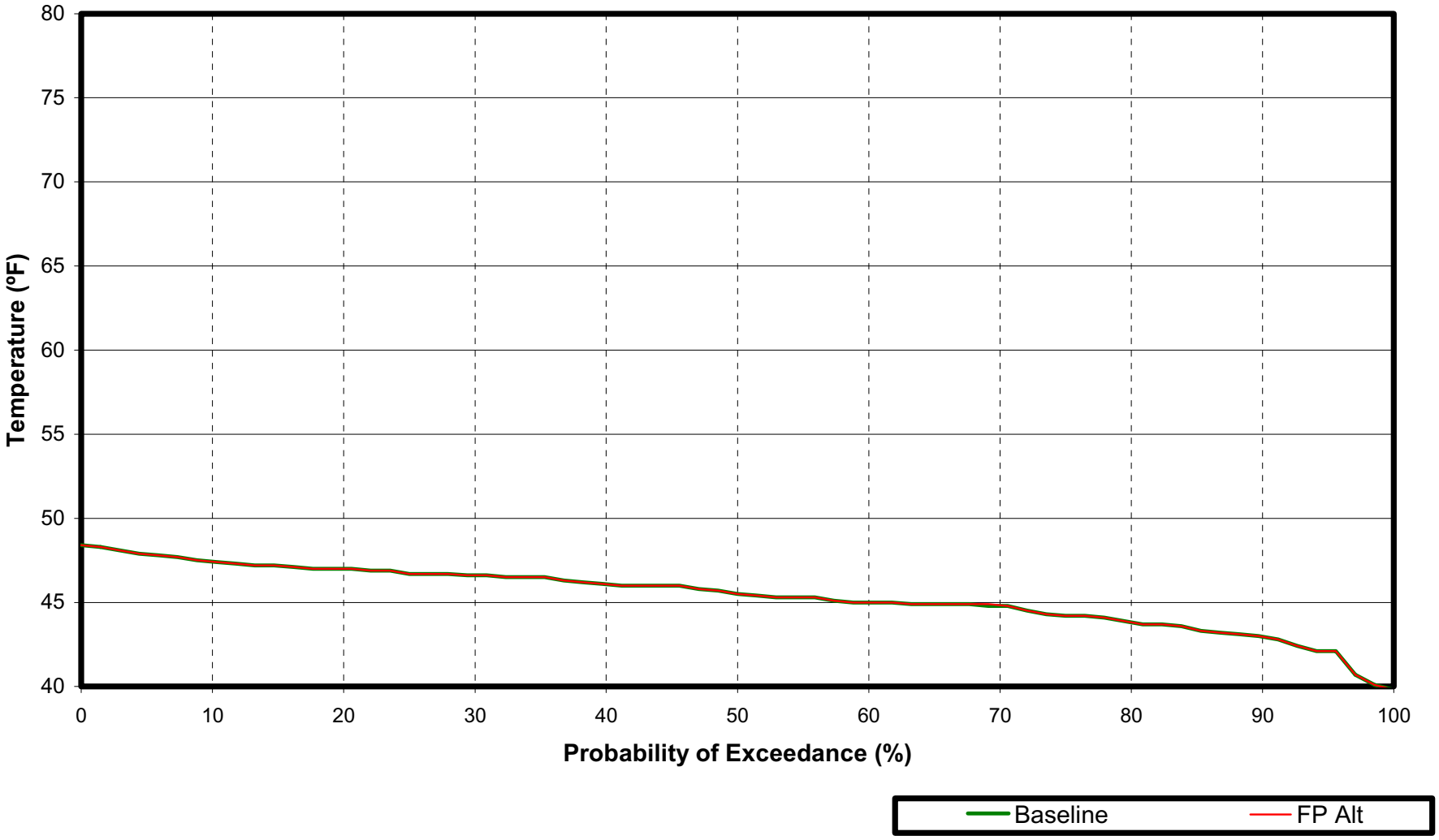
Temperature in the Feather River below Thermalito Afterbay During November Under Baseline and FP Alt Conditions



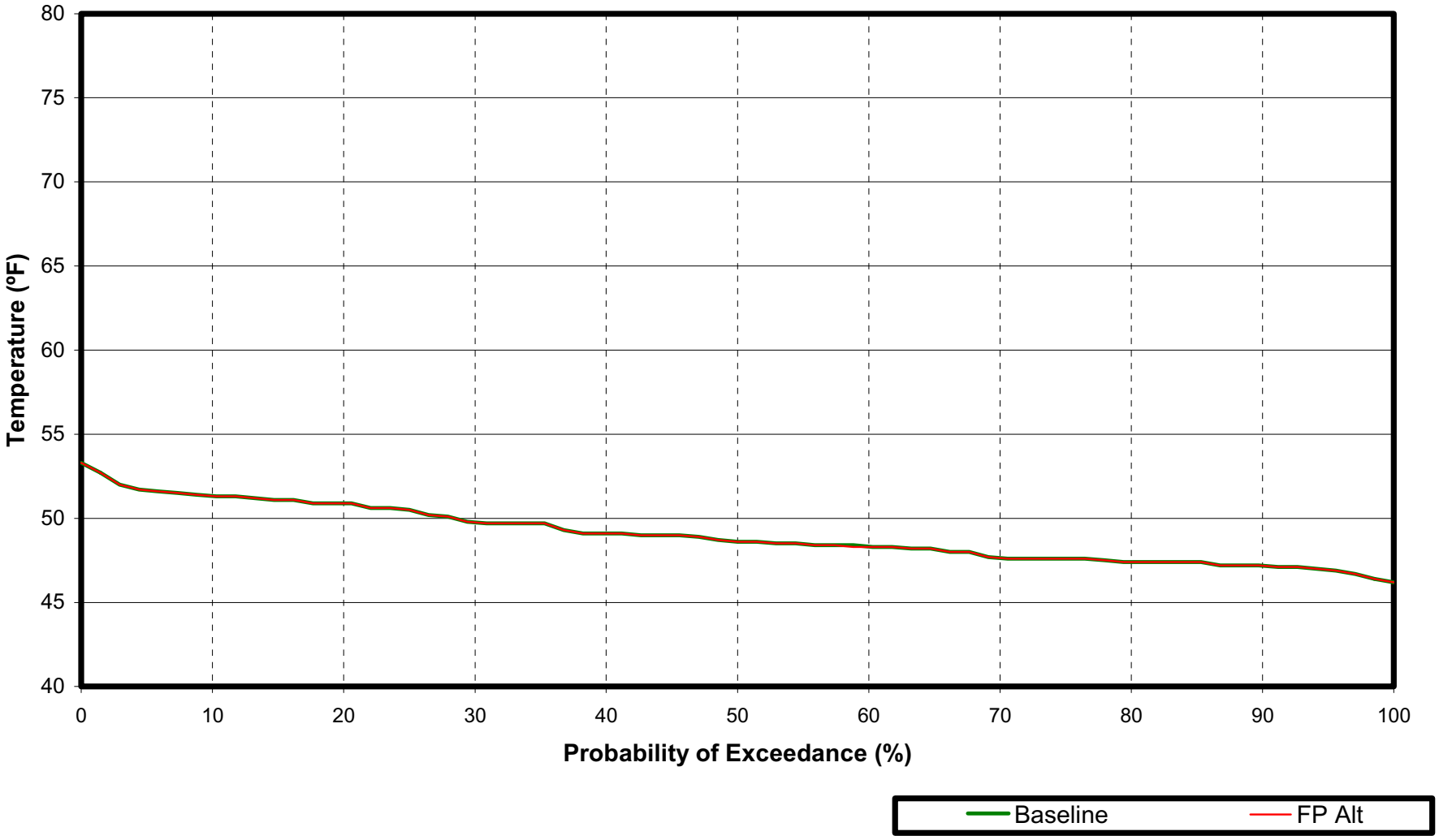
Temperature in the Feather River below Thermalito Afterbay During December Under Baseline and FP Alt Conditions



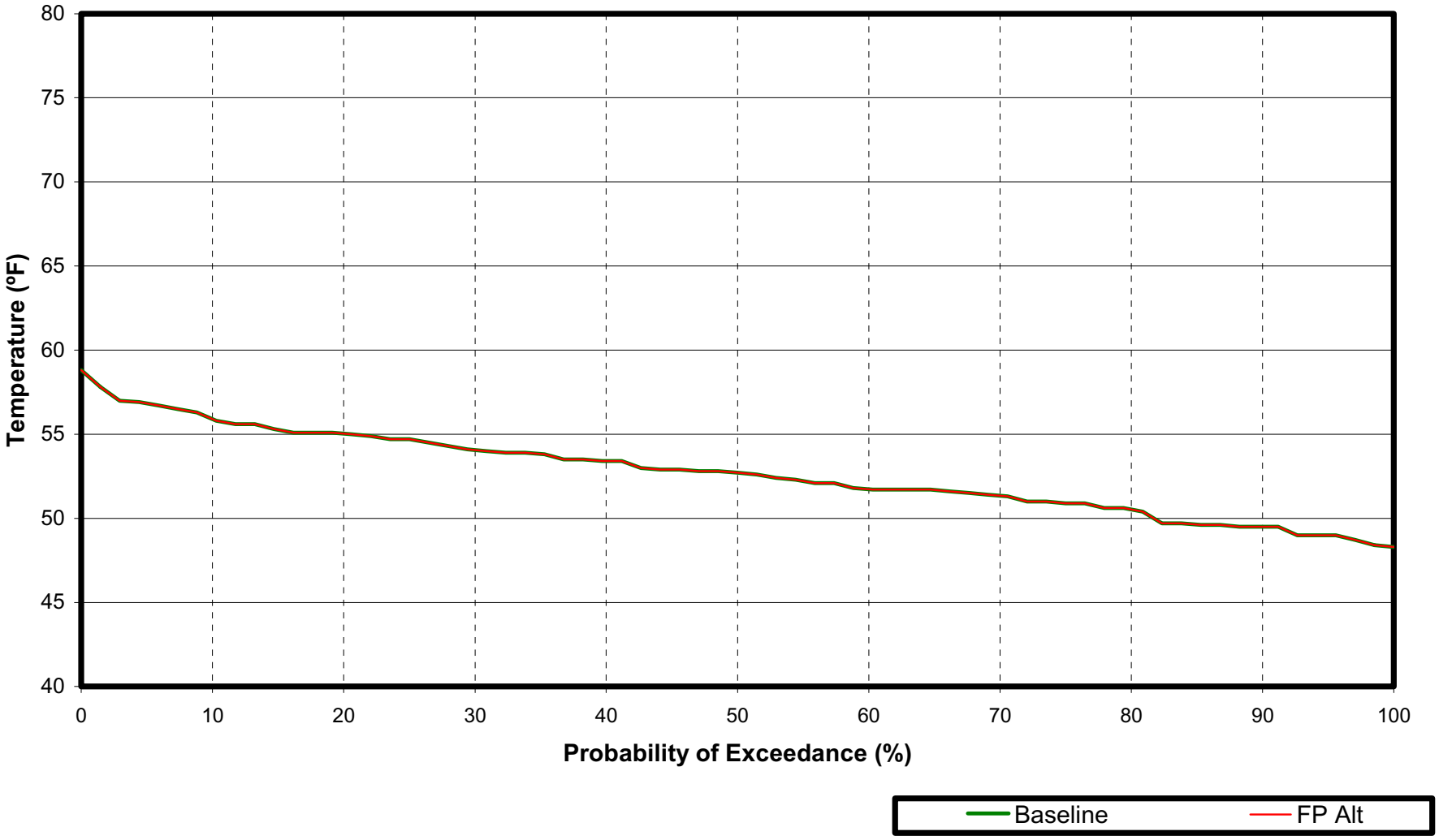
Temperature in the Feather River below Thermalito Afterbay During January Under Baseline and FP Alt Conditions



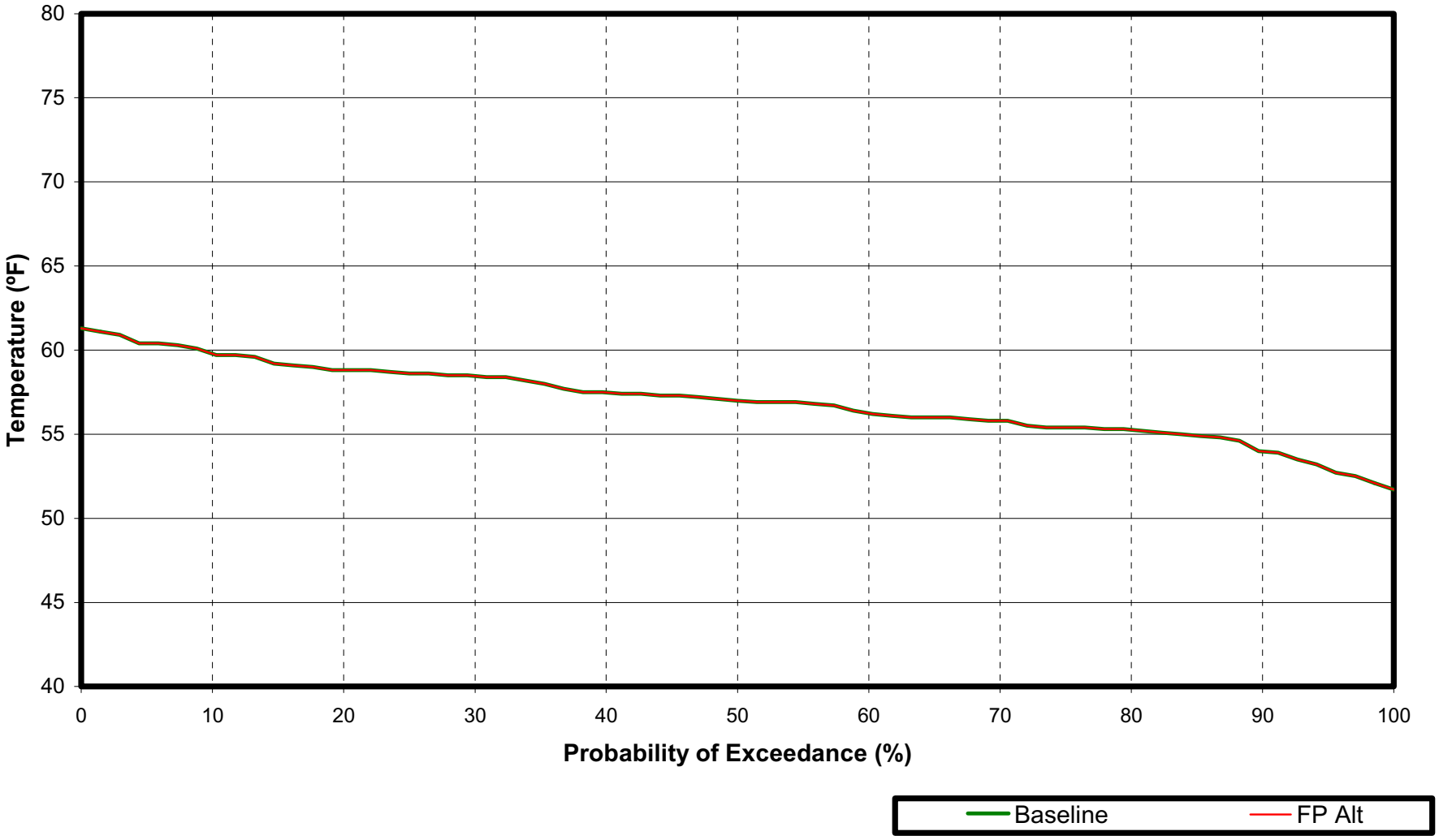
Temperature in the Feather River below Thermalito Afterbay During February Under Baseline and FP Alt Conditions



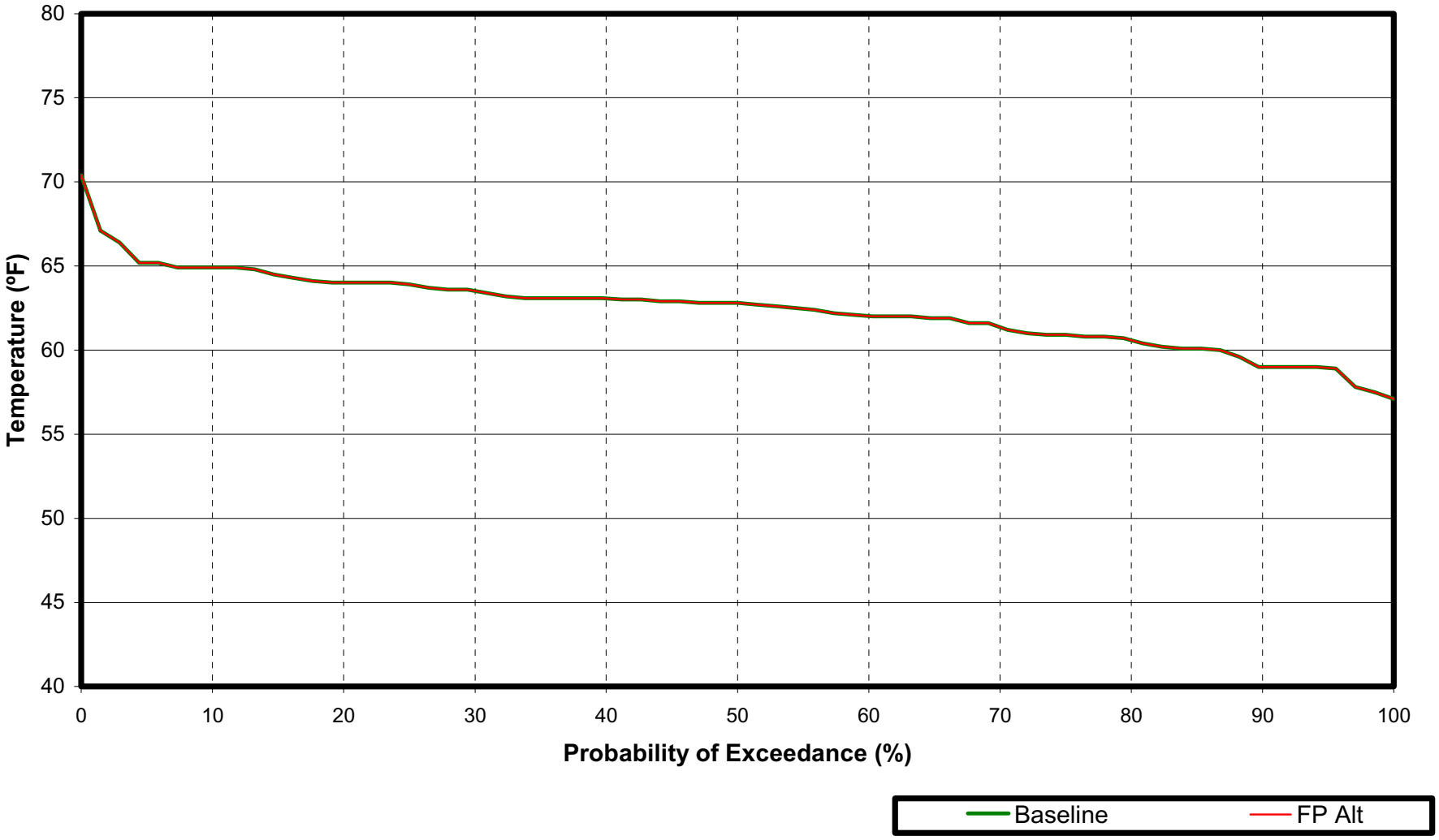
Temperature in the Feather River below Thermalito Afterbay During March Under Baseline and FP Alt Conditions



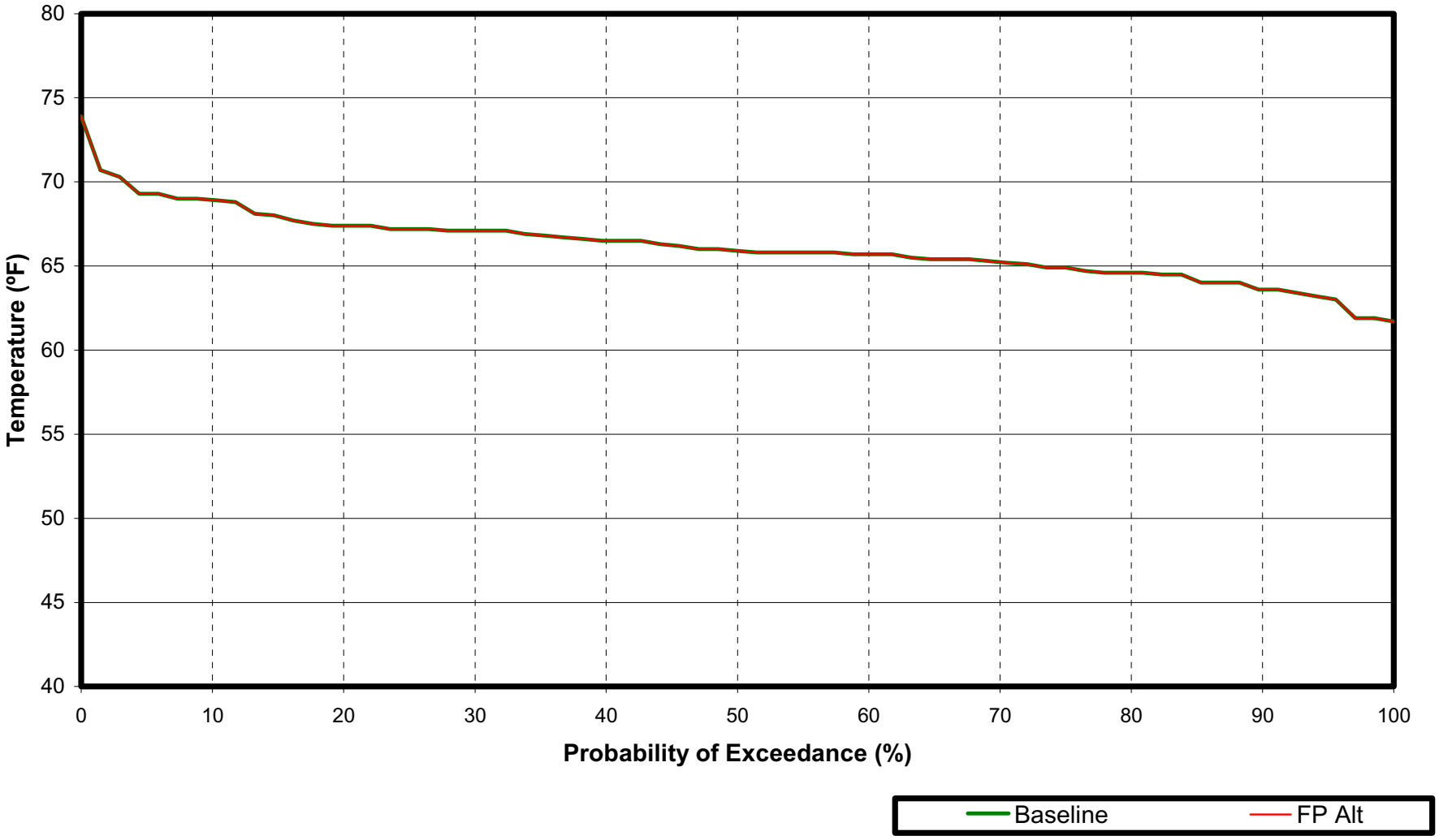
Temperature in the Feather River below Thermalito Afterbay During April Under Baseline and FP Alt Conditions



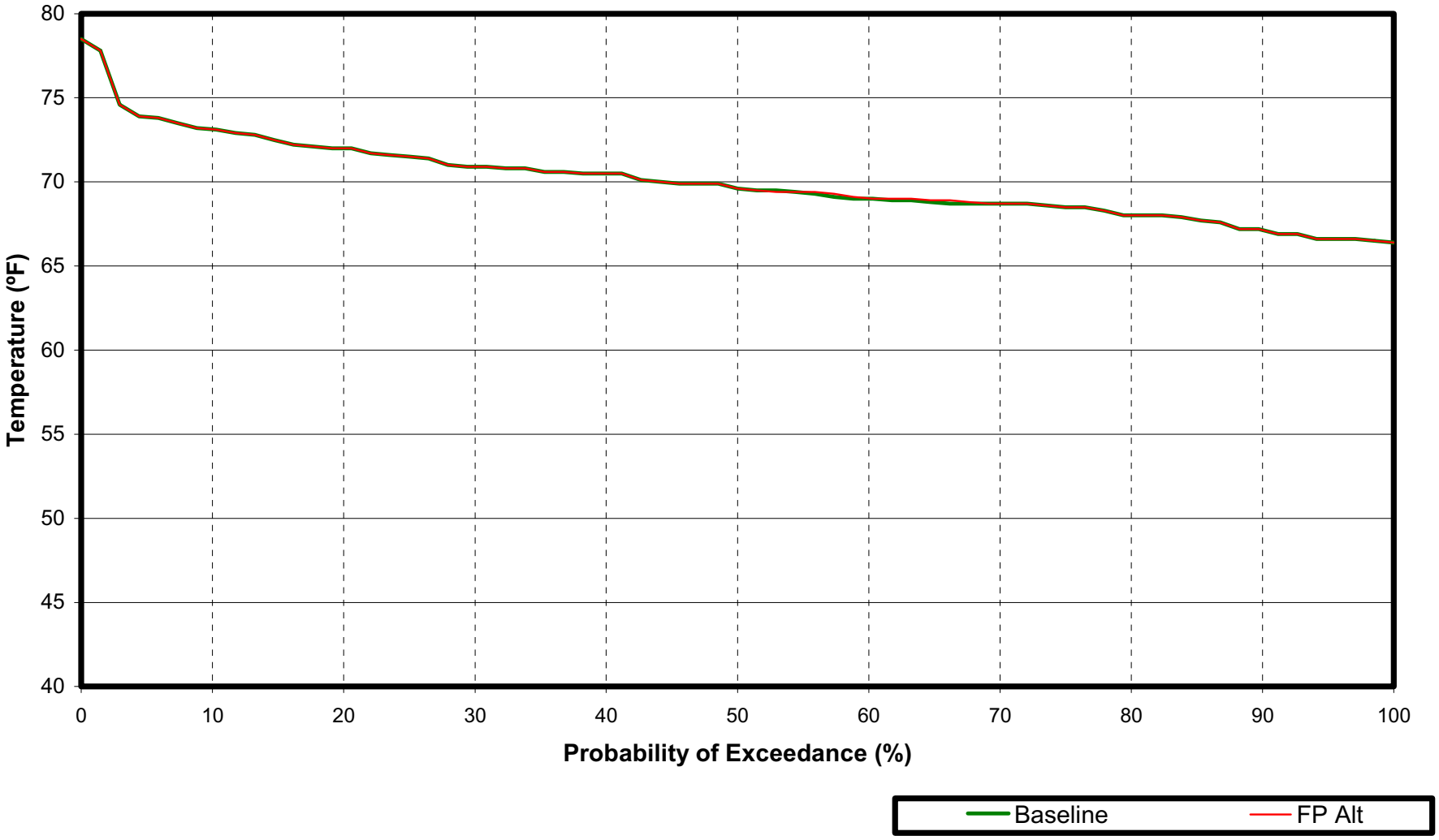
Temperature in the Feather River below Thermalito Afterbay During May Under Baseline and FP Alt Conditions



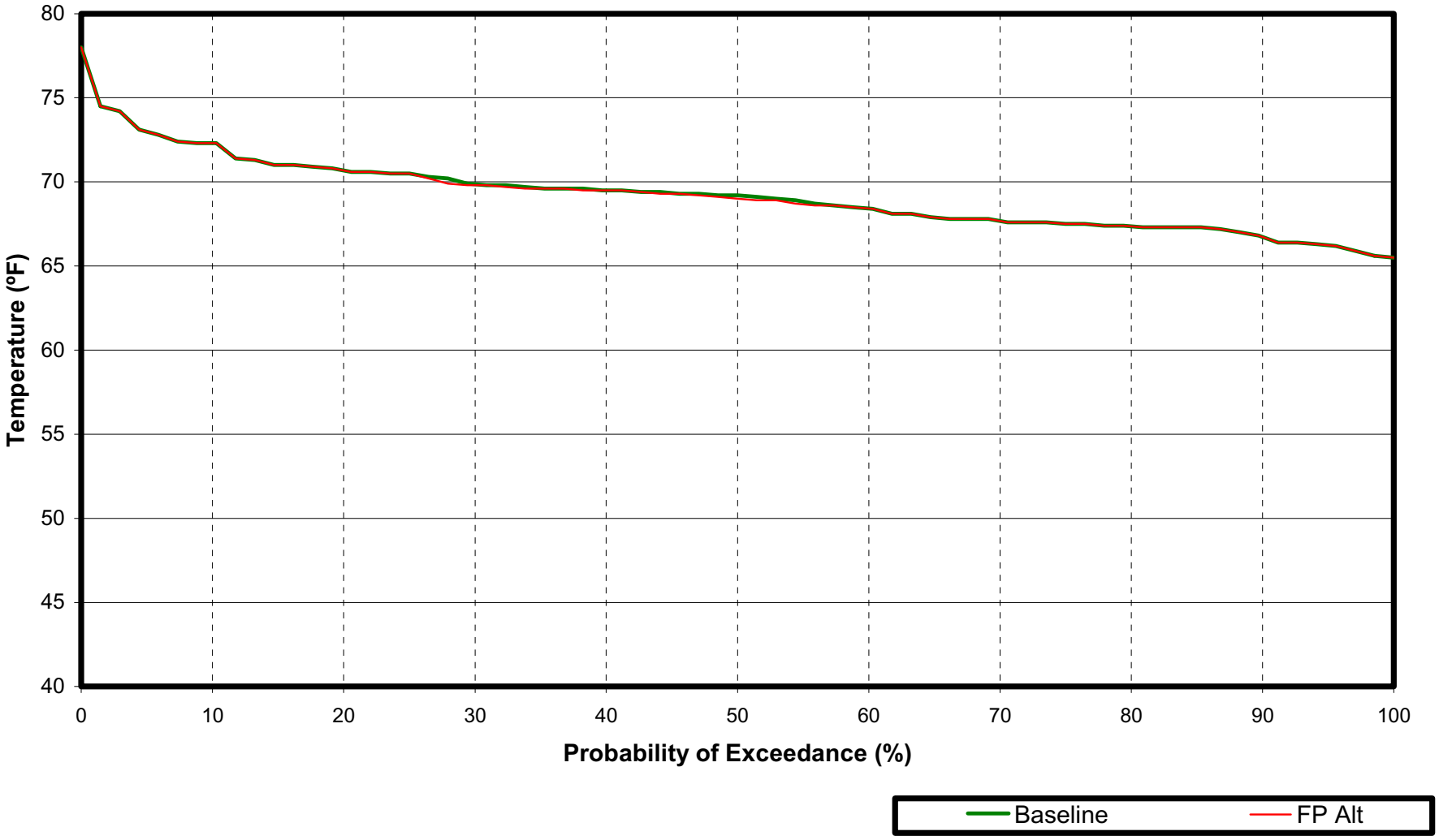
Temperature in the Feather River below Thermalito Afterbay During June Under Baseline and FP Alt Conditions



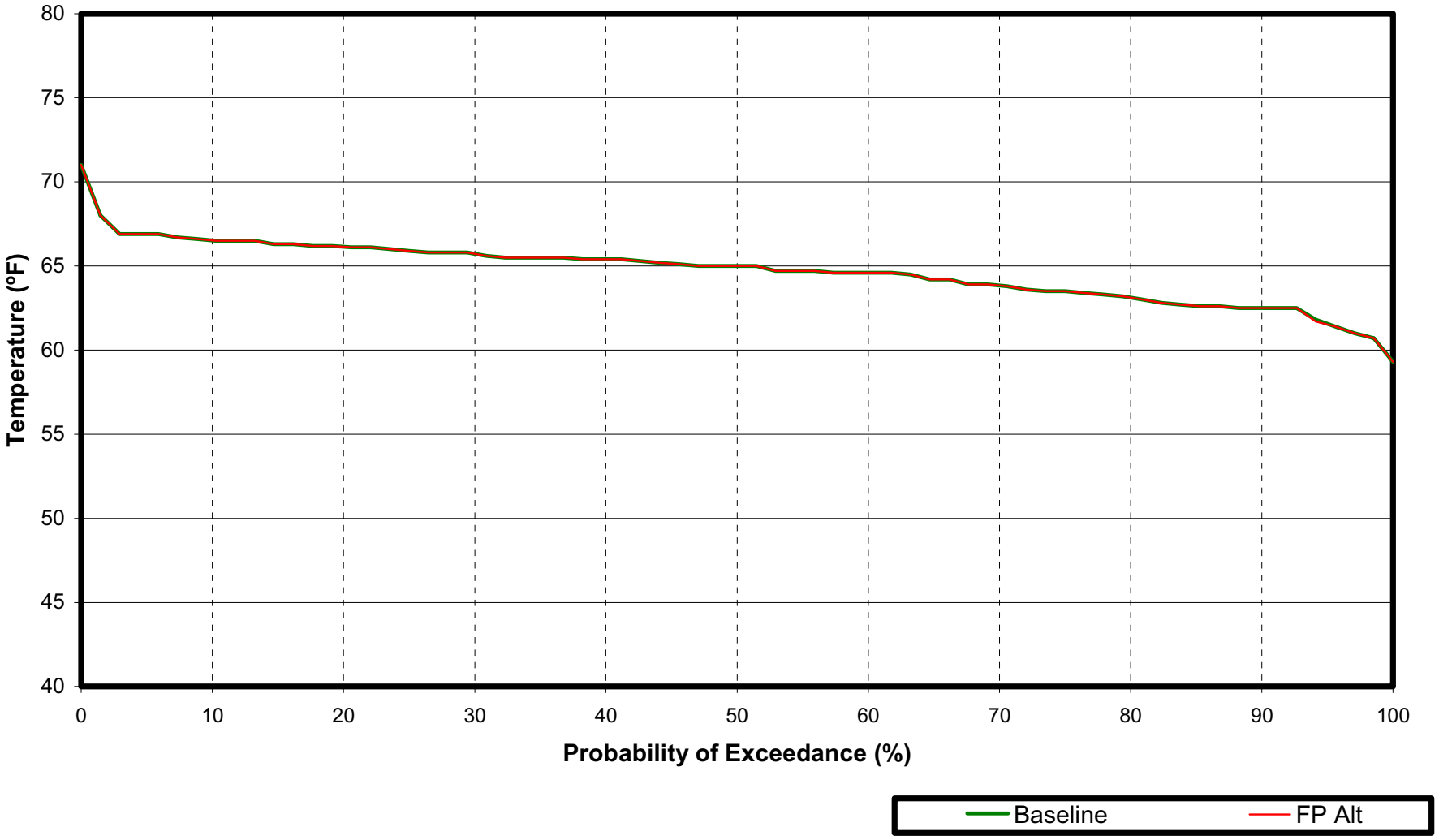
Temperature in the Feather River below Thermalito Afterbay During July Under Baseline and FP Alt Conditions



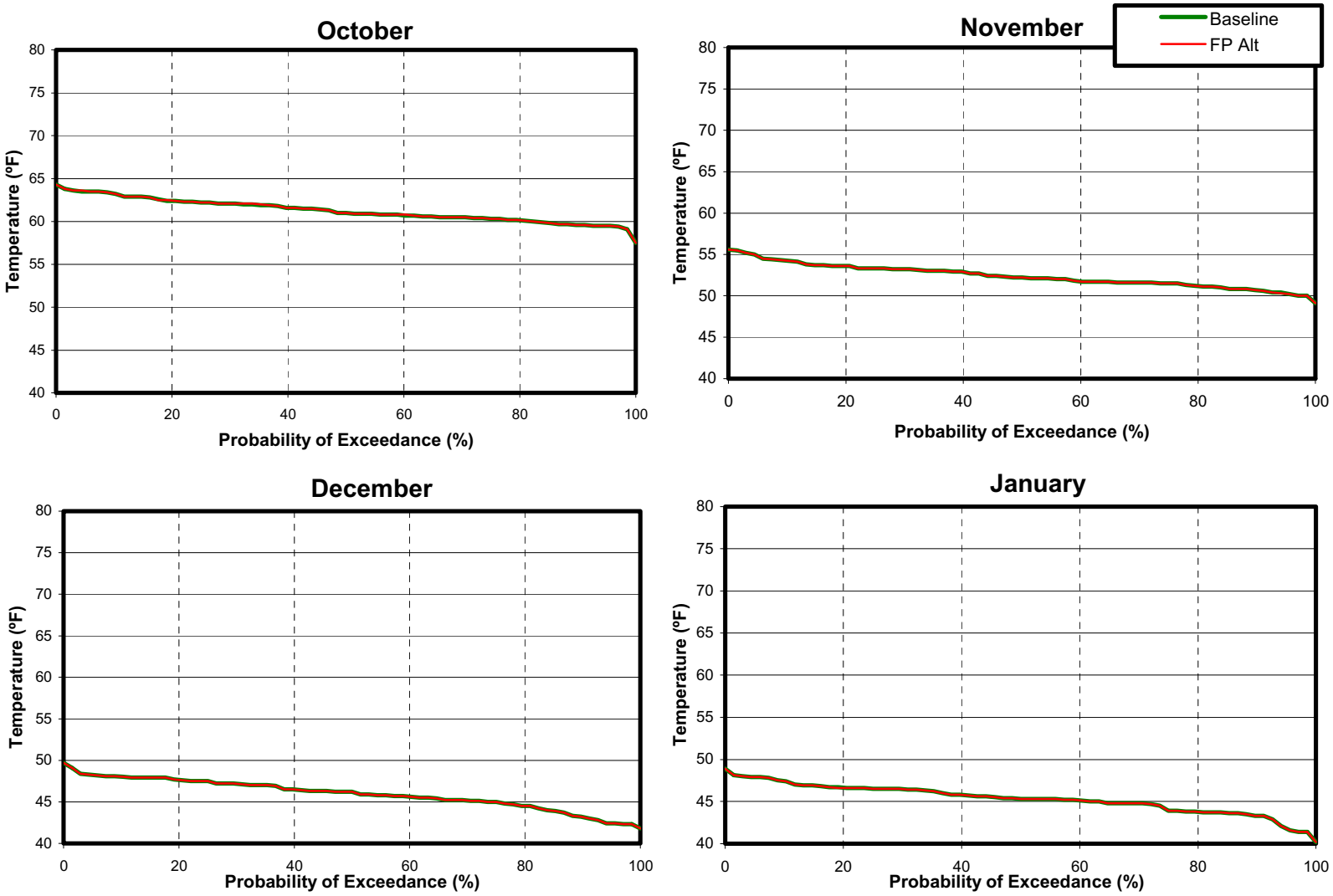
Temperature in the Feather River below Thermalito Afterbay During August Under Baseline and FP Alt Conditions



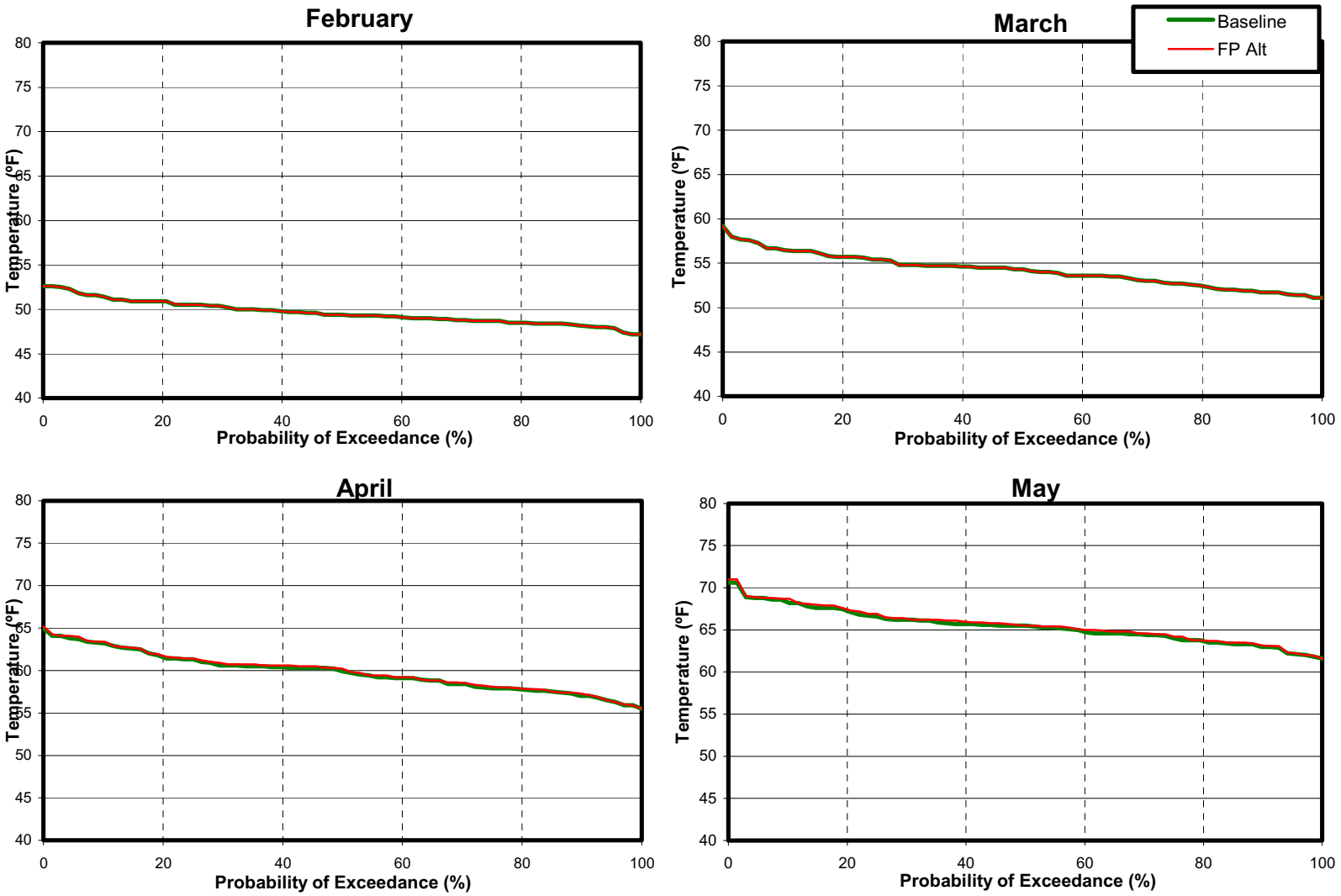
Temperature in the Feather River below Thermalito Afterbay During September Under Baseline and FP Alt Conditions



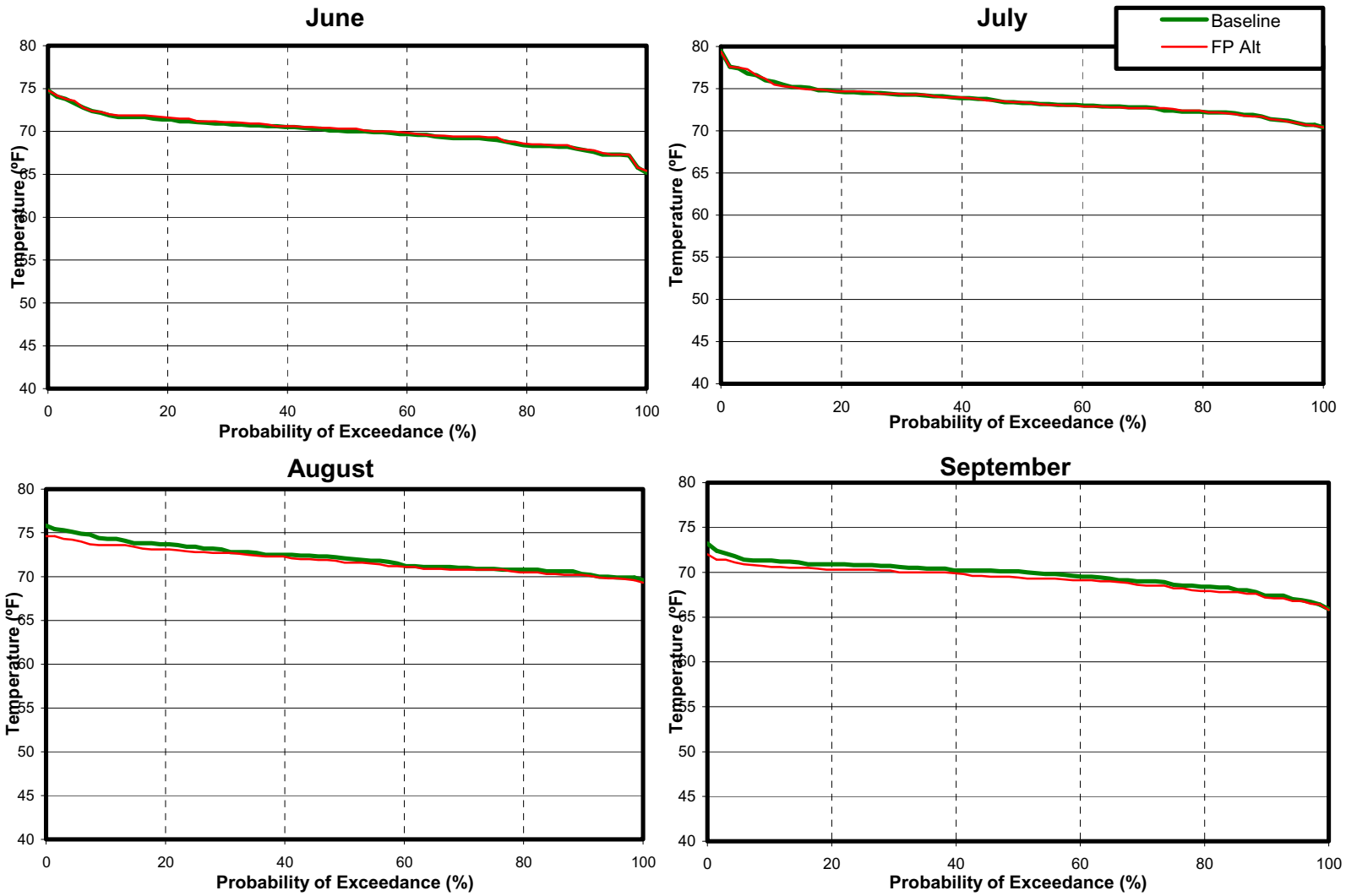
Temperature in the Feather River at the Mouth Under Baseline and FP Alt Conditions



Temperature in the Feather River at the Mouth Under Baseline and FP Alt Conditions



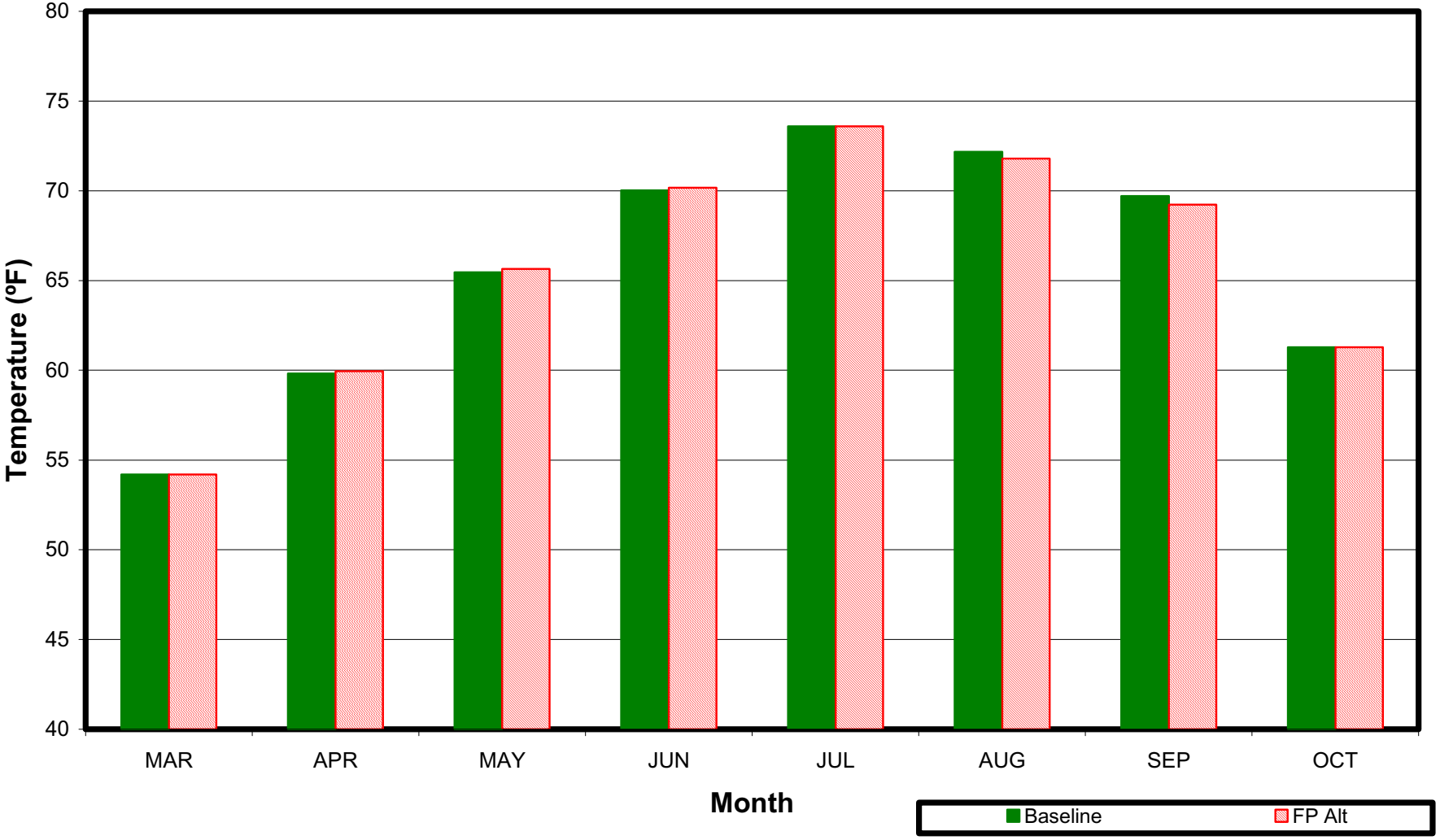
Temperature in the Feather River at the Mouth Under Baseline and FP Alt Conditions



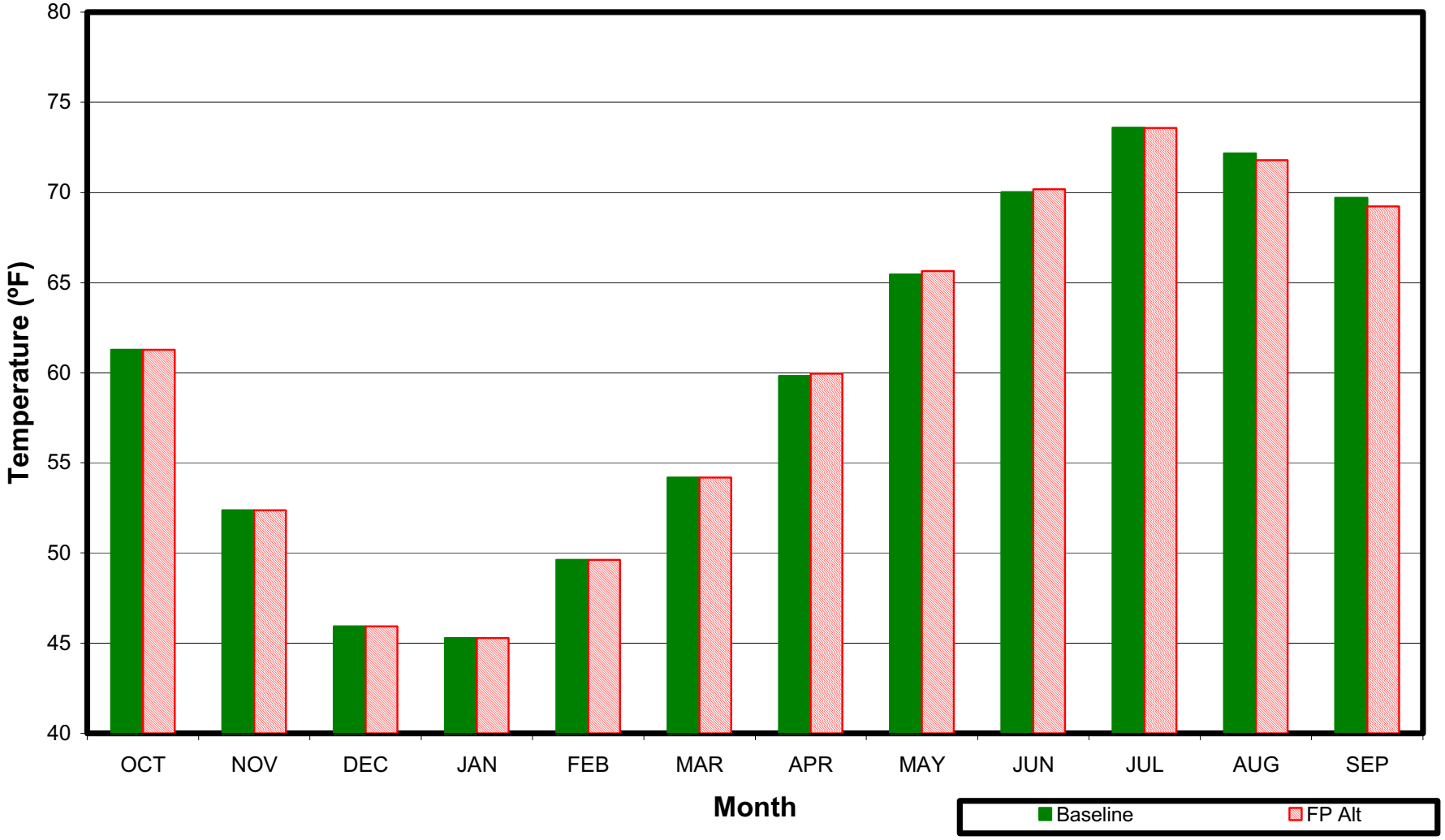
Long-term Average Water Temperature in the Feather River at the Mouth Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	61.3	61.3	0.0
Nov	52.4	52.4	0.0
Dec	45.9	45.9	0.0
Jan	45.3	45.3	0.0
Feb	49.6	49.6	0.0
Mar	54.2	54.2	0.0
Apr	59.8	59.9	0.1
May	65.5	65.6	0.1
Jun	70.0	70.2	0.2
Jul	73.6	73.6	0.0
Aug	72.2	71.8	-0.4
Sep	69.7	69.2	-0.5

[1] Based on 69 years modeled.

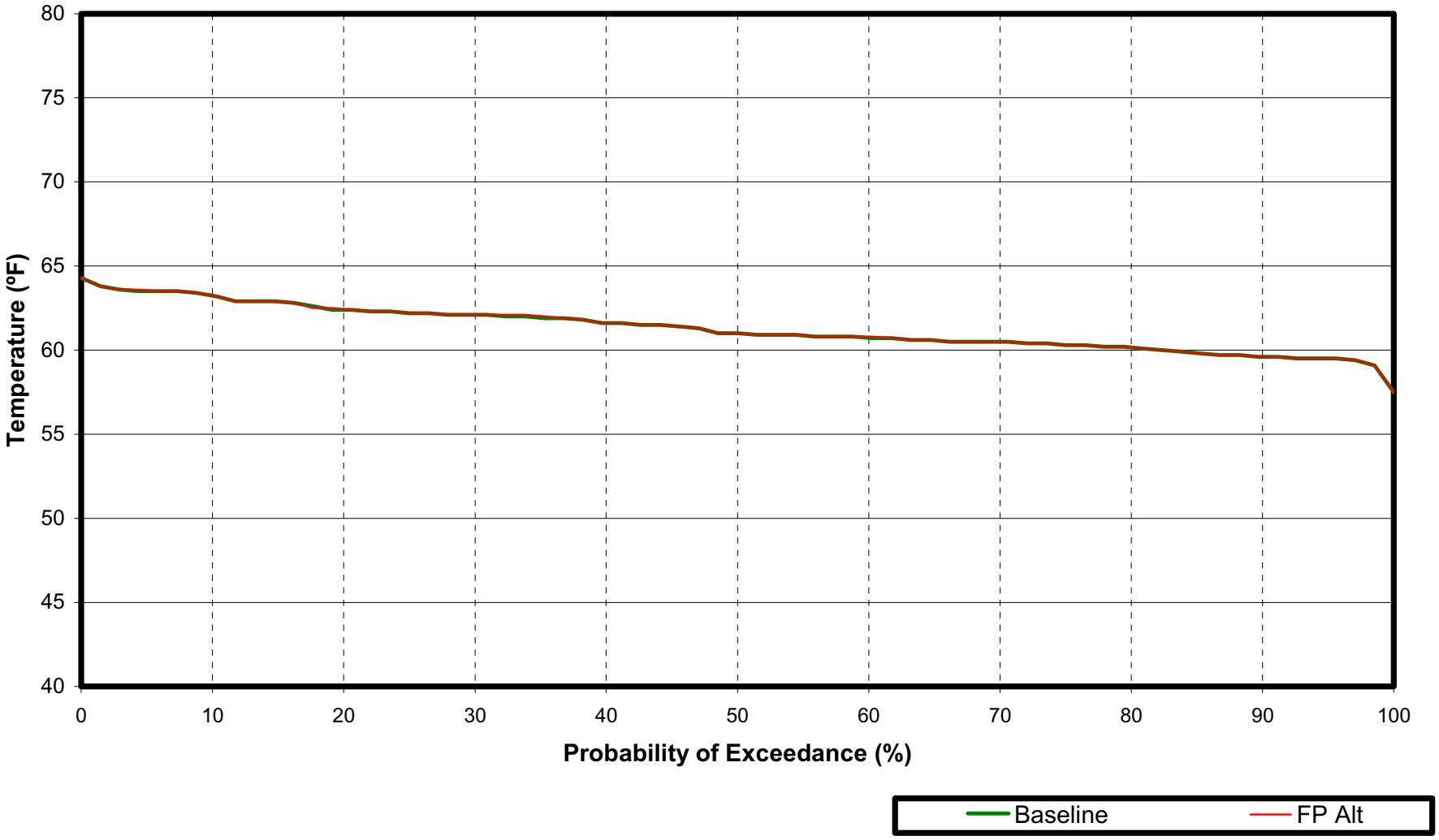
Long-term Average Temperature in the Feather River at the Mouth Under Baseline and FP Alt Conditions



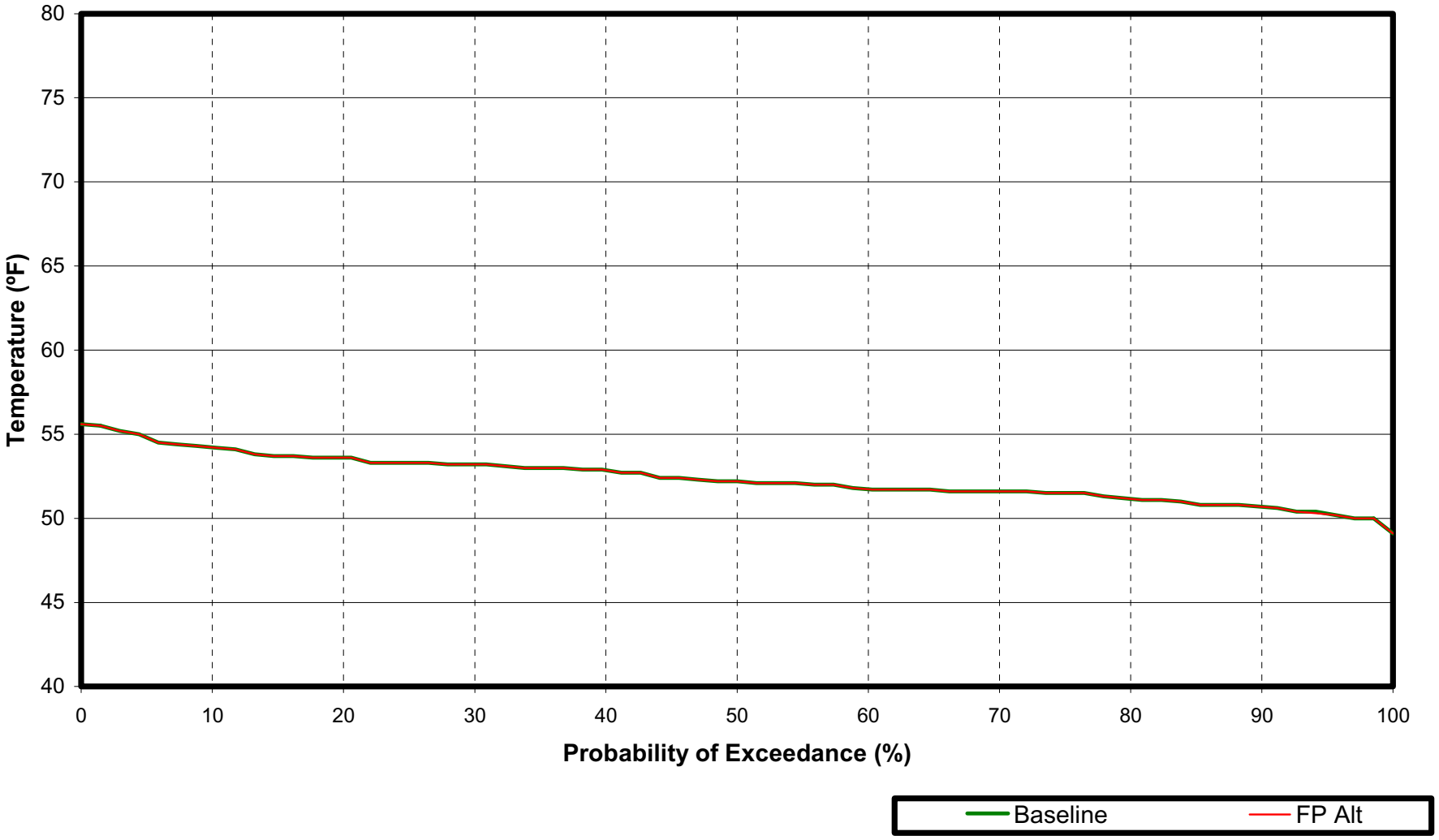
Long-term Average Temperature in the Feather River at the Mouth Under Baseline and FP Alt Conditions



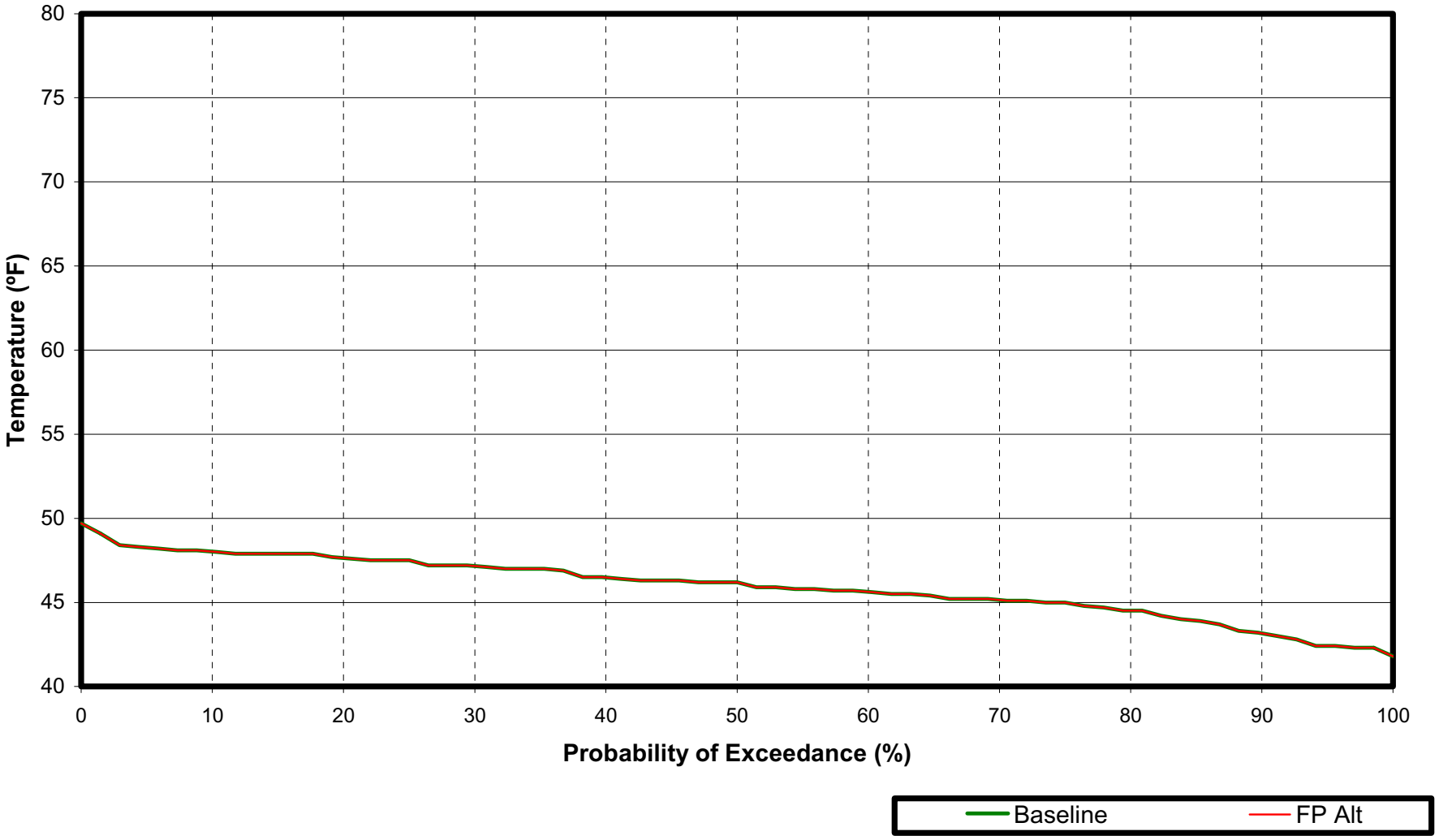
Temperature in the Feather River at the Mouth During October Under Baseline and FP Alt Conditions



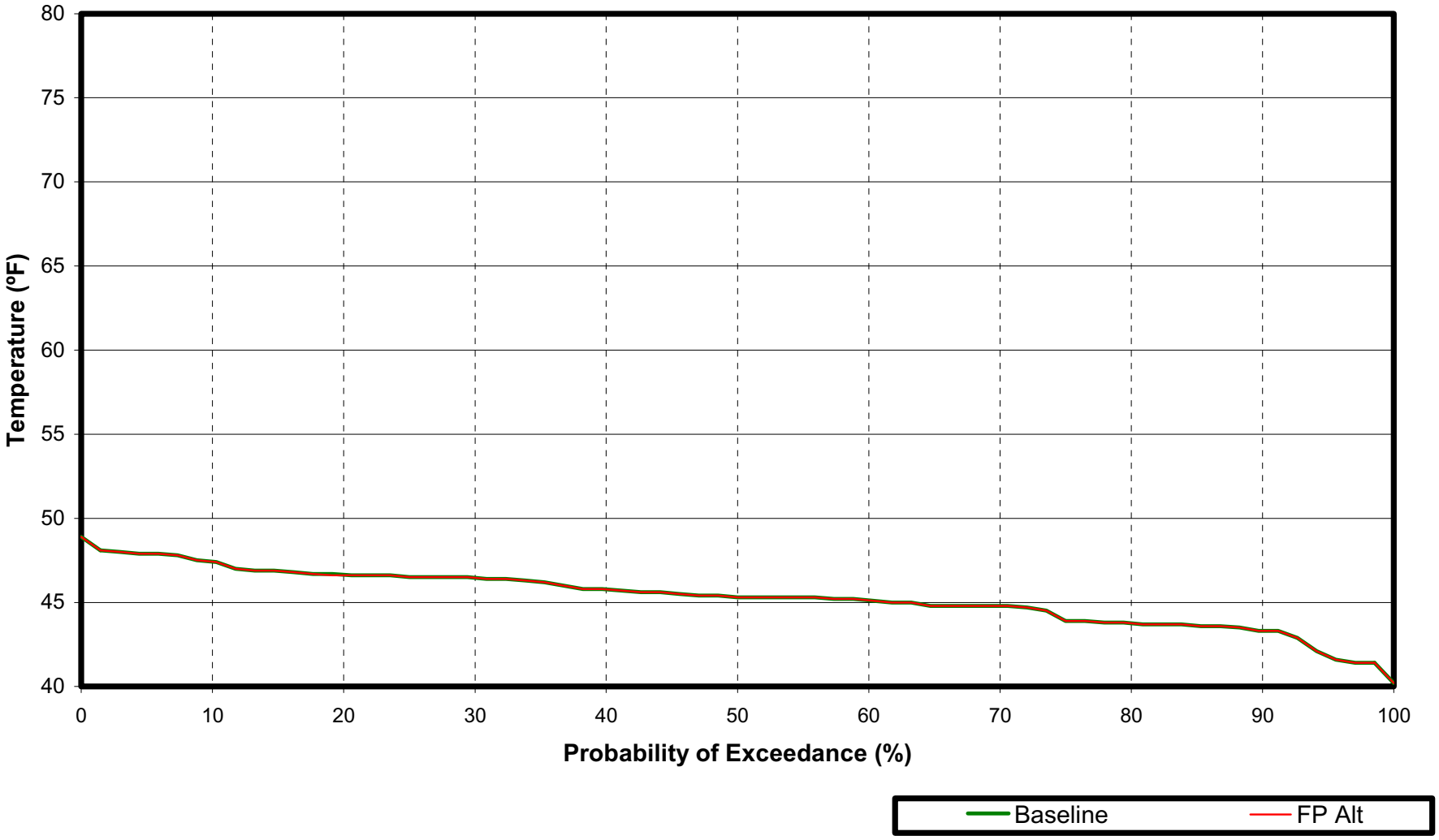
Temperature in the Feather River at the Mouth During November Under Baseline and FP Alt Conditions



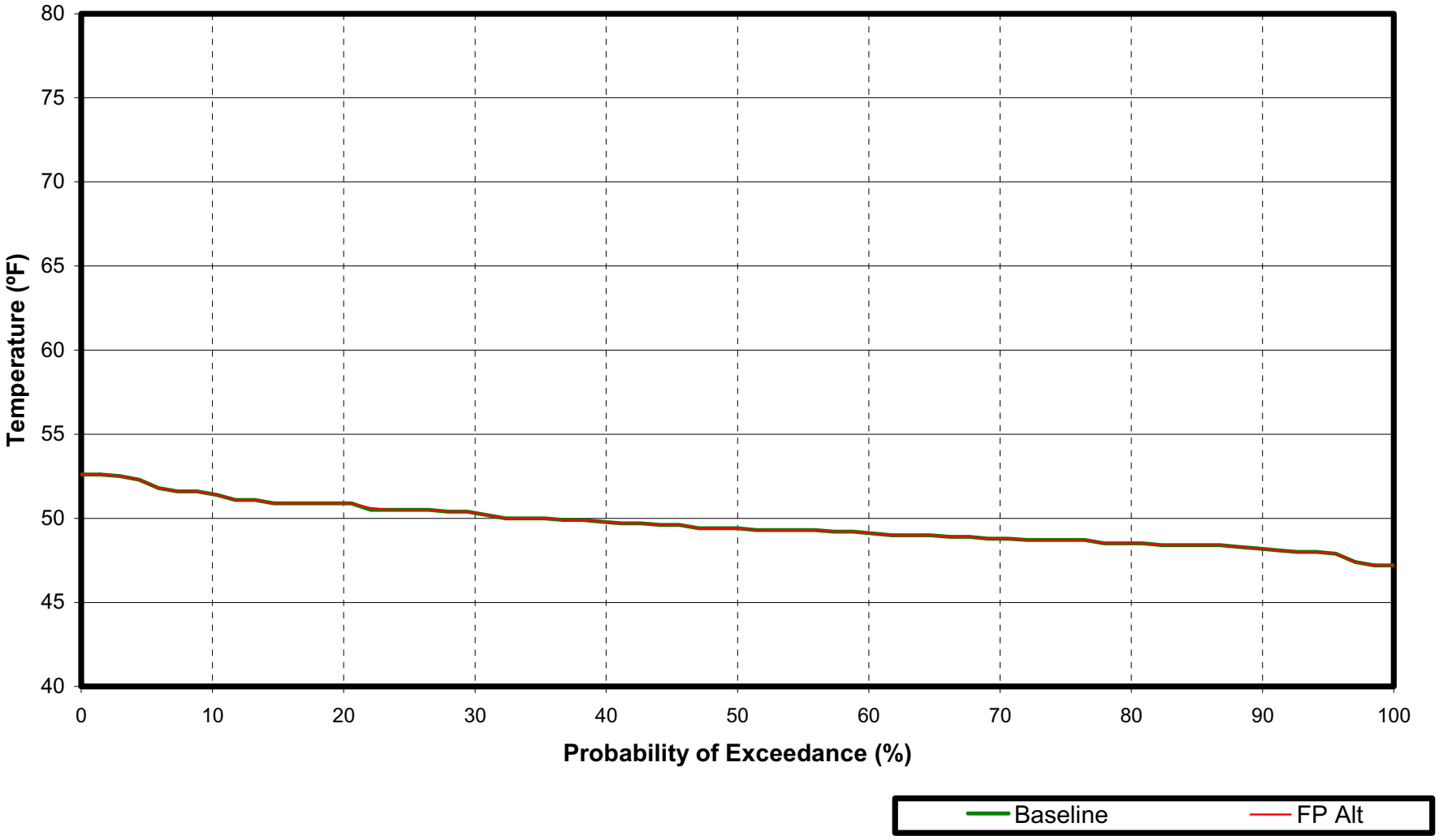
Temperature in the Feather River at the Mouth During December Under Baseline and FP Alt Conditions



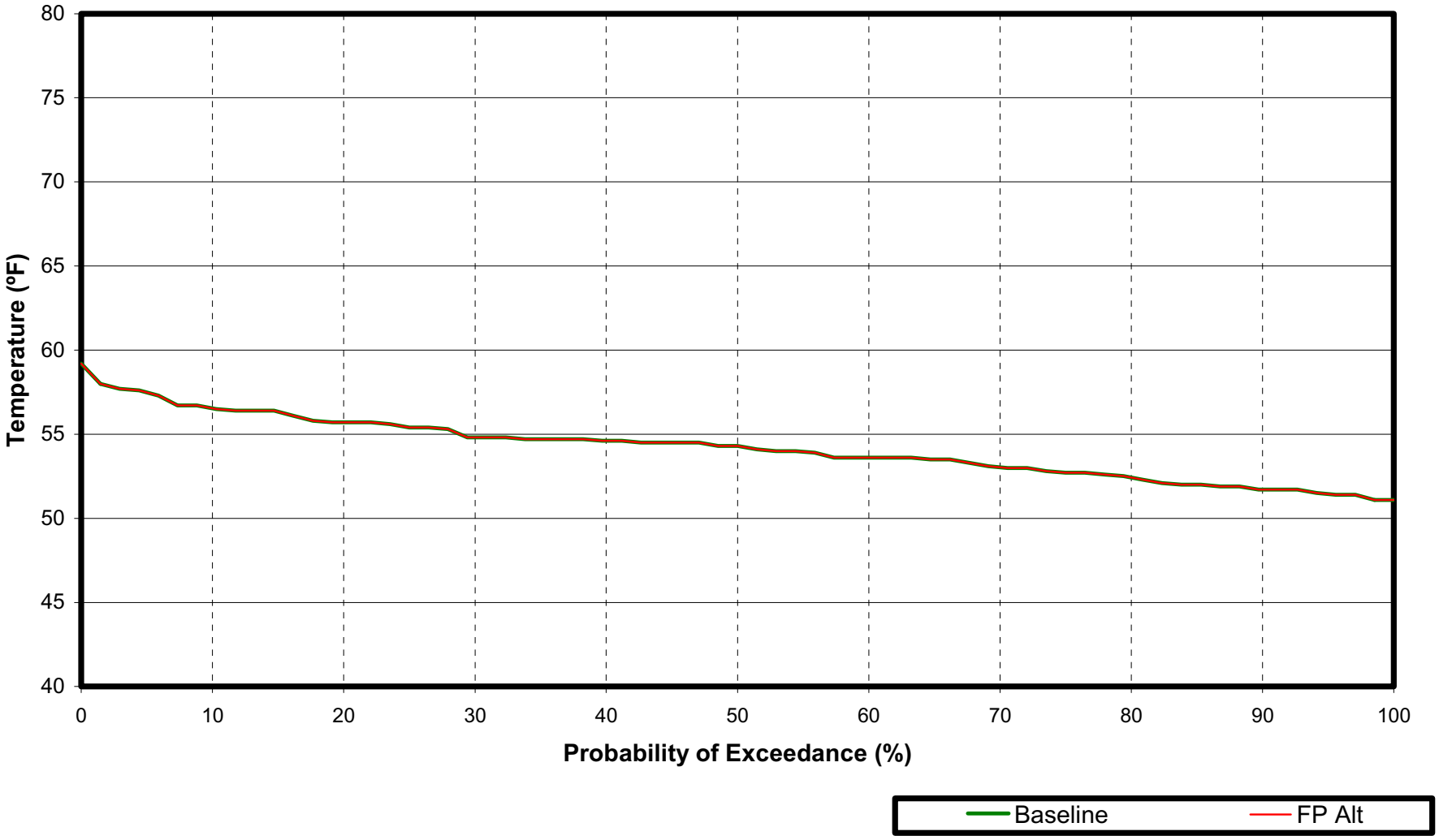
Temperature in the Feather River at the Mouth During January Under Baseline and FP Alt Conditions



