Appendix A

Alternatives Development Report

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Long-Term Water Transfers

Environmental Impact Statement/Environmental Impact Report

Alternatives Development Report
Final Draft

Prepared by
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Bureau of Reclamation
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Abbreviations and Acronyms

AF	acre-feet
BARDP	Bay Area Regional Desalination Project
BDCP	Bay Delta Conservation Plan
BMPs	best management practices
CALFED	State (CAL) and Federal (FED) agencies participating in the Bay-Delta Accord
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
Delta	Sacramento-San Joaquin Delta
DWR	Department of Water Resources
EA	Environmental Assessment
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
ETAW	evapotranspiration of applied water
FONSI	Finding of No Significant Impact
IPR	indirect potable reuse
M&I	municipal and industrial
MUD	Municipal Utility District
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration Fisheries Service
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RPA	Reasonable and Prudent Alternative
SLDMWA	San Luis & Delta-Mendota Water Authority
SWP	State Water Project
USFWS	U.S. Fish and Wildlife Service
WaterSMART	Sustain and Manage America's Resources for Tomorrow
WD	Water District
WUE	water use efficiency

Chapter 1
Introduction

This report describes the alternatives development process and proposed alternatives for the Long-Term Water Transfers Environmental Impact Statement/Environmental Impact Report (EIS/EIR).

1.1 Background

Hydrologic conditions, climatic variability, and regulatory requirements for operation of water projects commonly affect water supply availability in California, making advance planning for water shortages necessary and routine. This variability can strain water supplies in areas that are dependent on delivery of Central Valley Project (CVP) supplies to meet most, if not all, of the water demand. In the past decades, water entities have been implementing water transfers to supplement decreased water supplies and transfers have become a common tool in water resource planning.

The Bureau of Reclamation and the San Luis & Delta-Mendota Water Authority (SLDMWA) are completing a joint EIS/EIR to provide National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) compliance for water transfers from 2015 through 2024. Reclamation is serving as the Lead Agency under NEPA and SLDMWA is the Lead Agency under CEQA. This report refers to Reclamation and SLDMWA jointly as the Lead Agencies.

The EIS/EIR will evaluate water transfers from willing sellers upstream from the Sacramento-San Joaquin Delta (Delta) to buyers that export water from the Delta. Alternatives in this document only analyze transfers of CVP water supplies that require use of CVP or State Water Project (SWP) facilities and transfers of non-CVP water supplies that require use of CVP facilities. The cumulative analysis will include all potential transfers including SWP transfers. The water would be transferred to water users that are at risk of experiencing water shortages and require supplemental water supplies to meet anticipated demands. Water transfers would only be used to help meet existing demands and would not serve any new demands in the buyers' service areas.

In addition to SLDMWA, several other agencies have identified interest in purchasing transfer water to reduce potential water shortages. These agencies have requested to be included in the EIS/EIR. Table 1-1 summarizes all purchasing agencies, further referred to as buyers in this report. Figure 1-1 on the next page shows the location of buyers (referred to as Buyer Service Area) and the sellers (referred to as Seller Service Area).

Table 1-1.
Potential Buyers

Contra Costa Water District
East Bay Municipal Utility District
San Luis & Delta Mendota Water Authority Participating Members
Byron-Bethany Irrigation District
Del Puerto Water District
Eagle Field Water District
Mercy Springs Water District
Pacheco Water District
Panoche Water District
San Benito County Water District
San Luis Water District
Santa Clara Valley Water District
Westlands Water District

To make water available, the seller must take an action to reduce beneficial use. Water transfers must be consistent with Federal and State law. Transfers in the Sacramento and San Joaquin area are governed by existing water rights, Delta pumping capacity, and reservoir storage capacity. The following sections describe past water transfers and regulations applicable to implementing water transfers.

1.1.1 History

The Lead Agencies have participated in water transfers through various past programs or agreements. The Central Valley Project Improvement Act (CVPIA), signed into law in 1992, authorizes water transfers between willing parties as long as transferred water is to be used for project purposes or other beneficial uses recognized under State law (Section 3405). As a result, Reclamation has facilitated and implemented CVP-related water transfers between willing sellers and buyers in need of supplemental water supplies. Transfers have included both in-basin and through-Delta transfers.

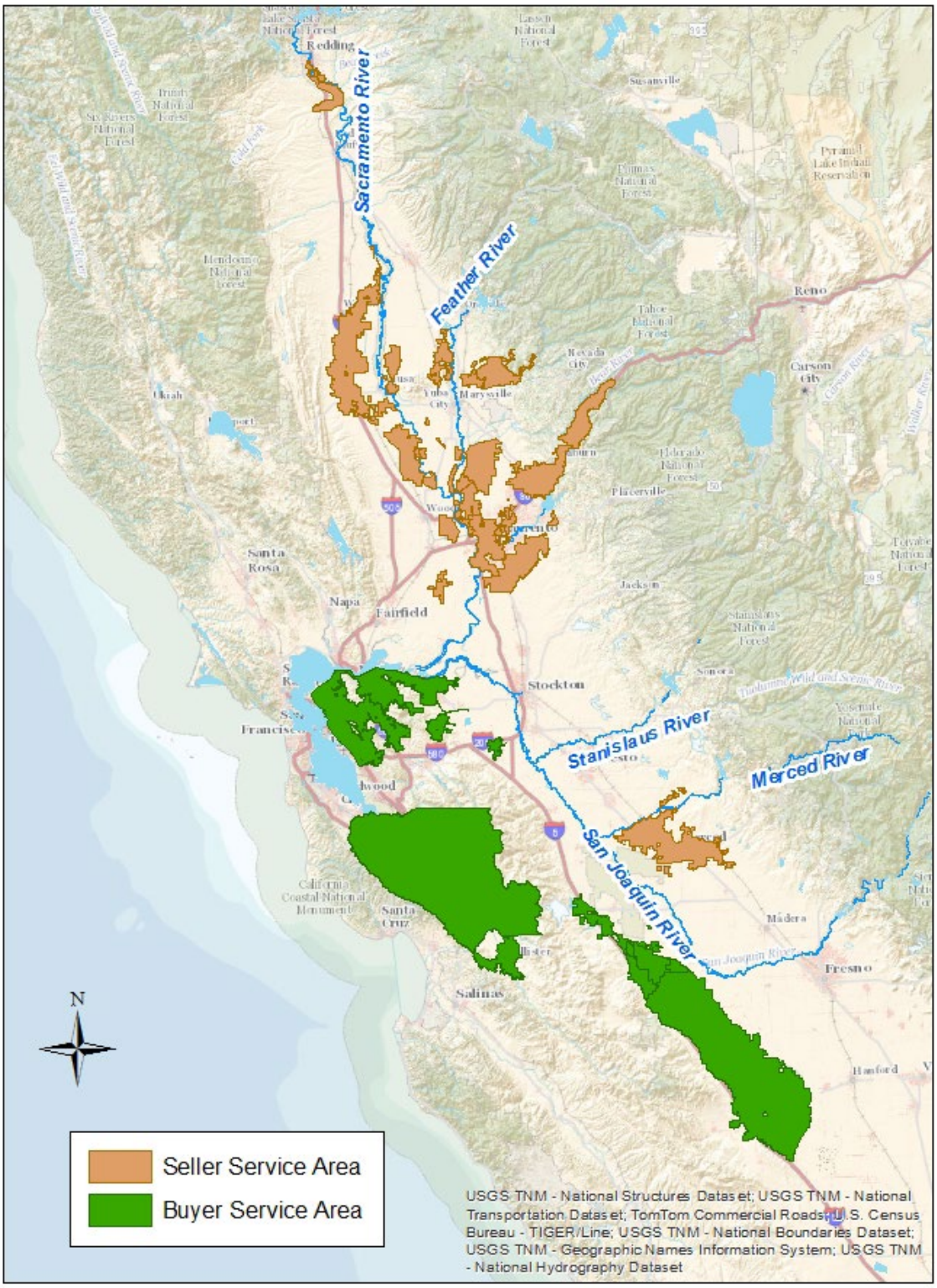


Figure 1-1.
Buyer and Seller Service Areas

Reclamation is required to complete NEPA documentation for water transfers. NEPA compliance for transfers has varied in the past decade. Reclamation has developed the following NEPA documents to evaluate multiple through-Delta water transfers:

- Environmental Water Account EIS/EIR - evaluated water transfers from 2003 through 2007.
- Environmental Water Account Supplemental EIS/EIR - evaluated transfers for the 2008 transfer season.
- 2009 Drought Water Bank Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) - evaluated CVP-related transfers that occurred under the 2009 Drought Water Bank.
- 2010-2011 Water Transfer Program EA and FONSI – evaluated through-Delta water transfers for 2010 and 2011 water years. Because of wetter hydrologic conditions, no transfers occurred in 2010 or 2011.
- 2013 Water Transfers EA and FONSI – evaluated through-Delta groundwater substitution transfers in 2013.
- 2014 SLDMWA Water Transfers EA and FONSI – evaluated through Delta transfers made available from groundwater substitution or cropland idling.

Reclamation has also completed multiple EAs that focus on in-basin transfers. In 2010, Reclamation signed two FONSIs for accelerated water transfers and exchanges from 2011 through 2015. One covered transfers between CVP South of Delta Contractors and the other covered transfers between Friant Division and Cross Valley CVP Contractors. Reclamation also worked with the Exchange Contractors, the CEQA lead agency, to complete an EIS/EIR to examine the environmental impacts of the transfer and exchange of the Exchange Contractors CVP water (up to 130,000 acre-feet [AF] per year for the next ten years) within the SLDMWA service area from 2005 through 2014. In 2014, Reclamation completed the 2014 Tehama-Colusa Canal Authority EA and FONSI to assess groundwater substitution and cropland idling transfers within from Sacramento Valley water users to the Tehama-Colusa Canal Authority. Other EAs have been completed for individual, in-basin and out-of-basin transfers.

Reclamation works cooperatively with the California Department of Water Resources (DWR) to develop the *Technical Information for Preparing Water Transfer Proposals* document that provides sellers and buyers with transfer information needed for Reclamation and DWR to facilitate transfers according to CVPIA and State law. Reclamation and DWR have published the paper each year since 2009 and plan to release it annually in the future with updated information on water transfers.

SLDMWA has negotiated water transfers in past years on behalf of the member agencies. SLDMWA member agencies have been identified as a potential buyer in all Reclamation's past transfer programs and many have purchased water in previous years.

While not the subject of this analysis except with regard to cumulative effects, transfers of SWP water have also occurred frequently in the past. DWR facilitates transfers for SWP contractors. DWR has operated several Drought Water Banks to support water transfers during drier hydrologic years, the most recent in 2009. For the 2009 Drought Water Bank, DWR solicited participants and helped connect buyers and sellers. DWR does not plan to implement banks in the future, but continues to facilitate water transfers for SWP contractors. SWP contractors currently identify and negotiate water transfers and submit transfer proposals to DWR.

1.1.2 Regulations Regarding Transfers

1.1.2.1 Federal

The Biological Opinions (BOs)[1] on the Coordinated Operations of the CVP and SWP (U.S. Fish and Wildlife Service [USFWS] 2008; National Oceanic and Atmospheric Administration Fisheries Service [NOAA Fisheries] 2009) analyze transfers through the Delta from July to September that are up to 600,000 AF in critical and dry years. For all other year types, the maximum transfer amount is up to 360,000 AF. Transfers that exceed these amounts or are outside the transfer window would require new BOs. For this EIS/EIR, annual transfers would not reach this capacity and would likely stay in the range of up to 100,000 to 200,000 AF of water transferred annually to buyers.

Several lawsuits were filed challenging the validity of the 2008 USFWS and 2009 NOAA Fisheries BOs and Reclamation's acceptance of the Reasonable and Prudent Alternative (RPA) included with each (Consolidated Salmonid Cases, Delta Smelt Consolidated Cases). The District Court issued findings that concluded Reclamation had violated NEPA by failing to perform any NEPA analysis before provisionally adopting the 2008 USFWS RPA and 2009 NOAA Fisheries RPA. On December 14, 2010, the District Court found the 2008 USFWS BO to be unlawful and remanded the BO to USFWS. The District Court issued a similar ruling for the 2009 NOAA Fisheries BO on September 20, 2011. On March 13, 2014, the United States Court of Appeals for the Ninth Circuit affirmed in part and reversed in part the finding from the District Court on the USFWS BO. The Court of Appeals upheld the determination that Reclamation must complete NEPA analysis, but it reversed the finding that the scientific basis for the BO was arbitrary and capricious. The NOAA Fisheries BO is the subject of a future review from the Court of Appeals. Until the legal issues are resolved and new BOs are completed (if necessary), the 2008 USFWS and 2009 NOAA Fisheries BOs will guide operations of potential water transfers.

Reclamation approves transfers consistent with provisions of the CVPIA and State law that protect against injury to third parties as a result of water transfers. According to the CVPIA Section 3405(a), the following principles must be satisfied for any transfer:

- Transfer may not violate the provisions of Federal or state law;

[1] A written statement setting forth the opinion of the USFWS or the NOAA Fisheries Service as to whether a federal action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of a critical habitat. See 16 USCA 1536(b).

- Transfer may not cause significant adverse effects on Reclamation's ability to deliver CVP water to its contractors;

- Transfer will be limited to water that would be consumptively used or irretrievably lost to beneficial use;

- Transfer will not have significant long-term adverse impact on groundwater conditions;

- Transfer will not adversely affect water supplies for fish and wildlife purposes. Reclamation will not approve any water transfer for which these basic principles have not been adequately addressed; and

- Transfer water must be made available in accordance with the seller's surface water monthly diversion schedule. For example, if the seller's monthly diversion for July is 10,000 AF, then only up to that amount can be transferred in July.

1.1.2.2 State

Several sections of the California Water Code provide authority to carry out transfers. Importantly, Section 1745.07 specifically indicates that transfers fitting within that portion of the Water Code are deemed to be a beneficial use of water and not to interfere with water rights. Section 1745 et seq. also defines types of transfers allowed and protections of water rights and third parties against water transfers. Water Code Section 1810 prohibits owners of conveyance facilities from denying use of unused capacity for transfers upon fair compensation and further specifies that "use of a water conveyance facility is to be made without injuring any legal user of water and without unreasonably affecting fish, wildlife, or other in-stream beneficial uses and without unreasonably affecting the overall economy or the environment of the county from which the water is being transferred."

1.1.2.3 Local

County governments also have requirements related to transferring water outside of the county, primarily related to groundwater extraction. Reclamation requires transfer participants to comply with local requirements (including ordinances relating to well drilling, well spacing, and groundwater extraction) and local groundwater management plans, as well as compliance with adjudications and with the overdraft protections in Water Code Section 1745 et seq.

1.2 Purpose of the Report

This Alternatives Development Report documents the process to develop the EIS/EIR alternatives. The Lead Agencies are using this structured planning process to delineate a reasonable range of alternatives for evaluation in the EIS/EIR in compliance with NEPA and CEQA.

Chapter 2
Alternatives Development Process

Both NEPA and CEQA require EISs and EIRs, respectively, to identify a reasonable range of alternatives. To identify and screen alternatives, a structured, documented process was developed that included internal and public scoping (Figure 2-1).



Figure 2-1.
Alternatives Development and Screening Process

2.1 NEPA Purpose of and Need for Action/CEQA Project Objectives

The purpose and need statement (under NEPA) and project objectives (under CEQA) describe the underlying need for and purpose of a proposed project. This statement is a critical part of the environmental review process because it helps to set the overall direction of an EIS/EIR, identify the range of reasonable alternatives, and focus the scope of analysis. The Lead Agencies developed the following purpose and need/basic project objectives statement.

2.1.1 Purpose and Need

The purpose of the Proposed Action is to facilitate and approve voluntary water transfers from willing sellers upstream of the Delta to water users south of the Delta and in the San Francisco Bay Area. Water users have the need for immediately implementable and flexible supplemental water supplies to alleviate shortages.

2.1.2 Project Objectives

As required by CEQA, a lead agency must identify the objectives sought by the proposed project. SLDMWA has developed the following objectives for long-term water transfers through 2024:

- Develop supplemental water supply for member agencies during times of CVP shortages to meet existing demands.

- Meet the need of member agencies for a water supply that is immediately implementable and flexible and can respond to changes in hydrologic conditions and CVP allocations.

Because shortages are expected due to hydrologic conditions, climatic variability, and regulatory requirements, transfers are needed in most, if not all years.

2.2 Measure Identification

The public provided comments on the scope of the EIS/EIR during the public scoping period. Some of these comments include suggestions for specific measures intended to address the purpose and need/basic project objectives. The Lead Agencies reviewed the purpose and need/basic project objectives, public scoping comments, scientific data, and previous studies in their initial effort to brainstorm measures. This resulted in an initial list of measures in Table 2-1 (described in more detail in Chapter 3).

Table 2-1.
Initial Measures

Measures	Measure Description
Agricultural Water Use Efficiency (Buyer Service area)	Increase agricultural water use efficiency in buyer service area to reduce agricultural water use, including improvements to agricultural systems to increase recapture and reuse of irrigation water
Agricultural Water Use Efficiency (Upstream from Delta Region)	Increase agricultural water use efficiency in seller service area to reduce agricultural water use
Conservation – Municipal & Industrial	Increase water conservation for municipal and industrial uses in buyer service area to reduce water demands
Desalination - brackish	Desalinate brackish groundwater supplies and distribute to Buyer Service area to develop new supply
Desalination - seawater	Desalinate seawater and distribute to Buyer Service area to develop new water supply
Reclamation - nonpotable reuse	Treat wastewater for agricultural water use in Buyer Service area
Reclamation - indirect potable reuse (IPR)	Advance treat wastewater and store in groundwater basins for future potable reuse
Cropland Idling Transfers-rice, field crops, and grains	Idle croplands and transfer irrigation water to buyers
Cropland Idling Transfers-pasture and alfalfa	Idle pasture and alfalfa fields and transfer irrigation water to buyers
Land retirement in San Joaquin Valley	Permanently retire lands in San Joaquin Valley and transfer irrigation water to other croplands
Groundwater substitution	Pump groundwater for irrigation rather than use surface water supplies, and transfer surface water to buyers
New surface storage	Build new surface storage facilities to store water for buyers
Groundwater storage	Build new facilities to recharge and extract groundwater for use in Buyer Service area, or expand existing groundwater storage programs by expanding recharge and extraction facilities
Water rights purchase	Purchase water rights for permanent transfer of water

Measures	Measure Description
Crop shifting	Shift from a higher water use crop to a lower water use crop and transfer incremental decrease in water use to buyers
Rice decomposition water	Use alternate method to decompose rice straw and transfer rice decomposition water to buyers
Reservoir release	Transfer available water stored in existing, non-CVP or SWP reservoirs
Transfers within the Buyer Service Area	Implement water transfers between buyers and sellers within the Buyer Service area
Groundwater development	Develop new groundwater supplies by constructing new wells and pumps in the Buyer Service area
Modify CVP and SWP contracts	Change CVP and SWP contracts to limit water use in the Buyer Service area
Change cropping patterns in San Joaquin Valley	Plant lower water use crops or increase fallowed land in the Buyer Service area
Limit dairy and cattle ranches in San Joaquin Valley	Limit dairy and cattle ranches in San Joaquin Valley to decrease water use
Enforce seniority system to manage deliveries	Deliver water supplies based on seniority of water rights
Implement policy of no net increase in water availability for expansion	Prohibit use of CVP supplies for newly developed urban or agricultural lands
Pipe water from Canada and northern states	Purchase water and build distribution system to deliver water from northern states to buyers
Fix Owens Valley	Increase water supply available from Owens Valley

2.3 Screening Methods

The Lead Agencies determined that they should screen the initial list of measures before combining the measure into alternatives. The agencies wanted to carry forward measures that had some potential to contribute to the purpose and need/basic project objectives. They based the measure evaluation and screening on NEPA and CEQA guidance:

- NEPA requires that agencies shall "rigorously explore and objectively evaluate all the reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (40 Code of Federal Regulations [CFR] Part 1502.14(a)). The Department of the Interior NEPA procedures (43 CFR Part 46.420(b)) define reasonable alternatives as "alternatives that are technically and economically practical or feasible and meet the purpose and need of the proposed action."

- CEQA Guidelines section §15126.6(a) states, "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project…" An EIR need not consider every conceivable alternative to a project or alternatives that are infeasible. (CEQA Guidelines, §15126.6(a).) State CEQA Guidelines section 15364 defines feasible as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

Both NEPA and CEQA include provisions that alternatives meet (or meet most of) the purpose and need/basic project objectives, and be potentially feasible. Some alternatives do not fully meet the purpose and need/project objectives, but may be carried forward for additional analysis because they have potential to minimize some types of environmental effects or help create a reasonable range of alternatives for consideration by decision-makers.

The Lead Agencies determined that they would screen the alternatives based on their ability to meet key elements of the purpose and need/basic project objectives:

- Immediate: the term proposed for this EIS/EIR is 2015 through 2024. This period is relatively short, and measures need to be able to provide some measurable benefit within this time period.

- Flexible: project participants need water in some years, but not in others. They need measures that have the flexibility to be used only when needed.

- Provide Water: project participants need measures that have the capability of providing additional water to regions that are experiencing shortages.

Measures need to meet these three criteria to move forward for further evaluation.

2.4 Alternatives Development

The Lead Agencies screened the measures by applying the screening criteria to each measure based on available information and best professional judgment. The measures that will move forward for more detailed analysis in the EIS/EIR are those that best meet the NEPA purpose and need and CEQA basic project objectives, minimize negative effects, are feasible, and represent a range of reasonable alternatives. Chapter 4 describes the screening results in more detail.

The Lead Agencies combined the remaining measures into alternatives. The remaining measures represent potential methods to transfer water. The alternatives examine different combinations of transfer types, with different potential maximum quantities of transfers.

Chapter 3
Measures

This chapter describes measures identified for the alternatives development process. As described in Section 2.2, these measures were developed based on existing studies, past water transfer actions, and public comments received during the scoping period. Chapter 4 includes an evaluation of the measures relative to the purpose and need for long-term water transfers.

3.1 Agricultural Water Use Efficiency (Buyer Service Area)

For the agricultural water use efficiency (WUE) measure in the Buyer Service Area, districts or farmers would increase irrigation efficiency by implementing best management practices (BMPs) to reduce applied water on crops. This measure would also include improvements to agricultural systems to increase recapture and reuse of irrigation water. Reclamation requires CVP contractors to implement cost-effective, BMPs to manage water use. The CVPIA of 1992 and Section 210(b) of the Reclamation Reform Act of 1982 requires the preparation and submittal of a Water Management Plan from certain entities that enter into a repayment contract or water service contract with the Reclamation. Each plan is required to be updated every five years. Reclamation develops criteria to evaluate plans prepared by CVP contractors to meet the water conservation requirements. Criteria require contractors to identify BMPs for efficient water use and an implementation plan.

This measure would increase WUE above current and proposed practices identified in the water management plans. Districts and farmers would need to identify and invest in additional district-level or on-farm practices to improve irrigation efficiencies.

3.2 Agricultural Water Use Efficiency (Upstream from Delta)

Under this measure, districts or farmers could implement agricultural WUE practices and transfer water savings to the Buyer Service Area. Water savings would be transferrable only if it is considered irrecoverable. Irrecoverable losses include water that currently flows to a salt sink, the ocean, an inaccessible or degraded aquifer, or the atmosphere (CALFED 2000). If the water saving is recoverable, the water can be reused and is not a true savings. Water can only be transferred if there is a reduction in beneficial use; therefore, recoverable losses do not qualify for a transfer. Sellers must prove that the water savings is irrecoverable in order to sell the water for transfer. This measure would also include improvements to agricultural systems to increase recapture and reuse of irrigation water. This measure would increase WUE above the current practices, and for CVP contractors, above the current and proposed practices identified in the water management plans (see Section 3.1).

3.3 Conservation - Municipal and Industrial

Under this measure, agencies in the Buyer Service Area would implement municipal and industrial (M&I) conservation actions to reduce water demands above those that are ongoing or proposed. Santa Clara Valley Water District (WD), East Bay Municipal Utility District (MUD), and Contra Costa WD serve large urban areas in the San Francisco Bay Area and currently implement M&I conservation programs and include demand reduction measures in long-term planning documents:

- In its *2009 Water Use Efficiency Strategic Plan*, Santa Clara Valley WD set numeric targets for water conservation by year 2030 (Santa Clara Valley WD 2008). To achieve conservation targets, Santa Clara Valley WD launched several programs to encourage conservation in homes, businesses, and for landscaping, including a rebate program. Details can be found on the Water Conservation website (www.scvwd.dst.ca.us/programs/waterconservation.aspx).

- East Bay MUD summarized conservation efforts in the *East Bay Water 2010-A Status report on Local Water Use and Water Supplies* (East Bay MUD 2010). To meet the state-wide goal for a 20 percent reduction in water use by 2040, East Bay MUD has implemented the WaterSmart Center (East Bay MUD 2011a). The WaterSmart Center serves as a platform for residential and commercial rebates and programs focused on conservation.

- Contra Costa WD offers several programs for the water consumer to encourage water conservation practices, including rebates for water-smart appliances, lawn & landscaping schedules, and a home water survey. Water conservation program details can be found on the Contra Costa WD conservation website (www.ccwater.com/conserve).

These agencies have determined that they have a demand for transfers in addition to the actions that they are already undertaking related to conservation. For conservation to address potential shortages, it would need to be above the conservation efforts already planned by each agency.

3.4 Desalination

Desalination would create additional water supply through the treatment of seawater or brackish groundwater. Desalination would require water agencies to either construct a new facility or expand an existing facility. Buyers would use the desalinated water to make up for reduced deliveries of CVP water.

3.4.1 Desalination - Brackish

A brackish groundwater desalination facility would require new wells and a reverse osmosis treatment plant to pump and treat brackish groundwater from a basin within the Buyer Service Area. The treated water then would need to be conveyed to water users through new or existing distribution systems. The desalination facility would need to dispose of brine left over from the treatment process. Brine is typically discharged into the ocean; however, alternative inland brine

disposal processes may be available such as evaporation ponds, deep well injection, or disposal to a salt sink.

3.4.2 Desalination - Seawater

Seawater desalination is fundamentally similar to brackish groundwater desalination but utilizes a coastal treatment plant that draws nearby seawater as the source. The Bay Area Regional Desalination Project (BARDP) is currently being developed by the Contra Costa WD, East Bay MUD, San Francisco Public Utilities Commission, and Santa Clara Valley WD. The BARDP evaluation selected three potential locations for desalination. The highest ranking plant would be co-located with the existing Mirant Power Plant near the confluence of the Sacramento River, New York Slough, and the San Joaquin River. A pilot study was conducted at Mallard Slough from October 2008 through April 2009, to evaluate potential treatment types for the BARDP. Results from the study indicated that desalination is feasible in the region and that site selection is an important part of the design process (MWH 2010). Three potential transfer buyers are participating in the BARDP.

3.5 Water Recycling and Reuse

Water recycling creates new water supply through either the treatment of wastewater for non-potable uses or by recharging groundwater aquifers with advanced treated wastewater for future extraction for potable uses (indirect potable reuse [IPR]). Both recycling and reuse options require a wastewater source, treatment, and distribution facilities.

3.5.1 Reclamation - Nonpotable Reuse

This measure would provide recycled water for irrigation, landscaping, or other suitable uses. A new or expanded existing tertiary treatment plant would be needed to treat wastewater. This measure would also require construction of pipelines to convey recycled water to new users. Most of the urban districts in the Buyer Service Area have existing wastewater treatment plants and use recycled water within their service area. Plans also exist to increase recycled water use. East Bay MUD developed the Water Supply Management Program 2040 long-term plan to meet future water supply needs, which includes the goal of increasing recycled water use to 11 million gallons per day (East Bay MUD 2011b). Santa Clara Valley WD works with wastewater authorities that operate four wastewater treatment plants in Santa Clara County. Santa Clara Valley WD also has plans to expand recycled water use in the coming years, including working with the City of San Jose to build an advanced water treatment facility that will produce up to ten million gallons per day (Santa Clara Valley WD 2011).

3.5.2 Reclamation - Indirect Potable Reuse

In an IPR project, wastewater that has undergone advanced treatment is stored in a groundwater basin for future potable use. This measure would require construction of an advanced wastewater treatment plant, groundwater recharge and extraction facilities, and a transmission system to connect the facilities. The term “indirect” implies that the highly-treated recycled water does not enter the potable distribution system directly. The treated wastewater would be injected into the groundwater basin through wells or placed in spreading basins to percolate into an aquifer. With adequate residence time, the treated water and groundwater would blend, undergo natural

settling/treatment, and then be extracted for potable water supply. Extracted water quality must meet Regional Water Quality Control Board standards.

3.6 Cropland Idling Transfers

This measure involves idling cropland and transferring the irrigation water to the Buyer Service Area. Cropland idling water would be available on the same pattern throughout the growing season as it would have been consumed had a crop been planted. The quantity of water made available from cropland idling is determined based on the evapotranspiration of applied water (ETAW). ETAW is the portion of applied surface water that is utilized by the crop and evaporated from the soil and plant surfaces.

For this alternatives development process, cropland idling measures are separated into two categories based on type of crops eligible for transfers. The first crop idling measure includes rice, field crops, and grain crops, which have been idled in past transfer programs. The second crop idling measure includes pasture and alfalfa, which Reclamation has generally not allowed to participate in transfers in the past because of water accounting challenges.

3.6.1 Cropland Idling Transfers - Rice, Field Crops, and Grains

Table 3-1 shows ETAW values for rice, field, and grain crops that are eligible for idling. The ETAW value, less carriage water losses, would be transferred to the buyer. The irrigation season generally extends from April through September; surface water could be made available during the entire irrigation period. However, because of the regulated transfer period, water can only be moved through the Delta during July through September. Reclamation does not guarantee water prior to July can be stored in CVP reservoirs; therefore, the buyer may only receive a portion of the cropland idling transfer water (ETAW from July through September).

Table 3-1.
Estimated ETAW Values (in AF/acre) For Various Crops Suitable for Idling

Crop	ETAW
Bean	1.5
Corn	1.8
Cotton	2.3
Melon	1.1
Milo	1.6
Onion	1.1
Pumpkin	1.1
Rice	3.3
Sudan Grass	3.0
Sugar Beets	2.5
Sunflower	1.4
Tomato	1.8
Vine Seed/ Cucurbits	1.1
Wild Rice	2.0

Source: DWR and Reclamation 2013

3.6.2 Cropland Idling Transfers - Pasture and Alfalfa

Alfalfa and pasture idling have been excluded from past transfer programs due to regional variation in ETAW values. Alfalfa is a perennial crop, and is typically grown for three to four years until yields decline. An alfalfa transfer program would require managers to follow typical harvest and growing practices in spring and early summer. Fields must then be completely disced by July 1 to prevent deep roots from using groundwater during summer months. Water that would have been used to irrigate in July through September would then be made available for transfer. Alfalfa has an ETAW of 1.7 AF/acre from July through September, but only alfalfa grown in the Sacramento Valley floor north of the American River would be allowed for transfers.

Pasture is also a multi-year crop, but the type and quality of pasture may vary significantly. This makes it difficult to assign a specific ETAW value for pasture idling. Like with alfalfa idling, pasture managers would irrigate through spring and early summer, disc fields by July 1, and then generate transfer water July through September. Pasture ETAW would need to be determined on a case-by-case basis.

3.7 Land Retirement in San Joaquin Valley

Land retirement in San Joaquin Valley involves permanently retiring lands from agricultural production and transferring the irrigation water to the buyer. Reclamation is implementing a land retirement program through the San Luis Unit Drainage Program, which retires land in drainage impaired areas of the San Joaquin Valley. The program aims to retire 194,000 acres of farmland (Reclamation 2006). This measure would retire land in addition to that proposed for the existing program.

3.8 Groundwater Substitution

This measure involves North of Delta sellers pumping groundwater for irrigation in lieu of using their surface water supply. Surface water would then be transferred to the buyer. Transfer water from groundwater substitution would be made available during the irrigation season from April through October. If Reclamation cannot store water prior to the transfer season, irrigators could use surface water from April through June and switch to groundwater in July when surface water can be transferred.

3.9 New Surface Storage

This measure includes building new surface storage facilities to store additional CVP water that could increase CVP deliveries to the Buyer Service Area and reduce potential shortages. Reclamation and DWR are partnering on five surface storage projects that were identified in the CALFED Record of Decision. One project (Los Vaqueros Reservoir Expansion) is already complete and fully utilized; therefore, it does not have available capacity to meet the purpose and need for this effort. The remaining project studies are in various phases of environmental review and feasibility study.

Shasta Lake Water Resources Investigation. This project proposes to raise Shasta Dam to increase water storage for agricultural, M&I, and environmental purposes and encourage Sacramento River salmon population growth. Reclamation has released a public draft EIS/EIR and feasibility report and is working to address comments and finalize these documents (Reclamation 2012).

North-of-the-Delta Offstream Storage. This project proposes to build Sites Reservoir, a new off-stream reservoir in Glenn County, to store additional CVP and SWP water supplies. Reclamation and DWR released a Preliminary Administrative Draft EIS/EIR and Preliminary Engineering Design Report in May 2014 (DWR 2014). The agencies are continuing work towards public draft documents.

In-Delta Storage Project. This project would construct new storage in the Delta region provided by two storage islands and two habitat islands. DWR and Reclamation completed the In-Delta Storage Program State Feasibility Study in 2004 and Draft Supplemental Feasibility Report in 2006. Further work on the In-Delta Storage Project has been suspended since July 2006 (DWR 2013).

Upper San Joaquin River Basin Storage Investigation. This project would construct new storage in the Upper San Joaquin River watershed to expand water storage capacity, increase reliability, and contribute to restoration efforts. Current efforts are focused on a new dam and reservoir between Friant and Kerckhoff dams (Reclamation 2014). Reclamation released a Draft Feasibility Report in February 2014 and is scheduled to complete a Draft EIS/EIR later in 2014 (Reclamation 2014).

3.10 Groundwater Storage

Groundwater storage could include construction of new groundwater storage facilities or becoming a banking partner with an existing groundwater bank. Groundwater banking is defined as the intentional storage of supplies in subsurface aquifers with the expectation of a subsequent retrieval for beneficial use by the depositor (Reclamation 2008). Groundwater storage would allow buyers to acquire and store water throughout the year and carry water over from a wet year to a subsequent dry year when they may experience shortages.

New groundwater storage includes the construction of new facilities to recharge and extract groundwater for use in Buyer Service Area. Groundwater storage requires the ability to recharge water into a groundwater basin and extract it later to return water to the banking partner. Buyers could also increase participation in existing groundwater banks, which would involve negotiating a lease agreement with an entity that operates a groundwater banking program. The agreement would require payment for use of recharge and extraction facilities, as well as charges for occupying or reserving the storage space.

3.11 Water Rights Purchase

A water rights purchase would involve the purchase of an appropriative water right from a private party for the permanent transfer of water to the buyer. The quantity and terms of the water right would become transferrable water. Water rights could either be purchased within the Buyer Service Area or upstream from the Delta. The water rights holder would cease use of the water, which could result in retired agricultural lands. A water rights purchase would require a legal contract and conveyance infrastructure to move water to the Buyer Service Area, if existing infrastructure or exchange agreement is not available. Few water rights purchases have occurred in the region.

3.12 Delta Conveyance

New Delta conveyance includes changes to the existing through Delta CVP and SWP conveyance system to improve water supply deliveries to south of Delta contractors. New conveyance facilities could address restrictions on Delta exports and help reduce associated shortages. The Bay Delta Conservation Plan (BDCP) is investigating potential options for Delta conveyance, including facilities that would divert water from the north Delta and move water it through tunnels to the south Delta. The Draft BDCP and associated Draft EIS/EIR are available for public review.

3.13 Crop Shifting in the Seller Service Area

Crop shifting is the practice of substituting a low water use crop for a high water use crop. The difference in water use from the shift would be available for transfer. Farmers generally rotate between several crops to maintain soil quality, and it may be difficult to predict what would have been planted absent a transfer. To calculate the amount of water made available from crop shifting, agencies would compare the change in consumptive water use (see ETAW values, Table 3.1) during the transfer year to the average water use during a five-year baseline period.

3.14 Rice Decomposition Water

Traditional management practices for rice straw decomposition require surface water diversions in the fall and winter months to flood harvested fields. Under this measure, farmers would use alternate methods to decompose rice straw, such as mechanical chopping and discing or bailing, and would transfer the water that would have been used for flooding to the buyer. About one AF per acre is used for flooding fields. Rice decomposition water is used in the fall and winter after the July-September transfer window. If a transfer occurs, water would need to be stored until the following July, which would put it at risk of spill. The consumptive use of rice decomposition available for transfer is not yet determined.

3.15 Reservoir Release

Reservoir release transfers involve the transfer of available water stored in existing non-CVP or -SWP reservoirs. Transferred water would be limited to the quantity that would not have otherwise been released downstream.

When the willing seller releases stored reservoir water for transfer, these reservoirs are drawn down to levels lower than without the water transfer. To refill the reservoir, a seller must prevent some flow from going downstream. Sellers must refill the storage at a time when downstream users would not have otherwise captured the water, either in downstream Project reservoirs or with Project pumps in the Delta. Typically, refill can only occur during Delta excess conditions when there is more water than the Projects can pump. Additionally, if the non-Project reservoir has a Project reservoir downstream, refill must occur at a time when the Project reservoir cannot capture the water because of flood storage requirements in the reservoir.

3.16 Transfers within the Buyer Service Area

This measure would transfer water from water users within the Buyer Service Area. Transfer participants would shift CVP water supplies to meet irrigation demand or M&I requirements. Transfers occur frequently within the Buyer Service Area. Reclamation has developed EAs to facilitate implementation of in-basin transfers without additional environmental analysis. The first EA covered transfers from 2006 through 2010 for CVP contractors south of the Delta and in the Friant Division. Reclamation has completed two new EAs to continue in-basin transfers from 2011 through 2015:

- 2011-2015 Accelerated Water Transfers and Exchanges between South of Delta Contractors for Contract Years 2011to 2015 as outlined in 2010 EA (Reclamation 2010a).

- Accelerated Water Transfer Program for Friant Division and Cross Valley CVP Contractors from 2011to 2015 as outlined in 2010 EA (Reclamation 2010b).

Reclamation also worked with the Exchange Contractors, the CEQA lead agency, to complete an EIS/EIR to examine the environmental impacts of the transfer and exchange of the Exchange Contractors CVP water (up to 130,000 AF per year for the next ten years) within the SLDMWA service area from 2005 through 2014. Other EAs have been completed for individual, in-basin transfers.

This measure contemplates transfers above those that are already implemented under existing programs.

3.17 Groundwater Development

Under this measure, additional groundwater development would be used to offset CVP delivery reductions. Groundwater development would require the construction of new wells and pumps in the Buyer Service Area to increase groundwater production.

Much of the groundwater resources in the region are already managed through ongoing activities such as the Westlands Water District Groundwater Management Plan (Westlands Water District 1996) and the Santa Clara Valley WD Groundwater Management Plan (Santa Clara Valley WD 2012). Generally, in the Buyer Service Area, groundwater levels fluctuate over time. Monitoring shows substantial drawdown in drier years when more users turn to groundwater supplies because surface water supplies are limited (Westlands Water District 2012, DWR 2006, Santa Clara Valley WD 2012). This action would include groundwater extraction in addition to what is already occurring under existing conditions.

3.18 Modify CVP Contracts

This measure would change CVP contracts to limit water use in the buyer service area. CVP contract modifications would focus on reducing demands in the Buyer Service Area to reduce potential shortages in the future. Such reduction would likely result in land retirement and reduced agricultural production.

3.19 Change Cropping Patterns in San Joaquin Valley

This measure would encourage farmers to plant lower water use crops or increase fallowed land to reduce water demands in the Buyer Service Area. San Joaquin Valley farmers would alter cropping patterns to reduce water deliveries during shortage periods. Such changes would be in addition to those implemented annually by farmers who select crops in response to both water and market conditions. The number of acres now improved with permanent crops either limits cropping pattern change flexibility in the short term or must consider the economic effects of sacrificing investments in the permanent crops.

3.20 Limit Dairies in San Joaquin Valley

This measure would limit the number of dairies in the Buyer Service Area to decrease water demand. Dairy operations would need to relocate to areas outside of the Buyer Service Area. The land could not be used for a different purpose that would involve consumptive use of water to allow the action to produce water to help address shortages.

3.21 Enforce Seniority System to Manage Deliveries

This measure would enforce seniority systems to manage deliveries and water supply would be delivered based on seniority of water rights. CVP deliveries are based on a seniority system

where settlement contractors receive waters first and M&I contractors typically receive a higher allocation than agricultural users when supplies are limited.

3.22 Implement Policy of No Net Increase in Water Availability for Urban or Agricultural Expansion

This measure proposes implementing a policy of no net increase in CVP water availability for urban or agricultural expansion. CVP water could not be used to support new urban development or increase the amount of irrigated land in production. This measure would limit CVP water use to existing urban and agricultural uses.

3.23 Pipe Water from Canada and Northern States

This measure would involve the purchase of water from Washington, Oregon, and Canada. A new water source would need to be identified and a purchase contract would need to be implemented that involves crossing state and/or Federal boundaries. Construction of new distribution facilities would be required to deliver purchased water to the Buyer Service Area.

3.24 Fix Owens Valley

The Owens Valley is a main water source for the City of Los Angeles. The city diverts most of the surface water in the valley into the Owens River–Los Angeles Aqueduct system. Additionally, ground water is pumped or flows from wells to supplement the surface-water diversions to the river–aqueduct system. Increased exports caused water levels in the valley to decline and resulted in substantial losses of native vegetation and habitat degradation. The Los Angeles Department of Water and Power is working with local agencies and stakeholders in Inyo County to restore vegetation and improve water management, including conjunctive use of groundwater and surface water supplies. Under this measure, the city would implement identified restoration programs to maintain water supplies from Owens Valley to serve city demands.

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Chapter 4
Measures Screening Evaluation

4.1 Screening Evaluation

The screening process described in Chapter 2 was applied to all measures. As described in Section 2.3, the Lead Agencies developed three criteria to address the purpose and need statement and basic project objectives:

- Immediate: the term proposed for this EIS/EIR is 2015 through 2024. This period is relatively short, and measures need to be able to provide some measurable benefit within this time period.

- Flexible: project participants need water in some years, but not in others. They need measures that have the flexibility to be used only when needed.

- Provide Substantial Water: project participants need measures that have the capability of providing additional water to regions that are experiencing shortages.

If a measure did not meet a criterion, it was considered a fatal flaw and screened out from further consideration. Measures that met all purpose and need criteria move forward to the alternatives formulation phase. The following sections present the evaluation of each measure relative to the above screening criteria. Chapter 3 defines each measure.

4.1.1 Agricultural Water Use Efficiency (Buyer Service Area)

Immediate: no
Flexible: yes
Provide Substantial Water: no

As described in Section 3.2, CVP contractors currently implement WUE BMPs, as required by CVPIA Section 3405(e). Reclamation also supports WUE through the WaterSMART program. This measure proposes additional WUE to existing and proposed plans. As part of the existing plans, CVP contractors have already implemented (or are currently implementing) WUE measures. Additional measures would generally require substantial infrastructure and investment and would not be immediately implementable. Flexibility depends on how the measures are implemented; WUE could be flexible, but the flexibility decreases when the measures are implemented for permanent crops.

The purpose and need for water transfers is to provide additional water to reduce shortages. Buyers are taking actions to address shortages, such as WUE measures, within the No Action/No Project, and these measures would help users accommodate shortages but would not provide any additional supply. Implementing agricultural WUE in the Buyer Service Area would not provide water to users with existing demands affected by CVP shortages.

4.1.2 Agricultural Water Use Efficiency (Upstream from Delta)

Immediate: yes
Flexible: yes
Provide Substantial Water: yes

This measure would be both immediate and flexible upstream from the Delta for measures such as weed control. Agricultural WUE practices can be implemented relatively quickly. Sellers would need to prove that water saved is irrecoverable and reduces a beneficial use. Water could then be sold to buyers. Buyers could call on the transfer annually as needed. Transfer water would provide water to existing demands in the Buyer Service Area to reduce potential shortages.

4.1.3 Conservation – M&I

Immediate: yes
Flexible: yes
Provide Substantial Water: no

Buyers serving urban demands currently implement M&I conservation measures and have incorporated additional measures in long-range plans to meet conservation goals. Measures could generally be implemented within the project timeframe. Conservation could occur year round and implemented in any year. Similar to agricultural WUE, implementing additional M&I conservation in the Buyer Service Area would not provide water to meet existing demands affected by CVP shortages. Additionally, implementing conservation measures in addition to existing planned measures would be challenging because M&I conservation goals are very high under existing conditions.

4.1.4 Desalination – Brackish

Immediate: no
Flexible: yes
Provide Substantial Water: yes

This measure would not be immediate to provide water to reduce shortages from 2015 to 2024. Planning, pilot testing, design, permitting, and construction of a brackish water desalination plant and distribution system take many years. Brackish water desalination would be flexible if the basin is influenced by seawater and water is available year-round for extraction and treatment. This measure could provide enough water to reduce CVP shortages.

4.1.5 Desalination - Seawater

Immediate: no
Flexible: yes
Provide Substantial Water: yes

Planning, pilot testing, design, permitting, and construction of an ocean water desalination plant and distribution system takes many years. The BARDP is still in the planning process. Therefore, operation of ocean water desalination plant would not occur in time to provide substantial benefits during the 2015 to 2024 timeframe. Ocean water desalination would be flexible as water is available year round and could provide enough water to reduce CVP shortages.

4.1.6 Reclamation - Nonpotable Reuse

Immediate: no
Flexible: yes
Provide Substantial Water: yes

Non-potable reuse requires identifying a wastewater source, planning, design, and construction of a wastewater treatment plant, and conveyance to agricultural distribution systems. This measure would not be implemented to provide benefits during the entire 2015 to 2024 timeframe. This measure would be flexible because recycled water would be available year round. Assuming an adequate wastewater source can be identified, this measure would provide water to reduce shortages.

4.1.7 Reclamation - Indirect Potable Reuse

Immediate: no
Flexible: yes
Provide Substantial Water: yes

An IPR project would provide a new potable water source. IPR projects require feasibility studies, pilot studies, design, construction and often a lengthy public education and outreach program. An IPR project would not be implemented in time to provide benefits during the entire 2015 to 2024 timeframe. Water provided by an IPR project would be flexible because it would be pumped from the groundwater basin as needed. Assuming an adequate wastewater source can be identified, this measure would provide water to reduce shortages.

4.1.8 Cropland Idling Transfers - Rice, Field, Grain Crops

Immediate: yes
Flexible: yes
Provide Substantial Water: yes

Cropland idling transfers can occur immediately in that farmers can choose to idle land generally up to the time of planting. Water would be transferred the starting in July of the same year. Cropland idling transfers are also flexible because buyers can use rainfall in the winter months to help predict CVP water needs for the irrigation season. If the transfer water is no longer needed or export capacity appears to be restrictive, buyers could opt out of the transfer without a very large investment. Multi-year contracts would likely include an option fee, but it would not be as large as if infrastructure were developed and no longer needed. Cropland idling can also provide a substantial amount of water for transfer. The Sacramento Valley has extensive irrigated crop acreage and past transfers actions have shown that farmers are willing to idle land and sell irrigation water.

4.1.9 Cropland Idling Transfers - Pasture and Alfalfa

Immediate: yes
Flexible: yes
Provide Substantial Water: yes

Similar to cropland idling for rice, field, and grain crops, pasture and alfalfa idling would also be immediate, flexible and provide water to reduce CVP shortages. Some areas of alfalfa, including the Delta Region and the Sacramento River area south of the American River confluence, would not be allowed for idling because groundwater levels in these regions are relatively high and fields intended for idling may consume groundwater. In these instances, alfalfa idling would not result in a reduction of consumptive use. Because of water accounting issues, Reclamation must evaluate alfalfa idling transfers on an individual basis.

Pasture idling would have less certainty than alfalfa, and would be difficult to verify that consumptive use has been reduced to make water available for transfer. For this reason, pasture transfers are screened out.

4.1.10 Land Retirement in the San Joaquin Valley

Immediate: no
Flexible: no
Provide Substantial Water: no

Under the San Luis Drainage Feature Re-evaluation, Reclamation is working to retire 194,000 acres of drainage impaired farmland. Irrigation water for retired lands will be distributed to other lands in the San Luis Unit. This measure proposes to retire additional land above the 194,000 acres. Identifying and negotiating land retirement agreements with willing landowners would take several years to implement. This measure is not flexible because land would go out of irrigated agricultural production permanently. Further, land retirement does not provide additional water to address basin-wide CVP shortages, but rather provides a way for users to address shortages in the No Action/No Project Alternative.

4.1.11 Groundwater Substitution

Immediate: yes
Flexible: yes
Provide Substantial Water: yes

Under this measure, sellers in the Upstream from Delta Region would use groundwater in lieu of surface water supplies. Surface water would be transferred to the Buyer Service Area. Groundwater substitution transfers would be both immediate and flexible. Farmers can turn on and off groundwater pumps and switch between surface and groundwater supplies at any time. Similar to cropland idling transfers, buyers can negotiate groundwater substitution transfers in the year of the transfer and have flexibility to opt of out the transfer if water is not needed. Groundwater basins in the Upstream from Delta Region can provide substantial amounts of water for local irrigators and allow for CVP water to be transferred to the Buyer Service Area to reduce potential shortages.

4.1.12 New Surface Storage

Immediate: no
Flexible: yes
Provide Substantial Water: yes

Reclamation is investigating new storage opportunities that could increase CVP deliveries. The studies are in the planning phases and projects would not likely be implemented to provide benefits from 2015 through 2024. Once implemented, storage projects would provide water and be flexible.

4.1.13 Groundwater Storage

Immediate: yes
Flexible: yes
Provide Substantial Water: no

This measure would be implemented in the Buyer Service Area. Developing new groundwater storage would require construction of recharge, extraction, and conveyance facilities and could not occur immediately. Participation in existing banks, however, could move forward immediately with existing facilities. Once fully implemented, the measure could be flexible because farmers can pump groundwater for irrigation when needed. The success of groundwater storage, however, depends on having an available source of water to recharge and withdraw later during shortages. Agencies in the Buyer Service Area face water shortages in most years and would not have additional water available for recharge. Without an adequate source of recharge water, this measure would not provide sufficient water to reduce CVP shortages.

4.1.14 Water Rights Purchase

Immediate: no
Flexible: yes
Provide Substantial Water: no

This measure would require identifying and negotiating water right purchases with interested sellers. Few water rights sales have occurred in past years. It may take several years to identify sellers and provide enough water to provide benefits to CVP contractors and undertake the legal process to purchase the water right. Therefore, this measure would not be immediate or provide water.

4.1.15 Delta Conveyance

Immediate: no
Flexible: yes
Provide Substantial Water: yes

Reclamation is studying Delta conveyance measures through the BDCP process. The BDCP is in the early stages of the planning process. It is not likely that a measure would provide be implemented during the 2015 though 2024 timeframe. New Delta conveyance would be flexible and provide water to south of Delta contractors because it would not have the same pumping restrictions that currently exist at Jones and Banks pumping plants.

4.1.16 Crop Shifting in Seller Service Area

Immediate: yes
Flexible: yes
Provide Substantial Water: yes

Similar to cropland idling, crop shifting would also be immediate and flexible. Crop shifting would generally provide less water than a crop idling transfer on a per acre basis; however, because of the extensive irrigated acreage and crop variability in the Sacramento Valley, crop shifting transfer could potentially provide a substantial amount of water to reduce CVP shortages.

4.1.17 Rice Decomposition Water

Immediate: yes
Flexible: yes
Provide Substantial Water: no

Rice water decomposition transfers would be immediate and flexible. Buyers can negotiate with sellers on an annual basis prior to fall flooding. The transfers would be flexible because buyers could opt out if transfer water is not needed. The Sacramento Valley has extensive rice acreage that is flooded during the fall. The schedule of when this water is available, however, means that it cannot provide substantial water when it is needed. Water would be available in the fall after the irrigation season in which it is needed.

4.1.18 Reservoir Release

Immediate: yes
Flexible: yes
Provide Substantial Water: yes

Some agencies in the Upstream from Delta Region have local (non-CVP) reservoirs that could provide water for transfer. Under this measure, sellers would release water stored in local reservoirs for transfer through the Delta to the Buyer Service Area. Water eligible for transfer would not have otherwise been released downstream. Reservoir release transfers are both immediate and flexible. Water would be released from an existing reservoir and conveyed using existing infrastructure. Buyers would have the option of calling on transfers annually prior to the irrigation season and can opt out if needed. This measure could provide water to reduce potential CVP shortages.

4.1.19 Transfers within Buyer Service Area

Immediate: yes
Flexible: yes
Provide Substantial Water: no

Buyers currently transfer water within the basin to help reduce the effects of CVP delivery reductions. Additional transfers could be immediate and flexible to assist water users in selecting where limited water will be applied but would not provide substantial water to reduce CVP shortages. Even after in-basin transfers occur, CVP contractors continue to face shortages.

4.1.20 Groundwater Development

Immediate: no
Flexible: yes
Provide Substantial Water: no

This measure would be implemented in the Buyer Service Area. Groundwater development would require planning, locating, and installing new wells and conveyance to on-farm systems. Planning and construction of the new system would not likely be developed prior to 2015. Once installed, groundwater use is flexible because farmers can turn pumps on or off as needed. New groundwater development in the Buyer Service Area would not provide a substantial supply to water users to reduce CVP shortages. In response to the previous dry years and reduced CVP water supplies, users have pumped additional groundwater for irrigation. As a result, groundwater levels have reduced and typically do not recover without

additional recharge. Therefore, new groundwater development would not provide enough water annually to reduce CVP shortages.

4.1.21 Modify CVP Contracts

Immediate: no
Flexible: no
Provide Substantial Water: no

Reclamation has long-term contracts with CVP contractors and cannot modify contracts to reduce contract water supplies. This measure would not provide any water or flexibility to CVP contractors to meet a potential shortage.

4.1.22 Change Cropping Patterns in San Joaquin Valley

Immediate: yes
Flexible: yes
Provide Substantial Water: no

Changing cropping patterns would not reduce potential CVP shortages. Farmers commonly change cropping patterns as normal farm practices and to respond to reduced water supplies or market prices. In the San Joaquin Valley, many farmers have planted lower water use crops to reduce irrigation needs during a particular year. At the same time, in order to support their investments in WUE equipment and higher priced supplemental supplies, many farmers have now planted permanent crops that create the same demand in all years. This measure would not provide enough benefits to farmers experiencing shortages.

4.1.23 Limit Dairies in San Joaquin Valley

Immediate: no
Flexible: yes
Provide Substantial Water: no

This measure would limit new dairies in the Buyer Service Area. There are not many existing dairies in the Buyer Service Area. In addition, Reclamation would need to work with counties or cities to enforce relocation or a policy to restrict new farms. Furthermore, to the extent such farms have an allocation of irrigation water, removing those uses would not necessarily change the need for water to irrigate the same acres. This measure would not provide much, if any, water to alleviate shortages.

4.1.24 Enforce Seniority System to Manage Deliveries

Immediate: no
Flexible: no
Provide Substantial Water: no

Modifying deliveries would need to occur after long-term contracts have expired. Under current contracts, CVP contractors do receive water based on seniority. Settlement and exchange contractors receive water before other CVP contractors. Regardless of seniority, modifying contracts would not provide any additional water. CVP contractors in the Buyer Service Area would continue to face shortage in dry years and due to regulatory restrictions.

4.1.25 Implement Policy of No Net Increase in Water Availability for Agricultural and Urban Expansion

Immediate: no
Flexible: no
Provide Substantial Water: no

This measure would not be immediate or flexible. Agricultural land in the San Joaquin Valley is considered to be fully developed; therefore, a no net increase policy would not be effective for agricultural water supplies. Buyers have also stated they plan to use water for existing demands and transfers would not be used to meet new demands. This measure would also not provide any water to CVP contractors to meet existing demands during a shortage.

4.1.26 Pipe Water from Canada and Northern States

Immediate: no
Flexible: yes
Provide Substantial Water: yes

This measure requires purchasing a water source from Canada or northern states, including Oregon, Washington, or Idaho, and transporting the water to the Buyer Service Area. Infrastructure would be required to move water. This measure would take years to negotiate and implement and would not provide benefits during the 2015 to 2024 timeframe. This measure would be flexible if the water can be called on when needed. This measure would provide water to reduce CVP shortages in the Buyer Service Area.

4.1.27 Fix Owens Valley

Immediate: no
Flexible: no
Provide Substantial Water: no

CVP contractors do not receive water from Owens Valley; therefore, this measure would not be flexible or provide water to reduce CVP shortages.

4.2 Screening Results

Table 4-1 summarizes the screening evaluation results. An "x" indicates that the measure met the criterion. A "-" indicates the criterion was not met and the measure was screened out for further analysis.

Table 4-1.
Screening Evaluation Results

Transfer Measures	Purpose and Need Criteria		
	Immediate	Flexible	Provides water
Agricultural water use efficiency (Buyer Service Area)	-	X	-
Agricultural water use efficiency (Upstream from Delta)	X	X	X
Conservation – municipal & industrial	X	X	-
Desalination - brackish	-	X	X
Desalination - seawater	-	X	X
Reclamation - nonpotable reuse	-	X	X
Reclamation - indirect potable reuse	-	X	X
Cropland idling transfers- rice, field crops, grains	X	X	X
Cropland idling transfers-pasture and alfalfa	X	X	X
Land retirement in San Joaquin Valley	-	-	-
Groundwater substitution	X	X	X
New surface storage	-	X	X
Groundwater storage	X	X	-
Water rights purchase	-	X	-
Delta conveyance	-	X	X
Crop shifting in Seller Service Area	X	X	X
Rice decomposition water	X	X	-
Reservoir release	X	X	X

Transfer Measures	Purpose and Need Criteria		
	Immediate	Flexible	Provides water
Transfers within the Buyer Service Area	X	X	-
Groundwater development	-	X	-
Modify CVP contracts	-	-	-
Change cropping patterns in San Joaquin Valley	X	X	-
Limit dairies in San Joaquin Valley	-	X	-
Enforce seniority system to manage deliveries	-	-	-
Implement policy of no net increase in water availability for urban or agricultural expansion	-	-	-
Pipe water from Canada and northern states	-	X	X
Fix Owens Valley	-	-	-

4.3 Measures Carried Forward to Alternatives Formulation

The following measures met all purpose and need criteria and will be combined into alternatives to be analyzed in the EIS/EIR:

- Agricultural WUE (Upstream from Delta)
- Cropland Idling Transfers - rice, field crops, grains
- Cropland Idling Transfers - alfalfa
- Groundwater Substitution
- Crop Shifting
- Reservoir Release

Chapter 5
Alternatives

This chapter presents alternatives developed based on the evaluation described in Chapter 4. Alternatives for the EIS/EIR include different combinations of potential measures and a No Action/No Project Alternative. Transfers would only be implemented through agreements between willing sellers and buyers. The alternatives propose a menu of measures that buyers and sellers can select from to implement a transfer. Some measures in an alternative may not be implemented if there are no willing sellers or buyers interested in that particular measure. The next steps in alternative development will identify willing sellers, proposed transfer measures, and potential quantities for transfer. The Lead Agencies have identified preliminary sellers and transfer quantities for each alternative.

Reclamation's role would be to facilitate transfers that comply with Federal and state law and would not include negotiating transfer measures among buyers and sellers. SLDMWA, on behalf of its member agencies, and other interested buyers would negotiate transfers with willing sellers, including agreeing upon transfer measures and quantities included in the proposed alternatives.

5.1 Alternative 1 – No Action/No Project

CEQA requires an EIR to include a No Project Alternative. CEQA Guidelines Section 15126.6(e)(2) states that "the "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." NEPA requires an EIS to "include the alternative of no action" (40 CFR Part 1502.14(d)).

The No Action/No Project Alternative represents the state of the environment without the Proposed Action or any of the alternatives. Under the No Action/No Project Alternative, some agricultural and urban water users may face potential shortages in the absence of water transfers. To the extent transfer water is not available; there will be demand will go unmet by surface water. Demand may be met by increasing groundwater pumping, idling cropland, reducing landscape irrigation, or rationing water.

5.2 Alternative 2 – Full Range of Transfers

This alternative combines all potential transfer measures that met the purpose and need and were carried forward through the screening process, as identified in Chapter 4. Measures in the Full Range of Transfers Alternative include:

- Agricultural WUE (Upstream from Delta Region)
- Cropland idling transfers – rice, field, grains
- Cropland idling transfers – alfalfa
- Groundwater substitution
- Crop shifting
- Reservoir release

Table 5-1 identifies preliminary sellers and transfers under this alternative. The quantities represent the upper limit for transfer. Because of the uncertainty of hydrologic and operating conditions in the future, it is likely that only a portion of the potential transfers identified in Table 5-1 would occur. Additionally, many agencies are uncertain about whether they would participate through groundwater substitution or cropland idling/crop shifting transfers. They have included their potential upper limit for both types of transfers, but they would not sell the maximum amount of both types in the same year. Entities requiring Reclamation approval that are not listed in this table may decide that they are interested in selling water, but those transfers may require supplemental NEPA and Endangered Species Act analysis to allow Reclamation to complete the evaluation of the transfers. This alternative would be the least restrictive for buyers and sellers and provides the most potential water by offering the whole range of transfer measures. No sellers for rice water decomposition transfers have been identified at this time, but could potentially occur in the future under this alternative.

Table 5-1.
Alternative 2 Potential Sellers (Upper Limits)

Water Agency	April – June				July - September			
	Groundwater Substitution	Cropland Idling/ Crop Shifting	Stored Reservoir Release	Conservation	Groundwater Substitution	Cropland Idling/Crop Shifting	Stored Reservoir Release	Conservation
Sacramento River Area of Analysis								
Anderson-Cottonwood Irrigation District	2,613				2,613			
Conaway Preservation Group	21,550	7,899			13,450	13,450		
Cordua Irrigation District					12,000			
Cranmore Farms	5,140	925			2,860	1,575		
Eastside Mutual Water Company	1,067				1,163			
Glenn-Colusa Irrigation District	12,500	24,420			12,500	41,580		
Natomas Central Mutual Water Company	15,000				15,000			
Pelger Mutual Water Company	2,151	939			1,599	1,599		
Pleasant Grove-Verona Mutual Water Company	8,000	3,330			10,000	5,670		
Reclamation District 108	7,500	7,400			7,500	12,600		
Reclamation District 1004		3,700			7,175	6,300		
River Garden Farms	4,000				5,000			
Sycamore Mutual Water Company	7,500	3,700			7,500	6,300		
Te Velde Revocable Family Trust	2,700	2,581			4,394	4,394		
American River Area of Analysis								
City of Sacramento					5,000			
Placer County Water Agency							47,000	

Water Agency	April – June				July - September			
	Groundwater Substitution	Cropland Idling/ Crop Shifting	Stored Reservoir Release	Conservation	Groundwater Substitution	Cropland Idling/Crop Shifting	Stored Reservoir Release	Conservation
Sacramento County Water Agency					15,000			
Sacramento Suburban Water District	15,000				15,000			
Yuba River Area of Analysis								
Browns Valley Irrigation District							5,000	3,100
Feather River Area of Analysis								
Butte Water District					5,500	11,500		
Garden Highway Mutual Water Company	6,500				7,500			
Gilsizer Slough Ranch	1,500				2,400			
Goose Club Farms and Teichert Aggregates	4,000	3,700			6,000	6,300		
South Sutter Water District							15,000	
Tule Basin Farms	3,800				3,520			
Merced River Area of Analysis								
Merced Irrigation District							30,000	
Delta Region Area of Analysis								
Reclamation District 2068	2,250	2,775			2,250	4,725		
Pope Ranch	1,400				1,400			
Total[1]	124,171	61,369	0	0	166,324	115,993	97,000	3,100

Note:

[1] These totals cannot be added together. Agencies could make water available through groundwater substitution, cropland idling, or a combination of the two; however, they will not make the full quantity available through both methods. Table 5-1 reflects the total upper limit for each agency.

5.3 Alternative 3 – No Cropland Modifications

The No Cropland Modifications Alternative includes the following measures:

- Agricultural WUE (Upstream from Delta Region)
- Reservoir release
- Groundwater substitution

The Lead Agencies developed this alternative because buyers are not certain they are interested in cropland idling and crop shifting transfers due to operational restrictions. Buyers would need to purchase the entire ETAW for a cropland idling or shifting transfer; however, they may only receive the portion of ETAW during the July through September transfer period.

Table 5-2 identifies preliminary sellers and transfers under Alternative 3. Similar to Table 5-1, the quantities in Table 5-2 are maximum amounts and would not likely be transferred each year. Alternative 3 includes less water to be transferred than Alternative 2.

Table 5-2.
Alternative 3 Potential Sellers (Upper Limits)

Water Agency	April – June			July - September		
	Groundwater Substitution	Stored Reservoir Release	Conservation	Groundwater Substitution	Stored Reservoir Release	Conservation
Sacramento River Area of Analysis						
Anderson-Cottonwood Irrigation District	2,613			2,613		
Conaway Preservation Group	21,550			13,450		
Cordua Irrigation District				12,000		
Cranmore Farms	5,140			2,860		
Eastside Mutual Water Company	1,067			1,163		
Glenn-Colusa Irrigation District	12,500			12,500		
Natomas Central Mutual Water Company	15,000			15,000		
Pelger Mutual Water Company	2,151			1,599		
Pleasant Grove-Verona Mutual Water Company	8,000			10,000		
Reclamation District 108	7,500			7,500		
Reclamation District 1004				7,175		
River Garden Farms	4,000			5,000		
Sycamore Mutual Water Company	7,500			7,500		
Te Velde Revocable Family Trust	2,700			4,394		
American River Area of Analysis						
City of Sacramento				5,000		
Placer County Water Agency					47,000	
Sacramento County Water Agency				15,000		
Sacramento Suburban Water District	15,000			15,000		
Yuba River Area of Analysis						
Browns Valley Irrigation District					5,000	3,100
Feather River Area of Analysis						
Butte Water District				5,500		
Garden Highway Mutual Water Company	6,500			7,500		
Gilsizer Slough Ranch	1,500			2,400		

Water Agency	April – June			July - September		
	Groundwater Substitution	Stored Reservoir Release	Conservation	Groundwater Substitution	Stored Reservoir Release	Conservation
Goose Club Farms and Teichert Aggregates	4,000			6,000		
South Sutter Water District					15,000	
Tule Basin Farms	3,800			3,520		
Merced River Area of Analysis						
Merced Irrigation District					30,000	
Delta Region Area of Analysis						
Reclamation District 2068	2,250			2,250		
Pope Ranch	1,400			1,400		
Total	124,171	0	0	166,324	97,000	3,100

5.4 Alternative 4 – No Groundwater Substitution

The No Groundwater Substitution Alternative includes the following measures:

- Agricultural WUE (Upstream from Delta Region)
- Cropland idling transfers– rice, field and grains
- Cropland idling transfers– alfalfa
- Crop shifting
- Reservoir release

Public comment received during the scoping period included many concerns regarding groundwater impacts associated with groundwater substitution transfers. The Lead Agencies have developed this alternative to address these comments and create an alternative that could reduce potential environmental effects of the Proposed Action. Table 5-3 identifies preliminary sellers and transfers under Alternative 3. The quantities in Table 5-3 are maximum amounts and would not likely be transferred each year. This alternative has the smallest quantity of water transferred.

Table 5-3.
Alternative 4 Potential Sellers (Upper Limits)

Water Agency	April – June			July - September		
	Cropland Idling/Crop Shifting	Stored Reservoir Release	Conservation	Cropland Idling/Crop Shifting	Stored Reservoir Release	Conservation
Sacramento River Area of Analysis						
Anderson-Cottonwood Irrigation District						
Conaway Preservation Group	7,899			13,450		
Cordua Irrigation District						
Cranmore Farms	925			1,575		
Eastside Mutual Water Company						
Glenn-Colusa Irrigation District	24,420			41,580		
Natomas Central Mutual Water Company						
Pelger Mutual Water Company	939			1,599		
Pleasant Grove-Verona Mutual Water Company	3,330			5,670		
Reclamation District 108	7,400			12,600		
Reclamation District 1004	3,700			6,300		
River Garden Farms						
Sycamore Mutual Water Company	3,700			6,300		
Te Velde Revocable Family Trust	2,581			4,394		
American River Area of Analysis						
City of Sacramento						
Placer County Water Agency					47,000	
Sacramento County Water Agency						
Sacramento Suburban Water District						
Yuba River Area of Analysis						
Browns Valley Irrigation District					5,000	3,100
Feather River Area of Analysis						
Butte Water District				11,500		
Garden Highway Mutual Water Company						
Gilsizer Slough Ranch						

Water Agency	April – June			July - September		
	Cropland Idling/Crop Shifting	Stored Reservoir Release	Conservation	Cropland Idling/Crop Shifting	Stored Reservoir Release	Conservation
Goose Club Farms and Teichert Aggregates	3,700			6,300		
South Sutter Water District					15,000	
Tule Basin Farms						
Merced River Area of Analysis						
Merced Irrigation District					30,000	
Delta Region Area of Analysis						
Reclamation District 2068	2,775			4,725		
Pope Ranch						
Total	61,369	0	0	115,993	97,000	3,100

Appendix B

Background

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Appendix B Background

This appendix includes information on the Central Valley Project (CVP), water providers that may want to buy water, Federal and State regulations regarding water transfers, and water transfer history.

B.1 Project Background

B.1.1 Reclamation and the CVP

Reclamation's Mid-Pacific Region is responsible for managing the CVP, which stores and delivers irrigation water to the Sacramento and San Joaquin valleys, water to cities and industries in Sacramento, the San Joaquin Valley, and the east and south Bay Areas. The CVP also delivers water to fish hatcheries and wildlife refuges throughout the Central Valley, and for protection, restoration and enhancement of fish, wildlife, and associated habitats in the Central Valley. Figure B-1 shows major CVP facilities and the CVP service area.

The CVP has approximately 270 water service contracts. CVP water allocations for agricultural, environmental, municipal and industrial (M&I) users vary based on factors such as hydrology, water rights, reservoir storage, environmental considerations, and operational limitations. Each year Reclamation determines the amount of water that can be delivered to each district and municipality based on conditions for that year. These allocations are expressed as a percentage of the maximum contract volumes of water according to the contracts, or historical use for M&I contractors in a water short year, held between Reclamation and the various water districts, municipalities, and other entities. Reclamation and the CVP contractors recognize that delivery of full contract quantities is not likely to occur every year (in most years). Table B-1 summarizes CVP allocations, as percentages of Contract Total, delivered to agricultural and M&I water contractors north and south of the Delta from 2000 through 2014. Water shortages lead to severe water constraints especially in the southern portion of the CVP.



Figure B-1.
Major CVP Facilities and CVP Service Areas

Table B-1.
CVP Water Supply Allocation Percentages 2000 through 2014

Year	Year Type[1]	Irrigation[2]		M&I	
		North of Delta (%)	South of Delta (%)	North of Delta (%)	South of Delta (%)
2000	AN	100	65	100	90
2001	D	60	49	85	77
2002	D	100	70	100	95
2003	AN	100	75	100	100
2004	BN	100	70	100	95
2005	AN	100	90	100	100
2006	W	100	100	100	100
2007	D	100	50	100	75
2008	C	40	40	75	75
2009	D	40	10	100	60
2010	BN	100	45	100	75
2011	W	100	80	100	100
2012	BN	100	40	100	75
2013	D	75	20	100[3]	70
2014	C	0	0	50	50
2015	C	0	0	25	25
2016	BN	100	5	100	55
2017	W	100	100	100	100
2018	--	100	50	100	70

Source: Reclamation 2014a

Notes:

[1] Based on the Sacramento Valley Water Year Index

[2] Includes water service contracts, does not include Sacramento River Settlement and San Joaquin River Exchange Contractors

[3] In 2013, American River M&I users received 75 percent of contract amount.

Key:

M&I = municipal and industrial
C = Critical
D = Dry
BN = Below Normal
AN = Above Normal
W = Wet

B.1.2 Water Agencies Requesting Transfers

A number of CVP contractors have identified interest in purchasing transfer water to reduce potential water shortages and have requested to be included in the Environmental Impact Statement/ Environmental Impact Report (EIS/EIR). Table B-2 summarizes all purchasing agencies, further referred to as buyers.

Table B-2.
Potential Buyers

San Luis & Delta-Mendota Water Authority Participating Members
Byron-Bethany Irrigation District
Del Puerto Water District
Eagle Field Water District
Mercy Springs Water District
Pacheco Water District
Panoche Water District
San Benito County Water District
San Luis Water District
Santa Clara Valley Water District
Westlands Water District
Contra Costa Water District
East Bay Municipal Utility District

San Luis Delta-Mendota Water Authority

San Luis Delta-Mendota Water Authority (SLDMWA) consists of 28 member agencies representing water service contractors and San Joaquin River Exchange Contractors. Figure B-2 shows the SLDMWA service area and identifies participating members included in Table B-2. Not all of SLDMWA member agencies are participating in this EIS/EIR.

Reclamation has an operation and maintenance agreement with SLDMWA to operate and maintain the physical works and appurtenances associated with the Jones Pumping Plant, the Delta-Mendota Canal, the O'Neill Pump/Generating Plant, the San Luis Drain, and associated works. One function SLDMWA serves is to negotiate and purchase water transfers with and on behalf of its member agencies when CVP allocations have been reduced and there is a need for supplemental water.

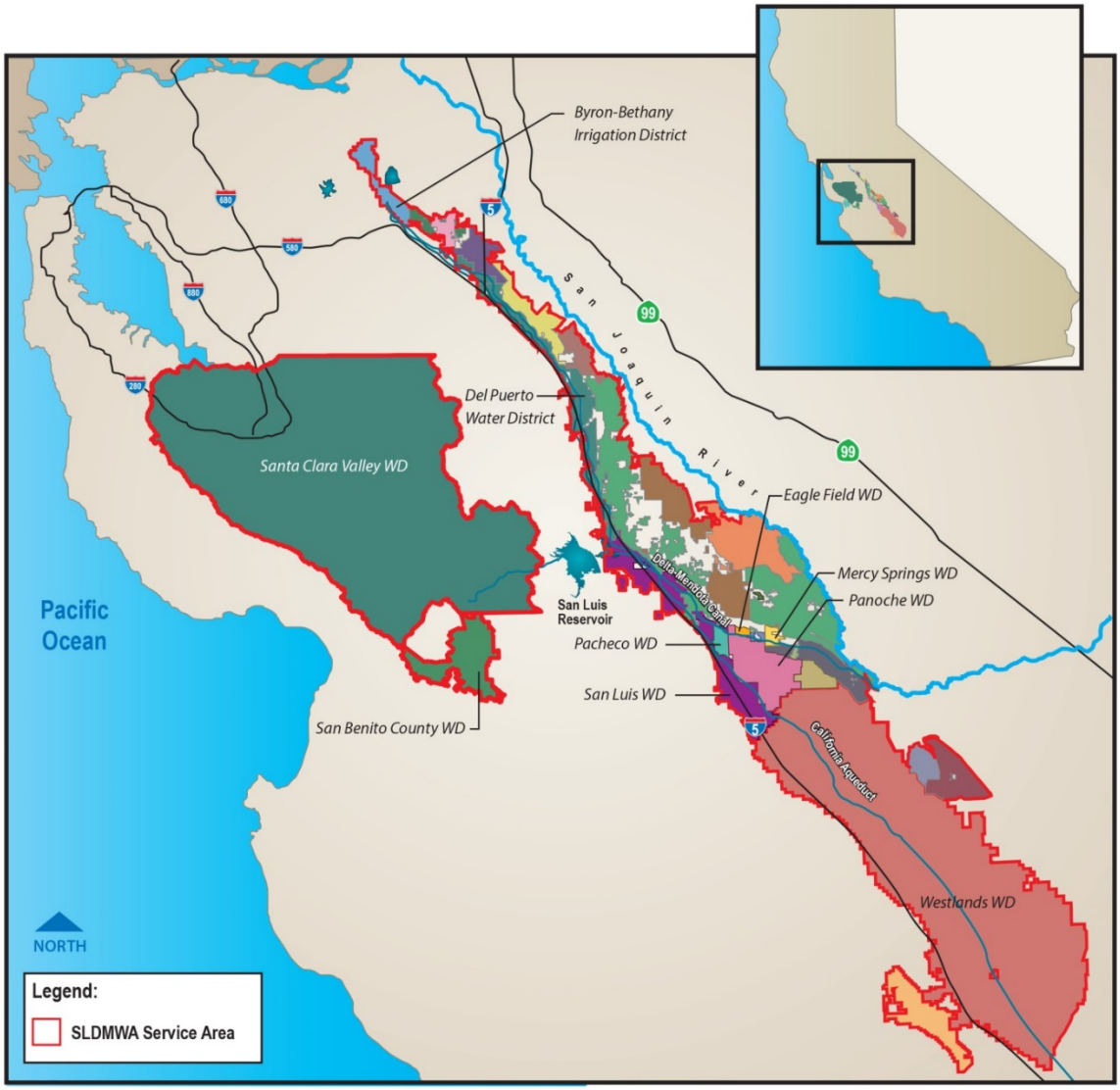


Figure B-2.
SLDWMA Service Area and Participating Member Agencies

The SLDMWA service area consists primarily of agricultural lands on the west side of the San Joaquin Valley. Agricultural water use occurs on approximately 850,000 irrigated acres. Water for habitat management occurs on approximately 120,000 acres of refuge lands, which receive approximately 250,000 to 300,000 acre-feet (AF) of water per year. Relative to agricultural uses, there is limited M&I water use in the San Joaquin Valley area. The majority of the M&I use in the SLDMWA service area occurs in the San Felipe Division, primarily the Santa Clara Valley Water District (WD). From 2001 to 2010, average annual M&I water use in the San Joaquin Valley area was about 22,000 AF and approximately 86,000 AF in the San Felipe Division.

As shown in Table B-1, south-of-Delta agricultural contractors, many of which are members of the SLDMWA, experience severe cutbacks in CVP allocations in most years. In 2009, deliveries were cut back to ten percent of Contract Total for agricultural water service contracts. In 2014 and 2015, agricultural water service contractors received a zero percent allocation. Note that the Exchange Contractors are not included in these allocations. SLDMWA member agencies use water transfers as a method to supplement water supplies in years when CVP allocations are reduced.

Contra Costa WD

The Contra Costa WD was formed in 1936 to purchase and distribute CVP water for irrigation and industrial uses. Today, the Contra Costa WD encompasses more than 214 square miles, serves a population of approximately 500,000 people in Central and East Contra Costa County, and is Reclamation's largest urban CVP contractor in terms of Contract Total. Figure B-3 shows the Contra Costa WD service area.

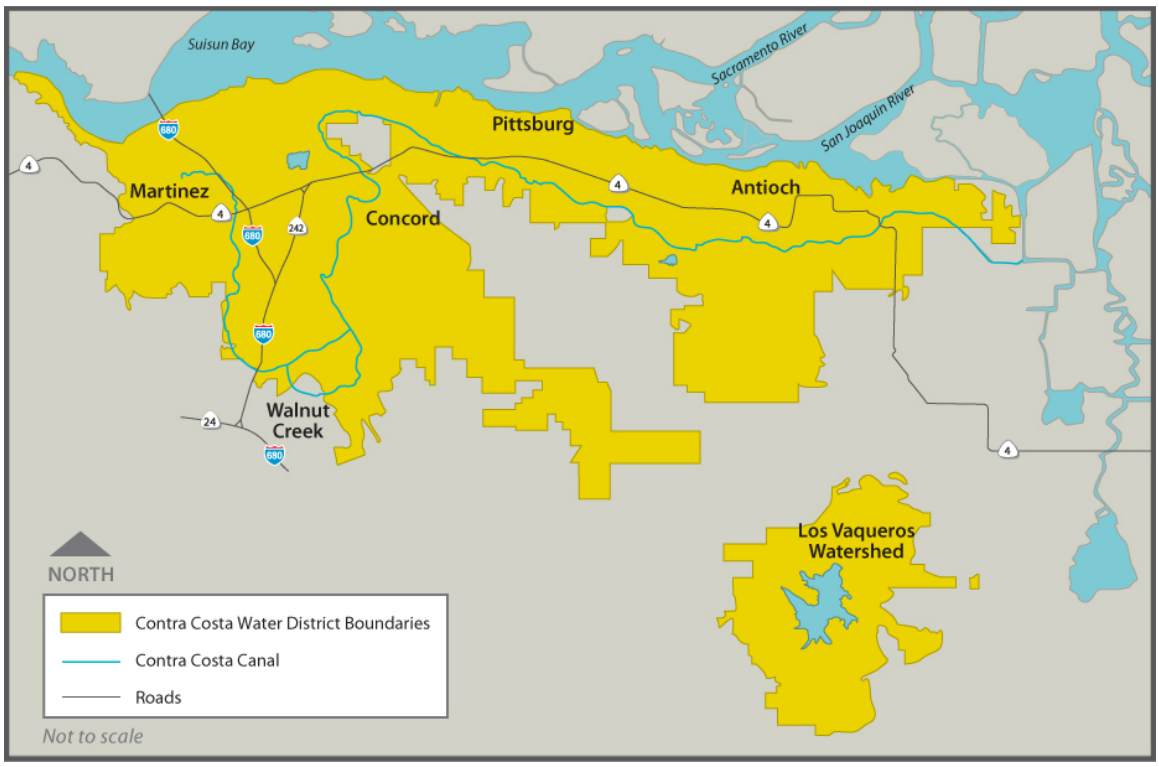


Figure B-3.
Contra Costa WD Service Area

Contra Costa WD is almost entirely dependent on diversions from the Delta. Pursuant to its water service contract with Reclamation, for its water supply. The 48-mile Contra Costa Canal conveys water throughout the service area. Contra Costa WD's long-term CVP contract with Reclamation was renewed in May 2005 and has a term of 40 years. The contract with Reclamation provides for a Contract Total of 195,000 AF per year from the CVP for M&I purposes, with a reduction during water shortages including

regulatory restrictions and drought. Contra Costa WD also has limited water supply from groundwater, recycled water, and some long-term water purchase agreements.

Figure B-4 shows Water Delivered to Contra Costa WD for the contract years 2001 through 2010. The figure shows that deliveries are typically well below the Contract Total of 195,000 AF.

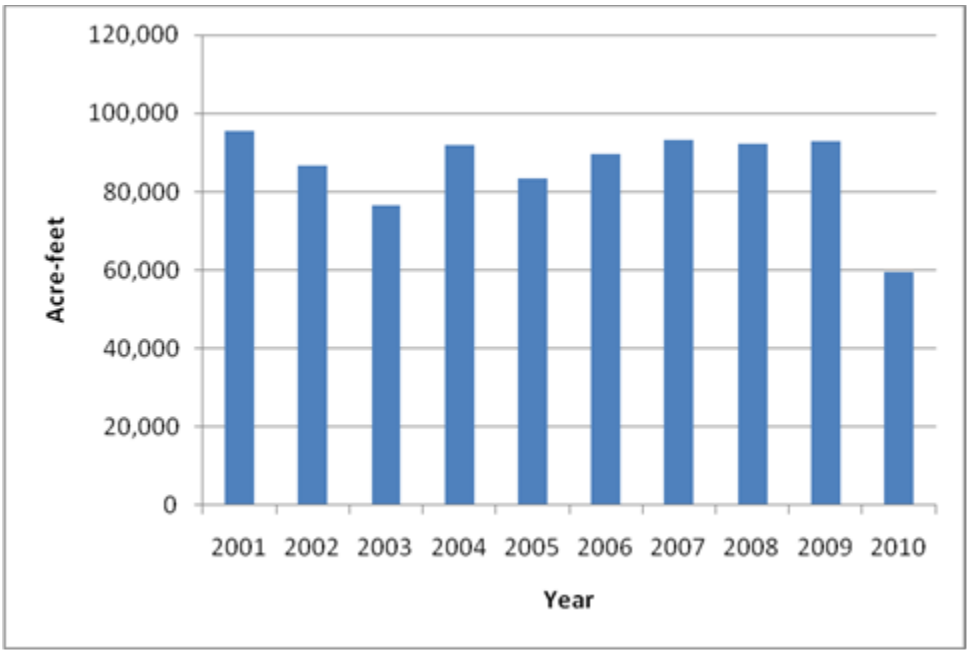


Figure B-4.
Water Delivered to Contra Costa WD, Contract Years 2001-2010

State Water Resources Control Board (SWRCB) Decision 1629 provides that Contra Costa WD may divert water under Permit No. 20749 from Old River to Los Vaqueros Reservoir from November through June during excess conditions in the Delta. Decision 1629 also specifies the maximum diversion rates at 250 cubic feet per second (cfs) and annual diversion to storage (95,800 AF annually at a rate of 200 cfs) by Contra Costa WD to Los Vaqueros Reservoir. These water rights are in addition to Contra Costa WD's CVP (195,000 AF) supply.

In the July 2011 Urban Water Management Plan (UWMP), Contra Costa WD estimates that CVP water supplies in the near term could be reduced from 170,000 AF in a normal year to 127,500 AF in a single year drought and 110,500 AF in the third year of a multi-year drought (Contra Costa WD 2011). The UWMP identifies use of water transfers to bridge the gap between supply and demand. Transfers would assist in meeting demands of existing customers during a drought and compensating them for possible reductions in the availability of CVP supplies (Contra Costa WD 2011).

East Bay Municipal Utility District (MUD)

East Bay MUD was organized in 1923 to provide water service to the east San Francisco Bay Area. Today, East Bay MUD provides water to approximately 1.4 million people over a 332 square mile area in Alameda and parts of Contra Costa counties. Figure B-5 shows the East Bay MUD service area.

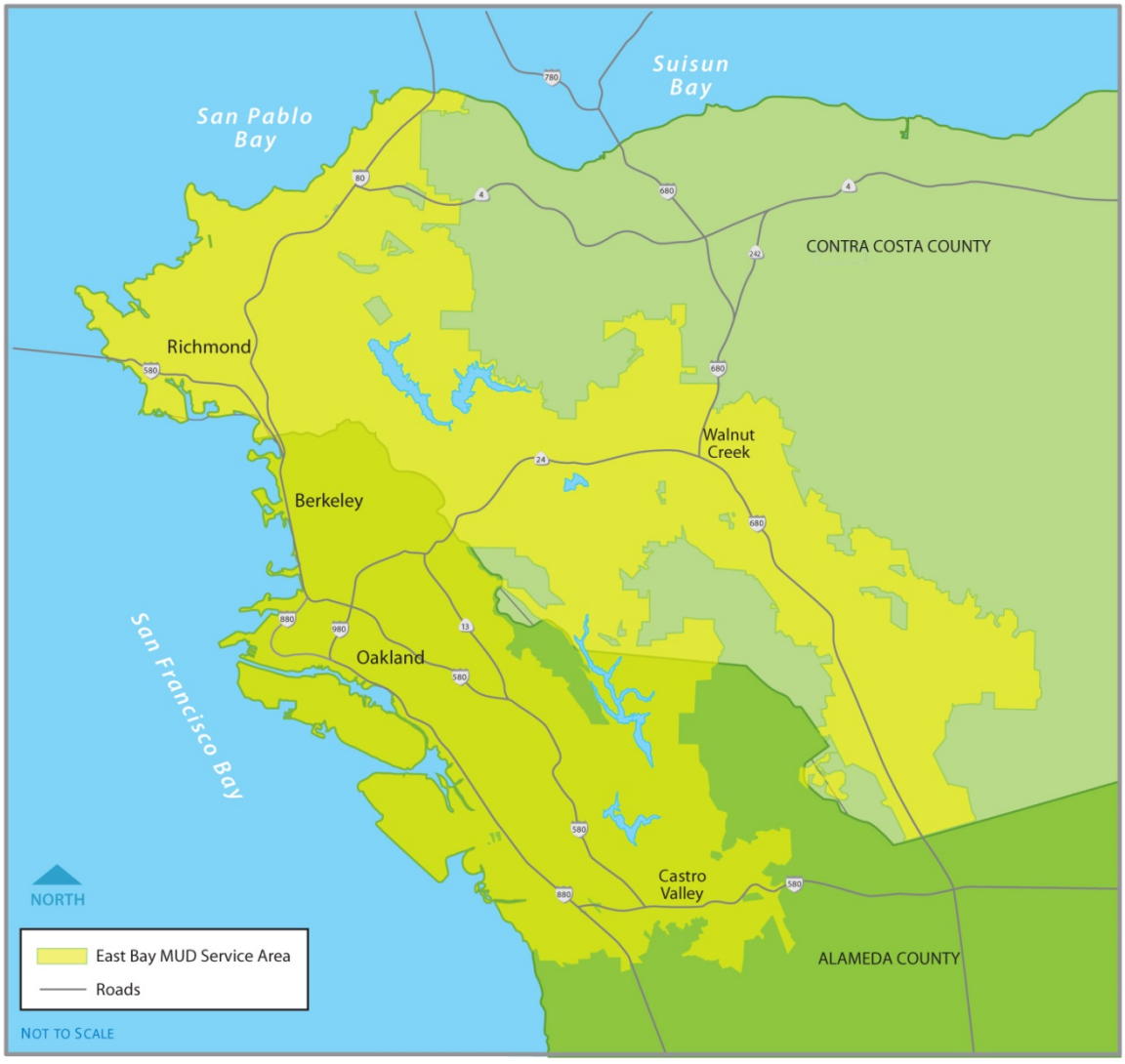


Figure B-5.
East Bay MUD Service Area

Ninety percent of East Bay MUD's water supply comes from the Mokelumne River watershed in the Sierra Nevada. In the long term, during drought, the Mokelumne River and local runoff cannot meet EBMUD's projected customer demands, even with mandatory water use restrictions.

In April 2006, EBMUD signed a Long Term Renewal Contract (LTRC) with USBR that has a term of 40 years. The LTRC provides for delivery of up to 133,000 AF in a single

qualifying year, not to exceed a total of 165,000 AF in three consecutive qualifying years. Qualifying years are those in which EBMUD's total stored water supply is forecast as of March 1 to be below 500 TAF on September 30 of that year. EBMUD will generally qualify for CVP deliveries during dry periods.

EBMUD exercised its LTRC and delivered CVP water for the first time during the 2014 2015 drought, with both deliveries subject to M&I water shortage allocations. In 2014, EBMUD received 18,641 acre-feet of CVP supply. In 2015, EBMUD received 33,250 acre-feet of CVP water.

East Bay MUD's Water Supply Management Program (WSMP) 2040 plan and 2015 UWMP both identify water transfers as a supplemental supply option to meet EBMUD's future dry year need for water, with transfer water diverted in dry years at the Freeport Project intake along the Sacramento River. EBMUD may seek short and long term water transfers to address supply deficiencies. (East Bay MUD 2015)

B.2 Federal and State Regulations Governing Water Transfers

This section discusses federal and state regulations relevant to water transfers. Local ordinances have been adopted in the sellers' service areas that address groundwater-related transfers. These local ordinances are discussed in Section 3.3, Groundwater Resources.

B.2.1 Federal Regulations

Central Valley Project Improvement Act (CVPIA) of 1992

The CVPIA[1] is a federal statute passed in 1992 with the following purposes:

> *"To protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California; To address impacts of the Central Valley Project on fish, wildlife and associated habitats; To improve the operational flexibility of the Central Valley Project; To increase water-related benefits provided by the Central Valley Project to the State of California through expanded use of voluntary water transfers and improved water conservation; To contribute to the State of California's interim and long-term efforts to protect the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; To achieve a reasonable balance among competing demands for use of Central Valley Project water, including the requirements of fish and wildlife, agricultural, municipal and industrial and power contractors."*

[1] Title 34 of Public Law 102-575, the Reclamation Projects Authorization and Adjustment Act of 1992, signed October 30, 1992.

The CVPIA granted the right to all individuals who receive CVP water (through contracts for water service, repayment contracts, water rights settlements, or exchange contracts) to sell this water to other parties for reasonable and beneficial purposes. According to the CVPIA Section 3405(a), the following principles must be satisfied for any transfer.

- Transfer may not violate the provisions of Federal or state law.
- Transfer may not cause significant adverse effects on Reclamation's ability to deliver CVP water to its contractors.
- Transfer will be limited to water that would be consumptively used or irretrievably lost to beneficial use.
- Transfer will not significantly adversely affect water supplies for fish and wildlife purposes.
- Transfers cannot exceed the average annual quantity of water under contract actually delivered to the contracting district or agency during the last three years of normal water delivery prior to the enactment of the CVPIA.

Reclamation must approve each transfer and will not approve a transfer if it will violate CVPIA principles and other state and federal laws. Reclamation issues its decision regarding potential CVP transfers in coordination with the U.S. Fish and Wildlife Service (USFWS), contingent upon the evaluation of impacts on fish and wildlife. A CVP transfer approval must be accompanied by appropriate documentation under National Environmental Policy Act (NEPA).

Biological Opinions on the Coordinated Operations of the CVP and SWP

On December 15, 2008, USFWS released a biological opinion on the effects of coordinated long-term operations of the CVP and State Water Project (SWP) on Delta smelt (USFWS 2008). The biological opinion concluded that continued long term operations of the CVP and SWP, as proposed, were "likely to jeopardize" the continued existence of delta smelt without further flow conditions in the Delta for their protection and the protection of designated delta smelt critical habitat. The USFWS developed a Reasonable and Prudent Alternative (RPA) aimed at protecting delta smelt, improving and restoring habitat, and monitoring and reporting results.

Similar to the USFWS biological opinion on delta smelt, National Oceanic Atmospheric Administration Fisheries Service (NOAA Fisheries) released a biological opinion on June 4, 2009 on the effects of continued long term coordinated operations of the CVP and SWP on listed andromous fish (NOAA Fisheries 2009). This biological opinion concluded that continued long term operations of the CVP and SWP, as proposed, were "likely to jeopardize" the continued existence of Sacramento River winter run Chinook salmon, Central Valley spring run Chinook salmon, Central Valley steelhead, and the southern Distinct Population Segment of North American green sturgeon and were "likely to destroy or adversely modify" designated or proposed critical habitat of these species. NOAA Fisheries also concluded that CVP and SWP operation both "directly

altered the hydrodynamics of the Sacramento-San Joaquin River basins and have interacted with other activities affecting the Delta to create an altered environment that adversely influences salmonid and green sturgeon population dynamics." The biological opinion identified an RPA to address these issues and protect anadromous fish species.

The Opinions included the following operational parameters applicable to water transfers:

- A maximum amount of water transfers is 600,000 AF per year in critical years and dry years (following dry or critical years). For all other year types, the maximum transfer amount is up to 360,000 AF.

- Transfer water will be conveyed through DWR's Harvey O. Banks (Banks) Pumping Plant or Jones Pumping Plant during July through September.

Several lawsuits were filed challenging the validity of the 2008 USFWS and 2009 NOAA Fisheries Biological Opinions and Reclamation's acceptance of the RPA included with each (Consolidated Salmonid Cases, Delta Smelt Consolidated Cases). The District Court issued findings that concluded Reclamation had violated NEPA by failing to perform any NEPA analysis before provisionally adopting the 2008 USFWS RPA and 2009 NOAA Fisheries RPA. On December 14, 2010, the District Court found the 2008 USFWS Biological Opinion to be unlawful and remanded the Biological Opinion to USFWS. The District Court issued a similar ruling for the 2009 NOAA Fisheries Biological Opinion on September 20, 2011. On March 13, 2014, the United States Court of Appeals for the Ninth Circuit affirmed in part and reversed in part the finding from the District Court on the USFWS Biological Opinion. The Court of Appeals upheld the determination that Reclamation must complete NEPA analysis, but it reversed on all arguments related to the adequacy of the Biological Opinion. On December 22, 2014, the United States Court of Appeals for the Ninth Circuit released similar findings related to the Consolidated Salmonid Cases and reversed the arguments about the adequacy of the Biological Opinion. Reclamation is working to complete NEPA analysis on the Biological Opinions, but the 2008 USFWS and 2009 NOAA Fisheries biological opinions will guide operations of potential water transfers.

B.2.2 State Regulations

Several sections of the California Water Code provide the SWRCB with the authority to approve transfers of water involving post-1914 water rights. The Water Code defines processes for short- and long-term water transfers. The SWRCB is responsible for reviewing transfer proposals and issuing petitions for temporary transfers related to post-1914 water rights. The SWRCB generally considers transfers of water under CVP water service or repayment contracts, water rights settlement contracts, or exchange contracts within the CVP place of use authorized in Reclamation's water rights to be internal actions and not subject to SWRCB review. Transfers of CVP water outside of the CVP place of use require SWRCB review and approval. The Water Code includes protections for impacts related to water transfers for other legal users of water, as well as fish, wildlife, and other instream beneficial uses.

Pre-1914 water rights are not subject to SWRCB jurisdiction, but transfers of water involving pre-1914 water rights are subject to review under CEQA and accordingly are analyzed in this EIS/EIR. Transfers involving pre-1914 water rights are also subject to the same "no injury rule" as set forth in Water Code Section 1706. Pre-1914 water rights are not subject to the provisions of the Water Code discussed below unless specifically mentioned.

Short-Term Transfers

Short-term (i.e., temporary) transfers are those that take place over a period of one year or less. Water Code Section 1725 allows a permittee or licensee to temporarily change a point of diversion, place of use, or purpose of use of water due to a transfer of water. Short-term transfers under Section 1725 are limited to water that would have been used consumptively or stored absent the water transfer. Section 1725 defines consumptively used water as "the amount of water which has been consumed through use by evapotranspiration, has percolated underground, or has been otherwise removed from use in the downstream water supply as a result of direct diversion." Return flows (water that returns to a stream or a useable underground aquifer after being applied to land) are typically used by other users; therefore, they are generally not available for transfer because the transfer of this water could injure these downstream users. The most common ways to reduce consumptive use are to idle land, shift to less water-intensive crops, or substitute groundwater in-lieu of surface water.

Section 1725 allows expedited processing of short-term transfers of post-1914 water rights. Short-term transfers qualify for this expedited process because the action is limited to one year, minimizing the risk of potential impacts. Transfers qualified under Section 1725 are exempt from CEQA pursuant to Section 1729 of the Water Code; the Water Code relies on notice to the affected parties and findings made by the SWRCB rather than the development of environmental documents under CEQA.

Short-term transfers must not injure any legal user of water or unreasonably affect fish, wildlife, or instream uses. Petitions for transfer must document the identifying permit or license as the basis for the transfer and support the claims of no injury to any legal user of the water and no unreasonable effects to fish and wildlife or other instream beneficial uses. The petition is publicly noticed and persons may file with the SWRCB objections or comments to the petition. The SWRCB is required to act upon the petition in accordance with the procedures set forth in Water Code Section 1726.

Water Code Section 1728 specifies that the one-year transfer period does not include any time required for monitoring, reporting, or mitigation before or after the temporary change is carried out. If, within a period of one year or less, the water is transferred to off-stream storage outside of the watershed where it was originated, the water may be put to beneficial use in the place of use during or after that period.

Long-Term Transfers

Long-term transfers are those that take place over a period of more than one year. Long-term transfers of water under post-1914 water rights are governed under Section 1735 of the Water Code. Long-term transfers need not necessarily involve the amount of water

consumptively used or stored, but the transfers are evaluated to assure that they will not cause substantial injury to any legal user of water and will not unreasonably affect fish, wildlife, or other instream beneficial uses. The Water Code does not provide for the expedited processing of long-term transfer petitions that is provided for short-term transfer petitions. Long-term transfers under Section 1735 are subject to the requirements of CEQA and must also comply with the standard SWRCB public noticing and protest process. If valid protests to the proposed change cannot be resolved through negotiation between the parties, a hearing must be held prior to the SWRCB's decision on the requested transfer. Section 1745.07 specifically indicates that transfers approved pursuant to provisions of law are deemed to be a beneficial use of water and protect the water rights of the seller during the transfer period.

No Injury Rule

A change in water rights involving a transfer is subject to the no injury rule. The no injury rule requires that a transfer may not injure other legal users of water. This rule applies to modern water rights through sections 1725 and 1736 of the Water Code and applies to pre-1914 appropriative water rights through Section 1706 of the Water Code. The SWRCB has jurisdiction over changes to post-1914 water rights, and the courts have jurisdiction over any claimed violations of Section 1706.

Effects on Fish and Wildlife

Water Code Sections 1725 and 1736 require that the SWRCB make a finding that proposed transfers not result in unreasonable effects on fish and wildlife or other instream beneficial uses prior to approving a change in post-1914 water rights. California Code of Regulations Title 23 section 794 requires the petitioner to 1) provide information identifying any effects of the proposed changes on fish, wildlife, and other instream beneficial uses, and 2) request consultation with California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board regarding potential effects of the proposed changes on water quality, fish, wildlife, and other instream beneficial uses. The petition for change will not be accepted by the SWRCB unless it contains the required information and consultation request. Early communication with CDFW would streamline the consultation process through "up front" coordination regarding assessment of the potential impact to fish and wildlife resources. The SWRCB will use this information in making their finding that proposed transfers do not result in unreasonable impacts on fish and wildlife or other instream beneficial uses.

Local Economic Effects

Cropland idling/crop shifting transfers have the potential to affect the overall economy of the county from which the water is being transferred. Parties that depend on farming-related activities can experience decreases in business if land idling becomes extensive. To minimize the socioeconomic effects on local areas, State agencies evaluate transfer proposals to ensure that the provisions of Water Code Section 1745.05(b) are implemented. Water Code Section 1745.05 (b) provides that if the amount of water made available by land fallowing (idling) exceeds 20 percent of the water that would have been applied absent the proposed water transfer, a public hearing by the water supply agency is required. Water supply agencies interested in participating in cropland idling/crop shifting transfers need to be aware of this Water Code section and conduct a public

hearing if they propose a transfer in which cropland idling would exceed the 20 percent threshold.

B.3 History of Water Transfers

Water transfers have been a common water resources planning practice in the past decades. The Lead Agencies have participated in transfers through previous programs or agreements. Transfers have included both in-basin and out-of-basin transfers. Out-of-basin transfers often involve movement of water through the Delta. The following sections briefly describe past water transfer programs and their associated environmental documentation.

The water transfers history highlights the complexities of the water transfer approval process. Reclamation, buyers, and sellers spend significant resources to complete environmental documents that cover water transfers for a single year or a few years. Completing this EIS/EIR to cover six years of transfers will streamline the environmental review process and make transfers more implementable relative to NEPA and CEQA requirements, especially when hydrologic conditions and available pumping capacity are unknown until right before the transfer season. A six-year document will also help address requests from USFWS for a more comprehensive evaluation of water transfers on biological resources and listed species.

B.3.1 In-Basin Transfers and NEPA/CEQA

In-basin transfers are a routine practice for water agencies that are within the same region. In-basin transfers occur among agencies within both the Sacramento Valley and the San Joaquin Valley. In-basin transfers are generally one-year transfers used to meet irrigation requirements or existing M&I water needs. Water agencies have also transferred water to nearby refuges to meet refuge habitat requirements.

In-basin transfers among CVP contractors require NEPA documentation. Reclamation typically completes Environmental Assessments (EAs) to cover these transfers. In accordance with the CVPIA, Reclamation has evaluated in-basin transfers over a multi-year period to accelerate approval. Most recently in 2010, Reclamation signed two Finding of No Significant Impact (FONSI) statements for accelerated water transfers and exchanges from 2011 through 2015. One FONSI covered transfers between CVP South of Delta Contractors and the other covered transfers between Friant Division and Cross Valley CVP Contractors. Reclamation also issued a FONSI for accelerated water transfers among CVP contractors and wildlife refuges within the Sacramento Valley from April 2010 through February 2015.

Reclamation also worked with the Exchange Contractors to complete an EIS/EIR to examine the environmental impacts of the transfer and exchange of the Exchange Contractors' CVP water (up to 130,000 AF per year for ten years) from 2005 through 2014 (Reclamation 2004). In 2013, Reclamation released a Final EIS/EIR for the transfer of up to 150,000 AF of substitute water from the Exchange Contractors to potential water users over a 25-year timeframe, from 2014-2038 (Reclamation 2013a).

B.3.2 Out-of-Basin Transfers and NEPA/CEQA

Since the late-1980s, use of out-of-basin water transfers to meet water needs during dry years increased on a statewide level. In response to the drought in the early 1990s, Reclamation and DWR sponsored drought-related programs, including the DWR-run Drought Water Bank initiated in 1991 and 1992, to negotiate and facilitate the exchange of water. A series of wet years in the late 1990s reduced the need for transfers.

In 2000, CALFED Record of Decision (ROD) established the Environmental Water Account (EWA) as a management tool to protect Delta fisheries and maintain water supply reliability for the CVP and SWP. The EWA included purchase of water to help meet these objectives. The CALFED ROD defined the EWA as a four-year program. However, with efficient water purchase practices, the program was able to acquire all the required assets for the EWA each year and extend the allocated funding into a seven-year program implemented from 2001 through 2007. During this time, over two million AF of water assets were acquired for the EWA environmental purposes. To meet NEPA/CEQA requirements, Reclamation and DWR developed the 2004 EWA EIS/EIR, which was a comprehensive evaluation of environmental impacts of the EWA through 2007.

In responses to dry conditions in 2009, Reclamation and DWR cooperatively implemented the 2009 Drought Water Bank to support through-Delta transfers. Reclamation completed the 2009 Drought Water Bank Environmental Assessment (EA) and FONSI that evaluated CVP-related transfers that occurred under the 2009 Drought Water Bank. Total CVP-related transfers under the program totaled approximately 390,000 AF.

In 2010, Reclamation completed a 2010-2011 Water Transfer Program EA and FONSI that evaluated out-of-basin transfers for 2010 and 2011 contract years (Reclamation 2010). However, because of wetter hydrologic conditions, no CVP-related transfers occurred in 2010 and 2011.

In 2013, Reclamation developed an EA for one-year transfers from sellers in the Sacramento River basin to SLDMWA (Reclamation 2013b). The EA analyzed up to 37,715 AF of groundwater substitution transfers. Approximately 29,217 AF were transferred under actions and approvals addressed and cleared by this environmental document. As a separate action, Contra Costa WD purchased 2,000 AF from Woodbridge Irrigation District (ID) that was conveyed through East Bay MUD's Mokelumne Aqueduct to Contra Costa WD (Woodbridge ID 2013). Reclamation was not involved in this transfer because it did not involve CVP supplies or CVP facilities.

In 2014, Reclamation and SLDMWA completed an EA/Initial Study for one-year transfers from sellers in the Sacramento River Basin (Reclamation 2014b). The document analyzed transfers up to 175,226 AF made available from groundwater substitution or cropland idling. Transfers up to 74,030 AF was negotiated, but all of these transfers were not moved based on operational limitations. Reclamation also completed environmental documentation on transfers from Contra Costa WD to Alameda County WD (5,000 AF) and Byron-Bethany ID (4,000 AF) (Reclamation 2014c and Reclamation 2014d). Also in 2014, Reclamation completed NEPA documentation on a

transfer Placer County Water Agency to East Bay MUD of about 5,000 AF (Reclamation 2014e).

SLDMWA is a common participant in most water transfers and has negotiated water transfers in past years on behalf of the member agencies. SLDMWA member agencies have been identified as a potential buyer in Reclamation's past transfer programs and many have purchased water in previous years. Table B-3 shows previous quantities of water transfers purchased by SLDMWA member agencies from 2000 through 2018.

Table B-3.
North of Delta Water Transferred to SLDMWA Member Agencies (2000-2018)

Year	Water Transfer Quantity (AF)
2000	No Transfers
2001	No Transfers
2002	8,685
2003	No Transfers
2004	15,600
2005	3,100
2006	No Transfers
2007	3,100
2008	12,195
2009	106,322
2010	No Transfers
2011	No Transfers
2012	No Transfers
2013	66,500
2014	74,030[1]
2015	164,153[2]
2016	No Transfers
2017	No Transfers
2018	No Transfers

Source: SLDMWA 2014
[1]SLDMWA 2015
[2]Reclamation 2018

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Appendix C

Water Operations Assessment

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Appendix C
Water Operations Assessment

C.1 Background

Hydrologic conditions, climatic variability, and regulatory requirements for operation of water projects commonly affect water supply availability in California. This variability strains water supplies, making advance planning for water shortages necessary and routine. In the past decades, water entities have been implementing water transfers to supplement available water supplies to serve existing demands and transfers have become a common tool in water resource planning.

The U.S. Department of the Interior, Bureau of Reclamation (Reclamation) manages the Central Valley Project (CVP), which includes storage in reservoirs (such as Shasta, Folsom, and Trinity reservoirs) and diversion pumps in the Sacramento-San Joaquin Delta (Delta) to deliver water to users in the San Joaquin Valley and San Francisco Bay area. When these users experience water shortages, they may look to water transfers to help reduce potential impacts of those shortages.

A water transfer involves an agreement between a willing seller and a willing buyer. To make water available for transfer, the willing seller must take an action to reduce the consumptive use of water or reduce reservoir storage. This water would be conveyed to the buyers' service area for beneficial use. Water transfers would only be used to help meet existing demands and would not serve any new demands in the buyers' service areas.

Reclamation and the San Luis & Delta-Mendota Water Authority (SLDMWA) are completing a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR), in compliance with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), for water transfers from 2015 through 2024. Reclamation is serving as the Lead Agency under NEPA and SLDWMA is the Lead Agency under CEQA. Reclamation would facilitate transfers proposed by buyers and sellers. The SLDMWA, consisting of federal and exchange water service contractors in western San Joaquin Valley, San Benito, Santa Clara, and Stanislaus counties, helps negotiate transfers in years when the member agencies could experience shortages.

This EIS/EIR evaluates water transfers that originate from entities located upstream of the Delta. Purchasing agencies are in areas south of the Delta or in the San Francisco Bay Area. Water transfers are subject to federal and state law.

The transfers included are only those involving CVP supplies or CVP facilities. These transfers require approval from Reclamation, which necessitates compliance with NEPA. Other transfers not involving CVP supplies or use of CVP facilities could occur during the same time period,

subject to their own environmental review (as necessary). Non-CVP transfers are analyzed in combination with the potential alternatives in the cumulative analysis.

C.2 Purpose of Water Operations Analysis

An analysis of water operations is necessary to assist in evaluation of potential environmental impacts associated with the Long-Term Water Transfer Project (the Project). Water transfers have the potential to affect both the natural system and operation of the CVP and State Water Project (SWP). The purpose of this analysis is to simulate water made available by various sellers included in the Project, how that water moves through the system and potentially effects operations, and how and where transfer water is diverted by buyers. Output from the water operations analysis for parameters such as stream flow, reservoir storage, Delta outflow, and CVP and SWP Delta exports provides a basis for environmental assessment.

C.3 Analytical Approach

Water transfer analysis is performed with several analytical tools. Separate tools are used to evaluate the surface water and groundwater systems with information and results passed between the tools. Analysis relies on the use and interaction of three different models: CalSim II, the Sacramento Valley Finite Element Groundwater Model (SACFEM2013), and Transfer Operations Model (TOM). Model results of a baseline condition, the No Action/No Project Alternative, without proposed water transfers are compared to model results with proposed water transfers under each Project alternative to determine the extent and significance of any differences resulting from the Project.

CalSim II serves as the basis for simulating the surface water system. A baseline model of CVP/SWP operations for the Sacramento and San Joaquin river systems and the Delta was developed and provided by Reclamation. This model baseline represented the best available model assumptions developed by Reclamation as of January 2014.

Estimated groundwater pumping associated with groundwater substitution transfers was added to baseline groundwater pumping under existing conditions and input to SACFEM2013 to simulate the effects of groundwater substitution transfers on Sacramento Valley aquifers. SACFEM2013 also simulates interaction between groundwater and surface water systems at the streambed interface. Groundwater pumping can affect the surface water system because a hydraulic connection exists between the groundwater and surface water systems in the Sacramento Valley. SACFEM2013 was used to simulate effects on the groundwater system and the change in stream-aquifer interaction. SACFEM2013 model results for the change in stream-aquifer interaction were incorporated into the water operations analysis.

A separate model, TOM, was developed to simulate changes in the surface water system. TOM is a spreadsheet model developed by MBK Engineers to assess how water made available for transfer moves through the river system and is diverted by buyers. Additionally, TOM analyzes how changes in stream-aquifer interaction due to groundwater substitution transfers affect the

CVP and SWP. TOM was developed to quickly and effectively assess changes from a variety of transfer sources and mechanisms to a variety of different buyers.

TOM relies on the CalSim II baseline simulation of CVP and SWP operations and then layers on operational changes of water transfers. Post-processing CalSim II results allows for simulation of specific water transfers and their associated constraints while maintaining compliance with the regulatory requirements simulated in CalSim II. TOM uses output from both CalSim II and SACFEM2013 to simulate the operational changes that result from water transfers.

Figure C-1 illustrates the models, input information, and output flow used to in the water operations analysis.

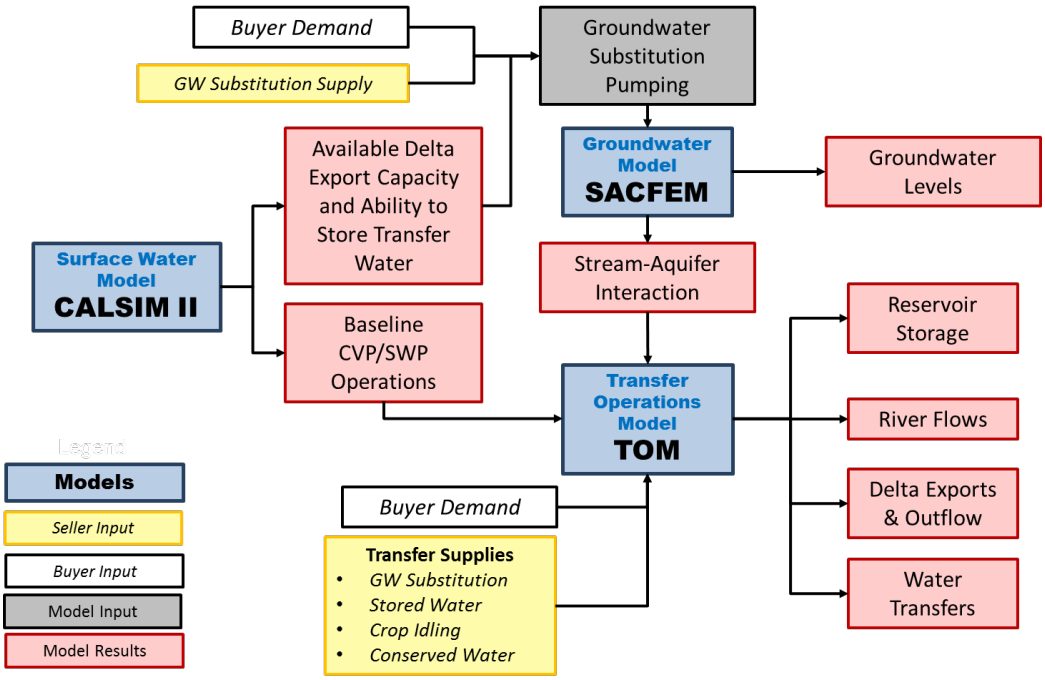


Figure C-1.
Analytical Process and Modeling

C.4 Model Descriptions

A description of models used in water operations analysis, primarily CalSim II and TOM, and their underlying assumptions are outlined in more detail in the following sections. A brief description of SACFEM2013 is also provided. Additional documentation and results from SACFEM2013 are presented in Appendix D.

C.4.1 CalSim II

CalSim II is a planning model designed to simulate operations of CVP and SWP reservoirs and water delivery systems. CalSim II simulates flood control operating criteria, water delivery policies, in-stream flow requirements, Delta outflow requirements, and CVP/SWP (Project) Delta export operations. CalSim II is the best available tool for modeling CVP and SWP

operations and is the primary system-wide hydrologic model used by Reclamation and the California Department of Water Resources (DWR) to conduct planning and impact analyses of potential projects.

CalSim II is a simulation by optimization model. CalSim II simulates operations by solving a mixed-integer linear program to maximize an objective function for each month of the simulation. CalSim II was developed to simulate operation of the CVP and SWP for defined physical conditions and a set of regulatory requirements. CalSim II simulates these conditions using 82 years of historical hydrology from water year 1922 through 2003.

CalSim II modeling conducted for the Long Term Water Transfer Project is built upon the Common Assumption model package, developed jointly by Reclamation and DWR. This model package has been revised and updated to reflect the operational requirements contained in the U.S. Fish and Wildlife Service (USFWS) 2008 Biological Opinion (BO) on delta smelt and the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) 2009 BO on Chinook salmon. Regulatory requirements included in baseline CalSim II simulation, including those specified in the BOs, are summarized in Attachment 1.

Reclamation provided the project team the CalSim II baseline studies in January 2014. The Reclamation study was at a projected future level of development and was consistent with Reclamation's operating assumptions at that time. The project team worked collaboratively with Reclamation modelers to revise the baseline study for an existing level of development, requirements, and projects. This existing level study is used as the baseline and the basis for TOM.

C.4.2 SACFEM2013

SACFEM2013 is a full water budget based, transient groundwater flow model that incorporates all groundwater and surface water budget components on a monthly time-step over the period of simulation. SACFEM2013 provides very high resolution estimates of groundwater levels and stream flow effects due to groundwater pumping within the Sacramento Valley. SACFEM2013 is an application of the MicroFEM© groundwater modeling package. SACFEM2013 simulates a 41-year period, corresponding to historical hydrology from water year 1970 through 2010, on a monthly time-step. Additional information and description of SACFEM2013 can be found in Appendix D.

C.4.3 TOM

TOM was developed to analyze effects of the Long-Term Water Transfer Project on the CVP, SWP, major rivers, and the Delta. TOM was developed to quickly and effectively simulate water made available from various sellers as it moves through the system, the effects on CVP and SWP operations, and diversion of transfer water by buyers. TOM simulates operations on a monthly time-step for the 34-year period, water year 1970 through 2003, common to both CalSim II and SACFEM2013. TOM relies on output from both SACFEM2013 and CalSim II.

Facilitating water transfers in actual operations presents numerous challenges. In real-time operations, transfer water cannot be tracked separately as it moves through the system in the same way it can be tracked and accounted for in a model. Water made available for transfer is released into the system, or not diverted from the system, and managed as part of the total

available water within the system at any given time. This requires an increased level of coordination between CVP and SWP operators. When facilitating actual water transfers, CVP and SWP operators identify the volume of transfer water to be made available in advance of the actual transfer. This volume of water is considered when determining operations before, during, and after the transfer period. Transfer water becomes co-mingled with CVP/SWP water and unregulated flows in the system and re-diverted at downstream locations such as CVP and SWP pumping facilities in the south Delta. Transfer water affects accounting under the Coordinated Operation Agreement (COA) between the CVP and SWP, and can require COA accounting adjustments. Transfer water can also change the timing of when CVP and SWP Project water is moved. A portion of transfer water is typically used as carriage water to maintain Delta water quality when transfer water is moved through the Delta. This requires initial estimates for carriage water that must later be verified and adjusted. All the additional accounting and adjustments for transfers are layered onto the already complex task of operating the CVP and SWP for numerous in-stream flow, water temperature, water quality, and water supply constraints.

TOM was developed in consultation with Reclamation and with an understanding of both actual operations and CalSim II model assumptions. Rules used in TOM to simulate operational responses to water transfers and changes in stream-aquifer interaction were reviewed with CVP operations staff. Assumptions and logic used in TOM are described in the following sections.

C.4.3.1 TOM Operations and Assumptions

TOM begins with a baseline CalSim II simulation of the CVP/SWP system and Delta operations, and then layers on water transfer operations. TOM uses information on the timing and volume of transfer water to be made available from various transfer sources as input and simulates the effects of those transfers.

C.4.3.1.1 Buyer Demands and Seller Supplies

The Project team developed estimates of both buyer's demand for transfer water and seller's supplies of transfer water. CVP contractors identified as buyers include East Bay Municipal Utility District (MUD), Contra Costa Water District (WD), and the SLDMWA. Annual transfer demands for East Bay MUD were provided directly by the agency. The volume of annual transfer demand for Contra Costa WD was provided the district and the years when demand for transfer water were identified and discussed with the district.

SLDMWA demand for transfer water often exceeds the available capacity to move the water through the Delta. Therefore, an estimate of annual available Delta export capacity was developed from baseline CalSim II output. Available Delta export capacity was used as a surrogate for SLDMWA demand for transfer water from Sacramento Valley sellers. Additionally, water made available by Merced Irrigation District (ID) can be moved to SLDMWA through a variety of facilities that connect the lower San Joaquin River with the Delta-Mendota Canal (DMC) without going through CVP or SWP Delta export facilities. Therefore, additional demands were assumed for SLDMWA in years when CVP south-of-Delta agricultural water service contract allocations were less than 65 percent. In these years, SLDMWA demand for transfer water exceeded Merced ID's available transfer supply and was assumed to be all of the available supply.

Figure C-2 illustrates the annual demands simulated in TOM for each potential buyer with demands for SLDMWA limited by available Delta export capacity and available supply.

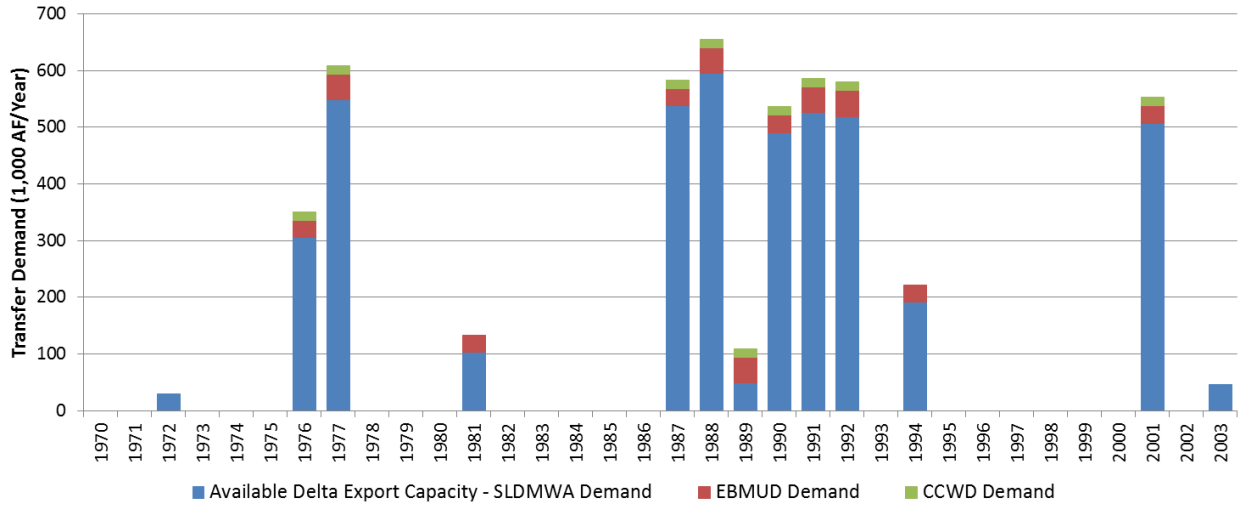


Figure C-2.
Annual Demand for Transfer Water by CVP Buyers

The Project team also developed estimates of water supplies that can be made available for transfer from willing sellers interested in participating in the Project. Estimates of available supply were developed in consultation with potential sellers. Sellers include CVP contractors and non-CVP contractors with the ability to provide water to the buyer's points of diversion. Sellers can make water available through several different transfer mechanisms including groundwater substitution, crop idling, conserved water, and reservoir release. Available water transfer supply is typically less than demand for transfer water, and can be less than the available capacity to move the water from seller to buyer. Therefore, the volume of water transferred on an annual basis is typically limited by available water transfer supply. Different alternatives were developed to analyze effects of making transfer water available with different mechanisms. Figure C-3 illustrates annual available supplies for the alternative that includes all transfer mechanisms.

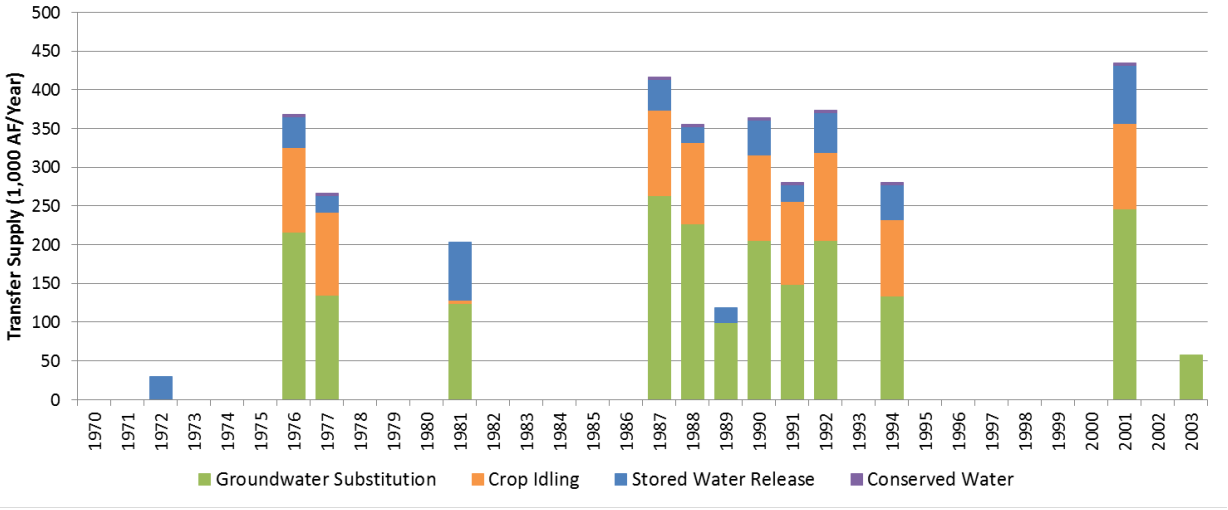


Figure C-3.
Annual Available Water Transfer Supply

Comparison of Figure C-2 and Figure C-3 shows demand for transfer water frequently exceeds the available water transfer supply.

C.4.3.1.2 Transfer Operations and Priorities

TOM uses an assumed priority for transfer mechanisms used to make water available under Project alternatives. Transfer mechanisms are prioritized based on the likelihood of the mechanism being utilized and the operational flexibility inherent in the mechanism. For example, groundwater substitution and reservoir release are more likely transfer mechanisms than crop idling and are therefore a higher priority. Groundwater substitution has less operational flexibility than reservoir releases and is given a higher priority. TOM simulates the four transfer mechanisms in the following order:

- Groundwater substitution – for alternatives that include this mechanism
- Reservoir release
- Conserved water
- Crop idling – for alternatives that include this mechanism

Priorities for transfer mechanisms are necessary to develop groundwater pumping inputs to SACFEM2013 and simulate all transfers in TOM. Priorities were developed solely for this purpose.

TOM simulates water made available under each transfer mechanism, subject to various constraints. The following sections describe each transfer mechanism and associated constraints and operational considerations.

C.4.3.1.3 Groundwater Substitution Transfers

Groundwater substitution transfers involve pumping groundwater to meet a demand for water that would otherwise be met from surface water diversion. Surface water not diverted is then available for transfer. The volume of water made available for transfer is the volume of groundwater pumped during the transfer period. Groundwater substitution transfers allow a limited degree of flexibility in the timing of transfer because the transfer period starts and ends based on when groundwater pumping occurs. The Project includes groundwater substitution transfers in the Sacramento Valley. Figure C-4 illustrates annual groundwater substitution transfer supply identified by the sellers for years with available export capacity/transfer demand.

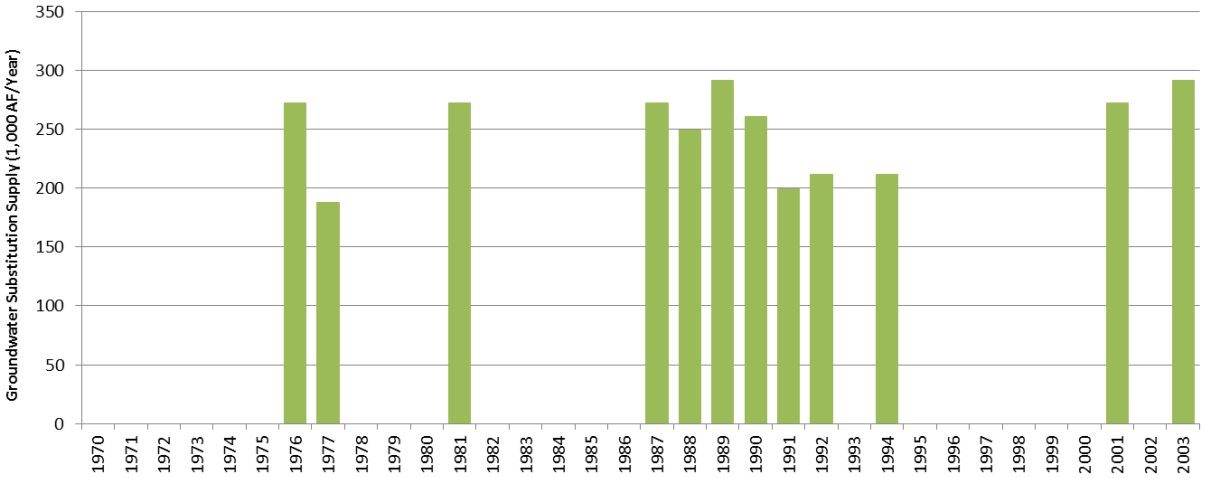


Figure C-4.
Annual Groundwater Substitution Transfer Supply

Groundwater substitution transfers included in the analysis were developed based on input from sellers, buyer demand, capacity to convey the water, and an analysis of the ability to potentially store water pumped from April through June in upstream CVP/SWP reservoirs. The ability to store water pumped April through June is described in greater detail in a subsequent section. The result of this analysis is a time-series of pumping that varies by month and year and is significantly less than the volumes illustrated in Figure C-4. Figure C-5 illustrates the range of monthly pumping simulated, and the average monthly pumping for the 12 years when groundwater substitution transfers are simulated. Additional detail on the monthly volume of groundwater substitution transfer simulated for each seller is provided in Attachment 2.

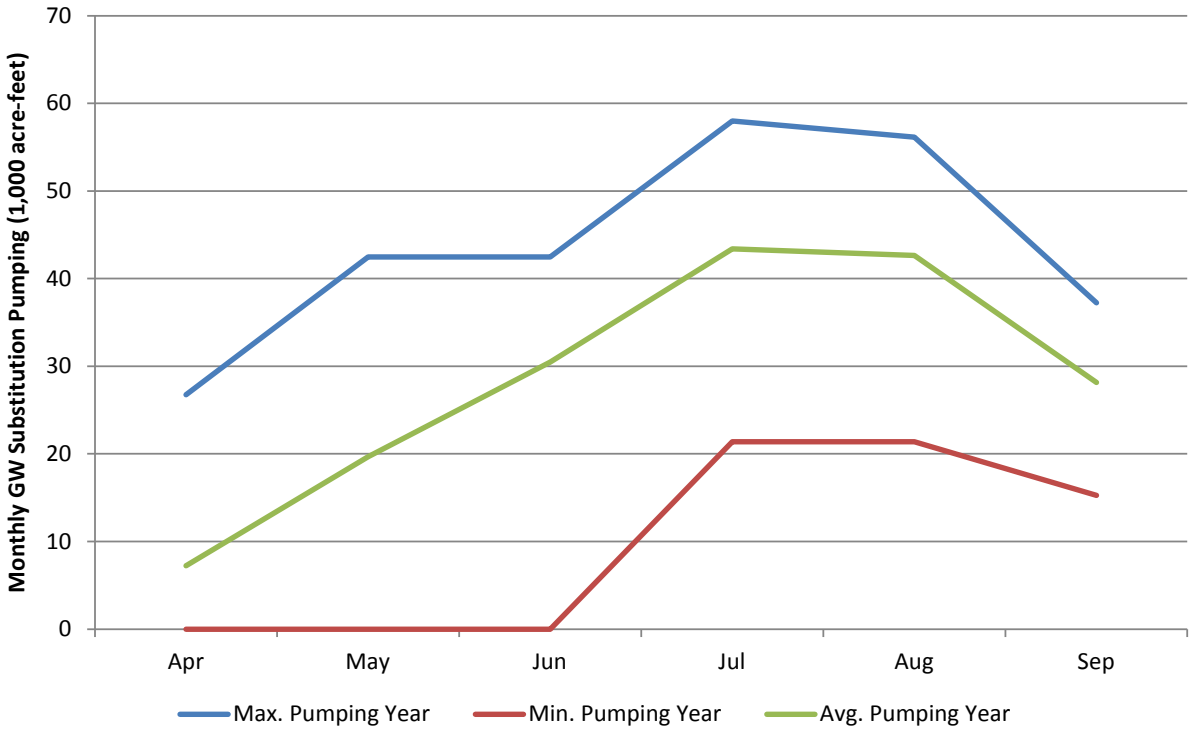


Figure C-5.
Range of Monthly Groundwater Substitution Transfers Analyzed

Groundwater substitution transfers from the Sacramento Valley have the potential to create changes in stream-aquifer interaction that affect other parts of the water delivery system. Change in stream-aquifer interaction can be determined by comparing SACFEM2013 results from a baseline, without-transfer simulation to a with-transfer simulation that includes groundwater substitution pumping. Change in stream-aquifer interaction is calculated at each stream node for rivers and streams explicitly modeled in SACFEM2013. Changes are aggregated for nodes above specific locations that affect CVP/SWP operations, such as Wilkins Slough on the Sacramento River or total Delta inflow. Changes in stream-aquifer interaction due to groundwater substitution transfers include increased stream loss to the aquifer and decreased aquifer contribution to stream flow.

Figure C-5 illustrates the time-series of total change in stream-aquifer interaction in the Sacramento Valley (at the Delta) that result from groundwater substitution transfers proposed in the Project. Change in stream-aquifer interaction illustrated in Figure C-6 is a reduction in Delta inflow.

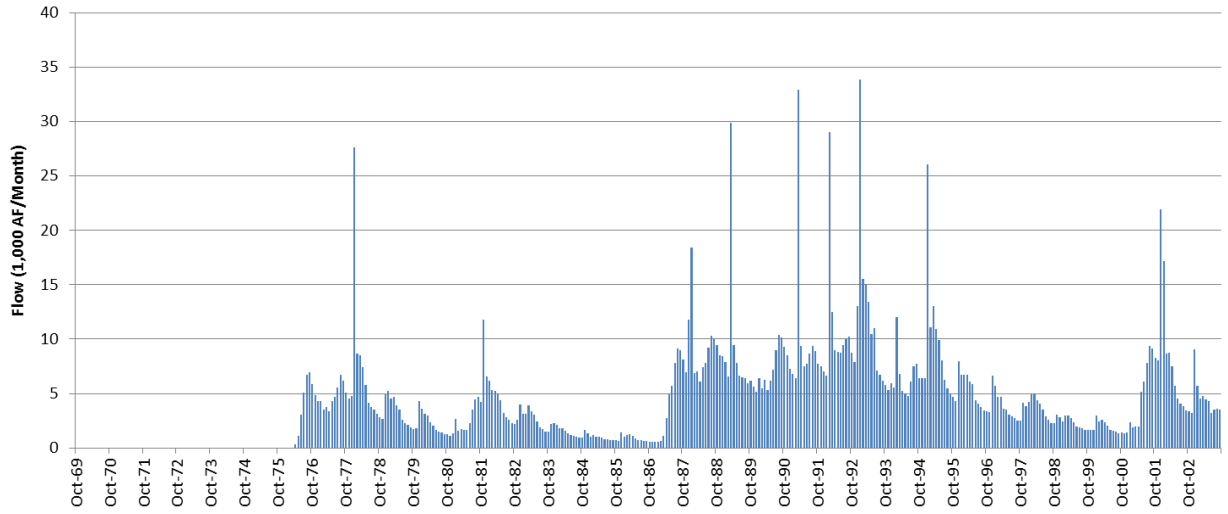


Figure C-6.
Total Change in Stream-Aquifer Interaction due to Groundwater Substitution Transfers

The timing of when changes in stream-aquifer interaction reduce stream flow is the key to understanding and simulating how changes may affect CVP/SWP operations. CVP/SWP operations will change in response to reduced stream flows under two conditions:

- When stream flow at minimum flow compliance locations (such as the Sacramento River at Wilkins Slough, the lower Feather River, or the American River at H Street) is at minimum levels and controlling upstream reservoir release.

- When the Delta is in balanced conditions.

The Delta can be in either a balanced or surplus condition. Balanced conditions, as defined in COA, are those periods when DWR and Reclamation agree that releases from upstream reservoirs plus unregulated flow approximately equals the water needed to meet Sacramento Valley in-basin uses plus exports. Conversely, excess or surplus conditions are periods when it is agreed that releases from upstream reservoirs plus unregulated flow exceed Sacramento Valley in-basin uses plus exports. Sacramento Valley in-basin uses include Delta water quality.

TOM simulates how changes in stream-aquifer interaction affect CVP and SWP operations. Time-series of the change in stream-aquifer interaction calculated from SACFEM2013 results for specific locations that affect CVP/SWP operations are input to TOM. Logic in TOM simulates changes in CVP/SWP operations that occur as a result of these changes in stream flow.

Stream flow reductions when the Delta is in surplus and river flows exceed minimum flow requirements will not affect CVP/SWP operations. During these periods TOM simulates the reduction in stream flow in the major river systems and Delta outflow. Surplus conditions occur approximately half of the time. Figure C-7 illustrates changes in stream-aquifer interaction that occur during Delta balanced and surplus conditions.

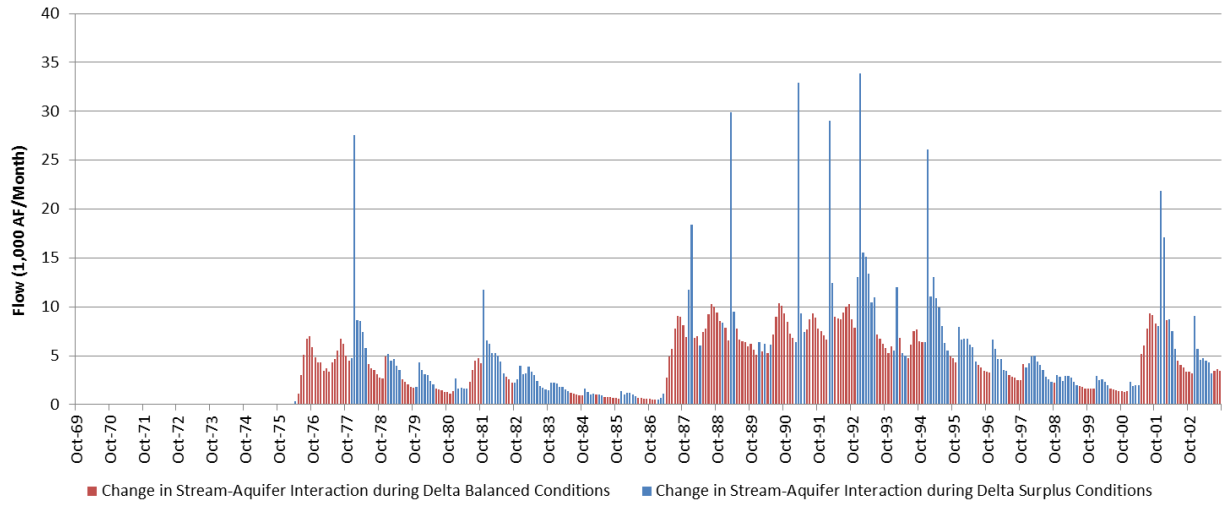


Figure C-7.
Change in Stream-Aquifer Interaction during Delta Balanced and Surplus Conditions

During periods when the Delta is in balanced conditions and/or flows on affected rivers and streams are at minimum flow requirements the CVP/SWP would respond to stream flow reductions that result from groundwater substitution transfers. TOM assumes the CVP/SWP will fully compensate for changes during these periods to maintain compliance with regulatory requirements. TOM includes logic to simulate the CVP/SWP operational response based on the location of the change in stream flow and CVP/SWP conditions. For example, the CVP would respond to reductions in Sacramento River flow at Wilkins Slough by increasing release from Shasta to comply with minimum flow requirements at that location. TOM simulates these types of operational responses.

There can be a variety of operational responses to changes in Delta inflow. TOM uses assumptions based reservoir storage conditions, minimum flow requirements, the portion of CVP and SWP water in the Delta, COA accounting, and Delta exports to simulate these operational responses by the CVP and SWP. Operational responses include increased release from upstream reservoirs and decreased Delta exports.

Changes in Delta inflow affect the CVP and SWP differently based on system conditions at the time and COA accounting. The obligation of each project to respond to reductions in Delta inflow is generally governed by the accounting split illustrated below in Figure C-8. However, during some periods the CVP may already be providing water in excess of the COA obligation and the CVP's ability to export CVP water at Jones. In these instances, the effects of reductions in Delta inflow as a result of groundwater substitution transfers primarily affect the SWP.

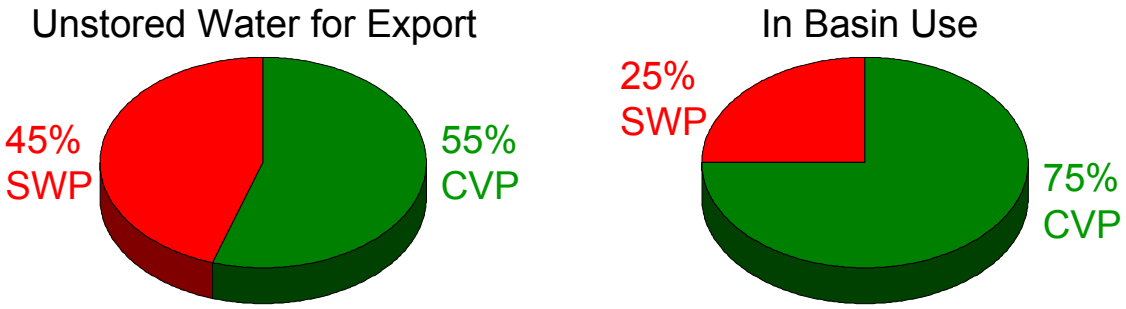


Figure C-8.
COA Accounting

C.4.3.1.4 Reservoir Release

The Long-Term Water Transfer Project includes reservoir release transfers from four water districts who own and operate reservoirs that can provide water to CVP buyers. These agencies and associated reservoirs are Placer County Water Agency and the Middle Fork Project (MFP) reservoirs of French Meadows and Hell Hole on the American River upstream of Folsom Reservoir, South Sutter WD and Camp Far West Reservoir on the Bear River, Browns Valley ID and Merle Collins Reservoir on French Dry Creek a tributary to the Yuba River, and Merced ID and Lake McClure on the Merced River.

In most instances, reservoir release transfers offer a higher degree of flexibility than other transfer mechanisms. Reservoir releases can be timed to coincide with available capacity and modified to accommodate other regulatory restrictions.

Annual volumes of water available through reservoir release transfers were developed and provided by the sellers. Annual time-series were input to TOM. TOM simulates operation of the seller's reservoirs to analyze the effects on reservoir storage, flow downstream, and reservoir refill. Figure C-9 illustrates the annual volume of reservoir release water available from each seller in years with available export capacity/transfer demand.

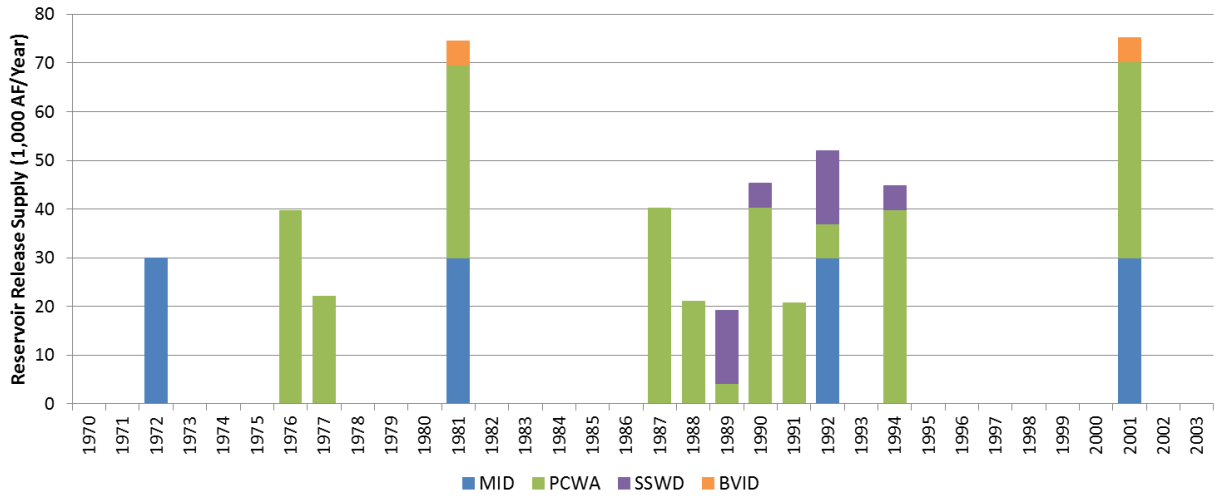


Figure C-9.
Annual Reservoir Release Transfer Supply

Transfer water released from Placer County Water Agency's MFP reservoirs flows into and through Folsom Reservoir. Transfer water made available from Placer County Water Agency must be in Folsom before being released for transfer, or moved through Folsom during the transfer, i.e. transfer water is not released from Folsom before being released from Placer County Water Agency reservoirs. Placer County Water Agency provided output from their MFP model for both a baseline and with-transfer scenario. Output included reservoir storage in French Meadows and Hell Hole and North Fork American River flow into Folsom. This model output was used to determine when transfer water flowed into Folsom and when MFP reservoirs refilled. Logic in TOM releases transfer water out of Folsom without bypassing hydropower generation.

Transfer water released from South Sutter WD's Camp Far West Reservoir flows down the Bear River, into the Feather River and eventually the Delta. There are no operational constraints that limit South Sutter WD's ability to release transfer water and therefore TOM assumes these transfers occur when there is demand, available capacity to divert the water, and the Delta is in balanced conditions. Logic in TOM for the operation of Camp Far West is based on a CalSim II module of the Bear River and is used to determine when Camp Far West refills.

Reservoir release transfers from Browns Valley ID's Merle Collins Reservoir are simulated in TOM. Browns Valley ID provided a baseline operation of Merle Collins Reservoir from a spreadsheet model owned by the district. Browns Valley ID also provided guidance on the years and conditions when the district would consider making a reservoir release transfer. This information was incorporated into TOM and logic developed to simulate the operation of Merle Collins Reservoir for a with-transfer scenario.

A reservoir release transfer from Merced ID's Lake McClure flows down the Merced River and is conveyed to SLDMWA. There are a variety of potential conveyance options to move transfer water from the Merced River to SLDMWA. Conveyance options include:

- Diversion at Merced ID's Crocker-Huffman Diversion Dam on the Merced River, conveyance through Merced ID's canals and distribution system to the Eastside Canal, through new conveyance facilities and into Turner Island WD and San Luis Canal Company, SLDMWA member agencies.

- Release down the Merced River to the lower San Joaquin River and diversion into facilities that connect the lower San Joaquin River and the Delta-Medota Canal. Three different facilities exist across the following districts: Patterson ID, West Stanislaus ID, and Banta Carbona ID. Connections through Patterson ID and West Stanislaus ID are located off the San Joaquin River upstream of the confluence with the Tuolumne River. The connection through Banta Carbona ID is located on the San Joaquin River downstream from Vernalis.

- Release down the Merced River, into the San Joaquin River for diversion at CVP, SWP, or Contra Costa WD's diversion facilities.

Assumptions input to TOM prioritize utilizing these conveyance options on an upstream to downstream priority, subject to physical capacities. A greater degree of flexibility exists for transfers from Merced ID because transfers can be scheduled based on available capacity to convey the water, and because there are multiple options for conveying transfer water without going through CVP/SWP facilities in the south Delta. However, transfers that affect water quality in the San Joaquin River are limited to periods when New Melones Reservoir is not releasing to meet water quality requirements at Vernalis.

C.4.3.1.5 Conserved Water

Conserved water is made available by Browns Valley ID from their pre-1914 Yuba River water rights. In 1990, Browns Valley ID implemented the Upper Main Water Conservation Project for the purpose of conserving water. Details of this project and documentation of the 3,100 acre-feet of annual conserved water are contained in the report *Analysis of Water Conserved Under the Upper Main Water Conservation Project* (MBK Engineers, 2002). Browns Valley ID's conserved water is available for transfer every year, but is only simulated as transferred in years with demand and available Delta export capacity (see Figure C-3). Conserved water is stored in Yuba County Water Agency's New Bullards Bar Reservoir and released for transfer in years with demand and capacity.

TOM simulates operation of New Bullards Bar Reservoir and Yuba River flow below New Bullards Bar to analyze effects on reservoir storage, Yuba River flow, and reservoir refill.

C.4.3.1.6 Crop Idling

Water can be made available through crop idling by not growing and irrigating a crop with available surface water and instead making that water available for transfer. The volume of water that may be transferred with a crop idling transfer is limited to the evapotranspiration of applied water (ETAW) that would have been consumed by the crop. The ETAW limit is intended to help protect third parties in the area of the seller. Crop idling transfers analyzed for the Project are from the Sacramento Valley only.

Annual volumes of crop idling water to be made available were provided by individual sellers. The volume of crop idling water to be made available can vary between Project alternatives. Figure C-10 illustrates the maximum annual volumes identified by sellers in the Sacramento Valley for years with available export capacity/transfer demand.

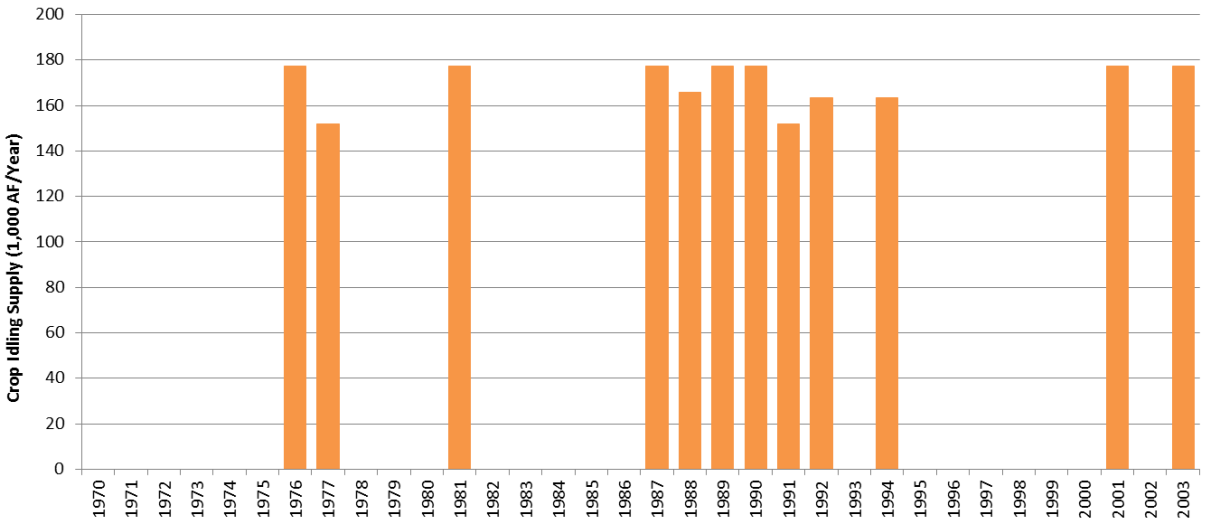


Figure C-10.
Maximum Annual Crop Idling Transfer Supply

Annual volumes were assumed to be made available on a monthly pattern based on the ETAW of rice, the assumed crop to be idled. Figure C-11 illustrates the monthly ETAW pattern for rice. This monthly ETAW pattern has been used in the execution of water transfers for numerous years and is referenced in "Cropland Idling, Issue No. 1 – DRAFT Rice Water Transfer Pattern" (Reclamation 2009).

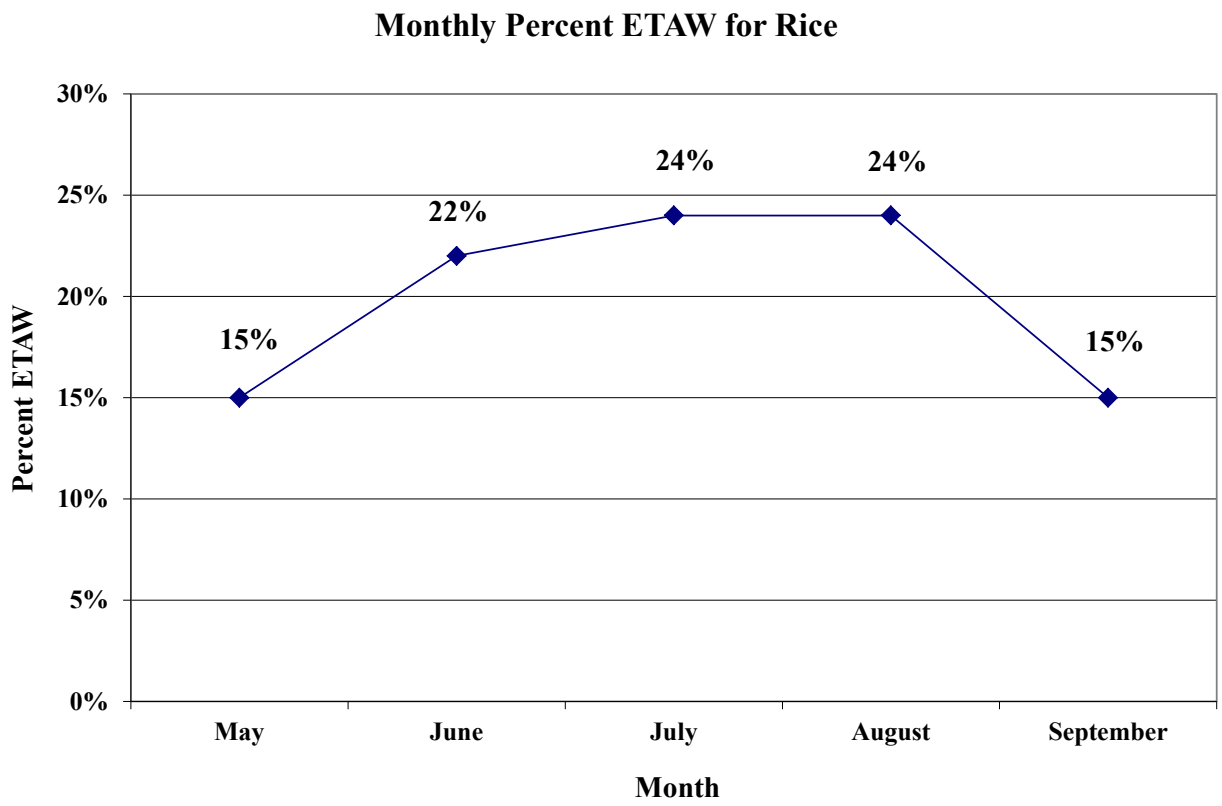


Figure C-11.
Monthly ETAW Pattern for Rice

Crop idling transfers offer the least flexibility of all transfer mechanisms. The decision to enter into crop idling transfers is typically made in spring months when there is still considerable uncertainty in the water supply forecast and the ability to convey water through the Delta. Crop idling transfers make water available on the fixed schedule illustrated in Figure C-11. Therefore, transfer water made available in May and June, a total of 37 percent of the annual volume, can be lost or not diverted by the seller because there is rarely available export capacity at CVP or SWP pumping plants in those months and it may not be held in upstream storage.

C.4.3.1.7 Storing Transfer Water in CVP/SWP Reservoirs Upstream of the Delta

The BOs limit the season for water transfers through the Delta for export at CVP/SWP pumping facilities to July through September (NOAA Fisheries 2009, USFWS 2008). However, it may be possible to make water available prior to July and that water may be stored temporarily in CVP/SWP reservoirs upstream of the Delta. Transfer water stored prior to July would be released and moved through the Delta from July through September. It is difficult to predict when these conditions may occur, and therefore it is not possible to guarantee the ability to store water in every year.

In order for transfer water to be stored in upstream reservoirs two conditions must be met: 1) there must be surplus flow (flow in excess of minimum requirements for flow and temperature) upstream from where the transfer water is made available (the point of non-diversion), and 2) the

CVP/SWP reservoir where the water will be stored must be operated to meet a requirement downstream from the point of non-diversion. Under these conditions it may be possible to temporarily store transfer water in CVP or SWP reservoirs. Transfer water would be stored in upstream reservoirs by reducing releases from those reservoirs when transfer water is made available.

Analysis of the baseline CalSim II simulation of CVP and SWP operations was performed to identify potential opportunities to store both groundwater substitution and crop idling transfer water made available from April through June in upstream CVP and SWP reservoirs. This information was used to determine months when groundwater substitution pumping was simulated in SACFEM2013. These same assumptions were incorporated into TOM to simulate the resulting changes in river flows, reservoir levels, and operations. These assumptions are made only for the purpose of analysis conducted for the environmental document to provide a conservative estimate of potential environmental impacts and may not be appropriate or applicable under actual operations in a particular year.

C.4.3.1.8 Shift in CVP/SWP Exports to Facilitate Transfers

As previously described, there are numerous considerations and adjustments made by Project operators to facilitate water transfers through CVP and SWP export facilities. One such adjustment can be to shift the timing of when Project water is moved from north-of-Delta reservoirs through the Delta. The timing of Project water movement can shift to assist in making export capacity for transfers available on a pattern that better matches the period of transfer. These shifts are more common at SWP facilities because the larger capacity at Banks provides greater flexibility.

TOM simulates shifts in timing of Project water movement at SWP facilities by adjusting baseline Oroville releases and Banks pumping from July through September of some years. Logic in TOM adjusts Oroville releases and Banks pumping to create a more regular monthly pattern of available export capacity.

C.4.3.1.9 Diversion of Transfer Water by Sellers

Water made available by sellers is conveyed through the system and diverted by CVP buyers. Diversions by buyers are made at existing points of diversion. A buyer's ability to divert transfer water is subject to available capacity and regulatory constraints as described in the following section.

C.4.3.1.9.1 East Bay MUD

East Bay MUD diverts both CVP Project water and transfer water at the Freeport Regional Water Project on the Sacramento River near Freeport. The location of these diversion facilities may provide additional flexibility for when transfer water may be diverted to East Bay MUD. Diversions at Freeport do not affect the Delta in the same way as CVP/SWP diversions in the southern Delta. Therefore, it may be possible for East Bay MUD to divert transfer water in months when there is typically no available export capacity at CVP/SWP facilities. East Bay MUD's Freeport diversions are limited to 155 cubic feet per second (cfs) capacity, East Bay MUD's share of the total Freeport Regional Water Project capacity.

Additionally, East Bay MUD diversions at Freeport are not subject to a "carriage water" adjustment to the volume of water made available for transfer. Carriage water is defined as the extra water needed to carry a unit of water across the Delta to CVP/SWP export facilities while maintaining a constant salinity. Because the transfer water is made available and diverted at the upstream edge of the Delta it is assumed that there is no change in Delta salinity associated with the transfer.

C.4.3.1.9.2 Contra Costa WD

Contra Costa WD diverts water under existing water rights, a CVP water service contract, and transfer water from multiple points of diversion in the Delta. The baseline CalSim II simulation includes diversions under Contra Costa WD's water rights and CVP contract. Diversion of transfer water is simulated in TOM to occur at three locations: Rock Slough, Old River, and Victoria Canal. Transfer diversions are simulated to occur at the location with the best water quality and available capacity after diversions under Contra Costa WD's water rights and CVP contract. Assumptions on the specific location of transfer diversions are necessary for analysis of Delta water quality performed in the Delta Salinity Model 2. Transfers to Contra Costa WD assume a 20 percent carriage water adjustment to maintain Delta salinity.

C.4.3.1.9.3 SLDMWA

SLDMWA member agencies receive water diverted at CVP/SWP export facilities in the southern Delta. Transfer water purchased by SLDMWA is conveyed through available export capacity at Jones and Banks pumping plants. Transfers from the Sacramento River assume a 20 percent carriage water adjustment to maintain Delta salinity. Transfers from Merced ID that enter the Delta from the San Joaquin River assume a ten percent carriage water adjustment.

Additionally, water made available by Merced ID can be conveyed directly to SLDMWA member agencies through facilities that connect to Merced ID's internal conveyance system and facilities that join the lower San Joaquin River and the DMC without going through CVP/SWP export facilities.

C.4.4 Level of Development

The Long Term Water Transfer Project is intended to provide environmental assessment for water transfers over a ten-year period. Therefore, analysis conducted to support environmental assessments was conducted at an existing level of development with consideration of reasonably foreseeable projects that may be constructed over the next ten years.

CalSim II simulations at a projected Level of Development (LOD) are used to depict how the modeled water system might operate with an assumed physical and institutional configuration imposed on a long-term hydrologic sequence. An existing LOD study assumes that current land use, facilities, and operational objectives are in place for each year of simulation (water year 1922 through 2003). The results are a depiction of the current environment which provides a basis for comparison of project effects for the impact analysis under CEQA. A future LOD study is needed to explore how the system may perform under an assumed future set of physical and institutional conditions and is used for the Future No Action Condition for NEPA analysis. The Project's ten-year period allows simulation of a single level of development under the assumptions that conditions are not likely to change significantly over such a short time horizon.

C.5 Model and Analysis Limitations

There are limitations in the ability of models to accurately address all of the intricacies of complex water management operations. Professional judgment is required to interpret results and determine benefits and impacts. Analysis for the Long Term Water Transfer Project is based on three primary models: CalSim II, SACFEM2013, and TOM. The overall analysis is therefore subject to the individual and combined limitations of all three models. While it is important to recognize and acknowledge the limitations of models as they are applied for this analysis, collectively these three models represent the best available tools for performing the analysis to serve as the basis for determining environmental impacts.

Model limitations and uncertainty for SACFEM2013 is described in Appendix D. Model limitations in CalSim II and TOM stem primarily from challenges of using computer models and fixed algorithms to simulate human decision-making processes. CVP/SWP operations are based on numerous regulatory requirements, a multitude of real-time data, and some degree of discretion on the part of operators. Numerous simplifying assumptions are necessary to simulate these complex operations. Computer models are capable of simulating many, but not all, regulatory requirements. Computer models are typically based on a more limited set of available data and use generalized rules that attempt to represent typical operator decisions. Computer models are far from perfect. However, these imperfections and simplifications do not render models useless. The regular and continued use of CalSim II for planning studies and environmental assessment by Reclamation, DWR, and others indicates the model is adequate for these purposes.

C.6 Project Alternatives and Results

C.6.1 Alternative 1: No Action/No Project Alternative

CEQA requires an EIR to include a No Project Alternative. The No Project Alternative allows for a comparison between the impacts of the proposed project with future conditions of not approving the proposed project. The No Project Alternative may include some reasonably foreseeable changes in existing conditions and changes that would be reasonably expected to occur in the foreseeable future if the project were not approved.

Under the No Action/No Project Alternative CVP related water transfers through the Delta would not occur from 2015-2024. However, other transfers that do not involve the CVP could occur under the No Action/No Project Alternative. Additionally, CVP transfers within basins could continue and would still require Reclamation's approval. Some CVP entities may decide that they are interested in selling water to buyers in export areas under the No Action/No Project Alternative; however, they would need to complete individual NEPA and Endangered Species Act compliance for each transfer to allow Reclamation to complete the evaluation of the transfers for approval.

Alternative 1 is simulated with the baseline CalSim II model provided by Reclamation and other information and model results provided by buyers and sellers. These results represent reasonably foreseeable conditions for the 2015-2024 period and are used for comparison with results from each of the project alternatives.

C.6.2 Alternative 2: Full Range of Transfer Measures

Alternative 2 would involve transfers from potential sellers upstream from the Delta to buyers in the Central Valley and Bay Area. Alternative 2 includes transfers under all potential transfer measures: groundwater substitution, reservoir release, conserved water, and crop idling/crop shifting. The order in which transfer measures are prioritized and simulated to occur is described in previous sections. The following section summarizes the results of Alternative 2 with comparisons to and changes from the No Project Alternative.

Figure C-12 is a summary of the quantity of transfer water made available (Transfer Supply) under Alternative 2 on an annual basis and illustrates where the water is diverted or used (Transfer Use). A percentage of water to be transferred through the Delta becomes carriage water to maintain Delta water quality. Unused transfer water is from two different sources/transfer measures. In some years there can be unused crop idling water during May and June because there is no ability to store it upstream or available capacity at the export pumps. A second source is reservoir release transfers from Placer County Water Agency that are held in Folsom but spill prior to being delivered to East Bay MUD. Results are summarized by water year and show small amounts of water in wetter years such as 1978, 1982, 1993, etc. These are transfers from Placer County Water Agency to East Bay MUD that extend past September of the year when the transfer begins. East Bay MUD may begin taking delivery of transfer water from Placer County Water Agency as early as March and extend into February of the following year.

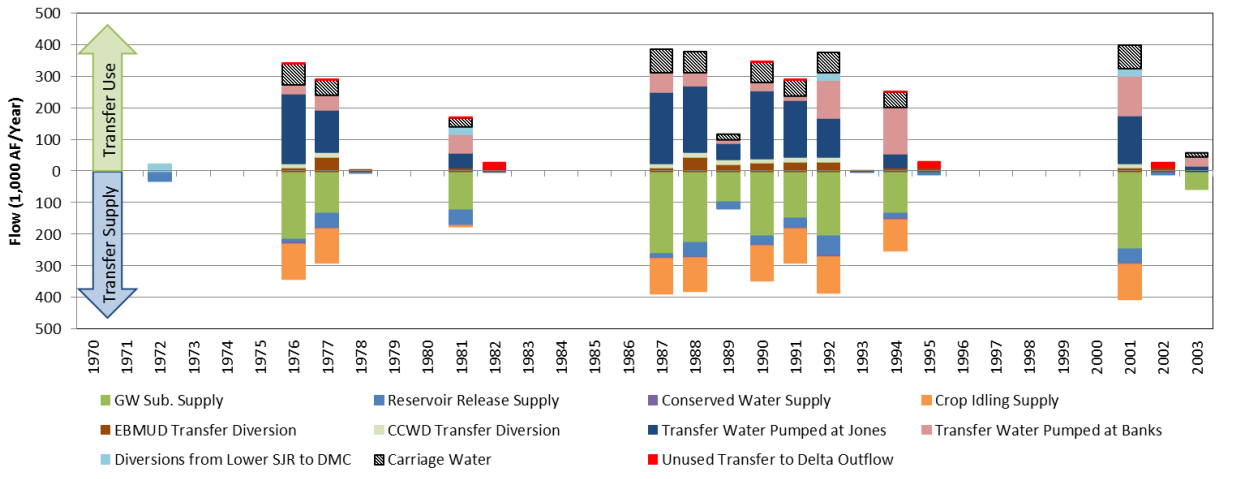


Figure C-12.
Annual Transfer Summary for Alternative 2

TOM simulates transfer water made available and moved through the system and produces results under each Project alternative for comparison with baseline, without transfers, results. TOM simulates the effects of transfers on reservoir storage, river flows, Delta outflow and exports, and diversions by Contra Costa WD and East Bay MUD. The following sections describe and illustrate these effects for Alternative 2.

C.6.2.1 Storage

Figure C-13 illustrates the change in operations at Shasta with the Project. Under Alternative 2 release from Shasta can increase or decrease. Decreased releases occur when transfer water is stored in Shasta during the April through June period and create higher storage conditions than under Alternative 1 (Baseline). Releases increase during the July through September period when stored transfer water is released for delivery. These releases bring storage back to Baseline levels. Releases also increase because groundwater substitution transfers reduce stream flow on the Sacramento River, and during times of low-flow, stored water must be released from the reservoir to meet minimum flow requirements at Wilkins Slough.

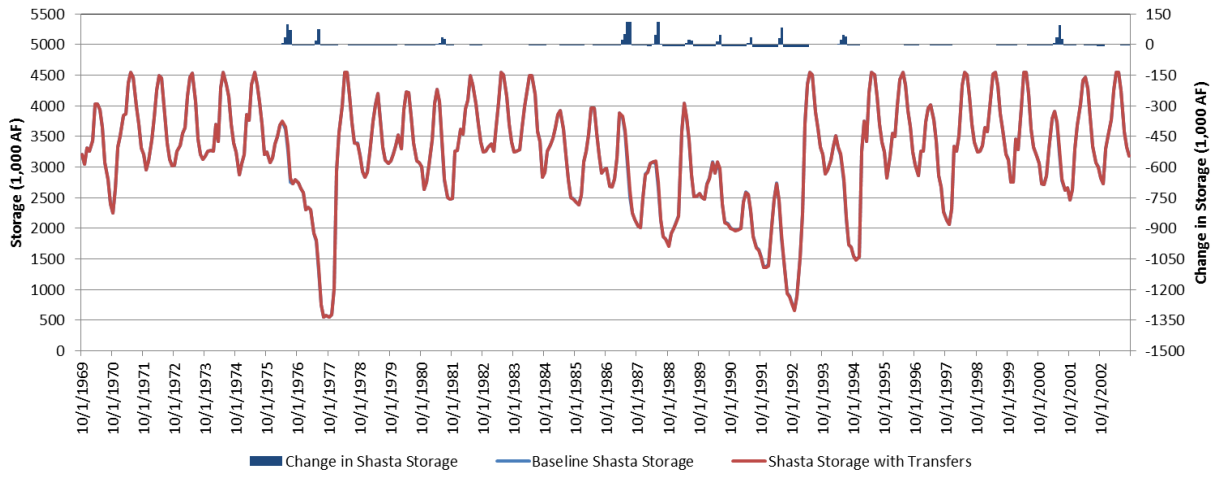


Figure C-13.
Shasta Operations with and without Alternative 2 Transfers

Operations at Folsom are illustrated below in Figure C-14. Transfer water can be temporarily stored in Folsom for release and delivery in subsequent months. This includes transfers from groundwater substitution in the American River Basin, crop idling in the Sacramento Valley, and reservoir release from upstream Placer County Water Agency reservoirs. Releases from Folsom can increase to maintain minimum flow requirements downstream on the American River at H Street.

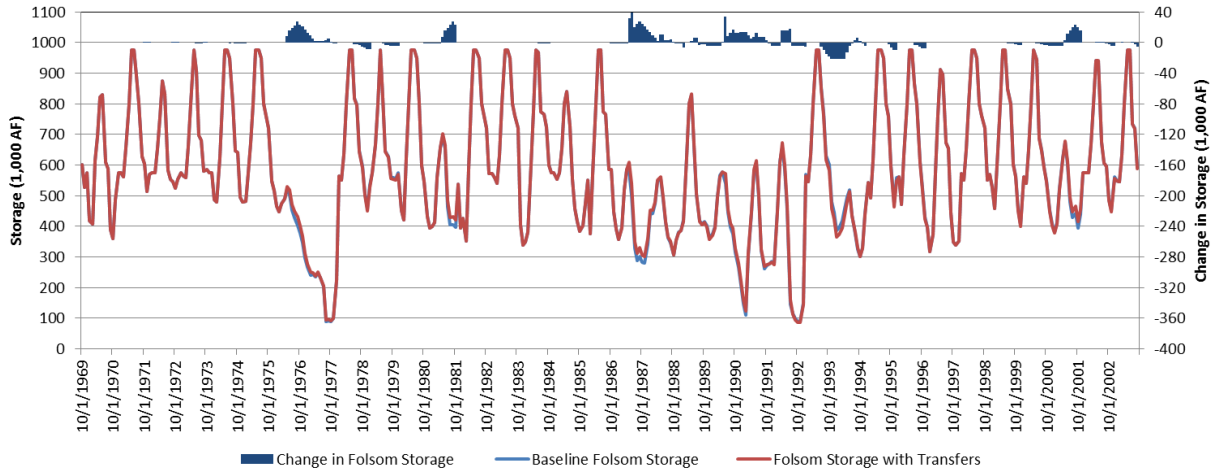


Figure C-14.
Folsom Operations with and without Alternative 2 Transfers

Figure C-15 illustrates changes in Oroville storage with and without the Project. Larger changes in Oroville storage result from shifting the timing of delivery of SWP water to accommodate transfers. There are also decreases in storage when additional water is released to maintain minimum flow requirements on the Lower Feather River. These additional releases from Oroville are made to account for reductions in Feather River flows due to groundwater substitution transfers.

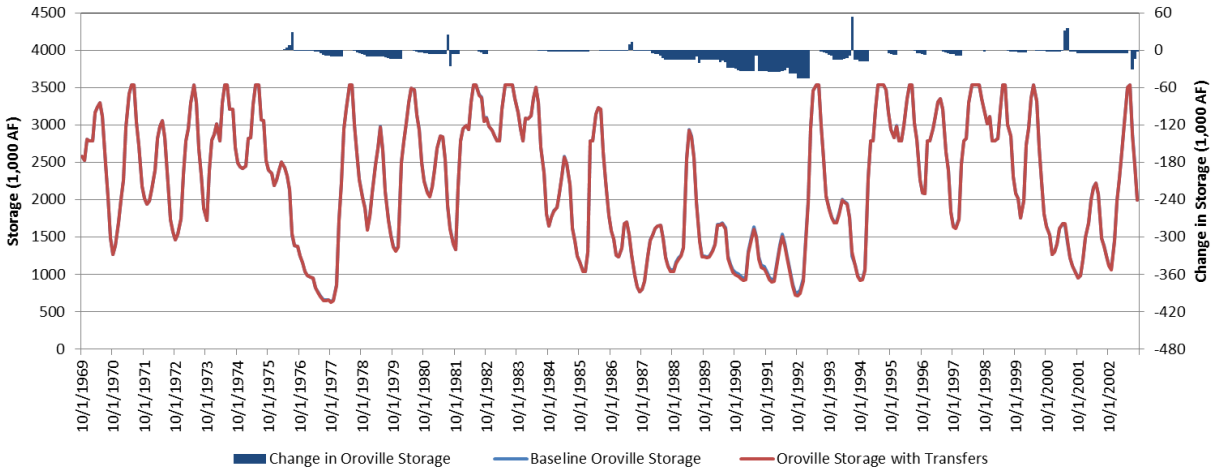


Figure C-15.
Oroville Operations with and without Project

South Sutter WD releases water from Camp Far West Reservoir to participate in reservoir release transfers. Figure C-16 illustrates the only change in reservoir storage from baseline conditions as the quantity released for transfer, a volume of five or 15 thousand acre-feet (TAF). Camp Far West Reservoir storage returns to baseline levels when the reservoir refills.

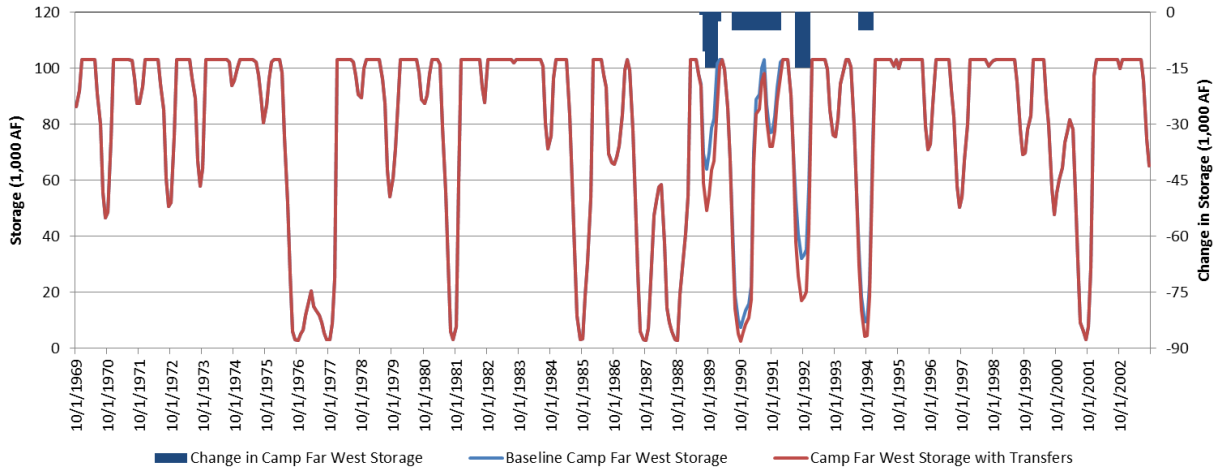


Figure C-16.
Camp Far West Operations with and without Alternative 2 Transfers

Browns Valley ID releases water from Merle Collins Reservoir to participate in reservoir release transfers. Figure C-17 illustrates the only change in reservoir storage from baseline conditions as the quantity released for transfer, up to five TAF in any year. Merle Collins Reservoir storage returns to baseline levels when the reservoir refills.

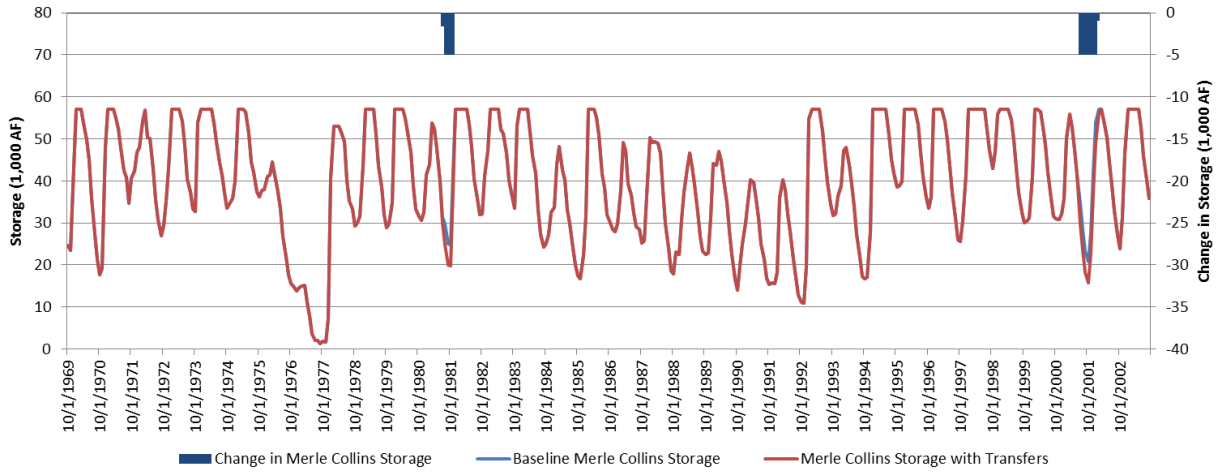


Figure C-17.
Merle Collins Reservoir Operations with and without Alternative 2 Transfers

Placer County Water Agency releases water from MFP reservoirs of French Meadows and Hell Hole to participate in reservoir release transfers. Figure C-18 illustrates the combined storage in these two reservoirs under both baseline and with Project operations. MFP reservoir storage returns to baseline levels when the reservoirs refill.

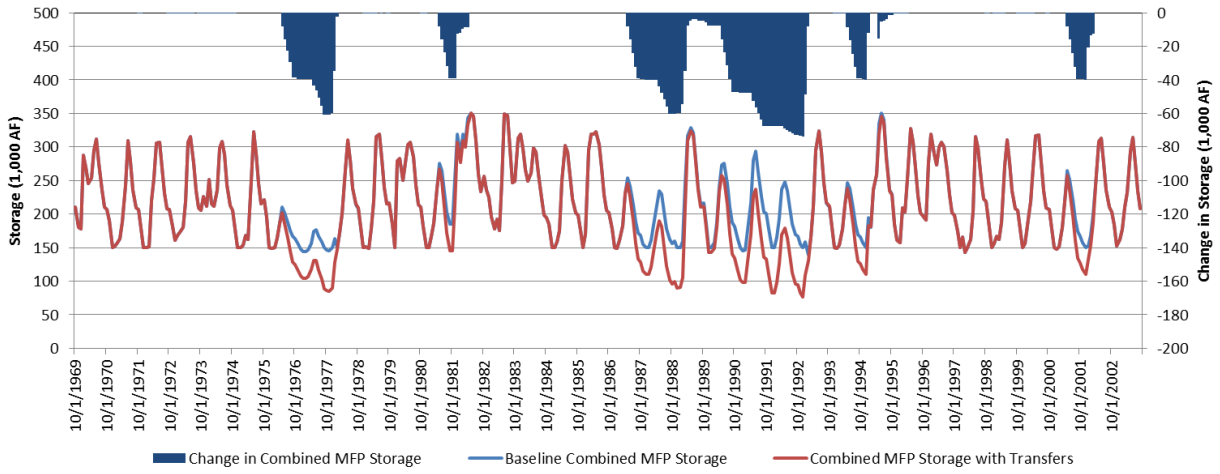


Figure C-18.
MFP Operations with and without Alternative 2 Transfers

Figure C-19 illustrates Merced ID operations of Lake McClure with and without reservoir release transfers. Reservoir release transfers of up to 30 TAF reduce reservoir storage until the reservoir refills in subsequent wet years.

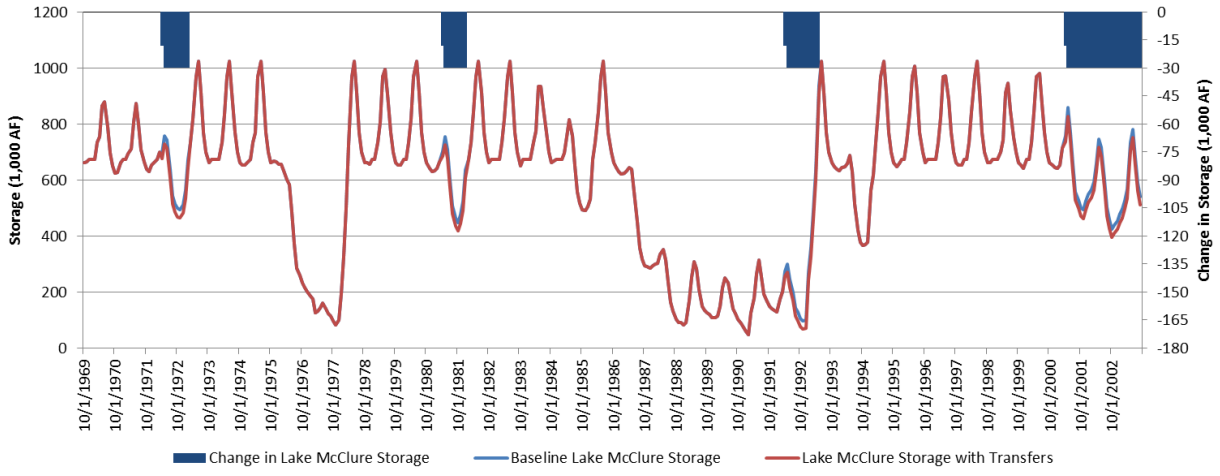


Figure C-19.
Lake McClure Operations with and without Alternative 2 Transfers

Conserved water is stored in Yuba County Water Agency's New Bullards Bar Reservoir and released for transfer in years with demand and capacity. The effect of these releases is illustrated below in Figure C-20. New Bullards Bar Reservoir storage returns to baseline levels when the reservoir refills.

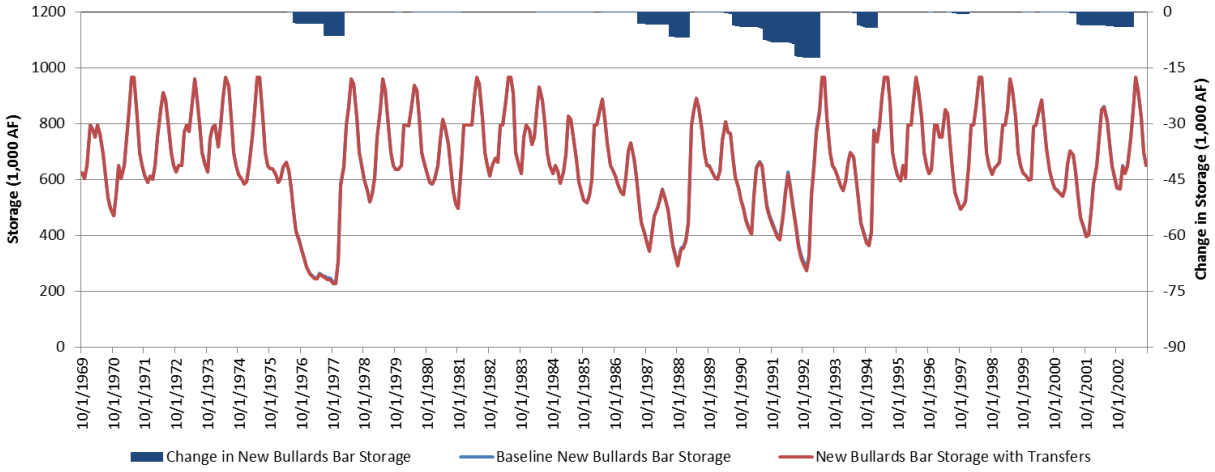


Figure C-20.
New Bullards Bar Operations with and without Alternative 2 Transfers

C.6.2.2 Stream Flow

Releases from Keswick Dam, as illustrated below in Figure C-21, reflect the changes in Shasta storage seen in Figure C-13. A reduction in release corresponds to an increase in Shasta storage. Reduced releases typically occur in the April through June period when it may be possible to store transfer water made available downstream in Shasta. Months of reduced releases are followed by increased releases as transfer water is released to be moved through the Delta during the July through September period.

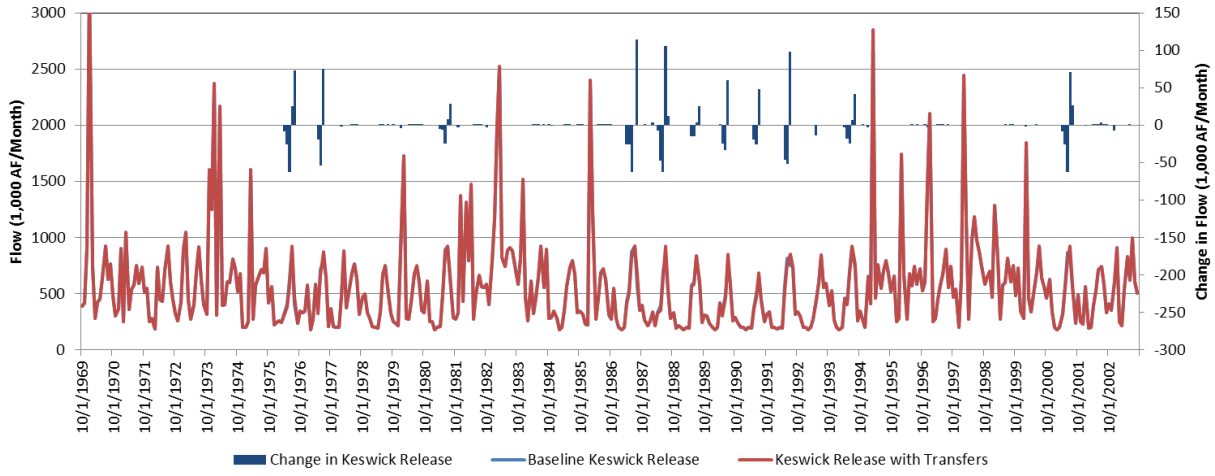


Figure C-21.
Keswick Dam Release with and without Alternative 2 Transfers

Figure C-22 illustrates the effect of Alternative 2 transfers to the Sacramento River at Wilkins Slough. Increased flows result from changes in Keswick release, plus water made available by

groundwater substitution and crop idling transfers upstream of Wilkins Slough. Decreases occur when transfer water is stored upstream in Shasta.

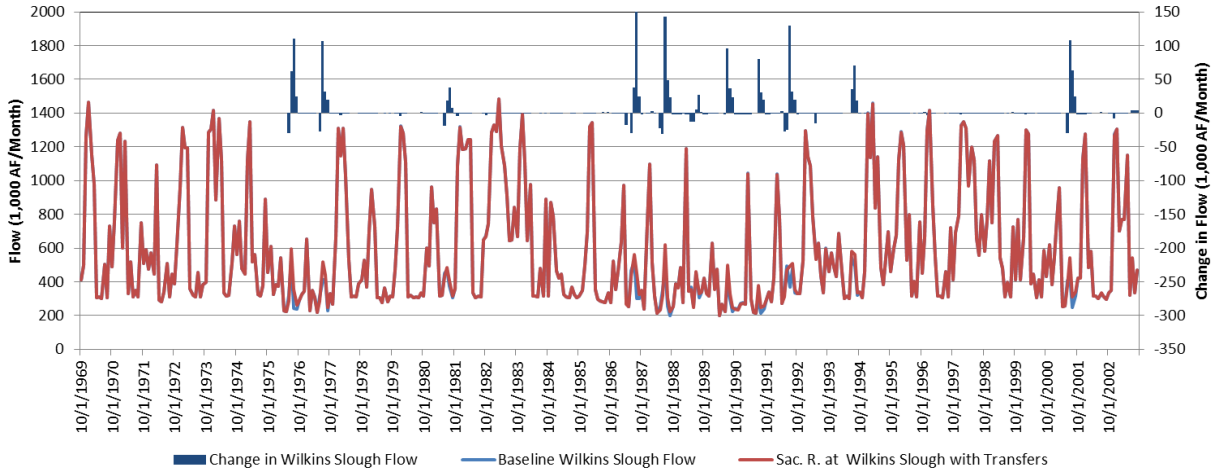


Figure C-22.
Sacramento River at Wilkins Slough with and without Alternative 2 Transfers

Figure C-23 illustrates Nimbus Dam releases. Nimbus releases reflect CVP operations of Folsom Reservoir. Increases in release of approximately five TAF are water made available by Placer County Water Agency being released for re-diversion by East Bay MUD. Larger increases are typically preceded by decreases as transfer water made available downstream is stored in Folsom. Large releases occur when stored transfer water is release to be conveyed through the Delta. Decreases also occur when Placer County Water Agency's upstream reservoirs refill, typically during times when Folsom is also spilling water to maintain flood space requirements.

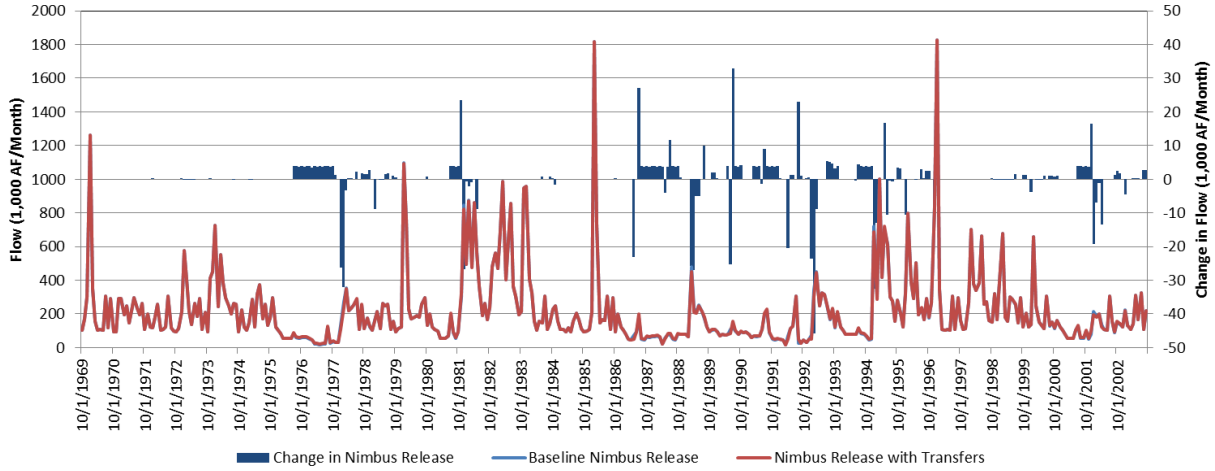


Figure C-23.
Nimbus Dam Release with and without Alternative 2 Transfers

Flows on the American River at H Street, illustrated in Figure C-24, show similar changes as flows at Nimbus. Flow at H Street also increases from water made available by groundwater substitution transfers by Sacramento Suburban WD and the City of Sacramento.

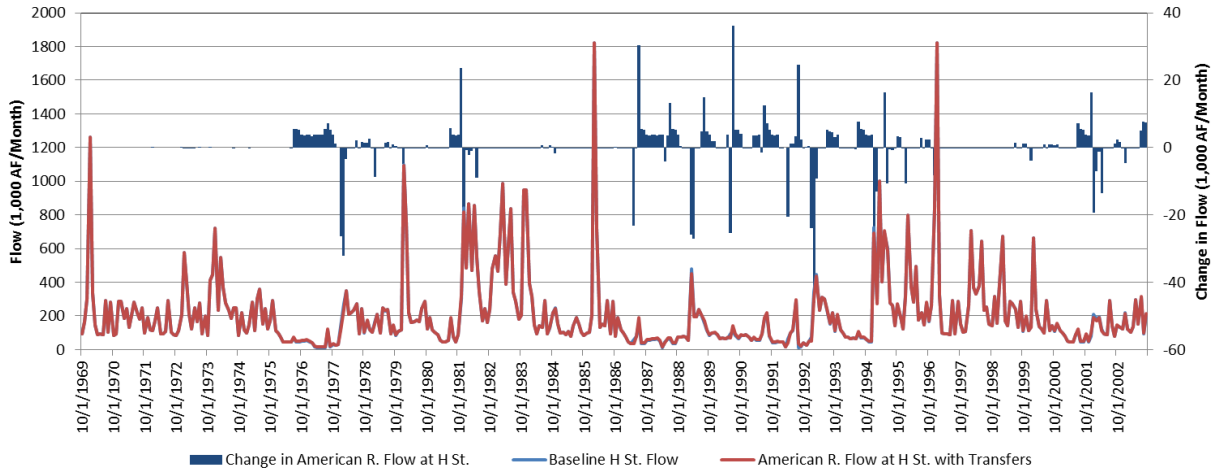


Figure C-24.
American River at H Street with and without Alternative 2 Transfers

Figure C-25 illustrates change in Feather River flow below Thermalito. Flow in the Feather River below Thermalito changes due to changes in the operation of Oroville. Transfer water made available on the Feather River downstream from Thermalito can be temporarily stored in Oroville for release and transfer during the July through September period. Water stored prior to July reduces Feather River flow. Increases and decreases in flow on the Feather River below Thermalito also occur from shifts in timing of SWP water to accommodate transfers. The magnitude of some of these differences is affected by model nuances within CalSim II that can create variations from month-to-month in release of SWP water from Oroville for movement through the Delta.

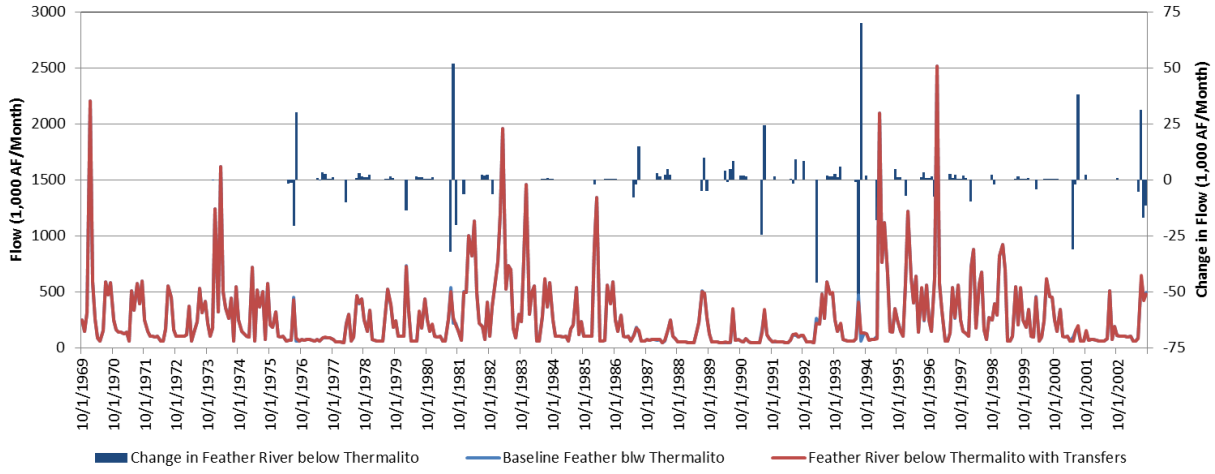


Figure C-25.
Feather River below Thermalito with and without Alternative 2 Transfers

Figure C-26 illustrates changes in flow on the Yuba River at Marysville as a result of Browns Valley ID's transfers of conserved water from New Bullards Bar Reservoir and reservoir release from Merle Collins Reservoir. Increases indicate transfer water moving downstream for re-diversion and decreases indicate upstream reservoir refill.

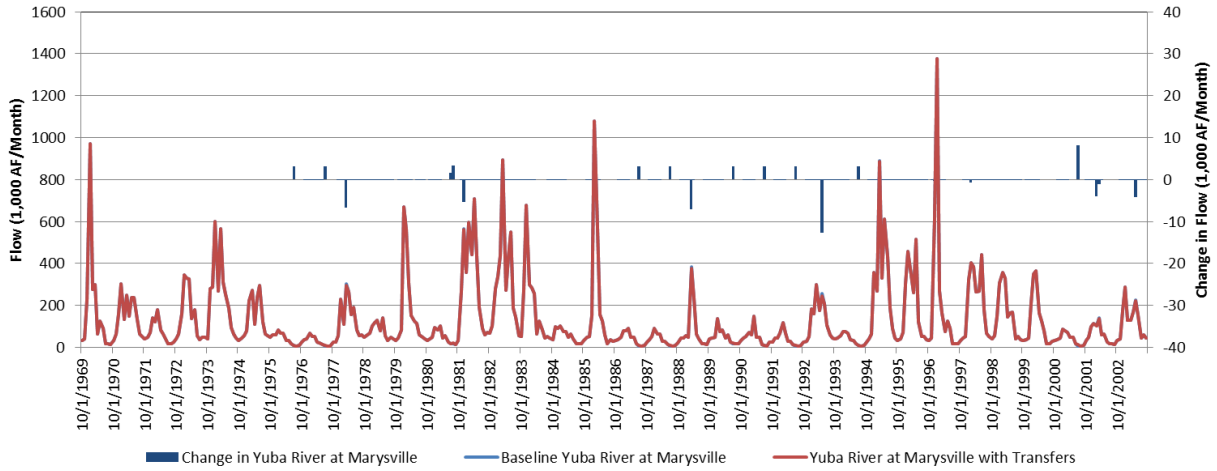


Figure C-26.
Yuba River at Marysville with and without Alternative 2 Transfers

Figure C-27 illustrates the response of Bear River flows into the Feather River as a result of South Sutter WD reservoir release transfers from Camp Far West Reservoir. Flows increase when water is released for transfer and decrease when Camp Far West refills.

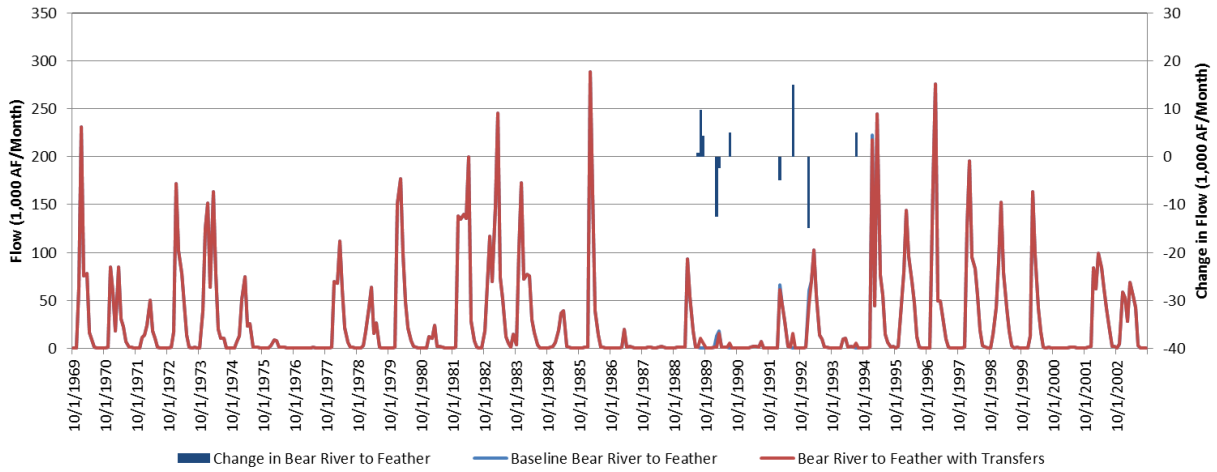


Figure C-27.
Bear River to the Feather River with and without Alternative 2 Transfers

The flow on the Lower Feather River represents an aggregation of flows on the Yuba River, Bear River, and upper portions of the Feather River. There are also increases due to water made

available by groundwater substitution transfers along the Feather River between Thermalito and the confluence with the Sacramento. Figure C-28 illustrates the effect to the Feather River.

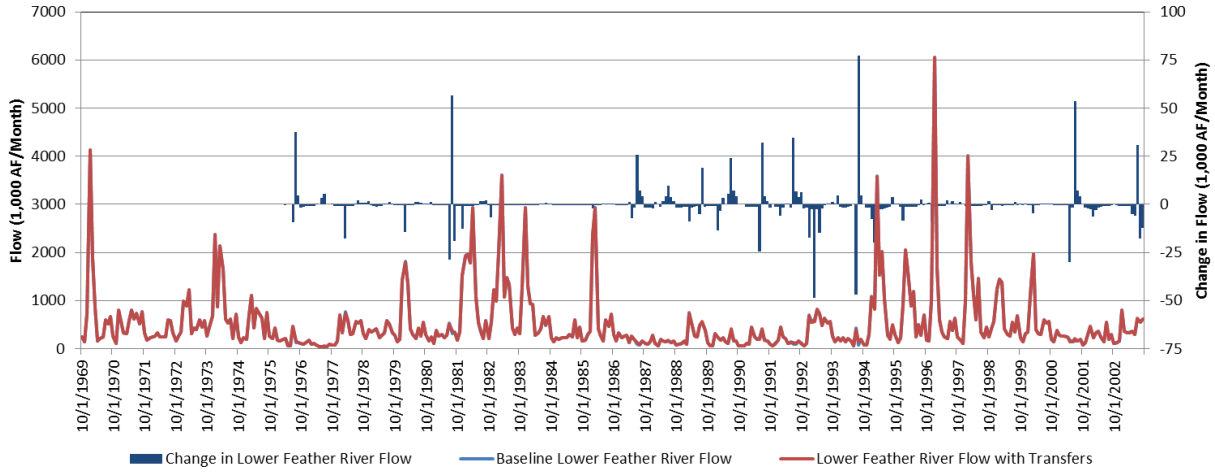


Figure C-28.
Lower Feather River with and without Alternative 2 Transfers

Figure C-29 illustrates the flow of the Sacramento River at Freeport. This location is an aggregation of all changes on the Sacramento River at Wilkins Slough, the Lower Feather River, the American River at H Street, and changes between those locations and Freeport. Changes between those locations and Freeport include increases in flow due to water made available through groundwater substitution and crop idling transfers and decreases due to stream-aquifer interaction. Reductions in flow of approximately 50 TAF or more are a result of changes in stream and flood bypass flows during surplus conditions after one or more years of groundwater substation transfers. These changes are also illustrated above in Figure C-7.

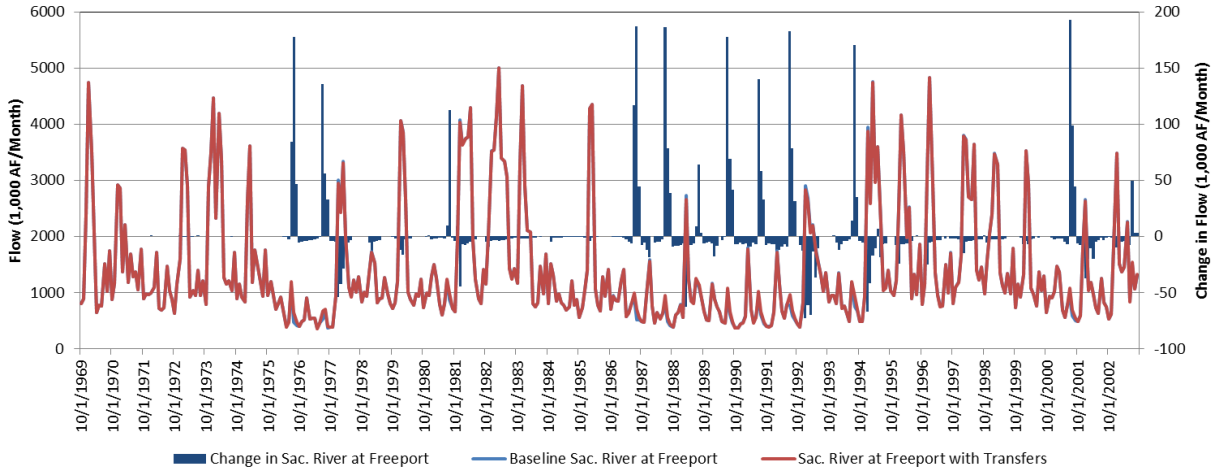


Figure C-29.
Sacramento River at Freeport with and without Alternative 2 Transfers

Figure C-30 illustrates the changes on the Merced River at the confluence with the San Joaquin River. Increases in Merced River flow represent transfer water made available by reservoir releases at Lake McClure; decreases occur when Lake McClure refills.

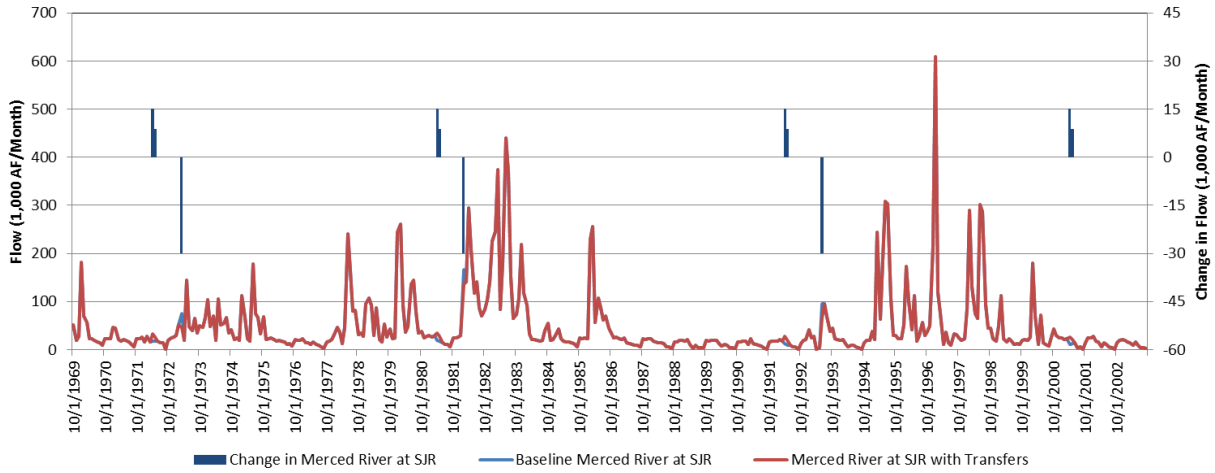


Figure C-30.
Merced River at the San Joaquin River with and without Alternative 2 Transfers

Figure C-31 illustrates San Joaquin River flows at Vernalis. Increases in flow are Merced ID transfer water to be diverted at Banta Carbona ID and conveyed to the DMC. Decreases in flow occur when Lake McClure refills space vacated during reservoir release transfers.

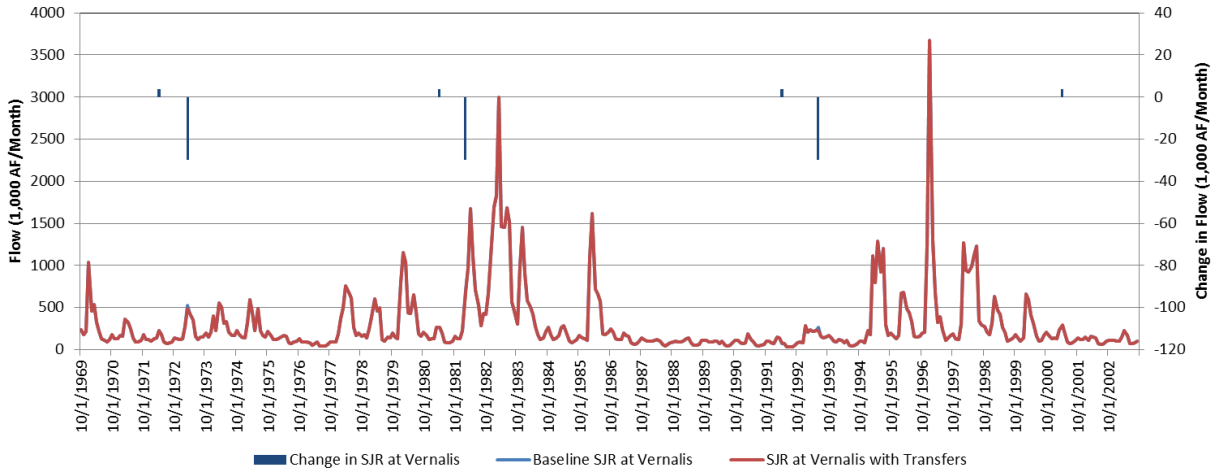


Figure C-31.
San Joaquin River at Vernalis with and without Alternative 2 Transfers

Changes to Delta outflow are illustrated below in Figure C-32. Increases in Delta outflow are primarily due to carriage water to facilitate transfers through the Delta. Decreases in Delta outflow are attributed to reservoir refill upstream and changes in stream-aquifer interaction.

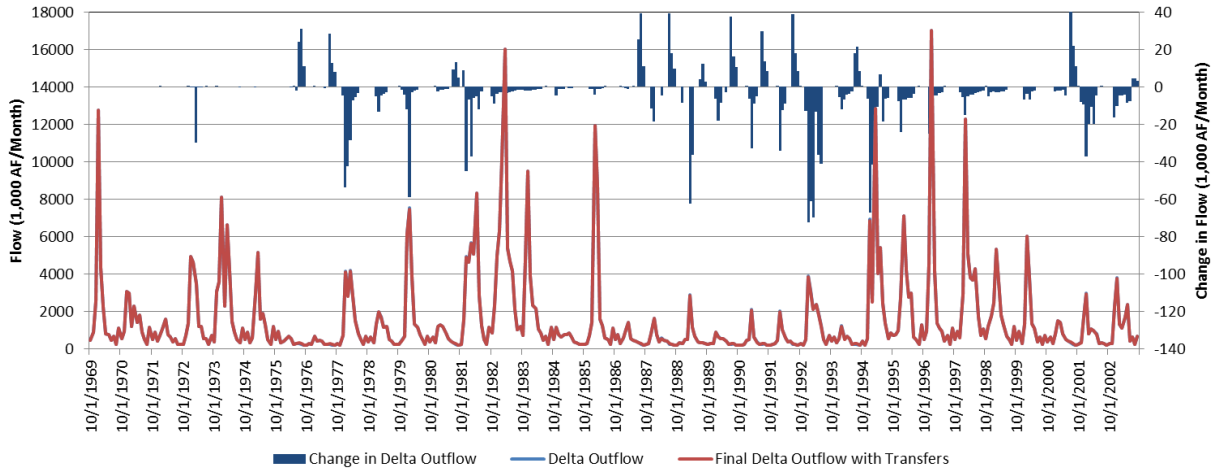


Figure C-32.
Delta Outflow with and without Alternative 2 Transfers

Table C-1 summarizes changes in Delta outflow on an average monthly basis. Average annual Delta outflow is decreased by approximately 31 TAF with decreases November through June and increases June through September.

Table C-1.
Average Monthly Delta Outflow (TAF) for Alternative 2

Delta Outflow	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	393	867	1,490	3,260	3,312	3,278	1,753	1,381	816	546	297	638	18,031
With Transfers	393	867	1,485	3,250	3,300	3,268	1,748	1,378	813	554	303	641	18,000
Change	0	-1	-5	-10	-12	-10	-5	-3	-3	8	6	3	-31

C.6.2.3 Exports and Diversions

Figure C-33 illustrates the change in exports at Jones Pumping Plant. Increases are generally due to export of transfer water for SLDMWA. Decreases in Jones exports are due to changes in Sacramento Valley stream-aquifer interaction that reduce Delta inflows.

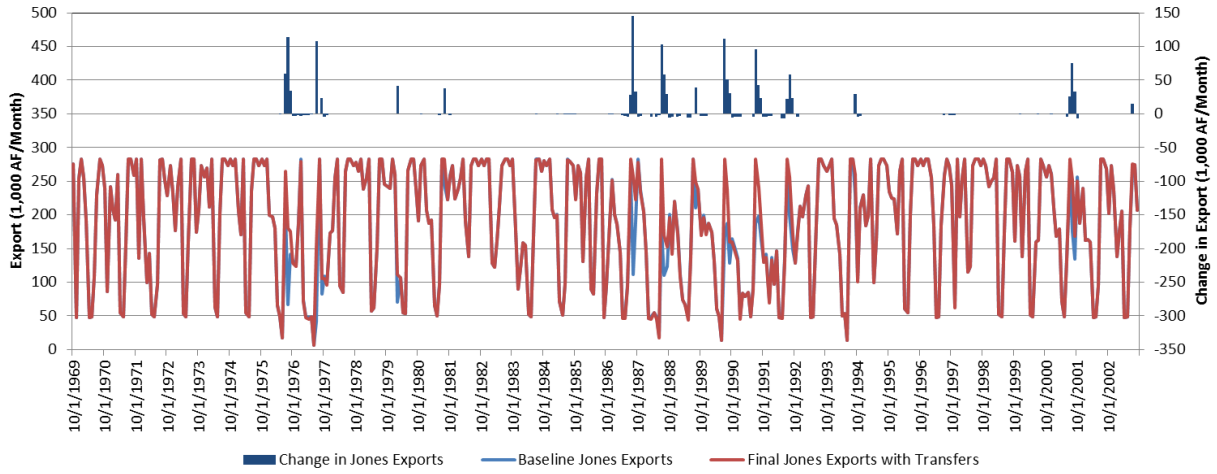


Figure C-33.
Exports at Jones Pumping Plant with and without Alternative 2 Transfers

Table C-2 summarizes the average monthly exports at Jones Pumping Plant for the baseline and with Project alternatives and the change. Increases occur during the transfer months of July, August, and September, with an average annual increase of 39 TAF.

Table C-2.
Average Monthly Exports at Jones Pumping Plant (TAF) for Alternative 2

Jones Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	222	212	235	197	186	198	69	65	153	256	252	223	2,268
With Transfers	221	211	235	197	187	198	69	65	152	272	270	231	2,306
Change	-1	-1	0	0	1	0	0	-1	-1	17	18	8	39

Transfer water can also be exported at Banks Pumping Plant. Banks exports also can be reduced when changes in stream-aquifer interaction affect the SWP. This is illustrated below in Figure C-34.

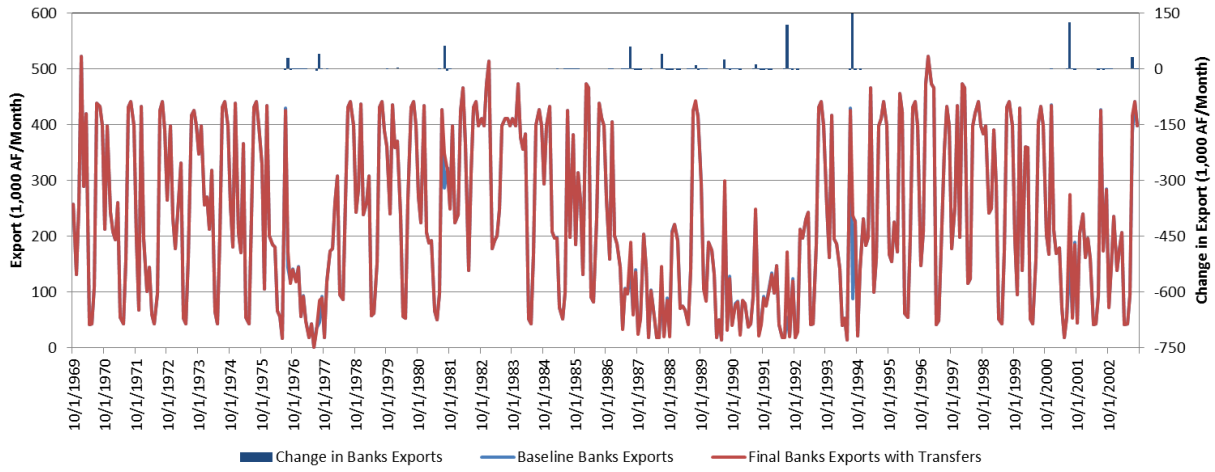


Figure C-34.
Exports at Banks Pumping Plant with and without Alternative 2 Transfers

Table C-3 summarizes the average monthly exports at Banks Pumping Plant for the baseline and with Project alternatives and the change. The average annual change is an increase of approximately 15 TAF.

Table C-3.
Average Monthly Exports at Banks Pumping Plant (TAF) for Alternative 2

Banks Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	202	212	307	222	239	261	70	62	156	363	316	320	2,731
With Transfers	201	211	307	221	239	261	70	62	156	375	324	319	2,746
Change	-1	-1	0	0	0	0	0	0	0	11	8	-1	15

Total CVP/SWP exports, the sum of exports at Jones and Banks Pumping Plants, are illustrated in Figure C-35.

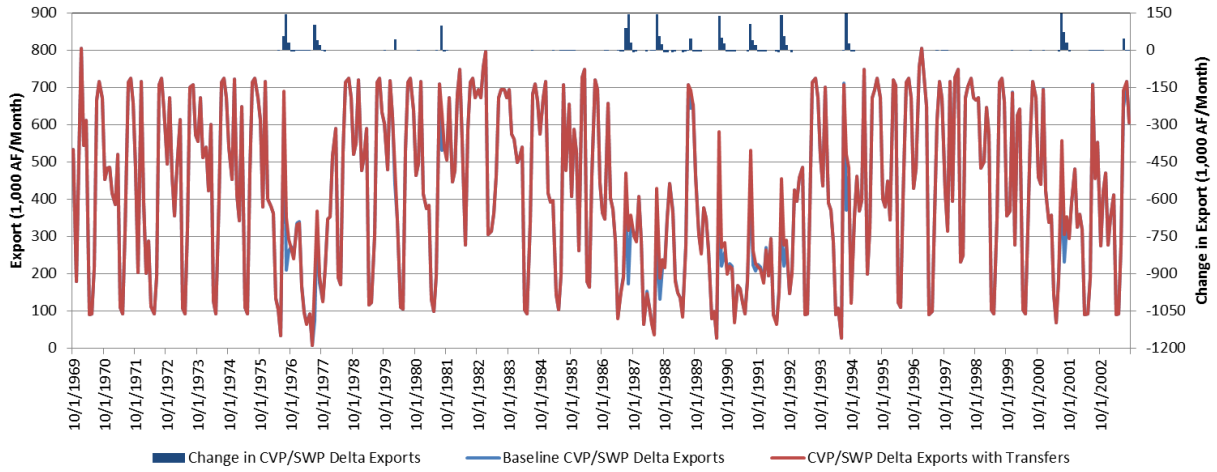


Figure C-36.
Total CVP/SWP Exports from the Delta with and without Alternative 2 Transfers

Table C-4 summarizes the average monthly combined CVP/SWP exports. The average annual change under Alternative 2 is approximately 54 TAF.

Table C-4.
Average Monthly Combined CVP/SWP Exports (TAF) for Alternative 2

CVP/SWP Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	424	424	543	419	425	459	138	128	309	619	568	543	4,998
With Transfers	422	422	542	418	426	459	138	127	308	647	594	549	5,052
Change	-2	-2	-1	-1	1	0	0	-1	-1	28	26	6	54

Transfer water is also diverted by East Bay MUD at the Freeport Regional Water Project (Freeport) and by Contra Costa WD at their diversion facilities on Rock Slough, Old River, and Victoria Canal. Figure C-36 illustrates changes in diversions by East Bay MUD at Freeport. Baseline East Bay MUD diversions represent diversion of CVP project water under East Bay MUD's existing contract. Diversion of transfer water occurs during months when East Bay MUD is also diverting CVP project water and increases the total East Bay MUD Freeport diversion up to the available capacity.

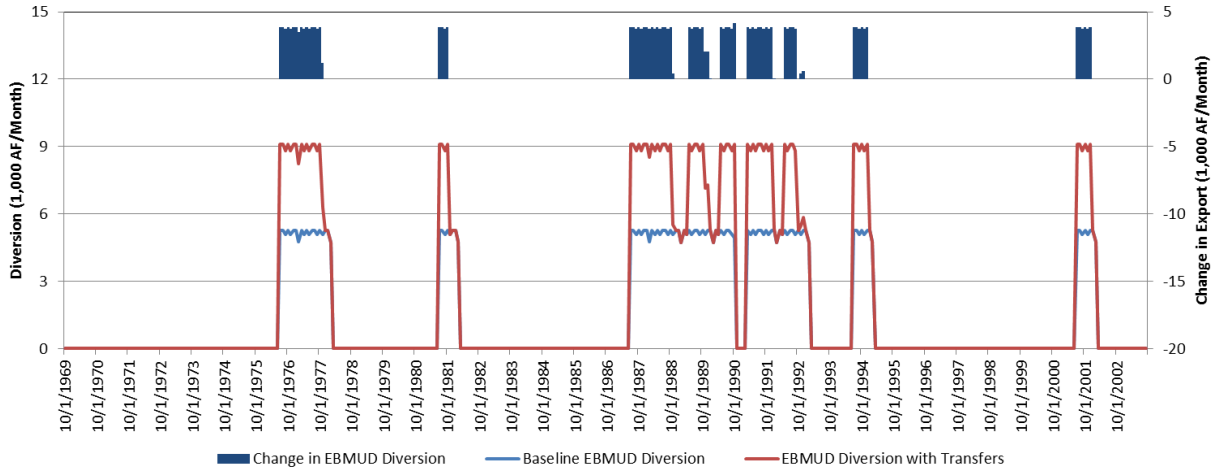


Figure C-36.
East Bay MUD Diversions with and without Alternative 2 Transfers

Contra Costa WD diversions increase to take delivery of transfer water as illustrated below in Figure C-37. Contra Costa WD identified an annual transfer demand of up to 15 TAF and this volume of water diverted at a rate of five TAF per month during the July through September period. Contra Costa WD diversions of transfer water are assumed to occur at the point of diversion with the best water quality and available capacity.

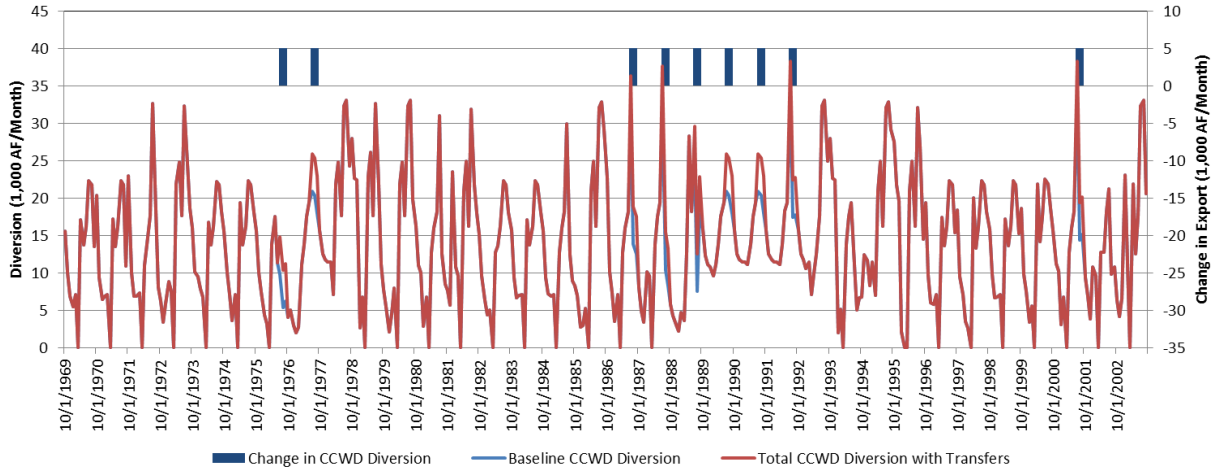


Figure C-37.
Contra Costa WD Diversions with and without Alternative 2 Transfers

C.6.3 Alternative 3: No Cropland Modifications

Alternative 3 would include transfers through groundwater substitution, stored reservoir release, and conservation. It would not include any cropland idling transfers.

Figure C-38 summarizes the quantity of transfer water made available (Transfer Supply) under Alternative 3 on an annual basis, and illustrates where the water is diverted (Transfer Use). As in Alternative 2, a percentage of water to be transferred through the Delta becomes carriage water to maintain Delta water quality. Alternative 3 does not include crop idling transfer so there are no transfer supplies from that measure. Unused transfer water under this alternative is from the spill of Placer County Water Agency reservoir release water from Folsom before it can be released and re-diverted by East Bay MUD.

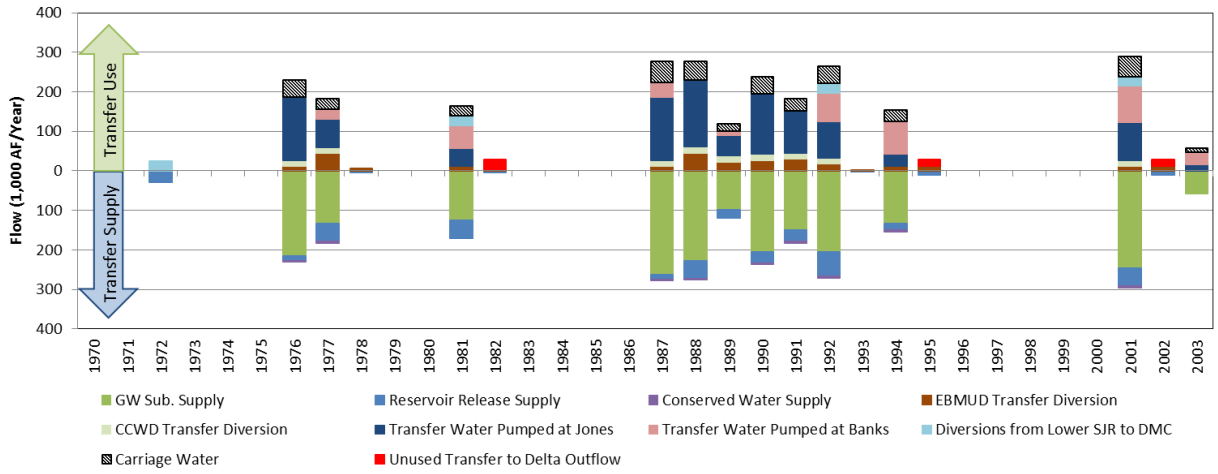


Figure C-38.
Annual Transfer Summary for Alternative 3

C.6.3.1 Storage

Changes in the operation of Shasta under Alternative 3 are similar to changes under Alternative 2 (see Figure C-39). Increases in storage under Alternative 3 occur when groundwater substitution transfers start prior to July and transfer water is stored upstream. There are also small reductions in storage when additional releases are made to account for changes in Sacramento River flow as a result of groundwater substitution transfers.

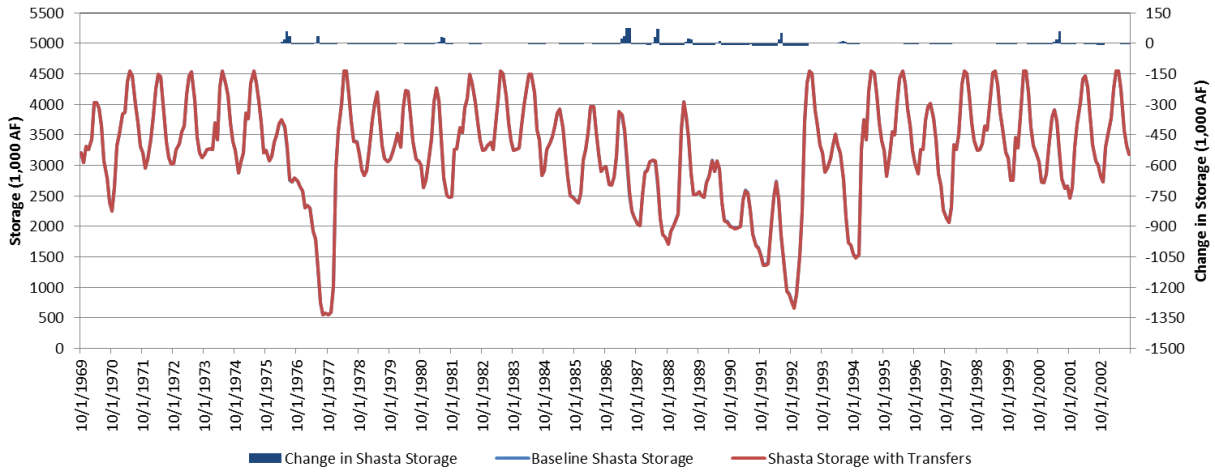


Figure C-39.
Shasta Operations with and without Alternative 3 Transfers

Folsom is used to regulate reservoir release transfers from Placer County Water Agency's upstream reservoirs before delivery to East Bay MUD. This operation can result in temporary changes in storage, as illustrated in Figure C-40. Additional releases are also made out of Folsom to account for changes in river flows as a result of groundwater substitution transfers.

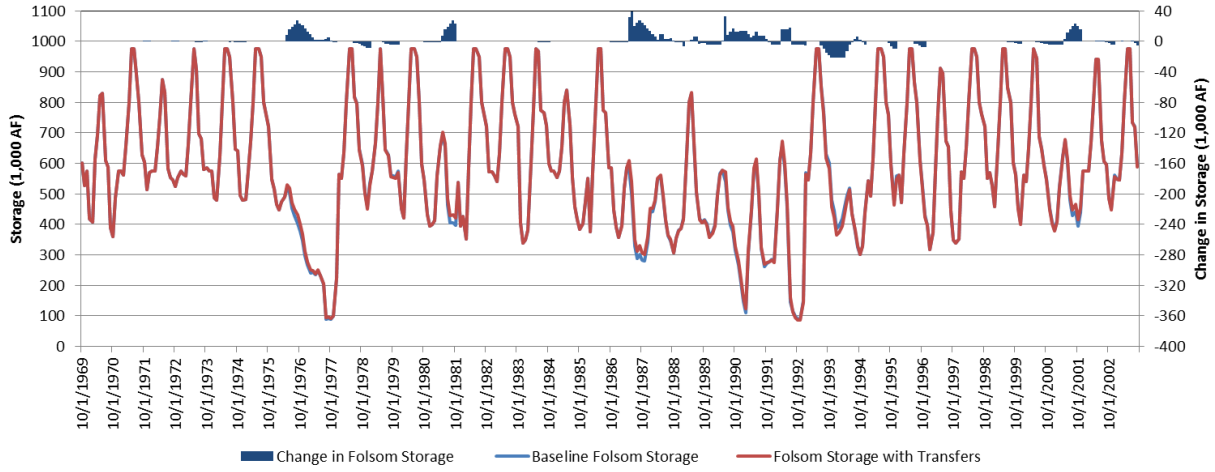


Figure C-40.
Folsom Operations with and without Alternative 3 Transfers

Figure C-41 illustrates the change in operations at Oroville. Changes in Oroville operations result from shifting the timing of delivery of SWP water to accommodate transfers. There are also decreases in storage when additional water is released to maintain minimum flow requirements on the Lower Feather River. These additional releases from Oroville are made to account for reductions in Feather River flows due to groundwater substitution transfers.

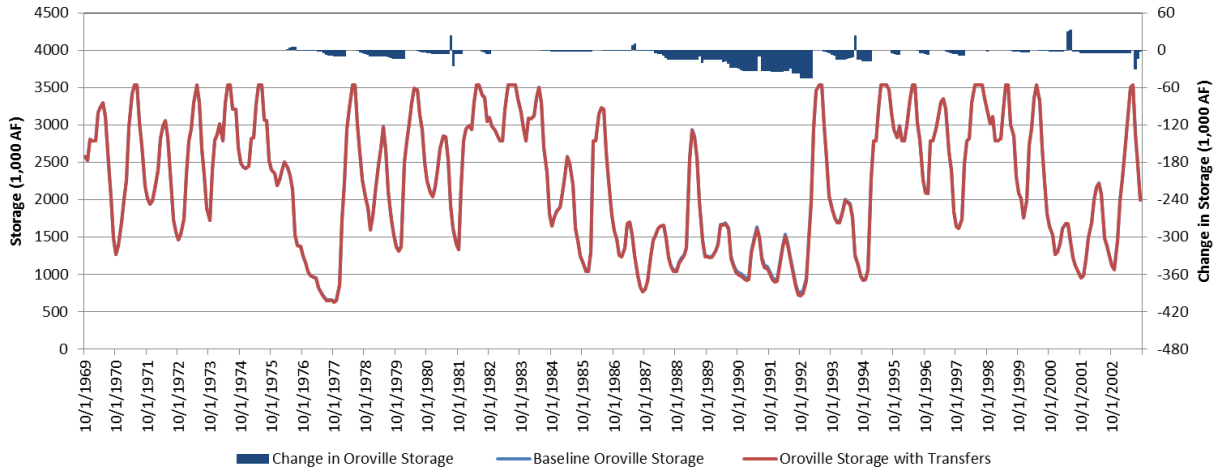


Figure C-41.
Oroville Operations with and without Alternative 3 Transfers

South Sutter WD releases water from Camp Far West Reservoir to participate in reservoir release transfers. Figure C-42 illustrates the only change in reservoir storage from baseline conditions as the quantity released for transfer. Camp Far West Reservoir storage returns to baseline levels when the reservoir refills.

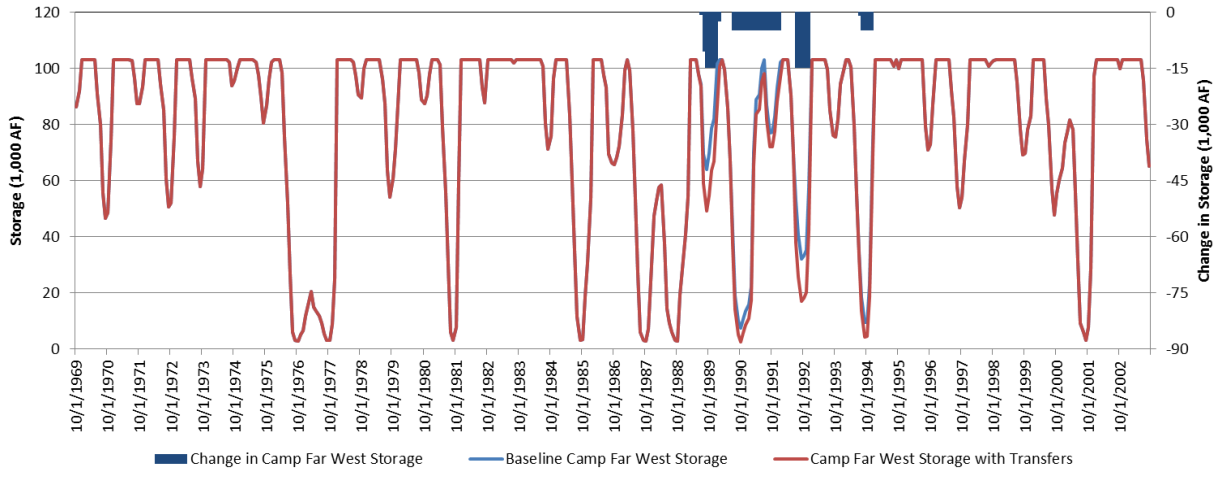


Figure C-42.
Camp Far West Operations with and without Alternative 3 Transfers

Browns Valley ID releases water from Merle Collins Reservoir to participate in reservoir release transfers. Figure C-43 illustrates the only change in reservoir storage from baseline conditions as the quantity released for transfer, up to five TAF in any year. Merle Collins Reservoir storage returns to baseline levels when the reservoir refills.

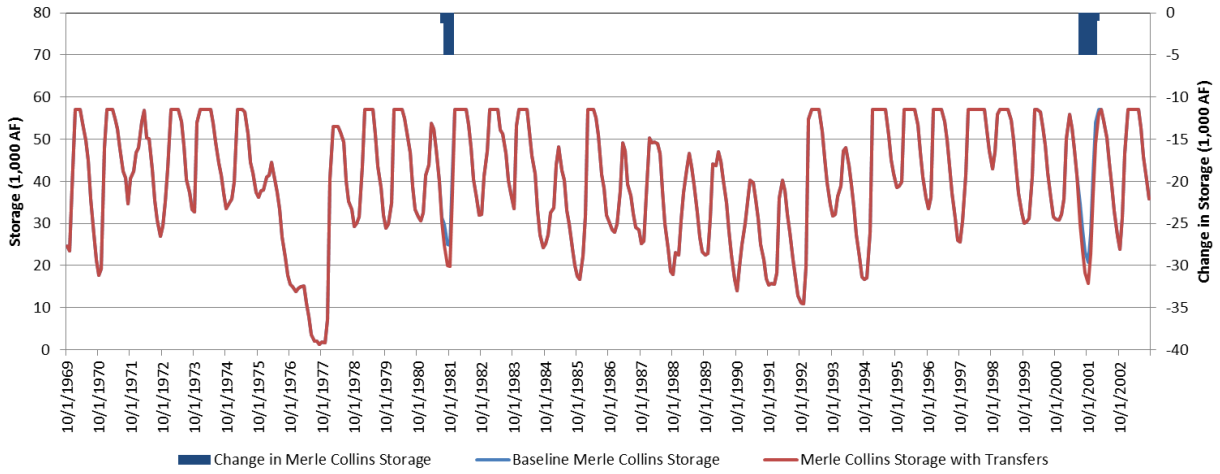


Figure C-43.
Merle Collins Operations with and without Alternative 3 Transfers

Placer County Water Agency releases water from MFP reservoirs of French Meadows and Hell Hole to participate in reservoir release transfers. Figure C-44 illustrates the combined storage in these two reservoirs under both baseline and with Project operations. MFP reservoir storage returns to baseline levels when the reservoirs refill.

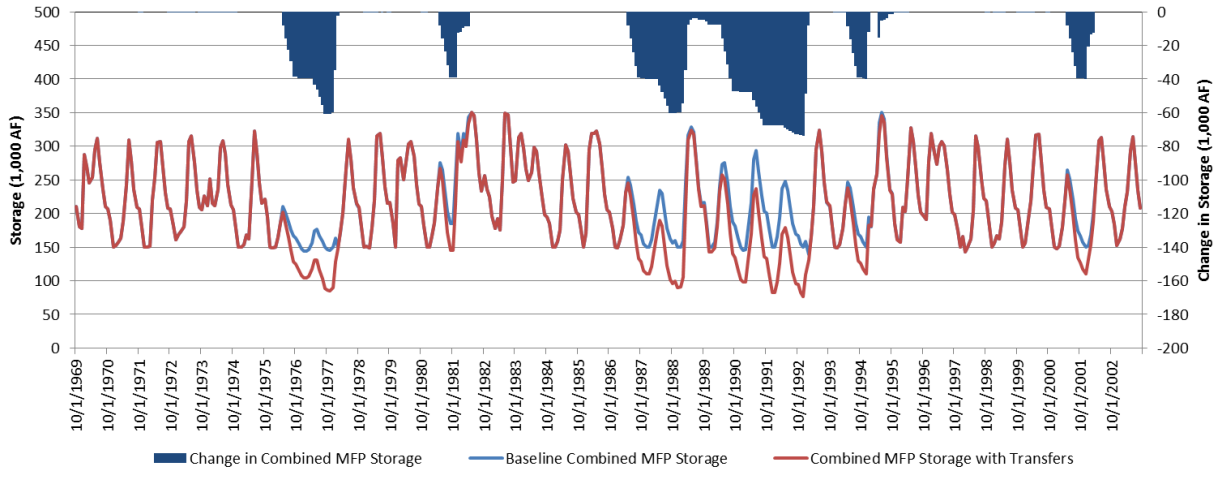


Figure C-44.
MFP Operations with and without Alternative 3 Transfers

Figure C-45 illustrates change in storage of Lake McClure due to reservoir release transfers. Storage in Lake McClure can be lower by up to 30 TAF, the volume of reservoir release transfer, and returns to baseline levels when the reservoir refills with water that would otherwise have been released to maintain flood space requirements.

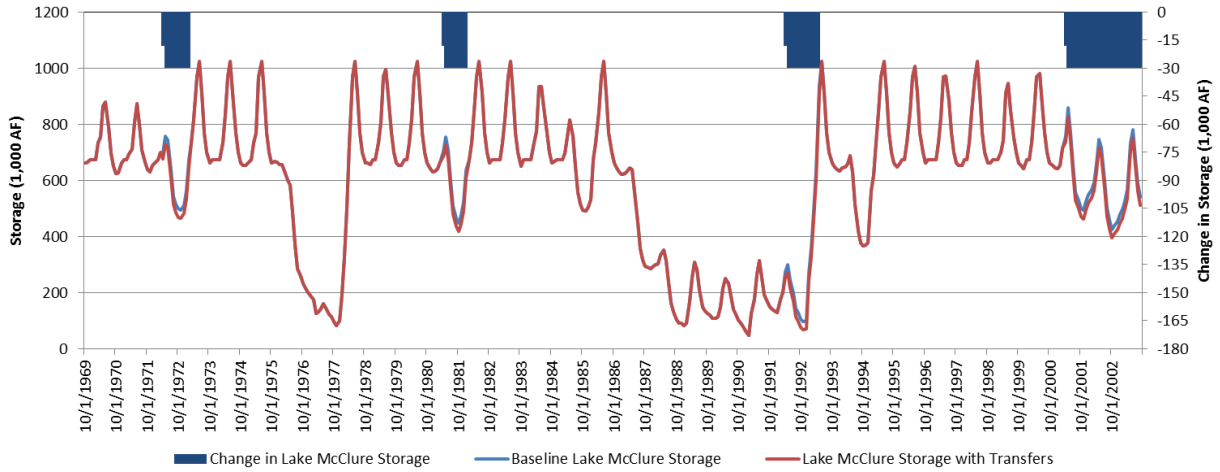


Figure C-45.
Lake McClure Operations with and without Alternative 3 Transfers

Conserved water from Browns Valley ID is stored in Yuba County Water Agency's New Bullards Bar Reservoir and released for transfer in years with demand and capacity. These releases of stored water are the primary effect to New Bullards Bar Reservoir as illustrated below in Figure C-46.

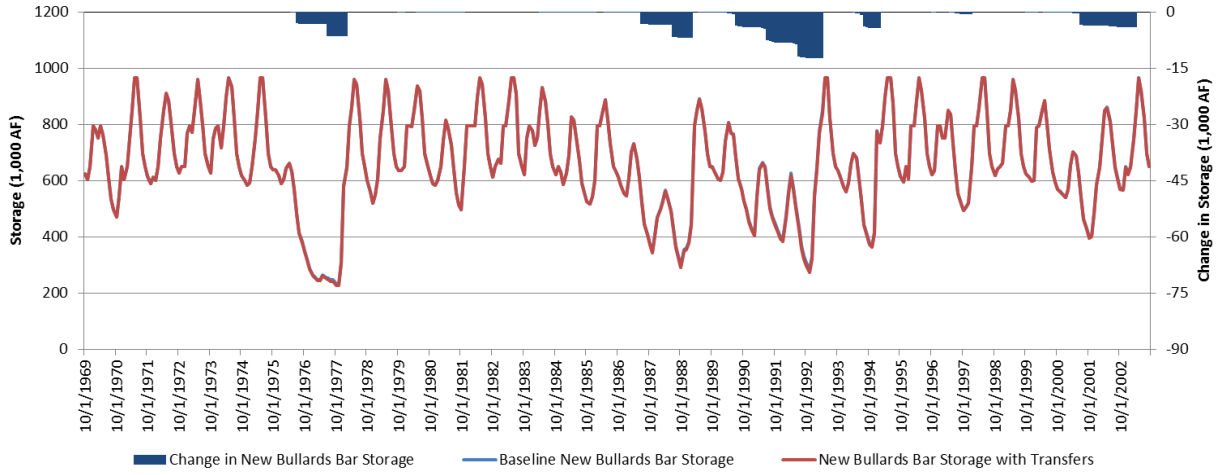


Figure C-46.
New Bullards Bar Operations with and without Alternative 3 Transfers

C.6.3.2 Stream Flow

Releases from Keswick Dam, as illustrated below in Figure C-47, reflect changes in Shasta storage seen in Figure C-39. A reduction in release corresponds to an increase in Shasta storage. Reduced releases typically occur in the April through June period when it may be possible to store transfer water made available downstream. Months of reduced releases are followed by increased releases as transfer water is released to be moved through the Delta during the July through September period.

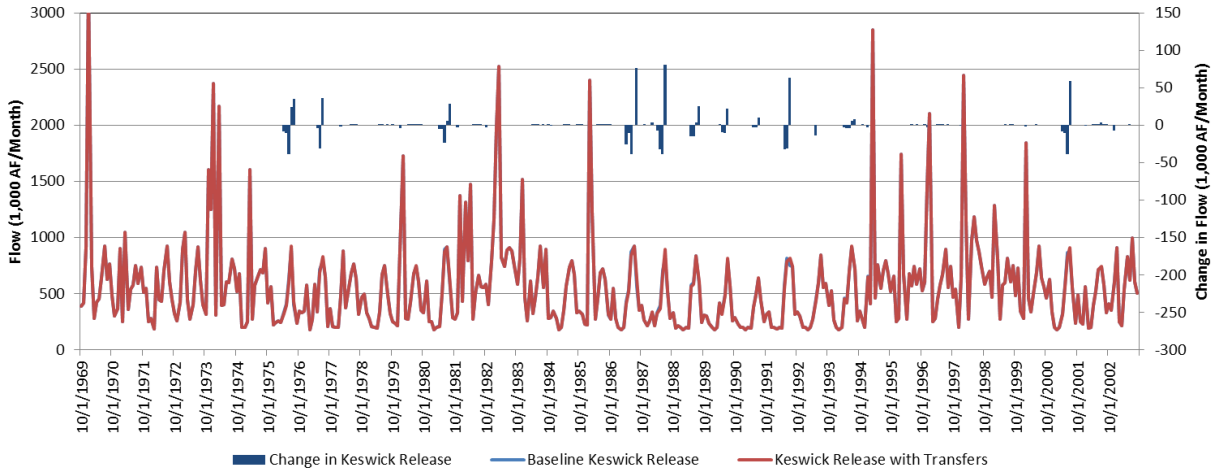


Figure C-47.
Keswick Dam Release with and without Alternative 3 Transfers

Figure C-48 illustrates the effect to flows on the Sacramento River at Wilkins Slough. Flows are reduced when groundwater substitution transfers commence prior to July and are simulated as stored upstream in Shasta. Flows are increased in the July through September period when previously stored transfer water is released for delivery through the Delta, and additional groundwater substitution transfers occur upstream of Wilkins Slough.

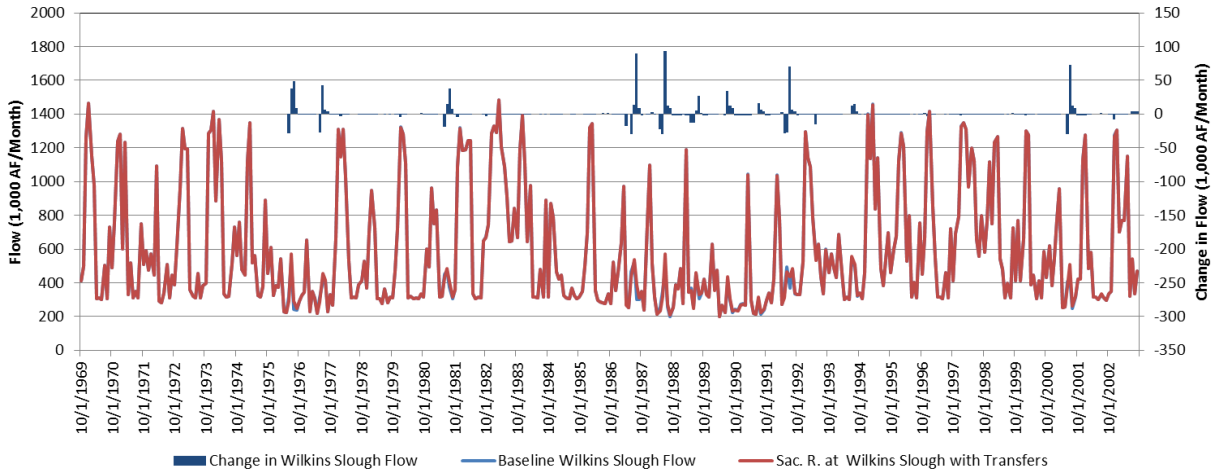


Figure C-48.
Sacramento River at Wilkins Slough with and without Alternative 3 Transfers

Figure C-49 illustrates Nimbus Dam releases under baseline and with Alternate 3 transfers. Nimbus releases reflect CVP operations of Folsom Reservoir. Increases in release of approximately five TAF are water made available by Placer County Water Agency and released from Folsom for re-diversion by East Bay MUD. Larger increases are typically preceded by decreases as transfer water made available downstream is stored in Folsom. Large releases occur when stored transfer water is release to be conveyed through the Delta. Decreases also occur

when Placer County Water Agency's upstream reservoirs refill, typically during times when Folsom is also spilling water to maintain flood space requirements.

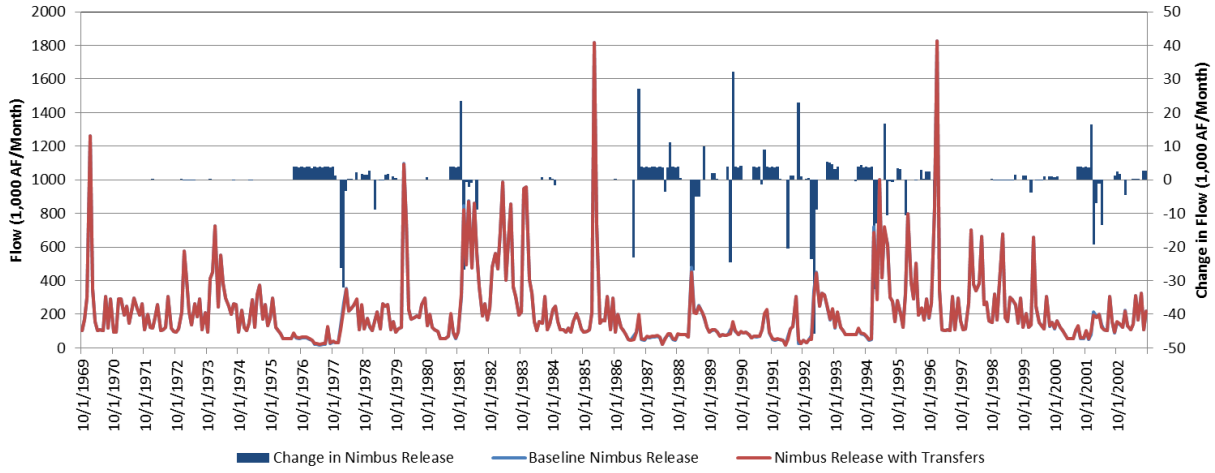


Figure C-49.
Nimbus Dam Release with and without Alternative 3 Transfers

The change in flow on the American River at H Street is similar as the change in release from Nimbus. Increases in flow are larger from July through September by the volume of groundwater substitution transfer made available by Sacramento Suburban WD and the City of Sacramento. Figure C-50 is a comparison of flows under baseline and Alternative 3.

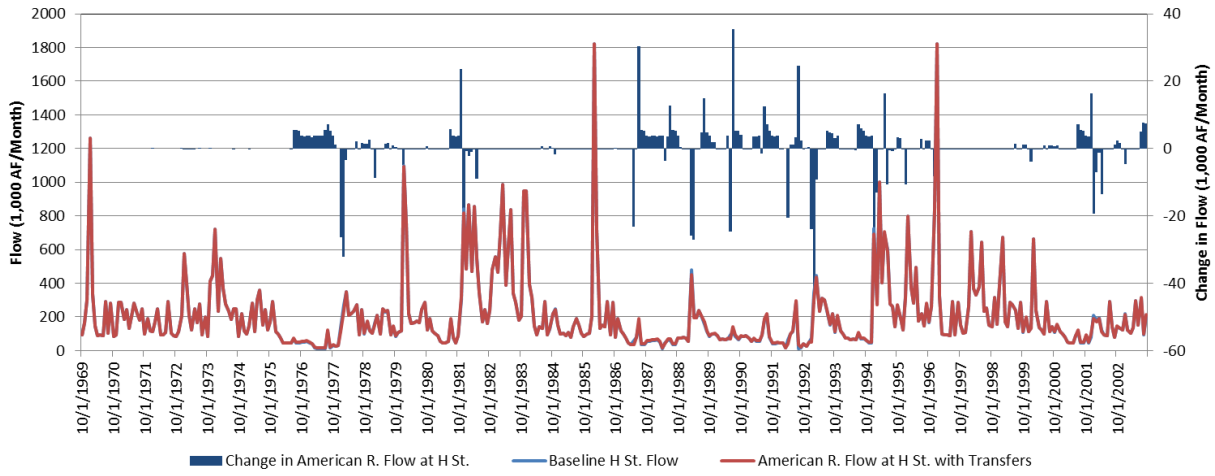


Figure C-50.
American River at H Street with and without Alternative 3 Transfers

Figure C-51 illustrates changes in Feather River flow downstream from Thermalito. Flow in the Feather River below Thermalito changes due to changes in the operation of Oroville. Transfer water made available on the Feather River downstream from Thermalito can be temporarily stored in Oroville for release and transfer during the July through September period. Water

stored prior to July reduces Feather River flow. Increases and decreases in flow on the Feather River below Thermalito also occur from shifts in timing of SWP water to accommodate transfers. The magnitude of some of these differences is affected by model nuances within CalSim II that can create variations from month-to-month in release of SWP water from Oroville for movement through the Delta.

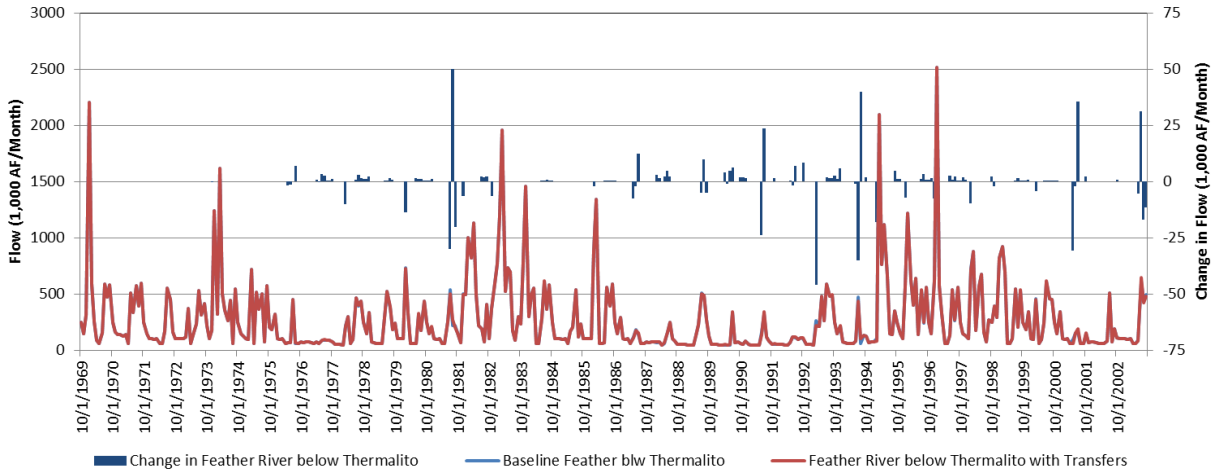


Figure C-51.
Feather River below Thermalito with and without Alternative 3 Transfers

Figure C-52 illustrates changes in flow on the Yuba River as a result of New Bullards Bar Reservoir release of Browns Valley ID conserved water (increases) and reservoir refill (decreases).

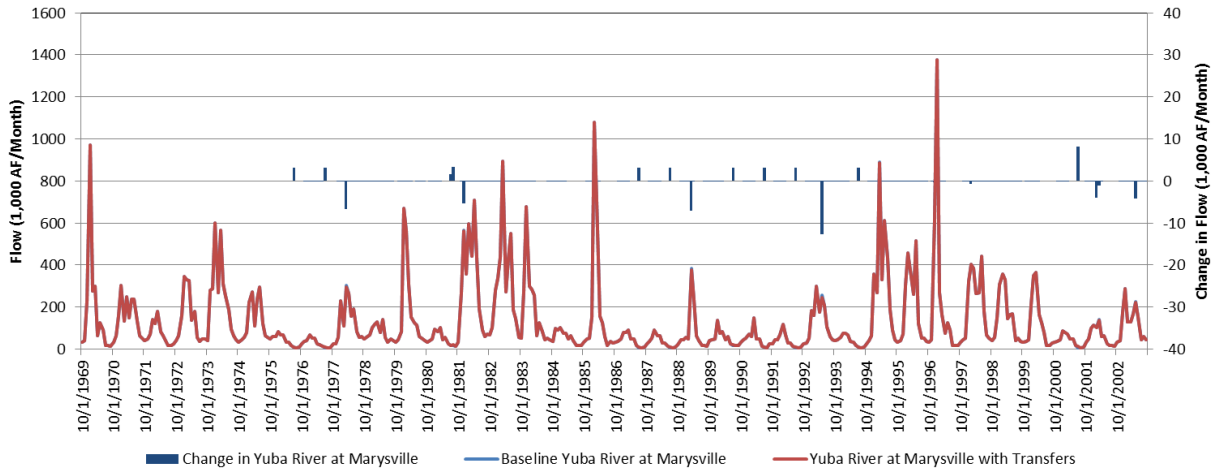


Figure C-52.
Yuba River at Marysville with and without Alternative 3 Transfers

Figure C-53 illustrates the monthly flow of the Bear River at the confluence with the Feather River. Bear River flow changes as a result of South Sutter WD reservoir release transfers from

Camp Far West Reservoir. Flows increase when water is released for transfer and decrease when Camp Far West refills.

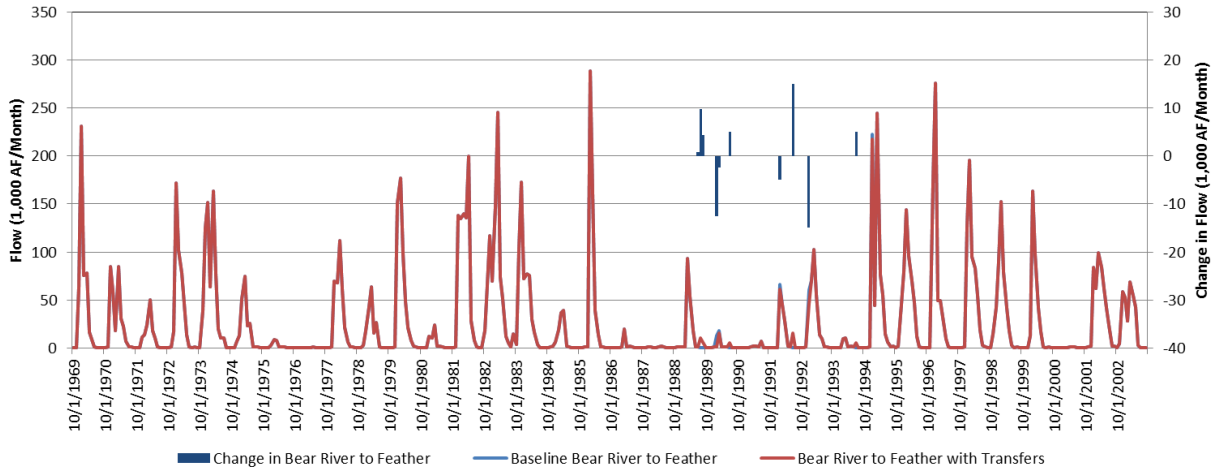


Figure C-53.
Bear River to the Feather River with and without Alternative 3 Transfers

The flow on the Lower Feather River represents an aggregation of flows on the Yuba River, Bear River, and upper portions of the Feather River. There are also increases due to water made available by groundwater substitution transfers along the Feather River between Thermalito and the confluence with the Sacramento. Figure C-54 illustrates flows and changes in flows for the baseline and Alternative 3.

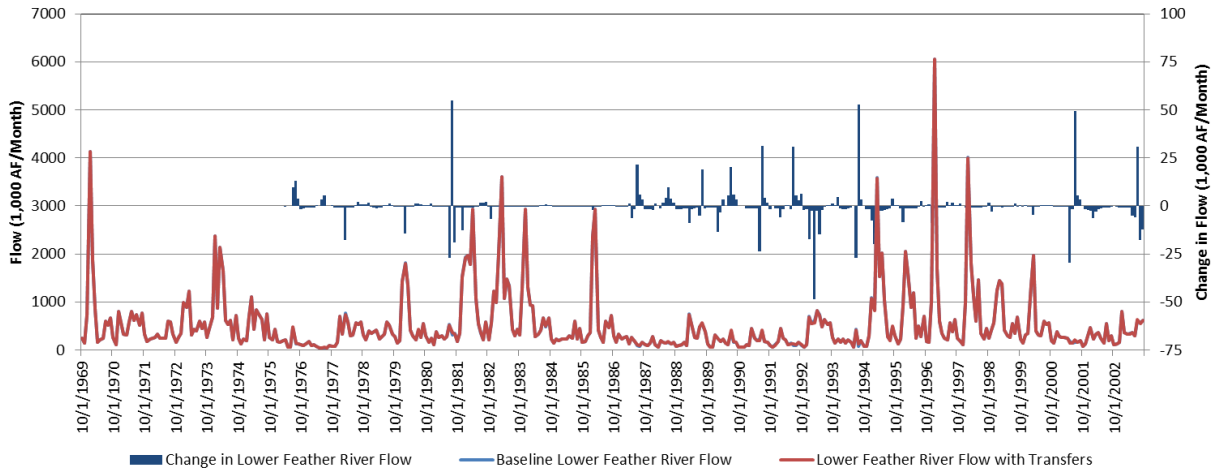


Figure C-54.
Lower Feather River with and without Alternative 3 Transfers

Figure C-55 illustrates Sacramento River at Freeport under baseline and Alternative 3 transfers. This location is an aggregation of all changes on the Sacramento River at Wilkins Slough, the Lower Feather River, and the American River at H Street, and changes between those locations

and Freeport. Changes between those locations and Freeport include increases in flow due to water made available through groundwater substitution transfers and decreases due to stream-aquifer interaction. Reductions in flow of approximately 50 TAF or more are a result of changes in stream and flood bypass flows during surplus conditions after one or more years of groundwater substation transfers. These changes are also illustrated above in Figure C-7.