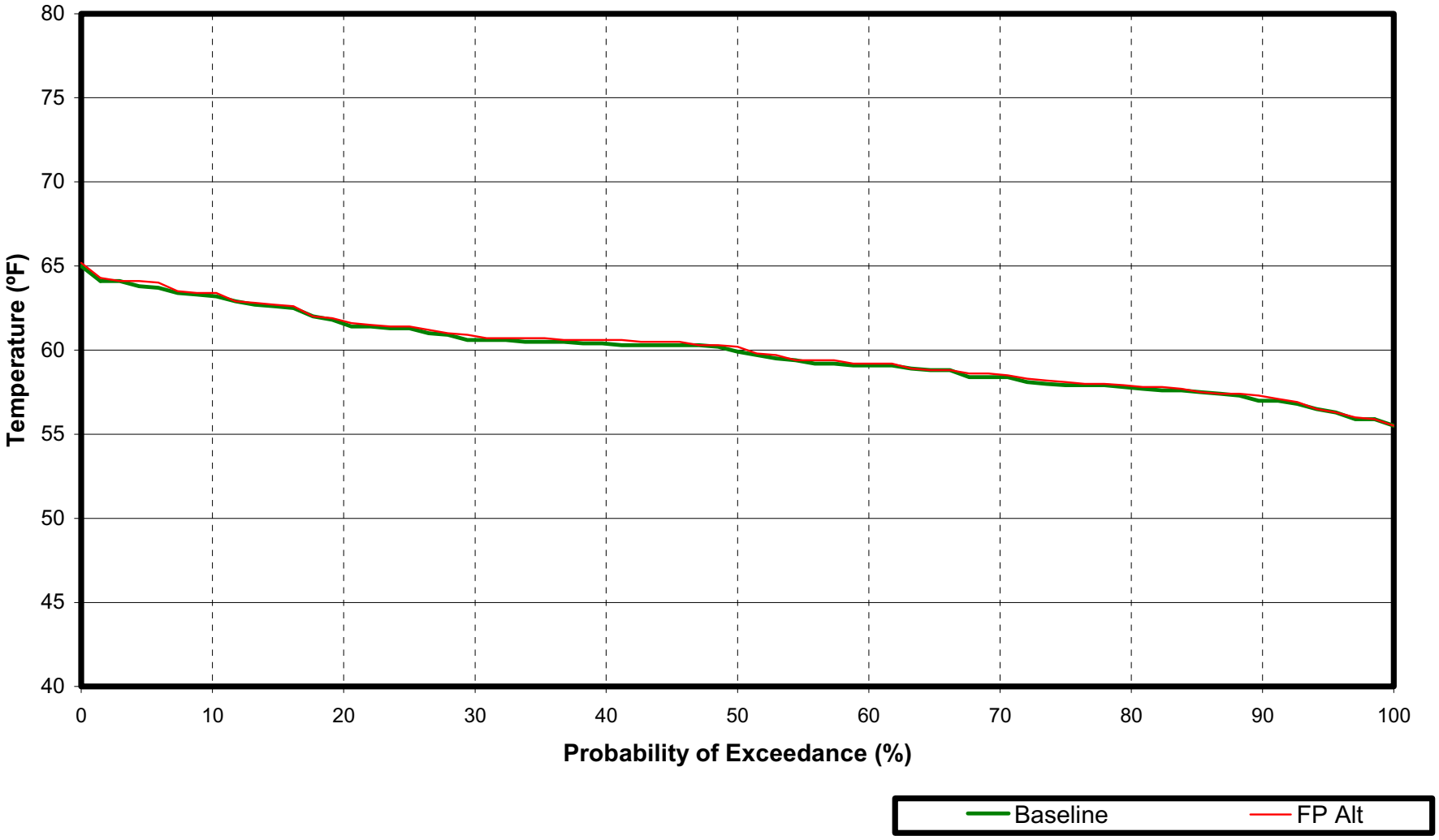
Temperature in the Feather River at the Mouth During February Under Baseline and FP Alt Conditions



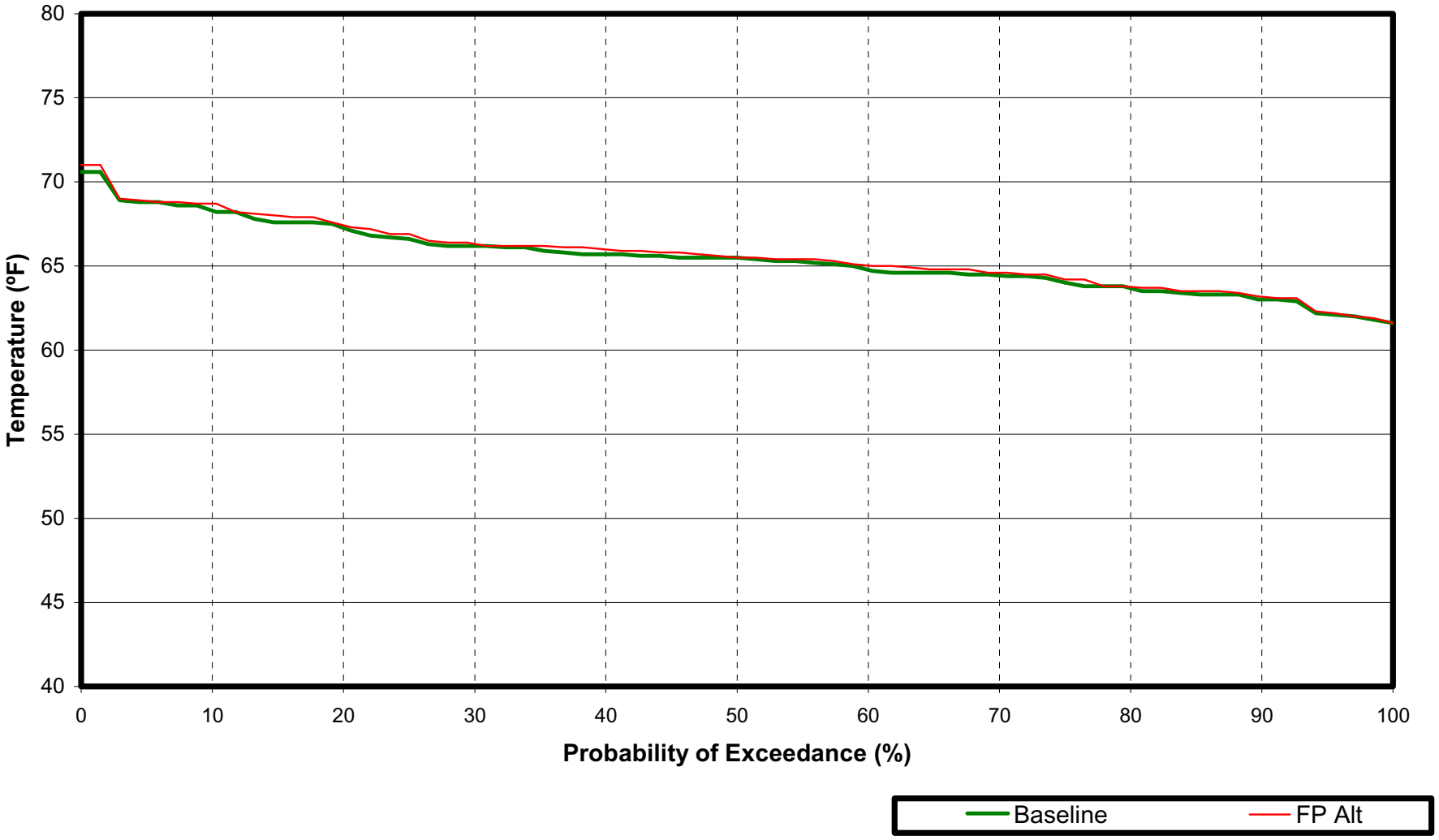
Temperature in the Feather River at the Mouth During March Under Baseline and FP Alt Conditions



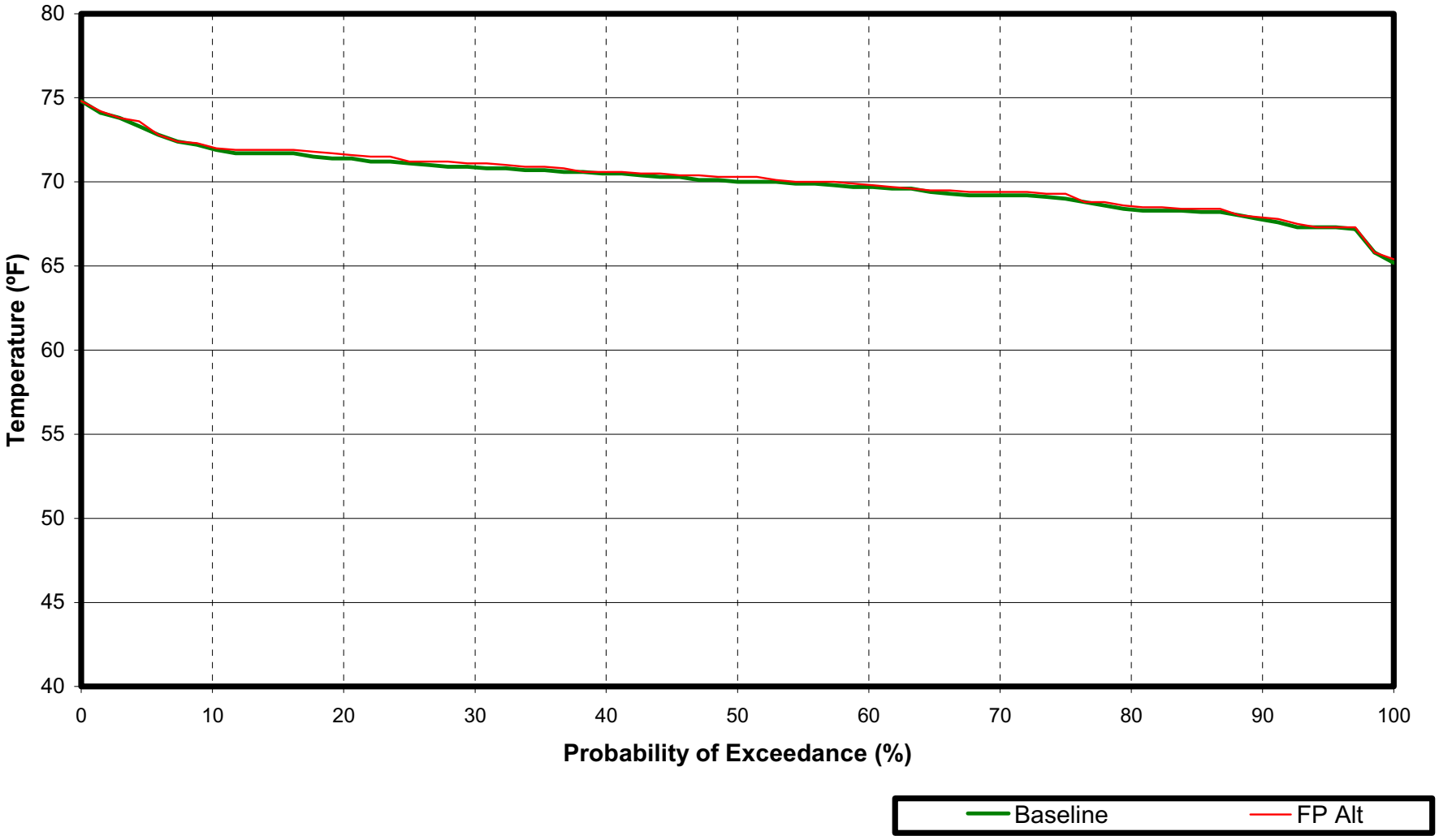
Temperature in the Feather River at the Mouth During April Under Baseline and FP Alt Conditions



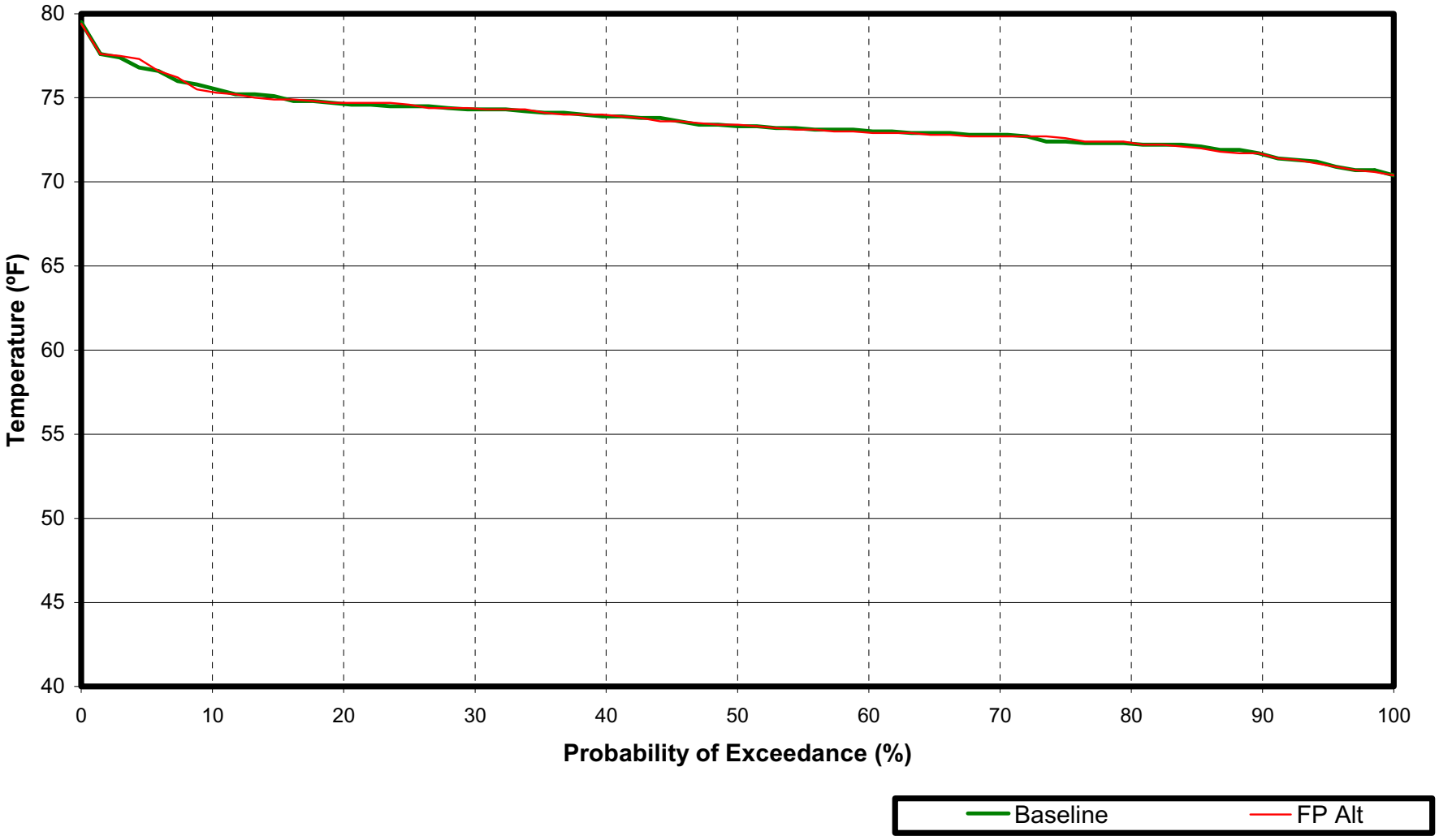
Temperature in the Feather River at the Mouth During May Under Baseline and FP Alt Conditions



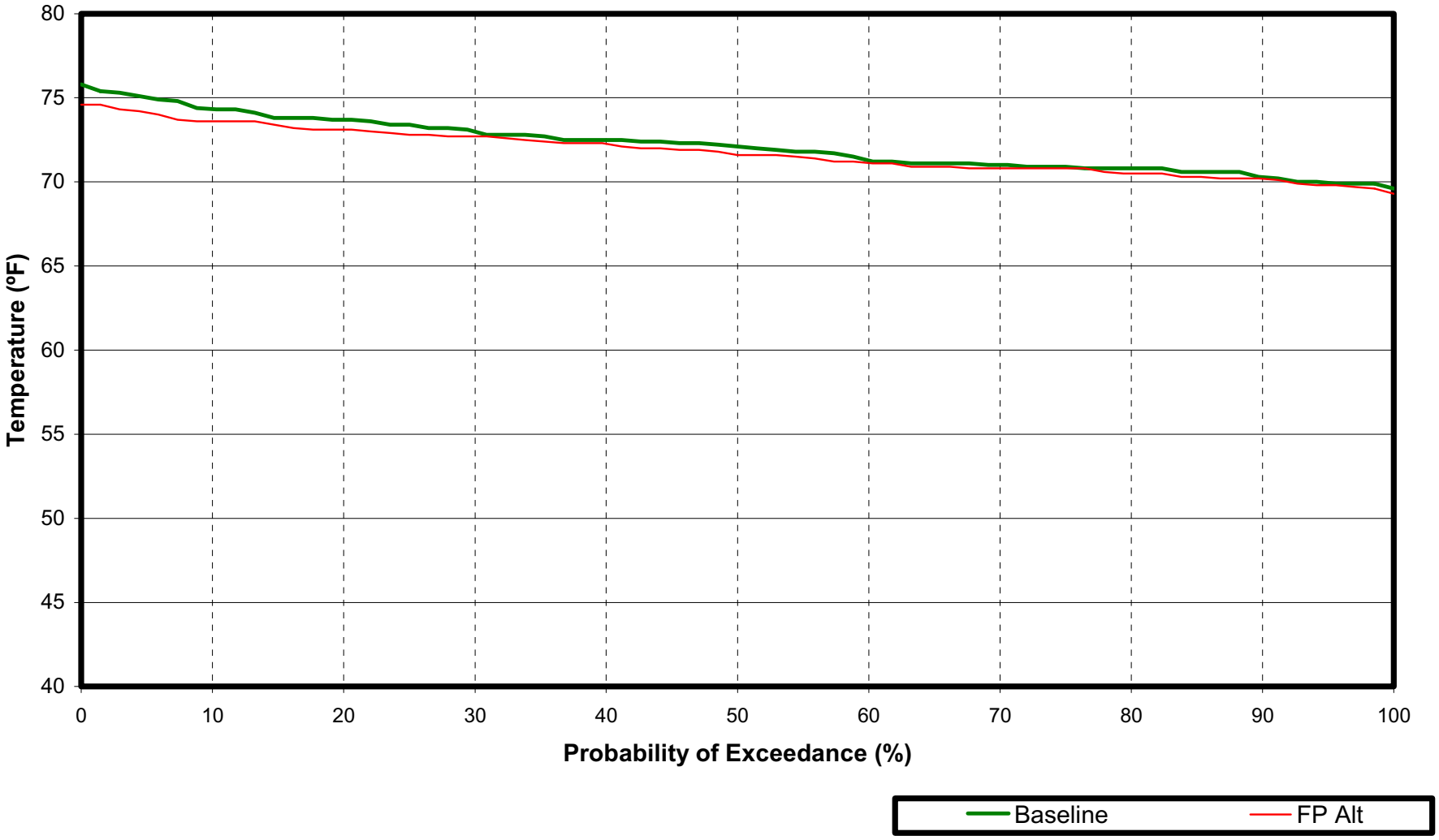
Temperature in the Feather River at the Mouth During June Under Baseline and FP Alt Conditions



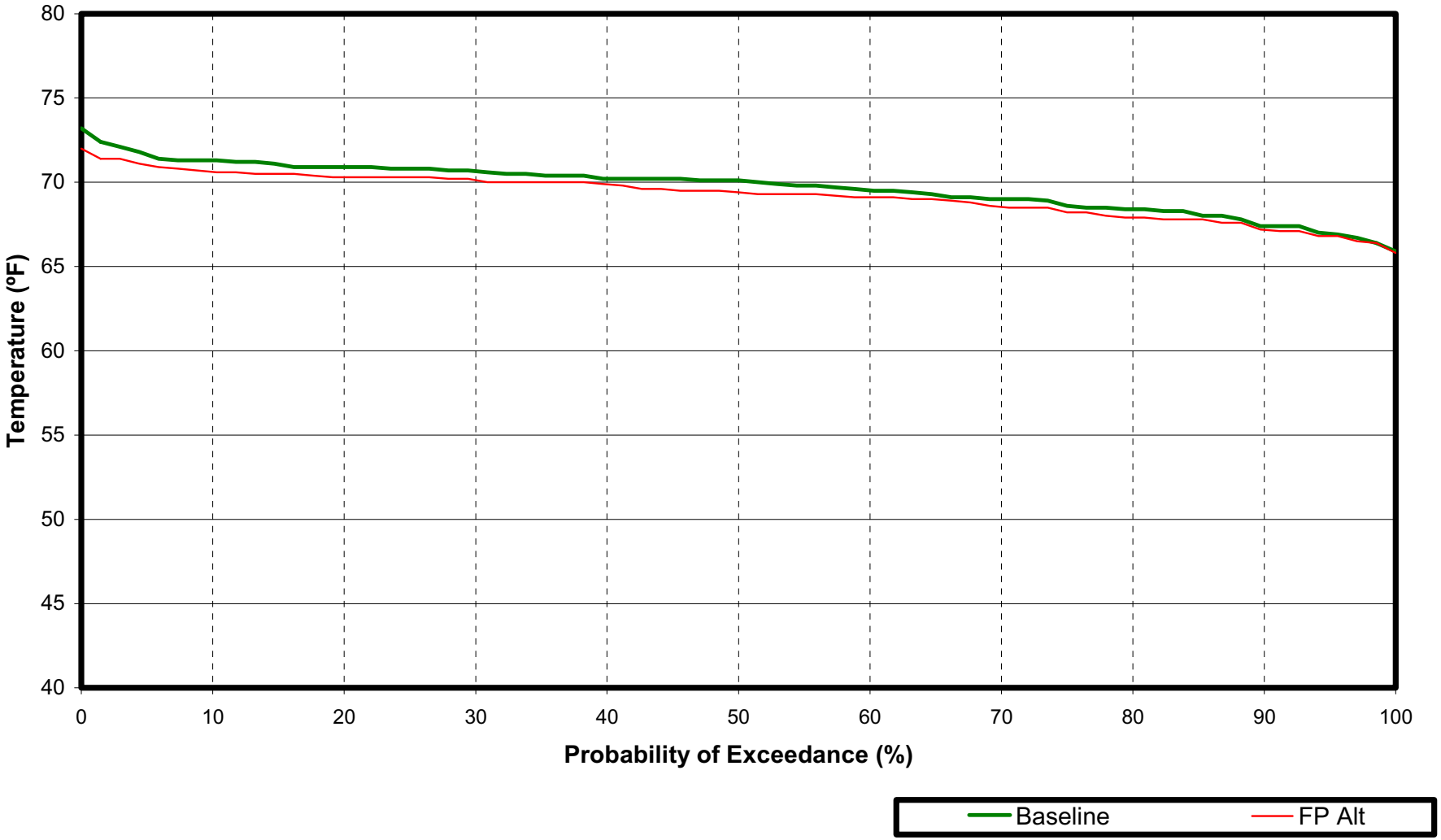
Temperature in the Feather River at the Mouth During July Under Baseline and FP Alt Conditions



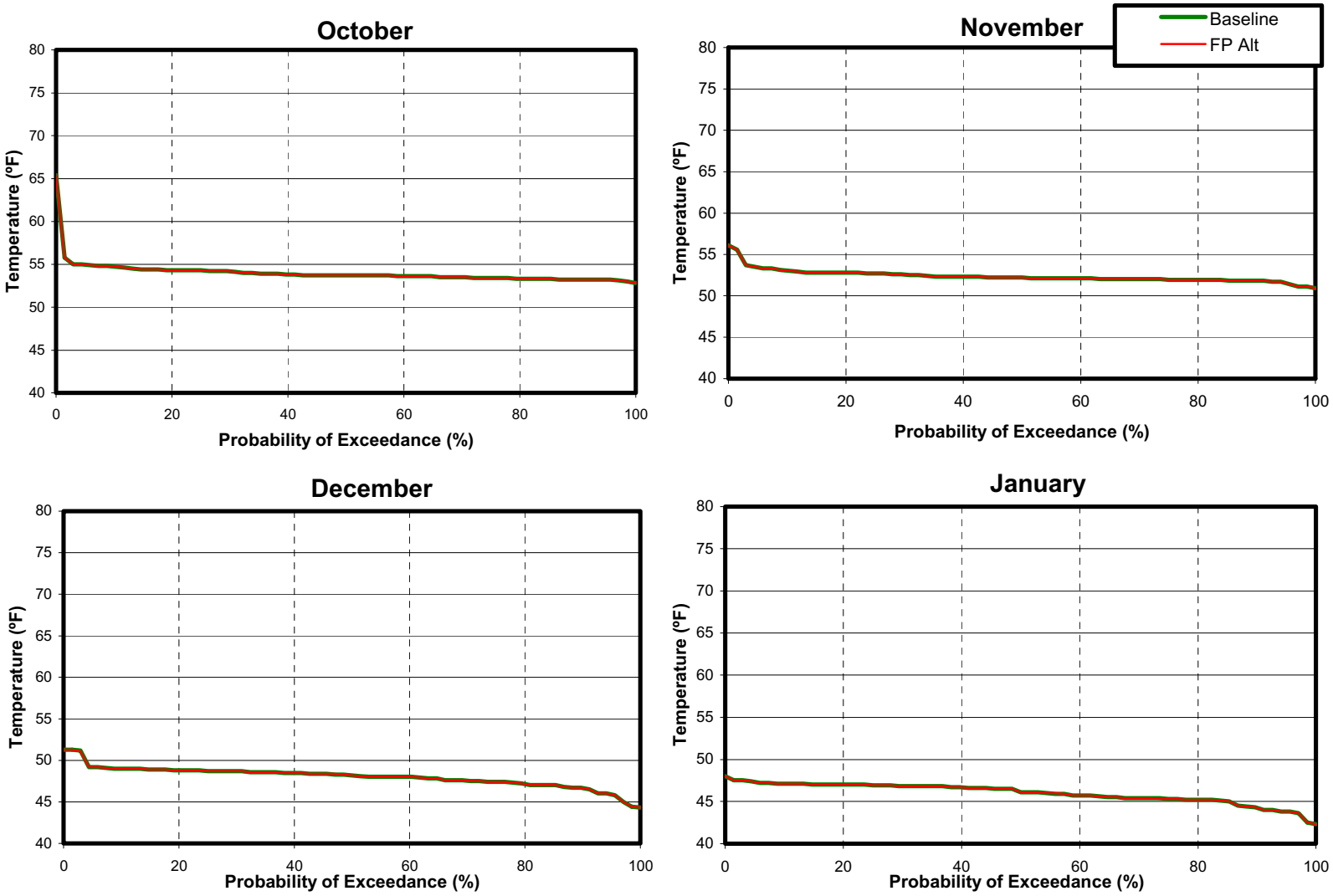
Temperature in the Feather River at the Mouth During August Under Baseline and FP Alt Conditions



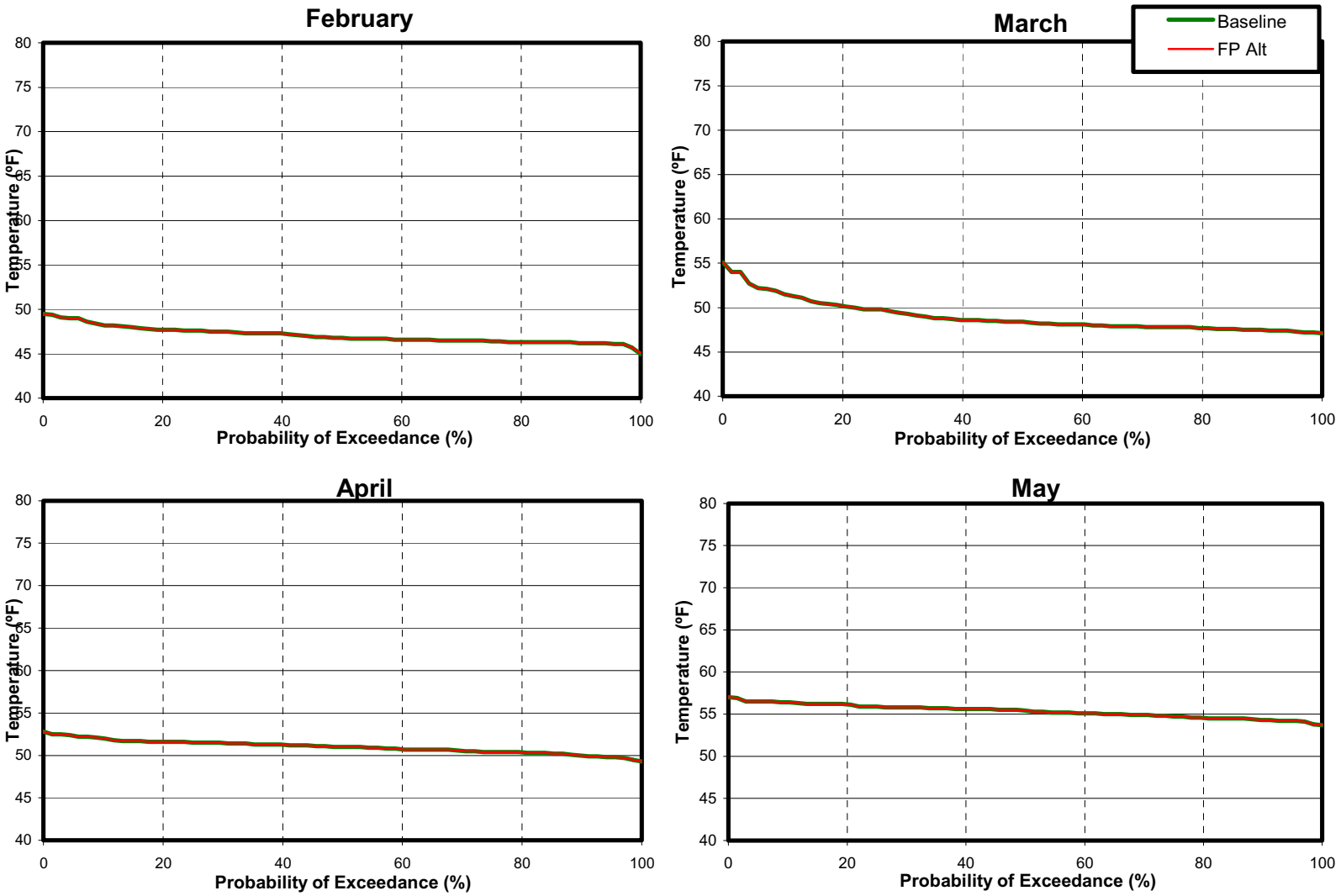
Temperature in the Feather River at the Mouth During September Under Baseline and FP Alt Conditions



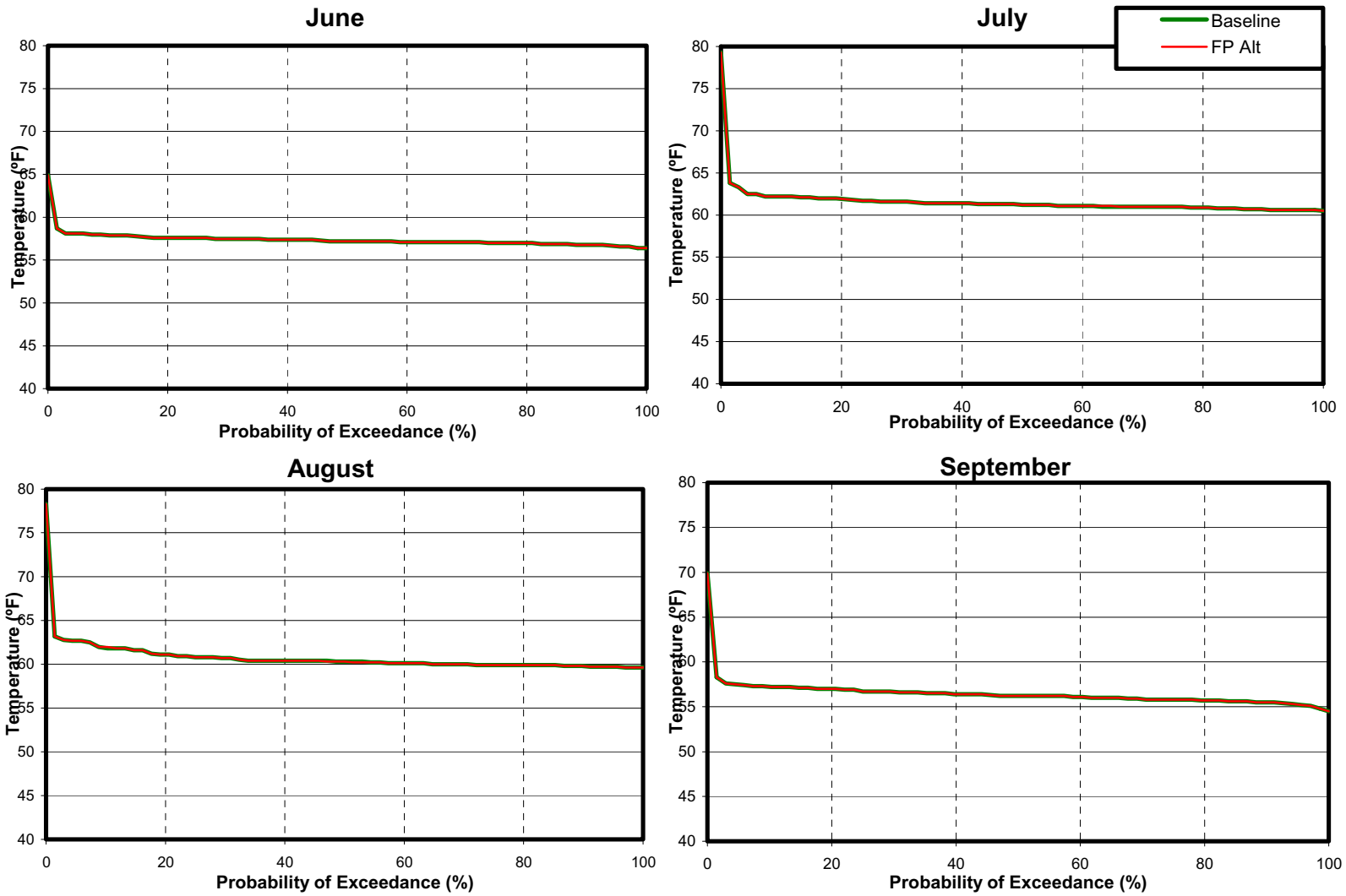
Temperature in the Feather River below the Fish Dam Under Baseline and FP Alt Conditions



Temperature in the Feather River below the Fish Dam Under Baseline and FP Alt Conditions



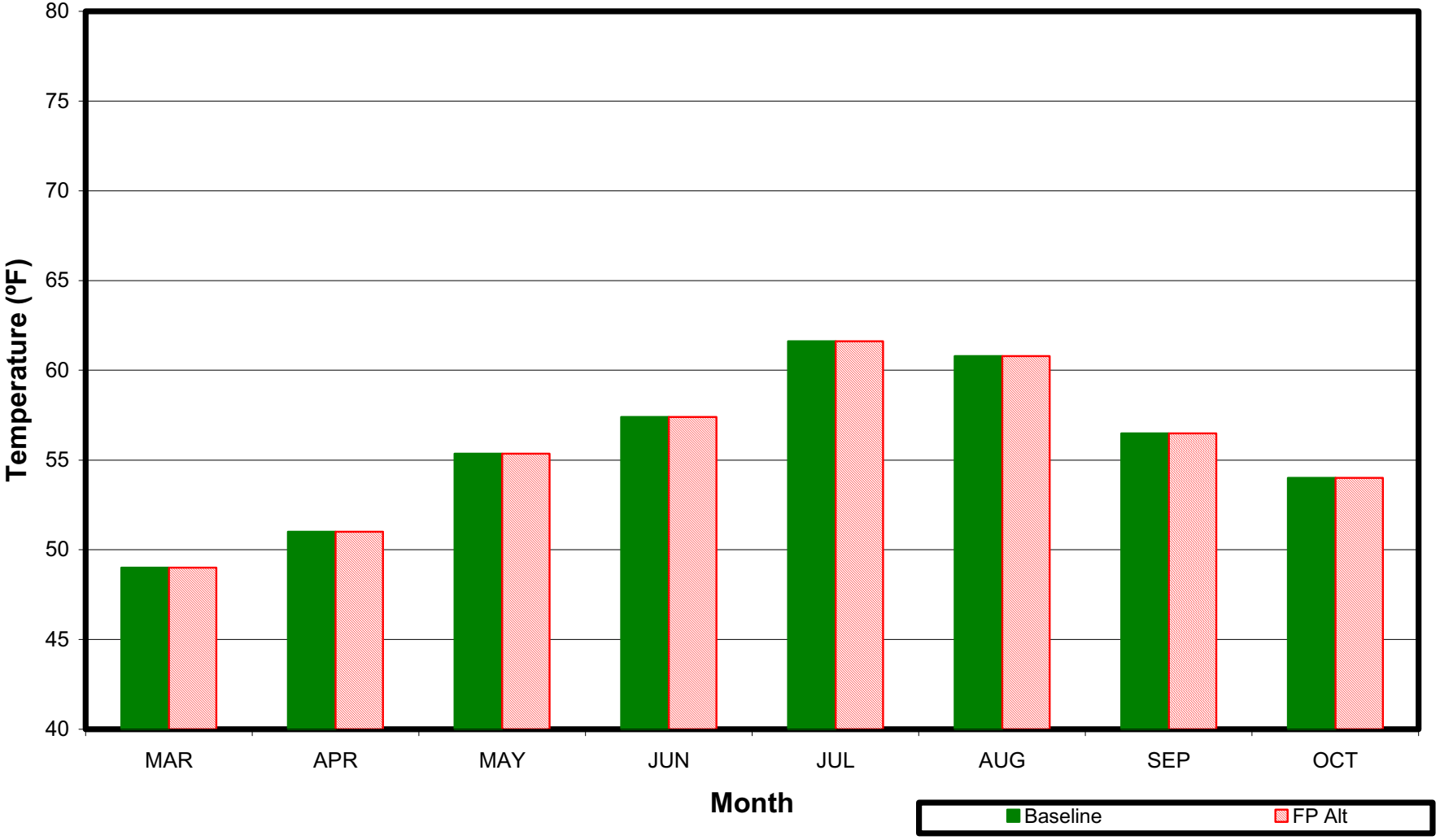
Temperature in the Feather River below the Fish Dam Under Baseline and FP Alt Conditions



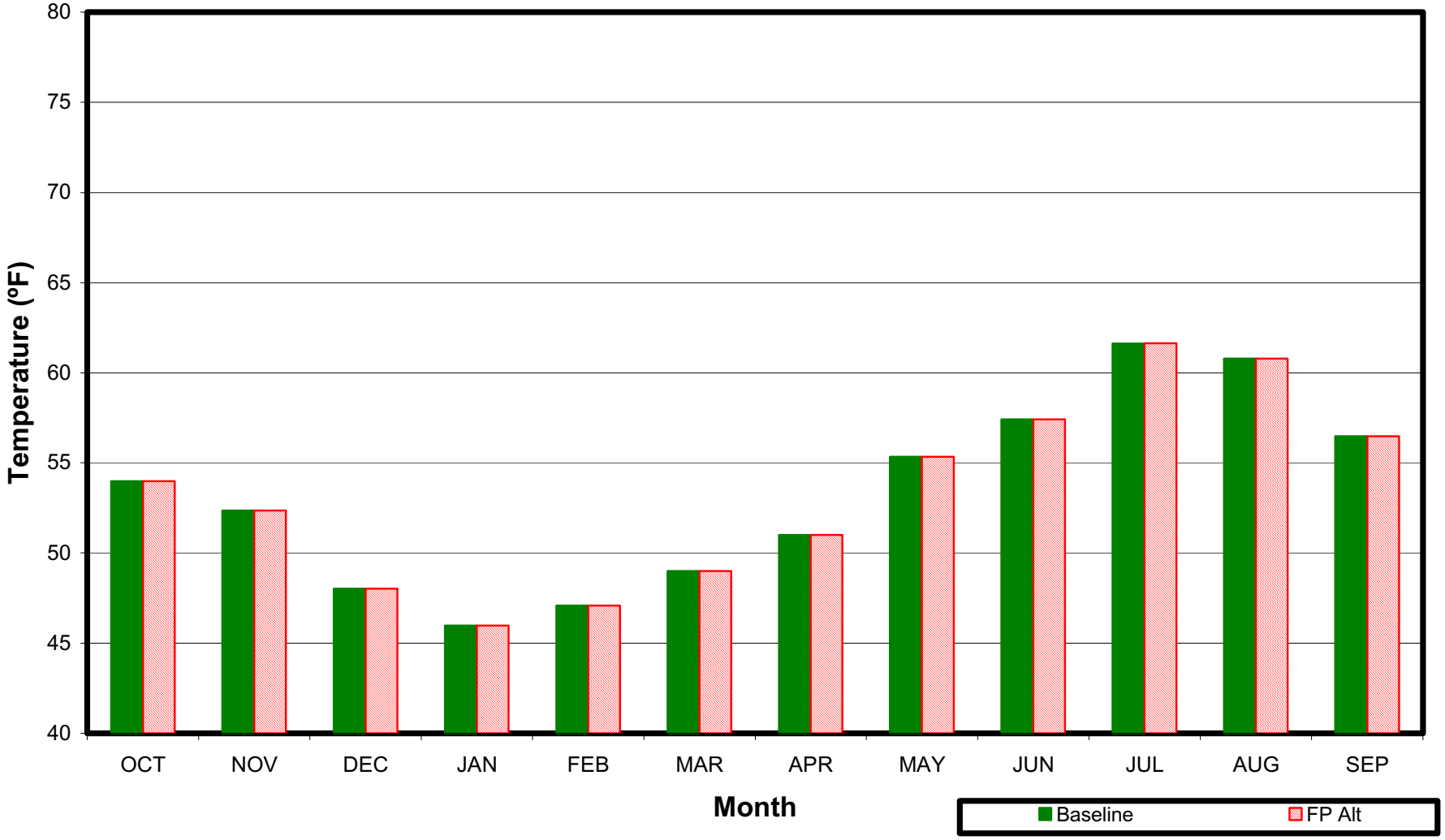
Long-term Average Water Temperature in the Feather River below the Fish Dam Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	54.0	54.0	0.0
Nov	52.4	52.4	0.0
Dec	48.0	48.0	0.0
Jan	46.0	46.0	0.0
Feb	47.1	47.1	0.0
Mar	49.0	49.0	0.0
Apr	51.0	51.0	0.0
May	55.3	55.3	0.0
Jun	57.4	57.4	0.0
Jul	61.6	61.6	0.0
Aug	60.8	60.8	0.0
Sep	56.5	56.5	0.0

[1] Based on 69 years modeled.

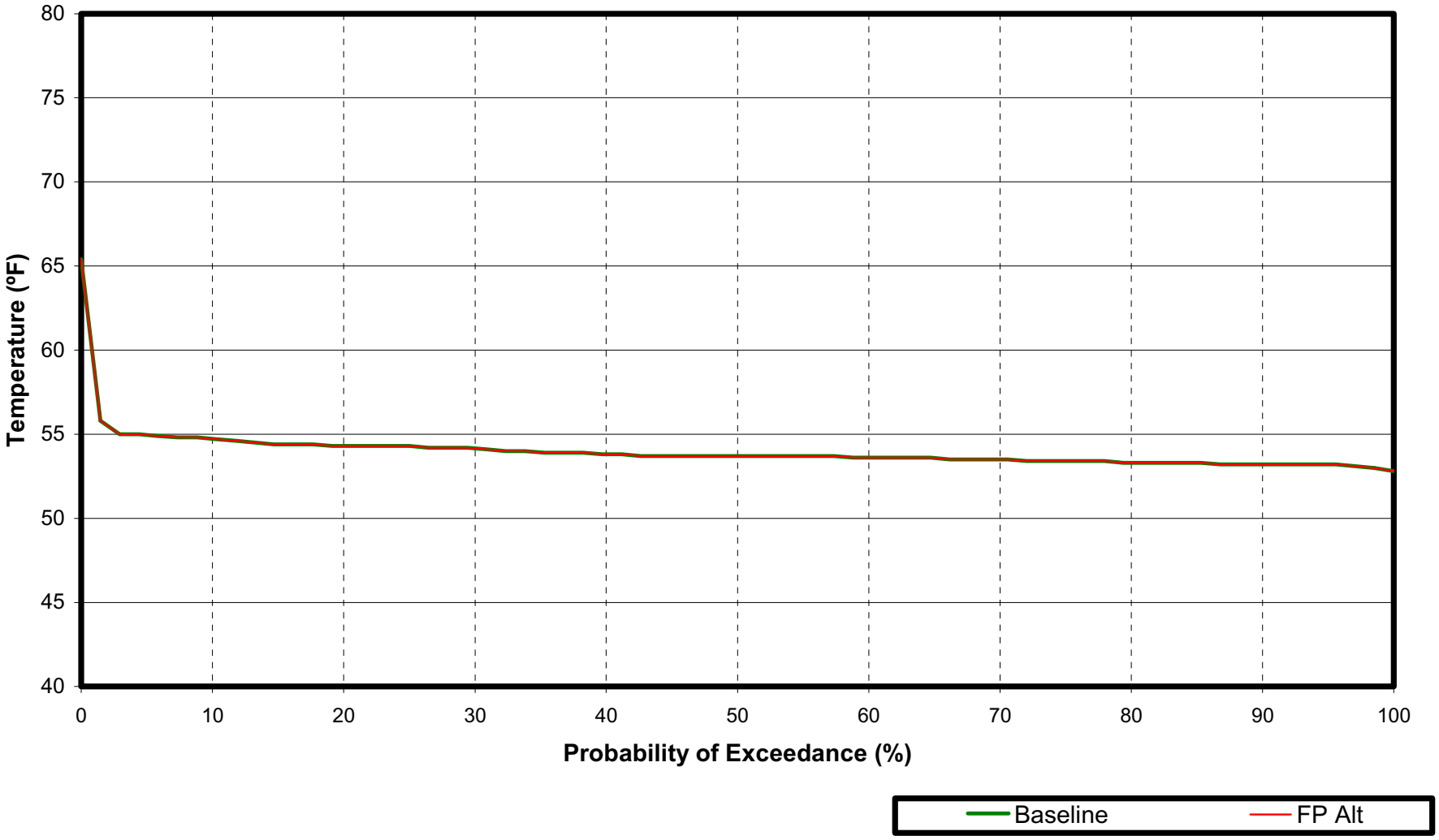
Long-term Average Temperature in the Feather River below the Fish Dam Under Baseline and FP Alt Conditions



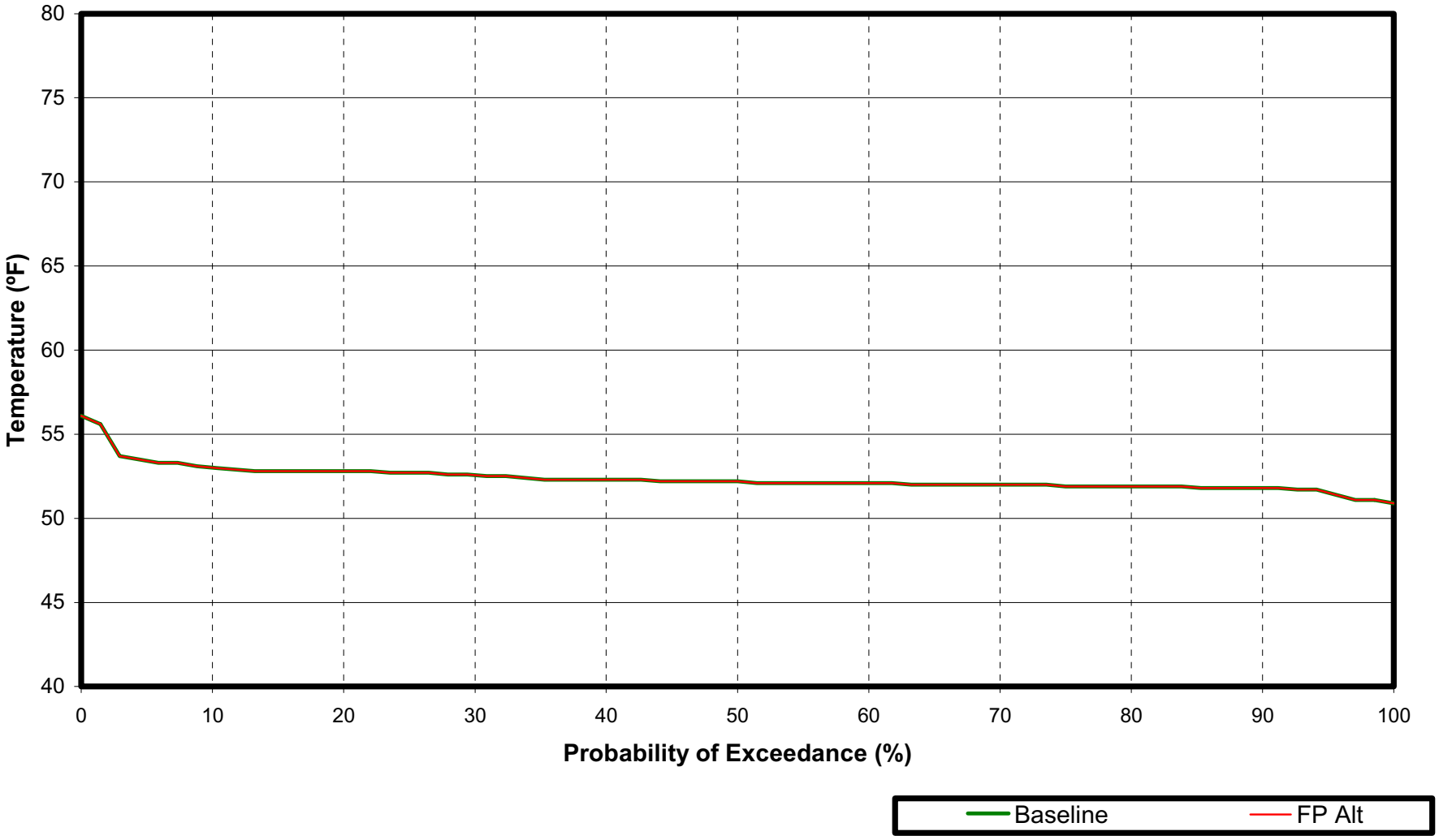
Long-term Average Temperature in the Feather River below the Fish Dam Under Baseline and FP Alt Conditions



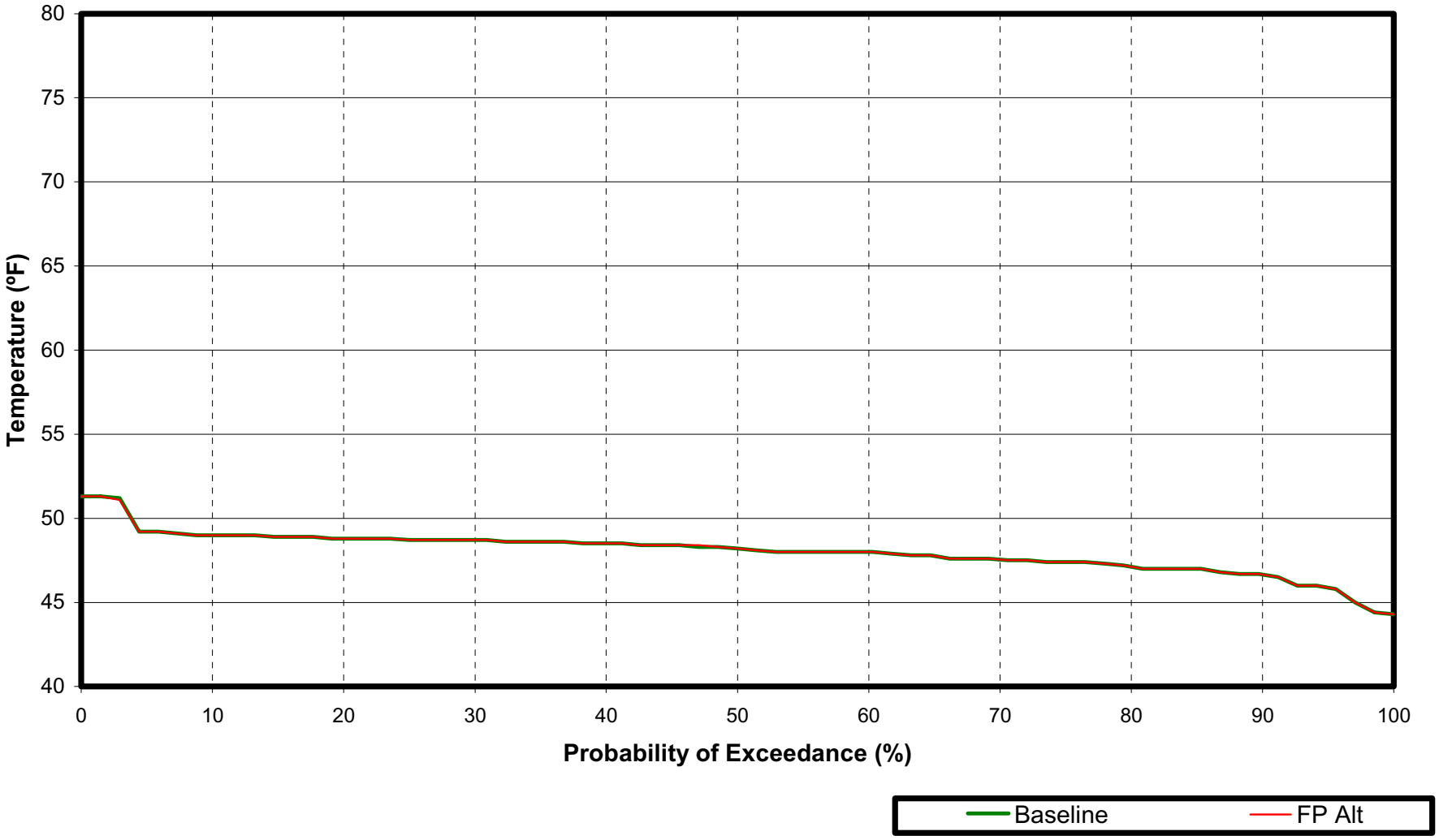
Temperature in the Feather River below the Fish Dam During October Under Baseline and FP Alt Conditions



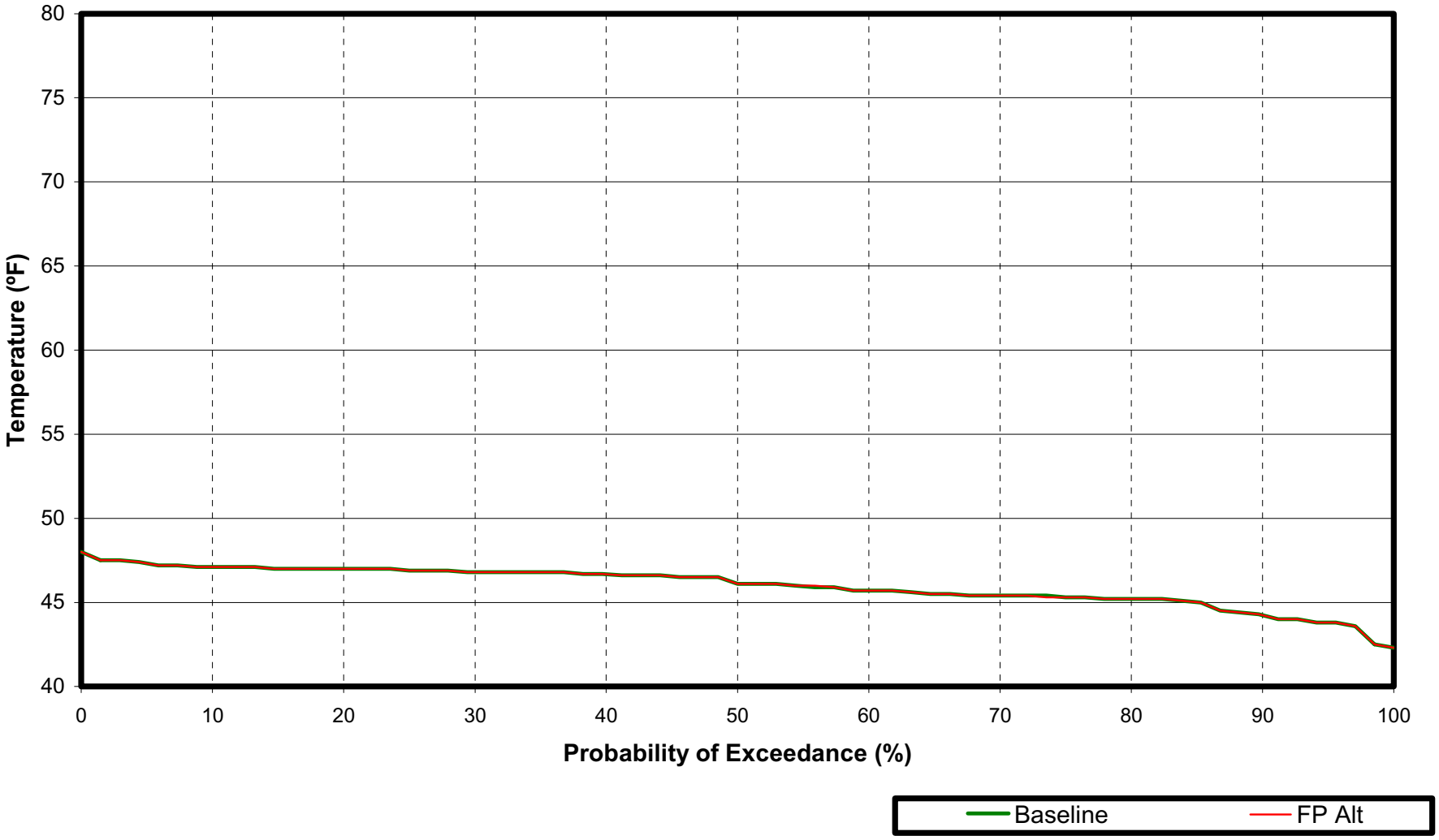
Temperature in the Feather River below the Fish Dam During November Under Baseline and FP Alt Conditions



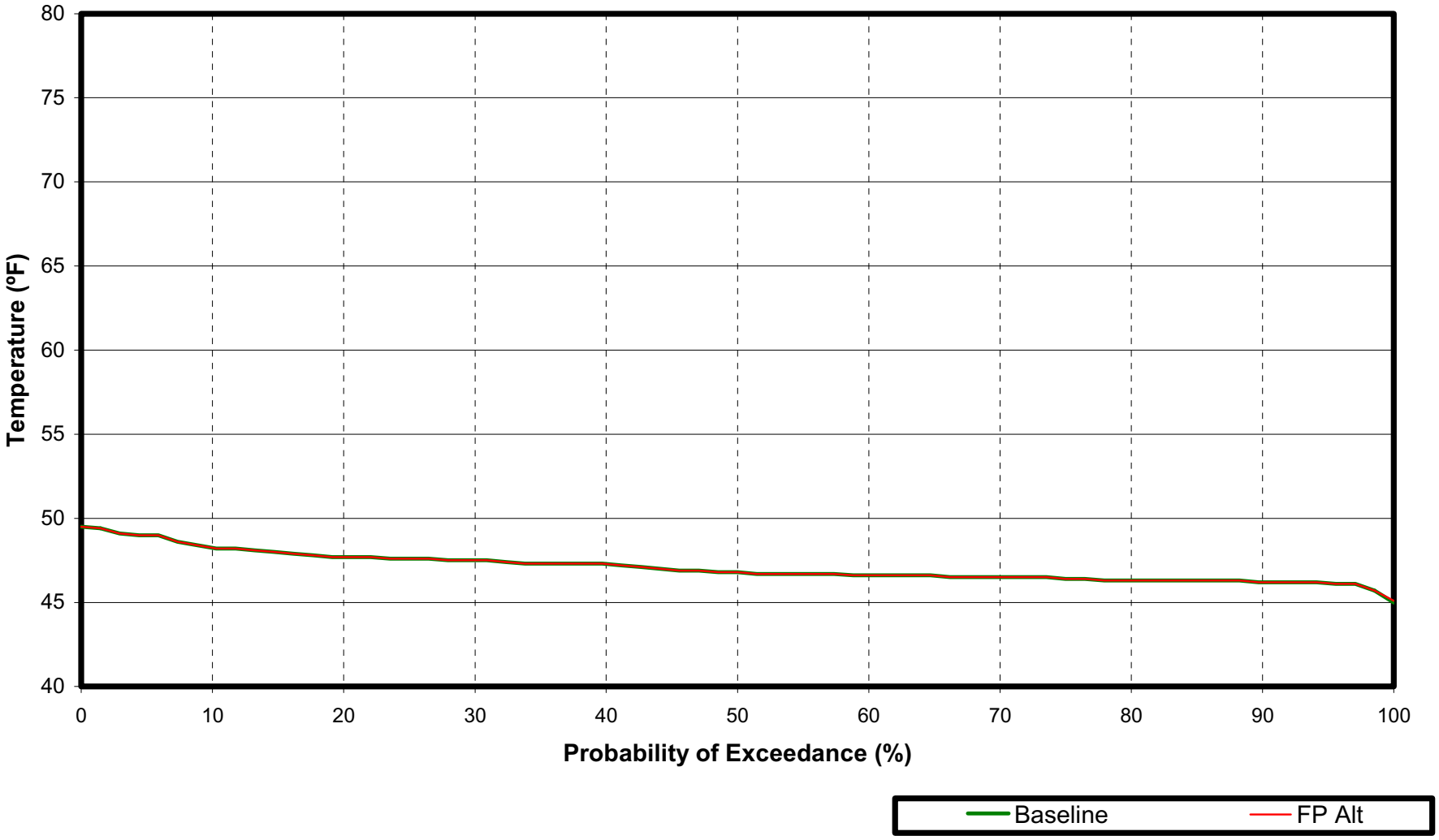
Temperature in the Feather River below the Fish Dam During December Under Baseline and FP Alt Conditions



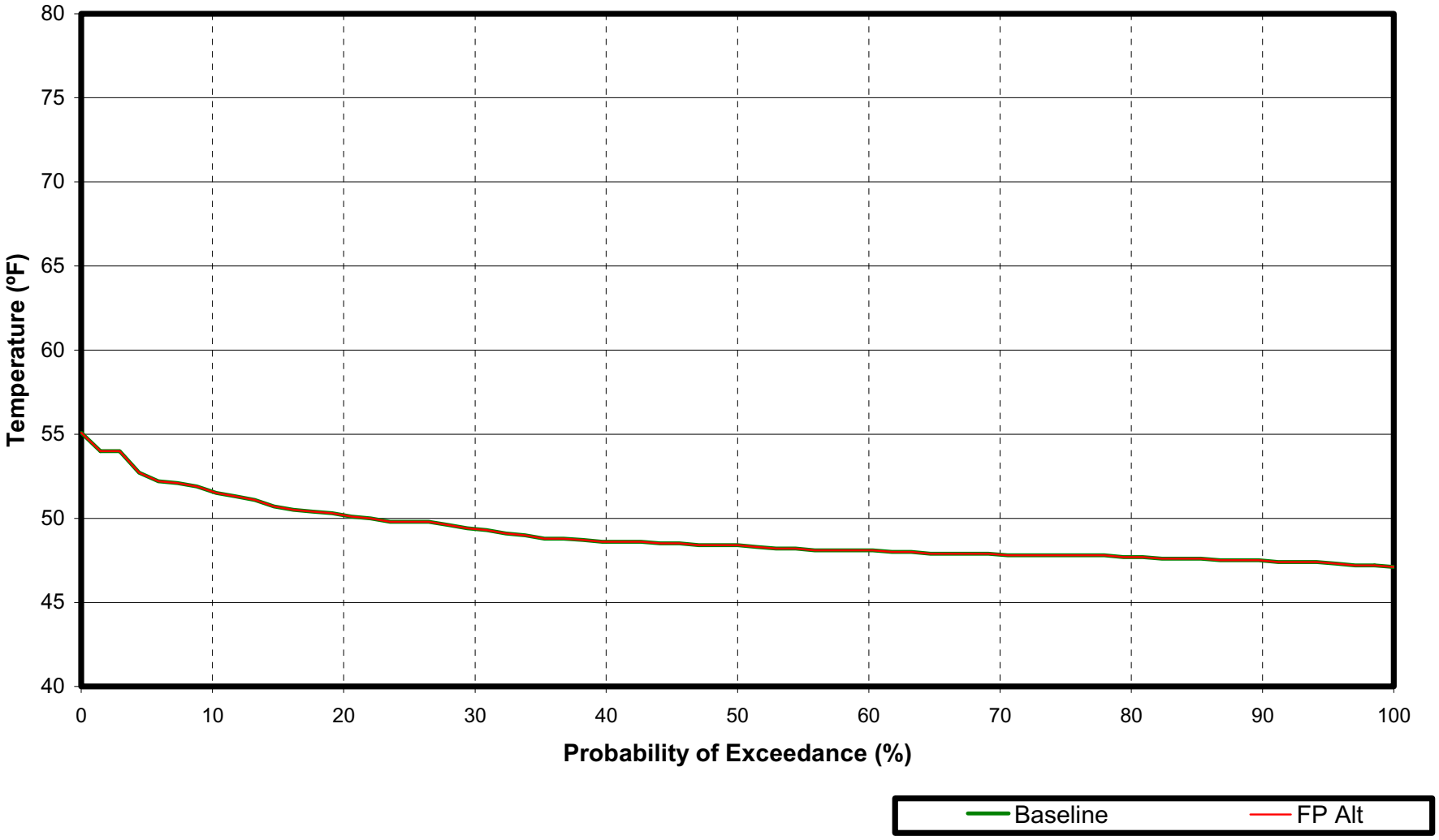
Temperature in the Feather River below the Fish Dam During January Under Baseline and FP Alt Conditions



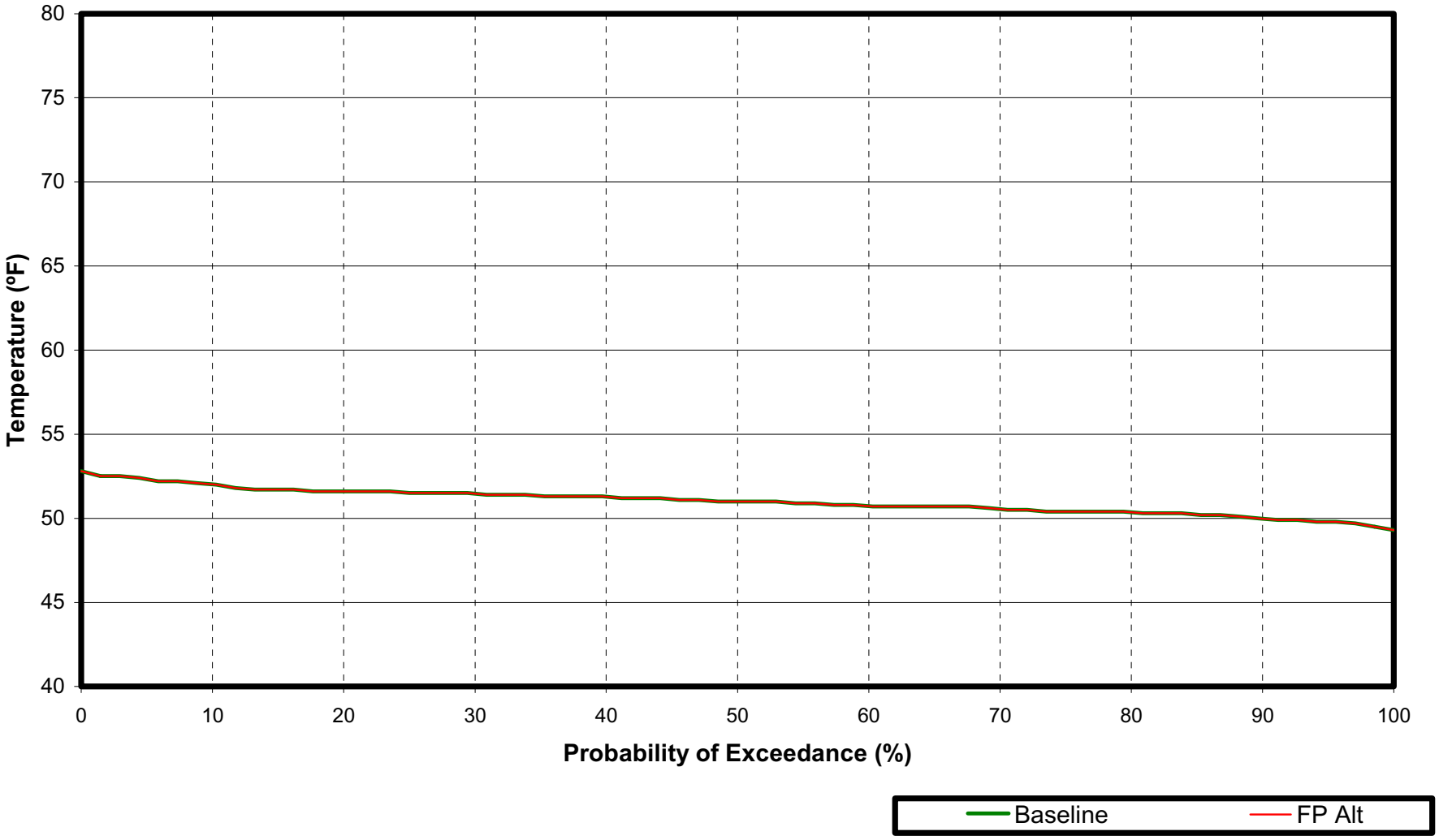
Temperature in the Feather River below the Fish Dam During February Under Baseline and FP Alt Conditions



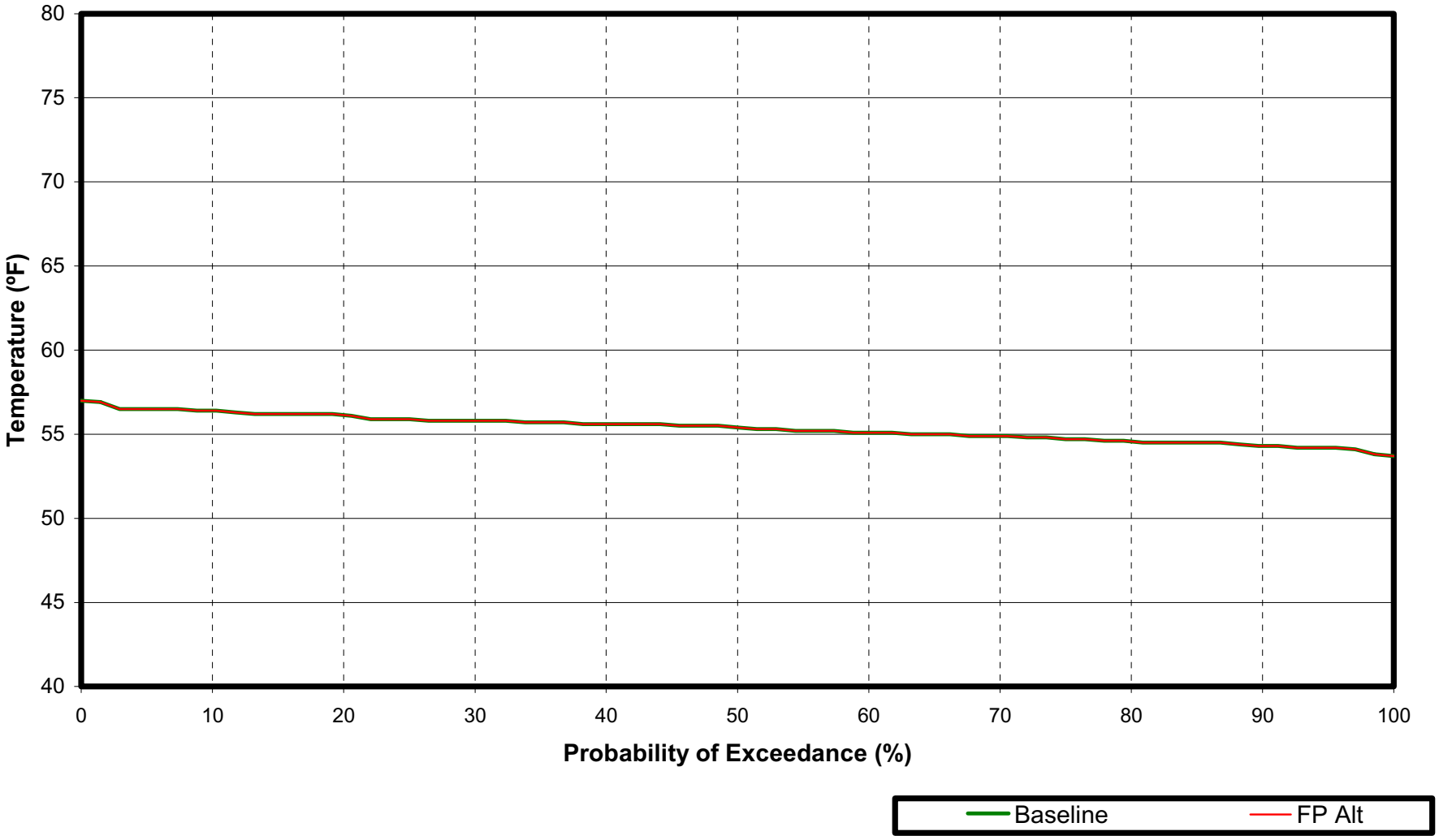
Temperature in the Feather River below the Fish Dam During March Under Baseline and FP Alt Conditions



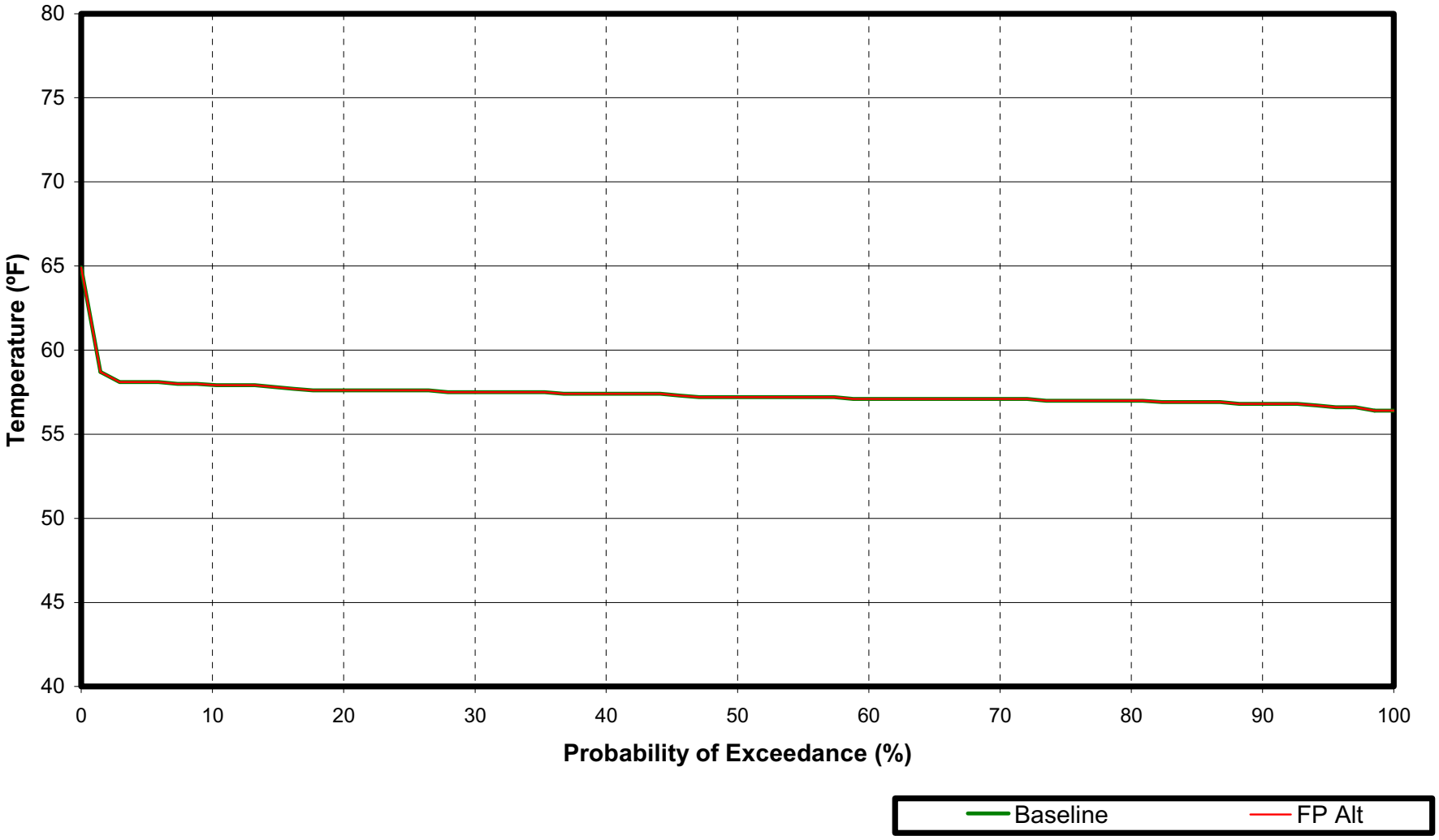
Temperature in the Feather River below the Fish Dam During April Under Baseline and FP Alt Conditions