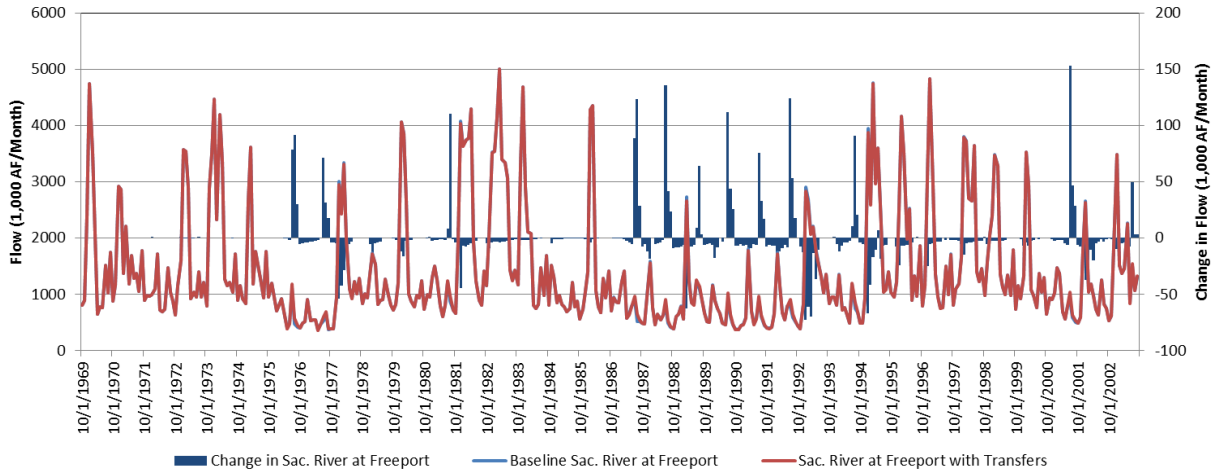


Figure C-55.
Sacramento River at Freeport with and without Alternative 3 Transfers

Figure C-56 illustrates changes on the Merced River at the confluence with the San Joaquin River. Change in flow corresponds to storage change at Lake McClure; increases represent transfer water made available by reservoir releases at Lake McClure while decreases result from reservoir refill.

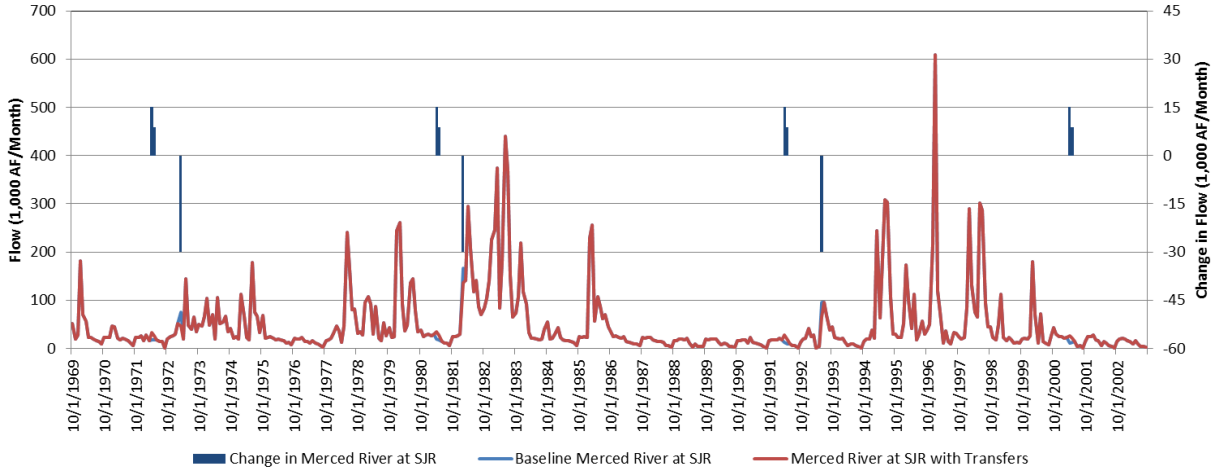


Figure C-56.
Merced River at the San Joaquin River with and without Alternative 3 Transfers

Figure C-57 illustrates San Joaquin River flows at Vernalis. Increases in flow are Merced ID transfer water to be diverted at Banta Carbona ID and conveyed to the DMC prior to reaching the head of Old River. Decreases in flow occur when Lake McClure refills space vacated by reservoir release transfers and also reduce Delta outflow.

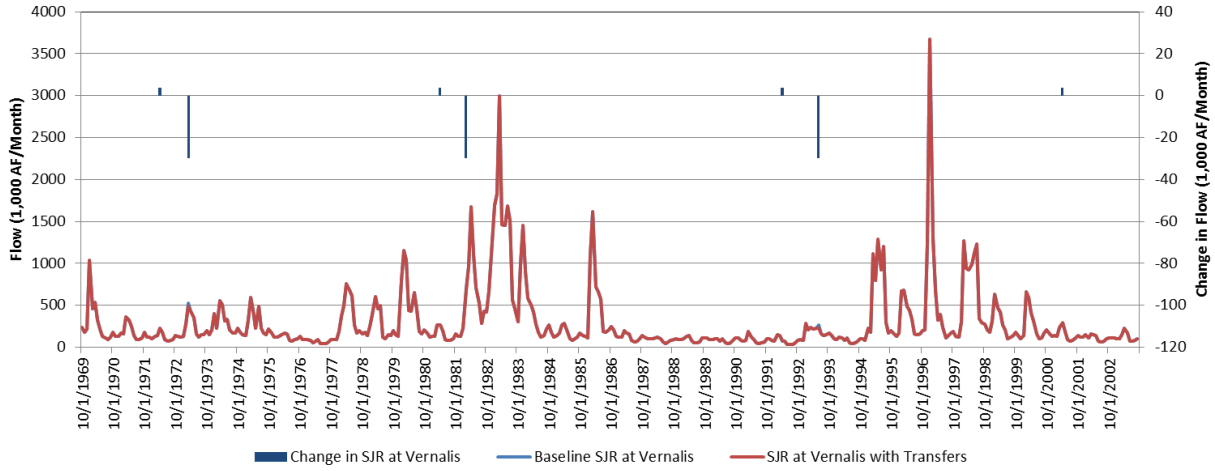


Figure C-57.
San Joaquin River at Vernalis with and without Alternative 3 Transfers

Changes to Delta outflow are illustrated below in Figure C-58. Increases in Delta outflow are primarily due to carriage water to facilitate transfers. Decreases in Delta outflow are attributed to reservoir refill upstream and changes in stream-aquifer interaction during surplus conditions.

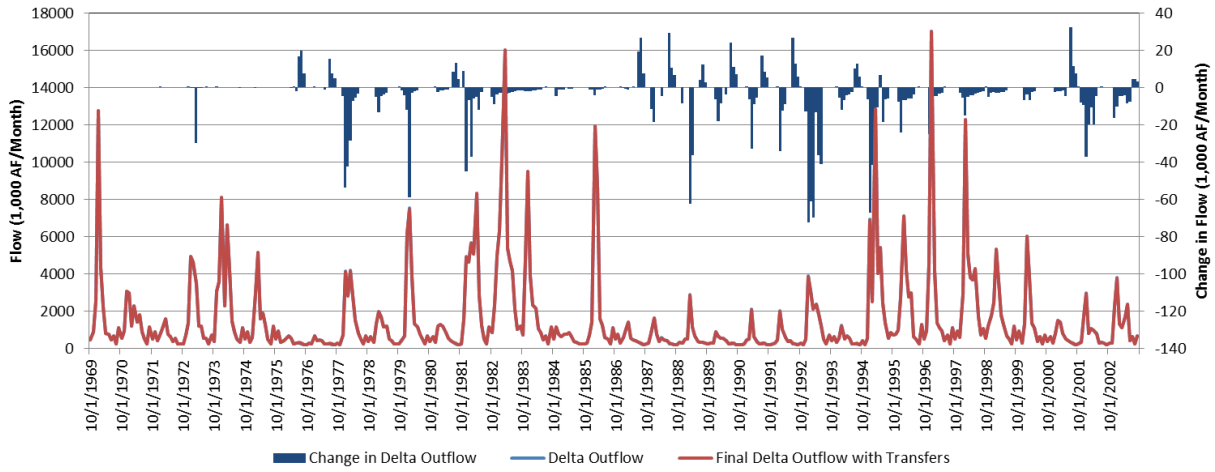


Figure C-58.
Delta Outflow with and without Alternative 3 Transfers

Table C-5 summarizes changes in Delta outflow on a monthly average basis. Average annual Delta outflow is reduced by approximately 31 TAF. Delta outflow increases from July through September due to carriage water for transfers through the Delta. Delta outflow is reduced from

November through June when reservoirs refill and from changes in stream-groundwater interaction during surplus conditions.

Table C-5.
Average Monthly Delta Outflow in (TAF) for Alternative 3

Delta Outflow	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	393	867	1,490	3,260	3,312	3,278	1,753	1,381	816	546	297	638	18,031
With Transfers	393	867	1,485	3,250	3,300	3,268	1,748	1,378	813	552	301	640	17,995
Change	0	-1	-5	-10	-12	-10	-5	-3	-3	6	4	2	-37

C.6.3.3 Exports and Diversions

Figure C-59 illustrates the change in exports at Jones Pumping Plant. Increases are primarily transfer water exported to SLDMWA. Decreases in exports at Jones occur as a result of changes in stream-groundwater interaction that reduce Delta inflow during balanced conditions.

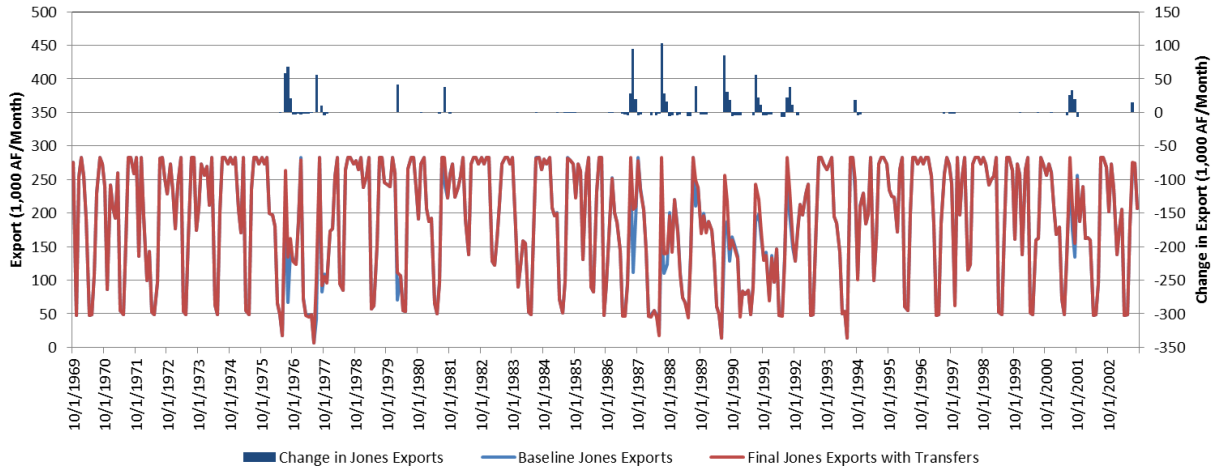


Figure C-59.
Exports at Jones Pumping Plant with and without Alternative 3 Transfers

Table C-6 summarizes the average monthly exports at Jones Pumping Plant. Increases occur during the transfer months of July, August, and September, with an average annual increase of 25 TAF. There are small decreases in most other months.

Table C-6.
Average Monthly Exports at Jones Pumping Plant (TAF) for Alternative 3

Jones Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	222	212	235	197	186	198	69	65	153	256	252	223	2,268
With Transfers	221	211	235	197	187	198	69	65	152	269	263	227	2,292
Change	-1	-1	0	0	1	0	0	-1	-1	13	11	4	25

Increases in exports at Banks Pumping Plant occur when Banks is used to export transfer water. This is illustrated below in Figure C-60.

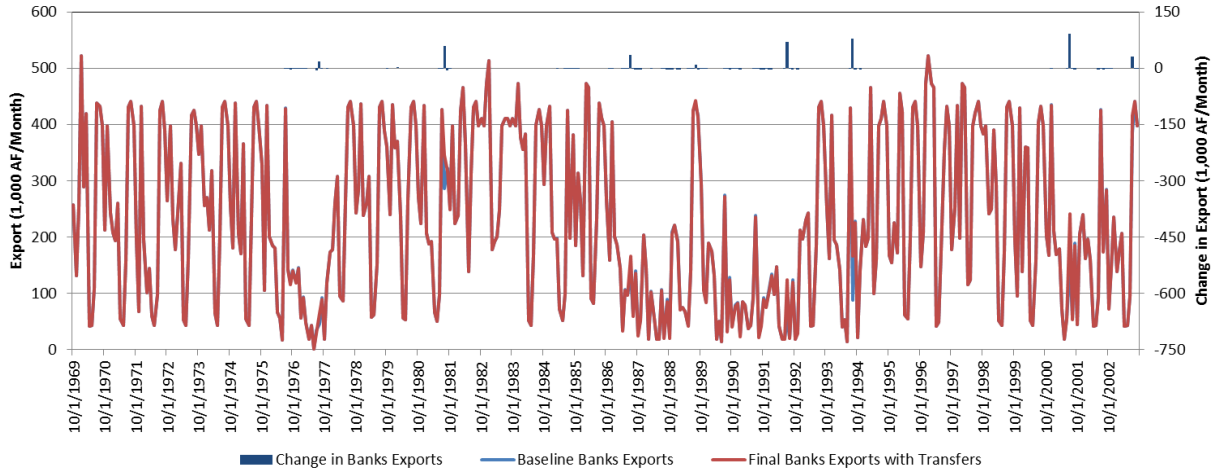


Figure C-60.
Exports at Banks Pumping Plant with and without Alternative 3 Transfers

Table C-7 summarizes the average monthly exports at Banks Pumping Plant. Pumping increases in the months of July, August, and September with an average annual increase of 8.3 TAF.

Table C-7.
Average Monthly Exports at Banks Pumping Plant (TAF) for Alternative 3

Banks Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	202	212	307	222	239	261	70	62	156	363	316	320	2,731
With Transfers	201	211	307	221	239	261	70	62	156	370	320	319	2,737
Change	-1	-1	0	0	0	0	0	0	0	6	4	-1	6

Total CVP/SWP exports, the sum of exports at Jones and Banks Pumping Plants, are illustrated in Figure C-61.

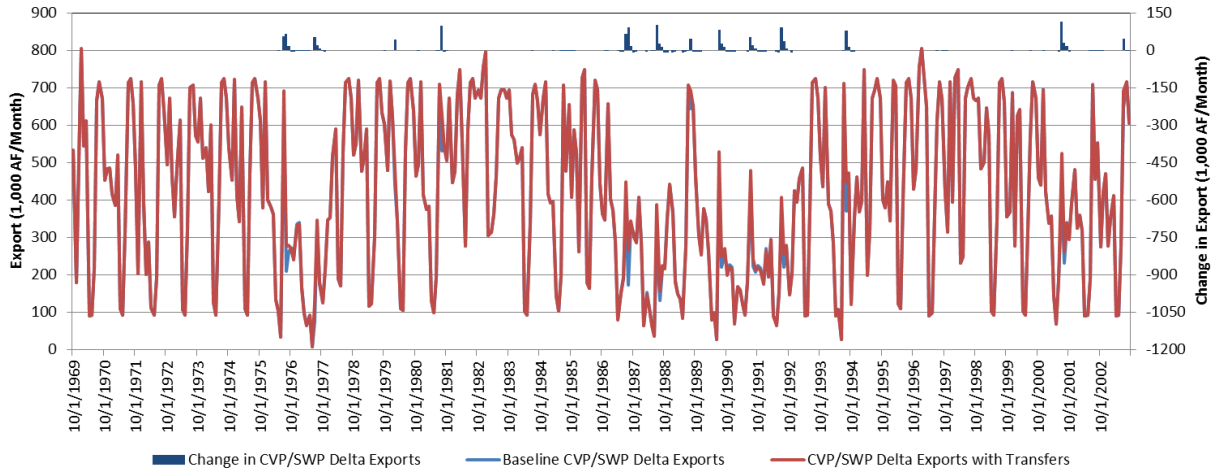


Figure C-61.
Total CVP/SWP Exports from the Delta with and without Alternative 3 Transfers

Table C-8 summarizes the average monthly combined CVP/SWP exports. The average annual change under Alternative 3 is approximately 31 TAF. Exports increase in the July through September period and decrease in most other months.

Table C-8.
Average Monthly Combined CVP/SWP Exports (TAF) for Alternative 3

CVP/SWP Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	424	424	543	419	425	459	138	128	309	619	568	543	4,998
With Transfers	422	422	542	418	426	459	138	127	308	638	583	546	5,030
Change	-2	-2	-1	-1	1	0	0	-1	-1	19	16	3	31

Figure C-62 illustrates baseline, Alternative 3, and the change in East Bay MUD diversions at Freeport. The changes are an increase in diversions during months when East Bay MUD would be taking CVP Project water.

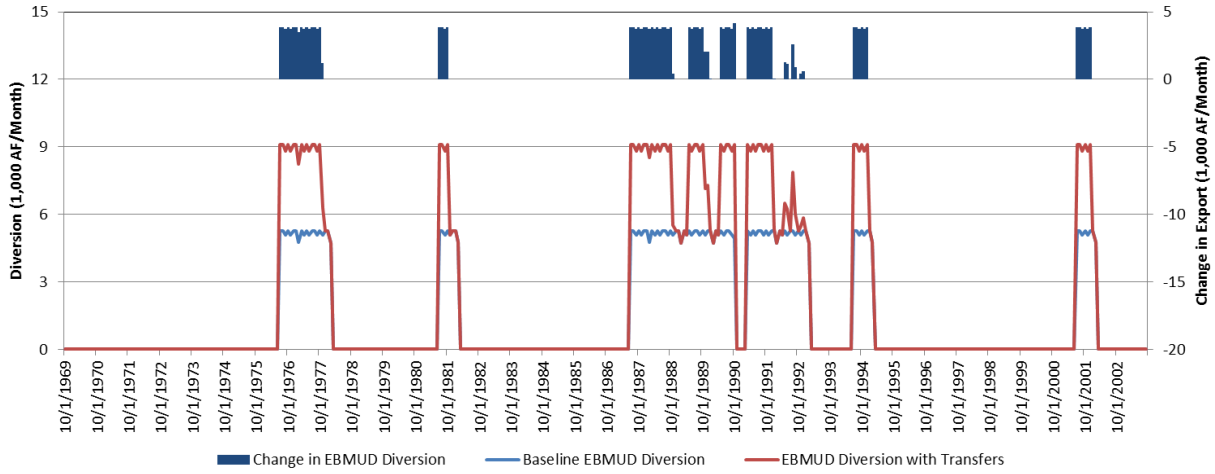


Figure C-62.
East Bay MUD Diversions with and without Alternative 3 Transfers

Contra Costa WD diversions increase to take delivery of transfer water as illustrated below in Figure C-63. Contra Costa WD identified an annual transfer demand of up to 15 TAF and this volume of water diverted at a rate of five TAF per month during the July through September period. Contra Costa WD diversions of transfer water are assumed to occur at the point of diversion with the best water quality and available capacity.

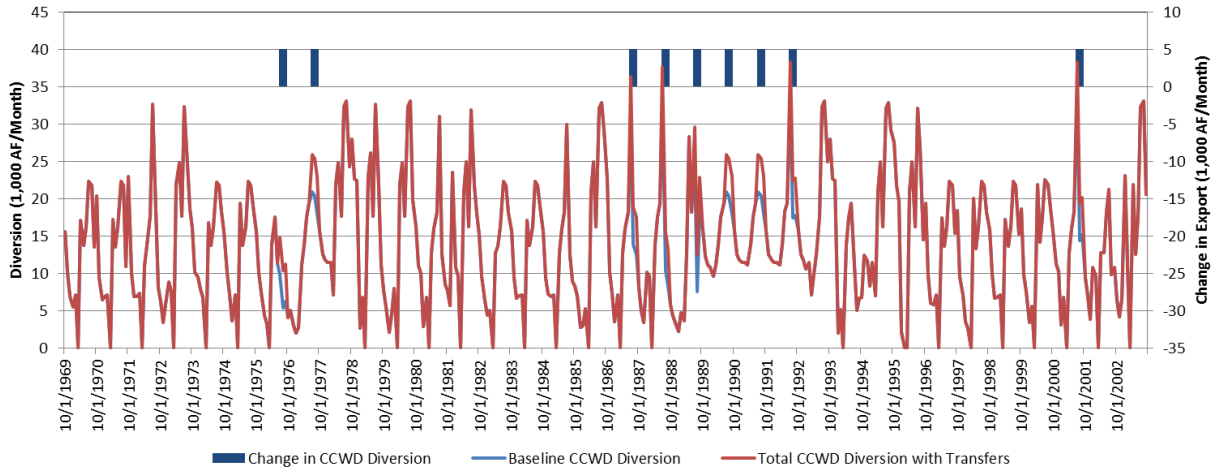


Figure C-63.
Contra Costa WD Diversions with and without Alternative 3 Transfers

C.6.4 Alternative 4: No Groundwater Substitution

Alternative 4 would include transfers through cropland idling, crop shifting, stored reservoir release, and conservation. It would not include any groundwater substitution transfers.

Figure C-64 summarizes the quantity of transfer water made available under Alternative 4 on an annual basis and illustrates where the water is diverted or used. As in the other alternatives, a percentage of water to be transferred through the Delta goes to carriage water to maintain Delta water quality with increased exports under the transfer alternative. The volume of crop idling water available under Alternative 4 is greater than under Alternative 2 because some sellers may choose to expand crop idling transfers if groundwater substitution transfers are not used.

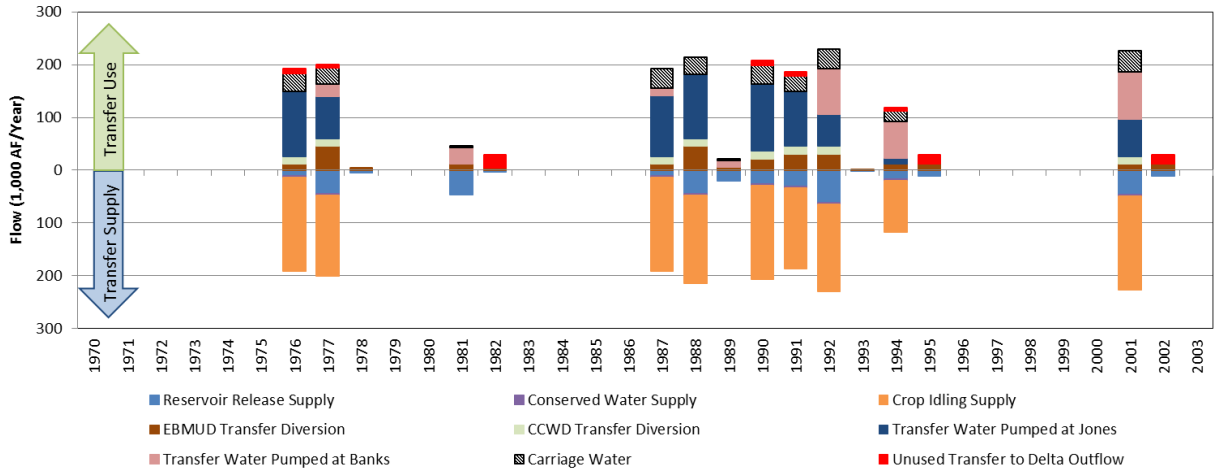


Figure C-64.
Annual Transfers Summary for Alternative 4

C.6.4.1 Storage

Figure C-65 illustrates the change in operations at Shasta with the Project. Under Alternative 4 Shasta storage increases in some month when transfer water made available in May and June from crop idling can be stored for transfer in July, August, and September. There are no reductions in Shasta storage under this alternative because there are no releases in excess of baseline releases to account for changes in stream-aquifer interaction.

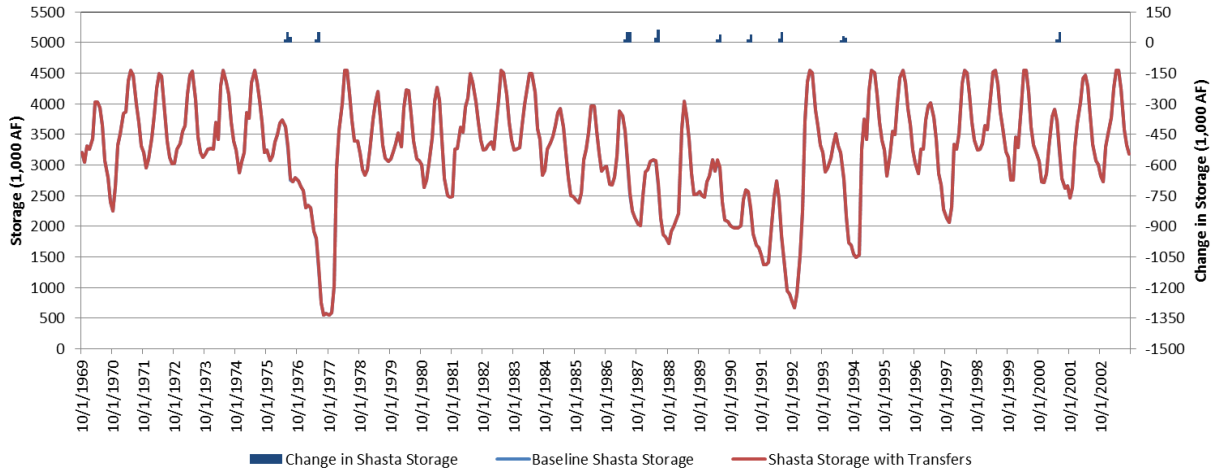


Figure C-65.
Shasta Operations with and without Alternative 4 Transfers

Operations at Folsom under Alternative 4 are illustrated below in Figure C-66. Transfer water can be temporarily stored in Folsom for release and delivery in subsequent months. This includes transfers from crop idling in the Sacramento Valley, and reservoir release from upstream Placer County Water Agency reservoirs.

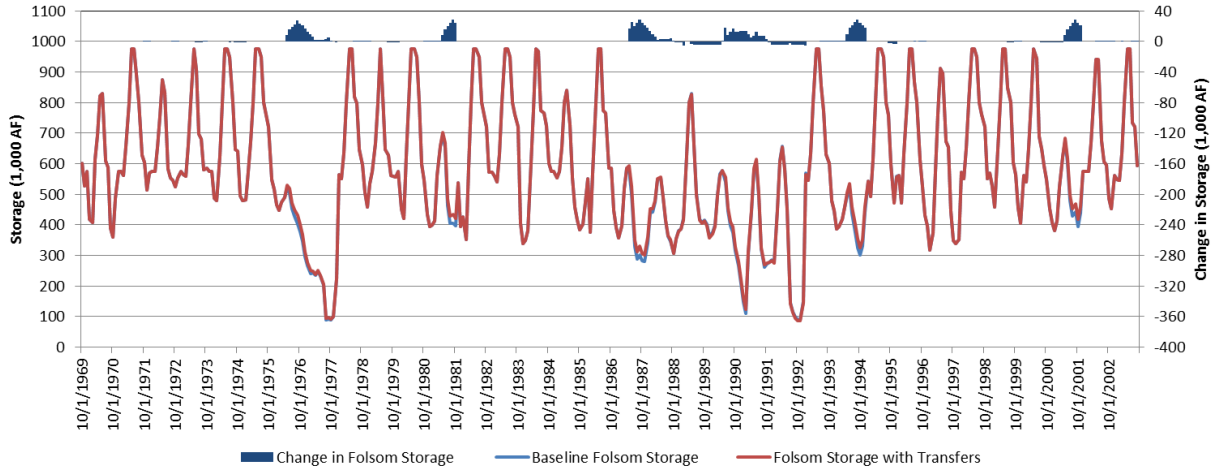


Figure C-66.
Folsom Operations with and without Alternative 4 Transfers

Figure C-67 illustrates the change in SWP operations at Oroville. Changes in Oroville storage occur from shifts in the timing of delivery of SWP water to accommodate transfers and temporary storage of crop idling water.

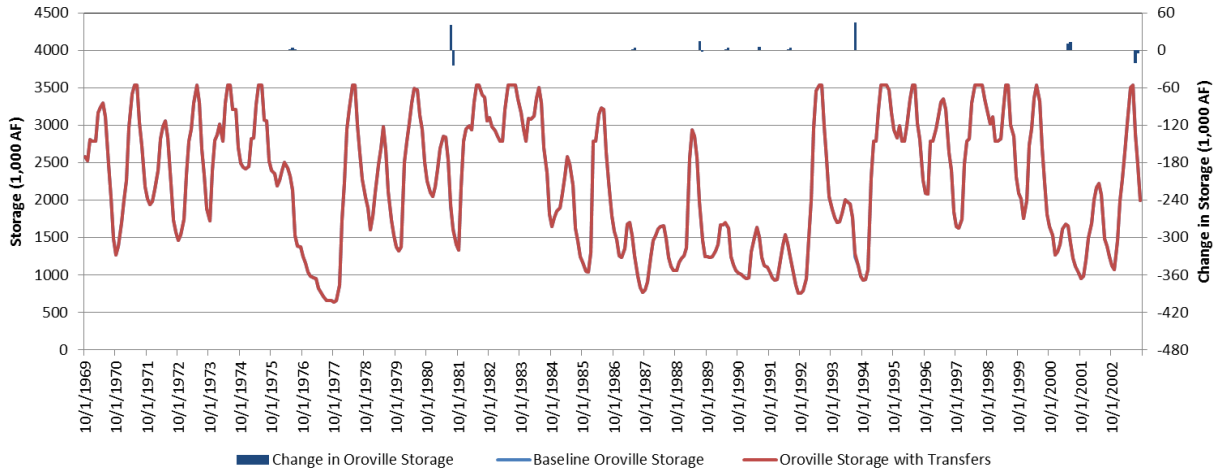


Figure C-67.
Oroville Operations with and without Alternative 4 Transfers

South Sutter WD releases water from Camp Far West Reservoir to participate in reservoir release transfers. Figure C-68 illustrates the only change in reservoir storage from baseline conditions as the quantity released for transfer. Camp Far West Reservoir storage returns to baseline levels when the reservoir refills.

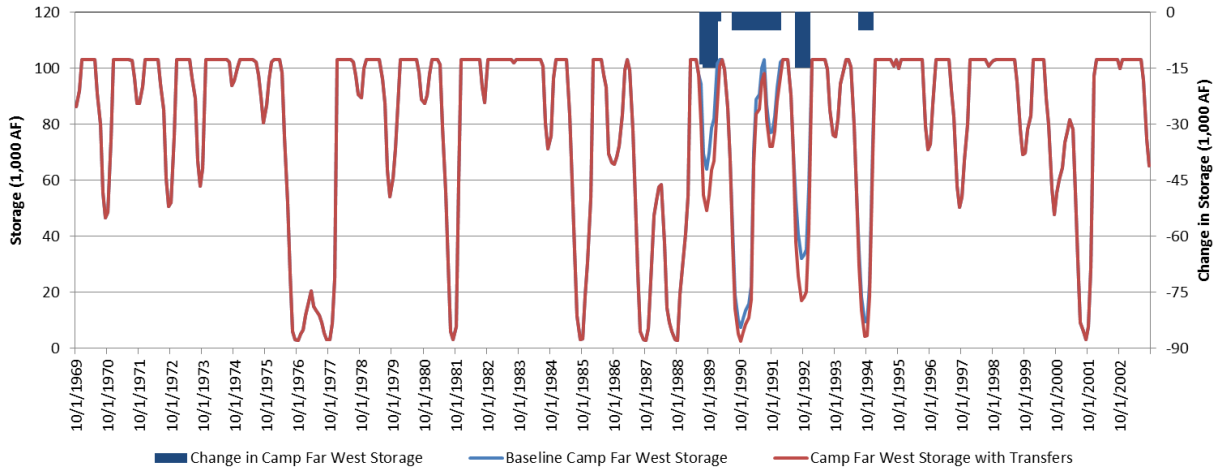


Figure C-68.
Camp Far West Operations with and without Alternative 4 Transfers

Browns Valley ID releases up to five TAF of water from Merle Collins Reservoir for transfer. Changes in Merle Collins storage are the same for Alternatives 2, 3, and 4 because all alternatives include reservoir release transfer measures. Figure C-69 illustrates Browns Valley ID operations of Merle Collins when making reservoir release transfers of up to five TAF.

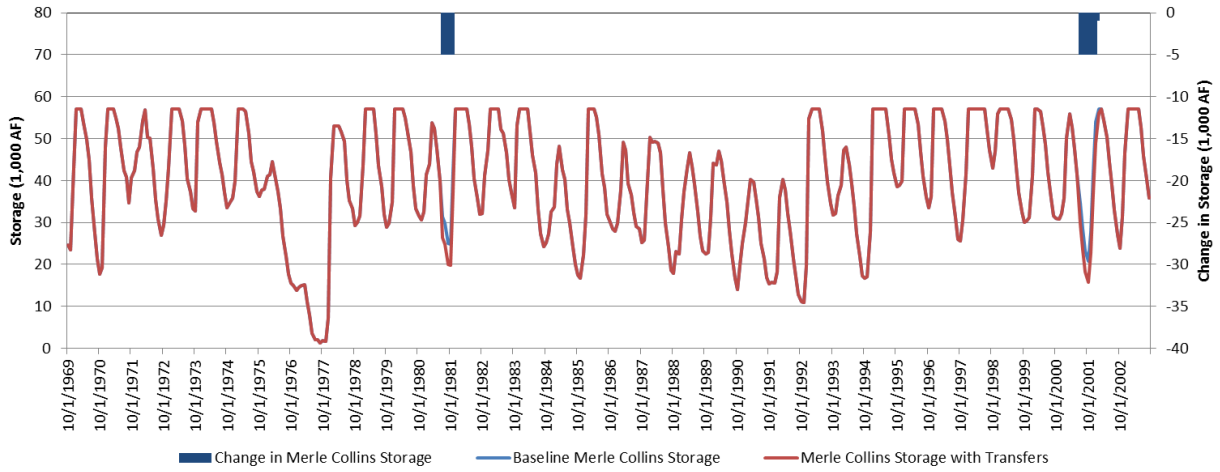


Figure C-69.
Merle Collins Operations with and without Alternative 4 Transfers

Placer County Water Agency releases water from MFP reservoirs for transfer to East Bay MUD. Changes in MFP storage are the same for Alternatives 2, 3, and 4 because all alternatives include reservoir release transfer measures (see Figure C-70).

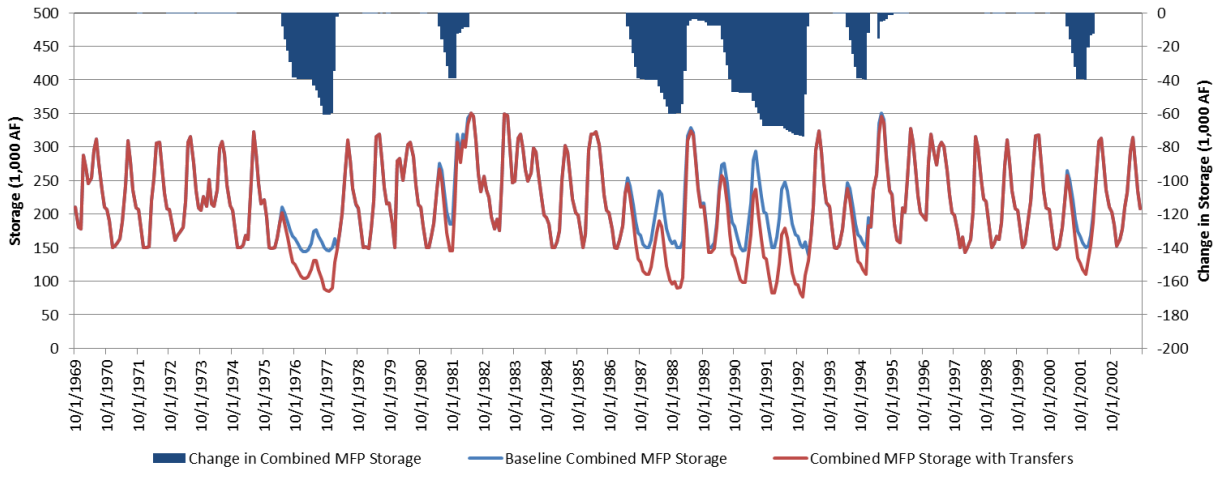


Figure C-70.
MFP Operations with and without Alternative 4 Transfers

Figure C-71 illustrates Merced ID operations of Lake McClure when making reservoir release transfers of up to 30 TAF.

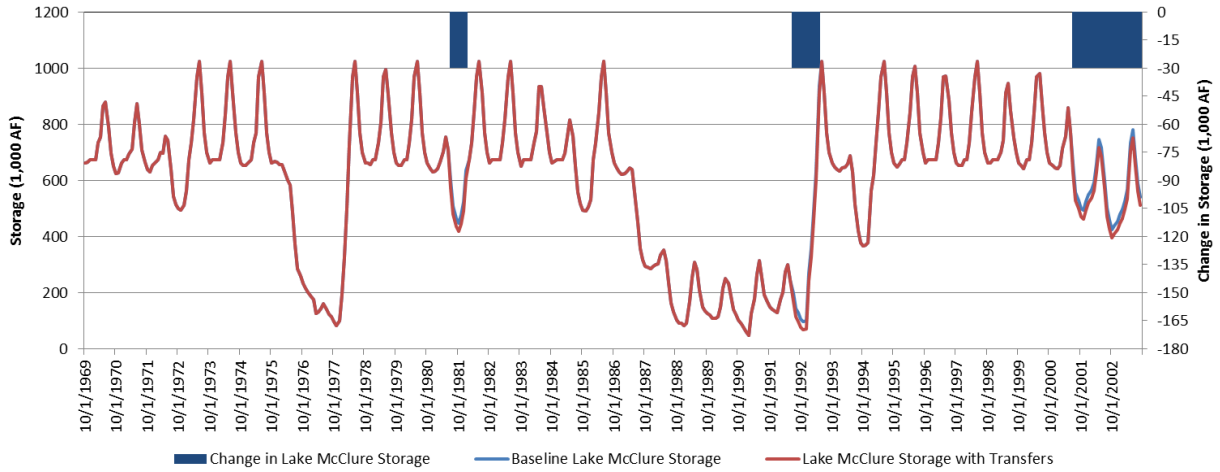


Figure C-71.
Lake McClure Operations with and without Alternative 4 Transfers

Browns Valley ID's conserved water is stored in Yuba County Water Agency's New Bullards Bar Reservoir and released for transfer in years with demand and available export capacity. These releases of conserved water are the only effect to New Bullards Bar Reservoir as illustrated below in Figure C-72. New Bullards Bar Reservoir storage returns to baseline levels when the reservoir refills.

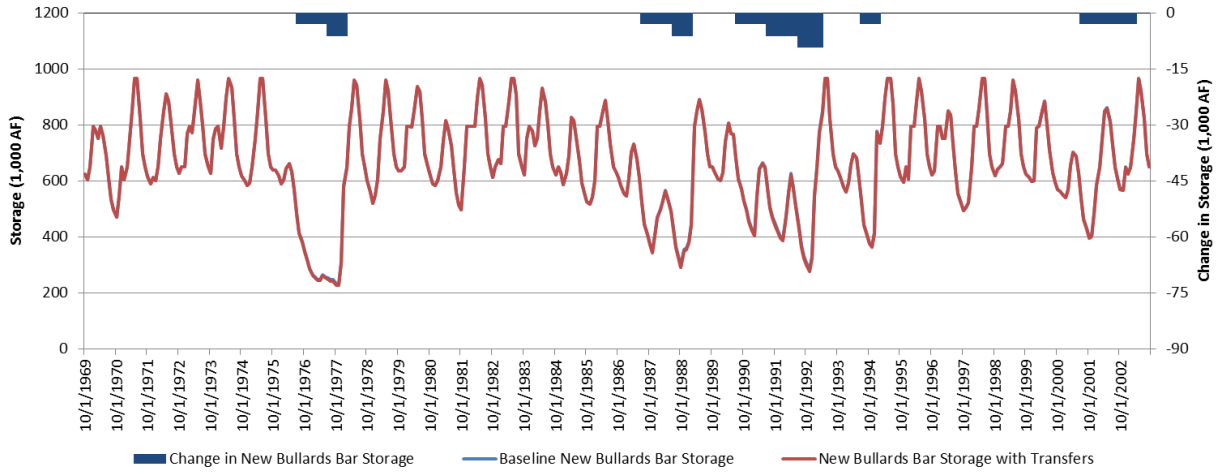


Figure C-72.
New Bullards Bar Operations with and without Alternative 4 Transfers

C.6.4.2 Stream Flow

Releases from Keswick Dam correspond with Shasta operations as illustrated below in Figure C-73. Decreases in release occur when crop idling transfers are stored in Shasta and precede increases as stored transfer water is released for transfer through the Delta. There are no releases in response to changes in stream-groundwater interaction because there are no groundwater substitution transfers in Alternative 4.

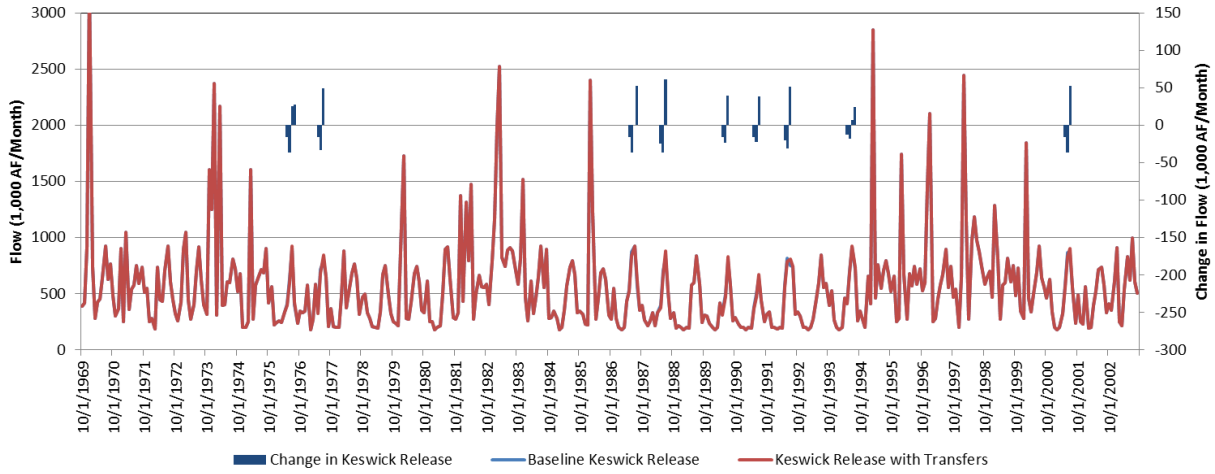


Figure C-73.
Keswick Dam Release with and without Alternative 4 Transfers

Figure C-74 illustrates the effect of Alternative 4 transfers to the Sacramento River at Wilkins Slough. Increased flows result from changes in Keswick release, plus water made available by crop idling transfers upstream of Wilkins Slough. Decreases occur when transfer water is stored upstream in Shasta.

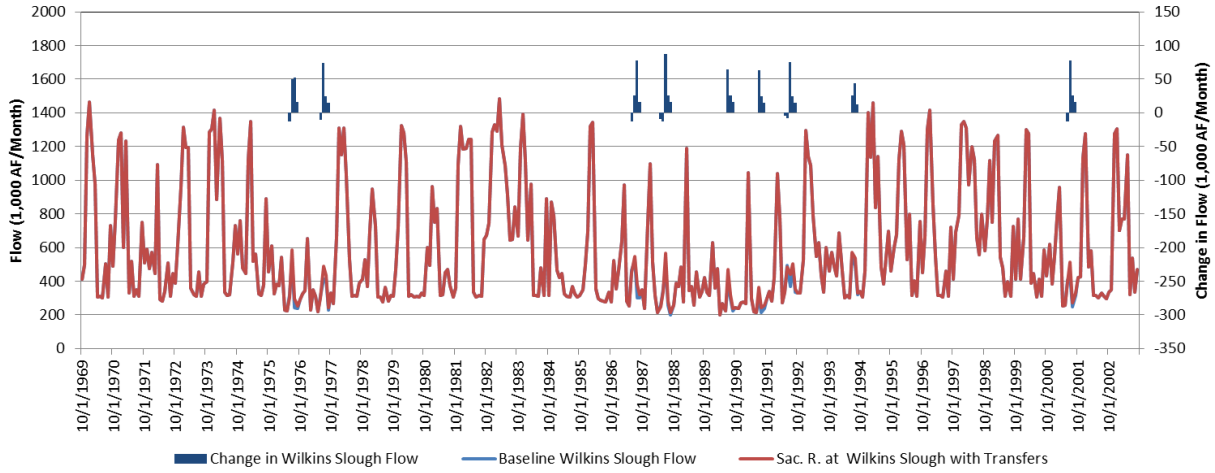


Figure C-74.
Sacramento River at Wilkins Slough with and without Alternative 4 Transfers

Figure C-75 illustrates Nimbus Dam releases. Nimbus releases reflect CVP operations of Folsom Reservoir. Increases in release occur when Placer County Water Agency transfer water is released from Folsom for diversion at Freeport by East Bay MUD. Decreases can occur if transfer water made available downstream from Folsom is stored in Folsom and when Placer County Water Agency's upstream reservoirs refill.

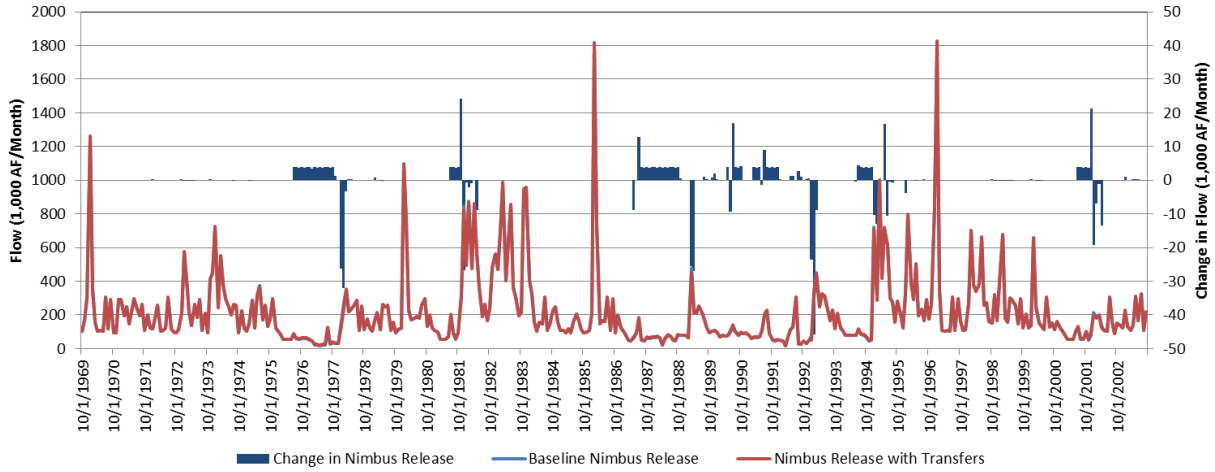


Figure C-75.
Nimbus Dam Release with and without Alternative 4 Transfers

Flows on the American River at H Street, illustrated below in Figure C-76, reflect the same changes in flow under Alternative 4 as illustrated above at Nimbus.

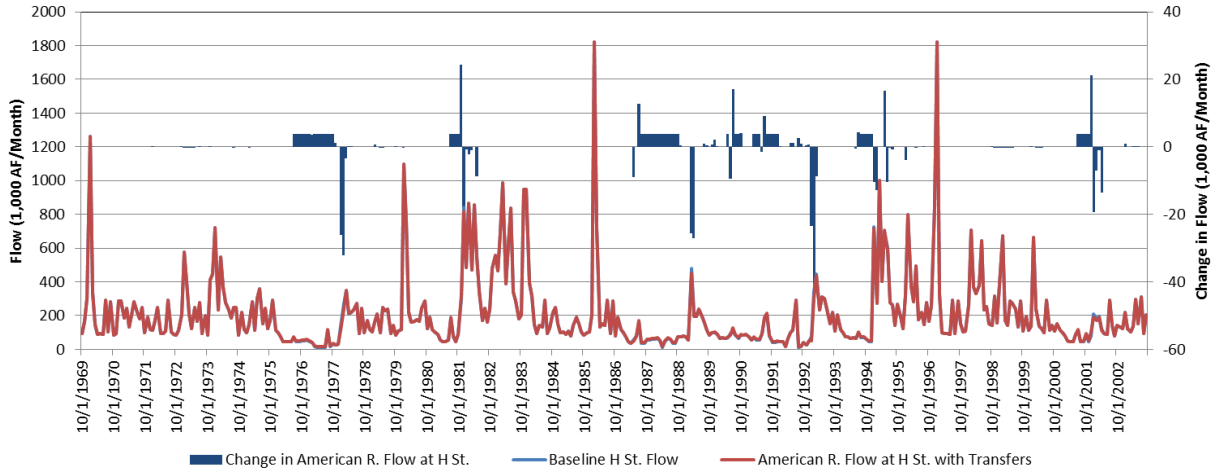


Figure C-76.
American River at H Street with and without Alternative 4 Transfers

Figure C-77 illustrates change in Feather River flow below Thermalito. Feather River flows change due to changes in operations at Oroville. Increases and decreases in flow on the Feather River below Thermalito are primarily a result of shifting the timing of delivery of SWP water to accommodate transfers. Changes also occur when crop idling water, stored in previous months, is released down the Feather River for delivery through the Delta.

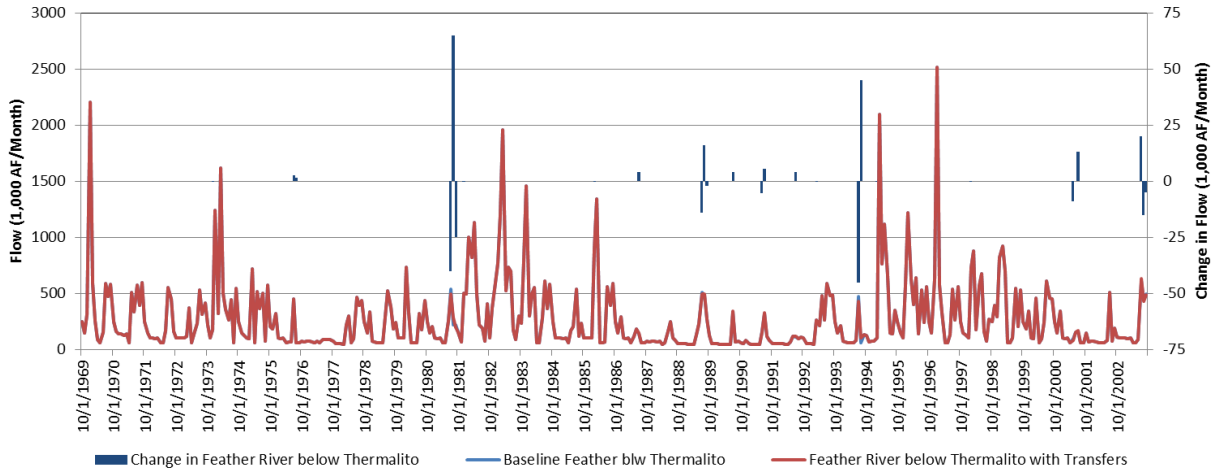


Figure C-77.
Feather River below Thermalito with and without Alternative 4 Transfers

Figure C-78 illustrates changes in flow on the Yuba River as a result of Browns Valley ID's reservoir release transfers from Merle Collins Reservoir and release of Browns Valley ID's conserved water from New Bullards Bar Reservoir. Decreases occur when these reservoirs refill.

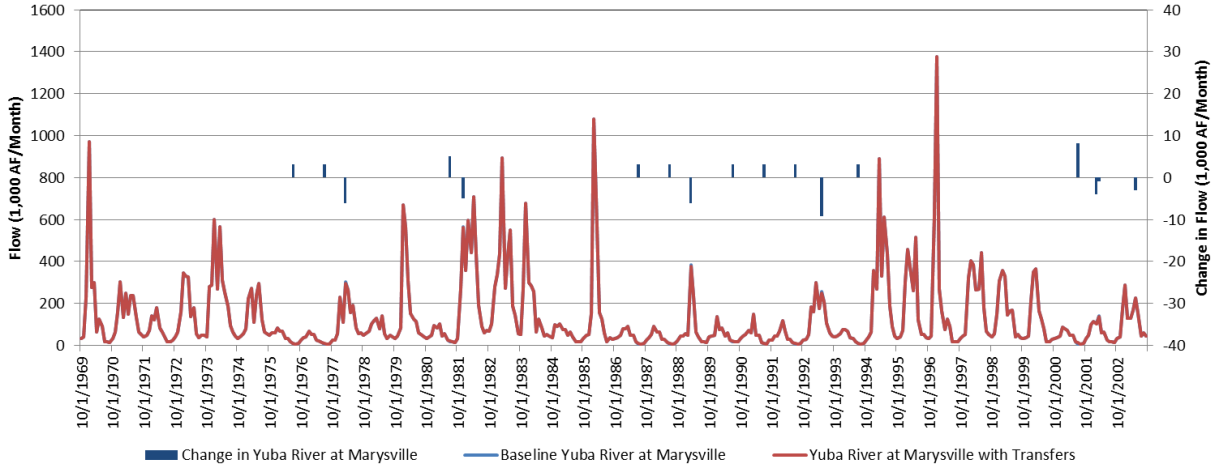


Figure C-78.
Yuba River at Marysville with and without Alternative 4 Transfers

Figure C-79 illustrates the response of Bear River flows into the Feather River as a result of South Sutter WD reservoir release transfers from Camp Far West Reservoir. Flows increase when water is released for transfer and decrease when Camp Far West refills.

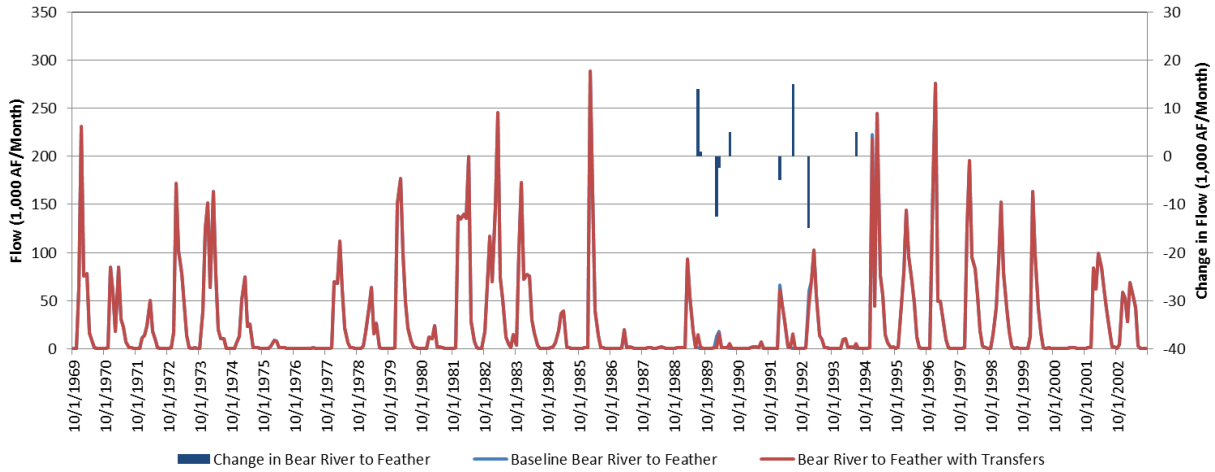


Figure C-79.
Bear River to the Feather River with and without Alternative 4 Transfers

The flow on the Lower Feather River represents an aggregation of flows on the Yuba River, Bear River, and upper portions of the Feather River. There are also increases due to water made available by crop idling transfers. Figure C-80 represents the effect to the Feather River system.

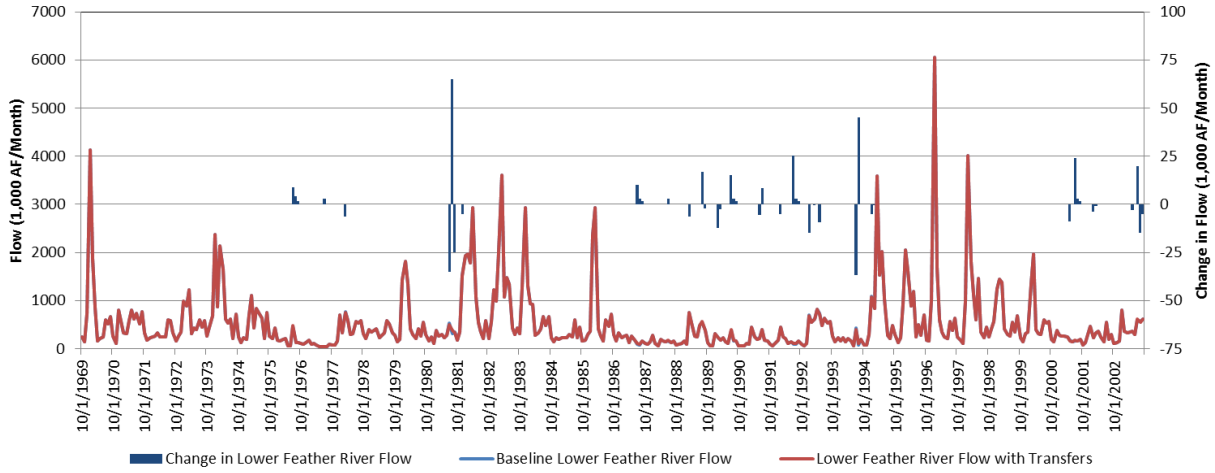


Figure C-80.
Lower Feather River with and without Alternative 4 Transfers

Figure C-81 illustrates the flow of the Sacramento River at Freeport. This location is an aggregation of all changes on the Sacramento River at Wilkins Slough, the Lower Feather River, and the American River at H Street, and changes between those locations and Freeport. Changes between those locations and Freeport include increases in flow due to water made available through crop idling transfers.

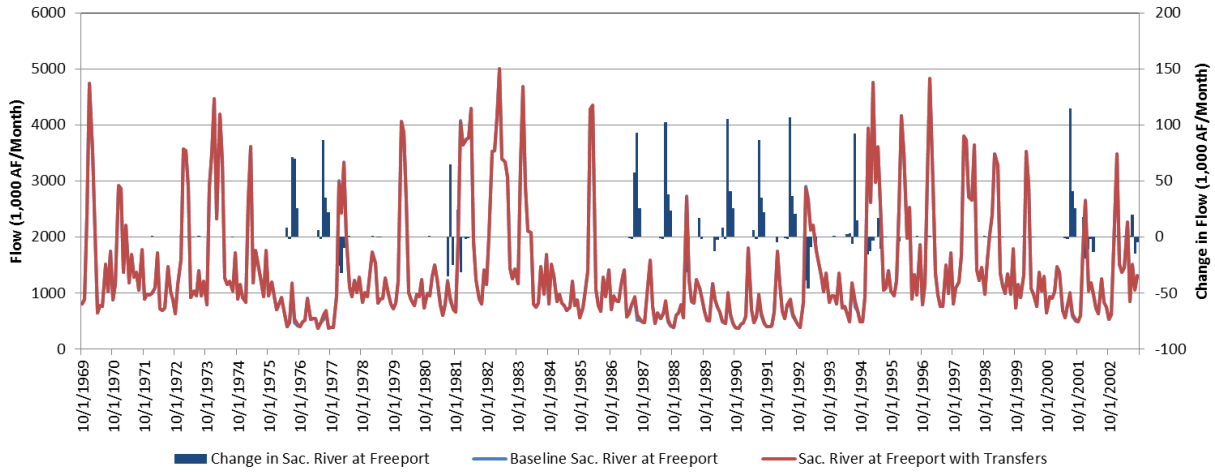


Figure C-81.
Sacramento River at Freeport with and without Alternative 4 Transfers

Figure C-82 illustrates changes on the Merced River at the confluence with the San Joaquin River. Increases in Merced River flow are transfer water made available by reservoir releases at Lake McClure; decreases are a result of reservoir refill.

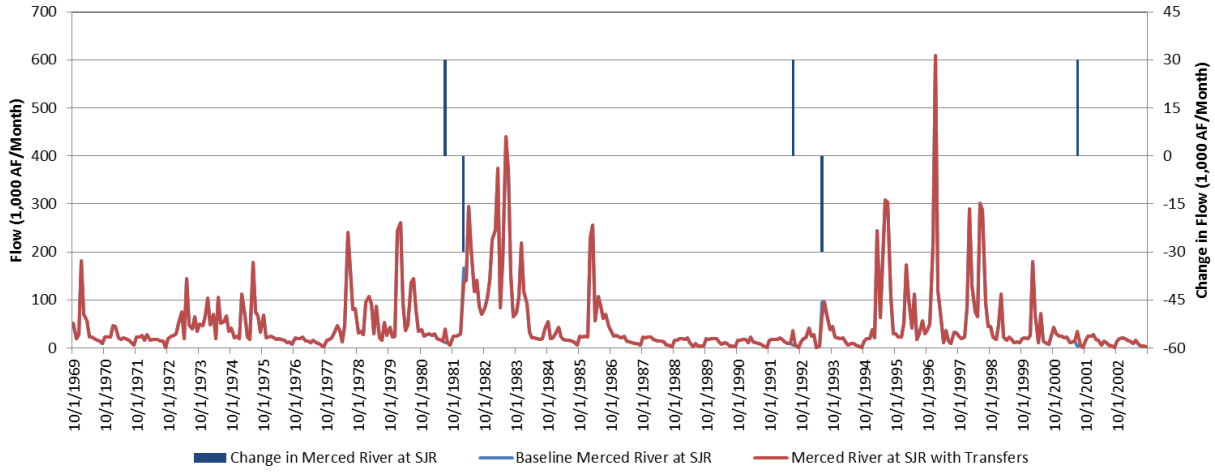


Figure C-82.
Merced River at the San Joaquin River with and without Alternative 4 Transfers

Figure C-83 illustrates San Joaquin River flows at Vernalis. Increases in flow result from Merced ID transfers. Under Alternative 4, transfer water made available by Merced ID is diverted at CVP/SWP export facilities in the south Delta. Therefore, changes at Vernalis equal changes in Merced River flows at the confluence with the San Joaquin River.

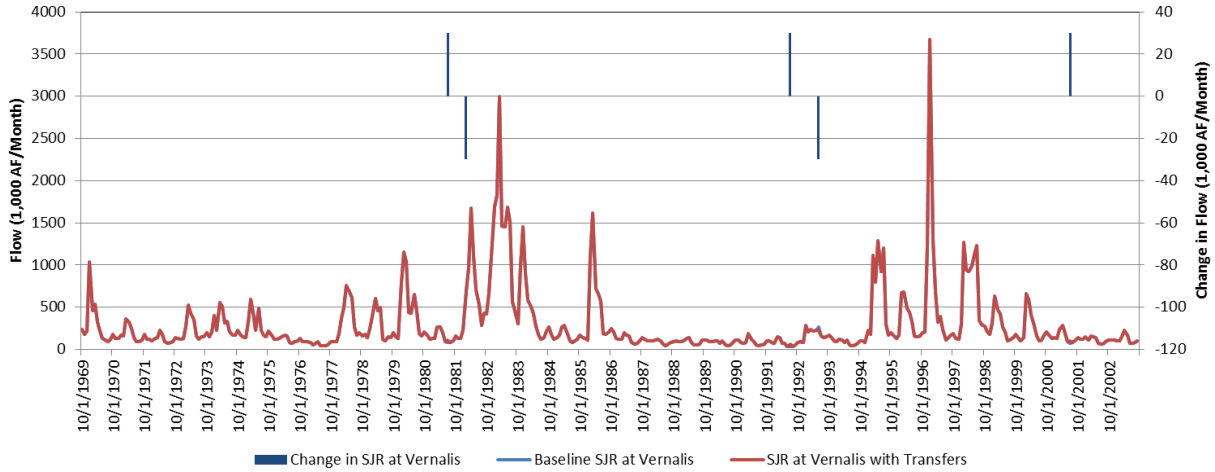


Figure C-83.
San Joaquin River at Vernalis with and without Alternative 4 Transfers

Changes to Delta outflow are illustrated below in Figure C-84. Increases in Delta outflow are primarily due to carriage water to facilitate transfers through the Delta. Decreases in Delta outflow are attributed to reservoir refill upstream.

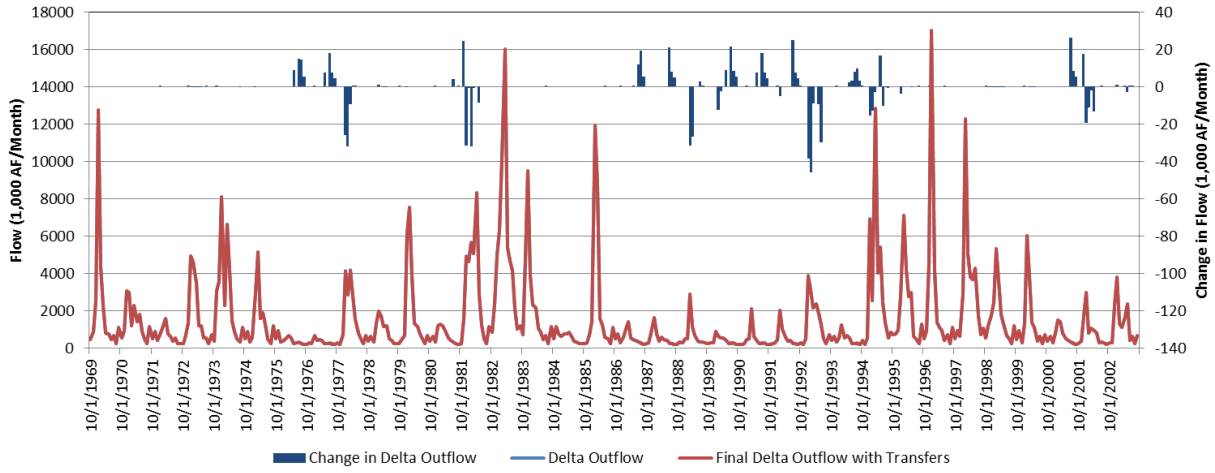


Figure C-84.
Delta Outflow with and without Alternative 4 Transfers

Table C-9 summarizes these changes on an average monthly and annual basis. Average annual Delta outflow is reduced by one TAF with increases primarily from July through September for carriage water and decreases primarily from January through March as reservoirs that made transfer releases refill.

Table C-9.
Average Monthly Delta Outflow (TAF) for Alternative 4

Delta Outflow	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	393	867	1,490	3,260	3,312	3,278	1,753	1,381	816	546	297	638	18,031
With Transfers	393	868	1,489	3,257	3,307	3,277	1,751	1,382	815	551	300	640	18,030
Change	0	1	0	-3	-4	-2	-1	1	-1	5	3	1	-1

C.6.4.3 Exports and Diversions

Figure C-85 illustrates the change in exports at Jones Pumping Plant. Under Alternative 4 there are only increases in exports.

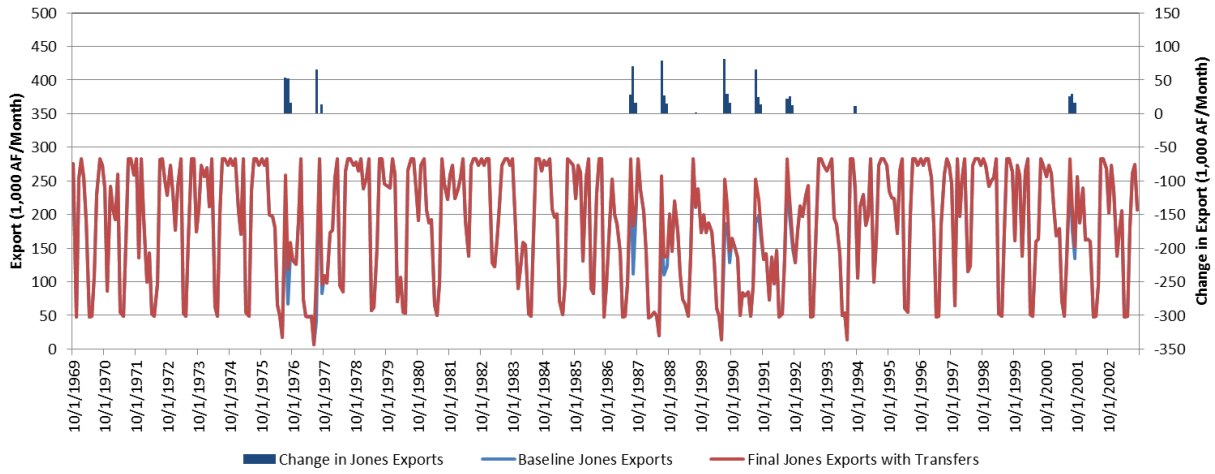


Figure C-85.
Exports at Jones Pumping Plant with and without Alternative 4 Transfers

Table C-10 summarizes the average monthly exports at Jones Pumping Plant. Increases occur during the transfer months of July, August, and September, with an average annual increase of 24 TAF.

Table C-10.
Average Monthly Exports at Jones Pumping Plant (TAF) for Alternative 4

Jones Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	222	212	235	197	186	198	69	65	153	256	252	223	2,268
With Transfers	222	212	235	197	186	198	69	65	153	268	259	227	2,291
Change	0	0	0	0	0	0	0	0	0	12	8	4	24

Increases in Banks Pumping Plant exports occur when Banks is used to export transfer water. Decreases occur when the timing of SWP water as simulated in the CalSim II baseline is shifted to help facilitate transfers. These changes are illustrated below in Figure C-86.

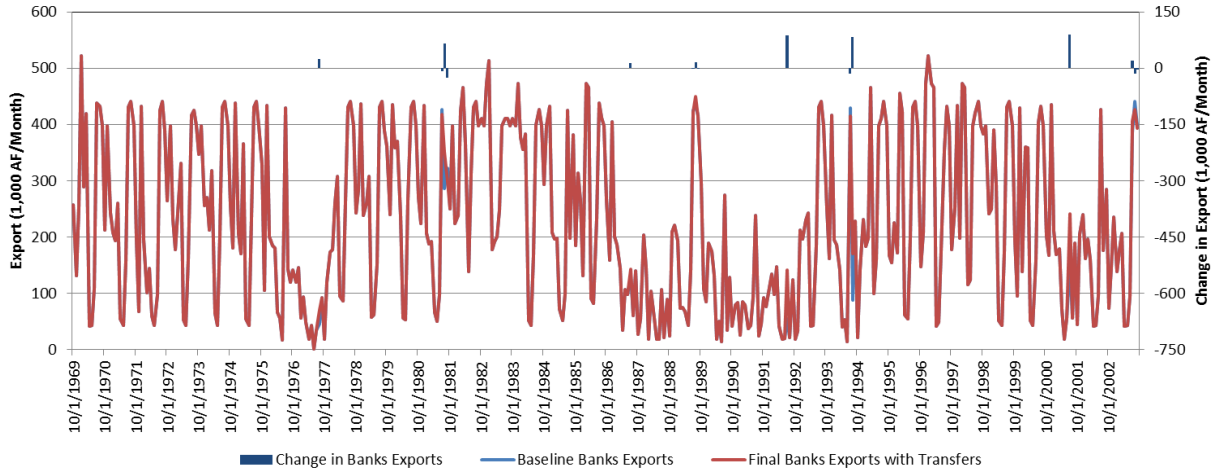


Figure C-86.
Exports at Banks Pumping Plant with and without Alternative 4 Transfers

Table C-11 summarizes average monthly exports at Banks Pumping Plant. Average annual Banks exports increase by ten TAF.

Table C-11.
Average Monthly Exports at Banks Pumping Plant (TAF) for Alternative 4

Banks Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	202	212	307	222	239	261	70	62	156	363	316	320	2,731
With Transfers	202	212	307	222	239	261	70	62	156	369	321	319	2,740
Change	0	0	0	0	0	0	0	0	0	5	5	-1	10

Total CVP/SWP exports, the sum of exports at Jones and Banks Pumping Plants, are illustrated in Figure C-87.

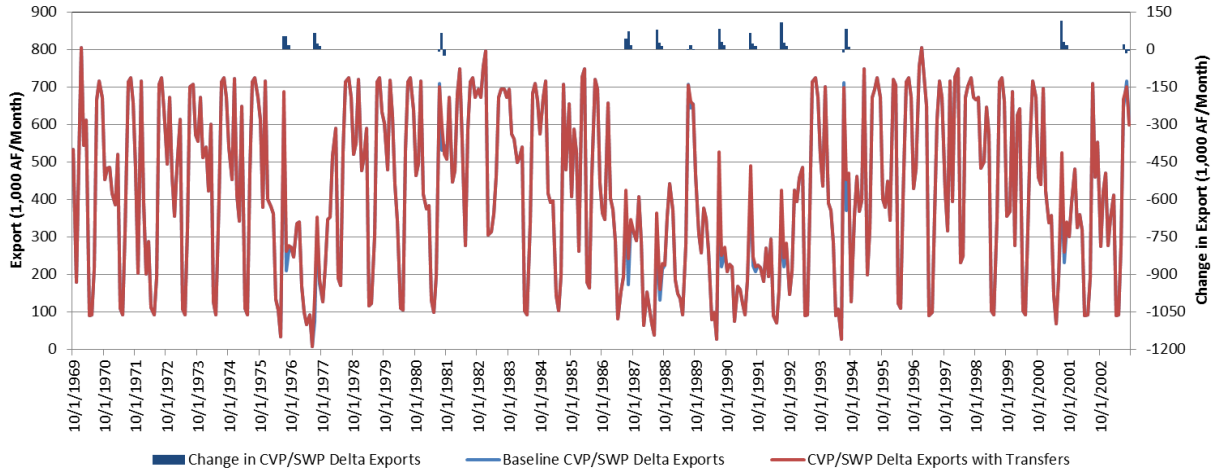


Figure C-87.
Total CVP/SWP Exports from the Delta with and without Alternative 4 Transfers

Table C-12 summarizes average monthly combined CVP/SWP exports. Average annual combined exports increase by 33 TAF with changes in the July through September period only.

Table C-12.
Average Monthly Combined CVP/SWP Exports (TAF) for Alternative 4

CVP/SWP Exports	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Baseline	424	424	543	419	425	459	138	128	309	619	568	543	4,998
With Transfers	424	424	543	419	425	459	138	128	309	637	580	546	5,032
Change	0	0	0	0	0	0	0	0	0	18	13	3	33

Figure C-88 illustrates diversions made by East Bay MUD at Freeport under both the baseline and with Project scenarios. Baseline diversions represent East Bay MUD taking delivery of CVP Project water under their existing water service contract.

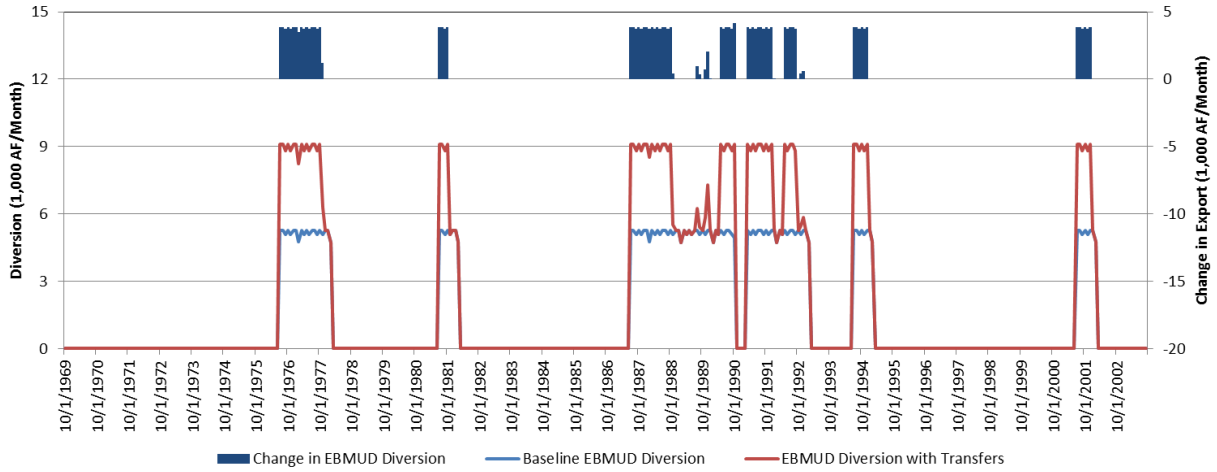


Figure C-88.
East Bay MUD Diversions with and without Alternative 4 Transfers

Contra Costa WD diversions increase to take delivery of transfer water as is illustrated below in Figure C-89.

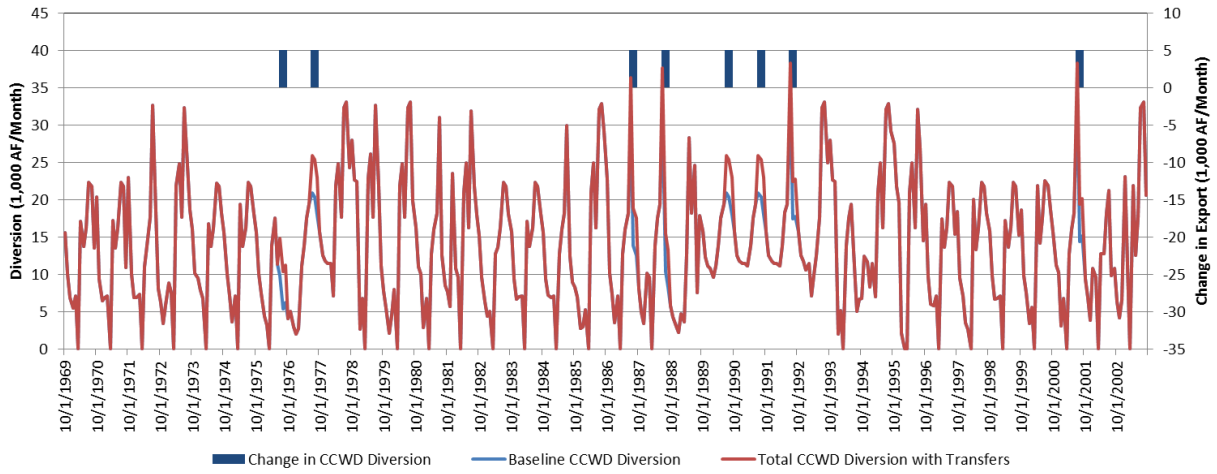


Figure C-89.
Contra Costa WD Diversions with and without Alternative 4 Transfers

C.7 References

MBK Engineers. 2002. *Analysis of Water Conserved Under the Upper Main Water Conservation Project*. Prepared for Browns Valley Irrigation District. May. Available online at http://www.bvid.org/pub.html [Accessed March 6, 2015].

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Reclamation. 2009. Cropland Idling, Issue No. 1 – DRAFT Rice Water Transfer Pattern. Available online at http://www.water.ca.gov/watertransfers/docs/Issue1-Rice.pdf [Accessed March 6, 2015].

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Attachment 1: CalSim II Assumptions for Baseline Operations

	Existing Condition[1]
Planning Horizon	2014
Period of Simulation	82 years (1922-2003)
HYDROLOGY	
Level of Development (land use)	2005 Level[3]
DEMANDS	
North of Delta (excluding the American River)	
CVP	Land-use based, limited by contract amounts[4]
SWP (FRSA)	Land-use based, limited by contract amounts[5]
Non-project	Land-use based, limited by water rights and SWRCB Decisions for Existing Facilities
Antioch Water Works	Pre-1914 water right
Federal refuges	Recent historical Level 2 water needs[6]
American River Basin	
Water rights	Year 2005, full water rights[7]
CVP	Year 2005 plus Freeport Regional Water Project[7]
San Joaquin River Basin[9]	
Friant Unit	Limited by contract amounts, based on current allocation policy
Lower basin	Land-use based, based on district level operations and constraints
Stanislaus River basin[10 19]	Land-use based, based on New Melones Interim Operations Plan, up to full CVP Contractor deliveries (155 TAF per year) depending on New Melones Index
South of Delta	
CVP	Demand based on contract amounts[4]
Federal refuges	Firm Level 2 water needs[6]
Contra Costa WD	195 TAF per year CVP contract supply and water rights[11]
SWP[5 12]	Demand based on full Table A amounts (4.13 MAF per year)
Article 56	Based on 2001-2008 contractor requests
Article 21	MWD demand up to 200 TAF per month (December-March) subject to conveyance capacity, KCWA demand up to 180 TAF per month, and other contractor demands up to 34 TAF per month, subject to conveyance capacity
North Bay Aqueduct	77 TAF per year demand under SWP contracts, up to 43.7 cfs of excess flow under Fairfield, Vacaville and Benicia Settlement Agreement
FACILITIES	
System-wide	Existing facilities
Sacramento Valley	
Shasta Reservoir	Existing, 4,552 TAF capacity
Red Bluff Diversion Dam	Diversion dam operated with gates out all year, NOAA Fisheries BO (Jun 2009) Action I.3.1[19]; assume permanent facilities in place

	Existing Condition[1]
Colusa Basin	Existing conveyance and storage facilities
Upper American River	Placer County Water Agency American River pump station
Lower Sacramento River	Freeport Regional Water Project
Fremont Weir	Existing (un-notched) Weir
Delta Export Conveyance	
SWP Banks Pumping Plant (South Delta)	Physical capacity is 10,300 cfs, permitted capacity is 6,680 cfs in all months and up to 8,500 cfs during Dec 15th - Mar 15th depending on Vernalis flow conditions[20] ;additional capacity of 500 cfs (up to 7,180 cfs) allowed Jul–Sep for reducing impact of NOAA Fisheries BO (Jun 2009) Action IV.2.1[19] on SWP[21]
CVP C.W. "Bill" Jones Pumping Plant (formerly Tracy PP)	Permit capacity is 4,600 cfs in all months (allowed for by the DMC-California Aqueduct Intertie)
Upper DMC Capacity	Exports limited to 4,200 cfs plus diversion upstream from DMC constriction plus 400 cfs DMC-California Aqueduct Intertie
Los Vaqueros Reservoir	Enlarged storage capacity (160 TAF), existing pump location, Alternate Intake project included[14]
San Joaquin River	
Millerton Lake (Friant Dam)	Existing, 520 TAF capacity
South of Delta (CVP/SWP project facilities)	
South Bay Aqueduct	SBA rehabilitation, 430 cfs capacity from junction with California Aqueduct to Alameda County FC&WSD Zone 7 point
California Aqueduct East Branch	Existing capacity
REGULATORY STANDARDS	
Trinity River	
Minimum Flow below Lewiston Dam	Trinity EIS Preferred Alternative (369-815 TAF per year)
Trinity Reservoir end-of-September minimum storage	Trinity EIS Preferred Alternative (600 TAF as able)
Clear Creek	
Minimum flow below Whiskeytown Dam	Downstream water rights, 1963 Reclamation proposal to USFWS and NPS, predetermined Central Valley Protection Improvement Act 3406(b)(2) flows[22], and NOAA Fisheries BO (Jun 2009) Action I.1.1[19]
Upper Sacramento River	
Shasta Reservoir end-of-September minimum storage	NOAA Fisheries 2004 Winter-run Biological Opinion (1,900 TAF in non-critical dry years), and NOAA Fisheries BO (Jun 2009) Action I.2.1[19]
Minimum flow below Keswick Dam	Flows for the SWRCB Water Rights Order 90-5, predetermined Central Valley Protection Improvement Act 3406(b)(2) flows, and NOAA Fisheries BO (Jun 2009) Action I.2.2[19]
Feather River	
Minimum flow below Thermalito Diversion Dam	2006 Settlement Agreement (700 / 800 cfs).
Minimum flow below Thermalito Afterbay outlet	1983 DWR, CDFW agreement (750 – 1,700 cfs)
Yuba River	
Minimum flow below Daguerre Point Dam	D-1644 Operations (Lower Yuba River Accord)[15]

	Existing Condition[1]
American River	
Minimum flow below Nimbus Dam	American River Flow Management as required by NOAA Fisheries BO (Jun 2009) Action II.1[19]
Minimum flow at H Street Bridge	SWRCB D-893
Lower Sacramento River	
Minimum flow near Rio Vista	SWRCB D-1641
Mokelumne River	
Minimum flow below Camanche Dam	Federal Energy Regulatory Commission 2916-029[13], 1996 (Joint Settlement Agreement)
Minimum flow below Woodbridge Diversion Dam	Federal Energy Regulatory Commission 2916-029[13], 1996 (Joint Settlement Agreement)
Stanislaus River	
Minimum flow below Goodwin Dam	1987 Reclamation, CDFW agreement, and flows required for NOAA Fisheries BO (Jun 2009) Action III.1.2 and III.1.3[19]
Minimum dissolved oxygen	SWRCB D-1422
Merced River	
Minimum flow below Crocker-Huffman Diversion Dam	Davis-Grunsky (180 – 220 cfs, Nov – Mar) and Cowell Agreement
Minimum flow at Shaffer Bridge	Federal Energy Regulatory Commission 2179 (25 – 100 cfs)
Tuolumne River	
Minimum flow at Lagrange Bridge	Federal Energy Regulatory Commission 2299-024, 1995 (Settlement Agreement) (94 – 301 TAF per year)
San Joaquin River	
San Joaquin River below Friant Dam/Mendota Pool	Interim San Joaquin River Restoration flows limited by existing channel capacities
Maximum salinity near Vernalis	SWRCB D-1641
Minimum flow near Vernalis	SWRCB D-1641 and NOAA Fisheries BO (Jun 2009) Action IV.2.1 Phase II flows not provided due to lack of agreement for purchasing water.
Sacramento-San Joaquin Delta	
Delta Outflow Index (flow and salinity)	SWRCB D-1641 and USFWS BO (Dec 2008) Action 4[19]
Delta Cross Channel gate operation	SWRCB D-1641 with additional days closed from Oct 1-Jan 31 based on NOAA Fisheries BO (Jun 2009) Action IV.1.2[19] (closed during flushing flows from Oct 1-Dec 14 unless adverse water quality conditions)
South Delta exports (Jones PP and Banks PP)	SWRCB D-1641 export limits and Vernalis flow-based export limits in Apr -May as required by NOAA Fisheries BO (June 2009) Action IV.2.1 Phase II[19] (additional 500 cfs allowed for Jul-Sep for reducing impact on SWP)[21]
Combined Flow in Old and Middle River	USFWS BO (Dec 2008) Actions 1-3 and NOAA Fisheries BO (Jun 2009) Action IV.2.3[19]
OPERATIONS CRITERIA: RIVER-SPECIFIC	
Upper Sacramento River	
Flow objective for navigation at Wilkins Slough	NOAA Fisheries BO (Jun 2009) Action I.4[19]; 3,250 – 5,000 cfs based on CVP water supply condition

	Existing Condition[1]
American River	
Folsom Dam flood control	Variable 400/670 flood control diagram (without outlet modifications)
Feather River	
Flow at mouth of Feather River (above Verona)	Maintain the CDFW/DWR flow target of 2,800 cfs for Apr - Sep dependent on Oroville inflow and FRSA allocation
Stanislaus River	
Flow below Goodwin Dam	Revised Operations Plan and NOAA Fisheries BO (Jun 2009) Action III.1.2 and III.1.3[19]
San Joaquin River	
Salinity at Vernalis	Grasslands Bypass Project (partial implementation)
OPERATIONS CRITERIA: SYSTEMWIDE	
CVP Water Allocation	
CVP settlement and exchange	100% (75% in Shasta critical years)
CVP refuges	100% (75% in Shasta critical years)
CVP agriculture	100% - 0% based on supply. South-of-Delta allocations are additionally limited due to D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19]
CVP municipal & industrial	100% - 50% based on supply. South-of-Delta allocations are additionally limited due to D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19]
SWP Water Allocation	
North of Delta (FRSA)	Contract-specific
South of Delta (including North Bay Aqueduct)	Based on supply; equal prioritization between Ag and M&I based on Monterey Agreement; allocations are limited due to D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19]
CVP/SWP Coordinated Operations	
Sharing of responsibility for in-basin use	1986 Coordinated Operations Agreement (East Bay MUD FRWP and 2/3 of the North Bay Aqueduct diversions are considered as Delta export, 1/3 of the North Bay Aqueduct diversion is considered as in-basin use)
Sharing of surplus flows	1986 Coordinated Operations Agreement
Sharing of restricted export capacity for project-specific priority pumping	Equal sharing of export capacity under SWRCB D-1641, USFWS BO (Dec 2008), and NOAA Fisheries BO (Jun 2009) export restrictions[19]
Water transfers	Acquisitions by SWP contractors are wheeled at priority in Banks Pumping Plant over non- SWP users; LYRA included for SWP contractors[21]
Sharing of export capacity for lesser priority and wheeling-related pumping	Cross Valley Canal wheeling (max of 128 TAF per year), CALFED ROD defined Joint Point of Diversion
San Luis Reservoir	San Luis Reservoir is allowed to operate to a minimum storage of 100 TAF
CVPIA 3406(b)(2)	
Policy decision	Per May 2003 Department of Interior decision
Allocation	800 TAF per year, 700 TAF per year in 40-30-30 dry years, and 600 TAF per year in 40-30-30 critical years

	Existing Condition[1]
Actions	Pre-determined non-discretionary USFWS BO (Dec 2008) upstream fish flow objectives (Oct- Jan) for Clear Creek and Keswick Dam, non-discretionary NOAA Fisheries BO (Jun 2009) actions for the American and Stanislaus Rivers, and NOAA Fisheries BO (Jun 2009) actions leading to export restrictions[19]
Accounting adjustments	No discretion assumed under USFWS BO (Dec 2008) and NOAA Fisheries BO (Jun 2009)[19], no accounting
WATER MANAGEMENT ACTIONS	
Water Transfer Supplies	
Lower Yuba River Accord[21]	Yuba River acquisitions for reducing impact of NOAA Fisheries BO export restrictions[19] on SWP

Notes:

[1] These assumptions were developed under the direction of the DWR and Reclamation management team for the Bay Delta Conservation Plan (BDCP) Habitat Conservation Plan and EIR/EIS. Additional modifications were made by Reclamation and the Long-Term Water Transfer Project team and coordinated with Reclamation.

[2] Footnote removed.

[3] The Sacramento Valley hydrology used in the Existing Condition CalSim II model reflects nominal 2005 land use assumptions. The nominal 2005 land use was determined by interpolation between the 1995 and projected 2020 land use assumptions associated with Bulletin 160-98. The San Joaquin Valley hydrology reflects 2005 land use assumptions developed by Reclamation to support Reclamation studies.

[4] CVP contract amounts have been reviewed and updated according to existing and amended contracts, as appropriate. Assumptions regarding CVP agricultural and municipal and industrial (M&I) service contracts and Settlement Contract amounts are documented in the Delivery Specifications attachments to the BDCP CalSim II assumptions document.

[5] SWP contract amounts have been updated as appropriate based on recent Table A transfers/agreements. Assumptions regarding SWP agricultural and M&I contract amounts are documented in the Delivery Specifications attachments to the BDCP CalSim II assumptions document.

[6] Water needs for Federal refuges have been reviewed and updated and are documented in the Delivery Specifications attachments to the BDCP CalSim II assumptions document.

[7] Assumptions regarding American River water rights and CVP contracts are documented in the Delivery Specifications attachments to the BDCP CalSim II assumptions document. The Sacramento Area Water Forum agreement, its dry year diversion reductions, MFP operations and "mitigation" water is not included.

[8] Footnote removed.

[9] The new CalSim II representation of the San Joaquin River has been included in this model package (CalSim II San Joaquin River Model, Reclamation, 2005). Updates to the San Joaquin River have been included since the preliminary model release in August 2005.

[10] The CalSim II model representation for the Stanislaus River does not necessarily represent Reclamation's current or future operational policies. A suitable plan for supporting flows has not been developed for NOAA Fisheries BO (Jun 2009) Action III.1.3.

[11] The actual amount diverted is reduced because of supplies from the Los Vaqueros project. The existing Los Vaqueros storage capacity is 160 TAF. Associated water rights for Delta excess flows are included.

[12] Under Existing Conditions it is assumed that SWP Contractors can take delivery of all Table A allocations and Article 21 supplies. Article 56 provisions are assumed and allow for SWP Contractors to manage storage and delivery conditions such that full Table A allocations can be delivered. Article 21 deliveries are limited in wet years under the assumption that demand is decreased in these conditions. Article 21 deliveries for the NBA are dependent on excess conditions only, all other Article 21 deliveries also require that San Luis Reservoir be at capacity and that Banks PP and the California Aqueduct have available capacity to divert from the Delta for direct delivery.

[13] Mokelumne River flows reflect East Bay MUD operations in consideration of supplies associated with the Freeport Regional Water Project.

[14] The Contra Costa WD Alternate Intake Project, an intake at Victoria Canal, that operates as an alternate Delta diversion for Los Vaqueros Reservoir.

[15] D-1644 and the Lower Yuba River Accord are assumed to be implemented for the Existing Conditions baselines. The Yuba River is not dynamically modeled in CalSim II. Yuba River hydrology and availability of water acquisitions under the Lower Yuba River Accord are based on modeling performed and provided by the Lower Yuba River Accord EIS/EIR study team.

[16] Footnote removed.

[17] Footnote removed.

[18] Footnote removed.

[19] In cooperation with Reclamation, NOAA Fisheries, USFWS, and California Department of Fish and Wildlife, DWR has developed assumptions for implementation of the USFWS BO (Dec 15th, 2008) and NOAA Fisheries BO (June 4th, 2009) in CalSim II.

[20] Current U.S. Army Corps of Engineering permit for Banks PP allows for an average diversion rate of 6,680 cfs in all months. Diversion rate can increase up to 1/3 of the rate of San Joaquin River flow at Vernalis during Dec 15th – Mar 15th up to a maximum diversion of 8,500 cfs, if Vernalis flow exceeds 1,000 cfs.

[21] Acquisitions of Component 1 water under the Lower Yuba River Accord, and use of 500 cfs dedicated capacity at Banks PP during Jul– Sep, are assumed to be used to reduce as much of the impact of the Apr-May Delta export actions on SWP contractors as possible.

[22] Delta actions, under USFWS discretionary use of CVPIA 3406(b)(2) allocations, are no longer dynamically operated and accounted for in the CalSim II model. The Combined Old and Middle River Flow and Delta Export restrictions under the USFWS BO (Dec 15th, 2008) and the NOAA Fisheries BO (June 4th, 2009) severely limit any discretion that would have been otherwise assumed in selecting Delta actions under the CVPIA 3406(b)(2) accounting criteria. Therefore, it is anticipated that CVPIA 3406(b)(2) account availability for upstream river flows below Whiskeytown, Keswick and Nimbus Dams would be very limited. It appears the integration of BO Reasonable and Prudent Alternative actions will likely exceed the 3406(b)(2) allocation in all water year types. Upstream flows on Clear Creek and the Sacramento River are pre-determined based on CVPIA 3406(b)(2) based operations from the Aug 2008 BA Study 7.0 and Study 8.0 for Existing Conditions baselines. The procedures for dynamic operation and accounting of CVPIA 3406(b)(2) are not included in CalSim II.

[23] Only acquisitions of Lower Yuba River Accord Component 1 water are included.

Key:

CVP = Central Valley Project	SWP = State Water Project
FRSA = Feather River Service Area	SWRCB = State Water Resources Control Board
TAF = thousand acre-feet	WD = Water District
MAF = million acre-feet	MWD = Metropolitan Water District of Southern California
KCWA = Kern County Water Agency	cfs = cubic feet per second
BO = biological opinion	PP = Pumping Plant
DMC = Delta-Mendota Cana	SBA = South Bay Aqueduct
NBA = North Bay Aqueduct	FC&WSD = Flood Control and Water Service District
EIS = Environmental Impact Statement	USFWS = U.S. Fish and Wildlife Service
NPS = National Park Service	DWR = Department of Water Resources
CDFW = California Department of Fish and Wildlife	FRWP = Freeport Regional Water Project
LYRA = Lower Yuba River Accord	ROD = Record of Decision

CALFED = State (CAL) and Federal (FED) agencies participating in the Bay-Delta Accord
CVPIA = Central Valley Project Improvement Act
NOAA Fisheries = National Oceanic and Atmospheric Administration Fisheries Service

Attachment 2: Monthly Simulated Transfers by Seller for each Alternative

The following tables show the volume of water simulated as transferred by each seller for each alternative. A separate table is included for each type of transfer: groundwater substitution, reservoir release, conserved water, and crop idling.

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Conaway Preservation Group							
1976	0.0	0.0	8.6	5.4	5.4	2.7	22.1
1977	0.0	0.0	10.0	4.0	4.0	2.0	20.1
1981	0.0	0.0	8.6	5.4	5.4	2.7	22.1
1987	4.3	8.6	8.6	5.4	5.4	2.7	35.0
1988	0.0	8.6	8.6	5.4	5.4	2.7	30.7
1989	0.0	8.6	8.6	5.4	5.4	2.7	30.7
1990	0.0	0.0	8.6	5.4	5.4	2.7	22.1
1991	0.0	0.0	10.0	4.0	4.0	2.0	20.1
1992	5.0	10.0	10.0	4.0	4.0	2.0	35.0
1994	0.0	0.0	0.5	4.0	4.0	2.0	10.6
2001	0.0	8.6	8.6	5.4	5.4	2.7	30.7
2003	0.0	0.0	0.0	5.4	5.4	2.7	13.5
Natomas Central Mutual Water Company							
1976	0.0	0.0	6.0	6.0	6.0	3.0	21.0
1977	0.0	0.0	6.0	6.0	6.0	3.0	21.0
1981	0.0	0.0	6.0	6.0	6.0	3.0	21.0
1987	3.0	6.0	6.0	6.0	6.0	3.0	30.0
1988	0.0	6.0	6.0	6.0	6.0	3.0	27.0
1989	0.0	6.0	6.0	6.0	6.0	3.0	27.0
1990	0.0	0.0	6.0	6.0	6.0	3.0	21.0
1991	0.0	0.0	6.0	6.0	6.0	3.0	21.0
1992	3.0	6.0	6.0	6.0	6.0	3.0	30.0
1994	0.0	0.0	0.0	6.0	6.0	3.0	15.0
2001	0.0	6.0	6.0	6.0	6.0	3.0	27.0
2003	0.0	0.0	0.0	6.0	6.0	3.0	15.0
Sacramento Suburban Water District*							
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	1.8	0.0	1.8
1981	0.0	0.0	0.0	1.8	0.0	0.0	1.8
1987	0.0	0.0	0.0	1.8	0.0	0.0	1.8
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	5.0	5.0	5.0	5.0	5.0	25.0
1990	0.0	0.0	0.0	1.8	0.0	0.0	1.8
1991	0.0	0.0	0.0	1.8	1.8	0.0	3.7
1992	0.0	0.0	0.0	1.8	0.0	0.0	1.8
1994	0.0	0.0	0.0	1.8	0.0	0.0	1.8
2001	0.0	0.0	0.0	1.8	0.0	0.0	1.8
2003	0.0	0.0	0.0	5.0	5.0	5.0	15.0

*Sacramento Suburban WD simulated to pump 3,800 acre-feet in October 1989 for transfer to EBMUD

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Glenn-Colusa Irrigation District							
1976	4.2	4.2	4.2	4.2	4.2	4.2	25.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	4.2	4.2	4.2	4.2	4.2	4.2	25.0
1987	4.2	4.2	4.2	4.2	4.2	4.2	25.0
1988	4.2	4.2	4.2	4.2	4.2	4.2	25.0
1989	0.0	3.8	3.7	3.0	3.0	2.9	16.4
1990	0.0	4.2	4.2	4.2	4.2	4.2	20.8
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	4.2	4.2	4.2	4.2	4.2	4.2	25.0
2003	0.0	0.0	0.0	4.2	4.2	4.2	12.5
Pleasant Grove-Verona Mutual Water Company							
1976	0.0	0.0	3.2	4.0	4.0	2.0	13.2
1977	0.0	0.0	3.2	2.8	2.8	1.4	10.2
1981	0.0	0.0	3.2	4.0	4.0	2.0	13.2
1987	1.6	3.2	3.2	4.0	4.0	2.0	18.0
1988	0.0	3.2	3.2	4.0	4.0	2.0	16.4
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	3.2	4.0	4.0	2.0	13.2
1991	0.0	0.0	3.2	2.8	2.8	1.4	10.2
1992	1.6	3.2	3.2	2.8	2.8	1.4	15.0
1994	0.0	0.0	0.0	2.8	2.8	1.4	7.0
2001	0.0	3.2	3.2	4.0	4.0	2.0	16.4
2003	0.0	0.0	0.0	0.8	0.8	0.4	2.1
Reclamation District 108							
1976	2.5	2.5	2.5	2.5	2.5	2.5	15.0
1977	0.0	2.5	2.5	2.5	2.5	2.5	12.5
1981	1.5	1.5	1.5	2.5	2.5	2.5	12.1
1987	2.5	2.5	2.5	2.5	2.5	2.5	15.0
1988	2.5	2.5	2.5	2.5	2.5	2.5	15.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	2.5	2.5	2.5	2.5	2.5	12.5
1991	0.0	2.5	2.5	2.5	2.5	2.5	12.5
1992	2.5	2.5	2.5	2.5	2.5	2.5	15.0
1994	2.5	2.5	2.5	2.5	2.5	2.5	15.0
2001	2.5	2.5	2.5	2.5	2.5	2.5	15.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Sycamore Mutual Water Company							
1976	1.5	3.0	3.0	3.0	3.0	1.5	15.0
1977	0.0	1.2	1.2	1.6	1.6	0.8	6.4
1981	0.0	0.0	0.0	3.0	3.0	1.5	7.5
1987	1.5	3.0	3.0	3.0	3.0	1.5	15.0
1988	1.5	3.0	3.0	3.0	3.0	1.5	15.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	3.0	3.0	3.0	3.0	1.5	13.5
1991	0.0	1.2	1.2	1.6	1.6	0.8	6.4
1992	0.6	1.2	1.2	1.6	1.6	0.8	7.0
1994	0.6	1.2	1.2	1.6	1.6	0.8	7.0
2001	1.5	3.0	3.0	3.0	3.0	1.5	15.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sacramento County Water Agency							
1976	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1977	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1981	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1987	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1988	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1991	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1992	0.0	0.0	0.0	5.0	5.0	5.0	15.0
1994	0.0	0.0	0.0	5.0	5.0	5.0	15.0
2001	0.0	0.0	0.0	5.0	5.0	5.0	15.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Garden Highway Mutual Water Company							
1976	0.0	2.2	2.2	2.5	2.5	2.5	11.8
1977	0.0	1.2	1.2	1.3	1.3	1.3	6.3
1981	0.0	0.0	0.0	2.3	2.3	2.3	6.9
1987	2.2	2.2	2.2	2.5	2.5	2.5	14.0
1988	0.0	1.2	1.2	1.3	1.3	1.3	6.3
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	2.2	2.2	2.5	2.5	2.5	11.8
1991	0.0	0.0	1.2	1.3	1.3	1.3	5.2
1992	2.2	2.2	2.2	2.5	2.5	2.5	14.0
1994	0.0	0.0	2.2	2.5	2.5	2.5	9.7
2001	0.0	2.2	2.2	2.5	2.5	2.5	11.8
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Cordua Irrigation District							
1976	0.0	0.0	0.0	4.8	4.8	2.4	12.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	4.8	4.8	2.4	12.0
1988	0.0	0.0	0.0	4.8	4.8	2.4	12.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	4.8	4.8	2.4	12.0
1991	0.0	0.0	0.0	4.8	4.8	2.4	12.0
1992	0.0	0.0	0.0	4.8	4.8	2.4	12.0
1994	0.0	0.0	0.0	4.8	4.8	2.4	12.0
2001	0.0	0.0	0.0	4.8	4.8	2.4	12.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Goose Club Farms/Teichert							
1976	0.0	0.0	1.6	2.4	2.4	1.2	7.6
1977	0.0	0.0	1.6	2.4	2.4	1.2	7.6
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.8	1.6	1.6	2.4	2.4	1.2	10.0
1988	0.0	1.6	1.6	2.4	2.4	1.2	9.2
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	1.6	2.4	2.4	1.2	7.6
1991	0.0	0.0	1.6	2.4	2.4	1.2	7.6
1992	0.8	1.6	1.6	2.4	2.4	1.2	10.0
1994	0.0	0.0	0.0	2.4	2.4	1.2	6.0
2001	0.0	1.6	1.6	2.4	2.4	1.2	9.2
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
River Garden Farms							
1976	0.0	0.0	1.6	2.0	2.0	1.0	6.6
1977	0.0	0.0	1.2	1.2	1.2	0.6	4.2
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.8	1.6	1.6	2.0	2.0	1.0	9.0
1988	0.0	1.6	1.6	2.0	2.0	1.0	8.2
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	1.6	2.0	2.0	1.0	6.6
1991	0.0	0.0	1.2	1.2	1.2	0.6	4.2
1992	0.6	1.2	1.2	1.2	1.2	0.6	6.0
1994	0.0	0.0	0.0	1.2	1.2	0.6	3.0
2001	0.0	1.6	1.6	2.0	2.0	1.0	8.2
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Cranmore Farms							
1976	0.0	0.0	2.1	1.1	1.1	0.6	4.9
1977	0.0	0.0	1.5	0.9	0.9	0.4	3.7
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	1.0	2.1	2.1	1.1	1.1	0.6	8.0
1988	0.0	2.1	2.1	1.1	1.1	0.6	7.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	2.1	1.1	1.1	0.6	4.9
1991	0.0	0.0	1.5	0.9	0.9	0.4	3.7
1992	0.8	1.5	1.5	0.9	0.9	0.4	6.0
1994	0.0	0.0	0.0	0.9	0.9	0.4	2.1
2001	0.0	2.1	2.1	1.1	1.1	0.6	7.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tule Basin Farms							
1976	0.0	0.0	1.5	1.4	1.4	0.7	5.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.8	1.5	1.5	1.4	1.4	0.7	7.3
1988	0.0	1.5	1.5	0.0	0.0	0.0	3.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	1.5	0.0	0.0	0.0	1.5
1991	0.0	0.0	1.5	0.0	0.0	0.0	1.5
1992	0.8	1.5	0.0	0.0	0.0	0.0	2.3
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.5	1.5	1.4	1.4	0.7	6.6
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclamation District 1004							
1976	0.0	0.0	0.0	2.9	2.9	1.4	7.2
1977	0.0	0.0	0.0	2.2	2.2	1.1	5.4
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	2.9	2.9	1.4	7.2
1988	0.0	0.0	0.0	2.9	2.9	1.4	7.2
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	2.9	2.9	1.4	7.2
1991	0.0	0.0	0.0	2.2	2.2	1.1	5.4
1992	0.0	0.0	0.0	2.2	2.2	1.1	5.4
1994	0.0	0.0	0.0	2.2	2.2	1.1	5.4
2001	0.0	0.0	0.0	2.9	2.9	1.4	7.2
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Te Velde Trust							
1976	0.0	0.0	1.1	1.8	1.8	0.9	5.5
1977	0.0	0.0	0.8	0.4	0.4	0.2	1.8
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.5	1.1	1.1	1.8	1.8	0.9	7.1
1988	0.0	1.1	1.1	1.8	1.8	0.9	6.6
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	1.1	1.8	1.8	0.9	5.5
1991	0.0	0.0	0.8	0.4	0.4	0.2	1.8
1992	0.4	0.8	0.8	0.4	0.4	0.2	2.9
1994	0.0	0.0	0.0	0.4	0.4	0.2	1.0
2001	0.0	1.1	1.1	1.8	1.8	0.9	6.6
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butte Water District							
1976	0.9	0.9	0.9	0.9	0.9	0.9	5.5
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.9	0.9	0.9	0.9	0.9	0.9	5.5
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.9	0.9	0.9	0.9	0.9	4.6
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.9	0.9	0.9	0.9	0.9	0.9	5.5
1994	0.9	0.9	0.9	0.9	0.9	0.9	5.5
2001	0.9	0.9	0.9	0.9	0.9	0.9	5.5
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Anderson-Cottonwood Irrigation District							
1976	0.5	1.0	1.0	1.4	1.4	0.7	5.9
1977	0.0	1.0	1.0	1.4	1.4	0.7	5.5
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.5	1.0	1.0	1.4	1.4	0.7	5.9
1988	0.5	1.0	1.0	1.4	1.4	0.7	5.9
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.0	1.0	1.4	1.4	0.7	5.5
1991	0.0	1.0	1.0	1.4	1.4	0.7	5.5
1992	0.5	1.0	1.0	1.4	1.4	0.7	5.9
1994	0.5	1.0	1.0	1.4	1.4	0.7	5.9
2001	0.5	1.0	1.0	1.4	1.4	0.7	5.9
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
City of Sacramento							
1976	0.0	0.0	0.0	1.7	1.7	1.7	5.0
1977	0.0	0.0	0.0	1.7	1.7	1.7	5.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	1.7	1.7	1.7	5.0
1988	0.0	0.0	0.0	1.7	1.7	1.7	5.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	1.7	1.7	1.7	5.0
1991	0.0	0.0	0.0	1.7	1.7	1.7	5.0
1992	0.0	0.0	0.0	1.7	1.7	1.7	5.0
1994	0.0	0.0	0.0	1.7	1.7	1.7	5.0
2001	0.0	0.0	0.0	1.7	1.7	1.7	5.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclamation District 2068							
1976	0.0	0.0	0.8	0.8	0.8	0.8	3.0
1977	0.0	0.0	0.8	0.8	0.8	0.8	3.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.8	0.8	0.8	0.8	0.8	0.8	4.5
1988	0.0	0.8	0.8	0.8	0.8	0.8	3.8
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.8	0.8	0.8	0.8	3.0
1991	0.0	0.0	0.8	0.8	0.8	0.8	3.0
1992	0.8	0.8	0.8	0.8	0.8	0.8	4.5
1994	0.0	0.0	0.0	0.8	0.8	0.8	2.3
2001	0.0	0.8	0.8	0.8	0.8	0.8	3.8
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gilsizer Slough Ranch							
1976	0.0	0.0	0.5	0.8	0.8	0.8	2.9
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.5	0.5	0.5	0.8	0.8	0.8	3.9
1988	0.0	0.5	0.5	0.0	0.0	0.0	1.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.5	0.0	0.0	0.0	0.5
1991	0.0	0.0	0.5	0.0	0.0	0.0	0.5
1992	0.5	0.5	0.0	0.0	0.0	0.0	1.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.5	0.5	0.8	0.8	0.8	3.4
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-1.
Simulated Groundwater Substitution Transfers for Alternatives 2 & 3 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Pelger Mutual Water Company							
1976	0.0	0.0	0.9	0.6	0.6	0.3	2.5
1977	0.0	0.0	0.1	0.5	0.5	0.2	1.3
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.4	0.9	0.9	0.6	0.6	0.3	3.8
1988	0.0	0.9	0.9	0.6	0.6	0.3	3.3
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.9	0.6	0.6	0.3	2.5
1991	0.0	0.0	0.1	0.5	0.5	0.2	1.3
1992	0.1	0.1	0.1	0.5	0.5	0.2	1.5
1994	0.0	0.0	0.0	0.5	0.5	0.2	1.2
2001	0.0	0.9	0.9	0.6	0.6	0.3	3.3
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pope Ranch							
1976	0.0	0.0	0.6	0.6	0.6	0.3	2.0
1977	0.0	0.0	0.6	0.6	0.6	0.3	2.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.3	0.6	0.6	0.6	0.6	0.3	2.8
1988	0.0	0.6	0.6	0.6	0.6	0.3	2.5
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.6	0.6	0.6	0.3	2.0
1991	0.0	0.0	0.6	0.6	0.6	0.3	2.0
1992	0.3	0.6	0.6	0.6	0.6	0.3	2.8
1994	0.0	0.0	0.0	0.6	0.6	0.3	1.4
2001	0.0	0.6	0.6	0.6	0.6	0.3	2.5
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eastside Mutual Water Company							
1976	0.2	0.4	0.4	0.5	0.5	0.2	2.2
1977	0.0	0.4	0.4	0.4	0.4	0.2	1.8
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.2	0.4	0.4	0.5	0.5	0.2	2.2
1988	0.2	0.4	0.4	0.5	0.5	0.2	2.2
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.4	0.4	0.5	0.5	0.2	2.0
1991	0.0	0.4	0.4	0.4	0.4	0.2	1.8
1992	0.2	0.4	0.4	0.4	0.4	0.2	2.0
1994	0.2	0.4	0.4	0.4	0.4	0.2	2.0
2001	0.2	0.4	0.4	0.5	0.5	0.2	2.2
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-2.
Simulated Crop Idling Transfers for Alternative 2 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Glenn-Colusa Irrigation District							
1976	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1977	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1981	0.0	0.6	0.8	0.9	0.9	0.6	3.7
1987	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1988	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1991	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1992	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1994	0.0	9.9	14.5	15.8	15.8	9.9	66.0
2001	0.0	9.9	14.5	15.8	15.8	9.9	66.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclamation District 108							
1976	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1977	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1988	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1991	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1992	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1994	0.0	3.0	4.4	4.8	4.8	3.0	20.0
2001	0.0	3.0	4.4	4.8	4.8	3.0	20.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Butte Water District							
1976	0.0	0.9	1.3	1.4	1.4	0.9	6.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.9	1.3	1.4	1.4	0.9	6.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.9	1.3	1.4	1.4	0.9	6.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.9	1.3	1.4	1.4	0.9	6.0
1994	0.0	0.9	1.3	1.4	1.4	0.9	6.0
2001	0.0	0.9	1.3	1.4	1.4	0.9	6.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-2.
Simulated Crop Idling Transfers for Alternative 2 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Reclamation District 1004							
1976	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1977	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1988	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1991	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1992	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1994	0.0	0.7	1.1	1.2	1.2	0.7	5.0
2001	0.0	1.5	2.2	2.4	2.4	1.5	10.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sycamore Mutual Water Company							
1976	0.0	0.8	1.1	1.2	1.2	0.8	5.0
1977	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.8	1.1	1.2	1.2	0.8	5.0
1988	0.0	0.8	1.1	1.2	1.2	0.8	5.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.8	1.1	1.2	1.2	0.8	5.0
1991	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1992	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1994	0.0	0.1	0.2	0.2	0.2	0.1	1.0
2001	0.0	0.8	1.1	1.2	1.2	0.8	5.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclamation District 2068							
1976	0.0	0.5	0.7	0.7	0.7	0.5	3.0
1977	0.0	0.5	0.7	0.7	0.7	0.5	3.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.5	0.7	0.7	0.7	0.5	3.0
1988	0.0	0.5	0.7	0.7	0.7	0.5	3.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.5	0.7	0.7	0.7	0.5	3.0
1991	0.0	0.5	0.7	0.7	0.7	0.5	3.0
1992	0.0	0.5	0.7	0.7	0.7	0.5	3.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.2
2001	0.0	0.5	0.7	0.7	0.7	0.5	3.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-2.
Simulated Crop Idling Transfers for Alternative 2 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Pelger Mutual Water Company							
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.1	0.1	0.1	0.1	0.1	0.4
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.1	0.1	0.1	0.1	0.1	0.4
1992	0.0	0.1	0.1	0.1	0.1	0.1	0.4
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-3.
Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Glenn-Colusa Irrigation District							
1976	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1977	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1988	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1991	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1992	0.0	9.9	14.5	15.8	15.8	9.9	66.0
1994	0.0	9.9	14.5	15.8	15.8	9.9	66.0
2001	0.0	9.9	14.5	15.8	15.8	9.9	66.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Conaway Preservation Group							
1976	0.0	3.2	4.7	5.1	5.1	3.2	21.3
1977	0.0	2.4	3.5	3.8	3.8	2.4	16.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	3.2	4.7	5.1	5.1	3.2	21.3
1988	0.0	3.2	4.7	5.1	5.1	3.2	21.3
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	3.2	4.7	5.1	5.1	3.2	21.3
1991	0.0	2.4	3.5	3.8	3.8	2.4	16.0
1992	0.0	2.4	3.5	3.8	3.8	2.4	16.0
1994	0.0	2.4	3.5	3.8	3.8	2.4	16.0
2001	0.0	3.2	4.7	5.1	5.1	3.2	21.3
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclamation District 108							
1976	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1977	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1988	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1991	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1992	0.0	3.0	4.4	4.8	4.8	3.0	20.0
1994	0.0	2.4	3.6	3.9	3.9	2.4	16.2
2001	0.0	3.0	4.4	4.8	4.8	3.0	20.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-3.
Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Butte Water District							
1976	0.0	1.7	2.5	2.8	2.8	1.7	11.5
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.7	2.5	2.8	2.8	1.7	11.5
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.7	2.5	2.8	2.8	1.7	11.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	1.7	2.5	2.8	2.8	1.7	11.5
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.7	2.5	2.8	2.8	1.7	11.5
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclamation District 1004							
1976	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1977	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1988	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1991	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1992	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.5	2.2	2.4	2.4	1.5	10.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sycamore Mutual Water Company							
1976	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1977	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1988	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1991	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1992	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.5	2.2	2.4	2.4	1.5	10.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-3.
Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Goose Club Farms/ Teichert							
1976	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1977	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1988	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1991	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1992	0.0	1.5	2.2	2.4	2.4	1.5	10.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.5	2.2	2.4	2.4	1.5	10.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pleasant Grove-Verona Mutual Water Company							
1976	0.0	1.4	2.0	2.2	2.2	1.4	9.0
1977	0.0	1.4	2.0	2.2	2.2	1.4	9.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.4	2.0	2.2	2.2	1.4	9.0
1988	0.0	1.4	2.0	2.2	2.2	1.4	9.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.4	2.0	2.2	2.2	1.4	9.0
1991	0.0	1.4	2.0	2.2	2.2	1.4	9.0
1992	0.0	1.4	2.0	2.2	2.2	1.4	9.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.4	2.0	2.2	2.2	1.4	9.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclamation District 2068							
1976	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1977	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1988	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1991	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1992	0.0	1.1	1.7	1.8	1.8	1.1	7.5
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.1	1.7	1.8	1.8	1.1	7.5
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-3.
Simulated Crop Idling Transfers for Alternative 4 (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Te Velde Trust							
1976	0.0	1.0	1.5	1.7	1.7	1.0	7.0
1977	0.0	0.2	0.3	0.4	0.4	0.2	1.5
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	1.0	1.5	1.7	1.7	1.0	7.0
1988	0.0	1.0	1.5	1.7	1.7	1.0	7.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	1.0	1.5	1.7	1.7	1.0	7.0
1991	0.0	0.2	0.3	0.4	0.4	0.2	1.5
1992	0.0	0.2	0.3	0.4	0.4	0.2	1.5
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	1.0	1.5	1.7	1.7	1.0	7.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pelger Mutual Water Company							
1976	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1977	0.0	0.3	0.4	0.5	0.5	0.3	1.9
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1988	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1991	0.0	0.3	0.4	0.5	0.5	0.3	1.9
1992	0.0	0.3	0.4	0.5	0.5	0.3	1.9
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.4	0.6	0.6	0.6	0.4	2.5
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cranmore Farms							
1976	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1977	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1988	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1991	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1992	0.0	0.4	0.6	0.6	0.6	0.4	2.5
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.4	0.6	0.6	0.6	0.4	2.5
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table C.2-4:
Simulated Reservoir Release Transfers for Specified Alternatives (1,000 acre-feet)

WY	Apr	May	Jun	Jul	Aug	Sep	Total
South Sutter Water District: Alts. 2, 3, & 4							
1989	0	0	0	14	1	0	15
1990	0	0	0	5	0	0	5
1992	0	0	0	15	0	0	15
1994	0	0	0	5	0	0	5
Browns Valley Irrigation District: Alts. 2, 3, & 4							
1981	0	0	0	5	0	0	5
2001	0	0	0	5	0	0	5

Additionally, Browns Valley ID is simulated to make a conserved water transfer of 3,100 acre-feet in July of the following years: 1976, 1977, 1987, 1988, 1990, 1991, 1992, 1994, and 2001. This conserved water transfer operates similar to a reservoir release transfer from New Bullards Bar Reservoir.

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Placer County Water Agency: Alts. 2, 3, & 4							
1976 1977	0	8.2	7.5	6.8	7.2	9.0	38.7
1977	0	4.1	3.2	4.3	4.9	5.5	22.0
1981	0	8.2	7.8	7.9	8.1	7.4	39.4
1987	0	8.2	7.6	8.2	8.3	7.2	39.5
1988	0	4.1	3.8	4.0	4.5	4.6	21.0
1990	0	8.2	8.0	7.7	8.2	7.7	39.8
1991	0	5.2	3.9	3.5	4.1	3.8	20.5
1992	0	1.2	1.2	1.3	1.3	0.9	5.9
1994	0	8.4	7.9	8.2	7.9	6.7	39.0
2001	0	8.2	7.6	8.2	8.3	7.3	39.5

Values shown are releases from PCWA reservoirs into Folsom Reservoir. Water is released from Folsom for rediversion at Freeport by EBMUD at approximately 3,800 acre-feet per month from July through February.

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Merced Irrigation District: Alts. 2 & 3							
1972	18	12	0	0	0	0	30
1981	18	12	0	0	0	0	30
1992	18	12	0	0	0	0	30
2001	18	12	0	0	0	0	30

In Alts. 2 & 3 transfers from Merced ID are diverted from facilities on the lower San Joaquin River.

WY	Apr	May	Jun	Jul	Aug	Sep	Total
Merced Irrigation District: Alt. 4							
1981	0	0	0	30	0	0	30
1992	0	0	0	30	0	0	30
2001	0	0	0	30	0	0	30

1 In Alt. 4 transfers from Merced ID are diverted from CVP/SWP facilities in the south Delta.

Appendix D

Groundwater Model Documentation

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Appendix D
Groundwater Model Documentation

Implementation of conjunctive water management within the Sacramento Valley is one strategy being used to enhance the reliability of the existing water supply, as well as potentially improve water quality, within the San Francisco Bay-Delta. However, the operation of conjunctive water management, or groundwater substitution projects, can result in adverse impacts on water resources within the valley. The two most critical potential impacts of additional groundwater production are depression of local groundwater levels, with associated impacts on well yields from nearby water supply wells, and changes in the hydraulic relationship between the surface water and groundwater systems in the area. To support the evaluation of these potential impacts, a high-resolution, numerical groundwater modeling tool was developed to estimate the impacts of potential future conjunctive water management projects on surface water and groundwater resources within the Sacramento Valley. This model, known as the Sacramento Valley Finite Element Groundwater Model (SACFEM2013), is described herein.

In 2011, prior to selecting the SACFEM model, a model evaluation process was undertaken to select the best fitting tool for the groundwater analysis in the Environmental Impact Statement/ Environmental Impact Report (EIS/EIR). Each model evaluated, including the selected SACFEM model, has undergone changes and updates over the past few years since the model evaluation. Where appropriate, the text below includes notes as to the more recent model updates/additions.

D.1 Model Evaluation

D.1.1 Introduction

This EIS/EIR analyzes the environmental effects of a variety of types of transfers, including groundwater substitution transfers. For groundwater substitution transfers, a willing seller would pump additional groundwater for irrigation in lieu of a surface water supply. The surface water would then be transferred to the buyer. Additional groundwater pumping could affect the groundwater system through: (1) a decline in groundwater levels (resulting in potential water quality and subsidence concerns) and (2) a change in the groundwater/surface water interaction flows.

A quantitative model can help analyze these impacts by simulating groundwater conditions with the additional groundwater pumping. The distinction between the model code (the computational "engine" behind the simulation) and the model application (the use of the code to simulate conditions in a certain area) should be noted. The process evaluated several available groundwater models against criteria that were deemed relevant to the required EIS/EIR analysis.

D.1.2 Evaluation Criteria

The following criteria were used to evaluate the potential use of several available groundwater models.

- **Numerical Code.** The numerical modeling code must be available for use by others. The code should also have sufficient technical review and/or benchmarking tests to illustrate the model computationally performs in accordance with established solution techniques.

- **Spatial Extent.** The model must encompass most of the Sacramento Valley where potential sellers are located.

- **Grid.** The model's grid should be sufficiently refined such that accurate results (e.g., groundwater levels, changes to groundwater/surface water interaction flows) are simulated. Grid sizes that are too large will not provide accurate results at the scale needed for this study. If the grid is not acceptably discretized, the grid must be able to be refined relatively easily to accommodate the needs of this work.

- **Transient Calibration.** The model application should have been calibrated over transient conditions. A steady-state calibration is, likely, not sufficient for this study because groundwater substitution transfers have the potential to occur over varying hydrologic year types. Therefore, the model should be calibrated over a transient period long enough to encompass multiple hydrologic conditions.

- **Technical Review.** The model application has been thoroughly reviewed and deemed adequate for use in this type of modeling study.

- **Availability.** The model application must be available for public use in the time frame of this study.

D.1.3 Available Models

The majority of potential sellers that would be transferring water through groundwater substitution are in the Sacramento Valley. There are several groundwater models that encompass some or all of the Sacramento Valley. These models are briefly described below. The evaluation criteria from the previous section are included along with a brief discussion of the adequacy of the model to meet the criteria.

D.1.3.1 C2VSIM

The California Central Valley Groundwater-Surface Water Simulation Model (C2VSIM) was developed by the California Department of Water Resources (DWR) and uses the Integrated Water Flow Model (IWFM) numerical code. IWFM is a finite-element code that simulates groundwater flow and groundwater/surface water interaction. The model is capable of estimating the amount of historical and future groundwater pumping based on input data such as cropping, evapotranspiration, and surface water delivery patterns. At the time of the model selection, C2VSIM simulated conditions in the entire Central Valley over the period of Water Years[1] (WY) 1921 through 2003 on a monthly basis. The model grid was relatively coarse in both the horizontal and vertical directions (three layers, 1,393 nodes, and 1,392 elements). The model simulates 72 stream reaches, two lakes, and eight bypass canals. There are 97 surface water diversion points simulated in model. Water accounting is carried out over 21 subregions that use four land use types (agriculture, urban, native, and riparian).

- **Numerical Code.** The IWFM code used by C2VSIM is available for use. This code and many of its components have been tested by DWR.
- **Spatial Extent.** C2VSIM covers the entire Central Valley.
- **Grid.** C2VSIM's grid spacing varies throughout the model. In general, node spacing is on the order of miles. This node spacing is not adequate for simulation of potential impacts at the scale needed (see note below).
- **Transient Calibration.** C2VSIM is calibrated for WY 1921 through 2003 (see note below).
- **Technical Review.** The code has been tested and used.
- **Availability.** This model would be available for use.

Note: Since the model selection was completed, C2VSIM has been updated to include simulation through WY 2009. A "fine grid" version of C2VSIM has recently been developed and would be available for use. However, this version was not available at the time this study began.

D.1.3.2 CVHM

The Central Valley Hydrologic Model (CVHM) was developed by the U.S. Geologic Survey (USGS) to aid in making water management decisions throughout the Central Valley (Faunt 2009). The model focuses on groundwater availability and changes in storage. CVHM uses the MODFLOW-2000 finite-difference numerical model code. MODFLOW, developed and maintained by the USGS, is commonly believed to be the most widely accepted numerical modeling code in use. To develop CVHM, the USGS conducted a "texture analysis" of 8,500 drillers' logs to describe the sediment characteristics of aquifer materials. These characteristics were used to assign hydraulic conductivities to the model. CVHM uses the Farm Management

[1] A water year runs from October 1 of the previous calendar year through September 30 of the current calendar year (for example, water year 1970 includes the period of October 1, 1969 through September 30, 1970).

Process to estimate groundwater pumping based on land use patterns and applied surface water, similar to IWFM.

CVHM uses a uniform 1-mile square grid to simulate conditions from WY 1962 through WY 2003 over the entire Central Valley. Similar to IWFM, water budgets are developed over 21 regions that use urban, native, and crop land use categories. The model simulates 43 inflows to streams in the valley and 66 diversions from streams.

- **Numerical Code.** The MODFLOW-2000 code used by CVHM is available for use. MODFLOW is an industry standard modeling platform.

- **Spatial Extent.** CVHM covers the entire Central Valley.

- **Grid.** CVHM's grid has uniform 1-mile by 1-mile square cells. The 1-mile spacing is not adequate for simulation of potential impacts at the scale needed. Several post-processing routines exist that allow the subdivision of all model cells and the extraction of boundary conditions. For example, each 1-mile cell could be divided into four sections yielding 0.5-mile cell spacing. Further subdivision is also possible (e.g. 16 sections would yield 0.25-mile (1,320 ft) cell spacing). Model runtime will increase as the number of cells is increased.

- **Transient Calibration.** CVHM is calibrated for WY 1962 through 2003.

- **Technical Review.** CVHM has been peer reviewed and published by the USGS as Professional Paper 1766.

- **Availability.** CVHM is available for public use.

D.1.3.3 SACFEM

The SACFEM model was developed to simulate groundwater conditions in the Sacramento Valley using the MicroFEM© finite-element numerical code. This model is capable of simulating groundwater conditions and groundwater/surface water interactions in the valley. The model contains 88,992 nodes and 177,095 elements and covers the entire Sacramento Valley groundwater basin from the Cosumnes River in the south to just north of Red Bluff. The model does not include the Redding or San Joaquin Valley groundwater basins as C2VSIM and CVHM do. The node spacing varies from 500 ft to 5,800 ft depending on the location in the model. The areas of fine node discretization exist where detailed groundwater and groundwater/surface water results were required during the development of the model.

SACFEM uses input from the Integrated Demand Calculator (IDC) as guidance to assign deep percolation and groundwater pumping data. The IDC performs the water demand calculations (i.e., land use demand, surface water deliveries, and groundwater pumping) that IWFM and CVHM also conduct. The output from IDC is assigned as input to SACFEM.

- **Numerical Code.** The MicroFEM code used by SACFEM is available for purchase. MicroFEM has been reviewed by the National Groundwater Association's (NGWA) Ground Water Journal (Diodato 2000).

- **Spatial Extent.** SACFEM covers the entire Sacramento Valley groundwater basin.

- **Grid.** SACFEM's grid spacing varies from 500 to 5,800 ft. The current version of the model has already been sufficiently refined in the areas near potential groundwater substitution sellers. However, additional grid refinement may be necessary depending on the locations of potential substitution sellers. Several pre- and post-processing tools can be used to facilitate this process (see note below).

- **Transient Calibration.** SACFEM is calibrated for years 1982 through 2003 (also see note below).

- **Technical Review.** The SACFEM model was peer reviewed in late 2010. The peer review identified several items that could be improved. The review listed seven items as Tier 1 (requires attention and revision/modification), three items as Tier 2 (strengthen model defensibility), and two items as Tier 3 (improve model features/capabilities) [see note below].

- **Availability.** The current version of SACFEM is available for use.

Note: Several updates have been made to the SACFEM model since its initial selection for use in this analysis. The highest priority ("Tier 1") items identified during the peer review process were addressed to improve the technical accuracy of the model. The model's calibration period was extended through WY 2010. The grid of the model was also refined to include smaller node spacing in the areas surrounding the potential sellers and in the areas of the flood bypasses in the valley. After updating the model and incorporating the technical feedback, the model was renamed from SACFEM to SACFEM2013. Further information on SACFEM2013 is provided in the sections below.

D.1.3.4 HydroGeoSphere

The HydroGeoSphere (HGS) model code is being applied to the Sacramento Valley. HGS is likely the most computationally comprehensive of the models discussed here. The code simultaneously solves the groundwater and surface water flow equation and is capable of using sub-gridding (i.e., localized grid refinement) and sub-timing (i.e., varying time steps to improve accuracy) routines. The sub-gridding process would be valuable to improve the accuracy of simulated results near pumping centers, for example. At this time, little additional information regarding the Sacramento Valley application of HydroGeoSphere is known (e.g., number of nodes, elements, rivers, etc.). The construction and calibration of this model are understood to be on-going.

- **Numerical Code.** The HGS code is available for purchase. The extent of testing is unknown.

- **Spatial Extent.** The Sacramento Valley application of HGS covers the entire groundwater basin.

- **Grid.** Work on HGS is underway to allow for sub-gridding. The sub-gridding functionality may not be complete at this time.

- **Transient Calibration.** The transient calibration in the Sacramento Valley application of HGS is not complete at this point.

- **Technical Review.** The Sacramento Valley application of the HGS model is not complete and, therefore, has not had technical review.

- **Availability.** The Sacramento Valley application of the HGS model is not complete.

D.1.3.5 Local Models

In addition to the larger-scale models listed above which cover the Sacramento and/or Central Valleys, several smaller, local groundwater models also exist. These models include applications to the Butte County, Stony Creek Fan, Lower Colusa basin, North American River, Sacramento County, Yolo, and Yuba County areas. The combined extent of each of these models covers much of the Sacramento Valley. Many of the models have been developed in either IWFM or its predecessor, the Integrated Groundwater-Surface Water Model (IGSM). For the most part, each of these local models occupies a separate area and does not overlap extensively with another local model. Therefore, where adjoining models abut, separate boundary conditions have been established for each model. It is possible that the boundary conditions do not fully agree with each other. Additionally, each model may have differing interpretations of hydraulic conductivity and layering. Each model was developed separately and each may not have the most up-to date data included.

- **Numerical Code.** The majority of the local models were developed in either IWFM or IGSM. These codes would be available for use.

- **Spatial Extent.** The combined extent of the local models covers most of the Sacramento Valley. The areas east and west of Red Bluff are not covered by one of the local models. Even though the models cover most of the Sacramento Valley, the simulation of potential impacts may be difficult if the impacts exceed each of the separate model's areas.

- **Grid.** The grid spacing in some of the local models is likely sufficient, but grid spacing for some models is unknown. Revisions to the grid(s) and input data may be required if the grid spacing is deemed too large.

- **Transient Calibration.** Several of the local models (Stony Creek Fan, Butte County, Yuba County, and Yolo County) have been calibrated over an approximate 30-year period. The Lower Colusa model is calibrated for a 19-year period. The calibration period for the other models is not known at this point.

- **Technical Review.** The status of technical reviews of these models is not known. Most of the models have, likely, not undergone significant technical or peer reviews.

- **Availability.** The availability of each of the models would need to be determined by the model's owner. Because most of the models were developed for public agencies they should be available. However, the exact availability for each of the local models is not known.

D.1.4 Selection

Based on the evaluation criteria described above, the SACFEM model was selected for use in the analysis. The model was updated to the SACFEM2013 version to address the peer review comments. SACFEM2013 was used for this EIS/EIR.

D.2 SACFEM2013

This section provides a more detailed description of SACFEM2013. Appendix H is the SACFEM User's Manual.

D.2.1 Model Code Description

MicroFEM (Hemker 1997), a finite-element based, three-dimensional, integrated groundwater modeling package developed in The Netherlands, was chosen to simulate the groundwater flow systems in the Sacramento Valley Groundwater Basin. The current version of the program (4.10) has the ability to simulate up to 25 layers and 250,000 surface nodes. MicroFEM is capable of modeling saturated, single-density groundwater flow in layered systems. Horizontal flow is assumed in each layer, as is vertical flow between adjacent layers.

MicroFEM was the chosen modeling platform for the following reasons:

- The finite-element scheme allowed the construction of a model grid covering large geographic areas (over 5,960 square miles in the Sacramento Valley Groundwater Basin) with coarse node spacing outside of the simulated project areas and finer node spacing in areas of interest (e.g., near potential project areas). The finer node spacing near simulated production wells provides greater resolution of simulated groundwater levels and stream impacts.

- The graphical interface allows rapid assignment of aquifer parameters and allows proofing of these values by graphical means.

- The flexible post-processing tools allow for rapid evaluation of transient water budgets for model simulations and identification of changes to stream discharges and other water fluxes across the model domain.

D.2.2 Sacramento Valley Groundwater Basin

The following briefly summarizes the geology and hydrology of the Sacramento Valley Groundwater Basin.

D.2.2.1 Geologic Setting

The Sacramento Valley Groundwater Basin is a north-northwestern trending asymmetrical trough filled with as much as ten miles of both marine and continental rocks and sediment (Page 1986). On the eastern side, the basin overlies basement bedrock that rises relatively gently to form the Sierra Nevada; and on the western side, the underlying basement bedrock rises more steeply to form the Coast Ranges. Marine sandstone, shale, and conglomerate rocks that generally contain brackish or saline water overlie the basement bedrock. The more recent continental deposits, overlying the marine sediments, contain fresh water. These continental

deposits are generally 2,000 to 3,000 feet thick (Page 1986). The depth (below ground surface) to the base of fresh water typically ranges from 1,000 to 3,000 feet (Bertoldi et al. 1991).

In the Sacramento Valley Groundwater Basin, groundwater users pump primarily from deeper continental deposits. Groundwater is recharged by deep percolation of applied water and rainfall, infiltration from streambeds, and lateral inflow along the basin boundaries. The quantity and timing of snowpack melt are the predominant factors affecting the surface water and groundwater hydrology, and peak runoff in the basin typically lags peak precipitation by one to two months (Bertoldi et al. 1991).

D.2.2.2 Hydrology

The Sacramento River is the main surface water feature in the Sacramento Valley Groundwater Basin. It has several major tributaries draining the Sierra Nevada, including the Feather, Yuba, and American Rivers. The flow in these tributaries depends heavily on the precipitation in the Sierra Nevada. Stony, Cache, and Putah Creeks drain the Coast Range and are the main west side tributaries to the Sacramento River. The west side tributaries contribute significantly less streamflow than those on the eastside tributaries. The Sacramento River flows south through the center of the valley before heading west to flow out Suisun Bay.

Streamflow data for streams throughout the Sacramento Valley are collected at gaging stations operated by DWR[2] and the USGS[3].

D.2.3 Model Construction

This section discusses the development of the groundwater model grid and layering, the assignment of groundwater flux boundary conditions, and the basis for assignment of material properties to the aquifers within the model domain.

D.2.3.1 Spatial Grid

The SACFEM2013 grid used for the groundwater substitution transfer simulations consists of 153,812 nodes and 306,813 elements (see Figure D-1). The current grid was configured to support evaluation of potential conjunctive water management projects associated with the Long-Term Water Transfer Program; however, the SACFEM2013 model was designed to be grid independent, and geographic information system (GIS)-based tools have been developed to build a similar model of the valley on any grid developed to support a particular application. The nodal spacing of the current grid varies from as large as approximately 3,300 feet (1,000 meters) near the model boundary and in areas where long-term water transfer projects are not being evaluated, to as small as 410 feet (125 meters) in areas where long-term water transfer groundwater production is being evaluated. Nodal spacing of approximately 1,640 feet (500 meters) is included along streams and flood bypasses included in SACFEM2013. The finer node spacing near proposed project areas allows for more refined estimates of the effects of groundwater pumping on groundwater levels and groundwater/surface water interaction in the potential project areas. The model domain boundary coincides with the lateral extent of the freshwater aquifer within the Sacramento Valley Groundwater Basin.

[2] http://cdec.water.ca.gov/
[3] http://waterdata.usgs.gov/nwis

D.2.3.2 Vertical Layering

The total model thickness is defined by the thickness of the freshwater aquifer (less than 3,000 micromhos), as defined by Berkstresser (1973) and subsequently refined in the northern portion of the valley by DWR (DWR 2005). For the southern portion of the model area, defined by Berkstresser data, elevation contour lines of the base of fresh water, along with information from boring locations (point measurements of the elevation of the base of fresh water), were digitized and used to generate a three-dimensional surface defining the elevation of the base of fresh groundwater. For the northern portion of the model area, the locations of geologic cross sections developed by DWR Northern District staff were plotted, along with the estimated base of freshwater elevations obtained from the cross section information; and a base of freshwater elevation contour map was constructed. These data sets were then merged to yield a single interpretation of the structural contour map of the base of freshwater across the Sacramento Valley (see Figure D-2).

Total Aquifer Thickness

The uppermost boundary of the SACFEM2013 model is defined at the water table. To develop a total saturated aquifer thickness distribution and, therefore, a total model thickness distribution, it was necessary to construct a groundwater elevation contour map and then subtract the depth to the base of freshwater from that groundwater elevation contour map. Average calendar year groundwater elevation measurements were obtained from the DWR Water Data Library. These measurements were primarily collected biannually, during the spring and fall periods; and these values were averaged at each well location to compute an average water level for each location. These values were then contoured, considering streambed elevations for the gaining reaches of the major streams included in the model, to develop a target groundwater elevation contour map for the year 2000. As described above, the distribution of the elevation of the base of freshwater was subtracted from this groundwater elevation contour map to provide an estimate of the distribution of the total saturated aquifer thickness across the model domain.

Model Layer Thickness

The strategy used to develop the overall layering of the SACFEM2013 model was to develop a tool that provided sufficient layers to assess the effects of groundwater pumping on shallow features such as wetlands and streams, but also to provide sufficient vertical resolution to allow assignment of pumping stresses to appropriate depths within the aquifer that reflect the major producing zones within the aquifer system. Additionally, to facilitate investigation of potential future conjunctive water management projects using the lower Tuscan aquifer, the layering strategy also provided for two layers explicitly representing this deep aquifer system.

Layer one of the SACFEM2013 model was assigned a maximum thickness of approximately 65 feet (20 meters). The thickness of this layer was limited to provide more accurate shallow groundwater elevations with which to support evaluations of the effects of changing groundwater levels on surface streams and wetland/riparian areas. Layers two through five represent the more regional groundwater-producing zones within the valley. The thicknesses of these layers were assigned using a specified percentage of the available aquifer thickness at a given location, to provide multiple-depth zones within which to assign regional pumping. The assumed layer thicknesses for layers two through five were also selected to reflect typical screened intervals of production wells in the Sacramento Valley. The thicknesses of layers two through four each represent approximately ten percent of the total aquifer thickness (one to 107 meters, three to 350

feet), and the thickness of layer five represents approximately 15 percent of the total aquifer thickness on average (one to 193 meters, three feet to 633 feet).

Where the lower Tuscan aquifer is present (the northeastern and central portions of the valley), the elevation of the top of layer six was defined by the structural contour surface of the top of the lower Tuscan aquifer. Two layers were assigned to represent this unit because in many areas of the model, the depth to the base of fresh water (the base of the model) is as much as 900 feet below the upper surface of the lower Tuscan. Groundwater production wells drilled into the lower Tuscan would almost certainly be screened over a much smaller depth interval. To allow representation of this condition in the model, layer six was assigned a thickness of between 250 to 360 feet (75 to 110 meters) in the central portion of the northern Sacramento Valley Groundwater Basin. The total range in layer six thickness is approximately three to 580 feet (one to 177 meters). The remaining lower Tuscan thickness not apportioned to layer six was assigned to layer 7. The exception to this convention is in the northeastern portion of the model near the City of Chico. The lower Tuscan outcrops in the foothills above Chico; thus, in these areas, all layers of the model represent the lower Tuscan aquifer. Moving west from Chico, a transition zone exists where a decreasing number of layers represent the lower Tuscan until it is limited to layers six and seven, as discussed above. In areas where the lower Tuscan is not present, the thicknesses of layers six and seven represent 18 and 27 percent of the total aquifer thickness, respectively. A contour map of the total saturated aquifer thickness is presented on Figure D-3.

D.2.3.3 Model Time Discretization

Time is continuous in the physical system, but a numerical model must describe the field problem at discrete time intervals. SACFEM2013 was set up to simulate transient flow conditions between Water Years 1970 and 2010 with monthly stress periods. As such, model stresses (such as stream stage, groundwater pumping, deep percolation, etc.) and model output are assigned/evaluated on a monthly basis.

D.2.3.4 Boundary Conditions

A combination of no-flow, specified-flux, and head-dependent boundary conditions were used to simulate the groundwater flow system within the Sacramento Valley. Each of these boundary conditions is discussed in more detail below.

Head-dependent Boundaries

Surface Water Bodies. A head-dependent boundary condition was chosen to simulate the major streams, flood bypasses, and reservoirs within the Sacramento Valley. The MicroFEM wadi system was used to implement streams within the model domain. MicroFEM's wadi package is a two-way head-dependent boundary condition (that is, it can act as a source of groundwater recharge or as a groundwater sink) that calculates the magnitude and direction of nodal fluxes by using the relative values of the user-specified stream stage (wh1) and the calculated head in the upper aquifer (h1), but is limited by a critical depth (wl1). When calculated groundwater elevations fall below this critical depth, it is assumed that the water table de-couples from the river system, and the leakage rate from the river to the aquifer becomes constant. The equations that govern operation of the wadi package are as follows:

Groundwater discharge to a stream is simulated if h1 > wh1:

$$Q_{outflow} = a * (h1 - wh1) / | wc1 | \quad (1)$$

In coupled streams (groundwater elevation is above the stream bottom elevation), groundwater recharge from a stream is simulated if h1 < wh1:

$$Q_{inflow} = a * (wh1 - h1) / | wc1 | \quad (2)$$

In decoupled streams (groundwater elevation is below the stream bottom elevation), groundwater recharge from a stream is simulated if:

$$Q_{inflow} = a * (wh1 - wl1) / | wc1 | \quad (3)$$

Where:

Q = volumetric flux

a = nodal area

h1 = simulated groundwater elevation in layer 1

wh1 = simulated stream stage

wl1 = stream bottom elevation

wc1 = resistance across the streambed

Nodal area is a grid-dependent parameter that can be automatically calculated within MicroFEM. In general, the nodal area around a node that represents a discrete reach of a stream is greater than the surface area of that stream along the reach in the field. The effective resistance term (wc1) incorporates an aerial correction factor to account for this discrepancy the wadi resistance term (wc1) is a measure of the resistivity of the streambed sediments. The resistances are calculated as follows:

$$wc1 = Dr/Kv))* (a/LW) \quad (4)$$

Where:

Dr = thickness of streambed sediments

Kv = vertical hydraulic conductivity of streambed sediments

L = stream length represented by the model node

W = field width of the wetted river channel within the stream reach represented by L. Fifty individual streams are simulated with MicroFEM's wadi package in the current version of SACFEM2013.

Stream locations were digitized from existing base maps and USGS topographic quadrangle sheets, and imported into the model domain. Stream length within a given node is a grid-dependent variable calculated by MicroFEM at each river node. The stream-length term is generally overestimated by MicroFEM at stream confluences. Manual corrections of this term were made where necessary. Streambed thickness was assumed to be 3.28 feet (one meter) for all river nodes. Assumptions of streambed Kv were based on the type of streambed deposits expected given stream size. Streams draining the Sierra Nevada were generally assigned lower streambed Kv's, with all streams except the Bear River and Big Chico Creek having values of two meters per day (m/d) (0.0023 centimeters per second [cm/s]) or less. Westside streams were assigned higher values, with most being at or above five m/d (0.0058 cm/s). Wetted stream width was calculated from aerial photographs at two locations along each stream. Few streams showed greater variability in width such that it was necessary to develop a continuously variable distribution along the stream length. This was accomplished by estimating wetted stream width at several points via examination of aerial photographs and fitting a polynomial to the data points.

Streambed elevations (wl1) were estimated using data from 10-meter Digital Elevation Model (DEM) data. It was assumed that the minimum DEM elevation that at/near a given stream node represented the streambed elevation at that location. Polynomials were fitted to the distribution of streambed elevations and cumulative distance along each stream. These polynomials provided relationships that were used to both "smooth" the distribution of streambed elevations and populate values for nodes where the SACFEM2013 nodal resolution was finer than the DEM spacing.

As previously discussed, SACFEM2013 simulates transient conditions from water years 1970 through 2010 on a monthly basis. Monthly varying distributions of stream stage were developed for all streams included in SACFEM2013. Further historical measured stream stage data for model streams was analyzed to determine the timing and location of streams that experience seasonal drying. During months where a given stream is interpreted as experiencing no surface water flow, the SACFEM2013 nodes are converted from a MicroFEM wadi boundary condition to a MicroFEM drainage boundary condition, discussed in more detail below.

The current version of SACFEM2013 incorporates additional recharge from the major flood bypasses in the Sacramento Valley during wet periods. These include the Butte Bypass, the Sutter Bypass, and the Yolo Bypass. Historical weir data were evaluated to determine the timing and location of flood bypass inundation. During periods of bypass flow, the interpreted water surface elevation was compared to the DEM data to determine the spatial distribution of bypass inundation. Active flood bypass nodes were simulated using MicroFEM's wadi boundary condition. The wh1 value for each active flood node was assigned the interpreted water surface elevation (which varied on a monthly basis). The wc1 value was assumed to be ten for all active bypass nodes. During dry periods (and non-inundated bypass nodes), flood bypasses were simulated as groundwater sinks using MicroFEM's drainage package.

The final surface water bodies simulated in SACFEM2013 using MicroFEM's wadi package are the major reservoirs located within the interior of the Sacramento Valley Groundwater Basin, Black Butte Reservoir and Thermalito Afterbay. The lake bottom elevations were assumed to be constant for both reservoirs, and were simulated as 100 feet below the average DEM elevation

(assumed to represent lake stage) for Black Butte reservoir and 40 feet below the average DEM elevation for Thermalito Afterbay. The wc1 values were assumed to be one for both reservoirs. The lake stage elevation was assumed to be constant spatially across each reservoir; however, historical data were evaluated to develop monthly-variable lake stage datasets for the SACFEM2013 simulation period.

Drains. MicroFEM's drainage package was used to simulate boundary conditions across the top surface of the model, excluding nodes where wadi boundaries exist. Drainage boundary conditions are one-way head-dependent boundaries that allow the transfer of water out of the model domain only. The elevation of the drain boundaries were set at the land surface. The drain boundaries were included in the model to represent a combination of surficial processes that occur in areas of shallow groundwater, including evapotranspiration and groundwater discharge to the surface. Additionally, as discussed above, specific streams and flood bypasses were converted from wadi boundary conditions to drain boundary conditions during periods when a given surface water body was interpreted as being dry.

Groundwater discharge to a drain is simulated if h1 > dh1:

$$Q_{outflow} = a * (h1 - dh1) / | dc1 | \text{ (where a = nodal area)} \quad (5)$$

Groundwater discharge to a drain is simulated if h1 < dh1:

$$Q_{outflow} = 0 \quad (6)$$

The parameter dc1 represents the drain conductance and is a measure of the resistance to flow across the drain boundary. The dc1 was assumed to be 500 throughout the model domain.

Specified-flux Boundaries. Three sets of specified-flux boundary conditions were implemented in the SACFEM2013 model. These conditions are as follows: (1) deep percolation of applied water and precipitation along with agricultural pumping, (2) mountain-front recharge, and (3) urban pumping. Each is discussed in more detail below.

Deep Percolation of Applied Water, and Precipitation and Agricultural Pumping. The first set of specified-flux boundary conditions reflects the deep percolation of precipitation and applied water across the valley, as well as the regional agricultural pumping. The deep percolation flux values were applied to every surface node in the model. The pumping stresses due to agricultural pumping were applied at selected locations in model layers two through four (the depths of the regional producing zones across the valley). The spatial distribution and magnitudes of these fluxes were derived from the surface water budget calculations described in full detail in the Surface Water Budget section below.

Mountain-front Recharge. The second set of specified-flux boundary conditions represents the subsurface inflow of precipitation falling within the Sacramento River watershed but outside the extent of the model domain. To estimate these flux values, the USGS 10-meter DEM along with GIS-based hydrography coverages for the Sacramento Valley were used to delineate the drainage areas that are tributary to the model domain but fall outside of the watersheds of the rivers explicitly represented in the model. It is these areas that can contribute water to the model

domain but are not accounted for in the wadi boundary conditions defined in the model. After the extents of these watershed areas were defined, they were intersected with monthly Parameter – elevation Relationships on Independent Slopes Model (PRISM)[4] rainfall datasets using GIS tools, and the volume of precipitation falling on the watershed was computed. On the basis of the computed total volume of precipitation, the deep percolation to the groundwater system was calculated using the following empirical relationship developed by Turner (1991):

$$DP = (PPT-2.32)*(PPT)^{0.66} \quad (7)$$

Where:

DP = average annual deep percolation of precipitation (inches per year)

PPT = annual precipitation (inches per year)

A summary of the process that was used to estimate the quantity of subsurface inflow, otherwise known as mountain-front recharge, is as follows:

1. The area of each drainage basin tributary to the model domain that is not represented by streams explicitly simulated in SACFEM2013 was computed using a GIS-based analysis of the land surface topography. The extent of these smaller watersheds is shown on Figure D-1.

2. Each drainage area polygon was then intersected with a GIS coverage of annual total rainfall estimated using the PRISM model for each year of the simulation period. This distribution of annual average rainfall was then used to calculate the total volume of rainfall falling on the small watershed areas, and an overall average rainfall rate was computed (inches per year).

3. The total annual rainfall rate was then used to compute a deep percolation quantity using the relationship between annual rainfall and deep percolation rate developed by Turner (1991) and described above.

4. The annual volume of deep percolation computed in Step three was then converted into monthly values that were based on the monthly distribution of streamflow measured in ungauged sections of Deer Creek. These monthly deep percolation quantities were then introduced at the model domain boundary of each small watershed polygon using injection wells into layer one. The quantity applied to each model boundary node was proportional to boundary length of each element divided by the total boundary length of the drainage polygon.

5. The deep percolation rates for individual drainage basins were adjusted during SACFEM2013 calibration to improve the match between simulated and measured groundwater elevations. Final factors applied to the deep percolation rates range from 0.5 to 1.5.

[4] http://prism.oregonstate.edu/

Urban Pumping. The final set of specified-flux boundary conditions applied in the SACFEM2013 model reflects urban pumping within the model domain. The distribution of agricultural pumping that was developed using the surface water budgeting methodologies described below do not include urban pumping. As a first step to estimate the quantity of urban pumping to apply to the model, the year 2010 U.S. Census data were evaluated. Each municipal area with a population greater than 5,000 that used groundwater as a source of municipal supply was further assessed. For municipalities where urban water management plans were available, the reported annual groundwater use was simulated in SACFEM2013. For cities that do not have a current water management plan, a pumping volume that was based on an annual average per capita value of 271 gallons/capita/day was simulated. Further, municipalities in the northern Sacramento area pumping rates were assigned consistent with the Sacramento County Integrated Groundwater and Surface Water Model (SacIGSM) model. Urban pumping was assigned spatially to all SACFEM2013 nodes within a given city area and was apportioned equally to model layers two through four. The monthly variability in urban pumping quantity was distributed on the basis of typical seasonal trends for municipal water use.

No-flow Boundaries

A no-flow boundary was specified across the bottom boundary of the model, representing the freshwater/brackish water interface.

D.2.3.5 Surface Water Budget

Approach

One of the most critical components to the successful operation of SACFEM2013 is computation of transient surface water budget components. These water budget components were estimated by using a variety of spatial information including land use, cropping patterns, source of irrigation water, surface water availability in different year types and locations, and the spatial distribution of precipitation. Surface water budget components include deep percolation of applied water, deep percolation of precipitation, and agricultural pumping.

Surface water budgets were developed by intersecting existing GIS data developed by DWR with the groundwater model grid to develop land use for each groundwater model node. Additionally, GIS data on water districts and surrounding areas were used to identify district and non-district areas. The resulting intersection provided land use, water district, and water source information for each of the over 150,000 groundwater model nodes.

Methodology

A semi-physically based soil moisture accounting model and historical precipitation data were used to simulate the root zone processes and calculate applied water demand and deep percolation past the root zone for each node. Calculated deep percolation was split between applied water and precipitation depending on the season and the availability of water from each source.

Calculated values for deep percolation were compared to estimated values prepared by DWR's Northern District for the year 2000. Northern District staff calculated detailed water budgets in 2000, which included some of the best available estimates of regional deep percolation. In some areas, soil parameters in the root zone model were adjusted to provide similar volumes of deep

percolation. However, considerable uncertainty still exists in any estimate of regional deep percolation because soil conditions vary widely, and it is not possible to measure deep percolation on a regional basis.

The total demand for applied water was used in conjunction with the water source and water district attributes from the GIS intersection to estimate agricultural groundwater pumping. Some areas are supplied solely from groundwater, and calculated total applied water demand represents groundwater pumping. Other areas are supplied by a mix of groundwater and surface water. For these areas, estimates of the availability of surface water each year were made to determine the fraction of applied water demand met from surface water and groundwater. In these areas, additional information on the overlying water district was combined with district water rights and contracts to estimate available surface water. For example, districts within the Tehama-Colusa Canal Authority have water contracts with the Bureau of Reclamation that receive different allocations each year. An estimate of those allocations from an existing level of development simulation of Central Valley Project operations was used to calculate the availability of surface water for groundwater model elements within those districts. Any remaining applied water demand, after consideration of available surface water, is assumed to be met by groundwater pumping.

D.2.3.6 Aquifer Properties

The distribution of aquifer properties across the Sacramento Valley is poorly understood. In certain areas with significant levels of groundwater production, the collection of aquifer test data and the measurement of historical groundwater-level trends in response to known groundwater production rates have provided valuable information on aquifer properties. However, in the majority of the valley, these data are not available.

To estimate the spatial distribution of aquifer properties across the model domain for this numerical modeling effort, a database of well productivity information was used. In consultation with DWR staff, a database was obtained that included all of the specific capacity yield data that were available from well log records. These data were compiled along with well construction information for each production well to yield a representative data set of well productivity across the valley. Wells that did not have available construction data were omitted from further consideration. To protect owner privacy, the exact location of each well was modified by DWR staff to reflect the center of the section in which each well was located. This modification in well location did not adversely affect the use of the data to estimate the spatial distribution of aquifer properties, given the extremely large area encompassed by the model domain. Approximately 1,000 wells in the database within the model domain were used in this analysis.

The intent of the modeling analysis described herein is to simulate the effects of the operation of high-productivity irrigation wells screened within the major producing zones in the valley to support conjunctive water management projects. Therefore, the aquifer properties that are of primary interest are those of the major aquifer zones tapped by large-diameter irrigation wells. The well database described above was filtered to remove data obtained from tests on low-yield and shallow, domestic-type wells. All test data from wells that reported a well yield below 100 gallons per minute were eliminated from consideration, as were the test data from wells with a total depth of less than 100 feet. The only exception to this second consideration was for wells that were located along the basin margins – where aquifers are thin – that reported what appeared

to be valid test results. Data from these wells were considered because they were often the only data available in the basin margin areas.

After the data set for consideration was finalized, the reported specific capacity data for each well were used to estimate an aquifer transmissivity for that location. The relationship used to estimate aquifer transmissivity was the following form of a simplified version of the Jacob non-equilibrium equation:

$$Sc = T/2000 \quad (8)$$

Where:

Sc = specific capacity of an operating production well (gallons per minute per foot of drawdown)

T = aquifer transmissivity (gallons per day per foot)

After a transmissivity estimate was computed for each location, the transmissivity value was then divided by the screen length of the production well to yield an estimate of the aquifer horizontal hydraulic conductivity (Kh). The final step in the process was to smooth the Kh field to provide regional-scale information. Individual well tests produce aquifer productivity estimates that are local in nature, and might reflect small-scale aquifer heterogeneity that is not necessarily representative of the basin as a whole. To average these smaller scale variations present in the data set, a FORTRAN program was developed that evaluated each independent Kh estimate in terms of the available surrounding estimates. When this program is executed, each Kh value is considered in conjunction with all others present within a user-specified critical radius, and the geometric mean of the available Kh values is calculated. This geometric mean value is then assigned as the representative regional hydraulic conductivity value for that location. The critical radius used in this analysis was 10,000 meters, or about six miles. The point values obtained by this process were then gridded using the kriging algorithm to develop a Kh distribution across the model domain. The aquifer transmissivity at each model node within each model layer was then computed using the geometric mean Kh values at that node times the thickness of the model layer. Insufficient data were available to attempt to subdivide the data set into depth-varying Kh distributions, and it was, therefore, assumed that the computed mean Kh values were representative of the major aquifer units in all model layers. The distribution of K used throughout most of the SACFEM2013 model layers is shown in Figure D-4. During model calibration, minor adjustments were made to the Kh of model layer one east of Dunnigan Hills and in model layers six and seven in the northern Sacramento Valley based on qualitative assessment of Lower Tuscan aquifer test data in this area.

MicroFEM computes vertical flow between adjacent model layers based on the simulated head difference between adjacent model layers and the vertical resistance term. The vertical resistance term in MicroFEM is calculated as follows:

$$V = \frac{\left(b_i / Kv_i + b_{i+1} / Kv_{i+1} \right)}{2} \quad (9)$$

Where:

V = Vertical resistance to flow between an upper model layer (i) and adjacent lower model layer (i+1) (days^{-1})

b_i = Saturated thickness of model layer i (meters)

b_{i+1} = Saturated thickness of model layer i+1 (meters)

Kv_i =Vertical hydraulic conductivity of model layer i (m/d)

Kv_{i+1} = Vertical hydraulic conductivity of model layer i+1 (m/d)

The ratio of Kh to vertical hydraulic conductivity (Kv) were assumed to be 500:1 in layers two through seven and 50:1 in layer one at all model nodes except those representing bedrock areas. The Kh:Kv in areas of bedrock outcrop (such as the Sutter Buttes, Black Butte, and Dunnigan Hills) was assumed to be 1:1 in all model layers.

The specific yield of model layer one was assumed to be 12 percent throughout the SACFEM2013 model domain. The aquifer storativity of model layers two through seven is 6.5×10^{-5} multiplied by model layer thickness throughout the majority of the model domain, with variations along small portions of the model boundary.

D.3 Sensitivity

To test the sensitivity of the SACFEM2013 model to various hydrologic parameters, several sensitivity simulations have been run to-date. Each of these sensitivity simulations varied specific sets of hydraulic parameters. The following parameters were varied in simulations performed to-date.

1. Basin Deposits: The hydraulic conductivity of the Basin deposits (geologic terms Qb, Qm, and Qp) were decreased. Basin deposits are generally surficial deposits of fine grain nature. Decreasing the hydraulic conductivity of the basin deposits would have the tendency to slow the flow of water from the surface to the groundwater.

2. Stream Deposits: The hydraulic conductivity of the Stream deposits (geologic terms Qsc, Qa, and Qal) were increased. Stream deposits are located along the historic channel of the river and represent a coarser grained material. Increasing the hydraulic conductivity of these deposits can allow faster movement of water through this area.

3. Basin and Stream Deposits: The hydraulic conductivity of the Basin deposits (geologic terms Qb, Qm, and Qp) were decreased, and the hydraulic conductivity of the Stream deposits (Qsc, Qa, and Qal) were increased. This simulation combines the changes made in the previous two simulations.

4. Horizontal Hydraulic Conductivity: The horizontal hydraulic conductivity throughout the model was decreased by one order of magnitude (i.e., all values were multiplied by 0.1). A decrease in hydraulic conductivity slows the movement of water through the aquifer.

5. Anisotropy Ratio: The anisotropy ratio (the ratio of horizontal hydraulic conductivity to vertical hydraulic conductivity) was changed across the entire model from 500:1 to 1000:1. Increasing this ratio from 500:1 to 1000:1 increases the resistance to flow in the vertical direction by decreasing the vertical hydraulic conductivity of the aquifer.

6. Storage Coefficients: The values of the storage coefficients were increased. The specific yield was increased from 0.12 to 0.2. The storativity value was increased by a factor of 10 across the entire model. Changes to storage coefficients also result in a change in the velocity of groundwater movement within the aquifer.

7. Streambed Hydraulic Conductivity. The hydraulic conductivity of each streambed was decreased by a factor of 10. Decreasing the hydraulic conductivity of the streambeds would slow movement of water between the surface water and groundwater systems.

The SACFEM2013 model has been calibrated (as previously described). It should be noted that model was not recalibrated for each of the parameters sets listed above. The purpose of the sensitivity simulations is to determine which parameters the model results may or may not be sensitive to.

The sensitivity simulations were run with approximately 153,000 acre-feet of water pumped in a single year. This volume of water is roughly equivalent to the average of all pumping in transfer years under the Proposed Action. Pumping was specified at the locations and depths of the wells used in the Proposed Action. The change in groundwater level (i.e., drawdown) between simulations with and without the 153,000 acre-feet of pumping was plotted at three locations. Locations 6, 21, and 30 were selected as they are spread across the area where drawdown due to the Proposed Action is simulated (Figures 3.3-28a through 3.3-33c). Simulated drawdown has been plotted at each location for the water table and at the depth of pumping in the area surrounding that location.

Figures D-5 and D-6 show the simulated drawdown at Location 6. Figure D-5 shows the drawdown at the water table (model layer 1). Figure D-6 shows the drawdown in model layer 7. At the water table (Figure D-5), each of the simulations show similar or less drawdown as compared to the calibrated model. Three of the sensitivity simulations (stream bed conductivity, anisotropy ratio, hydraulic conductivity) show recovery period that is longer than the calibrated model. In the pumping zone (Figure D-6), two simulations (hydraulic conductivity, anisotropy ratio) show more drawdown than the calibrated model. Three of the simulations show a longer recovery period following the pumping. The increase anisotropy simulation has a similar, but slower recovery, than the calibrated model. The higher storage coefficient and lower streambed conductivity simulations take additional years for the groundwater levels to recover from the pumping.

Figures D-7 and D-8 show similar results at Location 21. Figure D-7 shows the simulated drawdown in model layer 1. Figure D-8 shows the results in model layer 6, where pumping

occurs in this area. The results at the water table (Figure D-7) are very similar to those shown for Location 6 (Figure D-5). In the pumping zone (Figure D-8), two simulations show an increase in the total drawdown (hydraulic conductivity, anisotropy ratio). The hydraulic conductivity simulation also shows a longer period to recover from the pumping. The simulation with altered storage coefficients also requires a longer period to recover, although drawdown in this simulation is significantly lower.

Figures D-9 and D-10 show the simulated drawdown at Location 30 in Layers 1 and 3, respectively. Similar to the other locations, the drawdown and recovery period at the water table (Figure D-9) show similar trends to those described for Location 6 (Figure D-5) and Location 21 (Figure D-7). At the depth of pumping (Figure D-10), two simulations (anisotropy ratio, hydraulic conductivity) show an increase in the amount of drawdown that is simulated as compared to the calibrated model. Two of the simulations (storage coefficients, hydraulic conductivity) require a longer period for groundwater levels to recover than the calibrated model.

D.4 References

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Appendix E

Delta Conditions Assessment

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Appendix E
Delta Conditions Assessment

E.1 Background

Hydrologic conditions, climatic variability, and regulatory requirements for operation of water projects commonly affect water supply availability in California. This variability strains water supplies, making advance planning for water shortages necessary and routine. In the past decades, water transfers have become a common tool in water resource planning to supplement available water supplies to serve existing demands.

The United States Department of the Interior, Bureau of Reclamation (Reclamation) manages the Central Valley Project (CVP), which includes storage in reservoirs (such as Shasta, Folsom, and Trinity reservoirs) and diversion pumps in the Sacramento-San Joaquin Delta (Delta) to deliver water to users in the San Joaquin Valley and San Francisco Bay area. When these users experience water shortages, they may look to water transfers to help reduce potential impacts of those shortages.

A water transfer involves an agreement between a willing seller and a willing buyer. To make water available for transfer and conveyance to the Buyer Service Area for beneficial use, the willing seller must take an action to reduce the consumptive use of water or reduce reservoir storage. Water transfers would only be used to help meet existing demands and would not serve any new demands in the Buyer Service Area.

Reclamation and the San Luis & Delta-Mendota Water Authority (SLDMWA) are completing a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR), in compliance with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), for water transfers from 2015 through 2024. Reclamation is serving as the Lead Agency under NEPA and SLDWMA is the Lead Agency under CEQA. Reclamation would facilitate transfers proposed by buyers and sellers. The SLDMWA, consisting of federal and exchange water service contractors in western San Joaquin Valley, San Benito, and Santa Clara counties, helps negotiate transfers in years when the member agencies could experience shortages.

This EIS/EIR evaluates water transfers that originate from entities located upstream of the Delta. Purchasing agencies are in areas south of the Delta or in the San Francisco Bay Area. Water transfers are subject to federal and state law.

This EIS/EIR analyzes transfers to CVP contractors, using CVP or SWP facilities to deliver these transfers.

E.2 Purpose of Delta Conditions Analysis

An analysis of Delta conditions is necessary to assist in evaluation of potential environmental impacts associated with Long-Term Water Transfers within the Delta. Water transfers have the potential to affect both the natural system and operation of the CVP and State Water Project (SWP). The purpose of this analysis is to simulate the hydrodynamics and water quality within the Delta when transfer water is made available by various sellers to determine how and where within the Delta the effects are likely to occur under the alternatives. Output from the Delta conditions analysis for parameters such as water level (stage), water quality, and environmental flows under D-1641 and the biological opinions (BOs) provides a basis for environmental assessment.

E.3 Analytical Approach

The Delta Conditions analysis is performed with the Delta Simulation Model 2 (DSM2). DSM2 setup relies on the output of three additional tools for this Project: CalSim II, the Transfer Operations Model (TOM), and the Delta Island Consumptive Use model (DICU model). CalSim II outputs simulating California's water delivery system to the Delta are used to supply inflow and export boundary conditions to DSM2. Within DSM2, agricultural influences and the effect of meteorological conditions are modeled by boundary conditions supplied by the DICU, model. DSM2 boundary conditions affected by the assumptions under the alternatives are supplied by TOM.

DSM2 model results of a baseline (Base) alternative, the No Action/No Project Alternative without proposed water transfers, as developed in CALSIM II, are compared to model results with proposed water transfers under each alternative supplied by TOM to determine the extent and significance of any differences resulting from the transfers.

A distinction needs to be made between the uses of models for *absolute* versus *comparative* analyses. In an *absolute analysis,* the model is run once to predict an outcome – for example, the outcome could be the concentration of EC at one of the Delta water intakes. In a *comparative analysis*, the model is run twice, once with conditions representing a baseline and another run with an alternative representing some specific changes to Delta operations and/or bathymetry in order to assess the change in modeled outcome due to the given change in model configuration. The assumption is that while the model might not produce results reflecting these changes with absolute certainty, it does produce a reasonably reliable estimate of the relative change in outcome.

For the long-term water transfers analysis, as is customary in most projects using CalSim II planning models combined with DSM2, the analysis is a comparative analysis approach[1]. The Base alternative represents a condition that approximates an operational and regulatory framework that is assumed to determine the hydrodynamics and water quality in the Delta at an Existing Condition time frame. DSM2 was used to determine changes from due to the

[1] 2003, http://sacramentoriverportal.org/modeling/CALSIM-Review.pdf

Alternatives in: EC patterns in the Delta; water level changes in the south Delta; changes in X2, the location of the 2 ppt salinity isohaline; and, changes in the magnitude of the combined flow in Old and Middle Rivers (OMR flow).

E.4 Model Descriptions

Models used in the Delta conditions analysis are described briefly in the following sections – DSM2, CALSIM II, the TOM and the DICU model. Appendix B supplies detail on the assumptions and logic used in CalSim II and TOM. For these studies, the modeled time frame is restricted to water years 1970 – 2003.

E.4.1 DSM2

DSM2 is a one-dimensional (1-D) hydrodynamic and water quality simulation model used to represent conditions in the Sacramento-San Joaquin Delta. The model was developed by the Delta Modeling Section (DMS) of the Department of Water Resources (DWR) and is used to model impacts associated with projects in the Delta. DSM2 has been used extensively to model hydrodynamics and salinity in the Delta, as well as Dissolved Organic Carbon (DOC). Salinity is modeled as electrical conductivity (EC), which is assumed to behave as a conservative constituent. DOC was not modeled in the current study.

DSM2 contains three separate modules, a hydrodynamic module (HYDRO), a water quality module (QUAL), and a particle tracking module (PTM). QUAL uses the hydrodynamics simulated in HYDRO as the basis for its transport calculations. PTM was not used in the current study. Detailed descriptions of the mathematical formulation implemented in the hydrodynamic module, DSM2-HYDRO and for EC in the water quality module, DSM2-QUAL, the data required for simulation, and the calibration of HYDRO and QUAL are documented in a series of reports available at:
http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/annualreports.cfm .

The calibration of DSM2 has primarily focused on hydrodynamics and the conservative transport of salinity (EC). The DSM2 network used for the HYDRO hydrodynamic and QUAL water quality simulations in this study was updated in 2009 (CH2M Hill 2009). The version of the model (V 8.1.2) used in this study implements the NAVD88 datum in the formulation of the grid and the development of boundary conditions, a change from previous versions of the model.

E.4.2 DICU

The Delta Island Consumptive Use Model, or DICU[2] model, was developed by the Planning Division of DWR to estimate agricultural diversions and return flows to Delta channels. The DICU model is used in DSM2 to estimate historical agricultural flows and to estimate project planning model agricultural volumes and the salinity of return flows. These volumes and the associated concentration of water quality parameters are assigned to numerous DSM2 nodes. In

[2] http://modeling.water.ca.gov/delta/reports/misc/EstDICU.pdf

this report, the term "DICU" is used to refer both to the conceptual model and to the associated computer program.

The values calculated for consumptive use in the conceptual model include the following parameters:

- Evapotranspiration – includes climatic conditions, soil type and plant type and associated acreage
- Precipitation – spatially distributed using Delta weather station values
- Surface runoff
- Soil moisture
- Irrigation – water diverted from channels, estimated by season
- Seepage – water used by plants flows from channels to Delta islands
- Drainage – return flows from irrigation and leaching to channels from Delta islands
- Leach water – heavy applications of water in winter months used to leach salts from soils.

The DICU model as a whole is most sensitive to changes in irrigation efficiency (a constant factor applied to irrigation withdrawals) and to leaching water estimates. Calculations for water diversions and returns are most sensitive to changes in efficiency of irrigation and in evapotranspiration. Changes in seepage values can cause changes in irrigation demands and in return flows, although they only have a small impact on return flows. Studies have indicated that DICU seepage estimates are probably low.

The DICU model provides time series of values that are applied as boundary conditions on a monthly average basis[3],[4] (DWR, 1995; DWR 2002) in DSM2 at 257[5] locations throughout the Delta – these locations are subdivided into 142 regions. There are three components to DICU flows – diversion, drainage and seepage. The total monthly diversions incorporate agricultural use, evaporation and precipitation, drains incorporate agricultural returns, and seeps incorporate channel depletions. These flows are distributed as boundary conditions that vary by region and by Water Year Type. Acreages for land use categories and crop type are varied by two categories of water year type, critical and non-critical. The critical years in the DICU model include the D-1485 (same as D-1641) water year classification types of Critical and Dry; non-critical years include the remaining Water Year classification types.

[3] http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/models/dicu/dicu.cfm
[4] http://www.iep.ca.gov/dsm2pwt/reports/DSM2FinalReport_v07-19-02.pdf, http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/models/dicu/DICU_Dec2000.pdf
[5] note that Byron-Bethany irrigation district is included as a DICU flow in Clifton Court Forebay, so there are actually 258 DICU nodes

The concentration of EC in agricultural return flows, the Drain flows in DSM2, are also applied on a monthly average basis using the same monthly averages in every year regardless of water year type. The estimation of water quality concentrations in return flows in the DICU model is documented in DWR publications available online[6].

E.4.3 CALSIM II

CalSim is a model that was developed by the California Department of Water Resources to simulate California State Water Project (SWP) and Central Valley Project (CVP) operations in planning studies. CalSim II is the latest version of CalSim available for general use. It represents the Central Valley with a node and link structure to simulate natural and managed flows in rivers and canals. It generates monthly flows showing the effect of land use, potential climate change, and water operations on flows throughout the Central Valley.

CalSim II is a simulation by optimization model which simulates operations by solving a mixed-integer linear program to maximize an objective function for each month of the simulation. CalSim II simulates the operation of the CVP and SWP systems for defined physical conditions and a set of regulatory requirements. The model simulates these conditions using up to 82 years of historical hydrology from Water Year (WY) 1922 through WY 2003.

The system objectives and constraints are specified as input to the model, and CalSim II then utilizes optimization techniques to route water through a network representing the California water system given user-defined priority weights. A linear programming (LP)/mixed integer linear programming (MILP) solver determines an optimal set of decisions for each time period given this set of weights and system constraints. The CalSim II model has been designed to separate the physical and operational criteria from the actual process of determining the allocations of water to competing interests. Thus, CalSim II provides quantitative hydrologic-based information to those responsible for planning, managing and operating the SWP and CVP. As the official model of those projects, CalSim II is the default system model for the analysis of water in the Central Valley of California.[7]

E.4.4 Transfer Operations Model (TOM)

TOM was developed to analyze effects of Long-Term Water Transfers on the CVP, SWP, major rivers, and the Delta by tracking: the water made available from various sellers as it moves through the system; the effects on CVP and SWP operations; and, the diversion of transfer water by buyers. TOM simulates operations on a monthly time-step for the same 34-year period as CalSim II, and its output is used is supply a subset of the boundary conditions used in DSM2 to model the Alternatives. (See Appendix B for more details.)

In real-time operations, tracking transfer water requires an increased level of coordination between CVP and SWP operators as it affects accounting under the Coordinated Operation Agreement (COA) between the CVP and SWP, and can require COA accounting adjustments. Transfer water can change the timing of when CVP and SWP Project water is moved. A portion of transfer water is typically used as carriage water to maintain Delta water quality when transfer

[6] http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/models/dicu/DICU_Dec2000.pdf
[7] http://sacramentoriverportal.org/modeling/CALSIM-Review.pdf, Section 6.1

water is moved through the Delta. This requires initial estimates for carriage water that must later be verified and adjusted. TOM was developed in consultation with Reclamation and with an understanding of both actual operations and CalSim II model assumptions. Rules used in TOM to simulate operational responses to water transfers and changes in stream-aquifer interaction were reviewed with CVP operations staff.

E.4.5 Level of Development

The Long-Term Water Transfers EIS/EIR is intended to provide environmental assessment for water transfers occurring over a ten-year period. Because of the relatively short horizon, it is anticipated that the existing Level of Development (LOD) would not substantially change, although reasonably foreseeable projects that may be constructed over the next ten years have been incorporated into the model. CalSim II existing LOD simulations depict how the modeled water system might operate with an assumed physical and institutional configuration imposed on a long-term hydrologic sequence, assuming that current land use, facilities, and operational objectives are in place for each year of simulation (water years 1970 through 2003). The results are a depiction of the current environment which provides a basis for comparison of alternatives effects for the impact analysis under CEQA. The ten-year period allows simulation of a single level of development under the assumptions that conditions are not likely to change significantly over such a short time horizon.

E.5 Modeling Methodology and Analysis Limitations

E.5.1 DSM2 Scenario Development

DWR-DMS has developed a series of computer applications, called preprocessors, to automate the generation of DSM2 model inputs and boundary conditions. These applications produce input time series for DSM2 flows from CalSim II output, as well as time series for the timing of operations for certain gates and barriers, for example, the gates at the entry of Clifton Court Forebay (CCFB) and the gates in the Delta Cross Channel (DCC). The time series, as well as the time series for DICU flows and EC concentrations, are copied into a single input file in the DSS data format that is read directly into DSM2. Boundary conditions for the Base case come solely from CalSim II output, while boundary conditions defining the alternatives come from TOM. As mentioned previously, these alternatives depict an Existing, or Current Conditions, LOD.

E.5.2 Inflow, Export and EC Boundary Conditions

Boundaries that define the movement of water into and out of the Delta, and thus also the transport of water quality constituents, consist of inflow boundaries, outflow boundaries and a stage boundary set at Martinez. In Figure E-1 (left), the main inflow boundary locations are denoted by blue dots as is the stage boundary at Martinez. The inflow boundaries are found at the each of the major rivers (Sacramento, San Joaquin, Calaveras, Mokelumne and Cosumnes), and at the Yolo Bypass. The stage boundary at Martinez is also an outflow boundary. In Figure E-1 (right), the approximate positions of Delta export/ diversion locations (water intakes) are shown.

CalSim II and EXCEL files were converted to DSM2 input. CalSim II output was developed as boundary conditions by running the preprocessors for DSM2. Time series in EXCEL files representing TOM model output were transferred to DSS format using the CalSim II file as a template, and then run through the DSM2 preprocessors. Similarly, the stage boundary at

Martinez was obtained from a standardized time series under direction of the preprocessor logic. The EC boundary condition at Martinez is calculated in a DSM2 preprocessor using the NDO (Net Delta Outflow) value from CalSim II DSS file output and an equation defining an NDO-EC relationship at Martinez. The EC time series at the San Joaquin River location at Vernalis was supplied by MBK staff, either in the original CalSim II DSS file or in the EXCEL file with TOM model output. EC values at the other major inflow boundaries are set as standard constants for use in QUAL.

E.5.3 Limitations of the Analysis

There are limitations in the ability of models to accurately address all of the intricacies of complex water management operations. Professional judgment is required to interpret results and determine benefits and impacts. Analysis of Delta Conditions for the Long-Term Water Transfers is based on several models each with their own simplifications, idiosyncrasies and limitations. The overall analysis is therefore subject to the individual and combined limitations of these models. While it is important to recognize and acknowledge the limitations of models as they are applied for this analysis, these three models represent the best available tools for performing the analysis to serve as the basis for determining environmental impacts. The regular and continued use of DSM2, in particular, for planning studies and environmental assessment by Reclamation, DWR, and others indicates DSM2 is adequate for the purposes of this EIS/EIR.

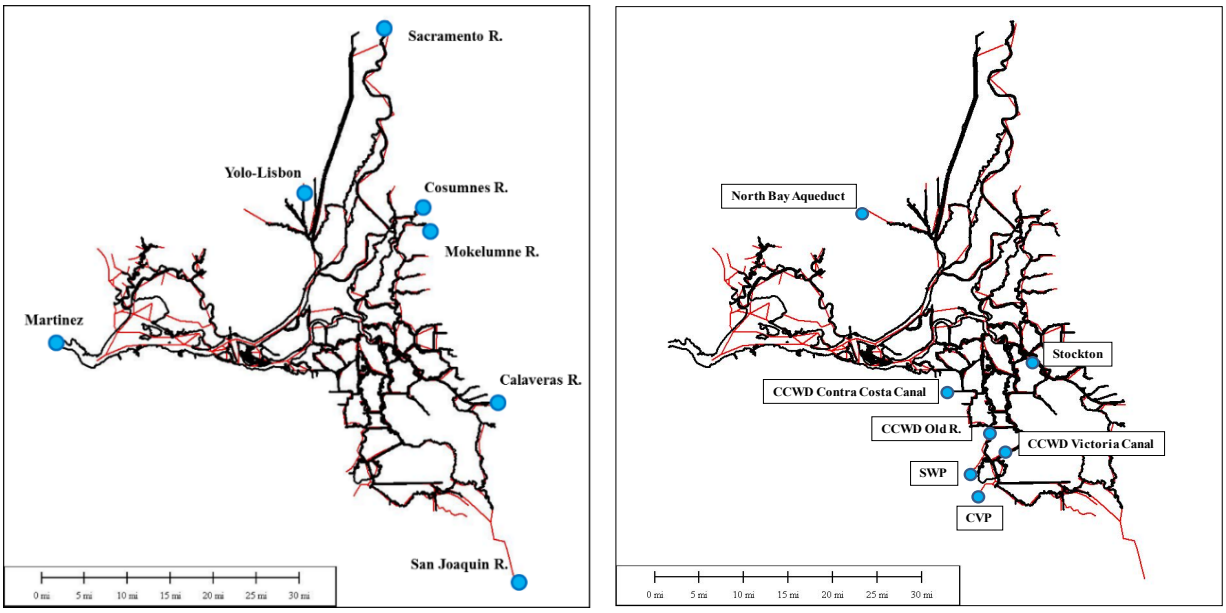


Figure E-1.
Approximate Location (Blue Circles) Of: (Left) the Main Model Inflow Boundaries and the Stage Boundary At Martinez; and, (Right) the Water Intakes (Export Locations).

E.6 Description of Project Alternatives

E.6.1 Alternative 1: No Action/No Project Alternative

CEQA requires an EIR to include a No Action/No Project Alternative which allows for a comparison between the impacts of the action alternatives with Base case conditions. The No

Action/No Project Alternative may include some reasonably foreseeable changes in existing conditions and changes that would be reasonably expected to occur in the foreseeable future if transfers were not approved.

Under the No Action/No Project Alternative, CVP related water transfers through the Delta would not occur from 2015-2024. However, other transfers that do not involve the CVP could occur under the No Action/No Project Alternative. Additionally, CVP transfers within basins could continue and would still require Reclamation's approval. Some CVP entities may decide that they are interested in selling water to buyers in export areas under the No Action/No Project Alternative; however, they would need to complete individual NEPA and Endangered Species Act (ESA) compliance for each transfer to allow Reclamation to complete the evaluation of the transfers for approval.

E.6.2 Alternative 2/Proposed Action: Full Range of Transfers

Alternative 2 would involve transfers from potential sellers upstream from the Delta to buyers in the Central Valley and Bay Area. Alternative 2 includes transfers under all potential transfer measures: groundwater substitution, reservoir release, conserved water, and cropland idling and crop shifting.

E.6.3 Alternative 3: No Cropland Modifications

Alternative 3 would include transfers through groundwater substitution, stored reservoir release, and conservation. It would not include any cropland idling or shifting transfers.

E.6.4 Alternative 4: No Groundwater Substitution

Alternative 4 would include transfers through cropland idling, crop shifting, stored reservoir release, and conservation. It would not include any groundwater substitution transfers.

E.6.5 Nomenclature Used in the DSM2 Analysis of Delta Conditions

The following descriptive nomenclature was used in headings and/or captions for Tables and Plots depicting model results for the Alternatives, and in the text of this document:

- Alternative 1 = (Existing Condition) Base
- Alternative 2 = All Transfers
- Alternative 3 = No Crop Idle
- Alternative 4 = No Groundwater Substitution

E.7 Comparison of Boundary Conditions for the Alternatives

Alternative 1, the Base condition, was simulated in DSM2 with the conditions defined by the baseline CalSim II output. These results represent reasonably foreseeable conditions for the 2015-2024 period and are used for comparison with results from each of the project alternatives. Selected boundary conditions for Alternatives 2 – 4 differed from CalSim II baseline conditions – the Base conditions and the monthly average differences are depicted in Figure E-2 through Figure E-10. Tables show computations of monthly average differences, average monthly differences and average monthly percent differences – the Attachment to this Appendix contain

the full set of tabular results. In general, the Proposed Action has the greatest change from Base among the Alternatives.

Conditions for all other boundary conditions (not shown), including DICU flows and EC concentrations, were used by all four Alternatives. For the All Transfers and No Crop Idle alternatives, diversions of water for Banta Carbona Water District were specified downstream of Vernalis. These diversions were incorporated in the San Joaquin River inflow boundary instead of at their geographic location as they were small in volume, totaling 54 cfs in increments of 4 cfs over the simulation period (water years 1970 through 2003), and the diversion location would not affect any of parameters tracked for the Delta conditions analysis.

Table E-1 document the change from Base for Sacramento River inflow as shown in Figure E-2, while Table E-2 through Table E-4 show computation of the average monthly percent difference results. These tables show that the period July to September in Dry and Critical water years account for the increases in Sacramento River inflow for each of the water transfer alternatives, and that most other months and years have variable levels of decrease in inflow. The timing of the increases in inflow are in line with the release of transfer water from storage in upstream dams discussed in Appendix B. Percent decreases in inflow are less than 2% in all other months and year types.

Table E-1.
Monthly Average Difference in Sacramento River Inflow (cfs) between the All Transfers and Base Alternatives, (All Transfers – Base). The Lower Table Computes Average Monthly Differences.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.5	-0.2	0.0	-0.2	0.3	0.0	0.2	-0.5	-0.4	-0.4	0.2	0.1
1971	0.5	-0.5	0.2	-0.4	-0.1	-0.3	0.2	0.0	0.3	-0.3	0.0	0.4
1972	-0.1	0.4	0.3	0.4	0.4	-0.1	-0.4	0.3	-0.4	-0.4	0.0	0.4
1973	0.5	0.3	-0.3	0.2	-0.4	0.1	0.3	0.0	0.0	-0.1	0.3	0.2
1974	-0.5	-0.3	0.4	-0.5	0.3	0.4	0.1	0.3	0.4	-0.4	-0.3	0.3
1975	0.2	-0.1	0.0	-0.1	0.1	-0.3	-0.5	0.2	-0.4	-0.2	0.1	-0.1
1976	0.3	-0.5	-0.1	-0.5	-0.3	0.2	-2.9	-4.6	-45.0	1279.9	2802.7	693.4
1977	-180.2	-167.5	-155.3	-155.8	-148.7	-146.2	-127.1	-120.2	-97.1	2118.5	826.0	471.0
1978	-146.4	-160.4	-162.1	-961.7	-849.3	-464.5	-123.7	-92.9	-58.4	0.3	-0.4	-0.3
1979	-0.1	-0.2	0.0	-84.7	-239.3	-76.8	-65.9	-49.4	-0.1	-0.1	-0.5	0.0
1980	-12.6	-30.7	-69.9	-196.4	-291.8	-48.9	-34.5	-27.9	-0.2	-0.3	0.2	0.1
1981	0.3	-13.8	0.5	-43.6	-29.2	-28.5	-22.5	-19.9	-37.8	66.8	1740.4	-102.3
1982	-153.3	62.5	-817.2	-198.8	-218.7	-100.8	-84.4	-199.9	-40.5	0.5	-0.1	-0.1
1983	-84.4	-150.4	-64.7	-50.0	-56.6	-63.2	-56.8	-49.4	-40.9	-30.8	-27.6	-25.6
1984	-23.7	-37.0	-37.2	-35.0	-31.4	-29.6	-20.3	-17.7	0.0	-13.7	0.0	0.3
1985	-0.1	-76.3	-20.9	-16.3	-20.8	-16.5	-13.1	-12.1	-10.6	-12.3	-11.7	-9.7
1986	-9.0	-9.1	-22.2	-16.1	-77.5	-19.9	-18.1	-11.2	-0.2	-0.2	0.4	-0.3
1987	0.3	-9.4	-8.9	-8.9	-12.0	-17.4	-46.0	-77.8	-106.5	1818.7	2956.2	659.8
1988	-216.7	-182.1	-276.8	-384.3	-82.3	-173.0	-165.1	-158.5	-126.5	2939.3	1189.0	567.7
1989	-237.4	-229.1	-222.9	-213.6	-204.0	-1104.4	-698.7	-210.6	-196.1	59.1	959.5	-30.2
1990	-186.6	-179.8	-168.8	-189.9	-409.6	-227.7	-85.6	-144.3	-96.6	2801.2	1042.1	616.0
1991	-197.1	-113.6	-91.9	-111.1	-114.4	-620.4	-240.6	-177.9	-198.1	2186.9	856.5	463.1
1992	-209.3	-186.1	-200.7	-193.7	-674.1	-286.3	-234.3	-198.9	-235.7	2889.0	1185.5	443.6
1993	-85.7	-218.3	-298.0	-1265.1	-1190.4	-1136.9	-226.0	-595.1	-184.2	-0.4	-0.5	0.1
1994	0.3	0.0	0.3	-90.1	-216.4	-110.4	-73.6	-64.5	-43.6	142.6	2682.3	503.4
1995	-157.6	-176.8	-189.7	-1176.5	-837.8	-282.3	-183.1	109.2	-311.7	-108.4	-100.0	-0.4
1996	-0.4	0.5	-129.0	-397.0	-117.1	-109.6	-102.4	-97.9	-66.3	0.3	0.5	0.2
1997	-0.3	0.3	-406.3	-92.0	-83.7	-75.8	-54.0	-49.2	0.3	-33.7	0.0	-30.4
1998	-29.6	-37.9	-48.2	-90.0	-272.1	-81.4	-74.2	-67.1	-59.2	-46.1	-41.5	-38.6
1999	0.5	-89.5	-46.6	-39.1	-53.5	-47.8	-46.0	-38.5	-30.0	-0.1	-0.1	-0.1
2000	0.1	0.4	-14.2	-110.9	-69.3	-109.4	-39.8	-31.3	-0.1	-18.3	-0.5	0.1
2001	-0.2	0.3	-22.5	-38.5	-33.9	-31.9	-28.8	-82.3	-112.7	3053.6	1524.6	657.0
2002	-185.6	-220.9	-236.8	-692.3	-440.7	-176.1	-335.0	-76.7	-61.3	-15.9	-49.0	-25.5
2003	-2.7	-24.0	-264.7	-165.5	-81.9	-77.7	-75.4	-137.2	-133.2	800.8	55.0	46.6
Average	-62.3	-66.2	-116.9	-206.4	-201.7	-166.6	-96.4	-79.5	-67.4	584.6	517.3	142.9
Critical	-141.3	-118.5	-127.6	-160.8	-235.1	-223.4	-132.8	-124.1	-120.4	2051.0	1512.0	536.9
Dry	-70.4	-91.6	-85.3	-168.9	-123.4	-229.1	-190.7	-79.9	-87.5	828.3	1186.7	191.5
BN	-0.1	0.1	0.2	-42.1	-119.4	-38.5	-33.1	-24.5	-0.2	-0.3	-0.3	0.2
AN	-41.1	-72.1	-134.8	-449.9	-413.8	-306.2	-83.2	-147.4	-62.7	130.3	9.0	7.8
Wet	-35.2	-33.7	-135.4	-161.2	-134.4	-62.4	-49.2	-32.4	-42.2	-18.0	-12.9	-7.3

Table E-2.
Average Monthly Percent Difference in Sacramento River Inflow Between the All Transfers and Base Alternatives.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.8	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.6	-0.5	4.3	5.2	1.8
Critical	-1.9	-1.5	-1.4	-1.1	-1.3	-1.5	-1.2	-1.5	-1.2	15.7	15.8	7.0
Dry	-1.0	-0.8	-0.5	-0.6	-0.8	-0.6	-1.1	-0.7	-0.7	5.6	11.1	2.3
BN	0.0	0.0	0.0	-0.2	-0.4	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0
AN	-0.6	-1.0	-0.7	-1.0	-0.9	-0.8	-0.3	-0.6	-0.3	0.5	0.1	0.0
Wet	-0.3	-0.2	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0

Table E-3.
Average Monthly Percent Difference in Sacramento River Inflow between the No Groundwater Substitution and Base Alternatives.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.4	-0.3	-0.2	-0.2	-0.3	-0.2	-0.2	0.0	-0.2	2.4	2.4	0.8
Critical	-0.8	-0.6	-0.5	-0.3	-0.6	-0.5	-0.6	0.1	-0.8	9.2	7.3	3.7
Dry	-0.4	-0.3	0.0	-0.3	-0.4	-0.3	-0.7	-0.2	-0.2	2.4	5.0	0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.4	-0.4	-0.2	-0.4	-0.6	-0.1	0.0	-0.1	0.0	0.2	-0.2	-0.1
Wet	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-4.
Average Monthly Percent Difference in Sacramento River Inflow between the No Crop Idle and Base Alternatives.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.8	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.6	-0.4	2.9	3.1	1.0
Critical	-1.9	-1.5	-1.4	-1.1	-1.3	-1.5	-1.2	-1.5	-1.1	9.9	8.4	3.6
Dry	-1.0	-0.8	-0.5	-0.6	-0.8	-0.6	-1.1	-0.7	-0.6	4.4	7.7	1.3
BN	0.0	0.0	0.0	-0.2	-0.4	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0
AN	-0.6	-1.0	-0.7	-1.0	-0.9	-0.8	-0.3	-0.6	-0.3	0.5	0.1	0.0
Wet	-0.3	-0.2	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0

The East Bay Municipal Utility District (EBMUD) transfer water occur as exports on the upper Sacramento River near Freeport. Table E-5, Table E-6 and Figure E-3 illustrate these results. The flow volumes are small in comparison with Sacramento River flows. The exports of transfer water occur mainly in Critical and Dry water years, although some transfer also occurs in a few Above Normal or Wet water years.

Table E-5.
Monthly Average Difference in EBMUD Export (cfs) for the All Transfers Alternative, (All Transfers – Base). The Lower Table Computes Average Monthly Differences.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1977	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1978	62.5	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1982	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1988	62.5	62.5	62.5	62.5	65.3	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1989	62.5	7.5	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1990	62.5	34.5	33.0	0.9	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1991	67.9	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1992	62.5	62.5	62.5	1.2	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1993	0.0	6.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1995	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
2002	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	18.5	11.2	10.5	3.7	3.8	5.5	5.5	11.0	11.0	20.2	20.2	20.2
Critical	45.4	31.7	31.5	18.2	18.3	26.8	26.8	44.6	44.6	62.5	62.5	62.5
Dry	20.8	11.7	10.4	0.0	0.0	0.0	0.0	10.4	10.4	41.7	41.7	41.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	10.4	4.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	9.6	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-6.
Average Monthly Difference in EBMUD Exports (cfs) for Alternatives 3 and 4.

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	18.5	11.2	10.5	3.7	3.8	5.5	5.5	9.8	9.8	18.4	19.6	18.8
Critical	45.4	31.7	31.5	18.2	18.3	26.8	26.8	38.6	38.5	53.6	59.6	55.8
Dry	20.8	11.7	10.4	0.0	0.0	0.0	0.0	10.4	10.4	41.7	41.7	41.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	10.4	4.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	9.6	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	16.7	10.6	10.5	3.7	3.8	5.5	5.5	9.2	9.2	18.4	18.8	18.5
Critical	36.5	28.6	31.5	18.2	18.3	26.8	26.8	44.6	44.6	62.5	62.5	62.5
Dry	20.8	11.7	10.4	0.0	0.0	0.0	0.0	0.0	0.0	31.3	33.9	32.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	10.4	4.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	9.6	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

On the San Joaquin River (Figure E-4), Table E-7 shows that the average monthly percent change from Base inflow is less than +/- 2% for all months, water year types and alternatives except for July in Dry and Critical water years in the No Groundwater Substitution alternative, Alternative 3, whose results for average monthly percent difference results are shown in Table E-7. As can be seen in Figure E-3, the increased flow of approximately 500 cfs in this alternative occurred in exactly three water years (1981, 1992 and 2001). Figure E-5, San Joaquin River inflow EC for Base and change from Base for the Alternatives, illustrates that the upstream changes on the San Joaquin make little difference to inflow EC, as increases and decreases were infrequent and small in magnitude. Thus, the changes in San Joaquin River inflow and EC in Alternatives 2 through 4 have very little influence on the model results in the Delta.

Table E-7.
Average Monthly Percent Difference in San Joaquin River Inflow between the No Groundwater Substitution and Base Alternatives

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.3	5.5	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

South Delta exports at the SWP-Banks and CVP-Jones locations, Figure E-6 and Figure E-7 respectively, show a similar pattern to Sacramento R. inflow in monthly average percent difference increases and decreases, shown in Table E-8 and Table E-9 for Alternative 2. Increases in export flow occur July and August in Dry and Critical years at SWP, and July – September in Dry and Critical years at CVP. The patterns of percent increases and decreases of exports at these locations are similar for Alternatives 3 and 4, but the percentages are smaller (see the Attachment Section on Export Boundary Conditions for monthly average table details).

Table E-8.
Average Monthly Percent Difference in SWP Export Flow between the All Transfers and Base Alternatives.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.3	-1.0	-0.3	-0.5	-0.2	-0.2	-0.1	-0.2	-0.6	11.2	7.3	-1.1
Critical	-3.6	-2.1	-1.4	-2.4	-0.2	-0.7	0.0	0.0	-1.6	35.3	33.7	-3.9
Dry	-2.9	-0.4	0.0	-0.3	-0.7	0.0	-0.6	-0.9	-1.7	21.2	2.3	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	-2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Wet	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-9.
Average Monthly Percent Difference in CVP Export Flow between the All Transfers and Base Alternatives.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.8	-0.7	-0.3	-0.4	1.6	-0.4	-0.2	-1.2	-0.9	14.6	15.0	5.4
Critical	-1.7	-1.6	-1.5	-1.6	-0.4	-1.7	-0.8	-3.3	-2.6	67.4	43.3	20.4
Dry	-0.8	-0.5	-0.1	-0.4	-0.5	0.0	-0.5	-3.0	-2.2	3.5	34.5	7.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.8	-0.1	0.0	9.8	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Wet	-0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1

The export volumes are much smaller at each of the three Contra Costa Water District (CCWD) export locations, shown in Figure E-10 through Figure E-8. For each of these transfer water buyers, all changes in exports are increases for each of the alternatives, unlike the SWP and CVP which also experience decreases in export flow in the Alternatives. The three locations have different patterns of increases in the export of transfer water – although all exports occur in Critical and Dry water years, the Old River location (Table E-10) only exports transfer water in August and September, while the other two locations also export water in July (Table E-11 and Table E-12).

Table E-10.
Average Monthly Change from Base for CCWD Old River Exports (cfs) for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	11.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	21.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	11.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	21.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	5.5
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	11.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	18.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-11.
Average Monthly Change from Base for CCWD Rock Slough Exports (cfs) for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	8.5	10.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.1	41.2	36.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	0.0	13.9
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	8.5	10.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.1	41.2	36.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	0.0	13.9
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	8.5	8.2
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.1	41.2	36.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.1	0.0	3.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-12.
Average Monthly Change from Base for CCWD Victoria Canal Exports (cfs) for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	8.3	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	23.1	24.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3	6.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	8.3	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	23.1	24.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3	6.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	6.0	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	23.1	24.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	6.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-13 illustrates the percent change from Base Net Delta Outflow (NDO) for the alternatives – NDO is the sum of all inflow and outflows set as boundary conditions in DSM2 as calculated in CalSim II. NDO percent changes in the table reflect the changes in Sacramento inflow with the largest increases occurring July through September in Critical and Dry water years for all alternatives in comparison with Base With a few exceptions, the rest of the differences from Base are relatively small percent decreases. Figure E-11 illustrates the plot of Base NDO and the change from Base NDO for the alternatives. The Martinez EC boundary condition, illustrated in Figure E-12 as a monthly average, is calculated in a preprocessor from NDO for each of the Alternatives.

Table E-13.
Average Monthly Percent Change from Base Net Delta Outflow (cfs) for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	-0.1	-0.4	-0.4	-0.5	-0.5	-0.4	-0.3	-0.3	3.3	2.6	1.5
Critical	0.0	0.0	-0.2	-0.4	-1.0	-0.8	-0.6	-0.4	-0.3	12.3	7.7	5.1
Dry	0.0	-0.5	-0.6	-0.3	-0.5	-0.6	-0.9	-0.3	0.0	4.3	5.5	2.6
BN	0.0	0.0	0.0	-0.2	-0.3	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0
AN	0.0	-0.1	-0.8	-0.7	-0.8	-0.9	-0.2	-0.5	-1.0	0.1	0.3	0.1
Wet	-0.1	0.0	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	-0.1	-0.4	-0.4	-0.5	-0.5	-0.4	-0.3	-0.3	2.2	1.7	1.1
Critical	0.0	0.0	-0.2	-0.4	-1.0	-0.8	-0.6	-0.5	-0.3	7.9	4.9	3.4
Dry	0.0	-0.5	-0.6	-0.3	-0.5	-0.6	-0.9	-0.3	0.0	3.5	4.0	2.0
BN	0.0	0.0	0.0	-0.2	-0.3	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0
AN	0.0	-0.1	-0.8	-0.7	-0.8	-0.9	-0.2	-0.5	-1.0	0.1	0.3	0.1
Wet	-0.1	0.0	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	-0.1	-0.2	-0.1	-0.1	0.3	0.0	1.9	1.1	0.7
Critical	0.0	0.0	0.0	0.0	-0.3	-0.1	0.0	1.6	0.2	7.1	3.7	2.6
Dry	0.0	0.0	0.2	-0.1	-0.2	-0.2	-0.6	0.0	0.0	2.4	1.8	1.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.3	-0.4	-0.1	0.0	-0.1	-0.4	0.0	0.0	0.0
Wet	0.0	0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

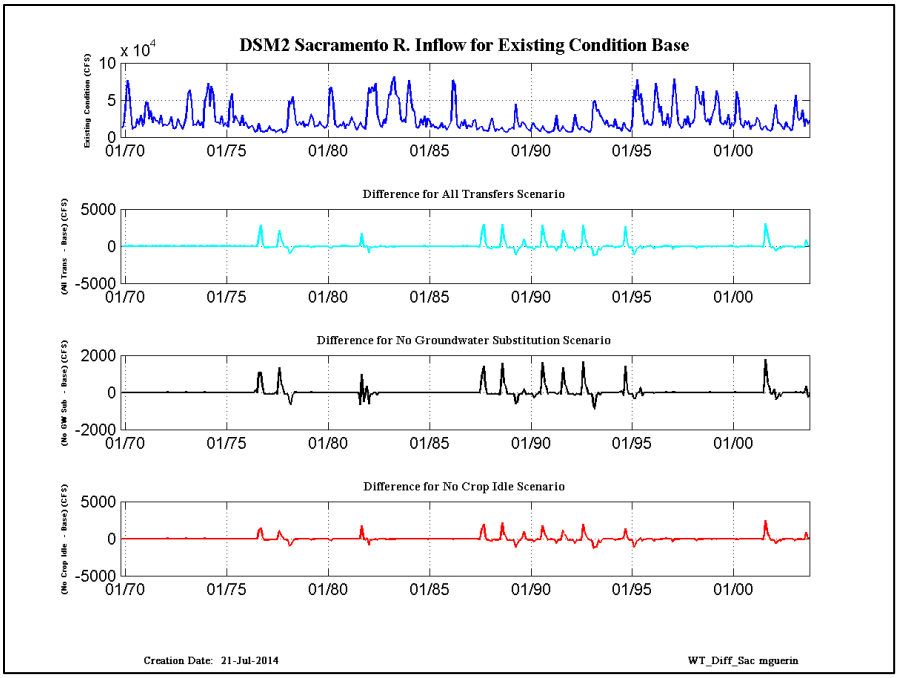


Figure E-2.
Sacramento River Inflow for the Base Condition and Change from Base for the Alternatives.

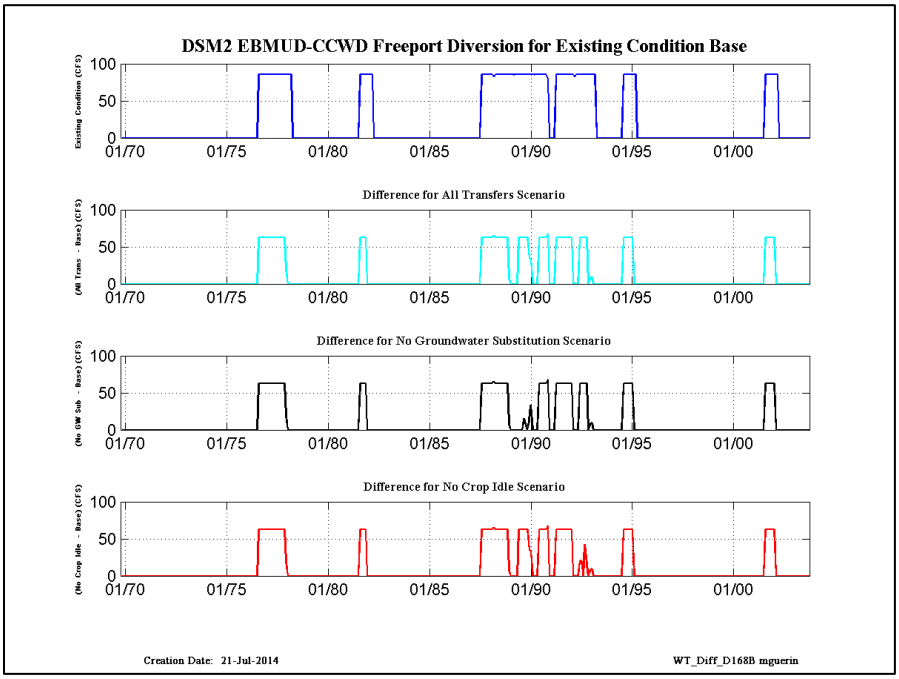


Figure E-3.
EBMUD Freeport Diversion for the Base Condition and Change from Base for the Alternatives.

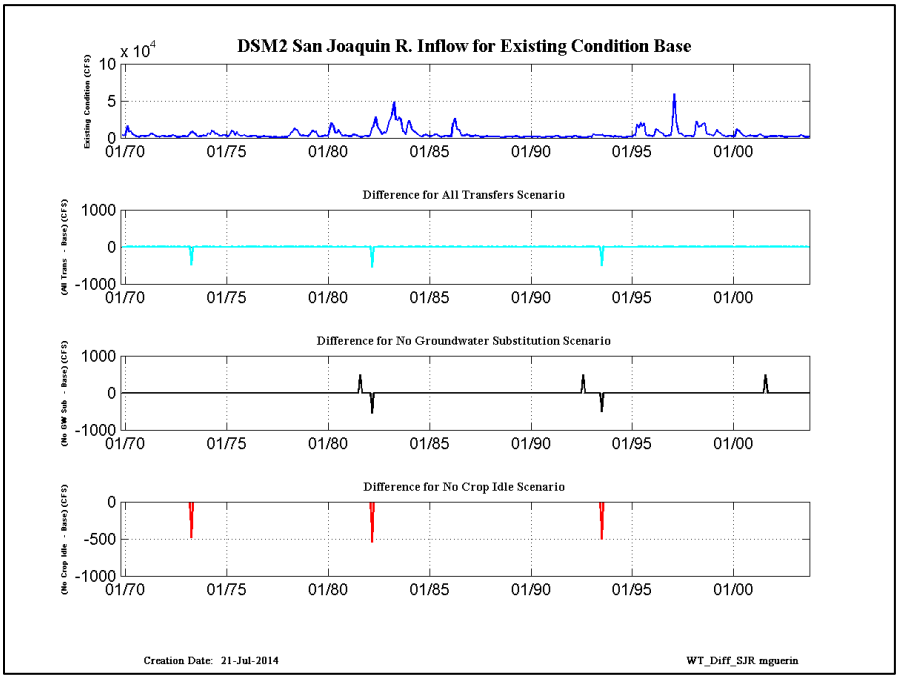


Figure E-4.
San Joaquin R. inflow for Existing Base Condition and Change from Base for the Alternatives.

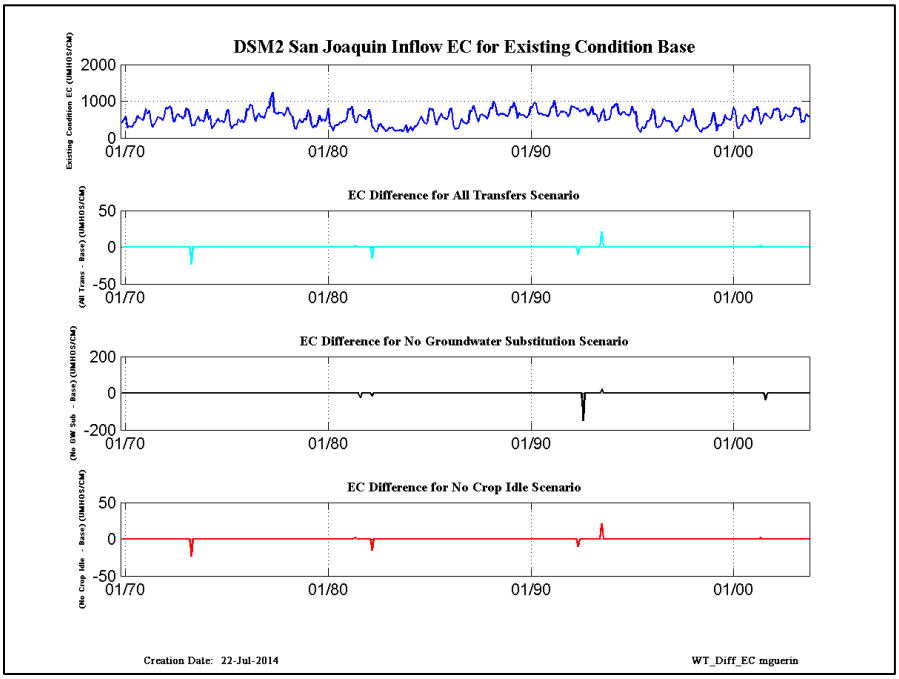


Figure E-5.
San Joaquin inflow EC for Existing Base Condition and Change from Base for the Alternatives.

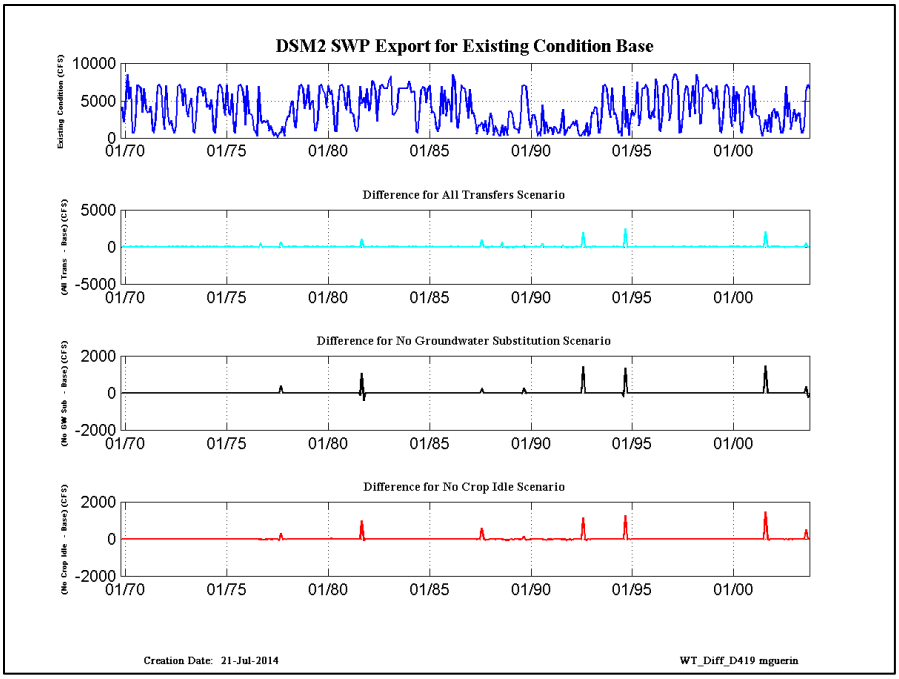


Figure E-6.
SWP Export for the Base Condition and Change from Base for the Alternatives.

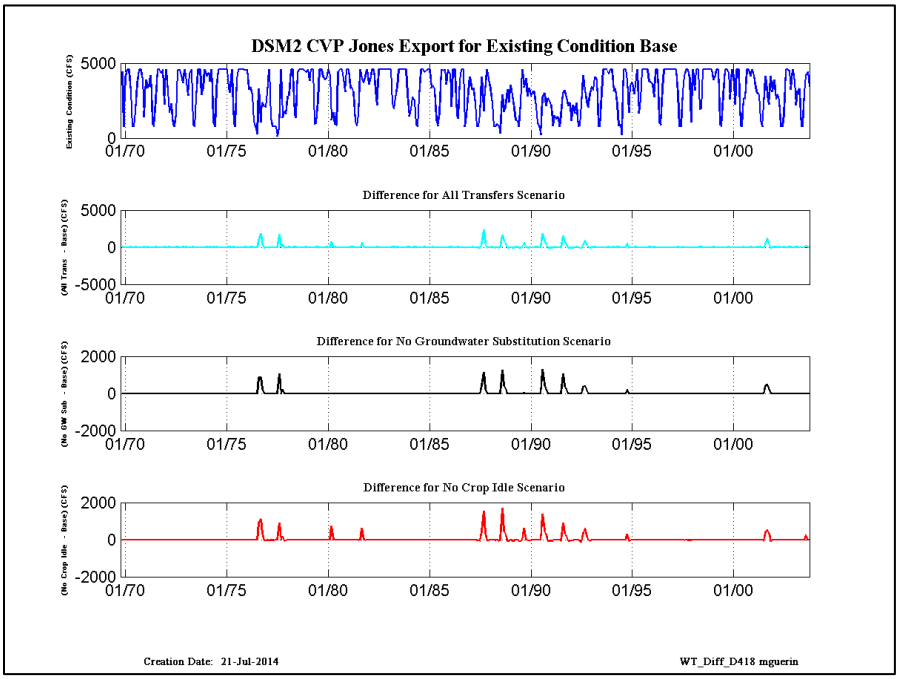


Figure E-7.
CVP Export for the Base Condition and Change from Base for the Alternatives.

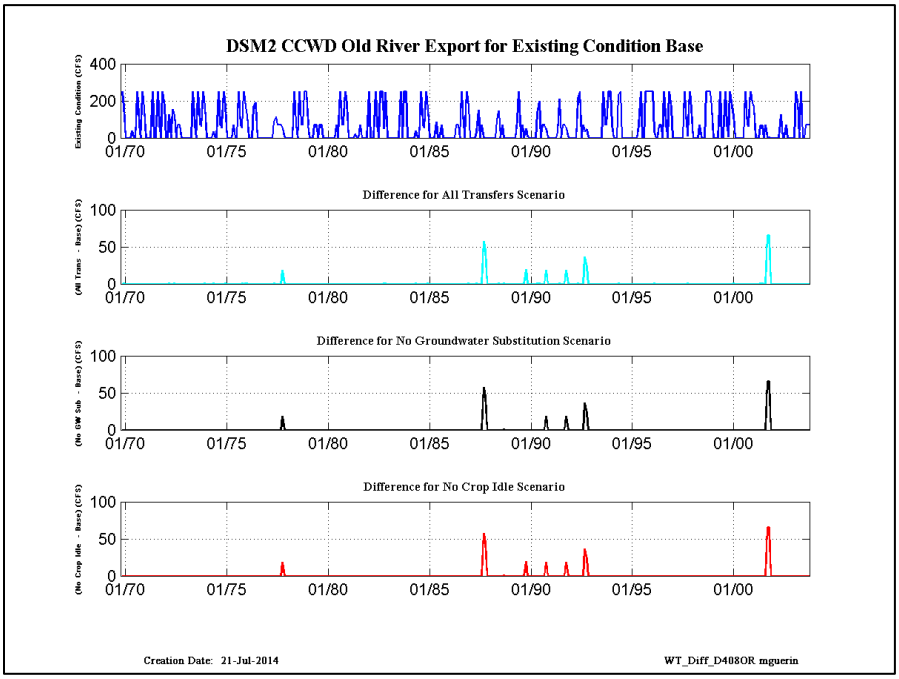


Figure E-8.
CCWD Old River Export for the Base Condition and Change from Base for the Alternatives.

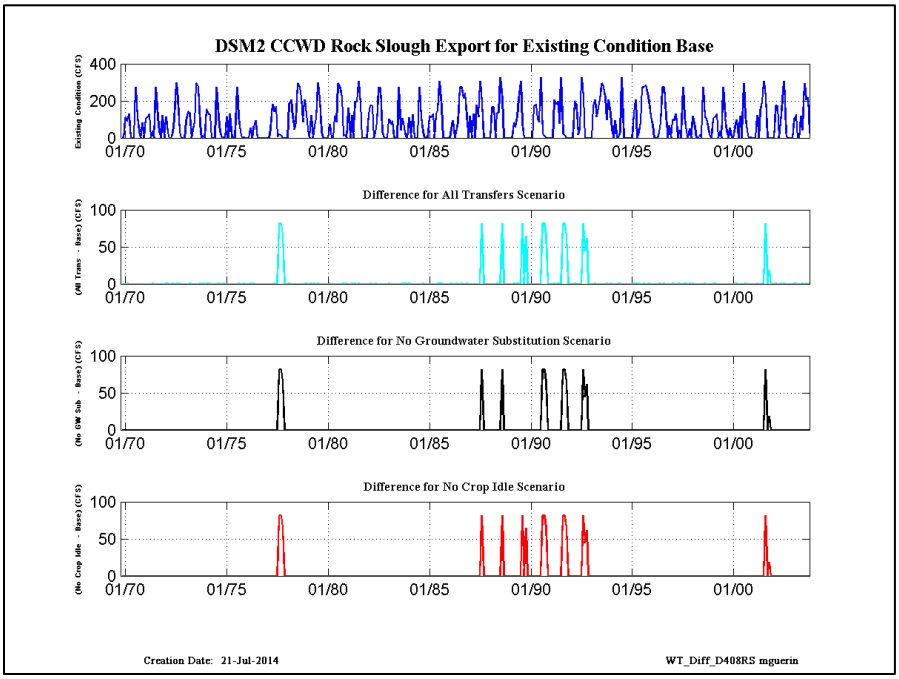


Figure E-9.
CCWD Rock Slough Export for the Base Condition and Change from Base for the Alternatives.

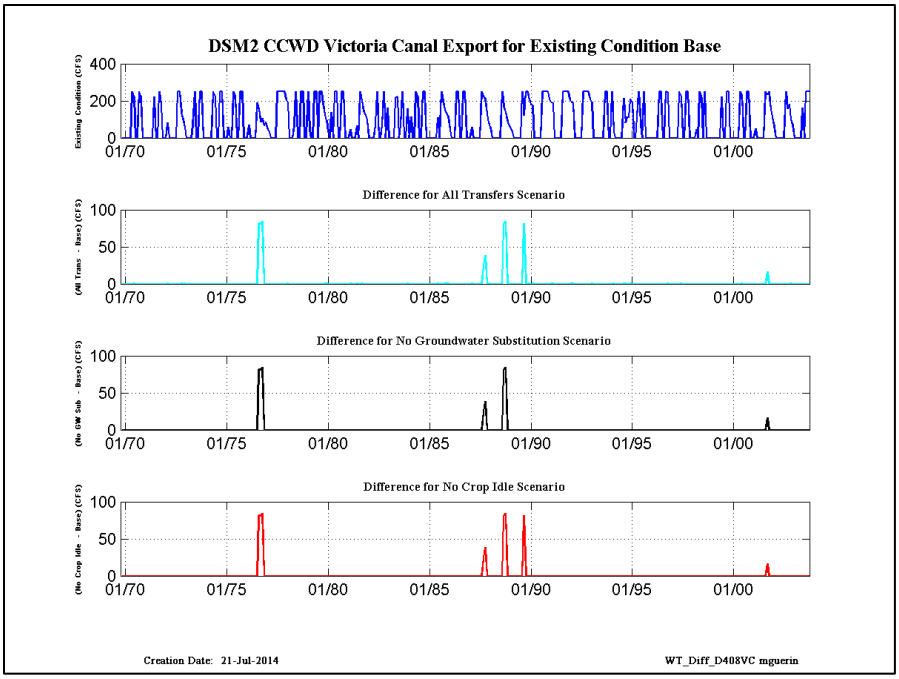


Figure E-10.
CCWD Victoria Canal Export for the Base Condition and Change from Base for the Alternatives.

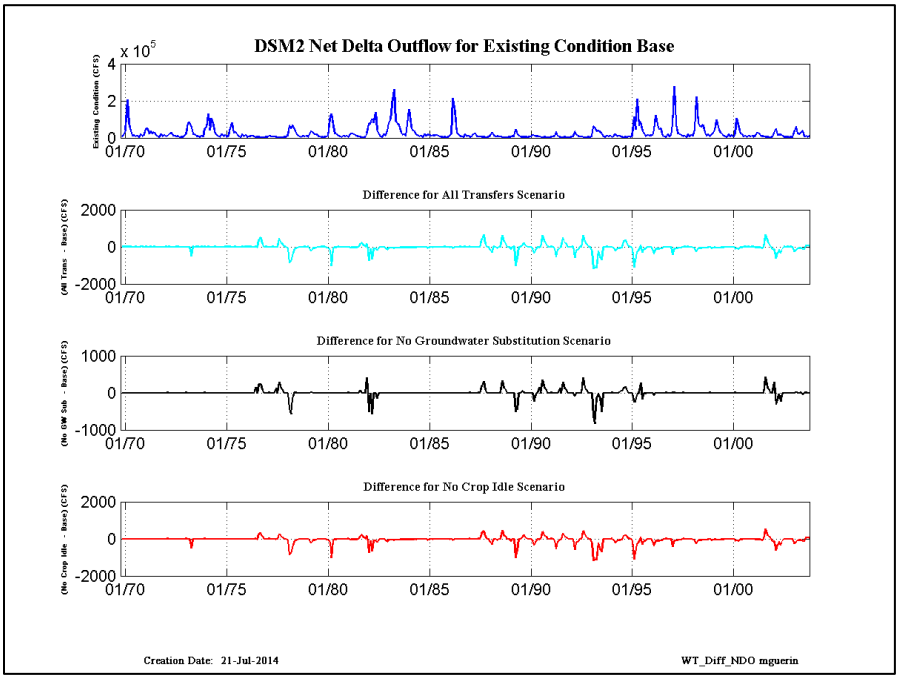


Figure E-11.
Net Delta Outflow for the Base Condition and Change from Base for the Alternatives.

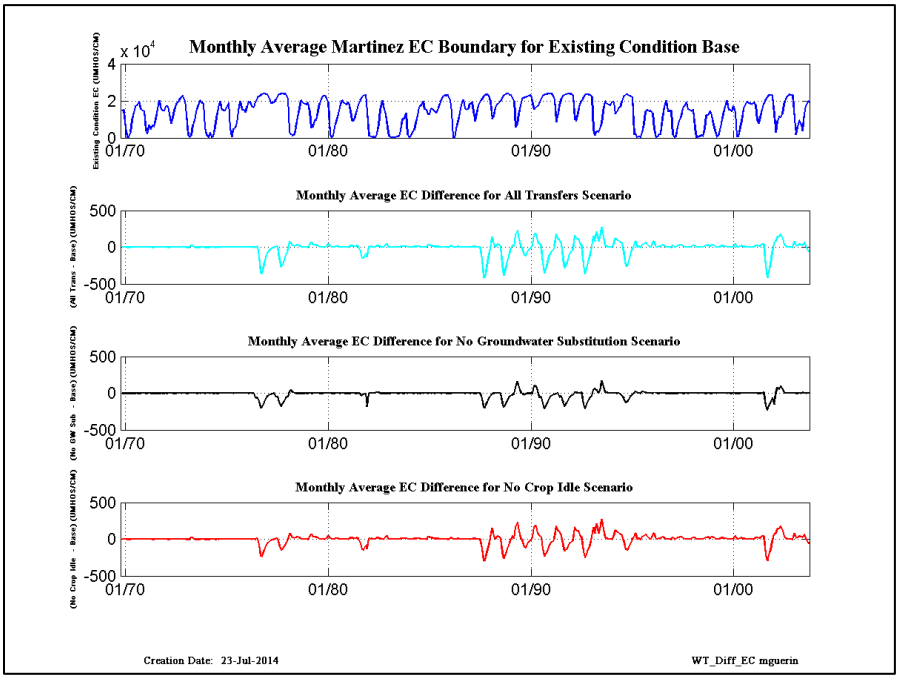


Figure E-12.
Monthly Average Martinez EC for the Base Condition and Change from Base for the Alternatives.

E.8 Comparison of Salinity (EC) Results

The change in EC for Alternatives 2 – 4 in large part reflects the changes in flow for the Sacramento River and the SWP and CVP exports as these volumes were by far the largest in magnitude in comparison with the Base, Alternative 1. The largest changes in EC should reflect the balance between these two flows for the alternatives, as Sacramento inflow increases tend to reduce EC in the Delta while SWP+CVP export increases tend to increase EC. If export increases dominate locally, EC increases due to increased intrusion of Martinez EC, and if Sacramento inflow increases dominate locally, EC will decrease. In addition, when the Delta Cross Channel is open, low EC Sacramento River water reaches the central Delta, mainly through Middle River – increases in this flow are facilitated by increases in SWP and CVP export pumping. Table E-14 illustrates that on average, flow through the DCC was greater than Base flow July - September in Critical and Dry water years for all alternatives while in almost all other months and water year types, Base flow through the DCC was greater.

In this section, modeled EC results are presented at selected D-1641 locations that showed a change from Base EC (illustrated in figures) and/or average monthly percent change from Base EC (illustrated in tables) values that differed notably from Base monthly average or average monthly values. At most locations, the change or percent change from base EC was negligible. Plots and tables for locations not covered in this section are found in the Attachment.

Sacramento River (inflow) and SWP and CVP (export) increases in volume occurred mainly July – September in Critical and Dry water years, with the largest increases in the All Transfers alternative, with decreases in volume occurring in most other months with few exceptions. Of the three alternatives, the All Transfers alternative had the greatest changes and percent changes in comparison with the Base alternative.

Figure E-13 and Table E-15 illustrate that the largest changes in modeled EC at the intake to Clifton Court Forebay (for SWP exports) occur in the All Transfers alternative. For all alternatives, the largest EC percent increases occur in July and August of Critical and Dry water years, and the largest decreases occur in September and October of Critical water years. The No Groundwater Substitution alternative has a different pattern for EC percent decreases in Dry water years than the other two alternatives, as the percent differences are smaller in magnitude in September and October for this alternative.

Figure E-14 and Table E-16 illustrate the changes in modeled EC for CVP exports for the three alternatives. The pattern of EC increases and decreases is the same as those for the SWP exports, but the magnitudes are smaller at the CVP location.

Table E-14.
Delta Cross Channel Average Monthly Percent Change from Base flow (cfs).

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.5	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0	-0.4	3.8	5.6	2.5
Critical	-1.2	-1.1	-0.8	0.0	0.0	0.0	0.0	-0.2	-1.0	14.3	17.5	9.3
Dry	-0.7	-0.5	-0.2	0.0	0.0	0.0	0.0	0.4	-0.6	4.7	11.7	3.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
AN	-0.2	-0.7	-0.2	0.0	0.0	0.0	0.0	-0.2	-0.2	0.4	0.0	0.0
Wet	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	-0.1	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.2	2.8	1.4
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	8.9	8.7	5.6
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	2.2	5.7	1.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.2	-0.1
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.5	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0	-0.4	2.6	3.4	1.5
Critical	-1.2	-1.1	-0.8	0.0	0.0	0.0	0.0	-0.1	-0.8	9.3	9.9	5.5
Dry	-0.7	-0.5	-0.2	0.0	0.0	0.0	0.0	0.3	-0.6	3.7	8.1	2.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
AN	-0.2	-0.7	-0.2	0.0	0.0	0.0	0.0	-0.2	-0.2	0.4	0.0	0.0
Wet	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	-0.1	0.0

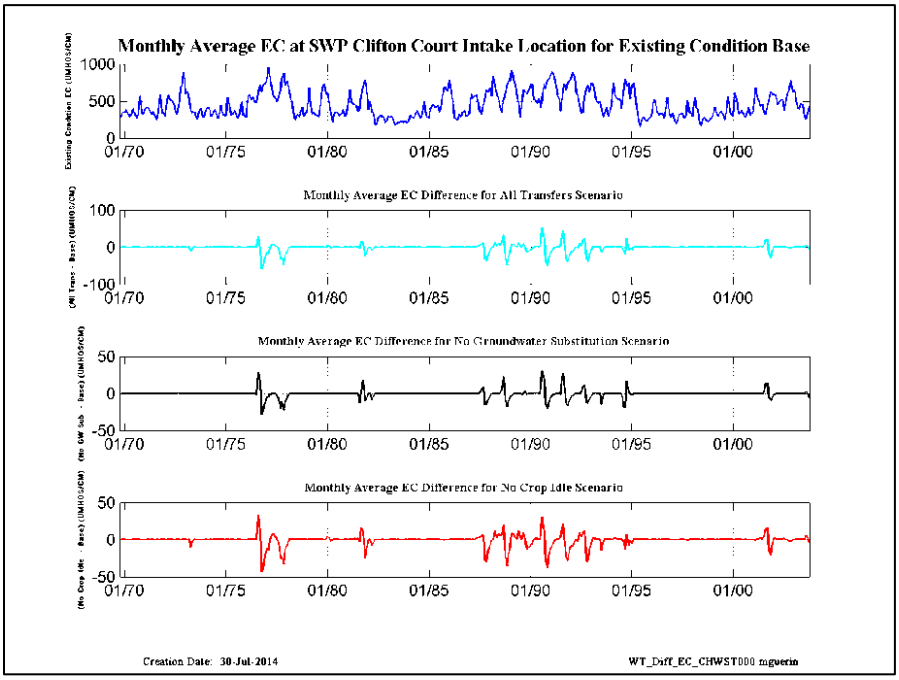


Figure E-13.
Monthly Average EC at the SWP-Banks intake to Clifton Court Forebay for the Base Condition and Change from Base for the Alternatives.

Table E-15.
SWP Intake to Clifton Court Forebay Average Monthly Percent Change from Base EC for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.6	-0.9	-0.4	-0.1	0.0	0.0	0.1	0.2	0.1	1.1	0.6	-1.2
Critical	-3.8	-2.2	-1.1	-0.7	-0.1	0.4	0.3	0.6	0.6	4.2	1.0	-4.3
Dry	-1.9	-0.9	-0.2	0.1	0.2	0.1	0.2	0.6	0.6	1.2	1.9	-1.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.8	-1.0	-0.3	0.1	0.0	-0.5	0.0	0.0	-0.6	0.0	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.2	-0.7	-0.3	-0.1	0.0	0.0	0.1	0.2	0.1	0.7	0.4	-1.0
Critical	-3.0	-1.7	-0.9	-0.6	-0.1	0.4	0.3	0.6	0.5	2.7	0.6	-3.6
Dry	-1.4	-0.7	-0.1	0.2	0.2	0.1	0.2	0.6	0.6	0.8	1.5	-1.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.4	-0.7	-0.2	0.1	0.0	-0.5	0.0	0.0	-0.6	0.0	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.6	-0.4	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.5	0.4	-0.4
Critical	-1.5	-0.8	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.2	2.2	1.1	-1.6
Dry	-0.7	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.0	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.7	-0.4	-0.2	0.0	0.0	0.0	0.1	0.0	-0.6	-0.2	0.0	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

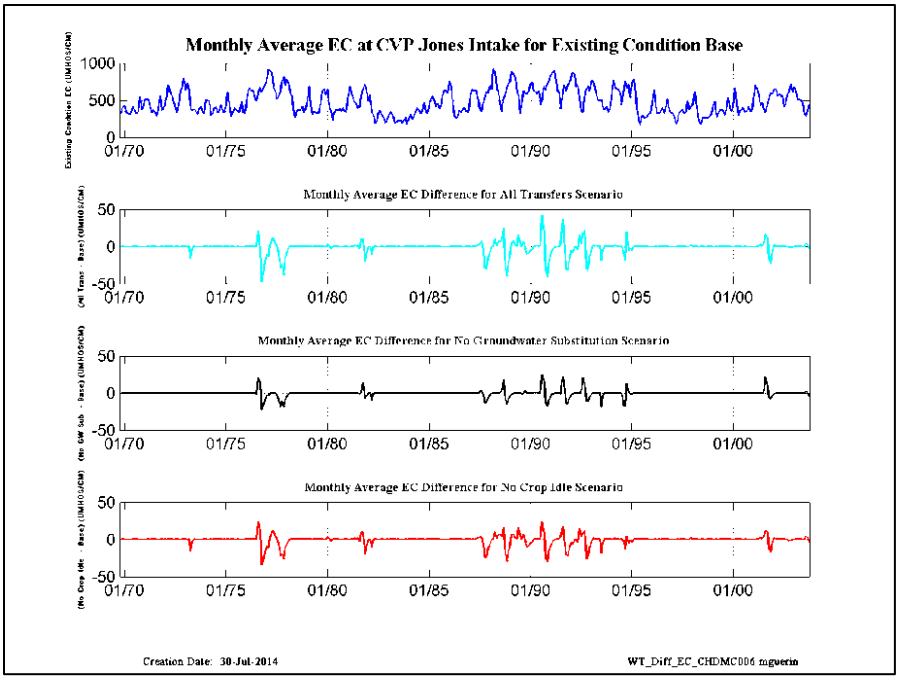


Figure E-14.
Monthly Average CVP-Jones Intake EC for the Base Condition and Change from Base for the Alternatives.

Table E-16.
CVP Intake at Delta Mendota Canal Average Monthly Percent Change from Base EC for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.3	-0.7	-0.3	-0.1	-0.1	0.0	0.1	0.2	0.1	0.9	0.3	-1.1
Critical	-3.2	-1.8	-0.8	-0.5	0.0	0.4	0.2	0.7	0.6	3.3	0.8	-3.9
Dry	-1.6	-0.8	-0.2	0.1	0.2	0.0	0.2	0.6	0.5	1.0	0.7	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.6	-0.8	-0.2	0.0	-0.1	-0.7	-0.1	0.0	-0.6	0.1	0.1	-0.1
Wet	-0.3	-0.2	-0.1	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.1	-0.5	-0.2	-0.1	-0.1	0.0	0.1	0.2	0.1	0.5	0.2	-0.9
Critical	-2.5	-1.4	-0.6	-0.4	0.0	0.4	0.2	0.7	0.6	2.1	0.5	-3.2
Dry	-1.2	-0.5	-0.1	0.1	0.2	0.0	0.2	0.6	0.5	0.6	0.6	-1.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.2	-0.6	-0.1	0.0	-0.1	-0.7	-0.1	0.0	-0.6	0.1	0.1	-0.1
Wet	-0.3	-0.1	-0.1	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.5	-0.3	-0.1	0.0	-0.1	0.0	0.0	0.0	-0.1	0.6	0.2	-0.4
Critical	-1.3	-0.7	-0.3	-0.1	0.0	0.0	0.0	0.0	-0.1	2.0	0.9	-1.5
Dry	-0.6	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.3	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.4	-0.2	0.0	0.0	0.0	0.1	0.0	-0.6	-0.1	0.0	-0.1
Wet	-0.1	-0.1	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

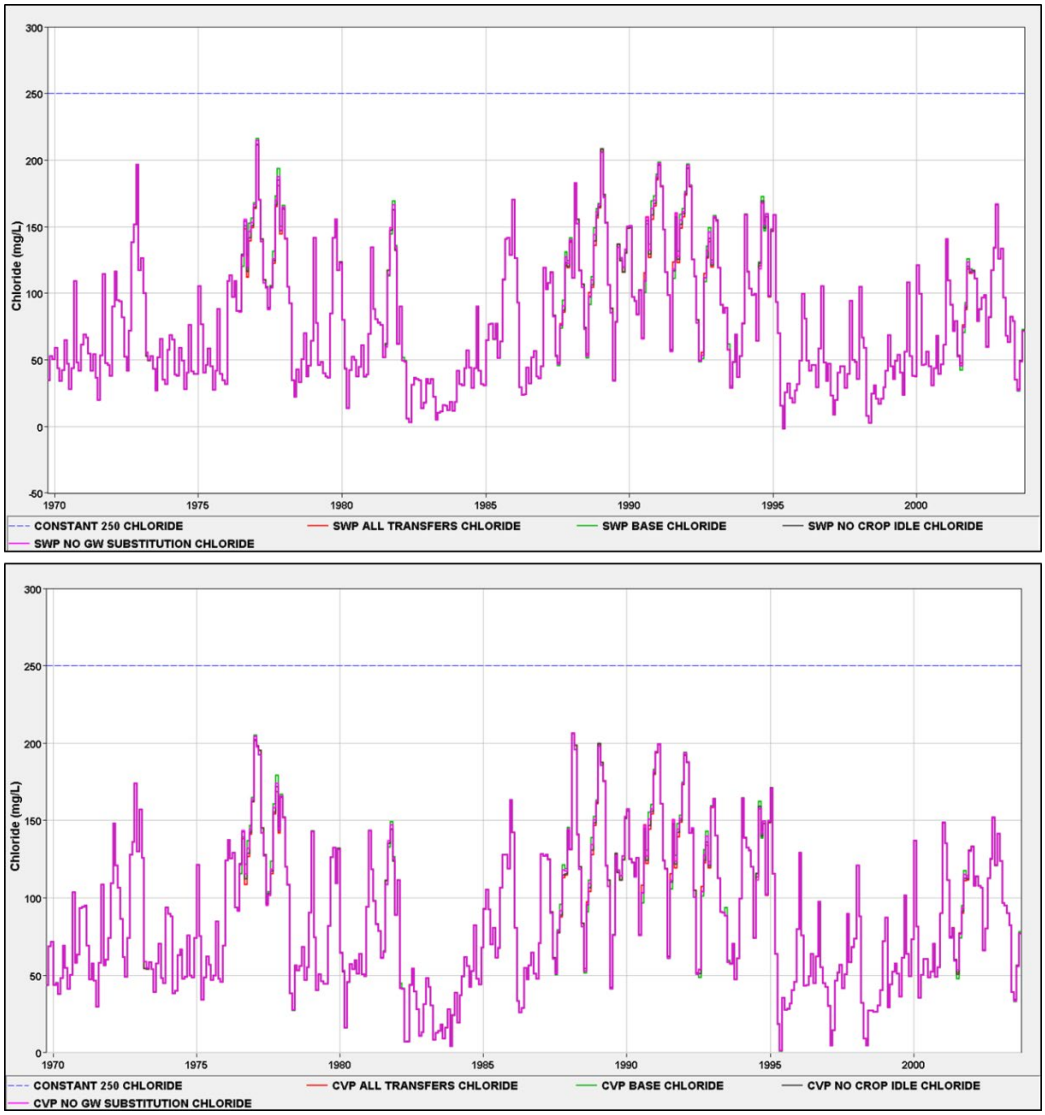


Figure E-15.
SWP and CVP Monthly Average Chloride for the Alternatives.

D-1641 standards require that all export locations maintain chloride concentration less than 250 mg/L. Figure E-15 shows chloride concentration at SWP and CVP, and Figure E-16 shows chloride at CCWD's Old River and Victoria Canal locations. Each location used the following conversion (DWR, 2001) calculated from monthly average EC:

$$Chloride\ (mg/L) = (EC - 160.6)/3.66$$



Figure E-16.
CCWD's Old River (OR) and Victoria Canal (VC) monthly Average Chloride for the Alternatives.

At CCWD's intake in the Contra Costa Canal, denoted in this document as the Rock Slough Intake, a different conversion is used to calculate chloride from EC:

$$Chloride\ (mg/L) = (EC - 89.6)/3.73$$

The D-1641 criteria at this location specifies the minimum number of days that mean daily chloride should be less than 150 mg/L. For Critical water years this is 155 days, and for Dry water years this is 165 days. Results in Table E-17 indicate that several Critical and one Dry water year have greater percent differences (bold font).

Table E-17.
Monthly Average Percent Change from Base EC at CCWD Rock Slough Location for the All Transfers Alternative.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.7	-2.2	-0.4	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	4.2	-0.8	-8.5
1977	-7.8	-5.1	-2.9	-2.1	-1.2	0.0	0.4	0.3	0.4	1.7	-0.3	-1.0
1978	-4.8	-4.1	-2.0	-0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.4	0.6	1.0	2.2	0.2	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.1	0.2	-0.9	1.1	4.0
1982	-3.6	-2.6	-0.8	0.0	-1.7	-1.4	-0.2	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1
1986	-0.1	-0.1	-0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	-0.1	0.0	0.0	0.6	0.9	0.5	**4.3**	**6.8**	-4.3
1988	-6.6	-4.6	-2.7	-0.3	0.0	0.6	0.7	1.0	0.8	**7.8**	**9.0**	-4.9
1989	-7.2	-4.9	-2.9	0.7	0.7	0.7	0.3	1.2	0.5	2.7	1.3	-1.5
1990	-3.0	-2.2	-1.6	-1.2	0.0	0.7	0.7	0.4	0.6	**17.2**	**2.0**	-5.7
1991	-6.2	-4.7	-2.8	-2.1	-0.7	-0.1	0.1	0.2	1.4	**13.1**	**1.3**	-5.0
1992	-5.5	-4.0	-2.5	-2.0	-1.2	0.0	0.1	0.8	0.6	**8.2**	**7.3**	-3.0
1993	-5.5	-3.9	-1.7	0.6	0.3	0.3	0.2	0.2	-1.6	-1.1	0.3	0.2
1994	0.1	0.0	0.0	0.0	0.6	0.4	0.3	0.2	0.3	-0.9	-2.2	5.1
1995	-1.2	-1.1	-1.5	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.2
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1
1997	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1998	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1999	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0
2000	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.2	0.6	**9.5**	**8.2**	-1.1
2002	-4.7	-3.6	-0.1	0.3	0.2	0.1	0.1	0.0	0.3	0.0	-0.1	-0.3
2003	-0.3	-0.1	-0.1	0.2	0.0	0.0	0.0	0.0	0.1	2.7	0.8	-1.4
Average	-1.7	-1.2	-0.6	-0.2	0.0	0.1	0.1	0.2	0.2	2.0	1.0	-0.8
Critical	-4.1	-2.9	-1.8	-1.1	-0.4	0.2	0.3	0.4	0.6	**7.3**	**2.3**	-3.3
Dry	-2.0	-1.4	-0.5	0.1	0.2	0.2	0.2	0.4	0.4	**2.6**	**2.9**	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.8	-1.4	-0.6	0.2	0.3	0.3	-0.3	0.0	-0.3	0.3	0.2	-0.2
Wet	-0.4	-0.3	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

For these years, mean daily chloride was calculated from EC model output for the four Alternatives, and the number of days that chloride was greater than 150.5 mg/L was tabulated – results are shown in Table E-18. Although D-1641 specifies 14-day durations for mean daily chloride concentration, since most DSM2 boundary conditions are specified as monthly values, it is not sensible to account for this constraint herein.

Table E-18.
Check on D-1641 Chloride Standard at the CCWD Rock Slough Intake Location – Number Days Mean Daily Chloride < 150 mg/L.

Water Year	Base	All Transfers	No Crop Idle	No GW Sub
1988 (Crit)	272	264	278	275
1990 (Crit)	201	193	195	195
1991 (Crit)	180	176	177	177
1992 (Crit)	194	183	185	186
2001 (Crit)	338	338	338	338

The model results for the three CCWD intake locations are also presented by comparing the monthly average percent difference tables by alternative. Table E-19 through Table E-21 illustrates the results for all three locations for the All Transfers, No Groundwater Substitution and No Crop Idle alternatives, respectively. For each alternative, the CCWD-Victoria Canal intake location has a different pattern of monthly average percent increases and decreases than the other two alternatives (not shown), as the path for much of the water exported is through Middle River which is more heavily influenced by the operations of the DCC than the other two locations. In August of Critical water years, Victoria Canal sees a decrease in EC while the other locations saw an increase – this is likely due to the increased flow through the DCC (Table E-14) combined with the increased exports (Table E-8 and Table E-9) in comparison with the Base alternative.

The pattern of EC changes at CCWD's Rock Slough and Old River intake locations is similar to the pattern at the SWP location, with the largest EC increases occurring in July and August of Critical and Dry water years, with Rock Slough showing greater increases than Old River as it receives a greater proportion of higher EC water from the Martinez boundary than the Old River location.

Table E-19.
CCWD Intakes –Average Monthly Percent Change from Base EC for the All Transfers Alternative.

CCWD Victoria Canal location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.3	-0.5	-0.3	-0.1	0.1	0.0	0.1	0.2	0.1	0.0	-0.4	-1.5
Critical	-3.1	-1.3	-0.9	-0.6	-0.2	0.2	0.3	0.4	0.4	0.5	-1.9	-5.9
Dry	-1.5	-0.6	-0.2	0.1	0.2	0.1	0.2	0.3	0.5	-0.3	0.0	-1.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.8	-0.7	-0.3	0.0	1.1	-0.3	-0.1	0.1	-0.6	-0.3	0.1	-0.1
Wet	-0.2	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

CCWD Old River location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.6	-0.9	-0.5	-0.1	0.0	0.0	0.1	0.2	0.1	1.3	0.5	-1.2
Critical	-4.0	-2.3	-1.5	-0.9	-0.3	0.3	0.3	0.6	0.6	4.9	0.5	-4.4
Dry	-2.0	-1.0	-0.2	0.2	0.2	0.2	0.2	0.5	0.5	1.7	2.4	-1.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.9	-1.1	-0.4	0.1	0.5	-0.4	-0.1	0.0	-0.4	0.2	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

CCWD Rock Slough location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.7	-1.2	-0.6	-0.2	0.0	0.1	0.1	0.2	0.2	2.0	1.0	-0.8
Critical	-4.1	-2.9	-1.8	-1.1	-0.4	0.2	0.3	0.4	0.6	7.3	2.3	-3.3
Dry	-2.0	-1.4	-0.5	0.1	0.2	0.2	0.2	0.4	0.4	2.6	2.9	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.8	-1.4	-0.6	0.2	0.3	0.3	-0.3	0.0	-0.3	0.3	0.2	-0.2
Wet	-0.4	-0.3	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table E-20.
CCWD Intakes –Average Monthly Percent Change from Base EC for the No Groundwater Substitution Alternative.

CCWD Victoria Canal location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.6	-0.3	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.7
Critical	-1.4	-0.6	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.2	-0.1	-0.7	-2.8
Dry	-0.6	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.8	-0.4	-0.2	0.0	0.0	0.0	0.0	0.1	-0.6	-0.3	0.0	-0.1
Wet	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

CCWD Old River location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.6	-0.4	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.6	0.4	-0.4
Critical	-1.5	-0.9	-0.5	-0.3	-0.1	0.0	0.0	0.0	-0.3	2.7	0.8	-1.7
Dry	-0.7	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.4	1.2	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.8	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.1	-0.4	-0.1	-0.1	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

CCWD Rock Slough location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.5	-0.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	1.0	0.6	-0.1
Critical	-1.5	-1.1	-0.6	-0.3	-0.1	0.0	0.0	0.0	-0.4	4.7	2.1	-0.7
Dry	-0.6	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.5	1.0	0.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.6	-0.3	-0.1	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table E-21.
CCWD Intakes –Average Monthly Percent Change from Base EC for the No Crop Idle Alternative.

CCWD Victoria Canal location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.0	-0.4	-0.2	0.0	0.2	0.0	0.1	0.2	0.1	0.0	-0.2	-1.1
Critical	-2.3	-0.9	-0.7	-0.4	-0.1	0.2	0.3	0.4	0.4	0.3	-1.1	-4.3
Dry	-1.1	-0.4	-0.1	0.2	0.2	0.1	0.2	0.3	0.5	-0.3	0.1	-1.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.3	-0.5	-0.1	0.1	1.1	-0.3	-0.1	0.1	-0.6	-0.3	0.1	-0.1
Wet	-0.2	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

CCWD Old River location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.3	-0.7	-0.3	-0.1	0.0	0.0	0.1	0.2	0.1	0.9	0.4	-1.0
Critical	-3.1	-1.8	-1.2	-0.8	-0.2	0.3	0.3	0.6	0.5	3.2	0.1	-3.8
Dry	-1.5	-0.7	-0.1	0.2	0.3	0.2	0.2	0.5	0.5	1.1	1.8	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.4	-0.8	-0.2	0.2	0.5	-0.4	-0.1	0.0	-0.4	0.2	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

CCWD Rock Slough location

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.3	-0.9	-0.5	-0.1	0.0	0.1	0.1	0.2	0.1	1.5	0.7	-0.7
Critical	-3.3	-2.3	-1.4	-0.9	-0.3	0.3	0.3	0.4	0.5	5.2	1.6	-2.8
Dry	-1.5	-1.1	-0.4	0.2	0.2	0.2	0.2	0.4	0.4	1.9	2.1	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.3	-1.0	-0.4	0.2	0.3	0.3	-0.3	0.0	-0.3	0.3	0.2	-0.2
Wet	-0.4	-0.2	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table E-22.
RSAC081 location (Collinsville) Average Monthly Percent Change from Base EC for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.8	-0.3	0.2	0.4	0.5	0.6	0.6	0.5	0.6	-1.9	-2.8	-1.9
Critical	-1.9	-0.8	-0.2	0.5	1.4	1.7	1.5	1.0	1.1	-6.9	-9.2	-6.1
Dry	-1.0	-0.1	0.5	0.5	0.9	0.9	1.5	1.1	0.6	-3.1	-5.6	-3.7
BN	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.1	0.0	0.0	0.0
AN	-0.9	-0.3	0.5	0.9	0.1	0.2	0.0	0.2	1.3	0.3	-0.1	-0.2
Wet	-0.1	-0.1	0.2	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.5	-0.2	0.3	0.5	0.5	0.6	0.6	0.5	0.5	-1.3	-1.9	-1.3
Critical	-1.3	-0.5	0.0	0.6	1.5	1.8	1.5	1.0	0.8	-4.6	-5.9	-3.9
Dry	-0.7	0.1	0.6	0.5	1.0	0.9	1.5	1.1	0.5	-2.5	-4.4	-2.8
BN	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.1	0.0	0.0	0.0
AN	-0.6	-0.2	0.6	0.9	0.1	0.2	0.0	0.2	1.3	0.3	-0.1	-0.2
Wet	-0.1	-0.1	0.3	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.4	-0.2	-0.1	0.0	0.1	0.1	0.2	-0.1	0.1	-1.1	-1.4	-0.8
Critical	-0.9	-0.4	-0.2	-0.2	0.4	0.3	0.1	-0.9	-0.2	-4.2	-4.9	-3.0
Dry	-0.5	-0.2	-0.3	-0.1	0.3	0.3	0.9	0.5	0.3	-1.5	-2.4	-1.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.5	-0.2	-0.2	0.1	0.1	0.0	0.0	0.0	0.5	0.2	0.1	0.1
Wet	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-22 illustrates results for average monthly percent change from Base EC at Collinsville, RSAC081, on the Sacramento River. The increases and decreases in percent change from Base EC at RSAC081 reflect the boundary conditions changes in NDO (Figure E-11). EC results at locations in Suisun Marsh show a similar pattern.

Table E-23 and Table E-24 illustrate EC results as percent change from Base at RSAN007, near Antioch, and RSAN018, Jersey Point, respectively, on the San Joaquin River. The model results for EC at RSAN007 are similar to those at RSAC081, as they are both strongly influenced by the increases in Sacramento River outflow, as reflected in the changes in NDO flow in comparison with Base. The results at RSAN018 (Table E-24), Jersey Point, are somewhat different than those at RSAN007 (Table E-23). The Jersey Point location has a more complicated set of influences on EC, as local antecedent conditions, such as the EC in Franks Tract, of higher or lower EC waters can serve as reservoirs that mix locally near RSAN018. However, the largest increases (June – July) and decreases (August – November) in EC occur in Critical water years for all alternatives.

Both RSAN018 and RSAC092 on the Sacramento River at Emmaton have D-1641 have constraints for EC specified by water year type. Examining the average monthly percent change from Base at RSAN018 in Table E-24, large changes in EC are seen in Critical (Cr) June and July periods and in Above Normal (AN) July's (i.e., the values indicate individual years may be influencing results). Monthly average Tables (not shown, see the Attachment) indicate that for RSAN018 the AN water year 2003 and the Cr water years 1990 and 1991 can serve as indicators

for adherence to D-1641 criteria for RSAN018, and that water years 2003 (AN) and 1976, 1977 and 1991 (Cr) can serve as indicators for RSAC092.

Using the maximum EC constraints at RSAC092 for AN and Cr water years (the plotted constants), Figure E-17 shows that there are only minor differences between the Base Alternative 1 and the other Alternatives (2-4) . Similarly, for RSAN018 (Figure E-18) the difference in Base alternative in increase in EC amounts to a shift in EC increases of a few days. These differences could be accounted for in real operations by delaying exports and/or reservoir releases by a few days to adhere more closely to D-1641 standards.

Table E-23.
RSAN007 Location (Near Antioch) Average Monthly Percent Change from Base EC for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.1	-0.4	0.1	0.3	0.3	0.4	0.4	0.4	0.5	-1.5	-2.6	-2.1
Critical	-2.5	-1.1	-0.5	0.1	0.9	1.4	1.4	1.1	1.3	-5.8	-8.8	-6.5
Dry	-1.3	-0.3	0.5	0.5	0.5	0.5	0.6	0.9	0.5	-2.6	-5.0	-4.2
BN	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
AN	-1.2	-0.5	0.4	0.7	0.0	0.0	-0.2	0.0	0.7	0.5	-0.2	-0.2
Wet	-0.3	-0.2	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.8	-0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.4	-1.1	-1.9	-1.5
Critical	-1.9	-0.8	-0.3	0.2	1.0	1.4	1.4	1.1	1.0	-3.8	-5.8	-4.3
Dry	-1.0	-0.1	0.6	0.5	0.5	0.5	0.6	0.8	0.4	-2.1	-4.0	-3.3
BN	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
AN	-0.8	-0.3	0.5	0.7	0.0	0.0	-0.2	0.0	0.7	0.5	-0.2	-0.2
Wet	-0.2	-0.1	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.5	-0.2	-0.2	-0.1	0.1	0.1	0.1	-0.2	0.0	-0.9	-1.3	-0.8
Critical	-1.1	-0.5	-0.3	-0.2	0.3	0.3	0.1	-1.1	-0.2	-3.5	-4.6	-3.0
Dry	-0.6	-0.2	-0.2	-0.1	0.1	0.2	0.3	0.4	0.4	-1.2	-2.0	-1.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.2	-0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.0
Wet	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-24.
RSAN018 Location (Jersey Point) Average Monthly Percent Change from Base EC for the Alternatives.

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.6	-0.9	-0.2	0.0	0.0	0.1	0.1	0.2	0.3	1.3	-0.3	-1.6
Critical	-3.8	-2.2	-1.3	-0.9	0.0	0.5	0.5	0.6	1.4	3.5	-2.4	-5.0
Dry	-1.9	-0.8	0.3	0.3	0.0	0.1	0.1	0.1	0.0	2.2	1.1	-3.2
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.7	-1.0	0.0	0.4	0.1	0.0	-0.2	0.0	0.1	1.0	-0.1	-0.2
Wet	-0.5	-0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-1.3	-0.7	-0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.9	-0.4	-1.3
Critical	-3.0	-1.8	-1.1	-0.7	0.0	0.5	0.5	0.6	1.0	2.3	-2.4	-4.0
Dry	-1.5	-0.6	0.4	0.3	0.0	0.1	0.1	0.1	-0.1	1.5	0.4	-2.9
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.3	-0.8	0.2	0.5	0.1	0.0	-0.2	0.0	0.1	1.0	-0.1	-0.2
Wet	-0.4	-0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.6	-0.3	-0.2	-0.1	0.0	0.0	0.0	-0.2	0.0	0.7	0.0	-0.5
Critical	-1.3	-0.7	-0.4	-0.2	0.0	0.2	0.1	-0.9	-0.3	2.3	-0.9	-1.6
Dry	-0.6	-0.3	-0.3	-0.1	0.0	0.0	0.0	0.1	0.3	0.9	1.1	-0.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.7	-0.3	-0.2	0.0	0.1	0.0	0.0	0.0	-0.1	0.4	-0.1	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Figure E-17.
Comparison of 14-Day Running Average EC at RSAC092 for Selected Time Frames Pertinent to D-1641.

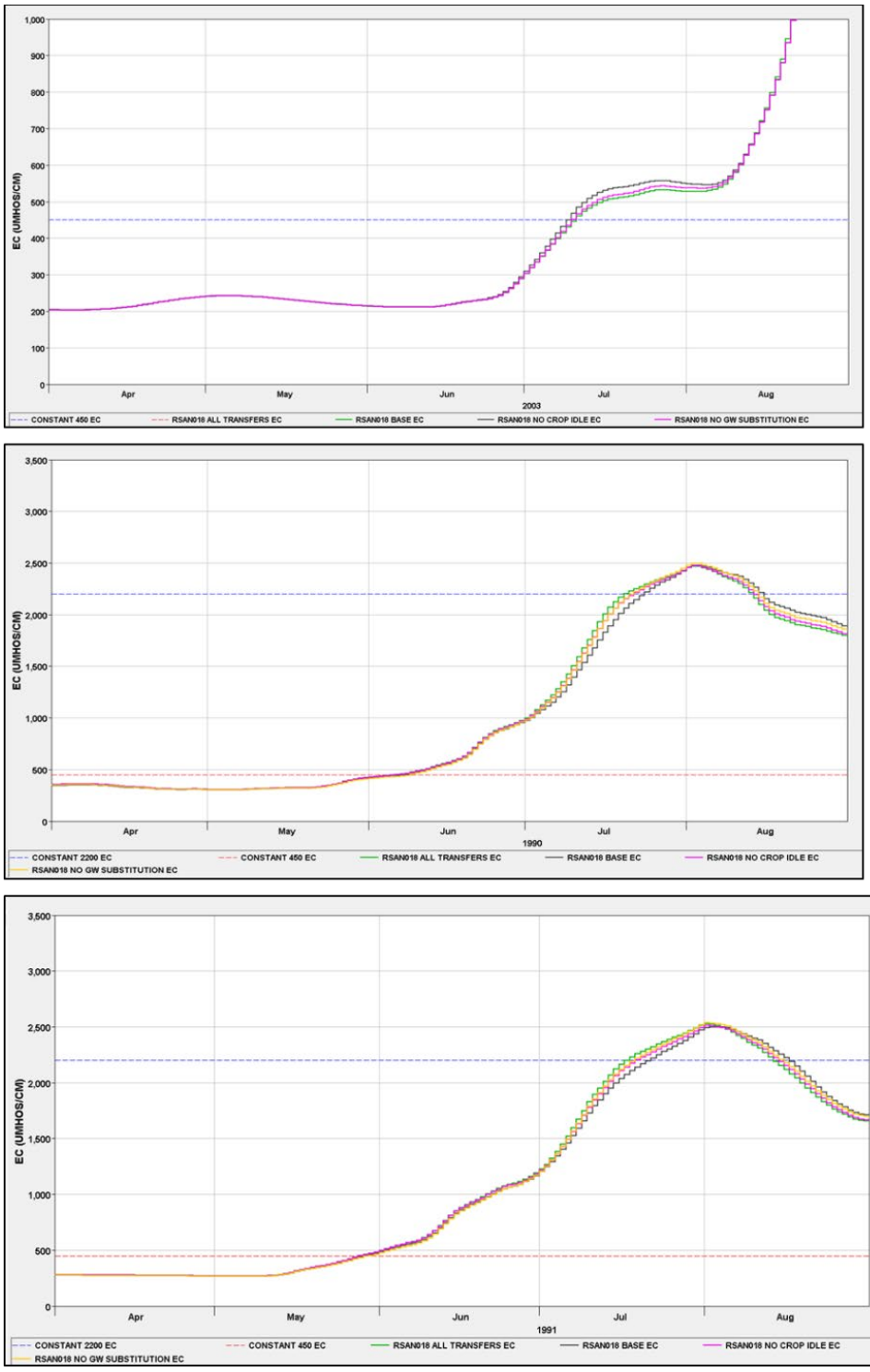


Figure E-18.
Comparison of 14-Day Running Average EC at RSAN018 for Selected Time Frames Pertinent to D-1641.

E.9 Comparison of Stage Results

The potential exists for decreases in water level elevation due operational changes in the three Alternative that might affect agricultural withdrawals of water in the south Delta, a conservative estimate of stage changes was calculated as follows at each relevant D-1641 location in HEC DSSVue:

1. the daily minimum stage was calculated for all the Base and three Alternative from the 15-minute model output

2. daily change from Base stage was calculated (Daily Alternative Min Stage – Daily Base Min Stage)

3. monthly average stage was calculated from the results at step 2.

4. overall monthly averages and averages by Water Year type were calculated

Step 2, the difference in daily minimum stage is a conservative estimate of potential decreases in stage since changes in exports and/or inflows can shift the timing of stage potentially resulting in overly optimistic or pessimistic stage differences when calculated with 15-minute output data. As CalSim II model outputs are calculated on a monthly time step and input as boundary conditions for DSM2, the final calculation of stage changes as a monthly average is appropriate.

In addition, there is the potential for stage increases which would be considered a benefit during low flow conditions or during the summer particularly in dry or critical years. To this end, an additional calculation was made in which a conservative estimate of increase in stage was similarly made as:

1. the daily maximum stage was calculated for all the Base and three Alternative from the 15-minute model output

2. daily change from Base stage was calculated (Daily Alternative Max Stage – Daily Base Max Stage)

3. monthly average stage was calculated from the results at step 2.

4. overall monthly maximum and monthly maximum by Water Year type were calculated.