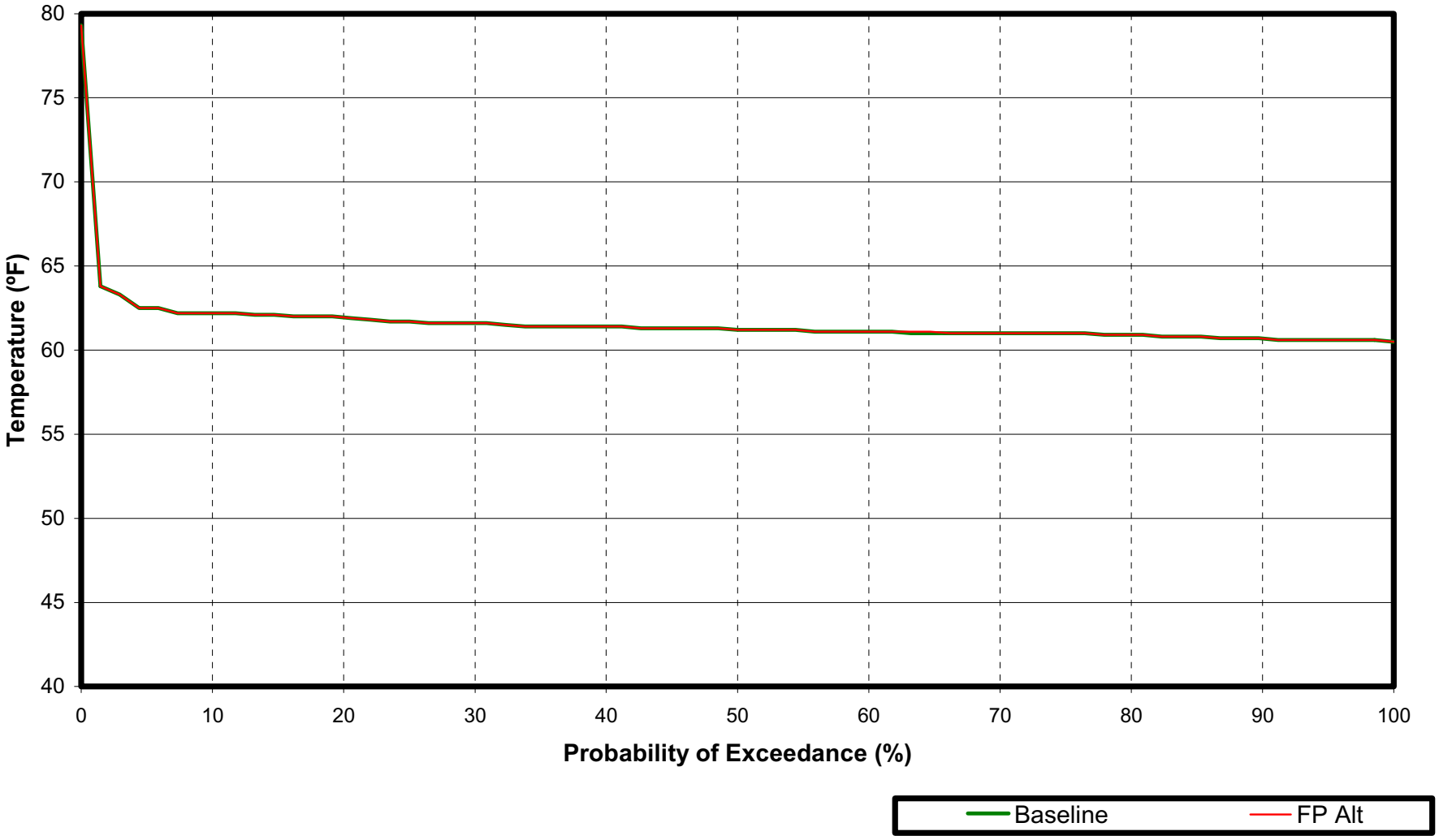
Temperature in the Feather River below the Fish Dam During May Under Baseline and FP Alt Conditions



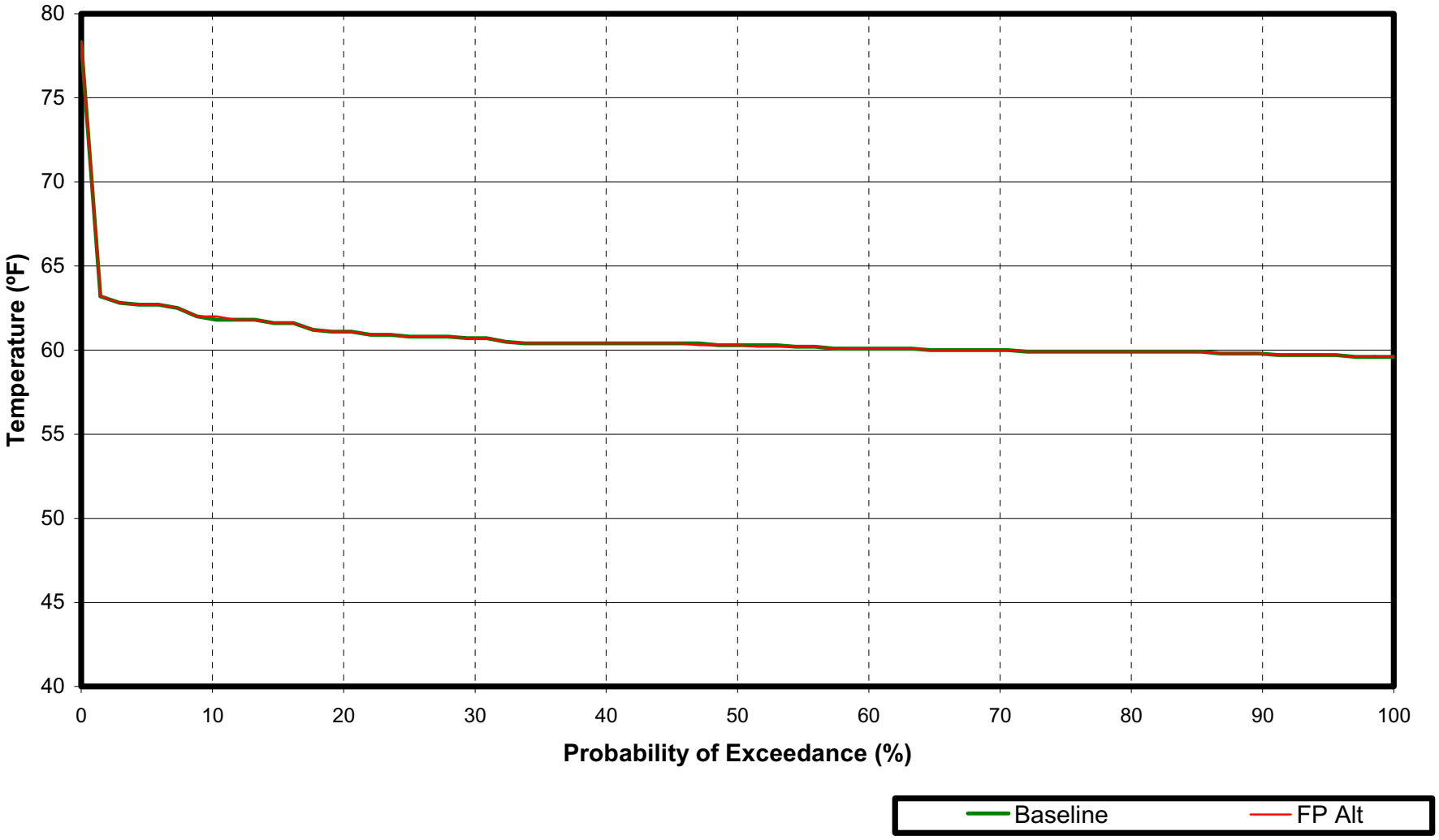
Temperature in the Feather River below the Fish Dam During June Under Baseline and FP Alt Conditions



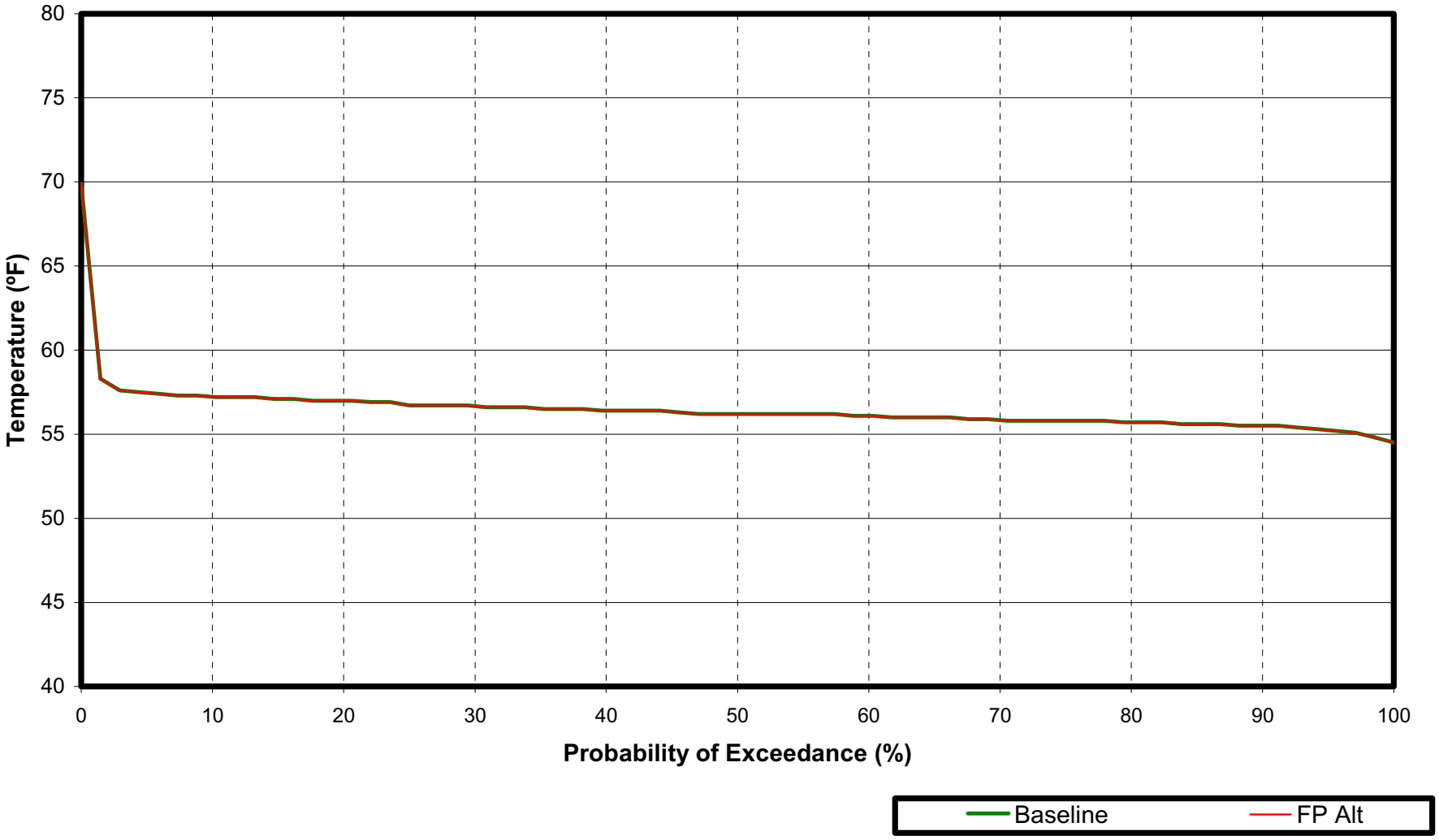
Temperature in the Feather River below the Fish Dam During July Under Baseline and FP Alt Conditions



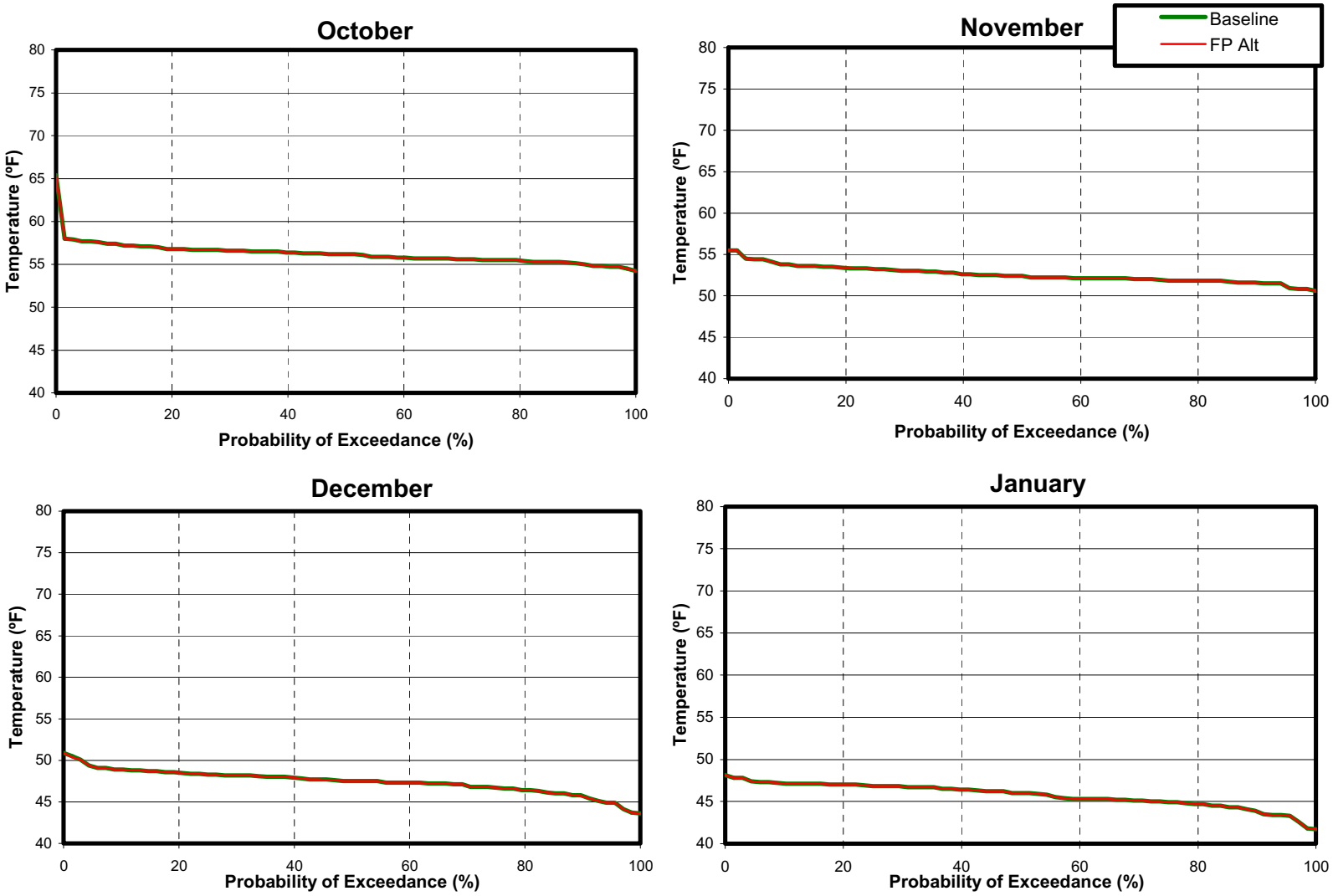
Temperature in the Feather River below the Fish Dam During August Under Baseline and FP Alt Conditions



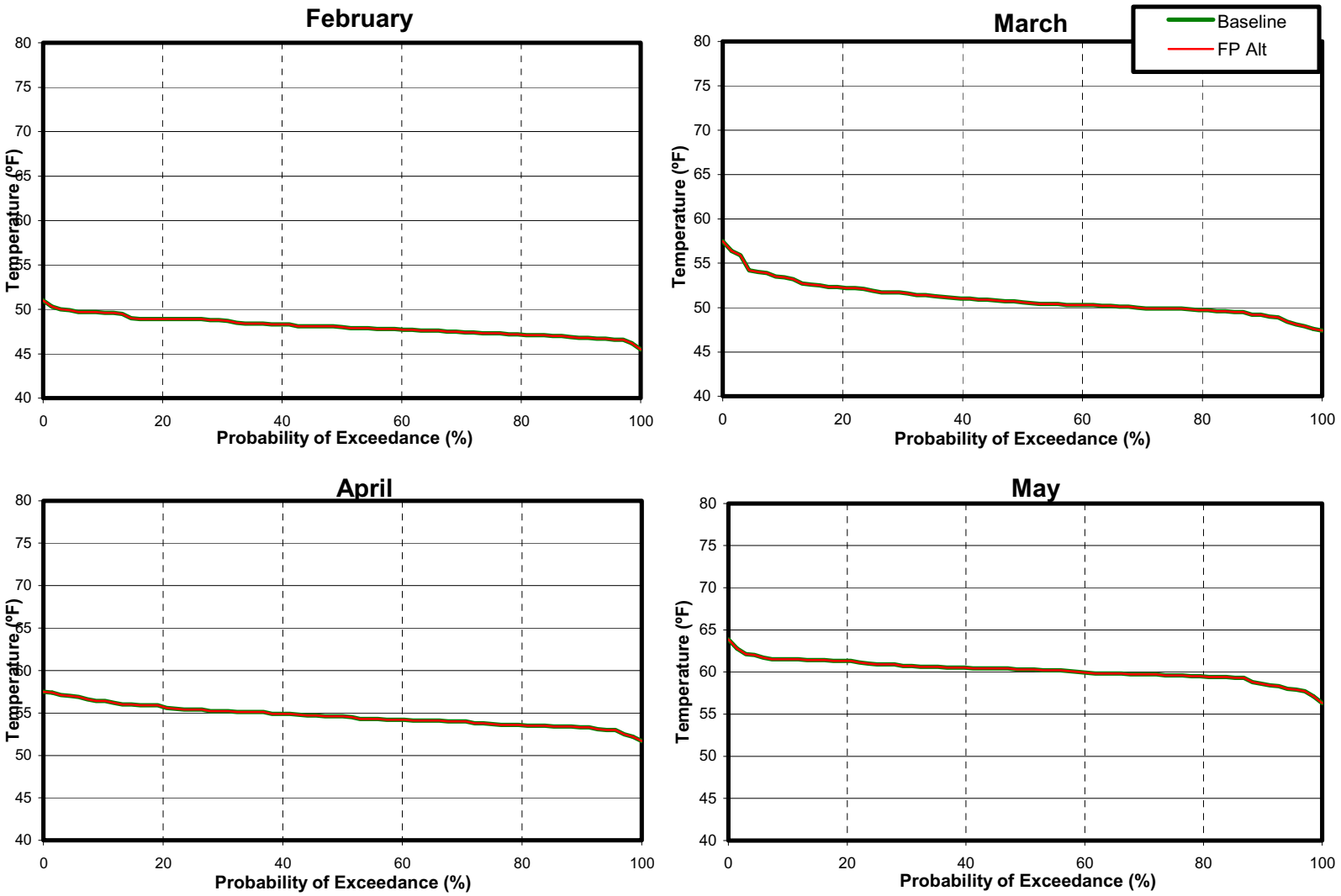
Temperature in the Feather River below the Fish Dam During September Under Baseline and FP Alt Conditions



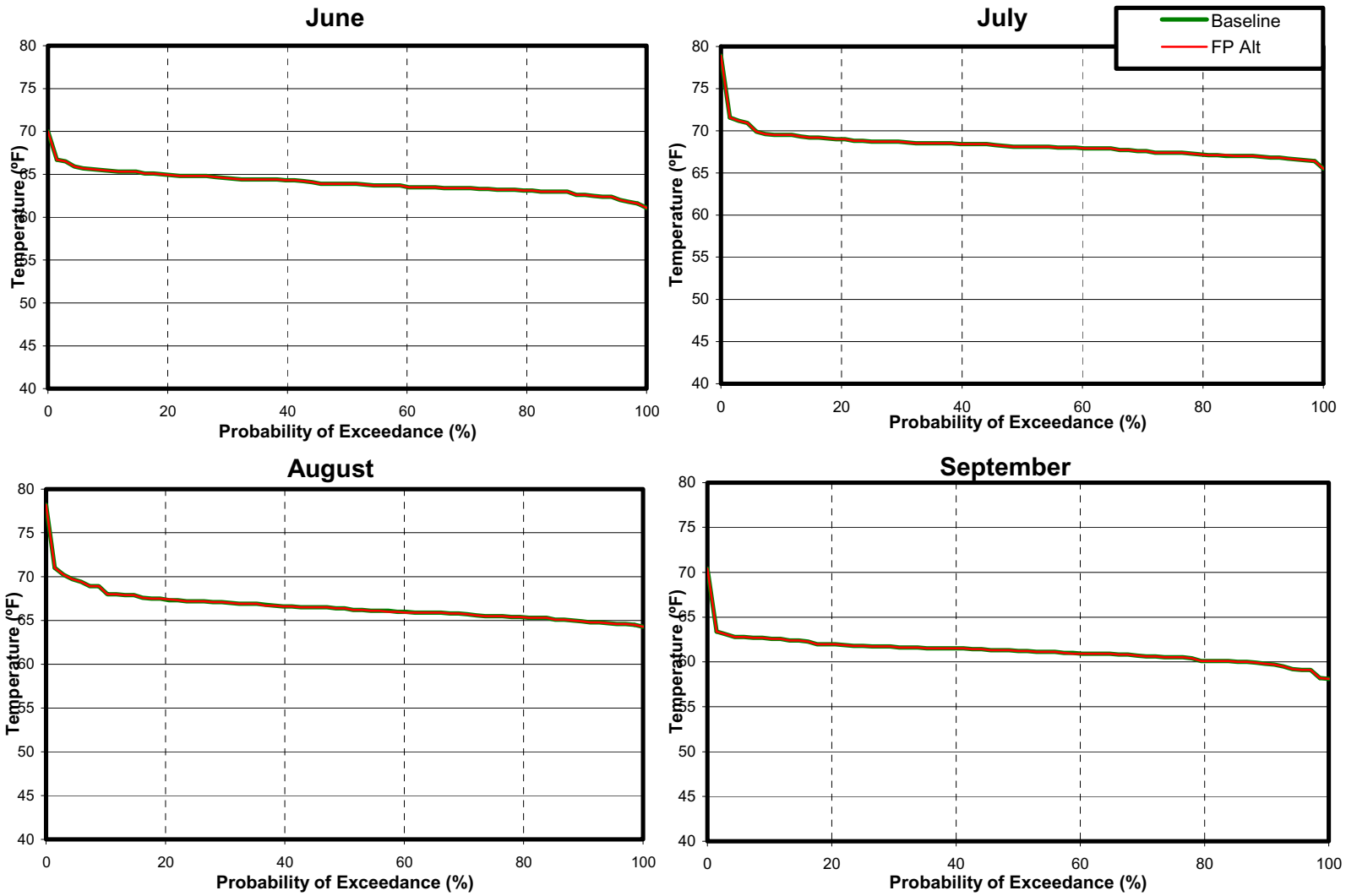
Temperature in the Feather River above Thermalito Afterbay Under Baseline and FP Alt Conditions



Temperature in the Feather River above Thermalito Afterbay Under Baseline and FP Alt Conditions



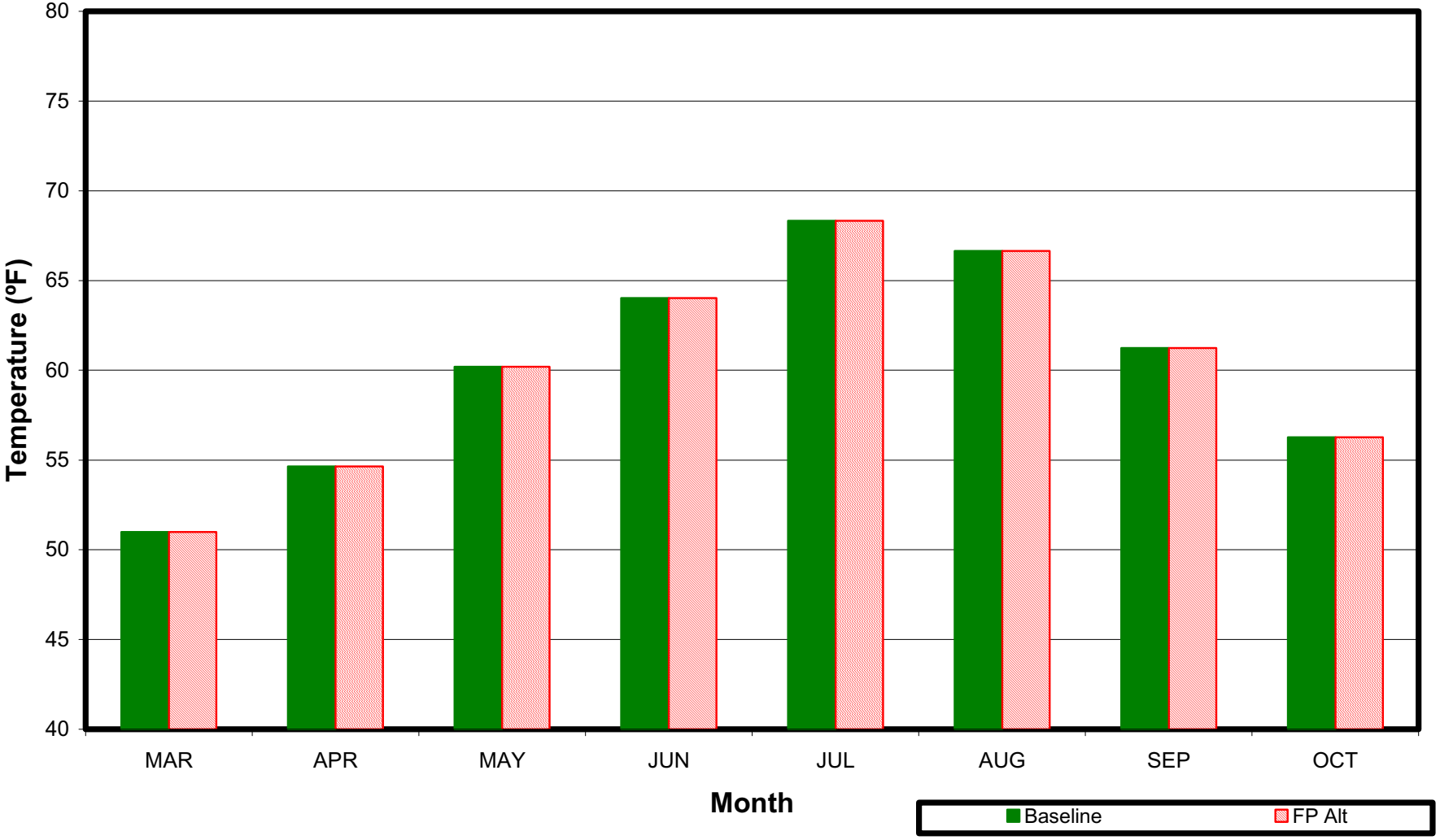
Temperature in the Feather River above Thermalito Afterbay Under Baseline and FP Alt Conditions



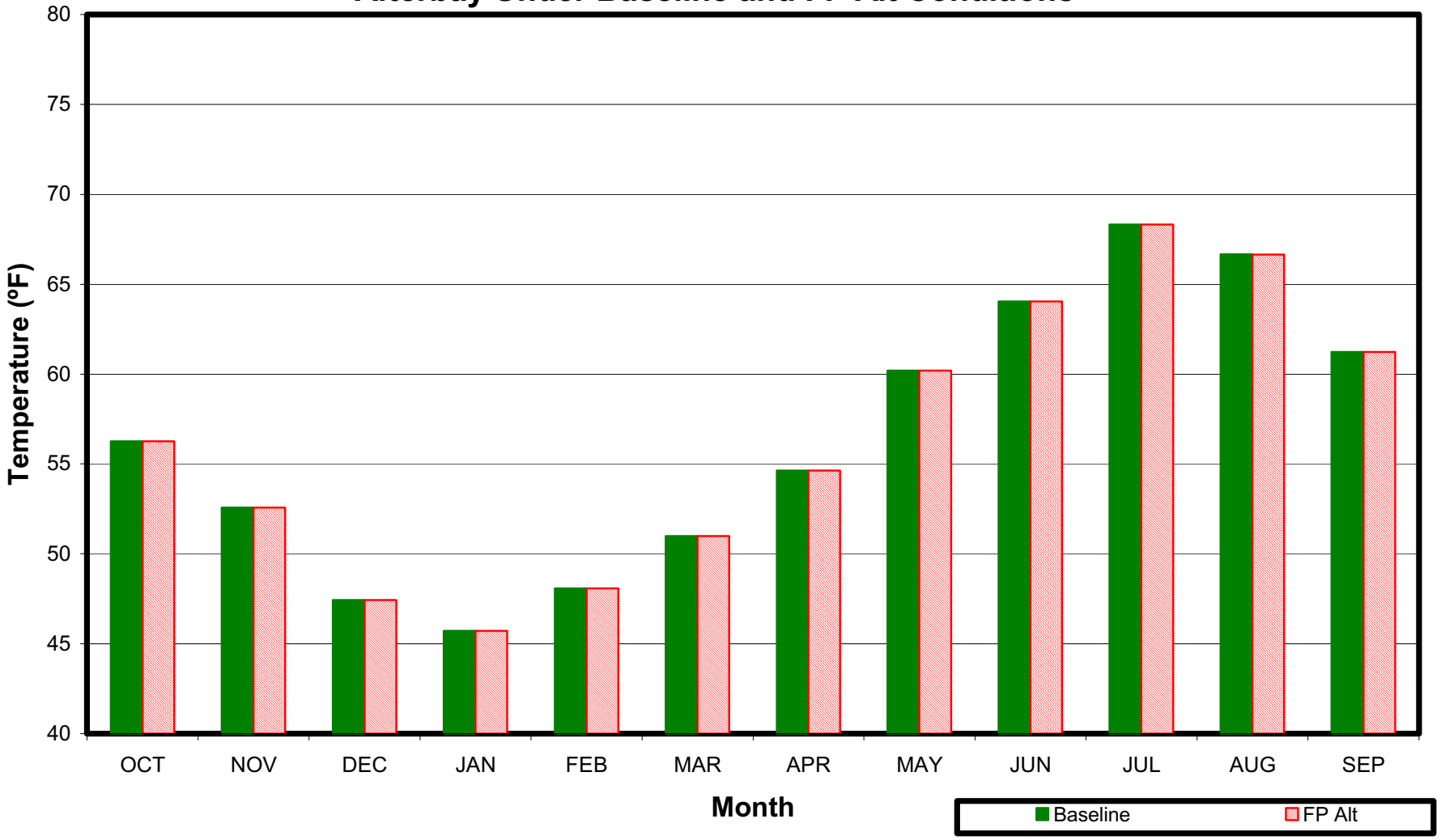
Long-term Average Water Temperature in the Feather River above Thermalito Afterbay Under Baseline and FP Alt Conditions			
Month	Water Temperature[1] (ºF)		
	Baseline	FP Alt	Difference (ºF)
Oct	56.3	56.3	0.0
Nov	52.6	52.6	0.0
Dec	47.4	47.4	0.0
Jan	45.7	45.7	0.0
Feb	48.1	48.1	0.0
Mar	51.0	51.0	0.0
Apr	54.6	54.6	0.0
May	60.2	60.2	0.0
Jun	64.0	64.0	0.0
Jul	68.3	68.3	0.0
Aug	66.7	66.7	0.0
Sep	61.2	61.2	0.0

[1] Based on 69 years modeled.

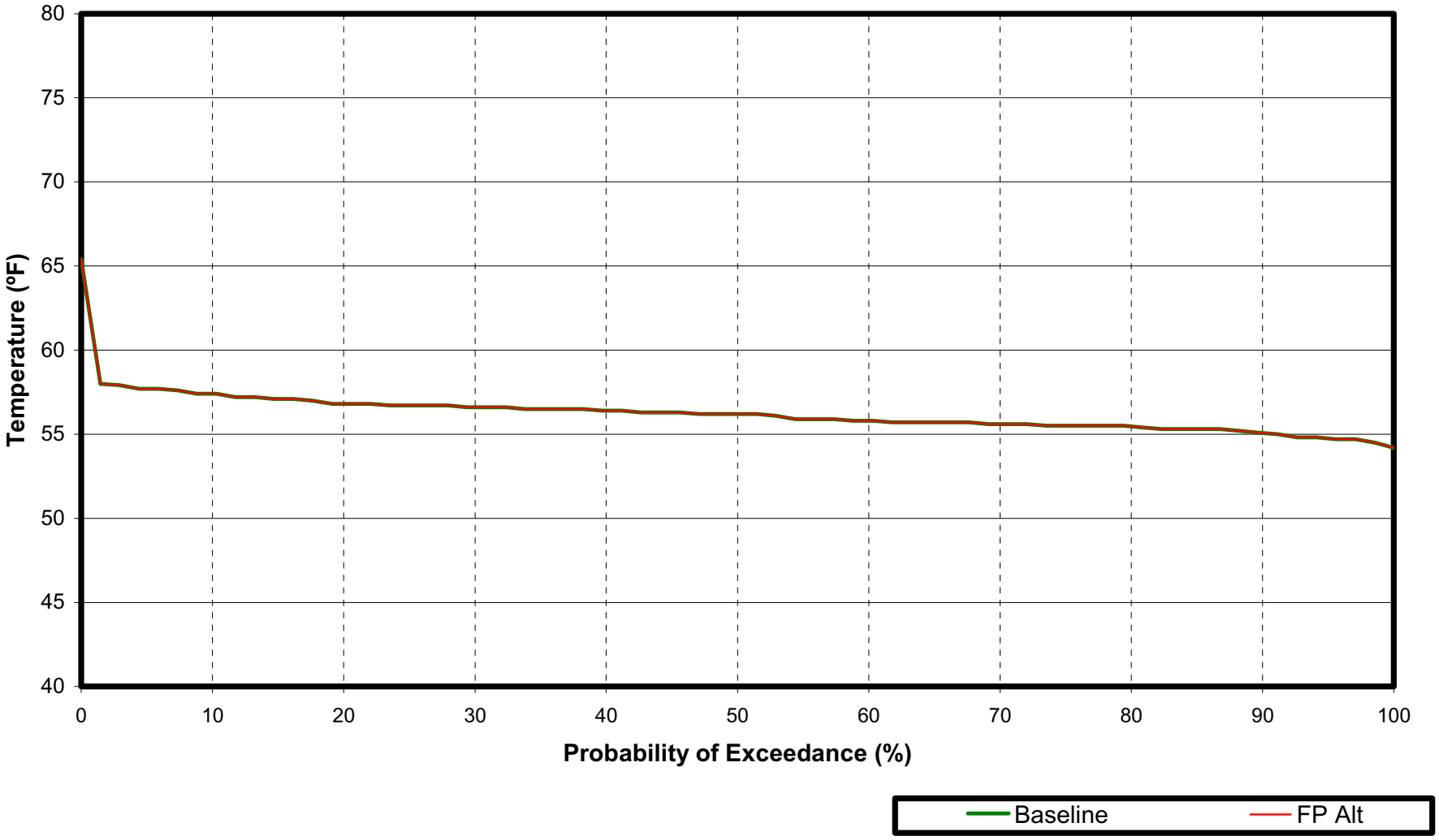
Long-term Average Temperature in the Feather River above Thermalito Afterbay Under Baseline and FP Alt Conditions



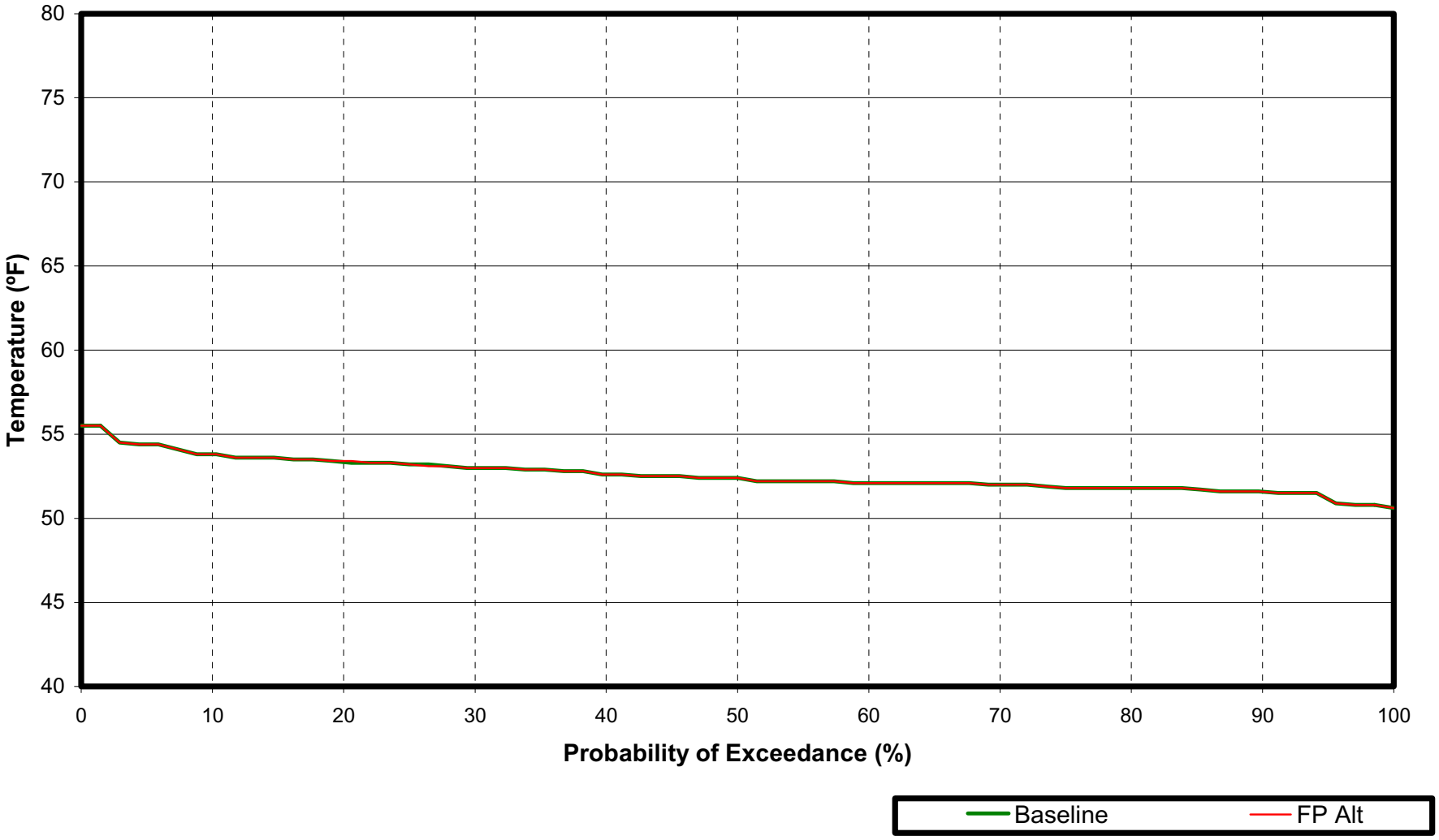
Long-term Average Temperature in the Feather River above Thermalito Afterbay Under Baseline and FP Alt Conditions



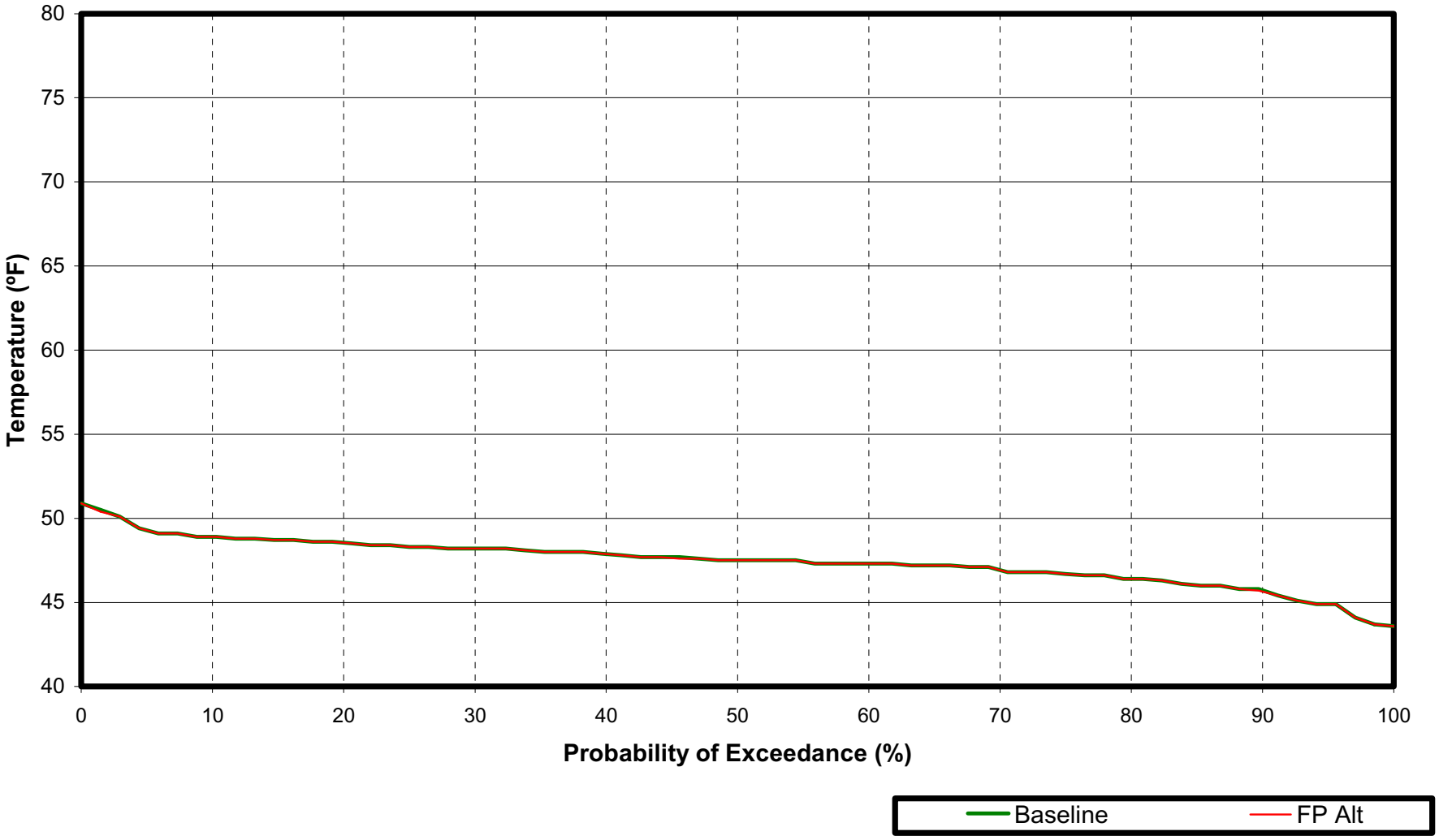
Temperature in the Feather River above Thermalito Afterbay During October Under Baseline and FP Alt Conditions



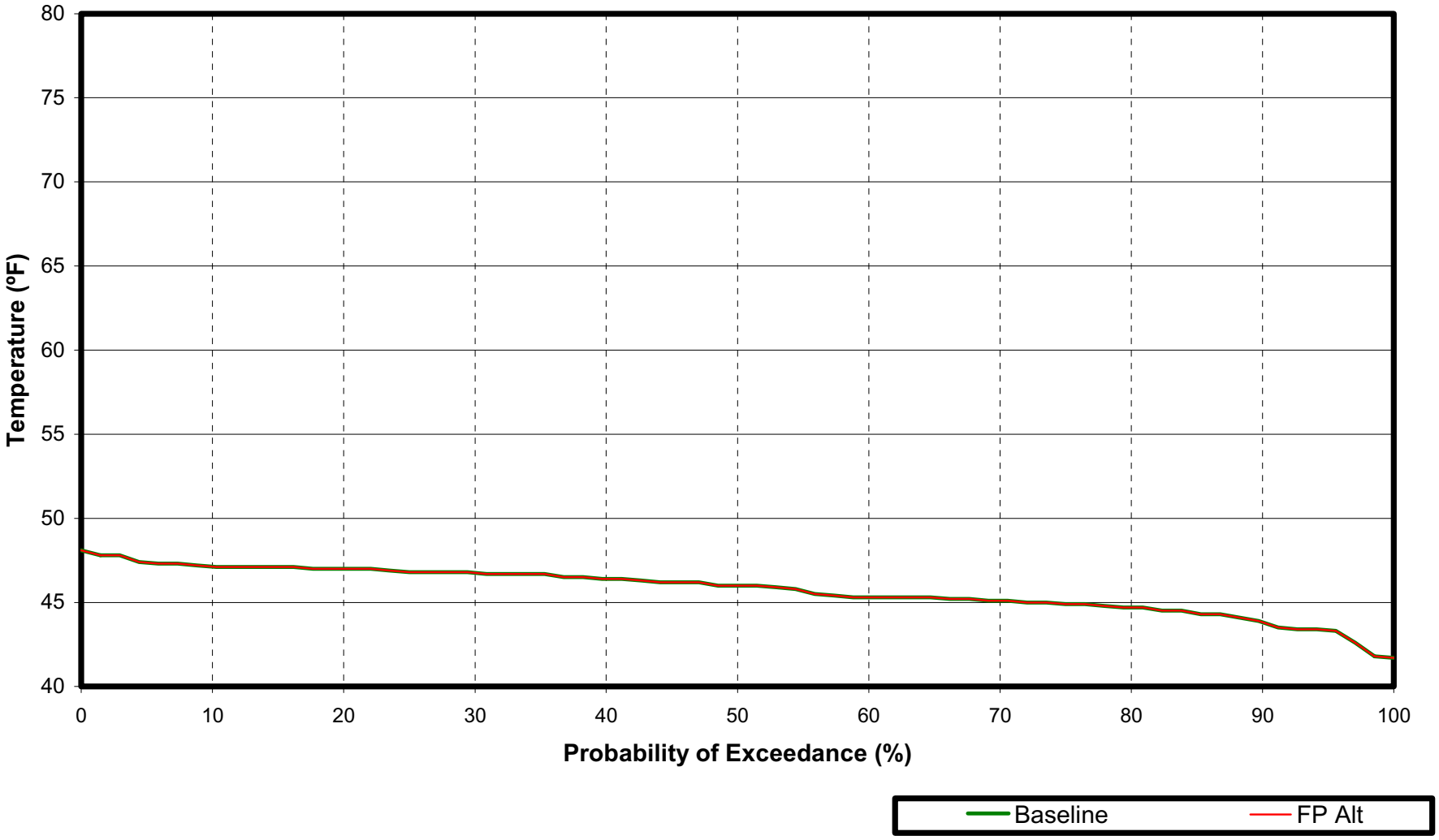
Temperature in the Feather River above Thermalito Afterbay During November Under Baseline and FP Alt Conditions



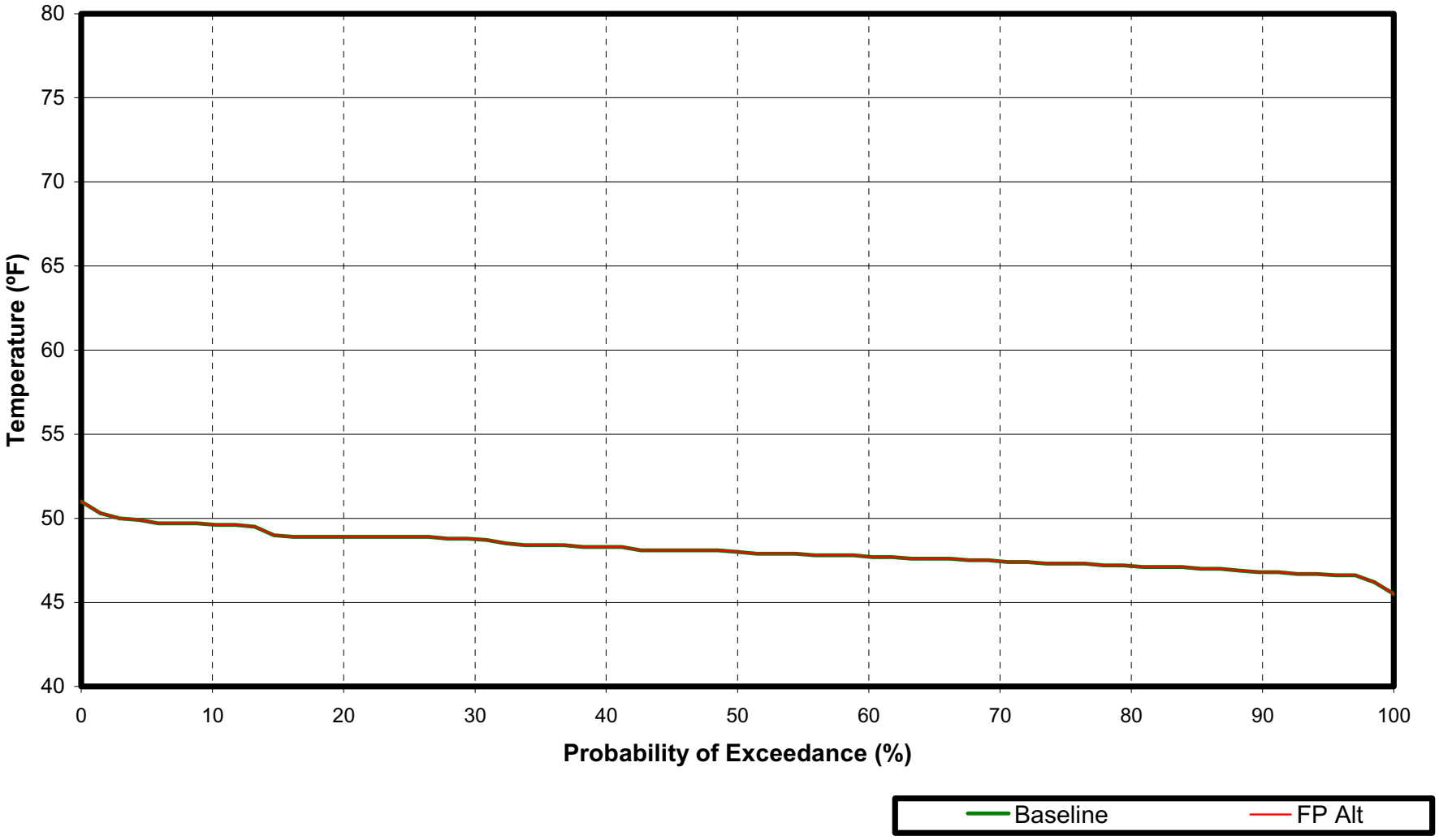
Temperature in the Feather River above Thermalito Afterbay During December Under Baseline and FP Alt Conditions



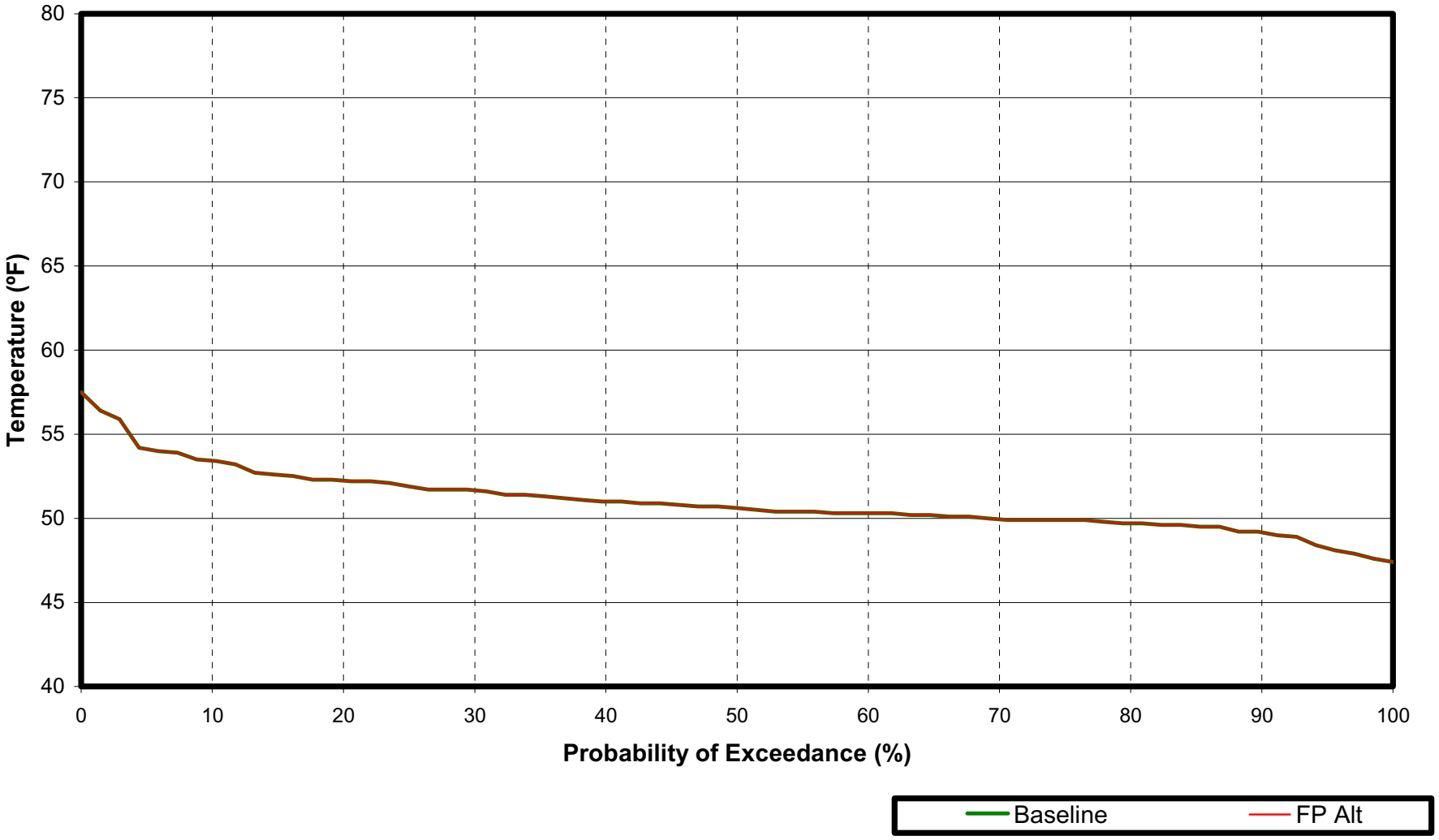
Temperature in the Feather River above Thermalito Afterbay During January Under Baseline and FP Alt Conditions



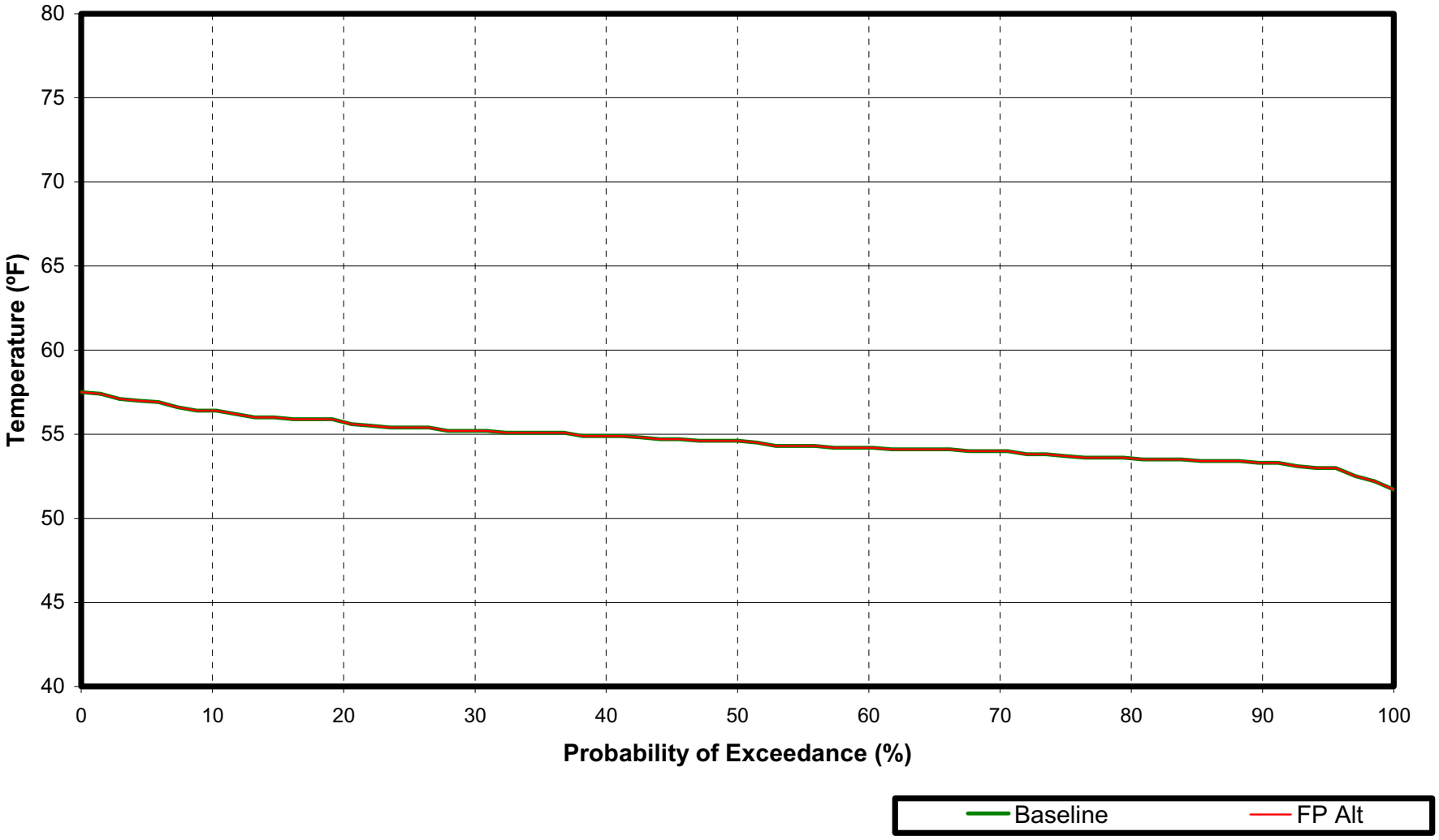
Temperature in the Feather River above Thermalito Afterbay During February Under Baseline and FP Alt Conditions



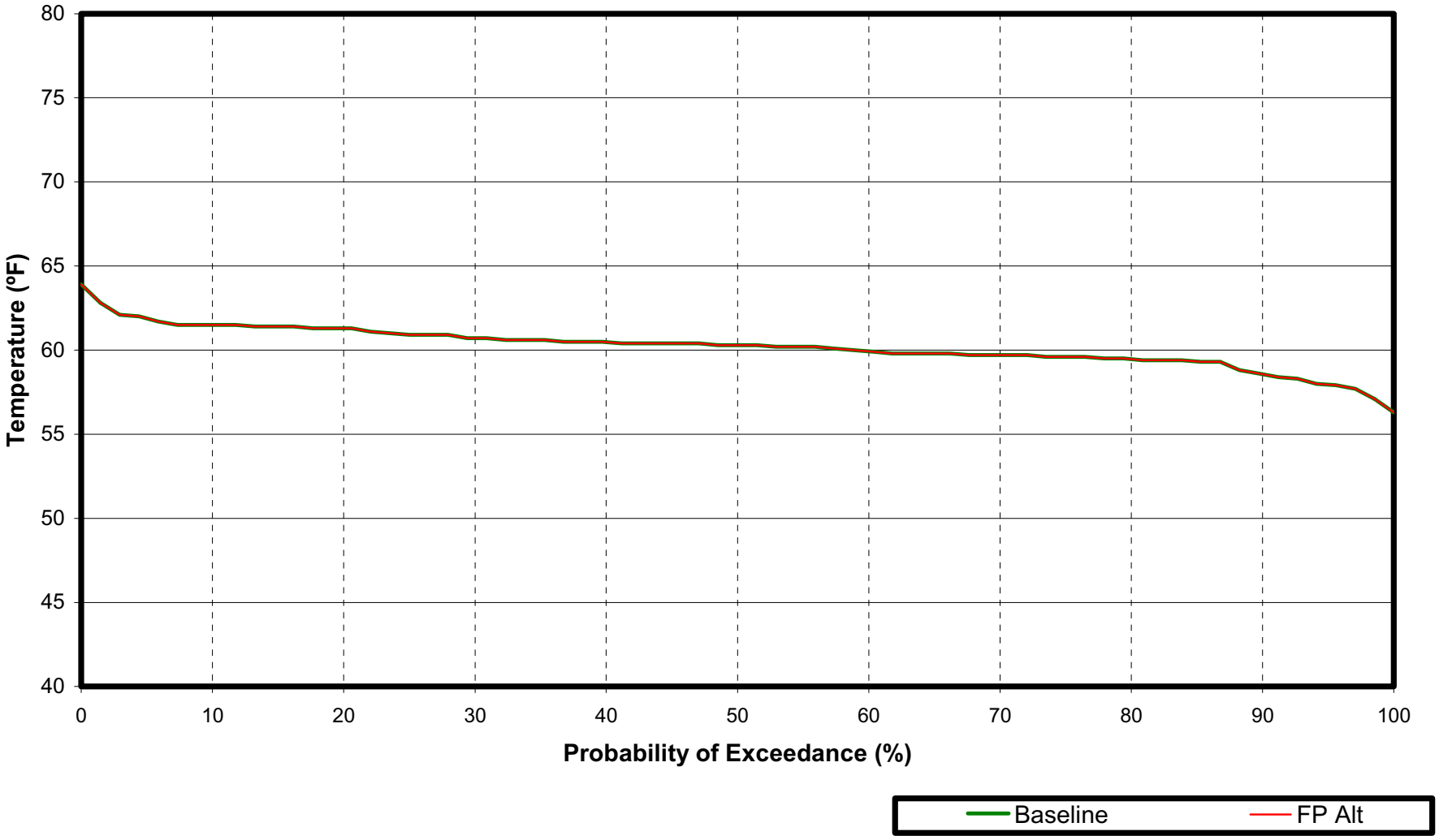
Temperature in the Feather River above Thermalito Afterbay During March Under Baseline and FP Alt Conditions



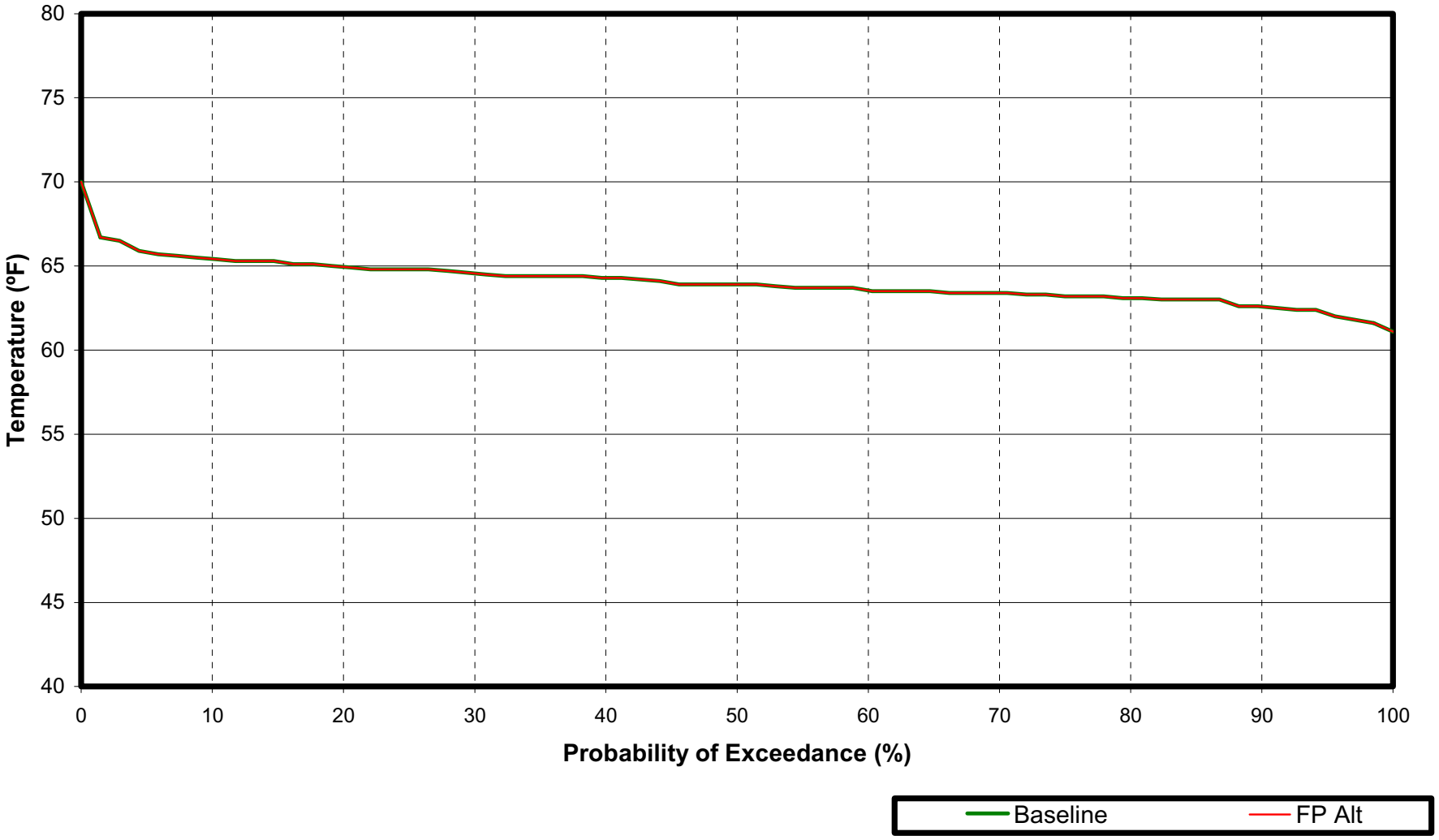
Temperature in the Feather River above Thermalito Afterbay During April Under Baseline and FP Alt Conditions



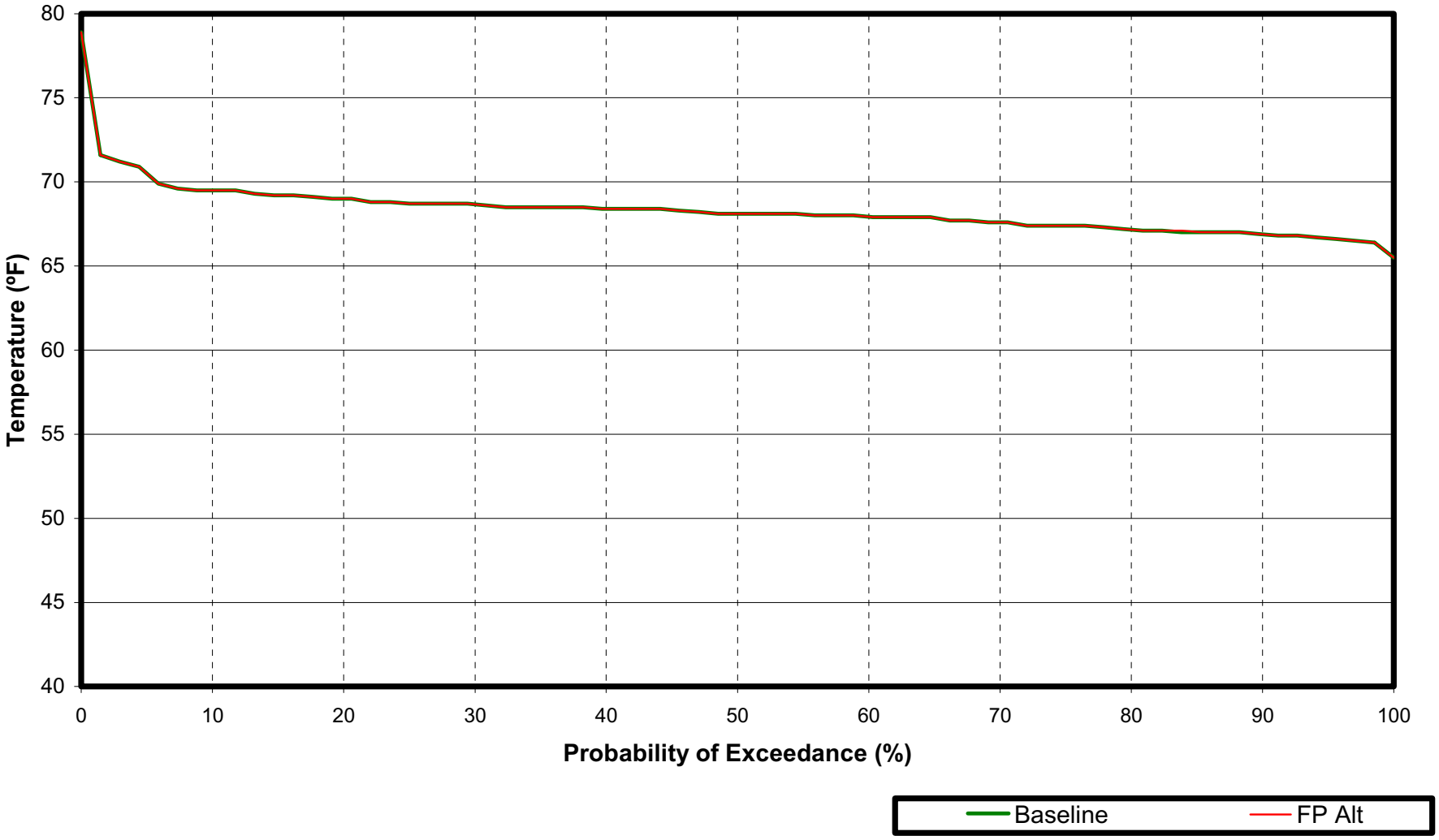
Temperature in the Feather River above Thermalito Afterbay During May Under Baseline and FP Alt Conditions



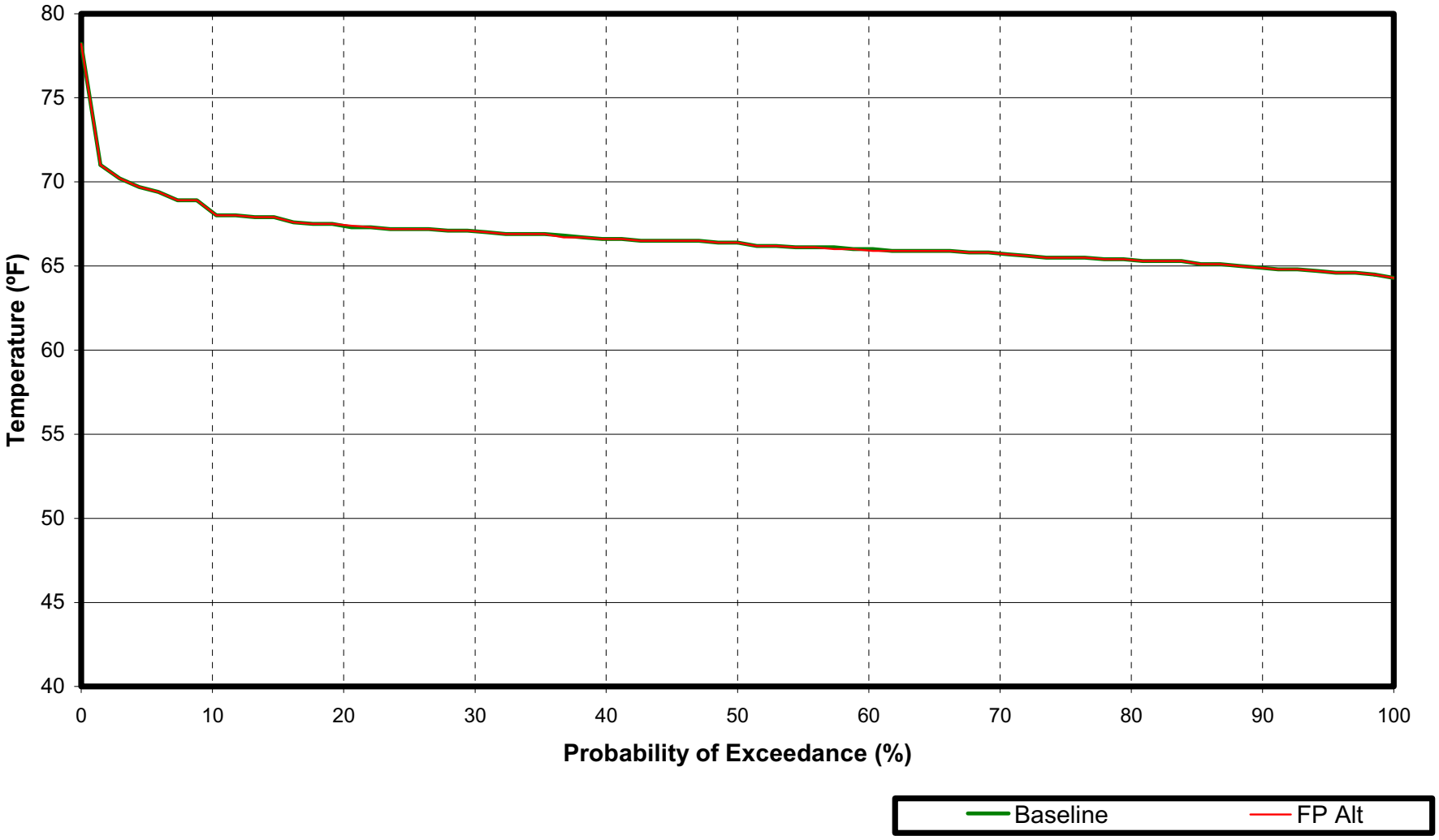
Temperature in the Feather River above Thermalito Afterbay During June Under Baseline and FP Alt Conditions