Stage changes were calculated upstream and downstream of agricultural barrier locations in Old and Middle Rivers, in Grant Line Canal, and in three additional locations: Old River near Middle River, Old River near Tracy, and RMID040 in Middle River. Results are shown as monthly average tables of difference in stage (Alternative – Base), with Average monthly results separated by water year type at the bottom of each Table.

A selection of results for several of these locations is shown in this section to illustrate the general results. The complete set of stage results is found in the Attachment. The largest differences for stage decrease from Base occurred for the All Transfers alternative, as this alternative had the greatest increases over Base exports for SWP and CVP in the south Delta.

Figure E-19 shows the monthly averaged minimum daily Base stage calculation and change from minimum Base stage for each the alternatives downstream of the Old River agricultural barrier. This location was chosen for the All Transfers alternative as it had the largest decreases in monthly average of daily minimum stage difference, -0.2 ft., of any of the agricultural barrier locations, as shown in Table E-25. All seven of these occur in July or August of Dry or Critical water years. For the No Crop Idle Alternative, June 1993 had a difference of -0.2 ft. upstream of the barrier in Old River as did July 1987 downstream of this barrier. All other decreases in monthly average of daily minimum stage were -0.1 ft. or less at both the upstream and downstream locations of the Grant Line Canal and Middle River agricultural barrier locations for all of the alternative. The stage difference results in Grant Line Canal upstream of the agricultural barrier are plotted in Figure E-20 for all of the alternatives, and the monthly average results for the All Transfers alternative are shown in Table E-26. Each of Old River near Middle River, Old River near Tracy, and RMID040 in Middle River had exactly one stage decrease of -0.2 ft., occurring in June 1993, an Above Normal water year, for all three of the alternative. These results are shown for the Old River near Middle River location in Figure E-21, and monthly average calculation for the All Transfers alternative in Table E-27.

The results for stage increases highlighted the "No Groundwater Substitution" alternative in both the minimum and maximum stage difference calculations. This Alternative was the only one in which either maximum or minimum stage increased. Table E-28 shows increases maximum stage difference for the location in Middle River (RMID040) in July for several Dry (1981, 2001) and Critical (1992) Water Years. Table E-29 shows an increase in the minimum stage difference for the location at Old River near Middle River (RMID040) in July of 1981, 2001. Note that stage increases for the No Groundwater substitution Alternative are among the smallest of the all the Alternatives, so it is not surprising that stage increases also occur at several locations.

Table E-25.
Difference in Minimum Stage (ft) at Old River Downstream of Barrier for All Transfers minus Base Alternatives.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

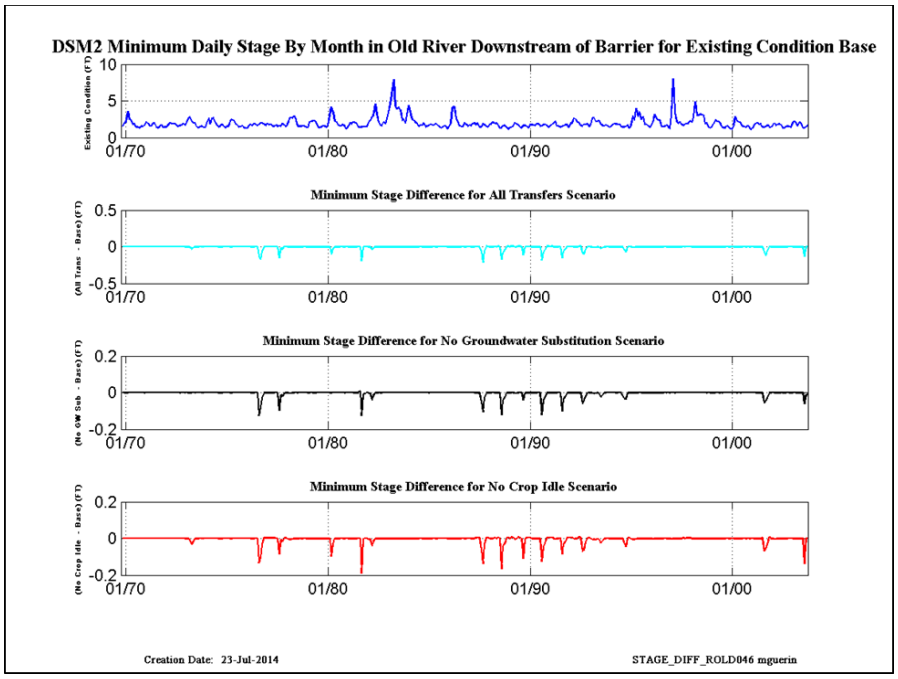


Figure E-19.
Minimum stage at Old River Downstream Barrier and Minimum Stage Differences Alternative – Base.

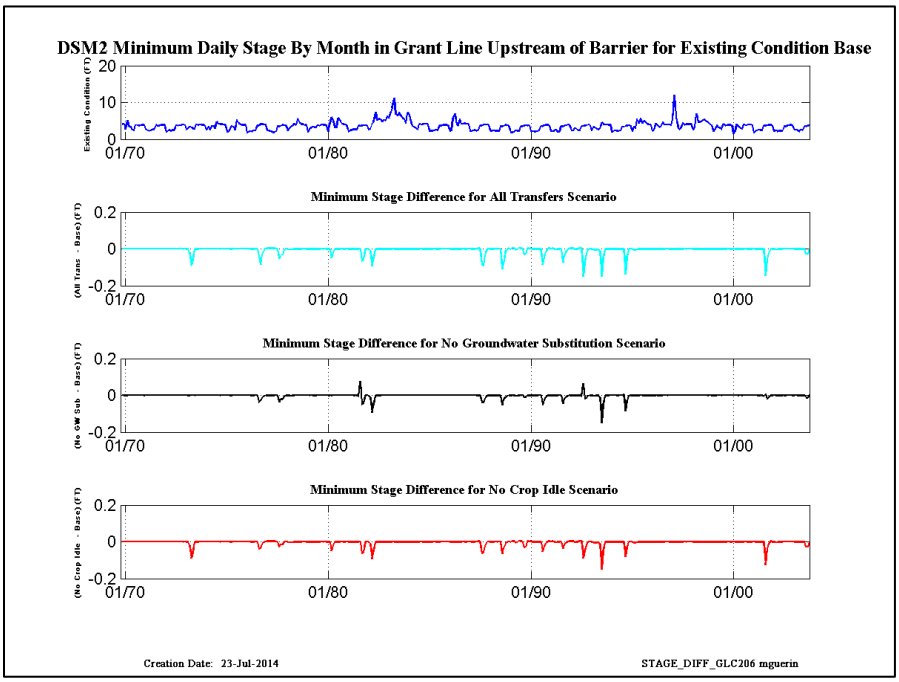


Figure E-20.
Minimum Stage At Grant Line Upstream Barrier and Minimum Stage Differences Alternative – Base.

Table E-26.
Difference in Minimum Stage (ft) at Grant Line Canal Upstream of Barrier for All Transfers minus Base Alternatives.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-27.
Difference in Minimum Stage (ft) at Old River near Middle River Location for All Transfers Minus Base Alternative.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

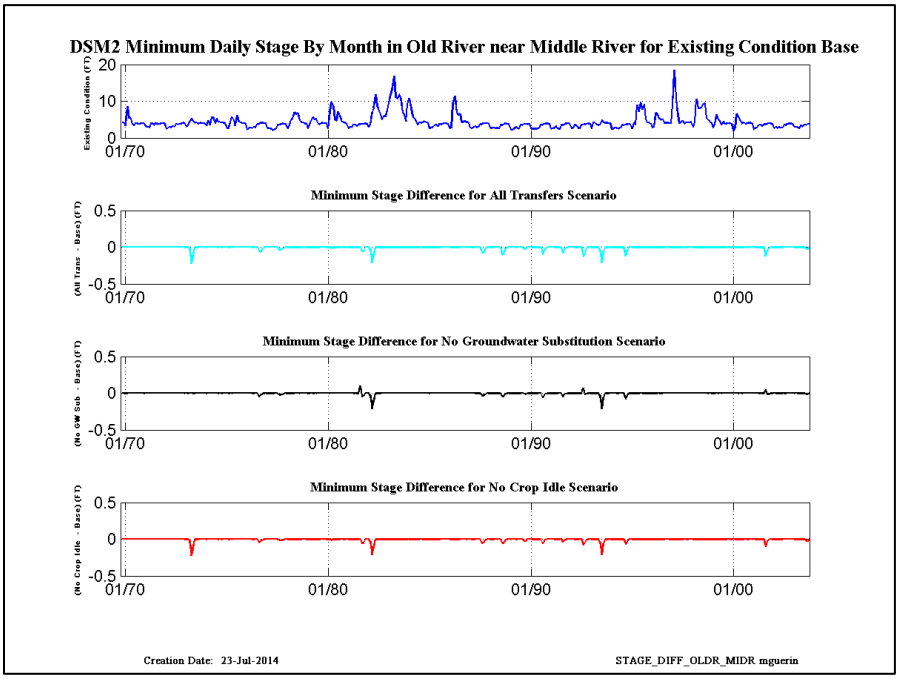


Figure E-21.
Minimum Stage at Old River Near Middle River Location and Minimum Stage Differences Alternative – Base.

Table E-28.
Difference in Maximum Stage (ft) at the Middle River Location (RMID040) for the No Groundwater Substitution Alternative.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

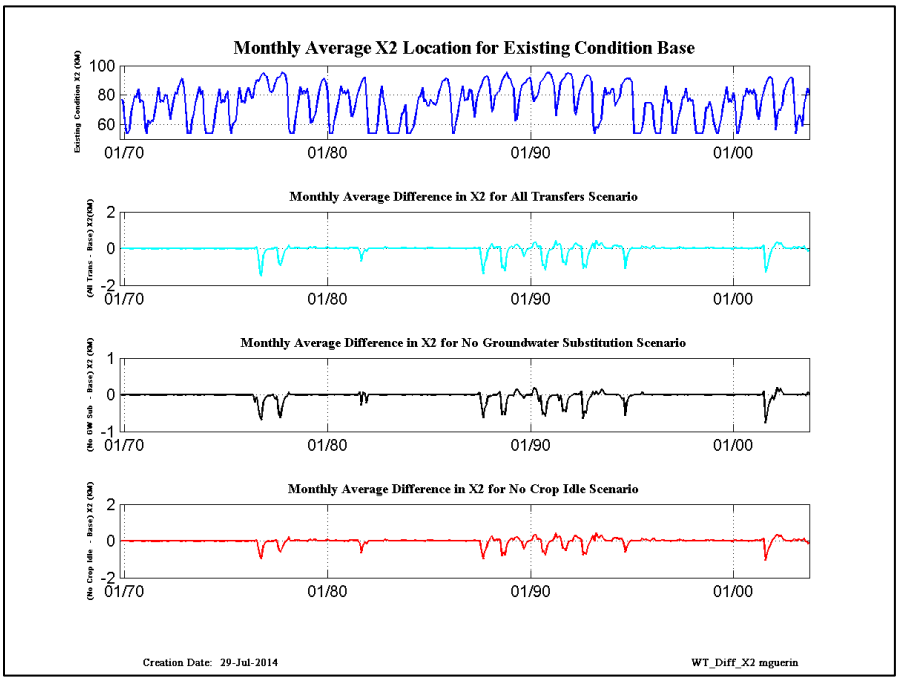
Table E-29.
Difference in Minimum Stage (ft) at the Middle River Location (RMID040) for the No Groundwater Substitution Alternative.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

E.10 Comparison OF X2 Results

Figure E-22 and Table E-30 illustrate the monthly average and average monthly, respectively, model results for the alternatives for the location of X2 in kilometers (km) from the Golden Gate. Westward changes, negative values, are considered beneficial as higher outflow is thought to expand the volume of habitat region available to fish species. Specification of X2 is part of the D-1641 compliance standards February – June. Changes in inflow and export operations will result in a change in X2 location. According to criteria specified in (SWRCB, 1999), eastward changes in monthly average X2 position (positive values in our analysis) of 1.1 km are not significant in general, and in Critically Dry years an eastward movement of 3.0 km is not

1 significant. It can be seen in Figure E-22 that changes in X2 are insignificant for each of the
2 alternative, as all monthly average differences are less than 1.1 km. Alternative 3, No
3 Groundwater Substitution, has the smallest differences in comparison with the Base X2 location.



4

5 **Figure E-22.**
6 **Monthly Average X2 Location for Existing Condition Base and the**
7 **Differences Alternative – Base.**

Table E-30.
X2 Monthly Average Change from Base Location (km).

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.2	-0.3	-0.3
Critical	-0.2	-0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.1	-0.8	-1.1	-1.1
Dry	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.4	-0.7	-0.4
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.2	-0.2	-0.2
Critical	-0.2	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	-0.5	-0.7	-0.7
Dry	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.3	-0.5	-0.3
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1
Critical	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.5	-0.6	-0.5
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.2	-0.3	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

E.11 Comparison of OMR results

Under National Marine Fisheries Service and California Fish and Wildlife Service Biological Opinions (BOs), CVP and SWP operations are mandated to maintain exports at levels to minimize entrainment of delta smelt, steelhead, and winter-run salmon between December and June. Entrainment protection is currently met via prescriptions for OMR flow using measurements supplied by the US Geological Survey (USGS). This prescription is called into play when delta smelt are found in locations believed to put them at risk for entrainment. Restrictions to OMR flow, and therefore to export levels, are considered to be an "adaptive management" process in which decisions on changes in Delta operations are made after assessing current conditions and data. The period December – March is used to protect pre-spawning delta smelt adults along with turbidity or export salvage triggers, and the period through June is used to protect larval smelt along with water temperature triggers.

The 15-minute DSM2 flow results at ROLD024 and at RMID015 were daily averaged, added together then smoothed with a 14-day running average – the final step was to monthly average the running average results and then calculate change from Base and percent change between each alternative and the Base alternative. Percent change from Base of the monthly averaged OMR flow for the alternatives was then used to gauge the effect of alternative Delta operations found in the alternatives. Note that negative percent difference numbers indicate that a negative OMR flow in the alternative was smaller in magnitude than the Base.

The change from Base results (Figure E-23) show that all alternative tends to increase the magnitude of negative OMR flow. The December – June percent change from Base values

(Table E-31) of OMR flow are similar for the All Transfers and No Crop Idle alternatives, with positive percent changes in April and June of Above Normal water years, while the No Groundwater Substitution alternative has a positive percent change in June of Above Normal water years.

The Biological Opinions (UFWS, 2008; NOAA, 2009) prescribing OMR flow values for the protection of delta smelt are complicated by additional triggers used to specify the "adaptive" actions to restrict negative OMR flows, such as turbidity, water temperature, and the presence of delta smelt at certain locations or times.

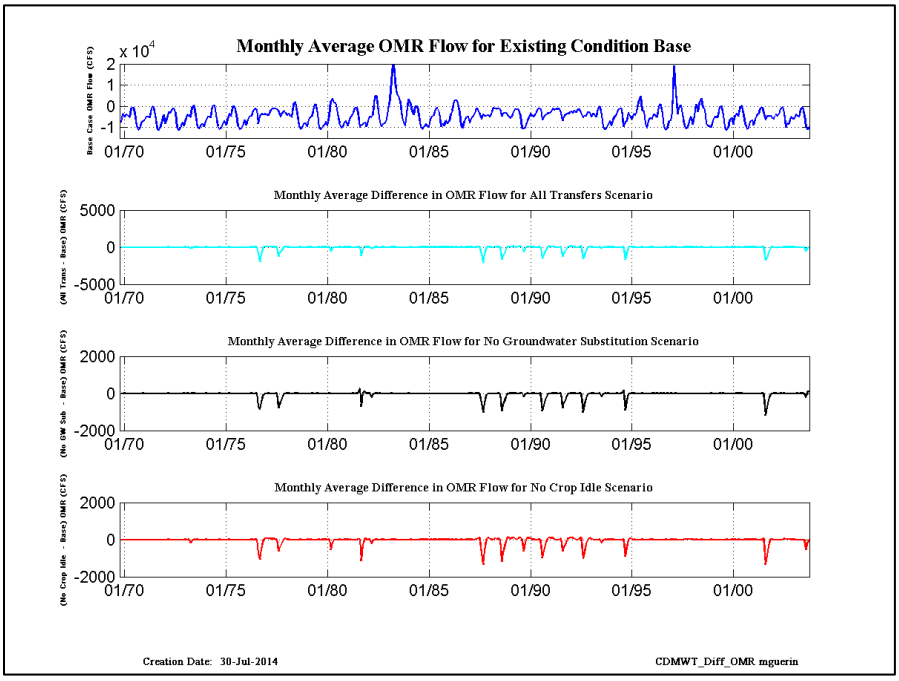


Figure E-23.
Monthly Average OMR Flow (Cfs) and Flow Differences Alternative – Base.

Table E-31.
OMR Monthly Average Percent Change from Base Flow (cfs)

Alternative 2 - All Transfers

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.1	-0.7	-0.4	-0.5	-0.9	-0.3	0.2	-0.8	-0.4	6.5	8.3	4.0
Critical	0.0	-1.7	-1.6	-1.9	-0.7	-1.3	-0.7	-1.8	-1.3	24.6	25.4	14.0
Dry	0.1	-0.6	-0.1	-0.3	-0.7	-0.3	-0.5	-1.5	-1.7	7.2	17.0	6.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.5	-0.9	-0.2	0.0	-4.0	-0.1	2.5	-1.2	0.7	1.0	0.2	0.0
Wet	0.0	-0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 3 – No Crop Idle

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	-0.2	-0.7	-0.4	-0.5	-0.9	-0.3	0.2	-0.8	-0.4	4.2	5.1	2.2
Critical	-0.6	-1.7	-1.6	-1.9	-0.7	-1.3	-0.7	-1.8	-1.3	15.1	14.3	7.3
Dry	-0.3	-0.6	-0.1	-0.3	-0.7	-0.3	-0.5	-1.5	-1.7	5.4	11.8	4.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	-0.9	-0.2	0.0	-4.0	-0.1	2.5	-1.2	0.7	1.0	0.2	0.0
Wet	-0.1	-0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Alternative 4 – No Groundwater Substitution

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Average	0.4	0.0	0.0	0.0	0.1	0.0	0.0	-0.2	0.1	4.0	4.3	2.2
Critical	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	13.6	8.1
Dry	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	8.7	3.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.6	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.7	0.5	-0.2	-0.2
Wet	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0

E.12 Summary of Results

The Delta Conditions analysis of DSM2 alternatives examined regulated parameters to determine the magnitude of changes to these parameters that could occur if the system operations defined by any of the Alternatives were implemented instead of Base operations. The pertinent parameters are:

- salinity (EC) changes at D-1641 locations
- changes in south Delta stage heights identified in D-1641, as decreases in stage might affect agricultural diversion operations
- changes in the location of X2, the 2 ppt salinity isohaline, as regulated by D-1641
- changes in the magnitude in the combined Old River plus Middle River flow (OMR) December – June as regulated by the NMFS and FWS BOs

Alternative 1 is the Base condition, and all analyses of the regulated parameters for the Alternatives are defined *via* a change from the Base conditions using the "comparative analysis" approach discussed above. The model time span is 09/1969 – 10/2003, i.e., water years 1970 through 2003. As DSM2 boundary conditions are specified as monthly values, defined either by CalSim II or TOM model output, all comparisons are made using either monthly average (one value per month modeled) or average monthly (one value per month, averaged over the modeled years) calculations.

The Proposed Project, Alternative 2 or the "All Transfers" alternative, has boundary conditions with the greatest changes to Base conditions among the alternatives. Although both the Sacramento and San Joaquin Rivers change under the alternatives, increases in Sacramento River inflow in the months July – September of Critical and Dry water years dominate the changes and are greatest in the All Transfers alternative and smallest in the No Groundwater Substitution alternative, Alternative 3. Export changes are the greatest at the SWP and CVP export locations, as expected, and the increases generally mirror the increases in Sacramento River inflow, although increases in SWP exports end in August while increases in CVP exports end in September. In the other months, exports generally decrease as average monthly values. These results reflect the changes discussed in Appendix B (Water Operations Assessment).

Changes in the EC regime were calculated for each Alternative in comparison with Base at all D-1641 locations, and the entire set of results are compiled in the Attachment to this Appendix. It was found that results at many locations were either small (had average monthly percent differences around +/- 1% or less) or were characteristic of a region (e.g., Suisun Marsh), so they are not discussed in this document. Instead, only those results that reflect general trends or occur at export locations were included herein.

As expected, the All Transfers alternative, the Proposed Project, exhibits the largest increases in EC in July – August of Critical and Dry water years at SWP and CVP export locations, with the No Groundwater Substitution alternative showing the smallest average monthly EC increases over all water years. At these locations, EC decreases in Critical and Dry water years September - December even though exports have increased over Base in September. Note that the EBMUD exports were not covered herein for EC, as only low EC Sacramento River water is exported at this location.

The model results for the three CCWD intake locations are differ by location. The CCWD-Victoria Canal intake location has a different pattern of increases and decreases than the other two locations. In August of Critical water years, Victoria Canal sees a decrease in EC while the other locations saw an increase – this is likely due to the increased flow of low EC Sacramento River water through the DCC and then through Middle River as Victoria Canal is more heavily influenced by DCC operations than the other two locations. The pattern of EC changes at CCWD's Rock Slough and Old River intake locations is similar to the pattern at the SWP location, with the largest EC increases occurring in July and August of Critical and Dry water years, with Rock Slough showing greater increases than Old River as it receives a greater proportion of water from the Martinez boundary than the Old River location.

In general, the All Transfers alternative sees the largest increases in EC when exports are the greatest, with Critical water years in July seeing the largest percent difference of 4.2% at the SWP location and 3.3 % at the CVP location. In terms of D-1641 criteria for chloride concentration, all export locations regulated by the 250 mg/L standard were in compliance on a monthly average basis – spot checks at SWP showed the compliance was also maintained with daily average chloride. At the Contra Costa Canal location (CCWD's intake modeled at Rock Slough), the chloride standard was in compliance for the requisite number of days for all alternatives.

At locations RSAN007 and RSAC081, near the confluence of the Sacramento and San Joaquin Rivers, the influence of Sacramento River increases result in EC decreases during the increased export periods. The increases in EC during other periods are less than 2% on an average monthly. RSAN018, Jersey Point, and RSAC092, Emmaton were checked for D-1641 EC compliance and it was found that only in June/July of one Above Normal (2003) and a selection of Critical water years had the potential to violate standards. In comparison with the Base, the potential exists for the Critical water year standards to be exceeded in the Alternatives by EC increases occurring a few days sooner than in the Base, which could be changed with a minor variation in export timing.

Changes in the south Delta stage were calculated for each Alternative in comparison with Base at all D-1641 locations, and discussed only at representative locations - the entire set of results are compiled in the Attachment to this Appendix. Stage changes were assessed via a conservative calculation that compared the monthly average of differences in daily minimum stage. The analyses consider a stage difference of -0.2 ft. to indicate a potentially significant result. Stage decreases were greatest for the Proposed Project/All Transfers alternative at the Old River downstream of agricultural barrier location, but changes of this magnitude only occurred in seven of the 408 months simulated. These decreases occurred in July and August of Dry or Critical water years, when south Delta exports increased in comparison with Base. Monthly average decreases in stage were sparse in all other locations and alternatives, with few instances when stage changes reached -0.2 ft. (e.g., in June 1993 in several locations for each of the alternatives).

Changes in X2 were evaluated as the change from monthly average Base values. The No Groundwater Substitution alternative, Alternative 3, had the smallest changes in X2. According to the criteria specified in (SWRCB, 1999), none of the changes in X2 are considered significant.

The Biological Opinions (UFWS, 2008; NOAA, 2009) prescribing December – June OMR flow values for the protection of delta smelt are complicated by additional triggers used to specify the "adaptive" actions to restrict the magnitude of negative OMR flows, such as turbidity, water temperature, and the presence of delta smelt at certain locations or times. These adaptive constraints make it difficult to assess the significance of a change in OMR flow due to the alternatives. However, all of the Alternatives tend to increase the magnitude of negative OMR flow (positive percent values indicate a result to be avoided). The December – June average monthly percent change from Base values of OMR flow are similar for the All Transfers and No Crop Idle alternatives, with positive percent changes in April and June of Above Normal water years, while the No Groundwater Substitution alternative has a positive percent change in June of Above Normal water years.

E.13 References

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Attachment E.1: DSM2 Detailed Model Output and Boundary Conditions

E.1.1 Salinity (EC) Model Output

Model output for electric conductivity (EC) at each location was calculated for water years 1970 – 200. It is presented here in two basic forms – as Tables and as Figures showing monthly average EC for the Base scenario and change from Base EC, (Scenario – Base). The Tables have several subtypes: monthly average results for water years 1970 – 2003, average monthly results for the average over all water year types and results split by water year type. For each location, the Tables show Base salinity as EC, change from Base EC and percent change from Base EC for each of the three alternative scenarios (i.e., seven tables per location).

Table 1-1.
Martinez Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	15017.8	15341.5	5550.8	210.8	583.9	3326.3	10070.2	13841.5	17131.7	17836.8	19848.6	15539.9
1971	15069.8	14704.2	3807.2	2159.7	6928.3	4818.1	6810.6	6151.1	10434.5	16094.3	20489.2	15603.0
1972	15102.5	14743.8	17116.6	17362.1	13256.4	7918.8	11193.0	15234.0	18325.4	19152.2	20962.2	22417.0
1973	22847.2	20227.0	12717.5	1381.0	522.8	1246.7	6882.3	9675.1	14196.2	17722.4	20416.4	19007.8
1974	18806.4	5278.9	1551.7	248.1	2730.4	428.5	731.2	5969.6	11291.9	16170.3	19854.3	15211.2
1975	15125.4	14819.1	17454.7	19102.2	4911.5	541.0	4864.9	5592.2	8088.1	14693.0	20165.6	15196.6
1976	14981.4	14013.3	17058.6	19756.7	18839.4	16861.5	16713.6	19526.5	21934.1	22659.3	23189.2	23809.4
1977	24140.9	23811.9	23838.1	21451.7	19105.8	19163.4	19326.5	20901.0	22679.3	23675.9	23963.0	24237.1
1978	23909.0	23756.1	21476.5	3366.6	1783.4	976.2	2011.4	6017.0	11669.6	16545.6	20472.8	19063.6
1979	18577.8	18092.4	19363.9	14219.7	5516.1	5871.7	9372.5	9613.8	14571.0	18830.2	21263.5	22680.3
1980	22974.2	21624.1	19511.6	1861.2	234.7	971.7	6166.1	9483.8	13079.2	16891.8	20485.3	19233.6
1981	18590.3	18033.2	19223.7	14941.7	9315.7	9220.2	11522.4	15187.2	18331.4	20742.9	22300.8	23218.5
1982	23580.8	14475.7	1097.8	728.6	366.6	521.0	219.2	2072.6	7623.2	15067.1	20296.5	15496.8
1983	12854.9	5679.2	869.5	373.6	208.4	200.6	374.7	630.9	874.9	4438.0	10294.5	10414.1
1984	13701.5	1954.7	209.8	1143.9	3104.7	4068.1	8348.6	12412.3	16593.4	17651.6	19971.4	15620.2
1985	15281.8	12792.9	13096.5	15981.3	15142.4	14464.0	13668.3	14960.1	18381.9	20993.7	22625.8	23098.1
1986	23068.0	23262.7	20690.2	13779.2	340.3	215.5	4978.8	9030.3	14006.2	17829.2	20873.9	16173.1
1987	15438.8	15792.6	18630.2	19417.6	14375.8	8988.6	13200.6	17771.3	19479.0	20938.2	22498.3	23444.0
1988	23624.3	23370.4	19891.4	10401.8	11454.4	16723.6	17949.7	18770.2	20019.9	21696.8	22940.5	23803.4
1989	24174.3	23611.7	23238.2	21839.5	20110.8	5778.1	7331.7	13073.5	18135.1	21242.1	21951.2	22223.8
1990	22607.7	23003.3	23116.4	18919.4	15668.9	16480.7	17154.1	18556.6	20825.0	23014.9	23464.8	23752.7
1991	23929.0	24096.0	24164.9	22924.1	20850.8	8703.8	11369.4	17874.5	21192.3	22900.9	23386.2	23817.1
1992	24040.7	24015.1	23998.2	22958.8	9946.2	9186.8	14095.9	18310.5	20149.7	21797.5	23324.1	23842.8
1993	23514.0	23348.6	22440.7	4447.7	1524.1	3789.6	3382.9	4966.3	8355.8	14892.9	20086.5	18513.4
1994	18123.2	17960.9	19209.7	19618.0	12933.8	14156.6	15975.7	16726.0	19989.5	22395.6	23262.3	23700.5
1995	22913.5	22758.0	22412.3	2017.3	2464.1	224.0	820.3	495.9	2997.4	7687.9	14505.4	15109.1
1996	14498.9	14617.3	13411.3	4600.9	315.0	750.3	2000.2	2099.8	10630.2	17072.7	20478.2	14671.2
1997	14696.0	14704.1	1930.4	202.2	631.9	6065.4	9389.3	11556.5	16297.0	17314.7	19569.8	15595.9
1998	15352.3	14605.0	15412.1	5385.5	219.2	479.8	932.3	1242.4	820.3	5251.7	12308.8	12446.8
1999	14649.4	12204.3	7108.5	4099.7	507.6	1136.9	4278.5	8007.5	13094.0	17038.4	20462.0	15206.4
2000	15239.6	14518.6	17291.1	14037.6	905.4	999.7	5982.3	9591.7	15872.5	17978.4	19966.8	18795.7
2001	18606.3	18210.5	19306.4	17834.6	9685.6	7693.9	11392.5	15672.5	18500.6	20800.0	22312.8	23190.2
2002	23405.6	22909.1	12919.1	2989.0	9051.3	11378.4	11180.0	13260.5	18186.2	21302.7	22494.8	23456.6
2003	23382.3	23133.3	10292.3	1695.7	6007.8	9590.8	7074.8	3908.6	12954.5	17619.0	20032.7	19014.8
Average	19171.3	17513.8	14982.6	10042.9	7045.4	6263.0	8434.2	10828.9	14609.1	17880.5	20603.5	19311.9
Critical	21635.3	21467.3	21611.1	19432.9	15542.7	14468.1	16083.6	18666.5	20970.0	22591.5	23361.4	23851.9
Dry	19249.5	18558.3	17735.7	15500.6	12946.9	9587.2	11382.6	14987.5	18502.4	21003.2	22364.0	23105.2
BN	16840.2	16418.1	18240.2	15790.9	9386.3	6895.2	10282.7	12423.9	16448.2	18991.2	21112.9	22548.6
AN	21977.7	21101.3	17288.3	4465.0	1829.7	2929.1	5250.0	7273.8	12688.0	16941.7	20243.4	18938.2
Wet	16871.9	13415.8	8577.4	4157.8	1793.2	1752.0	4139.9	6084.8	9991.0	14165.1	18393.7	14791.1

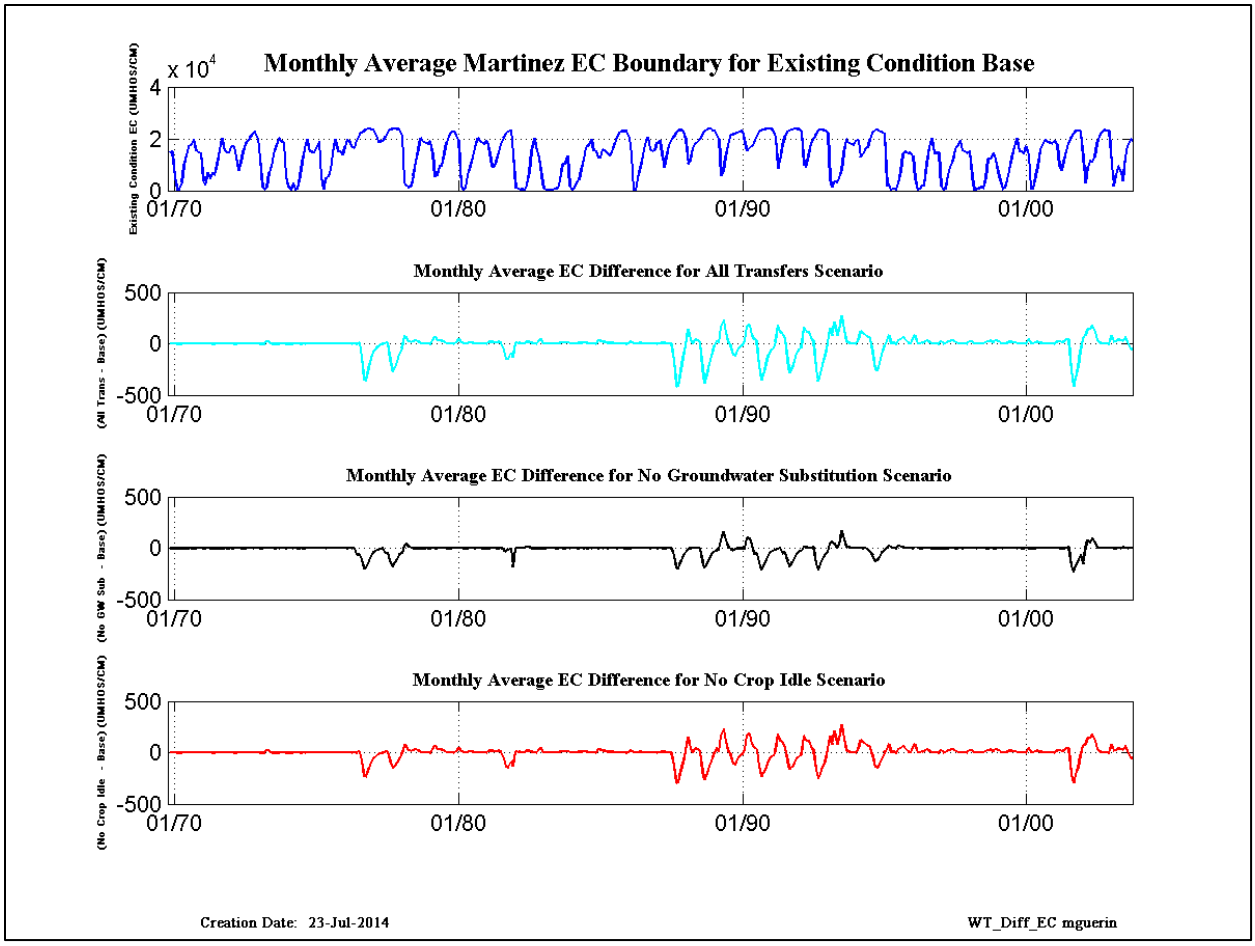


Figure 1-1.
Monthly Average Martinez EC for the Base condition and change from Base for the scenarios.

Table 1-2.
Martinez salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	-0.1	0.0	-0.1	26.7	12.5	-0.8	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-3.4	12.2	-128.1	-349.8	-360.4
1977	-233.1	-138.6	-80.5	-53.2	-26.7	-9.5	-3.5	4.1	10.2	-151.3	-270.2	-234.8
1978	-174.5	-100.9	-42.2	68.2	65.1	23.1	14.2	27.5	35.7	17.1	3.3	1.3
1979	0.4	0.1	-0.6	35.1	62.0	31.6	30.6	29.0	10.7	1.8	0.5	0.2
1980	-0.1	11.8	43.5	13.6	1.3	2.0	9.6	14.8	6.0	0.7	0.2	0.1
1981	0.0	0.0	-0.3	19.7	19.2	14.4	14.6	15.4	10.0	-57.1	-147.2	-148.8
1982	-93.0	-128.2	13.2	3.6	5.1	2.0	0.1	18.9	20.2	6.9	1.0	-0.2
1983	35.5	44.8	3.8	0.4	0.0	0.0	0.5	1.1	1.5	6.1	12.4	14.6
1984	15.2	4.2	0.0	1.6	4.6	6.1	8.7	11.6	5.7	1.3	0.3	0.1
1985	-0.5	31.5	26.0	16.3	16.8	7.4	7.0	9.5	4.9	1.4	0.5	0.3
1986	0.1	0.0	9.5	16.0	0.4	0.0	3.9	6.0	2.3	0.3	0.1	0.0
1987	0.0	0.0	-0.1	3.9	8.8	8.8	3.2	0.7	5.0	-163.9	-416.0	-412.3
1988	-252.0	-141.0	-6.5	142.0	44.1	3.7	37.1	32.4	14.8	-244.9	-381.5	-299.7
1989	-196.2	-119.0	-21.9	28.1	5.5	171.2	228.8	111.1	14.7	-20.2	-107.4	-119.8
1990	-65.3	-31.5	-16.7	35.3	176.1	180.3	82.0	43.3	34.1	-213.0	-356.9	-300.2
1991	-204.9	-113.6	-66.0	-43.9	15.2	183.1	115.7	89.7	53.3	-157.5	-285.8	-239.3
1992	-163.0	-92.4	-54.8	-38.7	158.8	120.6	112.7	57.9	23.9	-240.0	-362.4	-290.3
1993	-199.1	-110.2	8.8	154.7	79.0	216.4	76.3	135.6	274.9	128.5	19.1	7.3
1994	2.4	0.7	-0.5	38.4	124.7	99.0	81.6	66.3	52.9	-75.9	-250.7	-260.3
1995	-188.6	-98.1	-18.8	27.5	84.8	1.5	6.0	-1.1	39.6	47.6	60.9	36.4
1996	5.8	0.1	53.8	83.3	2.3	3.2	10.0	10.4	31.1	19.0	4.0	1.5
1997	0.3	-3.1	21.4	0.0	1.9	20.3	29.8	31.5	14.6	3.4	0.7	0.3
1998	0.0	-0.3	21.0	24.8	0.1	1.2	2.9	3.8	2.0	11.0	22.5	27.9
1999	9.5	37.8	26.4	9.2	0.9	2.4	9.6	15.8	19.7	10.2	2.2	0.9
2000	0.1	0.0	-0.8	48.2	6.1	4.6	12.3	16.8	7.3	1.5	0.4	0.1
2001	0.0	0.0	-0.2	17.7	23.1	13.9	16.0	42.5	38.8	-262.7	-411.9	-334.5
2002	-217.8	-73.0	51.8	77.8	144.6	145.3	178.8	116.2	34.1	9.0	3.5	1.5
2003	0.8	-1.2	78.9	16.9	23.0	38.0	32.7	26.3	64.0	12.2	-43.4	-62.4
Average	-56.4	-30.0	1.4	22.0	30.8	38.7	33.4	27.4	24.8	-42.3	-95.6	-87.4
Critical	-130.8	-73.8	-32.1	11.4	70.3	82.5	61.0	41.5	28.8	-173.0	-322.5	-283.6
Dry	-69.1	-26.8	9.2	27.2	36.3	60.2	74.7	49.2	17.9	-82.3	-179.7	-168.9
BN	0.2	0.1	-0.3	17.5	31.0	15.8	15.3	14.5	5.4	0.9	0.3	0.1
AN	-62.1	-33.4	14.7	50.3	29.1	51.8	26.2	36.7	64.6	26.7	-3.4	-8.9
Wet	-16.5	-11.0	10.0	12.8	7.7	2.8	5.5	7.5	10.5	8.1	8.0	6.3

Table 1-3.
Martinez salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	2.1	0.2	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.6	-1.5	-1.5
1977	-1.0	-0.6	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	-0.6	-1.1	-1.0
1978	-0.7	-0.4	-0.2	2.0	3.7	2.4	0.7	0.5	0.3	0.1	0.0	0.0
1979	0.0	0.0	0.0	0.2	1.1	0.5	0.3	0.3	0.1	0.0	0.0	0.0
1980	0.0	0.1	0.2	0.7	0.6	0.2	0.2	0.2	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	-0.3	-0.7	-0.6
1982	-0.4	-0.9	1.2	0.5	1.4	0.4	0.1	0.9	0.3	0.0	0.0	0.0
1983	0.3	0.8	0.4	0.1	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1
1984	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0
1985	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.8	-1.8	-1.8
1988	-1.1	-0.6	0.0	1.4	0.4	0.0	0.2	0.2	0.1	-1.1	-1.7	-1.3
1989	-0.8	-0.5	-0.1	0.1	0.0	3.0	3.1	0.8	0.1	-0.1	-0.5	-0.5
1990	-0.3	-0.1	-0.1	0.2	1.1	1.1	0.5	0.2	0.2	-0.9	-1.5	-1.3
1991	-0.9	-0.5	-0.3	-0.2	0.1	2.1	1.0	0.5	0.3	-0.7	-1.2	-1.0
1992	-0.7	-0.4	-0.2	-0.2	1.6	1.3	0.8	0.3	0.1	-1.1	-1.6	-1.2
1993	-0.8	-0.5	0.0	3.5	5.2	5.7	2.3	2.7	3.3	0.9	0.1	0.0
1994	0.0	0.0	0.0	0.2	1.0	0.7	0.5	0.4	0.3	-0.3	-1.1	-1.1
1995	-0.8	-0.4	-0.1	1.4	3.4	0.7	0.7	-0.2	1.3	0.6	0.4	0.2
1996	0.0	0.0	0.4	1.8	0.7	0.4	0.5	0.5	0.3	0.1	0.0	0.0
1997	0.0	0.0	1.1	0.0	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0
1998	0.0	0.0	0.1	0.5	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2
1999	0.1	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0
2000	0.0	0.0	0.0	0.3	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.3	0.2	-1.3	-1.8	-1.4
2002	-0.9	-0.3	0.4	2.6	1.6	1.3	1.6	0.9	0.2	0.0	0.0	0.0
2003	0.0	0.0	0.8	1.0	0.4	0.4	0.5	0.7	0.5	0.1	-0.2	-0.3
Average	-0.2	-0.1	0.1	0.5	0.7	0.7	0.4	0.3	0.2	-0.2	-0.4	-0.4
Critical	-0.5	-0.3	-0.1	0.2	0.6	0.7	0.4	0.2	0.1	-0.8	-1.4	-1.2
Dry	-0.3	-0.1	0.1	0.5	0.4	0.8	0.8	0.4	0.1	-0.4	-0.8	-0.7
BN	0.0	0.0	0.0	0.1	0.6	0.3	0.2	0.2	0.0	0.0	0.0	0.0
AN	-0.3	-0.1	0.1	1.3	1.7	1.9	0.7	0.7	0.7	0.2	0.0	0.0
Wet	-0.1	0.0	0.3	0.4	0.5	0.2	0.2	0.2	0.2	0.1	0.1	0.0

Table 1-4.
Martinez salinity (EC) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	1.2	-61.1	-60.9	-115.0	-200.9	-186.6
1977	-121.1	-72.8	-42.5	-28.5	-14.0	-5.1	-0.8	-47.7	-48.3	-118.2	-177.1	-146.5
1978	-107.8	-62.7	-45.8	23.0	47.7	10.5	0.7	-0.3	-0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	-2.8	-0.7	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-23.3	-30.9	-12.2
1982	-2.5	-177.8	-2.8	0.8	4.2	0.5	0.0	13.5	5.7	-0.1	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	3.6	-75.2	-196.0	-196.9
1988	-123.1	-69.0	-45.1	-13.4	-0.7	0.0	0.0	0.7	4.2	-129.2	-192.4	-146.6
1989	-97.8	-59.4	-35.0	-20.5	-13.9	81.1	159.7	81.8	10.6	-14.6	-20.9	-9.4
1990	-4.2	-2.1	-1.1	-2.6	96.1	92.8	33.7	-55.6	-54.6	-146.0	-211.5	-168.7
1991	-113.7	-63.6	-37.4	-24.7	-14.7	-4.9	0.6	-51.1	-44.8	-121.3	-177.6	-140.3
1992	-94.7	-54.2	-32.4	-21.2	15.7	6.8	0.2	0.6	6.0	-155.9	-210.3	-153.4
1993	-105.7	-58.7	-39.3	52.4	57.1	38.1	4.7	30.6	175.0	92.9	13.7	5.2
1994	1.6	0.5	0.1	0.0	0.0	0.0	0.3	-17.3	-35.4	-69.9	-127.2	-117.9
1995	-80.8	-41.9	-24.1	1.9	25.8	0.4	0.1	-3.7	21.5	10.3	5.7	3.8
1996	0.6	0.1	-0.5	9.9	0.3	0.0	0.0	0.3	0.2	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	-0.3	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	6.0	-175.2	-233.3	-166.7
2002	-109.3	-59.8	-146.7	14.9	80.3	54.3	101.6	54.2	6.8	1.9	0.7	0.3
2003	0.2	0.1	0.1	-0.9	-0.3	0.0	-0.3	8.1	4.0	-1.4	0.7	0.5
Average	-28.2	-21.2	-13.3	-0.3	8.3	8.1	8.9	-1.3	0.0	-30.6	-51.7	-42.2
Critical	-65.0	-37.3	-22.6	-12.9	11.8	12.8	5.0	-33.1	-33.4	-122.2	-185.3	-151.4
Dry	-34.5	-19.9	-30.3	-0.9	11.1	22.6	43.5	22.9	4.6	-47.7	-80.1	-64.1
BN	0.0	0.0	0.0	0.1	-1.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
AN	-35.6	-20.2	-14.2	12.4	17.4	8.1	0.8	6.4	29.8	15.3	2.4	0.9
Wet	-6.4	-16.9	-2.1	1.0	2.3	0.1	0.0	0.8	2.1	0.8	0.4	0.3

Table 1-5.
Martinez salinity (EC) difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	-0.5	-0.9	-0.8
1977	-0.5	-0.3	-0.2	-0.1	-0.1	0.0	0.0	-0.2	-0.2	-0.5	-0.7	-0.6
1978	-0.5	-0.3	-0.2	0.7	2.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
1982	0.0	-1.2	-0.3	0.1	1.1	0.1	0.0	0.7	0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.9	-0.8
1988	-0.5	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.6	-0.8	-0.6
1989	-0.4	-0.3	-0.2	-0.1	-0.1	1.4	2.2	0.6	0.1	-0.1	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.6	0.6	0.2	-0.3	-0.3	-0.6	-0.9	-0.7
1991	-0.5	-0.3	-0.2	-0.1	-0.1	-0.1	0.0	-0.3	-0.2	-0.5	-0.8	-0.6
1992	-0.4	-0.2	-0.1	-0.1	0.2	0.1	0.0	0.0	0.0	-0.7	-0.9	-0.6
1993	-0.4	-0.3	-0.2	1.2	3.7	1.0	0.1	0.6	2.1	0.6	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.5	-0.5
1995	-0.4	-0.2	-0.1	0.1	1.0	0.2	0.0	-0.7	0.7	0.1	0.0	0.0
1996	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-1.0	-0.7
2002	-0.5	-0.3	-1.1	0.5	0.9	0.5	0.9	0.4	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Average	-0.1	-0.1	-0.1	0.1	0.3	0.1	0.1	0.0	0.1	-0.1	-0.2	-0.2
Critical	-0.3	-0.2	-0.1	-0.1	0.1	0.1	0.0	-0.2	-0.2	-0.5	-0.8	-0.6
Dry	-0.1	-0.1	-0.2	0.1	0.1	0.3	0.5	0.2	0.0	-0.2	-0.4	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	-0.1	-0.1	0.3	1.1	0.3	0.0	0.1	0.4	0.1	0.0	0.0
Wet	0.0	-0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Table 1-6.
Martinez salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	-0.1	0.0	-0.1	26.7	12.5	-0.8	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	1.2	-0.6	14.1	-85.8	-229.1	-235.3
1977	-155.3	-92.7	-54.0	-35.7	-18.0	-6.4	-2.4	7.6	11.2	-78.9	-148.5	-133.5
1978	-100.6	-58.5	-13.7	73.9	65.1	23.1	14.2	27.5	35.7	17.1	3.4	1.3
1979	0.4	0.1	-0.6	35.1	62.0	31.6	30.6	29.0	10.7	1.8	0.5	0.2
1980	-0.1	11.8	43.5	13.6	1.3	2.0	9.6	14.8	6.0	0.7	0.2	0.1
1981	0.0	0.1	-0.3	19.7	19.2	14.4	14.6	15.4	9.8	-50.2	-140.2	-145.5
1982	-90.7	-126.7	13.2	3.6	5.1	2.0	0.1	18.9	20.2	6.9	1.0	-0.2
1983	35.5	44.8	3.8	0.4	0.0	0.0	0.5	1.1	1.5	6.1	12.4	14.6
1984	15.2	4.2	0.0	1.6	4.6	6.1	8.7	11.6	5.7	1.3	0.3	0.1
1985	-0.5	31.5	26.0	16.3	16.8	7.4	7.0	9.5	4.9	1.4	0.5	0.3
1986	0.1	0.0	9.5	16.0	0.4	0.0	3.9	6.0	2.3	0.3	0.1	0.0
1987	0.0	0.0	-0.1	3.9	8.8	8.8	3.2	0.5	3.6	-126.9	-296.0	-285.4
1988	-175.6	-99.2	20.3	150.1	44.5	3.8	37.1	32.1	12.7	-179.7	-264.6	-198.9
1989	-131.9	-80.5	0.5	41.2	12.2	172.7	228.8	111.1	14.7	-20.2	-107.3	-119.8
1990	-65.3	-31.5	-16.7	35.3	176.1	180.3	82.0	46.3	34.7	-130.6	-229.8	-197.9
1991	-136.8	-76.3	-44.1	-29.6	23.6	186.0	115.7	93.1	54.4	-79.6	-161.5	-140.7
1992	-97.5	-55.4	-32.9	-24.8	165.8	120.9	112.7	57.7	21.2	-163.1	-250.8	-201.5
1993	-137.5	-76.7	28.3	160.1	79.0	216.4	76.3	135.6	274.9	128.5	19.1	7.3
1994	2.4	0.7	-0.5	38.4	124.7	99.0	81.6	66.6	52.6	-30.3	-139.0	-151.3
1995	-114.0	-60.2	1.2	30.2	84.8	1.5	6.0	-1.1	39.6	47.6	60.9	36.4
1996	5.8	0.1	53.8	83.3	2.3	3.2	10.0	10.4	31.1	19.0	4.0	1.5
1997	0.3	-3.1	21.4	0.0	1.9	20.3	29.8	31.5	14.6	3.4	0.7	0.3
1998	0.0	-0.3	21.0	24.8	0.1	1.2	2.9	3.8	2.0	11.0	22.5	27.9
1999	9.5	37.8	26.4	9.2	0.9	2.4	9.6	15.8	19.7	10.2	2.2	0.9
2000	0.1	0.0	-0.8	48.2	6.1	4.6	12.3	16.8	7.3	1.5	0.4	0.1
2001	0.0	0.0	-0.2	17.7	23.1	13.9	16.0	42.1	36.1	-208.9	-289.4	-216.2
2002	-144.5	-32.7	74.4	78.6	144.6	145.3	178.8	116.2	34.1	9.0	3.5	1.5
2003	0.8	-1.2	78.9	16.9	23.0	38.0	32.7	26.3	64.0	12.2	-43.4	-62.4
Average	-37.6	-19.5	7.6	24.4	31.7	39.0	33.4	27.8	24.7	-25.8	-63.8	-58.7
Critical	-89.7	-50.6	-18.3	19.1	73.8	83.4	61.1	43.3	28.7	-106.9	-203.3	-179.9
Dry	-46.1	-13.6	16.7	29.5	37.5	60.4	74.7	49.1	17.2	-66.0	-138.2	-127.5
BN	0.2	0.1	-0.3	17.5	31.0	15.8	15.3	14.5	5.4	0.9	0.3	0.1
AN	-39.5	-20.8	22.7	52.1	29.1	51.8	26.2	36.7	64.6	26.7	-3.4	-8.9
Wet	-10.6	-8.0	11.6	13.0	7.7	2.8	5.5	7.5	10.5	8.1	8.0	6.3

Table 1-7.
Martinez salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	2.1	0.2	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.4	-1.0	-1.0
1977	-0.6	-0.4	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	-0.3	-0.6	-0.6
1978	-0.4	-0.2	-0.1	2.2	3.7	2.4	0.7	0.5	0.3	0.1	0.0	0.0
1979	0.0	0.0	0.0	0.2	1.1	0.5	0.3	0.3	0.1	0.0	0.0	0.0
1980	0.0	0.1	0.2	0.7	0.6	0.2	0.2	0.2	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	-0.2	-0.6	-0.6
1982	-0.4	-0.9	1.2	0.5	1.4	0.4	0.1	0.9	0.3	0.0	0.0	0.0
1983	0.3	0.8	0.4	0.1	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1
1984	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0
1985	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.6	-1.3	-1.2
1988	-0.7	-0.4	0.1	1.4	0.4	0.0	0.2	0.2	0.1	-0.8	-1.2	-0.8
1989	-0.5	-0.3	0.0	0.2	0.1	3.0	3.1	0.8	0.1	-0.1	-0.5	-0.5
1990	-0.3	-0.1	-0.1	0.2	1.1	1.1	0.5	0.2	0.2	-0.6	-1.0	-0.8
1991	-0.6	-0.3	-0.2	-0.1	0.1	2.1	1.0	0.5	0.3	-0.3	-0.7	-0.6
1992	-0.4	-0.2	-0.1	-0.1	1.7	1.3	0.8	0.3	0.1	-0.7	-1.1	-0.8
1993	-0.6	-0.3	0.1	3.6	5.2	5.7	2.3	2.7	3.3	0.9	0.1	0.0
1994	0.0	0.0	0.0	0.2	1.0	0.7	0.5	0.4	0.3	-0.1	-0.6	-0.6
1995	-0.5	-0.3	0.0	1.5	3.4	0.7	0.7	-0.2	1.3	0.6	0.4	0.2
1996	0.0	0.0	0.4	1.8	0.7	0.4	0.5	0.5	0.3	0.1	0.0	0.0
1997	0.0	0.0	1.1	0.0	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0
1998	0.0	0.0	0.1	0.5	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2
1999	0.1	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0
2000	0.0	0.0	0.0	0.3	0.7	0.5	0.2	0.2	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.3	0.2	-1.0	-1.3	-0.9
2002	-0.6	-0.1	0.6	2.6	1.6	1.3	1.6	0.9	0.2	0.0	0.0	0.0
2003	0.0	0.0	0.8	1.0	0.4	0.4	0.5	0.7	0.5	0.1	-0.2	-0.3
Average	-0.2	-0.1	0.1	0.5	0.7	0.7	0.4	0.3	0.2	-0.1	-0.3	-0.2
Critical	-0.4	-0.2	-0.1	0.2	0.6	0.7	0.4	0.2	0.1	-0.5	-0.9	-0.8
Dry	-0.2	0.0	0.1	0.5	0.4	0.8	0.8	0.4	0.1	-0.3	-0.6	-0.6
BN	0.0	0.0	0.0	0.1	0.6	0.3	0.2	0.2	0.0	0.0	0.0	0.0
AN	-0.2	-0.1	0.2	1.3	1.7	1.9	0.7	0.7	0.7	0.2	0.0	0.0
Wet	0.0	0.0	0.3	0.4	0.5	0.2	0.2	0.2	0.2	0.1	0.1	0.0

Table 1-8.
CCWD Contra Costa Canal Intake (CHCCC006) Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	321.1	268.7	261.2	464.0	308.8	285.4	338.1	391.8	290.1	279.8	345.0	670.4
1971	338.9	302.6	299.6	276.4	264.4	290.8	355.6	399.1	267.5	244.3	387.7	717.8
1972	330.6	283.8	274.4	473.6	408.1	354.5	364.0	399.2	304.7	350.4	479.3	802.8
1973	893.9	1027.6	638.3	545.6	483.4	385.0	384.3	425.9	287.3	264.8	385.8	534.5
1974	294.6	322.2	285.5	308.7	288.9	285.9	323.3	393.5	289.4	249.0	325.2	524.1
1975	356.4	294.7	284.5	564.2	437.8	393.4	356.4	400.1	280.9	248.5	322.9	587.9
1976	363.8	271.2	260.7	528.9	547.1	458.6	386.5	401.6	460.6	637.5	934.1	741.4
1977	863.1	904.0	859.3	1158.2	701.6	473.9	421.5	393.9	492.5	605.3	739.5	979.8
1978	1061.2	827.3	888.6	642.9	468.3	440.1	403.4	333.7	285.7	257.9	378.7	511.9
1979	292.0	324.6	378.9	884.2	440.6	357.4	367.1	402.6	284.2	321.1	545.8	808.5
1980	939.1	787.7	710.4	547.2	697.2	518.2	334.5	399.3	314.0	259.2	340.9	498.9
1981	299.0	283.3	439.6	789.3	368.2	305.7	395.7	406.7	306.7	442.6	705.7	812.8
1982	987.0	917.1	325.6	487.5	329.0	414.3	328.0	242.7	245.0	256.9	292.9	375.8
1983	234.9	321.3	359.8	672.4	575.8	583.4	391.2	276.5	260.9	292.4	244.7	212.6
1984	223.6	283.5	348.7	360.3	307.5	274.9	348.2	412.2	286.0	280.3	338.8	603.3
1985	376.3	322.5	254.2	283.3	296.2	320.2	400.3	396.0	302.0	446.2	689.7	784.3
1986	879.6	736.6	996.4	583.9	666.0	722.6	395.7	327.4	291.9	271.1	391.0	393.4
1987	242.6	257.9	281.5	631.7	443.5	397.2	432.4	394.7	314.1	357.0	493.7	566.1
1988	745.3	717.1	772.2	461.4	423.4	461.2	403.5	395.0	352.6	366.7	591.0	650.7
1989	803.3	937.6	866.0	1104.9	732.4	511.4	399.7	326.0	263.2	506.1	808.6	778.9
1990	738.4	758.8	788.0	833.6	414.7	320.9	344.0	333.0	355.6	579.7	884.3	785.1
1991	929.2	939.1	1009.0	1012.1	680.4	525.6	445.5	374.3	365.7	642.0	902.1	757.5
1992	883.8	906.2	922.1	1014.5	775.5	442.9	379.7	356.6	324.2	388.6	660.7	784.0
1993	856.7	692.8	839.7	774.0	552.5	408.3	427.5	439.3	294.9	238.4	366.2	508.7
1994	282.3	353.8	431.4	875.0	558.2	385.1	358.0	341.2	334.0	620.0	1013.0	851.4
1995	944.8	614.5	760.9	802.7	362.1	489.2	431.6	245.3	234.5	293.1	233.3	216.8
1996	222.2	236.4	277.8	527.9	895.5	628.3	389.9	386.6	286.0	259.3	418.9	697.9
1997	340.7	272.0	398.1	536.3	328.0	296.3	331.6	411.1	298.2	278.2	324.5	596.9
1998	354.2	297.3	261.5	527.2	1368.3	844.8	313.3	265.2	248.0	299.1	245.7	216.4
1999	222.0	265.0	230.1	327.7	332.0	291.4	346.7	405.1	275.4	255.1	390.5	706.9
2000	358.0	274.0	273.1	578.1	661.9	440.8	350.3	417.7	293.7	282.1	341.1	534.2
2001	330.5	318.7	363.0	764.4	450.6	361.8	397.0	421.9	313.3	339.1	484.5	548.7
2002	724.9	713.5	873.2	394.9	299.0	296.9	362.6	450.7	327.1	501.7	745.2	752.5
2003	983.1	741.1	759.5	337.5	318.0	284.0	332.6	400.8	262.2	280.3	388.6	554.5
Average	559.3	522.8	528.6	619.8	505.4	419.1	374.7	375.5	305.6	358.6	504.1	619.6
Critical	686.6	692.9	720.4	840.5	585.8	438.3	391.3	370.8	383.6	548.5	817.8	792.8
Dry	462.8	472.3	512.9	661.4	431.6	365.5	398.0	399.3	304.4	432.1	654.6	707.2
BN	311.3	304.2	326.6	678.9	424.4	355.9	365.6	400.9	294.4	335.8	512.6	805.6
AN	848.6	725.1	684.9	570.9	530.2	412.7	372.1	402.8	289.6	263.8	366.9	523.8
Wet	440.0	394.8	391.5	495.3	497.2	446.2	357.7	350.5	273.4	269.8	327.8	501.6

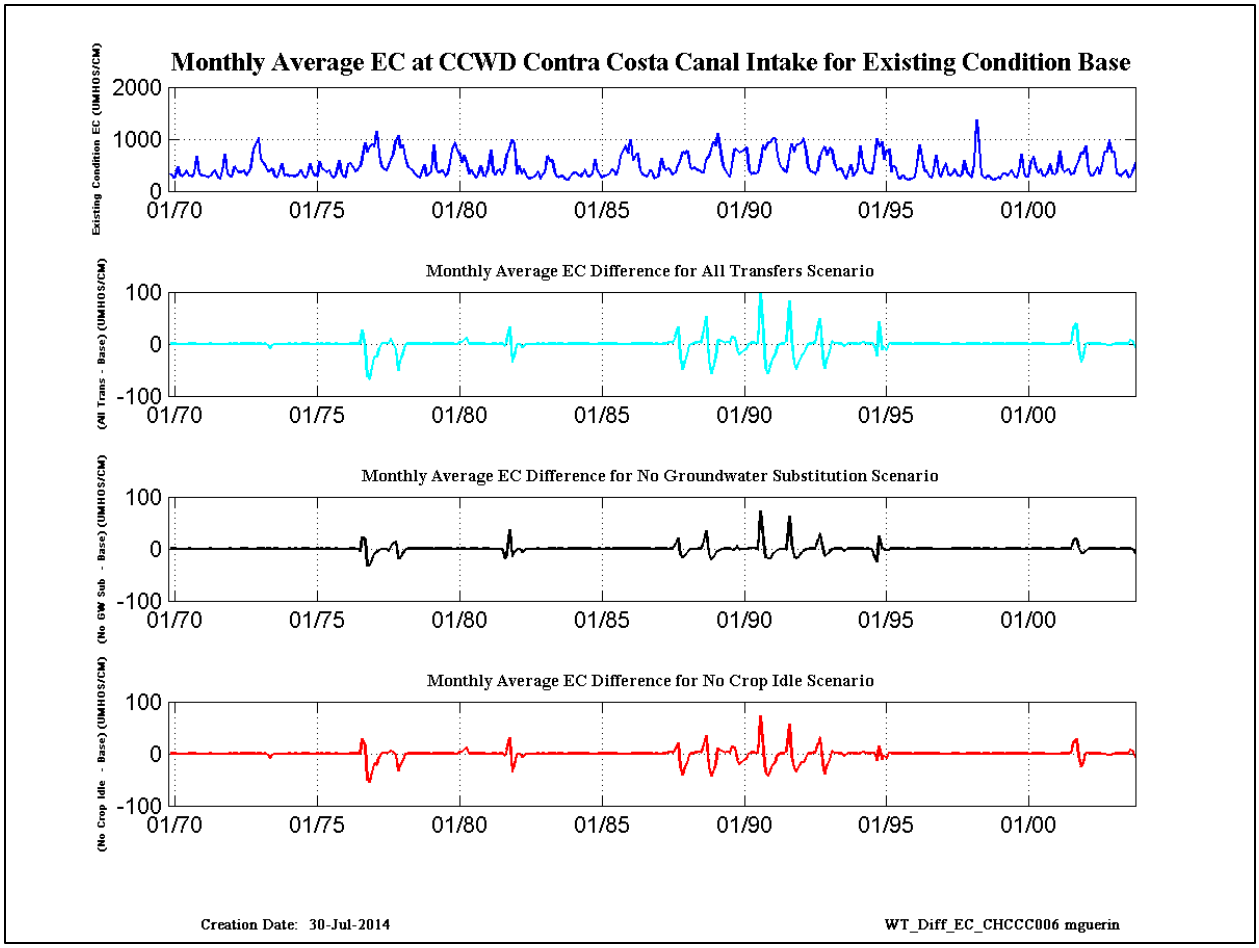


Figure 1-2.
Monthly Average CCWD Contra Costa Canal Intake EC for the Base condition and change from Base for the scenarios.

Table 1-9.
CVP-Jones Intake (CHDMC006) Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	320.3	411.9	423.6	321.7	326.1	300.3	337.2	414.2	361.0	311.3	344.8	540.7
1971	373.1	392.7	503.3	506.4	509.4	413.6	333.8	371.4	331.6	270.0	372.8	558.2
1972	367.8	380.4	432.4	561.7	702.4	602.9	550.7	476.8	387.5	340.0	432.2	628.8
1973	659.8	797.2	636.4	735.5	621.8	375.9	361.3	374.5	358.9	304.8	372.0	418.3
1974	337.3	324.8	504.3	488.8	482.9	301.4	306.8	391.0	404.3	335.7	340.6	437.5
1975	343.3	339.4	432.8	604.6	436.0	286.8	338.5	388.8	368.7	332.4	342.9	470.8
1976	335.1	328.5	414.8	615.0	663.2	620.7	634.3	504.6	496.5	583.9	671.6	606.2
1977	661.6	698.5	765.0	911.9	884.3	865.4	681.0	625.9	511.2	542.4	613.5	749.9
1978	816.7	696.6	771.5	717.8	600.6	557.5	301.7	261.2	367.2	355.9	366.0	410.7
1979	332.1	362.6	492.9	684.0	433.9	308.9	346.3	329.4	324.4	323.0	460.2	622.7
1980	645.9	561.3	641.3	396.4	355.2	220.0	327.5	369.9	358.5	379.4	347.8	394.8
1981	345.6	341.3	506.4	686.9	594.2	520.2	464.5	448.7	384.9	401.6	558.6	647.2
1982	707.9	625.2	487.3	569.1	324.7	313.8	186.3	187.9	321.8	360.4	305.7	264.3
1983	201.3	210.1	275.8	337.1	316.0	272.1	190.9	207.7	212.7	227.9	194.3	220.6
1984	264.2	176.6	249.2	302.7	232.1	296.6	341.0	387.0	365.8	316.8	353.4	462.8
1985	336.4	322.6	410.0	500.3	545.9	500.3	417.3	455.4	385.8	408.9	550.5	629.2
1986	629.3	596.6	758.3	681.4	456.6	283.1	255.7	266.8	361.4	334.2	366.9	397.5
1987	348.0	335.4	420.4	631.0	625.6	628.8	617.4	491.3	382.1	344.4	451.0	511.2
1988	605.0	596.4	693.1	641.9	915.5	877.3	675.9	594.2	459.4	349.9	493.5	569.2
1989	669.2	719.7	759.1	886.5	840.5	801.8	602.8	554.3	311.2	439.9	625.2	591.1
1990	579.7	625.8	720.0	737.8	619.3	609.5	576.5	621.1	438.8	515.0	683.0	639.8
1991	729.9	747.6	830.8	873.3	891.3	750.1	615.0	595.3	384.5	548.0	700.0	627.2
1992	703.6	722.9	800.4	871.5	849.4	680.1	692.7	528.8	345.8	338.2	531.4	640.5
1993	684.7	612.9	745.5	759.9	673.6	572.9	493.2	492.6	503.9	378.8	370.4	418.6
1994	334.9	384.0	525.0	762.1	668.9	645.2	638.5	600.8	432.3	585.4	755.7	667.7
1995	708.6	535.7	710.1	786.7	583.8	394.5	228.1	165.1	290.3	262.3	264.3	276.8
1996	309.3	328.5	452.9	633.3	438.5	319.9	320.1	341.7	395.1	325.9	388.6	517.3
1997	363.5	325.7	316.3	272.0	178.6	213.8	331.6	349.9	368.2	312.7	346.5	489.8
1998	375.1	410.1	430.9	603.9	483.5	278.5	194.8	178.1	260.0	260.7	258.3	257.4
1999	272.5	308.5	424.0	480.6	268.1	321.6	352.6	370.9	347.2	293.3	384.8	533.2
2000	394.2	341.6	429.8	661.9	459.3	290.1	345.2	382.3	382.0	338.2	352.6	418.9
2001	340.7	362.6	491.2	705.3	655.8	569.0	432.3	455.3	377.8	335.2	432.3	508.8
2002	590.8	579.3	638.3	647.8	554.8	577.1	554.9	550.5	401.8	455.0	573.4	619.8
2003	717.6	604.9	678.8	614.0	514.5	509.1	490.8	462.9	304.9	281.8	365.5	446.5
Average	482.5	473.8	552.1	623.3	550.2	472.9	427.6	417.5	373.2	367.4	440.3	505.7
Critical	564.3	586.2	678.4	773.3	784.6	721.2	644.9	581.5	438.4	494.7	635.5	642.9
Dry	438.5	443.5	537.5	676.3	636.1	599.5	514.9	492.6	373.9	397.5	531.9	584.5
BN	350.0	371.5	462.7	622.8	568.2	455.9	448.5	403.1	355.9	331.5	446.2	625.7
AN	653.2	602.4	650.6	647.6	537.5	420.9	386.6	390.6	379.2	339.8	362.4	418.0
Wet	400.4	383.5	459.1	506.8	387.4	307.4	286.0	309.3	337.5	303.4	328.0	417.5

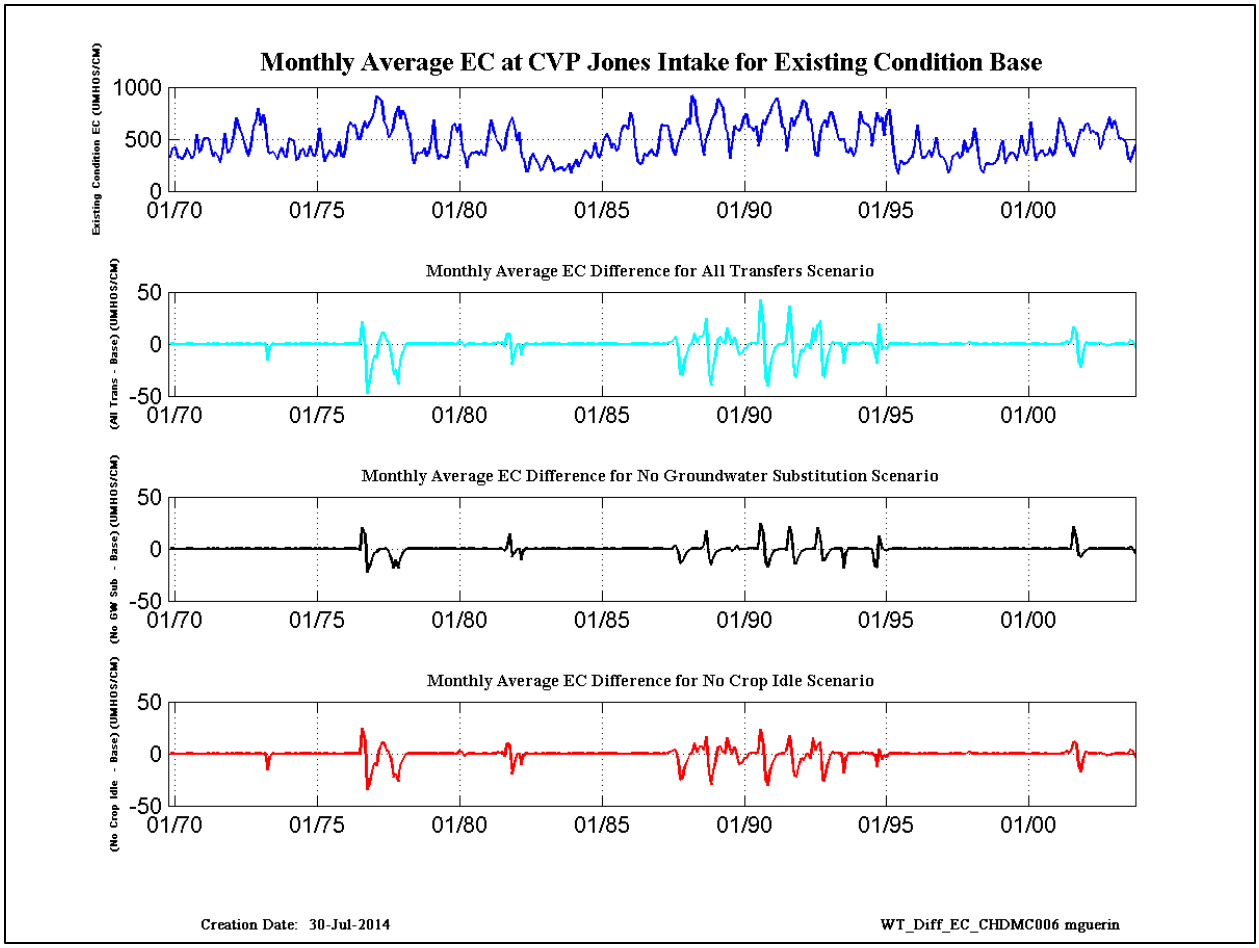


Figure 1-3.
Monthly Average CVP-Jones Intake EC for the Base condition and change from Base for the scenarios.

Table 1-10.
SWP-Clifton Court Intake (CHWST000) Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	287.5	354.1	346.1	376.3	320.9	286.0	315.5	398.5	333.9	262.7	320.3	560.1
1971	337.1	313.5	385.7	413.8	405.2	361.9	314.4	359.7	295.7	233.3	356.6	580.4
1972	335.3	330.6	299.6	490.2	585.8	508.4	504.5	460.9	353.2	314.8	424.6	667.3
1973	715.8	880.1	590.5	623.3	526.9	365.4	344.5	354.7	319.4	259.8	350.9	401.4
1974	289.5	277.5	372.1	412.0	400.5	304.2	301.0	376.3	342.2	263.3	309.4	440.5
1975	313.1	304.8	305.8	545.8	442.1	309.2	329.7	374.6	326.5	261.6	313.7	484.0
1976	304.5	288.2	277.6	559.8	575.4	515.9	560.0	478.8	477.3	601.2	712.8	629.5
1977	719.9	734.1	775.1	951.2	784.7	669.6	556.0	541.0	485.4	548.7	642.5	793.7
1978	870.0	711.4	767.9	677.8	544.8	499.5	287.8	242.7	318.0	282.4	345.8	416.7
1979	298.8	327.7	396.8	679.2	444.9	329.3	337.6	307.0	298.6	294.0	471.2	679.6
1980	729.5	590.1	609.3	453.0	320.5	211.8	316.2	352.4	343.7	298.7	323.9	384.2
1981	297.4	303.2	416.1	653.5	483.9	456.3	445.5	439.6	350.3	390.0	575.0	689.5
1982	780.9	658.8	389.5	490.9	350.0	342.8	181.7	172.7	275.2	295.4	292.1	287.8
1983	210.3	225.8	291.0	278.2	290.3	241.7	179.2	199.4	201.3	219.1	217.7	205.9
1984	227.9	204.2	228.2	314.7	277.0	274.5	321.4	370.7	323.4	266.3	321.1	490.2
1985	314.0	277.2	273.9	397.2	440.9	443.3	400.4	443.2	348.4	394.5	564.8	676.6
1986	679.0	632.1	784.2	623.4	501.7	268.6	247.7	249.2	323.2	278.5	350.3	368.1
1987	299.1	293.7	326.8	596.7	537.3	555.6	582.7	463.2	353.2	328.6	431.8	508.2
1988	640.2	616.6	678.7	569.8	830.0	717.7	588.7	542.7	427.7	348.8	496.0	572.2
1989	706.4	760.3	773.7	915.5	790.5	719.2	549.4	473.4	285.2	449.4	652.7	621.6
1990	599.1	648.6	711.6	712.6	517.0	505.4	467.6	534.7	402.5	529.6	717.2	662.1
1991	780.2	795.3	853.5	886.9	822.4	702.3	584.6	521.5	367.5	566.9	733.0	642.8
1992	744.5	760.3	807.5	881.5	823.6	619.7	574.0	445.0	339.4	346.7	558.2	656.1
1993	707.8	617.3	740.5	726.2	596.7	494.8	472.3	486.9	386.8	271.8	337.0	413.5
1994	296.9	353.7	444.2	743.0	585.4	538.9	521.4	525.9	395.4	612.2	793.5	698.9
1995	744.4	520.8	704.2	742.3	502.6	416.6	217.9	154.5	254.3	278.4	238.6	226.0
1996	259.6	277.7	342.0	525.4	456.7	341.6	313.2	329.9	329.1	268.7	375.1	545.7
1997	336.6	286.6	333.7	245.6	193.9	234.2	308.3	325.8	326.8	267.2	306.0	507.0
1998	343.3	337.6	291.9	544.1	404.9	376.5	189.7	171.2	251.1	274.2	237.9	222.9
1999	237.0	268.2	314.5	412.4	326.5	291.1	340.8	357.5	308.5	246.8	365.8	556.5
2000	354.0	300.2	298.3	604.5	525.8	330.0	331.6	366.9	327.0	274.2	321.6	410.7
2001	304.5	332.0	385.7	675.5	562.2	494.9	422.1	450.2	353.3	315.2	419.3	500.5
2002	622.1	593.5	586.4	567.3	449.8	482.5	514.1	522.0	378.4	461.6	590.5	652.5
2003	771.8	621.6	650.1	515.3	410.1	392.9	461.6	450.2	288.7	258.8	339.7	428.3
Average	484.1	464.6	492.7	582.5	500.9	429.5	393.6	389.5	338.0	340.1	435.5	517.1
Critical	583.6	599.5	649.7	757.8	705.5	609.9	550.3	512.8	413.6	507.7	664.7	665.1
Dry	423.9	426.6	460.4	634.3	544.1	525.3	485.7	465.3	344.8	389.9	539.0	608.2
BN	317.1	329.2	348.2	584.7	515.4	418.8	421.0	383.9	325.9	304.4	447.9	673.4
AN	691.5	620.1	609.4	600.0	487.5	382.4	369.0	375.6	330.6	274.3	336.5	409.1
Wet	388.2	358.6	391.4	455.8	374.8	311.5	273.9	295.4	299.3	262.7	308.0	421.2

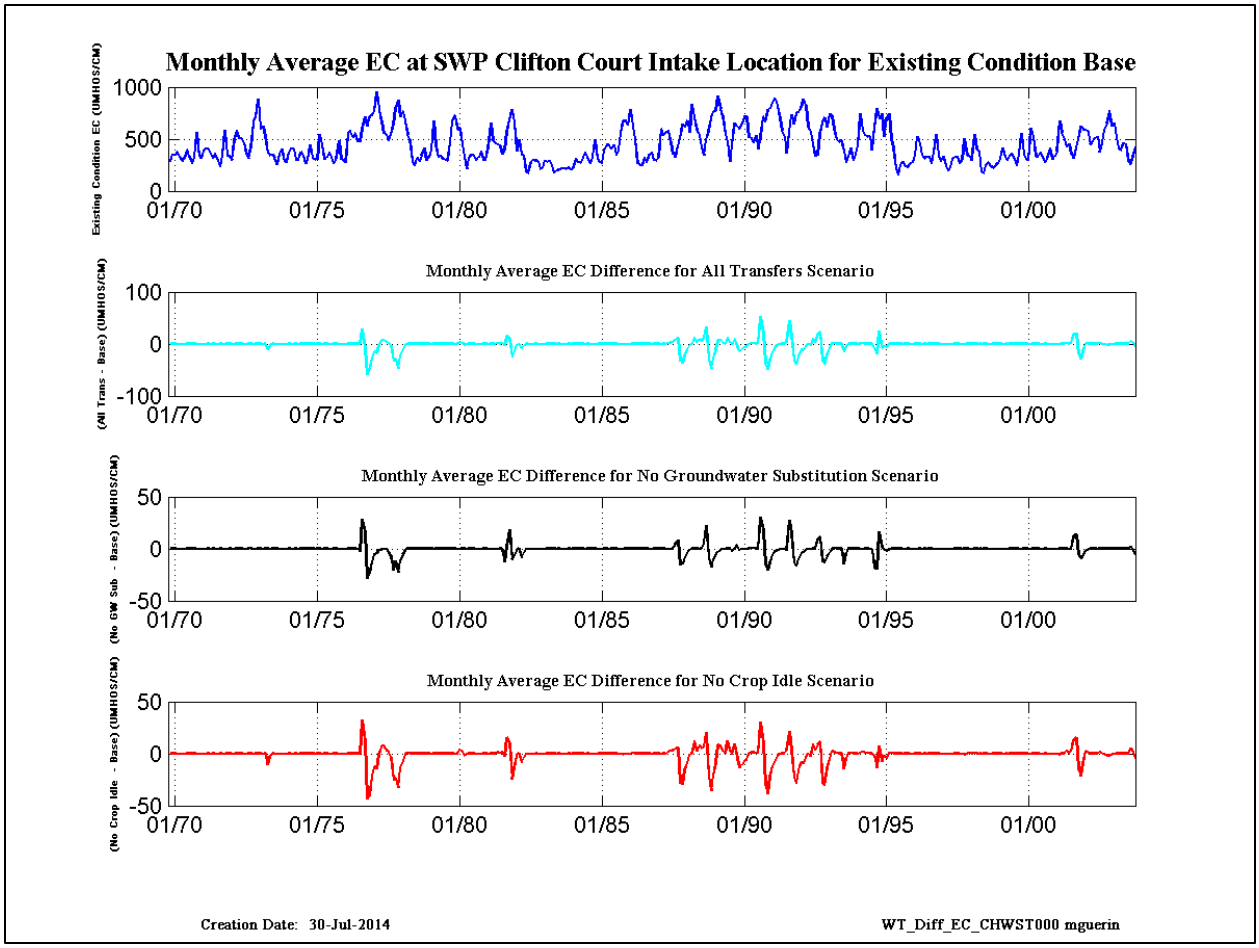


Figure 1-4.
Monthly Average SWP-Banks Intake to Clifton Court Forebay EC for the Base condition and change from Base for the scenarios.

Table 1-11.
Old River near Middle River location Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	415.0	479.9	583.6	286.4	320.5	296.9	309.4	401.2	432.3	592.9	558.8	528.9
1971	486.7	564.4	786.6	673.6	736.4	449.5	303.3	358.9	459.6	569.3	555.8	541.0
1972	489.5	583.5	796.4	804.2	852.2	827.3	503.3	453.9	589.5	643.6	590.6	584.6
1973	526.1	577.4	784.9	807.3	648.4	350.8	339.9	349.0	481.2	591.8	477.6	490.3
1974	448.2	523.5	770.0	522.1	608.9	278.1	300.0	376.4	457.1	528.8	450.5	463.4
1975	430.1	470.9	728.2	757.0	389.6	261.5	328.9	369.3	374.8	511.3	438.9	478.5
1976	424.6	505.1	774.3	779.0	896.8	873.5	624.8	471.8	595.1	659.2	585.7	578.9
1977	535.1	656.8	824.3	824.5	1045.6	1224.0	781.0	683.2	676.9	695.7	685.1	666.6
1978	613.9	684.8	838.3	724.7	619.4	569.0	279.2	239.9	375.9	508.3	443.5	425.5
1979	513.9	494.8	746.7	667.0	387.4	285.7	336.3	302.5	443.3	605.0	476.6	511.2
1980	462.3	528.3	778.7	350.4	305.0	207.1	316.4	350.2	350.5	429.1	416.4	460.9
1981	453.3	501.3	771.9	768.3	852.4	581.7	433.7	426.7	594.8	626.2	591.1	572.6
1982	507.4	578.9	774.9	623.4	298.0	281.2	178.4	170.5	329.5	384.4	312.3	244.7
1983	190.7	195.1	268.1	266.0	282.9	227.4	177.1	198.9	200.4	217.8	171.0	224.5
1984	343.7	164.3	223.3	294.8	202.5	302.9	316.3	365.9	472.2	591.4	496.5	416.3
1985	381.9	470.3	789.4	767.9	769.7	561.5	381.4	443.6	581.9	667.7	574.1	538.9
1986	502.8	551.7	769.0	797.2	400.4	259.8	245.0	246.9	366.2	517.6	434.4	412.4
1987	395.0	424.7	721.9	743.1	869.0	722.2	583.3	461.5	602.2	653.6	613.6	590.5
1988	530.7	605.0	810.0	816.3	985.2	920.1	669.6	616.7	666.7	665.7	650.2	619.9
1989	584.8	638.5	818.0	826.9	963.2	840.2	580.4	684.1	648.0	634.2	621.2	555.7
1990	573.8	628.2	823.0	835.6	953.7	928.4	756.7	655.4	681.4	656.7	636.5	620.3
1991	583.5	626.9	828.7	848.7	1005.9	738.8	606.0	673.3	717.9	720.6	702.9	679.3
1992	593.1	639.6	838.5	852.9	837.4	798.2	801.7	731.8	742.4	746.2	772.5	732.9
1993	616.1	669.8	844.2	678.7	671.5	636.3	456.7	486.1	689.8	780.9	506.5	486.4
1994	500.8	555.6	814.1	842.6	906.3	927.5	697.4	631.1	692.9	709.1	664.8	641.4
1995	610.1	646.2	835.2	715.4	713.1	355.4	212.0	152.4	289.8	250.4	300.3	461.0
1996	453.0	510.7	772.6	742.5	337.3	284.6	310.2	328.3	456.2	565.7	472.0	476.1
1997	453.5	442.9	297.3	235.3	169.4	197.2	306.0	321.2	437.1	601.7	512.1	469.8
1998	471.8	567.4	784.7	569.4	349.2	253.7	186.6	169.5	253.1	249.6	275.9	303.9
1999	353.2	443.5	680.1	526.5	222.0	341.5	337.6	352.9	421.4	618.6	539.7	511.1
2000	485.7	555.8	809.1	751.0	361.4	256.4	330.1	364.1	569.2	631.5	556.1	477.0
2001	439.0	516.0	770.2	769.1	854.6	668.8	401.5	443.0	601.2	659.9	612.7	573.7
2002	533.7	591.7	785.4	759.7	806.9	774.2	514.1	517.9	561.0	652.2	608.4	586.3
2003	579.0	622.5	802.4	818.8	792.1	799.6	447.3	453.3	473.5	633.9	602.0	587.2
Average	484.8	535.8	736.6	677.8	629.8	537.7	422.1	419.2	508.4	581.5	526.7	515.1
Critical	534.5	602.4	816.1	828.5	947.3	915.8	705.3	637.6	681.9	693.3	671.1	648.5
Dry	464.6	523.8	776.1	772.5	852.6	691.4	482.4	496.1	598.2	648.9	603.5	569.6
BN	501.7	539.1	771.6	735.6	619.8	556.5	419.8	378.2	516.4	624.3	533.6	547.9
AN	547.2	606.4	809.6	688.5	566.3	469.9	361.6	373.8	490.0	595.9	500.3	487.9
Wet	435.9	472.3	636.4	539.2	386.9	291.5	270.1	293.2	380.8	476.9	424.5	425.5

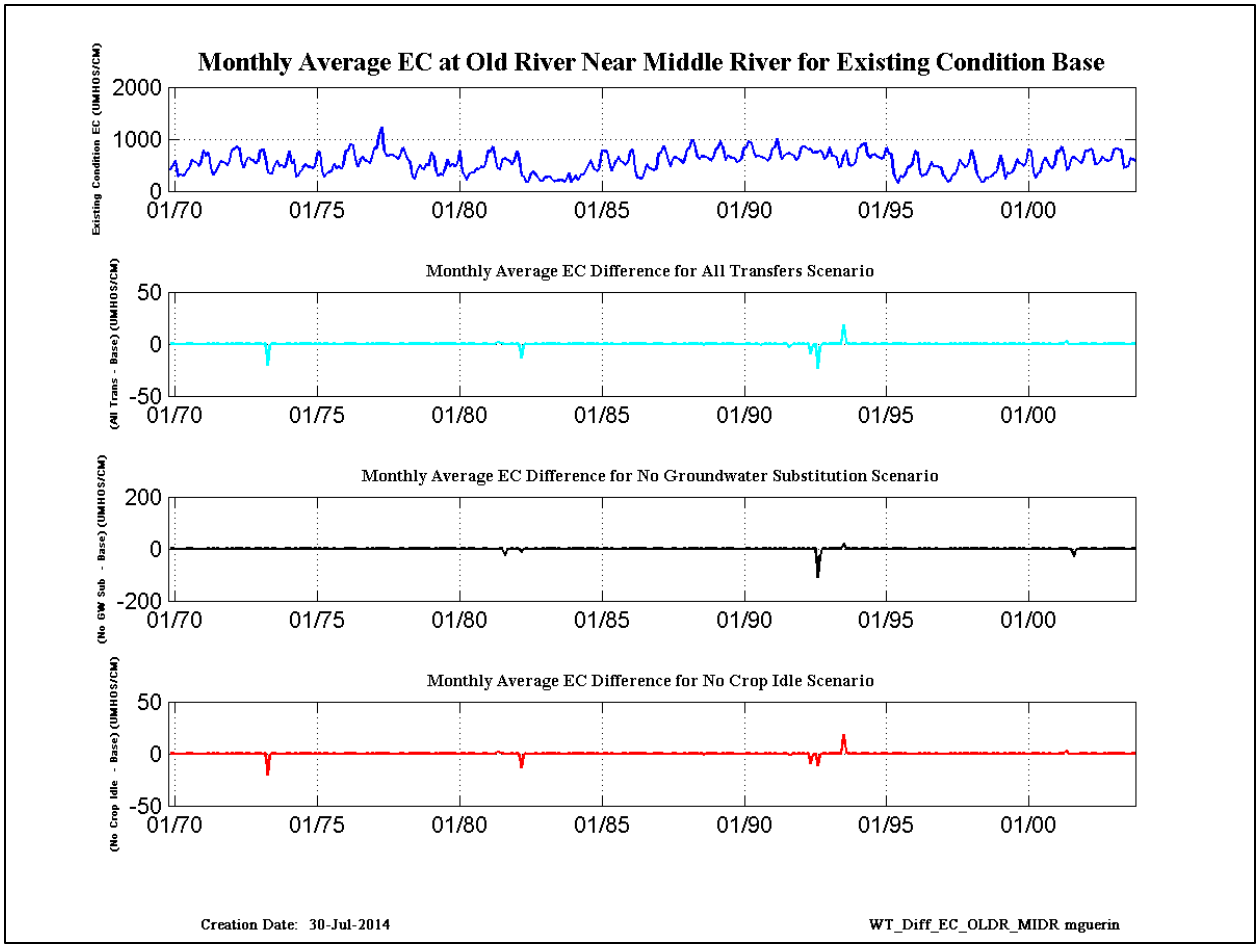


Figure 1-5.
Monthly Average Old River near Middle River EC for the Base condition and change from Base for the scenarios.

Table 1-12.
CCWD Old River Intake (ROLD034) Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	274.1	291.1	271.4	401.3	304.2	267.4	328.7	392.4	308.2	261.6	335.4	593.0
1971	320.2	282.0	285.2	304.3	292.0	303.7	341.3	380.6	274.8	231.4	378.1	616.6
1972	319.3	301.1	284.8	436.0	399.9	355.0	422.1	440.8	326.9	325.2	454.7	727.9
1973	783.3	950.7	552.9	485.9	434.6	340.6	353.8	387.4	299.2	258.9	367.2	413.8
1974	278.6	267.4	278.0	345.9	316.5	293.0	306.7	384.4	307.6	250.6	316.6	462.0
1975	299.8	292.3	298.9	510.2	447.0	308.3	335.5	387.5	298.5	249.3	321.5	511.9
1976	293.4	273.0	272.7	538.2	514.5	414.8	427.0	439.7	462.5	650.7	781.3	668.5
1977	787.1	783.0	830.7	1009.2	676.0	529.0	462.5	426.3	484.4	562.4	691.4	871.9
1978	919.3	738.1	793.1	612.5	470.9	434.4	299.0	252.5	295.6	269.0	358.4	436.1
1979	291.8	324.9	416.0	689.5	428.2	330.6	345.6	325.5	286.3	302.8	503.9	743.9
1980	798.6	629.7	644.1	495.9	353.1	223.9	318.5	364.9	327.7	278.2	331.0	398.8
1981	283.7	291.3	433.3	640.3	377.2	347.1	445.7	455.8	327.6	412.0	621.5	756.4
1982	857.5	703.7	306.0	419.1	340.3	347.3	188.4	177.9	249.7	273.6	292.2	290.9
1983	206.4	228.7	336.8	322.0	296.2	245.1	186.5	202.7	208.2	232.4	219.0	199.9
1984	218.5	257.6	239.9	349.2	304.2	254.0	329.4	398.0	298.0	265.2	334.6	517.7
1985	301.1	266.2	251.0	296.8	325.1	351.4	431.1	435.1	322.1	416.2	609.4	738.7
1986	730.0	686.3	846.9	535.0	574.0	312.1	257.2	258.5	298.2	271.9	364.9	363.6
1987	262.2	268.9	299.5	576.5	438.2	407.2	512.6	425.4	331.9	337.9	447.4	535.7
1988	675.9	645.8	688.5	464.2	566.6	488.7	457.4	448.3	400.1	353.6	524.5	604.9
1989	752.3	814.4	829.9	978.4	706.8	577.8	464.5	373.0	271.7	480.7	706.5	670.9
1990	641.7	690.4	730.7	702.8	421.3	353.5	369.6	377.1	381.9	573.9	763.2	708.1
1991	833.1	848.3	919.1	923.9	726.4	602.5	525.4	412.2	362.8	621.5	775.1	679.6
1992	802.5	805.0	848.1	920.3	783.5	499.2	432.4	372.5	330.6	362.0	595.1	708.5
1993	743.9	632.1	775.5	717.7	513.8	401.7	481.0	496.4	331.3	255.6	349.5	432.7
1994	288.9	352.5	464.8	756.0	509.7	383.4	387.7	383.4	371.3	662.2	858.6	766.3
1995	795.3	525.5	755.1	711.9	404.2	459.6	234.6	158.9	235.2	306.5	231.8	218.9
1996	242.4	259.6	260.4	386.4	441.2	334.4	326.0	340.0	299.9	262.0	395.3	579.1
1997	321.0	270.8	374.5	250.1	273.4	240.3	325.1	354.0	307.1	263.5	316.7	535.8
1998	327.9	282.7	268.4	472.4	573.3	426.7	199.1	177.3	246.4	299.2	230.3	213.4
1999	226.2	260.4	244.7	339.8	324.1	263.1	345.0	382.9	286.7	244.8	387.3	590.6
2000	336.3	282.1	296.5	527.9	547.8	329.8	338.3	390.8	303.7	268.7	335.8	427.0
2001	292.2	325.0	393.3	674.5	444.2	367.3	449.1	467.0	333.8	322.6	435.9	527.4
2002	654.8	630.0	556.3	431.5	335.4	321.5	429.7	502.0	353.9	493.6	635.7	716.9
2003	826.5	661.7	638.2	368.5	293.6	275.4	420.4	429.5	271.3	262.5	359.8	448.1
Average	499.6	474.2	490.7	546.9	445.8	364.4	367.0	370.6	317.5	349.5	459.7	549.3
Critical	617.5	628.3	679.2	759.2	599.7	467.3	437.4	408.5	399.1	540.9	712.7	715.4
Dry	424.4	432.6	460.5	599.7	437.8	395.4	455.5	443.0	323.5	410.5	576.1	657.7
BN	305.5	313.0	350.4	562.8	414.0	342.8	383.9	383.1	306.6	314.0	479.3	735.9
AN	734.6	649.1	616.7	534.7	435.6	334.3	368.5	386.9	304.8	265.5	350.3	426.1
Wet	392.2	354.5	366.6	411.4	376.2	311.9	284.9	307.3	278.3	262.5	317.2	438.0

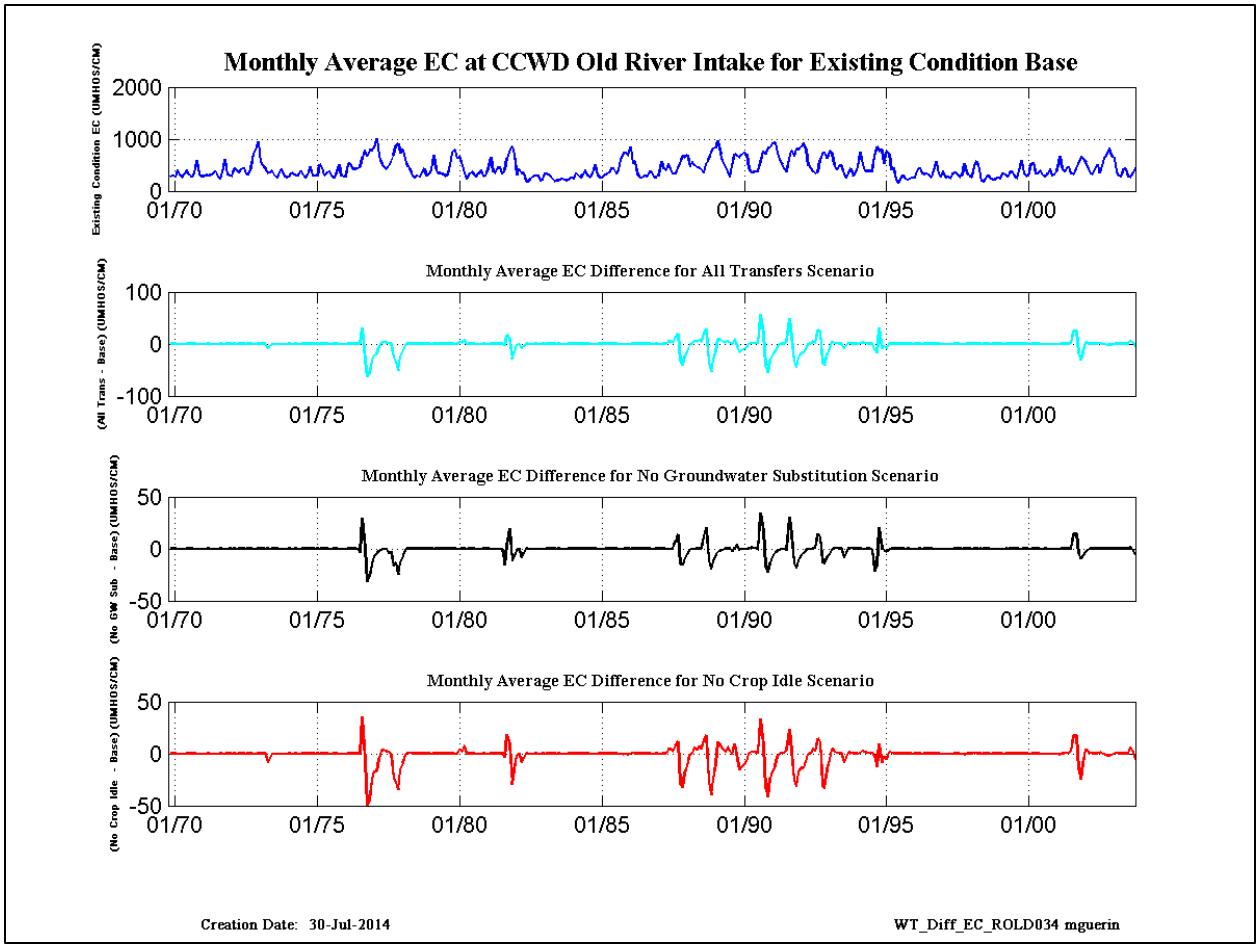


Figure 1-6.
Monthly Average CCWD Old River Intake EC for the Base condition and change from Base for the scenarios.

Table 1-13.
Old River location (ROLD059) Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	417.0	477.0	582.7	310.4	339.1	308.0	321.0	409.4	458.2	589.1	581.6	549.3
1971	498.7	573.4	832.8	713.3	748.7	469.6	317.9	364.4	472.2	573.5	580.1	559.6
1972	502.2	565.3	780.4	826.4	861.6	841.6	534.3	469.2	581.2	648.9	618.3	598.3
1973	540.5	601.7	785.3	973.8	770.4	383.3	349.0	358.5	488.3	594.2	509.2	500.9
1974	458.6	524.7	768.8	559.8	627.3	294.1	304.5	382.3	463.1	533.6	474.8	472.8
1975	440.3	474.6	714.1	774.2	430.0	274.0	333.4	380.6	381.7	511.2	462.0	484.1
1976	434.8	501.8	757.2	796.8	899.3	885.9	649.6	493.6	572.5	660.8	690.0	636.9
1977	553.1	617.8	810.8	844.0	1029.4	1200.7	859.3	693.7	595.7	593.7	624.1	721.5
1978	753.7	696.8	831.4	777.8	648.7	593.0	290.4	247.2	378.3	510.8	466.4	437.7
1979	512.9	505.1	733.9	712.2	424.1	297.6	341.7	312.0	460.3	599.9	510.6	516.7
1980	473.4	524.7	766.1	380.7	328.4	216.6	321.9	356.7	355.0	432.6	431.7	466.9
1981	462.5	502.5	752.9	795.4	861.2	611.3	449.8	438.8	590.1	638.2	620.4	598.7
1982	522.0	579.1	769.4	689.3	317.1	299.7	180.6	175.1	331.4	388.6	327.5	249.7
1983	195.6	205.9	272.6	307.2	297.6	250.4	182.8	200.9	202.5	220.1	177.4	226.8
1984	342.0	170.0	231.5	305.3	219.0	309.8	325.0	375.3	480.1	591.4	523.1	431.3
1985	389.6	479.6	780.8	792.8	783.2	584.1	399.1	452.2	585.8	669.0	610.8	561.0
1986	514.8	554.1	757.8	822.4	438.2	267.3	253.0	253.8	369.1	518.4	455.0	423.1
1987	405.1	429.0	701.0	764.4	875.8	751.0	604.2	481.2	578.6	647.6	574.6	598.2
1988	549.2	594.0	796.8	841.8	976.9	938.1	698.4	628.8	599.7	577.8	539.3	611.1
1989	617.3	634.2	807.2	846.5	959.0	860.0	610.4	680.0	669.1	644.9	647.0	603.1
1990	577.3	623.2	804.9	852.7	954.1	941.3	793.4	669.2	569.6	621.2	688.6	680.2
1991	611.3	625.7	808.6	869.7	996.5	764.5	626.6	673.5	587.0	645.5	705.7	665.9
1992	637.4	633.9	816.1	875.1	868.9	809.5	810.6	749.1	518.6	454.5	552.7	649.8
1993	700.6	674.3	838.2	816.5	826.4	715.4	482.1	489.3	681.5	772.9	550.3	497.3
1994	505.8	556.2	799.6	862.8	912.3	934.9	733.4	640.2	570.9	696.0	742.6	690.9
1995	657.2	650.9	821.6	865.1	744.3	389.2	221.3	155.4	292.3	254.3	309.7	451.8
1996	463.3	510.0	759.7	840.2	459.1	319.3	317.2	333.2	461.0	567.7	498.3	485.7
1997	462.2	452.9	307.4	251.7	178.3	207.0	315.5	330.2	443.0	596.0	535.4	485.6
1998	479.0	565.9	776.5	690.5	443.6	268.3	191.2	172.5	255.3	253.1	284.7	309.1
1999	355.2	441.2	671.8	567.9	250.7	349.9	345.0	361.1	432.1	610.8	569.5	525.0
2000	497.6	554.2	793.2	793.4	444.4	273.9	335.9	371.1	565.5	636.7	579.6	498.9
2001	449.6	513.8	759.9	798.9	872.6	691.2	421.3	453.1	595.5	654.7	567.1	578.7
2002	549.9	590.5	796.0	807.1	826.9	786.3	545.2	548.6	586.8	647.4	644.2	603.3
2003	591.4	623.7	799.5	843.6	810.7	808.7	479.3	461.6	512.5	630.7	625.7	601.1
Average	503.6	536.1	729.0	722.6	659.5	555.7	439.5	428.3	490.7	564.3	537.6	528.6
Critical	552.7	593.2	799.2	849.0	948.2	925.0	738.8	649.7	573.4	607.1	649.0	665.2
Dry	479.0	524.9	766.3	800.9	863.1	714.0	505.0	509.0	601.0	650.3	610.7	590.5
BN	507.5	535.2	757.1	769.3	642.9	569.6	438.0	390.6	520.8	624.4	564.5	557.5
AN	592.9	612.6	802.3	764.3	638.1	498.5	376.4	380.7	496.9	596.3	527.1	500.5
Wet	446.6	475.4	635.9	592.1	422.5	308.2	277.6	299.6	387.8	477.5	444.6	434.9

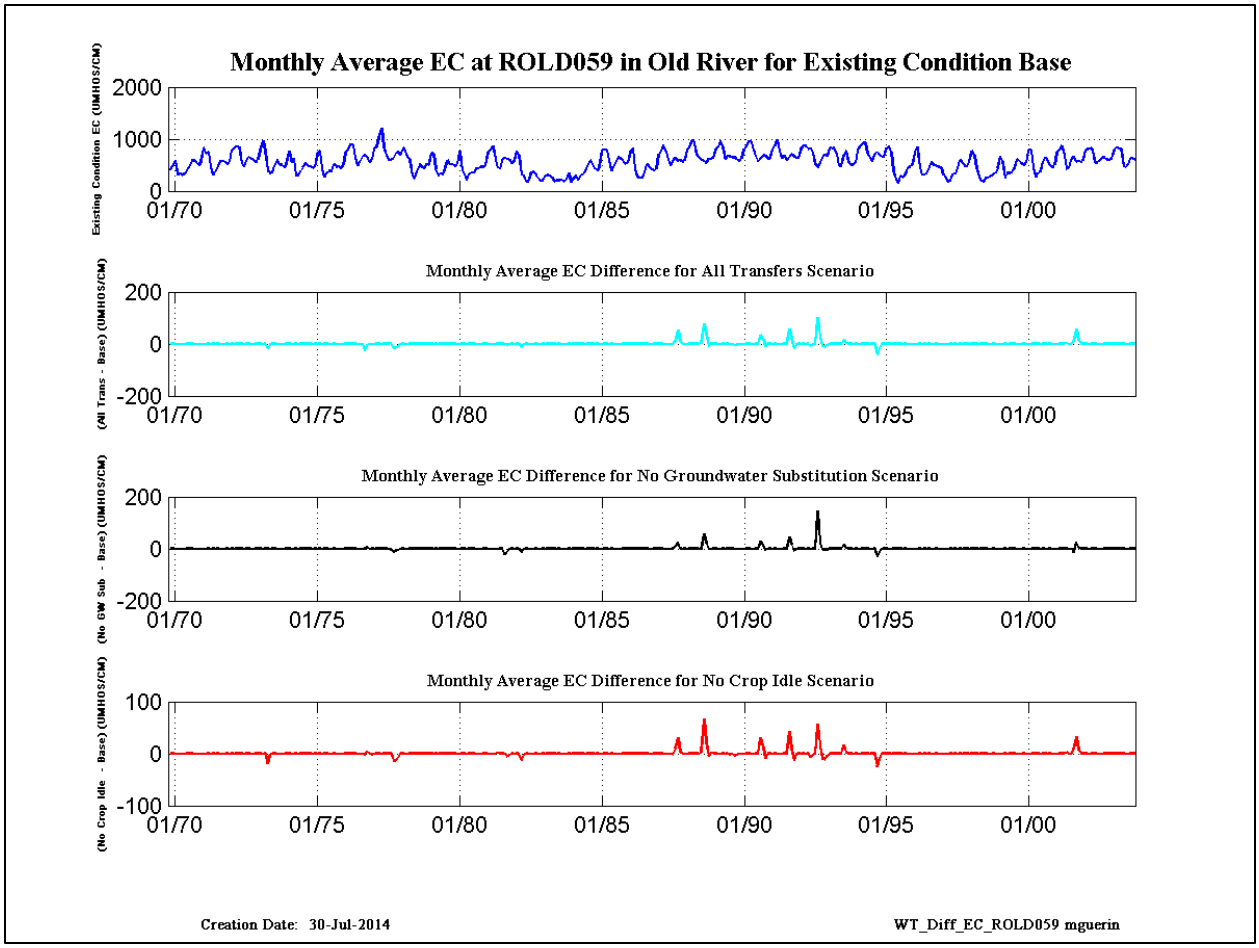


Figure 1-7.
Monthly Average Old River location (ROLD059) EC for the Base condition and change from Base for the scenarios.

Table 1-14.
CCWD Contra Costa Canal Intake (CHCCC006) salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.1	-2.6	-8.3	-1.9	-0.3	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	26.6	-7.1	-63.0
1977	-67.4	-46.0	-25.2	-24.8	-8.4	0.1	1.8	1.0	1.9	10.1	-1.9	-10.2
1978	-51.4	-34.0	-18.1	-1.7	0.8	0.5	0.2	0.1	0.2	0.2	0.3	0.2
1979	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.3	0.1	0.1	0.1	0.0
1980	-0.2	-0.3	2.9	3.2	7.0	11.6	0.6	0.3	0.1	0.0	0.0	0.0
1981	0.0	0.0	-0.4	-0.1	0.2	0.1	0.0	0.3	0.6	-4.0	7.6	32.4
1982	-35.5	-24.0	-2.6	0.2	-5.6	-5.9	-0.6	-0.1	-0.2	-0.1	0.0	0.0
1983	0.0	0.1	0.0	0.0	0.3	0.3	0.2	-0.1	0.1	0.1	-0.1	0.0
1984	0.0	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1	0.0
1985	0.0	0.1	0.3	0.4	0.3	0.2	0.3	0.2	0.2	-0.3	-0.5	-0.8
1986	-0.7	-0.5	-0.8	0.7	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.1	-0.1	-0.5	0.2	0.1	2.5	3.4	1.6	15.3	33.4	-24.6
1988	-48.8	-33.1	-20.6	-1.3	0.2	2.7	2.8	3.9	2.9	28.7	53.0	-31.7
1989	-58.0	-46.2	-24.9	7.6	5.0	3.4	1.3	4.0	1.4	13.5	10.6	-11.9
1990	-21.9	-16.7	-12.7	-10.4	0.0	2.3	2.3	1.3	2.2	99.6	17.4	-44.4
1991	-57.7	-43.7	-28.1	-21.3	-4.7	-0.4	0.6	0.8	5.0	83.8	11.8	-37.7
1992	-48.7	-36.0	-22.8	-20.0	-9.6	-0.1	0.4	2.9	1.8	31.9	48.3	-23.5
1993	-47.3	-27.2	-14.2	4.9	1.6	1.0	0.7	0.8	-4.8	-2.7	1.3	1.0
1994	0.1	0.1	0.0	0.3	3.2	1.5	0.9	0.6	1.1	-5.4	-22.6	43.2
1995	-10.9	-6.9	-11.4	1.0	0.9	0.5	0.2	0.1	0.1	0.1	0.1	0.5
1996	0.1	0.0	0.1	0.4	0.3	0.1	0.1	0.2	0.1	0.3	0.5	0.4
1997	0.1	0.0	0.0	-0.2	-0.3	-0.1	0.0	0.1	0.1	-0.1	-0.3	-0.7
1998	0.1	0.1	0.2	0.9	0.2	0.1	-0.1	0.2	0.2	0.0	0.0	0.0
1999	0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.2	0.2
2000	0.0	0.0	-0.1	-0.5	0.1	0.1	0.2	0.2	0.0	-0.1	-0.2	0.0
2001	0.0	0.0	-0.2	-1.0	0.2	0.1	0.2	0.7	1.9	32.1	39.8	-6.0
2002	-34.0	-25.5	-0.9	1.0	0.5	0.4	0.2	0.2	1.0	-0.2	-0.7	-2.5
2003	-2.6	-1.1	-0.8	0.6	0.1	0.1	0.1	0.2	0.2	7.6	3.1	-7.6
Average	-14.3	-10.0	-5.3	-1.8	-0.2	0.5	0.2	0.6	0.5	9.9	5.7	-5.5
Critical	-34.9	-25.1	-15.6	-11.1	-2.8	0.9	1.3	1.5	2.2	39.3	14.1	-23.9
Dry	-15.3	-11.9	-4.4	1.2	1.1	0.7	0.7	1.5	1.1	9.4	15.0	-2.2
BN	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0
AN	-16.9	-10.4	-5.1	1.1	1.6	1.8	-1.1	0.0	-0.8	0.8	0.7	-1.1
Wet	-3.6	-2.4	-1.1	0.2	-0.3	-0.4	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-15.
CCWD Contra Costa Canal Intake (CHCCC006) salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.7	-2.2	-0.4	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	4.2	-0.8	-8.5
1977	-7.8	-5.1	-2.9	-2.1	-1.2	0.0	0.4	0.3	0.4	1.7	-0.3	-1.0
1978	-4.8	-4.1	-2.0	-0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.4	0.6	1.0	2.2	0.2	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.1	0.2	-0.9	1.1	4.0
1982	-3.6	-2.6	-0.8	0.0	-1.7	-1.4	-0.2	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1
1986	-0.1	-0.1	-0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	-0.1	0.0	0.0	0.6	0.9	0.5	4.3	6.8	-4.3
1988	-6.6	-4.6	-2.7	-0.3	0.0	0.6	0.7	1.0	0.8	7.8	9.0	-4.9
1989	-7.2	-4.9	-2.9	0.7	0.7	0.7	0.3	1.2	0.5	2.7	1.3	-1.5
1990	-3.0	-2.2	-1.6	-1.2	0.0	0.7	0.7	0.4	0.6	17.2	2.0	-5.7
1991	-6.2	-4.7	-2.8	-2.1	-0.7	-0.1	0.1	0.2	1.4	13.1	1.3	-5.0
1992	-5.5	-4.0	-2.5	-2.0	-1.2	0.0	0.1	0.8	0.6	8.2	7.3	-3.0
1993	-5.5	-3.9	-1.7	0.6	0.3	0.3	0.2	0.2	-1.6	-1.1	0.3	0.2
1994	0.1	0.0	0.0	0.0	0.6	0.4	0.3	0.2	0.3	-0.9	-2.2	5.1
1995	-1.2	-1.1	-1.5	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.2
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1
1997	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1998	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1999	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0
2000	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.2	0.6	9.5	8.2	-1.1
2002	-4.7	-3.6	-0.1	0.3	0.2	0.1	0.1	0.0	0.3	0.0	-0.1	-0.3
2003	-0.3	-0.1	-0.1	0.2	0.0	0.0	0.0	0.0	0.1	2.7	0.8	-1.4
Average	-1.7	-1.2	-0.6	-0.2	0.0	0.1	0.1	0.2	0.2	2.0	1.0	-0.8
Critical	-4.1	-2.9	-1.8	-1.1	-0.4	0.2	0.3	0.4	0.6	7.3	2.3	-3.3
Dry	-2.0	-1.4	-0.5	0.1	0.2	0.2	0.2	0.4	0.4	2.6	2.9	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.8	-1.4	-0.6	0.2	0.3	0.3	-0.3	0.0	-0.3	0.3	0.2	-0.2
Wet	-0.4	-0.3	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-16.
CVP-Jones Intake (CHDMC006) salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.1	0.1	0.0	-0.2	-0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.0
1971	0.0	-0.1	0.0	0.0	0.1	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.1	0.1	0.3	-0.2	0.0	0.0	0.0	-0.1
1973	0.0	0.0	0.1	-0.1	0.1	-15.3	-2.9	0.3	-0.2	-0.1	-0.1	-0.1
1974	-0.2	0.0	0.1	-0.1	0.0	0.2	-0.2	0.1	0.2	0.1	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.1	-0.3	-0.1	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	21.3	-4.8	-47.9
1977	-36.9	-21.0	-11.4	-13.1	1.9	9.7	10.8	3.2	1.5	-9.4	-29.3	-24.1
1978	-38.7	-16.7	-7.7	-1.2	0.2	0.2	0.0	0.3	0.2	0.2	0.2	0.2
1979	0.1	0.1	0.0	0.0	0.4	0.0	0.3	0.2	0.1	0.1	0.1	0.0
1980	-0.1	0.1	2.3	0.4	-2.4	-0.5	0.3	0.2	0.1	-0.1	-0.1	0.0
1981	0.1	0.1	-0.2	0.0	0.0	-0.2	1.3	0.6	1.1	-2.5	9.3	9.0
1982	-19.1	-10.7	-1.1	0.2	-10.7	-1.7	0.4	-0.4	-0.3	-0.3	0.1	-0.2
1983	-0.3	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.4	0.0
1984	0.2	-0.2	0.1	0.0	0.1	0.1	0.2	-0.1	0.1	0.1	0.0	0.0
1985	0.0	0.0	0.1	0.3	0.2	0.2	0.4	0.0	0.2	-0.2	-0.4	-0.5
1986	-0.2	-0.3	-0.1	0.5	0.1	0.4	0.1	0.0	0.3	0.1	0.0	-0.1
1987	0.1	0.3	0.1	-0.1	0.1	-0.1	0.8	2.1	3.0	7.2	-5.5	-29.4
1988	-29.5	-15.8	-8.3	-1.0	0.3	10.6	1.5	7.0	6.8	9.3	24.1	-27.2
1989	-39.8	-21.7	-9.1	4.8	6.9	1.4	0.2	15.1	3.5	-0.7	6.8	-3.4
1990	-10.2	-8.6	-4.9	-4.2	-0.2	0.9	0.8	0.2	0.8	42.5	16.8	-32.1
1991	-40.5	-22.2	-11.4	-3.4	-1.7	-0.2	0.0	0.2	3.7	36.6	12.5	-29.7
1992	-31.7	-17.8	-5.7	-8.0	-1.7	-0.2	-4.3	15.4	3.7	18.3	22.4	-30.5
1993	-32.3	-14.9	-5.4	1.1	0.7	0.5	0.4	0.4	-18.7	-3.6	0.8	0.5
1994	0.1	0.0	-0.1	0.3	1.5	0.7	0.4	-0.1	0.3	-8.5	-18.3	19.5
1995	-6.0	-2.7	-5.1	0.0	0.2	0.3	0.2	0.1	0.3	-0.2	0.2	0.2
1996	-0.1	-0.1	0.0	-0.1	0.2	-0.3	0.3	0.0	0.1	0.2	0.2	0.2
1997	0.0	-0.1	-0.2	-0.4	-0.2	0.1	0.0	0.4	0.1	0.3	-0.2	-0.4
1998	0.5	1.7	0.2	0.4	0.3	-0.3	0.0	0.4	0.2	-0.2	-0.2	0.1
1999	-0.1	0.1	0.0	-0.2	0.0	0.0	0.4	0.3	0.3	0.1	0.1	0.1
2000	0.1	0.0	-0.1	-0.3	0.2	0.3	0.3	-0.3	0.0	0.2	-0.1	0.0
2001	0.0	-0.1	-0.3	-0.4	0.1	0.2	2.6	0.3	2.6	16.4	11.4	-17.4
2002	-22.9	-9.8	1.1	0.3	0.3	0.2	0.1	0.0	1.1	-0.1	-0.5	-1.6
2003	-1.4	-0.7	-0.3	0.4	0.2	0.2	0.3	0.0	0.1	3.7	1.8	-3.8
Average	-9.1	-4.7	-2.0	-0.7	-0.1	0.2	0.4	1.3	0.3	3.8	1.4	-6.4
Critical	-21.2	-12.2	-6.0	-4.2	0.0	3.1	1.3	3.7	2.4	15.7	3.3	-24.6
Dry	-10.4	-5.2	-1.4	0.8	1.2	0.3	0.9	3.0	1.9	3.3	3.5	-7.2
BN	0.1	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.1	0.1	0.0	0.0
AN	-12.1	-5.4	-1.9	0.1	-0.1	-2.4	-0.3	0.1	-3.1	0.0	0.4	-0.5
Wet	-2.0	-0.9	-0.5	0.0	-0.7	-0.1	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-17.
CVP-Jones Intake (CHDMC006) salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-4.1	-0.8	0.1	-0.1	0.0	0.0	0.0
1974	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	-0.7	-7.9
1977	-5.6	-3.0	-1.5	-1.4	0.2	1.1	1.6	0.5	0.3	-1.7	-4.8	-3.2
1978	-4.7	-2.4	-1.0	-0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.4	0.1	-0.7	-0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.3	-0.6	1.7	1.4
1982	-2.7	-1.7	-0.2	0.0	-3.3	-0.5	0.2	-0.2	-0.1	-0.1	0.0	-0.1
1983	-0.2	0.0	-0.1	0.0	0.1	0.1	0.1	-0.2	0.1	-0.1	-0.2	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	-0.1
1986	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.4	0.8	2.1	-1.2	-5.8
1988	-4.9	-2.6	-1.2	-0.2	0.0	1.2	0.2	1.2	1.5	2.6	4.9	-4.8
1989	-5.9	-3.0	-1.2	0.5	0.8	0.2	0.0	2.7	1.1	-0.2	1.1	-0.6
1990	-1.8	-1.4	-0.7	-0.6	0.0	0.1	0.1	0.0	0.2	8.3	2.5	-5.0
1991	-5.5	-3.0	-1.4	-0.4	-0.2	0.0	0.0	0.0	1.0	6.7	1.8	-4.7
1992	-4.5	-2.5	-0.7	-0.9	-0.2	0.0	-0.6	2.9	1.1	5.4	4.2	-4.8
1993	-4.7	-2.4	-0.7	0.1	0.1	0.1	0.1	0.1	-3.7	-1.0	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	-1.5	-2.4	2.9
1995	-0.8	-0.5	-0.7	0.0	0.0	0.1	0.1	0.0	0.1	-0.1	0.1	0.1
1996	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.0	0.1	-0.1	-0.1
1998	0.1	0.4	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.1	0.0
1999	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.1	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.6	0.1	0.7	4.9	2.6	-3.4
2002	-3.9	-1.7	0.2	0.1	0.0	0.0	0.0	0.0	0.3	0.0	-0.1	-0.3
2003	-0.2	-0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	1.3	0.5	-0.8
Average	-1.3	-0.7	-0.3	-0.1	-0.1	0.0	0.1	0.2	0.1	0.9	0.3	-1.1
Critical	-3.2	-1.8	-0.8	-0.5	0.0	0.4	0.2	0.7	0.6	3.3	0.8	-3.9
Dry	-1.6	-0.8	-0.2	0.1	0.2	0.0	0.2	0.6	0.5	1.0	0.7	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.6	-0.8	-0.2	0.0	-0.1	-0.7	-0.1	0.0	-0.6	0.1	0.1	-0.1
Wet	-0.3	-0.2	-0.1	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-18.
SWP-Clifton Court Intake (CHWST000) salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.1	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.1	0.1	0.3	-0.2	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	-0.1	0.2	-10.7	-2.2	0.3	-0.3	0.0	0.0	0.0
1974	-0.1	0.0	0.1	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.1	-0.3	-0.1	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	29.0	-9.2	-58.3
1977	-50.0	-27.3	-15.8	-17.1	-1.7	6.3	7.7	3.2	1.6	-3.2	-32.5	-28.1
1978	-47.1	-21.1	-10.3	-1.5	0.5	0.4	0.0	0.3	0.2	0.2	0.2	0.2
1979	0.1	0.1	0.0	0.1	0.3	0.1	0.4	0.2	0.1	0.1	0.1	0.0
1980	-0.2	0.2	3.5	1.4	-1.6	-0.4	0.3	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	-0.2	0.0	0.1	-0.1	1.2	0.6	1.2	-3.2	15.3	11.2
1982	-24.8	-13.6	-1.6	0.3	-8.2	-3.6	0.4	-0.4	-0.3	-0.1	0.0	0.0
1983	-0.1	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.2	-0.1
1984	0.1	-0.1	0.2	0.0	0.1	0.1	0.2	-0.1	0.0	0.0	-0.1	0.0
1985	0.0	0.1	0.2	0.3	0.2	0.4	0.4	0.1	0.3	-0.2	-0.4	-0.6
1986	-0.3	-0.4	-0.2	0.5	0.1	0.4	0.1	0.0	0.2	0.1	0.0	0.0
1987	0.0	0.2	0.1	-0.2	0.1	0.0	1.7	2.7	3.1	8.3	11.5	-32.8
1988	-36.1	-20.1	-10.9	-1.2	0.2	12.8	2.2	8.5	5.2	12.6	32.2	-30.0
1989	-47.6	-27.6	-11.7	6.4	7.1	2.5	0.8	12.0	2.9	-0.9	9.3	-4.5
1990	-13.4	-10.9	-6.8	-5.6	-0.2	1.2	1.3	0.6	1.0	52.9	20.2	-37.4
1991	-49.8	-28.3	-15.3	-7.6	-2.8	-0.5	0.1	0.4	3.9	45.3	14.4	-30.8
1992	-39.6	-22.5	-11.1	-11.4	-3.9	-0.2	-2.1	9.4	3.4	18.5	23.2	-33.3
1993	-38.3	-18.1	-6.9	2.0	1.1	0.8	0.5	0.4	-14.4	-4.6	1.0	0.7
1994	0.1	0.1	0.0	0.6	2.0	0.9	0.6	0.1	0.5	-9.9	-18.2	25.9
1995	-7.8	-3.8	-6.9	0.2	0.5	0.3	0.2	0.1	0.2	-0.1	0.1	0.3
1996	0.0	-0.1	0.0	0.0	0.2	-0.1	0.4	0.0	0.1	0.2	0.4	0.2
1997	0.0	-0.1	-0.1	-0.4	-0.2	0.0	-0.1	0.4	0.2	0.0	-0.2	-0.6
1998	0.3	0.9	0.2	0.5	0.3	-0.1	0.0	0.4	0.2	-0.1	-0.1	0.0
1999	0.0	0.1	0.1	-0.1	0.0	0.0	0.4	0.3	0.2	0.2	0.2	0.1
2000	0.0	0.0	0.0	-0.3	0.2	0.2	0.4	-0.3	0.0	0.1	-0.1	0.0
2001	0.0	0.0	-0.2	-0.6	0.1	0.1	2.4	0.3	2.8	19.1	20.9	-18.4
2002	-28.2	-12.7	1.5	0.6	0.4	0.3	0.2	0.0	1.5	-0.1	-0.6	-2.1
2003	-1.7	-0.9	-0.4	0.4	0.2	0.2	0.3	0.0	0.2	4.9	2.0	-5.0
Average	-11.3	-6.1	-2.7	-1.0	-0.1	0.3	0.5	1.2	0.4	5.0	2.6	-7.2
Critical	-27.0	-15.6	-8.6	-6.0	-0.9	2.9	1.4	3.2	2.3	20.8	4.3	-27.4
Dry	-12.6	-6.7	-1.7	1.1	1.3	0.5	1.1	2.6	2.0	3.8	9.3	-7.9
BN	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.0	0.1	0.0	0.0	0.0
AN	-14.5	-6.6	-2.3	0.3	0.1	-1.6	-0.1	0.2	-2.4	0.1	0.5	-0.7
Wet	-2.5	-1.3	-0.7	0.1	-0.5	-0.2	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-19.
SWP-Clifton Court Intake (CHWST000) salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.9	-0.6	0.1	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.8	-1.3	-9.3
1977	-6.9	-3.7	-2.0	-1.8	-0.2	0.9	1.4	0.6	0.3	-0.6	-5.1	-3.5
1978	-5.4	-3.0	-1.3	-0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.6	0.3	-0.5	-0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.0	0.0	0.3	0.1	0.3	-0.8	2.7	1.6
1982	-3.2	-2.1	-0.4	0.1	-2.3	-1.0	0.2	-0.2	-0.1	0.0	0.0	0.0
1983	-0.1	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	-0.1	-0.1	0.0
1984	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1
1986	0.0	-0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.6	0.9	2.5	2.7	-6.4
1988	-5.6	-3.3	-1.6	-0.2	0.0	1.8	0.4	1.6	1.2	3.6	6.5	-5.2
1989	-6.7	-3.6	-1.5	0.7	0.9	0.4	0.1	2.5	1.0	-0.2	1.4	-0.7
1990	-2.2	-1.7	-1.0	-0.8	0.0	0.2	0.3	0.1	0.3	10.0	2.8	-5.7
1991	-6.4	-3.6	-1.8	-0.9	-0.3	-0.1	0.0	0.1	1.1	8.0	2.0	-4.8
1992	-5.3	-3.0	-1.4	-1.3	-0.5	0.0	-0.4	2.1	1.0	5.3	4.2	-5.1
1993	-5.4	-2.9	-0.9	0.3	0.2	0.2	0.1	0.1	-3.7	-1.7	0.3	0.2
1994	0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.0	0.1	-1.6	-2.3	3.7
1995	-1.1	-0.7	-1.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1
1998	0.1	0.3	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0
2000	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.6	0.1	0.8	6.1	5.0	-3.7
2002	-4.5	-2.1	0.3	0.1	0.1	0.1	0.0	0.0	0.4	0.0	-0.1	-0.3
2003	-0.2	-0.1	-0.1	0.1	0.0	0.0	0.1	0.0	0.1	1.9	0.6	-1.2
Average	-1.6	-0.9	-0.4	-0.1	0.0	0.0	0.1	0.2	0.1	1.1	0.6	-1.2
Critical	-3.8	-2.2	-1.1	-0.7	-0.1	0.4	0.3	0.6	0.6	4.2	1.0	-4.3
Dry	-1.9	-0.9	-0.2	0.1	0.2	0.1	0.2	0.6	0.6	1.2	1.9	-1.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.8	-1.0	-0.3	0.1	0.0	-0.5	0.0	0.0	-0.6	0.0	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-20.
Old River near Middle River location salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.3	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.2	0.2	0.2	0.3	-0.3	0.3	0.3	-0.3	-0.4
1973	0.3	0.1	0.2	-0.2	0.1	-20.9	-1.4	0.3	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.2	-0.2	0.1	0.3	0.2	0.3	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.1	0.2	0.3	0.0	-0.2	0.0	-0.2	-0.3	0.1
1977	-0.1	0.1	-0.1	0.3	0.1	0.2	0.2	0.4	0.0	0.0	-0.4	-0.1
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	1.6	0.5	0.0	-0.2	-0.1	-0.2
1982	0.3	-0.3	0.3	0.0	-13.9	-1.1	0.4	-0.4	-0.3	-0.3	0.4	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.3	0.3	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.4	-0.4	-0.4	0.3
1986	0.5	0.0	0.4	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.3	0.1	-0.4	-0.4
1988	-0.4	0.3	-0.1	0.0	0.4	0.1	0.4	-0.2	0.1	-0.6	0.1	0.2
1989	0.1	0.3	0.1	-0.4	-0.4	0.3	-0.4	0.2	0.1	0.2	-0.3	-0.2
1990	-0.2	-0.2	0.0	0.2	0.3	-0.2	-0.4	0.1	-0.3	-1.1	-0.3	0.1
1991	-0.1	0.3	-0.3	0.2	-0.3	0.0	-0.3	0.1	0.1	-3.5	-0.8	0.1
1992	-0.2	0.4	-0.1	0.3	-0.1	0.1	-9.1	-0.8	0.2	-23.1	-2.9	0.1
1993	0.1	-0.2	0.4	0.2	0.1	0.1	0.5	0.4	18.4	1.4	0.4	-0.1
1994	0.0	0.0	-0.4	-0.4	0.1	0.2	0.3	-0.4	-0.4	0.2	-0.1	-0.4
1995	0.1	0.2	0.3	-0.1	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.4
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.3	0.4	-0.1	0.1	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.4	0.3
1998	0.2	-0.3	0.2	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	0.0	0.4	0.3	0.5	-0.3	0.0	-0.1
2000	0.2	-0.3	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.3	0.0	0.3	2.9	-0.2	-0.4	-0.4	-0.4	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	0.0	-0.3	-0.1	0.3	0.0
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-0.1	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.3	-0.6	-0.1	0.0	0.6	-0.8	-0.2	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	-1.3	-0.2	-0.1	-4.0	-0.7	0.0
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.7	0.1	-0.1	-0.1	-0.2	-0.1
BN	0.2	0.0	0.1	-0.2	0.3	0.1	0.3	-0.1	0.3	0.3	-0.1	-0.1
AN	0.1	-0.1	0.0	0.0	0.2	-3.4	0.0	0.1	3.1	0.1	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.0	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-21.
Old River near Middle River location salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	-0.1
1973	0.1	0.0	0.0	0.0	0.0	-6.0	-0.4	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.4	0.1	0.0	0.0	0.0	0.0
1982	0.1	-0.1	0.0	0.0	-4.7	-0.4	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.2	-0.1	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.1	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	-1.1	-0.1	0.0	-3.1	-0.4	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.7	0.2	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	-0.1	-0.1	-0.1	-0.1
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	-0.1	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.5	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-22.
CCWD Old River Intake (ROLD034) salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.2	-8.7	-3.7	-0.2	-0.3	0.0	0.0	0.0
1974	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	30.7	-32.4	-62.4
1977	-57.3	-31.3	-21.2	-19.6	-5.3	1.8	3.8	2.1	1.8	0.9	-27.4	-34.0
1978	-51.0	-23.6	-13.3	-1.9	0.7	0.5	0.0	0.3	0.2	0.2	0.2	0.2
1979	0.1	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.1	0.1	0.0
1980	-0.3	0.3	4.1	2.3	7.8	-0.3	0.3	0.3	0.1	0.0	0.0	0.0
1981	0.0	-0.1	-0.3	0.1	0.2	0.0	0.2	0.4	0.9	-3.8	17.3	10.0
1982	-29.2	-15.4	-1.8	0.2	-8.2	-4.4	0.4	-0.4	-0.2	-0.1	0.0	0.0
1983	-0.1	0.0	-0.1	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.1	-0.1
1984	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	0.0
1985	0.0	0.1	0.3	0.3	0.2	0.4	0.3	0.2	0.2	-0.3	-0.5	-0.7
1986	-0.4	-0.6	-0.3	0.6	0.1	0.4	0.1	0.0	0.1	0.1	0.0	0.0
1987	0.0	0.1	-0.1	-0.3	0.1	0.1	4.2	4.3	2.4	12.4	19.7	-32.4
1988	-40.3	-23.1	-14.1	-1.4	0.0	6.0	3.1	6.9	4.1	21.5	29.0	-34.7
1989	-52.1	-32.0	-13.6	9.2	7.5	3.9	1.5	6.5	2.2	-1.0	9.4	-5.7
1990	-15.5	-12.8	-10.4	-7.1	0.0	1.9	1.9	1.2	1.3	57.0	18.7	-41.7
1991	-54.3	-31.5	-22.0	-14.4	-4.2	-0.9	0.4	0.7	4.3	48.6	13.0	-33.7
1992	-44.7	-25.2	-18.4	-16.5	-8.4	-0.3	0.3	4.6	2.9	26.5	23.8	-36.7
1993	-41.5	-19.5	-8.1	3.9	1.6	1.0	0.6	0.6	-8.4	-3.7	1.1	0.7
1994	0.1	0.1	0.0	1.0	2.7	1.1	0.8	0.6	0.6	-11.3	-16.8	30.7
1995	-8.7	-4.9	-8.4	0.7	0.8	0.3	0.2	0.1	0.1	0.1	0.1	0.4
1996	0.0	-0.1	0.1	0.2	0.2	0.0	0.3	0.0	0.1	0.3	0.4	0.2
1997	0.0	-0.1	-0.1	-0.4	-0.3	-0.1	0.0	0.3	0.2	-0.1	-0.2	-0.7
1998	0.3	0.3	0.3	0.7	0.3	0.0	0.0	0.4	0.3	0.0	-0.1	0.0
1999	0.0	0.2	0.1	0.0	0.0	0.0	0.4	0.3	0.1	0.2	0.2	0.1
2000	0.0	0.0	-0.2	-0.4	0.1	0.2	0.3	-0.1	0.0	0.0	-0.1	0.0
2001	0.0	0.0	-0.5	-0.7	0.2	0.1	0.7	0.7	2.6	24.7	25.4	-17.4
2002	-31.3	-14.2	2.3	0.9	0.5	0.4	0.2	0.1	1.4	-0.2	-0.7	-2.3
2003	-1.9	-1.1	-0.5	0.5	0.1	0.1	0.2	0.2	0.2	6.4	2.0	-5.6
Average	-12.6	-6.9	-3.7	-1.2	-0.1	0.1	0.5	0.9	0.5	6.1	2.4	-7.8
Critical	-30.3	-17.7	-12.3	-8.3	-2.2	1.4	1.5	2.3	2.2	24.9	1.1	-30.4
Dry	-13.9	-7.7	-2.0	1.6	1.5	0.8	1.2	2.1	1.6	5.3	11.8	-8.1
BN	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0
AN	-15.8	-7.3	-3.0	0.8	1.7	-1.2	-0.4	0.2	-1.4	0.5	0.5	-0.8
Wet	-2.9	-1.6	-0.8	0.2	-0.5	-0.3	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-23.
CCWD Old River Intake (ROLD034) salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.6	-1.0	-0.1	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	4.7	-4.1	-9.3
1977	-7.3	-4.0	-2.6	-1.9	-0.8	0.3	0.8	0.5	0.4	0.2	-4.0	-3.9
1978	-5.5	-3.2	-1.7	-0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.1	0.6	0.5	2.2	-0.1	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.1	0.3	-0.9	2.8	1.3
1982	-3.4	-2.2	-0.6	0.1	-2.4	-1.3	0.2	-0.2	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.2	0.1	0.1	-0.2	0.1	0.0	-0.1	0.0
1984	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1
1986	-0.1	-0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.1	0.0	-0.1	0.0	0.0	0.8	1.0	0.7	3.7	4.4	-6.0
1988	-6.0	-3.6	-2.1	-0.3	0.0	1.2	0.7	1.5	1.0	6.1	5.5	-5.7
1989	-6.9	-3.9	-1.6	0.9	1.1	0.7	0.3	1.8	0.8	-0.2	1.3	-0.8
1990	-2.4	-1.9	-1.4	-1.0	0.0	0.5	0.5	0.3	0.3	9.9	2.4	-5.9
1991	-6.5	-3.7	-2.4	-1.6	-0.6	-0.2	0.1	0.2	1.2	7.8	1.7	-5.0
1992	-5.6	-3.1	-2.2	-1.8	-1.1	-0.1	0.1	1.2	0.9	7.3	4.0	-5.2
1993	-5.6	-3.1	-1.0	0.5	0.3	0.3	0.1	0.1	-2.5	-1.5	0.3	0.2
1994	0.0	0.0	0.0	0.1	0.5	0.3	0.2	0.1	0.2	-1.7	-2.0	4.0
1995	-1.1	-0.9	-1.1	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.2
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1
1998	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0
2000	0.0	0.0	-0.1	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.2	0.8	7.7	5.8	-3.3
2002	-4.8	-2.3	0.4	0.2	0.1	0.1	0.0	0.0	0.4	0.0	-0.1	-0.3
2003	-0.2	-0.2	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	2.4	0.5	-1.2
Average	-1.6	-0.9	-0.5	-0.1	0.0	0.0	0.1	0.2	0.1	1.3	0.5	-1.2
Critical	-4.0	-2.3	-1.5	-0.9	-0.3	0.3	0.3	0.6	0.6	4.9	0.5	-4.4
Dry	-2.0	-1.0	-0.2	0.2	0.2	0.2	0.2	0.5	0.5	1.7	2.4	-1.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.9	-1.1	-0.4	0.1	0.5	-0.4	-0.1	0.0	-0.4	0.2	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-24.
Old River location (ROLD059) salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.1	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.2	-0.2
1971	-0.1	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.2	-0.2	-0.2
1972	0.1	-0.2	0.2	-0.2	0.1	0.2	0.3	-0.3	0.0	0.2	-0.1	-0.3
1973	0.2	0.1	0.2	-0.1	0.1	-18.2	-2.1	0.3	0.1	-0.3	-0.2	-0.3
1974	-0.4	0.3	0.1	-0.1	0.0	0.2	-0.2	0.1	0.3	0.2	0.3	0.4
1975	-0.1	0.1	-0.2	0.3	0.0	0.1	0.1	-0.3	-0.1	0.3	0.0	0.0
1976	-0.1	-0.3	0.1	0.1	0.2	0.3	0.0	-0.2	0.0	-0.2	-24.9	-4.7
1977	0.0	-1.1	-0.2	0.3	0.1	0.0	0.5	0.3	0.9	2.2	-17.0	-15.4
1978	-9.4	-0.2	0.1	-0.3	0.0	0.1	0.0	0.3	0.3	0.2	0.2	0.4
1979	0.2	0.3	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.2	0.1	0.1
1980	0.2	-0.2	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.2	-0.3	-0.1
1981	0.3	0.1	-0.1	-0.1	-0.1	-0.3	1.4	0.6	0.1	-0.1	-5.7	-1.8
1982	0.3	-0.2	0.3	-0.1	-12.5	-1.4	0.4	-0.4	-0.3	-0.3	0.3	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.1	0.3	0.2	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.3	-0.3	-0.3	0.1
1986	0.4	0.1	0.4	0.4	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.2	0.3	0.1	0.1	0.0	-0.1	-0.2	0.0	-1.3	11.0	52.5	8.6
1988	-0.1	-0.1	0.0	0.0	0.4	0.2	0.4	-0.1	2.3	77.1	36.8	-6.6
1989	1.8	0.3	0.1	-0.2	-0.4	0.2	-0.3	0.1	-1.3	-0.5	-4.8	-2.2
1990	-0.2	-0.3	-0.2	0.2	0.3	-0.2	-0.4	0.0	0.5	34.3	19.4	-10.7
1991	0.4	0.1	-0.4	0.2	-0.2	0.0	-0.3	0.0	-0.5	57.0	21.1	-16.5
1992	-0.2	0.1	-0.2	0.3	-0.1	0.1	-7.7	-1.8	0.5	100.8	27.5	-8.9
1993	-10.5	-5.1	0.3	0.3	0.2	0.2	0.4	0.4	16.3	2.7	0.3	0.0
1994	0.0	0.0	-0.3	-0.3	0.0	0.2	0.3	-0.4	0.1	0.1	-41.7	-18.0
1995	0.2	0.5	0.3	0.0	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.3
1996	-0.4	-0.2	-0.2	-0.2	0.2	-0.3	0.4	0.0	0.1	-0.1	-0.1	0.1
1997	-0.3	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.3	0.2
1998	0.2	-0.2	0.1	0.3	0.3	-0.3	0.0	0.4	0.2	-0.2	-0.4	0.1
1999	-0.3	0.0	-0.3	-0.4	0.0	0.0	0.4	0.3	0.4	-0.2	0.0	0.0
2000	0.1	-0.2	-0.3	-0.2	0.2	0.3	0.4	-0.3	0.1	0.0	-0.1	0.0
2001	-0.1	-0.2	-0.3	0.2	0.0	0.3	2.8	0.0	-0.7	9.5	57.5	13.8
2002	0.2	0.1	0.3	-0.1	-0.1	0.2	0.1	0.0	-0.4	-0.2	0.3	0.1
2003	0.0	0.1	0.0	0.2	0.4	0.5	0.3	0.0	-0.2	0.3	0.0	0.2
Average	-0.5	-0.2	0.0	0.0	-0.3	-0.5	0.0	0.0	0.6	8.6	3.5	-1.8
Critical	0.0	-0.2	-0.2	0.1	0.1	0.1	-1.0	-0.3	0.5	38.8	3.0	-11.5
Dry	0.4	0.1	0.0	0.0	-0.1	0.0	0.7	0.1	-0.7	3.2	16.6	3.1
BN	0.2	0.1	0.1	-0.1	0.3	0.1	0.3	0.0	0.1	0.2	0.0	-0.1
AN	-3.2	-0.9	0.0	0.0	0.2	-2.9	-0.1	0.1	2.8	0.4	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.9	-0.1	0.1	0.0	0.2	0.0	0.0	0.0

Table 1-25.
Old River location (ROLD059) salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	-0.1
1973	0.0	0.0	0.0	0.0	0.0	-4.8	-0.6	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	-0.7
1977	0.0	-0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	-2.7	-2.1
1978	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.3	0.1	0.0	0.0	-0.9	-0.3
1982	0.1	0.0	0.0	0.0	-3.9	-0.5	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	-0.1	-0.3	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
1986	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	1.7	9.1	1.4
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	13.3	6.8	-1.1
1989	0.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2	-0.1	-0.7	-0.4
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.5	2.8	-1.6
1991	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	8.8	3.0	-2.5
1992	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.2	0.1	22.2	5.0	-1.4
1993	-1.5	-0.8	0.0	0.0	0.0	0.0	0.1	0.1	2.4	0.4	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-5.6	-2.6
1995	0.0	0.1	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.1	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.0
1998	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.1	0.0
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	-0.1	1.5	10.1	2.4
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	1.6	0.7	-0.3
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	7.2	0.8	-1.7
Dry	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	-0.1	0.5	2.9	0.5
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.4	-0.1	0.0	0.0	0.0	-0.8	0.0	0.0	0.4	0.1	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Table 1-26.
CCWD Contra Costa Canal Intake (CHCCC006) salinity (EC) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-4.2	22.2	18.8	-32.4
1977	-31.9	-20.6	-9.7	-6.5	-2.1	-0.7	-0.3	-0.8	-5.0	4.2	9.6	14.6
1978	-18.4	-17.2	-8.4	-1.4	0.4	0.3	0.1	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-18.9	-13.6	36.7
1982	-15.8	-7.9	-2.3	0.2	-5.7	-5.9	-0.6	-0.1	-0.2	-0.1	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.3	0.3	0.2	-0.1	0.1	0.1	-0.1	-0.1
1984	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	9.2	20.9	-10.5
1988	-17.9	-12.4	-7.0	-1.6	-0.4	-0.1	0.0	0.0	0.4	15.5	35.4	-9.0
1989	-20.5	-16.7	-7.4	-4.6	-1.7	-0.6	0.3	0.4	0.2	-2.5	-2.0	6.9
1990	-1.3	-0.7	-0.3	-0.3	0.3	1.4	1.1	0.4	-1.2	73.0	15.6	-16.4
1991	-19.0	-18.4	-10.5	-6.1	-2.3	-0.7	-0.2	-0.2	-1.9	63.3	11.4	-15.2
1992	-17.3	-15.1	-8.2	-5.1	-1.5	-0.1	0.0	0.0	0.9	17.1	29.7	1.3
1993	-13.7	-9.7	-5.5	-1.5	0.9	0.5	0.2	0.5	-5.1	-2.9	0.8	0.7
1994	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-16.7	-24.4	26.0
1995	2.0	-1.9	-2.9	-1.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.2	-0.3	-0.1	0.0	0.0	0.1	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.2	0.2	0.0	-0.1	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	16.6	19.4	4.5
2002	-7.7	-9.0	-3.7	-1.0	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	2.5	-1.9	-8.7
Average	-4.7	-3.8	-1.9	-0.9	-0.3	-0.1	0.0	0.0	-0.4	5.4	3.5	0.0
Critical	-12.5	-9.6	-5.1	-2.8	-0.9	0.0	0.1	-0.1	-1.7	25.5	13.7	-4.4
Dry	-4.7	-4.3	-1.8	-0.9	-0.3	-0.1	0.0	0.1	0.1	0.8	4.2	6.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
AN	-5.3	-4.5	-2.3	-0.5	0.2	0.2	0.1	0.2	-0.8	0.0	-0.2	-1.3
Wet	-1.1	-0.8	-0.4	-0.1	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-27.
CCWD Contra Costa Canal Intake (CHCCC006) salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.9	3.5	2.0	-4.4
1977	-3.7	-2.3	-1.1	-0.6	-0.3	-0.1	-0.1	-0.2	-1.0	0.7	1.3	1.5
1978	-1.7	-2.1	-0.9	-0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.3	-1.9	4.5
1982	-1.6	-0.9	-0.7	0.0	-1.7	-1.4	-0.2	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.6	4.2	-1.9
1988	-2.4	-1.7	-0.9	-0.3	-0.1	0.0	0.0	0.0	0.1	4.2	6.0	-1.4
1989	-2.6	-1.8	-0.9	-0.4	-0.2	-0.1	0.1	0.1	0.1	-0.5	-0.2	0.9
1990	-0.2	-0.1	0.0	0.0	0.1	0.4	0.3	0.1	-0.3	12.6	1.8	-2.1
1991	-2.0	-2.0	-1.0	-0.6	-0.3	-0.1	0.0	0.0	-0.5	9.9	1.3	-2.0
1992	-2.0	-1.7	-0.9	-0.5	-0.2	0.0	0.0	0.0	0.3	4.4	4.5	0.2
1993	-1.6	-1.4	-0.7	-0.2	0.2	0.1	0.0	0.1	-1.7	-1.2	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-2.7	-2.4	3.1
1995	0.2	-0.3	-0.4	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.9	4.0	0.8
2002	-1.1	-1.3	-0.4	-0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-0.5	-1.6
Average	-0.5	-0.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	1.0	0.6	-0.1
Critical	-1.5	-1.1	-0.6	-0.3	-0.1	0.0	0.0	0.0	-0.4	4.7	2.1	-0.7
Dry	-0.6	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.5	1.0	0.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.6	-0.3	-0.1	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-28.
CVP-Jones Intake (CHDMC006) salinity (EC) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.1	0.1	0.0	-0.2	-0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.0
1971	0.0	-0.1	0.0	0.0	0.1	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.1	0.1	0.3	-0.2	0.0	0.0	0.0	-0.1
1973	0.0	0.0	0.1	-0.1	0.1	0.3	-0.1	0.3	0.1	0.0	0.0	-0.1
1974	-0.2	0.0	0.1	-0.1	0.0	0.2	-0.2	0.1	0.2	0.1	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.1	-0.3	-0.1	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	-0.1	-1.5	20.5	14.2	-22.4
1977	-17.4	-9.8	-4.4	-3.4	-0.7	-0.3	-0.1	0.2	-2.1	-9.9	-18.9	-10.1
1978	-18.5	-9.1	-3.8	-0.9	0.1	0.1	0.0	0.3	0.2	0.1	0.1	0.1
1979	0.1	0.1	0.0	0.0	0.2	-0.1	0.3	0.2	0.1	0.0	0.0	0.0
1980	0.1	0.0	-0.1	0.1	0.2	-0.4	0.3	0.2	0.1	-0.1	-0.1	0.0
1981	0.1	0.1	0.0	-0.1	-0.1	-0.2	-0.3	0.3	-0.3	-2.2	0.2	14.7
1982	-7.6	-5.0	-1.0	0.2	-10.7	-1.7	0.4	-0.4	-0.3	-0.3	0.1	-0.2
1983	-0.3	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.4	0.0
1984	0.2	-0.2	0.1	0.0	0.1	0.1	0.2	-0.1	0.1	0.1	0.1	0.0
1985	0.0	0.0	-0.1	0.1	0.1	-0.1	0.3	0.0	0.0	0.0	-0.1	0.0
1986	0.1	0.1	0.1	0.2	0.1	0.4	0.1	0.0	0.3	0.1	0.0	-0.1
1987	0.1	0.1	0.1	0.0	0.0	-0.1	-0.2	-0.1	0.2	3.1	-2.7	-13.8
1988	-11.7	-6.3	-3.0	-0.8	0.3	0.1	0.3	-0.1	0.1	3.2	18.0	-8.4
1989	-15.3	-8.1	-3.3	-2.3	-0.9	0.0	-0.2	0.2	0.2	-2.1	0.4	2.6
1990	-0.8	-0.4	-0.2	-0.1	0.2	0.5	0.4	0.1	-0.3	24.1	14.7	-13.7
1991	-17.0	-9.6	-4.4	-1.0	-1.1	-0.2	-0.2	0.0	-1.2	21.4	12.1	-13.5
1992	-13.5	-8.0	-2.3	-2.2	-0.4	-0.1	-0.2	0.0	0.3	20.3	11.1	-11.4
1993	-11.2	-5.6	-2.9	-0.4	0.4	0.3	0.4	0.4	-18.8	-3.8	0.6	0.3
1994	0.1	0.0	-0.1	-0.1	0.0	0.1	0.2	-0.2	-0.2	-16.6	-17.9	12.8
1995	0.9	-1.1	-1.6	-0.4	-0.1	0.3	0.2	0.1	0.3	-0.2	0.1	0.0
1996	-0.2	-0.1	-0.1	-0.1	0.1	-0.3	0.3	0.0	0.1	0.0	0.0	0.0
1997	-0.1	-0.1	-0.2	-0.4	-0.2	0.1	0.0	0.4	0.1	0.0	-0.1	0.1
1998	0.1	-0.1	0.0	0.2	0.3	-0.3	0.0	0.4	0.2	-0.2	-0.2	0.0
1999	-0.1	0.0	-0.1	-0.3	0.0	0.0	0.4	0.3	0.2	0.0	0.0	0.0
2000	0.0	0.0	-0.1	-0.1	0.2	0.3	0.3	-0.3	0.0	0.0	0.0	0.0
2001	0.0	-0.1	-0.1	0.1	0.0	0.2	0.1	-0.3	-0.2	21.9	9.1	-6.3
2002	-7.7	-4.0	-1.7	-0.4	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.0
2003	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.0	0.0	1.6	-1.4	-4.0
Average	-3.5	-2.0	-0.9	-0.4	-0.3	0.0	0.1	0.0	-0.6	2.4	1.1	-2.2
Critical	-8.6	-4.9	-2.1	-1.1	-0.2	0.0	0.1	0.0	-0.7	9.0	4.8	-9.5
Dry	-3.8	-2.0	-0.9	-0.4	-0.1	0.0	0.0	0.0	0.0	3.5	1.2	-0.4
BN	0.1	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.1	0.0	0.0	0.0
AN	-4.9	-2.4	-1.1	-0.2	0.2	0.2	0.2	0.1	-3.1	-0.4	-0.1	-0.6
Wet	-0.5	-0.5	-0.2	0.0	-0.8	-0.1	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-29.
CVP-Jones Intake (CHDMC006) salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
1974	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	3.5	2.1	-3.7
1977	-2.6	-1.4	-0.6	-0.4	-0.1	0.0	0.0	0.0	-0.4	-1.8	-3.1	-1.3
1978	-2.3	-1.3	-0.5	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	-0.1	-0.6	0.0	2.3
1982	-1.1	-0.8	-0.2	0.0	-3.3	-0.5	0.2	-0.2	-0.1	-0.1	0.0	-0.1
1983	-0.2	0.0	-0.1	0.0	0.1	0.1	0.1	-0.2	0.1	-0.1	-0.2	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	-0.6	-2.7
1988	-1.9	-1.1	-0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.9	3.6	-1.5
1989	-2.3	-1.1	-0.4	-0.3	-0.1	0.0	0.0	0.0	0.1	-0.5	0.1	0.4
1990	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	4.7	2.1	-2.1
1991	-2.3	-1.3	-0.5	-0.1	-0.1	0.0	0.0	0.0	-0.3	3.9	1.7	-2.2
1992	-1.9	-1.1	-0.3	-0.3	0.0	0.0	0.0	0.0	0.1	6.0	2.1	-1.8
1993	-1.6	-0.9	-0.4	-0.1	0.1	0.1	0.1	0.1	-3.7	-1.0	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-2.4	1.9
1995	0.1	-0.2	-0.2	-0.1	0.0	0.1	0.1	0.0	0.1	-0.1	0.0	0.0
1996	-0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.1	0.0
1999	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	6.5	2.1	-1.2
2002	-1.3	-0.7	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.6	-0.4	-0.9
Average	-0.5	-0.3	-0.1	0.0	-0.1	0.0	0.0	0.0	-0.1	0.6	0.2	-0.4
Critical	-1.3	-0.7	-0.3	-0.1	0.0	0.0	0.0	0.0	-0.1	2.0	0.9	-1.5
Dry	-0.6	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.3	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.4	-0.2	0.0	0.0	0.0	0.1	0.0	-0.6	-0.1	0.0	-0.1
Wet	-0.1	-0.1	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-30.
SWP-Clifton Court Intake (CHWST000) salinity (EC) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.1	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.1	0.1	0.3	-0.2	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	-0.1	0.0	0.2	-0.1	0.3	0.1	0.0	0.0	0.0
1974	-0.1	0.0	0.1	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.1	-0.3	-0.1	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-2.3	28.1	16.4	-28.2
1977	-23.4	-12.5	-5.8	-4.3	-1.3	-0.6	-0.2	0.0	-3.0	-7.0	-20.6	-11.3
1978	-22.3	-11.3	-5.0	-1.1	0.2	0.2	0.0	0.3	0.2	0.1	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.2	-0.4	0.3	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.1	0.0	0.0	0.0	-0.2	-0.3	0.2	-0.2	-12.1	3.0	18.0
1982	-10.0	-6.3	-1.4	0.2	-8.2	-3.6	0.4	-0.4	-0.3	-0.1	0.0	0.0
1983	-0.1	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.2	-0.1
1984	0.1	-0.1	0.2	0.0	0.0	0.1	0.2	-0.1	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.1	0.1	-0.1	0.3	0.0	0.0	0.0	0.0	0.0
1986	0.1	0.0	0.0	0.1	0.1	0.4	0.1	0.0	0.2	0.1	0.0	-0.1
1987	0.0	0.1	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.2	4.9	8.2	-15.3
1988	-14.0	-7.9	-4.0	-1.1	0.1	0.0	0.2	0.0	0.1	5.6	22.4	-8.6
1989	-17.8	-10.2	-4.4	-2.8	-1.2	-0.3	-0.1	0.3	0.2	-2.4	0.7	3.5
1990	-1.0	-0.4	-0.2	-0.2	0.2	0.8	0.7	0.3	-0.5	30.9	17.9	-15.7
1991	-20.5	-12.1	-5.8	-2.4	-1.7	-0.4	-0.2	-0.1	-1.3	27.1	14.1	-13.3
1992	-16.6	-9.9	-4.2	-3.0	-0.9	-0.1	-0.1	0.0	0.4	9.1	11.5	-12.0
1993	-13.2	-6.7	-3.9	-0.8	0.6	0.4	0.4	0.4	-14.6	-4.8	0.7	0.5
1994	0.1	0.0	0.0	0.0	0.0	0.1	0.1	-0.2	-0.2	-18.9	-19.2	16.8
1995	1.0	-1.4	-2.2	-0.6	0.0	0.2	0.2	0.1	0.2	-0.1	0.0	0.0
1996	-0.1	-0.1	-0.1	-0.1	0.1	-0.1	0.4	0.0	0.0	0.0	0.0	0.0
1997	0.0	-0.1	-0.1	-0.4	-0.2	0.0	-0.1	0.4	0.1	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.2	0.3	-0.1	0.0	0.4	0.2	-0.1	-0.1	0.0
1999	0.0	0.0	0.0	-0.1	0.0	0.0	0.4	0.3	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	-0.1	0.1	0.2	0.4	-0.3	-0.1	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.2	0.0	12.4	13.8	-6.0
2002	-9.3	-5.3	-2.5	-0.6	0.1	0.2	0.1	0.0	0.1	0.2	0.1	0.1
2003	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.0	0.0	1.5	-1.6	-5.2
Average	-4.3	-2.5	-1.2	-0.5	-0.3	-0.1	0.1	0.0	-0.6	2.2	2.0	-2.3
Critical	-10.8	-6.1	-2.9	-1.6	-0.5	0.0	0.1	0.0	-1.0	10.7	6.1	-10.3
Dry	-4.5	-2.6	-1.2	-0.6	-0.2	0.0	0.0	0.0	0.0	0.5	4.3	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0
AN	-5.9	-3.0	-1.5	-0.3	0.2	0.1	0.2	0.2	-2.4	-0.5	-0.2	-0.8
Wet	-0.7	-0.6	-0.3	0.0	-0.6	-0.2	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-31.
SWP-Clifton Court Intake (CHWST000) salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	4.7	2.3	-4.5
1977	-3.3	-1.7	-0.7	-0.5	-0.2	-0.1	0.0	0.0	-0.6	-1.3	-3.2	-1.4
1978	-2.6	-1.6	-0.7	-0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	-3.1	0.5	2.6
1982	-1.3	-1.0	-0.4	0.0	-2.4	-1.1	0.2	-0.2	-0.1	0.0	0.0	0.0
1983	-0.1	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	-0.1	-0.1	0.0
1984	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.5	1.9	-3.0
1988	-2.2	-1.3	-0.6	-0.2	0.0	0.0	0.0	0.0	0.0	1.6	4.5	-1.5
1989	-2.5	-1.3	-0.6	-0.3	-0.1	0.0	0.0	0.1	0.1	-0.5	0.1	0.6
1990	-0.2	-0.1	0.0	0.0	0.0	0.2	0.1	0.0	-0.1	5.8	2.5	-2.4
1991	-2.6	-1.5	-0.7	-0.3	-0.2	-0.1	0.0	0.0	-0.4	4.8	1.9	-2.1
1992	-2.2	-1.3	-0.5	-0.3	-0.1	0.0	0.0	0.0	0.1	2.6	2.1	-1.8
1993	-1.9	-1.1	-0.5	-0.1	0.1	0.1	0.1	0.1	-3.8	-1.7	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	-2.4	2.4
1995	0.1	-0.3	-0.3	-0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	3.9	3.3	-1.2
2002	-1.5	-0.9	-0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.6	-0.5	-1.2
Average	-0.6	-0.4	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.5	0.4	-0.4
Critical	-1.5	-0.8	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.2	2.2	1.1	-1.6
Dry	-0.7	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.0	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.7	-0.4	-0.2	0.0	0.0	0.0	0.1	0.0	-0.6	-0.2	0.0	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-32.
Old River near Middle River salinity (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.3	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.2	0.2	0.2	0.3	-0.3	0.3	0.3	-0.3	-0.4
1973	0.3	0.1	0.2	-0.2	0.2	0.4	-0.1	0.3	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.2	-0.2	0.1	0.3	0.2	0.3	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.1	0.2	0.3	0.0	-0.2	0.0	-0.2	-0.2	0.1
1977	-0.1	0.1	-0.1	0.3	0.1	0.2	0.2	0.4	0.0	0.0	-0.4	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	-0.3	0.4	0.0	-24.6	-2.6	-0.2
1982	0.3	-0.3	0.3	0.0	-13.9	-1.1	0.4	-0.4	-0.3	-0.3	0.4	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.3	0.2	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.4	-0.4	-0.4	0.3
1986	0.5	0.0	0.4	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.3	0.1	-0.3	-0.4
1988	-0.4	0.3	-0.1	0.0	0.4	0.1	0.4	-0.2	0.1	-0.5	0.2	0.2
1989	0.1	0.3	0.1	-0.4	-0.4	0.3	-0.4	0.2	0.1	0.2	-0.3	-0.2
1990	-0.2	-0.2	0.0	0.2	0.3	-0.2	-0.4	0.1	-0.3	-0.2	0.0	0.1
1991	-0.1	0.3	-0.3	0.2	-0.3	0.0	-0.3	0.1	0.1	-1.9	-0.6	0.1
1992	-0.2	0.4	-0.1	0.3	-0.1	0.1	-0.4	0.2	0.2	-110.4	-25.7	0.0
1993	0.1	-0.2	0.4	0.2	0.1	0.1	0.5	0.4	18.4	1.4	0.4	-0.1
1994	0.0	0.0	-0.4	-0.4	0.1	0.2	0.3	-0.4	-0.4	0.5	0.0	-0.4
1995	0.1	0.2	0.3	-0.1	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.4
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.3	0.4	-0.1	0.1	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.4	0.3
1998	0.2	-0.3	0.2	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	0.0	0.4	0.3	0.5	-0.3	0.0	-0.1
2000	0.2	-0.3	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.3	0.0	0.3	0.1	-0.4	-0.4	-31.4	-3.9	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	0.0	-0.3	-0.1	0.2	0.0
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-0.1	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.6	-4.9	-1.0	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-16.1	-3.8	0.0
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-9.4	-1.2	-0.1
BN	0.2	0.0	0.1	-0.2	0.3	0.1	0.3	-0.1	0.3	0.3	-0.1	-0.1
AN	0.1	-0.1	0.0	0.0	0.2	0.2	0.2	0.1	3.1	0.1	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.0	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-33.
Old River near Middle River salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	-0.1
1973	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	-3.9	-0.4	0.0
1982	0.1	-0.1	0.0	0.0	-4.7	-0.4	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-14.8	-3.3	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.7	0.2	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	-0.1
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-4.8	-0.6	-0.1
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	-0.7	-0.1	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-0.5	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.2	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-34.
CCWD Old River Intake (ROLD034) salinity (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.2	0.1	0.0	0.0	0.0
1974	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-3.2	30.0	0.9	-31.8
1977	-26.7	-14.2	-7.4	-4.9	-1.9	-0.8	-0.3	-0.4	-3.7	-3.0	-16.1	-13.4
1978	-24.1	-12.4	-6.4	-1.4	0.4	0.3	0.0	0.3	0.2	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.2	-0.4	0.2	0.3	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-15.3	3.9	19.5
1982	-11.8	-7.1	-1.7	0.2	-8.3	-4.4	0.4	-0.4	-0.3	-0.1	0.0	0.0
1983	-0.1	-0.1	-0.1	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.1	-0.1
1984	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.0	0.1	0.1	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	7.5	13.8	-14.6
1988	-15.1	-8.7	-5.2	-1.5	-0.3	-0.1	0.0	0.0	0.2	11.3	20.9	-10.7
1989	-19.1	-11.4	-5.5	-3.5	-1.6	-0.6	0.2	0.4	0.2	-2.6	0.9	3.7
1990	-1.2	-0.4	-0.2	-0.2	0.3	1.2	1.0	0.5	-0.7	34.1	17.6	-16.9
1991	-22.1	-13.5	-7.9	-4.9	-2.4	-0.9	-0.2	-0.1	-1.5	30.0	13.8	-13.9
1992	-18.4	-10.9	-6.3	-4.0	-1.6	-0.1	0.0	0.0	0.6	14.3	11.4	-13.0
1993	-14.1	-7.0	-4.9	-1.4	0.8	0.5	0.3	0.4	-8.7	-3.9	0.7	0.5
1994	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-21.0	-16.9	20.8
1995	0.7	-1.6	-2.8	-1.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0
1996	-0.1	-0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	-0.4	-0.3	-0.1	0.0	0.3	0.1	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.4	0.3	0.0	-0.1	0.0
1999	0.0	0.0	0.0	-0.1	0.0	0.0	0.4	0.3	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.3	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	14.6	14.8	-4.3
2002	-10.0	-6.1	-3.3	-0.9	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	2.1	-2.0	-5.9
Average	-4.8	-2.7	-1.5	-0.7	-0.4	-0.1	0.1	0.1	-0.5	2.9	1.9	-2.4
Critical	-11.9	-6.8	-3.9	-2.2	-0.9	-0.1	0.1	0.0	-1.2	13.7	4.5	-11.3
Dry	-4.8	-2.9	-1.5	-0.7	-0.2	-0.1	0.0	0.1	0.1	0.7	5.6	0.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0
AN	-6.4	-3.2	-1.9	-0.5	0.2	0.1	0.2	0.2	-1.4	-0.3	-0.2	-0.9
Wet	-0.9	-0.7	-0.3	-0.1	-0.6	-0.3	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-35.
CCWD Old River Intake (ROLD034) salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.7	4.6	0.1	-4.8
1977	-3.4	-1.8	-0.9	-0.5	-0.3	-0.1	-0.1	-0.1	-0.8	-0.5	-2.3	-1.5
1978	-2.6	-1.7	-0.8	-0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.7	0.6	2.6
1982	-1.4	-1.0	-0.6	0.0	-2.4	-1.3	0.2	-0.2	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.2	0.1	0.1	-0.2	0.1	0.0	-0.1	0.0
1984	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.2	3.1	-2.7
1988	-2.2	-1.4	-0.7	-0.3	-0.1	0.0	0.0	0.0	0.1	3.2	4.0	-1.8
1989	-2.5	-1.4	-0.7	-0.4	-0.2	-0.1	0.0	0.1	0.1	-0.6	0.1	0.6
1990	-0.2	-0.1	0.0	0.0	0.1	0.3	0.3	0.1	-0.2	5.9	2.3	-2.4
1991	-2.7	-1.6	-0.9	-0.5	-0.3	-0.1	0.0	0.0	-0.4	4.8	1.8	-2.0
1992	-2.3	-1.4	-0.7	-0.4	-0.2	0.0	0.0	0.0	0.2	3.9	1.9	-1.8
1993	-1.9	-1.1	-0.6	-0.2	0.2	0.1	0.1	0.1	-2.6	-1.5	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-3.2	-2.0	2.7
1995	0.1	-0.3	-0.4	-0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	3.4	-0.8
2002	-1.5	-1.0	-0.6	-0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-0.5	-1.3
Average	-0.6	-0.4	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.6	0.4	-0.4
Critical	-1.5	-0.9	-0.5	-0.3	-0.1	0.0	0.0	0.0	-0.3	2.7	0.8	-1.7
Dry	-0.7	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.4	1.2	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.8	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.1	-0.4	-0.1	-0.1	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-36.
Old River location (ROLD059) salinity (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.1	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.2	-0.2
1971	-0.1	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.2	-0.2	-0.2
1972	0.1	-0.2	0.2	-0.2	0.1	0.2	0.3	-0.3	0.0	0.2	-0.1	-0.3
1973	0.2	0.1	0.2	-0.1	0.1	0.4	-0.1	0.3	0.1	-0.3	-0.2	-0.3
1974	-0.4	0.3	0.1	-0.1	0.0	0.2	-0.2	0.1	0.3	0.2	0.3	0.4
1975	-0.1	0.1	-0.2	0.3	0.0	0.1	0.1	-0.3	-0.1	0.3	0.0	0.0
1976	-0.1	-0.3	0.1	0.1	0.2	0.3	0.0	-0.2	-0.6	-0.3	1.7	4.3
1977	-0.1	0.0	-0.1	0.2	0.2	0.2	0.2	0.3	-1.3	-2.0	-13.0	-6.8
1978	-4.1	-1.1	0.1	-0.3	0.0	0.1	0.0	0.3	0.3	0.2	0.2	0.4
1979	0.2	0.3	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.2	0.1	0.1
1980	0.2	-0.2	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.2	-0.3	-0.1
1981	0.3	0.1	-0.1	-0.1	-0.1	-0.3	-0.3	0.3	0.0	-22.9	-10.3	-0.8
1982	0.3	-0.2	0.3	-0.1	-12.5	-1.4	0.4	-0.4	-0.3	-0.3	0.3	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.1	0.3	0.2	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.3	-0.4	-0.4	0.1
1986	0.4	0.1	0.4	0.4	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.2	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.1	9.1	23.3	1.8
1988	-0.4	0.1	0.0	0.0	0.4	0.2	0.4	-0.2	0.0	57.3	21.8	-1.0
1989	-0.1	0.2	0.1	-0.3	-0.4	0.2	-0.3	0.1	0.1	0.2	-0.8	-0.5
1990	-0.2	-0.2	-0.1	0.2	0.3	-0.2	-0.4	0.0	-0.1	29.6	15.1	-4.7
1991	-0.2	0.1	-0.3	0.1	-0.2	0.0	-0.3	0.0	-0.4	47.2	16.7	-7.2
1992	-0.7	0.2	0.0	0.2	-0.1	0.1	-0.3	0.1	-0.5	147.4	20.9	-3.4
1993	-3.0	-2.2	0.3	0.2	0.1	0.1	0.4	0.4	16.3	2.7	0.3	0.0
1994	0.0	0.0	-0.3	-0.3	0.0	0.2	0.3	-0.4	-0.2	0.1	-28.2	-10.5
1995	-0.6	0.2	0.3	0.0	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.3
1996	-0.4	-0.2	-0.2	-0.2	0.2	-0.3	0.4	0.0	0.1	-0.1	-0.1	0.1
1997	-0.3	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.3	0.2
1998	0.2	-0.2	0.1	0.3	0.3	-0.3	0.0	0.4	0.2	-0.2	-0.4	0.1
1999	-0.3	0.0	-0.3	-0.4	0.0	0.0	0.4	0.3	0.4	-0.2	0.0	0.0
2000	0.1	-0.2	-0.3	-0.2	0.2	0.3	0.4	-0.3	0.1	0.0	-0.1	0.0
2001	-0.1	-0.2	-0.3	0.2	0.0	0.3	0.1	-0.3	-0.5	-15.5	26.2	5.6
2002	0.1	0.1	0.3	-0.1	-0.1	0.2	0.1	0.0	-0.1	-0.1	0.1	0.1
2003	0.0	0.1	0.0	0.2	0.4	0.5	0.3	0.0	-0.1	0.1	0.1	0.2
Average	-0.3	-0.1	0.0	0.0	-0.3	0.0	0.1	0.0	0.5	7.4	2.1	-0.7
Critical	-0.2	0.0	-0.1	0.1	0.1	0.1	0.0	0.0	-0.5	39.9	5.0	-4.2
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-4.9	6.3	1.0
BN	0.2	0.1	0.1	-0.1	0.3	0.1	0.3	0.0	0.1	0.2	0.0	-0.1
AN	-1.1	-0.6	0.0	0.0	0.2	0.2	0.2	0.1	2.8	0.4	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-0.9	-0.1	0.1	0.0	0.2	0.0	0.0	0.0

Table 1-37.
Old River location (ROLD059) salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	-0.1
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.2	0.7
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3	-2.1	-0.9
1978	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	-3.6	-1.7	-0.1
1982	0.1	0.0	0.0	0.0	-3.9	-0.5	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	-0.1	-0.3	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	-0.1	0.0
1986	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	4.0	0.3
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	9.9	4.0	-0.2
1989	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	2.2	-0.7
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	7.3	2.4	-1.1
1992	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	32.4	3.8	-0.5
1993	-0.4	-0.3	0.0	0.0	0.0	0.0	0.1	0.1	2.4	0.4	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-3.8	-1.5
1995	-0.1	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.1	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.0
1998	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.1	0.0
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-2.4	4.6	1.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	1.5	0.4	-0.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	7.7	1.0	-0.6
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	1.1	0.2
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Table 1-38.
CCWD Contra Costa Canal Intake (CHCCC006) salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.1	-2.6	-8.3	-1.9	-0.3	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	28.7	14.1	-50.2
1977	-55.3	-35.8	-19.9	-21.0	-7.1	0.5	2.0	1.1	1.6	6.1	1.3	-2.3
1978	-33.3	-22.1	-12.3	-0.6	0.9	0.5	0.2	0.1	0.2	0.2	0.3	0.2
1979	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.3	0.1	0.1	0.1	0.0
1980	-0.2	-0.3	2.9	3.2	7.0	11.6	0.6	0.3	0.1	0.0	0.0	0.0
1981	0.0	0.0	-0.4	-0.1	0.2	0.1	0.0	0.3	0.6	-3.5	8.8	32.0
1982	-35.4	-23.7	-2.6	0.2	-5.6	-5.9	-0.6	-0.1	-0.2	-0.1	0.0	0.0
1983	0.0	0.1	0.0	0.0	0.3	0.3	0.2	-0.1	0.1	0.1	-0.1	0.0
1984	0.0	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1	0.0
1985	0.0	0.1	0.3	0.4	0.3	0.2	0.3	0.2	0.2	-0.3	-0.5	-0.8
1986	-0.7	-0.5	-0.8	0.7	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.1	-0.1	-0.5	0.2	0.1	2.5	3.3	1.4	9.8	21.1	-24.7
1988	-40.6	-26.2	-16.5	-0.4	0.4	2.8	2.8	3.9	2.7	18.1	34.4	-25.5
1989	-43.9	-34.9	-20.0	10.6	6.1	3.8	1.4	4.0	1.4	13.5	10.6	-11.9
1990	-21.9	-16.7	-12.7	-10.4	0.0	2.3	2.3	1.3	1.8	73.2	4.2	-34.6
1991	-43.1	-32.8	-21.7	-17.5	-3.2	0.1	0.7	0.8	4.3	57.2	-2.4	-28.5
1992	-34.4	-25.1	-17.0	-16.5	-8.4	0.1	0.5	2.9	1.5	18.1	31.9	-18.6
1993	-38.1	-21.2	-10.9	5.8	1.7	1.0	0.7	0.8	-4.8	-2.7	1.3	1.0
1994	0.1	0.1	0.0	0.3	3.2	1.5	0.9	0.6	1.1	0.7	-13.3	14.6
1995	-10.8	-4.7	-8.6	2.0	0.9	0.5	0.2	0.1	0.1	0.1	0.1	0.5
1996	0.1	0.0	0.1	0.4	0.3	0.1	0.1	0.2	0.1	0.3	0.5	0.4
1997	0.1	0.0	0.0	-0.2	-0.3	-0.1	0.0	0.1	0.1	-0.1	-0.3	-0.7
1998	0.1	0.1	0.2	0.9	0.2	0.1	-0.1	0.2	0.2	0.0	0.0	0.0
1999	0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.2	0.2
2000	0.0	0.0	-0.1	-0.5	0.1	0.1	0.2	0.2	0.0	-0.1	-0.2	0.0
2001	0.0	0.0	-0.2	-1.0	0.2	0.1	0.2	0.7	1.8	23.2	28.2	-5.3
2002	-25.9	-19.0	1.6	1.3	0.5	0.4	0.2	0.2	1.0	-0.2	-0.7	-2.5
2003	-2.6	-1.1	-0.8	0.6	0.1	0.1	0.1	0.2	0.2	7.6	3.1	-7.6
Average	-11.3	-7.7	-4.1	-1.2	0.0	0.5	0.2	0.6	0.5	7.4	4.2	-4.8
Critical	-27.9	-19.5	-12.6	-9.4	-2.2	1.1	1.3	1.6	1.9	28.9	10.0	-20.7
Dry	-11.6	-9.0	-3.1	1.8	1.2	0.8	0.8	1.4	1.1	7.1	11.2	-2.2
BN	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0
AN	-12.4	-7.4	-3.5	1.4	1.7	1.8	-1.1	0.0	-0.8	0.8	0.7	-1.1
Wet	-3.6	-2.2	-0.9	0.3	-0.3	-0.4	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-39.
CCWD Contra Costa Canal Intake (CHCCC006) salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.7	-2.2	-0.4	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	4.5	1.5	-6.8
1977	-6.4	-4.0	-2.3	-1.8	-1.0	0.1	0.5	0.3	0.3	1.0	0.2	-0.2
1978	-3.1	-2.7	-1.4	-0.1	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.4	0.6	1.0	2.2	0.2	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.1	0.2	-0.8	1.2	3.9
1982	-3.6	-2.6	-0.8	0.0	-1.7	-1.4	-0.2	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1
1986	-0.1	-0.1	-0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	-0.1	0.0	0.0	0.6	0.8	0.4	2.7	4.3	-4.4
1988	-5.5	-3.7	-2.1	-0.1	0.1	0.6	0.7	1.0	0.8	4.9	5.8	-3.9
1989	-5.5	-3.7	-2.3	1.0	0.8	0.7	0.3	1.2	0.5	2.7	1.3	-1.5
1990	-3.0	-2.2	-1.6	-1.2	0.0	0.7	0.7	0.4	0.5	12.6	0.5	-4.4
1991	-4.6	-3.5	-2.2	-1.7	-0.5	0.0	0.2	0.2	1.2	8.9	-0.3	-3.8
1992	-3.9	-2.8	-1.8	-1.6	-1.1	0.0	0.1	0.8	0.5	4.7	4.8	-2.4
1993	-4.4	-3.1	-1.3	0.8	0.3	0.3	0.2	0.2	-1.6	-1.1	0.3	0.2
1994	0.1	0.0	0.0	0.0	0.6	0.4	0.3	0.2	0.3	0.1	-1.3	1.7
1995	-1.1	-0.8	-1.1	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.2
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1
1997	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1998	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1999	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0
2000	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.2	0.6	6.9	5.8	-1.0
2002	-3.6	-2.7	0.2	0.3	0.2	0.1	0.1	0.0	0.3	0.0	-0.1	-0.3
2003	-0.3	-0.1	-0.1	0.2	0.0	0.0	0.0	0.0	0.1	2.7	0.8	-1.4
Average	-1.3	-0.9	-0.5	-0.1	0.0	0.1	0.1	0.2	0.1	1.5	0.7	-0.7
Critical	-3.3	-2.3	-1.4	-0.9	-0.3	0.3	0.3	0.4	0.5	5.2	1.6	-2.8
Dry	-1.5	-1.1	-0.4	0.2	0.2	0.2	0.2	0.4	0.4	1.9	2.1	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.3	-1.0	-0.4	0.2	0.3	0.3	-0.3	0.0	-0.3	0.3	0.2	-0.2
Wet	-0.4	-0.2	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-40.
CVP-Jones Intake (CHDMC006) salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.1	0.1	0.0	-0.2	-0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.0
1971	0.0	-0.1	0.0	0.0	0.1	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.1	0.1	0.3	-0.2	0.0	0.0	0.0	-0.1
1973	0.0	0.0	0.1	-0.1	0.1	-15.3	-2.9	0.3	-0.2	-0.1	-0.1	-0.1
1974	-0.2	0.0	0.1	-0.1	0.0	0.2	-0.2	0.1	0.2	0.1	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.1	-0.3	-0.1	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	24.3	11.4	-34.3
1977	-29.5	-16.1	-9.0	-11.1	2.4	10.0	10.9	3.2	1.5	-5.6	-22.9	-19.6
1978	-26.7	-10.5	-5.1	-0.7	0.3	0.2	0.0	0.3	0.2	0.2	0.2	0.2
1979	0.1	0.1	0.0	0.0	0.4	0.0	0.3	0.2	0.1	0.1	0.1	0.0
1980	-0.1	0.1	2.3	0.4	-2.4	-0.5	0.3	0.2	0.1	-0.1	-0.1	0.0
1981	0.1	0.1	-0.2	0.0	0.0	-0.2	1.3	0.6	1.1	-2.2	9.9	8.8
1982	-19.0	-10.5	-1.1	0.2	-10.7	-1.7	0.4	-0.4	-0.3	-0.3	0.1	-0.2
1983	-0.3	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.4	0.0
1984	0.2	-0.2	0.1	0.0	0.1	0.1	0.2	-0.1	0.1	0.1	0.0	0.0
1985	0.0	0.0	0.1	0.3	0.2	0.2	0.4	0.0	0.2	-0.2	-0.4	-0.5
1986	-0.2	-0.3	-0.1	0.5	0.1	0.4	0.1	0.0	0.3	0.1	0.0	-0.1
1987	0.1	0.3	0.1	-0.1	0.1	-0.1	0.8	2.1	2.9	3.8	-6.5	-24.7
1988	-23.9	-12.3	-6.5	-0.5	0.3	10.6	1.5	7.0	6.8	3.6	16.5	-18.9
1989	-29.4	-16.1	-6.8	6.2	7.3	1.5	0.2	15.1	3.5	-0.7	6.8	-3.4
1990	-10.2	-8.6	-4.9	-4.2	-0.2	0.9	0.8	0.2	0.8	24.0	7.4	-24.3
1991	-30.8	-16.5	-8.8	-2.8	-1.1	-0.1	0.0	0.2	3.4	17.2	2.9	-21.1
1992	-22.4	-12.0	-4.1	-6.5	-1.5	-0.1	-4.3	15.4	3.5	9.0	11.2	-25.6
1993	-25.7	-11.3	-3.7	1.4	0.7	0.5	0.4	0.4	-18.7	-3.6	0.8	0.5
1994	0.1	0.0	-0.1	0.3	1.5	0.7	0.4	-0.1	0.3	-1.6	-12.5	4.7
1995	-6.0	-1.5	-3.6	0.3	0.2	0.3	0.2	0.1	0.3	-0.2	0.2	0.2
1996	-0.1	-0.1	0.0	-0.1	0.2	-0.3	0.3	0.0	0.1	0.2	0.2	0.2
1997	0.0	-0.1	-0.2	-0.4	-0.2	0.1	0.0	0.4	0.1	0.3	-0.2	-0.4
1998	0.5	1.7	0.2	0.4	0.3	-0.3	0.0	0.4	0.2	-0.2	-0.2	0.1
1999	-0.1	0.1	0.0	-0.2	0.0	0.0	0.4	0.3	0.3	0.1	0.1	0.1
2000	0.1	0.0	-0.1	-0.3	0.2	0.3	0.3	-0.3	0.0	0.2	-0.1	0.0
2001	0.0	-0.1	-0.3	-0.4	0.1	0.2	2.6	0.3	2.6	11.2	9.7	-12.8
2002	-17.5	-6.8	2.1	0.5	0.3	0.2	0.1	0.0	1.1	-0.1	-0.5	-1.6
2003	-1.4	-0.7	-0.3	0.4	0.2	0.2	0.3	0.0	0.1	3.7	1.8	-3.8
Average	-7.1	-3.6	-1.5	-0.5	0.0	0.3	0.5	1.3	0.3	2.4	1.0	-5.2
Critical	-16.7	-9.4	-4.8	-3.5	0.2	3.1	1.3	3.7	2.3	10.1	2.0	-19.9
Dry	-7.8	-3.8	-0.9	1.1	1.3	0.3	0.9	3.0	1.9	2.0	3.2	-5.7
BN	0.1	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.1	0.1	0.0	0.0
AN	-9.0	-3.7	-1.1	0.2	-0.1	-2.4	-0.3	0.1	-3.1	0.0	0.4	-0.5
Wet	-1.9	-0.8	-0.4	0.1	-0.7	-0.1	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-41.
CVP-Jones Intake (CHDMC006) salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-4.1	-0.8	0.1	-0.1	0.0	0.0	0.0
1974	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	1.7	-5.7
1977	-4.5	-2.3	-1.2	-1.2	0.3	1.2	1.6	0.5	0.3	-1.0	-3.7	-2.6
1978	-3.3	-1.5	-0.7	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.4	0.1	-0.7	-0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.3	-0.6	1.8	1.4
1982	-2.7	-1.7	-0.2	0.0	-3.3	-0.5	0.2	-0.2	-0.1	-0.1	0.0	-0.1
1983	-0.2	0.0	-0.1	0.0	0.1	0.1	0.1	-0.2	0.1	-0.1	-0.2	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	-0.1
1986	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.4	0.8	1.1	-1.4	-4.8
1988	-4.0	-2.1	-0.9	-0.1	0.0	1.2	0.2	1.2	1.5	1.0	3.3	-3.3
1989	-4.4	-2.2	-0.9	0.7	0.9	0.2	0.0	2.7	1.1	-0.2	1.1	-0.6
1990	-1.8	-1.4	-0.7	-0.6	0.0	0.1	0.1	0.0	0.2	4.7	1.1	-3.8
1991	-4.2	-2.2	-1.1	-0.3	-0.1	0.0	0.0	0.0	0.9	3.1	0.4	-3.4
1992	-3.2	-1.7	-0.5	-0.7	-0.2	0.0	-0.6	2.9	1.0	2.7	2.1	-4.0
1993	-3.8	-1.8	-0.5	0.2	0.1	0.1	0.1	0.1	-3.7	-1.0	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	-0.3	-1.7	0.7
1995	-0.8	-0.3	-0.5	0.0	0.0	0.1	0.1	0.0	0.1	-0.1	0.1	0.1
1996	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.0	0.1	-0.1	-0.1
1998	0.1	0.4	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.1	0.0
1999	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.1	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.6	0.1	0.7	3.3	2.2	-2.5
2002	-3.0	-1.2	0.3	0.1	0.0	0.0	0.0	0.0	0.3	0.0	-0.1	-0.3
2003	-0.2	-0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	1.3	0.5	-0.8
Average	-1.1	-0.5	-0.2	-0.1	-0.1	0.0	0.1	0.2	0.1	0.5	0.2	-0.9
Critical	-2.5	-1.4	-0.6	-0.4	0.0	0.4	0.2	0.7	0.6	2.1	0.5	-3.2
Dry	-1.2	-0.5	-0.1	0.1	0.2	0.0	0.2	0.6	0.5	0.6	0.6	-1.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.2	-0.6	-0.1	0.0	-0.1	-0.7	-0.1	0.0	-0.6	0.1	0.1	-0.1
Wet	-0.3	-0.1	-0.1	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-42.
SWP-Clifton Court Intake (CHWST000) salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.1	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.1	0.1	0.3	-0.2	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	-0.1	0.2	-10.7	-2.2	0.3	-0.3	0.0	0.0	0.0
1974	-0.1	0.0	0.1	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.1	-0.3	-0.1	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	32.7	11.8	-43.4
1977	-40.1	-21.0	-12.6	-14.5	-0.9	6.7	7.9	3.3	1.4	-3.7	-25.4	-23.7
1978	-32.4	-13.3	-6.9	-0.8	0.5	0.4	0.0	0.3	0.2	0.2	0.2	0.2
1979	0.1	0.1	0.0	0.1	0.3	0.1	0.4	0.2	0.1	0.1	0.1	0.0
1980	-0.2	0.2	3.5	1.4	-1.6	-0.4	0.3	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	-0.2	0.0	0.1	-0.1	1.2	0.6	1.2	-2.8	16.0	10.9
1982	-24.7	-13.5	-1.6	0.3	-8.2	-3.6	0.4	-0.4	-0.3	-0.1	0.0	0.0
1983	-0.1	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.2	-0.1
1984	0.1	-0.1	0.2	0.0	0.1	0.1	0.2	-0.1	0.0	0.0	-0.1	0.0
1985	0.0	0.1	0.2	0.3	0.2	0.4	0.4	0.1	0.3	-0.2	-0.4	-0.6
1986	-0.3	-0.4	-0.2	0.5	0.1	0.4	0.1	0.0	0.2	0.1	0.0	0.0
1987	0.0	0.2	0.1	-0.2	0.1	0.0	1.7	2.7	3.0	4.9	5.9	-28.4
1988	-29.2	-15.7	-8.6	-0.6	0.3	12.8	2.2	8.5	5.1	6.6	20.4	-21.7
1989	-35.6	-20.7	-8.7	8.2	7.8	2.8	0.8	12.0	2.9	-0.9	9.3	-4.5
1990	-13.4	-10.9	-6.8	-5.6	-0.2	1.2	1.3	0.6	1.0	30.7	9.6	-29.0
1991	-38.1	-21.1	-11.8	-6.2	-1.7	-0.2	0.2	0.4	3.6	21.6	3.9	-22.7
1992	-28.2	-15.4	-8.1	-9.4	-3.4	-0.1	-2.1	9.4	3.2	9.1	11.8	-28.7
1993	-30.6	-13.9	-4.7	2.5	1.2	0.8	0.5	0.4	-14.4	-4.6	1.0	0.7
1994	0.1	0.1	0.0	0.6	2.0	0.9	0.6	0.1	0.5	-2.0	-13.8	7.3
1995	-7.7	-2.2	-4.9	0.7	0.6	0.3	0.2	0.1	0.2	-0.1	0.1	0.3
1996	0.0	-0.1	0.0	0.0	0.2	-0.1	0.4	0.0	0.1	0.2	0.4	0.2
1997	0.0	-0.1	-0.1	-0.4	-0.2	0.0	-0.1	0.4	0.2	0.0	-0.2	-0.6
1998	0.3	0.9	0.2	0.5	0.3	-0.1	0.0	0.4	0.2	-0.1	-0.1	0.0
1999	0.0	0.1	0.1	-0.1	0.0	0.0	0.4	0.3	0.2	0.2	0.2	0.1
2000	0.0	0.0	0.0	-0.3	0.2	0.2	0.4	-0.3	0.0	0.1	-0.1	0.0
2001	0.0	0.0	-0.2	-0.6	0.1	0.1	2.4	0.3	2.8	13.3	15.3	-14.3
2002	-21.6	-8.8	2.9	0.7	0.4	0.3	0.2	0.0	1.5	-0.1	-0.6	-2.1
2003	-1.7	-0.9	-0.4	0.4	0.2	0.2	0.3	0.0	0.2	4.9	2.0	-5.0
Average	-8.9	-4.6	-2.0	-0.7	0.0	0.4	0.5	1.2	0.4	3.2	2.0	-6.0
Critical	-21.3	-12.0	-6.8	-5.1	-0.5	3.0	1.4	3.2	2.2	13.6	2.6	-23.1
Dry	-9.5	-4.9	-1.0	1.4	1.5	0.6	1.1	2.6	1.9	2.4	7.6	-6.5
BN	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.0	0.1	0.0	0.0	0.0
AN	-10.8	-4.6	-1.4	0.5	0.1	-1.6	-0.1	0.2	-2.4	0.1	0.5	-0.7
Wet	-2.5	-1.2	-0.5	0.1	-0.5	-0.2	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-43.
SWP-Clifton Court Intake (CHWST000) salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.9	-0.6	0.1	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.4	1.7	-6.9
1977	-5.6	-2.9	-1.6	-1.5	-0.1	1.0	1.4	0.6	0.3	-0.7	-3.9	-3.0
1978	-3.7	-1.9	-0.9	-0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.6	0.3	-0.5	-0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.0	0.0	0.3	0.1	0.3	-0.7	2.8	1.6
1982	-3.2	-2.0	-0.4	0.1	-2.3	-1.0	0.2	-0.2	-0.1	0.0	0.0	0.0
1983	-0.1	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	-0.1	-0.1	0.0
1984	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1
1986	0.0	-0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.6	0.9	1.5	1.4	-5.6
1988	-4.6	-2.5	-1.3	-0.1	0.0	1.8	0.4	1.6	1.2	1.9	4.1	-3.8
1989	-5.0	-2.7	-1.1	0.9	1.0	0.4	0.1	2.5	1.0	-0.2	1.4	-0.7
1990	-2.2	-1.7	-1.0	-0.8	0.0	0.2	0.3	0.1	0.2	5.8	1.3	-4.4
1991	-4.9	-2.6	-1.4	-0.7	-0.2	0.0	0.0	0.1	1.0	3.8	0.5	-3.5
1992	-3.8	-2.0	-1.0	-1.1	-0.4	0.0	-0.4	2.1	0.9	2.6	2.1	-4.4
1993	-4.3	-2.2	-0.6	0.3	0.2	0.2	0.1	0.1	-3.7	-1.7	0.3	0.2
1994	0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.0	0.1	-0.3	-1.7	1.0
1995	-1.0	-0.4	-0.7	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1
1998	0.1	0.3	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0
2000	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.6	0.1	0.8	4.2	3.7	-2.9
2002	-3.5	-1.5	0.5	0.1	0.1	0.1	0.0	0.0	0.4	0.0	-0.1	-0.3
2003	-0.2	-0.1	-0.1	0.1	0.0	0.0	0.1	0.0	0.1	1.9	0.6	-1.2
Average	-1.2	-0.7	-0.3	-0.1	0.0	0.0	0.1	0.2	0.1	0.7	0.4	-1.0
Critical	-3.0	-1.7	-0.9	-0.6	-0.1	0.4	0.3	0.6	0.5	2.7	0.6	-3.6
Dry	-1.4	-0.7	-0.1	0.2	0.2	0.1	0.2	0.6	0.6	0.8	1.5	-1.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.4	-0.7	-0.2	0.1	0.0	-0.5	0.0	0.0	-0.6	0.0	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-44.
Old River near Middle River location salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.3	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.2	0.2	0.2	0.3	-0.3	0.3	0.3	-0.3	-0.4
1973	0.3	0.1	0.2	-0.2	0.1	-20.9	-1.4	0.3	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.2	-0.2	0.1	0.3	0.2	0.3	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.1	0.2	0.3	0.0	-0.2	0.0	-0.2	-0.2	0.1
1977	-0.1	0.1	-0.1	0.3	0.1	0.2	0.2	0.4	0.0	0.0	-0.4	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	1.6	0.5	0.0	-0.2	-0.1	-0.2
1982	0.3	-0.3	0.3	0.0	-13.9	-1.1	0.4	-0.4	-0.3	-0.3	0.4	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.3	0.3	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.4	-0.4	-0.4	0.3
1986	0.5	0.0	0.4	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.3	0.1	-0.3	-0.4
1988	-0.4	0.3	-0.1	0.0	0.4	0.1	0.4	-0.2	0.1	-0.6	0.2	0.2
1989	0.1	0.3	0.1	-0.4	-0.4	0.3	-0.4	0.2	0.1	0.2	-0.3	-0.2
1990	-0.2	-0.2	0.0	0.2	0.3	-0.2	-0.4	0.1	-0.3	-0.3	0.0	0.1
1991	-0.1	0.3	-0.3	0.2	-0.3	0.0	-0.3	0.1	0.1	-1.5	-0.6	0.1
1992	-0.2	0.4	-0.1	0.3	-0.1	0.1	-9.1	-0.8	0.2	-11.9	-1.4	0.1
1993	0.1	-0.2	0.4	0.2	0.1	0.1	0.5	0.4	18.4	1.4	0.4	-0.1
1994	0.0	0.0	-0.4	-0.4	0.1	0.2	0.3	-0.4	-0.4	0.1	0.0	-0.4
1995	0.1	0.2	0.3	-0.1	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.4
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.3	0.4	-0.1	0.1	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.4	0.3
1998	0.2	-0.3	0.2	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	0.0	0.4	0.3	0.5	-0.3	0.0	-0.1
2000	0.2	-0.3	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.3	0.0	0.3	2.9	-0.2	-0.4	-0.4	-0.3	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	0.0	-0.3	-0.1	0.3	0.0
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-0.1	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.3	-0.6	-0.1	0.0	0.6	-0.4	-0.1	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	-1.3	-0.2	-0.1	-2.0	-0.3	0.0
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.7	0.1	-0.1	-0.1	-0.2	-0.1
BN	0.2	0.0	0.1	-0.2	0.3	0.1	0.3	-0.1	0.3	0.3	-0.1	-0.1
AN	0.1	-0.1	0.0	0.0	0.2	-3.4	0.0	0.1	3.1	0.1	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.0	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-45.
Old River near Middle River location salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	-0.1
1973	0.1	0.0	0.0	0.0	0.0	-6.0	-0.4	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.4	0.1	0.0	0.0	0.0	0.0
1982	0.1	-0.1	0.0	0.0	-4.7	-0.4	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	-1.1	-0.1	0.0	-1.6	-0.2	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.7	0.2	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	-0.1	-0.1	-0.1	-0.1
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	-0.1	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.3	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-46.
CCWD Old River Intake (ROLD034) salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.2	-8.7	-3.7	-0.2	-0.3	0.0	0.0	0.0
1974	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	35.0	-7.2	-49.1
1977	-46.0	-24.0	-17.1	-16.7	-4.1	2.2	4.0	2.1	1.5	-0.6	-23.2	-27.8
1978	-34.9	-15.0	-9.0	-0.8	0.8	0.5	0.0	0.3	0.2	0.2	0.2	0.2
1979	0.1	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.1	0.1	0.0
1980	-0.3	0.3	4.1	2.3	7.8	-0.3	0.3	0.3	0.1	0.0	0.0	0.0
1981	0.0	-0.1	-0.3	0.1	0.2	0.0	0.2	0.4	0.9	-3.4	18.0	9.7
1982	-29.0	-15.2	-1.8	0.2	-8.2	-4.4	0.4	-0.4	-0.2	-0.1	0.0	0.0
1983	-0.1	0.0	-0.1	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.1	-0.1
1984	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	0.0
1985	0.0	0.1	0.3	0.3	0.2	0.4	0.3	0.2	0.2	-0.3	-0.5	-0.7
1986	-0.4	-0.6	-0.3	0.6	0.1	0.4	0.1	0.0	0.1	0.1	0.0	0.0
1987	0.0	0.1	-0.1	-0.3	0.1	0.1	4.2	4.3	2.3	7.9	11.6	-29.4
1988	-32.8	-18.2	-11.1	-0.5	0.3	6.0	3.1	6.9	4.0	13.1	17.6	-26.3
1989	-39.2	-24.2	-9.9	11.5	8.5	4.3	1.6	6.6	2.2	-1.0	9.4	-5.7
1990	-15.5	-12.8	-10.4	-7.1	0.0	1.9	1.9	1.2	1.2	33.6	7.7	-32.8
1991	-41.6	-23.5	-17.1	-11.4	-2.6	-0.3	0.6	0.7	3.8	23.8	2.3	-25.1
1992	-31.9	-17.3	-13.9	-13.8	-7.3	-0.1	0.4	4.6	2.7	14.7	11.4	-31.9
1993	-33.3	-15.0	-5.4	4.8	1.6	1.0	0.6	0.6	-8.4	-3.7	1.1	0.7
1994	0.1	0.1	0.0	1.0	2.7	1.1	0.8	0.6	0.6	-2.5	-12.0	9.6
1995	-8.2	-3.1	-5.9	1.6	0.8	0.3	0.2	0.1	0.1	0.1	0.1	0.4
1996	0.0	-0.1	0.1	0.2	0.2	0.0	0.3	0.0	0.1	0.3	0.4	0.2
1997	0.0	-0.1	-0.1	-0.4	-0.3	-0.1	0.0	0.3	0.2	-0.1	-0.2	-0.7
1998	0.3	0.3	0.3	0.7	0.3	0.0	0.0	0.4	0.3	0.0	-0.1	0.0
1999	0.0	0.2	0.1	0.0	0.0	0.0	0.4	0.3	0.1	0.2	0.2	0.1
2000	0.0	0.0	-0.2	-0.4	0.1	0.2	0.3	-0.1	0.0	0.0	-0.1	0.0
2001	0.0	0.0	-0.5	-0.7	0.2	0.1	0.7	0.7	2.5	17.7	17.6	-14.5
2002	-24.2	-9.7	4.1	1.1	0.5	0.4	0.2	0.1	1.4	-0.2	-0.7	-2.3
2003	-1.9	-1.1	-0.5	0.5	0.1	0.1	0.2	0.2	0.2	6.4	2.0	-5.6
Average	-10.0	-5.3	-2.8	-0.8	0.1	0.2	0.5	0.9	0.5	4.1	1.6	-6.8
Critical	-24.0	-13.7	-10.0	-6.9	-1.6	1.6	1.5	2.4	2.0	16.7	-0.5	-26.2
Dry	-10.6	-5.6	-1.1	2.0	1.6	0.9	1.2	2.1	1.6	3.5	9.3	-7.1
BN	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0
AN	-11.7	-5.1	-1.8	1.1	1.8	-1.2	-0.4	0.2	-1.4	0.5	0.5	-0.8
Wet	-2.9	-1.4	-0.6	0.2	-0.5	-0.3	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-47.
CCWD Old River Intake (ROLD034) salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.6	-1.0	-0.1	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	5.4	-0.9	-7.3
1977	-5.8	-3.1	-2.1	-1.7	-0.6	0.4	0.9	0.5	0.3	-0.1	-3.4	-3.2
1978	-3.8	-2.0	-1.1	-0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.1	0.6	0.5	2.2	-0.1	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.1	0.3	-0.8	2.9	1.3
1982	-3.4	-2.2	-0.6	0.1	-2.4	-1.3	0.2	-0.2	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.2	0.1	0.1	-0.2	0.1	0.0	-0.1	0.0
1984	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1
1986	-0.1	-0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.1	0.0	-0.1	0.0	0.0	0.8	1.0	0.7	2.3	2.6	-5.5
1988	-4.9	-2.8	-1.6	-0.1	0.0	1.2	0.7	1.5	1.0	3.7	3.4	-4.3
1989	-5.2	-3.0	-1.2	1.2	1.2	0.7	0.3	1.8	0.8	-0.2	1.3	-0.8
1990	-2.4	-1.9	-1.4	-1.0	0.0	0.5	0.5	0.3	0.3	5.9	1.0	-4.6
1991	-5.0	-2.8	-1.9	-1.2	-0.4	-0.1	0.1	0.2	1.0	3.8	0.3	-3.7
1992	-4.0	-2.1	-1.6	-1.5	-0.9	0.0	0.1	1.2	0.8	4.1	1.9	-4.5
1993	-4.5	-2.4	-0.7	0.7	0.3	0.3	0.1	0.1	-2.5	-1.5	0.3	0.2
1994	0.0	0.0	0.0	0.1	0.5	0.3	0.2	0.1	0.2	-0.4	-1.4	1.3
1995	-1.0	-0.6	-0.8	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.2
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1
1998	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0
2000	0.0	0.0	-0.1	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.2	0.7	5.5	4.0	-2.7
2002	-3.7	-1.5	0.7	0.3	0.1	0.1	0.0	0.0	0.4	0.0	-0.1	-0.3
2003	-0.2	-0.2	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	2.4	0.5	-1.2
Average	-1.3	-0.7	-0.3	-0.1	0.0	0.0	0.1	0.2	0.1	0.9	0.4	-1.0
Critical	-3.1	-1.8	-1.2	-0.8	-0.2	0.3	0.3	0.6	0.5	3.2	0.1	-3.8
Dry	-1.5	-0.7	-0.1	0.2	0.3	0.2	0.2	0.5	0.5	1.1	1.8	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.4	-0.8	-0.2	0.2	0.5	-0.4	-0.1	0.0	-0.4	0.2	0.1	-0.2
Wet	-0.3	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-48.
Old River location (ROLD059) salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.1	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.2	-0.2
1971	-0.1	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.2	-0.2	-0.2
1972	0.1	-0.2	0.2	-0.2	0.1	0.2	0.3	-0.3	0.0	0.2	-0.1	-0.3
1973	0.2	0.1	0.2	-0.1	0.1	-18.2	-2.1	0.3	0.1	-0.3	-0.2	-0.3
1974	-0.4	0.3	0.1	-0.1	0.0	0.2	-0.2	0.1	0.3	0.2	0.3	0.4
1975	-0.1	0.1	-0.2	0.3	0.0	0.1	0.1	-0.3	-0.1	0.3	0.0	0.0
1976	-0.1	-0.3	0.1	0.1	0.2	0.3	0.0	-0.2	0.0	-0.2	-1.6	3.7
1977	0.0	-1.1	-0.2	0.3	0.1	0.0	0.5	0.3	0.9	0.3	-13.9	-13.4
1978	-7.9	0.3	0.1	-0.3	0.0	0.1	0.0	0.3	0.3	0.2	0.2	0.4
1979	0.2	0.3	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.2	0.1	0.1
1980	0.2	-0.2	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.2	-0.3	-0.1
1981	0.3	0.1	-0.1	-0.1	-0.1	-0.3	1.4	0.6	0.1	-0.1	-5.6	-1.8
1982	0.3	-0.2	0.3	-0.1	-12.5	-1.4	0.4	-0.4	-0.3	-0.3	0.3	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.2	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.1	0.3	0.2	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.3	-0.3	-0.3	0.1
1986	0.4	0.1	0.4	0.4	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.2	0.3	0.1	0.1	0.0	-0.1	-0.2	0.0	-1.3	10.4	31.0	2.7
1988	-0.1	-0.1	0.0	0.0	0.4	0.2	0.4	-0.1	2.3	67.9	24.0	-4.3
1989	2.0	0.3	0.1	-0.2	-0.4	0.2	-0.3	0.1	-1.3	-0.5	-4.8	-2.2
1990	-0.2	-0.3	-0.2	0.2	0.3	-0.2	-0.4	0.0	0.5	30.4	11.5	-8.6
1991	0.6	0.1	-0.4	0.2	-0.2	0.0	-0.3	0.0	-0.6	42.0	10.1	-13.2
1992	-0.4	0.1	-0.2	0.3	-0.1	0.1	-7.7	-1.8	0.5	56.2	14.2	-10.2
1993	-11.6	-4.3	0.3	0.2	0.2	0.2	0.4	0.4	16.3	2.7	0.3	0.0
1994	0.0	0.0	-0.3	-0.3	0.0	0.2	0.3	-0.4	0.1	0.1	-24.9	-10.3
1995	0.4	0.5	0.3	0.0	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.3
1996	-0.4	-0.2	-0.2	-0.2	0.2	-0.3	0.4	0.0	0.1	-0.1	-0.1	0.1
1997	-0.3	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.3	0.2
1998	0.2	-0.2	0.1	0.3	0.3	-0.3	0.0	0.4	0.2	-0.2	-0.4	0.1
1999	-0.3	0.0	-0.3	-0.4	0.0	0.0	0.4	0.3	0.4	-0.2	0.0	0.0
2000	0.1	-0.2	-0.3	-0.2	0.2	0.3	0.4	-0.3	0.1	0.0	-0.1	0.0
2001	-0.1	-0.2	-0.3	0.2	0.0	0.3	2.8	0.0	-0.7	9.2	34.0	6.3
2002	0.2	0.1	0.3	-0.1	-0.1	0.2	0.1	0.0	-0.4	-0.2	0.3	0.1
2003	0.0	0.1	0.0	0.2	0.4	0.5	0.3	0.0	-0.2	0.3	0.0	0.2
Average	-0.5	-0.2	0.0	0.0	-0.3	-0.5	0.0	0.0	0.6	6.4	2.2	-1.5
Critical	0.0	-0.2	-0.2	0.1	0.1	0.1	-1.0	-0.3	0.5	28.1	2.8	-8.0
Dry	0.4	0.1	0.0	0.0	-0.1	0.0	0.7	0.1	-0.7	3.1	9.1	0.9
BN	0.2	0.1	0.1	-0.1	0.3	0.1	0.3	0.0	0.1	0.2	0.0	-0.1
AN	-3.2	-0.7	0.0	0.0	0.2	-2.9	-0.1	0.1	2.8	0.4	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.9	-0.1	0.1	0.0	0.2	0.0	0.0	0.0

Table 1-49.
Old River location (ROLD059) salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	-0.1
1973	0.0	0.0	0.0	0.0	0.0	-4.8	-0.6	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.6
1977	0.0	-0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	-2.2	-1.9
1978	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.3	0.1	0.0	0.0	-0.9	-0.3
1982	0.1	0.0	0.0	0.0	-3.9	-0.5	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	-0.1	-0.3	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
1986	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	1.6	5.4	0.4
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	11.8	4.4	-0.7
1989	0.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2	-0.1	-0.7	-0.4
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.9	1.7	-1.3
1991	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	6.5	1.4	-2.0
1992	-0.1	0.0	0.0	0.0	0.0	0.0	-0.9	-0.2	0.1	12.4	2.6	-1.6
1993	-1.7	-0.6	0.0	0.0	0.0	0.0	0.1	0.1	2.4	0.4	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-3.3	-1.5
1995	0.1	0.1	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.1	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.0
1998	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.1	0.0
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	-0.1	1.4	6.0	1.1
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	1.1	0.4	-0.2
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	5.1	0.6	-1.2
Dry	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	-0.1	0.5	1.6	0.2
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.4	-0.1	0.0	0.0	0.0	-0.8	0.0	0.0	0.4	0.1	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Table 1-50.
Sacramento River location RSAC081 Base Salinity (EC)

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	1646.4	1324.8	199.8	182.1	185.8	187.4	441.6	948.7	2200.1	1905.2	3907.6	1127.7
1971	1427.2	1129.0	216.5	187.1	212.6	191.7	231.4	211.3	430.5	1534.8	4318.5	1207.5
1972	1464.0	1228.0	2455.0	2096.7	654.8	229.6	534.9	1437.5	3087.7	2715.8	4701.5	6474.6
1973	8653.2	3954.5	694.9	208.2	200.0	192.0	249.8	356.2	1153.6	2093.6	4438.5	2596.9
1974	3457.1	318.8	185.0	181.8	187.7	183.4	186.1	230.4	488.8	1667.2	3846.7	1086.7
1975	1514.7	1139.7	2635.4	3364.5	364.6	188.6	213.1	207.1	253.7	1352.0	4193.7	1195.0
1976	1442.6	1034.2	2571.0	4388.8	3139.6	1663.8	1870.6	4496.7	6944.6	6633.5	7753.6	9572.2
1977	11066.8	10382.5	10091.9	4846.6	3205.9	3126.5	3398.9	5570.2	7931.9	8756.1	9447.2	10645.0
1978	10568.5	10478.2	5162.3	283.2	208.2	202.1	215.8	234.0	580.6	1853.3	4413.1	2728.0
1979	3428.8	2768.1	4119.6	1341.7	248.8	228.7	308.0	350.7	1316.4	3061.7	5134.7	7182.8
1980	8599.8	6067.0	3213.8	254.5	198.4	199.7	232.4	341.4	785.7	1976.0	4548.3	2820.4
1981	3317.7	2638.2	3832.6	1360.2	296.0	279.6	531.2	1464.3	2885.3	4401.2	6146.3	7884.3
1982	9685.4	1332.0	190.7	200.7	187.4	198.4	181.8	181.9	259.3	1412.5	4559.1	1433.0
1983	667.2	236.4	188.6	209.8	194.2	184.5	186.8	181.7	184.7	201.4	374.5	341.0
1984	853.5	207.0	182.0	193.0	193.3	187.5	290.9	686.1	2007.4	2027.4	4193.7	1282.1
1985	1584.0	700.7	786.6	1544.8	1051.2	883.5	804.3	1272.9	3082.6	4500.6	6505.3	7290.0
1986	8442.9	8743.4	4072.9	720.2	186.8	189.8	232.1	331.1	1130.5	2264.3	4660.0	1523.2
1987	1647.5	1538.3	3601.9	3538.7	932.3	288.6	1057.6	2658.1	3527.0	4984.3	7090.0	8585.7
1988	9806.0	9565.3	3663.9	434.9	579.0	2175.5	2566.8	3074.8	3773.3	6078.9	7993.9	9304.3
1989	11353.2	9275.8	8335.7	5354.0	4001.3	372.2	259.2	828.2	3030.5	4824.6	5543.1	5916.1
1990	7681.6	8791.1	9005.4	2761.9	1213.6	1710.8	2111.2	3159.0	5730.9	7422.4	8259.4	9521.1
1991	10897.9	11245.0	10662.5	7448.6	4601.1	571.6	746.4	2999.1	6006.4	7479.8	8079.1	9579.2
1992	10967.8	10816.0	10717.3	7410.9	770.3	392.7	1057.6	3238.9	4028.4	6142.8	8445.7	9382.3
1993	9789.9	9650.1	6832.6	399.5	218.7	203.8	196.4	204.9	257.6	1320.7	4299.0	2377.9
1994	3103.9	2688.5	3936.8	3894.7	837.5	1190.4	1530.8	2053.9	4787.5	6217.2	7303.6	8641.2
1995	8028.6	8430.3	6408.8	317.4	198.4	181.1	193.7	178.2	182.1	255.5	1165.5	1052.0
1996	1017.6	1103.8	818.4	212.3	191.2	188.2	193.2	194.0	587.4	2024.9	4609.6	1095.6
1997	1582.3	1086.1	201.3	184.9	190.3	215.8	307.5	581.3	2035.6	1869.9	3991.4	1210.5
1998	1833.7	1329.5	1518.6	333.0	189.8	194.1	186.5	181.1	181.2	212.3	649.6	528.3
1999	1251.1	625.0	218.9	192.5	188.6	183.9	202.5	280.4	886.5	1907.2	4497.4	1197.5
2000	1688.7	1097.6	2911.9	1101.0	201.9	189.9	220.6	348.4	2057.3	2174.1	4089.8	2580.9
2001	3522.7	2665.4	3939.7	2498.4	360.1	239.2	541.2	1836.9	2968.6	4830.1	6722.2	8521.5
2002	9490.2	8327.7	1127.9	202.9	360.7	442.1	439.5	829.3	3219.4	4875.7	6143.2	8167.2
2003	9135.9	9095.5	994.0	191.8	212.7	281.8	225.1	194.3	1240.9	1959.0	4008.1	2590.8
Average	5312.3	4441.6	3402.8	1707.1	769.5	515.8	651.3	1216.0	2330.1	3321.7	5177.4	4607.1
Critical	7852.4	7789.0	7235.5	4455.2	2049.6	1547.3	1897.5	3513.2	5600.4	6961.5	8183.2	9520.8
Dry	5152.5	4191.0	3604.1	2416.5	1166.9	417.5	605.5	1481.6	3118.9	4736.1	6358.4	7727.5
BN	2446.4	1998.0	3287.3	1719.2	451.8	229.2	421.5	894.1	2202.1	2888.8	4918.1	6828.7
AN	8072.7	6723.8	3301.6	406.4	206.7	211.5	223.3	279.8	1012.6	1896.1	4299.5	2615.8
Wet	3185.2	2077.4	1310.5	498.4	205.4	190.3	234.4	337.9	832.9	1433.4	3459.0	1098.5

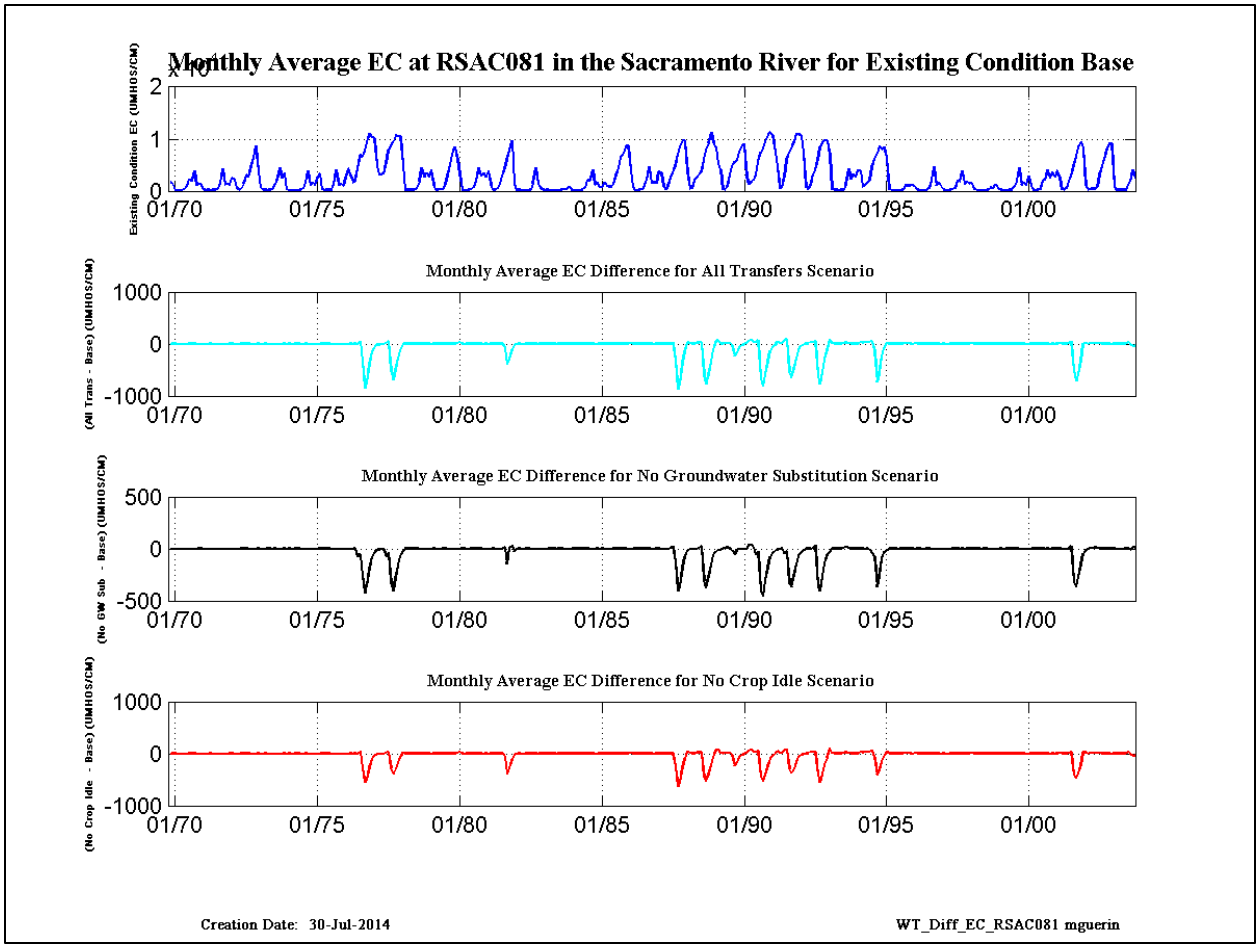


Figure 1-8.
Sacramento River location RSAC081 EC for the Base condition and change from Base for the scenarios.

Table 1-51.
Sacramento River location RSAC092 Base Salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	325.3	262.6	181.4	180.4	181.0	182.0	205.6	234.8	395.3	314.1	714.3	306.3
1971	280.8	239.8	186.7	182.6	185.6	181.6	191.1	185.6	191.9	269.6	794.0	324.4
1972	286.0	252.3	390.7	380.6	216.3	186.1	208.0	291.7	584.1	437.0	910.7	1537.5
1973	2423.2	702.4	249.3	196.4	190.0	183.7	199.7	203.3	253.4	339.4	866.3	469.5
1974	593.9	186.3	181.9	179.3	182.7	180.3	179.8	189.9	198.7	292.1	689.0	289.6
1975	285.1	243.8	420.3	572.1	200.9	182.5	191.2	185.6	187.2	262.4	790.0	312.6
1976	277.3	239.1	405.9	810.0	520.9	311.7	346.2	1081.9	2045.6	1434.9	2455.9	3347.2
1977	3955.2	3218.6	2950.3	960.3	597.5	574.0	612.4	1388.8	2491.8	2786.2	2938.4	4120.7
1978	3712.3	3413.9	916.4	207.5	194.3	190.9	193.5	196.6	211.1	314.0	845.9	509.3
1979	573.2	451.6	689.1	351.6	214.1	197.9	204.8	208.2	278.9	495.9	1049.1	1807.0
1980	2275.5	1263.0	509.8	192.0	187.7	184.4	192.2	204.2	232.1	342.3	884.8	510.0
1981	597.7	388.8	612.9	333.6	198.0	191.6	213.3	305.0	510.4	785.5	1428.8	2135.1
1982	2813.3	341.7	181.1	192.8	180.7	190.6	178.6	179.1	186.2	290.4	932.8	314.1
1983	194.3	184.9	181.5	192.5	184.6	180.9	181.1	177.8	179.0	187.6	188.9	182.0
1984	205.5	178.4	179.3	183.9	184.1	181.5	198.9	222.7	365.3	336.1	817.3	323.9
1985	317.6	209.4	209.4	285.2	232.7	230.2	232.3	269.6	571.1	805.7	1614.9	1761.2
1986	2392.5	2126.4	783.3	247.9	182.8	182.3	201.0	205.5	268.5	360.6	916.2	342.0
1987	311.4	276.1	611.0	634.8	247.0	196.0	273.8	490.1	648.8	1035.8	2051.2	2649.8
1988	3059.2	2812.8	692.9	217.8	222.3	447.7	452.5	563.5	744.5	1432.0	2514.7	3208.5
1989	4188.3	2468.3	2037.2	1038.5	755.8	196.3	192.1	219.2	547.1	902.2	1174.0	1321.4
1990	1919.4	2472.4	2567.5	503.4	267.5	316.7	366.8	606.7	1535.9	1840.2	2539.2	3276.6
1991	3927.6	3974.9	3457.8	1856.7	810.5	226.8	241.9	616.6	1537.6	1896.9	2442.6	3350.8
1992	3911.7	3633.5	3508.1	1680.2	257.4	216.3	256.5	622.9	789.0	1476.9	2643.3	3117.5
1993	3185.4	3010.1	1410.8	227.4	201.6	189.6	185.1	186.4	184.9	257.6	829.5	448.9
1994	518.5	450.6	666.2	719.0	254.0	276.0	286.5	368.1	1204.6	1269.8	1975.0	2480.5
1995	2327.6	2205.0	1360.9	204.7	186.5	179.1	182.2	176.2	179.1	196.9	244.5	223.7
1996	218.2	225.7	209.4	188.8	184.6	181.1	183.9	182.6	210.3	331.9	897.8	314.9
1997	322.7	228.8	185.9	181.0	182.7	185.1	192.8	215.9	387.7	313.8	769.3	314.2
1998	360.1	255.8	268.1	206.1	184.8	182.6	179.9	177.6	177.8	190.1	201.6	189.4
1999	235.0	205.5	180.3	185.1	182.5	180.0	188.6	194.5	225.7	314.7	855.3	321.7
2000	344.3	230.5	471.5	290.1	188.3	181.4	190.9	201.4	405.4	365.7	760.8	467.0
2001	647.5	407.5	651.7	479.9	212.3	193.8	219.0	371.1	536.3	974.7	1822.6	2643.4
2002	2825.1	2062.6	315.7	190.0	197.1	195.1	198.0	235.1	689.0	896.0	1464.0	2225.5
2003	2771.6	2431.9	292.4	183.7	185.7	186.1	188.0	182.8	278.6	323.4	730.5	489.3
Average	1546.5	1213.4	827.0	430.5	257.5	218.9	232.6	333.6	571.6	708.0	1257.4	1342.2
Critical	2509.8	2400.3	2035.5	963.9	418.6	338.5	366.1	749.8	1478.4	1733.9	2501.3	3271.7
Dry	1481.3	968.8	739.7	493.7	307.2	200.5	221.4	315.0	583.8	900.0	1592.6	2122.7
BN	429.6	352.0	539.9	366.1	215.2	192.0	206.4	249.9	431.5	466.4	979.9	1672.3
AN	2452.1	1842.0	641.7	216.2	191.3	186.0	191.6	195.8	260.9	323.7	819.6	482.4
Wet	811.9	529.6	346.2	222.9	184.9	182.3	188.8	194.4	242.5	281.5	677.8	289.1

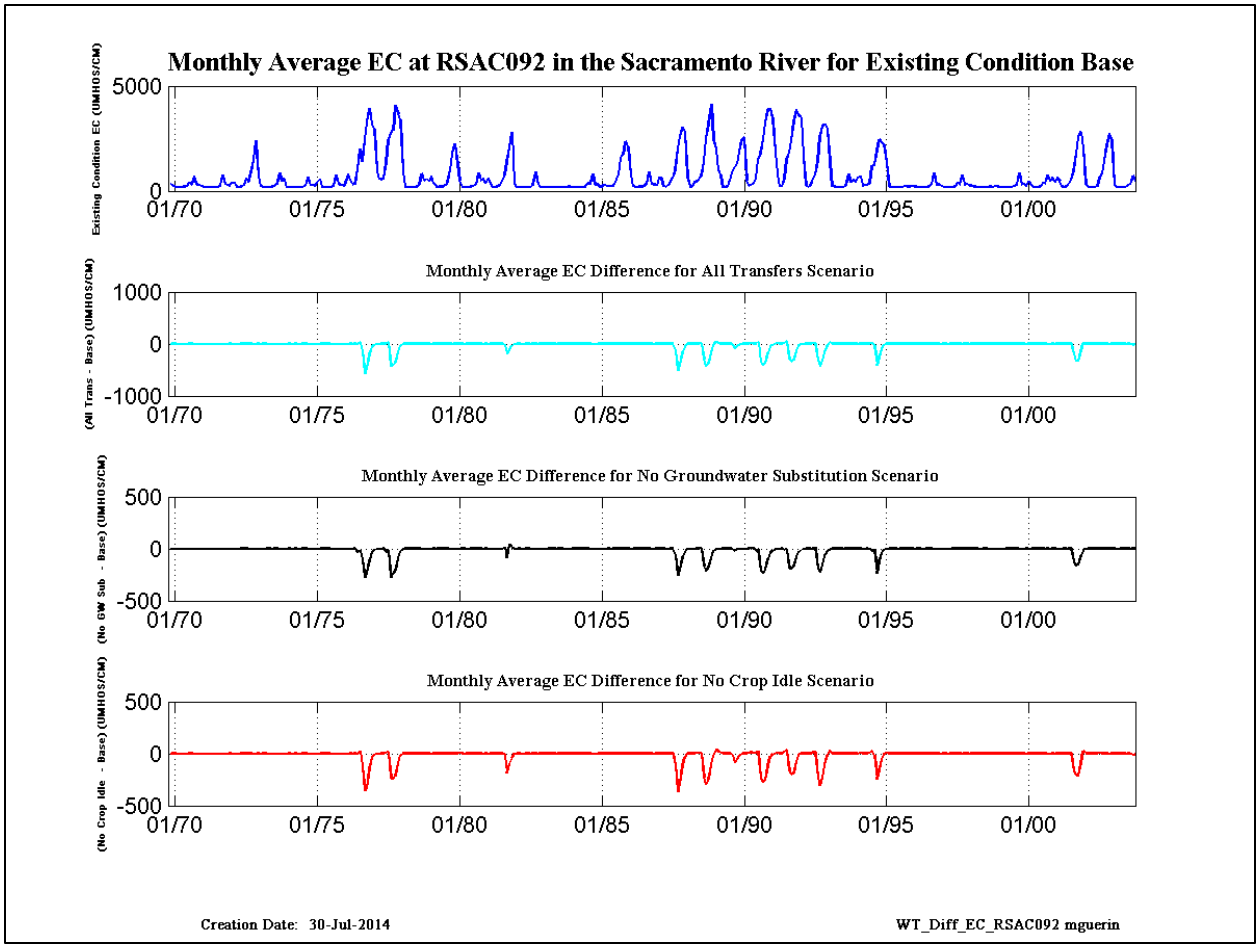


Figure 1-9.
Sacramento River location Sacramento River location RSAC092 EC for the Base condition and change from Base for the scenarios.

Table 1-52.
Sacramento River location RSA101 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	187.5	183.7	178.6	180.0	179.5	179.3	188.5	187.3	192.3	186.8	221.8	185.3
1971	187.7	185.8	183.9	180.6	182.4	178.5	182.0	178.7	180.1	183.0	227.6	187.8
1972	188.6	183.4	195.7	204.6	187.0	180.4	186.1	190.2	201.1	198.0	245.3	317.1
1973	400.5	242.1	190.1	192.6	187.3	180.8	187.3	185.3	186.1	189.1	235.2	200.2
1974	198.5	177.8	181.0	178.6	180.3	179.0	177.3	181.3	182.1	183.9	214.2	185.5
1975	186.9	183.3	199.0	218.8	186.1	180.4	183.2	179.0	180.2	182.3	219.0	187.3
1976	186.5	182.0	194.7	239.8	211.3	194.3	193.4	247.7	351.3	293.8	423.6	502.0
1977	572.4	456.8	449.1	259.6	224.5	209.6	206.6	266.2	408.3	443.6	441.4	643.8
1978	539.2	499.2	246.5	196.8	188.5	186.8	182.4	183.5	185.3	185.8	229.7	207.7
1979	200.7	197.2	223.9	217.5	203.4	189.4	189.4	186.4	186.5	201.4	255.2	340.6
1980	378.3	271.5	217.8	183.4	184.4	180.3	184.3	185.7	188.4	186.5	229.0	203.6
1981	198.9	189.8	216.9	202.2	185.4	184.1	189.0	192.7	196.5	230.4	297.9	370.8
1982	431.6	188.4	178.4	190.0	179.0	188.3	177.9	178.9	180.8	185.5	223.8	186.8
1983	178.6	182.3	178.7	186.6	182.0	180.1	180.1	177.0	176.7	180.1	179.8	178.2
1984	179.7	176.8	178.5	179.6	180.0	179.1	185.8	187.8	190.3	188.3	229.0	185.4
1985	188.5	184.2	185.0	195.0	188.9	193.8	192.3	190.1	200.7	233.3	319.0	329.8
1986	398.4	364.2	251.4	200.8	182.1	180.1	188.1	187.4	191.2	189.1	236.3	192.4
1987	185.5	183.0	210.7	229.6	191.0	185.0	195.4	200.5	205.9	239.9	353.0	408.5
1988	462.6	428.0	227.1	194.3	196.3	208.2	199.2	204.1	215.2	280.0	416.6	505.4
1989	671.4	388.3	373.9	276.1	242.4	180.5	183.5	184.0	197.7	245.7	279.8	289.6
1990	335.9	417.8	435.1	217.2	201.7	197.3	193.5	204.8	301.2	327.8	432.0	508.3
1991	620.6	639.3	574.3	350.6	231.2	190.0	195.5	209.2	287.2	341.5	415.3	524.3
1992	600.3	558.8	553.7	320.6	195.0	199.5	196.0	206.0	214.4	283.8	422.8	473.6
1993	471.8	454.6	286.8	205.0	196.0	184.1	179.0	179.2	178.8	182.6	229.8	200.8
1994	199.2	198.7	225.4	242.7	197.1	196.9	189.5	190.1	261.1	277.4	367.0	395.7
1995	393.7	338.7	299.3	192.7	182.7	179.0	179.5	176.2	177.1	183.1	181.9	180.0
1996	180.5	181.2	185.0	185.1	182.8	179.2	178.6	177.0	183.9	188.0	239.5	184.7
1997	189.7	181.8	181.0	180.2	181.7	182.7	184.7	187.5	192.8	186.2	221.7	188.3
1998	191.4	183.2	186.8	190.0	184.0	180.2	177.7	176.9	176.1	180.7	180.0	178.4
1999	181.2	180.2	177.4	182.1	180.3	178.6	181.0	182.0	183.2	186.6	235.3	186.3
2000	192.7	181.3	200.9	196.8	184.2	178.8	183.4	184.6	193.4	189.4	226.1	202.3
2001	202.3	193.6	220.6	218.5	195.9	186.2	191.6	197.8	198.4	232.5	316.6	393.3
2002	408.5	334.1	198.3	186.1	188.6	184.7	184.6	191.9	216.2	243.4	303.1	378.8
2003	450.0	379.4	188.5	181.3	183.0	182.5	181.8	177.4	185.4	188.9	226.0	205.4
Average	315.9	278.5	246.3	210.4	191.9	185.8	186.7	191.6	210.2	223.5	278.6	294.3
Critical	425.4	411.6	379.9	260.7	208.2	199.4	196.2	218.3	291.3	321.1	416.9	507.6
Dry	309.2	245.5	234.2	217.9	198.7	185.7	189.4	192.8	202.6	237.5	311.6	361.8
BN	194.6	190.3	209.8	211.0	195.2	184.9	187.8	188.3	193.8	199.7	250.2	328.9
AN	405.4	338.0	221.8	192.6	187.2	182.2	183.0	182.6	186.2	187.0	229.3	203.3
Wet	237.3	208.2	196.9	188.1	181.8	180.4	181.9	181.3	183.6	184.9	216.1	185.1

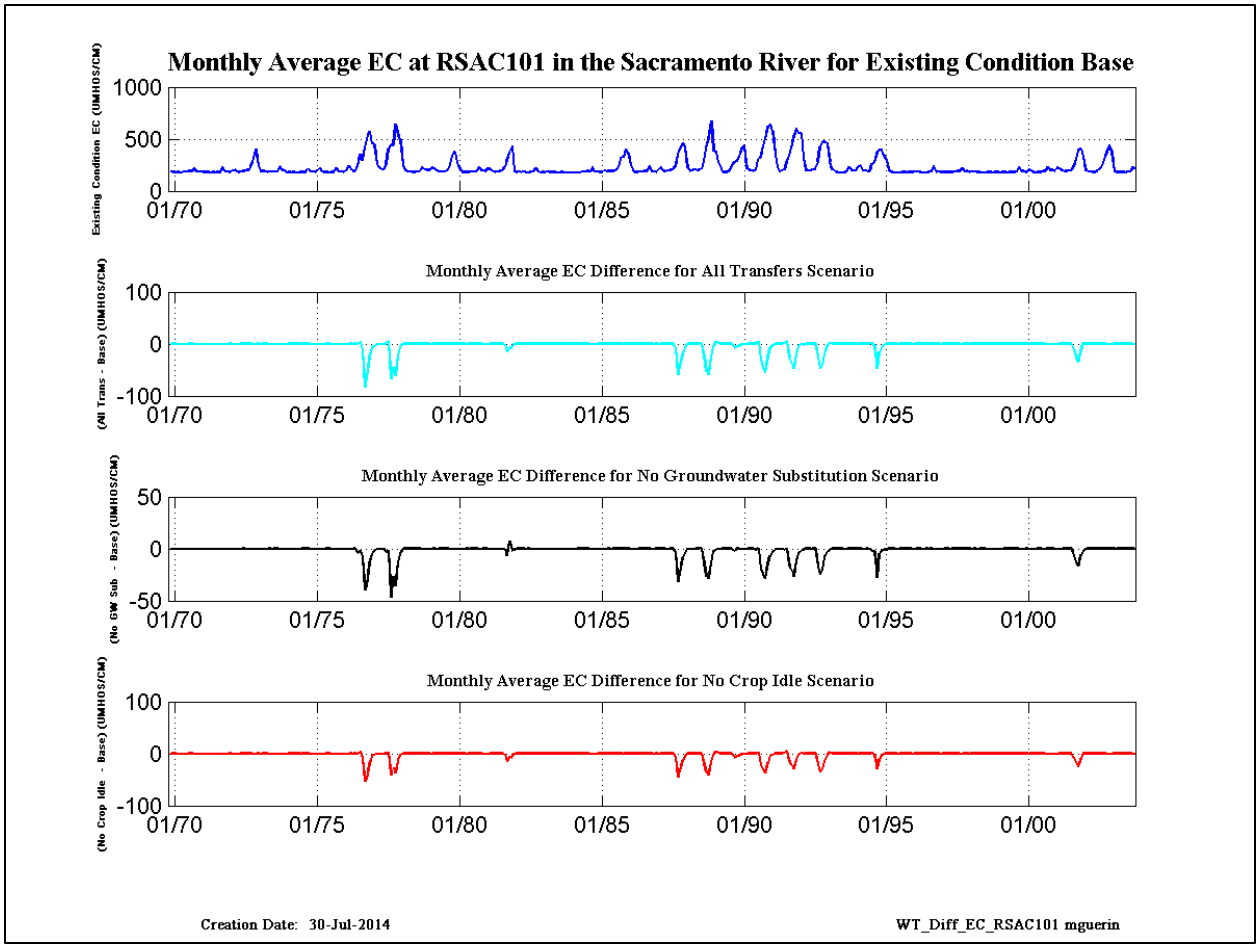


Figure 1-10.
Sacramento River location Sacramento River location RSAC101 EC for the Base condition and change from Base for the scenarios.

Table 1-53.
San Joaquin River location RSAN007 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	835.0	616.6	204.5	231.8	211.2	200.5	261.7	434.7	1017.8	1084.5	2458.5	1056.3
1971	738.0	652.6	227.0	203.8	203.1	201.5	219.9	217.4	260.3	848.2	2834.4	1054.8
1972	764.4	621.0	1408.2	1282.9	420.4	221.3	291.7	658.5	1571.2	1697.8	3095.7	4599.2
1973	6050.8	2913.3	589.5	263.4	252.2	223.4	231.1	261.3	548.3	1172.2	2836.8	1850.3
1974	1879.0	486.4	199.5	212.1	206.8	208.9	209.8	221.1	276.9	877.3	2412.9	990.3
1975	833.9	670.4	1549.0	2046.9	419.7	221.7	218.7	220.7	214.4	726.3	2731.4	1067.3
1976	758.7	584.0	1496.8	2755.6	2011.8	1019.0	892.7	2462.5	4091.1	4725.5	5071.2	6557.3
1977	7536.2	6978.8	7160.7	3604.9	1761.6	1664.6	1774.1	3145.6	4872.7	5648.8	6765.6	7578.7
1978	6831.1	6908.7	3632.1	430.7	260.3	256.7	262.8	236.5	305.4	997.3	2876.6	1966.2
1979	1932.3	1657.3	2624.6	1178.2	298.5	244.9	243.6	264.4	637.3	1895.6	3512.6	5222.0
1980	6058.2	4122.0	2122.2	354.4	272.5	241.9	217.0	253.1	367.8	964.3	2906.2	1986.2
1981	1686.4	1492.8	2452.1	1133.1	277.8	229.5	300.8	655.9	1425.5	2874.6	4187.3	5709.9
1982	6912.7	1502.4	243.2	241.2	222.2	232.5	201.4	184.9	205.4	666.3	2817.0	993.4
1983	361.0	216.2	210.9	273.3	278.6	247.0	206.4	190.6	197.7	207.3	236.0	216.0
1984	455.3	214.8	207.5	221.5	213.8	197.7	232.2	347.1	957.5	1171.6	2634.8	1171.9
1985	778.0	480.1	451.6	804.3	565.8	438.6	388.4	574.1	1557.3	2913.7	4350.9	5280.5
1986	5609.3	6116.8	2816.9	541.5	268.6	254.2	241.8	247.7	494.9	1249.9	2971.3	1078.9
1987	695.1	700.3	2139.3	2197.7	658.7	255.5	510.4	1360.4	1837.8	3073.3	4439.0	5795.2
1988	6465.7	6302.4	2603.8	386.3	325.7	1041.8	1289.5	1518.7	1837.2	3814.6	5122.1	6202.2
1989	7766.1	6291.9	5774.5	3671.6	2219.3	374.0	228.6	407.8	1600.4	3233.3	3837.9	4111.3
1990	5162.9	5873.8	6042.1	1969.3	677.7	869.3	1039.5	1551.2	3228.9	5192.0	5633.9	6601.3
1991	7330.7	7700.6	7336.2	4508.5	2566.9	511.7	408.6	1526.6	3661.1	5278.1	5501.4	6573.2
1992	7412.5	7246.5	7299.7	5034.2	805.9	301.0	506.6	1708.7	2199.6	3951.1	5760.5	6589.7
1993	6262.0	6199.7	4784.8	603.3	283.2	235.6	223.5	219.6	216.4	707.3	2776.2	1836.9
1994	1773.2	1615.5	2546.1	2543.5	693.2	609.5	747.6	957.7	2574.1	4477.8	5109.1	6279.9
1995	4808.9	5412.4	4530.9	502.7	245.5	240.6	227.6	183.3	188.1	223.5	594.4	583.0
1996	465.9	519.7	452.2	234.3	249.6	220.3	220.6	222.3	314.5	1131.3	3028.3	1191.8
1997	817.8	624.8	234.0	251.7	212.1	200.0	225.1	306.8	968.6	1098.6	2537.4	1139.8
1998	932.5	716.9	863.6	360.3	323.2	246.1	203.8	187.6	193.5	214.3	351.9	294.6
1999	669.9	431.8	202.9	206.0	224.5	200.8	218.2	238.7	426.4	1063.1	2943.9	1169.7
2000	818.4	656.0	1750.7	931.7	276.4	225.7	214.0	255.0	1032.2	1254.6	2572.1	1854.1
2001	1870.7	1567.0	2443.2	1708.4	343.1	233.0	303.3	845.3	1481.5	2978.7	4214.5	5764.0
2002	6314.0	5548.3	1073.7	237.0	252.5	274.2	267.3	401.5	1701.3	3306.7	4146.0	5891.4
2003	5996.6	6213.6	1205.5	222.0	202.8	216.9	215.4	216.2	632.4	1131.0	2536.2	1841.0
Average	3399.5	2936.9	2320.0	1216.1	550.2	369.4	395.4	667.2	1267.5	2113.3	3406.0	3297.0
Critical	5205.7	5186.0	4926.5	2971.8	1263.3	859.6	951.2	1838.7	3209.3	4726.9	5566.3	6626.1
Dry	3185.1	2680.1	2389.1	1625.4	719.5	300.8	333.2	707.5	1600.6	3063.4	4195.9	5425.4
BN	1348.4	1139.1	2016.4	1230.5	359.5	233.1	267.6	461.5	1104.2	1796.7	3304.2	4910.6
AN	5336.2	4502.2	2347.5	467.6	257.9	233.4	227.3	240.3	517.1	1037.8	2750.7	1889.1
Wet	1947.6	1398.6	918.6	425.2	252.2	220.9	222.1	246.4	439.7	812.5	2196.3	923.7

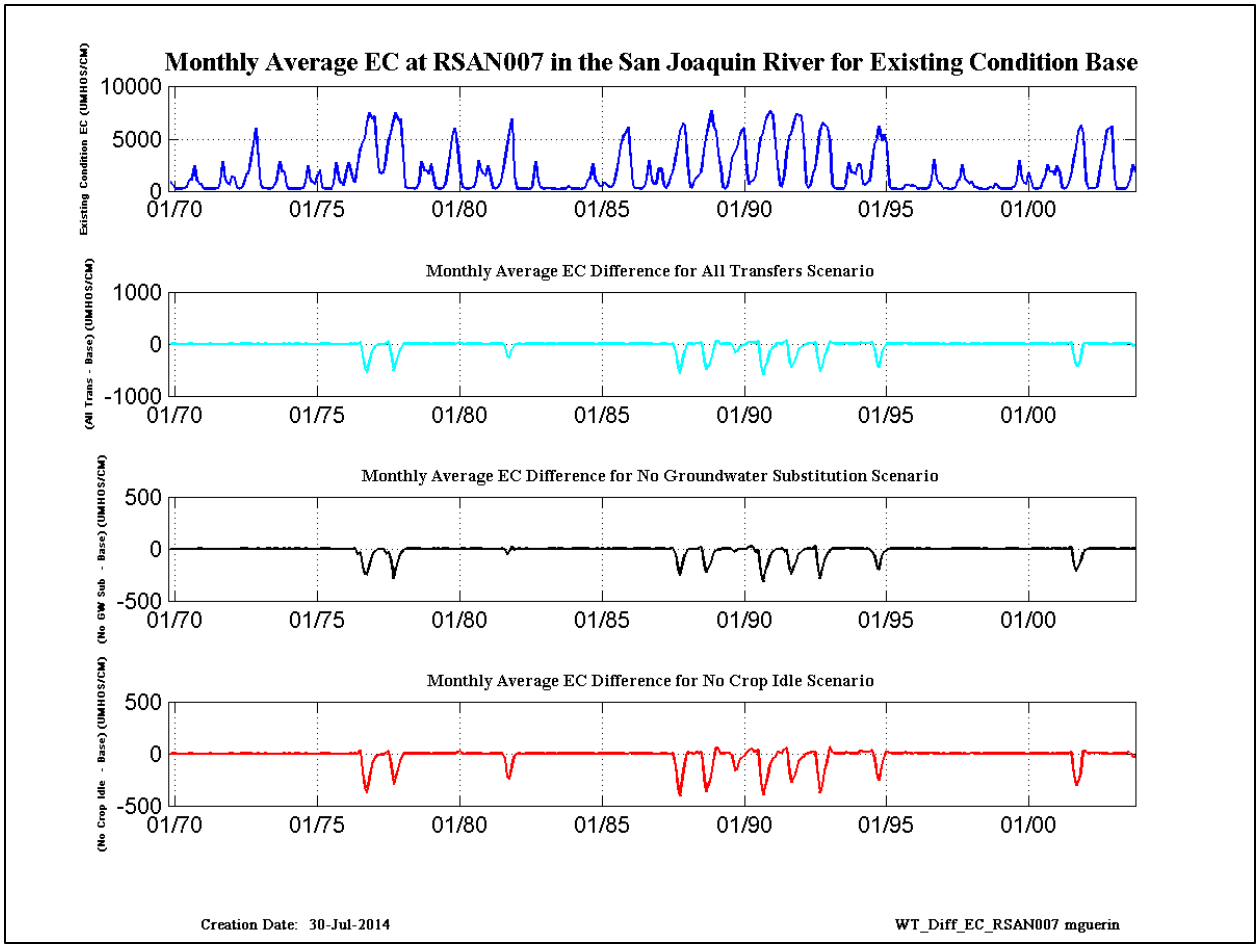


Figure 1-11.
San Joaquin River location RSAN007 EC for the Base condition and change from Base for the scenarios.

Table 1-54.
San Joaquin River location RSAN018 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	316.8	247.5	206.4	232.0	212.4	205.6	225.3	242.2	279.1	460.9	1027.0	1011.5
1971	336.6	343.8	220.1	208.8	207.8	208.0	229.4	224.9	208.7	359.4	1254.2	1018.0
1972	348.0	271.7	570.6	638.6	285.8	223.1	230.6	268.3	383.0	791.7	1389.2	2233.7
1973	2365.0	1988.4	541.1	268.4	252.8	227.1	239.8	251.3	246.5	475.0	1138.2	872.6
1974	532.4	317.2	202.0	215.6	212.7	211.2	214.0	226.5	218.4	320.8	931.2	869.0
1975	378.0	359.4	651.4	867.3	312.4	222.4	227.5	225.9	210.7	291.5	1041.7	974.2
1976	342.3	286.9	606.2	1116.1	869.5	494.1	317.2	573.3	976.2	2202.6	1702.1	2091.3
1977	2378.0	2138.4	2655.6	1819.4	652.3	480.9	461.6	727.4	1252.5	1619.8	2490.7	2716.9
1978	2029.0	2031.6	1647.0	363.3	270.8	264.6	272.4	240.0	226.0	359.2	1169.9	1013.7
1979	607.7	670.2	1211.6	773.6	304.1	247.2	242.0	255.7	254.6	804.2	1590.1	2463.4
1980	2513.9	1670.6	1263.7	309.1	269.8	236.4	220.8	246.0	239.8	293.3	1076.7	934.1
1981	424.8	532.1	1156.6	842.8	276.7	226.9	252.2	271.7	350.5	1296.1	1804.4	2526.2
1982	2789.2	1438.8	237.3	244.8	219.9	234.3	197.6	183.4	200.2	242.2	888.8	424.1
1983	215.0	202.4	214.3	274.9	274.1	241.5	202.2	189.7	198.3	208.5	198.5	185.6
1984	244.5	195.1	208.4	227.5	216.2	201.3	232.3	247.6	286.4	497.6	1013.7	1015.3
1985	316.4	317.2	272.5	328.5	295.0	250.5	261.6	263.8	376.5	1288.8	1733.2	2479.8
1986	2000.4	2506.0	1533.1	413.7	266.9	249.3	247.3	235.8	235.9	455.7	1170.9	522.2
1987	220.4	236.0	816.8	966.7	426.9	251.4	269.1	388.6	457.2	987.4	1257.7	1868.6
1988	2007.9	1919.6	1322.3	342.5	254.6	318.8	369.0	381.1	400.3	1166.7	1510.5	1897.4
1989	2531.0	2182.3	2366.9	1781.4	798.7	293.4	233.5	232.0	417.0	1518.9	1898.5	1942.7
1990	1953.0	2035.2	2062.3	1044.8	392.1	333.3	321.0	362.2	730.2	2054.7	2077.3	2267.3
1991	2350.0	2492.1	2539.2	1403.3	756.2	336.4	274.7	386.7	988.1	2198.8	1982.9	2173.9
1992	2346.8	2255.3	2383.3	1905.9	512.2	281.3	255.0	424.6	543.5	1276.6	1939.2	2296.5
1993	1788.1	1735.9	1981.3	460.4	289.4	240.7	234.3	230.5	216.4	297.4	1125.3	1007.2
1994	602.8	668.8	1235.2	1222.9	481.7	293.1	279.5	280.8	550.8	2228.3	2173.4	2627.8
1995	1505.1	1555.3	2062.3	418.4	245.6	239.5	224.5	179.7	193.3	222.4	252.3	269.1
1996	212.7	225.6	254.3	232.4	244.6	217.7	229.5	228.5	219.4	451.1	1285.2	1131.8
1997	337.5	295.2	235.7	248.0	207.3	198.4	215.6	244.4	286.5	462.1	970.8	1034.8
1998	336.8	296.1	421.2	316.5	313.5	237.0	203.0	186.2	196.6	216.3	212.7	197.6
1999	298.6	318.9	201.0	215.4	224.2	202.0	230.2	237.6	223.4	433.2	1263.1	1104.5
2000	320.9	314.6	728.2	570.2	276.5	224.5	222.3	245.6	309.4	493.5	1034.3	973.6
2001	500.3	613.6	1090.9	963.3	313.6	240.0	257.8	293.7	360.7	947.8	1236.8	1827.8
2002	1954.9	1872.4	704.4	242.0	228.0	219.0	229.1	257.1	438.0	1539.9	1694.4	2589.1
2003	2054.2	2204.6	866.7	222.5	207.9	205.4	224.9	225.6	250.7	512.3	1102.1	991.7
Average	1160.6	1080.6	1019.7	638.3	340.4	257.5	251.4	284.1	380.1	852.2	1312.9	1457.4
Critical	1711.6	1685.2	1829.1	1265.0	559.8	362.5	325.4	448.0	777.4	1821.1	1982.3	2295.9
Dry	991.3	958.9	1068.0	854.1	389.8	246.9	250.5	284.5	400.0	1263.2	1604.2	2205.7
BN	477.8	470.9	891.1	706.1	295.0	235.2	236.3	262.0	318.8	797.9	1489.6	2348.6
AN	1845.2	1657.6	1171.3	365.6	261.2	233.1	235.7	239.8	248.2	405.1	1107.7	965.5
Wet	731.0	638.6	511.4	316.6	242.9	220.6	221.4	219.4	227.4	355.5	885.4	750.6

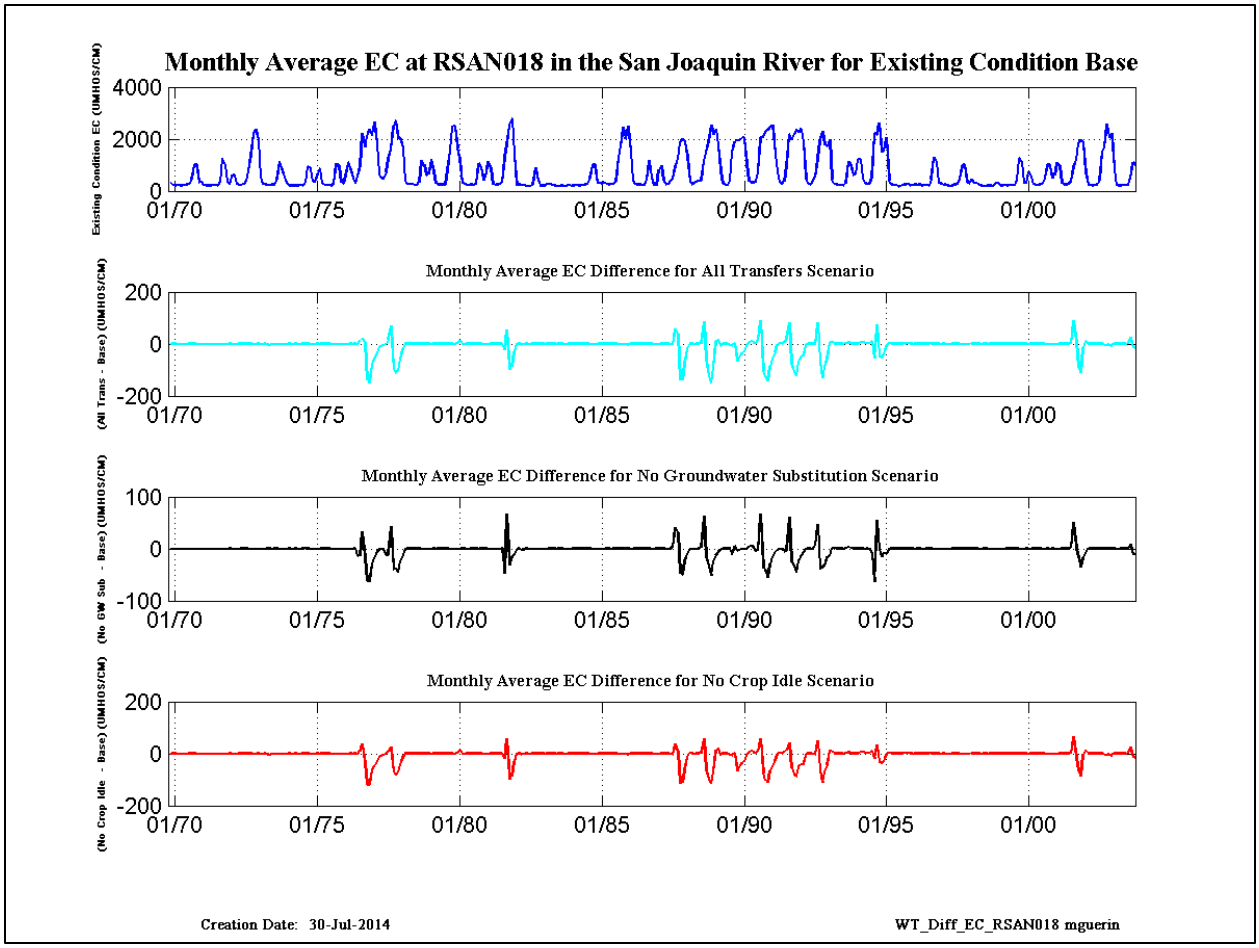


Figure 1-12.
San Joaquin River location RSAN018 EC for the Base condition and change from Base for the scenarios.

Table 1-55.
San Joaquin River location San Joaquin River location RSAN032 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	205.0	212.4	196.9	196.4	192.5	196.8	225.4	228.5	207.1	204.9	276.4	441.8
1971	222.1	217.0	202.3	196.1	200.1	199.9	223.7	207.4	188.4	194.7	305.8	446.2
1972	223.7	213.1	248.3	321.4	236.7	207.3	237.3	246.7	216.1	244.8	355.2	503.0
1973	559.6	747.2	331.5	228.8	215.2	206.0	232.9	233.9	201.0	207.2	291.1	253.0
1974	213.8	194.7	190.7	196.1	199.7	195.0	194.1	211.2	197.9	192.9	248.1	348.6
1975	224.3	224.9	274.8	375.2	233.8	200.8	218.7	201.3	195.7	191.7	256.2	377.0
1976	213.2	204.2	249.8	433.5	355.6	272.5	253.9	294.4	333.2	463.7	533.5	533.0
1977	623.4	559.5	716.3	687.2	379.9	294.2	268.9	306.7	377.4	431.0	520.1	746.4
1978	634.0	567.9	565.4	259.8	241.6	234.5	234.8	219.3	210.6	200.9	283.2	270.5
1979	223.2	244.1	397.7	404.3	265.4	222.5	232.9	232.7	200.6	240.7	367.6	517.4
1980	524.7	433.4	514.1	210.0	211.5	199.1	214.2	230.6	217.3	200.2	262.3	251.4
1981	208.3	228.6	394.3	412.8	229.1	225.0	257.2	255.2	215.3	319.0	430.4	535.5
1982	588.5	453.4	194.2	213.7	187.9	204.0	173.7	174.2	194.7	200.7	234.6	199.3
1983	186.7	191.9	193.8	222.9	205.4	183.2	182.2	174.7	181.6	191.3	182.8	178.7
1984	190.1	178.6	188.1	204.6	195.9	194.1	229.6	233.4	204.8	206.8	271.5	384.7
1985	212.6	210.9	209.8	229.5	223.5	238.6	259.1	246.0	217.1	322.2	428.2	508.0
1986	492.8	551.9	548.5	287.6	193.7	193.7	224.6	216.8	216.2	207.3	286.0	217.1
1987	198.1	201.5	284.9	429.3	272.0	240.3	269.4	262.4	223.4	264.2	356.3	425.7
1988	496.5	492.0	490.5	264.5	251.5	267.5	262.1	260.1	232.2	285.3	418.7	499.2
1989	650.3	570.5	667.8	708.4	423.7	227.0	222.3	216.3	206.5	368.3	462.2	448.0
1990	452.7	525.2	594.4	456.6	274.2	236.3	229.4	237.6	270.8	431.6	541.9	564.9
1991	661.0	691.5	748.4	636.1	398.2	267.7	259.6	246.2	282.2	464.2	525.7	547.1
1992	635.2	627.6	707.5	675.6	317.1	253.8	235.2	241.2	227.8	300.4	464.8	543.5
1993	513.2	490.6	590.2	292.8	239.8	215.6	214.0	213.6	205.4	192.4	280.5	263.2
1994	228.1	263.2	435.5	534.9	297.4	242.4	229.5	231.2	247.1	473.5	555.2	545.5
1995	469.3	390.3	574.1	264.1	208.2	197.3	188.8	169.1	190.3	203.9	188.1	182.6
1996	189.8	202.7	205.5	218.3	205.2	195.8	212.7	201.0	197.9	204.0	310.3	411.6
1997	218.4	207.5	205.2	183.0	184.0	192.0	212.3	240.1	212.5	202.9	259.3	407.5
1998	219.8	206.1	228.5	270.5	230.6	196.8	184.5	175.3	186.5	198.0	186.0	180.3
1999	194.4	210.9	189.8	211.1	194.9	189.6	221.6	218.6	194.5	200.5	306.2	419.5
2000	221.6	210.9	277.8	308.7	230.9	198.8	219.4	232.8	208.4	206.0	274.2	262.6
2001	219.9	250.4	357.7	446.9	258.6	229.0	267.1	258.9	216.1	256.3	331.0	419.0
2002	487.1	472.5	319.9	214.5	215.6	210.5	229.3	248.6	229.0	360.7	430.2	530.4
2003	545.4	506.2	352.6	196.2	199.5	198.8	226.4	204.1	194.3	211.7	292.9	275.7
Average	363.1	357.5	377.8	335.0	246.1	218.4	227.9	228.5	220.6	266.0	344.6	401.1
Critical	472.9	480.5	563.2	526.9	324.8	262.1	248.4	259.6	281.5	407.1	508.6	568.5
Dry	329.4	322.4	372.4	406.9	270.4	228.4	250.7	247.9	217.9	315.1	406.4	477.7
BN	223.4	228.6	323.0	362.8	251.0	214.9	235.1	239.7	208.3	242.8	361.4	510.2
AN	499.8	492.7	438.6	249.4	223.1	208.8	223.6	222.4	206.2	203.1	280.7	262.7
Wet	278.1	264.8	260.9	233.8	202.5	195.3	207.1	204.0	197.5	200.0	254.7	322.7

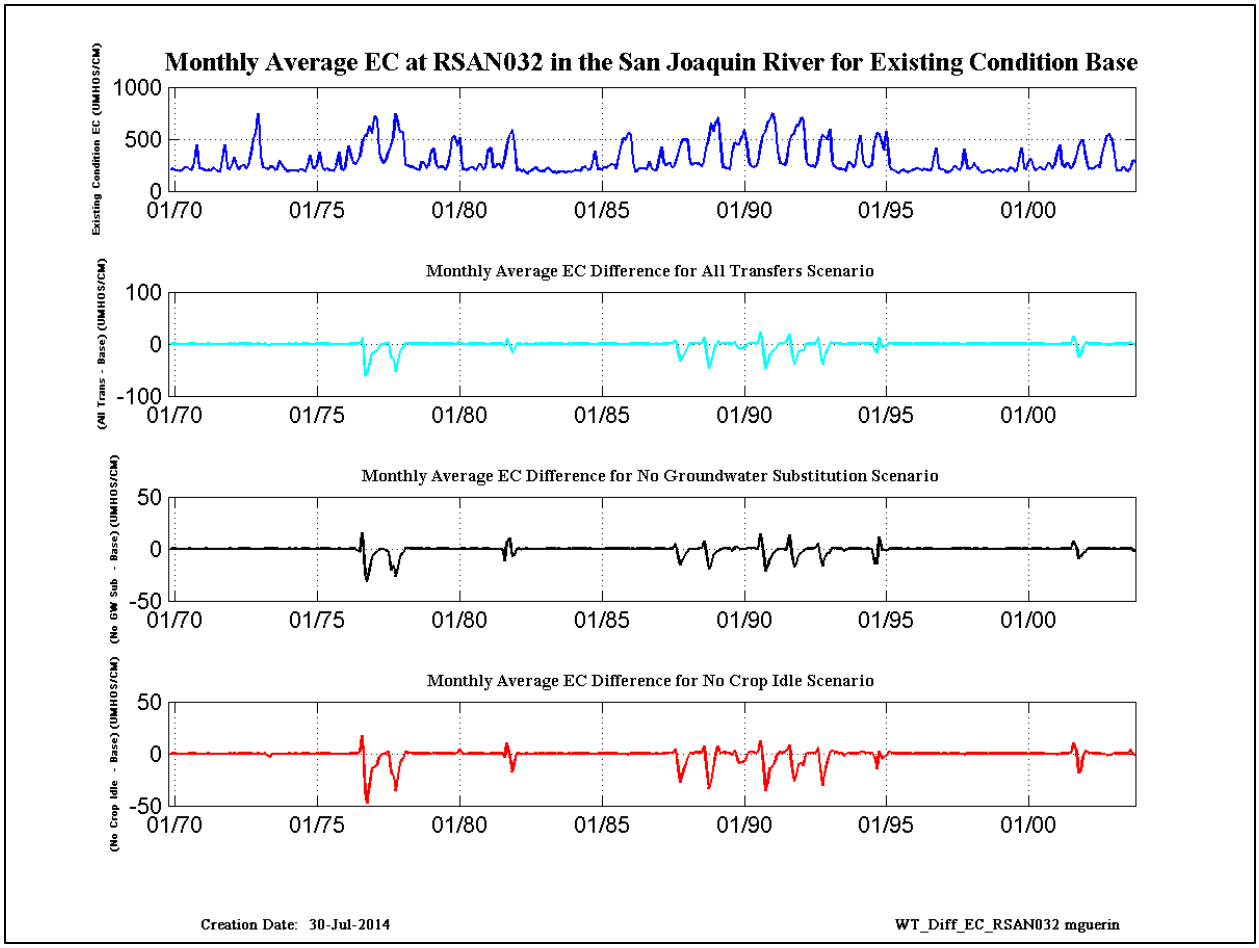


Figure 1-13.
San Joaquin River location San Joaquin River location RSAN032 EC for the Base condition and change from Base for the scenarios.