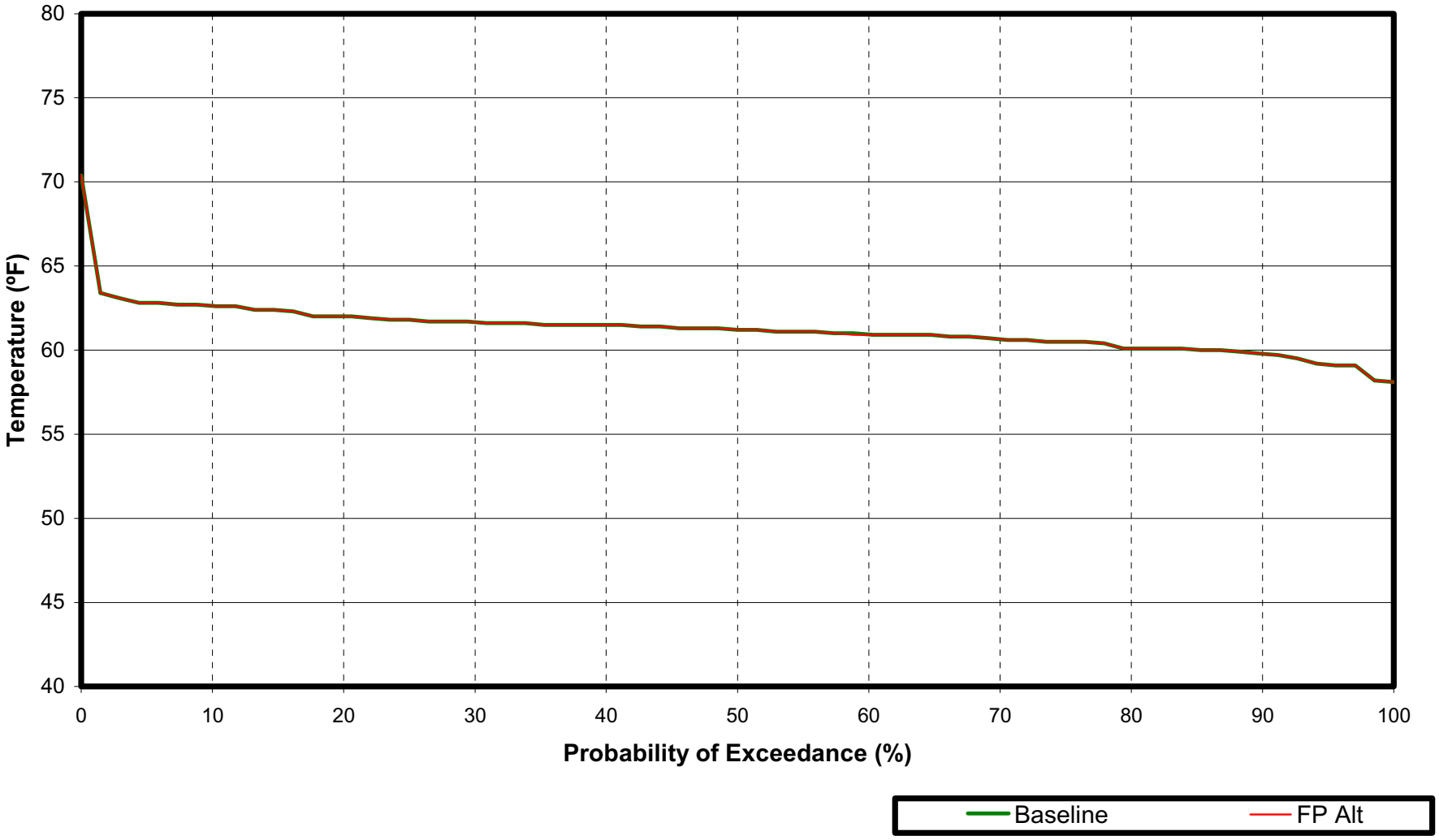
Temperature in the Feather River above Thermalito Afterbay During July Under Baseline and FP Alt Conditions



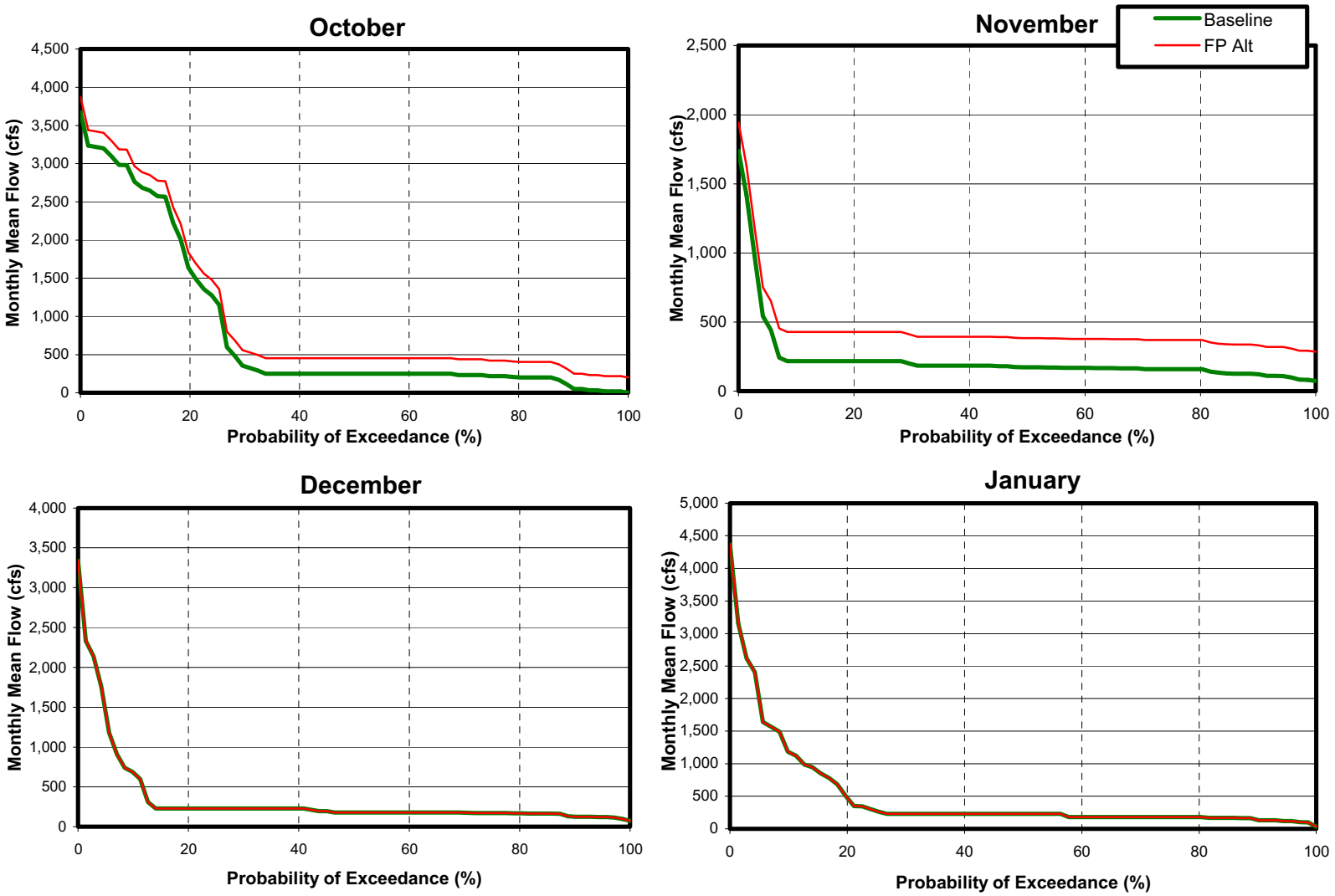
Temperature in the Feather River above Thermalito Afterbay During August Under Baseline and FP Alt Conditions



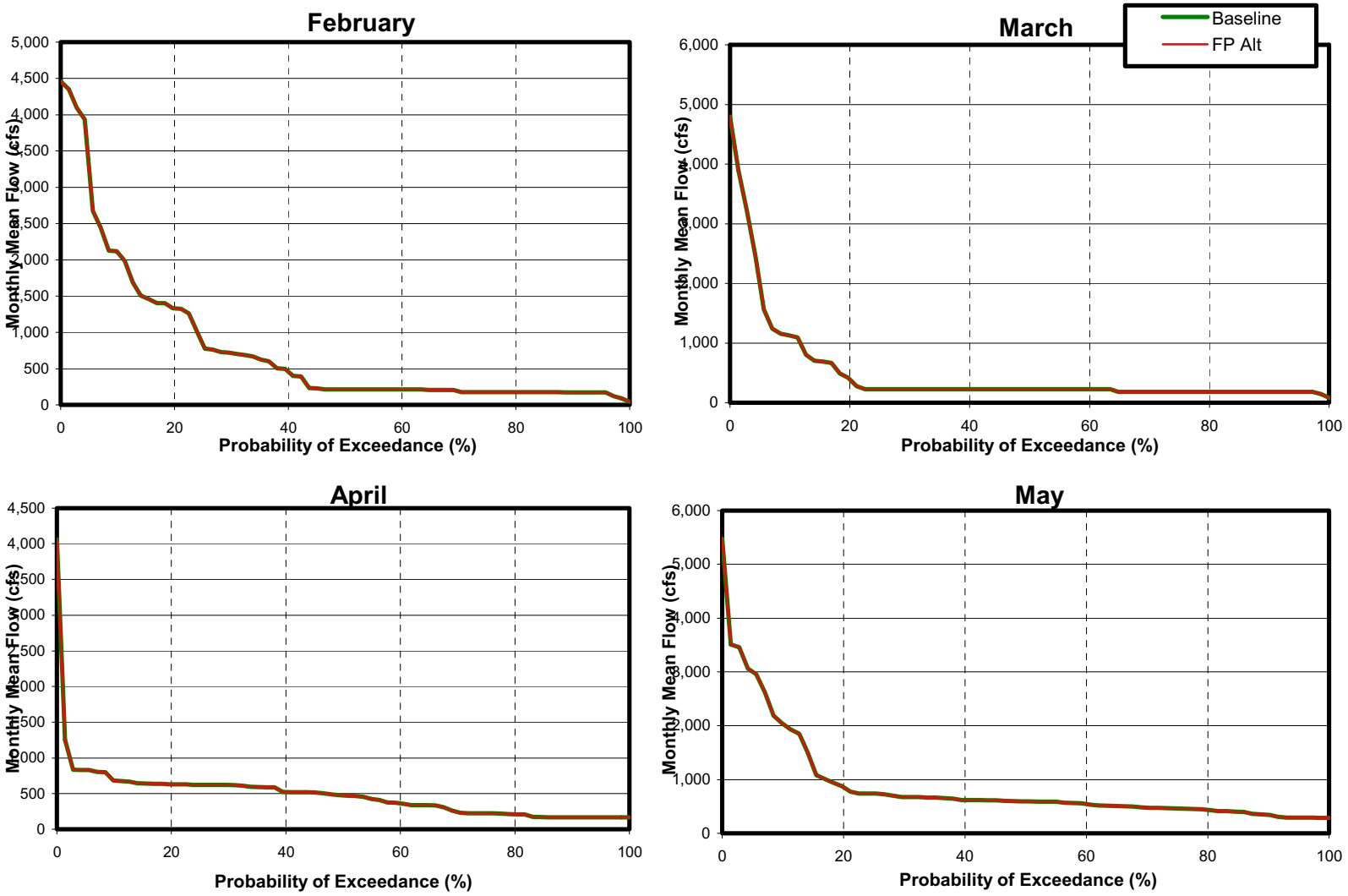
Temperature in the Feather River above Thermalito Afterbay During September Under Baseline and FP Alt Conditions



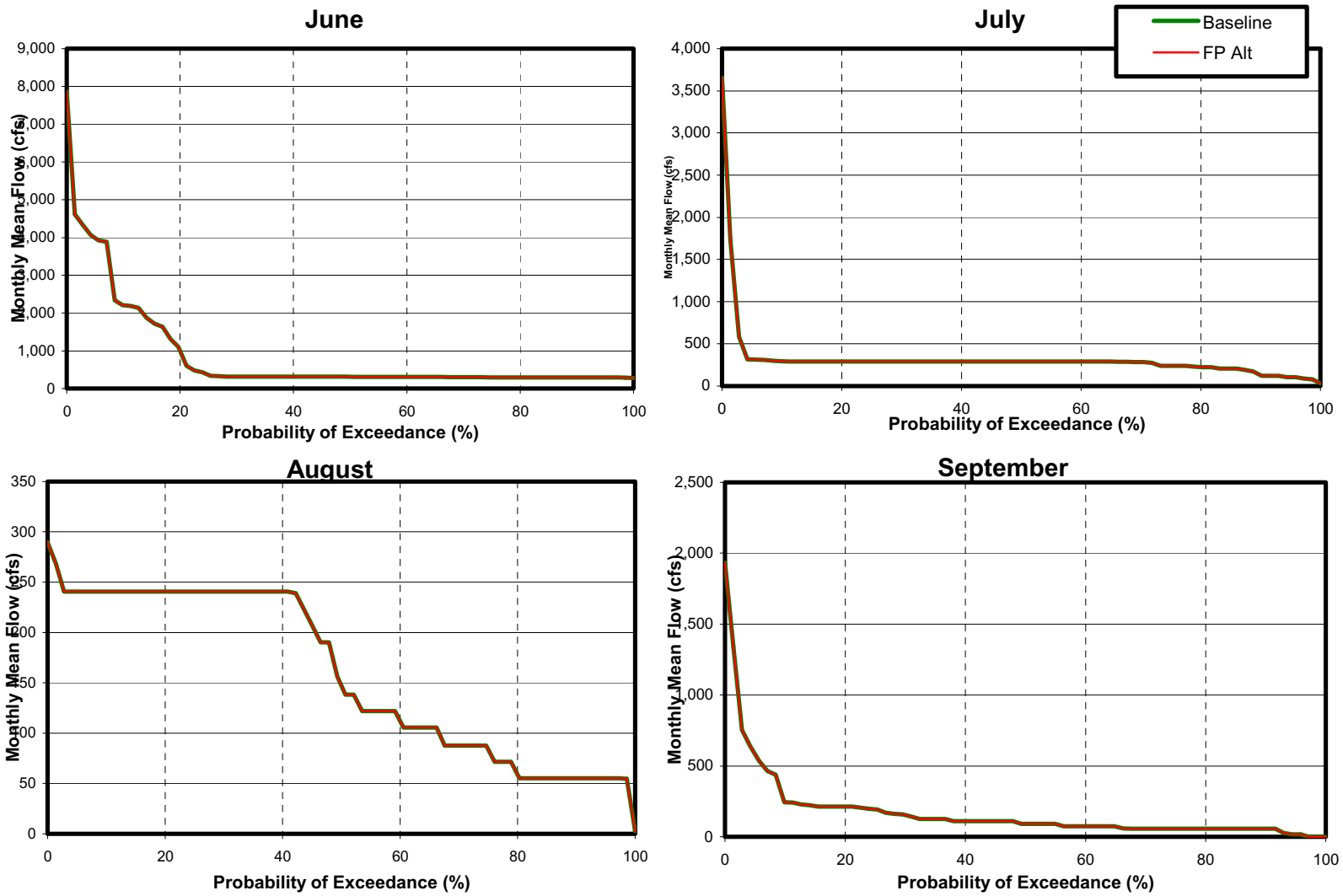
Merced River Flow below Crocker-Huffman Dam Under Baseline and FP Alt Conditions



Merced River Flow below Crocker-Huffman Dam Under Baseline and FP Alt Conditions



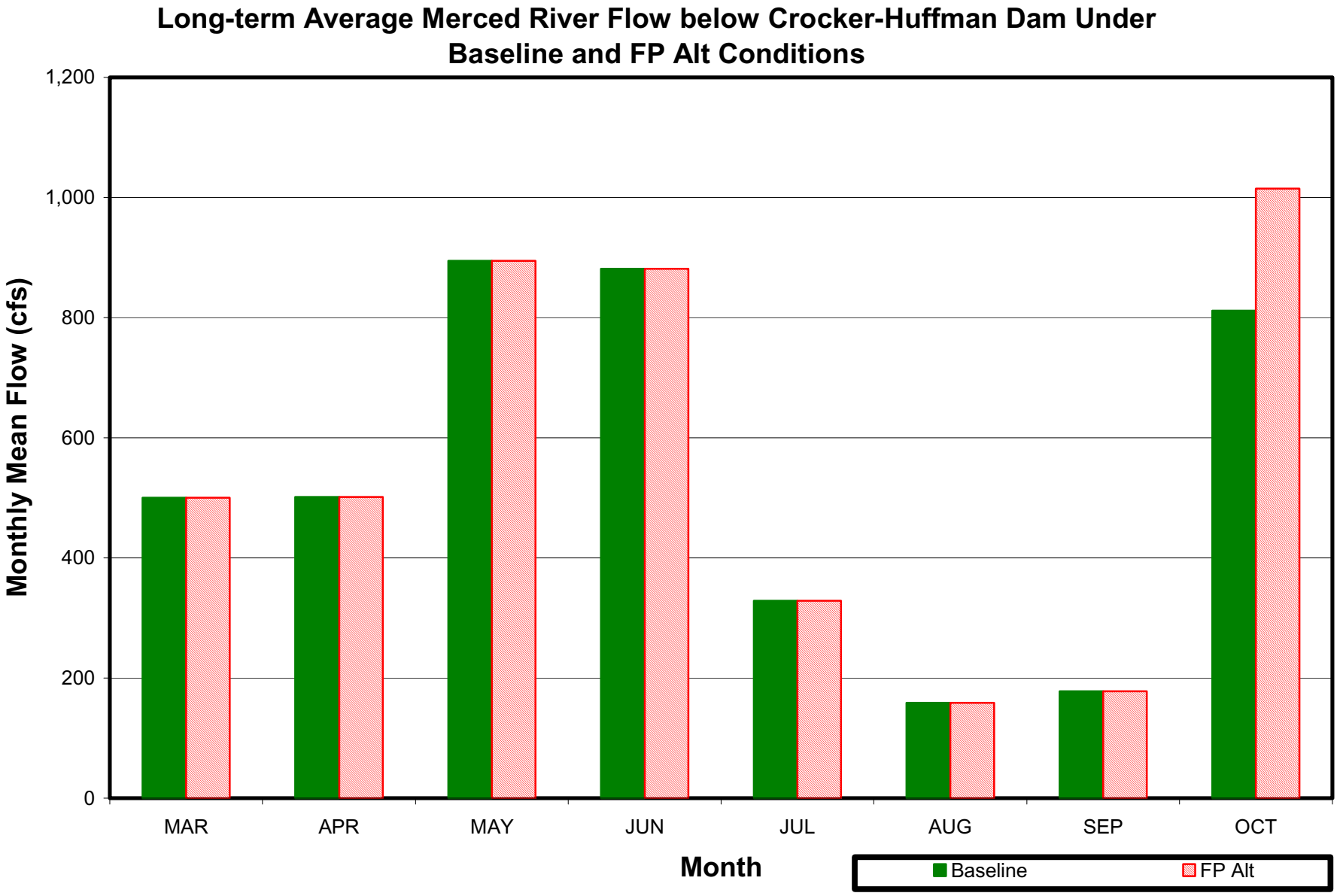
Merced River Flow below Crocker-Huffman Dam Under Baseline and FP Alt Conditions



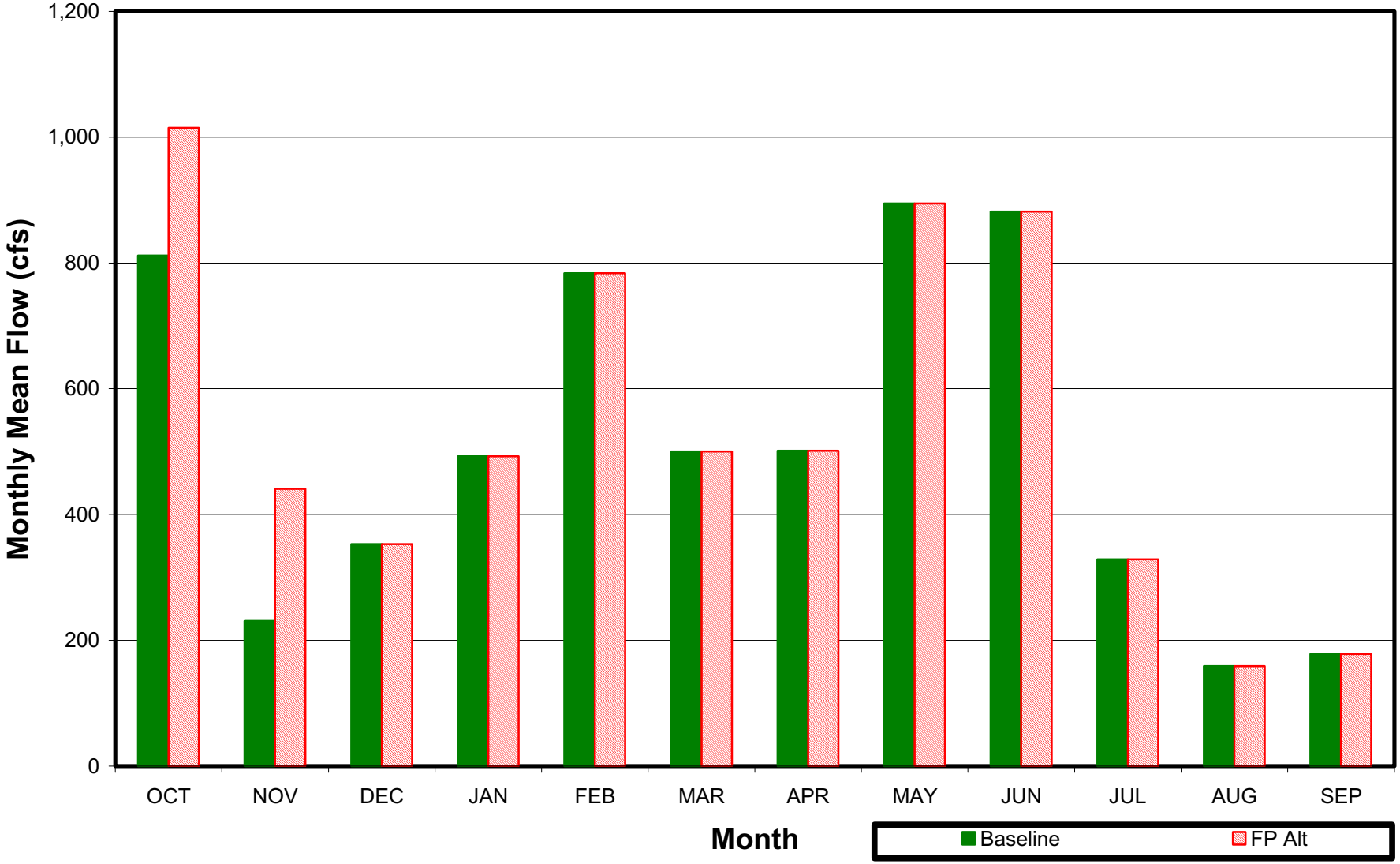
Long-term Average Flow below Crocker-Huffman Dam Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	812	1015	203	25.0
Nov	231	441	210	90.9
Dec	353	353	0	0.0
Jan	493	493	0	0.0
Feb	784	784	0	0.0
Mar	500	500	0	0.0
Apr	501	501	0	0.0
May	894	894	0	0.0
Jun	881	881	0	0.0
Jul	329	329	0	0.0
Aug	159	159	0	0.0
Sep	178	178	0	0.0

[1] Based on 72 years modeled.

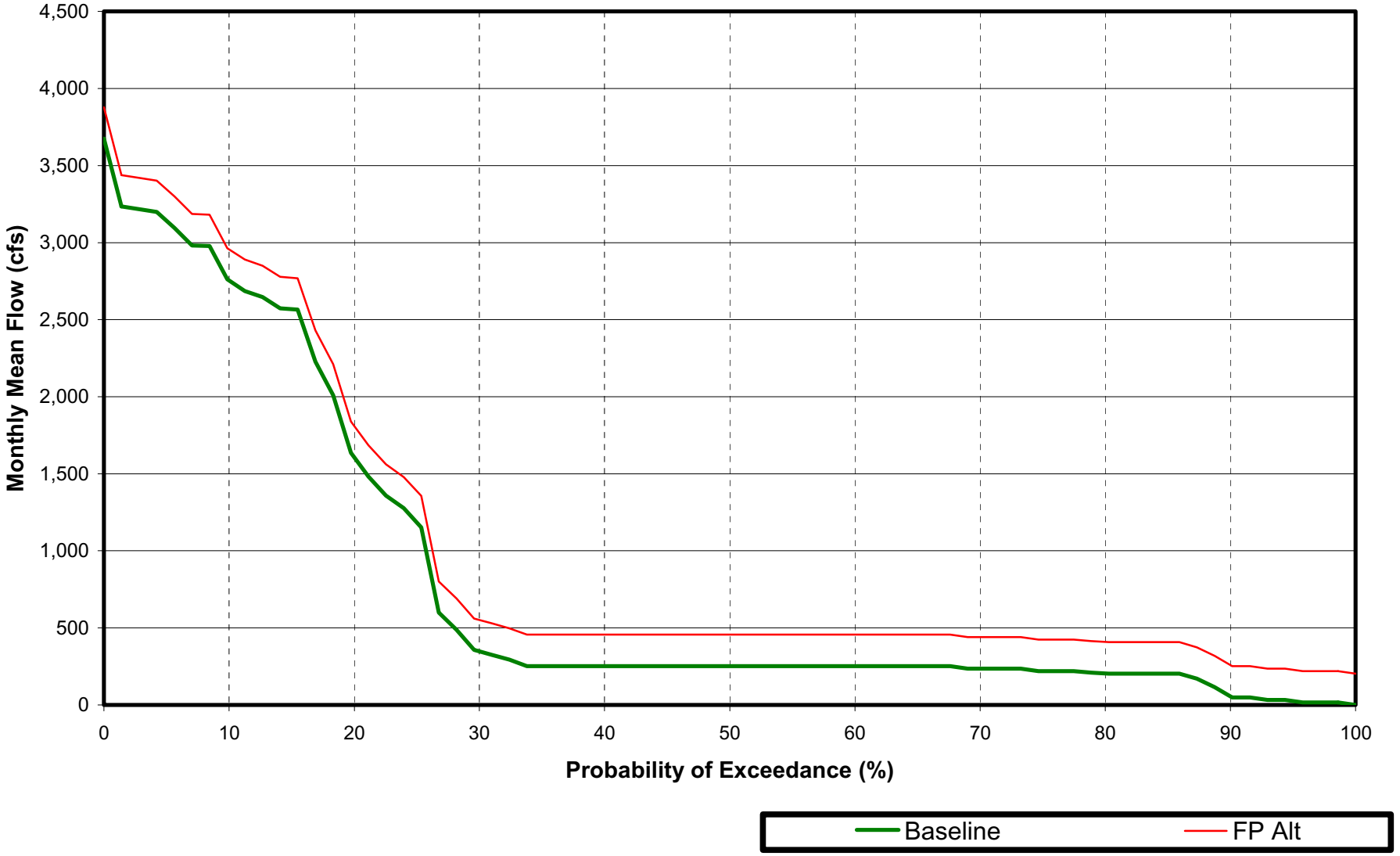
[2] Relative difference of the monthly long-term average.


Long-term Average Merced River Flow below Crocker-Huffman Dam Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
1,200
1,000
800
600
400
200
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt

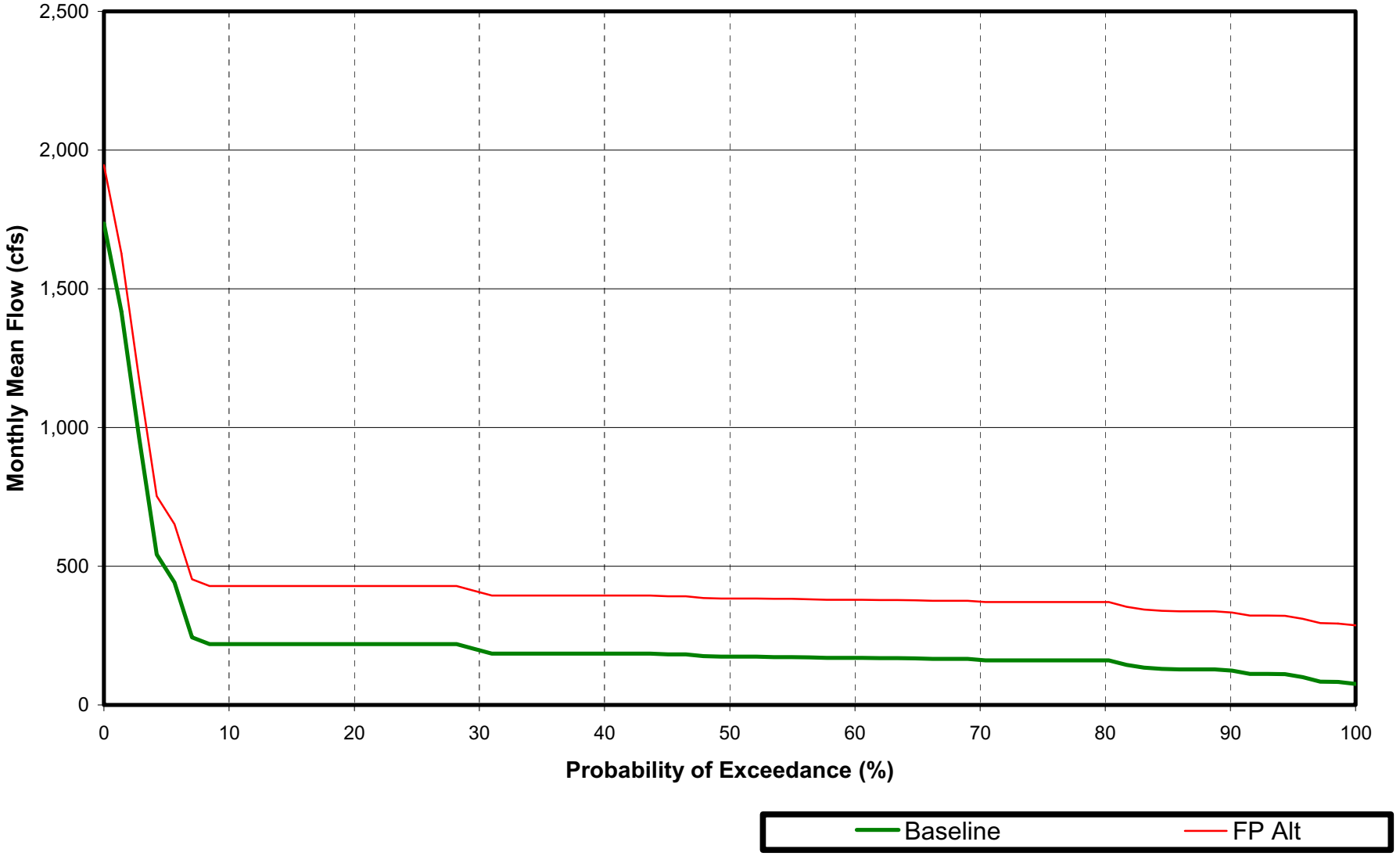
Long-term Average Merced River Flow below Crocker-Huffman Dam Under Baseline and FP Alt Conditions



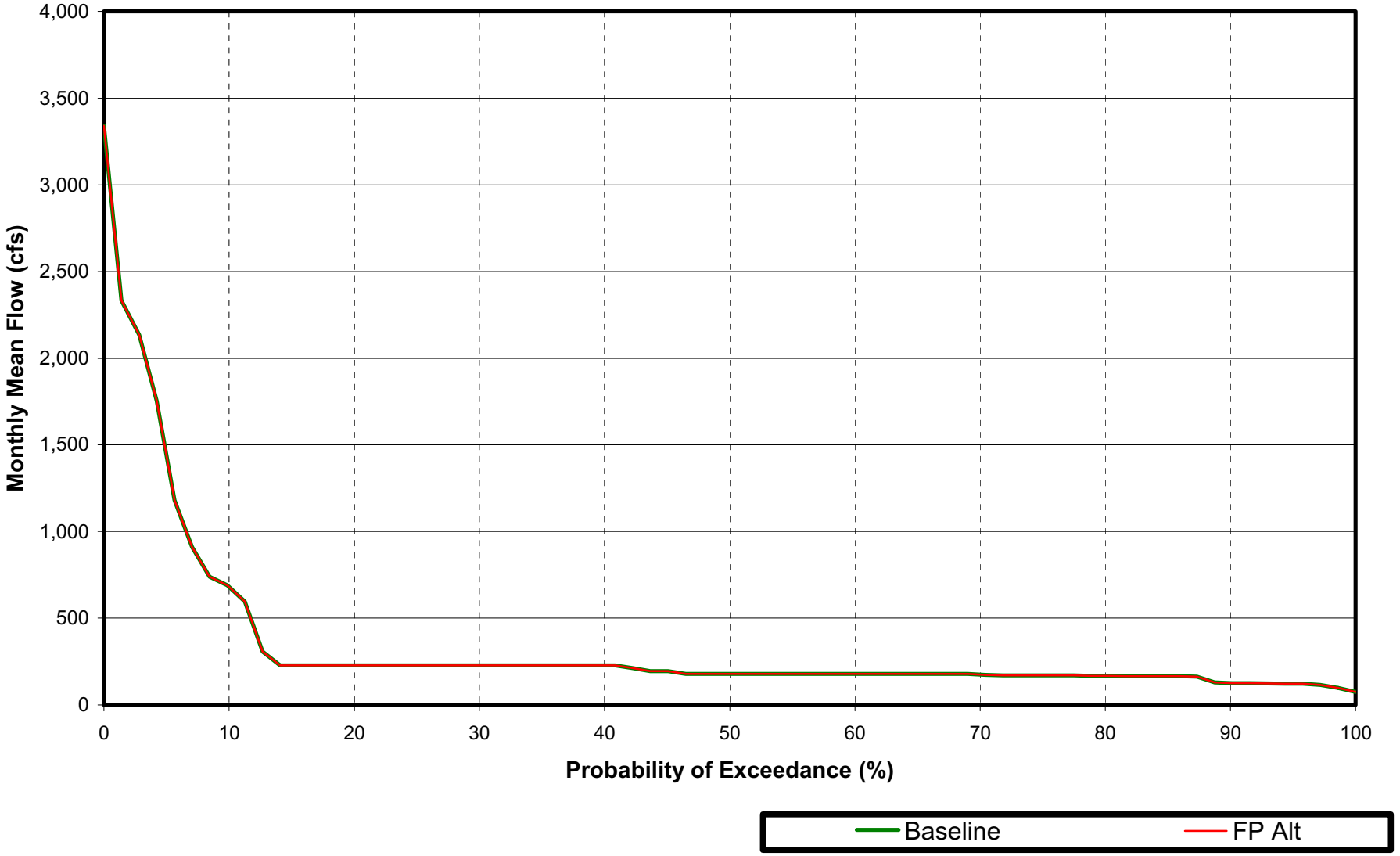
Merced River Flow below Crocker-Huffman Dam During October Under Baseline and FP Alt Conditions



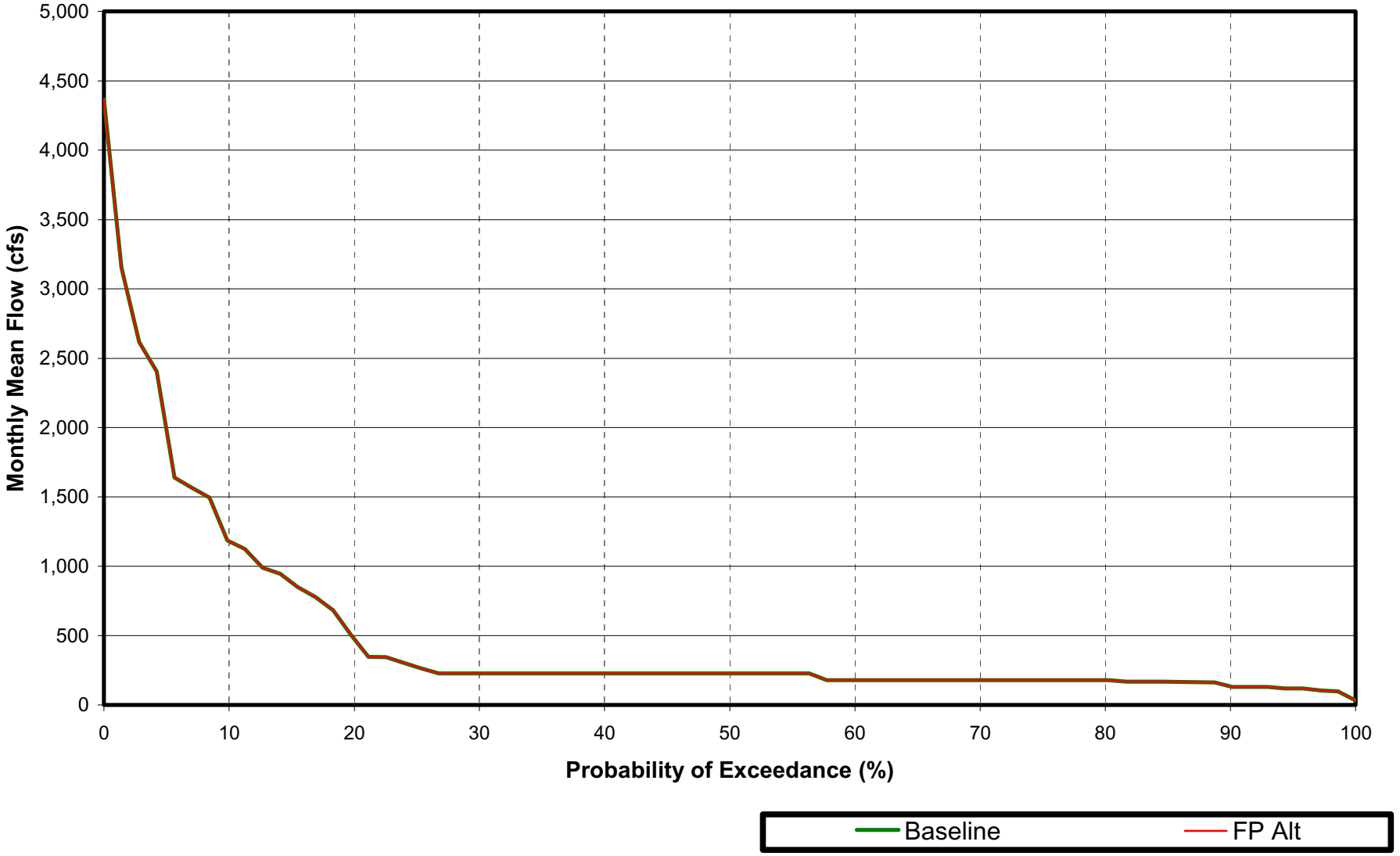
Merced River Flow below Crocker-Huffman Dam During November Under Baseline and FP Alt Conditions



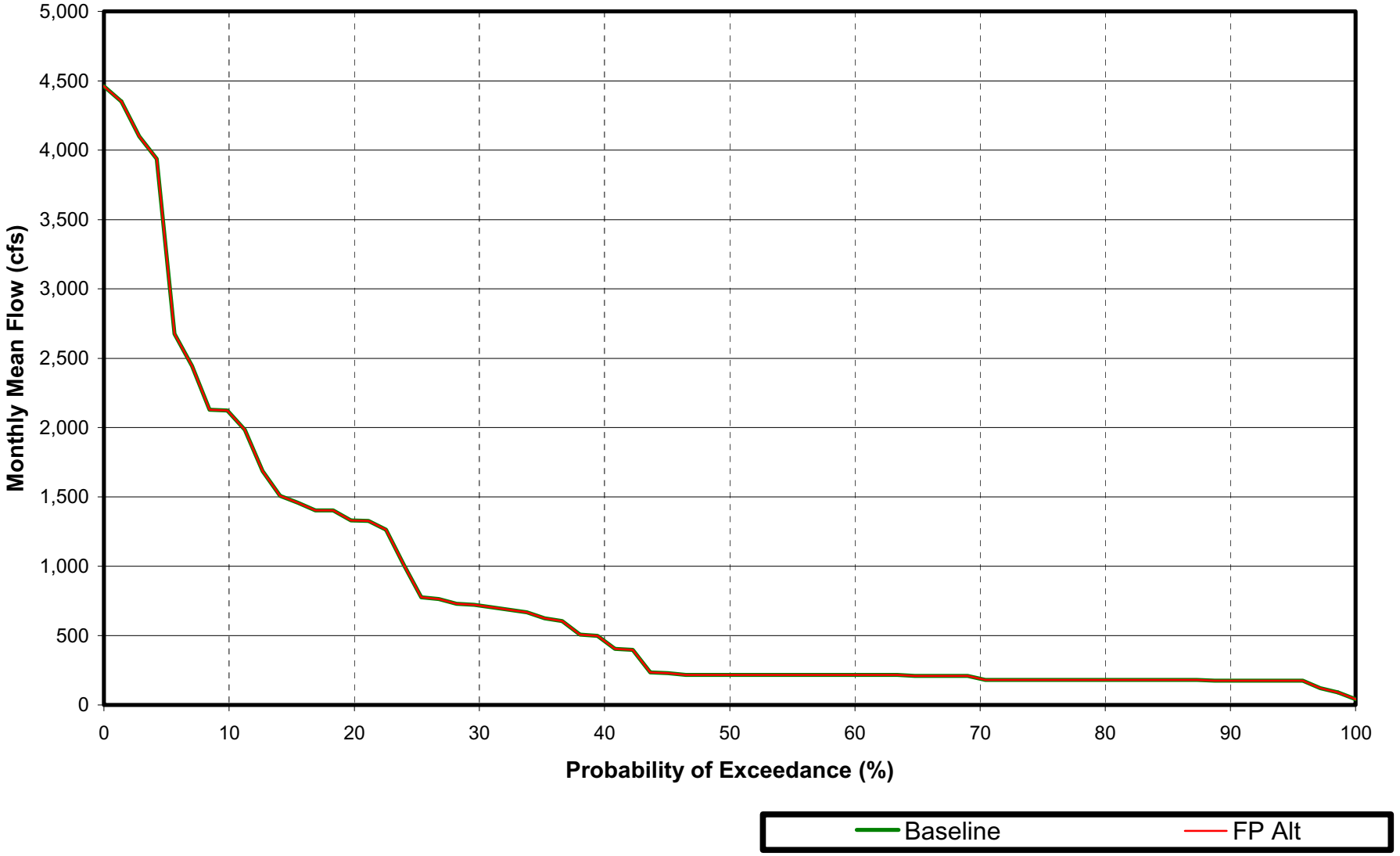
Merced River Flow below Crocker-Huffman Dam During December Under Baseline and FP Alt Conditions



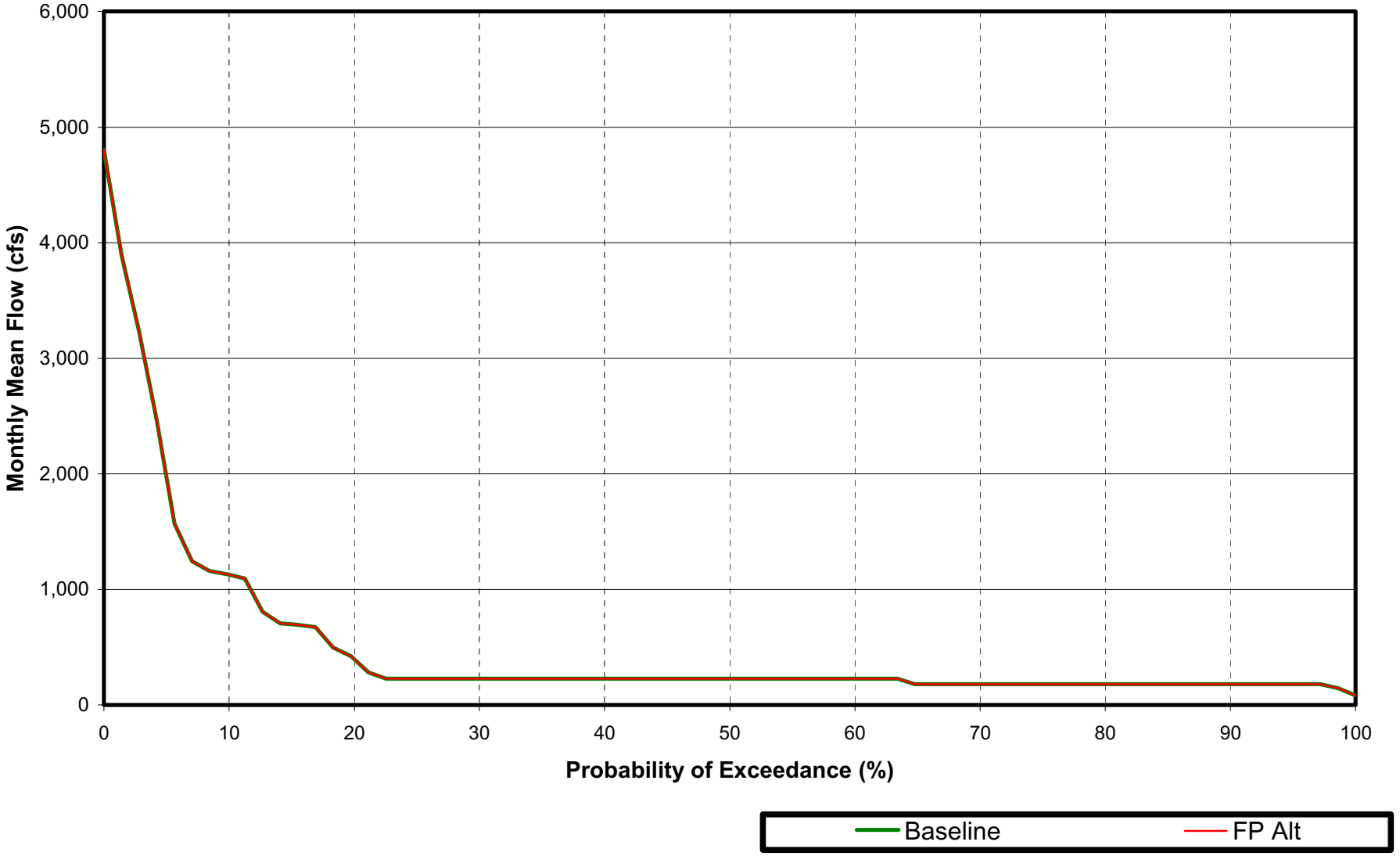
Merced River Flow below Crocker-Huffman Dam During January Under Baseline and FP Alt Conditions



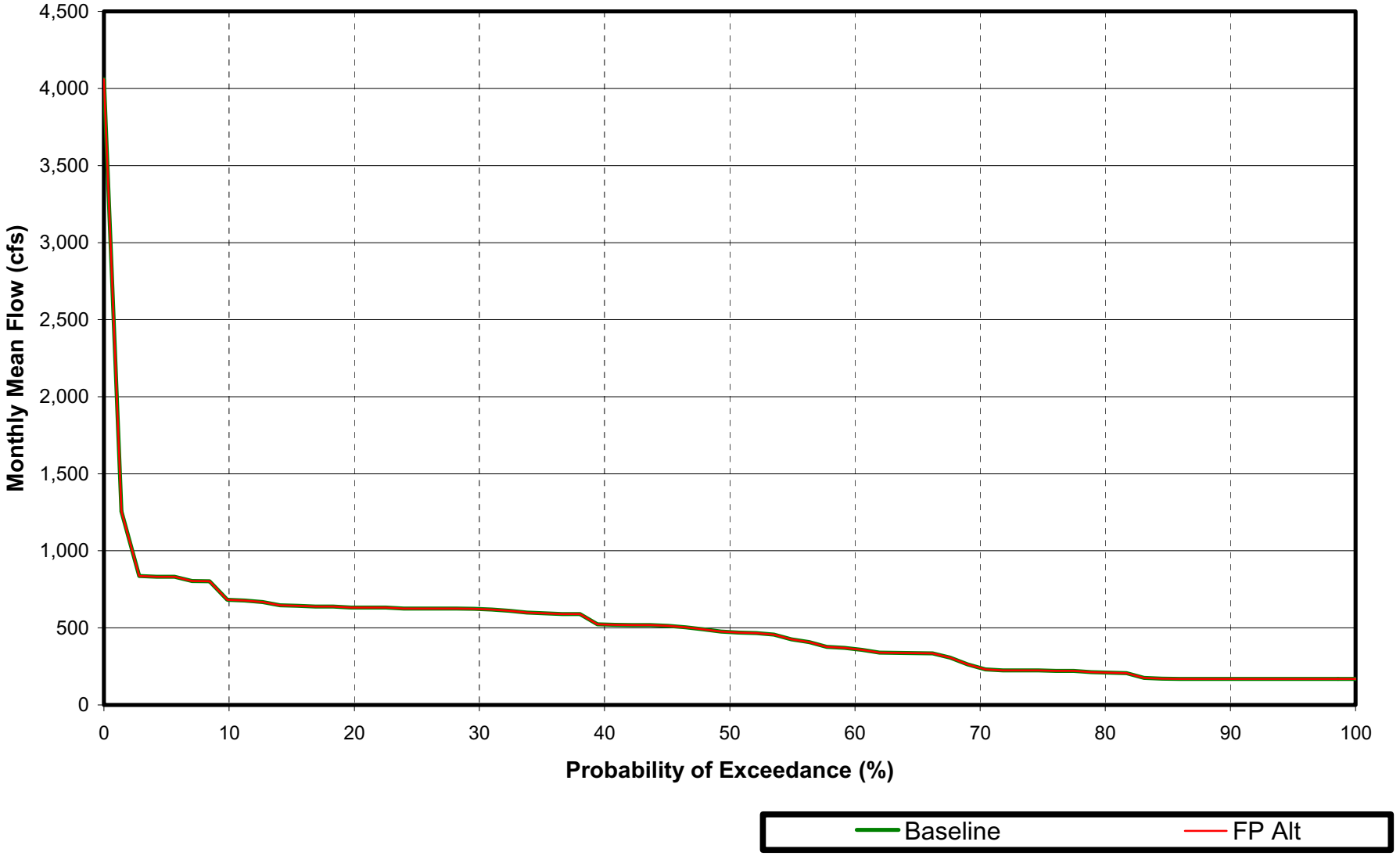
Merced River Flow below Crocker-Huffman Dam During February Under Baseline and FP Alt Conditions



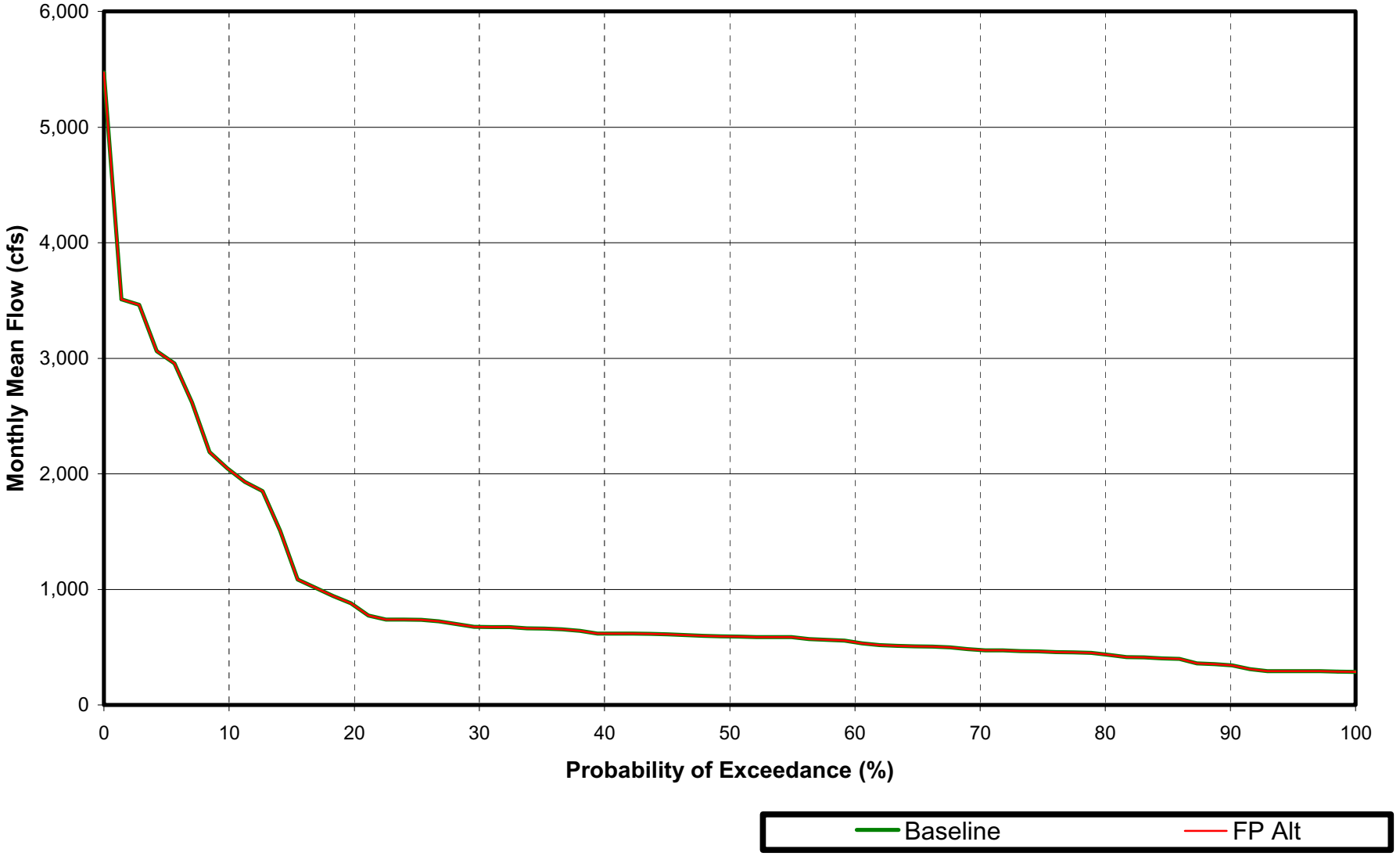
Merced River Flow below Crocker-Huffman Dam During March Under Baseline and FP Alt Conditions



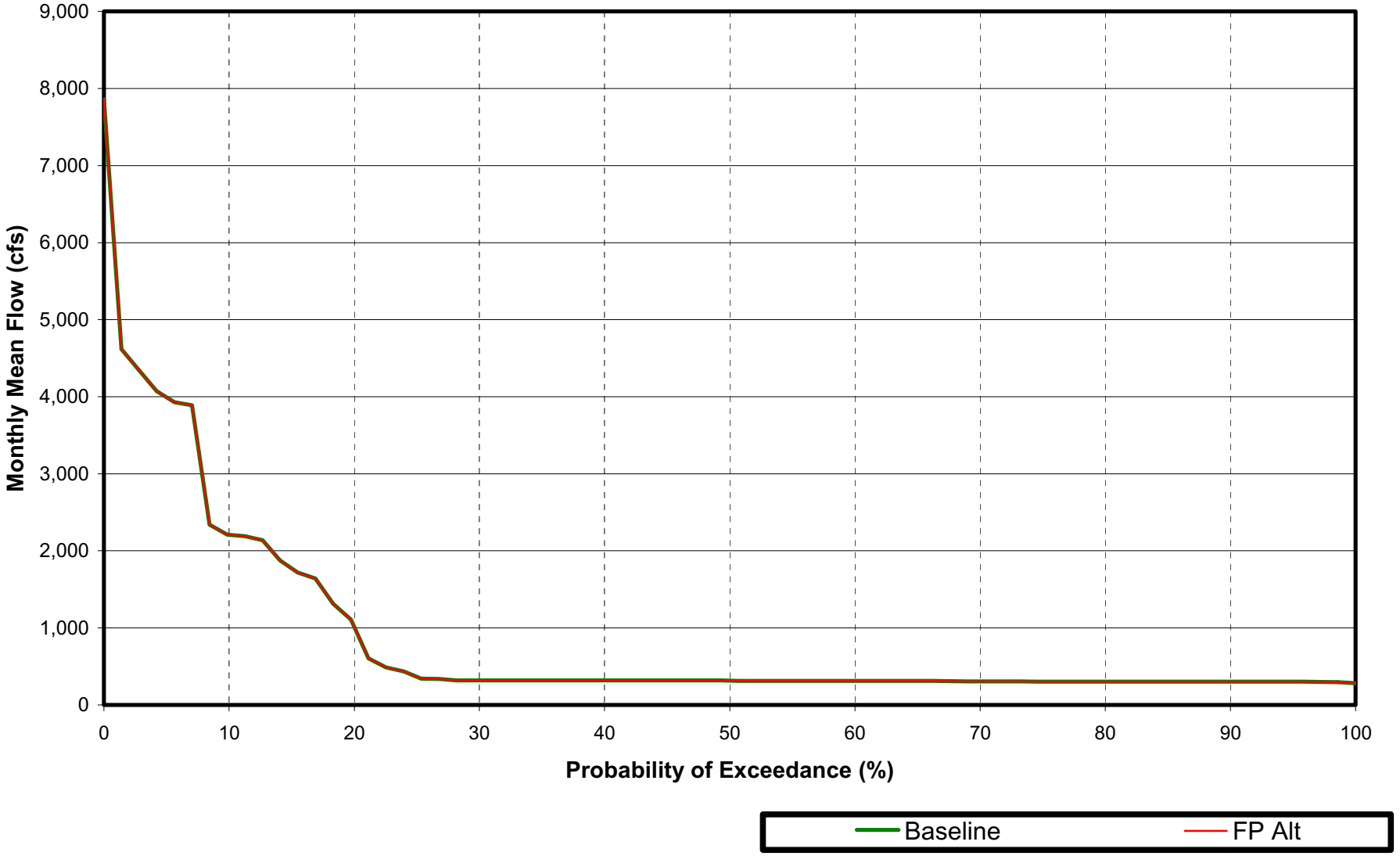
Merced River Flow below Crocker-Huffman Dam During April Under Baseline and FP Alt Conditions



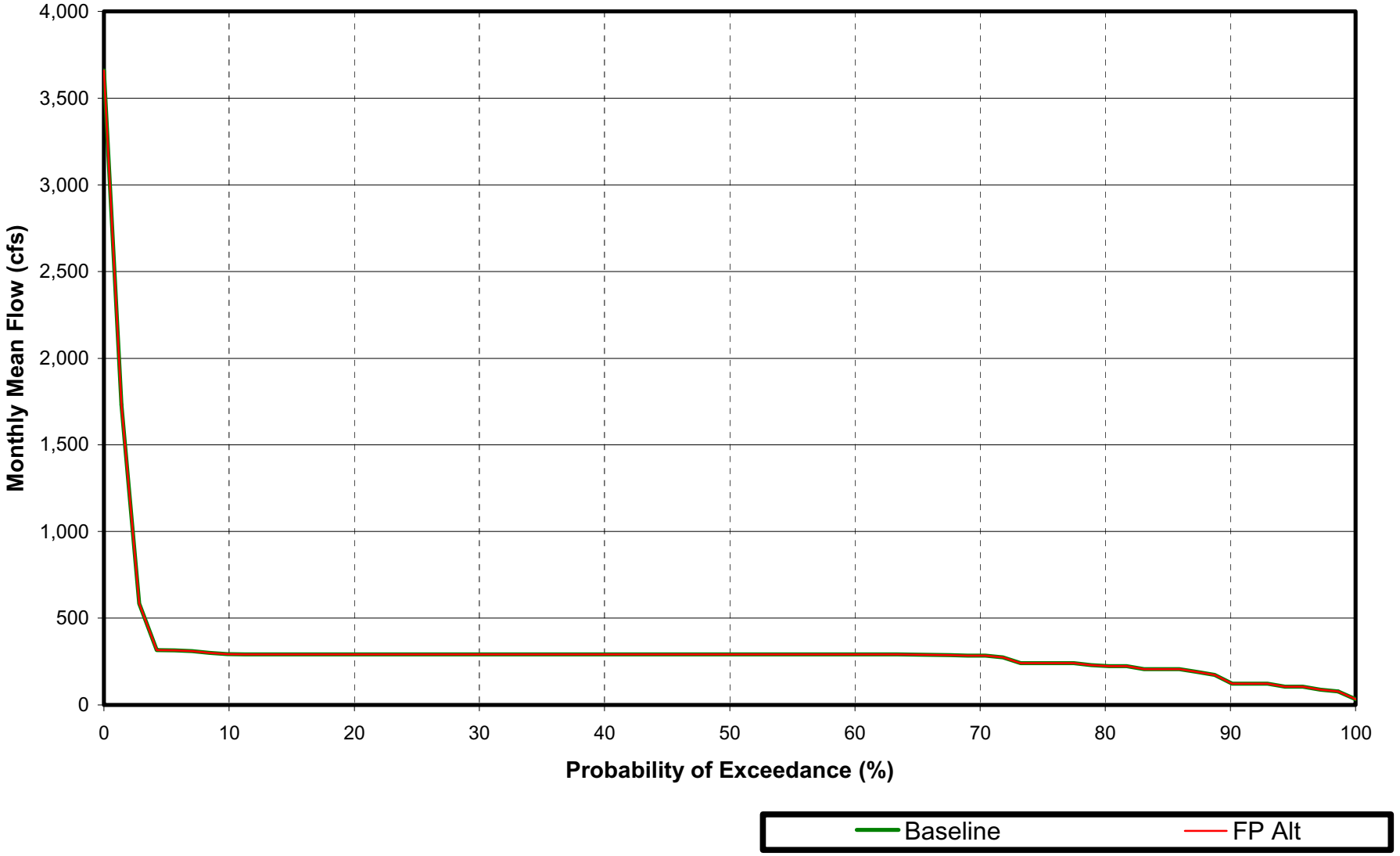
Merced River Flow below Crocker-Huffman Dam During May Under Baseline and FP Alt Conditions



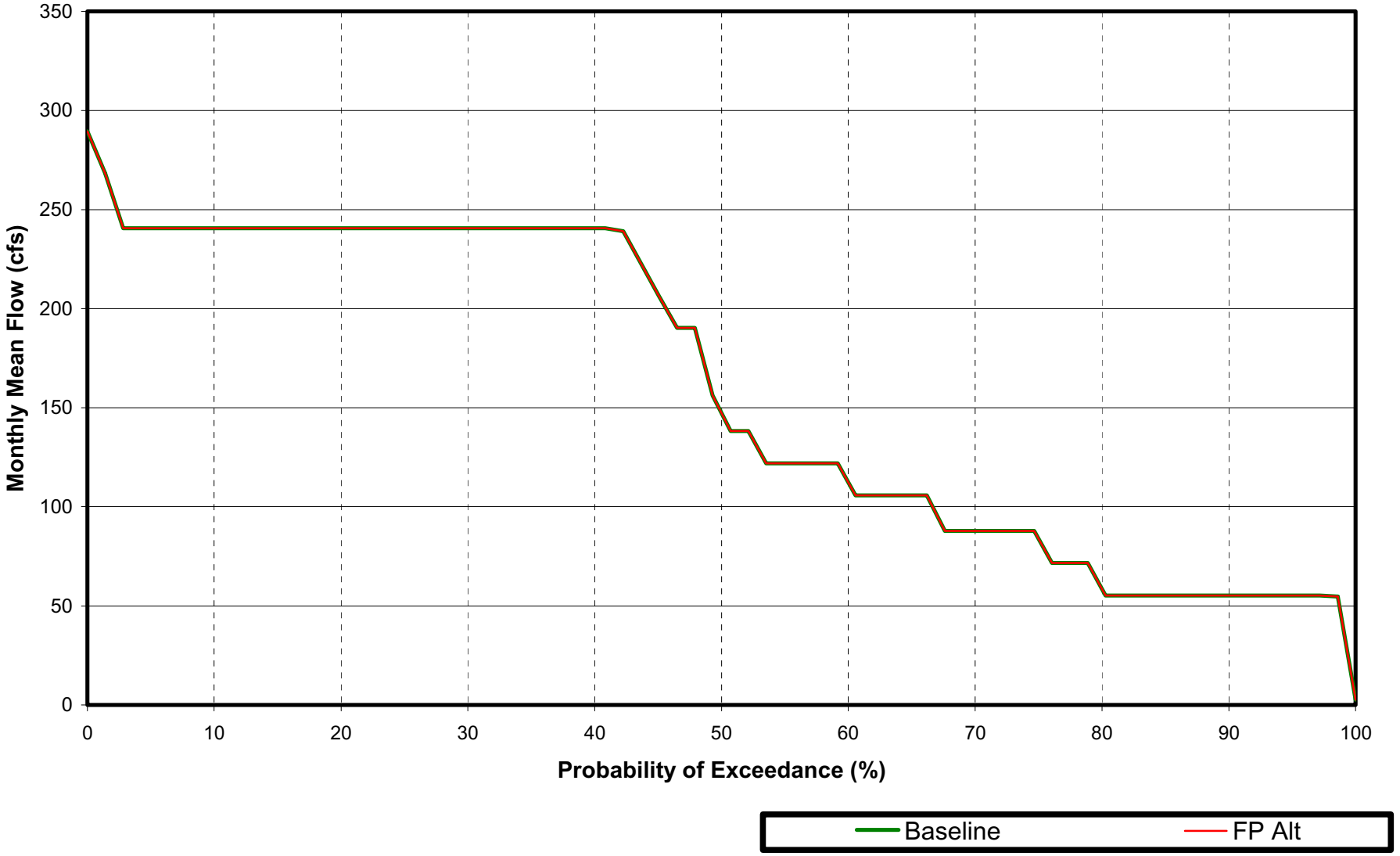
Merced River Flow below Crocker-Huffman Dam During June Under Baseline and FP Alt Conditions



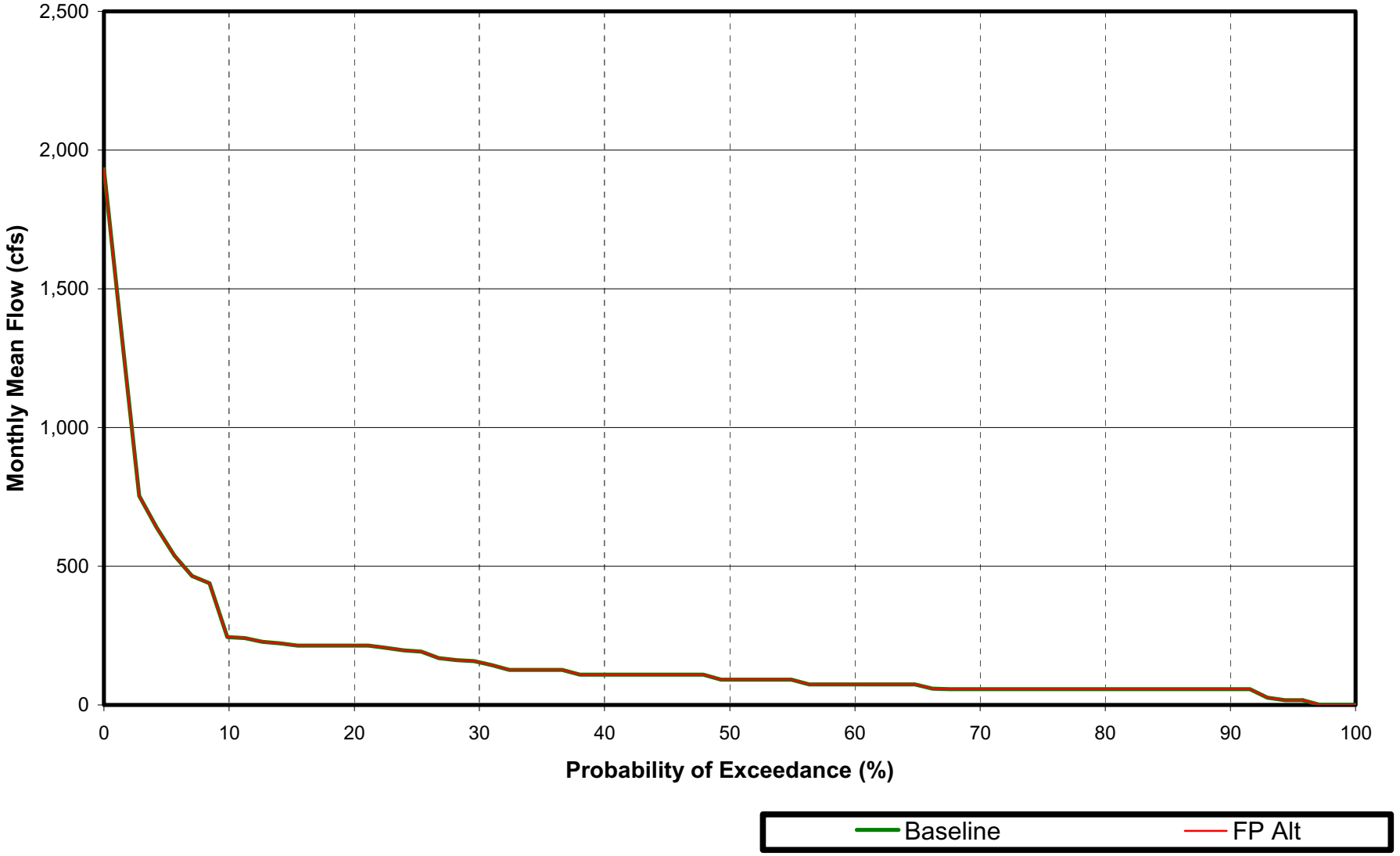
Merced River Flow below Crocker-Huffman Dam During July Under Baseline and FP Alt Conditions



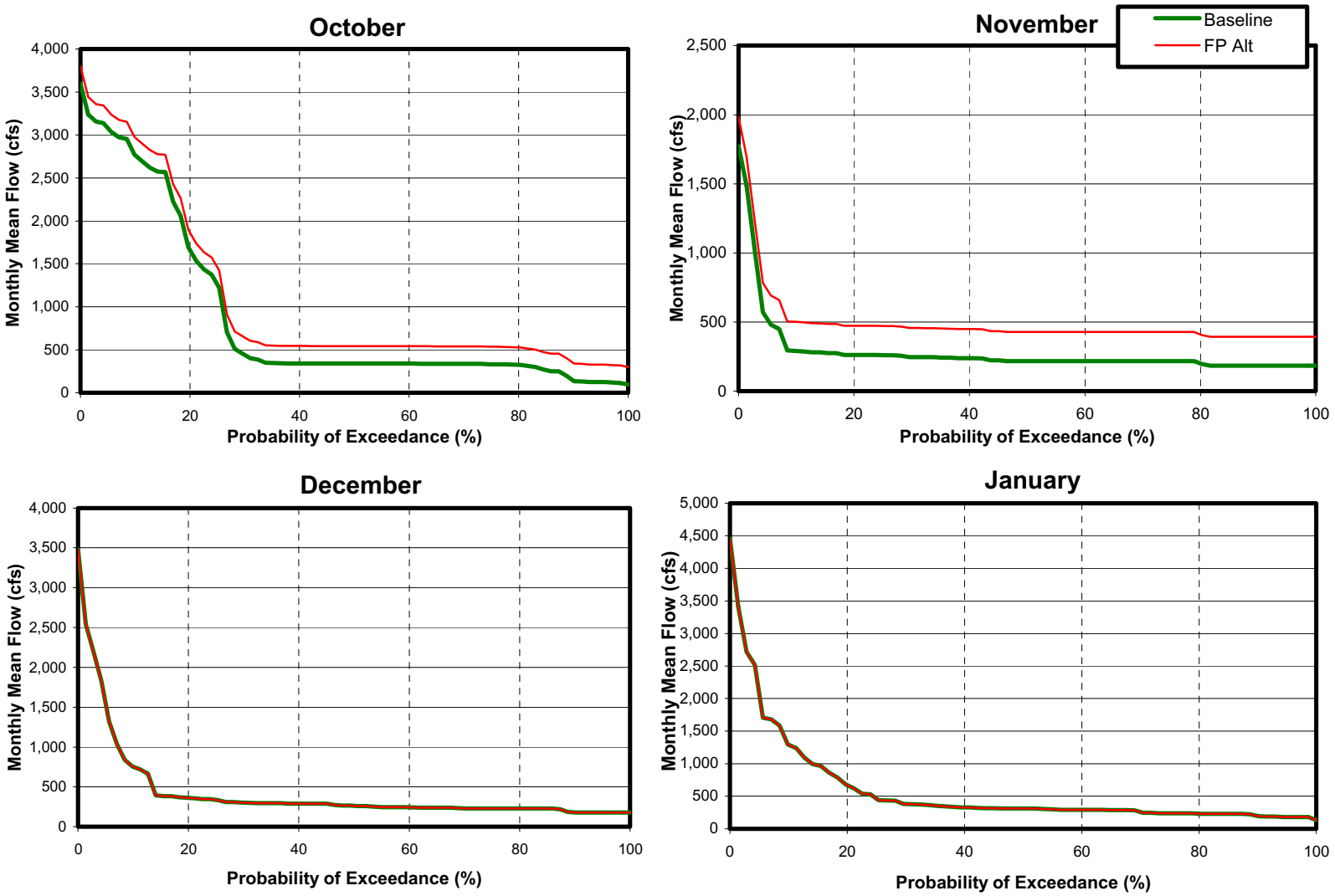
Merced River Flow below Crocker-Huffman Dam During August Under Baseline and FP Alt Conditions



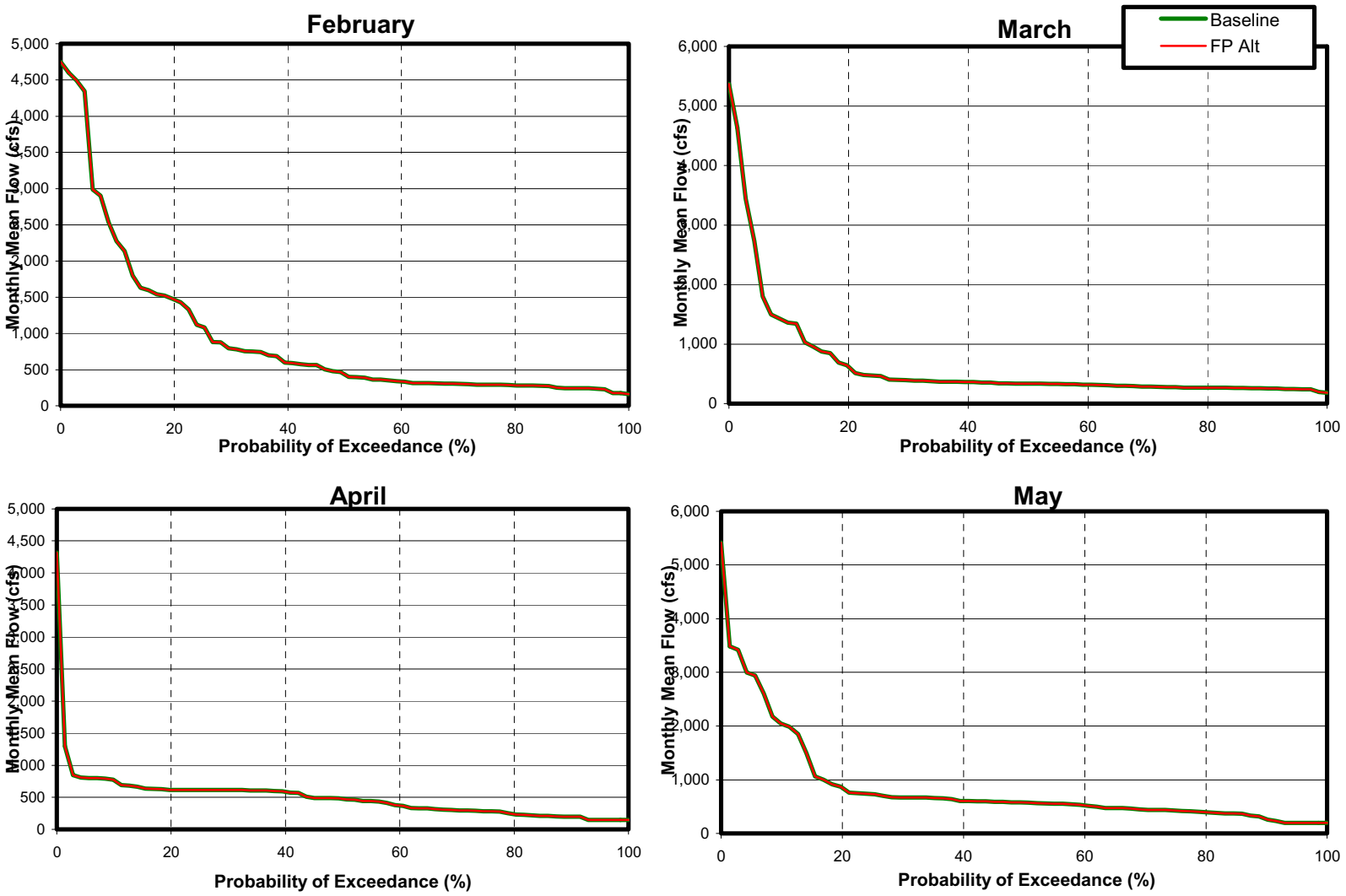
Merced River Flow below Crocker-Huffman Dam During September Under Baseline and FP Alt Conditions



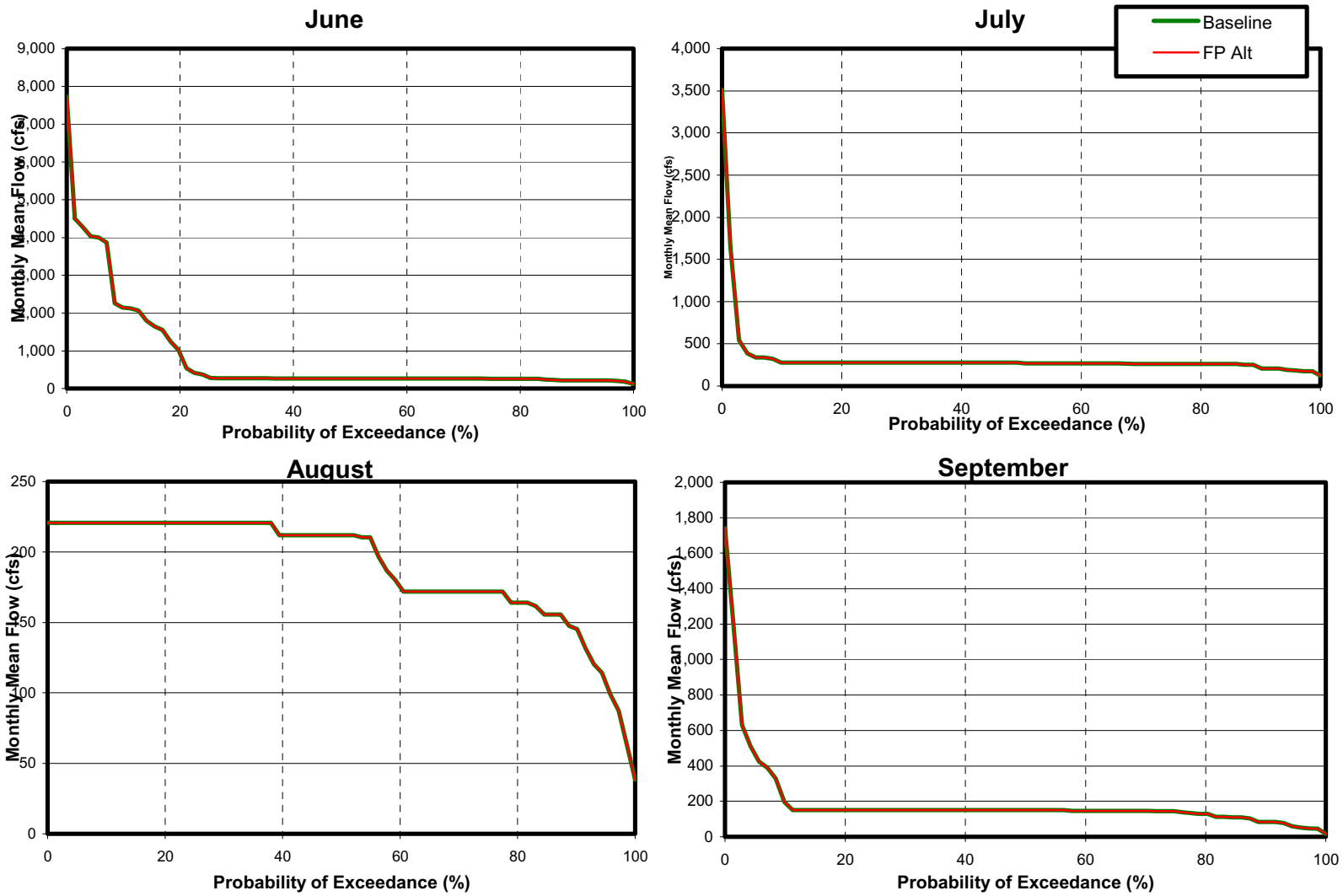
Merced River Flow at Mouth Under Baseline and FP Alt Conditions



Merced River Flow at Mouth Under Baseline and FP Alt Conditions



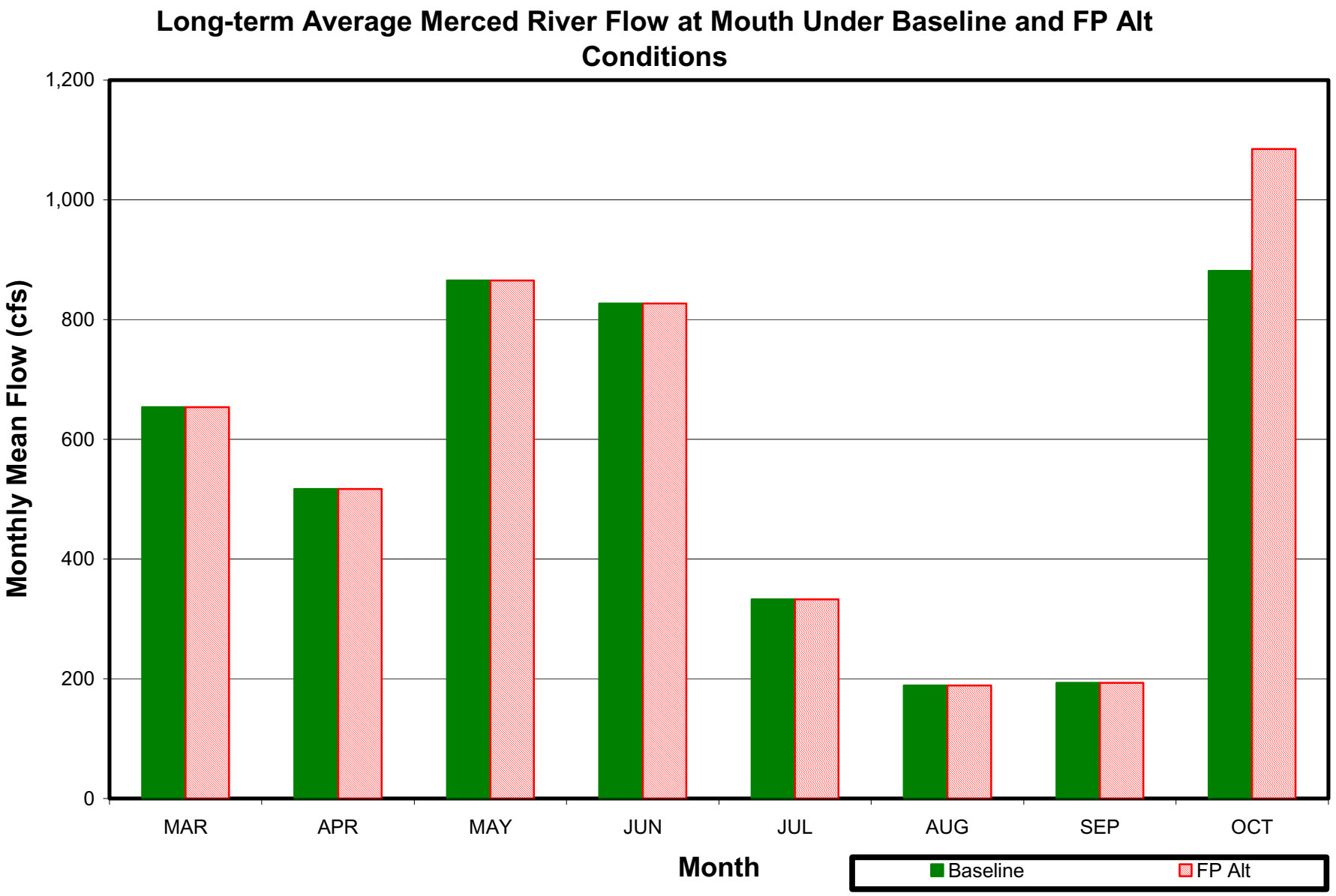
Merced River Flow at Mouth Under Baseline and FP Alt Conditions



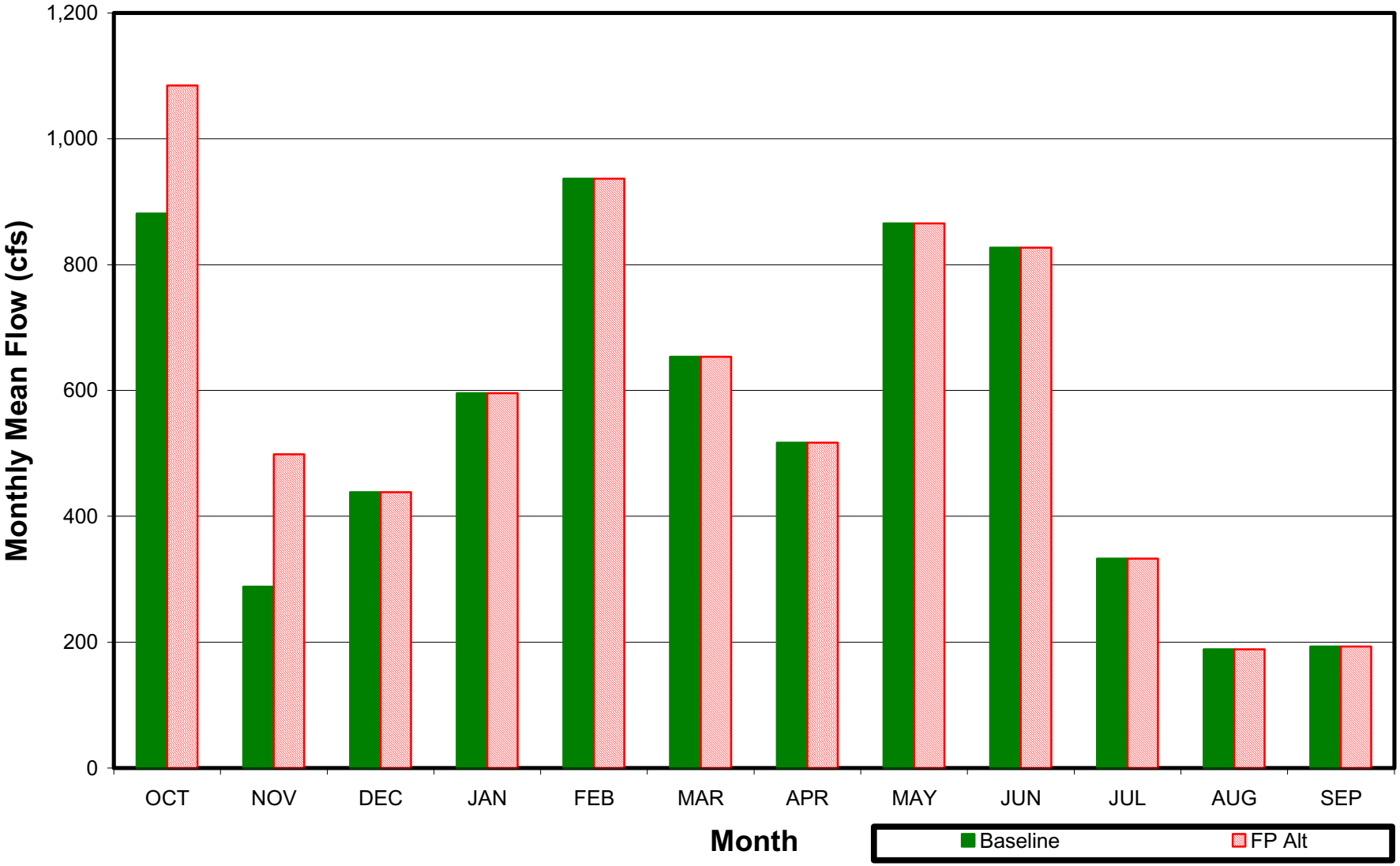
Long-term Average Flow at Mouth Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	881	1085	204	23.2
Nov	288	499	211	73.3
Dec	438	438	0	0.0
Jan	596	596	0	0.0
Feb	936	936	0	0.0
Mar	654	654	0	0.0
Apr	517	517	0	0.0
May	865	865	0	0.0
Jun	827	827	0	0.0
Jul	333	333	0	0.0
Aug	189	189	0	0.0
Sep	193	193	0	0.0

[1] Based on 72 years modeled.

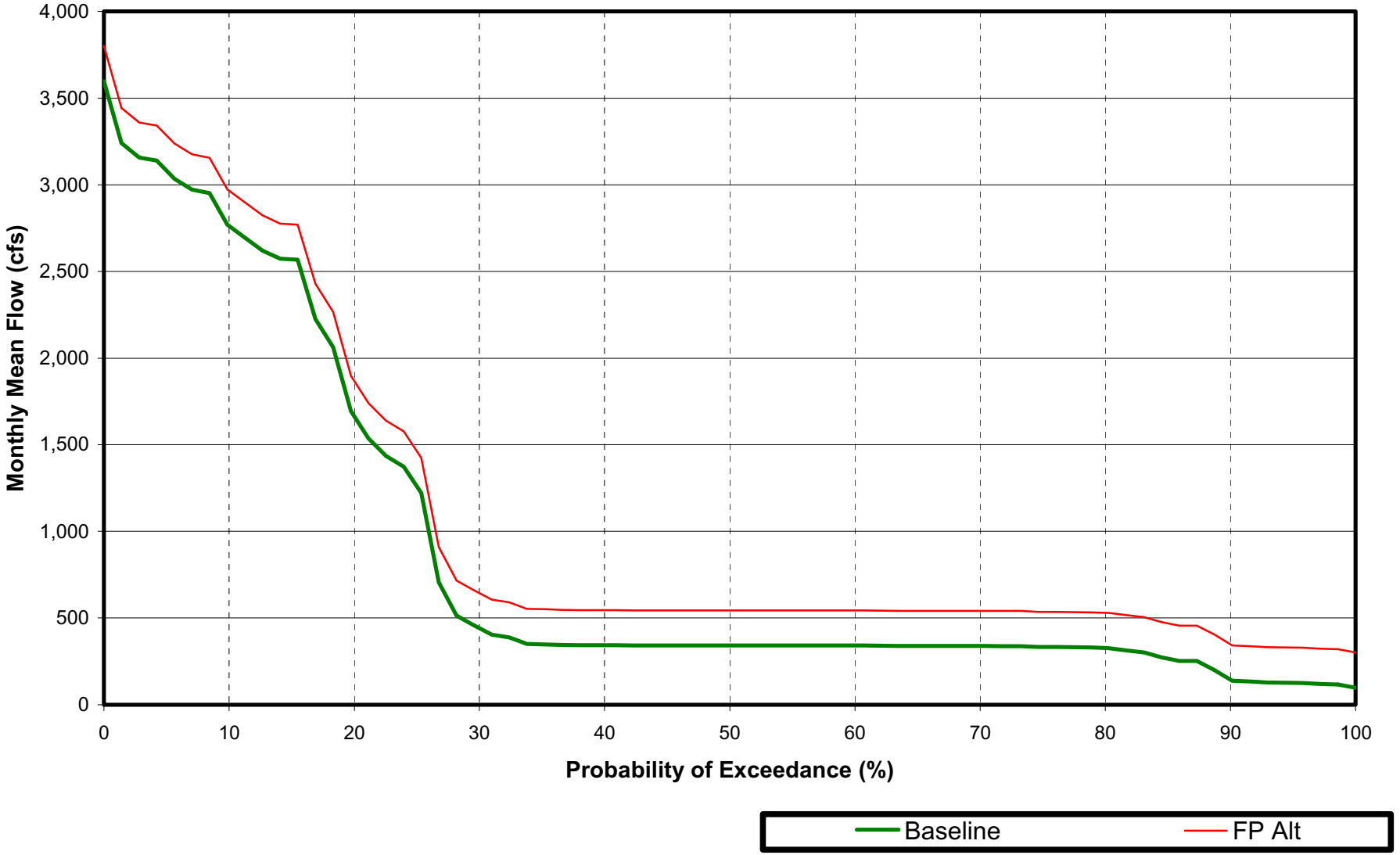
[2] Relative difference of the monthly long-term average.


Long-term Average Merced River Flow at Mouth Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
1,200
1,000
800
600
400
200
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt

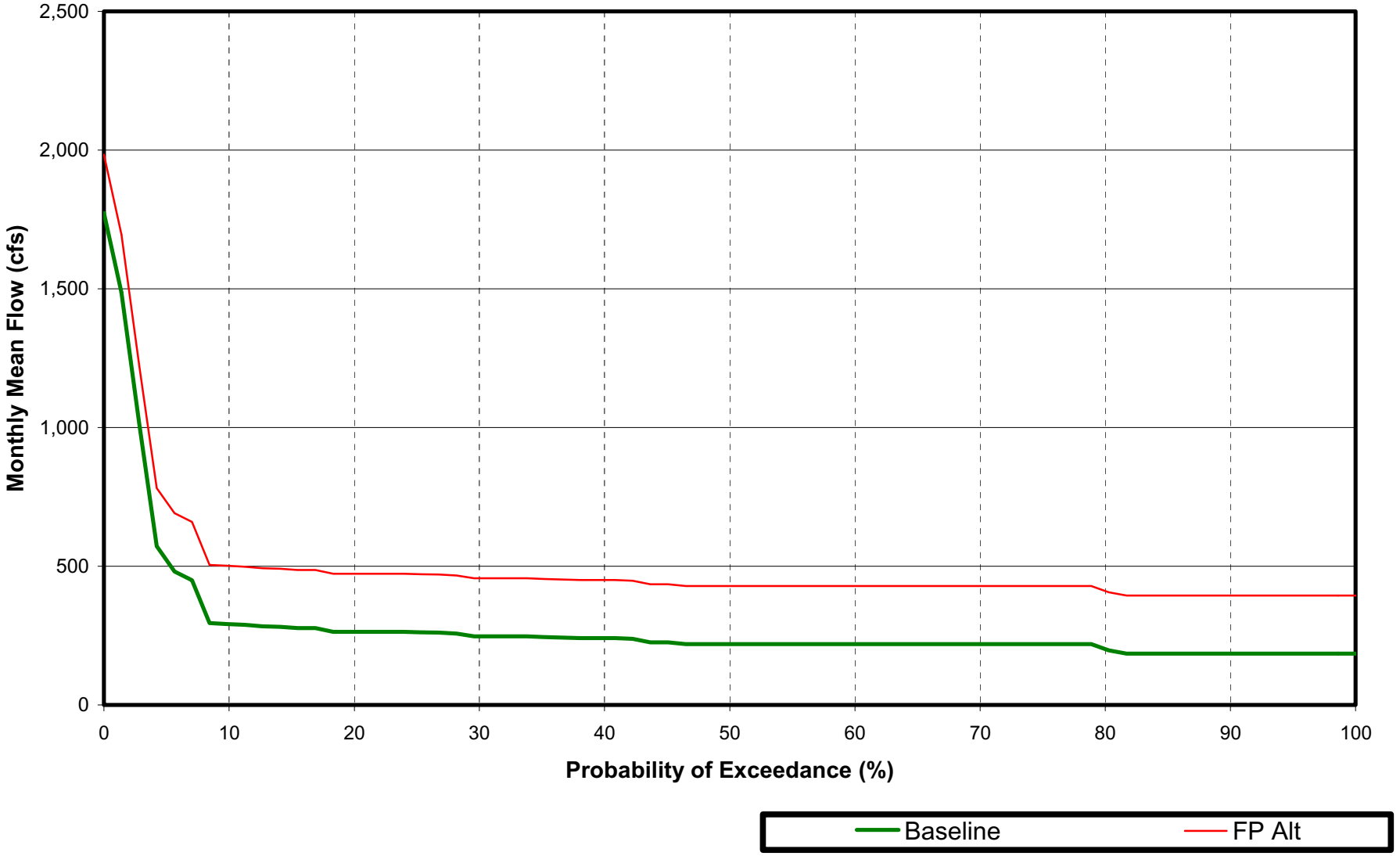
Long-term Average Merced River Flow at Mouth Under Baseline and FP Alt Conditions



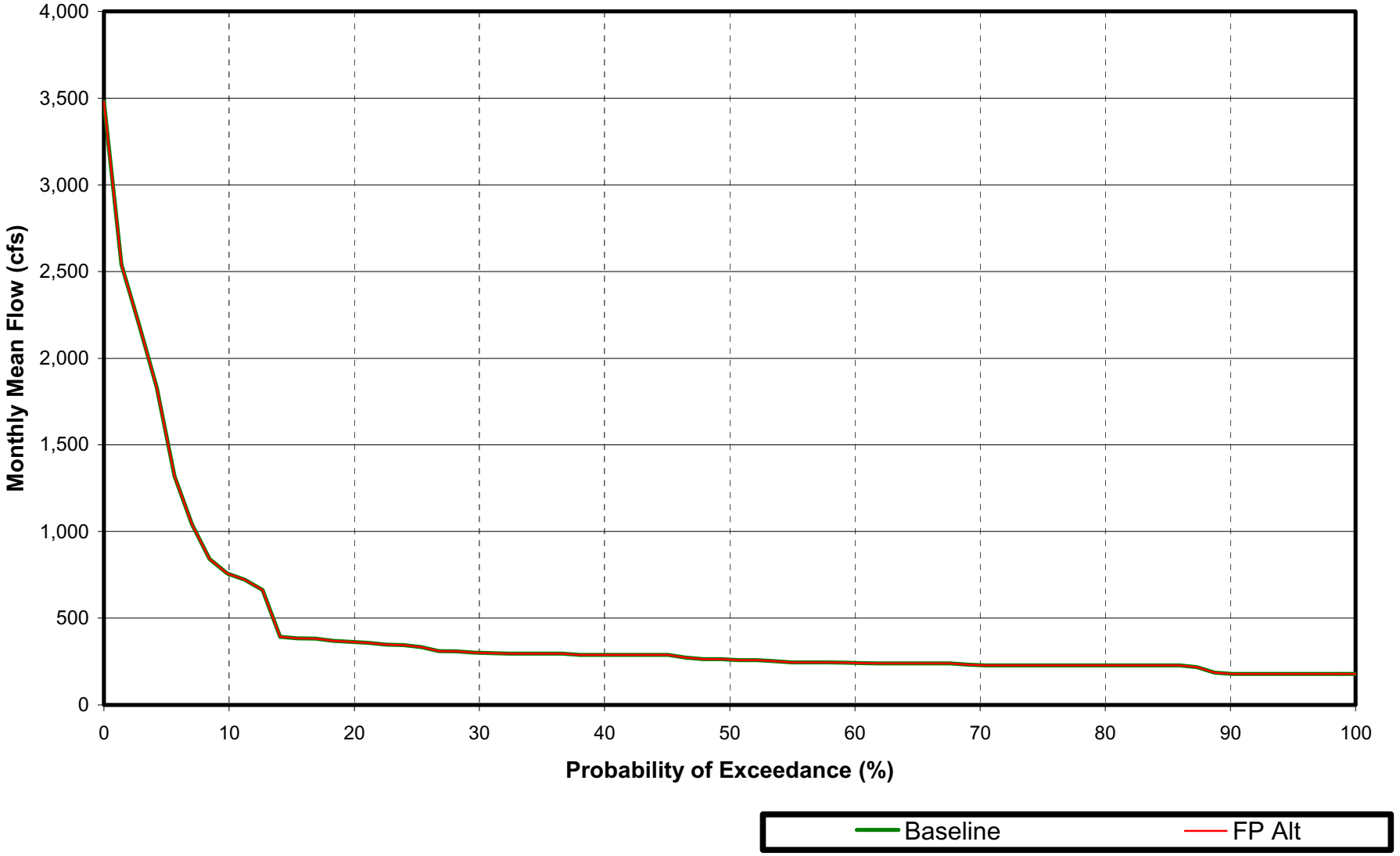
Merced River Flow at Mouth During October Under Baseline and FP Alt Conditions



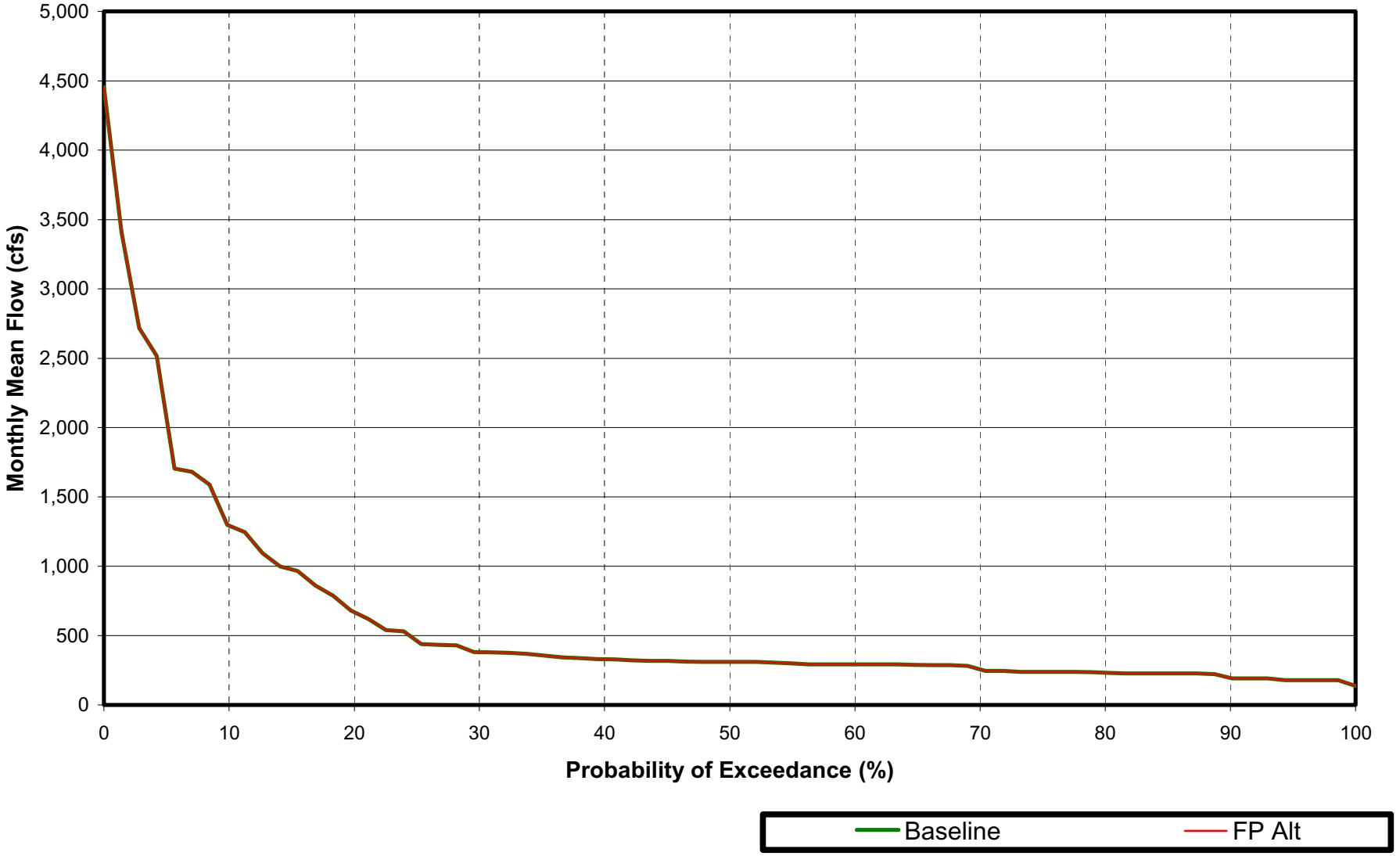
Merced River Flow at Mouth During November Under Baseline and FP Alt Conditions



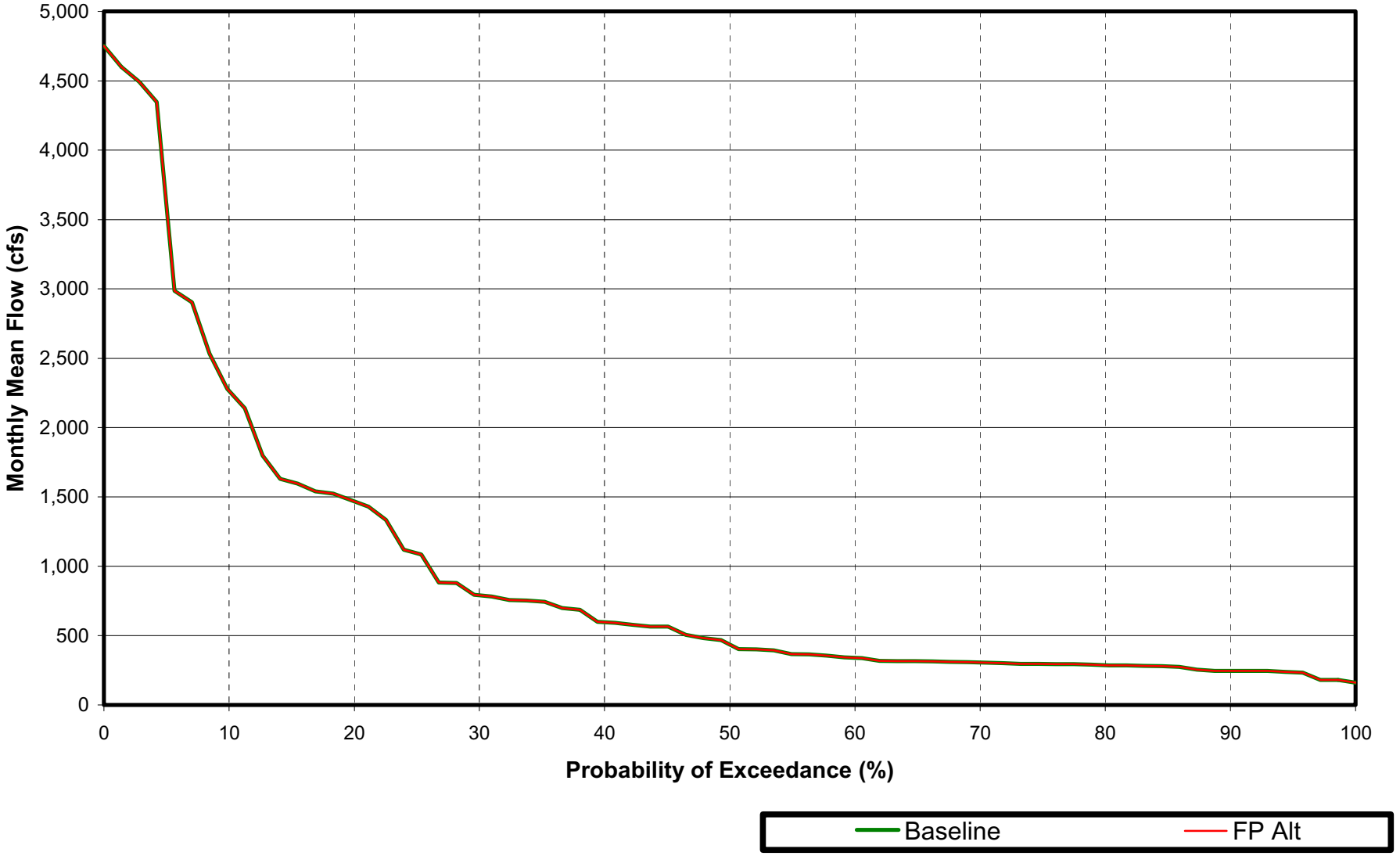
Merced River Flow at Mouth During December Under Baseline and FP Alt Conditions



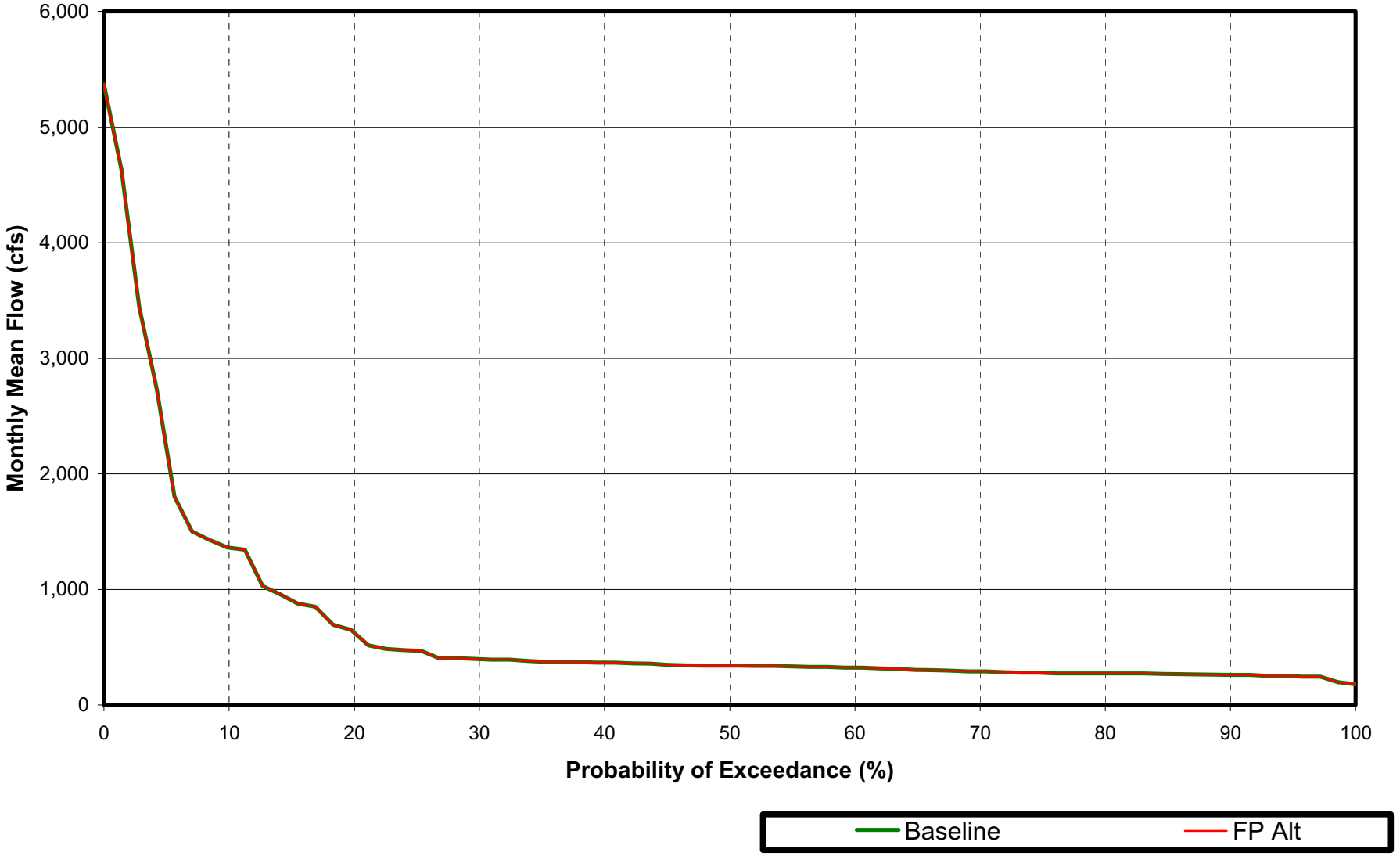
Merced River Flow at Mouth During January Under Baseline and FP Alt Conditions



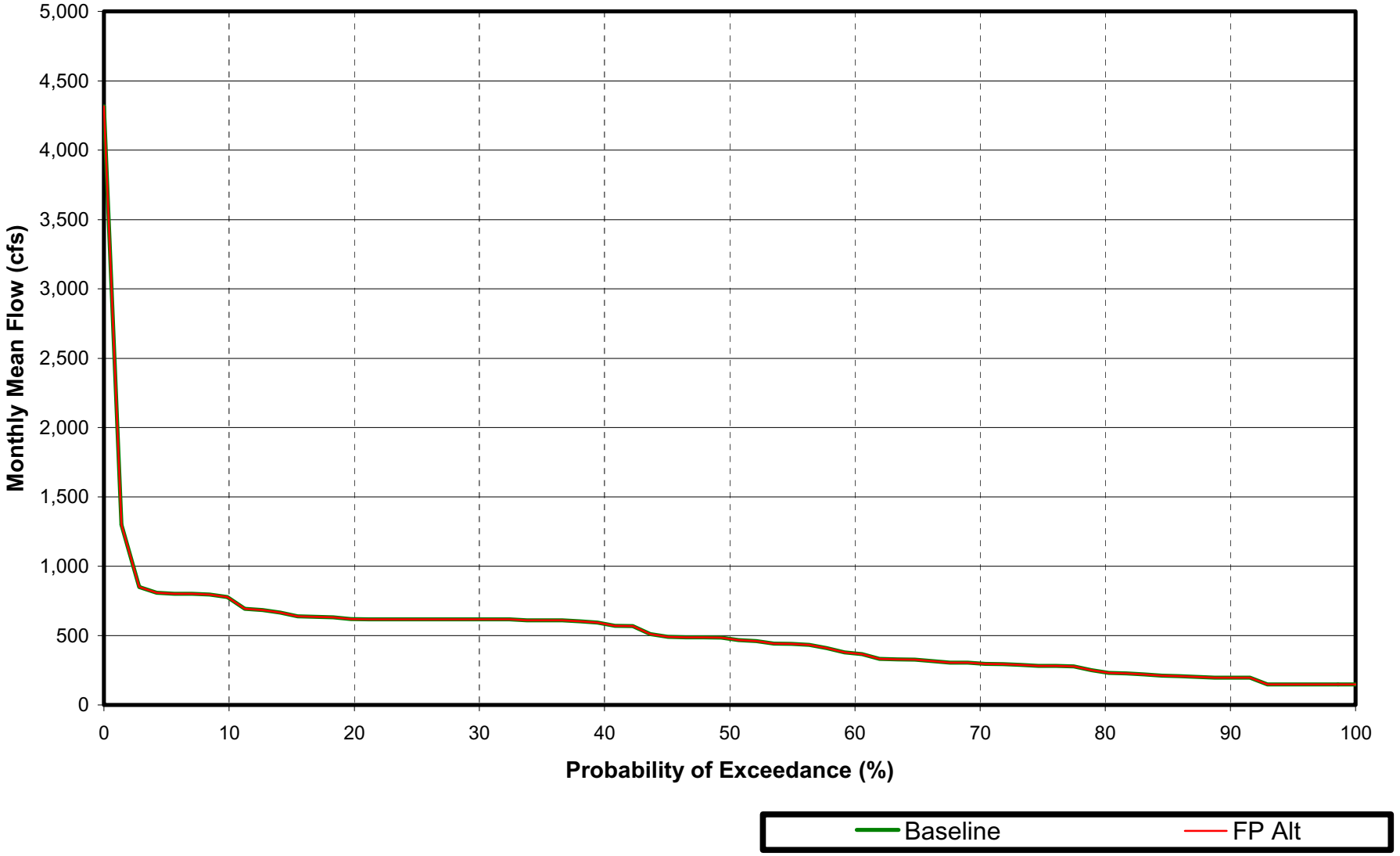
Merced River Flow at Mouth During February Under Baseline and FP Alt Conditions



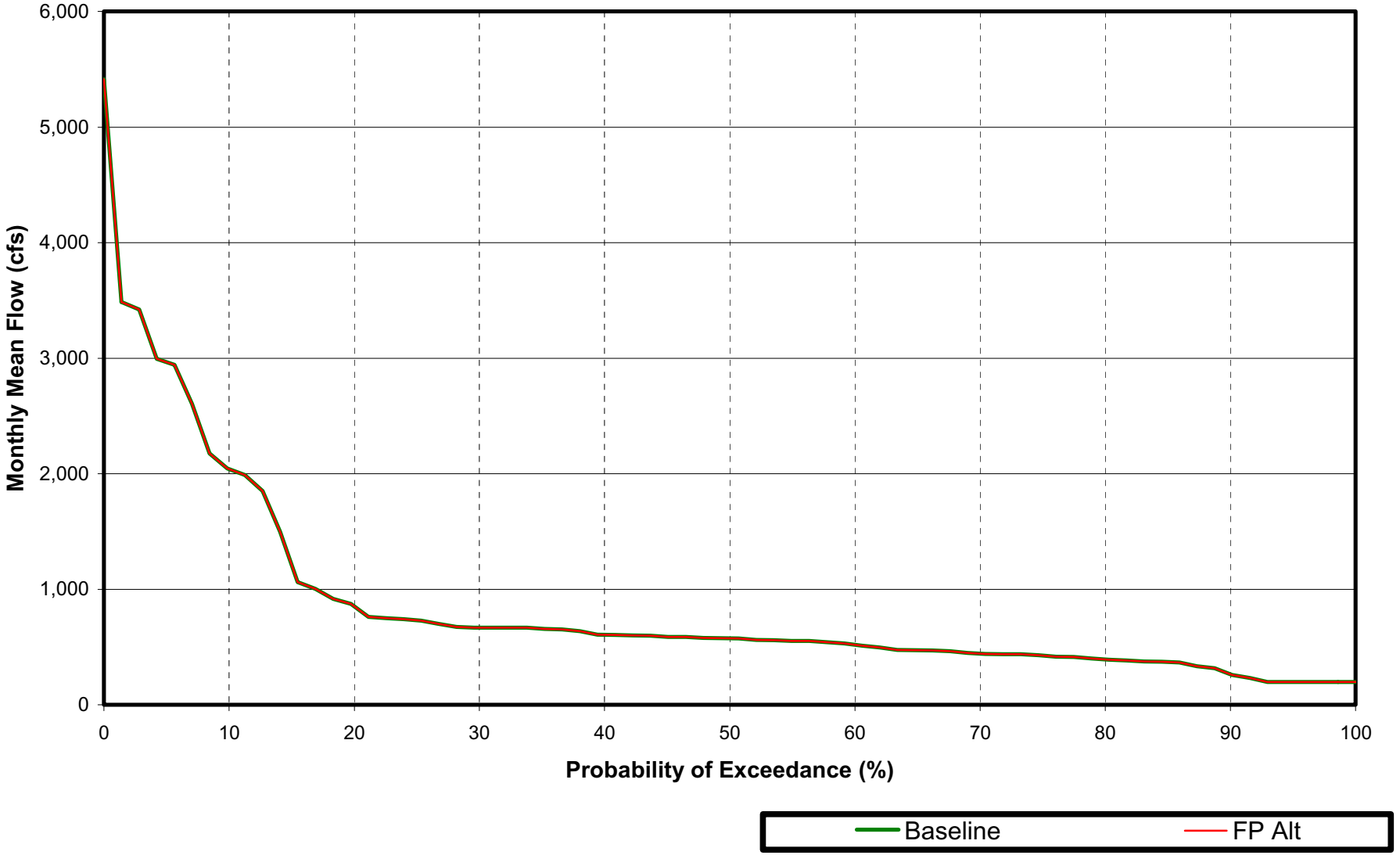
Merced River Flow at Mouth During March Under Baseline and FP Alt Conditions



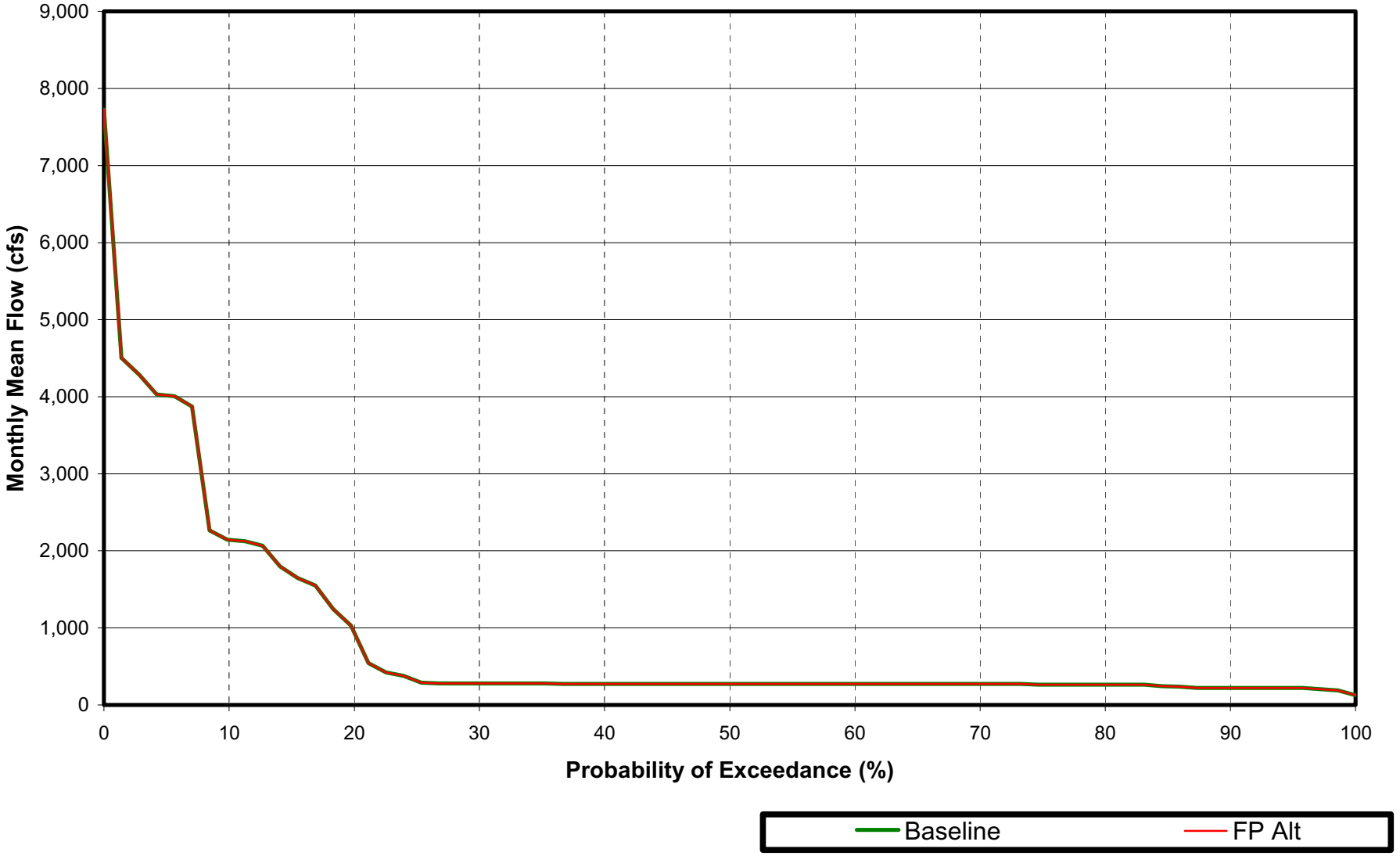
Merced River Flow at Mouth During April Under Baseline and FP Alt Conditions



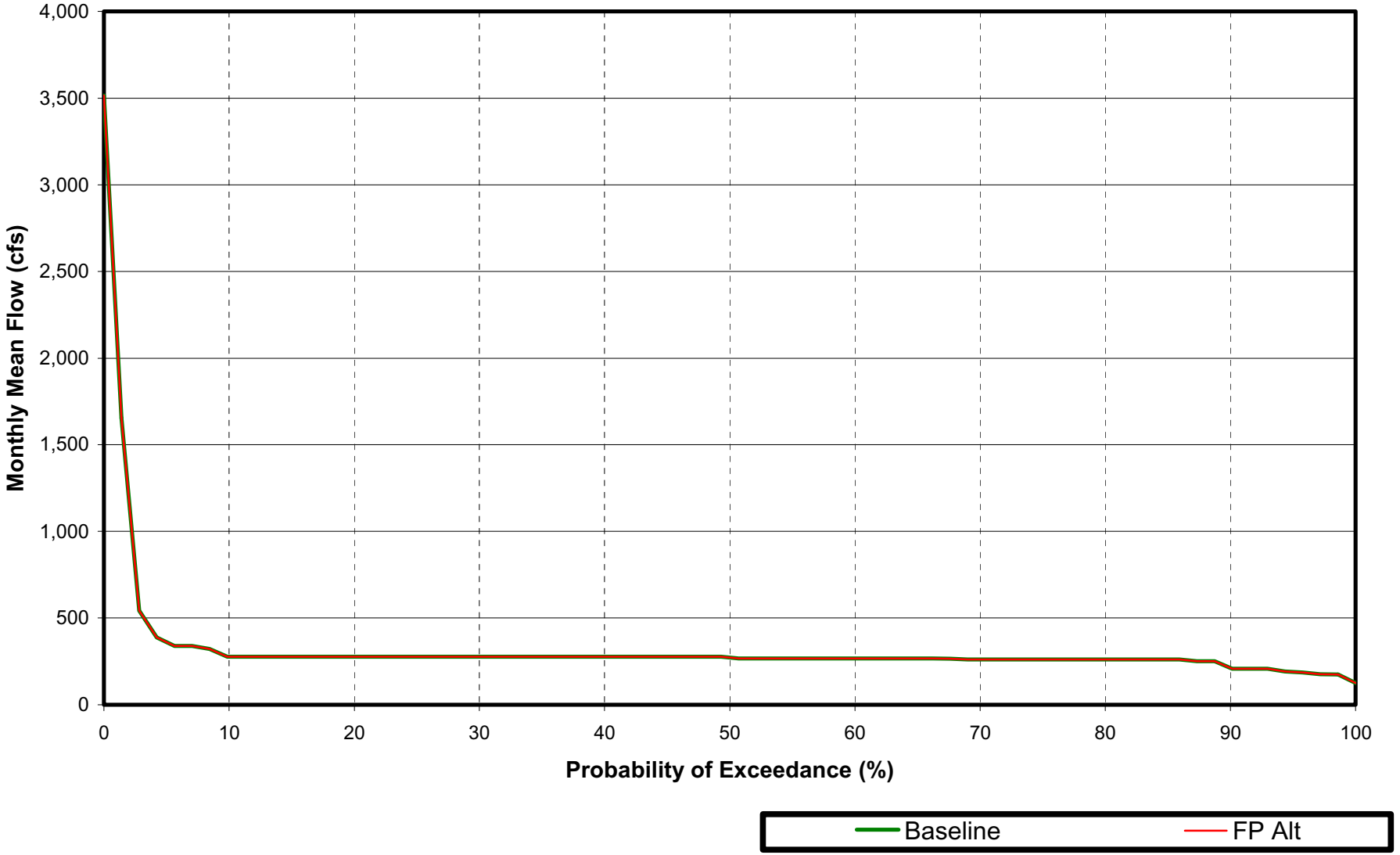
Merced River Flow at Mouth During May Under Baseline and FP Alt Conditions



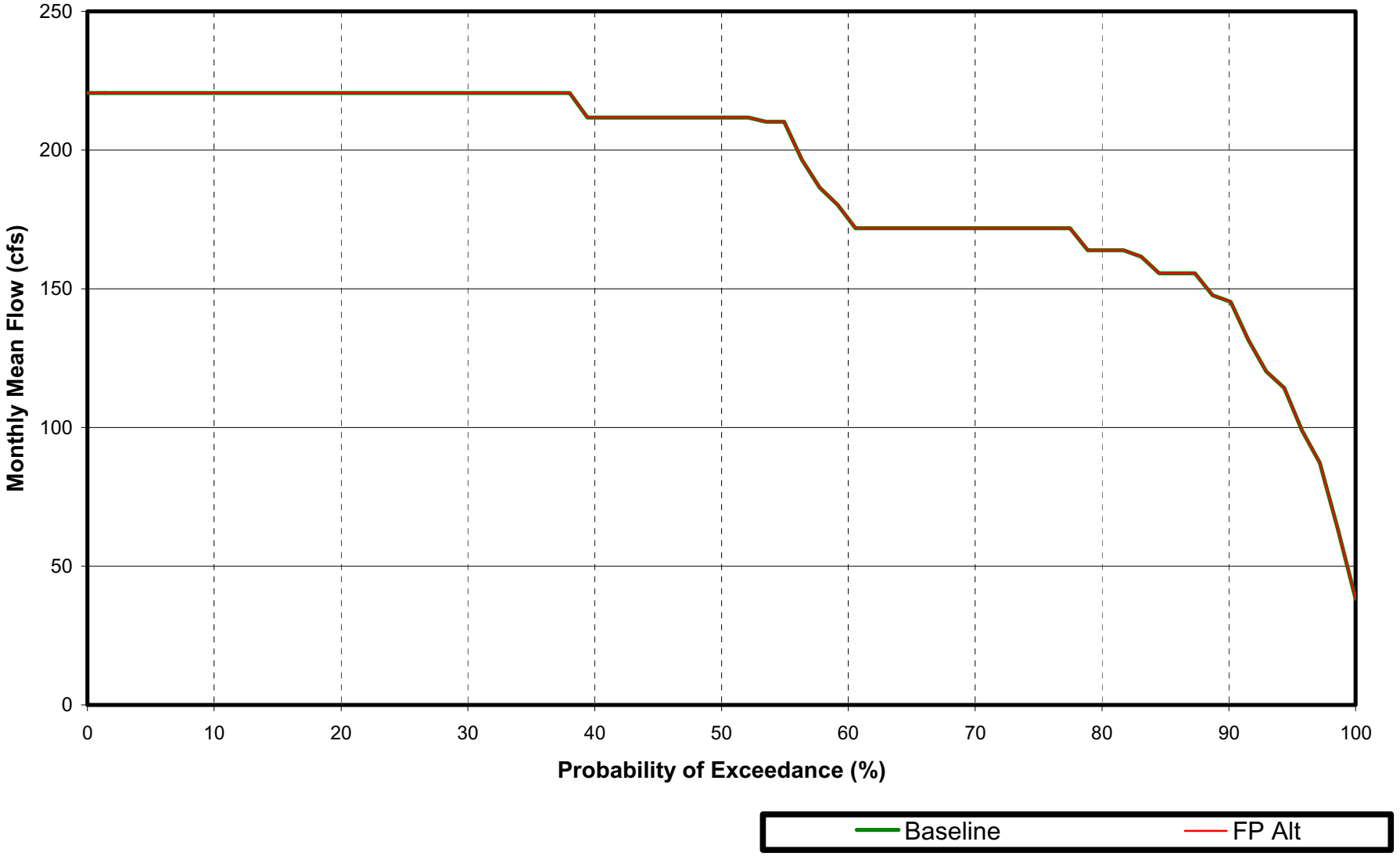
Merced River Flow at Mouth During June Under Baseline and FP Alt Conditions



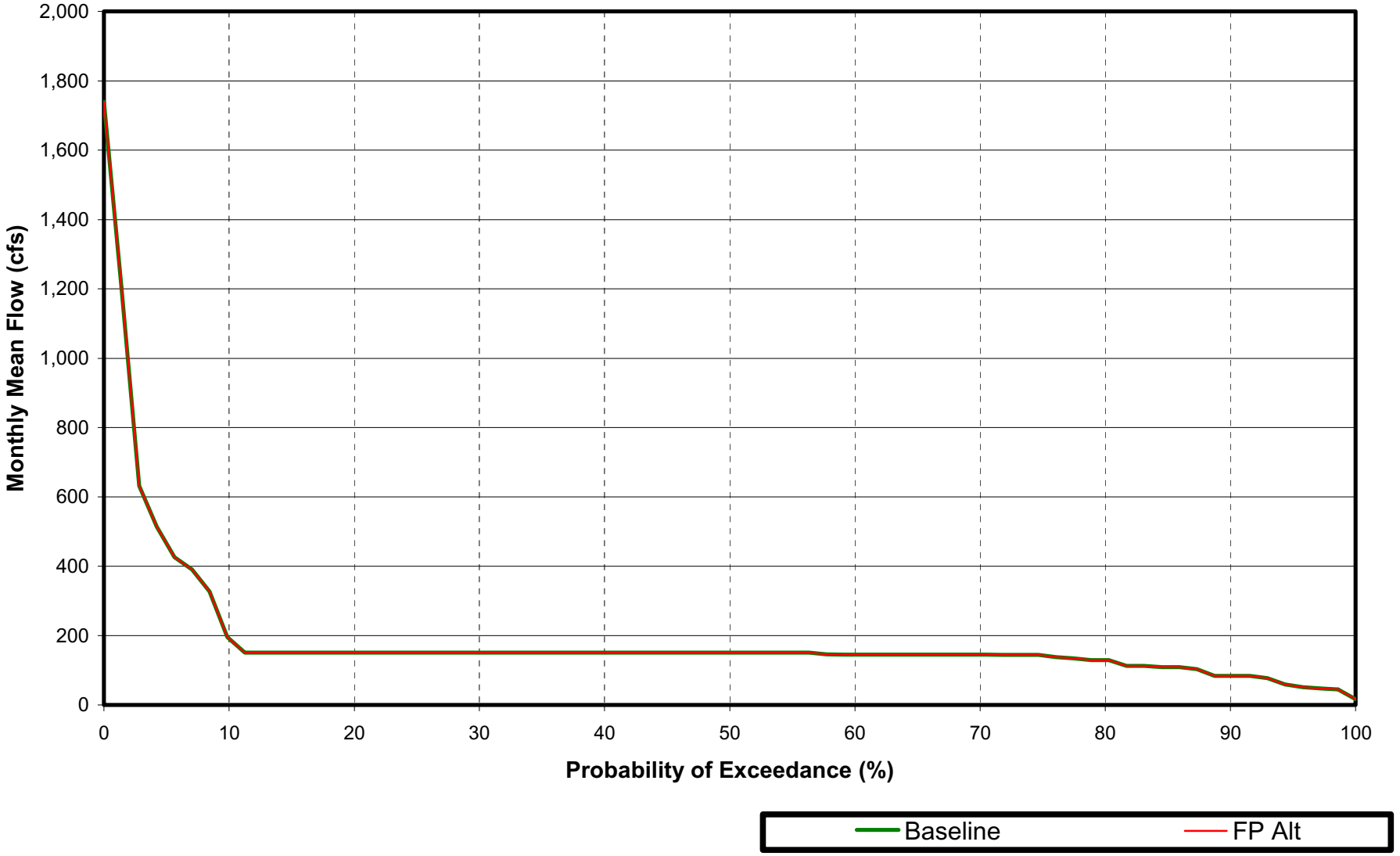
Merced River Flow at Mouth During July Under Baseline and FP Alt Conditions



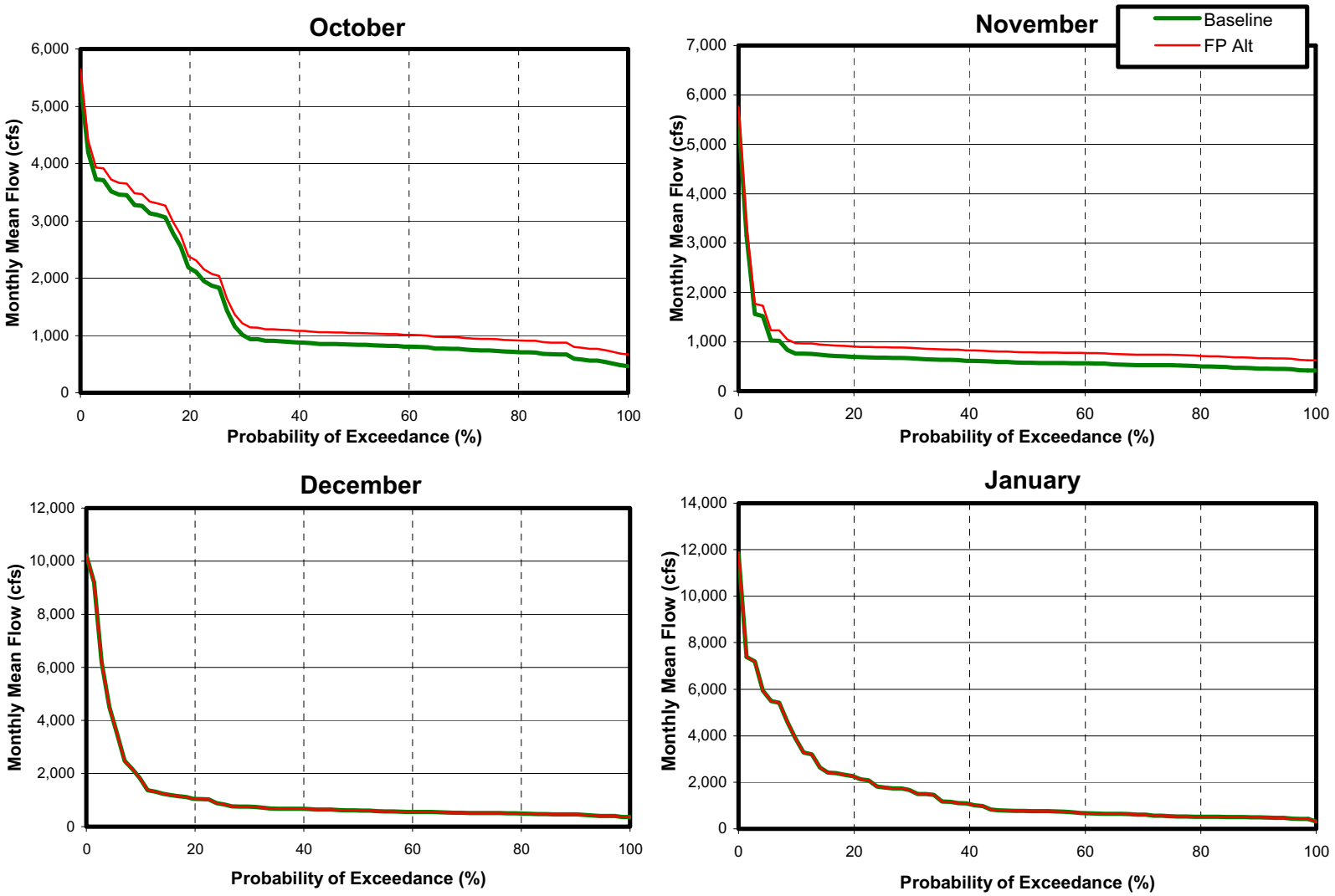
Merced River Flow at Mouth During August Under Baseline and FP Alt Conditions



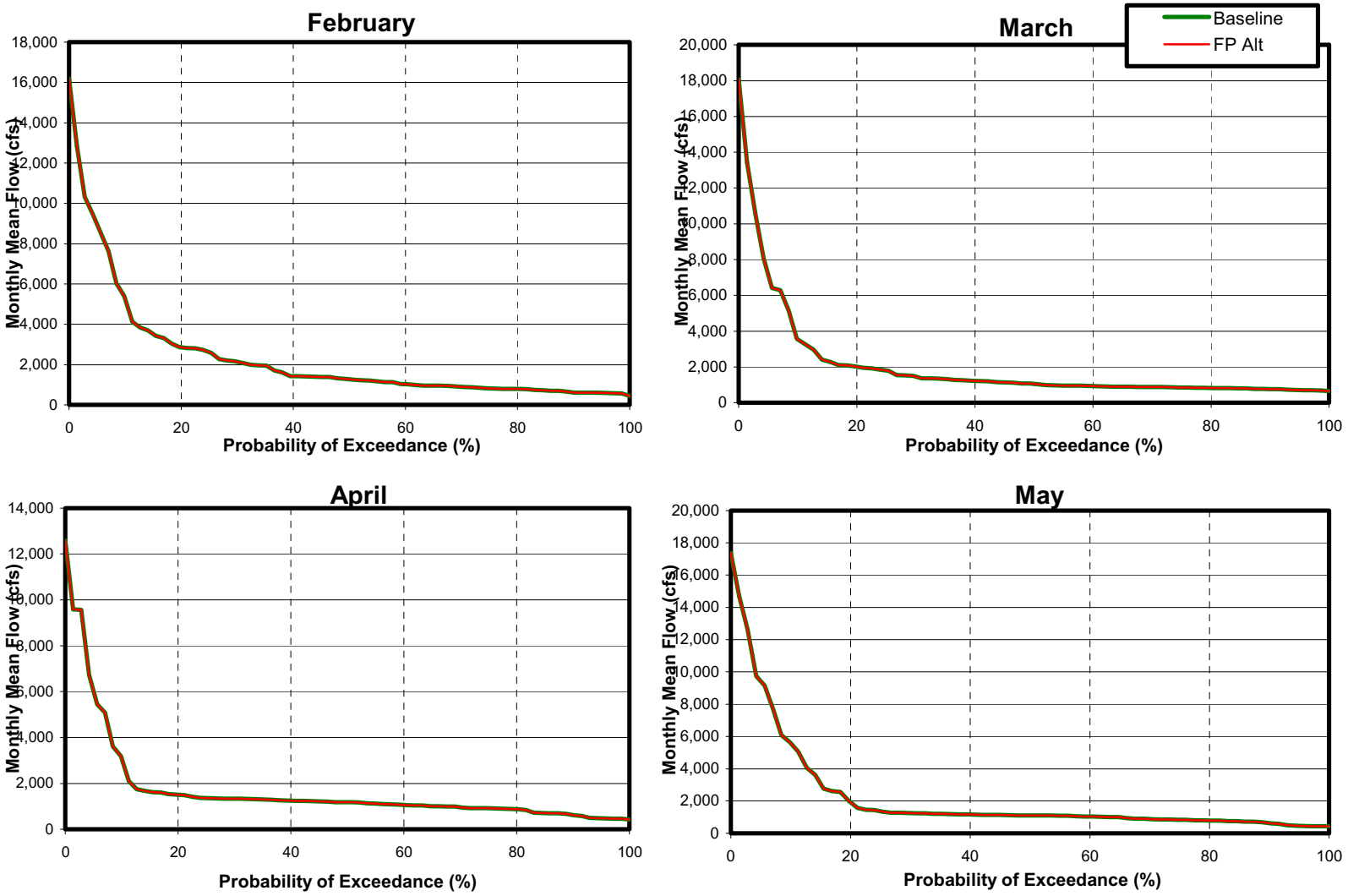
Merced River Flow at Mouth During September Under Baseline and FP Alt Conditions



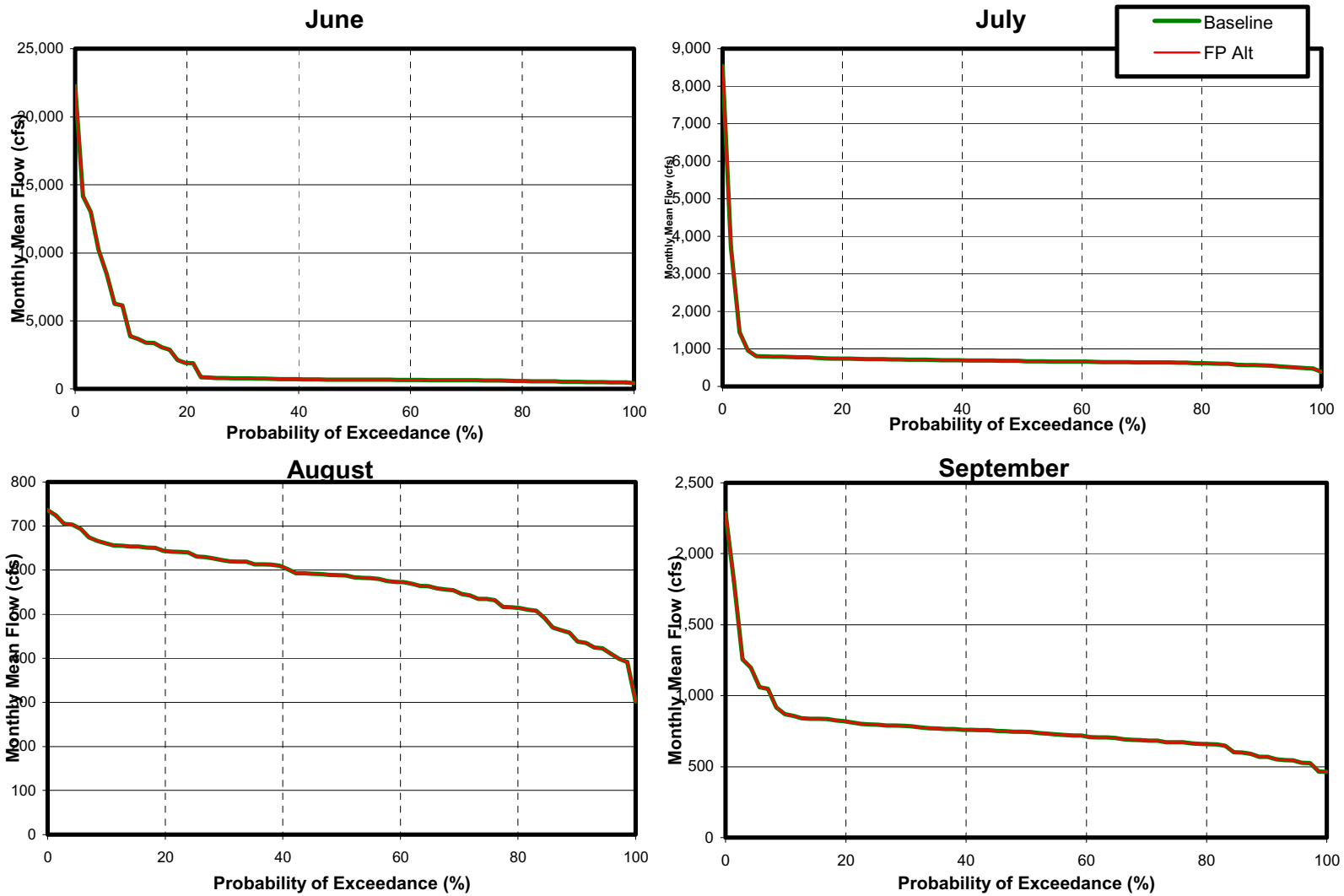
San Joaquin Flow below Merced River Under Baseline and FP Alt Conditions



San Joaquin Flow below Merced River Under Baseline and FP Alt Conditions



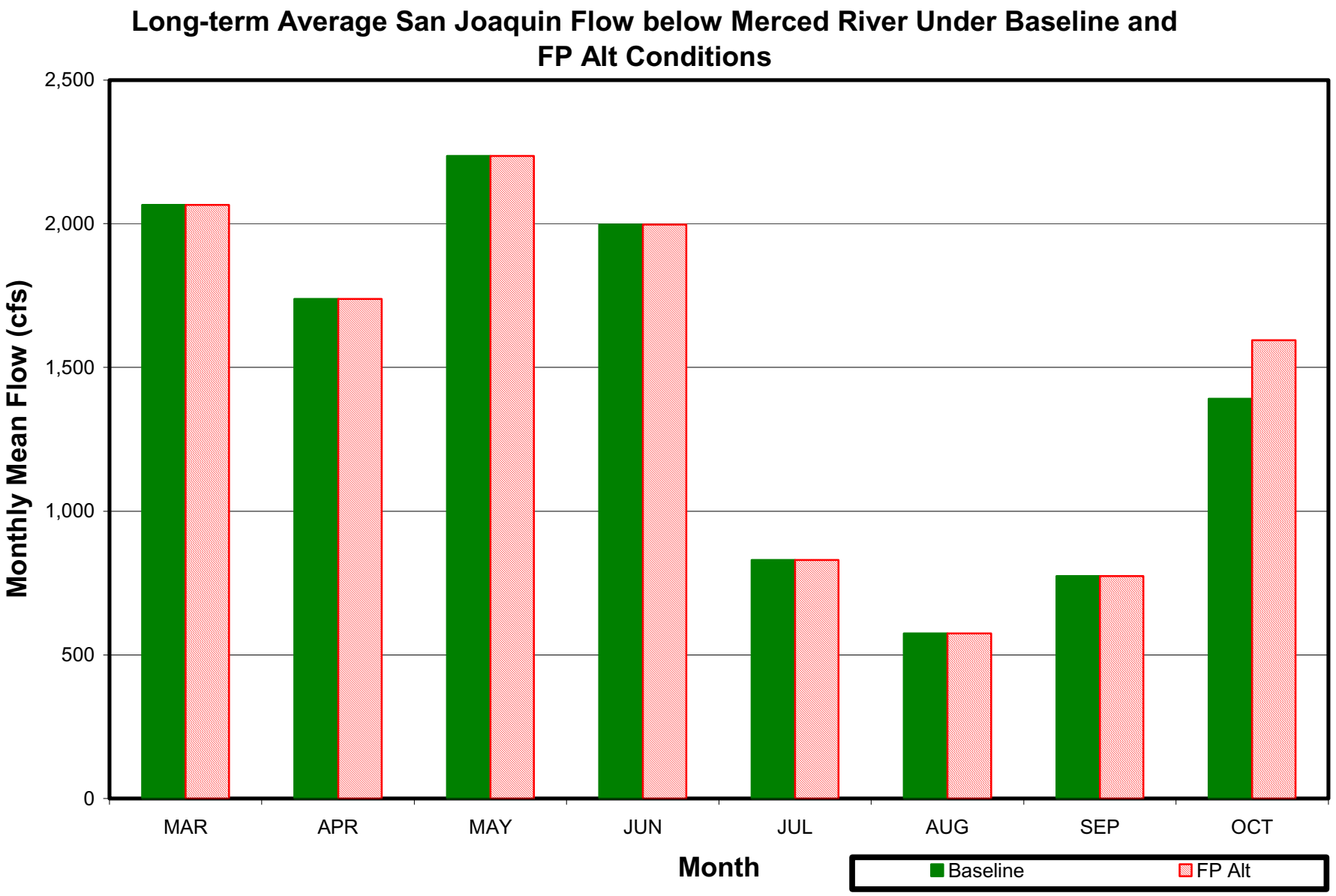
San Joaquin Flow below Merced River Under Baseline and FP Alt Conditions



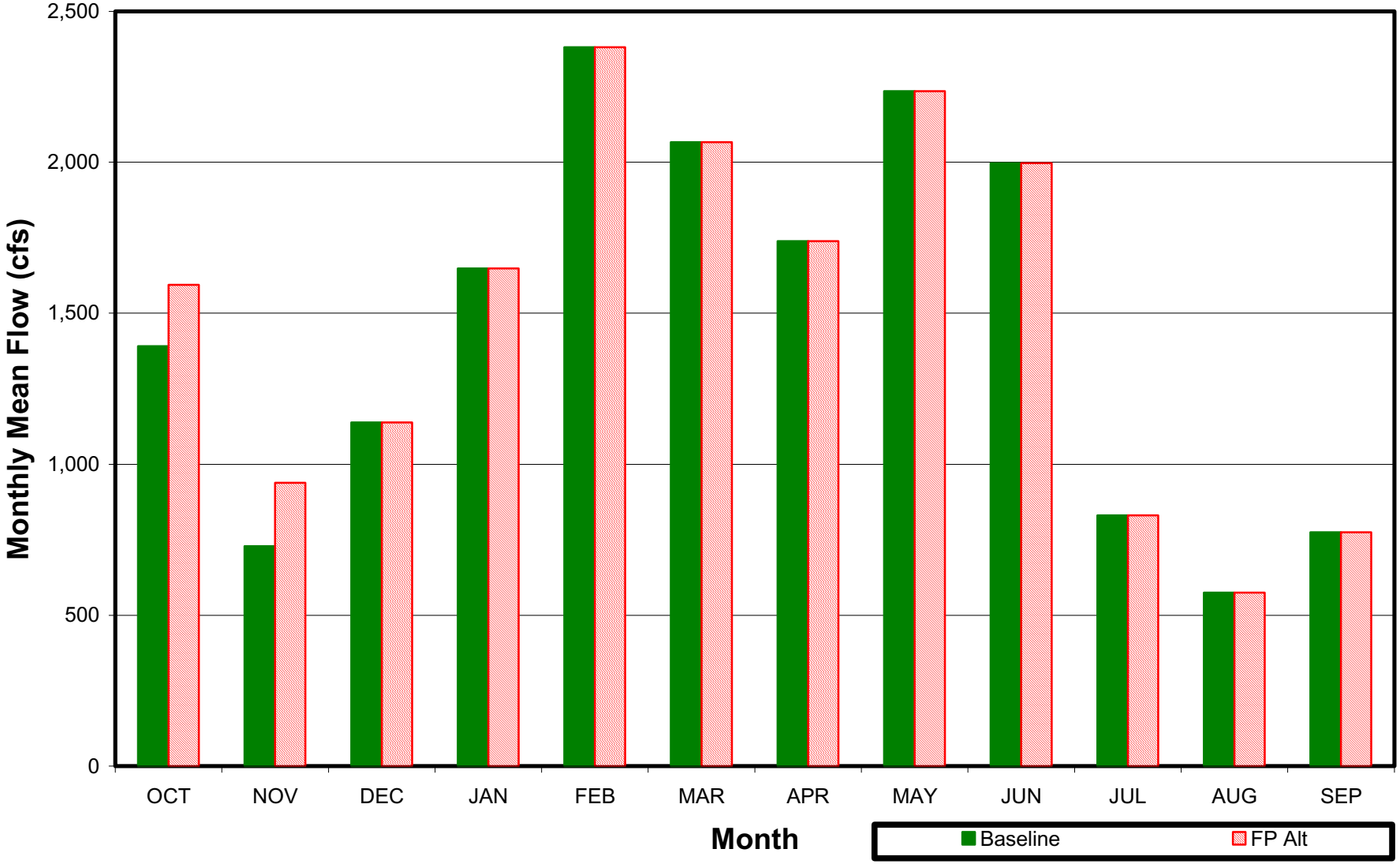
Long-term Average Flow below Merced River Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	1391	1594	203	14.6
Nov	729	939	210	28.8
Dec	1138	1138	0	0.0
Jan	1648	1648	0	0.0
Feb	2381	2381	0	0.0
Mar	2066	2066	0	0.0
Apr	1739	1739	0	0.0
May	2236	2236	0	0.0
Jun	1997	1997	0	0.0
Jul	830	830	0	0.0
Aug	575	575	0	0.0
Sep	774	774	0	0.0

[1] Based on 72 years modeled.