Table 1-56.
Sacramento River location RSAC081 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.6	-2.1	-0.8	-0.2	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-1.9	48.6	-322.8	-853.9	-759.1
1977	-371.1	-144.9	-71.7	-19.4	-13.1	-4.2	-1.5	13.6	50.6	-507.1	-685.3	-496.2
1978	-279.5	-108.8	-3.1	2.0	0.5	0.2	0.2	0.6	4.6	5.6	2.1	0.5
1979	0.2	0.1	-0.7	7.3	0.8	0.5	1.6	1.9	2.1	0.8	0.4	0.0
1980	1.5	18.9	35.0	1.5	-0.3	0.1	0.3	0.9	0.8	0.2	0.1	0.0
1981	-0.1	0.5	-0.8	5.1	0.9	0.6	1.9	6.3	7.1	-64.7	-391.8	-284.8
1982	-111.0	-22.4	-0.1	0.1	-0.3	-0.3	0.0	0.0	0.6	1.3	0.7	-0.1
1983	8.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	0.8
1984	4.1	0.2	0.0	0.0	0.0	0.0	0.4	2.4	2.1	0.5	0.1	0.0
1985	-0.3	5.3	4.3	7.2	5.3	1.5	1.5	3.5	3.1	1.6	1.7	1.6
1986	1.2	1.0	10.7	2.6	0.0	0.0	0.2	0.4	0.4	0.1	0.1	0.0
1987	0.0	0.0	0.3	3.7	1.8	0.4	0.8	3.9	20.8	-308.9	-871.8	-773.7
1988	-354.8	-143.3	26.1	11.3	2.7	3.0	27.8	22.9	36.6	-591.8	-766.7	-585.0
1989	-320.1	-110.7	57.0	66.3	8.7	4.7	10.0	17.5	10.2	-32.3	-239.6	-169.8
1990	-64.2	-25.7	-10.9	21.6	63.3	82.3	36.1	35.8	68.5	-677.3	-802.9	-591.6
1991	-336.2	-136.6	-65.3	-23.8	39.9	14.0	20.0	67.3	96.6	-537.6	-640.9	-471.7
1992	-263.6	-102.8	-49.7	-22.7	8.9	9.0	33.5	39.8	46.9	-603.1	-766.2	-553.6
1993	-292.1	-107.8	86.7	11.8	0.9	1.4	0.3	1.6	10.8	25.9	11.0	2.7
1994	1.2	0.7	-0.7	45.1	23.2	30.8	32.4	34.2	58.2	-125.8	-721.0	-579.0
1995	-235.0	-87.2	18.4	3.8	0.4	0.0	0.1	0.0	0.1	1.3	19.6	9.9
1996	1.8	0.0	13.7	1.1	0.0	0.0	0.0	0.1	5.4	7.8	2.7	0.3
1997	0.0	-1.3	0.1	0.0	0.0	0.5	1.7	4.9	5.3	1.9	0.1	0.6
1998	0.4	0.1	9.9	1.6	0.0	0.0	0.0	0.0	0.0	0.1	4.3	3.8
1999	2.7	4.7	0.7	0.0	0.0	0.0	0.1	0.7	4.9	3.7	1.3	0.2
2000	0.0	0.0	-0.1	9.5	0.1	0.0	0.3	1.1	2.4	1.1	0.2	0.0
2001	0.0	-0.1	1.6	10.4	1.7	0.4	2.3	25.2	47.5	-507.6	-708.3	-599.8
2002	-311.9	1.8	18.8	0.7	14.2	15.4	18.6	19.7	18.1	6.9	6.2	5.7
2003	1.1	-1.0	6.9	0.1	0.5	2.2	0.7	0.1	29.3	-14.5	-44.6	-34.1
Average	-85.8	-28.2	2.6	4.3	4.7	4.8	5.5	8.9	17.1	-124.5	-218.9	-172.7
Critical	-198.4	-79.0	-24.6	1.7	17.8	19.3	21.3	30.3	58.0	-480.8	-748.1	-576.6
Dry	-105.4	-17.2	13.5	15.6	5.4	3.8	5.9	12.7	17.8	-150.8	-367.3	-303.5
BN	0.1	0.0	-0.4	3.6	0.4	0.2	0.8	1.0	1.1	0.4	0.2	0.0
AN	-94.8	-33.1	20.9	4.1	0.3	0.6	-0.1	0.6	8.0	3.1	-5.2	-5.1
Wet	-25.2	-8.0	4.1	0.7	0.0	0.0	0.2	0.7	1.4	1.3	2.3	1.2

Table 1-57.
Sacramento River location RSAC081 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.3	-0.8	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-4.9	-11.0	-7.9
1977	-3.4	-1.4	-0.7	-0.4	-0.4	-0.1	0.0	0.2	0.6	-5.8	-7.3	-4.7
1978	-2.6	-1.0	-0.1	0.7	0.2	0.1	0.1	0.3	0.8	0.3	0.0	0.0
1979	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.2	0.0	0.0	0.0
1980	0.0	0.3	1.1	0.6	-0.2	0.0	0.1	0.3	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.2	-1.5	-6.4	-3.6
1982	-1.1	-1.7	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.2	0.1	0.0	0.0
1983	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
1984	0.5	0.1	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.0	0.0	0.0
1985	0.0	0.8	0.6	0.5	0.5	0.2	0.2	0.3	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.3	0.4	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.6	-6.2	-12.3	-9.0
1988	-3.6	-1.5	0.7	2.6	0.5	0.1	1.1	0.7	1.0	-9.7	-9.6	-6.3
1989	-2.8	-1.2	0.7	1.2	0.2	1.3	3.9	2.1	0.3	-0.7	-4.3	-2.9
1990	-0.8	-0.3	-0.1	0.8	5.2	4.8	1.7	1.1	1.2	-9.1	-9.7	-6.2
1991	-3.1	-1.2	-0.6	-0.3	0.9	2.5	2.7	2.2	1.6	-7.2	-7.9	-4.9
1992	-2.4	-1.0	-0.5	-0.3	1.2	2.3	3.2	1.2	1.2	-9.8	-9.1	-5.9
1993	-3.0	-1.1	1.3	2.9	0.4	0.7	0.2	0.8	4.2	2.0	0.3	0.1
1994	0.0	0.0	0.0	1.2	2.8	2.6	2.1	1.7	1.2	-2.0	-9.9	-6.7
1995	-2.9	-1.0	0.3	1.2	0.2	0.0	0.0	0.0	0.1	0.5	1.7	0.9
1996	0.2	0.0	1.7	0.5	0.0	0.0	0.0	0.0	0.9	0.4	0.1	0.0
1997	0.0	-0.1	0.1	0.0	0.0	0.2	0.6	0.8	0.3	0.1	0.0	0.1
1998	0.0	0.0	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.7
1999	0.2	0.7	0.3	0.0	0.0	0.0	0.0	0.3	0.6	0.2	0.0	0.0
2000	0.0	0.0	0.0	0.9	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.4	0.5	0.1	0.4	1.4	1.6	-10.5	-10.5	-7.0
2002	-3.3	0.0	1.7	0.3	3.9	3.5	4.2	2.4	0.6	0.1	0.1	0.1
2003	0.0	0.0	0.7	0.1	0.2	0.8	0.3	0.1	2.4	-0.7	-1.1	-1.3
Average	-0.8	-0.3	0.2	0.4	0.5	0.6	0.6	0.5	0.6	-1.9	-2.8	-1.9
Critical	-1.9	-0.8	-0.2	0.5	1.4	1.7	1.5	1.0	1.1	-6.9	-9.2	-6.1
Dry	-1.0	-0.1	0.5	0.5	0.9	0.9	1.5	1.1	0.6	-3.1	-5.6	-3.7
BN	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.1	0.0	0.0	0.0
AN	-0.9	-0.3	0.5	0.9	0.1	0.2	0.0	0.2	1.3	0.3	-0.1	-0.2
Wet	-0.1	-0.1	0.2	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2

Table 1-58.
Sacramento River location RSAC092 export difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.2	-1.3	-0.3	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.4	28.2	-129.4	-576.4	-479.0
1977	-190.7	-53.6	-20.7	-5.5	-2.4	0.1	0.5	7.6	30.5	-423.5	-403.7	-359.7
1978	-149.0	-38.5	-1.1	0.5	0.3	0.1	0.1	0.1	0.4	0.6	0.5	0.1
1979	0.0	0.0	-0.2	0.9	0.3	0.1	0.2	0.2	0.2	0.1	0.1	0.0
1980	1.5	4.7	5.5	0.2	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1981	0.0	0.1	-0.2	0.5	0.1	0.0	0.1	1.0	2.0	-17.2	-186.3	-100.7
1982	-44.2	-4.3	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0
1983	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.0	0.0
1985	0.0	0.3	0.3	0.8	0.4	0.2	0.2	0.4	0.8	0.5	1.0	0.8
1986	1.0	0.8	1.5	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.2	0.7	0.2	0.0	0.5	2.1	7.1	-126.9	-505.1	-404.0
1988	-151.5	-48.5	2.4	0.9	0.2	2.3	5.8	6.2	11.7	-295.9	-430.9	-367.3
1989	-161.3	-28.8	32.1	22.1	4.7	0.7	0.8	1.5	3.4	-10.9	-89.9	-50.9
1990	-18.6	-4.6	1.3	2.0	5.7	11.1	5.7	9.5	31.7	-352.1	-412.0	-368.1
1991	-174.7	-51.3	-18.4	-1.2	10.4	1.8	2.4	18.5	46.7	-296.4	-331.9	-304.6
1992	-131.5	-36.2	-6.9	-2.1	1.1	0.8	3.9	11.1	16.0	-304.8	-425.2	-317.8
1993	-142.2	-32.0	29.8	1.9	0.6	0.6	0.1	0.3	0.0	1.8	2.5	0.6
1994	0.2	0.1	-0.1	9.6	2.5	4.0	4.1	5.8	22.4	-38.4	-419.9	-254.1
1995	-87.6	-19.5	4.6	0.5	0.2	0.0	0.0	0.0	0.0	0.2	2.2	1.0
1996	0.1	0.0	0.8	0.2	0.0	0.0	0.0	0.0	0.4	1.0	0.7	0.1
1997	0.0	-0.1	0.1	0.0	0.0	0.0	0.1	0.4	0.8	0.2	-0.1	0.1
1998	0.4	0.0	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
1999	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.4	0.3	0.0
2000	0.0	0.0	0.1	0.9	0.0	0.0	0.1	0.1	0.3	0.1	0.0	0.0
2001	0.0	0.0	0.6	1.5	0.1	0.0	0.2	4.9	12.2	-192.2	-329.4	-327.7
2002	-130.5	12.1	3.8	0.2	0.8	0.8	1.0	1.6	5.2	1.5	4.2	2.0
2003	-0.1	0.9	1.1	0.1	0.0	0.1	0.1	0.0	4.7	-1.3	-10.3	-6.9
Average	-40.5	-8.8	1.1	1.0	0.7	0.7	0.7	2.1	6.6	-64.2	-120.9	-98.1
Critical	-95.3	-27.7	-6.1	0.5	2.5	2.9	3.2	8.3	26.8	-262.9	-428.6	-350.1
Dry	-48.7	-2.7	6.1	4.3	1.1	0.3	0.5	1.9	5.1	-57.5	-184.2	-146.7
BN	0.0	0.0	-0.1	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
AN	-48.3	-10.8	5.9	0.6	0.2	0.1	-0.2	0.1	0.9	0.2	-1.2	-1.0
Wet	-10.0	-1.7	0.6	0.1	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.1

Table 1-59.
Sacramento River location RSAC092 (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.7	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	-9.0	-23.5	-14.3
1977	-4.8	-1.7	-0.7	-0.6	-0.4	0.0	0.1	0.5	1.2	-15.2	-13.7	-8.7
1978	-4.0	-1.1	-0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0
1979	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.1	0.4	1.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.3	0.4	-2.2	-13.0	-4.7
1982	-1.6	-1.3	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1985	0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0
1986	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.4	1.1	-12.3	-24.6	-15.2
1988	-5.0	-1.7	0.3	0.4	0.1	0.5	1.3	1.1	1.6	-20.7	-17.1	-11.4
1989	-3.9	-1.2	1.6	2.1	0.6	0.4	0.4	0.7	0.6	-1.2	-7.7	-3.9
1990	-1.0	-0.2	0.1	0.4	2.1	3.5	1.5	1.6	2.1	-19.1	-16.2	-11.2
1991	-4.4	-1.3	-0.5	-0.1	1.3	0.8	1.0	3.0	3.0	-15.6	-13.6	-9.1
1992	-3.4	-1.0	-0.2	-0.1	0.4	0.4	1.5	1.8	2.0	-20.6	-16.1	-10.2
1993	-4.5	-1.1	2.1	0.8	0.3	0.3	0.1	0.2	0.0	0.7	0.3	0.1
1994	0.0	0.0	0.0	1.3	1.0	1.5	1.4	1.6	1.9	-3.0	-21.3	-10.2
1995	-3.8	-0.9	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.9	0.4
1996	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0
1998	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
1999	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
2000	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
2001	0.0	0.0	0.1	0.3	0.1	0.0	0.1	1.3	2.3	-19.7	-18.1	-12.4
2002	-4.6	0.6	1.2	0.1	0.4	0.4	0.5	0.7	0.8	0.2	0.3	0.1
2003	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.7	-0.4	-1.4	-1.4
Average	-1.2	-0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.6	-4.0	-5.4	-3.3
Critical	-2.6	-0.8	-0.2	0.2	0.6	1.0	1.0	1.4	1.9	-14.8	-17.4	-10.8
Dry	-1.4	-0.1	0.5	0.5	0.2	0.1	0.2	0.6	0.9	-5.9	-10.5	-6.0
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
AN	-1.4	-0.3	0.6	0.2	0.1	0.1	-0.1	0.0	0.3	0.1	-0.2	-0.2
Wet	-0.4	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0

Table 1-60.
Sacramento River location RSAC101 (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	-10.2	-82.7	-65.0
1977	-25.6	-7.3	-3.6	-1.2	-0.5	-0.1	0.0	0.9	4.7	-67.8	-44.1	-61.5
1978	-21.2	-5.4	-0.6	0.3	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.0
1979	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.1	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	-1.7	-15.1	-7.2
1982	-7.3	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1986	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5	-7.3	-58.6	-44.8
1988	-18.1	-6.8	-0.2	0.2	0.0	0.5	0.4	0.6	1.0	-23.1	-53.6	-58.5
1989	-24.5	-4.8	3.1	2.5	0.6	0.2	0.3	0.2	0.2	-1.0	-7.7	-4.4
1990	-3.0	-1.8	-0.8	0.0	0.6	0.8	0.4	0.8	4.4	-30.6	-44.5	-54.1
1991	-25.2	-7.4	-3.4	-0.4	0.6	0.3	0.4	1.5	5.7	-25.8	-36.4	-47.2
1992	-18.6	-5.1	-0.5	-1.2	0.4	0.3	0.4	0.8	1.1	-24.2	-47.6	-40.3
1993	-18.3	-3.2	2.3	0.6	0.4	0.3	0.0	0.1	0.0	0.0	0.3	0.1
1994	0.0	0.0	0.0	0.8	0.3	0.4	0.2	0.3	2.5	-4.3	-47.7	-15.1
1995	-7.0	-1.6	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
1996	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.4	0.8	-10.0	-27.4	-34.8
2002	-13.3	0.2	0.3	0.1	0.3	0.1	0.2	0.2	0.5	0.1	0.4	-0.1
2003	-0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.3	-0.8	-0.7
Average	-5.4	-1.3	-0.1	0.1	0.1	0.1	0.1	0.2	0.8	-6.0	-13.7	-12.7
Critical	-12.9	-4.1	-1.2	-0.3	0.2	0.3	0.2	0.7	3.4	-26.6	-50.9	-48.8
Dry	-6.3	-0.7	0.6	0.5	0.2	0.1	0.1	0.2	0.4	-3.3	-18.1	-15.2
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-6.6	-1.4	0.4	0.2	0.1	0.1	0.0	0.0	0.1	0.1	-0.1	-0.1
Wet	-1.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-61.
Sacramento River location RSAC101 (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	-3.5	-19.5	-12.9
1977	-4.5	-1.6	-0.8	-0.5	-0.2	0.0	0.0	0.3	1.2	-15.3	-10.0	-9.5
1978	-3.9	-1.1	-0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	-0.8	-5.1	-1.9
1982	-1.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	-3.0	-16.6	-11.0
1988	-3.9	-1.6	-0.1	0.1	0.0	0.2	0.2	0.3	0.5	-8.2	-12.9	-11.6
1989	-3.7	-1.2	0.8	0.9	0.2	0.1	0.2	0.1	0.1	-0.4	-2.7	-1.5
1990	-0.9	-0.4	-0.2	0.0	0.3	0.4	0.2	0.4	1.5	-9.3	-10.3	-10.6
1991	-4.1	-1.2	-0.6	-0.1	0.3	0.2	0.2	0.7	2.0	-7.5	-8.8	-9.0
1992	-3.1	-0.9	-0.1	-0.4	0.2	0.2	0.2	0.4	0.5	-8.5	-11.3	-8.5
1993	-3.9	-0.7	0.8	0.3	0.2	0.2	0.0	0.1	0.0	0.0	0.1	0.0
1994	0.0	0.0	0.0	0.3	0.2	0.2	0.1	0.2	1.0	-1.6	-13.0	-3.8
1995	-1.8	-0.5	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.4	-4.3	-8.7	-8.8
2002	-3.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.0
2003	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	-0.4	-0.3
Average	-1.0	-0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.3	-1.8	-3.5	-2.6
Critical	-2.3	-0.8	-0.3	-0.1	0.1	0.2	0.1	0.3	1.1	-7.7	-12.2	-9.4
Dry	-1.2	-0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.2	-1.4	-5.5	-3.9
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.3	-0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Wet	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-62.
San Joaquin River location RSAN007 (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-1.9	-3.6	-1.1	-0.2	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.9	40.4	-214.5	-453.2	-542.8
1977	-326.9	-139.2	-73.6	-27.6	-15.6	-10.0	-6.0	6.7	44.9	-191.6	-505.3	-364.4
1978	-233.7	-102.8	-12.7	1.6	0.6	0.4	0.2	0.2	1.6	3.3	1.6	0.5
1979	0.1	0.0	-0.6	3.2	0.5	0.3	0.3	0.5	0.9	0.5	0.3	0.0
1980	0.2	13.3	24.7	2.4	-1.8	0.3	0.1	0.2	0.3	0.1	0.1	0.0
1981	-0.1	-0.3	-0.7	2.0	0.4	0.2	0.5	2.8	2.7	-48.3	-232.8	-253.0
1982	-113.4	-21.8	-1.1	0.1	-1.7	-1.2	0.1	0.0	0.0	0.5	0.5	0.0
1983	3.8	0.7	0.0	0.0	0.2	0.2	0.1	-0.1	0.0	0.1	0.3	0.2
1984	2.0	0.2	0.0	0.0	0.0	0.0	0.1	0.8	1.0	0.1	0.0	0.0
1985	-0.2	2.3	2.3	3.8	2.8	0.6	0.5	1.4	1.3	0.8	0.4	0.8
1986	-0.1	-0.2	6.3	1.7	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
1987	0.0	-0.2	-0.1	2.2	1.2	0.2	0.0	-0.9	8.8	-145.1	-454.7	-572.0
1988	-310.7	-132.5	2.9	5.5	0.9	-1.6	13.7	9.7	21.7	-308.1	-491.1	-420.0
1989	-295.9	-121.5	44.5	50.2	-4.7	1.2	2.7	5.9	1.9	-22.5	-156.7	-145.9
1990	-66.3	-36.3	-24.7	6.6	30.3	45.9	22.4	20.9	53.8	-415.1	-583.8	-443.0
1991	-304.9	-139.4	-74.0	-42.2	17.6	8.6	8.1	40.5	70.7	-326.2	-451.9	-351.4
1992	-244.6	-107.5	-65.8	-40.4	-3.5	3.0	14.1	17.7	22.3	-328.0	-526.6	-422.9
1993	-233.5	-102.4	55.8	15.3	1.2	0.9	0.4	0.5	2.1	13.5	8.3	2.7
1994	0.8	0.5	-0.6	28.4	15.4	15.2	17.1	17.6	39.9	-98.6	-414.0	-445.1
1995	-181.6	-76.9	8.6	5.0	0.6	0.2	0.1	0.0	0.0	0.3	10.6	7.0
1996	0.8	0.0	6.2	0.8	0.1	0.0	0.0	0.1	1.9	5.3	2.1	0.4
1997	0.1	-0.5	0.1	-0.2	-0.1	0.1	0.4	1.4	2.6	0.4	-0.2	0.9
1998	-0.3	-1.2	5.9	1.7	0.3	0.1	0.0	0.1	0.1	0.0	1.8	1.6
1999	1.3	2.2	0.3	0.0	0.0	0.0	0.0	0.2	2.0	2.4	1.0	0.2
2000	0.0	0.0	-0.4	3.3	0.1	0.1	0.1	0.2	1.2	0.1	0.1	0.0
2001	0.0	-0.1	0.4	4.7	0.8	0.1	0.7	12.3	25.8	-251.2	-419.0	-424.7
2002	-268.7	-4.0	18.2	0.7	4.7	5.9	5.2	6.8	8.3	4.5	1.4	2.2
2003	-0.4	-4.5	3.1	0.3	0.1	0.6	0.2	0.1	16.2	4.9	-33.3	-27.4
Average	-75.7	-28.6	-2.2	0.9	1.5	2.0	2.3	4.2	11.0	-68.0	-138.1	-129.3
Critical	-178.9	-79.2	-33.7	-10.0	6.5	8.7	9.9	15.9	42.0	-268.9	-489.4	-427.1
Dry	-94.1	-20.6	10.8	10.6	0.9	1.4	1.6	4.7	8.1	-77.0	-210.2	-232.1
BN	0.1	0.0	-0.3	1.6	0.2	0.1	0.2	0.3	0.5	0.3	0.1	0.0
AN	-77.9	-32.7	11.7	3.8	0.0	0.1	-0.4	0.0	3.5	3.7	-3.9	-4.0
Wet	-22.1	-7.5	2.0	0.7	0.0	0.0	0.1	0.2	0.6	0.7	1.2	0.8

Table 1-63.
San Joaquin River location RSAN007 (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.8	-1.6	-0.4	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.0	-4.5	-8.9	-8.3
1977	-4.3	-2.0	-1.0	-0.8	-0.9	-0.6	-0.3	0.2	0.9	-3.4	-7.5	-4.8
1978	-3.4	-1.5	-0.4	0.4	0.2	0.1	0.1	0.1	0.5	0.3	0.1	0.0
1979	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.3	1.2	0.7	-0.7	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.4	0.2	-1.7	-5.6	-4.4
1982	-1.6	-1.5	-0.5	0.0	-0.8	-0.5	0.0	0.0	0.0	0.1	0.0	0.0
1983	1.1	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1
1984	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1985	0.0	0.5	0.5	0.5	0.5	0.1	0.1	0.2	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.2	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.1	0.0	-0.1	0.5	-4.7	-10.2	-9.9
1988	-4.8	-2.1	0.1	1.4	0.3	-0.2	1.1	0.6	1.2	-8.1	-9.6	-6.8
1989	-3.8	-1.9	0.8	1.4	-0.2	0.3	1.2	1.5	0.1	-0.7	-4.1	-3.5
1990	-1.3	-0.6	-0.4	0.3	4.5	5.3	2.2	1.3	1.7	-8.0	-10.4	-6.7
1991	-4.2	-1.8	-1.0	-0.9	0.7	1.7	2.0	2.7	1.9	-6.2	-8.2	-5.3
1992	-3.3	-1.5	-0.9	-0.8	-0.4	1.0	2.8	1.0	1.0	-8.3	-9.1	-6.4
1993	-3.7	-1.7	1.2	2.5	0.4	0.4	0.2	0.2	1.0	1.9	0.3	0.1
1994	0.0	0.0	0.0	1.1	2.2	2.5	2.3	1.8	1.5	-2.2	-8.1	-7.1
1995	-3.8	-1.4	0.2	1.0	0.3	0.1	0.1	0.0	0.0	0.1	1.8	1.2
1996	0.2	0.0	1.4	0.4	0.0	0.0	0.0	0.0	0.6	0.5	0.1	0.0
1997	0.0	-0.1	0.0	-0.1	0.0	0.0	0.2	0.5	0.3	0.0	0.0	0.1
1998	0.0	-0.2	0.7	0.5	0.1	0.0	0.0	0.1	0.0	0.0	0.5	0.5
1999	0.2	0.5	0.2	0.0	0.0	0.0	0.0	0.1	0.5	0.2	0.0	0.0
2000	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.3	0.2	0.0	0.2	1.5	1.7	-8.4	-9.9	-7.4
2002	-4.3	-0.1	1.7	0.3	1.9	2.2	2.0	1.7	0.5	0.1	0.0	0.0
2003	0.0	-0.1	0.3	0.2	0.1	0.3	0.1	0.0	2.6	0.4	-1.3	-1.5
Average	-1.1	-0.4	0.1	0.3	0.3	0.4	0.4	0.4	0.5	-1.5	-2.6	-2.1
Critical	-2.5	-1.1	-0.5	0.1	0.9	1.4	1.4	1.1	1.3	-5.8	-8.8	-6.5
Dry	-1.3	-0.3	0.5	0.5	0.5	0.5	0.6	0.9	0.5	-2.6	-5.0	-4.2
BN	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
AN	-1.2	-0.5	0.4	0.7	0.0	0.0	-0.2	0.0	0.7	0.5	-0.2	-0.2
Wet	-0.3	-0.2	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1

Table 1-64.
San Joaquin River location RSAN018 (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.1	-2.6	-4.3	-1.0	-0.2	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	13.8	18.9	4.5	-136.5
1977	-151.4	-78.0	-56.6	-34.5	-11.4	-6.5	-4.3	0.1	17.2	70.3	-97.7	-111.4
1978	-102.5	-56.0	-19.3	0.7	0.9	0.5	0.2	0.1	0.2	0.9	0.9	0.3
1979	0.1	0.0	-0.3	1.0	0.4	0.2	0.1	0.2	0.1	0.3	0.2	0.0
1980	-2.0	4.2	12.8	1.4	-1.8	0.3	0.0	0.1	0.1	0.0	0.0	0.0
1981	0.0	-0.9	-0.6	0.6	0.2	0.1	0.0	0.3	-0.1	-22.0	55.4	-98.6
1982	-87.1	-28.6	-0.9	0.1	-2.1	-1.1	0.1	0.0	-0.1	0.0	0.2	0.0
1983	0.6	0.2	0.0	0.0	0.2	0.2	0.1	-0.1	0.0	0.0	0.0	0.0
1984	0.5	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	-0.4	-0.1	0.0
1985	0.0	0.7	0.9	1.0	0.8	0.2	0.1	0.2	0.1	-0.5	-1.2	-1.5
1986	-1.5	-2.1	1.7	0.8	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.5	0.3	0.5	0.1	0.3	-1.3	-0.6	57.2	38.3	-137.5
1988	-136.7	-73.7	-16.5	1.4	0.3	-0.6	1.8	0.9	3.7	87.5	-59.3	-123.6
1989	-150.6	-86.8	6.0	15.8	-6.6	0.7	0.9	0.8	-2.4	-6.2	1.6	-64.6
1990	-50.5	-36.7	-29.8	-5.9	5.6	10.2	5.8	3.9	16.9	91.3	-102.2	-127.2
1991	-142.3	-84.7	-56.1	-30.9	-2.7	2.0	1.1	7.6	20.9	81.6	-75.1	-105.7
1992	-120.3	-66.1	-50.6	-44.5	-5.4	0.6	1.3	0.2	-0.2	81.2	-71.0	-130.0
1993	-90.6	-53.7	6.7	7.4	1.7	1.2	0.4	0.5	-0.7	2.6	4.3	1.9
1994	0.3	0.2	-0.3	7.8	6.7	2.8	2.8	2.3	9.8	-53.1	75.2	-47.4
1995	-52.6	-37.3	-6.7	3.0	0.9	0.2	0.1	0.0	0.1	0.1	2.0	2.4
1996	0.2	0.0	1.1	0.4	0.1	0.0	0.0	0.1	0.1	2.0	1.2	0.5
1997	0.0	-0.1	0.1	-0.2	-0.1	0.0	0.1	0.1	0.3	-0.9	-0.3	-0.5
1998	-0.3	-1.2	2.0	0.9	0.3	0.0	0.0	0.1	0.1	0.0	0.1	0.2
1999	0.4	0.8	0.2	0.0	0.0	0.0	0.1	0.1	0.2	0.9	0.6	0.2
2000	0.0	0.0	-0.9	0.4	0.1	0.1	0.1	0.1	0.2	-0.6	-0.1	0.0
2001	0.0	0.0	-1.3	0.6	0.3	0.1	0.1	1.4	3.2	89.6	6.1	-84.5
2002	-110.6	-15.8	9.8	0.8	0.7	0.7	0.3	0.5	0.5	0.0	-4.2	-5.5
2003	-2.6	-6.4	1.9	0.4	0.1	0.1	0.1	0.1	2.6	24.5	-12.4	-16.5
Average	-35.3	-18.3	-5.8	-2.1	-0.3	0.3	0.2	0.5	2.5	15.5	-6.9	-34.9
Critical	-85.8	-48.4	-30.0	-15.2	-1.0	1.2	1.2	2.0	11.7	54.0	-46.5	-111.7
Dry	-43.5	-17.1	2.4	3.2	-0.7	0.3	0.3	0.3	0.1	19.7	16.0	-65.4
BN	0.0	0.0	-0.2	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0
AN	-32.9	-18.7	0.2	1.7	0.2	-0.1	-0.6	0.0	0.4	4.6	-1.2	-2.4
Wet	-10.8	-5.2	-0.2	0.4	0.0	0.0	0.1	0.0	0.1	0.1	0.3	0.2

Table 1-65.
San Joaquin River location RSAN018 (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-1.1	-1.8	-0.4	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.4	0.9	0.3	-6.5
1977	-6.4	-3.6	-2.1	-1.9	-1.7	-1.4	-0.9	0.0	1.4	4.3	-3.9	-4.1
1978	-5.1	-2.8	-1.2	0.2	0.3	0.2	0.1	0.1	0.1	0.3	0.1	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1980	-0.1	0.3	1.0	0.5	-0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	-1.7	3.1	-3.9
1982	-3.1	-2.0	-0.4	0.1	-0.9	-0.5	0.1	0.0	0.0	0.0	0.0	0.0
1983	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1985	0.0	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
1986	-0.1	-0.1	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	-0.1	0.0	0.1	0.0	0.1	-0.3	-0.1	5.8	3.0	-7.4
1988	-6.8	-3.8	-1.3	0.4	0.1	-0.2	0.5	0.2	0.9	7.5	-3.9	-6.5
1989	-5.9	-4.0	0.3	0.9	-0.8	0.2	0.4	0.4	-0.6	-0.4	0.1	-3.3
1990	-2.6	-1.8	-1.4	-0.6	1.4	3.1	1.8	1.1	2.3	4.4	-4.9	-5.6
1991	-6.1	-3.4	-2.2	-2.2	-0.4	0.6	0.4	2.0	2.1	3.7	-3.8	-4.9
1992	-5.1	-2.9	-2.1	-2.3	-1.1	0.2	0.5	0.0	0.0	6.4	-3.7	-5.7
1993	-5.1	-3.1	0.3	1.6	0.6	0.5	0.2	0.2	-0.3	0.9	0.4	0.2
1994	0.1	0.0	0.0	0.6	1.4	0.9	1.0	0.8	1.8	-2.4	3.5	-1.8
1995	-3.5	-2.4	-0.3	0.7	0.4	0.1	0.1	0.0	0.0	0.1	0.8	0.9
1996	0.1	0.0	0.4	0.2	0.1	0.0	0.0	0.1	0.1	0.4	0.1	0.0
1997	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.2	0.0	0.0
1998	-0.1	-0.4	0.5	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1
1999	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0
2000	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0
2001	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	0.5	0.9	9.5	0.5	-4.6
2002	-5.7	-0.8	1.4	0.3	0.3	0.3	0.2	0.2	0.1	0.0	-0.2	-0.2
2003	-0.1	-0.3	0.2	0.2	0.0	0.0	0.0	0.1	1.0	4.8	-1.1	-1.7
Average	-1.6	-0.9	-0.2	0.0	0.0	0.1	0.1	0.2	0.3	1.3	-0.3	-1.6
Critical	-3.8	-2.2	-1.3	-0.9	0.0	0.5	0.5	0.6	1.4	3.5	-2.4	-5.0
Dry	-1.9	-0.8	0.3	0.3	0.0	0.1	0.1	0.1	0.0	2.2	1.1	-3.2
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.7	-1.0	0.0	0.4	0.1	0.0	-0.2	0.0	0.1	1.0	-0.1	-0.2
Wet	-0.5	-0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

Table 1-66.
San Joaquin River location RSAN032 (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.2	-3.1	-0.4	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	13.0	-61.8	-58.1
1977	-39.2	-17.3	-16.1	-13.2	-4.0	-0.8	-0.1	0.4	3.7	-27.0	-28.9	-53.8
1978	-33.3	-13.4	-7.5	1.1	1.0	0.5	0.2	0.2	0.1	0.1	0.1	0.1
1979	0.0	0.0	-0.1	0.5	0.5	0.1	0.1	0.2	0.0	0.0	0.0	0.0
1980	-0.2	0.7	3.8	0.3	-0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	-0.1	-0.2	0.3	0.1	0.0	0.1	0.3	0.2	-3.7	10.2	-1.4
1982	-17.8	-9.2	0.0	0.1	-0.9	-0.3	0.0	-0.1	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1985	0.0	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	-0.1	-0.2	-0.5
1986	-0.2	-0.5	0.2	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	-0.2	-0.1	0.1	0.0	0.7	1.0	0.6	7.0	-15.7	-32.3
1988	-25.2	-15.3	-7.4	0.5	0.2	1.2	1.2	1.3	1.1	12.7	-14.7	-46.2
1989	-37.0	-19.1	-2.0	6.2	0.0	1.3	1.0	0.9	0.2	-1.0	3.2	-5.6
1990	-9.4	-8.4	-7.8	-3.3	1.1	1.7	1.3	0.8	2.7	23.7	-14.5	-47.8
1991	-37.0	-19.5	-15.1	-9.6	-1.2	1.1	0.8	1.2	4.3	19.2	-12.7	-38.6
1992	-29.8	-15.2	-12.0	-13.4	-0.4	0.7	0.5	0.9	0.7	12.3	-14.2	-39.0
1993	-24.9	-10.8	-0.9	2.9	1.4	1.1	0.3	0.6	-2.1	-0.5	0.7	0.2
1994	0.1	0.0	-0.1	1.8	1.9	0.8	0.6	0.5	1.4	-10.9	-17.8	12.2
1995	-6.3	-4.5	-3.7	1.6	0.7	0.2	0.1	0.0	0.1	0.1	0.1	0.1
1996	0.0	0.0	0.2	0.3	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.1
1997	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.1	-0.1	-0.1	-0.5
1998	0.1	0.0	0.3	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1999	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1
2000	0.0	0.0	-0.2	0.2	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1	0.0
2001	0.0	0.0	-0.6	-0.1	0.1	0.1	0.3	0.8	0.8	15.2	1.9	-24.5
2002	-21.4	-5.3	2.1	0.6	0.5	0.3	0.4	0.4	0.4	-0.2	-0.4	-1.5
2003	-1.0	-1.1	0.6	0.1	0.1	0.1	0.1	0.1	0.3	3.7	-0.4	-2.5
Average	-8.3	-4.1	-1.9	-0.7	0.0	0.2	0.2	0.3	0.5	1.9	-4.9	-10.0
Critical	-20.1	-10.8	-8.4	-5.3	-0.3	0.7	0.6	0.7	2.4	6.1	-23.5	-38.8
Dry	-9.7	-4.1	-0.1	1.2	0.2	0.3	0.4	0.6	0.4	2.9	-0.2	-11.0
BN	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
AN	-9.9	-4.1	-0.7	0.8	0.4	-0.1	-0.4	0.1	-0.3	0.5	0.1	-0.4
Wet	-1.9	-1.1	-0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-67.
San Joaquin River location RSAN032 (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-1.1	-1.3	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.8	-11.6	-10.9
1977	-6.3	-3.1	-2.3	-1.9	-1.0	-0.3	0.0	0.1	1.0	-6.3	-5.6	-7.2
1978	-5.3	-2.4	-1.3	0.4	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.2	0.7	0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.1	-0.1	0.1	0.1	0.0	0.0	0.1	0.1	-1.1	2.4	-0.3
1982	-3.0	-2.0	0.0	0.1	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.1
1986	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	-0.1	0.0	0.0	0.0	0.3	0.4	0.3	2.6	-4.4	-7.6
1988	-5.1	-3.1	-1.5	0.2	0.1	0.5	0.5	0.5	0.5	4.5	-3.5	-9.3
1989	-5.7	-3.4	-0.3	0.9	0.0	0.6	0.5	0.4	0.1	-0.3	0.7	-1.2
1990	-2.1	-1.6	-1.3	-0.7	0.4	0.7	0.5	0.3	1.0	5.5	-2.7	-8.5
1991	-5.6	-2.8	-2.0	-1.5	-0.3	0.4	0.3	0.5	1.5	4.1	-2.4	-7.1
1992	-4.7	-2.4	-1.7	-2.0	-0.1	0.3	0.2	0.4	0.3	4.1	-3.1	-7.2
1993	-4.9	-2.2	-0.2	1.0	0.6	0.5	0.2	0.3	-1.0	-0.3	0.2	0.1
1994	0.0	0.0	0.0	0.3	0.6	0.3	0.3	0.2	0.6	-2.3	-3.2	2.2
1995	-1.3	-1.2	-0.6	0.6	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.1
1996	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-0.1
1998	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.2	0.0	0.0	0.0	0.1	0.3	0.4	5.9	0.6	-5.8
2002	-4.4	-1.1	0.7	0.3	0.2	0.1	0.2	0.1	0.2	-0.1	-0.1	-0.3
2003	-0.2	-0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.1	1.7	-0.1	-0.9
Average	-1.4	-0.7	-0.3	0.0	0.0	0.1	0.1	0.1	0.2	0.6	-1.0	-1.9
Critical	-3.4	-1.9	-1.3	-0.8	-0.1	0.3	0.3	0.3	0.8	1.8	-4.6	-6.8
Dry	-1.7	-0.7	0.0	0.2	0.1	0.1	0.2	0.2	0.2	1.2	-0.2	-2.6
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.7	-0.8	-0.1	0.3	0.2	-0.1	-0.2	0.1	-0.1	0.2	0.0	-0.1
Wet	-0.3	-0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-68.
Sacramento River location RSAC081 (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-79.3	-52.1	-258.5	-423.9	-357.4
1977	-186.1	-77.2	-41.7	-13.5	-8.2	-2.9	0.0	-70.1	-38.1	-323.9	-407.7	-278.6
1978	-155.8	-67.6	-27.5	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	18.2	-141.2	6.3
1982	26.5	-29.4	-0.1	0.0	-0.4	-0.3	0.0	0.0	0.0	-0.1	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	20.1	-129.8	-404.6	-363.5
1988	-172.8	-70.2	-18.9	-1.2	-0.1	0.0	0.0	7.0	29.2	-303.5	-372.1	-265.1
1989	-153.9	-59.7	-28.6	-11.9	-10.7	2.0	7.0	12.0	4.6	-18.5	-50.9	-12.1
1990	-1.4	-1.8	-1.6	-1.8	38.9	38.6	14.8	-54.0	-26.8	-402.9	-454.0	-307.3
1991	-175.4	-76.9	-39.9	-18.2	-7.0	-0.5	0.1	-45.4	-21.8	-336.5	-369.3	-251.1
1992	-143.6	-60.8	-36.0	-18.6	0.6	0.2	0.2	6.7	34.5	-365.1	-409.6	-263.6
1993	-139.0	-57.8	-33.8	1.6	0.6	0.3	0.0	0.4	6.9	18.4	7.7	1.9
1994	0.6	0.2	0.1	0.0	0.0	0.0	0.1	-11.9	-44.8	-71.3	-366.8	-263.3
1995	-93.6	-36.7	-19.4	0.2	0.1	0.0	0.0	0.0	0.1	0.2	2.1	1.1
1996	0.8	0.1	-0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	27.8	-315.8	-364.0	-265.2
2002	-149.1	-47.4	-16.4	-0.2	7.8	5.8	10.8	7.0	2.9	1.4	0.6	0.3
2003	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	-8.7	16.9	7.3
Average	-39.5	-17.2	-7.8	-1.9	0.6	1.3	1.0	-6.4	-1.7	-73.4	-109.9	-76.8
Critical	-97.0	-41.0	-19.7	-7.6	3.5	5.0	2.3	-35.3	-17.1	-294.5	-400.5	-283.8
Dry	-50.5	-17.9	-7.5	-2.0	-0.5	1.3	3.0	4.8	9.2	-74.1	-160.0	-105.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-49.1	-20.9	-10.2	0.3	0.2	0.1	0.0	0.1	1.3	1.6	4.1	1.5
Wet	-5.1	-5.1	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

Table 1-69.
Sacramento River location RSAC081 (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	-0.7	-3.9	-5.5	-3.7
1977	-1.7	-0.7	-0.4	-0.3	-0.3	-0.1	0.0	-1.3	-0.5	-3.7	-4.3	-2.6
1978	-1.5	-0.6	-0.5	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-2.3	0.1
1982	0.3	-2.2	-0.1	0.0	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	-2.6	-5.7	-4.2
1988	-1.8	-0.7	-0.5	-0.3	0.0	0.0	0.0	0.2	0.8	-5.0	-4.7	-2.8
1989	-1.4	-0.6	-0.3	-0.2	-0.3	0.5	2.7	1.4	0.2	-0.4	-0.9	-0.2
1990	0.0	0.0	0.0	-0.1	3.2	2.3	0.7	-1.7	-0.5	-5.4	-5.5	-3.2
1991	-1.6	-0.7	-0.4	-0.2	-0.2	-0.1	0.0	-1.5	-0.4	-4.5	-4.6	-2.6
1992	-1.3	-0.6	-0.3	-0.3	0.1	0.1	0.0	0.2	0.9	-5.9	-4.9	-2.8
1993	-1.4	-0.6	-0.5	0.4	0.3	0.1	0.0	0.2	2.7	1.4	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.9	-1.1	-5.0	-3.0
1995	-1.2	-0.4	-0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1
1996	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.9	-6.5	-5.4	-3.1
2002	-1.6	-0.6	-1.5	-0.1	2.2	1.3	2.5	0.8	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.4	0.4	0.3
Average	-0.4	-0.2	-0.1	0.0	0.1	0.1	0.2	-0.1	0.1	-1.1	-1.4	-0.8
Critical	-0.9	-0.4	-0.2	-0.2	0.4	0.3	0.1	-0.9	-0.2	-4.2	-4.9	-3.0
Dry	-0.5	-0.2	-0.3	-0.1	0.3	0.3	0.9	0.5	0.3	-1.5	-2.4	-1.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.5	-0.2	-0.2	0.1	0.1	0.0	0.0	0.0	0.5	0.2	0.1	0.1
Wet	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-70.
Sacramento River location RSAC092 (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-34.2	-19.3	-106.9	-273.6	-237.9
1977	-100.3	-33.0	-15.5	-3.0	-1.4	-0.6	0.0	-32.8	-14.5	-277.5	-242.4	-205.6
1978	-85.2	-29.7	-5.8	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	12.5	-88.3	44.5
1982	10.4	-4.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	5.9	-57.6	-252.5	-201.0
1988	-76.9	-27.5	-3.7	-0.2	0.0	0.0	0.0	1.9	9.4	-164.8	-213.5	-175.1
1989	-84.8	-21.3	-8.9	-2.6	-2.3	0.3	0.5	0.8	0.8	-4.5	-22.0	-0.8
1990	-0.8	-0.7	-0.7	-0.7	3.6	5.0	2.3	-15.6	-4.5	-216.0	-235.9	-195.3
1991	-95.3	-37.3	-17.4	-5.9	-1.4	-0.1	0.0	-13.8	-2.7	-189.3	-192.0	-166.7
1992	-76.5	-27.6	-15.4	-3.9	0.1	0.0	0.0	2.2	10.8	-192.1	-223.8	-157.6
1993	-63.5	-22.6	-9.1	0.5	0.4	0.1	0.0	0.1	-0.1	1.2	1.7	0.4
1994	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-19.1	-17.4	-235.7	-114.0
1995	-35.4	-11.1	-5.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	7.0	-125.3	-162.8	-153.7
2002	-64.2	-14.7	-2.7	0.0	0.5	0.3	0.6	0.4	0.6	0.3	0.2	0.1
2003	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.3	8.7	0.5
Average	-19.8	-6.7	-2.5	-0.5	0.0	0.1	0.1	-2.7	-0.7	-39.4	-62.7	-45.9
Critical	-49.9	-18.0	-7.5	-2.0	0.1	0.6	0.4	-13.5	-5.7	-166.3	-231.0	-178.9
Dry	-24.8	-6.0	-1.9	-0.4	-0.3	0.1	0.2	0.6	2.4	-29.1	-87.6	-51.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-24.8	-8.7	-2.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.7	0.1
Wet	-1.9	-1.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-71.
Sacramento River location RSAC092 (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.2	-0.9	-7.4	-11.1	-7.1
1977	-2.5	-1.0	-0.5	-0.3	-0.2	-0.1	0.0	-2.4	-0.6	-10.0	-8.2	-5.0
1978	-2.3	-0.9	-0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	-6.2	2.1
1982	0.4	-1.2	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	-5.6	-12.3	-7.6
1988	-2.5	-1.0	-0.5	-0.1	0.0	0.0	0.0	0.3	1.3	-11.5	-8.5	-5.5
1989	-2.0	-0.9	-0.4	-0.2	-0.3	0.1	0.3	0.4	0.1	-0.5	-1.9	-0.1
1990	0.0	0.0	0.0	-0.1	1.3	1.6	0.6	-2.6	-0.3	-11.7	-9.3	-6.0
1991	-2.4	-0.9	-0.5	-0.3	-0.2	0.0	0.0	-2.2	-0.2	-10.0	-7.9	-5.0
1992	-2.0	-0.8	-0.4	-0.2	0.0	0.0	0.0	0.4	1.4	-13.0	-8.5	-5.1
1993	-2.0	-0.8	-0.6	0.2	0.2	0.1	0.0	0.1	-0.1	0.5	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.6	-1.4	-11.9	-4.6
1995	-1.5	-0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	-12.9	-8.9	-5.8
2002	-2.3	-0.7	-0.9	0.0	0.2	0.1	0.3	0.2	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.4	1.2	0.1
Average	-0.6	-0.3	-0.1	0.0	0.0	0.1	0.0	-0.3	0.0	-2.4	-2.7	-1.4
Critical	-1.3	-0.5	-0.3	-0.2	0.1	0.2	0.1	-1.5	-0.1	-9.3	-9.3	-5.4
Dry	-0.7	-0.3	-0.2	0.0	0.0	0.0	0.1	0.2	0.4	-2.9	-4.9	-1.9
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.7	-0.3	-0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Wet	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-72.
Sacramento River location RSAC101 (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.7	-2.1	-7.8	-39.6	-35.1
1977	-13.8	-4.5	-2.1	-0.4	-0.1	-0.1	0.0	-3.6	-2.0	-46.6	-26.3	-35.0
1978	-12.2	-4.5	-0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-7.0	7.1
1982	-1.6	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	-3.0	-32.0	-23.1
1988	-8.9	-3.7	-0.4	0.0	0.0	0.0	0.0	0.1	0.7	-13.0	-26.3	-28.9
1989	-13.4	-2.8	-1.3	-0.3	-0.3	0.1	0.2	0.0	0.0	-0.6	-1.8	0.3
1990	-0.3	-0.1	-0.1	0.0	0.4	0.4	0.2	-1.1	0.2	-19.0	-24.4	-28.5
1991	-14.0	-6.5	-3.0	-0.8	-0.2	0.0	0.0	-1.1	0.0	-16.2	-20.4	-26.1
1992	-11.1	-4.5	-2.4	-0.5	0.0	0.0	0.0	0.2	0.8	-16.0	-24.8	-19.8
1993	-7.2	-3.0	-0.9	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.2	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-2.3	-2.7	-27.9	-4.9
1995	-2.6	-0.9	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	-6.7	-12.8	-16.4
2002	-5.8	-1.7	-0.4	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	-0.3
Average	-2.7	-1.0	-0.3	0.0	0.0	0.0	0.0	-0.3	-0.1	-3.9	-7.1	-6.2
Critical	-6.9	-2.7	-1.1	-0.3	0.0	0.0	0.0	-1.3	-0.7	-17.3	-27.1	-25.5
Dry	-3.2	-0.8	-0.3	0.0	0.0	0.0	0.1	0.0	0.2	-1.8	-8.9	-5.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-3.2	-1.2	-0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Wet	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-73.
Sacramento River location RSAC101 (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.6	-2.6	-9.3	-7.0
1977	-2.4	-1.0	-0.5	-0.1	-0.1	0.0	0.0	-1.3	-0.5	-10.5	-6.0	-5.4
1978	-2.3	-0.9	-0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-2.3	1.9
1982	-0.4	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-1.3	-9.1	-5.6
1988	-1.9	-0.9	-0.2	0.0	0.0	0.0	0.0	0.1	0.3	-4.7	-6.3	-5.7
1989	-2.0	-0.7	-0.3	-0.1	-0.1	0.0	0.1	0.0	0.0	-0.2	-0.7	0.1
1990	-0.1	0.0	0.0	0.0	0.2	0.2	0.1	-0.6	0.1	-5.8	-5.6	-5.6
1991	-2.2	-1.0	-0.5	-0.2	-0.1	0.0	0.0	-0.5	0.0	-4.8	-4.9	-5.0
1992	-1.9	-0.8	-0.4	-0.2	0.0	0.0	0.0	0.1	0.4	-5.6	-5.9	-4.2
1993	-1.5	-0.7	-0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.9	-1.0	-7.6	-1.2
1995	-0.7	-0.3	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-2.9	-4.0	-4.2
2002	-1.4	-0.5	-0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.1
Average	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-1.2	-1.8	-1.2
Critical	-1.2	-0.5	-0.2	-0.1	0.0	0.0	0.0	-0.6	-0.2	-5.0	-6.5	-4.9
Dry	-0.6	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	-0.8	-2.7	-1.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-74.
San Joaquin River location RSAN007 (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-53.9	-37.5	-168.8	-242.4	-246.4
1977	-151.8	-63.3	-34.1	-11.5	-4.9	-2.0	-0.1	-48.6	-28.5	-116.3	-288.1	-187.2
1978	-117.6	-53.3	-22.0	-0.5	0.3	0.2	0.0	0.0	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-5.2	-59.9	-21.4
1982	18.4	-12.3	-0.8	0.1	-1.8	-1.2	0.1	0.0	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.2	0.2	0.1	-0.1	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	13.8	-49.2	-191.8	-254.7
1988	-138.1	-55.2	-15.2	-1.3	-0.1	0.0	0.0	4.1	19.6	-143.5	-228.3	-170.0
1989	-126.3	-48.5	-22.9	-9.1	-6.7	0.7	1.7	4.8	2.6	-15.7	-32.2	-11.9
1990	-1.4	-1.5	-1.3	-1.3	18.2	22.4	9.1	-31.2	-14.4	-237.5	-318.8	-213.4
1991	-142.7	-63.6	-32.3	-13.1	-4.6	-0.6	0.0	-27.7	-14.2	-197.7	-248.8	-169.3
1992	-116.1	-49.2	-29.0	-14.4	-0.6	0.1	0.1	4.4	25.2	-195.8	-283.0	-182.4
1993	-103.4	-43.0	-27.3	0.2	0.7	0.4	0.1	0.2	1.0	9.4	5.8	1.9
1994	0.5	0.2	0.1	0.0	0.0	0.0	0.1	-6.1	-32.0	-67.7	-190.3	-195.8
1995	-66.5	-26.2	-15.8	-0.4	0.2	0.1	0.1	0.0	0.0	0.1	1.1	0.8
1996	0.3	0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1999	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	18.7	-155.8	-219.4	-169.7
2002	-114.8	-37.4	-10.9	-0.5	2.6	2.5	2.9	2.3	1.6	1.1	0.5	0.3
2003	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.9	6.6	1.6
Average	-31.2	-13.3	-6.2	-1.5	0.1	0.7	0.4	-4.3	-1.3	-39.5	-67.3	-53.5
Critical	-78.5	-33.2	-16.0	-5.9	1.1	2.8	1.3	-22.7	-11.7	-161.1	-257.1	-194.9
Dry	-40.2	-14.3	-5.6	-1.6	-0.7	0.5	0.8	2.1	6.1	-37.5	-83.8	-76.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-36.8	-16.0	-8.2	-0.1	0.2	0.1	0.0	0.1	0.3	1.4	2.1	0.6
Wet	-3.7	-3.0	-1.3	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.0

Table 1-75.
San Joaquin River location RSAN007 (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-0.9	-3.6	-4.8	-3.8
1977	-2.0	-0.9	-0.5	-0.3	-0.3	-0.1	0.0	-1.5	-0.6	-2.1	-4.3	-2.5
1978	-1.7	-0.8	-0.6	-0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.4	-0.4
1982	0.3	-0.8	-0.3	0.0	-0.8	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	-1.6	-4.3	-4.4
1988	-2.1	-0.9	-0.6	-0.3	0.0	0.0	0.0	0.3	1.1	-3.8	-4.5	-2.7
1989	-1.6	-0.8	-0.4	-0.2	-0.3	0.2	0.8	1.2	0.2	-0.5	-0.8	-0.3
1990	0.0	0.0	0.0	-0.1	2.7	2.6	0.9	-2.0	-0.4	-4.6	-5.7	-3.2
1991	-1.9	-0.8	-0.4	-0.3	-0.2	-0.1	0.0	-1.8	-0.4	-3.7	-4.5	-2.6
1992	-1.6	-0.7	-0.4	-0.3	-0.1	0.0	0.0	0.3	1.1	-5.0	-4.9	-2.8
1993	-1.7	-0.7	-0.6	0.0	0.3	0.2	0.0	0.1	0.5	1.3	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.2	-1.5	-3.7	-3.1
1995	-1.4	-0.5	-0.3	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1
1996	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	-5.2	-5.2	-2.9
2002	-1.8	-0.7	-1.0	-0.2	1.0	0.9	1.1	0.6	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.3	0.1
Average	-0.5	-0.2	-0.2	-0.1	0.1	0.1	0.1	-0.2	0.0	-0.9	-1.3	-0.8
Critical	-1.1	-0.5	-0.3	-0.2	0.3	0.3	0.1	-1.1	-0.2	-3.5	-4.6	-3.0
Dry	-0.6	-0.2	-0.2	-0.1	0.1	0.2	0.3	0.4	0.4	-1.2	-2.0	-1.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.2	-0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.0
Wet	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-76.
San Joaquin River location RSAN018 (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-13.0	-12.4	33.3	-16.0	-61.1
1977	-62.6	-29.2	-17.0	-7.2	-1.8	-0.7	-0.2	-12.7	-11.9	43.3	-39.6	-38.7
1978	-44.9	-23.3	-11.6	-0.2	0.5	0.2	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-47.0	67.7	-30.5
1982	-14.8	-11.9	-0.8	0.1	-2.1	-1.1	0.1	0.0	-0.1	0.0	0.0	0.0
1983	0.0	0.0	-0.1	0.0	0.2	0.2	0.1	-0.1	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.6	40.7	31.0	-46.0
1988	-49.2	-23.5	-9.1	-1.1	-0.1	0.0	0.0	0.7	3.7	62.7	-15.5	-32.3
1989	-51.1	-23.4	-12.2	-5.3	-2.1	0.3	0.5	0.6	0.6	-10.2	5.9	-3.6
1990	-2.3	-0.8	-0.6	-0.6	3.1	5.5	2.4	-4.7	-2.1	68.0	-36.7	-40.8
1991	-54.9	-30.0	-15.8	-5.8	-1.9	-0.3	0.0	-5.1	-3.7	61.1	-25.1	-32.5
1992	-45.3	-22.6	-13.2	-6.4	-0.5	0.0	0.0	0.9	6.7	46.2	-38.7	-35.6
1993	-32.4	-15.9	-13.0	0.2	1.1	0.4	0.1	0.2	-0.9	1.4	3.0	1.3
1994	0.2	0.1	0.0	0.0	0.0	0.0	0.0	-0.7	-8.2	-63.4	55.2	-0.3
1995	-15.3	-8.3	-8.3	-0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.2	0.3
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.7	51.5	0.0	-15.0
2002	-34.2	-17.0	-7.3	-0.4	0.3	0.3	0.2	0.2	0.3	0.6	0.3	0.2
2003	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	8.5	-10.0	-10.6
Average	-12.0	-6.0	-3.2	-0.8	-0.1	0.1	0.1	-0.9	-0.6	8.7	-0.6	-10.2
Critical	-30.6	-15.1	-8.0	-3.0	-0.2	0.6	0.3	-5.0	-4.0	35.9	-16.6	-34.5
Dry	-14.2	-6.7	-3.3	-1.0	-0.3	0.1	0.1	0.3	1.4	5.9	17.5	-15.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
AN	-12.9	-6.5	-4.1	0.0	0.3	0.1	0.0	0.1	-0.1	1.7	-1.2	-1.5
Wet	-2.3	-1.6	-0.7	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-77.
San Joaquin River location RSAN018 (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-1.3	1.5	-0.9	-2.9
1977	-2.6	-1.4	-0.6	-0.4	-0.3	-0.2	0.0	-1.7	-0.9	2.7	-1.6	-1.4
1978	-2.2	-1.1	-0.7	-0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	3.8	-1.2
1982	-0.5	-0.8	-0.3	0.0	-1.0	-0.5	0.0	0.0	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	4.1	2.5	-2.5
1988	-2.4	-1.2	-0.7	-0.3	0.0	0.0	0.0	0.2	0.9	5.4	-1.0	-1.7
1989	-2.0	-1.1	-0.5	-0.3	-0.3	0.1	0.2	0.3	0.1	-0.7	0.3	-0.2
1990	-0.1	0.0	0.0	-0.1	0.8	1.6	0.7	-1.3	-0.3	3.3	-1.8	-1.8
1991	-2.3	-1.2	-0.6	-0.4	-0.2	-0.1	0.0	-1.3	-0.4	2.8	-1.3	-1.5
1992	-1.9	-1.0	-0.6	-0.3	-0.1	0.0	0.0	0.2	1.2	3.6	-2.0	-1.6
1993	-1.8	-0.9	-0.7	0.1	0.4	0.2	0.0	0.1	-0.4	0.5	0.3	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.5	-2.8	2.5	0.0
1995	-1.0	-0.5	-0.4	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	5.4	0.0	-0.8
2002	-1.8	-0.9	-1.0	-0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.7	-0.9	-1.1
Average	-0.6	-0.3	-0.2	-0.1	0.0	0.0	0.0	-0.2	0.0	0.7	0.0	-0.5
Critical	-1.3	-0.7	-0.4	-0.2	0.0	0.2	0.1	-0.9	-0.3	2.3	-0.9	-1.6
Dry	-0.6	-0.3	-0.3	-0.1	0.0	0.0	0.0	0.1	0.3	0.9	1.1	-0.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.7	-0.3	-0.2	0.0	0.1	0.0	0.0	0.0	-0.1	0.4	-0.1	-0.2
Wet	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-78.
San Joaquin River location RSAN032 (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-2.7	15.8	-24.8	-31.1
1977	-19.1	-8.0	-5.3	-2.8	-0.8	-0.3	-0.1	-2.4	-2.9	-20.4	-16.1	-26.5
1978	-17.1	-7.2	-3.9	0.4	0.7	0.2	0.0	0.1	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-11.9	6.7	10.0
1982	-7.1	-6.1	0.0	0.0	-0.9	-0.3	0.0	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	4.6	-7.6	-15.2
1988	-10.0	-5.7	-3.1	-0.4	-0.1	0.0	0.0	0.1	0.5	7.4	-4.0	-19.7
1989	-15.4	-6.3	-3.7	-2.2	-0.8	0.4	0.6	0.2	0.1	-2.2	1.1	1.6
1990	-0.8	-0.3	-0.2	-0.2	0.7	0.9	0.6	-0.4	-0.4	14.7	-3.5	-21.5
1991	-16.7	-9.2	-5.4	-2.7	-0.9	-0.1	0.0	-0.7	-0.6	13.2	-3.2	-17.9
1992	-13.7	-6.9	-4.5	-2.5	0.0	0.0	0.0	0.1	0.7	5.2	-7.6	-16.3
1993	-8.6	-4.2	-3.5	0.9	1.0	0.2	0.0	0.2	-2.4	-0.6	0.4	0.2
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.1	-14.5	-14.3	11.3
1995	-1.2	-1.3	-2.0	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	7.5	1.8	-9.3
2002	-7.2	-3.8	-2.6	0.1	0.3	0.1	0.2	0.1	0.0	0.1	0.1	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-2.0	-2.4
Average	-3.4	-1.7	-1.0	-0.3	0.0	0.0	0.1	-0.1	-0.2	0.6	-2.1	-4.0
Critical	-8.6	-4.3	-2.6	-1.2	-0.1	0.1	0.1	-0.8	-0.9	3.1	-10.5	-17.4
Dry	-3.8	-1.7	-1.0	-0.4	-0.1	0.1	0.1	0.1	0.1	-0.3	0.3	-2.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
AN	-4.3	-1.9	-1.2	0.2	0.3	0.1	0.0	0.1	-0.4	0.1	-0.3	-0.4
Wet	-0.6	-0.6	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-79.
San Joaquin River location RSAN032 (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.8	3.4	-4.7	-5.8
1977	-3.1	-1.4	-0.7	-0.4	-0.2	-0.1	0.0	-0.8	-0.8	-4.7	-3.1	-3.5
1978	-2.7	-1.3	-0.7	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.7	1.6	1.9
1982	-1.2	-1.4	0.0	0.0	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.7	-2.1	-3.6
1988	-2.0	-1.2	-0.6	-0.2	0.0	0.0	0.0	0.0	0.2	2.6	-0.9	-3.9
1989	-2.4	-1.1	-0.5	-0.3	-0.2	0.2	0.3	0.1	0.0	-0.6	0.2	0.4
1990	-0.2	0.0	0.0	0.0	0.3	0.4	0.2	-0.2	-0.1	3.4	-0.6	-3.8
1991	-2.5	-1.3	-0.7	-0.4	-0.2	0.0	0.0	-0.3	-0.2	2.8	-0.6	-3.3
1992	-2.2	-1.1	-0.6	-0.4	0.0	0.0	0.0	0.0	0.3	1.7	-1.6	-3.0
1993	-1.7	-0.9	-0.6	0.3	0.4	0.1	0.0	0.1	-1.1	-0.3	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-3.1	-2.6	2.1
1995	-0.3	-0.3	-0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.9	0.5	-2.2
2002	-1.5	-0.8	-0.8	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.7	-0.9
Average	-0.6	-0.3	-0.2	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	-0.4	-0.8
Critical	-1.4	-0.7	-0.4	-0.2	0.0	0.0	0.0	-0.3	-0.3	0.9	-2.0	-3.0
Dry	-0.6	-0.3	-0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.7	-0.4	-0.2	0.1	0.1	0.0	0.0	0.0	-0.2	0.1	-0.1	-0.1
Wet	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-80.
Sacramento River location RSAC081 (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.6	-2.1	-0.8	-0.2	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-1.2	41.2	-270.2	-549.6	-503.1
1977	-258.7	-97.6	-45.3	-10.5	-9.7	-2.8	-0.9	15.4	30.9	-272.4	-394.9	-297.8
1978	-168.5	-63.0	12.1	2.3	0.5	0.2	0.2	0.6	4.6	5.6	2.1	0.5
1979	0.2	0.1	-0.7	7.3	0.8	0.5	1.6	1.9	2.1	0.8	0.4	0.0
1980	1.5	18.9	35.0	1.5	-0.3	0.1	0.3	0.9	0.8	0.2	0.1	0.0
1981	-0.1	0.5	-0.8	5.1	0.9	0.6	1.9	6.3	6.9	-55.8	-381.4	-278.8
1982	-107.3	-22.2	-0.1	0.1	-0.3	-0.3	0.0	0.0	0.6	1.3	0.7	-0.1
1983	8.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	0.8
1984	4.1	0.2	0.0	0.0	0.0	0.0	0.4	2.4	2.1	0.5	0.1	0.0
1985	-0.3	5.3	4.3	7.2	5.3	1.5	1.5	3.5	3.1	1.6	1.7	1.6
1986	1.2	1.0	10.7	2.6	0.0	0.0	0.2	0.4	0.4	0.1	0.1	0.0
1987	0.0	0.0	0.3	3.7	1.8	0.4	0.8	1.6	11.7	-245.0	-621.5	-542.1
1988	-249.9	-99.9	38.0	12.0	2.8	3.0	27.9	20.2	23.4	-441.2	-534.6	-390.8
1989	-217.2	-71.7	75.4	74.0	12.8	4.8	10.0	17.5	10.3	-32.3	-239.6	-169.7
1990	-64.2	-25.7	-10.9	21.6	63.3	82.3	36.1	36.5	52.1	-434.1	-534.6	-403.0
1991	-227.6	-89.6	-38.7	-11.2	44.7	14.4	20.0	68.5	80.5	-294.3	-379.8	-290.7
1992	-160.1	-59.8	-25.3	-12.1	9.8	9.0	33.4	38.3	31.3	-419.7	-541.1	-389.4
1993	-205.3	-72.5	101.8	12.2	0.9	1.4	0.3	1.6	10.8	26.0	11.0	2.7
1994	1.2	0.7	-0.7	45.1	23.2	30.8	32.4	34.3	58.0	-63.1	-405.7	-338.4
1995	-143.9	-50.2	33.4	4.1	0.4	0.0	0.1	0.0	0.1	1.3	19.6	9.9
1996	1.8	0.0	13.7	1.1	0.0	0.0	0.0	0.1	5.4	7.8	2.7	0.3
1997	0.0	-1.3	0.1	0.0	0.0	0.5	1.7	4.9	5.3	1.9	0.1	0.6
1998	0.4	0.1	9.9	1.6	0.0	0.0	0.0	0.0	0.0	0.1	4.3	3.8
1999	2.7	4.7	0.7	0.0	0.0	0.0	0.1	0.7	4.9	3.7	1.3	0.2
2000	0.0	0.0	-0.1	9.5	0.1	0.0	0.3	1.1	2.4	1.1	0.2	0.0
2001	0.0	-0.1	1.6	10.4	1.7	0.4	2.3	23.4	38.6	-415.8	-479.6	-379.4
2002	-210.7	37.4	22.3	0.7	14.2	15.4	18.6	19.8	18.1	7.0	6.2	5.7
2003	1.1	-1.0	6.9	0.1	0.5	2.2	0.7	0.1	29.3	-14.5	-44.6	-34.1
Average	-58.6	-17.2	7.2	5.5	5.1	4.8	5.5	8.8	14.0	-85.3	-148.7	-117.4
Critical	-137.0	-53.2	-11.8	6.4	19.2	19.5	21.4	30.3	45.4	-313.6	-477.2	-373.3
Dry	-71.4	-4.8	17.2	16.9	6.1	3.8	5.9	12.0	14.8	-123.4	-285.7	-227.1
BN	0.1	0.0	-0.3	3.6	0.4	0.2	0.8	1.0	1.1	0.4	0.2	0.0
AN	-61.9	-19.6	26.0	4.3	0.3	0.6	-0.1	0.6	8.0	3.1	-5.2	-5.1
Wet	-17.9	-5.1	5.3	0.7	0.0	0.0	0.2	0.7	1.4	1.3	2.3	1.2

Table 1-81.
Sacramento River location RSAC081 (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.3	-0.8	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-4.1	-7.1	-5.3
1977	-2.3	-0.9	-0.4	-0.2	-0.3	-0.1	0.0	0.3	0.4	-3.1	-4.2	-2.8
1978	-1.6	-0.6	0.2	0.8	0.2	0.1	0.1	0.3	0.8	0.3	0.0	0.0
1979	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.2	0.0	0.0	0.0
1980	0.0	0.3	1.1	0.6	-0.2	0.0	0.1	0.3	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.2	-1.3	-6.2	-3.5
1982	-1.1	-1.7	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.2	0.1	0.0	0.0
1983	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
1984	0.5	0.1	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.0	0.0	0.0
1985	0.0	0.8	0.6	0.5	0.5	0.2	0.2	0.3	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.3	0.4	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.3	-4.9	-8.8	-6.3
1988	-2.5	-1.0	1.0	2.8	0.5	0.1	1.1	0.7	0.6	-7.3	-6.7	-4.2
1989	-1.9	-0.8	0.9	1.4	0.3	1.3	3.9	2.1	0.3	-0.7	-4.3	-2.9
1990	-0.8	-0.3	-0.1	0.8	5.2	4.8	1.7	1.2	0.9	-5.8	-6.5	-4.2
1991	-2.1	-0.8	-0.4	-0.2	1.0	2.5	2.7	2.3	1.3	-3.9	-4.7	-3.0
1992	-1.5	-0.6	-0.2	-0.2	1.3	2.3	3.2	1.2	0.8	-6.8	-6.4	-4.2
1993	-2.1	-0.8	1.5	3.1	0.4	0.7	0.2	0.8	4.2	2.0	0.3	0.1
1994	0.0	0.0	0.0	1.2	2.8	2.6	2.1	1.7	1.2	-1.0	-5.6	-3.9
1995	-1.8	-0.6	0.5	1.3	0.2	0.0	0.0	0.0	0.1	0.5	1.7	0.9
1996	0.2	0.0	1.7	0.5	0.0	0.0	0.0	0.0	0.9	0.4	0.1	0.0
1997	0.0	-0.1	0.1	0.0	0.0	0.2	0.6	0.8	0.3	0.1	0.0	0.1
1998	0.0	0.0	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.7
1999	0.2	0.7	0.3	0.0	0.0	0.0	0.0	0.3	0.6	0.2	0.0	0.0
2000	0.0	0.0	0.0	0.9	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.4	0.5	0.1	0.4	1.3	1.3	-8.6	-7.1	-4.5
2002	-2.2	0.4	2.0	0.3	3.9	3.5	4.2	2.4	0.6	0.1	0.1	0.1
2003	0.0	0.0	0.7	0.1	0.2	0.8	0.3	0.1	2.4	-0.7	-1.1	-1.3
Average	-0.5	-0.2	0.3	0.5	0.5	0.6	0.6	0.5	0.5	-1.3	-1.9	-1.3
Critical	-1.3	-0.5	0.0	0.6	1.5	1.8	1.5	1.0	0.8	-4.6	-5.9	-3.9
Dry	-0.7	0.1	0.6	0.5	1.0	0.9	1.5	1.1	0.5	-2.5	-4.4	-2.8
BN	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.1	0.0	0.0	0.0
AN	-0.6	-0.2	0.6	0.9	0.1	0.2	0.0	0.2	1.3	0.3	-0.1	-0.2
Wet	-0.1	-0.1	0.3	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2

Table 1-82.
Sacramento River location RSAC092 (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.2	-1.3	-0.3	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	23.4	-113.4	-357.1	-331.2
1977	-133.3	-34.0	-10.8	-3.5	-1.7	0.4	0.6	8.3	17.7	-238.7	-237.9	-216.1
1978	-88.7	-18.1	2.1	0.5	0.3	0.1	0.1	0.1	0.4	0.6	0.5	0.1
1979	0.0	0.0	-0.2	0.9	0.3	0.1	0.2	0.2	0.2	0.1	0.1	0.0
1980	1.5	4.7	5.5	0.2	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1981	0.0	0.1	-0.2	0.5	0.1	0.0	0.1	1.0	2.0	-14.8	-182.2	-97.8
1982	-42.8	-4.2	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0
1983	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.0	0.0
1985	0.0	0.3	0.3	0.8	0.4	0.2	0.2	0.4	0.8	0.5	1.0	0.8
1986	1.0	0.8	1.5	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.2	0.7	0.2	0.0	0.5	1.4	4.5	-102.4	-364.1	-289.0
1988	-105.2	-31.8	4.8	1.0	0.2	2.3	5.9	5.4	7.5	-227.3	-292.9	-245.0
1989	-104.3	-14.4	38.0	23.8	5.6	0.7	0.8	1.5	3.4	-10.9	-89.9	-50.9
1990	-18.6	-4.6	1.3	2.0	5.7	11.1	5.7	9.6	22.5	-234.0	-278.2	-250.7
1991	-116.1	-28.3	-6.9	2.8	11.5	1.9	2.4	18.8	38.1	-169.9	-200.9	-186.8
1992	-75.7	-16.1	3.8	0.9	1.3	0.8	3.9	10.6	11.5	-220.8	-307.2	-220.8
1993	-102.1	-17.8	33.6	1.9	0.6	0.6	0.1	0.3	0.0	1.8	2.5	0.6
1994	0.2	0.1	-0.1	9.6	2.5	4.0	4.1	5.8	22.3	-19.7	-246.9	-156.4
1995	-53.1	-7.6	8.4	0.6	0.2	0.0	0.0	0.0	0.0	0.2	2.2	1.0
1996	0.1	0.0	0.8	0.2	0.0	0.0	0.0	0.0	0.4	1.0	0.7	0.1
1997	0.0	-0.1	0.1	0.0	0.0	0.0	0.1	0.4	0.8	0.2	-0.1	0.1
1998	0.4	0.0	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
1999	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.4	0.3	0.0
2000	0.0	0.0	0.1	0.9	0.0	0.0	0.1	0.1	0.3	0.1	0.0	0.0
2001	0.0	0.0	0.6	1.5	0.1	0.0	0.2	4.6	9.9	-160.9	-207.7	-213.6
2002	-87.2	24.1	4.4	0.3	0.8	0.8	1.0	1.6	5.2	1.5	4.2	2.0
2003	-0.1	0.9	1.1	0.1	0.0	0.1	0.1	0.0	4.7	-1.3	-10.3	-6.9
Average	-27.2	-4.3	2.6	1.4	0.8	0.7	0.7	2.1	5.2	-44.3	-81.3	-66.5
Critical	-64.1	-16.4	-1.1	1.8	2.8	2.9	3.2	8.3	20.4	-174.8	-274.4	-229.6
Dry	-31.9	1.7	7.2	4.6	1.2	0.3	0.5	1.8	4.3	-47.8	-139.8	-108.1
BN	0.0	0.0	-0.1	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
AN	-31.6	-5.1	7.1	0.6	0.2	0.1	-0.2	0.1	0.9	0.2	-1.2	-1.0
Wet	-7.2	-0.8	0.9	0.1	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.1

Table 1-83.
Sacramento River location RSAC092 (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.7	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	-7.9	-14.5	-9.9
1977	-3.4	-1.1	-0.4	-0.4	-0.3	0.1	0.1	0.6	0.7	-8.6	-8.1	-5.2
1978	-2.4	-0.5	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0
1979	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.1	0.4	1.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.3	0.4	-1.9	-12.8	-4.6
1982	-1.5	-1.2	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1985	0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0
1986	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.3	0.7	-9.9	-17.8	-10.9
1988	-3.4	-1.1	0.7	0.4	0.1	0.5	1.3	1.0	1.0	-15.9	-11.6	-7.6
1989	-2.5	-0.6	1.9	2.3	0.7	0.4	0.4	0.7	0.6	-1.2	-7.7	-3.9
1990	-1.0	-0.2	0.1	0.4	2.1	3.5	1.5	1.6	1.5	-12.7	-11.0	-7.7
1991	-3.0	-0.7	-0.2	0.2	1.4	0.8	1.0	3.1	2.5	-9.0	-8.2	-5.6
1992	-1.9	-0.4	0.1	0.1	0.5	0.4	1.5	1.7	1.5	-14.9	-11.6	-7.1
1993	-3.2	-0.6	2.4	0.8	0.3	0.3	0.1	0.2	0.0	0.7	0.3	0.1
1994	0.0	0.0	0.0	1.3	1.0	1.5	1.4	1.6	1.9	-1.6	-12.5	-6.3
1995	-2.3	-0.3	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.9	0.4
1996	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0
1998	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
1999	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
2000	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
2001	0.0	0.0	0.1	0.3	0.1	0.0	0.1	1.2	1.9	-16.5	-11.4	-8.1
2002	-3.1	1.2	1.4	0.1	0.4	0.4	0.5	0.7	0.8	0.2	0.3	0.1
2003	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.7	-0.4	-1.4	-1.4
Average	-0.8	-0.1	0.3	0.2	0.2	0.2	0.2	0.4	0.5	-2.9	-3.7	-2.3
Critical	-1.8	-0.5	0.0	0.3	0.7	1.0	1.0	1.4	1.4	-10.1	-11.1	-7.1
Dry	-0.9	0.1	0.6	0.5	0.3	0.1	0.2	0.6	0.7	-4.9	-8.2	-4.5
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
AN	-0.9	-0.1	0.7	0.3	0.1	0.1	-0.1	0.0	0.3	0.1	-0.2	-0.2
Wet	-0.2	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0

Table 1-84.
Sacramento River location RSAC101 (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	-8.3	-52.2	-49.0
1977	-18.5	-4.8	-2.3	-1.0	-0.4	-0.1	0.0	1.0	2.7	-40.5	-27.7	-37.9
1978	-12.7	-2.3	-0.3	0.3	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.0
1979	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.1	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	-1.5	-14.7	-6.9
1982	-7.2	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1986	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	-6.2	-44.5	-33.9
1988	-13.0	-4.6	0.1	0.2	0.0	0.5	0.4	0.5	0.7	-18.4	-36.0	-40.3
1989	-15.4	-2.8	3.9	2.7	0.7	0.2	0.3	0.2	0.2	-1.0	-7.7	-4.4
1990	-3.0	-1.8	-0.8	0.0	0.6	0.8	0.4	0.8	3.0	-21.0	-30.7	-38.0
1991	-16.8	-3.4	-1.6	0.1	0.7	0.3	0.4	1.5	4.6	-15.4	-23.0	-30.0
1992	-10.5	-1.8	1.2	-0.9	0.4	0.3	0.4	0.7	0.8	-18.4	-35.7	-28.6
1993	-13.9	-1.3	2.7	0.6	0.4	0.3	0.0	0.1	0.0	0.0	0.3	0.1
1994	0.0	0.0	0.0	0.8	0.3	0.4	0.2	0.3	2.5	-2.1	-28.6	-10.5
1995	-4.4	-0.6	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
1996	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.4	0.7	-8.6	-16.0	-24.2
2002	-9.3	1.6	0.4	0.1	0.3	0.1	0.2	0.2	0.5	0.1	0.4	-0.1
2003	-0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.3	-0.8	-0.7
Average	-3.7	-0.6	0.1	0.1	0.1	0.1	0.1	0.2	0.6	-4.1	-9.3	-9.0
Critical	-8.8	-2.3	-0.5	-0.1	0.3	0.3	0.3	0.7	2.5	-17.7	-33.4	-33.5
Dry	-4.1	-0.2	0.7	0.5	0.2	0.1	0.1	0.2	0.3	-2.9	-13.7	-11.6
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-4.5	-0.5	0.5	0.2	0.1	0.1	0.0	0.0	0.1	0.1	-0.1	-0.1
Wet	-0.9	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-85.
Sacramento River location RSAC101 (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-2.8	-12.3	-9.8
1977	-3.2	-1.0	-0.5	-0.4	-0.2	0.0	0.0	0.4	0.7	-9.1	-6.3	-5.9
1978	-2.3	-0.5	-0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	-0.7	-4.9	-1.9
1982	-1.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	-2.6	-12.6	-8.3
1988	-2.8	-1.1	0.0	0.1	0.0	0.2	0.2	0.3	0.3	-6.6	-8.6	-8.0
1989	-2.3	-0.7	1.0	1.0	0.3	0.1	0.2	0.1	0.1	-0.4	-2.7	-1.5
1990	-0.9	-0.4	-0.2	0.0	0.3	0.4	0.2	0.4	1.0	-6.4	-7.1	-7.5
1991	-2.7	-0.5	-0.3	0.0	0.3	0.2	0.2	0.7	1.6	-4.5	-5.5	-5.7
1992	-1.7	-0.3	0.2	-0.3	0.2	0.2	0.2	0.3	0.3	-6.5	-8.4	-6.0
1993	-2.9	-0.3	0.9	0.3	0.2	0.2	0.0	0.1	0.0	0.0	0.1	0.0
1994	0.0	0.0	0.0	0.3	0.2	0.2	0.1	0.2	1.0	-0.8	-7.8	-2.7
1995	-1.1	-0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.3	-3.7	-5.0	-6.2
2002	-2.3	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.0
2003	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	-0.4	-0.3
Average	-0.7	-0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.2	-1.3	-2.4	-1.9
Critical	-1.6	-0.5	-0.1	0.0	0.1	0.2	0.1	0.3	0.8	-5.2	-8.0	-6.5
Dry	-0.8	0.0	0.2	0.2	0.1	0.0	0.1	0.1	0.2	-1.2	-4.2	-3.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.9	-0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Wet	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-86.
San Joaquin River location RSAN007 (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-1.9	-3.6	-1.1	-0.2	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-1.6	33.9	-174.5	-324.3	-374.0
1977	-237.7	-101.4	-52.2	-20.1	-13.4	-9.1	-5.7	7.9	26.7	-108.7	-296.1	-229.1
1978	-149.9	-66.6	-0.3	2.4	0.6	0.4	0.2	0.2	1.6	3.3	1.6	0.5
1979	0.1	0.0	-0.6	3.2	0.5	0.3	0.3	0.5	0.9	0.5	0.3	0.0
1980	0.2	13.3	24.7	2.4	-1.8	0.3	0.1	0.2	0.3	0.1	0.1	0.0
1981	-0.1	-0.3	-0.7	2.0	0.4	0.2	0.5	2.8	2.6	-41.6	-225.1	-248.5
1982	-110.4	-21.5	-1.1	0.1	-1.7	-1.2	0.1	0.0	0.0	0.5	0.5	0.0
1983	3.8	0.7	0.0	0.0	0.2	0.2	0.1	-0.1	0.0	0.1	0.3	0.2
1984	2.0	0.2	0.0	0.0	0.0	0.0	0.1	0.8	1.0	0.1	0.0	0.0
1985	-0.2	2.3	2.3	3.8	2.8	0.6	0.5	1.4	1.3	0.8	0.4	0.8
1986	-0.1	-0.2	6.3	1.7	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
1987	0.0	-0.2	-0.1	2.2	1.2	0.2	0.0	-2.3	2.5	-119.1	-334.5	-409.9
1988	-227.3	-98.8	12.6	6.3	1.0	-1.6	13.7	8.0	13.1	-230.3	-363.6	-291.7
1989	-211.1	-89.6	59.2	56.1	-1.9	1.4	2.7	5.9	1.9	-22.5	-156.7	-145.9
1990	-66.2	-36.3	-24.6	6.6	30.3	45.9	22.4	21.2	39.5	-264.1	-392.9	-311.1
1991	-216.9	-100.6	-52.5	-33.3	20.9	9.0	8.1	41.2	56.2	-177.4	-271.2	-226.6
1992	-160.4	-72.7	-46.3	-32.2	-2.4	3.1	14.1	17.1	11.3	-229.0	-378.0	-309.6
1993	-168.6	-76.0	68.0	16.2	1.2	0.9	0.4	0.5	2.1	13.5	8.3	2.7
1994	0.8	0.5	-0.5	28.4	15.4	15.2	17.1	17.7	39.7	-46.6	-230.3	-259.4
1995	-117.0	-49.8	20.8	5.7	0.6	0.2	0.1	0.0	0.0	0.3	10.6	7.0
1996	0.8	0.0	6.2	0.8	0.1	0.0	0.0	0.1	1.9	5.3	2.1	0.4
1997	0.1	-0.5	0.1	-0.2	-0.1	0.1	0.4	1.4	2.6	0.4	-0.2	0.9
1998	-0.3	-1.2	5.9	1.7	0.3	0.1	0.0	0.1	0.1	0.0	1.8	1.6
1999	1.3	2.2	0.3	0.0	0.0	0.0	0.0	0.2	2.0	2.4	1.0	0.2
2000	0.0	0.0	-0.4	3.3	0.1	0.1	0.1	0.2	1.2	0.1	0.1	0.0
2001	0.0	-0.1	0.4	4.7	0.8	0.1	0.7	11.4	20.0	-208.0	-304.9	-273.7
2002	-189.8	24.8	22.0	0.9	4.8	5.9	5.2	6.8	8.3	4.6	1.4	2.2
2003	-0.4	-4.5	3.1	0.3	0.1	0.6	0.2	0.1	16.2	4.9	-33.3	-27.4
Average	-54.3	-19.9	1.5	1.9	1.8	2.1	2.3	4.1	8.4	-46.6	-96.5	-90.9
Critical	-129.7	-58.5	-23.4	-6.3	7.4	8.9	10.0	15.9	31.5	-175.8	-322.3	-285.9
Dry	-66.9	-10.5	13.9	11.6	1.3	1.4	1.6	4.3	6.1	-64.3	-169.9	-179.2
BN	0.1	0.0	-0.3	1.6	0.2	0.1	0.2	0.3	0.5	0.3	0.1	0.0
AN	-53.1	-22.3	15.8	4.1	0.1	0.1	-0.4	0.0	3.5	3.7	-3.9	-4.0
Wet	-16.9	-5.4	3.0	0.8	0.0	0.0	0.1	0.2	0.6	0.7	1.2	0.8

Table 1-87.
San Joaquin River location RSAN007 (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.8	-1.6	-0.4	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.8	-3.7	-6.4	-5.7
1977	-3.2	-1.5	-0.7	-0.6	-0.8	-0.5	-0.3	0.3	0.5	-1.9	-4.4	-3.0
1978	-2.2	-1.0	0.0	0.6	0.2	0.1	0.1	0.1	0.5	0.3	0.1	0.0
1979	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.3	1.2	0.7	-0.7	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.4	0.2	-1.4	-5.4	-4.4
1982	-1.6	-1.4	-0.4	0.0	-0.8	-0.5	0.0	0.0	0.0	0.1	0.0	0.0
1983	1.1	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1
1984	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1985	0.0	0.5	0.5	0.5	0.5	0.1	0.1	0.2	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.2	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.1	0.0	-0.2	0.1	-3.9	-7.5	-7.1
1988	-3.5	-1.6	0.5	1.6	0.3	-0.2	1.1	0.5	0.7	-6.0	-7.1	-4.7
1989	-2.7	-1.4	1.0	1.5	-0.1	0.4	1.2	1.5	0.1	-0.7	-4.1	-3.5
1990	-1.3	-0.6	-0.4	0.3	4.5	5.3	2.2	1.4	1.2	-5.1	-7.0	-4.7
1991	-3.0	-1.3	-0.7	-0.7	0.8	1.8	2.0	2.7	1.5	-3.4	-4.9	-3.4
1992	-2.2	-1.0	-0.6	-0.6	-0.3	1.0	2.8	1.0	0.5	-5.8	-6.6	-4.7
1993	-2.7	-1.2	1.4	2.7	0.4	0.4	0.2	0.2	1.0	1.9	0.3	0.1
1994	0.0	0.0	0.0	1.1	2.2	2.5	2.3	1.8	1.5	-1.0	-4.5	-4.1
1995	-2.4	-0.9	0.5	1.1	0.3	0.1	0.1	0.0	0.0	0.1	1.8	1.2
1996	0.2	0.0	1.4	0.4	0.0	0.0	0.0	0.0	0.6	0.5	0.1	0.0
1997	0.0	-0.1	0.0	-0.1	0.0	0.0	0.2	0.5	0.3	0.0	0.0	0.1
1998	0.0	-0.2	0.7	0.5	0.1	0.0	0.0	0.1	0.0	0.0	0.5	0.5
1999	0.2	0.5	0.2	0.0	0.0	0.0	0.0	0.1	0.5	0.2	0.0	0.0
2000	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.3	0.2	0.0	0.2	1.3	1.3	-7.0	-7.2	-4.7
2002	-3.0	0.4	2.1	0.4	1.9	2.2	2.0	1.7	0.5	0.1	0.0	0.0
2003	0.0	-0.1	0.3	0.2	0.1	0.3	0.1	0.0	2.6	0.4	-1.3	-1.5
Average	-0.8	-0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.4	-1.1	-1.9	-1.5
Critical	-1.9	-0.8	-0.3	0.2	1.0	1.4	1.4	1.1	1.0	-3.8	-5.8	-4.3
Dry	-1.0	-0.1	0.6	0.5	0.5	0.5	0.6	0.8	0.4	-2.1	-4.0	-3.3
BN	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
AN	-0.8	-0.3	0.5	0.7	0.0	0.0	-0.2	0.0	0.7	0.5	-0.2	-0.2
Wet	-0.2	-0.1	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1

Table 1-88.
San Joaquin River location RSAN018 (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.1	-2.6	-4.3	-1.0	-0.2	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	11.4	39.4	-34.8	-119.6
1977	-118.7	-61.8	-46.5	-30.1	-10.4	-6.2	-4.1	0.4	10.1	24.7	-70.5	-81.8
1978	-70.7	-40.1	-12.1	1.2	0.9	0.5	0.2	0.1	0.2	0.9	0.9	0.3
1979	0.1	0.0	-0.3	1.0	0.4	0.2	0.1	0.2	0.1	0.3	0.2	0.0
1980	-2.0	4.2	12.8	1.4	-1.8	0.3	0.0	0.1	0.1	0.0	0.0	0.0
1981	0.0	-0.9	-0.6	0.6	0.2	0.1	0.0	0.3	-0.1	-19.2	57.3	-98.1
1982	-85.9	-28.2	-0.9	0.1	-2.1	-1.1	0.1	0.0	-0.1	0.0	0.2	0.0
1983	0.6	0.2	0.0	0.0	0.2	0.2	0.1	-0.1	0.0	0.0	0.0	0.0
1984	0.5	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	-0.4	-0.1	0.0
1985	0.0	0.7	0.9	1.0	0.8	0.2	0.1	0.2	0.1	-0.5	-1.2	-1.5
1986	-1.5	-2.1	1.7	0.8	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.5	0.3	0.5	0.1	0.3	-1.6	-2.2	38.2	7.5	-113.7
1988	-108.0	-60.1	-10.9	2.0	0.4	-0.5	1.8	0.6	2.1	59.9	-63.8	-97.2
1989	-115.8	-71.2	13.9	19.2	-5.5	0.9	0.9	0.8	-2.4	-6.2	1.6	-64.6
1990	-50.5	-36.7	-29.8	-5.9	5.6	10.2	5.8	4.0	12.0	58.1	-75.3	-101.5
1991	-109.3	-66.5	-46.1	-27.1	-1.4	2.2	1.1	7.7	14.9	42.4	-52.3	-79.9
1992	-87.3	-50.1	-41.7	-40.4	-4.8	0.7	1.3	0.0	-2.7	48.7	-61.6	-109.7
1993	-70.5	-43.8	12.9	7.9	1.7	1.2	0.4	0.5	-0.7	2.6	4.3	1.9
1994	0.3	0.2	-0.3	7.8	6.7	2.8	2.8	2.3	9.8	-19.6	33.2	-33.4
1995	-37.3	-28.7	-0.2	3.5	0.9	0.2	0.1	0.0	0.1	0.1	2.0	2.4
1996	0.2	0.0	1.1	0.4	0.1	0.0	0.0	0.1	0.1	2.0	1.2	0.5
1997	0.0	-0.1	0.1	-0.2	-0.1	0.0	0.1	0.1	0.3	-0.9	-0.3	-0.5
1998	-0.3	-1.2	2.0	0.9	0.3	0.0	0.0	0.1	0.1	0.0	0.1	0.2
1999	0.4	0.8	0.2	0.0	0.0	0.0	0.1	0.1	0.2	0.9	0.6	0.2
2000	0.0	0.0	-0.9	0.4	0.1	0.1	0.1	0.1	0.2	-0.6	-0.1	0.0
2001	0.0	0.0	-1.3	0.6	0.3	0.1	0.1	1.4	2.1	67.0	-15.9	-66.4
2002	-85.6	-2.7	12.5	0.9	0.7	0.8	0.3	0.5	0.5	0.0	-4.2	-5.5
2003	-2.5	-6.4	1.9	0.4	0.1	0.1	0.1	0.1	2.6	24.5	-12.4	-16.5
Average	-27.8	-14.5	-3.9	-1.6	-0.2	0.3	0.2	0.5	1.7	10.7	-8.3	-29.0
Critical	-67.6	-39.3	-25.1	-13.4	-0.6	1.3	1.2	2.0	8.2	36.2	-46.4	-89.0
Dry	-33.6	-12.3	4.1	3.8	-0.5	0.3	0.3	0.3	-0.3	13.2	7.5	-58.3
BN	0.0	0.0	-0.1	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0
AN	-24.3	-14.4	2.4	1.9	0.2	-0.1	-0.6	0.0	0.4	4.6	-1.2	-2.4
Wet	-9.5	-4.6	0.3	0.4	0.0	0.0	0.1	0.0	0.1	0.1	0.3	0.2

Table 1-89.
San Joaquin River location RSAN018 (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-1.1	-1.8	-0.4	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.2	1.8	-2.0	-5.7
1977	-5.0	-2.9	-1.8	-1.7	-1.6	-1.3	-0.9	0.1	0.8	1.5	-2.8	-3.0
1978	-3.5	-2.0	-0.7	0.3	0.3	0.2	0.1	0.1	0.1	0.3	0.1	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1980	-0.1	0.3	1.0	0.5	-0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	-1.5	3.2	-3.9
1982	-3.1	-2.0	-0.4	0.1	-0.9	-0.5	0.1	0.0	0.0	0.0	0.0	0.0
1983	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1985	0.0	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
1986	-0.1	-0.1	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	-0.1	0.0	0.1	0.0	0.1	-0.4	-0.5	3.9	0.6	-6.1
1988	-5.4	-3.1	-0.8	0.6	0.1	-0.2	0.5	0.2	0.5	5.1	-4.2	-5.1
1989	-4.6	-3.3	0.6	1.1	-0.7	0.3	0.4	0.4	-0.6	-0.4	0.1	-3.3
1990	-2.6	-1.8	-1.4	-0.6	1.4	3.1	1.8	1.1	1.6	2.8	-3.6	-4.5
1991	-4.7	-2.7	-1.8	-1.9	-0.2	0.7	0.4	2.0	1.5	1.9	-2.6	-3.7
1992	-3.7	-2.2	-1.8	-2.1	-0.9	0.2	0.5	0.0	-0.5	3.8	-3.2	-4.8
1993	-3.9	-2.5	0.6	1.7	0.6	0.5	0.2	0.2	-0.3	0.9	0.4	0.2
1994	0.1	0.0	0.0	0.6	1.4	0.9	1.0	0.8	1.8	-0.9	1.5	-1.3
1995	-2.5	-1.8	0.0	0.8	0.4	0.1	0.1	0.0	0.0	0.1	0.8	0.9
1996	0.1	0.0	0.4	0.2	0.1	0.0	0.0	0.1	0.1	0.4	0.1	0.0
1997	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.2	0.0	0.0
1998	-0.1	-0.4	0.5	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1
1999	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0
2000	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0
2001	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	0.5	0.6	7.1	-1.3	-3.6
2002	-4.4	-0.1	1.8	0.4	0.3	0.3	0.2	0.2	0.1	0.0	-0.2	-0.2
2003	-0.1	-0.3	0.2	0.2	0.0	0.0	0.0	0.1	1.0	4.8	-1.1	-1.7
Average	-1.3	-0.7	-0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.9	-0.4	-1.3
Critical	-3.0	-1.8	-1.1	-0.7	0.0	0.5	0.5	0.6	1.0	2.3	-2.4	-4.0
Dry	-1.5	-0.6	0.4	0.3	0.0	0.1	0.1	0.1	-0.1	1.5	0.4	-2.9
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.3	-0.8	0.2	0.5	0.1	0.0	-0.2	0.0	0.1	1.0	-0.1	-0.2
Wet	-0.4	-0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

Table 1-90.
San Joaquin River location RSAN032 (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.2	-3.1	-0.4	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	17.3	-36.6	-47.2
1977	-30.6	-13.1	-13.2	-11.5	-3.5	-0.7	0.0	0.4	2.2	-18.1	-21.7	-36.0
1978	-21.5	-8.4	-5.0	1.2	1.0	0.5	0.2	0.2	0.1	0.1	0.1	0.1
1979	0.0	0.0	-0.1	0.5	0.5	0.1	0.1	0.2	0.0	0.0	0.0	0.0
1980	-0.2	0.7	3.8	0.3	-0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	-0.1	-0.2	0.3	0.1	0.0	0.1	0.3	0.2	-3.2	10.5	-1.4
1982	-17.7	-9.1	0.0	0.1	-0.9	-0.3	0.0	-0.1	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1985	0.0	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	-0.1	-0.2	-0.5
1986	-0.2	-0.5	0.2	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	-0.2	-0.1	0.1	0.0	0.7	1.0	0.4	4.1	-14.1	-27.5
1988	-19.9	-12.0	-5.5	0.7	0.3	1.3	1.2	1.2	0.9	7.3	-11.0	-33.8
1989	-26.6	-14.9	0.5	7.6	0.5	1.3	1.0	0.9	0.2	-1.0	3.2	-5.6
1990	-9.4	-8.4	-7.8	-3.3	1.1	1.7	1.3	0.8	1.9	12.8	-12.6	-35.3
1991	-27.2	-14.0	-11.7	-7.9	-0.6	1.2	0.8	1.2	3.3	8.4	-10.5	-26.5
1992	-20.1	-10.2	-8.9	-11.8	-0.2	0.7	0.5	0.9	0.4	5.6	-13.6	-30.3
1993	-19.7	-8.1	0.9	3.0	1.4	1.1	0.3	0.6	-2.1	-0.5	0.7	0.3
1994	0.1	0.0	-0.1	1.8	1.9	0.8	0.6	0.5	1.4	-3.8	-14.2	2.3
1995	-4.8	-3.1	-2.0	1.7	0.7	0.2	0.1	0.0	0.1	0.1	0.1	0.1
1996	0.0	0.0	0.2	0.3	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.1
1997	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.1	-0.1	-0.1	-0.5
1998	0.1	0.0	0.3	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1999	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1
2000	0.0	0.0	-0.2	0.2	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1	0.0
2001	0.0	0.0	-0.6	-0.1	0.1	0.1	0.3	0.7	0.7	11.0	2.5	-18.8
2002	-16.3	-2.3	3.0	0.7	0.5	0.3	0.4	0.4	0.4	-0.2	-0.4	-1.5
2003	-1.0	-1.1	0.6	0.1	0.1	0.1	0.1	0.1	0.3	3.7	-0.4	-2.5
Average	-6.3	-3.1	-1.3	-0.4	0.1	0.2	0.2	0.3	0.4	1.3	-3.5	-7.8
Critical	-15.3	-8.2	-6.7	-4.6	-0.2	0.7	0.6	0.7	1.8	4.2	-17.2	-29.6
Dry	-7.2	-2.9	0.4	1.4	0.3	0.3	0.4	0.6	0.3	1.7	0.2	-9.2
BN	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
AN	-7.1	-2.8	0.0	0.8	0.4	-0.1	-0.4	0.1	-0.3	0.5	0.1	-0.4
Wet	-1.7	-1.0	-0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-91.
San Joaquin River location RSAN032 (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-1.1	-1.3	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.7	-6.9	-8.9
1977	-4.9	-2.3	-1.8	-1.7	-0.9	-0.2	0.0	0.1	0.6	-4.2	-4.2	-4.8
1978	-3.4	-1.5	-0.9	0.5	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.2	0.7	0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.1	-0.1	0.1	0.1	0.0	0.0	0.1	0.1	-1.0	2.4	-0.3
1982	-3.0	-2.0	0.0	0.1	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.1
1986	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	-0.1	0.0	0.0	0.0	0.3	0.4	0.2	1.6	-4.0	-6.5
1988	-4.0	-2.4	-1.1	0.3	0.1	0.5	0.5	0.5	0.4	2.5	-2.6	-6.8
1989	-4.1	-2.6	0.1	1.1	0.1	0.6	0.5	0.4	0.1	-0.3	0.7	-1.2
1990	-2.1	-1.6	-1.3	-0.7	0.4	0.7	0.5	0.3	0.7	3.0	-2.3	-6.3
1991	-4.1	-2.0	-1.6	-1.2	-0.2	0.5	0.3	0.5	1.2	1.8	-2.0	-4.9
1992	-3.2	-1.6	-1.3	-1.7	-0.1	0.3	0.2	0.4	0.2	1.9	-2.9	-5.6
1993	-3.8	-1.7	0.2	1.0	0.6	0.5	0.2	0.3	-1.0	-0.3	0.2	0.1
1994	0.0	0.0	0.0	0.3	0.6	0.3	0.3	0.2	0.6	-0.8	-2.6	0.4
1995	-1.0	-0.8	-0.3	0.7	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.1
1996	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-0.1
1998	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.2	0.0	0.0	0.0	0.1	0.3	0.3	4.3	0.7	-4.5
2002	-3.4	-0.5	0.9	0.3	0.2	0.1	0.2	0.1	0.2	-0.1	-0.1	-0.3
2003	-0.2	-0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.1	1.7	-0.1	-0.9
Average	-1.1	-0.6	-0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.4	-0.7	-1.5
Critical	-2.6	-1.4	-1.0	-0.7	0.0	0.3	0.3	0.3	0.6	1.1	-3.4	-5.2
Dry	-1.2	-0.5	0.1	0.3	0.1	0.1	0.2	0.2	0.2	0.7	0.0	-2.1
BN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.2	-0.5	0.0	0.3	0.2	-0.1	-0.2	0.1	-0.1	0.2	0.0	-0.1
Wet	-0.3	-0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-92.
San Joaquin River location RSAN037 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	230.6	266.4	234.5	292.1	251.3	246.9	268.4	268.9	233.4	216.3	283.6	468.2
1971	250.4	238.6	245.0	247.4	236.1	275.8	290.2	260.2	211.4	201.4	317.2	476.2
1972	249.5	254.2	251.0	335.0	287.4	255.6	319.4	297.9	238.5	261.5	371.0	528.9
1973	533.8	749.2	373.6	331.9	340.0	296.7	300.1	296.3	226.6	216.8	295.4	279.7
1974	230.6	217.4	240.1	315.1	262.6	261.7	259.0	274.0	252.6	206.7	253.9	357.8
1975	246.5	252.8	269.8	390.7	342.0	254.6	276.3	257.1	260.3	209.2	259.2	390.9
1976	236.4	236.4	247.0	432.1	377.0	302.9	317.6	331.7	346.5	496.7	524.1	490.9
1977	565.1	530.5	662.5	715.7	424.4	336.2	301.3	321.3	377.9	426.5	513.0	663.0
1978	610.9	527.6	575.6	382.2	388.9	389.6	327.5	257.0	280.3	222.0	286.9	294.7
1979	232.4	261.6	380.1	476.5	367.2	283.7	296.0	295.4	222.4	250.8	383.3	530.4
1980	516.5	420.2	530.8	324.9	313.1	238.0	261.4	297.9	292.0	243.8	266.2	272.8
1981	236.0	244.2	384.8	452.1	268.8	316.3	345.8	307.6	240.9	337.4	453.4	540.1
1982	565.9	478.4	228.2	314.7	272.9	282.1	204.1	182.1	248.9	250.4	241.5	220.8
1983	194.3	206.4	250.2	292.8	304.6	252.9	202.1	201.0	209.3	222.5	193.6	190.4
1984	201.9	187.8	227.6	274.1	229.9	235.8	285.1	281.5	231.0	217.6	274.3	391.7
1985	246.5	228.4	219.4	247.3	262.6	317.5	338.6	292.5	240.1	342.3	443.3	524.9
1986	479.5	513.8	584.4	341.1	350.7	278.4	261.9	251.1	275.6	223.7	290.6	249.9
1987	242.6	242.8	274.8	442.4	312.2	329.4	350.4	303.5	244.7	270.2	344.9	402.3
1988	471.7	463.4	504.1	315.2	318.0	329.8	320.1	301.6	265.5	286.0	402.2	462.6
1989	580.4	555.4	645.4	731.9	469.2	339.5	285.6	244.8	216.3	398.4	513.0	474.1
1990	443.5	496.9	563.1	490.0	305.4	265.4	257.5	268.7	283.5	445.3	539.9	522.0
1991	600.6	620.7	703.5	658.1	457.6	405.9	335.0	276.7	282.4	479.5	532.4	505.1
1992	580.2	577.2	662.6	678.9	452.8	323.0	277.9	260.6	243.7	298.9	451.3	516.9
1993	497.9	463.8	589.1	462.3	357.9	311.2	315.3	288.4	257.4	205.5	284.6	290.6
1994	234.8	276.9	423.8	564.8	351.5	282.0	269.1	270.8	267.1	519.3	594.3	546.1
1995	487.4	378.6	572.9	419.4	277.7	325.3	240.8	173.6	241.8	254.0	202.8	190.1
1996	221.0	246.1	222.8	300.8	326.8	265.0	283.3	276.3	247.9	215.9	315.6	429.4
1997	253.1	245.3	288.8	267.5	197.7	203.3	246.8	289.6	245.1	215.1	261.2	417.3
1998	254.9	236.1	231.8	384.2	372.0	263.9	210.8	186.1	232.1	248.3	203.6	197.2
1999	211.3	231.8	209.5	299.9	260.2	238.9	295.6	278.0	224.0	208.7	314.3	440.7
2000	260.6	245.5	272.5	368.6	377.2	258.6	274.3	293.6	232.1	217.2	279.1	289.7
2001	243.3	267.2	345.8	484.0	338.9	309.4	358.9	305.2	241.6	261.2	327.7	394.6
2002	459.9	448.3	355.5	294.2	249.7	259.8	302.6	309.4	254.6	390.4	455.3	528.1
2003	534.2	473.7	397.1	237.5	222.0	224.1	320.7	265.6	207.7	222.7	301.9	307.0
Average	364.8	361.3	387.3	399.0	321.4	287.0	288.2	272.5	252.2	284.8	352.2	405.4
Critical	447.5	457.4	538.1	550.7	383.8	320.8	296.9	290.2	295.2	421.7	508.2	529.5
Dry	334.8	331.1	370.9	442.0	316.9	312.0	330.3	293.8	239.7	333.3	422.9	477.3
BN	240.9	257.9	315.6	405.7	327.3	269.7	307.7	296.6	230.5	256.1	377.1	529.7
AN	492.3	480.0	456.4	351.2	333.2	286.4	299.9	283.1	249.3	221.3	285.7	289.1
Wet	294.4	284.6	292.7	318.5	283.4	260.4	255.7	244.6	239.5	222.3	262.4	340.1

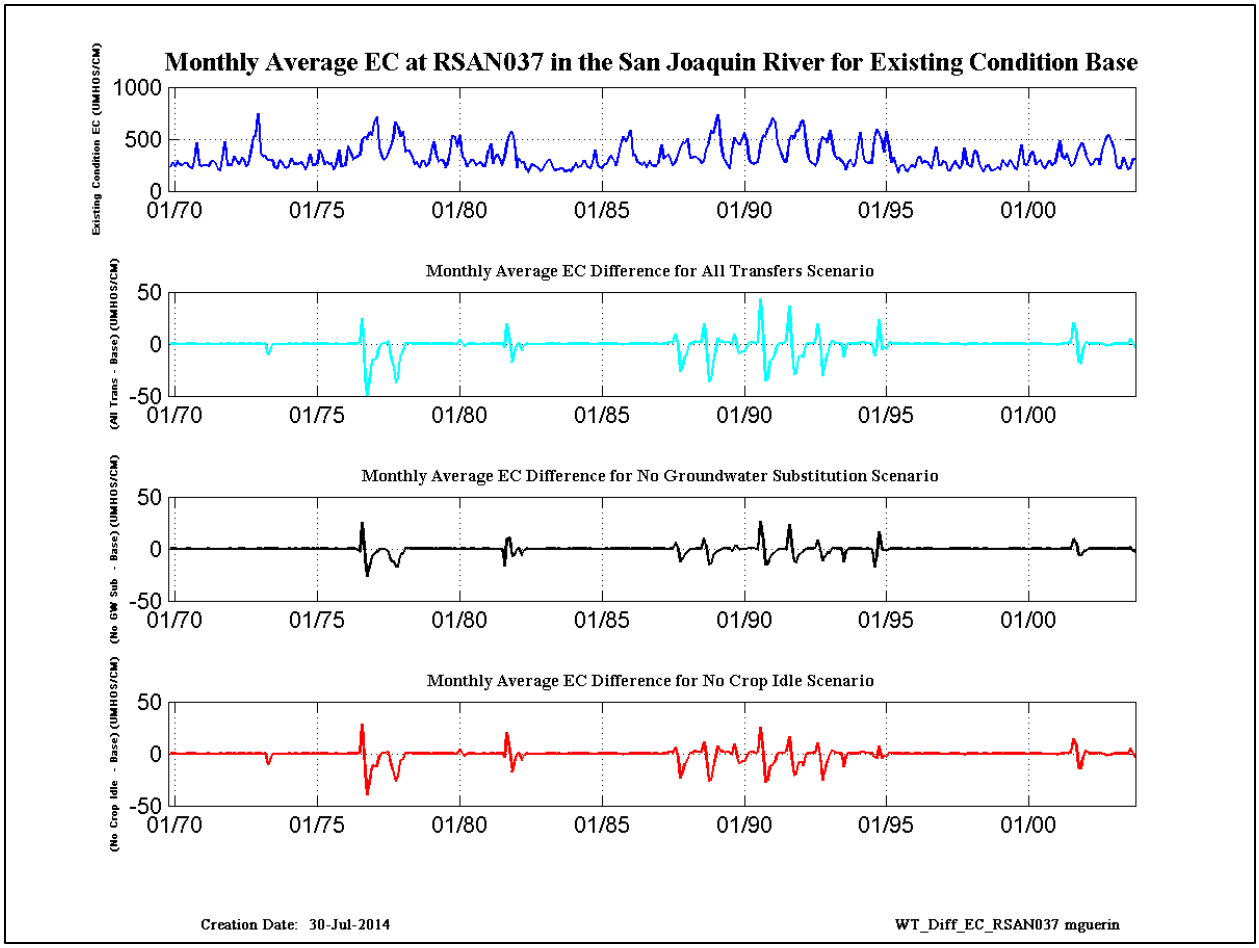


Figure 1-14.
San Joaquin River location San Joaquin River location RSAN037 EC for the Base condition and change from Base for the scenarios.

Table 1-93.
RSAN072 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	413.6	478.1	582.3	286.3	319.2	296.1	308.7	400.2	430.5	590.4	560.4	528.3
1971	484.6	563.5	783.3	673.3	734.0	449.2	302.9	358.0	457.7	567.5	557.3	540.1
1972	487.5	581.9	787.5	805.3	850.3	827.4	505.6	454.2	587.3	642.6	595.4	584.0
1973	524.4	576.1	776.6	811.6	649.1	351.1	339.1	348.3	478.3	590.5	478.1	489.1
1974	446.5	521.3	768.7	521.3	607.4	277.9	299.4	375.5	456.0	527.4	450.9	462.0
1975	428.3	469.2	721.0	755.4	389.2	260.8	328.3	368.6	374.0	510.1	439.1	476.9
1976	423.0	503.7	762.1	778.7	893.2	874.1	628.2	473.2	593.5	655.2	586.5	577.9
1977	532.8	655.2	816.4	825.7	1037.2	1212.6	808.2	684.9	673.5	694.9	685.7	665.5
1978	611.0	683.0	833.1	725.8	618.6	567.9	279.4	239.6	375.1	507.3	443.8	424.4
1979	512.2	493.0	741.1	666.0	386.7	284.9	335.7	302.1	440.5	603.6	476.7	509.9
1980	460.8	526.5	767.6	350.6	304.2	206.8	315.6	349.6	350.0	428.5	416.0	459.4
1981	451.3	499.6	758.2	768.7	849.3	581.5	433.3	426.4	592.6	627.3	592.3	571.9
1982	505.4	577.9	771.1	622.6	298.0	280.0	178.2	170.2	328.8	383.7	311.8	244.4
1983	190.3	194.9	267.7	265.2	282.2	227.2	176.8	198.7	200.0	217.5	170.5	223.8
1984	342.2	164.4	223.0	293.9	201.8	301.6	315.7	364.9	469.7	589.4	497.1	415.8
1985	380.6	467.8	777.0	768.2	768.7	560.5	381.1	442.6	580.2	665.1	575.2	538.3
1986	500.7	550.5	764.4	797.2	400.2	259.4	244.6	246.5	365.3	515.7	434.9	411.5
1987	393.1	423.1	710.5	741.6	865.2	723.3	585.1	463.0	600.3	652.3	614.1	589.6
1988	528.1	603.1	798.3	817.0	980.7	921.9	675.3	617.4	664.2	668.6	649.3	618.9
1989	581.8	636.8	811.6	827.2	958.1	842.3	586.0	679.0	651.2	621.0	615.8	556.2
1990	572.1	626.2	815.2	837.5	948.7	929.9	766.4	657.3	679.2	665.0	634.7	619.3
1991	581.0	624.9	820.8	847.2	1000.9	741.9	607.9	672.2	716.5	693.9	700.5	678.4
1992	591.0	637.7	829.6	855.7	837.0	799.0	802.6	738.5	740.5	691.2	757.9	733.3
1993	613.2	668.2	833.0	678.2	673.5	636.1	456.7	485.2	687.9	780.0	510.6	485.2
1994	499.1	554.2	800.1	843.9	904.1	927.1	705.1	631.8	690.7	648.5	657.0	641.0
1995	607.6	644.2	820.5	716.2	711.7	355.2	211.7	152.2	289.3	250.1	299.4	458.7
1996	450.9	508.7	766.5	744.5	337.8	284.0	309.4	327.8	454.9	563.9	472.6	474.9
1997	451.7	441.0	297.2	234.8	168.9	196.4	304.9	320.5	435.1	599.7	513.2	468.9
1998	469.9	566.1	770.8	569.4	348.7	253.3	186.3	169.3	252.7	249.3	275.0	302.6
1999	351.8	442.1	676.4	525.8	221.6	340.0	337.1	352.2	419.6	615.0	540.9	510.0
2000	483.5	554.1	796.6	751.8	360.1	255.8	329.2	363.3	566.0	630.9	557.8	475.9
2001	437.4	514.2	765.0	769.3	851.8	669.2	401.2	442.1	598.4	657.8	613.1	572.7
2002	531.1	590.1	782.7	758.4	805.1	773.8	517.8	517.3	559.4	629.0	610.5	585.6
2003	576.7	620.6	797.8	818.5	792.7	798.7	448.2	452.8	473.8	623.8	604.2	586.5
Average	482.8	534.2	729.2	678.0	628.1	537.3	423.9	419.0	506.8	575.2	526.4	514.1
Critical	532.4	600.7	806.1	829.4	943.1	915.2	713.4	639.3	679.7	673.9	667.4	647.8
Dry	462.5	521.9	767.5	772.3	849.7	691.8	484.1	495.1	597.0	642.1	603.5	569.0
BN	499.8	537.4	764.3	735.6	618.5	556.1	420.7	378.1	513.9	623.1	536.0	546.9
AN	544.9	604.8	800.8	689.4	566.4	469.4	361.4	373.2	488.5	593.5	501.8	486.8
Wet	434.1	470.9	631.8	538.9	386.2	290.9	269.5	292.7	379.5	475.4	424.8	424.4

Table 1-94.
San Joaquin River location RSAN112 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	414.5	479.7	584.5	277.7	319.3	293.9	301.7	392.8	415.0	593.5	546.3	520.9
1971	481.5	562.3	782.4	664.3	736.7	439.7	293.7	353.8	446.5	563.4	545.0	533.6
1972	483.5	586.7	804.2	797.8	851.8	817.0	482.5	439.5	583.4	638.0	578.5	580.3
1973	520.7	573.0	790.3	769.3	628.2	342.1	335.1	341.4	472.3	588.6	463.6	485.5
1974	443.9	522.7	775.3	510.5	609.9	268.5	298.8	371.4	451.9	524.4	438.7	457.8
1975	425.4	470.2	737.0	753.3	374.6	257.3	327.4	359.4	368.7	508.9	429.0	474.3
1976	420.0	506.2	784.2	772.7	898.1	861.2	606.0	451.2	587.9	655.0	573.9	574.8
1977	528.8	662.0	831.5	817.4	1058.5	1236.8	720.8	675.5	651.9	691.5	677.9	659.6
1978	604.4	687.6	842.6	709.2	612.5	559.6	272.0	235.6	373.9	505.5	432.4	419.9
1979	513.6	490.5	755.8	655.8	376.0	281.0	334.6	296.2	427.0	605.7	462.2	507.0
1980	457.6	528.7	787.3	338.4	300.6	204.6	314.7	345.8	346.0	426.5	408.1	457.3
1981	448.9	501.1	781.5	761.2	853.5	570.2	422.2	415.6	590.7	617.5	580.3	565.7
1982	501.8	579.5	779.8	604.3	289.6	274.5	176.0	167.6	328.6	380.8	303.3	241.5
1983	188.2	191.7	267.8	257.3	279.7	221.7	175.4	197.6	197.7	215.6	165.2	222.9
1984	344.4	159.9	221.5	294.6	198.5	302.2	310.7	357.6	463.9	588.6	483.5	407.7
1985	378.8	468.0	798.9	762.3	767.6	551.7	367.8	434.6	575.5	667.4	560.2	532.5
1986	497.7	551.1	776.8	789.4	386.2	254.5	243.2	243.0	363.3	514.0	422.4	407.7
1987	390.3	422.6	733.1	737.2	870.9	707.9	564.1	442.1	596.9	647.3	601.9	583.0
1988	523.5	606.6	817.9	807.6	992.6	909.0	645.9	604.4	656.9	648.8	640.8	610.8
1989	576.1	639.4	824.6	820.8	968.7	830.6	554.2	681.0	623.2	616.9	612.5	549.5
1990	572.3	628.2	832.0	830.0	957.8	918.8	724.4	646.4	667.6	634.0	625.9	612.4
1991	575.4	625.8	839.0	842.9	1013.7	724.1	587.9	668.9	713.4	717.4	698.2	670.8
1992	584.2	640.4	848.9	845.0	829.7	791.2	794.3	716.5	737.9	752.0	790.3	723.5
1993	603.0	671.6	849.4	651.8	648.8	624.7	445.8	483.1	694.0	786.0	485.1	480.9
1994	498.4	555.9	824.2	836.3	905.3	924.2	667.9	623.7	686.2	711.8	651.9	634.0
1995	603.9	645.2	845.7	683.0	711.2	344.2	208.2	149.8	288.7	246.8	294.0	461.6
1996	448.1	510.9	779.0	720.7	315.4	280.1	308.5	325.5	452.4	561.5	458.8	471.2
1997	450.2	439.4	292.2	230.3	167.5	194.9	299.4	314.2	430.9	602.0	500.2	462.8
1998	468.6	568.8	792.2	542.4	329.4	250.8	184.2	168.0	251.9	246.5	269.6	300.7
1999	352.7	443.8	687.1	516.6	212.2	342.3	334.0	346.3	411.2	622.1	527.5	504.8
2000	480.6	556.6	819.3	739.3	341.1	253.2	327.0	358.4	567.4	627.3	544.1	469.5
2001	435.2	516.3	779.3	760.7	852.4	660.4	389.3	432.6	596.6	656.6	601.3	566.5
2002	527.1	591.6	785.9	749.6	805.9	769.2	491.8	492.7	541.6	651.3	596.7	579.6
2003	574.1	621.3	805.6	813.7	786.6	797.1	430.7	445.2	439.5	637.1	592.6	581.1
Average	479.9	535.5	742.8	666.6	625.0	531.2	410.0	411.1	500.0	578.0	516.5	509.2
Critical	528.9	603.6	825.4	821.7	950.8	909.3	678.2	626.7	671.7	687.2	665.6	640.8
Dry	459.4	523.2	783.9	765.3	853.2	681.7	464.9	483.1	587.4	642.8	592.1	562.8
BN	498.5	538.6	780.0	726.8	613.9	549.0	408.6	367.8	505.2	621.8	520.3	543.6
AN	540.1	606.5	815.7	670.3	552.9	463.6	354.2	368.3	482.2	595.2	487.6	482.4
Wet	432.4	471.2	640.1	526.5	379.2	286.5	266.2	288.2	374.7	474.5	414.1	420.6

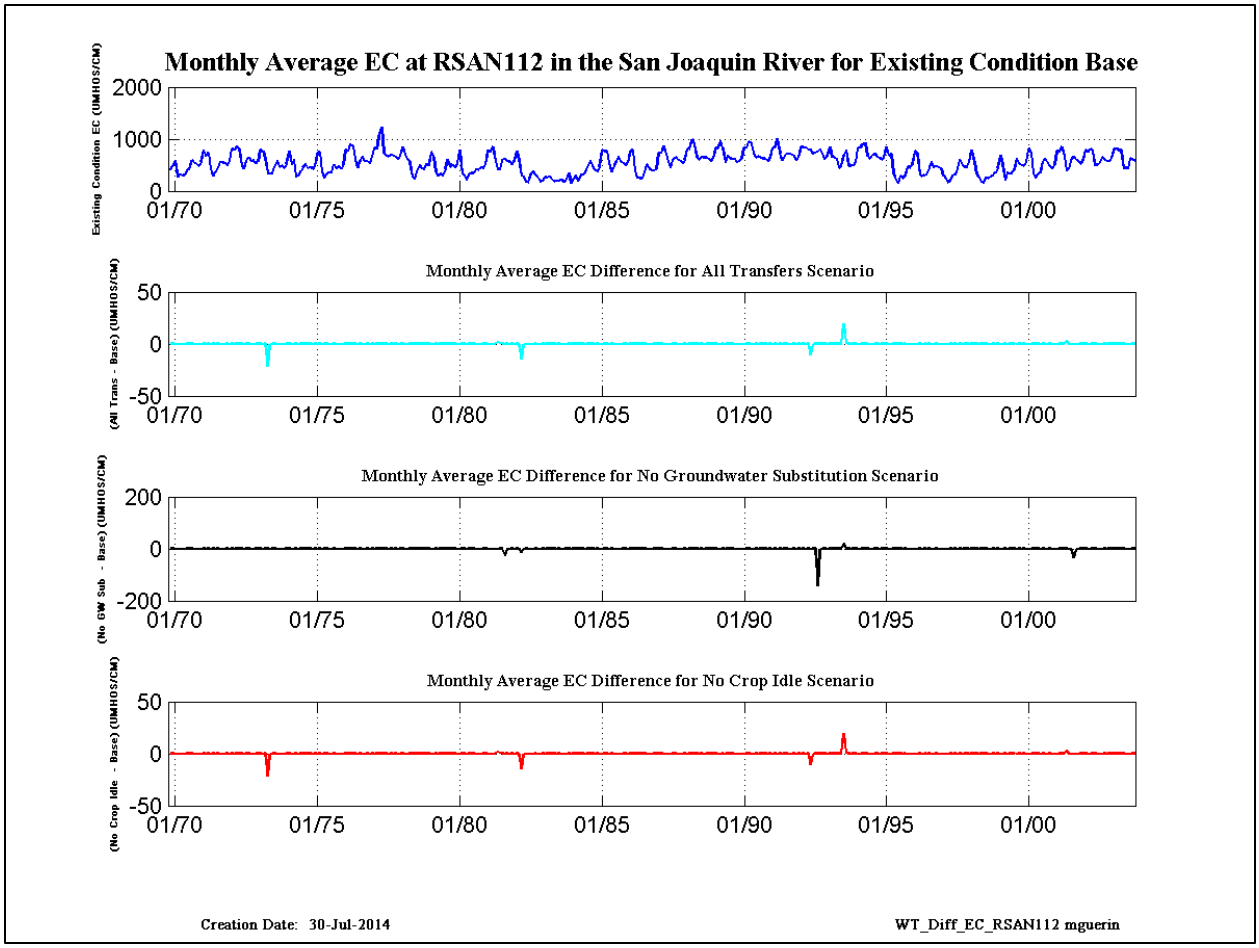


Figure 1-15.
San Joaquin River location San Joaquin River location RSAN112 EC for the Base condition and change from Base for the scenarios.

Table 1-95.
Mokelumne River location RSMKL008 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	182.4	187.3	186.3	203.2	185.5	181.4	196.9	191.5	187.6	183.6	182.7	182.8
1971	185.6	189.2	205.5	194.0	195.0	184.3	185.6	176.8	179.1	183.1	181.6	182.3
1972	185.4	187.6	186.6	216.1	208.3	192.4	194.9	198.0	189.8	183.6	182.4	181.9
1973	183.7	199.5	205.4	233.6	207.2	189.7	189.5	183.2	184.9	183.0	182.2	179.5
1974	182.8	179.8	190.9	192.0	191.7	193.7	177.1	174.2	179.2	181.2	180.4	181.5
1975	184.8	189.8	189.4	219.1	211.4	200.0	185.5	173.1	179.2	181.3	179.8	180.3
1976	181.7	184.7	186.3	215.6	217.2	208.9	208.8	230.4	205.4	185.3	185.7	188.7
1977	193.4	192.9	201.0	222.3	237.3	223.4	213.8	217.5	203.5	194.3	185.6	189.1
1978	193.5	195.2	208.3	246.8	222.9	223.2	194.7	184.0	185.7	184.6	183.0	180.2
1979	184.2	184.4	187.0	237.1	255.6	203.8	189.6	177.2	184.7	183.5	181.9	182.4
1980	182.9	186.5	194.5	195.1	201.4	182.9	187.2	176.4	180.1	182.7	180.4	177.8
1981	184.6	186.8	189.8	210.4	209.2	207.9	202.8	201.9	191.2	184.7	184.0	183.3
1982	183.8	185.6	192.9	215.5	179.8	201.6	167.8	168.1	176.6	182.9	180.2	175.1
1983	183.2	194.3	182.8	222.3	201.0	189.9	179.7	165.7	171.2	177.4	175.0	173.2
1984	184.8	174.7	192.2	185.1	184.9	182.8	189.6	187.0	185.3	182.5	181.7	183.1
1985	182.4	195.9	210.0	225.2	212.5	225.0	205.1	200.6	191.4	184.7	184.3	181.6
1986	186.0	187.5	189.5	237.3	209.5	190.9	198.0	179.3	184.3	182.7	181.9	177.5
1987	185.2	186.2	188.2	226.0	227.8	231.7	220.9	209.4	191.3	186.5	188.2	187.3
1988	188.8	191.6	208.4	249.7	237.9	234.4	214.7	210.9	193.6	189.2	190.1	191.4
1989	194.2	191.2	196.9	222.7	237.7	199.6	195.4	192.4	187.9	184.1	182.1	181.1
1990	184.8	190.6	201.1	217.1	242.3	223.6	205.7	204.4	196.9	187.3	186.8	189.0
1991	192.9	196.8	204.4	248.9	241.9	229.9	212.9	202.4	189.1	186.7	186.0	189.8
1992	190.8	196.7	208.6	236.7	250.8	236.3	212.6	203.0	189.0	187.4	187.0	187.4
1993	190.4	196.7	204.6	263.6	230.7	202.5	182.2	177.0	180.6	182.4	181.8	179.4
1994	184.9	186.4	190.0	228.2	260.3	231.6	206.1	201.8	197.7	184.6	185.0	184.6
1995	188.7	190.5	192.0	245.9	197.8	196.0	173.9	165.4	172.4	179.4	176.9	175.4
1996	183.7	189.7	198.1	225.8	200.3	189.3	185.6	171.5	179.1	182.7	182.1	181.7
1997	184.5	184.9	192.9	192.0	182.2	195.3	198.6	198.6	188.9	183.4	182.4	182.8
1998	185.3	186.0	192.1	251.4	238.6	186.5	175.2	170.3	172.6	179.3	177.4	175.7
1999	185.3	188.3	187.3	209.2	194.6	183.6	182.9	176.6	180.3	181.5	180.2	181.0
2000	185.2	188.5	188.6	214.5	225.4	185.7	190.3	183.9	184.3	183.3	182.3	180.3
2001	184.3	190.4	191.6	241.0	242.7	206.9	208.9	205.1	190.1	186.6	187.3	187.1
2002	191.0	192.1	199.4	208.7	212.5	199.4	196.5	211.3	191.3	184.6	184.1	184.2
2003	188.3	188.3	188.8	195.8	205.3	201.7	192.6	178.2	184.6	184.0	181.2	180.9
Average	186.3	189.3	195.0	222.0	216.4	203.4	194.8	189.6	186.1	183.9	182.8	182.3
Critical	188.2	191.4	200.0	231.2	241.1	226.9	210.7	210.1	196.5	187.8	186.6	188.6
Dry	186.9	190.4	196.0	222.3	223.7	211.7	205.0	203.4	190.5	185.2	185.0	184.1
BN	184.8	186.0	186.8	226.6	231.9	198.1	192.2	187.6	187.2	183.6	182.1	182.1
AN	187.3	192.4	198.4	224.9	215.5	197.6	189.4	180.5	183.4	183.3	181.8	179.7
Wet	184.7	186.7	191.7	214.8	197.9	190.4	184.3	176.8	179.7	181.6	180.2	179.4

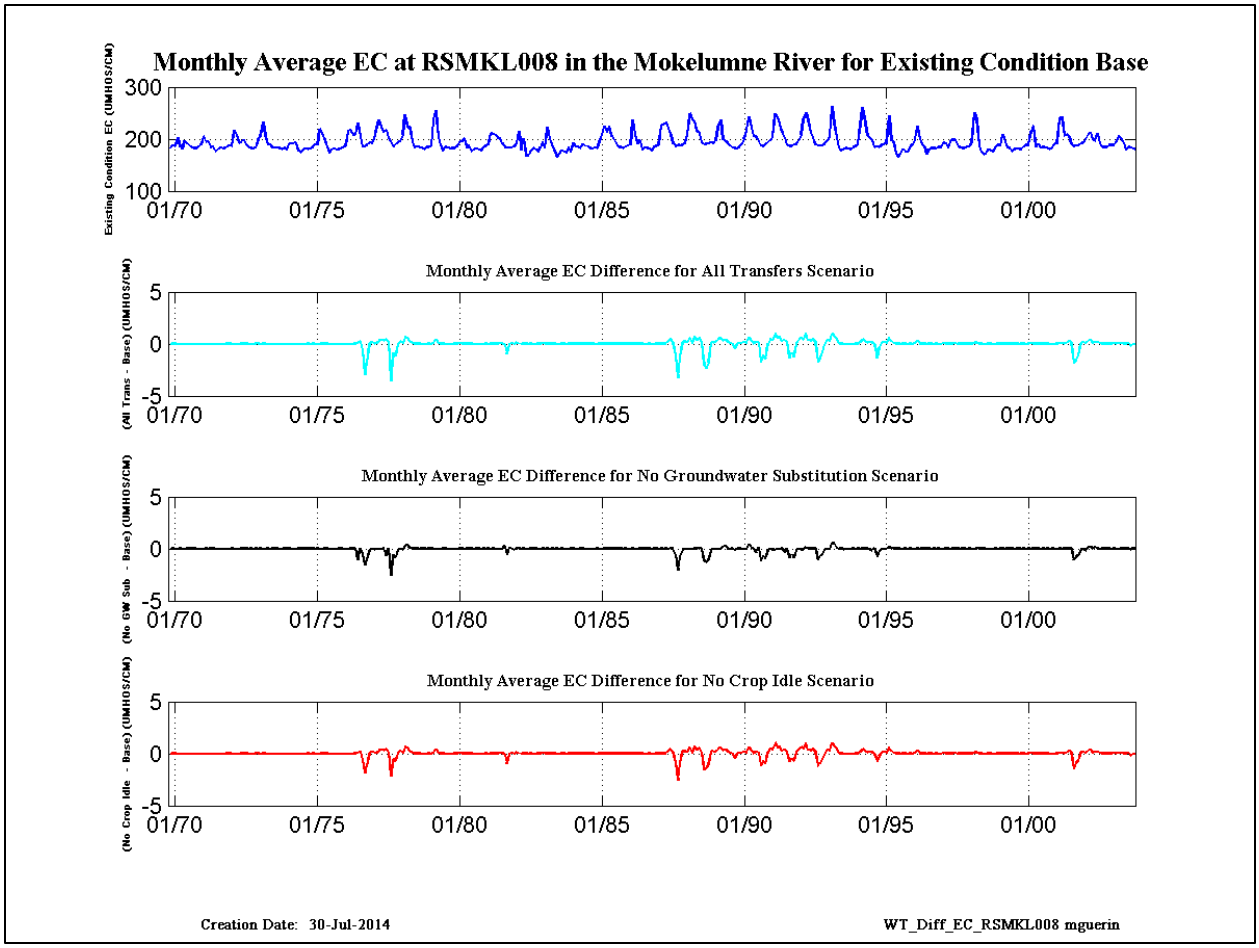


Figure 1-16.
Mokelumne River location San Joaquin River location RSMKL008 EC for the Base condition and change from Base for the scenarios.