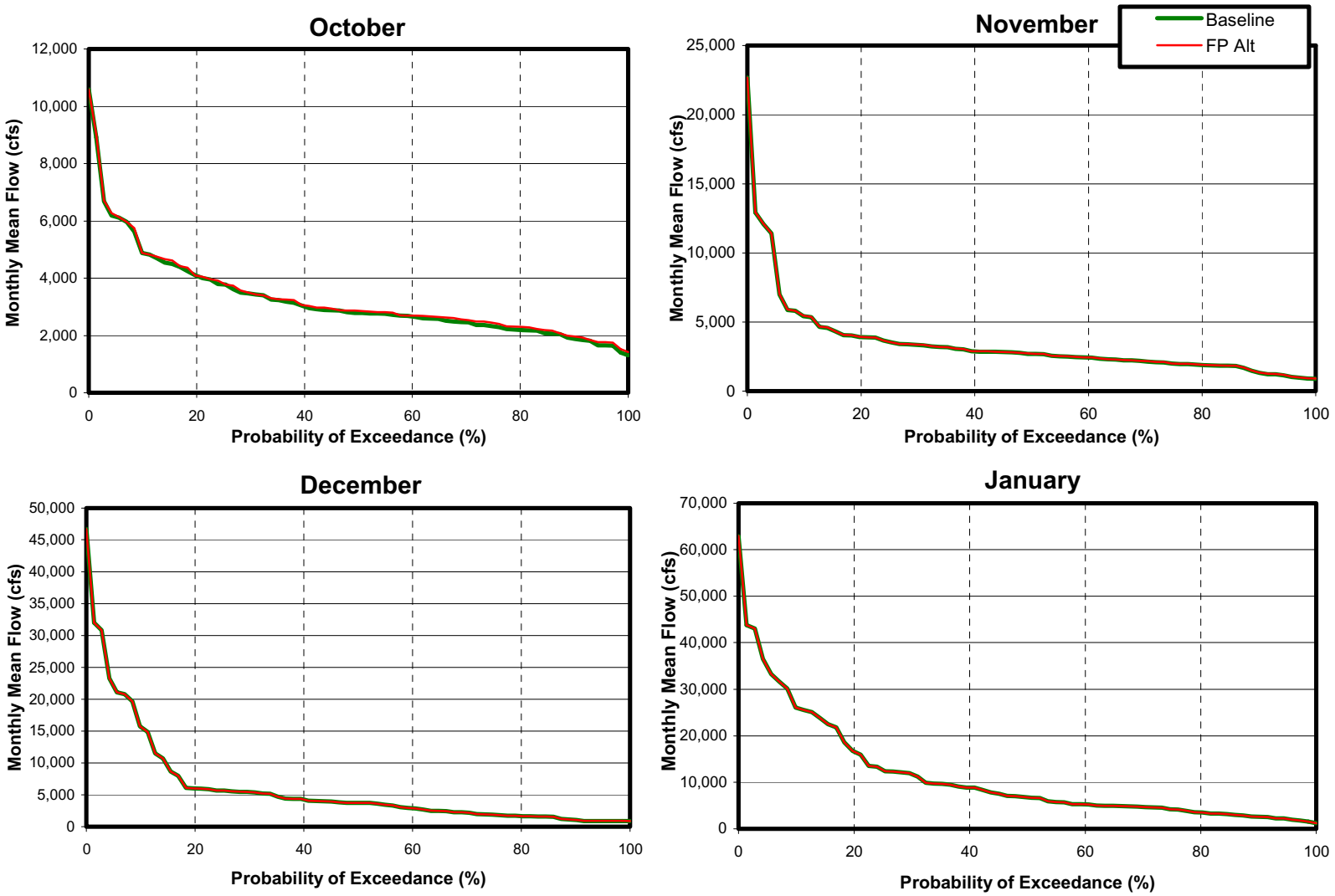
[2] Relative difference of the monthly long-term average.


Long-term Average San Joaquin Flow below Merced River Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
2,500
2,000
1,500
1,000
500
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt

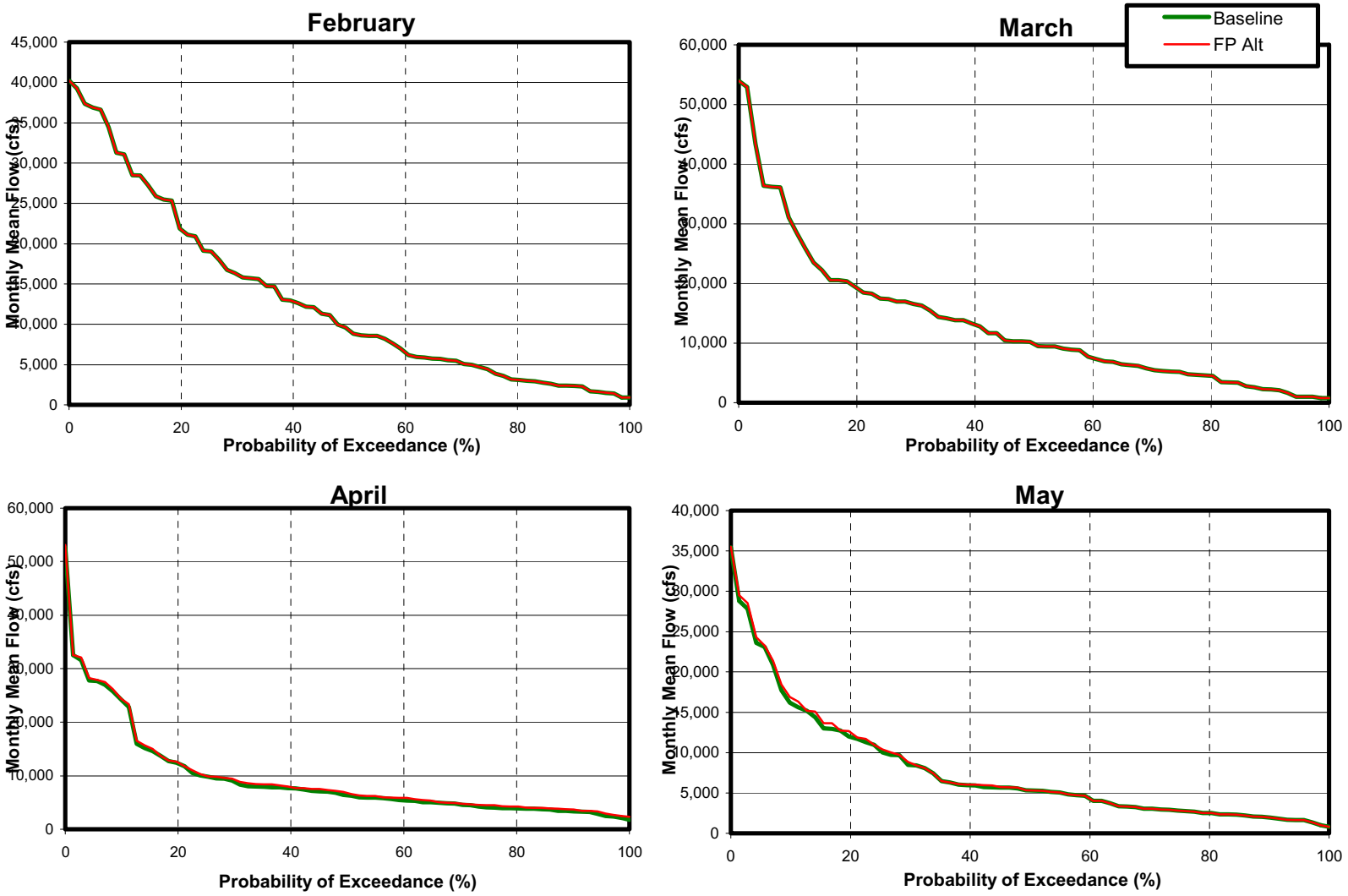
Long-term Average San Joaquin Flow below Merced River Under Baseline and FP Alt Conditions



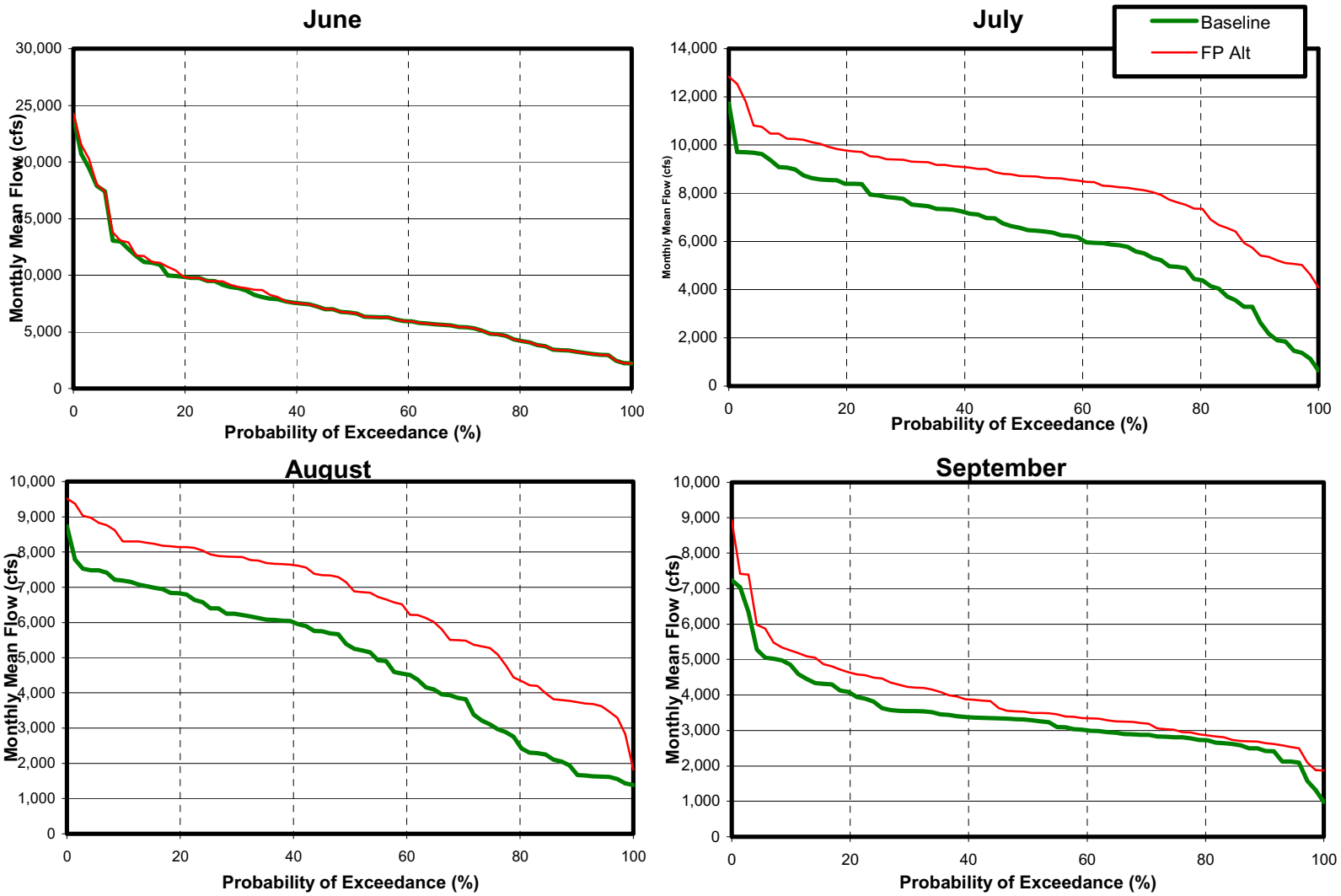
Feather River Flow at Mouth Under Baseline and FP Alt Conditions



Feather River Flow at Mouth Under Baseline and FP Alt Conditions



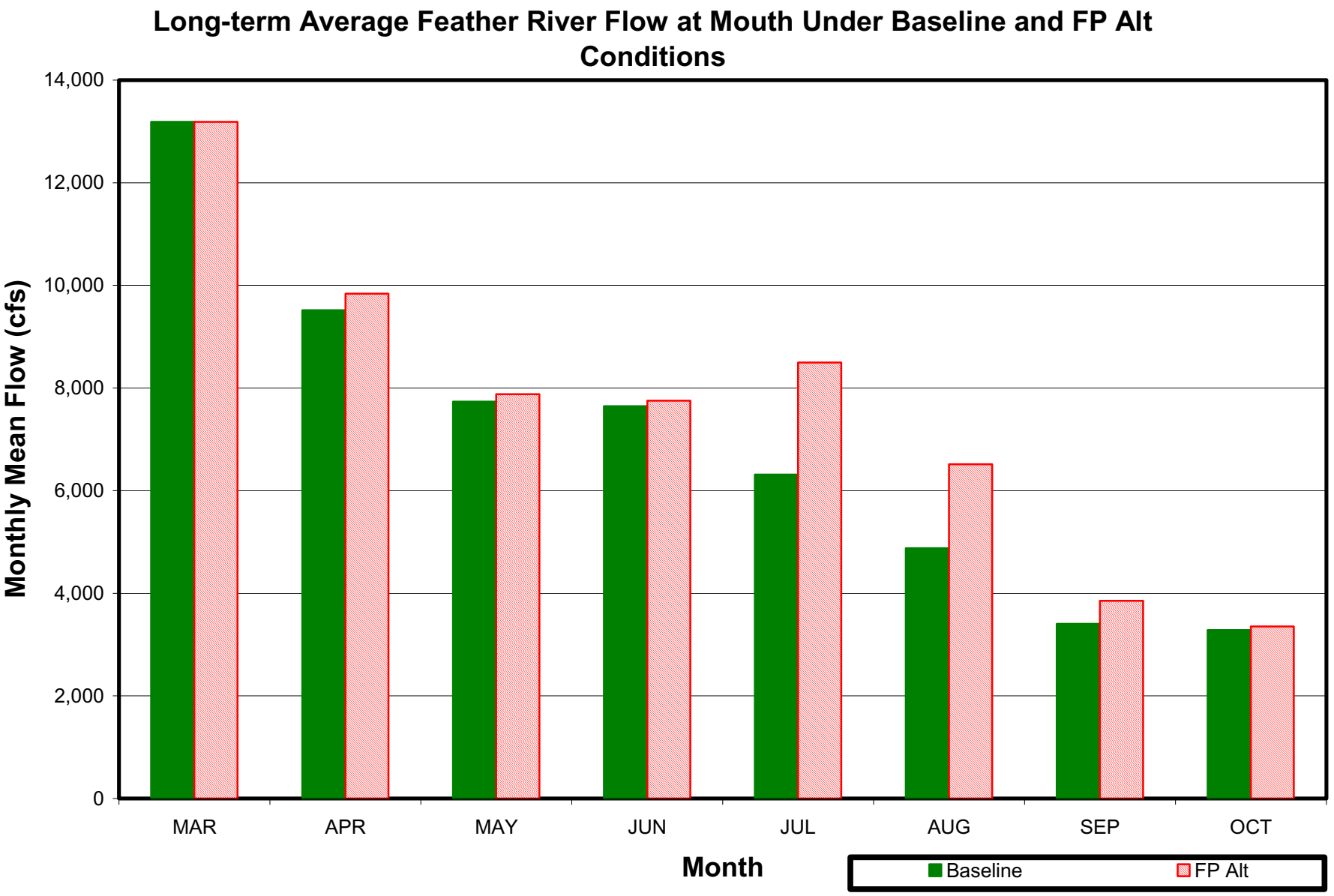
Feather River Flow at Mouth Under Baseline and FP Alt Conditions

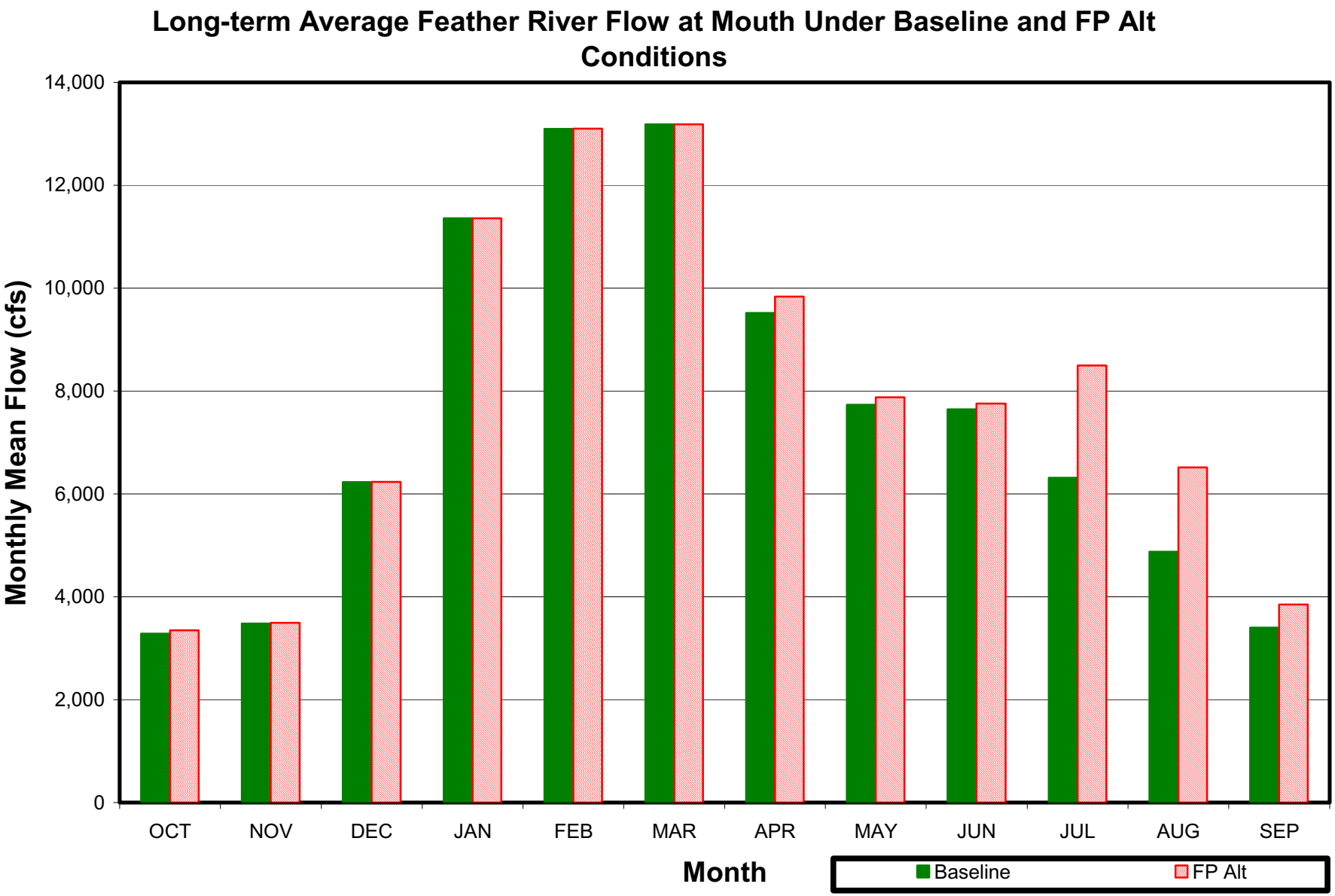


Long-term Average Flow at Mouth Under Baseline and FP Alt Conditions				
Month	Monthly Mean Flow[1] (cfs)		Difference	
	Baseline	FP Alt	(cfs)	(%)[2]
Oct	3284	3352	68	2.1
Nov	3482	3496	14	0.4
Dec	6227	6232	5	0.1
Jan	11355	11357	2	0.0
Feb	13096	13097	1	0.0
Mar	13182	13184	2	0.0
Apr	9518	9836	318	3.3
May	7735	7877	142	1.8
Jun	7647	7755	108	1.4
Jul	6311	8497	2186	34.6
Aug	4881	6512	1631	33.4
Sep	3404	3852	448	13.2

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.


Long-term Average Feather River Flow at Mouth Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
Month
Baseline
FP Alt


Long-term Average Feather River Flow at Mouth Under Baseline and FP Alt Conditions
Monthly Mean Flow (cfs)
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Month
Baseline
FP Alt

Long-term Average Oroville Reservoir End of Month Storage Under Baseline and FP Alt Conditions				
Month	Average Storage[1] (TAF)		Difference	
	Baseline	FP Alt	(TAF)	(%)[2]
Jan	2350	2350	0	0.0
Feb	2525	2525	0	0.0
Mar	2704	2704	0	0.0
Apr	2953	2953	0	0.0
May	3056	3073	17	0.6
Jun	2849	2888	39	1.4
Jul	2557	2507	-50	-2.0
Aug	2218	2192	-26	-1.2
Sep	2105	2103	-2	-0.1
Oct	2047	2047	0	0.0
Nov	2099	2099	0	0.0
Dec	2199	2199	0	0.0

[1] Based on 72 years modeled.

[2] Relative difference of the monthly long-term average.

Sacramento River Release From Keswick Dam

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	1.0	-0.9	-0.4
AN	--	--	--	--	--	--	--	--	--	0.6	-0.5	-0.4
BN	--	--	--	--	--	--	--	--	--	0.4	-0.3	-0.3
Dry	--	--	--	--	--	--	--	--	--	0.4	-0.1	-0.7
Crit	--	--	--	--	--	--	--	--	--	2.5	-1.3	-3.5
Min												
Wet	--	--	--	--	--	--	--	--	--	--	-5.4	-2.8
AN	--	--	--	--	--	--	--	--	--	--	-1.8	-2.2
BN	--	--	--	--	--	--	--	--	--	--	-4.4	-4.9
Dry	--	--	--	--	--	--	--	--	--	-0.1	-0.8	-4.3
Crit	--	--	--	--	--	--	--	--	--	0.9	-4.0	-6.2
Max												
Wet	--	--	--	--	--	--	--	--	--	5.9	0.0	--
AN	--	--	--	--	--	--	--	--	--	2.1	0.0	0.0
BN	--	--	--	--	--	--	--	--	--	6.2	0.0	--
Dry	--	--	--	--	--	--	--	--	--	2.7	0.5	--
Crit	--	--	--	--	--	--	--	--	--	5.0	0.8	-0.8
	Absolute Difference (Monthly Mean Flow (cfs))											
Average												
Wet	0	0	0	0	0	0	0	0	0	131	-96	-36
AN	0	0	0	0	0	0	0	0	0	82	-52	-31
BN	0	0	0	0	0	0	0	0	0	54	-32	-23
Dry	0	0	0	0	0	0	0	0	0	42	-4	-38
Crit	0	0	0	0	0	0	0	0	0	289	-108	-186
Min												
Wet	0	0	0	0	0	0	0	0	0	0	-594	-181
AN	0	0	0	0	0	0	0	0	0	0	-187	-163
BN	0	0	0	0	0	0	0	0	0	0	-445	-320
Dry	0	0	0	0	0	0	0	0	0	-17	-67	-224
Crit	0	0	0	0	0	0	0	0	0	111	-340	-319
Max												
Wet	0	0	0	0	0	0	0	0	0	770	1	0
AN	0	0	0	0	0	0	0	0	0	302	1	1
BN	0	0	0	0	0	0	0	0	0	754	1	0
Dry	0	0	0	0	0	0	0	0	0	271	50	0
Crit	0	0	0	0	0	0	0	0	0	524	84	-47
	Counts Based on Relative Difference (%)[1]											
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	7	4
AN	0	0	0	0	0	0	0	0	0	0	3	2
BN	0	0	0	0	0	0	0	0	0	0	1	1
Dry	0	0	0	0	0	0	0	0	0	0	0	3
Crit	0	0	0	0	0	0	0	0	0	0	6	10
Total	0	0	0	0	0	0	0	0	0	0	17	20
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	14	17
AN	10	10	10	10	10	10	10	10	10	10	7	8
BN	14	14	14	14	14	14	14	14	14	14	13	13
Dry	16	16	16	16	16	16	16	16	16	16	16	13
Crit	11	11	11	11	11	11	11	11	11	11	5	1
Total	72	72	72	72	72	72	72	72	72	72	55	52

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Sacramento River Flow at Freeport

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	0.6	0.1	0.0	0.0	0.0	0.0	1.4	1.8	2.1	15.8	13.8	4.2
AN	0.9	0.1	0.0	0.0	0.0	0.0	1.6	1.0	1.1	17.2	14.8	2.9
BN	0.6	0.1	0.0	0.0	0.0	0.0	0.7	0.5	0.3	12.4	11.4	2.3
Dry	1.1	0.2	0.0	0.0	0.0	0.0	2.8	1.1	1.2	17.6	16.8	6.4
Crit	1.5	0.3	0.1	0.0	0.0	0.0	11.1	9.1	7.8	47.5	36.3	11.9
Min												
Wet	--	--	-0.0	-0.0	-0.0	--	--	--	-0.0	1.8	4.8	--
AN	--	--	--	-0.0	-0.0	--	--	--	--	2.6	7.5	--
BN	--	--	--	--	-0.0	--	--	--	-0.0	3.2	5.4	-0.3
Dry	--	--	--	--	-0.0	--	--	-0.0	-0.0	1.2	5.3	0.6
Crit	--	--	--	--	-0.0	--	9.1	6.0	4.3	32.6	24.2	0.1
Max												
Wet	1.9	0.2	0.1	0.0	0.0	0.0	5.8	6.1	7.7	31.9	26.5	9.3
AN	3.2	0.4	0.1	0.0	0.0	0.0	3.1	2.8	3.2	33.9	24.6	6.8
BN	2.4	0.3	0.1	0.0	0.0	0.0	4.8	4.3	4.6	37.7	23.6	6.0
Dry	2.5	0.4	0.1	0.0	0.1	0.0	9.0	5.6	6.5	46.9	32.5	22.0
Crit	2.4	0.4	0.1	0.1	0.1	0.1	14.7	11.5	10.0	61.6	48.4	23.4
	Absolute Difference (Monthly Mean Flow (cfs))											
Average												
Wet	74	12	4	2	1	2	475	543	483	2975	1946	803
AN	75	13	4	2	0	2	398	270	257	3180	2113	423
BN	61	11	4	2	0	2	171	85	61	2254	1694	308
Dry	103	17	5	3	1	3	393	140	161	2699	2208	705
Crit	138	22	7	4	2	4	1092	713	821	5200	3182	882
Min												
Wet	0	0	-1	-1	-8	0	0	0	-1	481	788	0
AN	0	0	0	-1	-8	0	0	0	0	573	1202	0
BN	0	0	0	0	-8	0	0	0	-1	652	892	-43
Dry	0	0	0	0	-8	0	0	-1	-1	235	879	66
Crit	0	0	0	0	-2	0	880	440	508	4245	2385	14
Max												
Wet	187	26	9	4	5	4	1113	1443	1663	5546	2906	2492
AN	187	26	8	4	5	4	833	936	1079	5276	3252	1073
BN	187	26	9	4	5	4	1114	740	853	5535	3304	830
Dry	187	26	9	5	5	5	1114	740	853	5028	3322	2049
Crit	187	26	8	4	5	4	1114	740	853	6056	3555	1827
	Counts Based on Relative Difference (%)[1]											
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at the Mouth

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	2.6	1.1	0.5
AN	--	--	--	--	--	--	--	--	--	2.7	1.8	0.1
BN	--	--	--	--	--	--	--	--	--	2.6	2.7	--
Dry	--	--	--	--	--	--	--	--	--	3.1	3.6	0.5
Crit	--	--	--	--	--	--	--	--	--	6.5	4.9	1.4
Min												
Wet	--	--	--	--	--	--	--	--	--	0.4	0.3	--
AN	--	--	--	--	--	--	--	--	--	1.0	0.5	--
BN	--	--	--	--	--	--	--	--	--	1.5	1.0	--
Dry	--	--	--	--	--	--	--	--	--	1.2	1.6	--
Crit	--	--	--	--	--	--	--	--	--	3.4	1.9	--
Max												
Wet	--	--	--	--	--	--	--	--	--	3.8	3.5	1.9
AN	--	--	--	--	--	--	--	--	--	3.3	6.2	0.4
BN	--	--	--	--	--	--	--	--	--	4.2	7.7	--
Dry	--	--	--	--	--	--	--	--	--	6.7	7.7	2.0
Crit	--	--	--	--	--	--	--	--	--	17.8	16.7	6.2
	Absolute Difference (Monthly Mean Flow (cfs))											
Average												
Wet	0	0	0	0	0	0	0	0	0	116	28	20
AN	0	0	0	0	0	0	0	0	0	122	38	3
BN	0	0	0	0	0	0	0	0	0	113	50	0
Dry	0	0	0	0	0	0	0	0	0	90	67	5
Crit	0	0	0	0	0	0	0	0	0	100	53	10
Min												
Wet	0	0	0	0	0	0	0	0	0	34	12	0
AN	0	0	0	0	0	0	0	0	0	49	12	0
BN	0	0	0	0	0	0	0	0	0	69	24	0
Dry	0	0	0	0	0	0	0	0	0	57	40	0
Crit	0	0	0	0	0	0	0	0	0	82	15	0
Max												
Wet	0	0	0	0	0	0	0	0	0	146	55	99
AN	0	0	0	0	0	0	0	0	0	150	113	15
BN	0	0	0	0	0	0	0	0	0	138	94	0
Dry	0	0	0	0	0	0	0	0	0	123	105	24
Crit	0	0	0	0	0	0	0	0	0	148	71	24
	Counts Based on Relative Difference (%)[1]											
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Flow at Watt Avenue

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	2.7	1.2	0.5
AN	--	--	--	--	--	--	--	--	--	2.8	1.9	0.1
BN	--	--	--	--	--	--	--	--	--	2.7	2.9	--
Dry	--	--	--	--	--	--	--	--	--	3.2	3.9	0.5
Crit	--	--	--	--	--	--	--	--	--	7.4	6.9	1.6
Min												
Wet	--	--	--	--	--	--	--	--	--	0.5	0.4	--
AN	--	--	--	--	--	--	--	--	--	1.1	0.6	--
BN	--	--	--	--	--	--	--	--	--	1.5	1.0	--
Dry	--	--	--	--	--	--	--	--	--	1.3	1.7	--
Crit	--	--	--	--	--	--	--	--	--	3.5	1.9	--
Max												
Wet	--	--	--	--	--	--	--	--	--	3.9	3.8	2.0
AN	--	--	--	--	--	--	--	--	--	3.5	6.6	0.4
BN	--	--	--	--	--	--	--	--	--	4.3	8.7	--
Dry	--	--	--	--	--	--	--	--	--	7.2	8.8	2.1
Crit	--	--	--	--	--	--	--	--	--	24.1	36.7	7.7
	Absolute Difference (Monthly Mean Flow (cfs))											
Average												
Wet	0	0	0	0	0	0	0	0	0	116	28	20
AN	0	0	0	0	0	0	0	0	0	122	38	3
BN	0	0	0	0	0	0	0	0	0	113	50	0
Dry	0	0	0	0	0	0	0	0	0	91	67	5
Crit	0	0	0	0	0	0	0	0	0	100	53	10
Min												
Wet	0	0	0	0	0	0	0	0	0	35	12	0
AN	0	0	0	0	0	0	0	0	0	50	13	0
BN	0	0	0	0	0	0	0	0	0	68	25	0
Dry	0	0	0	0	0	0	0	0	0	58	40	0
Crit	0	0	0	0	0	0	0	0	0	81	14	0
Max												
Wet	0	0	0	0	0	0	0	0	0	146	56	100
AN	0	0	0	0	0	0	0	0	0	151	113	15
BN	0	0	0	0	0	0	0	0	0	138	94	0
Dry	0	0	0	0	0	0	0	0	0	122	105	24
Crit	0	0	0	0	0	0	0	0	0	148	71	23
	Counts Based on Relative Difference (%)[1]											
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Lower American River Release From Nimbus Dam

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	2.5	1.0	0.4
AN	--	--	--	--	--	--	--	--	--	2.5	1.6	0.1
BN	--	--	--	--	--	--	--	--	--	2.5	2.4	--
Dry	--	--	--	--	--	--	--	--	--	2.8	3.2	0.4
Crit	--	--	--	--	--	--	--	--	--	5.6	3.8	1.2
Min												
Wet	--	--	--	--	--	--	--	--	--	0.4	0.3	--
AN	--	--	--	--	--	--	--	--	--	1.0	0.5	--
BN	--	--	--	--	--	--	--	--	--	1.4	0.9	--
Dry	--	--	--	--	--	--	--	--	--	1.2	1.5	--
Crit	--	--	--	--	--	--	--	--	--	3.1	1.4	--
Max												
Wet	--	--	--	--	--	--	--	--	--	3.6	3.0	1.9
AN	--	--	--	--	--	--	--	--	--	3.1	5.5	0.4
BN	--	--	--	--	--	--	--	--	--	3.9	5.9	--
Dry	--	--	--	--	--	--	--	--	--	5.9	5.9	1.6
Crit	--	--	--	--	--	--	--	--	--	13.3	9.8	4.8
	Absolute Difference (Monthly Mean Flow (cfs))											
Average												
Wet	0	0	0	0	0	0	0	0	0	116	28	20
AN	0	0	0	0	0	0	0	0	0	122	38	3
BN	0	0	0	0	0	0	0	0	0	112	50	0
Dry	0	0	0	0	0	0	0	0	0	91	67	5
Crit	0	0	0	0	0	0	0	0	0	100	52	10
Min												
Wet	0	0	0	0	0	0	0	0	0	35	12	0
AN	0	0	0	0	0	0	0	0	0	50	13	0
BN	0	0	0	0	0	0	0	0	0	68	25	0
Dry	0	0	0	0	0	0	0	0	0	58	40	0
Crit	0	0	0	0	0	0	0	0	0	82	14	0
Max												
Wet	0	0	0	0	0	0	0	0	0	146	56	100
AN	0	0	0	0	0	0	0	0	0	150	113	15
BN	0	0	0	0	0	0	0	0	0	138	94	0
Dry	0	0	0	0	0	0	0	0	0	123	105	23
Crit	0	0	0	0	0	0	0	0	0	148	71	24
	Counts Based on Relative Difference (%)[1]											
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow at Mouth

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	1.8	0.3	0.1	0.0	0.0	0.0	2.8	2.6	2.7	34.1	42.4	12.6
AN	3.0	0.6	0.2	0.0	-0.0	0.0	3.9	1.6	1.4	42.6	32.4	8.4
BN	2.0	0.6	0.1	0.0	0.0	0.0	1.6	0.6	-0.0	25.3	21.5	8.1
Dry	3.4	1.0	0.4	0.1	0.1	0.1	7.0	-0.0	-0.0	55.4	44.4	14.9
Crit	3.8	1.1	0.4	0.1	0.1	0.2	15.9	-0.0	-0.0	170.0	98.0	30.8
Min												
Wet	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2.8	9.7	-0.0
AN	--	--	-0.0	-0.0	-0.2	-0.0	-0.0	-0.0	-0.0	5.9	12.1	-0.0
BN	-0.0	-0.0	-0.0	-0.0	-0.2	-0.0	-0.0	-0.0	-0.0	2.2	10.8	-0.0
Dry	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	-0.0	-0.5	9.0	-0.0
Crit	--	--	--	--	-0.1	--	10.1	-0.0	-0.0	42.9	55.8	0.3
Max												
Wet	5.4	1.4	0.9	0.1	0.0	0.0	7.7	7.2	10.3	85.4	99.0	24.4
AN	8.4	1.9	0.4	0.1	0.1	0.0	8.4	8.4	9.7	99.2	59.2	27.1
BN	5.7	2.4	0.5	0.1	0.3	0.1	6.8	8.0	-0.0	106.9	40.7	21.7
Dry	9.0	2.7	0.9	0.2	0.5	0.5	25.2	--	-0.0	245.3	166.6	45.0
Crit	7.1	2.8	0.9	0.3	0.5	0.5	30.6	--	--	526.5	170.0	91.4
	Absolute Difference (Monthly Mean Flow (cfs))											
Average												
Wet	56	12	4	2	1	2	349	380	296	2103	1467	523
AN	60	13	4	2	0	2	331	184	158	2323	1706	268
BN	53	11	4	2	0	2	130	32	0	1519	1311	269
Dry	77	17	5	3	1	3	284	0	0	1968	1691	541
Crit	103	22	7	4	2	4	538	0	0	3385	2201	564
Min												
Wet	0	0	0	0	-8	0	0	0	0	207	398	0
AN	0	0	0	0	-8	0	0	0	0	571	830	0
BN	0	0	0	0	-9	0	0	0	0	199	781	0
Dry	0	0	0	0	-8	0	0	0	0	-42	784	0
Crit	0	0	0	0	-3	0	538	0	0	2731	1937	13
Max												
Wet	118	25	8	4	4	4	538	703	811	3785	2441	1694
AN	118	25	8	4	5	4	538	703	811	4106	2425	898
BN	118	25	8	4	5	4	538	452	0	3801	2347	775
Dry	118	25	8	4	5	4	538	0	0	3660	2487	1494
Crit	118	25	8	4	5	4	538	0	0	3852	2654	1271
	Counts Based on Relative Difference (%)[1]											
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Feather River Flow below Thermalito Afterbay

NONE SELECTED minus NONE SELECTED

Relative Difference (%)[1]

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average												
Wet	2.4	0.5	0.1	0.0	0.0	0.0	9.9	5.8	5.8	28.3	65.5	29.7
AN	3.5	0.8	0.3	0.1	0.0	0.1	24.8	4.0	3.1	31.0	29.5	28.7
BN	2.8	0.8	0.2	0.1	0.1	0.1	11.4	1.9	-0.0	13.5	17.5	22.0
Dry	5.0	1.3	0.3	0.2	0.1	0.2	18.5	-0.0	-0.0	35.7	33.9	30.2
Crit	5.1	1.1	0.4	0.3	0.2	0.3	50.2	-0.0	-0.0	94.7	80.8	27.1
Min												
Wet	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	-0.0	-3.3	8.7	-0.0
AN	--	--	-0.0	-0.0	-0.4	-0.0	-0.0	-0.0	-0.0	-3.6	10.6	-0.0
BN	-0.0	--	-0.0	-0.0	-0.3	-0.0	-0.0	-0.0	-0.0	-3.9	7.7	-0.0
Dry	-0.0	--	-0.0	--	-0.7	--	-0.0	-0.0	-0.0	-3.8	6.7	--
Crit	--	--	--	--	-0.2	--	18.8	-0.0	-0.0	28.0	36.7	0.3
Max												
Wet	6.9	2.8	0.3	0.5	0.1	0.1	53.3	20.3	22.6	130.1	267.4	91.1
AN	8.0	2.8	0.9	0.5	0.5	0.5	53.3	27.2	18.1	94.6	53.0	113.2
BN	9.9	2.8	0.9	0.5	0.5	0.5	53.3	26.8	-0.0	74.6	39.7	70.6
Dry	12.5	2.8	0.9	0.5	0.5	0.5	71.1	--	-0.0	209.0	146.0	86.3
Crit	10.1	1.8	0.9	0.5	0.5	0.5	71.1	--	--	199.8	206.3	60.2

Absolute Difference (Monthly Mean Flow (cfs))

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average												
Wet	56	12	4	2	1	2	349	380	296	1090	1243	376
AN	60	13	4	2	0	2	331	185	158	1322	1447	243
BN	53	11	4	2	0	2	130	32	0	730	1026	269
Dry	77	17	5	3	1	3	284	0	0	1305	1242	496
Crit	103	22	7	4	2	4	538	0	0	2486	1727	470
Min												
Wet	0	0	0	0	-8	0	0	0	0	-102	244	0
AN	0	0	0	0	-8	0	0	0	0	-328	696	0
BN	0	0	0	0	-9	0	0	0	0	-377	512	0
Dry	0	0	0	0	-8	0	0	0	0	-338	493	0
Crit	0	0	0	0	-3	0	538	0	0	1945	1297	13
Max												
Wet	118	25	8	4	4	4	538	703	811	2768	2330	964
AN	118	25	8	4	5	4	538	703	811	2890	2067	763
BN	118	25	8	4	5	4	538	452	0	2564	2120	775
Dry	118	25	8	4	5	4	538	0	0	3141	1752	1419
Crit	118	25	8	4	5	4	538	0	0	3023	2043	1099

Counts Based on Relative Difference (%)[1]

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	1	0	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	0	0	3	0	0
Dry	0	0	0	0	0	0	0	0	0	2	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	7	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	20	21	21
AN	10	10	10	10	10	10	10	10	10	9	10	10
BN	14	14	14	14	14	14	14	14	14	11	14	14
Dry	16	16	16	16	16	16	16	16	16	14	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	65	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow below Crocker-Huffman Dam

NONE SELECTED minus NONE SELECTED

Water Year	Months											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Relative Difference (%)[1]												
Average												
Wet	113.4	114.3	--	--	--	--	--	--	--	--	--	--
AN	#DIV/0!	136.3	--	--	--	--	--	--	--	--	--	--
BN	213.1	108.4	--	--	--	--	--	--	--	--	--	#DIV/0!
Dry	159.0	129.9	--	--	--	--	--	--	--	--	--	#DIV/0!
Crit	78.3	134.9	--	--	--	--	--	--	--	--	--	#DIV/0!
Min												
Wet	5.5	12.1	--	--	--	--	--	--	--	--	--	--
AN	#DIV/0!	86.4	--	--	--	--	--	--	--	--	--	--
BN	6.6	21.8	--	--	--	--	--	--	--	--	--	#DIV/0!
Dry	6.4	96.1	--	--	--	--	--	--	--	--	--	#DIV/0!
Crit	10.1	96.1	--	--	--	--	--	--	--	--	--	#DIV/0!
Max												
Wet	1262.7	253.4	--	--	--	--	--	--	--	--	--	--
AN	#DIV/0!	276.4	--	--	--	--	--	--	--	--	--	--
BN	1247.2	210.7	--	--	--	--	--	--	--	--	--	#DIV/0!
Dry	1247.2	189.2	--	--	--	--	--	--	--	--	--	#DIV/0!
Crit	100.0	188.8	--	--	--	--	--	--	--	--	--	#DIV/0!
Absolute Difference (Monthly Mean Flow (cfs))												
Average												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Min												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Max												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Counts Based on Relative Difference (%)[1]												
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	9	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	13
Dry	16	16	16	16	16	16	16	16	16	16	16	15
Crit	11	11	11	11	11	11	11	11	11	11	11	10
Total	71	72	72	72	72	72	72	72	72	72	72	69

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Merced River Flow at Mouth

NONE SELECTED minus NONE SELECTED

Water Year	Months											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Relative Difference (%)[1]												
Average												
Wet	48.0	81.3	--	--	--	--	--	--	--	--	--	--
AN	82.3	92.5	--	--	--	--	--	--	--	--	--	--
BN	58.7	81.6	--	--	--	--	--	--	--	--	--	--
Dry	59.5	95.1	--	--	--	--	--	--	--	--	--	--
Crit	56.3	99.2	--	--	--	--	--	--	--	--	--	--
Min												
Wet	5.6	11.8	--	--	--	--	--	--	--	--	--	--
AN	7.8	46.8	--	--	--	--	--	--	--	--	--	--
BN	6.7	20.7	--	--	--	--	--	--	--	--	--	--
Dry	6.5	72.1	--	--	--	--	--	--	--	--	--	--
Crit	9.9	79.9	--	--	--	--	--	--	--	--	--	--
Max												
Wet	207.0	113.6	--	--	--	--	--	--	--	--	--	--
AN	174.8	113.6	--	--	--	--	--	--	--	--	--	--
BN	161.5	113.6	--	--	--	--	--	--	--	--	--	--
Dry	159.3	113.6	--	--	--	--	--	--	--	--	--	--
Crit	80.6	113.6	--	--	--	--	--	--	--	--	--	--
Absolute Difference (Monthly Mean Flow (cfs))												
Average												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Min												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Max												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Counts Based on Relative Difference (%)[1]												
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

San Joaquin Flow below Merced River

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	18.2	30.2	--	--	--	--	--	--	--	--	--	--
AN	25.6	34.7	--	--	--	--	--	--	--	--	--	--
BN	20.2	33.1	--	--	--	--	--	--	--	--	--	--
Dry	23.1	37.1	--	--	--	--	--	--	--	--	--	--
Crit	25.2	42.9	--	--	--	--	--	--	--	--	--	--
Min												
Wet	3.7	3.8	--	--	--	--	--	--	--	--	--	--
AN	6.5	13.8	--	--	--	--	--	--	--	--	--	--
BN	5.8	13.5	--	--	--	--	--	--	--	--	--	--
Dry	5.5	27.6	--	--	--	--	--	--	--	--	--	--
Crit	7.9	32.9	--	--	--	--	--	--	--	--	--	--
Max												
Wet	34.9	42.3	--	--	--	--	--	--	--	--	--	--
AN	39.5	46.2	--	--	--	--	--	--	--	--	--	--
BN	42.0	44.1	--	--	--	--	--	--	--	--	--	--
Dry	43.4	49.3	--	--	--	--	--	--	--	--	--	--
Crit	30.3	50.1	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (Monthly Mean Flow (cfs))											
Average												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Min												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
Max												
Wet	203	210	0	0	0	0	0	0	0	0	0	0
AN	203	210	0	0	0	0	0	0	0	0	0	0
BN	203	210	0	0	0	0	0	0	0	0	0	0
Dry	203	210	0	0	0	0	0	0	0	0	0	0
Crit	203	210	0	0	0	0	0	0	0	0	0	0
	Counts Based on Relative Difference (%)[1]											
Greather Than or Equal to Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Less Than Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Storage

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	-0.7	-0.3	-0.0
AN	--	--	--	--	--	--	--	--	--	-0.6	-0.3	-0.0
BN	--	--	--	--	--	--	--	--	--	-0.4	-0.2	-0.0
Dry	--	--	--	--	--	--	--	--	--	-0.4	-0.6	-0.0
Crit	--	--	--	--	--	--	--	--	--	-2.0	-2.0	-0.0
Min												
Wet	--	--	--	--	--	--	--	--	--	-1.9	-0.7	-0.1
AN	--	--	--	--	--	--	--	--	--	-2.3	-1.1	-0.1
BN	--	--	--	--	--	--	--	--	--	-3.9	-2.2	-0.1
Dry	--	--	--	--	--	--	--	--	--	-3.2	-4.3	-0.4
Crit	--	--	--	--	--	--	--	--	--	-5.9	-3.9	-0.2
Max												
Wet	--	--	--	--	--	--	--	--	--	0.1	0.1	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	0.4	0.8	--
Dry	--	--	--	--	--	--	--	--	--	0.2	--	--
Crit	--	--	--	--	--	--	--	--	--	0.8	-0.4	0.1
	Absolute Difference (Storage (TAF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	-29	-10	-1
AN	0	0	0	0	0	0	0	0	0	-21	-10	-1
BN	0	0	0	0	0	0	0	0	0	-12	-4	0
Dry	0	0	0	0	0	0	0	0	0	-8	-9	0
Crit	0	0	0	0	0	0	0	0	0	-23	-18	0
Min												
Wet	0	0	0	0	0	0	0	0	0	-80	-27	-3
AN	0	0	0	0	0	0	0	0	0	-78	-34	-3
BN	0	0	0	0	0	0	0	0	0	-105	-49	-2
Dry	0	0	0	0	0	0	0	0	0	-42	-41	-3
Crit	0	0	0	0	0	0	0	0	0	-48	-28	-1
Max												
Wet	0	0	0	0	0	0	0	0	0	4	5	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	14	15	0
Dry	0	0	0	0	0	0	0	0	0	5	0	0
Crit	0	0	0	0	0	0	0	0	0	7	-3	1
	Counts Based on Relative Difference (%)[1]											
Less Than Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	9	0	0
AN	0	0	0	0	0	0	0	0	0	3	1	0
BN	0	0	0	0	0	0	0	0	0	1	1	0
Dry	0	0	0	0	0	0	0	0	0	2	3	0
Crit	0	0	0	0	0	0	0	0	0	8	9	0
Total	0	0	0	0	0	0	0	0	0	23	14	0
Greather Than or Equal to Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	12	21	21
AN	10	10	10	10	10	10	10	10	10	7	9	10
BN	14	14	14	14	14	14	14	14	14	13	13	14
Dry	16	16	16	16	16	16	16	16	16	14	13	16
Crit	11	11	11	11	11	11	11	11	11	3	2	11
Total	72	72	72	72	72	72	72	72	72	49	58	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Shasta Reservoir End of Month Elevation

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	-0.1	-0.1	-0.0
AN	--	--	--	--	--	--	--	--	--	-0.1	-0.0	--
BN	--	--	--	--	--	--	--	--	--	-0.1	-0.0	--
Dry	--	--	--	--	--	--	--	--	--	-0.1	-0.1	--
Crit	--	--	--	--	--	--	--	--	--	-0.2	-0.2	--
Min												
Wet	--	--	--	--	--	--	--	--	--	-0.3	-0.1	-0.1
AN	--	--	--	--	--	--	--	--	--	-0.3	-0.2	--
BN	--	--	--	--	--	--	--	--	--	-0.5	-0.3	--
Dry	--	--	--	--	--	--	--	--	--	-0.3	-0.5	--
Crit	--	--	--	--	--	--	--	--	--	-0.5	-0.4	--
Max												
Wet	--	--	--	--	--	--	--	--	--	0.1	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	0.1	--	--
Crit	--	--	--	--	--	--	--	--	--	0.1	--	--
	Absolute Difference (Elevation (feet msl))											
Average												
Wet	0	0	0	0	0	0	0	0	0	-1	-1	0
AN	0	0	0	0	0	0	0	0	0	-1	0	0
BN	0	0	0	0	0	0	0	0	0	-1	0	0
Dry	0	0	0	0	0	0	0	0	0	-1	-1	0
Crit	0	0	0	0	0	0	0	0	0	-1	-1	0
Min												
Wet	0	0	0	0	0	0	0	0	0	-3	-1	-1
AN	0	0	0	0	0	0	0	0	0	-3	-2	0
BN	0	0	0	0	0	0	0	0	0	-5	-3	0
Dry	0	0	0	0	0	0	0	0	0	-3	-4	0
Crit	0	0	0	0	0	0	0	0	0	-4	-3	0
Max												
Wet	0	0	0	0	0	0	0	0	0	1	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	1	0	0
Crit	0	0	0	0	0	0	0	0	0	1	0	0
	Counts Based on Absolute Difference (Elevation (feet msl))											
Less Than Threshold (-1 foot)												
Wet	0	0	0	0	0	0	0	0	0	9	0	0
AN	0	0	0	0	0	0	0	0	0	2	1	0
BN	0	0	0	0	0	0	0	0	0	1	1	0
Dry	0	0	0	0	0	0	0	0	0	2	3	0
Crit	0	0	0	0	0	0	0	0	0	5	6	0
Total	0	0	0	0	0	0	0	0	0	19	11	0
Greather Than or Equal to Threshold (-1 foot)												
Wet	21	21	21	21	21	21	21	21	21	12	21	21
AN	10	10	10	10	10	10	10	10	10	8	9	10
BN	14	14	14	14	14	14	14	14	14	13	13	14
Dry	16	16	16	16	16	16	16	16	16	14	13	16
Crit	11	11	11	11	11	11	11	11	11	6	5	11
Total	72	72	72	72	72	72	72	72	72	53	61	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Storage

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	-0.5	-0.3	--
AN	--	--	--	--	--	--	--	--	--	-0.6	-0.4	--
BN	--	--	--	--	--	--	--	--	--	-0.6	-0.6	--
Dry	--	--	--	--	--	--	--	--	--	-0.6	-0.7	--
Crit	--	--	--	--	--	--	--	--	--	-1.1	-1.1	--
Min												
Wet	--	--	--	--	--	--	--	--	--	-0.9	-0.6	--
AN	--	--	--	--	--	--	--	--	--	-0.8	-0.6	--
BN	--	--	--	--	--	--	--	--	--	-1.2	-1.4	--
Dry	--	--	--	--	--	--	--	--	--	-1.3	-1.3	--
Crit	--	--	--	--	--	--	--	--	--	-3.3	-2.2	--
Max												
Wet	--	--	--	--	--	--	--	--	--	0.1	0.4	--
AN	--	--	--	--	--	--	--	--	--	--	-0.3	--
BN	--	--	--	--	--	--	--	--	--	-0.1	-0.4	--
Dry	--	--	--	--	--	--	--	--	--	-0.1	-0.2	--
Crit	--	--	--	--	--	--	--	--	--	-0.2	-0.6	--
	Absolute Difference (Storage (TAF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	-4	-2	0
AN	0	0	0	0	0	0	0	0	0	-4	-3	0
BN	0	0	0	0	0	0	0	0	0	-4	-3	0
Dry	0	0	0	0	0	0	0	0	0	-2	-3	0
Crit	0	0	0	0	0	0	0	0	0	-3	-3	0
Min												
Wet	0	0	0	0	0	0	0	0	0	-6	-4	0
AN	0	0	0	0	0	0	0	0	0	-6	-4	0
BN	0	0	0	0	0	0	0	0	0	-5	-4	0
Dry	0	0	0	0	0	0	0	0	0	-4	-3	0
Crit	0	0	0	0	0	0	0	0	0	-5	-4	0
Max												
Wet	0	0	0	0	0	0	0	0	0	1	3	0
AN	0	0	0	0	0	0	0	0	0	0	-2	0
BN	0	0	0	0	0	0	0	0	0	-1	-3	0
Dry	0	0	0	0	0	0	0	0	0	-1	-1	0
Crit	0	0	0	0	0	0	0	0	0	-1	-2	0
	Counts Based on Relative Difference (%)[1]											
Less Than Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	2	1	0
Dry	0	0	0	0	0	0	0	0	0	2	1	0
Crit	0	0	0	0	0	0	0	0	0	3	4	0
Total	0	0	0	0	0	0	0	0	0	7	6	0
Greather Than or Equal to Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	12	13	14
Dry	16	16	16	16	16	16	16	16	16	14	15	16
Crit	11	11	11	11	11	11	11	11	11	8	7	11
Total	72	72	72	72	72	72	72	72	72	65	66	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Folsom Reservoir End of Month Elevation

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	--	--	-0.1	-0.0	--
AN	--	--	--	--	--	--	--	--	--	-0.1	-0.0	--
BN	--	--	--	--	--	--	--	--	--	-0.1	-0.1	--
Dry	--	--	--	--	--	--	--	--	--	-0.1	-0.2	--
Crit	--	--	--	--	--	--	--	--	--	-0.1	-0.1	--
Min												
Wet	--	--	--	--	--	--	--	--	--	-0.2	-0.2	--
AN	--	--	--	--	--	--	--	--	--	-0.2	-0.2	--
BN	--	--	--	--	--	--	--	--	--	-0.2	-0.2	--
Dry	--	--	--	--	--	--	--	--	--	-0.3	-0.3	--
Crit	--	--	--	--	--	--	--	--	--	-0.6	-0.3	--
Max												
Wet	--	--	--	--	--	--	--	--	--	--	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (Elevation (feet msl))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	-1	0	0
Dry	0	0	0	0	0	0	0	0	0	0	-1	0
Crit	0	0	0	0	0	0	0	0	0	-1	-1	0
Min												
Wet	0	0	0	0	0	0	0	0	0	-1	-1	0
AN	0	0	0	0	0	0	0	0	0	-1	-1	0
BN	0	0	0	0	0	0	0	0	0	-1	-1	0
Dry	0	0	0	0	0	0	0	0	0	-1	-1	0
Crit	0	0	0	0	0	0	0	0	0	-2	-1	0
Max												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
	Counts Based on Absolute Difference (Elevation (feet msl))											
Less Than Threshold (-1 foot)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	1	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0
Greather Than or Equal to Threshold (-1 foot)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	10	11	11
Total	72	72	72	72	72	72	72	72	72	71	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Storage

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	0.1	0.6	-2.5	-0.7	-0.0
AN	--	--	--	--	--	--	--	0.5	1.1	-2.9	-1.2	-0.1
BN	--	--	--	--	--	--	--	0.3	0.7	-2.1	-1.3	-0.1
Dry	--	--	--	--	--	--	--	0.8	2.0	-0.5	-1.9	-0.1
Crit	--	--	--	--	--	--	--	2.4	6.0	-1.0	-2.6	-0.4
Min												
Wet	--	--	--	--	--	--	--	--	--	-6.4	-2.0	-0.4
AN	--	--	--	--	--	--	--	--	--	-4.7	-2.2	-0.3
BN	--	--	--	--	--	--	--	--	--	-4.5	-2.7	-0.3
Dry	--	--	--	--	--	--	--	--	--	-4.0	-4.5	-0.4
Crit	--	--	--	--	--	--	--	1.5	3.5	-9.3	-6.1	-4.1
Max												
Wet	--	--	--	--	--	--	--	1.3	3.0	0.4	0.5	0.1
AN	--	--	--	--	--	--	--	1.4	3.3	--	--	--
BN	--	--	--	--	--	--	--	1.4	3.2	-0.0	--	--
Dry	--	--	--	--	--	--	--	2.0	4.4	7.9	-0.1	0.1
Crit	--	--	--	--	--	--	--	5.3	17.8	3.8	-0.6	0.1
	Absolute Difference (Storage (TAF))											
Average												
Wet	0	0	0	0	0	0	0	5	18	-81	-19	-1
AN	0	0	0	0	0	0	0	15	36	-89	-29	-3
BN	0	0	0	0	0	0	0	9	20	-53	-25	-1
Dry	0	0	0	0	0	0	0	23	48	-11	-33	-1
Crit	0	0	0	0	0	0	0	43	92	-10	-31	-1
Min												
Wet	0	0	0	0	0	0	0	0	0	-186	-44	-9
AN	0	0	0	0	0	0	0	0	0	-165	-46	-6
BN	0	0	0	0	0	0	0	0	0	-121	-48	-5
Dry	0	0	0	0	0	0	0	0	0	-78	-92	-6
Crit	0	0	0	0	0	0	0	43	91	-158	-52	-7
Max												
Wet	0	0	0	0	0	0	0	43	91	13	15	2
AN	0	0	0	0	0	0	0	43	92	0	0	0
BN	0	0	0	0	0	0	0	43	91	-1	0	0
Dry	0	0	0	0	0	0	0	44	91	162	-2	1
Crit	0	0	0	0	0	0	0	44	92	63	-4	1
	Counts Based on Relative Difference (%)[1]											
Less Than Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	16	7	0
AN	0	0	0	0	0	0	0	0	0	8	7	0
BN	0	0	0	0	0	0	0	0	0	10	9	0
Dry	0	0	0	0	0	0	0	0	0	10	12	0
Crit	0	0	0	0	0	0	0	0	0	5	10	1
Total	0	0	0	0	0	0	0	0	0	49	45	1
Greather Than or Equal to Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	5	14	21
AN	10	10	10	10	10	10	10	10	10	2	3	10
BN	14	14	14	14	14	14	14	14	14	4	5	14
Dry	16	16	16	16	16	16	16	16	16	6	4	16
Crit	11	11	11	11	11	11	11	11	11	6	1	10
Total	72	72	72	72	72	72	72	72	72	23	27	71

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Oroville Reservoir End of Month Elevation

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	--	--	--	--	0.0	0.1	-0.6	-0.2	-0.0
AN	--	--	--	--	--	--	--	0.1	0.3	-0.6	-0.3	-0.0
BN	--	--	--	--	--	--	--	0.1	0.1	-0.5	-0.3	-0.0
Dry	--	--	--	--	--	--	--	0.2	0.5	-0.1	-0.5	-0.0
Crit	--	--	--	--	--	--	--	0.5	1.1	-0.3	-0.6	-0.1
Min												
Wet	--	--	--	--	--	--	--	--	--	-1.5	-0.5	-0.1
AN	--	--	--	--	--	--	--	--	--	-1.2	-0.6	-0.1
BN	--	--	--	--	--	--	--	--	--	-1.1	-0.7	-0.1
Dry	--	--	--	--	--	--	--	--	--	-1.0	-1.3	-0.1
Crit	--	--	--	--	--	--	--	--	--	-2.1	-1.1	-0.8
Max												
Wet	--	--	--	--	--	--	--	0.3	0.7	0.1	0.1	--
AN	--	--	--	--	--	--	--	0.3	0.7	--	--	--
BN	--	--	--	--	--	--	--	0.3	0.7	--	--	--
Dry	--	--	--	--	--	--	--	0.6	1.1	2.2	-0.1	--
Crit	--	--	--	--	--	--	--	1.3	2.9	1.0	--	--
	Absolute Difference (Elevation (feet msl))											
Average												
Wet	0	0	0	0	0	0	0	0	1	-6	-2	0
AN	0	0	0	0	0	0	0	1	2	-5	-2	0
BN	0	0	0	0	0	0	0	1	1	-4	-3	0
Dry	0	0	0	0	0	0	0	2	4	-1	-4	0
Crit	0	0	0	0	0	0	0	4	8	-2	-4	0
Min												
Wet	0	0	0	0	0	0	0	0	0	-13	-4	-1
AN	0	0	0	0	0	0	0	0	0	-11	-5	-1
BN	0	0	0	0	0	0	0	0	0	-9	-5	-1
Dry	0	0	0	0	0	0	0	0	0	-8	-10	-1
Crit	0	0	0	0	0	0	0	0	0	-17	-7	-3
Max												
Wet	0	0	0	0	0	0	0	3	6	1	1	0
AN	0	0	0	0	0	0	0	3	6	0	0	0
BN	0	0	0	0	0	0	0	3	6	0	0	0
Dry	0	0	0	0	0	0	0	5	9	17	-1	0
Crit	0	0	0	0	0	0	0	8	17	7	0	0
	Counts Based on Absolute Difference (Elevation (feet msl))											
Less Than Threshold (-1 foot)												
Wet	0	0	0	0	0	0	0	0	0	17	11	0
AN	0	0	0	0	0	0	0	0	0	8	6	0
BN	0	0	0	0	0	0	0	0	0	10	10	0
Dry	0	0	0	0	0	0	0	0	0	10	12	0
Crit	0	0	0	0	0	0	0	0	0	4	9	1
Total	0	0	0	0	0	0	0	0	0	49	48	1
Greather Than or Equal to Threshold (-1 foot)												
Wet	21	21	21	21	21	21	21	21	21	4	10	21
AN	10	10	10	10	10	10	10	10	10	2	4	10
BN	14	14	14	14	14	14	14	14	14	4	4	14
Dry	16	16	16	16	16	16	16	16	16	6	4	16
Crit	11	11	11	11	11	11	11	11	11	7	2	10
Total	72	72	72	72	72	72	72	72	72	23	24	71

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Storage

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	3.8	--	--	--	--	--	0.5	0.9	1.5	2.2	3.0	3.8
AN	5.2	--	--	--	--	--	0.5	1.0	1.7	2.5	3.7	4.7
BN	4.1	--	--	--	--	--	0.6	1.1	1.9	3.3	5.3	7.5
Dry	4.3	--	--	--	--	--	0.8	1.7	3.0	5.1	8.2	11.3
Crit	5.1	--	--	--	--	--	1.1	2.4	4.4	7.7	11.3	14.8
Min												
Wet	1.8	--	--	--	--	--	0.4	0.8	1.2	1.7	2.2	2.9
AN	1.8	--	--	--	--	--	0.4	0.8	1.3	1.7	2.3	2.9
BN	1.8	--	--	--	--	--	0.4	0.8	1.2	1.8	2.6	3.3
Dry	1.8	--	--	--	--	--	0.4	0.9	1.6	2.5	3.8	4.8
Crit	1.8	--	--	--	--	--	0.5	1.2	2.4	4.4	6.9	9.3
Max												
Wet	11.3	--	--	--	--	--	1.2	1.7	2.8	4.2	5.2	6.3
AN	11.3	--	--	--	--	--	1.0	1.5	2.8	4.4	6.0	8.1
BN	11.3	--	--	--	--	--	1.1	1.9	3.5	6.5	13.0	21.7
Dry	11.3	--	--	--	--	--	2.4	5.1	7.5	9.7	16.3	21.7
Crit	10.6	--	--	--	--	--	1.9	4.0	8.5	15.7	19.1	21.7
	Absolute Difference (Storage (TAF))											
Average												
Wet	13	0	0	0	0	0	3	8	13	18	22	25
AN	13	0	0	0	0	0	3	8	13	17	22	25
BN	13	0	0	0	0	0	3	7	13	17	22	25
Dry	12	0	0	0	0	0	3	7	13	18	22	25
Crit	13	0	0	0	0	0	3	7	12	18	22	25
Min												
Wet	12	0	0	0	0	0	3	7	12	17	21	25
AN	12	0	0	0	0	0	3	7	12	17	21	25
BN	12	0	0	0	0	0	3	7	12	17	21	25
Dry	12	0	0	0	0	0	3	7	12	17	21	25
Crit	12	0	0	0	0	0	3	7	12	17	21	25
Max												
Wet	13	0	0	0	0	0	4	8	13	18	22	25
AN	13	0	0	0	0	0	4	8	13	18	22	25
BN	13	0	0	0	0	0	4	8	13	18	22	25
Dry	13	0	0	0	0	0	4	8	13	18	22	25
Crit	13	0	0	0	0	0	4	8	13	18	22	25
	Counts Based on Relative Difference (%)[1]											
Less Than Threshold (-1%)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Greather Than or Equal to Threshold (-1%)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

McClure Reservoir End of Month Elevation

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	0.5	--	--	--	--	--	0.1	0.1	0.2	0.3	0.5	0.6
AN	0.6	--	--	--	--	--	0.1	0.1	0.3	0.4	0.6	0.6
BN	0.5	--	--	--	--	--	0.1	0.2	0.3	0.5	0.8	1.0
Dry	0.6	--	--	--	--	--	0.1	0.3	0.5	0.7	1.1	1.4
Crit	0.6	--	--	--	--	--	0.1	0.3	0.5	0.9	1.2	1.6
Min												
Wet	0.2	--	--	--	--	--	--	0.1	0.2	0.2	0.3	0.5
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	0.2	--	--	--	--	--	--	0.1	0.2	0.2	0.4	0.5
Dry	0.2	--	--	--	--	--	--	0.1	0.2	0.4	0.6	0.8
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Max												
Wet	1.1	--	--	--	--	--	0.1	0.3	0.4	0.7	0.9	0.9
AN	1.1	--	--	--	--	--	0.1	0.2	0.5	0.7	1.0	1.1
BN	1.1	--	--	--	--	--	0.1	0.3	0.5	0.9	1.8	2.2
Dry	1.1	--	--	--	--	--	0.3	0.6	1.1	1.5	1.9	2.2
Crit	1.1	--	--	--	--	--	0.3	0.4	1.1	1.6	2.1	2.2
	Absolute Difference (Elevation (feet msl))											
Average												
Wet	4	0	0	0	0	0	0	1	2	3	4	5
AN	4	0	0	0	0	0	1	1	2	3	4	5
BN	4	0	0	0	0	0	1	2	2	4	6	7
Dry	4	0	0	0	0	0	1	2	4	5	8	10
Crit	4	0	0	0	0	0	1	2	4	6	8	10
Min												
Wet	2	0	0	0	0	0	0	1	2	2	3	4
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	2	0	0	0	0	0	0	1	2	2	3	4
Dry	2	0	0	0	0	0	0	1	2	3	5	6
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Max												
Wet	7	0	0	0	0	0	1	2	3	5	7	7
AN	7	0	0	0	0	0	1	2	4	5	7	8
BN	7	0	0	0	0	0	1	2	4	6	12	14
Dry	7	0	0	0	0	0	2	4	7	10	12	14
Crit	7	0	0	0	0	0	2	3	7	10	13	14
	Counts Based on Absolute Difference (Elevation (feet msl))											
Less Than Threshold (-1 foot)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Greather Than or Equal to Threshold (-1 foot)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	72

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the Sacramento River below Keswick Dam

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	-0.0	--	--	--	--	--	--	--	--	--	--	0.0
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	0.0	--	--	--	--	--	--	--	--	-0.0	--	0.1
Dry	--	--	--	--	--	--	--	--	--	--	--	0.0
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Min												
Wet	-0.2	--	--	--	--	--	--	--	--	--	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	-0.4	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Max												
Wet	--	--	--	--	--	--	--	--	--	--	--	0.6
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	0.2	--	--	--	--	--	--	--	--	--	--	1.1
Dry	--	--	--	--	--	--	--	--	--	--	--	0.2
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Min												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Max												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	1
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	21	21	21	21	21	21	21	21	21	21	21	21
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	13
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	71
Greather Than Threshold (0.3 degrees F)												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	1
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the Sacramento River at Bend Bridge

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	-0.0	--	--	--	--	--	--	--	--	-0.0	--	0.0
AN	0.0	--	--	--	--	--	--	--	--	--	--	0.0
BN	--	--	--	--	--	--	--	--	--	-0.0	--	0.1
Dry	--	--	--	--	--	--	--	--	--	--	--	0.0
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Min												
Wet	-0.2	--	--	--	--	--	--	--	--	-0.4	--	--
AN	--	--	--	--	--	--	--	--	--	--	--	--
BN	--	--	--	--	--	--	--	--	--	-0.4	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Max												
Wet	--	--	--	--	--	--	--	--	--	--	--	0.7
AN	0.2	--	--	--	--	--	--	--	--	--	--	0.2
BN	--	--	--	--	--	--	--	--	--	--	--	0.9
Dry	--	--	--	--	--	--	--	--	--	--	--	0.2
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Min												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Max												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	1
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	21	21	21	21	21	21	21	21	21	21	21	20
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	13
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	70
Greather Than Threshold (0.3 degrees F)												
Wet	0	0	0	0	0	0	0	0	0	0	0	1
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	1
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	2

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the Sacramento River at Freeport

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	0.0	--	-0.0	--	--	0.0	0.1	0.1	0.2	-0.0	-0.1	0.1
AN	0.0	-0.0	--	-0.0	-0.0	--	0.1	0.1	0.1	-0.0	-0.2	0.0
BN	0.0	0.0	--	-0.0	--	0.0	0.1	0.1	0.1	-0.0	-0.1	-0.0
Dry	0.0	0.0	--	--	--	0.0	0.1	0.1	0.1	0.0	-0.1	-0.1
Crit	0.0	-0.0	-0.0	--	0.0	0.0	0.0	-0.0	0.0	-0.0	-0.3	-0.2
Min												
Wet	-0.2	--	-0.2	--	--	--	--	--	--	-0.3	-0.5	-0.4
AN	--	-0.2	--	-0.2	-0.2	--	--	--	--	-0.1	-0.4	-0.1
BN	--	--	--	-0.2	--	--	--	--	--	-0.3	-0.3	-0.1
Dry	-0.2	-0.2	--	--	--	--	-0.2	--	--	-0.3	-0.6	-0.3
Crit	-0.2	-0.4	-0.2	--	--	--	-0.2	-0.3	-0.1	-0.3	-0.6	-0.7
Max												
Wet	0.2	--	--	--	--	0.2	0.2	0.3	0.3	0.1	0.1	0.5
AN	0.2	--	--	--	--	--	0.3	0.3	0.4	0.3	0.1	0.1
BN	0.2	0.2	--	--	--	0.2	0.2	0.3	0.3	0.3	0.1	0.3
Dry	0.2	0.2	--	--	--	0.2	0.3	0.3	0.3	0.3	0.1	0.3
Crit	0.3	--	--	--	0.2	0.2	0.2	0.2	0.3	0.1	--	--
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Min												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	-1
Max												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	21	21	21	21	21	21	21	21	21	21	21	20
AN	10	10	10	10	10	10	10	10	10	10	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	72	72	71
Greather Than Threshold (0.3 degrees F)												
Wet	0	0	0	0	0	0	0	0	0	0	0	1
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the American River at the Mouth

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	0.0	-0.0	-0.1	-0.1	-0.0	0.1	0.1	0.0	-0.0	0.0	0.0	0.0
AN	0.0	-0.0	-0.1	-0.1	-0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
BN	0.1	0.0	-0.0	-0.0	0.0	0.1	0.1	0.1	0.1	-0.1	-0.0	-0.0
Dry	-0.1	-0.0	-0.1	-0.1	-0.0	0.1	0.2	0.2	0.0	0.0	0.0	-0.0
Crit	0.1	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Min												
Wet	-1.4	-0.4	-0.2	-0.2	-0.6	--	--	-0.2	-0.3	--	-0.1	-0.2
AN	-0.5	-0.4	-0.2	-0.2	-0.4	-0.2	--	-0.2	--	-0.2	-0.1	-0.2
BN	-0.5	-0.2	-0.2	-0.2	-0.2	--	--	--	--	-0.9	-0.3	-0.4
Dry	-0.9	-0.4	-0.2	-0.2	-0.2	--	--	-0.2	-0.2	-0.1	-0.1	-0.2
Crit	--	-0.7	-0.2	-0.2	-0.2	--	--	--	--	-0.1	-0.3	-0.3
Max												
Wet	0.9	0.3	--	--	0.2	0.4	0.4	0.2	0.3	0.2	0.1	0.3
AN	0.7	0.2	--	--	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
BN	0.5	0.7	--	--	0.2	0.4	0.4	0.3	0.5	--	0.3	0.3
Dry	0.5	0.5	--	--	0.2	0.4	0.4	0.8	0.3	0.5	0.3	0.3
Crit	0.8	0.2	--	--	0.2	0.2	0.3	0.8	0.3	0.1	0.3	0.7
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Min												
Wet	-1	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	-1	0	0
Dry	-1	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Max												
Wet	1	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	1	0	0	0	0
Crit	1	0	0	0	0	0	0	1	0	0	0	1
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	18	21	21	21	21	21	21	21	21	21	21	21
AN	9	10	10	10	10	10	10	10	10	10	10	10
BN	14	13	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	15	16	15	16	16
Crit	10	11	11	11	11	11	11	10	11	11	11	9
Total	67	71	72	72	72	72	72	70	72	71	72	70
Greather Than Threshold (0.3 degrees F)												
Wet	3	0	0	0	0	0	0	0	0	0	0	0
AN	1	0	0	0	0	0	0	0	0	0	0	0
BN	0	1	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	1	0	1	0	0
Crit	1	0	0	0	0	0	0	1	0	0	0	2
Total	5	1	0	0	0	0	0	2	0	1	0	2

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the American River at Watt Ave

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	0.1	-0.0	-0.1	-0.1	-0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.0	-0.1	-0.1	-0.0	-0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
BN	0.1	0.1	-0.1	-0.0	0.0	0.1	0.1	0.1	0.1	-0.1	0.0	0.0
Dry	-0.0	-0.0	-0.1	-0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1
Crit	0.1	-0.0	-0.1	-0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1
Min												
Wet	-1.7	-0.5	-0.4	-0.2	-0.6	--	--	-0.2	-0.3	--	-0.1	-0.1
AN	-0.9	-0.5	-0.2	-0.2	-0.2	-0.2	--	--	--	--	--	--
BN	-0.7	-0.2	-0.2	-0.2	-0.2	--	--	--	-0.2	-0.9	-0.3	-0.3
Dry	-0.9	-0.4	-0.2	-0.4	-0.2	--	--	--	--	--	--	--
Crit	--	-0.9	-0.2	-0.2	--	--	--	--	--	--	--	--
Max												
Wet	1.1	0.2	--	--	0.2	0.4	0.6	0.2	0.3	0.2	0.1	0.3
AN	0.9	0.2	--	--	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
BN	0.7	0.7	--	--	0.2	0.4	0.6	0.4	0.4	0.1	0.3	0.3
Dry	0.7	0.4	--	--	0.2	0.4	0.4	1.0	0.4	0.5	0.3	0.3
Crit	0.8	0.4	--	--	0.2	0.4	0.4	1.1	0.3	0.1	0.6	0.7
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Min												
Wet	-1	0	0	0	0	0	0	0	0	0	0	0
AN	-1	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	-1	0	0
Dry	-1	0	0	0	0	0	0	0	0	0	0	0
Crit	0	-1	0	0	0	0	0	0	0	0	0	0
Max												
Wet	1	0	0	0	0	0	0	0	0	0	0	0
AN	1	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	1	0	0	0	0
Crit	1	0	0	0	0	0	0	1	0	0	0	1
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	17	21	21	21	21	21	21	21	21	21	21	21
AN	9	10	10	10	10	10	10	10	10	10	10	10
BN	13	13	14	14	14	14	14	14	14	14	14	14
Dry	15	16	16	16	16	16	16	15	16	15	16	16
Crit	10	11	11	11	11	11	11	10	11	11	10	9
Total	64	71	72	72	72	72	72	70	72	71	71	70
Greather Than Threshold (0.3 degrees F)												
Wet	4	0	0	0	0	0	0	0	0	0	0	0
AN	1	0	0	0	0	0	0	0	0	0	0	0
BN	1	1	0	0	0	0	0	0	0	0	0	0
Dry	1	0	0	0	0	0	0	1	0	1	0	0
Crit	1	0	0	0	0	0	0	1	0	0	1	2
Total	8	1	0	0	0	0	0	2	0	1	1	2

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the American River below Nimbus Dam

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	0.1	-0.0	-0.1	-0.1	-0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.1
AN	0.0	-0.0	-0.1	-0.1	-0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1
BN	0.1	0.1	-0.1	-0.1	0.0	0.1	0.2	0.1	0.2	-0.1	0.1	0.1
Dry	-0.1	-0.0	-0.2	-0.1	0.0	0.2	0.2	0.2	0.0	0.1	0.2	0.3
Crit	0.2	0.0	-0.1	-0.0	0.1	0.2	0.1	0.2	0.2	0.0	0.2	0.3
Min												
Wet	-2.1	-0.7	-0.4	-0.2	-0.6	--	--	-0.2	-0.3	--	-0.2	-0.2
AN	-0.9	-0.7	-0.2	-0.2	-0.2	-0.2	--	--	--	-0.2	--	--
BN	-0.7	-0.4	-0.2	-0.2	-0.2	--	--	-0.2	-0.2	-1.1	-0.2	-0.5
Dry	-1.1	-0.5	-0.4	-0.6	-0.2	--	--	-0.2	-0.2	--	--	--
Crit	--	-0.9	-0.2	-0.2	--	--	-0.2	--	--	--	--	-0.1
Max												
Wet	1.3	0.4	--	--	0.2	0.4	0.6	0.2	0.3	0.2	0.2	0.5
AN	1.3	0.4	--	--	0.2	0.2	0.2	0.4	0.5	0.5	0.5	0.5
BN	0.7	0.9	--	--	0.2	0.6	0.4	0.6	0.7	0.2	0.5	0.6
Dry	0.9	0.4	--	--	0.2	0.5	0.6	1.6	0.5	0.6	0.6	1.3
Crit	1.0	0.4	--	--	0.2	0.4	0.5	1.6	0.5	0.2	0.9	0.9
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Min												
Wet	-1	0	0	0	0	0	0	0	0	0	0	0
AN	-1	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	-1	0	0
Dry	-1	0	0	0	0	0	0	0	0	0	0	0
Crit	0	-1	0	0	0	0	0	0	0	0	0	0
Max												
Wet	1	0	0	0	0	0	0	0	0	0	0	0
AN	1	0	0	0	0	0	0	0	0	0	0	0
BN	0	1	0	0	0	0	0	0	0	0	0	0
Dry	1	0	0	0	0	0	0	1	0	0	0	1
Crit	1	0	0	0	0	0	0	1	0	0	1	1
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	17	21	21	21	21	21	21	21	21	21	21	20
AN	9	10	10	10	10	10	10	10	10	10	10	10
BN	12	12	14	14	14	14	14	14	13	14	13	12
Dry	15	16	16	16	16	16	14	15	16	14	14	13
Crit	10	11	11	11	11	11	11	10	11	11	9	9
Total	63	70	72	72	72	72	70	70	71	70	67	64
Greather Than Threshold (0.3 degrees F)												
Wet	4	0	0	0	0	0	0	0	0	0	0	1
AN	1	0	0	0	0	0	0	0	0	0	0	0
BN	2	2	0	0	0	0	0	0	1	0	1	2
Dry	1	0	0	0	0	0	2	1	0	2	2	3
Crit	1	0	0	0	0	0	0	1	0	0	2	2
Total	9	2	0	0	0	0	2	2	1	2	5	8

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the Feather River at the Mouth

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	0.0	-0.0	--	--	--	--	0.1	0.3	0.3	0.1	-0.7	-0.7
AN	--	--	--	-0.0	0.0	--	0.2	0.3	0.2	0.1	-0.3	-0.6
BN	--	--	--	--	--	--	0.1	0.2	0.1	-0.1	-0.2	-0.7
Dry	0.0	--	--	--	--	--	0.3	0.3	0.2	-0.1	-0.2	-0.6
Crit	0.0	--	--	--	--	--	0.4	0.4	0.2	0.1	-1.1	-0.6
Min												
Wet	-0.2	-0.2	--	--	--	--	--	--	--	-0.7	-2.3	-1.6
AN	--	--	--	-0.2	--	--	--	--	--	-0.3	-0.8	-1.3
BN	--	--	--	--	--	--	--	--	--	-0.5	-1.0	-1.1
Dry	--	--	--	--	--	--	--	--	--	-0.7	-1.8	-1.4
Crit	--	--	--	--	--	--	--	-0.1	--	-0.1	-2.4	-1.6
Max												
Wet	0.2	--	--	--	--	--	0.3	0.7	0.7	0.5	0.3	-0.3
AN	--	--	--	--	0.2	--	0.5	0.6	0.6	0.7	0.3	--
BN	--	--	--	--	--	--	0.3	0.8	0.4	0.3	0.3	--
Dry	0.2	--	--	--	--	--	1.2	0.8	0.7	0.3	0.7	--
Crit	0.2	--	--	--	--	--	0.8	0.6	0.6	0.7	--	0.1
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	-1	-1
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	-1	0
Min												
Wet	0	0	0	0	0	0	0	0	0	-1	-2	-1
AN	0	0	0	0	0	0	0	0	0	0	-1	-1
BN	0	0	0	0	0	0	0	0	0	0	-1	-1
Dry	0	0	0	0	0	0	0	0	0	-1	-1	-1
Crit	0	0	0	0	0	0	0	0	0	0	-2	-1
Max												
Wet	0	0	0	0	0	0	0	1	1	0	0	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	1	0	0	0	0
Dry	0	0	0	0	0	0	1	1	1	0	1	0
Crit	0	0	0	0	0	0	1	0	0	1	0	0
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	21	21	21	21	21	21	21	18	14	17	21	21
AN	10	10	10	10	10	10	10	6	7	8	10	10
BN	14	14	14	14	14	14	14	12	12	14	14	14
Dry	16	16	16	16	16	16	14	9	13	16	15	16
Crit	11	11	11	11	11	11	10	4	7	10	11	11
Total	72	72	72	72	72	72	69	49	53	65	71	72
Greather Than Threshold (0.3 degrees F)												
Wet	0	0	0	0	0	0	0	3	7	4	0	0
AN	0	0	0	0	0	0	0	4	3	2	0	0
BN	0	0	0	0	0	0	0	2	2	0	0	0
Dry	0	0	0	0	0	0	2	7	3	0	1	0
Crit	0	0	0	0	0	0	1	7	4	1	0	0
Total	0	0	0	0	0	0	3	23	19	7	1	0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

Temperature in the Feather River below Thermalito Afterbay

NONE SELECTED minus NONE SELECTED

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Months											
	Relative Difference (%)[1]											
Average												
Wet	--	--	--	0.0	--	--	--	--	--	0.0	-0.1	--
AN	--	--	--	--	--	--	--	--	--	0.1	-0.1	--
BN	--	--	--	--	-0.0	--	--	--	--	--	--	-0.0
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Min												
Wet	--	--	--	--	--	--	--	--	--	-0.1	-1.1	--
AN	--	--	--	--	--	--	--	--	--	--	-1.2	--
BN	--	--	--	--	-0.2	--	--	--	--	--	--	-0.2
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
Max												
Wet	--	--	--	0.2	--	--	--	--	--	0.4	--	--
AN	--	--	--	--	--	--	--	--	--	1.0	--	--
BN	--	--	--	--	--	--	--	--	--	--	--	--
Dry	--	--	--	--	--	--	--	--	--	--	--	--
Crit	--	--	--	--	--	--	--	--	--	--	--	--
	Absolute Difference (Temperature (ºF))											
Average												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Min												
Wet	0	0	0	0	0	0	0	0	0	0	-1	0
AN	0	0	0	0	0	0	0	0	0	0	-1	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Max												
Wet	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
	Counts Based on Absolute Difference (Temperature (ºF))											
Less Than or Equal to Threshold (0.3 degrees F)												
Wet	21	21	21	21	21	21	21	21	21	20	21	21
AN	10	10	10	10	10	10	10	10	10	9	10	10
BN	14	14	14	14	14	14	14	14	14	14	14	14
Dry	16	16	16	16	16	16	16	16	16	16	16	16
Crit	11	11	11	11	11	11	11	11	11	11	11	11
Total	72	72	72	72	72	72	72	72	72	70	72	72
Greather Than Threshold (0.3 degrees F)												
Wet	0	0	0	0	0	0	0	0	0	1	0	0
AN	0	0	0	0	0	0	0	0	0	1	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0
Crit	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	0

[1] Relative difference mean, median, min, and max are calculated using the 72 years' relative differences.

ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX I

Endangered Species Act Section 7 Compliance

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Klamath Falls Fish & Wildlife Office
6610 Washburn Way
Klamath Falls, OR 97603
(541) 885-8481 FAX: (541) 885-7837

In Reply Refer To: 1-10-00-SP/TA-137

June 5, 2002

Ms. Patricia C. Reed, Environmental Scientist
CDM
2151 River Plaza Drive, Suite 200
Sacramento, California 95833

Subject: Modoc County Species Lists for the Environmental Water Account Program

Dear Ms. Reed:

This responds to your May 13, 2002, Modoc County species list request for the Environmental Water Account Program (Project). We received your correspondence on May 17, 2002. It is our understanding the Project is to "provide water at critical times to meet environmental needs without water supply impacts on cities, farms, and businesses" throughout California. Attachment A provides an updated species list of federally endangered, threatened, proposed, and candidate species for Klamath County to assist in your evaluation. This list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (Act). These lists are valid for 90 days or until we send a letter updating the original with any changes that had occurred. These lists are not proof of presence or absence of listed species within the area. The California Department of Fish and Game should be contacted regarding State listed species and species of concern.

Thank you for contacting us early in the process and for your efforts to conserve, protect and/or recover listed, candidate, and sensitive species as well as other trust resources. Please keep us informed of your progress or any assistance we may provide. If you have questions regarding this letter, please contact Leonard LeCaptain at (541) 885-8481.

Sincerely,

Steve A. Lewis
Project Leader

Attachment

cc: CDFG VFWO
SFWO CFWO
AFWO CNO

JUN 10 2002

Attachment A

SPECIES LIST

Where a Federal agency is involved, the agency or designated representative shall use the attached list, along with relevant biological studies, literature reviews, views of species experts, and site inspections, to determine if the project may affect (negatively or positively) listed or proposed species or proposed or designated critical habitat. If the subject project may affect a listed species and the proposed action is funded, permitted, or implemented by a Federal agency, the Federal agency must prepare a biological assessment if the project is a construction project which may require an environmental impact statement [1/]. If a biological assessment is not required, the Federal agency still has the responsibility to review its proposed activities and determine whether the listed species may be affected. If, based on an analysis it is determined that the project will have "no effect" on listed or proposed species, then no additional correspondence with the Service is necessary under the Act's requirements. If the action agency requires a letter indicating Service review of the "no effect" determination, then please provide a summary of the project, relevant maps and species information, a copy of the species list provided by the Klamath Falls Fish and Wildlife Office (KFFWO), and justification for the effects determination to the KFFWO.

For non-Federal entities where there is no Federal nexus, any incidental take must be authorized through the "incidental take permit" process established under section 10(a)(1)(B) of the Endangered Species Act, as amended (16 U.S.C. 1531 et seq)(Act). Section 10(a)(2)(A) of the Act requires an applicant for an incidental take permit to submit a Habitat Conservation Plan (HCP) that specifies, among other things, the impacts that are likely to result from the taking and the measures the permit applicant will undertake to minimize and mitigate such impacts. The HCP process consists of three phases: (1) the HCP development phase where the applicant's project or activity is integrated with species protection needs through development of the HCP; (2) the formal permit processing phase which involves review of the application package by the appropriate Regional Office or, in some cases, the National Marine Fishery Service Washington D.C. office; and (3) the post-issuance phase which is the period during which the permittee and other responsible entities implement the HCP and its monitoring and funding programs.

The species list also includes Federal candidate species of concern that may be present within the following counties. While not protected under the Endangered Species Act (Act), the Service encourages Federal agencies and private land owners to utilize their authorities to conserve and protect candidate species, so activities which they authorize do not contribute to the need to list these species as either threatened or endangered under the Act. We also encourage Federal agencies and private land owners to provide the Service with information on status surveys, monitoring and other studies related to candidate species, and to address these species during consultation. During the assessment or review process, the Federal agency may engage in planning efforts, but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act. If a listed species may be affected, the Federal agency should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

The action agency and applicant should be aware that section 9 of the Act prohibits the "take" of any listed species. The definition of "take" includes to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. "Harm" in the definition of 'take' in the Act means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 CFR 17.3). Anyone who engages in a take would be subject to prosecution under section 9 of the Act. Such taking may occur only under the authority of the Service's pursuant to section 7 (if a Federal agency is involved with this project) or through a section 10(a)(1)(B) permit, as mandated in the Act.

1/ "Construction Project" means any major Federal action which significantly affects the quality of the human environment designed primarily to result in the building or erection of man-made structures such as dams, buildings, roads, pipelines, channels and the like. This includes Federal actions such as permits, grants, licenses, or other forms of Federal authorizations or approval which may result in construction.

LISTED, PROPOSED AND CANDIDATE SPECIES THAT MAY OCCUR IN MODOC COUNTY

LISTED SPECIES

Birds

Bald eagle	*Haliaeetus leucocephalus*	T
Northern spotted owl	*Strix occidentalis caurina*	T, CH

Fish

Shortnose sucker	*Chasmistes brevirostris*	E, PCH
Lost River sucker	*Deltistes luxatus*	E, PCH
Modoc sucker	*Catostomus microps*	E

Plants

Slender Orcutt grass	*Orcuttia tenuis*	T

Invertebrates

Shasta Crayfish	*Pacifastacus fortis*	E

(Projects affecting groundwater supplying springs in the Falls River area)

PROPOSED SPECIES

Fish

Cowhead Lake Tui Chub	*Coccyzus americanus*	PE

CANDIDATE SPECIES

Birds

Yellow-billed Cuckoo	*Coccyzus americanus*	C

Amphibians and Reptiles

Oregon Spotted frog	*Rana pretiosa*	C

(E) - Endangered (T) - Threatened (CH) - Critical Habitat
(C) - Candidate (PE) - Proposed as endangered (PT) - Proposed as threatened
(PCH) - Proposed critical habitat

(List compiled May 2002)

U.S. FISH AND WILDLIFE SERVICE
VENTURA FISH AND WILDLIFE OFFICE
2493 PORTOLA ROAD, SUITE B
VENTURA, CALIFORNIA 93003
PHONE: (805) 644-1766 **FAX: (805) 644-3958**



DATE: June 14, 2002

TO: CDM
Attention: Patricia C. Reed

Fax: (916) 567/9905

From: Bridget Fahey

PAGES INCLUDING COVER SHEET: 8

SUBJECT: Species List Request

The original letter will be mailed today.

Thank you

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

In Reply Refer To: 2002-338

June 12, 2002

Patricia Reed
Environmental Scientist
Camp Dresser & McKee, Inc.
2151 River Plaza Drive, Suite 200
Sacramento, California 95833

Subject: Species List for the CALFED Bay-Delta Environmental Water Account Program, Kern, Los Angeles, Monterey, San Benito, and San Bernardino counties, California

Dear Ms. Reed:

This letter is in response to your request, dated May 13, 2002, and received in our office May 16, 2002, for information on federally listed threatened and endangered species that may occur within certain counties within our area of responsibility. According to your letter, this information will be used by Camp Dresser & McKee, Inc. in the preparation of an environmental impact statement and biological assessment for the CALFED Bay-Delta Environmental Water Account Program occurring in the following counties and throughout California: Kern, Los Angeles, Monterey, San Benito, and San Bernardino. Please note that the Ventura Fish and Wildlife Office is responsible for the area of Los Angeles County north and west of Interstate 10 where it meets the Pacific Ocean to its junction with Interstate 405, Interstate 405 to its junction with Interstate 5, and Interstate 5 to its junction with Highway 14. From this point to the Ventura Fish and Wildlife Office is also responsible for the area of Los Angeles County north of the Angeles National Forest. Desert portions of Kern and San Bernardino counties are also within the Ventura Fish and Wildlife Office's area of jurisdiction. The enclosed list of species fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (Act).

Service responsibilities include administering the Act, including sections 7, 9, and 10. Section 9 of the Act prohibits the taking of any federally listed endangered or threatened species. Section 3(18) of the Act defines take to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Service regulations (50 CFR 17.3) define harm to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harassment is defined by the Service as an intentional or negligent action

disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed species. Exemptions to the prohibitions against take may be obtained through coordination with the Service through interagency consultation for projects with Federal involvement pursuant to section 7 or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act. If the subject project is to be funded, authorized, or carried out by a Federal agency and may affect a listed species, the Federal agency must consult with the Service, pursuant to section 7(a)(2) of the Act. If a proposed project does not involve a Federal agency but may result in the take of a listed animal species, the project proponent should apply for an incidental take permit, pursuant to section 10(a)(1)(B) of the Act. We can provide you with more detailed information regarding the regulatory process upon your request.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

The take of proposed and candidate species is not prohibited by section 9 of the Act. However, we encourage you to consider their conservation in your planning process in the event they are listed prior to project completion. For information on other species of concern that may occur in the project area, the Service recommends that you review information in the California Department of Fish and Game's Natural Diversity Data Base and that you contact the California Department of Fish and Game at (916) 324-3812.

If you have any further questions, please contact Bridget Fahey of my staff at (805) 644-1766.

Sincerely,

for Diane K. Noda
Field Supervisor

Enclosure

LISTED, PROPOSED, AND CANDIDATE SPECIES THAT MAY OCCUR IN THE AREA OF THE CALFED BAY-DELTA ENVIRONMENTAL WATER ACCOUNT PROGRAM

KERN COUNTY, CALIFORNIA

Birds		
Least Bell's vireo	*Vireo bellii pusillus*	E
Southwestern willow flycatcher	*Empidonax traillii extimus*	E
California condor	*Gymnogyps californianus*	E, CH
Mountain plover	*Charadrius montanus*	PT
Reptiles		
Desert tortoise	*Gopherus agassizii*	T, CH
Plants		
Hoover's eriastrum	*Eriastrum hooveri*	PD, T

LOS ANGELES COUNTY, CALIFORNIA

Birds		
Bald eagle	*Haliaeetus leucocephalus*	PD, T
Southwestern willow flycatcher	*Empidonax traillii extimus*	E
Least Bell's vireo	*Vireo bellii pusillus*	E, CH
California condor	*Gymnogyps californianus*	E, CH
Mountain plover	*Charadrius montanus*	PT
Western snowy plover	*Charadrius alexandrinus nivosus*	T, CH
Brown pelican	*Pelecanus occidentalis*	E
California gnatcatcher	*Polioptila californica*	T, CH
California least tern	*Sterna antillarum browni*	E
Reptiles		
Desert tortoise	*Gopherus agassizii*	T, CH
Amphibians		
California red-legged frog	*Rana aurora draytonii*	T, CH
Arroyo toad	*Bufo californicus*	E, CH
Fish		
Unarmored threespine stickleback	*Gasterosteus aculeatus williamsoni*	E, PCH
Tidewater goby	*Eucyclogobius newberryi*	E
Steelhead trout	*Oncorhynchus mykiss*	*

Invertebrates		
Riverside fairy shrimp	*Streptocephalus woottoni*	E
Plants		
Slender-horned spineflower	*Dodecahema leptoceras*	E
Braunton's milk-vetch	*Astragalus brauntonii*	E
Lyon's pentachaeta	*Pentachaeta lyonii*	E
Santa Monica Mountains live-forever	*Dudleya cymosa* ssp. *ovatifolia*	T
Marcescent dudleya	*Dudleya cymosa* ssp. *marcescens*	T
California orcutt grass	*Orcuttia californica*	E
Conejo dudleya	*Dudleya abramsii* ssp. *parva*	T
Verity's dudleya	*Dudleya verityi*	T
Nevin's barberry	*Berberis nevinii*	E
Spreading navarretia	*Navarretia fossalis*	T
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	C

MONTEREY COUNTY, CALIFORNIA

Mammals		
San Joaquin kit fox	*Vulpes macrotis mutica*	E
Southern sea otter	*Enhydra lutris nereis*	T
Birds		
Bald eagle	*Haliaeetus leucocephalus*	PD, T
Brown pelican	*Pelecanus occidentalis*	E
California clapper rail	*Rallus longirostris obsoletus*	E
California least tern	*Sterna antillarum browni*	E
Least Bell's vireo	*Vireo bellii pusillus*	E
Western snowy plover	*Charadrius alexandrinus nivosus*	T, CH
Marbled murrelet	*Brachyramphus marmoratus marmoratus*	T
California condor	*Gymnogyps californianus*	E
Mountain plover	*Charadrius montanus*	PT
Reptiles		
Blunt-nosed leopard lizard	*Gambelia silus*	E
Amphibians		
California red-legged frog	*Rana aurora draytonii*	T, CH
Santa Cruz long-toed salamander	*Ambystoma macrodactylum croceum*	E
Arroyo toad	*Bufo microscaphus californicus*	E, CH
California tiger salamander	*Ambystoma californiense*	C

Fish		
Tidewater goby	*Eucyclogobius newberryi*	E
Steelhead trout	*Oncorhychus mykiss*	*
Invertebrates		
Smith's blue butterfly	*Euphilotes enoptes smithi*	E
Conservancy fairy shrimp	*Branchinecta conservatio*	E
Longhorn fairy shrimp	*Branchinecta longiantenna*	E
Vernal pool fairy shrimp	*Branchinecta lynchi*	T
Plants		
Monterey spineflower	*Chorizanthe pungens* var. *pungens*	T, PCH
Robust spineflower	*Chorizanthe robusta* var. *robusta*	E, PCH
Menzies' wallflower	*Erysimum menziesii* ssp. *menziesii*	E
Yadon's wallflower	*Erysimum menziesii* ssp. *yadonii*	E
Monterey gilia	*Gilia tenuiflora* ssp. *arenaria*	E
Contra Costa goldfields	*Lasthenia conjugens*	E
Beach layia	*Layia carnosa*	E
San Joaquin woollythreads	*Lembertia congdonii*	E
Tidestrom's lupine	*Lupinus tidestromii*	E
Coastal dunes milk-vetch	*Astragalus tener* var. *titi*	E
Gowen cypress	*Cupressus goveniana* ssp. *goveniana*	T
Yadon's piperia	*Piperia yadonii*	E
Hickman's potentilla	*Potentilla hickmanii*	E
Monterey clover	*Trifolium trichocalyx*	E
Purple amole	*Chlorogalum purpureum* var. *purpureum*	T, PCH
Santa Cruz tarplant	*Holocarpha macradenia*	T

SAN BENITO COUNTY, CALIFORNIA

Mammals		
San Joaquin kit fox	*Vulpes macrotis mutica*	E
San Joaquin Valley woodrat	*Neotoma fuscipes riparia*	C
Giant kangaroo rat	*Dipodomys ingens*	E
Birds		
Bald eagle	*Haliaeetus leucocephalus*	PD, T
Mountain plover	*Charadrius montanus*	PT
Least Bell's vireo	*Vireo bellii pusillus*	E
Yellow-billed cuckoo	*Coccyzus americanus*	C
Reptiles		
Blunt-nosed leopard lizard	*Gambelia silus*	E

Amphibians		
California red-legged frog	*Rana aurora draytonii*	T, CH
California tiger salamander	*Ambystoma californiense*	C
Fish		
Steelhead	*Oncorhynchus mykiss*	*
Invertebrates		
Conservancy fairy shrimp	*Branchinecta conservatio*	E
Longhorn fairy shrimp	*Branchinecta longiantenna*	E
Vernal pool fairy shrimp	*Branchinecta lynchi*	T
Vernal pool tadpole shrimp	*Lepidurus packardi*	E
Plants		
San Benito evening-primrose	*Camissonia benitensis*	T
Hoover's eriastrum	*Eriastrum hooveri*	PD, T
San Joaquin woolly-threads	*Monolopia congdonii*	E

SAN BERNARDINO COUNTY, CALIFORNIA

Birds		
**Yuma clapper rail	Rallus longirostris yumanensis	E
Least Bell's vireo	*Vireo bellii pusillus*	E
Southwestern willow flycatcher	Empidonax traillii extimus	E
Bald eagle	*Haliaeetus leucocephalus*	T
Mountain plover	*Charadrius montanus*	PT
Reptiles		
Desert tortoise	*Gopherus agassizii*	T, CH
Amphibians		
Arroyo toad	*Bufo microscaphus californicus*	E, CH
Fish		
Mohave tui chub	*Gila bicolor mohavensis*	E
**Bonytail chub	*Gila elegans*	E, CH
**Razorback sucker	*Xyrauchen texanus*	E, CH
Plants		
Cushenberry buckwheat	*Eriogonum ovalifolium* var. *vineum*	E
Cushenberry milkvetch	*Astragalus albens*	E
Parish's daisy	*Erigeron parishii*	T
Lane Mountain milkvetch	*Astragalus jaegerianus*	E
Cushenbury oxytheca	*Oxytheca parishii* var. *goodmaniana*	E

Key:

E	Endangered
T	Threatened
CH	Critical habitat
PE	Taxa proposed for listing as endangered
PD	Proposed for delisting
PCH	Critical habitat which has been proposed
C	Candidate species for which the Fish and Wildlife Service has on file sufficient information on the biological vulnerability and threats to support proposals to list as endangered or threatened.

* Species for which the National Marine Fisheries Service has responsibility. For more information, contact the Santa Rosa Field Office at (707) 575-6050 or go to http://swr/ucsd.cdu. Or call the Southwest Regional Office in Long Beach at (562) 980-4000.

** These species occur in San Bernardino County along the Colorado River. Questions concerning these species should be referred to the U.S. Fish and Wildlife Service at 2321 W. Royal Palms Road, Suite 103, Phoenix, Arizona 85021-4951, (602) 242-0210.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

IN REPLY REFER TO:
1-1-03-SP-2194

June 16, 2003

Patricia C. Reed
CDM
2151 River Plaza Drive, Suite 200
Sacramento, California 95833

Subject: Species List for Environmental Water Account (EWA) Program

Dear Ms. Reed:

We are writing in response to your June 9, 2003 request for information about endangered and threatened species. We assume that you have contacted the other California fish and wildlife offices concerning species in their jurisdictions.

For your convenience, updated lists may now be downloaded from our website. The specific page is http://sacramento.fws.gov/es/spp_list.htm. The Code of Federal Regulations states that applicants may update their species lists formally or informally (50 CFR §402.12). It has been determined that our web page is an appropriate way to update informally.

Contact Cay Goude, Assistant Field Supervisor at (916) 414-6600, if you have any questions about the updated list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to (916) 414-6712 or 414-6713.

Sincerely,

Harry Mossman

for Jan C. Knight, Chief
Endangered Species Division

Enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

IN REPLY REFER TO:
1-1-02-SP-2,091.00

May 30, 2002

Patricia C. Reed
CDM
2151 River Plaza Drive, Suite 200
Sacramento, California 95833

Subject: County Species Lists

Dear Ms. Reed:

We are sending the enclosed list in response to your May 13, 2002 request for information about endangered and threatened species that may be present in or affected by projects in the counties requested in your letter. (See Enclosure A)

If you need a list to use for a specific project, please contact this office about getting a *quad* list. We can use your maps and/or other information to locate the proposed project within a geographical unit known as a *7.5 minute quadrangle* or "quad." These quads are smaller than counties. Therefore the species list for a quad is shorter than the list for the surrounding county.

Please read Important Information About Your Species List (Enclosure B). It explains how we made the list and describes your responsibilities under the Endangered Species Act. Contact Harry Mossman at (916) 414-6674, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. Information concerning the life history, distribution, and habitat requirements for the listed species is available upon request.

For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to (916) 414-6712 or 414-6713.

Sincerely,

Harry Mossman

for Jan C. Knight, Chief
Endangered Species Division

Enclosures

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by Projects in the Area of the Following California Counties

Reference File No. 1-1-02-SP-2,091.00

May 30, 2002

ALAMEDA COUNTY

Listed Species

Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

delta smelt, *Hypomesus transpacificus* (T) *

tidewater goby, *Eucyclogobius newberryi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

California sea blite, *Suaeda californica* (E) *

Contra Costa goldfields, *Lasthenia conjugens* (E)

Presidio clarkia, *Clarkia franciscana* (E)

Santa Cruz tarplant, *Holocarpha macradenia* (T) *

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

pallid manzanita (=Alameda or Oakland Hills manzanita), *Arctostaphylos pallida* (T)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)

robust spineflower, *Chorizanthe robusta var. robusta* (E) *

showy Indian clover, *Trifolium amoenum* (E) *

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Alameda Island mole, *Scapanus latimanus parvus* (SC)

Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) *

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

- Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)
- Aleutian Canada goose, *Branta canadensis leucopareia* (D)
- Allen's hummingbird, *Selasphorus sasin* (SC)
- American bittern, *Botaurus lentiginosus* (SC)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- Bell's sage sparrow, *Amphispiza belli belli* (SC)
- California thrasher, *Toxostoma redivivum* (SC)
- Costa's hummingbird, *Calypte costae* (SC)
- Lawrence's goldfinch, *Carduelis lawrencei* (SC)
- Lewis' woodpecker, *Melanerpes lewis* (SC)
- Snowy Egret, *Egretta thula* (MB)
- Vaux's swift, *Chaetura vauxi* (SC)
- bank swallow, *Riparia riparia* (CA)
- black rail, *Laterallus jamaicensis coturniculus* (CA)
- common loon, *Gavia immer* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- grasshopper sparrow, *Ammodramus savannarum* (SC)
- hermit warbler, *Dendroica occidentalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- loggerhead shrike, *Lanius ludovicianus* (SC)
- long-billed curlew, *Numenius americanus* (SC)
- oak titmouse, *Baeolophus inornatus* (SLC)
- olive-sided flycatcher, *Contopus cooperi* (SC)
- rufous hummingbird; *Selasphorus rufus* (SC)
- saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
- short-eared owl, *Asio flammeus* (SC)
- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugaea* (SC)
- white-faced ibis, *Plegadis chihi* (SC)
- white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

- California horned lizard, *Phrynosoma coronatum frontale* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Fairmont (=Lum's) microblind harvestman, *Microcina lumi* (SC)

Opler's longhorn moth, *Adela oplerella* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)

Plants

Ben Lomond buckwheat (= naked buckwheat), *Eriogonum nudum var. decurrens* (SC)

Big plant, *Blepharizonia plumosa ssp. plumosa* (SC)

Choris's (=artist's) popcorn-flower, *Plagiobothrys chorisianus var chorisianus* (SLC) *

Congdon's tarplant, *Hemizonia parryi ssp. congdonii* (SC)

Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)

Hall's bush mallow, *Malacothamnus hallii (=M. fasciculatus)* (SLC)

Hoover's button-celery, *Eryngium aristulatum var. hooveri* (SC)

Hoover's cryptantha, *Cryptantha hooveri* (SLC)

Kellogg's horkelia, *Horkelia cuneata ssp. sericea* (SC) *

Lemmon's jewelflower, *Caulanthus coulteri var lemmonii* (SLC) *

Livermore tarplant, *Deinandra bacigalupii* (SC)

Loma Prieta hoita, *Hoita strobilina* (SC) *

Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)

Mt. Hamilton thistle, *Cirsium fontinale var. campylon* (SC)

Napa western flax, *Hesperolinon serpentinum* (SC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)

San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC) *

San Francisco popcornflower, *Plagiobothrys diffusus* (CA)

San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)

Sharsmith's onion, *Allium sharsmithae* (SC)
South Bay clarkia (=Santa Clara red ribbons), *Clarkia concinna ssp. automixa* (SC)
Tiburon buckwheat, *Eriogonum caninum* (SLC)
adobe sanicle, *Sanicula maritima* (SC) *
alkali milk-vetch, *Astragalus tener var. tener* (SC)
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
brittlescale, *Atriplex depressa* (SC)
caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) **
chaparral harebell (=bellflower), *Campanula exigua* (SLC)
delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)
diamond-petaled California poppy, *Eschscholzia rhombipetala* (SC)
fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)
hairless allocarya (=popcornflower), *Plagiobothrys glaber* (SC) **
heartscale, *Atriplex cordulata* (SC)
hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)
interior California (Hospital Canyon) larkspur, *Delphinium californicum ssp. interius* (SC)
large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)
little mousetail, *Myosurus minimus ssp. apus* (SC)
most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)
northcoast (=Point Reyes) bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC) *
prostrate navarretia (=prostrate pincushionplant), *Navarretia prostrata* (SC) *
recurved larkspur, *Delphinium recurvatum* (SC)
robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)
salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)
serpentine bedstraw, *Galium andrewsii ssp. gatense* (SLC)
stinkbells, *Fritillaria agrestis* (SLC)
talus fritillary, *Fritillaria falcata* (SC)
water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)
western leatherwood, *Dirca occidentalis* (SLC)

ALPINE COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Fish

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Paiute cutthroat trout, *Oncorhynchus (=Salmo) clarki seleniris* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

pygmy rabbit, *Brachylagus idahoensis* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Brewer's sparrow, *Spizella breweri* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

bank swallow, *Riparia riparia* (CA)

black swift, *Cypseloides niger* (SC)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

northern goshawk, *Accipiter gentilis* (SC)

olive-sided flycatcher, *Contopus cooperi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

sage grouse, *Centrocerius urophasianus* (SC)

short-eared owl, *Asio flammeus* (SC)

white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

Yosemite toad, *Bufo canorus* (SC)

mountain yellow-legged frog, *Rana muscosa* (SC)

Plants

common moonwort, *Botrychium lunaria* (SC)

AMADOR COUNTY

Listed Species

Mammals

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Ione buckwheat, *Eriogonum apricum var. apricum* (E)

Ione manzanita, *Arctostaphylos myrtifolia* (T)

Irish Hill buckwheat, *Eriogonum apricum var. prostratum* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
Yosemite toad, *Bufo canorus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

Amador (Bisbee Peak) rush-rose, *Helianthemum suffrutescens* (SLC)
Parry's horkelia, *Horkelia parryi* (SLC)
Pleasant Valley mariposa lily, *Calochortus clavatus var. avius* (SC)
Red Hills soaproot, *Chlorogalum grandiflorum* (SC)
Stebbins's lomatium, *Lomatium stebbinsii* (SC)
Tuolumne coyote-thistle (=button-celery), *Eryngium pinnatisectum* (SC)
common moonwort, *Botrychium lunaria* (SC)
pincushion navarretia, *Naverretia myersii spp. myersii* (SC)

BUTTE COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
delta smelt, *Hypomesus transpacificus* (T) *
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
vernal pool fairy shrimp, *Branchinecta lynchi* (T)
vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Butte County (Shippee) meadowfoam, *Limnanthes floccosa ssp. californica* (E)
Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E)
Hoover's spurge, *Chamaesyce hooveri* (T)

hairy Orcutt grass, *Orcuttia pilosa* (E)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Marysville Heermann's kangaroo rat, *Dipodomys californicus eximius* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

California spotted owl, *Strix occidentalis occidentalis* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Snowy Egret, *Egretta thula* (MB)

Swainson's hawk, *Buteo Swainsoni* (CA)

Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Cascades frog, *Rana cascadae* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Sacramento Valley tiger beetle, *Cicindela hirticollis abrupta* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)

Plants

Ahart's (dwarf) rush, *Juncus leiospermus var. ahartii* (SC)
Ahart's whitlow-wort (=Ahart's paronychia), *Paronychia ahartii* (SC)
Brandegee's clarkia, *Clarkia biloba ssp brandegeae* (SLC)
Butte County calycadenia (=Butte County western rosinweed), *Calycadenia oppositifolia* (SLC)
Butte County catchfly (=long-stiped campion), *Silene occidentalis ssp. longistipitata* (SC)
Butte County golden (=Jim's) clover, *Trifolium jokerstii* (SLC)
Butte County morning-glory, *Calystegia atriplicifolia ssp. buttensis* (SC)
Butte County sidalcea (=checkerbloom), *Sidalcea robusta* (SC)
Butte fritillary, *Fritillaria eastwoodiae* (SC)
California beaked-rush, *Rhynchospora californica* (SC)
Cantelow's lewisia, *Lewisia cantelowii* (SC)
Enterprise clarkia, *Clarkia mosquinii ssp. xerophila* (SC)
Feather River stonecrop, *Sedum albomarginatum* (SC)
Ferris's milk-vetch, *Astragalus tener var. ferrisiae* (SC)
Hall's rupertia (=Hall's California tea), *Rupertia hallii* (SLC)
Henderson's bent grass, *Agrostis hendersonii* (SC)
Jepson's onion, *Allium jepsonii* (SC)
Mosquin's clarkia, *Clarkia mosquinii ssp. mosquinii* (SC)
Quincy lupine, *Lupinus dalesiae* (SC) *
Red Bluff (dwarf) rush, *Juncus leiospermus var. leiospermus* (SC)
adobe lily, *Fritillaria pluriflora* (SC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
brittlescale, *Atriplex depressa* (SC)
closed-lip (closed-throated) beardtongue, *Penstemon personatus* (SC)
clustered lady's-slipper, *Cypripedium fasciculatum* (SC)
heartscale, *Atriplex cordulata* (SC)
lesser saltscale, *Atriplex minuscula* (SC)
little mousetail, *Myosurus minimus ssp. apus* (SC)
pink creamsacs, *Castilleja rubicundula ssp. rubicundula* (SLC)
scalloped moonwort, *Botrychium crenulatum* (SC)
subtle orache, *Atriplex subtilis* (SLC)
upswept moonwort, *Botrychium ascendens* (SC)
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)
veiny monardella, *Monardella douglasii ssp. venosa* (SC)
white-stemmed (=whitestem) clarkia, *Clarkia gracilis ssp albicaulis* (SLC)

CALAVERAS COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Chinese Camp brodiaea, *Brodiaea pallida* (T)

Ione manzanita, *Arctostaphylos myrtifolia* (T)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)
Pacific fisher, *Martes pennanti pacifica* (SC)
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
Yosemite toad, *Bufo canorus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Button's Sierra sideband snail, *Monadenia mormonum buttoni* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
molestan blister beetle, *Lytta molesta* (SC)

Plants

Ahart's (dwarf) rush, *Juncus leiospermus var. ahartii* (SC)
Amador (Bisbee Peak) rush-rose, *Helianthemum suffrutescens* (SLC)
Ewan's larkspur, *Delphinium hansenii ssp. ewanianum* (SC)
Henderson's bent grass, *Agrostis hendersonii* (SC)
Hoover's rosinweed (=caycadenia), *Calycadenia hooveri* (SLC)
Parry's horkelia, *Horkelia parryi* (SLC)
Stebbins's lomatium, *Lomatium stebbinsii* (SC)
Tuolumne coyote-thistle (=button-celery), *Eryngium pinnatisectum* (SC)

Whipple's monkeyflower, *Mimulus whipplei* (SC) **
common moonwort, *Botrychium lunaria* (SC)
delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)
pansy (=yellowlip pansy) monkeyflower, *Mimulus pulchellus* (SLC)
three-bracted onion, *Allium tribracteatum* (SC)

COLUSA COUNTY

Listed Species

Birds

Critical habitat, northern spotted owl, *Strix occidentalis caurina* (T)
bald eagle, *Haliaeetus leucocephalus* (T)
northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
delta smelt, *Hypomesus transpacificus* (T) *
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
vernal pool fairy shrimp, *Branchinecta lynchi* (T)
vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Colusa grass, *Neostapfia colusana* (T) *
palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Marysville Heermann's kangaroo rat, *Dipodomys californicus eximius* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Snowy Egret, *Egretta thula* (MB)

Swainson's hawk, *Buteo Swainsoni* (CA)

bank swallow, *Riparia riparia* (CA)

black tern, *Chlidonias niger* (SC)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

greater sandhill crane, *Grus canadensis tabida* (CA)

least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)
Wilbur Springs minute moss beetle, *Ochthebius reticulatus* (SC)
Wilbur Springs shore fly, *Paracoenia calida* (SC)
brownish dubiraphian riffle beetle, *Dubiraphia brunnescens* (SC)

Plants

Baker's narvarretia, *Navarretia leucocephala ssp. bakeri* (SC)
Bolander's horkelia, *Horkelia bolanderi* (SC) *
Brandegee's woolly-star (=eriastrum), *Eriastrum brandegeae* (SC)
Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)
Ferris's milk-vetch, *Astragalus tener var. ferrisiae* (SC) *
Hall's madia (=Hall's harmonia), *Madia hallii (=Harmonia hallii)* (SC)

Indian Valley brodiaea, *Brodiaea coronaria ssp. rosea* (CA)
Jepson's milk-vetch, *Astragalus rattanii var jepsonianus* (SLC)
Milo Baker's lupine, *Lupinus milo-bakeri* (CA)
Red Mountain catchfly (=campion), *Silene campanulata ssp. campanulata* (CA)
San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)
Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)
Snow Mountain willowherb, *Epilobium nivium* (SC)
Stony Creek spurge, *Chamaesyce ocellata ssp. rattanii* (SLC)
Tiburon buckwheat, *Eriogonum caninum* (SLC)
adobe lily, *Fritillaria pluriflora* (SC)
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
brittlescale, *Atriplex depressa* (SC)
diamond-petaled California poppy, *Eschscholzia rhombipetala* (SC) *
drymaria dwarf-flax (=western flax), *Hesperolinon drymarioides* (SC)
dwarf soaproot (=wavyleaf soap plant), *Chlorogalum pomeridianum var minus* (SLC)
little mousetail, *Myosurus minimus ssp. apus* (SC)
pink creamsacs, *Castilleja rubicundula ssp. rubicundula* (SLC)
recurved larkspur, *Delphinium recurvatum* (SC) *
red-flowered lotus, *Lotus rubriflorus* (SC)
scalloped moonwort, *Botrychium crenulatum* (SC)
water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)

CONTRA COSTA COUNTY

Listed Species

Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)
riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *
salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)
California clapper rail, *Rallus longirostris obsoletus* (E)
California least tern, *Sterna antillarum (=albifrons) browni* (E)
bald eagle, *Haliaeetus leucocephalus* (T)
western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

delta smelt, *Hypomesus transpacificus* (T)

tidewater goby, *Eucyclogobius newberryi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

Lange's metalmark butterfly, *Apodemia mormo langei* (E)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Antioch Dunes evening-primrose, *Oenothera deltoides ssp. howellii* (E)

Contra Costa goldfields, *Lasthenia conjugens* (E)

Contra Costa wallflower, *Erysimum capitatum ssp. angustatum* (E)

Critical Habitat, Contra Costa wallflower, *Erysimum capitatum ssp. angustatum* (E)

Critical habitat, Antioch Dunes evening-primrose, *Oenothera deltoides ssp. howellii* (E)

Critical habitat, Santa Cruz tarplant, *Holocarpha macradenia* (T)

Santa Cruz tarplant, *Holocarpha macradenia* (T) *

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

pallid manzanita (=Alameda or Oakland Hills manzanita), *Arctostaphylos pallida* (T)

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) *

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Suisun ornate shrew, *Sorex ornatus sinuosus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

Snowy Egret, *Egretta thula* (MB)
Suisun song sparrow, *Melospiza melodia maxillaris* (SC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black rail, *Laterallus jamaicensis coturniculus* (CA)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

- Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
- Antioch andrenid bee, *Perdita scitula antiochensis* (SC)
- Antioch cophuran robberfly, *Cophura hurdi* (SC)
- Antioch efferian robberfly, *Efferia antiochi* (SC)
- Antioch mutillid wasp, *Myrmosula pacifica* (SC)
- Antioch sphecid wasp, *Philanthus nasilis* (SC)
- Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)
- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)
- Hurd's metapogon robberfly, *Metapogon hurdi* (SC)
- Marin elfin butterfly, *Incisalia mossii marinensis* (SC)
- Middlekauf's shieldback katydid, *Idiostatus middlekaufi* (SC)
- Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)
- Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
- Sacramento anthicid beetle, *Anthicus sacramento* (SC)
- San Francisco lacewing, *Nothochrysa californica* (SC)
- San Joaquin dune beetle, *Coelus gracilis* (SC)
- curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)
- molestan blister beetle, *Lytta molesta* (SC)
- yellow-banded andrenid bee, *Perdita hirticeps luteocincta* (SC)

Plants

- Ben Lomond buckwheat (= naked buckwheat), *Eriogonum nudum var. decurrens* (SC)
- Big plant, *Blepharizonia plumosa ssp. plumosa* (SC)
- Brewer's dwarf-flax (=western flax), *Hesperolinon breweri* (SC)
- California croton, *Croton californicus* (SLC)
- California triquetrella moss, *Triquetrella californica* (SLC)
- Carquinez goldenbush, *Isocoma arguta* (SC)
- Congdon's tarplant, *Hemizonia parryi ssp. congdonii* (SC)
- Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)
- Franciscan thistle, *Cirsium andrewsii* (SC)
- Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)
- Hall's bush mallow, *Malacothamnus hallii (=M. fasciculatus)* (SLC)
- Hoover's cryptantha, *Cryptantha hooveri* (SLC)
- Livermore tarplant, *Deinandra bacigalupii* (SC)
- Loma Prieta hoita, *Hoita strobilina* (SC) *
- Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

Mt. Diablo bird's-beak, *Cordylanthus nidularius* (SC)
Mt. Diablo jewelflower, *Streptanthus hispidus* (SC)
Mt. Diablo phacelia, *Phacelia phacelioides* (SC)
Northern California black walnut, *Juglans californica var. hindsii* (SC)
Oregon meconella (=white fairypoppy), *Meconella oregana* (SC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)
San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)
Suisun Marsh aster, *Aster lentus* (SC)
Tiburon buckwheat, *Eriogonum caninum* (SLC)
alkali milk-vetch, *Astragalus tener var. tener* (SC) *
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
brittlescale, *Atriplex depressa* (SC)
caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) **
chaparral harebell (=bellflower), *Campanula exigua* (SLC)
coast rock-cress, *Arabis blepharophylla* (SLC)
delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)
delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)
diamond-petaled California poppy, *Eschscholzia rhombipetala* (SC) *
fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)
heartscale, *Atriplex cordulata* (SC)
interior California (Hospital Canyon) larkspur, *Delphinium californicum ssp. interius* (SC)
little mousetail, *Myosurus minimus ssp. apus* (SC)
most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)
recurved larkspur, *Delphinium recurvatum* (SC)
robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)
rock sanicle, *Sanicula saxatilis* (SC)
salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)
serpentine bedstraw, *Galium andrewsii ssp. gatense* (SLC)
showy (=golden) madia, *Madia radiata* (SC) *
stinkbells, *Fritillaria agrestis* (SLC)
western leatherwood, *Dirca occidentalis* (SLC)

EL DORADO COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

El Dorado bedstraw, *Galium californicum ssp. sierrae* (E)

Layne's butterweed (=ragwort), *Senecio layneae* (T)

Pine Hill ceanothus, *Ceanothus roderickii* (E)

Pine Hill flannelbush, *Fremontodendron californicum ssp. decumbens* (E)

Stebbins's morning-glory, *Calystegia stebbinsii* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Plants

Tahoe yellow-cress, *Rorippa subumbellata* (C)

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)

short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
Yosemite toad, *Bufo canorus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Button's Sierra sideband snail, *Monadenia mormonum buttoni* (SC)
Lake Tahoe benthic stonefly, *Capnia lacustra* (SC)
Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)
South Forks ground beetle, *Nebria darlingtoni* (SC)
gold rush hanging fly, *Orbittacus obscurus* (SC)
spiny rhyacophilan caddisfly, *Rhyacophila spinata* (SC)

Plants

Amador (Bisbee Peak) rush-rose, *Helianthemum suffrutescens* (SLC)
Brandegee's clarkia, *Clarkia biloba ssp brandegeae* (SLC)
Cup Lake draba, *Draba asterophora var. macrocarpa* (SC)
El Dorado mule-ears, *Wyethia reticulata* (SC)
Nissenan manzanita, *Arctostaphylos nissenana* (SC)
Oregon fireweed, *Epilobium oreganum* (SC)
Parry's horkelia, *Horkelia parryi* (SLC)
Pleasant Valley mariposa lily, *Calochortus clavatus var. avius* (SC)
Red Hills soaproot, *Chlorogalum grandiflorum* (SC)
Stebbins' phacelia, *Phacelia stebbinsii* (SC)
common moonwort, *Botrychium lunaria* (SC)
felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)

long-petaled lewisia, *Lewisia longipetala* (SC)

northern adder's tongue, *Ophioglossum pusillium* (SC) *

saw-toothed lewisia, *Lewisia serrata* (SC)

upswept moonwort, *Botrychium ascendens* (SC)

FRESNO COUNTY

Listed Species

Mammals

Critical habitat, Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)

Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Sierra Nevada (=California) bighorn sheep, *Ovis canadensis californiana* (E)

Tipton kangaroo rat, *Dipodomys nitratoides nitratoides* (E)

giant kangaroo rat, *Dipodomys ingens* (E)

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

Birds

California condor, *Gymnogyps californianus* (E)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Paiute cutthroat trout, *Oncorhynchus (=Salmo) clarki seleniris* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

California jewelflower, *Caulanthus californicus* (E)

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E) *

Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)

Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)

Keck's checker-mallow (=checkerbloom), *Sidalcea keckii* (E)

Mariposa pussy-paws, *Calyptridium pulchellum* (T)

San Benito evening-primrose, *Camissonia benitensis* (T)

San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T)

San Joaquin adobe sunburst, *Pseudobahia peirsonii* (T)

San Joaquin woolly-threads, *Monolopia congdonii (=Lembertia congdonii)* (E)

fleshy (=succulent) owl's-clover, *Castilleja campestris ssp. succulenta* (T)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C)

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Mt. Lyell shrew, *Sorex lyelli* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Southern grasshopper mouse, *Onychomys torridus ramona* (SC)

Tulare grasshopper mouse, *Onychomys torridus tularensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
San Joaquin LeConte's thrasher, *Toxostoma lecontei macmillanorum* (SC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

white-faced ibis, *Plegadis chihi* (SC)

white-headed woodpecker, *Picoides albolarvatus* (SLC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

silvery legless lizard, *Anniella pulchra pulchra* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

Yosemite toad, *Bufo canorus* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

mountain yellow-legged frog, *Rana muscosa* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)

Dry Creek cliff strider bug, *Oravelia pege* (SC)

Hopping's blister beetle, *Lytta hoppingi* (SC)

Kings Canyon cryptochian caddisfly, *Cryptochia excella* (SC)

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

Morrison's blister beetle, *Lytta morrisoni* (SC)

San Joaquin dune beetle, *Coelus gracilis* (SC)

San Joaquin tiger beetle, *Cicindela tranquebarica ssp.* (SC)

Sierra pygmy grasshopper, *Tetrix sierrana* (SC)

Wooly hydroporus diving beetle, *Hydroporus hirsutus* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

Bodie Hills rock cress, *Arabis bodiensis* (SC)
Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)
Fresno County bird's-beak, *Cordylanthus tenuis ssp. barbatus* (SC)
Hall's tarplant, *Deinandra halliana* (SC)
Indian Valley (=gray) bush mallow, *Malacothamnus aboriginum* (SLC)
Kern River daisy, *Erigeron multiceps* (SC)
Kings River buckwheat, *Eriogonum nudum var. regirivum* (SLC)
Lemmon's jewelflower, *Caulanthus coulteri var lemmonii* (SLC)
Lost Hills saltbush (=crownscale), *Atriplex vallicola* (SC)
Madera linanthus, *Linanthus serrulatus* (SLC)
Monarch gilia, *Gilia yorkii* (SLC)
Mono Hot Springs evening-primrose, *Camissonia sierrae ssp. alticola* (SC)
Munz's tidy-tips, *Layia munzii* (SC)
No common name, *Schizymenium shevockii* (SLC)
Panoche peppergrass, *Lepidium jaredii var. album* (SC)
Raven's milk-vetch, *Astragalus monoensis var. ravenii* (SC)
San Benito spineflower, *Chorizanthe biloba var. immemora* (SC)
South Coast Range morning-glory, *Calystegia collina ssp. venusta* (SLC)
Tehipite Valley jewelflower, *Streptanthus fenestratus* (SC)
Yosemite lewisia, *Lewisia disepala* (SC)
alpine streptanthus (=jewel-flower), *Streptanthus gracilis* (SC)
aromatic canyon gooseberry, *Ribes menziesii var ixoderme* (SLC)
brittlescale, *Atriplex depressa* (SC)
carpenteria, *Carpenteria californica* (CA)
cottony buckwheat, *Eriogonum gossypinum* (SLC)
delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)
field ivesia (=field mousetail), *Ivesia campestris* (SLC)
forked fiddleneck, *Amsinckia vernicosa var. furcata* (SLC)
heartscale, *Atriplex cordulata* (SC)
hollisteria, *Hollisteria lanata* (SC)
lesser saltscale, *Atriplex minuscula* (SC)
long-petaled lewisia, *Lewisia longipetala* (SC)
mouse buckwheat, *Eriogonum nudum var. murinum* (SC)
obovate-leaved thornmint, *Acanthomintha obovata ssp. obovata* (SC)
orange lupine, *Lupinus citrinus var. citrinus* (SC)

pale-yellow layia, *Layia heterotricha* (SC)
parasol (=Bolander's) clover, *Trifolium bolanderi* (SC)
rayless layia, *Layia discoidea* (SC)
recurved larkspur, *Delphinium recurvatum* (SC)
serpentine bedstraw, *Galium andrewsii ssp. gatense* (SLC)
short-leaved hulsea (=shortleaf alpinegold), *Hulsea brevifolia* (SLC)
showy (=golden) madia, *Madia radiata* (SC)
slender-stalked monkeyflower, *Mimulus gracilipes* (SLC)
spiny-sepaled coyote-thistle (=button-celery), *Eryngium spinosepalum* (SC)
stinkbells, *Fritillaria agrestis* (SLC)
subtle orache, *Atriplex subtilis* (SLC)
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)

GLENN COUNTY

Listed Species

Birds

Critical habitat, northern spotted owl, *Strix occidentalis caurina* (T)
bald eagle, *Haliaeetus leucocephalus* (T)
northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, coho salmon, So OR/No CA, *Oncorhynchus kisutch* (T) NMFS
Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
coho salmon, So OR/No CA, *Oncorhynchus kisutch* (T) NMFS
delta smelt, *Hypomesus transpacificus* (T) *
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E)

Hoover's spurge, *Chamaesyce hooveri* (T)

hairy Orcutt grass, *Orcuttia pilosa* (E)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Marysville Heermann's kangaroo rat, *Dipodomys californicus eximius* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
bank swallow, *Riparia riparia* (CA)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
tailed frog, *Ascaphus truei* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Leech's skyline diving beetle, *Hydroporus leechi* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)

Plants

Brandegee's woolly-star (=eriastrum), *Eriastrum brandegeae* (SC)

Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)

Ferris's milk-vetch, *Astragalus tener var. ferrisiae* (SC)

Heckard's pepper-grass (Heckard's pepperweed), *Lepidium latipes var. heckardii* (SLC)

Indian Valley brodiaea, *Brodiaea coronaria ssp. rosea* (CA)

Jepson's milk-vetch, *Astragalus rattanii var jepsonianus* (SLC)

Oregon fireweed, *Epilobium oreganum* (SC)

San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)

Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)

Snow Mountain willowherb, *Epilobium nivium* (SC)

Stony Creek spurge, *Chamaesyce ocellata ssp. rattanii* (SLC)

Tehama dwarf-flax, *Hesperolinon tehamense* (SC)

adobe lily, *Fritillaria pluriflora* (SC)

brittlescale, *Atriplex depressa* (SC)

caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) **

drymaria dwarf-flax (=western flax), *Hesperolinon drymarioides* (SC)

heartscale, *Atriplex cordulata* (SC)

vernal pool (=persistent-fruited, Sacramento) saltbush (=smallscale, saltscale), *Atriplex persistens* (SC)

water-loving checkermallow (=marsh checkerbloom), *Sidalcea oregana ssp. hydrophila* (SC)

KERN COUNTY Official list only for Central Valley portion!

Listed Species

Mammals

Buena Vista Lake shrew, *Sorex ornatus relictus* (E)

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Sierra Nevada (=California) bighorn sheep, *Ovis canadensis californiana* (E)

Tipton kangaroo rat, *Dipodomys nitratoides nitratoides* (E)

giant kangaroo rat, *Dipodomys ingens* (E)

Birds

California condor, *Gymnogyps californianus* (E)

Critical habitat, California condor, *Gymnogyps californianus* (E)

Critical habitat, southwest willow flycatcher, *Empidonax traillii extimus* (E)

Least Bell's vireo, *Vireo bellii pusillus* (E)

bald eagle, *Haliaeetus leucocephalus* (T)

southwestern willow flycatcher, *Empidonax traillii extimus* (E)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

desert tortoise, *Gopherus agassizii* (T)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

Kern primrose sphinx moth, *Euproserpinus euterpe* (T)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

Plants

Bakersfield cactus, *Opuntia treleasei* (E)

California jewelflower, *Caulanthus californicus* (E)

Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)

Kern mallow, *Eremalche kernensis* (E)

San Joaquin adobe sunburst, *Pseudobahia peirsonii* (T)

San Joaquin woolly-threads, *Monolopia congdonii (=Lembertia congdonii)* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Species of Concern

Mammals

Mohave ground squirrel, *Spermophilus mohavensis* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Southern grasshopper mouse, *Onychomys torridus ramona* (SC)
Tehachapi white-eared pocket mouse, *Perognathus alticola inexpectatus* (SC)
Tulare grasshopper mouse, *Onychomys torridus tularensis* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
San Joaquin LeConte's thrasher, *Toxostoma lecontei macmillanorum* (SC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)

long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
Sierra night lizard, *Xantusia vigilis sierrae* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
rosy boa, *Lichanura trivirgata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southern rubber boa, *Charina bottae umbratica* (CA)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Breckenridge Mt. slender salamander, *Batrachoseps sp* (SC)
Kern Canyon slender salamander, *Batrachoseps simatus* (CA)
Tehachapi slender salamander, *Batrachoseps stebbinsi* (CA)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
relictual slender salamander, *Batrachoseps relictus (=pacificus)* (SC)
western spadefoot toad, *Spea hammondii* (SC)
yellow-blotched ensatina, *Ensatina eschscholtzii croceator* (SC)

Fish

Kern River rainbow trout, *Oncorhynchus (=Salmo) mykiss gilberti* (SC)
Kern brook lamprey, *Lampetra hubbsi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Hopping's blister beetle, *Lytta hoppingi* (SC)
Kern shoulderband snail, *Helminthoglypta callistoderma* (SC)
Morrison's blister beetle, *Lytta morrisoni* (SC)

San Emigdio blue butterfly, *Plebulina emigdionis* (SC)

Tehachapi mountain silverspot butterfly, *Speyeria egleis tehachapina* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

Bakersfield saltbush (=smallscale), *Atriplex tularensis* (CA) *

Cache Peak buckwheat, *Eriogonum kennedyi var. pinicola* (SC)

Caliente (=Vasek's) clarkia, *Clarkia tembloriensis ssp. calientensis* (SC)

California pterygoneurum moss, *Pterygoneurum californicum* (SC) *

California tortula moss, *Tortula californica* (SLC)

Carrizo (=Jared's) peppergrass, *Lepidium jaredii var. jaredii* (SC)

Charlotte's phacelia, *Phacelia nashiana* (SC)

Comanche layia, *Layia leucopappa* (SC)

Earlimart orache (=erectstem saltbush), *Atriplex erecticaulis* (SLC)

Ewan's larkspur, *Delphinium hansenii ssp. ewanianum* (SC)

Ft. Tejon woolly-sunflower, *Eriophyllum lanatum var. hallii* (SC)

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

Greenhorn adobe-lily, *Fritillaria striata* (CA)

Kelso Creek monkeyflower, *Mimulus shevockii* (SC)

Kern Canyon clarkia, *Clarkia xantiana (=parviflora)* (SLC)

Kernville poppy, *Eschscholzia procera* (SC)

Lemmon's jewelflower, *Caulanthus coulteri var lemmonii* (SLC)

Lost Hills saltbush (=crownscale), *Atriplex vallicola* (SC)

Madera linanthus, *Linanthus serrulatus* (SLC)

Mason's nestraw, *Stylocline masonii* (SC)

Munz's tidy-tips, *Layia munzii* (SC)

Nine Mile Canyon phacelia, *Phacelia novenmillensis* (SC)

Owens Peak lomatium, *Lomatium shevockii* (SC)

Palmer's mariposa lily, *Calochortus palmeri var. palmeri* (SC)

Piute (=Breedlove's) buckwheat, *Eriogonum breedlovei var. breedlovei* (SC)

Piute Mountains jewelflower, *Streptanthus cordatus var. piutensis* (SC)

Piute Mountains navarretia, *Navarretia setiloba* (SC)

Piute cypress, *Cupressus nevadensis* (SC)

Shirley Meadows mariposa lily (=star-tulip), *Calochortus westonii* (SC)

Tejon Poppy, *Eschscholzia lemmonii spp. kernensis* (SC)

Temblor buckwheat, *Eriogonum temblorense* (SC)

Twisselmann's nemacladus, *Nemacladus twisselmannii* (SC)

Walker Pass (=Ertter's) milk-vetch, *Astragalus ertterae* (SC)
Yosemite lewisia, *Lewisia disepala* (SC)
alkali mariposa lily, *Calochortus striatus* (SC)
aromatic canyon gooseberry, *Ribes menziesii var ixoderme* (SLC)
brittlescale, *Atriplex depressa* (SC)
calico monkeyflower, *Mimulus pictus* (SC)
cottony buckwheat, *Eriogonum gossypinum* (SLC)
dwarf calycadenia (=dwarf western rosinweed), *Calycadenia villosa* (SLC) *
flax-like monardella, *Monardella linoides ssp. oblonga* (SC)
forked fiddleneck, *Amsinckia vernicosa var. furcata* (SLC)
heartscale, *Atriplex cordulata* (SC)
hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)
hollisteria, *Hollisteria lanata* (SC)
large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)
lesser saltscale, *Atriplex minuscula* (SC)
little mousetail, *Myosurus minimus ssp. apus* (SC)
oil neststraw, *Stylocline citroleum* (SC)
pale-yellow layia, *Layia heterotricha* (SC) *
recurved larkspur, *Delphinium recurvatum* (SC)
red rock (=Twisselmann's dwarf) poppy, *Eschscholzia minutiflora ssp. twisselmannii* (SC)
showy (=golden) madia, *Madia radiata* (SC)
slough thistle, *Cirsium crassicaule* (SC)
stinkbells, *Fritillaria agrestis* (SLC)
subtle orache, *Atriplex subtilis* (SLC)
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)

KINGS COUNTY

Listed Species

Mammals

Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)
San Joaquin kit fox, *Vulpes macrotis mutica* (E)
Tipton kangaroo rat, *Dipodomys nitratoides nitratoides* (E)
giant kangaroo rat, *Dipodomys ingens* (E)

Birds

California condor, *Gymnogyps californianus* (E)
bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

California jewelflower, *Caulanthus californicus* (E) *

Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)

San Joaquin woolly-threads, *Monolopia congdonii (=Lembertia congdonii)* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Southern grasshopper mouse, *Onychomys torridus ramona* (SC)

Tulare grasshopper mouse, *Onychomys torridus tularensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

San Joaquin LeConte's thrasher, *Toxostoma lecontei macmillanorum* (SC)

Snowy Egret, *Egretta thula* (MB)

Swainson's hawk, *Buteo Swainsoni* (CA)

Vaux's swift, *Chaetura vauxi* (SC)

bank swallow, *Riparia riparia* (CA)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

greater sandhill crane, *Grus canadensis tabida* (CA)

least bittern, western, *Ixobrychus exilis hesperis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

long-billed curlew, *Numenius americanus* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

short-eared owl, *Asio flammeus* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

white-faced ibis, *Plegadis chihi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

silvery legless lizard, *Anniella pulchra pulchra* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)

Doyen's trigonascuta dune weevil, *Trigonoscuta doyeni* (SC)

San Joaquin dune beetle, *Coelus gracilis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

Earlimart orache (=erectstem saltbush), *Atriplex erecticaulis* (SLC)

King's gold, *Twisselmannia californica* (SC)

Lemmon's jewelflower, *Caulanthus coulteri var lemmonii* (SLC)

Lost Hills saltbush (=crownscale), *Atriplex vallicola* (SC)

cottony buckwheat, *Eriogonum gossypinum* (SLC)

forked fiddleneck, *Amsinckia vernicosa var. furcata* (SLC)

heartscale, *Atriplex cordulata* (SC)

pale-yellow layia, *Layia heterotricha* (SC) *

recurved larkspur, *Delphinium recurvatum* (SC)

showy (=golden) madia, *Madia radiata* (SC) *

slough thistle, *Cirsium crassicaule* (SC)

subtle orache, *Atriplex subtilis* (SLC)

LAKE COUNTY

Listed Species

Birds

Critical habitat, northern spotted owl, *Strix occidentalis caurina* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

marbled murrelet, *Brachyramphus marmoratus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, coho salmon, So OR/No CA, *Oncorhynchus kisutch* (T) NMFS

Northern California steelhead, *Oncorhynchus mykiss* (T) NMFS

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

coho salmon, So OR/No CA, *Oncorhynchus kisutch* (T) NMFS

Invertebrates

California freshwater shrimp, *Syncaris pacifica* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

Burke's goldfields, *Lasthenia burkei* (E)

Lake County stonecrop, *Parvisedum leiocarpum* (E)

Loch Lomond coyote-thistle (=button-celery), *Eryngium constancei* (E)

few-flowered navarretia, *Navarretia leucocephala ssp. pauciflora* (E)

many-flowered navarretia, *Navarretia leucocephala ssp. plieantha* (E)

slender Orcutt grass, *Orcuttia tenuis* (T)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Species of Concern

Mammals

California red tree vole, *Arborimus pomo* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Snowy Egret, *Egretta thula* (MB)

Vaux's swift, *Chaetura vauxi* (SC)

common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Northern red-legged frog, *Rana aurora aurora* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Sacramento perch, *Archoplites interruptus* (SC)

Invertebrates

Sonoma arctic skipper, *Carterocephalus palaemon ssp.* (SC)
brownish dubiraphian riffle beetle, *Dubiraphia brunnescens* (SC)

Plants

Anthony Peak lupine, *Lupinus antoninus* (SC)
Baker's narvarretia, *Navarretia leucocephala ssp. bakeri* (SC)
Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)
Bolander's horkelia, *Horkelia bolanderi* (SC)
Brandegee's woolly-star (=eriastrum), *Eriastrum brandegeae* (SC)
Calistoga ceanothus, *Ceanothus divergens* (SC)
Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)
Freed's jewelflower, *Streptanthus brachiatus ssp. hoffmanii* (SC)
Hall's madia (=Hall's harmonia), *Madia hallii (=Harmonia hallii)* (SC)
Hopland (=Raiche's) manzanita, *Arctostaphylos stanfordiana ssp. raichei* (SC)

Indian Valley brodiaea, *Brodiaea coronaria ssp. rosea* (CA)
Jepson's linanthus, *Linanthus jepsonii* (SLC)
Jepson's milk-vetch, *Astragalus rattanii var jepsonianus* (SLC)
Kruckeberg's jewelflower, *Streptanthus morrisonii ssp. kruckebergii* (SC)
Lake County dwarf-flax (=western flax), *Hesperolinon didymocarpum* (CA)
Mt. Saint Helena morning-glory, *Calystegia collina ssp. oxyphylla* (SLC)
Napa western flax, *Hesperolinon serpentinum* (SC)
Rincon Ridge ceanothus, *Ceanothus confusus* (SC)
Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)
Snow Mountain willowherb, *Epilobium nivium* (SC)
Sonoma manzanita, *Arctostaphylos canescens ssp sonomensis* (SLC)
St. Helena fawn lily, *Erythronium helenae* (SLC)
Three Peaks jewelflower, *Streptanthus morrisonii ssp. elatus* (SC)
Tiburon buckwheat, *Eriogonum caninum* (SLC)
adobe lily, *Fritillaria pluriflora* (SC)
beaked tracyina, *Tracyina rostrata* (SC)
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
drymaria dwarf-flax (=western flax), *Hesperolinon drymarioides* (SC)
dwarf soaproot (=wavyleaf soap plant), *Chlorogalum pomeridianum var minus* (SLC)
glandular dwarf-flax (=western flax), *Hesperolinon adenophyllum* (SC)
green (=serpentine) jewel-flower, *Streptanthus breweri var hesperidis (=S. hesperidi)* (SLC)
legenere, *Legenere limosa* (SC)
narrow-anthered California brodiaea, *Brodiaea californica var leptandra* (SLC)
narrow-leaved daisy (=serpentine fleabane), *Erigeron angustatus* (SLC)
pincushion navarretia, *Naverretia myersii spp. myersii* (SC)
pink creamsacs, *Castilleja rubicundula ssp. rubicundula* (SLC)
popcorn-flower, Mayacamas, *Plagiobothrys lithocaryus* (SC) **
robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)
serpentine (=Cleveland's) cryptantha, *Cryptantha clevelandii* (SLC)
small pincushion navarretia, *Naverretia myersii spp. deminuta* (SC)
two-carpeled dwarf-flax (=western flax), *Hesperolinon bicarpellatum* (SC)
water-loving checkermallow (=marsh checkerbloom), *Sidalcea oregana ssp. hydrophila* (SC)

LASSEN COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Modoc sucker, *Catostomus microps* (E)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Invertebrates

Carson wandering skipper, *Pseudocopaeodes eunus obscurus* (E)

Shasta crayfish, *Pacifastacus fortis* (E)

Plants

slender Orcutt grass, *Orcuttia tenuis* (T)

Candidate Species

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

pygmy rabbit, *Brachylagus idahoensis* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
sage grouse, *Centrocerius urophasianus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Cascades frog, *Rana cascadae* (SC)

Fish

Eagle Lake rainbow trout, *Oncorhynchus (=Salmo) mykiss aquilarum* (SC)
Goose Lake redband trout, *Oncorhynchus (=Salmo) mykiss ssp.* (SC)

Great Basin redband trout, *Oncorhynchus (=Salmo) mykiss ssp.* (SC)

Pit roach, *Lavinia symmetricus mitrulus* (SC)

rough sculpin, *Cottus asperrimus* (CA)

Invertebrates

King's Creek ecclisomyian caddisfly, *Ecclisomyia bilera* (SC)

King's Creek parapsyche caddisfly, *Parapsyche extensa* (SC)

Siskiyou ground beetle, *Nebria gebleri siskiyouensis* (SC)

Trinity Alps ground beetle, *Nebria sahlbergii triad* (SC)

Plants

Ash Creek ivesia, *Ivesia paniculata* (SC)

Ash Valley (=troubled) milk-vetch, *Astragalus anxius* (SC)

Baker's globe mallow (=Baker's wild hollyhock), *Iliamna bakeri* (SLC)

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

Egg Lake monkeyflower, *Mimulus pygmaeus* (SLC)

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

Howell's thelypodium, *Thelypodium howellii ssp howellii* (SLC)

Modoc County knotweed, *Polygonum polygaloides ssp. esotericum* (SC)

Plumas ivesia, *Ivesia sericoleuca* (SC)

Pulsifer's (=Ames') milk-vetch, *Astragalus pulsiferae var pulsiferae* (SLC)

Sierra Valley ivesia, *Ivesia aperta var. aperta* (SC)

Soldier Meadows cinquefoil (=Black Rock potentilla), *Potentilla basaltica* (SC)

Suksdorf's milk-vetch, *Astragalus pulsiferae var. suksdorfii* (SC)

Webber's ivesia, *Ivesia webberi* (SC)

Williams's (=Washoe) combleaf, *Polyctenium williamsiae* (SLC)

bearded lupine, *Lupinus latifolius var barbatus* (SLC)

common moonwort, *Botrychium lunaria* (SC)

ephemeral (=disappearing) monkeyflower, *Mimulus evanescens* (SLC)

long-haired star-tulip, *Calochortus longebarbatus var. longebarbatus* (SC)

milk-vetch, Lemmon's, *Astragalus lemmonii* (SLC)

propuse-flowering (=Devil's Garden) pogogyne, *Pogogyne floribunda* (SC)

prostrate buckwheat, *Eriogonum prociduum* (SC)

tall alpine-aster (= Plumas alpine aster), *Oreostemma elatum* (SLC)

MADERA COUNTY

Listed Species

Mammals

Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Paiute cutthroat trout, *Oncorhynchus (=Salmo) clarki seleniris* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E) *

Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)

Mariposa pussy-paws, *Calyptridium pulchellum* (T)

San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T)

fleshy (=succulent) owl's-clover, *Castilleja campestris ssp. succulenta* (T)

hairy Orcutt grass, *Orcuttia pilosa* (E)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)
California wolverine, *Gulo gulo luteus* (CA)
Merced kangaroo rat, *Dipodomys heermanni dixoni* (SC)
Mt. Lyell shrew, *Sorex lyelli* (SC)
Pacific fisher, *Martes pennanti pacifica* (SC)
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)
Southern grasshopper mouse, *Onychomys torridus ramona* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
Yosemite toad, *Bufo canorus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Leech's skyline diving beetle, *Hydroporus leechi* (SC)
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)
San Joaquin tiger beetle, *Cicindela tranquebarica ssp.* (SC)
Sierra pygmy grasshopper, *Tetrix sierrana* (SC)
Wawona riffle beetle, *Atractelmis wawona* (SC)
Yosemite mariposa sideband snail, *Monadenia hillebrandi yosemitensis* (SC)
molestan blister beetle, *Lytta molesta* (SC)

Plants

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)
Ewan's larkspur, *Delphinium hansenii ssp. ewanianum* (SC)
Hoover's cryptantha, *Cryptantha hooveri* (SLC)
Hoover's rosinweed (=caycadenia), *Calycadenia hooveri* (SLC)
Madera linanthus, *Linanthus serrulatus* (SLC)
Mono Hot Springs evening-primrose, *Camissonia sierrae ssp. alticola* (SC)
Rawson's flaming-trumpet, *Collomia rawsoniana* (SC)
Small's southern clarkia, *Clarkia australis* (SC)
Yosemite lewisia, *Lewisia disepala* (SC)
Yosemite woolly-sunflower, *Eriophyllum nubigenum* (SC)
brittlescale, *Atriplex depressa* (SC)
carpenteria, *Carpenteria californica* (CA)
common moonwort, *Botrychium lunaria* (SC)
heartscale, *Atriplex cordulata* (SC)
large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)
lesser saltscale, *Atriplex minuscula* (SC)
orange lupine, *Lupinus citrinus var. citrinus* (SC)
parasol (=Bolander's) clover, *Trifolium bolanderi* (SC)
short-leaved hulsea (=shortleaf alpinegold), *Hulsea brevifolia* (SLC)
spiny-sepaled coyote-thistle (=button-celery), *Eryngium spinosepalum* (SC)
subtle orache, *Atriplex subtilis* (SLC)

MARIN COUNTY

Listed Species

Mammals

Critical Habitat, Steller (=northern) sea-lion, *Eumetopias jubatus* (T) NMFS
Guadalupe fur seal, *Arctocephalus townsendi* (T) NMFS
Steller (=northern) sea-lion, *Eumetopias jubatus* (T) NMFS
blue whale, *Balaenoptera musculus* (E) NMFS
finback (=fin) whale, *Balaenoptera physalus* (E) NMFS
humpback whale, *Megaptera novaeangliae* (E) NMFS
right whale, *Eubalaena glacialis* (E) NMFS
salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
sei whale, *Balaenoptera borealis* (E) NMFS
sperm whale, *Physeter catodon (=macrocephalus)* (E) NMFS

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)
California clapper rail, *Rallus longirostris obsoletus* (E)
California least tern, *Sterna antillarum (=albifrons) browni* (E)
Critical habitat, marbled murrelet, *Brachyramphus marmoratus* (T)
Critical habitat, western snowy plover, *Charadrius alexandrinus nivosus* (T)
bald eagle, *Haliaeetus leucocephalus* (T)
marbled murrelet, *Brachyramphus marmoratus* (T)
northern spotted owl, *Strix occidentalis caurina* (T)
short-tailed albatross, *Diomedea albatrus* (E)
western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

green turtle, *Chelonia mydas (incl. agassizi)* (T) NMFS
leatherback turtle, *Dermochelys coriacea* (E) NMFS
loggerhead turtle, *Caretta caretta* (T) NMFS
olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T) NMFS

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS
Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS
Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS
delta smelt, *Hypomesus transpacificus* (T) *
tidewater goby, *Eucyclogobius newberryi* (E)
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

California freshwater shrimp, *Syncaris pacifica* (E)
Myrtle's silverspot butterfly, *Speyeria zerene myrtleae* (E)
San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)
mission blue butterfly, *Icaricia icarioides missionensis* (E)
white abalone, *Haliotes sorenseni* (E) NMFS

Plants

Baker's larkspur, *Delphinium bakeri* (E)
Marin dwarf-flax (=western flax), *Hesperolinon congestum* (T)
Santa Cruz tarplant, *Holocarpha macradenia* (T) *
Sonoma alopecurus, *Alopecurus aequalis var. sonomensis* (E)
Sonoma spineflower, *Chorizanthe valida* (E)
Tiburon jewelflower, *Streptanthus niger* (E)
Tiburon mariposa lily, *Calochortus tiburonensis* (T)
Tiburon paintbrush, *Castilleja affinis ssp. neglecta* (E)
beach layia, *Layia carnosa* (E)
clover lupine [Tidestrom's lupine], *Lupinus tidestromii* (E)
showy Indian clover, *Trifolium amoenum* (E)
soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E) *
white-rayed pentachaeta, *Pentachaeta bellidiflora* (E) *
yellow larkspur, *Delphinium luteum* (E)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Invertebrates

black abalone, *Haliotes cracherodii* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Point Reyes jumping mouse, *Zapus trinotatus orarius* (SC)

Point Reyes mountain beaver, *Aplodontia rufa phaea* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

gray whale, *Eschrichtius robustus* (D) NMFS

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Birds

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

Snowy Egret, *Egretta thula* (MB)

Vaux's swift, *Chaetura vauxi* (SC)

Xantus' murrelet, *Synthliboramphus hypoleucus* (SC)

ashy storm-petrel, *Oceanodroma homochroa* (SC)

bank swallow, *Riparia riparia* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

black swift, *Cypseloides niger* (SC)

black tern, *Chlidonias niger* (SC)

common loon, *Gavia immer* (SC)

elegant tern, *Sterna elegans* (SC)

ferruginous hawk, *Buteo regalis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Northern red-legged frog, *Rana aurora aurora* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Marin blind harvestman, *Calicina diminua* (SC)
Marin elfin butterfly, *Incisalia mossii marinensis* (SC)
Nicklin's Peninsula Coast Range snail, *Helminthoglypta nickliniana awania* (SC)
Opler's longhorn moth, *Adela oplerella* (SC)
Point Reyes blue butterfly, *Icaricia icarioides ssp.* (SC)
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
Sonoma arctic skipper, *Carterocephalus palaemon ssp.* (SC)
Tiburon microblind harvestman, *Microcina tiburona* (SC)
William's bronze shoulderband snail, *Helminthoglypta arrosa williamsi* (SC)
bumblebee scarab beetle, *Lichnanthe ursina* (SC)
globose dune beetle, *Coelus globosus* (SC)
sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

Plants

Baker's goldfields, *Lasthenia macrantha ssp bakeri* (SLC)
Baker's narvarretia, *Navarretia leucocephala ssp. bakeri* (SC)

Blasdale's bentgrass, *Agrostis blasdalei var. blasdalei* (SC)
California beaked-rush, *Rhynchospora californica* (SC)
California goosefoot, *Chenopodium californicum* (SLC)
California saltbush, *Atriplex californica* (SLC)
Coast Indian paintbrush, *Castilleja affinis spp. affinis* (SLC)
Diablo helianthella (=rock-rose), *Helianthella castanea* (SC) *
Franciscan thistle, *Cirsium andrewsii* (SC)
Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)
Humboldt Bay owl's-clover, *Castilleja ambigua ssp. humboldtiensis* (SC)
Kellogg's horkelia, *Horkelia cuneata ssp. sericea* (SC) *
Marin (=Bolinas) manzanita, *Arctostaphylos virgata* (SLC)
Marin County navarretia (=San Anselmo navarretia), *Navarretia rosulata* (SLC)
Marin checker lily, *Fritilaria lanceolata var tristulis* (SC)
Marin checkermallow (=checkerbloom), *Sidalcea hickmanii ssp. viridis* (SLC)
Marin knotweed, *Polygonum marinense* (SLC)
Mason's ceanothus, *Ceanothus masonii* (SC)
Mason's lilaeopsis, *Lilaeopsis masonii* (SC)
Mount Tamalpais jewelflower, *Streptanthus glandulosus ssp. pulchellus* (SC)
Mt. Tamalpais thistle, *Cirsium hydrophilum var. vaseyi* (SC)
Mt. Vision ceanothus, *Ceanothus gloriosus var. porrectus* (SC)
Napa false indigo, *Amorpha californica var. napensis* (SLC)
North Coast phacelia, *Phacelia insularis var. continentis* (SC)
Nuttall's milk-vetch, *Astragalus nuttallii var. virgatus* (SLC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)
Point Reyes checkerbloom, *Sidalcea calycosa ssp rhizomata* (SLC)
Point Reyes horkelia, *Horkelia marinensis* (SC)
Point Reyes meadowfoam, *Limnanthes douglasii ssp. sulphurea* (CA)
Point Reyes stickyseed (=blennosperma), *Blennosperma nanum var. robustum* (SC)
Pt. Reyes rein orchid, *Piperia elegans spp. decurtata* (SC)
Round-headed Chinese houses, *Collinsia corymbosa* (SC)
San Francisco (=bluehead, Chamisso's, dune) gilia, *Gilia capitata ssp. chamissonis* (SC)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)
San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)
San Francisco owl's-clover, *Triphysaria floribunda* (SC)
San Francisco wallflower, *Erysimum franciscanum* (SC)
Santa Cruz microseris, *Microseris decipiens* (SC)
Tamalpais lessingia, *Lessingia micradenia var. micradenia* (SC)

Tamalpais manzanita, *Arctostaphylos hookeri ssp. montana* (SC)

Tamalpais streptanthus (=jewel-flower), *Streptanthus batrachopus* (SC)

Thurber's reed grass, *Calamagrostis crassiglumis* (SC)

Tiburon buckwheat, *Eriogonum caninum* (SLC)

Tiburon tarplant, *Hemizonia multicaulis ssp. vernalis* (SC)

Tomales clarkia (= Raiche's red ribbons), *Clarkia concinna ssp. raichei* (SC)

bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)

coast lily, *Lilium maritimum* (SC) *

coast rock-cress, *Arabis blepharophylla* (SLC)

coastal bluff morning-glory, *Calystegia purpurata ssp saxicola* (SLC)

curly-leaved (=curlyleaf) monardella, *Monardella undulata* (SC)

delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)

dune (=camphor) tansy, *Tanacetum camphoratum* (SC)

fissidens moss, *Fissidens pauperculus* (SLC)

fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)

hairless allocarya (=popcornflower), *Plagiobothrys glaber* (SC) **

large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)

marsh microseris (=marsh silverpuffs), *Microseris paludosa* (SLC)

marsh milkvetch (=brine milk-vetch, =marsh locoweed), *Astragalus pycnostachyus var. pycnostachyus* (SLC)

northcoast (=Point Reyes) bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC)

northcoast semaphore grass, *Pleuropogon hooverianus* (SC)

perennial goldfields, *Lasthenia macrantha ssp macrantha* (SLC)

pink sand-verbena, *Abronia umbellata ssp. umbellata* (SLC)

purple-stemmed (=dwarf) checkerbloom, *Sidalcea malvaeflora ssp purpurea* (SLC)

rose linanthus, *Linanthus rosaceus* (SC) *

salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)

seashore (=coast, =beach) starwort, *Stellaria littoralis* (SC)

seaside tarplant, *Hemizonia multicaulis ssp. multicaulis* (SC)

supple daisy, *Erigeron supplex* (SC) *

swamp harebell, *Campanula californica* (SC)

thin-lobbed (=Santa Rosa) horkelia, *Horkelia tenuiloba* (SLC)

valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)

western leatherwood, *Dirca occidentalis* (SLC)

woolly-headed (=San Francisco) spineflower, *Chorizanthe cuspidata var villosa* (SC)

woolly-headed gilia, *Gilia capitata ssp. tomentosa* (SC)

yarrow-leaf (=manyleaf, dark-eyed) gilia, *Gilia millefoliata* (SLC)

MARIPOSA COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

Plants

Mariposa pussy-paws, *Calyptridium pulchellum* (T)

fleshy (=succulent) owl's-clover, *Castilleja campestris ssp. succulenta* (T)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Mt. Lyell shrew, *Sorex lyelli* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
pygmy rabbit, *Brachylagus idahoensis* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
Yosemite toad, *Bufo canorus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
limestone salamander, *Hydromantes brunus* (CA)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Leech's skyline diving beetle, *Hydroporus leechi* (SC)
Merced Canyon shoulderband snail, *Helminthoglypta allynsmithi* (SC)
Sierra pygmy grasshopper, *Tetrix sierrana* (SC)
Wawona riffle beetle, *Atractelmis wawona* (SC)
Yosemite mariposa sideband snail, *Monadenia hillebrandi yosemitensis* (SC)
molestan blister beetle, *Lytta molesta* (SC)

Plants

California beaked-rush, *Rhynchospora californica* (SC)
Congdon's lomatium, *Lomatium congdonii* (SC) *
Congdon's wooly-sunflower, *Eriophyllum congdonii* (SC)
Hetch Hetchy (=slender-stemmed) monkeyflower, *Mimulus filicaulis* (SC)
Hoover's rosinweed (=caycadenia), *Calycadenia hooveri* (SLC)
Madera linanthus, *Linanthus serrulatus* (SLC)
Mariposa clarkia, *Clarkia biloba ssp. australis* (SC)
Mariposa daisy, *Erigeron mariposanus* (SC) **
Mariposa lupine, *Lupinus citrinus var. deflexus* (CA)
Merced clarkia, *Clarkia lingulata* (CA)
Mono Hot Springs evening-primrose, *Camissonia sierrae ssp. alticola* (SC)
Parry's horkelia, *Horkelia parryi* (SLC)
Pleasant Valley mariposa lily, *Calochortus clavatus var. avius* (SC) *
Rawson's flaming-trumpet, *Collomia rawsoniana* (SC)
Small's southern clarkia, *Clarkia australis* (SC)
Yosemite (=Torry's) popcorn-flower, *Plagiobothrys torreyi var torreyi* (SLC)
Yosemite lewisia, *Lewisia disepala* (SC)
Yosemite woolly-sunflower, *Eriophyllum nubigenum* (SC)
beaked clarkia, *Clarkia rostrata* (SC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
common moonwort, *Botrychium lunaria* (SC)
pansy (=yellowlip pansy) monkeyflower, *Mimulus pulchellus* (SLC)
parasol (=Bolander's) clover, *Trifolium bolanderi* (SC)
shaggyhair lupine, *Lupinus spectabilis* (SC)
short-leaved hulsea (=shortleaf alpinegold), *Hulsea brevifolia* (SLC)
slender-stalked monkeyflower, *Mimulus gracilipes* (SLC)
stinkbells, *Fritillaria agrestis* (SLC)

MERCED COUNTY

Listed Species

Mammals

Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)
San Joaquin kit fox, *Vulpes macrotis mutica* (E)
giant kangaroo rat, *Dipodomys ingens* (E)
riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Colusa grass, *Neostapfia colusana* (T)

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E)

Hoover's spurge, *Chamaesyce hooveri* (T)

San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T)

fleshy (=succulent) owl's-clover, *Castilleja campestris ssp. succulenta* (T)

hairy Orcutt grass, *Orcuttia pilosa* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Merced kangaroo rat, *Dipodomys heermanni dixoni* (SC)
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)
San Joaquin dune beetle, *Coelus gracilis* (SC)
molestan blister beetle, *Lytta molesta* (SC)

Plants

Arburua Ranch jewelflower, *Streptanthus insignis ssp. lyonii* (SC)
Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)
Hall's bush mallow, *Malacothamnus hallii (=M. fasciculatus)* (SLC)
Henderson's bent grass, *Agrostis hendersonii* (SC)
Hoover's cryptantha, *Cryptantha hooveri* (SLC)

Hoover's rosinweed (=caycadenia), *Calycadenia hooveri* (SLC)
Lost Hills saltbush (=crownscale), *Atriplex vallicola* (SC)
Merced monardella, *Monardella leucocephala* (SC) **
Merced phacelia, *Phacelia ciliata var. opaca* (SC)
San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)
alkali milk-vetch, *Astragalus tener var. tener* (SC)
beaked clarkia, *Clarkia rostrata* (SC)
brittlescale, *Atriplex depressa* (SC)
delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)
hairless allocarya (=popcornflower), *Plagiobothrys glaber* (SC) **
heartscale, *Atriplex cordulata* (SC)
hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)
hollisteria, *Hollisteria lanata* (SC)
interior California (Hospital Canyon) larkspur, *Delphinium californicum ssp. interius* (SC)
large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)
lesser saltscale, *Atriplex minuscula* (SC) *
pincushion navarretia, *Naverretia myersii spp. myersii* (SC)
prostrate navarretia (=prostrate pincushionplant), *Navarretia prostrata* (SC)
recurved larkspur, *Delphinium recurvatum* (SC)
subtle orache, *Atriplex subtilis* (SLC)
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)
vernal pool (=persistent-fruited, Sacramento) saltbush (=smallscale, saltscale), *Atriplex persistens* (SC)

NAPA COUNTY

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)
California clapper rail, *Rallus longirostris obsoletus* (E)
California least tern, *Sterna antillarum (=albifrons) browni* (E)
bald eagle, *Haliaeetus leucocephalus* (T)
northern spotted owl, *Strix occidentalis caurina* (T)
western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

delta smelt, *Hypomesus transpacificus* (T)

tidewater goby, *Eucyclogobius newberryi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

California freshwater shrimp, *Syncaris pacifica* (E)

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

Plants

Calistoga allocarya (popcorn-flower), *Plagiobothrys strictus* (E)

Clara Hunt's milk-vetch, *Astragalus clarianus* (E)

Contra Costa goldfields, *Lasthenia conjugens* (E)

Napa bluegrass, *Poa napensis* (E)

Sebastopol meadowfoam, *Limnanthes vinculans* (E)

Tiburon paintbrush, *Castilleja affinis ssp. neglecta* (E)

few-flowered navarretia, *Navarretia leucocephala ssp. pauciflora* (E)

showy Indian clover, *Trifolium amoenum* (E) *

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Suisun ornate shrew, *Sorex ornatus sinuosus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Birds

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

Snowy Egret, *Egretta thula* (MB)

Vaux's swift, *Chaetura vauxi* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

long-billed curlew, *Numenius americanus* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

olive-sided flycatcher, *Contopus cooperi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

short-eared owl, *Asio flammeus* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

white-faced ibis, *Plegadis chihi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Northern red-legged frog, *Rana aurora aurora* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

Sonoma arctic skipper, *Carterocephalus palaemon ssp.* (SC)

Plants

Baker's narvarretia, *Navarretia leucocephala ssp. bakeri* (SC)

Brewer's dwarf-flax (=western flax), *Hesperolinon breweri* (SC)

Calistoga ceanothus, *Ceanothus divergens* (SC)

Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)

Contact (Socrates) Mine jewelflower, *Streptanthus brachiatus ssp. brachiatus* (SC)

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

Hall's madia (=Hall's harmonia), *Madia hallii (=Harmonia hallii)* (SC)

Jepson's linanthus, *Linanthus jepsonii* (SLC)

Jepson's milk-vetch, *Astragalus rattanii var jepsonianus* (SLC)

Kruckeberg's jewelflower, *Streptanthus morrisonii ssp. kruckebergii* (SC)

Marin County navarretia (=San Anselmo navarretia), *Navarretia rosulata* (SLC)

Marin checkermallow (=checkerbloom), *Sidalcea hickmanii ssp. viridis* (SLC)

Marin knotweed, *Polygonum marinense* (SLC)

Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

Mt. Saint Helena morning-glory, *Calystegia collina ssp. oxyphylla* (SLC)

Napa false indigo, *Amorpha californica var. napensis* (SLC)

Napa western flax, *Hesperolinon serpentinum* (SC)
Northern California black walnut, *Juglans californica var. hindsii* (SC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)
Rincon Ridge ceanothus, *Ceanothus confusus* (SC)
San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)
Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)
Sonoma ceanothus, *Ceanothus sonomensis* (SC)
St. Helena fawn lily, *Erythronium helenae* (SLC)
Suisun Marsh aster, *Aster lentus* (SC)
Three Peaks jewelflower, *Streptanthus morrisonii ssp. elatus* (SC)
Tiburon buckwheat, *Eriogonum caninum* (SLC)
Tiburon tarplant, *Hemizonia multicaulis ssp. vernalis* (SC)
adobe lily, *Fritillaria pluriflora* (SC)
alkali milk-vetch, *Astragalus tener var. tener* (SC)
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)
drymaria dwarf-flax (=western flax), *Hesperolinon drymarioides* (SC)
green (=serpentine) jewel-flower, *Streptanthus breweri var hesperidis (=S. hesperidi)* (SLC)
holly-leaved ceanothus, *Ceanothus purpureus* (SLC)
legenere, *Legenere limosa* (SC)
narrow-anthered California brodiaea, *Brodiaea californica var leptandra* (SLC)
narrow-leaved daisy (=serpentine fleabane), *Erigeron angustatus* (SLC)
pink creamsacs, *Castilleja rubicundula ssp. rubicundula* (SLC)
robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)
salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)
serpentine (=Cleveland's) cryptantha, *Cryptantha clevelandii* (SLC)
two-carpeled dwarf-flax (=western flax), *Hesperolinon bicarpellatum* (SC)
water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)
water-loving checkermallow (=marsh checkerbloom), *Sidalcea oregana ssp. hydrophila* (SC)

NEVADA COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

Stebbins's morning-glory, *Calystegia stebbinsii* (E)

Truckee barberry, *Berberis sonnei* (E)

Candidate Species

Plants

Tahoe yellow-cress, *Rorippa subumbellata* (C) *

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Brewer's sparrow, *Spizella breweri* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

California thrasher, *Toxostoma redivivum* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
sage grouse, *Centrocerius urophasianus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Invertebrates

Cold Spring caddisfly, *Lepidostoma ermanae* (SC)
Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)
amphibious caddisfly, *Desmona bethula* (SC)

Plants

Brandegee's clarkia, *Clarkia biloba ssp brandegeae* (SLC)

Butte fritillary, *Fritillaria eastwoodiae* (SC)
Cantelow's lewisia, *Lewisia cantelowii* (SC)
Cedar Crest allocarya, *Plagiobothrys glyptocarpus var. modestus* (SC)
Donner Pass buckwheat, *Eriogonum umbellatum var. torreyanum* (SC)
Follett's monardella, *Monardella follettii* (SLC)
Lemmon's clover, *Trifolium lemmonii* (SLC)
Plumas ivesia, *Ivesia sericoleuca* (SC)
Scadden Flat checkermallow (=checkerbloom), *Sidalcea stipularis* (CA)
Stebbins' phacelia, *Phacelia stebbinsii* (SC)
closed-lip (closed-throated) beardtongue, *Penstemon personatus* (SC)
clustered lady's-slipper, *Cypripedium fasciculatum* (SC)
common moonwort, *Botrychium lunaria* (SC)
felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)
long-petaled lewisia, *Lewisia longipetala* (SC)

PLACER COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
delta smelt, *Hypomesus transpacificus* (T) *
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
vernal pool fairy shrimp, *Branchinecta lynchi* (T)
vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Truckee barberry, *Berberis sonnei* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Plants

Tahoe yellow-cress, *Rorippa subumbellata* (C)

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Brewer's sparrow, *Spizella breweri* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Lake Tahoe benthic stonefly, *Capnia lacustra* (SC)

Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)

Shirttail Creek stonefly, *Megaleuctra sierra* (SC)

South Forks ground beetle, *Nebria darlingtoni* (SC)

spiny rhyacophilan caddisfly, *Rhyacophila spinata* (SC)

Plants

Ahart's (dwarf) rush, *Juncus leiospermus var. ahartii* (SC)

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

Brandegee's clarkia, *Clarkia biloba ssp brandegeae* (SLC)

Butte fritillary, *Fritillaria eastwoodiae* (SC)

Carson Range rock cress, *Arabis rigidissima var. demota* (SC)

Donner Pass buckwheat, *Eriogonum umbellatum var. torreyanum* (SC)

Plumas ivesia, *Ivesia sericoleuca* (SC)

Red Hills soaproot, *Chlorogalum grandiflorum* (SC)

Stebbins' phacelia, *Phacelia stebbinsii* (SC)

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

common moonwort, *Botrychium lunaria* (SC)

felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)

hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)

legenere, *Legenere limosa* (SC)

long-petaled lewisia, *Lewisia longipetala* (SC)

saw-toothed lewisia, *Lewisia serrata* (SC)

stinkbells, *Fritillaria agrestis* (SLC)

PLUMAS COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Plants

slender Orcutt grass, *Orcuttia tenuis* (T)

Candidate Species

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

pygmy rabbit, *Brachylagus idahoensis* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Brewer's sparrow, *Spizella breweri* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Swainson's hawk, *Buteo Swainsoni* (CA)

Vaux's swift, *Chaetura vauxi* (SC)

bank swallow, *Riparia riparia* (CA)

black swift, *Cypseloides niger* (SC)

black tern, *Chlidonias niger* (SC)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)

greater sandhill crane, *Grus canadensis tabida* (CA)

hermit warbler, *Dendroica occidentalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

long-billed curlew, *Numenius americanus* (SC)

northern goshawk, *Accipiter gentilis* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

olive-sided flycatcher, *Contopus cooperi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

short-eared owl, *Asio flammeus* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

white-faced ibis, *Plegadis chihi* (SC)

white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)

northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Cascades frog, *Rana cascadae* (SC)

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

mountain yellow-legged frog, *Rana muscosa* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

Pit roach, *Lavinia symmetricus mitrulus* (SC)

Invertebrates

King's Creek ecclisomyian caddisfly, *Ecclisomyia bilera* (SC)

King's Creek parapsyche caddisfly, *Parapsyche extensa* (SC)

amphibious caddisfly, *Desmona bethula* (SC)

golden-horned caddisfly, *Neothremma genella* (SC)

Plants

Butte County catchfly (=long-stiped campion), *Silene occidentalis ssp. longistipitata* (SC)

Cantelow's lewisia, *Lewisia cantelowii* (SC)

Constance's rock-cress, *Arabis constancei* (SC)

Egg Lake monkeyflower, *Mimulus pygmaeus* (SLC)

Feather River stonecrop, *Sedum albomarginatum* (SC)

Follett's monardella, *Monardella follettii* (SLC)
Lemmon's clover, *Trifolium lemmonii* (SLC)
Modoc County knotweed, *Polygonum polygaloides ssp. esotericum* (SC)
Plumas ivesia, *Ivesia sericoleuca* (SC)
Pulsifer's (=Ames') milk-vetch, *Astragalus pulsiferae var pulsiferae* (SLC)
Quincy lupine, *Lupinus dalesiae* (SC)
Sierra Valley ivesia, *Ivesia aperta var. aperta* (SC)
Suksdorf's milk-vetch, *Astragalus pulsiferae var. suksdorfii* (SC)
Webber's ivesia, *Ivesia webberi* (SC)
Webber's milk-vetch, *Astragalus webberi* (SC)
Wilkin's harebell, *Campanula wilkinsiana* (SC)
adobe lily, *Fritillaria pluriflora* (SC)
closed-lip (closed-throated) beardtongue, *Penstemon personatus* (SC)
clustered lady's-slipper, *Cypripedium fasciculatum* (SC)
common moonwort, *Botrychium lunaria* (SC)
felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)
lens-pod milk-vetch, *Astragalus lentiformis* (SC)
milk-vetch, Lemmon's, *Astragalus lemmonii* (SLC)
tall alpine-aster (= Plumas alpine aster), *Oreostemma elatum* (SLC)

SACRAMENTO COUNTY

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

Critical habitat, valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

delta green ground beetle, *Elaphrus viridis* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Antioch Dunes evening-primrose, *Oenothera deltoides ssp. howellii* (E)

Sacramento Orcutt grass, *Orcuttia viscida* (E)

slender Orcutt grass, *Orcuttia tenuis* (T)

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E) *

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Brewer's sparrow, *Spizella breweri* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Snowy Egret, *Egretta thula* (MB)

Swainson's hawk, *Buteo Swainsoni* (CA)

bank swallow, *Riparia riparia* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

black tern, *Chlidonias niger* (SC)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

greater sandhill crane, *Grus canadensis tabida* (CA)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

long-billed curlew, *Numenius americanus* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

rufous hummingbird, *Selasphorus rufus* (SC)

short-eared owl, *Asio flammeus* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

white-faced ibis, *Plegadis chihi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

silvery legless lizard, *Anniella pulchra pulchra* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

San Joaquin dune beetle, *Coelus gracilis* (SC)

curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)

Plants

Ahart's (dwarf) rush, *Juncus leiospermus var. ahartii* (SC)

Amador (Bisbee Peak) rush-rose, *Helianthemum suffrutescens* (SLC)

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

Northern California black walnut, *Juglans californica var. hindsii* (SC) *

Red Bluff (dwarf) rush, *Juncus leiospermus var. leiospermus* (SC)

San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)

Suisun Marsh aster, *Aster lentus* (SC)

Tuolumne coyote-thistle (=button-celery), *Eryngium pinnatisectum* (SC)

delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)

legenere, *Legenere limosa* (SC)

pincushion navarretia, *Naverretia myersii spp. myersii* (SC)

stinkbells, *Fritillaria agrestis* (SLC)

valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)

SAN FRANCISCO COUNTY

Listed Species

Mammals

Critical Habitat, Steller (=northern) sea-lion, *Eumetopias jubatus* (T) NMFS

Guadalupe fur seal, *Arctocephalus townsendi* (T) NMFS
Steller (=northern) sea-lion, *Eumetopias jubatus* (T) NMFS
blue whale, *Balaenoptera musculus* (E) NMFS
finback (=fin) whale, *Balaenoptera physalus* (E) NMFS
humpback whale, *Megaptera novaeangliae* (E) NMFS
right whale, *Eubalaena glacialis* (E) NMFS
salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
sei whale, *Balaenoptera borealis* (E) NMFS
sperm whale, *Physeter catodon (=macrocephalus)* (E) NMFS

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)
California clapper rail, *Rallus longirostris obsoletus* (E)
bald eagle, *Haliaeetus leucocephalus* (T)
short-tailed albatross, *Diomedea albatrus* (E)
western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

green turtle, *Chelonia mydas (incl. agassizi)* (T) NMFS
leatherback turtle, *Dermochelys coriacea* (E) NMFS
loggerhead turtle, *Caretta caretta* (T) NMFS
olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T) NMFS

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS
delta smelt, *Hypomesus transpacificus* (T) *
tidewater goby, *Eucyclogobius newberryi* (E)
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)
mission blue butterfly, *Icaricia icarioides missionensis* (E)
white abalone, *Haliotes sorenseni* (E) NMFS

Plants

Marin dwarf-flax (=western flax), *Hesperolinon congestum* (T)

Presidio (=Raven's) manzanita, *Arctostaphylos hookeri ssp. ravenii* (E)

Presidio clarkia, *Clarkia franciscana* (E)

San Francisco lessingia, *Lessingia germanorum* (E)

beach layia, *Layia carnosa* (E) *

marsh sandwort, *Arenaria paludicola* (E) *

Candidate Species

Invertebrates

black abalone, *Haliotes cracherodii* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

gray whale, *Eschrichtius robustus* (D) NMFS

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Birds

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

Snowy Egret, *Egretta thula* (MB)

Vaux's swift, *Chaetura vauxi* (SC)

Xantus' murrelet, *Synthliboramphus hypoleucus* (SC)

ashy storm-petrel, *Oceanodroma homochroa* (SC)

bank swallow, *Riparia riparia* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

common loon, *Gavia immer* (SC)

elegant tern, *Sterna elegans* (SC)

ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
bumblebee scarab beetle, *Lichnanthe ursina* (SC)
globose dune beetle, *Coelus globosus* (SC)
sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

Plants

California broomrape, *Orobanche californica ssp. californica* (SLC)
California croton, *Croton californicus* (SLC)
California goosefoot, *Chenopodium californicum* (SLC)
California saltbush, *Atriplex californica* (SLC)
California triquetrella moss, *Triquetrella californica* (SLC)
Coast Indian paintbrush, *Castilleja affinis spp. affinis* (SLC)
Davy's clarkia, *Clarkia davyi* (SLC)
Diablo helianthella (=rock-rose), *Helianthella castanea* (SC) *

Franciscan thistle, *Cirsium andrewsii* (SC)
Greene's popcorn flower, *Plagiobothrys reticulatus var. rossianorum* (SC) *
Kellogg's horkelia, *Horkelia cuneata ssp. sericea* (SC) *
Mission Delores (=San Francisco) campion, *Silene verecunda ssp. verecunda* (SC)
Nuttall's milk-vetch, *Astragalus nuttallii var. virgatus* (SLC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)
Round-headed Chinese houses, *Collinsia corymbosa* (SC) *
San Francisco (=bluehead, Chamisso's, dune) gilia, *Gilia capitata ssp. chamissonis* (SC)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)
San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)
San Francisco manzanita, *Arctostaphylos hookeri ssp. franciscana* (SC) **
San Francisco owl's-clover, *Triphysaria floribunda* (SC)
San Francisco popcornflower, *Plagiobothrys diffusus* (CA) *
San Francisco wallflower, *Erysimum franciscanum* (SC)
adobe sanicle, *Sanicula maritima* (SC) *
alkali milk-vetch, *Astragalus tener var. tener* (SC) *
coast (=elegant) rein-orchid (=piperia), *Piperia elegans* (SLC)
coast lily, *Lilium maritimum* (SC) ?*
coast rock-cress, *Arabis blepharophylla* (SLC)
compact cobweb thistle, *Cirsium occidentale var. compactum* (SC) *
curly-leaved (=curlyleaf) monardella, *Monardella undulata* (SC) *
dune (=camphor) tansy, *Tanacetum camphoratum* (SC)
fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)
large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)
marsh microseris (=marsh silverpuffs), *Microseris paludosa* (SLC) *
pink sand-verbena, *Abronia umbellata ssp. umbellata* (SLC)
rose linanthus, *Linanthus rosaceus* (SC) *
salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)
seashore (=coast, =beach) starwort, *Stellaria littoralis* (SC) *
skunkweed (=skunkbush), *Navarretia squarrosa* (SLC)
wedgeleaf horkelia, *Horkelia cuneata ssp cuneata* (SLC) *
yarrow-leaf (=manyleaf, dark-eyed) gilia, *Gilia millefoliata* (SLC) *

SAN MATEO COUNTY

Listed Species

Mammals

Guadalupe fur seal, *Arctocephalus townsendi* (T) NMFS

Steller (=northern) sea-lion, *Eumetopias jubatus* (T) NMFS
blue whale, *Balaenoptera musculus* (E) NMFS
finback (=fin) whale, *Balaenoptera physalus* (E) NMFS
humpback whale, *Megaptera novaeangliae* (E) NMFS
right whale, *Eubalaena glacialis* (E) NMFS
salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
sei whale, *Balaenoptera borealis* (E) NMFS
southern sea otter, *Enhydra lutris nereis* (T)
sperm whale, *Physeter catodon (=macrocephalus)* (E) NMFS

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)
California clapper rail, *Rallus longirostris obsoletus* (E)
California least tern, *Sterna antillarum (=albifrons) browni* (E)
Critical habitat, marbled murrelet, *Brachyramphus marmoratus* (T)
Critical habitat, western snowy plover, *Charadrius alexandrinus nivosus* (T)
bald eagle, *Haliaeetus leucocephalus* (T)
marbled murrelet, *Brachyramphus marmoratus* (T)
short-tailed albatross, *Diomedea albatrus* (E)
western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

San Francisco garter snake, *Thamnophis sirtalis tetrataenia* (E)
green turtle, *Chelonia mydas (incl. agassizi)* (T) NMFS
leatherback turtle, *Dermochelys coriacea* (E) NMFS
loggerhead turtle, *Caretta caretta* (T) NMFS
olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T) NMFS

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS
Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS
Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS
delta smelt, *Hypomesus transpacificus* (T) *

tidewater goby, *Eucyclogobius newberryi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Critical habitat, bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

Ohlone tiger beetle, *Cicindela ohlone* (E) *

San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

mission blue butterfly, *Icaricia icarioides missionensis* (E)

white abalone, *Haliotes sorenseni* (E) NMFS

Plants

Hickman's potentilla (=cinquefoil), *Potentilla hickmanii* (E)

Marin dwarf-flax (=western flax), *Hesperolinon congestum* (T)

San Francisco lessingia, *Lessingia germanorum* (E)

San Mateo thornmint, *Acanthomintha duttonii* (E)

San Mateo woolly sunflower, *Eriophyllum latilobum* (E)

Santa Cruz cypress, *Cupressus abramsiana* (E)

fountain thistle, *Cirsium fontinale var. fontinale* (E)

robust spineflower, *Chorizanthe robusta var. robusta* (E) *

white-rayed pentachaeta, *Pentachaeta bellidiflora* (E)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Invertebrates

black abalone, *Haliotes cracherodii* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

gray whale, *Eschrichtius robustus* (D) NMFS

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Birds

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Snowy Egret, *Egretta thula* (MB)

Vaux's swift, *Chaetura vauxi* (SC)

Xantus' murrelet, *Synthliboramphus hypoleucus* (SC)

ashy storm-petrel, *Oceanodroma homochroa* (SC)

bank swallow, *Riparia riparia* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

black swift, *Cypseloides niger* (SC)

common loon, *Gavia immer* (SC)

elegant tern, *Sterna elegans* (SC)

ferruginous hawk, *Buteo regalis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

least bittern, western, *Ixobrychus exilis hesperis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

long-billed curlew, *Numenius americanus* (SC)

olive-sided flycatcher, *Contopus cooperi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

short-eared owl, *Asio flammeus* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Edgewood blind harvestman, *Calicina minor* (SC)

Edgewood microblind harvestman, *Microcina edgewoodensis* (SC)

Leech's skyline diving beetle, *Hydroporus leechi* (SC)

Marin elfin butterfly, *Incisalia mossii marinensis* (SC)

Opler's longhorn moth, *Adela oplerella* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

bumblebee scarab beetle, *Lichnanthe ursina* (SC)

globose dune beetle, *Coelus globosus* (SC)

sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

unsilvered fritillary butterfly, *Speyeria adiaste adiaste* (SC)

Plants

California goosefoot, *Chenopodium californicum* (SLC)

California saltbush, *Atriplex californica* (SLC)

Choris's (=artist's) popcorn-flower, *Plagiobothrys chorisianus var chorisianus* (SLC)

Coast Indian paintbrush, *Castilleja affinis spp. affinis* (SLC)

Crystal Springs lessingia, *Lessingia arachnoidea* (SC)

Davy's clarkia, *Clarkia davyi* (SLC)

Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)

Dudley's lousewort, *Pedicularis dudleyi* (SC)

Franciscan onion, *Allium peninsulare var. franciscanum* (SLC)

Franciscan thistle, *Cirsium andrewsii* (SC) *

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC) *

Hillsborough chocolate lily (= Gray's fritillary), *Fritillaria biflora var ineziana (=F. grayana)* (SC)

Kellogg's horkelia, *Horkelia cuneata ssp. sericea* (SC)

Kings Mountain manzanita, *Arctostaphylos regismontana* (SLC)

Marin checkermallow (=checkerbloom), *Sidalcea hickmanii ssp. viridis* (SLC)
Mission Delores (=San Francisco) campion, *Silene verecunda ssp. verecunda* (SC)
Montara manzanita, *Arctostaphylos montaraensis* (SC)
Nuttall's milk-vetch, *Astragalus nuttallii var. virgatus* (SLC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)
Point Reyes horkelia, *Horkelia marinensis* (SC)
Point Reyes meadowfoam, *Limnanthes douglasii ssp. sulphurea* (CA)
San Bruno Mountain manzanita, *Arctostaphylos imbricata* (CA)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)
San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)
San Francisco owl's-clover, *Triphysaria floribunda* (SC)
San Francisco wallflower, *Erysimum franciscanum* (SC)
San Mateo tree lupine, *Lupinus arboreus var. eximius* (SLC)
Santa Cruz manzanita, *Arctostaphylos andersonii* (SLC)
Tiburon buckwheat, *Eriogonum caninum* (SLC)
arcuate bush mallow, *Malacothamnus arcutatus (=M. fasciculat)* (SLC)
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
clustered lady's-slipper, *Cypripedium fasciculatum* (SC)
coast lily, *Lilium maritimum* (SC) *
coast rock-cress, *Arabis blepharophylla* (SLC)
coast wallflower, *Erysimum ammophilum* (SC)
curly-leaved (=curlyleaf) monardella, *Monardella undulata* (SC) *
dune (=camphor) tansy, *Tanacetum camphoratum* (SC)
fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)
large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)
legenere, *Legenere limosa* (SC)
marsh microseris (=marsh silverpuffs), *Microseris paludosa* (SLC) *
marsh milkvetch (=brine milk-vetch, =marsh locoweed), *Astragalus pycnostachyus var. pycnostachyus* (SLC)
northcoast (=Point Reyes) bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC) *
perennial goldfields, *Lasthenia macrantha ssp macrantha* (SLC)
pine rose, *Rosa pinetorum* (SLC)
pink sand-verbena, *Abronia umbellata ssp. umbellata* (SLC)
purple-stemmed (=dwarf) checkerbloom, *Sidalcea malvaeflora ssp purpurea* (SLC)
robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)
rose linanthus, *Linanthus rosaceus* (SC)
salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)
stinkbells, *Fritillaria agrestis* (SLC) *

water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)

western leatherwood, *Dirca occidentalis* (SLC)

SANTA CLARA COUNTY

Listed Species

Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Least Bell's vireo, *Vireo bellii pusillus* (E)

bald eagle, *Haliaeetus leucocephalus* (T)

marbled murrelet, *Brachyramphus marmoratus* (T)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

San Francisco garter snake, *Thamnophis sirtalis tetrataenia* (E)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, South Central California steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

South Central California steelhead, *Oncorhynchus mykiss* (T) NMFS

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

delta smelt, *Hypomesus transpacificus* (T) *

tidewater goby, *Eucyclogobius newberryi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Critical habitat, bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

Plants

California sea blite, *Suaeda californica* (E) *

Contra Costa goldfields, *Lasthenia conjugens* (E) *

Coyote ceanothus, *Ceanothus ferrisae* (E)

Metcalf Canyon jewelflower, *Streptanthus albidus ssp. albidus* (E)

Santa Clara Valley dudleya, *Dudleya setchellii* (E)

Tiburon paintbrush, *Castilleja affinis ssp. neglecta* (E)

robust spineflower, *Chorizanthe robusta var. robusta* (E) *

showy Indian clover, *Trifolium amoenum* (E) *

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Snowy Egret, *Egretta thula* (MB)
Vaux's swift, *Chaetura vauxi* (SC)
black rail, *Laterallus jamaicensis coturniculus* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Edgewood blind harvestman, *Calicina minor* (SC)

Hom's microblind harvestman, *Microcina homi* (SC)

Jung's microblind harvestman, *Microcina juni* (SC)

Opler's longhorn moth, *Adela oplerella* (SC)

Ricksecker's water scavenger beetle, *Hydrochara ricksecker*i (SC)

unsilvered fritillary butterfly, *Speyeria adiaste adiaste* (SC)

Plants

Ben Lomond buckwheat (= naked buckwheat), *Eriogonum nudum var. decurrens* (SC)

Brandegee's woolly-star (=eriastrum), *Eriastrum brandegeae* (SC)

Congdon's tarplant, *Hemizonia parryi ssp. congdonii* (SC)

Franciscan onion, *Allium peninsulare var. franciscanum* (SLC)

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

Greene's popcorn flower, *Plagiobothrys reticulatus var. rossianorum* (SC) *

Hall's bush mallow, *Malacothamnus hallii (=M. fasciculatus)* (SLC)

Hoover's button-celery, *Eryngium aristulatum var. hooveri* (SC) *

Kings Mountain manzanita, *Arctostaphylos regismontana* (SLC)

Loma Prieta hoita, *Hoita strobilina* (SC)

Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

Mt. Hamilton (=Sharesmith's) harebell, *Campanula sharsmithiae* (SC)

Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)

Mt. Hamilton jewelflower, *Streptanthus callistus* (SLC)

Mt. Hamilton lomatium, *Lomatium observatorium* (SLC)

Mt. Hamilton thistle, *Cirsium fontinale var. campylon* (SC)

Oregon meconella (=white fairypoppy), *Meconella oregana* (SC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)

Salinas Valley (=hooked) popcornflower, *Plagiobothrys uncinatus* (SC)

San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)

San Francisco wallflower, *Erysimum franciscanum* (SC)

San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC) *

Santa Cruz Mts. beardtongue, *Penstemon rattanii var kleei* (SLC)

Santa Cruz manzanita, *Arctostaphylos andersonii* (SLC)

Sharsmith's onion, *Allium sharsmithae*. (SC)

South Bay clarkia (=Santa Clara red ribbons), *Clarkia concinna ssp. automixa* (SC)

Tiburon buckwheat, *Eriogonum caninum* (SLC)

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

arcuate bush mallow, *Malacothamnus arcutatus (=M. fasciculat)* (SLC)

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) **

chaparral harebell (=bellflower), *Campanula exigua* (SLC)

clustered lady's-slipper, *Cypripedium fasciculatum* (SC)

curly-leaved (=curlyleaf) monardella, *Monardella undulata* (SC) *

delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC) *

fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)

hairless allocarya (=popcornflower), *Plagiobothrys glaber* (SC) **

interior California (Hospital Canyon) larkspur, *Delphinium californicum ssp. interius* (SC)

large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)

maple-leaved checkerbloom, *Sidalcea malachroides* (SLC)

most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)

northcoast (=Point Reyes) bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC) *

rock sanicle, *Sanicula saxatilis* (SC)

serpentine bedstraw, *Galium andrewsii ssp. gatense* (SLC)

smooth lessingia, *Lessingia micradenia var. glabrata* (SC)

talus fritillary, *Fritillaria falcata* (SC)

water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)

western leatherwood, *Dirca occidentalis* (SLC)

SHASTA COUNTY

Listed Species

Birds

Critical habitat, northern spotted owl, *Strix occidentalis caurina* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Shasta crayfish, *Pacifastacus fortis* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E)

slender Orcutt grass, *Orcuttia tenuis* (T)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

pygmy rabbit, *Brachylagus idahoensis* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Cascades frog, *Rana cascadae* (SC)
Shasta salamander, *Hydromantes shastae* (CA)
foothill yellow-legged frog, *Rana boylii* (SC)
tailed frog, *Ascaphus truei* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

McCloud River redband trout, *Oncorhynchus (=Salmo) mykiss ssp.* (SC)

Pit roach, *Lavinia symmetricus mitrulus* (SC)

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

rough sculpin, *Cottus asperrimus* (CA)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Castle Crags rhyacophilan caddisfly, *Rhyacophila lineata* (SC)

King's Creek ecclisomyian caddisfly, *Ecclisomyia bilera* (SC)

King's Creek parapsyche caddisfly, *Parapsyche extensa* (SC)

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

Shasta sideband snail, *Monadenia troglodytes* (SC)

Siskiyou ground beetle, *Nebria gebleri siskiyouensis* (SC)

Trinity (=California) bristlesnail, *Monadenia setosa* (CA)

Trinity Alps ground beetle, *Nebria sahlbergii triad* (SC)

bilobed rhyacophilan caddisfly, *Rhyacophila mosana* (SC)

confusion caddisfly, *Cryptochia shasta* (SC)

Plants

Ahart's whitlow-wort (=Ahart's paronychia), *Paronychia ahartii* (SC)

Baker's globe mallow (=Baker's wild hollyhock), *Iliamna bakeri* (SLC)

Bellinger's meadowfoam, *Limnanthes floccosa ssp. bellingeriana* (SC)

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

Butte County catchfly (=long-stiped campion), *Silene occidentalis ssp. longistipitata* (SC)

Butte County morning-glory, *Calystegia atriplicifolia ssp. buttensis* (SC)

Butte fritillary, *Fritillaria eastwoodiae* (SC)

Callahan's mariposa lily, *Calochortus syntrophus* (SC)

Cantelow's lewisia, *Lewisia cantelowii* (SC)

Canyon Creek stonecrop, *Sedum paradisum* (SC)

Dubakella Mountain buckwheat, *Eriogonum libertini* (SLC)

Henderson's bent grass, *Agrostis hendersonii* (SC)

Howell's alkali grass, *Puccinellia howellii* (SC)

Howell's lewisia, *Lewisia cotyledon var. howellii* (SC)

Howell's thelypodium, *Thelypodium howellii ssp howellii* (SLC)

Klamath manzanita, *Arctostaphylos klamathensis* (SC)
Mt. Lassen (=Lassen Peak) smelowskia, *Smelowskia ovalis ssp. congesta* (SC)
Oregon fireweed, *Epilobium oreganum* (SC)
Pit River jewelflower, *Streptanthus sp. nov. /ined. (Shasta Co.)* (SC)
Red Mountain catchfly (=campion), *Silene campanulata ssp. campanulata* (CA)
Salmon Mountains wakerobin, *Trillium ovatum ssp. oettingeri* (SLC)
Shasta snow wreath, *Neviusia cliftonii* (SC)
Stebbins's madia (=Stebbins's harmonia), *Madia stebbinsii (=Harmonia stebbinssii)* (SC)
Suksdorf's milk-vetch, *Astragalus pulsiferae var. suksdorfii* (SC)
The Lassics sandwort, *Minuartia decumbens* (SC)
Trinity (Scott Mountain) phacelia, *Phacelia dalesiana* (SC)
Wilkin's harebell, *Campanula wilkinsiana* (SC)
arid northern clarkia, *Clarkia borealis ssp. arida* (SC)
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
clustered lady's-slipper, *Cypripedium fasciculatum* (SC)
legenere, *Legenere limosa* (SC)
long-haired star-tulip, *Calochortus longebarbatus var. longebarbatus* (SC)
propuse-flowering (=Devil's Garden) pogogyne, *Pogogyne floribunda* (SC)
silky cryptantha, *Cryptantha crinita* (SC)
thread-leaved penstemon (=beardtongue), *Penstemon filiformis* (SLC)
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)

SIERRA COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
delta smelt, *Hypomesus transpacificus* (T)

Candidate Species

Plants

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)
California wolverine, *Gulo gulo luteus* (CA)
Pacific fisher, *Martes pennanti pacifica* (SC)
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
sage grouse, *Centrocerius urophasianus* (SC)

short-eared owl, *Asio flammeus* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

northern sagebrush lizard, *Sceloporus graciosus graciosus* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

foothill yellow-legged frog, *Rana boylii* (SC)

mountain yellow-legged frog, *Rana muscosa* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Invertebrates

Cold Spring caddisfly, *Lepidostoma ermanae* (SC)

Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)

amphibious caddisfly, *Desmona bethula* (SC)

long-tailed caddisfly, *Farula praelonga* (SC)

spiny rhyacophilan caddisfly, *Rhyacophila spinata* (SC)

Plants

Cantelow's lewisia, *Lewisia cantelowii* (SC)

Constance's rock-cress, *Arabis constancei* (SC)

Dog Valley ivesia, *Ivesia aperta var. canina* (SC)

Donner Pass buckwheat, *Eriogonum umbellatum var. torreyanum* (SC)

Lemmon's clover, *Trifolium lemmonii* (SLC)

Modoc County knotweed, *Polygonum polygaloides ssp. esotericum* (SC)

Plumas ivesia, *Ivesia sericoleuca* (SC)

Pulsifer's (=Ames') milk-vetch, *Astragalus pulsiferae var pulsiferae* (SLC)

Quincy lupine, *Lupinus dalesiae* (SC)

Sierra Valley ivesia, *Ivesia aperta var. aperta* (SC)

Webber's ivesia, *Ivesia webberi* (SC)

Webber's milk-vetch, *Astragalus webberi* (SC)

closed-lip (closed-throated) beardtongue, *Penstemon personatus* (SC)

clustered lady's-slipper, *Cypripedium fasciculatum* (SC)

common moonwort, *Botrychium lunaria* (SC)

felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)

milk-vetch, Lemmon's, *Astragalus lemmonii* (SLC)

SOLANO COUNTY

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

bald eagle, *Haliaeetus leucocephalus* (T)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

delta smelt, *Hypomesus transpacificus* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

Critical habitat, delta green ground beetle, *Elaphrus viridis* (T)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

delta green ground beetle, *Elaphrus viridis* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Colusa grass, *Neostapfia colusana* (T)

Contra Costa goldfields, *Lasthenia conjugens* (E)

Solano grass (=Crampton's tuctoria), *Tuctoria mucronata* (E)

Suisun thistle, *Cirsium hydrophilum var. hydrophilum* (E)

showy Indian clover, *Trifolium amoenum* (E) *

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Suisun ornate shrew, *Sorex ornatus sinuosus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)
California thrasher, *Toxostoma redivivum* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
San Pablo song sparrow, *Melospiza melodia samuelis* (SC)
Snowy Egret, *Egretta thula* (MB)
Suisun song sparrow, *Melospiza melodia maxillaris* (SC)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black rail, *Laterallus jamaicensis coturniculus* (CA)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

San Joaquin dune beetle, *Coelus gracilis* (SC)

Plants

Baker's narvarretia, *Navarretia leucocephala ssp. bakeri* (SC)

Big plant, *Blepharizonia plumosa ssp. plumosa* (SC) *

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

Brewer's dwarf-flax (=western flax), *Hesperolinon breweri* (SC)

Carquinez goldenbush, *Isocoma arguta* (SC)

Congdon's tarplant, *Hemizonia parryi ssp. congdonii* (SC) *

Ferris's milk-vetch, *Astragalus tener var. ferrisiae* (SC) *

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

Heckard's pepper-grass (Heckard's pepperweed), *Lepidium latipes var. heckardii* (SLC)

Marin knotweed, *Polygonum marinense* (SLC)

Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

Northern California black walnut, *Juglans californica var. hindsii* (SC) *

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)

San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)

Suisun Marsh aster, *Aster lentus* (SC)

adobe lily, *Fritillaria pluriflora* (SC)

alkali milk-vetch, *Astragalus tener var. tener* (SC)

bearded allocarya (popcorn-flower), *Plagiobothrys hystriculus* (SC) **

big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)

brittlescale, *Atriplex depressa* (SC)

delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)

fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)

heartscale, *Atriplex cordulata* (SC)

hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)

holly-leaved ceanothus, *Ceanothus purpureus* (SLC)

legenere, *Legenere limosa* (SC)

little mousetail, *Myosurus minimus ssp. apus* (SC)

recurved larkspur, *Delphinium recurvatum* (SC)

salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)

vernal pool (=persistent-fruited, Sacramento) saltbush (=smallscale, saltscale), *Atriplex persistens* (SC)

water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)

SONOMA COUNTY

Listed Species

Mammals

Guadalupe fur seal, *Arctocephalus townsendi* (T) NMFS

Steller (=northern) sea-lion, *Eumetopias jubatus* (T) NMFS

blue whale, *Balaenoptera musculus* (E) NMFS

finback (=fin) whale, *Balaenoptera physalus* (E) NMFS

humpback whale, *Megaptera novaeangliae* (E) NMFS

right whale, *Eubalaena glacialis* (E) NMFS

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

sei whale, *Balaenoptera borealis* (E) NMFS

sperm whale, *Physeter catodon (=macrocephalus)* (E) NMFS

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

Critical habitat, marbled murrelet, *Brachyramphus marmoratus* (T)

Critical habitat, western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

marbled murrelet, *Brachyramphus marmoratus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

short-tailed albatross, *Diomedea albatrus* (E)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

Reptiles

green turtle, *Chelonia mydas (incl. agassizi)* (T) NMFS

leatherback turtle, *Dermochelys coriacea* (E) NMFS

loggerhead turtle, *Caretta caretta* (T) NMFS

olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T) NMFS

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, California coastal chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Northern California steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS

delta smelt, *Hypomesus transpacificus* (T) *

tidewater goby, *Eucyclogobius newberryi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Behren's silverspot butterfly, *Speyeria zerene behrensii* (E)

California freshwater shrimp, *Syncaris pacifica* (E)

Myrtle's silverspot butterfly, *Speyeria zerene myrtleae* (E)

white abalone, *Haliotes sorenseni* (E) NMFS

Plants

Baker's larkspur, *Delphinium bakeri* (E) *

Baker's stickyseed, *Blennosperma bakeri* (E)

Burke's goldfields, *Lasthenia burkei* (E)

Clara Hunt's milk-vetch, *Astragalus clarianus* (E)

Hickman's potentilla (=cinquefoil), *Potentilla hickmanii* (E) *

Kenwood Marsh checkermallow (=checkerbloom), *Sidalcea oregana ssp. valida* (E)

Loch Lomond coyote-thistle (=button-celery), *Eryngium constancei* (E)

Pennell's bird's-beak, *Cordylanthus tenuis ssp. capillaris* (E)

Pitkin Marsh lily, *Lilium pardalinum ssp. pitkinense* (E)

Sebastopol meadowfoam, *Limnanthes vinculans* (E)

Sonoma alopecurus, *Alopecurus aequalis var. sonomensis* (E)

Sonoma spineflower, *Chorizanthe valida* (E) *

Vine Hill clarkia, *Clarkia imbricata* (E)

clover lupine [Tidestrom's lupine], *Lupinus tidestromii* (E)

many-flowered navarretia, *Navarretia leucocephala ssp. plieantha* (E)

showy Indian clover, *Trifolium amoenum* (E) *

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E) *

white sedge, *Carex albida* (E)

yellow larkspur, *Delphinium luteum* (E)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Invertebrates

black abalone, *Haliotes cracherodii* (C) NMFS

Species of Concern

Mammals

California red tree vole, *Arborimus pomo* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Suisun ornate shrew, *Sorex ornatus sinuosus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

gray whale, *Eschrichtius robustus* (D) NMFS

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

Snowy Egret, *Egretta thula* (MB)

Vaux's swift, *Chaetura vauxi* (SC)

Xantus' murrelet, *Synthliboramphus hypoleucus* (SC)

ashy storm-petrel, *Oceanodroma homochroa* (SC)
bank swallow, *Riparia riparia* (CA)
black rail, *Laterallus jamaicensis coturniculus* (CA)
black swift, *Cypseloides niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

Northern red-legged frog, *Rana aurora aurora* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Gualala roach, *Lavinia symmetricus parvipinnis* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
Russian River tule perch, *Hysterocarpus traski pomo* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Leech's skyline diving beetle, *Hydroporus leechi* (SC)
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
Sonoma arctic skipper, *Carterocephalus palaemon ssp.* (SC)
brownish dubiraphian riffle beetle, *Dubiraphia brunnescens* (SC)

bumblebee scarab beetle, *Lichnanthe ursina* (SC)

globose dune beetle, *Coelus globosus* (SC)

sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

Plants

Baker's goldfields, *Lasthenia macrantha ssp bakeri* (SLC) *

Baker's manzanita, *Arctostaphylos bakeri ssp. bakeri* (SC)

Baker's narvarretia, *Navarretia leucocephala ssp. bakeri* (SC)

Blasdale's bentgrass, *Agrostis blasdalei var. blasdalei* (SC)

Bolander's reed grass, *Calamagrostis bolanderi* (SLC)

California beaked-rush, *Rhynchospora californica* (SC)

California saltbush, *Atriplex californica* (SLC)

Calistoga ceanothus, *Ceanothus divergens* (SC)

Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)

Contact (Socrates) Mine jewelflower, *Streptanthus brachiatus ssp. brachiatus* (SC)

Crystal Springs lessingia, *Lessingia arachnoidea* (SC)

Davy's clarkia, *Clarkia davyi* (SLC)

Dorr's Cabin jewelflower, *Streptanthus morrisonii ssp. hirtiflorus* (SC)

Franciscan onion, *Allium peninsulare var. franciscanum* (SLC)

Franciscan thistle, *Cirsium andrewsii* (SC) *

Freed's jewelflower, *Streptanthus brachiatus ssp. hoffmanii* (SC)

Gairdner's yampah, *Perideridia gairdneri ssp. gairdneri* (SC)

Jepson's linanthus, *Linanthus jepsonii* (SLC)

Kruckeberg's jewelflower, *Streptanthus morrisonii ssp. kruckebergii* (SC)

Marin checkermallow (=checkerbloom), *Sidalcea hickmanii ssp. viridis* (SLC)

Marin knotweed, *Polygonum marinense* (SLC)

Mendocino (=pygmy) cypress, *Cupressus goveniana ssp. pigmaea* (SC)

Morrison's jewelflower, *Streptanthus morrisonii ssp. morrisonii* (SC)

Mt. Saint Helena morning-glory, *Calystegia collina ssp. oxyphylla* (SLC)

Napa false indigo, *Amorpha californica var. napensis* (SLC)

North Coast sand-verbena, *Abronia umbellata ssp. breviflora* (SC)

Nuttall's milk-vetch, *Astragalus nuttallii var. virgatus* (SLC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SLC)

Petaluma popcornflower, *Plagiobothrys mollis var. vestitus* (SC) **

Point Reyes checkerbloom, *Sidalcea calycosa ssp rhizomata* (SLC)

Rincon Ridge ceanothus, *Ceanothus confusus* (SC)

Rincon manzanita, *Arctostaphylos stanfordiana ssp. decumbens* (SC)

Round-headed Chinese houses, *Collinsia corymbosa* (SC)

San Francisco (=bluehead, Chamisso's, dune) gilia, *Gilia capitata ssp. chamissonis* (SC)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)
San Francisco wallflower, *Erysimum franciscanum* (SC)
San Mateo tree lupine, *Lupinus arboreus var. eximius* (SLC)
Santa Cruz clover, *Trifolium buckwestiorum* (SC)
Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)
Sonoma ceanothus, *Ceanothus sonomensis* (SC)
Sonoma manzanita, *Arctostaphylos canescens ssp sonomensis* (SLC)
St. Helena fawn lily, *Erythronium helenae* (SLC)
The Cedars globe-lily (=fairy-lantern), *Calochortus raichei* (SC)
The Cedars manzanita, *Arctostaphylos bakeri ssp sublaevis* (SLC)
Three Peaks jewelflower, *Streptanthus morrisonii ssp. elatus* (SC)
Thurber's reed grass, *Calamagrostis crassiglumis* (SC)
Tiburon buckwheat, *Eriogonum caninum* (SLC) *
Tiburon tarplant, *Hemizonia multicaulis ssp. vernalis* (SC)
Vine Hill ceanothus, *Ceanothus foliosus var. vineatus* (SC)
Vine Hill manzanita, *Arctostaphylos densiflora* (SC)
alkali milk-vetch, *Astragalus tener var. tener* (SC) *
beaked tracyina, *Tracyina rostrata* (SC)
bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
coast lily, *Lilium maritimum* (SC)
coast rock-cress, *Arabis blepharophylla* (SLC)
coastal bluff morning-glory, *Calystegia purpurata ssp saxicola* (SLC)
curly-leaved (=curlyleaf) monardella, *Monardella undulata* (SC) *
deceiving (=salt) sedge, *Carex saliniformis (=Carex hassei)* (SLC)
dwarf soaproot (=wavyleaf soap plant), *Chlorogalum pomeridianum var minus* (SLC)
fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)
holly-leaved ceanothus, *Ceanothus purpureus* (SLC)
large-flowered (=flower) linanthus, *Linanthus grandiflorus* (SC)
legenere, *Legenere limosa* (SC) *
maple-leaved checkerbloom, *Sidalcea malachroides* (SLC)
marsh microseris (=marsh silverpuffs), *Microseris paludosa* (SLC)
narrow-anthered California brodiaea, *Brodiaea californica var leptandra* (SLC)
narrow-leaved daisy (=serpentine fleabane), *Erigeron angustatus* (SLC)
northcoast (=Point Reyes) bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC)
northcoast semaphore grass, *Pleuropogon hooverianus* (SC)

perennial goldfields, *Lasthenia macrantha ssp macrantha* (SLC)
pink sand-verbena, *Abronia umbellata ssp. umbellata* (SLC)
purple-stemmed (=dwarf) checkerbloom, *Sidalcea malvaeflora ssp purpurea* (SLC)
robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)
rose linanthus, *Linanthus rosaceus* (SC) *
salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)
seashore (=coast, =beach) starwort, *Stellaria littoralis* (SC)
seaside tarplant, *Hemizonia multicaulis ssp. multicaulis* (SC)
secund jewelflower, *Streptanthus glandulosus var. hoffmanii* (SC)
serpentine (=Cleveland's) cryptantha, *Cryptantha clevelandii* (SLC)
supple daisy, *Erigeron supplex* (SC)
swamp harebell, *Campanula californica* (SC)
thin-lobbed (=Santa Rosa) horkelia, *Horkelia tenuiloba* (SLC)
two-carpeled dwarf-flax (=western flax), *Hesperolinon bicarpellatum* (SC)
water sack (=saline) clover, *Trifolim depauperatum var. hydrophilum* (SC)
western leatherwood, *Dirca occidentalis* (SLC)
woolly-headed (=San Francisco) spineflower, *Chorizanthe cuspidata var villosa* (SC)
woolly-headed gilia, *Gilia capitata ssp. tomentosa* (SC) *
yarrow-leaf (=manyleaf, dark-eyed) gilia, *Gilia millefoliata* (SLC)

STANISLAUS COUNTY

Listed Species

Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)
riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Colusa grass, *Neostapfia colusana* (T)

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E) *

Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)

Hoover's spurge, *Chamaesyce hooveri* (T)

San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T) *

fleshy (=succulent) owl's-clover, *Castilleja campestris ssp. succulenta* (T)

hairy Orcutt grass, *Orcuttia pilosa* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Merced kangaroo rat, *Dipodomys heermanni dixoni* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

Big plant, *Blepharizonia plumosa ssp. plumosa* (SC) *

Hall's bush mallow, *Malacothamnus hallii (=M. fasciculatus)* (SLC)

Hoover's cryptantha, *Cryptantha hooveri* (SLC)

Hoover's rosinweed (=caycadenia), *Calycadenia hooveri* (SLC)

Lemmon's jewelflower, *Caulanthus coulteri var lemmonii* (SLC)

Merced monardella, *Monardella leucocephala* (SC) **

Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

Mt. Hamilton (=Sharesmith's) harebell, *Campanula sharsmithiae* (SC)

Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)

Mt. Hamilton lomatium, *Lomatium observatorium* (SLC)

Mt. Hamilton thistle, *Cirsium fontinale var. campylon* (SC)

Napa western flax, *Hesperolinon serpentinum* (SC)

Sharsmith's onion, *Allium sharsmithae* (SC)

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

beaked clarkia, *Clarkia rostrata* (SC)

brittlescale, *Atriplex depressa* (SC) *

chaparral harebell (=bellflower), *Campanula exigua* (SLC)

delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)

diamond-petaled California poppy, *Eschscholzia rhombipetala* (SC) *

heartscale, *Atriplex cordulata* (SC) *

legenere, *Legenere limosa* (SC) *

little mousetail, *Myosurus minimus ssp. apus* (SC)

red-flowered lotus, *Lotus rubriflorus* (SC)

spiny-sepaled coyote-thistle (=button-celery), *Eryngium spinosepalum* (SC)

stinkbells, *Fritillaria agrestis* (SLC)

talus fritillary, *Fritillaria falcata* (SC)

vernal pool (=persistent-fruited, Sacramento) saltbush (=smallscale, saltscale), *Atriplex persistens* (SC)

SUTTER COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E) *

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Marysville Heermann's kangaroo rat, *Dipodomys californicus eximius* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

California thrasher, *Toxostoma redivivum* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Snowy Egret, *Egretta thula* (MB)

Swainson's hawk, *Buteo Swainsoni* (CA)

bank swallow, *Riparia riparia* (CA)

black swift, *Cypseloides niger* (SC)

black tern, *Chlidonias niger* (SC)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

greater sandhill crane, *Grus canadensis tabida* (CA)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Sacramento Valley tiger beetle, *Cicindela hirticollis abrupta* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)

Plants

Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)
Ferris's milk-vetch, *Astragalus tener var. ferrisiae* (SC) *
veiny monardella, *Monardella douglasii ssp. venosa* (SC) *

TEHAMA COUNTY

Listed Species

Birds

Critical habitat, northern spotted owl, *Strix occidentalis caurina* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E)

Hoover's spurge, *Chamaesyce hooveri* (T)

hairy Orcutt grass, *Orcuttia pilosa* (E)

slender Orcutt grass, *Orcuttia tenuis* (T)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

California wolverine, *Gulo gulo luteus* (CA)
Pacific fisher, *Martes pennanti pacifica* (SC)
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
tailed frog, *Ascaphus truei* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Leech's skyline diving beetle, *Hydroporus leechi* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)

Plants

Ahart's whitlow-wort (=Ahart's paronychia), *Paronychia ahartii* (SC)
Anthony Peak lupine, *Lupinus antoninus* (SC)
Baker's globe mallow (=Baker's wild hollyhock), *Iliamna bakeri* (SLC)
Baker's narvarretia, *Navarretia leucocephala ssp. bakeri* (SC)
Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)
Brandegee's woolly-star (=eriastrum), *Eriastrum brandegeae* (SC)
Butte County catchfly (=long-stiped campion), *Silene occidentalis ssp. longistipitata* (SC)
Butte County morning-glory, *Calystegia atriplicifolia ssp. buttensis* (SC)
Butte fritillary, *Fritillaria eastwoodiae* (SC)

Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)
Dubakella Mountain buckwheat, *Eriogonum libertini* (SLC)
Hall's rupertia (=Hall's California tea), *Rupertia hallii* (SLC)
Henderson's bent grass, *Agrostis hendersonii* (SC)
Indian Valley brodiaea, *Brodiaea coronaria ssp. rosea* (CA)
Jepson's milk-vetch, *Astragalus rattanii var jepsonianus* (SLC)
Mt. Tedoc linanthus, *Linanthus nuttallii ssp. howellii* (SLC)
Oregon fireweed, *Epilobium oreganum* (SC)
Red Bluff (dwarf) rush, *Juncus leiospermus var. leiospermus* (SC)
Red Mountain catchfly (=campion), *Silene campanulata ssp. campanulata* (CA)
Sonoma manzanita, *Arctostaphylos canescens ssp sonomensis* (SLC)
Stebbins's madia (=Stebbins's harmonia), *Madia stebbinsii (=Harmonia stebbinssii)* (SC)
Stony Creek spurge, *Chamaesyce ocellata ssp. rattanii* (SLC)
Tehama dwarf-flax, *Hesperolinon tehamense* (SC)
Wilkin's harebell, *Campanula wilkinsiana* (SC)
adobe lily, *Fritillaria pluriflora* (SC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
clustered lady's-slipper, *Cypripedium fasciculatum* (SC)
dwarf soaproot (=wavyleaf soap plant), *Chlorogalum pomeridianum var minus* (SLC)
legenere, *Legenere limosa* (SC)
red-flowered lotus, *Lotus rubriflorus* (SC)
scalloped moonwort, *Botrychium crenulatum* (SC)
silky cryptantha, *Cryptantha crinita* (SC)
tall alpine-aster (= Plumas alpine aster), *Oreostemma elatum* (SLC)
upswept moonwort, *Botrychium ascendens* (SC)
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)
white-stemmed (=whitestem) clarkia, *Clarkia gracilis ssp albicaulis* (SLC)

TULARE COUNTY

Listed Species

Mammals

Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)
San Joaquin kit fox, *Vulpes macrotis mutica* (E)
Sierra Nevada (=California) bighorn sheep, *Ovis canadensis californiana* (E)
Tipton kangaroo rat, *Dipodomys nitratoides nitratoides* (E)
giant kangaroo rat, *Dipodomys ingens* (E)

Birds

California condor, *Gymnogyps californianus* (E)

Critical habitat, California condor, *Gymnogyps californianus* (E)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, little Kern golden trout, *Oncorhynchus (=Salmo) aquabonita whitei* (T)

Little Kern golden trout, *Oncorhynchus (=Salmo) aquabonita whitei* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

California jewelflower, *Caulanthus californicus* (E) *

Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E) *

Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)

Hoover's spurge, *Chamaesyce hooveri* (T)

Keck's checker-mallow (=checkerbloom), *Sidalcea keckii* (E)

San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T) *

San Joaquin adobe sunburst, *Pseudobahia peirsonii* (T)

San Joaquin woolly-threads, *Monolopia congdonii (=Lembertia congdonii)* (E) *

Springville clarkia, *Clarkia springvillensis* (T)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Plants

Ramshaw sand-verbena, *Abronia alpina* (C)

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)
Pacific fisher, *Martes pennanti pacifica* (SC)
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
Southern grasshopper mouse, *Onychomys torridus ramona* (SC)
Tulare grasshopper mouse, *Onychomys torridus tularensis* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
long-legged myotis bat, *Myotis volans* (SC)
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American bittern, *Botaurus lentiginosus* (SC)
American dipper, *Cinclus mexicanus* (SLC)
American peregrine falcon, *Falco peregrinus anatum* (D)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
San Joaquin LeConte's thrasher, *Toxostoma lecontei macmillanorum* (SC)
Snowy Egret, *Egretta thula* (MB)
Vaux's swift, *Chaetura vauxi* (SC)

bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Kern Canyon slender salamander, *Batrachoseps simatus* (CA)
Mount Lyell salamander, *Hydromantes platycephalus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
relictual slender salamander, *Batrachoseps relictus (=pacificus)* (SC)
western spadefoot toad, *Spea hammondii* (SC)
yellow-blotched ensatina, *Ensatina eschscholtzii croceator* (SC)

Fish

Kern River rainbow trout, *Oncorhynchus (=Salmo) mykiss gilberti* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Volcano Creek golden trout, *Oncorhynchus (=Salmo) mykiss aquabonita* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Denning's cryptic caddisfly, *Cryptochia denningi* (SC)

Hopping's blister beetle, *Lytta hoppingi* (SC)

Kings Canyon cryptochian caddisfly, *Cryptochia excella* (SC)

Morrison's blister beetle, *Lytta morrisoni* (SC)

San Emigdio blue butterfly, *Plebulina emigdionis* (SC)

San Joaquin tiger beetle, *Cicindela tranquebarica ssp.* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

Bodie Hills rock cress, *Arabis bodiensis* (SC)

Charlotte's phacelia, *Phacelia nashiana* (SC)

DeDecker's (=Father Crowley's) lupine, *Lupinus padre-crowleyi (=L. dedeckerae)* (SC)

Earlimart orache (=erectstem saltbush), *Atriplex erecticaulis* (SLC)

Ewan's larkspur, *Delphinium hansenii ssp. ewanianum* (SC)

Greenhorn adobe-lily, *Fritillaria striata* (CA)

Kaweah Lakes fawn-lily, *Erythronium grandiflorum ssp. pusaterii* (SLC)

Kaweah brodiaea, *Brodiaea insignis* (CA)

Kern Plateau milk-vetch, *Astragalus lentiginosus var kernensis* (SLC)

Kern River daisy, *Erigeron multiceps* (SC)

Madera linanthus, *Linanthus serrulatus* (SLC)

Nine Mile Canyon phacelia, *Phacelia novenmillensis* (SC)

Pierpoint Springs liveforever (=dudleya), *Dudleya cymosa ssp. costafolia* (SC)

Piute Mountains navarretia, *Navarretia setiloba* (SC)

Piute cypress, *Cupressus nevadensis* (SC)

San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC) *

Sequoia gooseberry, *Ribes tularense* (SLC)

Shirley Meadows mariposa lily (=star-tulip), *Calochortus westonii* (SC)

Tulare (=Kern Plateau) horkelia, *Horkelia tularensis* (SLC)

Twisselmann's buckwheat, *Eriogonum twisselmannii* (SC)

Twisselmann's nemacladus, *Nemacladus twisselmannii* (SC)

Yosemite lewisia, *Lewisia disepala* (SC)

alkali mariposa lily, *Calochortus striatus* (SC)

alpine streptanthus (=jewel-flower), *Streptanthus gracilis* (SC)

aromatic canyon gooseberry, *Ribes menziesii var ixoderme* (SLC)

brittlescale, *Atriplex depressa* (SC)

calico monkeyflower, *Mimulus pictus* (SC)

field ivesia (=field mousetail), *Ivesia campestris* (SLC)

flax-like monardella, *Monardella linoides ssp. oblonga* (SC)

heartscale, *Atriplex cordulata* (SC)

lesser saltscale, *Atriplex minuscula* (SC) *

little mousetail, *Myosurus minimus ssp. apus* (SC)

mouse buckwheat, *Eriogonum nudum var. murinum* (SC)

purple mountain-parsley, *Oreonana purpurascens* (SLC)

recurved larkspur, *Delphinium recurvatum* (SC)

scalloped moonwort, *Botrychium crenulatum* (SC)

short-leaved hulsea (=shortleaf alpinegold), *Hulsea brevifolia* (SLC)

spiny-sepaled coyote-thistle (=button-celery), *Eryngium spinosepalum* (SC)

subtle orache, *Atriplex subtilis* (SLC)

vernal pool (=persistent-fruited, Sacramento) saltbush (=smallscale, saltscale), *Atriplex persistens* (SC)

YOLO COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Colusa grass, *Neostapfia colusana* (T)

Solano grass (=Crampton's tuctoria), *Tuctoria mucronata* (E)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

California thrasher, *Toxostoma redivivum* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
least bittern, western, *Ixobrychus exilis hesperis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

brownish dubiraphian riffle beetle, *Dubiraphia brunnescens* (SC)

Plants

Colusa layia (=Colusa tidytips), *Layia septentrionalis* (SLC)

Ferris's milk-vetch, *Astragalus tener var. ferrisiae* (SC) *

Hall's madia (=Hall's harmonia), *Madia hallii (=Harmonia hallii)* (SC)

Heckard's pepper-grass (Heckard's pepperweed), *Lepidium latipes var. heckardii* (SLC)

Jepson's milk-vetch, *Astragalus rattanii var jepsonianus* (SLC)

Northern California black walnut, *Juglans californica var. hindsii* (SC) *

San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)

Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)

adobe lily, *Fritillaria pluriflora* (SC)

alkali milk-vetch, *Astragalus tener var. tener* (SC)

brittlescale, *Atriplex depressa* (SC)

drymaria dwarf-flax (=western flax), *Hesperolinon drymarioides* (SC)

heartscale, *Atriplex cordulata* (SC) *

YUBA COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E) *

Layne's butterweed (=ragwort), *Senecio layneae* (T)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C)

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Marysville Heermann's kangaroo rat, *Dipodomys californicus eximius* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

California spotted owl, *Strix occidentalis occidentalis* (SC)
California thrasher, *Toxostoma redivivum* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
Snowy Egret, *Egretta thula* (MB)
Swainson's hawk, *Buteo Swainsoni* (CA)
Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
black swift, *Cypseloides niger* (SC)
black tern, *Chlidonias niger* (SC)
common loon, *Gavia immer* (SC)
ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Sacramento Valley tiger beetle, *Cicindela hirticollis abrupta* (SC)
Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)

Plants

Brandegee's clarkia, *Clarkia biloba ssp brandegeae* (SLC)

Butte fritillary, *Fritillaria eastwoodiae* (SC)

Quincy lupine, *Lupinus dalesiae* (SC)

clustered lady's-slipper, *Cypripedium fasciculatum* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute *quads*. The United States is divided into these quads, which are about the size of San Francisco. If you requested your list by quad name or number, that is what we used. Otherwise, we used the information you sent us to determine which quad or quads to use.

The animals on your species list are ones that occur within, *or may be affected by projects within*, the quads covered by the list. Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them. Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents. Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regard-less of whether they appear on a quad list.
Plants

Any plants on your list are ones *that have actually been observed* in the quad or quads covered by the list. We have also included either a county species list or a list of species in nearby quads. We recommend that you check your project area for these plants. Plants may exist in an area without ever having been detected there.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. For plant surveys, we recommend using the enclosed *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species*. The results of your surveys should be published in any environmental documents prepared for your project.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you should contact the California Department of Fish and Game for official information about these species.* Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as *listed* on Enclosure A are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the *take* of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal. Take may include significant habitat

modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a *formal consultation* with the Service. During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a *biological opinion* by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an *incidental take permit*. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project. Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compen-sates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 **CFR** 17.95).

Candidate Species

We recommend that you address impacts to *candidate* species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

Your list may contain a section called *Species of Concern*. This is an informal term that refers to those species that the Sacramento Fish and Wildlife Office believes might be in need of concentrated

conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. At one extreme, there may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a Federal threatened or endangered species. Species of concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. We also continually strive to make our information as accurate as possible. Sometimes we learn that a particular species has a different range than we thought. This should not be a problem if you consider the species on the county that we have enclosed. If you have a long-term project or if your project is delayed, please contact us for a current list. You can also find out the current status of a species by going to the Service's Internet page: www.fws.gov.

ENCLOSURE C

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS
(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.

2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations is not available, investigators should study specimens from local herbaria.

3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.

4. Report results of botanical field inventories that include:

   a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species

   b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name

   c. survey dates and survey methodology(ies)

   d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made

   e. a comprehensive list of all vascular plants occurring on the project site for each habitat type

   f. current and historic land uses of the habitat(s) and degree of site alteration

   g. presence of target species off-site on adjacent parcels, if known

   h. an assessment of the biological significance or ecological quality of the project site in a local and regional context

5. If target species is(are) found, report results that additionally include:

a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project

b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.

c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.

d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than three years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

ENVIRONMENTAL WATER ACCOUNT

DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

APPENDIX J

Environmental Water Account Action Specific Implementation Plan

Action Specific Implementation Plan
contained in Volume III