Table 1-96.
Barker Slough location SLBAR002 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	186.1	186.4	193.8	220.8	220.1	199.7	201.4	196.4	191.9	189.4	189.1	189.4
1971	189.3	198.3	208.5	204.7	200.6	200.9	197.7	190.3	188.1	188.9	189.4	189.4
1972	190.1	192.0	195.9	201.2	204.8	206.4	206.4	198.5	192.7	189.4	187.5	187.7
1973	186.6	199.8	205.0	230.3	245.7	211.4	203.1	197.2	193.2	189.4	188.9	189.8
1974	188.1	195.8	198.4	203.6	201.0	197.7	193.2	191.0	190.1	188.7	187.7	188.7
1975	188.7	189.3	189.4	197.5	218.2	212.1	198.1	192.6	189.1	188.7	189.6	189.2
1976	183.8	187.2	188.0	195.9	204.2	204.9	206.4	204.6	200.5	194.6	189.2	193.6
1977	197.9	196.1	190.9	196.7	210.0	216.5	223.8	221.2	204.1	203.9	196.6	193.9
1978	202.5	203.5	211.5	244.7	255.0	222.3	206.9	195.5	192.6	190.3	189.8	189.5
1979	191.1	190.9	187.7	233.9	277.2	246.4	209.4	197.2	193.3	190.7	187.7	189.8
1980	187.5	185.6	197.0	219.7	227.2	212.5	200.1	195.2	191.6	188.9	188.2	189.0
1981	189.5	191.5	187.7	205.1	221.1	204.4	206.5	201.0	195.1	191.6	187.9	188.8
1982	187.8	193.2	195.7	223.8	223.5	212.2	210.3	193.1	190.7	188.9	189.3	188.2
1983	186.4	198.2	195.2	210.8	228.5	233.7	218.3	191.3	188.1	185.9	187.1	188.0
1984	188.2	187.7	193.8	197.6	194.7	199.6	199.0	194.6	192.9	189.4	188.9	190.1
1985	188.3	203.4	201.7	203.0	209.5	204.5	210.0	199.0	194.5	191.2	189.5	189.0
1986	190.1	193.0	193.5	208.8	249.5	233.5	204.9	199.6	193.6	190.6	189.2	188.9
1987	189.4	191.4	186.9	198.1	212.5	212.7	214.1	220.3	205.2	199.5	195.7	198.4
1988	202.4	202.4	199.9	211.5	227.4	233.5	228.7	211.1	205.0	198.4	195.5	198.5
1989	204.1	201.2	191.7	197.1	203.5	209.0	206.9	207.0	195.7	189.9	186.9	185.6
1990	187.2	190.1	194.1	204.6	213.7	221.8	220.0	206.8	197.9	203.9	197.7	198.1
1991	200.4	202.4	203.1	204.2	211.3	209.0	218.5	205.5	195.8	195.5	195.0	197.4
1992	198.3	197.8	197.0	202.6	216.5	225.1	226.5	220.6	210.7	198.5	195.0	197.3
1993	194.7	195.0	213.2	257.2	276.0	226.4	200.4	192.0	188.1	188.3	189.4	190.4
1994	190.9	190.9	189.5	203.7	223.7	228.5	216.5	200.2	195.1	196.1	191.0	193.3
1995	194.6	198.6	204.4	247.3	249.2	214.7	211.5	188.7	186.4	186.3	187.6	188.7
1996	189.2	190.4	202.0	209.8	215.8	206.7	194.9	189.0	189.9	190.6	190.3	189.3
1997	187.4	190.2	199.9	226.8	232.2	206.6	204.8	195.8	191.8	189.1	188.5	189.0
1998	188.6	192.6	191.3	211.2	252.2	242.4	193.3	186.5	185.8	185.5	187.4	187.4
1999	187.1	186.6	184.2	195.4	209.0	200.9	196.0	192.0	190.0	189.4	189.6	189.6
2000	190.3	191.6	188.5	201.8	217.7	208.7	197.7	194.1	193.7	190.0	189.4	189.5
2001	186.4	188.3	188.6	197.2	216.6	227.2	208.9	207.9	204.6	196.9	193.6	196.4
2002	199.9	195.2	210.7	226.5	215.9	210.0	207.7	208.9	201.3	190.7	187.9	190.3
2003	192.7	194.6	207.3	213.6	205.7	204.1	200.8	193.5	190.0	189.0	187.0	189.1
Average	191.3	193.9	196.6	212.0	223.2	214.9	207.1	199.4	194.4	191.7	190.1	190.9
Critical	194.4	195.3	194.6	202.7	215.3	219.9	220.1	210.0	201.3	198.7	194.3	196.0
Dry	192.9	195.2	194.5	204.5	213.2	211.3	209.0	207.3	199.4	193.3	190.2	191.4
BN	190.6	191.5	191.8	217.5	241.0	226.4	207.9	197.8	193.0	190.1	187.6	188.7
AN	192.4	195.0	203.7	227.9	237.9	214.2	201.5	194.6	191.6	189.3	188.8	189.5
Wet	188.6	192.3	196.2	212.2	222.7	212.4	201.8	192.4	189.9	188.6	188.7	188.9

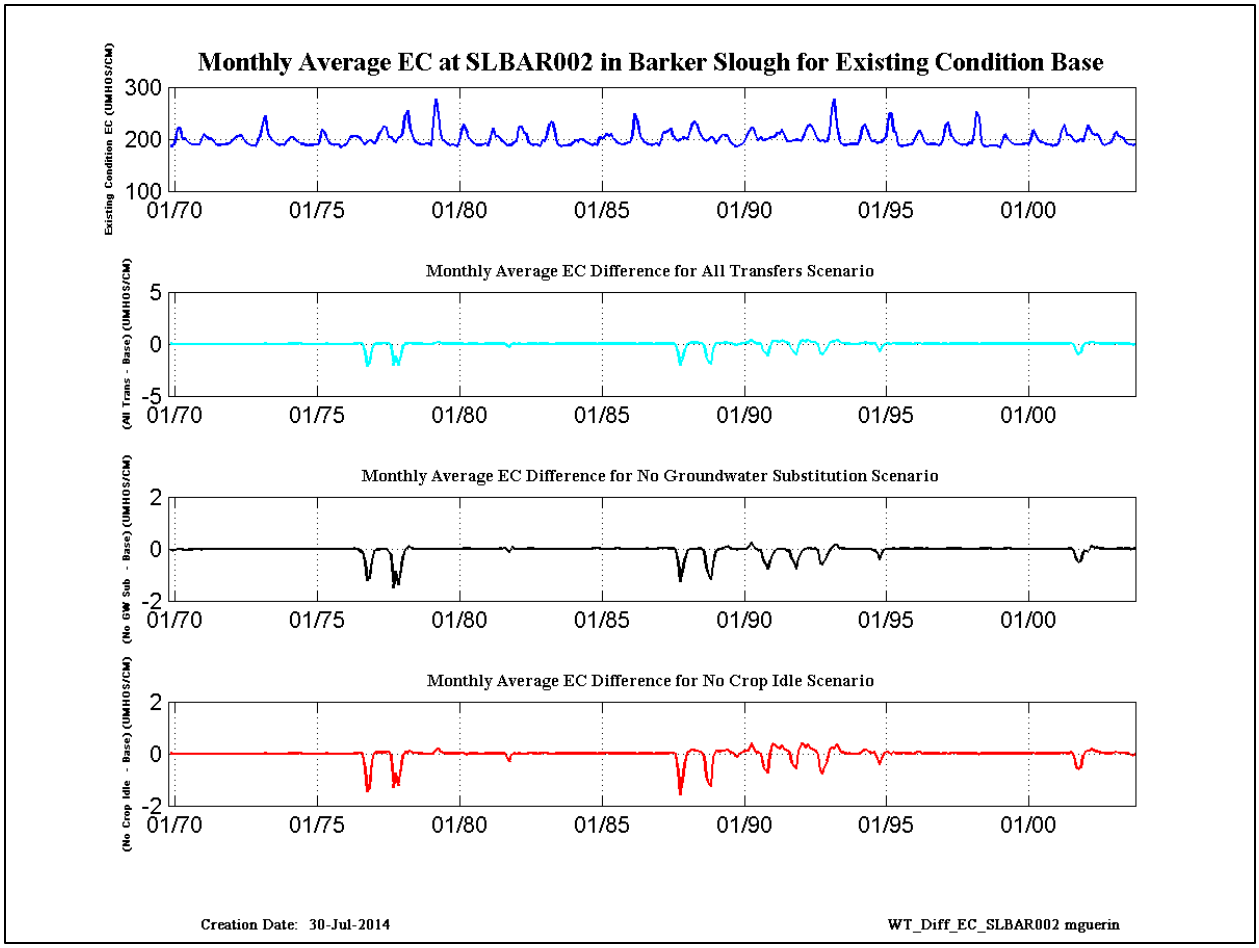


Figure 1-17.
Barker Slough location SLBAR002 EC for the Base condition and change from Base for the scenarios.

Table 1-97.
Suisun Marsh location SLCBN002 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	5164.7	5471.1	2604.9	1186.2	1026.0	980.1	2124.4	4396.3	6318.3	7702.3	8852.0	8158.9
1971	5559.2	5438.9	2726.5	1632.7	1749.0	1569.3	1460.2	1515.8	2331.3	4922.9	8645.7	8254.4
1972	5448.9	5516.6	5840.5	6460.9	4748.5	3010.1	3218.1	5456.9	7813.4	9169.2	10397.8	12605.9
1973	11957.5	9649.8	5994.5	2594.0	1493.8	1868.5	2118.3	2729.3	4217.8	7107.7	9531.3	10048.1
1974	7939.1	4016.2	1760.9	1246.5	1340.3	894.5	947.4	1320.3	2635.4	5166.1	8581.6	7946.6
1975	5529.2	5440.0	5773.9	7181.5	4271.9	1602.3	1530.3	1606.1	1755.0	4225.2	8300.0	8169.8
1976	5347.7	5344.0	5622.7	7633.6	7456.7	7327.7	7709.0	9573.8	12422.4	13948.0	14373.6	15455.4
1977	14250.0	13441.7	13000.9	11013.6	8488.3	9908.9	10827.8	12054.2	14260.8	15539.0	16383.7	17056.3
1978	14922.9	13701.1	11544.7	4713.3	2513.9	2492.8	2177.6	2403.4	3742.1	6414.9	9709.6	10724.6
1979	8221.9	7808.8	7928.5	6928.1	3486.9	2531.8	2924.2	3241.6	4773.7	8332.0	10900.9	13314.6
1980	12155.2	10830.5	8647.9	3850.7	2019.1	2054.8	2280.5	2808.9	4026.0	6382.9	9579.6	10399.5
1981	8022.4	7450.6	7570.5	6442.8	3958.1	3198.4	3849.6	5543.4	7990.6	10485.6	12319.0	13973.0
1982	12997.2	7981.9	3123.9	2002.3	1602.3	1244.8	1198.2	1144.3	1679.9	4214.4	8708.6	8418.9
1983	5123.5	2914.0	1504.6	1021.4	962.8	856.5	1007.2	827.7	698.3	848.9	1953.7	2718.8
1984	3238.8	1932.1	853.4	776.3	781.6	807.6	1510.9	3213.2	5652.5	7536.9	8817.3	8293.3
1985	5620.4	4882.8	4180.6	5098.6	4975.3	5054.7	5234.6	5586.5	7869.1	10298.4	12257.7	13929.9
1986	12086.7	11711.6	10005.9	5996.4	2121.9	1860.2	1953.3	2517.2	4296.2	7114.4	9688.7	8892.8
1987	5961.6	6154.2	6802.0	7919.9	5968.5	3802.1	4590.3	7638.4	9353.8	11104.6	12947.0	14324.0
1988	13270.5	12622.1	10462.4	5498.5	4064.4	6556.5	8960.0	9379.9	10470.8	12170.0	14050.1	15400.9
1989	14365.3	13408.1	12512.0	11128.9	9314.7	4878.1	3116.4	4606.4	7782.0	10892.9	12686.4	13316.9
1990	11874.9	11915.8	12307.5	9583.8	6810.7	7439.8	8519.0	9411.1	11563.5	13937.5	15051.1	15853.3
1991	14447.5	14087.2	14072.1	12633.1	10244.5	6543.8	5597.8	8311.5	11767.1	14106.6	15130.5	16043.7
1992	14739.3	14081.0	14027.1	12784.4	7166.1	4496.8	6075.0	8784.3	10865.7	12460.5	14689.9	15819.8
1993	14067.8	13095.0	12193.9	5234.5	2779.7	2693.3	2522.8	1964.4	2408.6	4613.3	8946.0	10008.3
1994	7828.4	7585.2	7809.9	8375.5	6134.9	5597.6	7282.9	7799.1	10052.5	12860.7	14112.7	15260.2
1995	13143.3	11658.3	11552.0	4366.9	3016.8	1717.9	2284.1	1538.3	1453.1	1868.6	4264.9	6077.1
1996	5202.7	5096.3	4783.9	2722.3	1171.3	1250.4	1274.2	978.6	2193.4	6076.1	9273.5	8190.9
1997	5513.3	5449.9	2118.3	1032.1	1306.7	1547.9	2340.0	3381.4	5542.8	7479.5	8783.2	8126.3
1998	5826.0	5705.8	5293.4	3405.6	1291.8	1401.4	1203.4	891.8	745.7	1065.6	2693.2	3988.7
1999	4090.6	4064.2	2425.0	1296.8	873.6	705.4	926.9	1580.7	3393.4	6049.9	8965.4	8293.7
2000	5352.4	5291.7	5851.0	5416.3	1826.4	1381.5	1501.2	2355.9	4996.8	7569.0	8961.1	9863.2
2001	7734.4	7186.9	7316.9	7525.3	4109.7	2666.2	3425.4	5925.1	8138.7	10429.3	12337.5	14113.0
2002	12795.0	11869.3	7306.8	2939.7	2894.3	3896.9	3898.4	4598.7	7419.6	10996.6	12510.6	14264.8
2003	12796.0	12175.8	6864.3	3103.8	2388.4	3218.9	2702.8	1805.0	3379.6	7003.7	9046.5	9991.9
Average	9193.9	8381.7	7128.9	5316.1	3657.6	3148.7	3479.2	4320.3	6000.3	8238.0	10395.6	11097.0
Critical	11679.8	11296.7	11043.2	9646.1	7195.1	6838.7	7853.1	9330.6	11629.0	13574.6	14827.4	15841.4
Dry	9083.2	8492.0	7614.8	6842.5	5203.4	3916.0	4019.1	5649.8	8092.3	10701.2	12509.7	13986.9
BN	6835.4	6662.7	6884.5	6694.5	4117.7	2771.0	3071.1	4349.3	6293.5	8750.6	10649.3	12960.3
AN	11875.3	10790.6	8516.1	4152.1	2170.2	2285.0	2217.2	2344.5	3795.2	6515.3	9295.7	10172.6
Wet	7031.9	5913.9	4194.4	2605.1	1655.1	1264.5	1520.0	1916.3	2976.6	4943.9	7502.1	7348.5

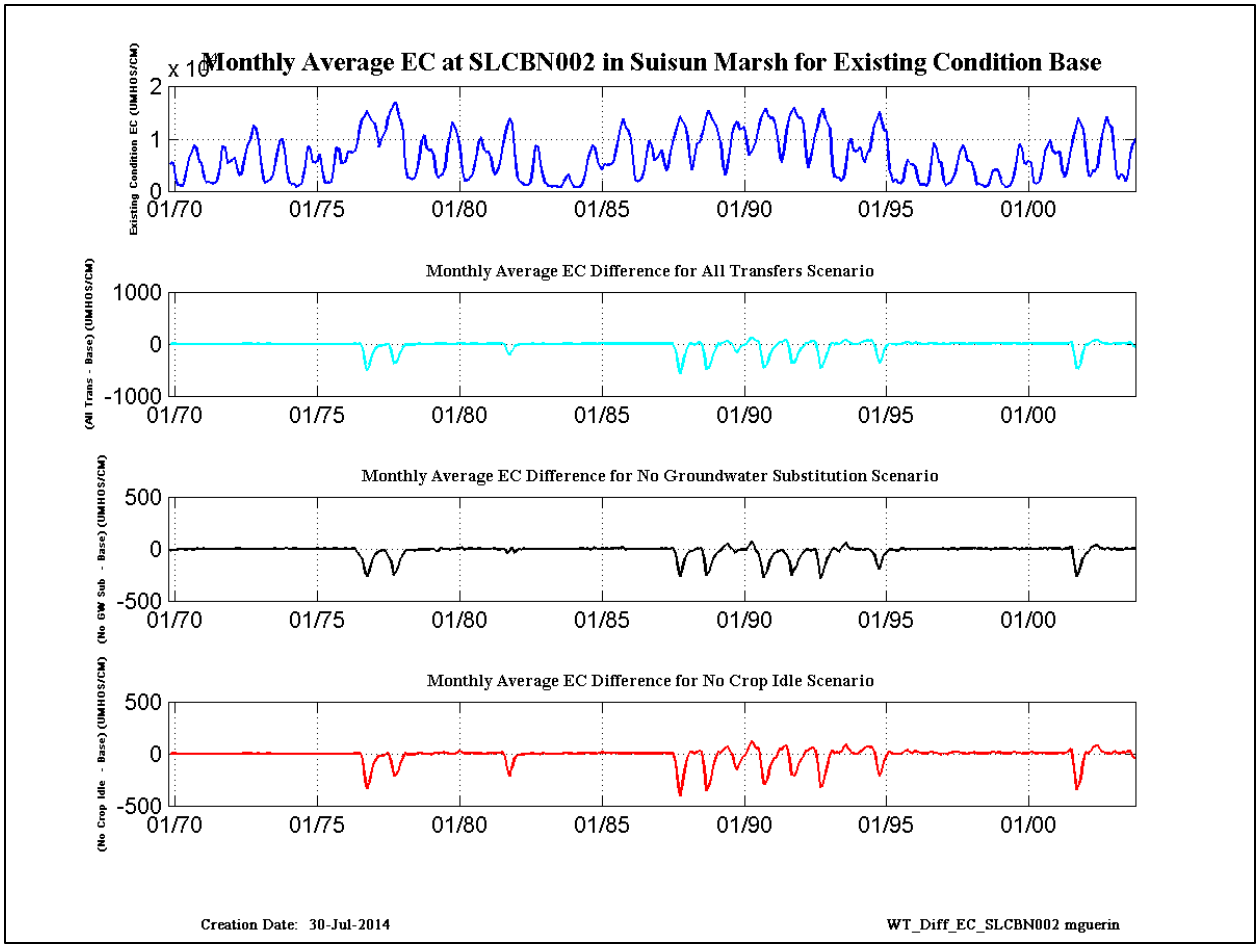


Figure 1-18.
Suisun Marsh location SLCBN002 EC for the Base condition and change from Base for the scenarios.

Table 1-98.
San Joaquin River location RSAN037 salinity (EC, UMHOS/CM)
difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.2	-10.2	-6.2	-0.6	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.7	24.1	-32.5	-49.2
1977	-35.3	-15.6	-15.2	-13.9	-3.7	0.0	0.7	0.7	2.9	-13.7	-22.4	-37.0
1978	-32.4	-11.8	-8.0	0.5	0.9	0.5	0.1	0.2	0.2	0.1	0.1	0.1
1979	0.0	0.0	-0.1	0.3	0.4	0.1	0.2	0.2	0.1	0.0	0.0	0.0
1980	-0.2	0.5	3.7	0.4	-2.0	-0.1	0.0	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	-0.2	0.2	0.1	0.0	0.2	0.5	0.4	-3.6	19.9	3.9
1982	-17.5	-9.8	-0.4	0.3	-6.9	-1.8	0.2	-0.2	-0.2	-0.1	0.0	0.0
1983	-0.1	0.0	-0.2	0.0	0.4	0.2	0.1	-0.2	0.2	0.0	-0.1	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1985	0.0	0.1	0.2	0.2	0.1	0.3	0.2	0.1	0.1	-0.2	-0.3	-0.5
1986	-0.2	-0.5	0.1	0.3	0.1	0.3	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.1	-0.1	-0.2	0.1	0.0	1.1	1.7	1.0	9.9	-0.1	-26.4
1988	-22.8	-12.4	-8.1	0.2	0.3	2.2	1.8	1.9	1.5	19.1	0.5	-36.1
1989	-34.4	-18.1	-5.3	5.9	1.6	2.2	1.0	1.8	0.6	-0.7	9.9	-3.7
1990	-9.6	-7.8	-7.3	-4.0	0.7	1.5	1.3	0.8	2.0	43.6	2.9	-35.6
1991	-33.7	-16.7	-14.1	-8.9	-1.1	0.8	0.9	1.0	3.6	36.3	1.4	-29.1
1992	-27.7	-13.0	-11.3	-12.7	-1.5	0.8	0.5	1.4	1.1	19.9	2.2	-30.5
1993	-23.9	-9.5	-2.7	2.8	1.5	1.0	0.6	0.8	-12.2	-2.1	0.7	0.3
1994	0.1	0.0	-0.1	1.3	1.8	0.8	0.6	0.4	1.0	-11.5	-1.6	23.1
1995	-5.5	-3.2	-4.6	1.2	0.7	0.3	0.2	0.1	0.2	-0.1	0.1	0.1
1996	0.0	-0.1	0.1	0.3	0.2	-0.1	0.1	0.1	0.1	0.2	0.3	0.2
1997	0.0	0.0	0.0	-0.3	-0.2	0.0	0.0	0.2	0.1	-0.1	-0.1	-0.7
1998	0.2	0.3	0.3	0.3	0.3	-0.1	0.0	0.3	0.2	-0.1	0.0	0.0
1999	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1
2000	0.0	0.0	-0.3	0.0	0.2	0.2	0.2	0.1	0.0	0.0	-0.1	0.0
2001	0.0	0.0	-0.6	-0.3	0.1	0.1	0.7	1.0	1.2	20.2	10.7	-17.2
2002	-18.8	-5.8	1.9	0.6	0.5	0.3	0.2	0.4	0.6	-0.3	-0.7	-1.8
2003	-1.0	-0.9	0.4	0.2	0.1	0.1	0.2	0.2	0.2	4.8	0.5	-3.1
Average	-7.7	-3.7	-2.1	-0.7	-0.2	0.0	0.2	0.4	0.2	4.3	-0.3	-7.2
Critical	-18.5	-9.4	-8.0	-5.4	-0.5	0.9	0.8	0.9	2.0	16.8	-7.1	-27.8
Dry	-8.9	-4.0	-0.7	1.1	0.4	0.5	0.6	0.9	0.6	4.2	6.6	-7.6
BN	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
AN	-9.6	-3.6	-1.1	0.7	0.1	-1.4	-0.8	0.1	-2.0	0.5	0.2	-0.5
Wet	-1.8	-1.0	-0.4	0.2	-0.4	-0.1	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-99.
San Joaquin River location RSAN037 salinity (EC, UMHOS/CM) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.1	-3.4	-2.1	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.8	-6.2	-10.0
1977	-6.3	-2.9	-2.3	-1.9	-0.9	0.0	0.2	0.2	0.8	-3.2	-4.4	-5.6
1978	-5.3	-2.2	-1.4	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.1	0.7	0.1	-0.6	-0.1	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.2	0.1	-1.1	4.4	0.7
1982	-3.1	-2.1	-0.2	0.1	-2.5	-0.6	0.1	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	-0.1	0.0	0.1	0.1	0.1	-0.1	0.1	0.0	-0.1	0.0
1984	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1	-0.1
1986	0.0	-0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	-0.1	0.0	0.0	0.0	0.3	0.5	0.4	3.7	0.0	-6.6
1988	-4.8	-2.7	-1.6	0.1	0.1	0.7	0.6	0.6	0.6	6.7	0.1	-7.8
1989	-5.9	-3.3	-0.8	0.8	0.3	0.6	0.4	0.7	0.3	-0.2	1.9	-0.8
1990	-2.2	-1.6	-1.3	-0.8	0.2	0.6	0.5	0.3	0.7	9.8	0.5	-6.8
1991	-5.6	-2.7	-2.0	-1.4	-0.2	0.2	0.3	0.3	1.3	7.6	0.3	-5.8
1992	-4.8	-2.3	-1.7	-1.9	-0.3	0.2	0.2	0.5	0.4	6.7	0.5	-5.9
1993	-4.8	-2.0	-0.5	0.6	0.4	0.3	0.2	0.3	-4.7	-1.0	0.3	0.1
1994	0.0	0.0	0.0	0.2	0.5	0.3	0.2	0.2	0.4	-2.2	-0.3	4.2
1995	-1.1	-0.8	-0.8	0.3	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.1
1996	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	-0.2
1998	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.2	-0.1	0.0	0.0	0.2	0.3	0.5	7.7	3.3	-4.4
2002	-4.1	-1.3	0.5	0.2	0.2	0.1	0.1	0.1	0.2	-0.1	-0.2	-0.3
2003	-0.2	-0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1	2.2	0.2	-1.0
Average	-1.4	-0.7	-0.3	-0.1	-0.1	0.0	0.1	0.1	0.1	1.2	0.0	-1.5
Critical	-3.4	-1.7	-1.3	-0.8	-0.1	0.3	0.3	0.3	0.7	4.3	-1.4	-5.4
Dry	-1.7	-0.7	-0.1	0.2	0.1	0.1	0.2	0.3	0.3	1.7	1.6	-1.9
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.7	-0.7	-0.2	0.2	0.0	-0.5	-0.3	0.1	-0.8	0.2	0.1	-0.1
Wet	-0.3	-0.2	-0.1	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-100.
RSAN072 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.3	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.2	0.2	0.2	0.3	-0.3	0.3	0.3	-0.2	-0.4
1973	0.3	0.1	0.2	-0.2	0.1	-20.9	-1.5	0.3	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.2	-0.2	0.1	0.3	0.3	0.3	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.1	0.2	0.3	0.0	-0.2	0.0	-3.2	0.3	0.1
1977	-0.2	0.1	-0.1	0.2	0.2	0.4	0.0	0.4	0.0	-0.2	0.2	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	1.6	0.5	0.0	-0.2	0.3	-0.2
1982	0.3	-0.3	0.3	0.0	-13.9	-1.1	0.4	-0.4	-0.3	-0.3	0.4	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.3	0.3	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.4	-0.4	-0.4	0.3
1986	0.5	0.0	0.4	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.3	-0.4	0.5	-0.3
1988	-0.4	0.3	0.0	0.0	0.4	0.1	0.4	-0.2	0.1	-0.5	0.1	0.3
1989	0.1	0.3	0.1	-0.4	-0.4	0.3	-0.4	0.3	0.0	0.5	-0.6	-0.2
1990	-0.2	-0.2	0.0	0.2	0.3	-0.2	-0.4	0.0	-0.3	-22.6	-5.0	0.1
1991	-0.1	0.3	-0.3	0.1	-0.3	0.0	-0.3	0.1	0.1	-31.4	-6.4	0.1
1992	-0.2	0.4	0.1	0.1	-0.1	0.1	-8.7	-1.6	0.2	-84.0	-34.3	0.1
1993	0.1	-0.2	0.3	0.2	0.1	0.1	0.5	0.4	17.7	1.7	0.4	-0.1
1994	0.0	0.0	-0.3	-0.4	0.0	0.2	0.3	-0.4	-0.4	0.3	-1.9	-0.3
1995	0.1	0.2	0.3	-0.1	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.4
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.3	0.4	-0.1	0.1	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.4	0.3
1998	0.2	-0.3	0.1	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	0.0	0.4	0.3	0.5	-0.3	0.0	-0.1
2000	0.2	-0.3	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.2	0.0	0.3	2.9	-0.2	-0.4	-0.8	0.0	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	0.0	-0.4	0.0	0.2	0.0
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-1.4	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.3	-0.6	-0.1	0.0	0.6	-4.2	-1.4	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	-1.2	-0.3	0.0	-20.2	-6.7	0.1
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.7	0.1	-0.1	-0.2	0.0	-0.1
BN	0.2	0.0	0.1	-0.1	0.3	0.1	0.3	-0.1	0.3	0.3	-0.1	-0.1
AN	0.1	-0.1	0.0	0.0	0.2	-3.4	0.0	0.1	3.0	0.0	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.0	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-101.
RSAN072 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	-0.1
1973	0.1	0.0	0.0	0.0	0.0	-5.9	-0.4	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.4	0.1	0.0	0.0	0.0	0.0
1982	0.1	-0.1	0.0	0.0	-4.7	-0.4	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	-0.1
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-3.4	-0.8	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.5	-0.9	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	-1.1	-0.2	0.0	-12.2	-4.5	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.6	0.2	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.3	0.0
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	-0.1	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	-0.2	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	-0.6	-0.2	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-2.9	-0.9	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.4	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-102.
San Joaquin River location RSAN112 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.4	-0.4	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.4	0.1	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.3	0.2	0.2	0.3	-0.4	0.4	0.3	-0.3	-0.4
1973	0.4	0.0	0.2	-0.3	0.2	-21.8	-0.9	0.4	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.3	-0.3	0.1	0.3	0.3	0.4	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.0	0.2	0.3	0.0	-0.2	0.0	-0.2	-0.1	0.1
1977	-0.2	0.1	-0.2	0.3	0.1	0.3	0.2	0.4	-0.1	0.0	-0.4	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.3	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	1.6	0.5	0.0	-0.2	0.0	-0.2
1982	0.4	-0.4	0.4	0.0	-14.5	-0.9	0.4	-0.4	-0.3	-0.3	0.4	-0.4
1983	-0.4	0.1	-0.3	0.1	0.5	0.2	0.1	-0.4	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.4	0.3	0.3	-0.2
1985	0.0	-0.2	-0.2	0.4	0.2	-0.2	0.4	0.0	-0.5	-0.4	-0.4	0.4
1986	0.5	0.0	0.5	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.4	0.1	-0.2	-0.4
1988	-0.4	0.3	-0.1	0.0	0.4	0.1	0.4	-0.3	0.1	-0.5	0.4	0.3
1989	0.1	0.3	0.0	-0.4	-0.4	0.3	-0.4	0.3	0.1	0.3	-0.3	-0.2
1990	-0.2	-0.2	0.0	0.3	0.3	-0.2	-0.4	0.1	-0.4	0.2	0.4	0.1
1991	-0.2	0.3	-0.4	0.2	-0.3	0.0	-0.3	0.1	0.1	-0.4	-0.5	0.2
1992	-0.2	0.5	-0.1	0.4	-0.2	0.1	-10.1	-0.1	0.2	0.5	0.3	0.1
1993	0.1	-0.2	0.4	0.2	0.1	0.1	0.5	0.4	19.8	0.7	0.4	-0.1
1994	0.0	0.0	-0.4	-0.4	0.1	0.2	0.3	-0.5	-0.5	0.3	0.3	-0.4
1995	0.1	0.2	0.3	-0.1	-0.5	0.3	0.1	0.1	0.3	-0.2	0.3	-0.5
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.4	0.4	-0.1	0.2	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.5	-0.1	0.1	-0.5	0.4
1998	0.2	-0.3	0.2	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	-0.1	0.5	0.3	0.5	-0.3	0.1	-0.1
2000	0.2	-0.4	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.3	0.0	0.3	3.0	-0.3	-0.4	-0.5	-0.3	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	-0.1	-0.4	-0.1	0.3	-0.1
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-0.1	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.4	-0.6	-0.1	0.0	0.7	0.0	0.0	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	-1.4	-0.1	-0.1	0.0	0.1	0.0
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.8	0.0	-0.1	-0.1	-0.1	-0.1
BN	0.2	0.0	0.2	-0.2	0.3	0.1	0.4	-0.1	0.3	0.3	-0.2	-0.1
AN	0.1	-0.1	0.0	-0.1	0.2	-3.5	0.1	0.1	3.4	0.0	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.1	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-103.
San Joaquin River location RSAN112 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	-0.1	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	-0.1	-0.1
1973	0.1	0.0	0.0	0.0	0.0	-6.4	-0.3	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	-0.1	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	-0.1	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.4	0.1	0.0	0.0	0.0	0.0
1982	0.1	-0.1	0.0	0.0	-5.0	-0.3	0.2	-0.3	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1988	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.1	0.0
1989	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	0.1	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.1	0.0	0.0
1993	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	2.9	0.1	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.3	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-0.1	-0.1	-0.1	0.0	-0.1
2002	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.4	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-104.
Mokelumne River location RSMKL008 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	-0.6	-2.9	-1.8
1977	0.0	0.2	0.0	0.1	0.3	0.4	0.3	0.4	0.2	-3.6	-0.9	-1.2
1978	0.0	0.2	0.1	0.6	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.9	0.0
1982	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.1	-1.1	-3.3	-1.2
1988	0.2	0.2	0.2	0.6	0.1	0.7	0.3	0.6	0.2	-2.1	-2.4	-1.8
1989	0.2	0.1	0.2	0.4	0.6	0.3	0.4	0.2	0.1	0.0	-0.4	0.0
1990	0.1	0.1	0.2	0.1	0.6	0.3	0.0	0.2	0.2	-1.8	-1.1	-1.4
1991	0.0	0.4	0.4	1.0	0.6	0.7	0.3	0.3	0.2	-1.4	-0.9	-1.3
1992	0.1	0.3	0.6	0.4	1.0	0.4	0.3	0.5	0.2	-1.7	-1.3	-0.8
1993	-0.1	0.4	0.3	1.0	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.2	0.4	0.2	0.1	0.2	0.1	-0.1	-1.4	-0.4
1995	0.1	0.2	0.1	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.3	0.1	-1.8	-1.6	-1.1
2002	0.1	0.2	0.1	0.3	0.4	0.1	0.2	0.2	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	-0.2	0.0	0.0
Average	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	-0.4	-0.5	-0.3
Critical	0.1	0.2	0.2	0.3	0.4	0.4	0.2	0.3	0.2	-1.6	-1.6	-1.2
Dry	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	-0.5	-1.0	-0.4
BN	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.1	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-105.
Mokelumne River location RSMKL008 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	-1.6	-1.0
1977	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.1	-1.9	-0.5	-0.6
1978	0.0	0.1	0.0	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0
1982	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	-0.6	-1.7	-0.6
1988	0.1	0.1	0.1	0.2	0.0	0.3	0.2	0.3	0.1	-1.1	-1.3	-0.9
1989	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.0	0.0	-0.2	0.0
1990	0.0	0.1	0.1	0.1	0.3	0.1	0.0	0.1	0.1	-1.0	-0.6	-0.7
1991	0.0	0.2	0.2	0.4	0.2	0.3	0.1	0.2	0.1	-0.7	-0.5	-0.7
1992	0.0	0.2	0.3	0.2	0.4	0.2	0.1	0.3	0.1	-0.9	-0.7	-0.4
1993	-0.1	0.2	0.1	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	-0.8	-0.2
1995	0.1	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-1.0	-0.9	-0.6
2002	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	-0.2	-0.3	-0.2
Critical	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	-0.8	-0.8	-0.6
Dry	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	-0.3	-0.6	-0.2
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-106.
Barker Slough location SLBAR002 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.8	-2.1
1977	-1.8	-0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.1	-0.1	-2.0	-1.2
1978	-2.0	-1.4	-0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-2.1
1988	-1.4	-0.6	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	-1.1	-1.8
1989	-1.9	-0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1
1990	0.0	0.0	0.1	0.1	0.1	0.4	0.2	0.0	0.0	0.0	-0.7	-0.9
1991	-1.1	-0.3	0.3	0.3	0.2	0.2	0.3	0.1	0.1	0.0	-0.6	-0.8
1992	-1.1	-0.1	0.3	0.3	0.2	0.4	0.2	0.2	0.1	-0.1	-0.9	-1.0
1993	-0.8	-0.4	0.1	0.2	0.2	0.4	0.2	0.1	0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	-0.3	-0.7
1995	-0.3	-0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	-0.7	-1.0
2002	-0.8	-0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Average	-0.3	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.2	-0.4
Critical	-0.8	-0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	-0.9	-1.2
Dry	-0.5	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.3	-0.6
BN	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.5	-0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-107.
Barker Slough location SLBAR002 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.1
1977	-0.9	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.0	-0.6
1978	-1.0	-0.7	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.0
1988	-0.7	-0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	-0.6	-0.9
1989	-0.9	-0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1
1990	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.0	-0.3	-0.5
1991	-0.6	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.3	-0.4
1992	-0.5	-0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	-0.5	-0.5
1993	-0.4	-0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	-0.4
1995	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	-0.5
2002	-0.4	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
Critical	-0.4	-0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-0.5	-0.6
Dry	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-108.
Suisun Marsh location SLCBN002 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	1.5	1.0	-1.1	-0.4	-0.2	-0.1	-0.1
1974	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
1975	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.9	4.4	-79.7	-377.5	-509.9
1977	-392.4	-213.5	-122.2	-69.8	-37.2	-35.0	-23.6	-11.7	7.8	-134.3	-378.0	-363.8
1978	-296.1	-166.4	-68.8	-14.7	-14.9	-19.5	-16.9	-14.5	-4.5	5.2	-4.7	-8.6
1979	-9.2	-8.9	-9.7	-0.6	3.0	1.3	3.4	7.2	5.0	-1.3	-2.9	-3.4
1980	-2.9	5.2	23.0	7.3	1.3	-1.4	-0.2	4.0	3.5	0.4	-0.5	-0.9
1981	-1.1	-1.0	0.4	5.0	3.3	2.9	6.6	9.4	12.0	-30.2	-152.5	-216.8
1982	-140.5	-55.6	-22.4	-15.5	-6.1	-5.5	-5.3	-4.9	-0.3	0.6	-2.3	-2.6
1983	-6.5	5.9	-0.5	-1.8	-1.5	-1.6	-2.6	-1.5	-1.3	-0.6	2.4	6.1
1984	3.7	2.1	-0.2	-0.5	-0.1	0.0	1.4	5.4	6.1	2.3	0.8	0.2
1985	-0.3	7.8	13.5	9.4	7.2	6.5	4.8	7.0	6.8	2.5	2.4	1.6
1986	1.4	1.1	3.4	9.3	1.6	1.3	1.4	2.6	2.4	1.1	0.7	0.5
1987	0.4	0.4	0.5	2.6	6.4	4.4	3.0	2.4	11.6	-107.8	-418.3	-575.1
1988	-402.1	-211.1	-73.2	0.9	4.3	-11.8	9.5	22.3	18.5	-185.4	-485.6	-462.8
1989	-344.2	-191.4	-68.4	2.3	-11.1	22.8	39.6	65.3	17.5	-9.9	-115.7	-160.4
1990	-98.4	-47.8	-25.6	0.5	54.4	117.7	96.3	50.5	53.5	-164.1	-455.5	-438.2
1991	-352.1	-185.3	-108.9	-63.8	-17.5	38.4	29.6	62.0	74.8	-110.8	-369.4	-362.1
1992	-287.4	-161.7	-88.9	-52.7	16.2	16.1	41.0	52.9	34.0	-178.5	-455.3	-436.5
1993	-320.0	-177.0	-43.5	16.3	-11.1	2.5	-2.3	10.7	57.8	82.6	36.4	5.8
1994	-4.1	-5.9	-6.2	13.0	35.2	51.0	64.0	59.8	61.7	-20.1	-257.4	-376.9
1995	-283.3	-121.4	-46.5	9.8	-7.0	-7.5	-10.5	-9.8	-5.0	4.2	25.4	30.7
1996	3.6	-1.3	21.1	15.2	3.4	-0.1	-1.9	-0.6	7.3	19.8	8.3	4.2
1997	-2.0	-6.9	3.6	-5.4	-6.7	7.5	11.3	16.7	16.5	8.1	3.5	2.9
1998	-0.7	0.1	7.0	12.4	1.6	2.2	1.2	0.8	0.7	2.0	8.8	17.2
1999	5.6	14.0	12.9	4.4	2.1	1.3	2.2	5.3	15.8	8.1	6.9	-1.4
2000	2.2	1.3	0.7	17.3	9.4	3.4	4.0	7.8	7.6	4.8	1.7	1.2
2001	1.0	0.9	0.9	5.6	2.2	4.5	7.3	28.2	47.6	-172.1	-466.3	-475.3
2002	-352.1	-141.6	-12.4	-13.3	14.7	58.8	68.0	73.2	41.2	15.8	4.3	1.3
2003	-1.1	-3.7	21.5	3.8	1.3	7.5	10.5	4.3	23.5	27.3	-32.6	-51.3
Average	-96.4	-48.9	-17.3	-3.0	1.6	7.9	10.1	13.3	15.5	-29.7	-113.9	-128.7
Critical	-219.5	-117.9	-60.7	-24.5	7.9	25.2	31.1	33.6	36.4	-124.7	-397.0	-421.4
Dry	-116.0	-54.1	-10.9	1.9	3.8	16.6	21.5	30.9	22.8	-50.3	-191.0	-237.5
BN	-4.6	-4.5	-4.9	-0.3	1.5	0.6	1.7	3.6	2.5	-0.6	-1.4	-1.7
AN	-103.0	-56.8	-11.2	5.0	-2.3	-1.0	-0.6	1.9	14.6	20.0	0.0	-9.0
Wet	-32.2	-12.5	-1.7	2.1	-1.0	-0.2	-0.2	1.1	3.2	3.5	4.2	4.4

Table 1-109.
Suisun Marsh location SLCBN002 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.6	-3.3
1977	-2.8	-1.6	-0.9	-0.6	-0.4	-0.4	-0.2	-0.1	0.1	-0.9	-2.3	-2.1
1978	-2.0	-1.2	-0.6	-0.3	-0.6	-0.8	-0.8	-0.6	-0.1	0.1	0.0	-0.1
1979	-0.1	-0.1	-0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.3	0.2	0.1	-0.1	0.0	0.1	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	-0.3	-1.2	-1.6
1982	-1.1	-0.7	-0.7	-0.8	-0.4	-0.4	-0.4	-0.4	0.0	0.0	0.0	0.0
1983	-0.1	0.2	0.0	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	-0.1	0.1	0.2
1984	0.1	0.1	0.0	-0.1	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0
1985	0.0	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	-1.0	-3.2	-4.0
1988	-3.0	-1.7	-0.7	0.0	0.1	-0.2	0.1	0.2	0.2	-1.5	-3.5	-3.0
1989	-2.4	-1.4	-0.5	0.0	-0.1	0.5	1.3	1.4	0.2	-0.1	-0.9	-1.2
1990	-0.8	-0.4	-0.2	0.0	0.8	1.6	1.1	0.5	0.5	-1.2	-3.0	-2.8
1991	-2.4	-1.3	-0.8	-0.5	-0.2	0.6	0.5	0.7	0.6	-0.8	-2.4	-2.3
1992	-1.9	-1.1	-0.6	-0.4	0.2	0.4	0.7	0.6	0.3	-1.4	-3.1	-2.8
1993	-2.3	-1.4	-0.4	0.3	-0.4	0.1	-0.1	0.5	2.4	1.8	0.4	0.1
1994	-0.1	-0.1	-0.1	0.2	0.6	0.9	0.9	0.8	0.6	-0.2	-1.8	-2.5
1995	-2.2	-1.0	-0.4	0.2	-0.2	-0.4	-0.5	-0.6	-0.3	0.2	0.6	0.5
1996	0.1	0.0	0.4	0.6	0.3	0.0	-0.1	-0.1	0.3	0.3	0.1	0.1
1997	0.0	-0.1	0.2	-0.5	-0.5	0.5	0.5	0.5	0.3	0.1	0.0	0.0
1998	0.0	0.0	0.1	0.4	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.4
1999	0.1	0.3	0.5	0.3	0.2	0.2	0.2	0.3	0.5	0.1	0.1	0.0
2000	0.0	0.0	0.0	0.3	0.5	0.2	0.3	0.3	0.2	0.1	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.5	0.6	-1.7	-3.8	-3.4
2002	-2.8	-1.2	-0.2	-0.5	0.5	1.5	1.7	1.6	0.6	0.1	0.0	0.0
2003	0.0	0.0	0.3	0.1	0.1	0.2	0.4	0.2	0.7	0.4	-0.4	-0.5
Average	-0.7	-0.4	-0.1	0.0	0.0	0.1	0.2	0.2	0.2	-0.2	-0.8	-0.8
Critical	-1.6	-0.9	-0.5	-0.2	0.2	0.4	0.4	0.4	0.3	-0.9	-2.7	-2.7
Dry	-0.9	-0.4	-0.1	0.0	0.1	0.4	0.6	0.6	0.3	-0.5	-1.5	-1.7
BN	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
AN	-0.7	-0.4	-0.1	0.1	-0.1	0.0	0.0	0.1	0.5	0.4	0.0	-0.1
Wet	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1

Table 1-110.
San Joaquin River location RSAN037 salinity (EC)
difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-2.8	25.4	-9.8	-26.2
1977	-17.1	-7.3	-5.0	-3.1	-0.9	-0.3	-0.1	-1.4	-3.1	-11.8	-12.2	-16.8
1978	-16.7	-6.5	-4.0	0.1	0.6	0.3	0.0	0.2	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.0	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-16.0	9.5	10.2
1982	-7.2	-6.0	-0.5	0.3	-7.0	-1.8	0.2	-0.2	-0.2	-0.1	0.0	0.0
1983	-0.1	0.0	-0.2	0.0	0.4	0.2	0.1	-0.2	0.2	-0.1	-0.1	0.0
1984	0.0	-0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.0	0.6	-12.5
1988	-9.1	-4.8	-3.3	-0.6	-0.1	0.0	0.0	0.1	0.4	10.3	3.4	-14.6
1989	-14.0	-6.2	-3.7	-2.4	-0.9	0.3	0.5	0.3	0.1	-2.5	2.6	2.3
1990	-0.8	-0.2	-0.2	-0.2	0.5	0.9	0.6	-0.2	-0.5	26.3	6.8	-15.1
1991	-14.9	-7.8	-5.1	-2.9	-1.0	-0.2	0.0	-0.4	-0.8	23.0	5.4	-12.4
1992	-12.5	-6.0	-4.1	-2.6	-0.3	0.1	0.0	0.1	0.6	8.8	0.1	-11.6
1993	-8.4	-3.7	-3.5	0.5	1.0	0.3	0.1	0.5	-12.4	-2.2	0.5	0.2
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-17.6	-5.8	16.1
1995	-0.9	-1.0	-2.0	0.0	0.2	0.2	0.1	0.1	0.2	-0.1	0.0	0.0
1996	0.0	-0.1	0.0	0.0	0.1	-0.1	0.1	0.1	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	-0.3	-0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.1	0.2	-0.1	0.0	0.3	0.2	-0.1	-0.1	0.0
1999	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	9.5	5.7	-5.8
2002	-6.5	-3.2	-2.4	-0.2	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.7	-2.5	-3.5
Average	-3.2	-1.6	-1.0	-0.3	-0.2	0.0	0.1	0.0	-0.5	1.8	0.1	-2.6
Critical	-7.8	-3.7	-2.5	-1.3	-0.3	0.1	0.1	-0.5	-1.0	9.2	-1.7	-11.5
Dry	-3.4	-1.6	-1.0	-0.4	-0.1	0.1	0.1	0.1	0.1	-0.5	3.1	-1.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
AN	-4.2	-1.7	-1.3	0.1	0.3	0.1	0.1	0.2	-2.0	-0.1	-0.3	-0.5
Wet	-0.6	-0.6	-0.2	0.0	-0.5	-0.1	0.1	0.0	0.0	0.0	0.0	0.0

Table 1-111.
San Joaquin River location RSAN037 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.8	5.1	-1.9	-5.3
1977	-3.0	-1.4	-0.8	-0.4	-0.2	-0.1	0.0	-0.4	-0.8	-2.8	-2.4	-2.5
1978	-2.7	-1.2	-0.7	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.8	2.1	1.9
1982	-1.3	-1.3	-0.2	0.1	-2.5	-0.6	0.1	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	-0.1	0.0	0.1	0.1	0.1	-0.1	0.1	0.0	-0.1	0.0
1984	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.2	0.2	-3.1
1988	-1.9	-1.0	-0.6	-0.2	0.0	0.0	0.0	0.0	0.1	3.6	0.9	-3.2
1989	-2.4	-1.1	-0.6	-0.3	-0.2	0.1	0.2	0.1	0.0	-0.6	0.5	0.5
1990	-0.2	0.0	0.0	0.0	0.2	0.3	0.2	-0.1	-0.2	5.9	1.3	-2.9
1991	-2.5	-1.3	-0.7	-0.4	-0.2	-0.1	0.0	-0.2	-0.3	4.8	1.0	-2.5
1992	-2.2	-1.0	-0.6	-0.4	-0.1	0.0	0.0	0.0	0.2	2.9	0.0	-2.2
1993	-1.7	-0.8	-0.6	0.1	0.3	0.1	0.0	0.2	-4.8	-1.1	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-3.4	-1.0	2.9
1995	-0.2	-0.3	-0.3	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	-0.1	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.6	1.7	-1.5
2002	-1.4	-0.7	-0.7	-0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-0.8	-1.1
Average	-0.6	-0.3	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.2	0.5	0.0	-0.6
Critical	-1.4	-0.7	-0.4	-0.2	-0.1	0.0	0.0	-0.1	-0.3	2.3	-0.3	-2.2
Dry	-0.6	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.8	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.7	-0.3	-0.2	0.0	0.1	0.0	0.0	0.1	-0.8	-0.1	-0.1	-0.2
Wet	-0.1	-0.1	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-112.
RSAN072 salinity (EC) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.3	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.2	0.2	0.2	0.3	-0.3	0.3	0.3	-0.2	-0.4
1973	0.3	0.1	0.2	-0.2	0.2	0.4	-0.1	0.3	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.2	-0.2	0.1	0.3	0.3	0.3	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.1	0.2	0.3	0.0	-0.2	0.0	-2.9	0.0	0.1
1977	-0.2	0.1	-0.1	0.3	0.1	0.2	0.2	0.4	0.0	-0.1	0.0	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	-0.3	0.4	0.0	-25.2	-3.1	-0.2
1982	0.3	-0.3	0.3	0.0	-13.9	-1.1	0.4	-0.4	-0.3	-0.3	0.4	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.3	0.3	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.4	-0.4	-0.4	0.3
1986	0.5	0.0	0.4	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.3	-0.1	0.1	-0.4
1988	-0.4	0.3	0.0	0.0	0.4	0.1	0.4	-0.2	0.1	0.8	0.4	0.3
1989	0.1	0.3	0.1	-0.4	-0.4	0.3	-0.4	0.2	0.1	0.4	-0.2	-0.2
1990	-0.2	-0.2	0.0	0.2	0.3	-0.2	-0.4	0.0	-0.3	-12.4	-2.7	0.1
1991	-0.1	0.3	-0.3	0.2	-0.3	0.0	-0.3	0.1	0.1	-19.7	-3.9	0.1
1992	-0.2	0.4	0.0	0.3	-0.1	0.1	-0.4	0.1	0.1	-43.0	-29.1	0.1
1993	0.1	-0.2	0.3	0.2	0.1	0.1	0.5	0.4	17.7	1.7	0.4	-0.1
1994	0.0	0.0	-0.3	-0.4	0.0	0.2	0.3	-0.4	-0.4	1.9	-0.1	-0.3
1995	0.1	0.2	0.3	-0.1	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.4
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.3	0.4	-0.1	0.1	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.4	0.3
1998	0.2	-0.3	0.1	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	0.0	0.4	0.3	0.5	-0.3	0.0	-0.1
2000	0.2	-0.3	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.2	0.0	0.3	0.1	-0.4	-0.4	-29.7	-4.5	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	0.0	-0.3	-0.2	0.2	0.0
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-0.6	0.1	0.2
Average	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.6	-3.8	-1.3	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-10.8	-5.1	0.1
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-9.2	-1.3	-0.1
BN	0.2	0.0	0.1	-0.1	0.3	0.1	0.3	-0.1	0.3	0.3	-0.1	-0.1
AN	0.1	-0.1	0.0	0.0	0.2	0.2	0.2	0.1	3.0	0.1	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.0	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-113.
RSAN072 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	-0.1
1973	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	-4.0	-0.5	0.0
1982	0.1	-0.1	0.0	0.0	-4.7	-0.4	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-1.9	-0.4	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-0.6	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.2	-3.8	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.6	0.2	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.3	0.0	0.0
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-4.5	-0.7	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	-0.6	-0.2	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.2	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-114.
San Joaquin River location RSAN112 salinity (EC)
difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.4	-0.4	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.4	0.1	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.3	0.2	0.2	0.3	-0.4	0.4	0.3	-0.3	-0.4
1973	0.4	0.0	0.2	-0.3	0.2	0.4	-0.2	0.4	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.3	-0.3	0.1	0.3	0.3	0.4	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.0	0.2	0.3	0.0	-0.2	0.0	-0.2	-0.1	0.1
1977	-0.2	0.1	-0.2	0.3	0.1	0.3	0.2	0.4	-0.1	0.0	-0.4	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.3	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	-0.3	0.4	0.0	-25.3	-0.9	-0.2
1982	0.4	-0.4	0.4	0.0	-14.5	-0.9	0.4	-0.4	-0.3	-0.3	0.4	-0.4
1983	-0.4	0.1	-0.3	0.1	0.5	0.2	0.1	-0.4	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.4	0.3	0.3	-0.2
1985	0.0	-0.2	-0.2	0.4	0.2	-0.2	0.4	0.0	-0.5	-0.4	-0.4	0.4
1986	0.5	0.0	0.5	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.4	0.1	-0.2	-0.4
1988	-0.4	0.3	-0.1	0.0	0.4	0.1	0.4	-0.3	0.1	-0.5	0.4	0.3
1989	0.1	0.3	0.0	-0.4	-0.4	0.3	-0.4	0.3	0.1	0.3	-0.3	-0.2
1990	-0.2	-0.2	0.0	0.3	0.3	-0.2	-0.4	0.1	-0.4	0.2	0.4	0.1
1991	-0.2	0.3	-0.4	0.2	-0.3	0.0	-0.3	0.1	0.1	-0.4	-0.5	0.2
1992	-0.2	0.5	-0.1	0.4	-0.2	0.1	-0.4	0.2	0.2	-143.5	-4.8	0.1
1993	0.1	-0.2	0.4	0.2	0.1	0.1	0.5	0.4	19.8	0.7	0.4	-0.1
1994	0.0	0.0	-0.4	-0.4	0.1	0.2	0.3	-0.5	-0.5	0.3	0.3	-0.4
1995	0.1	0.2	0.3	-0.1	-0.5	0.3	0.1	0.1	0.3	-0.2	0.3	-0.5
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.4	0.4	-0.1	0.2	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.5	-0.1	0.1	-0.5	0.4
1998	0.2	-0.3	0.2	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	-0.1	0.5	0.3	0.5	-0.3	0.1	-0.1
2000	0.2	-0.4	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.3	0.0	0.3	0.1	-0.4	-0.4	-34.3	-1.4	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	-0.1	-0.4	-0.1	0.3	-0.1
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-0.1	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.4	0.0	0.1	0.0	0.7	-6.0	-0.2	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-20.6	-0.7	0.0
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-10.0	-0.5	-0.1
BN	0.2	0.0	0.2	-0.2	0.3	0.1	0.4	-0.1	0.3	0.3	-0.2	-0.1
AN	0.1	-0.1	0.0	-0.1	0.2	0.2	0.2	0.1	3.4	0.0	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.1	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-115.
San Joaquin River location RSAN112 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	-0.1	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	-0.1	-0.1
1973	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	-0.1	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	-0.1	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	-4.1	-0.1	0.0
1982	0.1	-0.1	0.0	0.0	-5.0	-0.3	0.2	-0.3	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1988	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.1	0.0
1989	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	0.1	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-19.1	-0.6	0.0
1993	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	2.9	0.1	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.3	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-5.2	-0.2	-0.1
2002	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	-0.8	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.1	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.4	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-116.
Mokelumne River location RSMKL008 salinity (EC)
difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	-0.5	-1.5	-1.0
1977	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	-0.7	0.1	-2.5	-0.6	-0.8
1978	-0.1	0.0	-0.1	0.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-0.5	0.1
1982	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-2.1	-0.7
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-1.2	-1.3	-1.1
1989	-0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.4	0.1	0.0	-0.4	0.1	-1.1	-0.7	-0.9
1991	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.3	0.0	-0.9	-0.6	-0.8
1992	-0.1	0.0	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0	-1.0	-0.7	-0.5
1993	-0.1	0.0	0.0	0.5	0.5	0.1	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	-0.8	-0.2
1995	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-0.8	-0.6
2002	-0.1	0.0	-0.2	0.1	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.3	-0.3	-0.2
Critical	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	-0.3	0.0	-1.0	-0.9	-0.8
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.2	-0.6	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-117.
Mokelumne River location RSMKL008 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	-0.3	-0.8	-0.5
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	-1.3	-0.3	-0.4
1978	-0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	0.1
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-1.1	-0.4
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.7	-0.6
1989	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.2	0.0	0.0	-0.2	0.1	-0.6	-0.4	-0.5
1991	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	-0.5	-0.3	-0.4
1992	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.5	-0.4	-0.3
1993	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.4	-0.1
1995	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.4	-0.3
2002	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	-0.5	-0.5	-0.4
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-118.
Barker Slough location SLBAR002 salinity (EC)
difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.5	-1.2
1977	-1.1	-0.4	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-1.5	-0.8
1978	-1.4	-1.0	-0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1982	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-1.3
1988	-0.9	-0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.7	-1.0
1989	-1.2	-0.5	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	-0.1	0.0	-0.4	-0.6
1991	-0.8	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.4	-0.5
1992	-0.8	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	-0.6
1993	-0.5	-0.2	-0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.4
1995	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	-0.5
2002	-0.5	-0.1	-0.1	-0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2
Critical	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.6	-0.7
Dry	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-119.
Barker Slough location SLBAR002 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.3	-0.6
1977	-0.6	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.8	-0.4
1978	-0.7	-0.5	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.6
1988	-0.4	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.5
1989	-0.6	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.2	-0.3
1991	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
1992	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3
1993	-0.2	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
2002	-0.2	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Critical	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.4
Dry	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-120.
Suisun Marsh location SLCBN002 salinity (EC)
difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-18.8	-10.9	-11.2	-7.7	-0.8	-1.8	-5.4	-5.1	-3.6	-6.8	-5.7	0.2
1971	-1.5	-2.8	0.1	-4.2	-4.4	-2.1	-1.3	-4.7	-1.3	-1.2	-1.3	-1.7
1972	-1.5	-1.5	-3.5	-1.7	2.3	2.3	-3.4	-1.7	-1.6	-1.3	-1.2	-1.1
1973	-0.8	-0.6	-0.5	-0.5	-0.5	-0.9	-0.8	-1.5	0.2	-0.5	-0.3	-0.6
1974	-0.3	5.4	-1.3	-1.3	1.3	2.5	-0.1	-1.1	-0.3	-0.3	-0.4	-0.4
1975	-0.2	-0.2	0.2	-0.2	-0.5	0.2	-0.2	-0.2	0.0	0.1	0.0	-0.4
1976	-0.1	-0.2	0.4	-0.9	-1.8	2.1	3.2	-38.2	-75.7	-101.2	-236.3	-265.8
1977	-203.4	-114.1	-68.1	-42.3	-20.7	-19.0	-14.8	-39.5	-77.9	-117.0	-251.7	-224.2
1978	-172.5	-99.1	-56.6	-19.6	-11.8	-13.8	-11.6	-15.1	-11.1	-7.3	-7.8	-8.4
1979	-7.2	-6.8	-3.1	-1.1	-21.7	-23.8	10.8	-0.2	-3.0	-2.6	-11.8	-1.9
1980	-3.4	1.2	-1.8	11.7	-8.1	-3.5	0.7	0.3	-2.8	-0.8	3.0	4.2
1981	-4.6	-1.8	-2.0	-2.4	4.8	2.8	-5.5	-5.3	-2.8	-8.6	-41.8	-23.0
1982	6.2	-38.6	-16.4	-3.6	-13.4	0.6	-4.5	-1.7	-0.2	-1.2	-1.8	-1.6
1983	-1.2	-0.9	-0.8	-0.7	-0.7	-0.7	-1.4	-0.5	-0.7	-0.5	-0.5	-0.4
1984	-0.4	-0.6	-0.4	-0.4	-1.0	0.3	0.1	-0.3	1.1	-7.1	-1.6	11.8
1985	-4.4	-0.9	1.4	-1.2	0.9	-2.0	0.6	0.7	8.2	4.6	14.4	12.1
1986	-12.1	-2.1	-3.0	-1.8	-0.8	-1.1	-1.3	-0.9	-0.5	-0.7	-0.6	-1.0
1987	-0.5	-0.7	-0.2	0.5	-1.0	2.5	-0.3	-0.4	11.2	-42.1	-190.3	-265.6
1988	-187.3	-98.5	-49.4	-25.8	-20.1	-13.0	0.2	-4.5	5.4	-96.4	-255.4	-228.3
1989	-159.9	-91.6	-56.9	-28.8	-16.4	3.2	28.7	49.8	13.6	-5.1	-39.4	-18.2
1990	-12.0	-9.9	-6.2	-7.1	24.5	66.4	41.3	-21.1	-54.7	-133.6	-273.2	-247.0
1991	-194.5	-104.8	-67.4	-41.9	-25.9	-16.7	-6.0	-41.5	-63.5	-117.1	-250.8	-201.6
1992	-175.0	-100.6	-58.2	-37.3	-9.2	-6.8	-15.7	-11.2	-0.3	-116.4	-284.6	-242.9
1993	-173.0	-93.0	-57.9	-6.5	5.0	-9.6	-29.5	0.7	28.7	57.2	13.3	-0.6
1994	3.0	-5.4	-6.2	-5.1	-11.5	-9.3	-3.4	-14.8	-27.1	-60.7	-162.9	-195.2
1995	-122.1	-59.8	-39.5	-6.2	-10.0	-10.9	-18.0	-19.7	0.4	1.8	-5.7	2.5
1996	-5.7	-3.1	-1.2	-6.8	-0.9	-2.2	-3.8	-2.5	-1.5	-1.5	-1.6	-2.2
1997	-1.7	-1.3	0.1	-4.4	-6.9	3.4	0.8	0.4	-8.1	1.6	1.2	2.9
1998	1.0	0.9	0.5	6.7	-3.2	1.9	3.2	-2.1	0.7	-0.7	-5.4	-0.3
1999	2.5	-0.4	1.7	0.9	2.7	1.4	-2.9	-1.2	8.3	-4.8	-8.1	3.9
2000	-2.3	0.4	-2.7	4.2	-3.1	-4.1	-2.7	3.9	-3.0	7.8	-7.5	6.6
2001	4.4	1.8	1.9	1.7	-13.3	-0.9	3.1	4.4	20.1	-121.7	-260.3	-243.9
2002	-158.2	-89.9	-46.2	-39.4	3.6	19.6	32.3	33.1	8.8	2.8	-8.1	11.1
2003	-1.5	-7.6	1.2	-5.9	-7.1	-5.5	-11.1	8.0	-0.6	-1.3	4.6	4.2
Average	-47.3	-27.6	-16.3	-8.2	-5.0	-1.1	-0.6	-3.9	-6.9	-26.0	-67.0	-62.3
Critical	-109.9	-61.9	-36.4	-22.9	-9.3	0.5	0.7	-24.4	-42.0	-106.1	-245.0	-229.3
Dry	-53.9	-30.5	-17.0	-11.6	-3.5	4.2	9.8	13.7	9.9	-28.4	-87.6	-87.9
BN	-4.4	-4.2	-3.3	-1.4	-9.7	-10.7	3.7	-1.0	-2.3	-1.9	-6.5	-1.5
AN	-58.9	-33.1	-19.7	-2.8	-4.3	-6.2	-9.1	-0.6	1.9	9.2	0.9	0.9
Wet	-11.9	-8.8	-5.5	-2.3	-3.0	-0.7	-2.7	-3.0	-0.4	-1.6	-2.4	1.0

Table 1-121.
Suisun Marsh location SLCBN002 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.4	-0.2	-0.4	-0.6	-0.1	-0.2	-0.3	-0.1	-0.1	-0.1	-0.1	0.0
1971	0.0	-0.1	0.0	-0.3	-0.2	-0.1	-0.1	-0.3	-0.1	0.0	0.0	0.0
1972	0.0	0.0	-0.1	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1974	0.0	0.1	-0.1	-0.1	0.1	0.3	0.0	-0.1	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.6	-0.7	-1.6	-1.7
1977	-1.4	-0.8	-0.5	-0.4	-0.2	-0.2	-0.1	-0.3	-0.5	-0.8	-1.5	-1.3
1978	-1.2	-0.7	-0.5	-0.4	-0.5	-0.6	-0.5	-0.6	-0.3	-0.1	-0.1	-0.1
1979	-0.1	-0.1	0.0	0.0	-0.6	-0.9	0.4	0.0	-0.1	0.0	-0.1	0.0
1980	0.0	0.0	0.0	0.3	-0.4	-0.2	0.0	0.0	-0.1	0.0	0.0	0.0
1981	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	-0.1	0.0	-0.1	-0.3	-0.2
1982	0.0	-0.5	-0.5	-0.2	-0.8	0.0	-0.4	-0.1	0.0	0.0	0.0	0.0
1983	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0
1984	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.1
1985	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
1986	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	-0.4	-1.5	-1.9
1988	-1.4	-0.8	-0.5	-0.5	-0.5	-0.2	0.0	0.0	0.1	-0.8	-1.8	-1.5
1989	-1.1	-0.7	-0.5	-0.3	-0.2	0.1	0.9	1.1	0.2	0.0	-0.3	-0.1
1990	-0.1	-0.1	-0.1	-0.1	0.4	0.9	0.5	-0.2	-0.5	-1.0	-1.8	-1.6
1991	-1.3	-0.7	-0.5	-0.3	-0.3	-0.3	-0.1	-0.5	-0.5	-0.8	-1.7	-1.3
1992	-1.2	-0.7	-0.4	-0.3	-0.1	-0.2	-0.3	-0.1	0.0	-0.9	-1.9	-1.5
1993	-1.2	-0.7	-0.5	-0.1	0.2	-0.4	-1.2	0.0	1.2	1.2	0.1	0.0
1994	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	0.0	-0.2	-0.3	-0.5	-1.2	-1.3
1995	-0.9	-0.5	-0.3	-0.1	-0.3	-0.6	-0.8	-1.3	0.0	0.1	-0.1	0.0
1996	-0.1	-0.1	0.0	-0.2	-0.1	-0.2	-0.3	-0.3	-0.1	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.4	-0.5	0.2	0.0	0.0	-0.1	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.2	-0.3	0.1	0.3	-0.2	0.1	-0.1	-0.2	0.0
1999	0.1	0.0	0.1	0.1	0.3	0.2	-0.3	-0.1	0.2	-0.1	-0.1	0.0
2000	0.0	0.0	0.0	0.1	-0.2	-0.3	-0.2	0.2	-0.1	0.1	-0.1	0.1
2001	0.1	0.0	0.0	0.0	-0.3	0.0	0.1	0.1	0.2	-1.2	-2.1	-1.7
2002	-1.2	-0.8	-0.6	-1.3	0.1	0.5	0.8	0.7	0.1	0.0	-0.1	0.1
2003	0.0	-0.1	0.0	-0.2	-0.3	-0.2	-0.4	0.4	0.0	0.0	0.1	0.0
Average	-0.4	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	-0.2	-0.5	-0.4
Critical	-0.8	-0.5	-0.3	-0.2	-0.1	0.0	0.0	-0.3	-0.3	-0.8	-1.7	-1.4
Dry	-0.4	-0.2	-0.2	-0.3	0.0	0.1	0.3	0.3	0.1	-0.3	-0.7	-0.6
BN	-0.1	-0.1	0.0	0.0	-0.3	-0.4	0.1	0.0	0.0	0.0	-0.1	0.0
AN	-0.4	-0.2	-0.2	-0.1	-0.2	-0.3	-0.4	0.0	0.1	0.2	0.0	0.0
Wet	-0.1	-0.1	-0.1	-0.1	-0.2	0.0	-0.2	-0.2	0.0	0.0	0.0	0.0

Table 1-122.
San Joaquin River location RSAN037 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.2	-10.2	-6.2	-0.6	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4	28.3	-17.7	-39.6
1977	-27.8	-11.9	-12.4	-12.1	-3.2	0.2	0.8	0.7	1.9	-10.1	-18.2	-26.5
1978	-21.1	-7.3	-5.3	0.8	0.9	0.5	0.1	0.2	0.2	0.1	0.2	0.1
1979	0.0	0.0	-0.1	0.3	0.4	0.1	0.2	0.2	0.1	0.0	0.0	0.0
1980	-0.2	0.5	3.7	0.4	-2.0	-0.1	0.0	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	-0.2	0.2	0.1	0.0	0.2	0.5	0.4	-3.2	20.1	3.6
1982	-17.3	-9.7	-0.3	0.3	-6.9	-1.8	0.2	-0.2	-0.2	-0.1	0.0	0.0
1983	-0.1	0.0	-0.2	0.0	0.4	0.2	0.1	-0.2	0.2	0.0	-0.1	0.0
1984	0.1	-0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1985	0.0	0.1	0.2	0.2	0.1	0.3	0.2	0.1	0.1	-0.2	-0.3	-0.5
1986	-0.2	-0.5	0.1	0.3	0.1	0.3	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.1	-0.1	-0.2	0.1	0.0	1.1	1.6	0.8	6.3	-3.0	-23.3
1988	-18.2	-9.7	-6.2	0.5	0.4	2.2	1.8	1.9	1.3	11.5	-1.6	-26.6
1989	-25.1	-13.9	-2.9	7.5	2.1	2.2	1.0	1.8	0.6	-0.7	9.9	-3.7
1990	-9.6	-7.8	-7.3	-4.0	0.7	1.5	1.3	0.8	1.5	25.0	-1.5	-27.2
1991	-25.1	-12.1	-11.0	-7.1	-0.5	0.9	0.9	1.0	3.0	17.0	-2.6	-20.8
1992	-18.9	-8.7	-8.5	-11.0	-1.2	0.8	0.5	1.4	0.8	10.6	-2.4	-25.1
1993	-18.8	-7.1	-0.8	3.0	1.5	1.0	0.6	0.8	-12.2	-2.1	0.7	0.3
1994	0.1	0.0	-0.1	1.3	1.8	0.8	0.6	0.4	1.0	-3.5	-4.5	7.8
1995	-4.3	-2.1	-2.9	1.4	0.7	0.3	0.2	0.1	0.2	-0.1	0.1	0.1
1996	0.0	-0.1	0.1	0.3	0.2	-0.1	0.1	0.1	0.1	0.2	0.3	0.2
1997	0.0	0.0	0.0	-0.3	-0.2	0.0	0.0	0.2	0.1	-0.1	-0.1	-0.7
1998	0.2	0.3	0.3	0.3	0.3	-0.1	0.0	0.3	0.2	-0.1	0.0	0.0
1999	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1
2000	0.0	0.0	-0.3	0.0	0.2	0.2	0.2	0.1	0.0	0.0	-0.1	0.0
2001	0.0	0.0	-0.6	-0.3	0.1	0.1	0.7	1.0	1.1	14.4	7.4	-13.6
2002	-14.3	-3.3	2.8	0.6	0.5	0.3	0.2	0.4	0.6	-0.3	-0.7	-1.8
2003	-1.0	-0.9	0.4	0.2	0.1	0.1	0.2	0.2	0.2	4.8	0.5	-3.1
Average	-5.9	-2.8	-1.5	-0.5	-0.1	0.0	0.2	0.4	0.1	2.9	-0.4	-5.9
Critical	-14.2	-7.2	-6.5	-4.6	-0.3	0.9	0.8	0.9	1.5	11.3	-6.9	-22.6
Dry	-6.6	-2.8	-0.1	1.3	0.5	0.5	0.6	0.9	0.6	2.7	5.5	-6.5
BN	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
AN	-6.9	-2.5	-0.4	0.7	0.1	-1.4	-0.8	0.1	-2.0	0.5	0.2	-0.5
Wet	-1.7	-0.9	-0.2	0.2	-0.4	-0.1	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-123.
San Joaquin River location RSAN037 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.1	-3.4	-2.1	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	5.7	-3.4	-8.1
1977	-4.9	-2.2	-1.9	-1.7	-0.7	0.1	0.3	0.2	0.5	-2.4	-3.5	-4.0
1978	-3.4	-1.4	-0.9	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.1	0.7	0.1	-0.6	-0.1	0.0	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.2	0.1	-0.9	4.4	0.7
1982	-3.1	-2.0	-0.2	0.1	-2.5	-0.6	0.1	-0.1	-0.1	0.0	0.0	0.0
1983	0.0	0.0	-0.1	0.0	0.1	0.1	0.1	-0.1	0.1	0.0	-0.1	0.0
1984	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1	-0.1
1986	0.0	-0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	-0.1	0.0	0.0	0.0	0.3	0.5	0.3	2.3	-0.9	-5.8
1988	-3.9	-2.1	-1.2	0.2	0.1	0.7	0.6	0.6	0.5	4.0	-0.4	-5.7
1989	-4.3	-2.5	-0.4	1.0	0.5	0.7	0.4	0.7	0.3	-0.2	1.9	-0.8
1990	-2.2	-1.6	-1.3	-0.8	0.2	0.6	0.5	0.3	0.5	5.6	-0.3	-5.2
1991	-4.2	-1.9	-1.6	-1.1	-0.1	0.2	0.3	0.4	1.0	3.5	-0.5	-4.1
1992	-3.3	-1.5	-1.3	-1.6	-0.3	0.2	0.2	0.5	0.3	3.5	-0.5	-4.9
1993	-3.8	-1.5	-0.1	0.7	0.4	0.3	0.2	0.3	-4.7	-1.0	0.3	0.1
1994	0.0	0.0	0.0	0.2	0.5	0.3	0.2	0.2	0.4	-0.7	-0.8	1.4
1995	-0.9	-0.5	-0.5	0.3	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.1
1996	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	-0.2
1998	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.2	-0.1	0.0	0.0	0.2	0.3	0.4	5.5	2.2	-3.5
2002	-3.1	-0.7	0.8	0.2	0.2	0.1	0.1	0.1	0.2	-0.1	-0.2	-0.3
2003	-0.2	-0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1	2.2	0.2	-1.0
Average	-1.1	-0.5	-0.2	-0.1	0.0	0.0	0.1	0.1	0.0	0.8	0.0	-1.2
Critical	-2.6	-1.3	-1.0	-0.7	0.0	0.3	0.3	0.3	0.5	2.8	-1.3	-4.4
Dry	-1.2	-0.5	0.0	0.2	0.1	0.2	0.2	0.3	0.2	1.1	1.2	-1.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-1.2	-0.5	-0.1	0.2	0.0	-0.5	-0.3	0.1	-0.8	0.2	0.1	-0.1
Wet	-0.3	-0.2	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-124.
RSAN072 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.3	-0.3	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.3	0.0	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.2	0.2	0.2	0.3	-0.3	0.3	0.3	-0.2	-0.4
1973	0.3	0.1	0.2	-0.2	0.1	-20.9	-1.5	0.3	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.2	-0.2	0.1	0.3	0.3	0.3	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.1	0.2	0.3	0.0	-0.2	0.0	-3.2	0.0	0.1
1977	-0.2	0.1	-0.1	0.2	0.2	0.4	0.0	0.4	0.0	0.0	-0.1	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.2	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	1.6	0.5	0.0	-0.2	0.3	-0.2
1982	0.3	-0.3	0.3	0.0	-13.9	-1.1	0.4	-0.4	-0.3	-0.3	0.4	-0.3
1983	-0.4	0.0	-0.3	0.1	0.5	0.3	0.1	-0.3	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.3	0.3	0.3	-0.1
1985	0.0	-0.2	-0.2	0.3	0.2	-0.2	0.4	0.0	-0.4	-0.4	-0.4	0.3
1986	0.5	0.0	0.4	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.3	-0.2	0.2	-0.4
1988	-0.4	0.3	0.0	0.0	0.4	0.1	0.4	-0.2	0.1	0.8	0.3	0.3
1989	0.1	0.3	0.1	-0.4	-0.4	0.3	-0.4	0.3	0.0	0.5	-0.6	-0.2
1990	-0.2	-0.2	0.0	0.2	0.3	-0.2	-0.4	0.0	-0.3	-12.6	-2.8	0.1
1991	-0.1	0.3	-0.3	0.1	-0.3	0.0	-0.3	0.1	0.1	-15.4	-3.1	0.1
1992	-0.2	0.4	0.1	0.1	-0.1	0.1	-8.7	-1.6	0.2	-58.0	-20.7	0.1
1993	0.1	-0.2	0.3	0.2	0.1	0.1	0.5	0.4	17.7	1.7	0.4	-0.1
1994	0.0	0.0	-0.3	-0.4	0.0	0.2	0.3	-0.4	-0.4	-0.3	-0.5	-0.3
1995	0.1	0.2	0.3	-0.1	-0.4	0.3	0.2	0.1	0.3	-0.2	0.3	-0.4
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.3	0.4	-0.1	0.1	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.4	0.0	0.1	-0.4	0.3
1998	0.2	-0.3	0.1	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	0.0	0.4	0.3	0.5	-0.3	0.0	-0.1
2000	0.2	-0.3	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.2	0.0	0.3	2.9	-0.2	-0.4	-0.7	-0.1	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	0.0	-0.4	0.0	0.2	0.0
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-1.4	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.3	-0.6	-0.1	0.0	0.6	-2.6	-0.8	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	-1.2	-0.3	0.0	-12.7	-3.8	0.1
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.7	0.1	-0.1	-0.2	-0.1	-0.1
BN	0.2	0.0	0.1	-0.1	0.3	0.1	0.3	-0.1	0.3	0.3	-0.1	-0.1
AN	0.1	-0.1	0.0	0.0	0.2	-3.4	0.0	0.1	3.0	0.0	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.0	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-125.
RSAN072 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	-0.1
1973	0.1	0.0	0.0	0.0	0.0	-5.9	-0.4	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.4	0.1	0.0	0.0	0.0	0.0
1982	0.1	-0.1	0.0	0.0	-4.7	-0.4	0.2	-0.2	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
1989	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-1.9	-0.4	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-0.4	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	-1.1	-0.2	0.0	-8.4	-2.7	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.6	0.2	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.2	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	-0.1	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	-0.2	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	-0.4	-0.1	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-1.8	-0.5	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.4	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-126.
San Joaquin River location RSAN112 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.3	0.4	-0.4	-0.1
1971	-0.2	-0.2	0.0	0.0	0.3	-0.4	0.1	-0.1	0.2	-0.3	-0.2	-0.2
1972	0.2	-0.4	0.3	-0.3	0.2	0.2	0.3	-0.4	0.4	0.3	-0.3	-0.4
1973	0.4	0.0	0.2	-0.3	0.2	-21.8	-0.9	0.4	0.1	-0.4	-0.2	-0.4
1974	-0.5	0.4	0.1	-0.2	0.0	0.3	-0.3	0.1	0.3	0.3	0.4	0.4
1975	-0.2	0.2	-0.2	0.4	-0.1	0.2	0.1	-0.4	0.0	0.3	-0.1	0.0
1976	-0.1	-0.3	0.2	0.0	0.2	0.3	0.0	-0.2	0.0	-0.2	-0.1	0.1
1977	-0.2	0.1	-0.2	0.3	0.1	0.3	0.2	0.4	-0.1	0.0	-0.4	0.0
1978	-0.4	0.3	0.1	-0.4	0.0	0.1	0.0	0.3	0.3	0.2	0.3	0.4
1979	0.2	0.4	0.0	-0.1	0.4	-0.1	0.4	0.2	0.3	0.3	0.0	0.2
1980	0.2	-0.3	-0.2	0.1	0.2	-0.4	0.3	0.2	0.1	-0.3	-0.3	-0.1
1981	0.4	0.0	-0.1	-0.2	-0.1	-0.4	1.6	0.5	0.0	-0.2	0.0	-0.2
1982	0.4	-0.4	0.4	0.0	-14.5	-0.9	0.4	-0.4	-0.3	-0.3	0.4	-0.4
1983	-0.4	0.1	-0.3	0.1	0.5	0.2	0.1	-0.4	0.3	-0.1	-0.5	0.0
1984	0.4	-0.3	0.2	0.0	0.1	0.1	0.2	-0.2	0.4	0.3	0.3	-0.2
1985	0.0	-0.2	-0.2	0.4	0.2	-0.2	0.4	0.0	-0.5	-0.4	-0.4	0.4
1986	0.5	0.0	0.5	0.5	0.1	0.4	0.1	0.0	0.4	0.0	0.0	-0.3
1987	0.3	0.3	0.1	0.1	0.0	-0.1	-0.2	-0.1	0.4	0.1	-0.2	-0.4
1988	-0.4	0.3	-0.1	0.0	0.4	0.1	0.4	-0.3	0.1	-0.5	0.4	0.3
1989	0.1	0.3	0.0	-0.4	-0.4	0.3	-0.4	0.3	0.1	0.3	-0.3	-0.2
1990	-0.2	-0.2	0.0	0.3	0.3	-0.2	-0.4	0.1	-0.4	0.2	0.4	0.1
1991	-0.2	0.3	-0.4	0.2	-0.3	0.0	-0.3	0.1	0.1	-0.4	-0.5	0.2
1992	-0.2	0.5	-0.1	0.4	-0.2	0.1	-10.1	-0.1	0.2	0.5	0.3	0.1
1993	0.1	-0.2	0.4	0.2	0.1	0.1	0.5	0.4	19.8	0.7	0.4	-0.1
1994	0.0	0.0	-0.4	-0.4	0.1	0.2	0.3	-0.5	-0.5	0.3	0.3	-0.4
1995	0.1	0.2	0.3	-0.1	-0.5	0.3	0.1	0.1	0.3	-0.2	0.3	-0.5
1996	-0.4	-0.2	-0.2	-0.3	0.2	-0.4	0.4	-0.1	0.2	-0.1	-0.1	0.2
1997	-0.4	-0.1	-0.2	-0.4	-0.2	0.1	-0.1	0.5	-0.1	0.1	-0.5	0.4
1998	0.2	-0.3	0.2	0.4	0.3	-0.3	0.0	0.4	0.1	-0.2	-0.4	0.2
1999	-0.4	0.0	-0.3	-0.4	0.1	-0.1	0.5	0.3	0.5	-0.3	0.1	-0.1
2000	0.2	-0.4	-0.3	-0.2	0.3	0.3	0.4	-0.4	0.2	-0.1	-0.1	0.1
2001	-0.1	-0.2	-0.3	0.3	0.0	0.3	3.0	-0.3	-0.4	-0.5	-0.3	-0.3
2002	0.2	0.1	0.4	-0.1	-0.1	0.2	0.1	-0.1	-0.4	-0.1	0.3	-0.1
2003	0.1	0.0	0.0	0.3	0.5	0.5	0.3	-0.1	-0.2	-0.1	0.2	0.2
Average	0.0	0.0	0.0	0.0	-0.4	-0.6	-0.1	0.0	0.7	0.0	0.0	0.0
Critical	-0.2	0.1	-0.1	0.1	0.1	0.1	-1.4	-0.1	-0.1	0.0	0.1	0.0
Dry	0.1	0.0	0.0	0.0	-0.1	0.0	0.8	0.0	-0.1	-0.1	-0.1	-0.1
BN	0.2	0.0	0.2	-0.2	0.3	0.1	0.4	-0.1	0.3	0.3	-0.2	-0.1
AN	0.1	-0.1	0.0	-0.1	0.2	-3.5	0.1	0.1	3.4	0.0	0.0	0.0
Wet	-0.1	0.0	0.0	0.0	-1.1	0.0	0.1	0.0	0.2	0.0	-0.1	0.0

Table 1-127.
San Joaquin River location RSAN112 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.0
1971	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	-0.1	0.0	0.0
1972	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	-0.1	-0.1
1973	0.1	0.0	0.0	0.0	0.0	-6.4	-0.3	0.1	0.0	-0.1	0.0	-0.1
1974	-0.1	0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1
1975	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0
1976	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0
1978	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
1979	0.0	0.1	0.0	0.0	0.1	-0.1	0.1	0.1	0.1	0.0	0.0	0.0
1980	0.0	-0.1	0.0	0.0	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	0.0
1981	0.1	0.0	0.0	0.0	0.0	-0.1	0.4	0.1	0.0	0.0	0.0	0.0
1982	0.1	-0.1	0.0	0.0	-5.0	-0.3	0.2	-0.3	-0.1	-0.1	0.1	-0.1
1983	-0.2	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.2	-0.1	-0.3	0.0
1984	0.1	-0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.1
1986	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	-0.1
1987	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1988	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.1	0.0
1989	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	0.1	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0
1992	0.0	0.1	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.1	0.0	0.0
1993	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	2.9	0.1	0.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1
1995	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	-0.1	0.1	-0.1
1996	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
1997	-0.1	0.0	-0.1	-0.2	-0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1
1998	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0	0.3	0.1	-0.1	-0.2	0.1
1999	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0
2000	0.0	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.8	-0.1	-0.1	-0.1	0.0	-0.1
2002	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.1	0.0	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.4	0.0	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-128.
Mokelumne River location RSMKL008 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	-0.6	-1.9	-1.2
1977	0.1	0.2	0.1	0.1	0.3	0.4	0.3	0.4	0.1	-2.2	-0.5	-0.7
1978	0.1	0.2	0.1	0.6	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.9	0.0
1982	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.1	-0.9	-2.5	-0.8
1988	0.2	0.2	0.2	0.6	0.1	0.7	0.3	0.5	0.1	-1.5	-1.4	-1.1
1989	0.3	0.2	0.2	0.4	0.6	0.3	0.4	0.2	0.1	0.0	-0.4	0.0
1990	0.1	0.1	0.2	0.1	0.6	0.3	0.0	0.2	0.1	-1.2	-0.7	-0.9
1991	0.1	0.5	0.4	1.1	0.6	0.7	0.3	0.4	0.2	-0.7	-0.5	-0.7
1992	0.2	0.3	0.6	0.4	1.0	0.4	0.3	0.5	0.2	-1.2	-1.0	-0.5
1993	-0.1	0.4	0.3	1.0	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.2	0.4	0.2	0.1	0.2	0.1	0.0	-0.7	-0.2
1995	0.1	0.2	0.1	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.3	0.1	-1.5	-0.9	-0.7
2002	0.1	0.2	0.1	0.3	0.4	0.1	0.2	0.2	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	-0.2	0.0	0.0
Average	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	-0.3	-0.3	-0.2
Critical	0.1	0.2	0.2	0.3	0.4	0.4	0.2	0.3	0.2	-1.1	-1.0	-0.7
Dry	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	-0.4	-0.8	-0.3
BN	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.1	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-129.
Mokelumne River location RSMKL008 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	-1.0	-0.6
1977	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.1	-1.1	-0.3	-0.3
1978	0.0	0.1	0.0	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0
1982	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	-0.5	-1.3	-0.4
1988	0.1	0.1	0.1	0.2	0.0	0.3	0.2	0.3	0.1	-0.8	-0.8	-0.6
1989	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.0	0.0	-0.2	0.0
1990	0.0	0.1	0.1	0.1	0.3	0.1	0.0	0.1	0.1	-0.6	-0.4	-0.5
1991	0.1	0.2	0.2	0.4	0.2	0.3	0.1	0.2	0.1	-0.4	-0.3	-0.4
1992	0.1	0.2	0.3	0.2	0.4	0.2	0.1	0.3	0.1	-0.6	-0.5	-0.3
1993	0.0	0.2	0.1	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	-0.4	-0.1
1995	0.1	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.8	-0.5	-0.4
2002	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	-0.2	-0.2	-0.1
Critical	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	-0.6	-0.5	-0.4
Dry	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	-0.2	-0.4	-0.1
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-130.
Barker Slough location SLBAR002 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.5
1977	-1.3	-0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	-1.3	-0.8
1978	-1.2	-0.8	-0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-1.6
1988	-1.0	-0.4	0.0	0.1	0.2	0.1	0.1	0.1	0.1	-0.1	-0.9	-1.2
1989	-1.3	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1
1990	0.0	0.0	0.1	0.1	0.1	0.4	0.2	0.0	0.0	0.0	-0.5	-0.6
1991	-0.7	0.0	0.4	0.3	0.2	0.2	0.3	0.2	0.1	0.1	-0.3	-0.5
1992	-0.6	0.1	0.4	0.4	0.2	0.4	0.2	0.2	0.1	0.0	-0.7	-0.8
1993	-0.5	-0.3	0.2	0.2	0.2	0.4	0.2	0.1	0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	-0.2	-0.4
1995	-0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.5	-0.6
2002	-0.5	-0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Average	-0.2	-0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	-0.2	-0.2
Critical	-0.5	-0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	-0.6	-0.8
Dry	-0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.2	-0.4
BN	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.3	-0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-131.
Barker Slough location SLBAR002 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.8
1977	-0.7	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.4
1978	-0.6	-0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.8
1988	-0.5	-0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	-0.4	-0.6
1989	-0.6	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1
1990	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.0	-0.2	-0.3
1991	-0.4	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	-0.2	-0.3
1992	-0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	-0.3	-0.4
1993	-0.3	-0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	-0.2
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3
2002	-0.3	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Critical	-0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-0.3	-0.4
Dry	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-132.
Suisun Marsh location SLCBN002 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	1.5	1.0	-1.1	-0.4	-0.2	-0.1	-0.1
1974	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
1975	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	4.5	-55.3	-258.6	-335.2
1977	-266.5	-144.6	-82.1	-46.1	-21.7	-22.7	-15.7	-5.2	9.6	-72.0	-208.6	-207.5
1978	-173.6	-96.6	-31.4	1.2	-5.3	-9.6	-8.3	-6.5	2.9	10.2	0.5	-3.4
1979	-4.6	-4.7	-5.5	2.4	6.4	4.6	6.8	10.1	7.5	1.1	-0.6	-1.3
1980	-1.0	7.0	24.5	8.5	2.5	0.3	1.4	5.2	4.5	1.3	0.4	0.0
1981	-0.2	-0.1	1.1	5.6	4.0	3.5	7.2	9.9	12.4	-25.2	-142.9	-210.5
1982	-135.9	-53.4	-21.3	-14.7	-5.4	-5.0	-4.9	-4.5	0.1	1.0	-2.0	-2.3
1983	-6.2	6.1	-0.3	-1.6	-1.3	-1.4	-2.3	-1.3	-1.2	-0.5	2.6	6.2
1984	3.9	2.2	-0.1	-0.4	0.0	0.1	1.5	5.5	6.2	2.4	0.9	0.3
1985	-0.2	7.9	13.6	9.4	7.2	6.6	4.9	7.0	6.8	2.5	2.4	1.6
1986	1.5	1.1	3.4	9.3	1.7	1.3	1.5	2.6	2.4	1.1	0.7	0.5
1987	0.5	0.4	0.5	2.6	6.4	4.4	3.0	1.4	7.0	-86.6	-308.3	-403.9
1988	-281.4	-150.7	-43.5	16.0	12.7	-5.2	14.5	25.7	16.8	-137.9	-350.0	-313.2
1989	-234.2	-128.6	-30.6	24.8	0.0	31.0	46.1	71.1	22.0	-5.6	-111.7	-156.4
1990	-94.1	-44.2	-22.5	3.6	57.5	120.8	98.5	53.6	52.3	-95.5	-289.0	-287.7
1991	-235.1	-121.0	-72.9	-42.0	-2.8	48.3	39.0	69.7	76.6	-45.2	-202.8	-213.1
1992	-172.8	-95.3	-50.3	-27.8	29.0	25.5	51.2	59.2	34.2	-117.7	-324.8	-309.6
1993	-226.4	-123.5	-12.8	29.9	-1.5	12.1	6.9	16.8	63.5	87.7	41.6	10.9
1994	0.4	-1.5	-2.1	16.6	38.4	54.6	67.3	62.5	63.9	11.0	-136.7	-215.8
1995	-166.5	-73.2	-18.1	20.0	2.6	-1.9	-2.4	-4.5	-0.3	8.2	29.2	34.5
1996	7.5	2.3	23.9	18.1	5.4	2.5	0.9	1.4	9.2	21.4	9.9	5.7
1997	-0.4	-5.4	4.7	-4.6	-5.3	8.7	12.4	17.5	17.2	8.8	4.1	3.6
1998	-0.1	0.6	7.5	12.8	2.0	2.8	1.7	1.2	1.0	2.3	9.1	17.5
1999	5.9	14.3	13.2	4.6	2.3	1.5	2.4	5.5	15.9	8.2	7.1	-1.3
2000	2.4	1.4	0.8	17.4	9.5	3.4	4.1	7.9	7.6	4.8	1.7	1.2
2001	1.1	1.0	1.0	5.6	2.3	4.5	7.3	27.0	43.1	-138.0	-344.7	-312.9
2002	-236.8	-80.6	12.5	-1.7	22.9	64.8	72.9	77.2	44.4	18.7	7.3	4.0
2003	1.6	-1.3	23.3	6.0	3.3	9.9	12.3	5.9	24.9	28.6	-31.4	-50.0
Average	-65.0	-31.8	-7.8	2.2	5.1	10.8	12.7	15.3	16.3	-16.5	-76.3	-86.4
Critical	-149.9	-79.6	-39.1	-11.4	16.2	31.6	36.5	37.9	36.9	-73.3	-252.9	-268.9
Dry	-78.3	-33.3	-0.3	7.7	7.1	19.2	23.6	32.3	22.6	-39.0	-149.7	-179.7
BN	-2.3	-2.3	-2.7	1.2	3.2	2.3	3.4	5.0	3.8	0.5	-0.3	-0.7
AN	-66.2	-35.5	0.7	10.5	1.4	2.9	2.9	4.7	17.2	22.1	2.1	-6.9
Wet	-22.3	-8.1	1.0	3.3	0.1	0.7	0.8	1.8	3.9	4.1	4.7	5.0

Table 1-133.
Suisun Marsh location SLCBN002 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.8	-2.2
1977	-1.9	-1.1	-0.6	-0.4	-0.3	-0.2	-0.1	0.0	0.1	-0.5	-1.3	-1.2
1978	-1.2	-0.7	-0.3	0.0	-0.2	-0.4	-0.4	-0.3	0.1	0.2	0.0	0.0
1979	-0.1	-0.1	-0.1	0.0	0.2	0.2	0.2	0.3	0.2	0.0	0.0	0.0
1980	0.0	0.1	0.3	0.2	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	-0.2	-1.2	-1.5
1982	-1.0	-0.7	-0.7	-0.7	-0.3	-0.4	-0.4	-0.4	0.0	0.0	0.0	0.0
1983	-0.1	0.2	0.0	-0.2	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	0.1	0.2
1984	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0
1985	0.0	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	-0.8	-2.4	-2.8
1988	-2.1	-1.2	-0.4	0.3	0.3	-0.1	0.2	0.3	0.2	-1.1	-2.5	-2.0
1989	-1.6	-1.0	-0.2	0.2	0.0	0.6	1.5	1.5	0.3	-0.1	-0.9	-1.2
1990	-0.8	-0.4	-0.2	0.0	0.8	1.6	1.2	0.6	0.5	-0.7	-1.9	-1.8
1991	-1.6	-0.9	-0.5	-0.3	0.0	0.7	0.7	0.8	0.7	-0.3	-1.3	-1.3
1992	-1.2	-0.7	-0.4	-0.2	0.4	0.6	0.8	0.7	0.3	-0.9	-2.2	-2.0
1993	-1.6	-0.9	-0.1	0.6	-0.1	0.4	0.3	0.9	2.6	1.9	0.5	0.1
1994	0.0	0.0	0.0	0.2	0.6	1.0	0.9	0.8	0.6	0.1	-1.0	-1.4
1995	-1.3	-0.6	-0.2	0.5	0.1	-0.1	-0.1	-0.3	0.0	0.4	0.7	0.6
1996	0.1	0.0	0.5	0.7	0.5	0.2	0.1	0.1	0.4	0.4	0.1	0.1
1997	0.0	-0.1	0.2	-0.4	-0.4	0.6	0.5	0.5	0.3	0.1	0.0	0.0
1998	0.0	0.0	0.1	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.4
1999	0.1	0.4	0.5	0.4	0.3	0.2	0.3	0.3	0.5	0.1	0.1	0.0
2000	0.0	0.0	0.0	0.3	0.5	0.2	0.3	0.3	0.2	0.1	0.0	0.0
2001	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.5	0.5	-1.3	-2.8	-2.2
2002	-1.9	-0.7	0.2	-0.1	0.8	1.7	1.9	1.7	0.6	0.2	0.1	0.0
2003	0.0	0.0	0.3	0.2	0.1	0.3	0.5	0.3	0.7	0.4	-0.3	-0.5
Average	-0.5	-0.2	0.0	0.1	0.1	0.2	0.3	0.3	0.3	-0.1	-0.5	-0.6
Critical	-1.1	-0.6	-0.3	-0.1	0.3	0.5	0.5	0.4	0.3	-0.6	-1.7	-1.7
Dry	-0.6	-0.2	0.0	0.1	0.2	0.5	0.7	0.7	0.3	-0.4	-1.2	-1.3
BN	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0
AN	-0.5	-0.3	0.0	0.2	0.1	0.1	0.1	0.2	0.6	0.4	0.0	-0.1
Wet	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1

Table 1-134.
Upper Cache Slough location SLCCH016 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	188.1	188.5	244.3	763.2	711.4	419.3	242.3	202.5	194.1	191.5	188.9	188.5
1971	188.4	190.9	428.5	390.7	289.1	234.3	204.4	193.7	188.8	188.9	188.6	188.3
1972	188.3	189.7	189.9	195.9	205.9	205.1	199.9	194.8	192.0	190.7	188.4	188.0
1973	187.7	204.2	214.5	759.9	806.3	623.4	309.0	210.0	194.7	191.5	189.2	189.2
1974	189.0	190.8	326.2	472.8	397.9	290.2	249.1	205.2	192.7	190.1	189.1	189.0
1975	188.5	189.1	189.7	195.5	410.2	376.5	273.7	207.4	191.5	189.8	188.9	188.9
1976	187.5	187.1	188.5	193.6	202.8	204.6	202.0	197.1	197.1	194.5	189.0	190.3
1977	194.3	197.5	196.1	198.6	207.9	210.2	204.1	197.2	194.7	195.4	193.5	191.4
1978	195.9	198.8	224.7	754.5	762.7	718.2	499.2	246.7	198.3	192.0	189.8	189.4
1979	189.9	191.3	190.2	563.3	762.9	573.3	297.3	212.7	194.6	191.6	189.3	189.6
1980	190.3	189.9	222.9	577.6	782.5	635.5	314.1	214.0	195.9	191.8	189.8	189.4
1981	190.0	191.9	191.2	222.0	227.3	217.1	207.5	198.4	193.7	191.9	189.5	189.3
1982	189.5	190.3	278.0	745.6	675.3	700.4	572.8	288.1	201.5	191.9	190.7	189.7
1983	188.2	190.5	200.7	685.0	807.8	790.2	661.3	310.4	201.8	189.5	188.9	188.7
1984	188.8	189.6	324.6	305.3	253.5	225.4	206.0	197.2	192.8	191.1	188.9	188.9
1985	188.2	191.5	202.7	211.3	218.1	217.1	216.8	200.3	193.2	191.7	189.2	189.1
1986	189.5	191.9	193.4	299.3	783.9	767.2	455.2	230.1	198.1	192.8	189.9	189.6
1987	189.6	191.5	190.6	195.6	209.1	214.6	209.0	198.2	192.6	190.6	190.0	192.1
1988	193.3	194.5	195.0	383.6	351.5	258.6	218.5	200.6	193.4	192.0	191.5	193.9
1989	197.0	200.3	197.3	198.9	206.7	208.1	203.3	195.6	191.4	190.0	188.2	187.3
1990	187.2	189.6	192.7	198.9	210.8	223.4	212.6	199.3	193.9	194.6	190.6	191.9
1991	195.2	199.7	202.4	204.7	212.3	213.7	218.7	205.3	192.3	189.6	189.8	191.9
1992	195.0	197.4	198.7	202.9	270.2	272.3	251.3	210.5	195.5	191.3	190.7	192.1
1993	193.3	195.0	270.4	786.5	812.0	561.7	262.9	203.7	190.9	188.8	189.1	189.4
1994	189.7	190.3	190.2	219.9	372.1	306.3	220.0	197.6	192.8	193.2	189.5	190.3
1995	191.6	193.9	197.5	784.5	701.3	732.7	550.8	251.6	198.1	189.6	189.4	189.2
1996	189.8	191.1	245.8	397.9	682.9	520.0	261.8	204.9	192.6	191.4	189.8	189.1
1997	188.1	189.4	298.4	769.9	699.9	368.8	227.0	201.2	193.8	191.9	189.0	188.7
1998	188.5	190.0	190.7	503.3	811.0	676.9	326.1	220.0	195.3	188.5	189.0	188.6
1999	188.6	189.4	189.4	231.2	408.3	342.1	236.4	199.0	191.2	190.0	188.7	188.3
2000	188.7	190.6	190.1	196.4	370.2	336.8	238.0	204.6	194.6	192.1	189.3	189.1
2001	188.4	189.3	190.9	195.5	301.0	283.2	225.3	201.7	194.8	191.9	190.4	191.9
2002	193.7	195.0	330.4	332.3	289.2	246.0	213.8	205.0	201.9	193.0	189.6	190.1
2003	191.7	193.8	367.1	376.0	304.6	249.0	220.0	200.9	190.7	190.8	188.6	188.5
Average	190.3	192.5	230.7	403.3	462.3	394.8	282.6	211.9	194.4	191.4	189.6	189.7
Critical	191.7	193.7	194.8	228.9	261.1	241.3	218.2	201.1	194.2	192.9	190.7	191.7
Dry	191.2	193.2	217.2	225.9	241.9	231.0	212.6	199.9	194.6	191.5	189.5	190.0
BN	189.1	190.5	190.1	379.6	484.4	389.2	248.6	203.8	193.3	191.2	188.8	188.8
AN	191.2	195.4	248.3	575.1	639.7	520.8	307.2	213.3	194.2	191.2	189.3	189.2
Wet	189.0	190.4	254.4	503.4	587.1	495.7	343.6	223.9	194.8	190.5	189.2	188.9

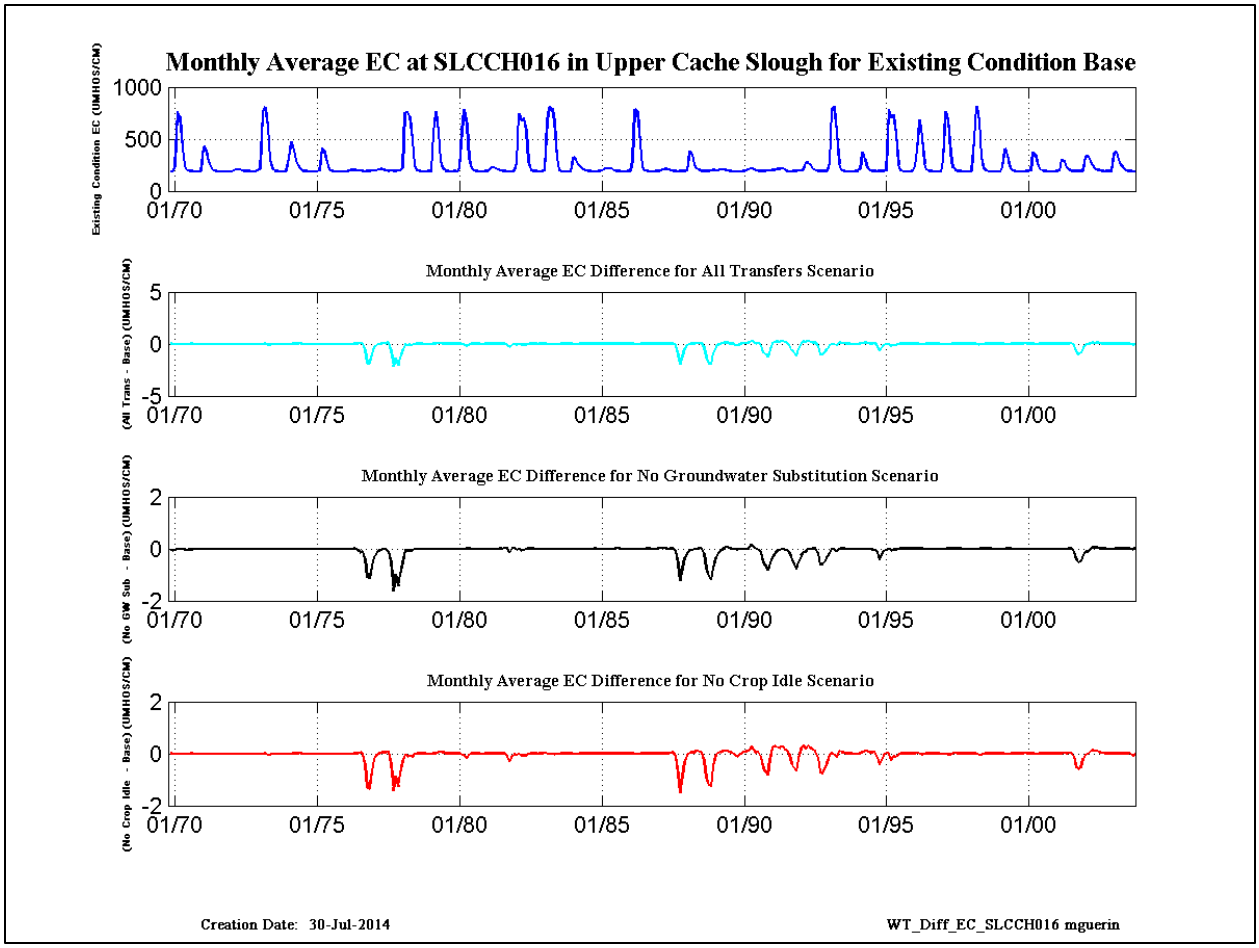


Figure 1-19.
Cache Slough location SLCCH016 EC for the Base condition and change from Base for the scenarios.

Table 1-135.
Montezuma Slough location SLMZU011 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	2620.5	2489.3	849.7	192.4	200.7	254.1	1205.4	3358.9	5314.3	6641.3	7975.5	7087.5
1971	2564.7	2273.7	755.8	268.2	473.2	539.7	595.0	714.8	1373.3	3939.2	8056.0	7221.5
1972	2477.3	2362.0	2682.4	2851.0	1759.8	1197.5	1852.1	4196.4	6780.4	8260.3	9521.5	12164.0
1973	8639.2	4659.2	1924.0	459.0	227.8	234.5	682.2	1455.4	2939.2	5948.6	8831.1	9512.2
1974	4048.4	1611.1	266.2	189.6	247.5	197.3	197.5	477.3	1648.7	4141.7	8073.2	6936.9
1975	2610.6	2239.7	2683.9	3555.8	1431.4	241.6	395.3	587.1	831.3	3019.6	7955.0	7041.7
1976	2367.7	2290.7	2606.4	4299.8	3551.7	5340.8	6252.7	8537.8	11890.2	13237.7	13857.8	15356.8
1977	10863.7	9951.1	9330.3	5365.7	3224.1	7286.5	9259.0	10783.5	13336.1	14958.6	15780.2	16567.5
1978	10564.9	9757.1	5732.4	984.4	307.4	252.4	290.4	550.0	1815.8	4793.5	8794.0	9712.1
1979	4012.1	3365.1	3783.1	2816.5	954.1	652.0	1177.0	1653.3	3281.9	7115.3	10244.5	13053.9
1980	8471.9	6163.9	3523.5	686.5	212.6	241.1	610.3	1418.6	2631.7	4963.8	8738.6	9607.4
1981	3866.0	3222.1	3765.1	2555.6	1369.3	1368.1	2202.0	4201.2	6826.6	9468.6	11784.8	13888.1
1982	9495.1	3135.4	417.0	230.2	207.2	209.5	190.0	222.5	668.5	3114.0	7804.3	7219.5
1983	2309.3	969.1	249.0	219.2	204.4	194.0	198.1	192.1	194.7	312.5	1232.3	1842.7
1984	1610.5	626.1	187.9	206.1	248.1	310.2	866.9	2353.5	4759.0	6503.1	7974.1	7337.1
1985	2595.1	2219.7	1783.3	2227.5	1926.2	3385.5	3912.8	4244.2	6683.6	9434.7	11806.3	13778.4
1986	8306.1	8117.1	4768.3	1816.1	257.0	200.0	412.8	1149.1	2915.5	5934.6	9013.9	7683.4
1987	2595.2	2489.8	3507.4	3947.5	2179.3	1519.8	2709.2	6274.7	8331.4	10174.3	12531.6	14283.7
1988	9715.9	9067.0	4666.6	1484.0	1340.6	4620.6	7699.1	7988.1	9122.5	10925.3	13509.2	15165.7
1989	11041.8	9205.3	7799.7	5421.5	4021.1	1746.4	873.8	2622.7	6081.1	9735.4	11715.5	12045.2
1990	7594.2	8175.6	8533.8	3817.7	1885.0	4613.4	6586.0	7692.9	10270.6	13106.5	14459.2	15222.0
1991	10753.4	10599.3	10047.0	7330.2	4576.4	2804.0	2100.0	6154.9	10433.0	13285.0	14507.5	15441.0
1992	10876.1	10230.3	10040.2	7371.0	2362.3	1535.1	3427.3	6853.8	9385.5	11107.6	14052.9	15444.4
1993	9739.2	9098.3	6915.8	1432.6	337.8	413.4	374.2	459.5	872.2	3006.8	7863.3	8947.9
1994	3783.3	3325.5	3793.7	4157.5	2172.0	3206.8	5613.8	6174.5	8841.2	12227.8	13638.4	14811.2
1995	8321.5	7568.4	6351.5	848.5	323.5	195.4	232.2	198.8	260.8	718.1	3017.3	4849.1
1996	2157.6	1944.6	1858.6	787.3	209.8	206.6	237.1	240.0	1317.6	5112.3	8846.6	7167.0
1997	2637.0	2249.3	511.5	195.8	209.6	559.7	1334.0	2311.5	4576.0	6550.7	7868.5	7181.7
1998	2908.6	2519.8	2236.7	1197.0	213.0	215.1	209.2	205.3	192.5	390.2	1867.3	2979.4
1999	1948.2	1788.2	933.9	411.5	211.5	197.9	335.2	891.9	2528.0	5225.7	8601.8	7149.8
2000	2388.6	2217.1	2884.0	2367.7	401.4	220.7	527.6	1350.1	3980.1	6805.0	8216.0	9205.6
2001	3981.3	3314.7	3704.7	3415.6	1465.9	1020.9	1921.4	4579.0	7135.6	9561.1	12046.2	14069.3
2002	9409.9	7976.9	2638.1	505.2	843.2	2024.7	2263.7	3016.9	6045.5	10184.6	12019.8	13958.0
2003	9044.5	8603.6	2576.3	389.3	507.5	1229.8	1157.6	457.3	2089.0	5655.8	7891.0	8985.0
Average	5774.1	4877.2	3656.1	2176.6	1178.3	1424.6	1997.1	3046.1	4863.3	7222.3	9708.7	10379.9
Critical	7993.5	7662.8	7002.6	4832.3	2730.3	4201.0	5848.3	7740.8	10468.4	12692.6	14257.9	15429.8
Dry	5581.6	4738.1	3866.4	3012.2	1967.5	1844.3	2313.8	4156.4	6850.6	9759.8	11984.0	13670.4
BN	3244.7	2863.5	3232.8	2833.7	1357.0	924.7	1514.6	2924.8	5031.1	7687.8	9883.0	12609.0
AN	8141.4	6749.9	3926.0	1053.2	332.4	432.0	607.0	948.5	2388.0	5195.6	8389.0	9328.3
Wet	3964.5	2887.1	1697.7	778.3	341.3	270.9	493.0	992.5	2044.6	3969.5	6791.2	6284.4

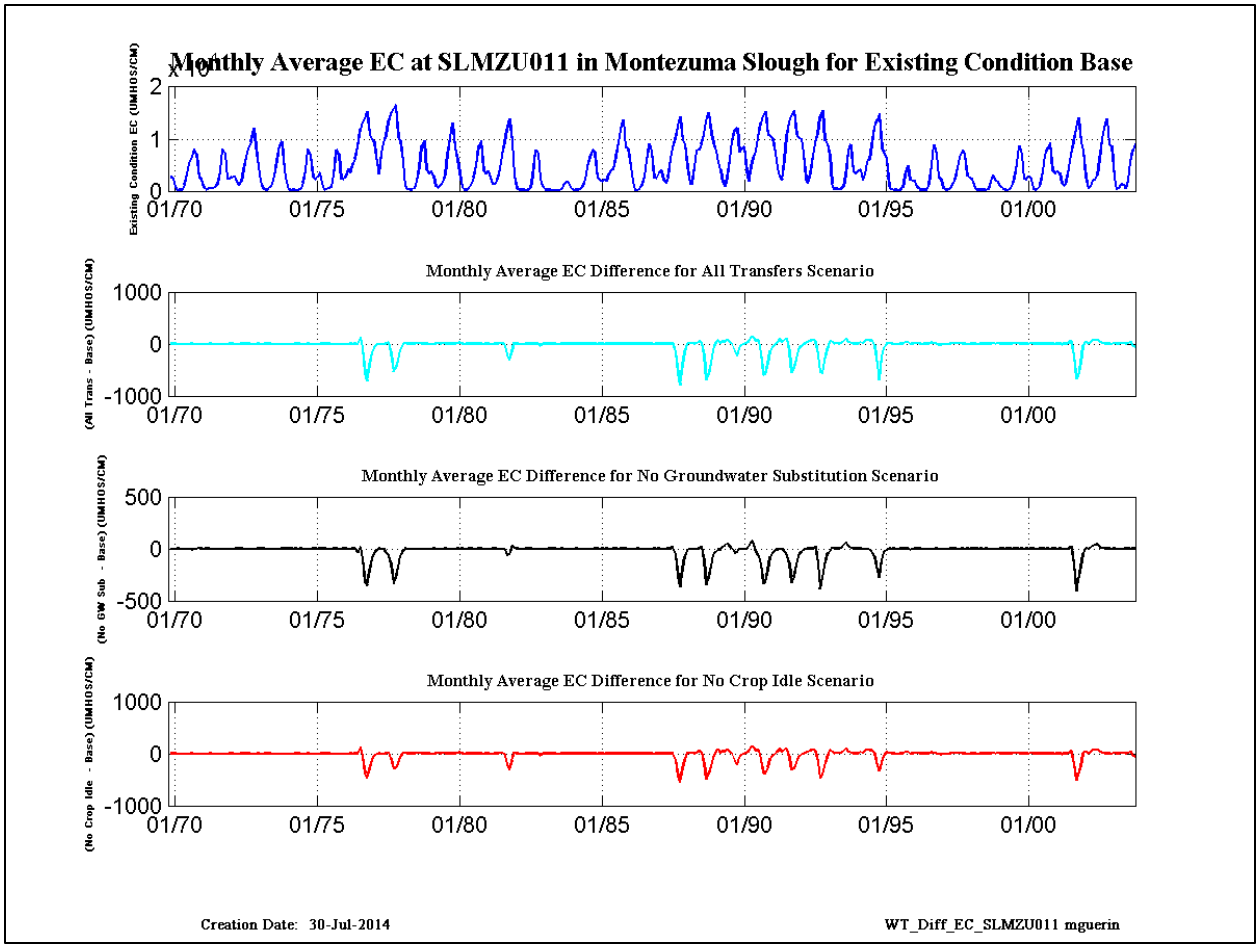


Figure 1-20.
Montezuma Slough location SLMZU011 EC for the Base condition and change from Base for the scenarios.

Table 1-136.
Montezuma Slough location SLMZU025 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	1718.1	1507.9	262.7	186.4	186.2	189.8	516.8	1477.7	3032.9	3334.2	5153.3	2807.3
1971	1478.4	1272.2	271.1	189.7	221.1	216.5	260.0	266.5	563.6	2028.1	5386.2	2928.2
1972	1492.1	1296.6	2329.3	2101.7	735.9	337.9	765.8	2116.3	4192.1	4551.9	6304.9	8670.5
1973	8123.4	3795.7	814.0	218.8	201.0	193.3	285.6	511.6	1472.9	3223.1	5832.5	4992.7
1974	3242.5	509.4	186.4	182.7	189.9	183.9	186.4	243.1	662.7	2227.2	5180.9	2740.5
1975	1537.5	1200.5	2495.9	3086.5	512.5	189.9	220.7	243.5	317.1	1617.3	5251.2	2793.6
1976	1417.9	1098.0	2321.3	4076.0	2936.6	2608.7	3217.9	5673.6	8756.2	9253.6	10078.5	11872.0
1977	10330.1	9664.6	9358.6	4558.0	2908.8	4124.5	5286.3	7315.9	9956.1	11347.6	12009.4	13015.5
1978	9835.3	9692.8	4860.4	352.6	211.6	203.3	219.1	258.5	753.2	2554.4	5800.4	5072.3
1979	3183.2	2669.9	3746.9	1468.5	316.8	272.0	415.0	554.8	1668.8	4225.0	6832.9	9399.6
1980	7853.6	5567.2	2988.9	304.0	201.0	202.3	266.4	500.7	1127.8	2676.5	5806.3	5080.8
1981	3056.4	2501.9	3534.2	1453.7	375.3	428.1	821.8	2088.1	4069.2	6160.0	8190.2	10187.3
1982	8947.6	1555.0	197.1	200.4	188.6	198.4	183.6	182.8	296.8	1716.8	5489.7	3027.3
1983	787.2	291.2	189.9	210.8	201.5	193.4	188.3	182.0	185.0	207.4	498.9	616.6
1984	873.5	246.8	183.5	193.3	196.1	195.0	355.8	1000.5	2680.0	3350.8	5295.4	3064.8
1985	1574.9	874.7	884.8	1551.5	1041.2	1398.0	1544.2	1990.6	4134.1	6213.7	8445.6	9935.0
1986	7806.3	8101.7	3924.9	792.0	198.0	193.5	239.6	439.3	1481.1	3329.2	6079.3	3300.1
1987	1700.0	1580.8	3457.6	3437.2	1033.7	453.4	1315.6	3737.7	5138.7	6874.7	9191.9	10907.1
1988	9219.9	8944.4	3636.9	518.5	614.7	2634.3	4257.3	4681.6	5588.5	7777.1	10125.1	11726.8
1989	10671.5	8694.3	7682.3	4983.0	3686.8	599.0	331.9	1169.5	3817.9	6552.3	7892.7	8358.1
1990	7092.3	8201.2	8501.1	2720.1	1182.8	2290.7	3450.2	4612.1	7329.2	9696.6	10810.4	11894.4
1991	10242.6	10524.2	10013.7	6885.2	4206.4	985.2	945.4	3764.4	7523.4	9816.7	10747.1	11962.5
1992	10317.5	10102.8	10059.4	6904.7	945.1	578.0	1576.5	4250.4	5916.3	7930.0	10699.7	11937.8
1993	9143.8	8977.4	6425.3	531.5	223.4	218.0	205.3	223.0	322.3	1595.4	5263.4	4542.5
1994	2942.5	2655.8	3655.6	3675.1	949.6	1480.6	2626.4	3230.4	6036.0	8581.0	9685.1	11032.5
1995	7387.6	7621.6	5837.0	374.4	203.9	185.9	195.1	178.9	184.5	300.2	1477.0	2013.7
1996	1024.0	1085.9	862.5	250.8	192.9	189.1	194.2	196.1	635.3	2776.1	5887.5	2748.5
1997	1591.5	1180.6	220.6	195.2	191.6	245.0	446.9	894.4	2615.7	3240.3	5136.3	2873.6
1998	1850.9	1440.4	1511.9	449.4	202.7	195.9	187.3	181.9	181.3	222.1	816.5	1029.0
1999	1208.5	674.5	281.2	203.2	189.7	184.4	209.7	353.6	1176.1	2782.1	5655.6	2780.1
2000	1576.9	1152.4	2628.5	1196.0	211.0	191.3	240.9	486.6	2374.4	3596.4	5311.1	4777.7
2001	3268.4	2595.0	3602.5	2501.6	451.6	336.4	732.8	2460.7	4223.3	6408.5	8626.9	10631.5
2002	8786.6	7723.3	1243.9	217.0	363.4	687.1	776.4	1270.1	3875.7	6808.0	8267.9	10385.6
2003	8485.3	8456.2	1125.7	199.3	231.4	400.4	337.8	213.3	1249.4	2948.1	5096.4	4652.3
Average	4993.2	4219.3	3214.6	1657.9	761.8	681.9	970.7	1675.0	3045.2	4585.9	6715.5	6581.1
Critical	7366.1	7313.0	6792.4	4191.1	1963.4	2100.3	3051.5	4789.8	7300.8	9200.4	10593.6	11920.2
Dry	4843.0	3995.0	3400.9	2357.3	1158.7	650.3	920.5	2119.5	4209.8	6502.8	8435.9	10067.4
BN	2337.6	1983.2	3038.1	1785.1	526.3	305.0	590.4	1335.6	2930.4	4388.5	6568.9	9035.1
AN	7503.0	6273.6	3140.4	467.0	213.2	234.7	259.2	365.6	1216.7	2765.7	5518.3	4853.0
Wet	3034.9	2052.9	1263.4	501.1	221.1	197.0	260.4	449.3	1077.9	2087.1	4408.3	2517.2

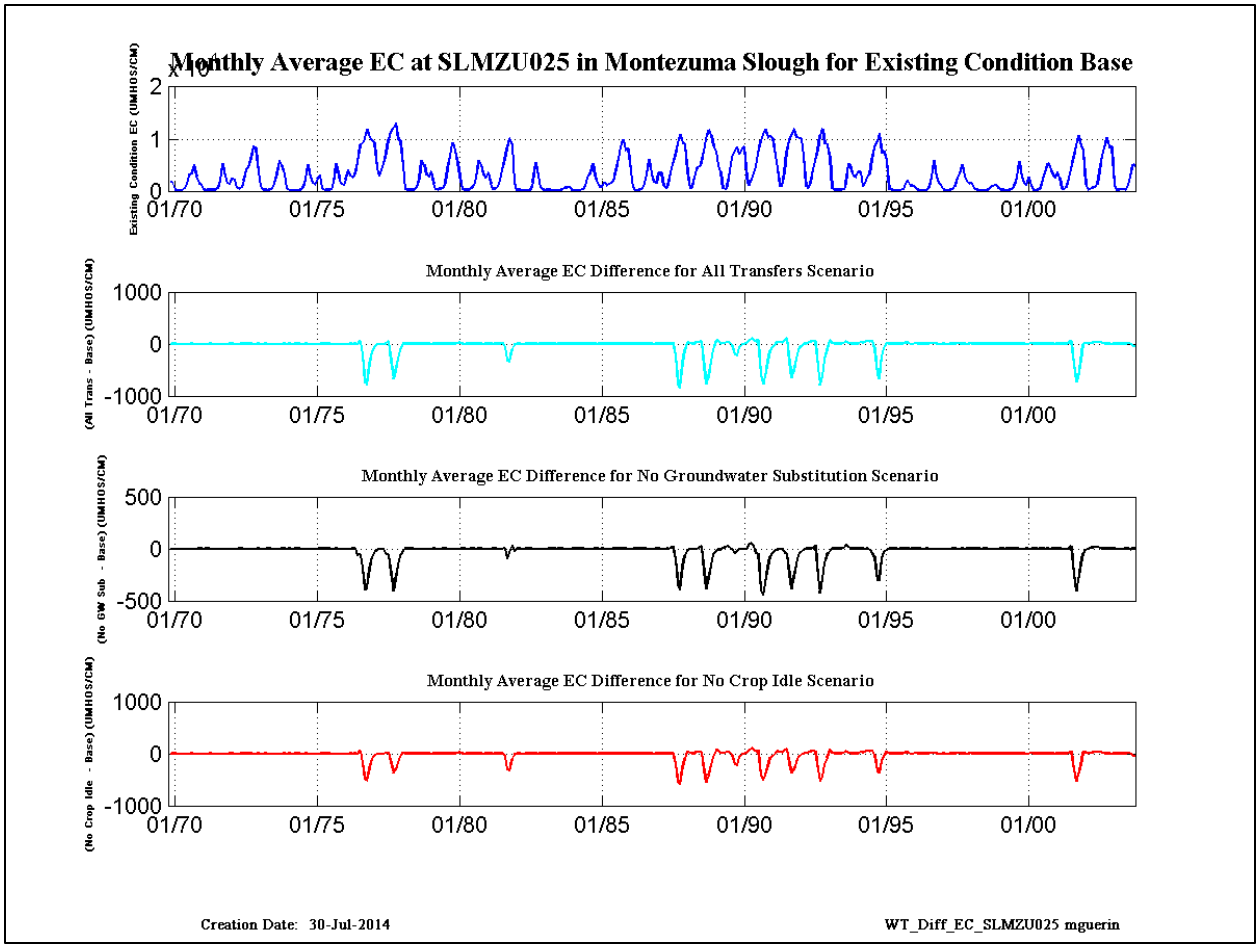


Figure 1-21.
Montezuma Slough location SLMZU025 EC for the Base condition and change from Base for the scenarios.

Table 1-137.
Suisun Slough location SLSUS012 Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	4798.7	5011.1	2301.3	727.3	535.3	545.8	1721.0	4292.2	6359.5	7971.0	9145.3	8814.9
1971	5195.7	4868.6	2281.5	938.6	1053.6	1105.5	1040.0	1227.4	1985.6	4847.5	8999.3	8880.6
1972	5119.4	4978.1	5062.5	5829.3	4255.9	2535.1	2732.1	5222.7	7834.4	9547.6	10724.2	13295.6
1973	11794.0	8980.5	5107.1	1892.7	862.6	821.2	1281.3	2249.4	3867.0	7085.9	9873.5	10856.5
1974	7593.3	3703.8	1063.6	613.5	629.0	484.0	454.2	829.7	2315.3	5064.2	8970.1	8565.3
1975	5160.0	4890.0	5053.5	6541.0	3755.2	1023.4	888.5	1106.0	1373.6	3960.4	8766.7	8739.5
1976	4998.5	4814.5	4909.9	6971.2	6837.0	7266.1	7808.4	9732.3	12954.2	14429.7	15042.4	16241.4
1977	14201.4	12946.8	12262.5	9916.4	6983.1	9340.6	10790.7	12121.2	14486.2	15962.1	16884.2	17609.2
1978	14647.2	12752.8	10384.3	3718.9	1381.7	1145.4	995.4	1264.3	2770.5	5925.8	9792.3	11184.9
1979	7647.4	6827.2	6685.5	6086.4	2592.7	1573.1	2026.9	2609.7	4296.5	8282.4	11345.0	14016.7
1980	11996.8	10053.3	7459.5	3066.5	1093.7	898.4	1271.8	2207.7	3583.3	6154.4	9789.9	11052.0
1981	7544.6	6650.2	6630.6	5722.2	3160.6	2529.2	3266.5	5263.2	8026.4	10657.7	12910.1	14863.1
1982	13057.9	7468.2	2120.8	985.3	744.0	591.3	541.0	547.5	1130.7	3864.1	8914.0	8999.3
1983	4786.9	2561.0	935.7	578.7	494.9	420.1	504.6	439.8	394.5	549.8	1702.9	2637.6
1984	3036.4	1794.6	554.6	438.0	460.3	547.9	1288.1	3126.9	5673.2	7765.2	9115.5	8983.3
1985	5215.8	4527.3	3634.0	4506.2	4481.8	4886.9	5193.8	5486.8	7831.2	10589.3	12948.8	14760.7
1986	12112.2	11124.5	9009.8	5031.8	1532.7	876.0	998.2	1856.5	3812.4	7028.3	9998.2	9439.5
1987	5418.2	5319.0	5861.1	7082.0	5295.3	3095.2	3820.4	7383.1	9511.7	11360.7	13465.1	15105.1
1988	13127.5	11969.5	9296.0	4371.9	2992.4	5938.3	8944.4	9360.4	10555.0	12246.5	14534.1	16065.5
1989	14251.2	12733.8	11359.5	9814.9	7906.8	4014.2	1976.4	3725.3	7253.2	10892.7	12992.8	13751.2
1990	11446.8	11008.6	11355.0	8440.4	5334.6	6529.4	8142.5	9125.9	11489.5	14161.3	15532.0	16389.6
1991	14165.6	13367.1	13159.7	11414.7	8789.7	5526.6	3741.9	7476.6	11581.2	14339.5	15627.0	16485.9
1992	14304.0	13195.0	13036.3	11508.5	6151.3	3238.3	4878.0	8175.4	10714.9	12420.2	15014.6	16414.8
1993	13682.0	12052.6	10954.3	4331.0	1574.4	1364.1	1190.8	1092.5	1612.0	3985.7	8881.8	10517.0
1994	7242.3	6602.5	6669.6	7397.4	5275.9	4775.8	7029.3	7583.4	10018.3	13249.3	14806.3	16010.4
1995	12748.7	10635.6	10369.8	3681.6	1601.5	846.5	934.6	676.4	693.7	1243.7	3824.4	6105.8
1996	4753.2	4424.7	4155.8	2126.9	699.9	588.4	593.2	517.3	1799.2	6021.4	9739.5	8935.7
1997	5047.0	4919.3	1818.9	573.3	584.3	994.9	2005.0	3167.8	5506.2	7800.2	9016.3	8854.7
1998	5443.3	5161.9	4642.9	2950.5	834.2	702.4	577.7	476.0	401.2	689.5	2480.3	4010.7
1999	3899.1	3832.9	2040.6	962.4	511.0	383.5	573.8	1325.7	3247.2	6227.1	9577.9	9022.3
2000	5002.2	4840.1	5167.6	5097.5	1535.0	714.6	991.9	2042.3	4785.6	7929.8	9370.8	10622.4
2001	7423.5	6603.7	6509.2	6760.9	3647.7	2058.1	2862.3	5642.8	8296.8	10736.2	13048.4	14957.3
2002	12963.4	11286.5	6404.1	1949.8	1822.1	3248.5	3400.3	4138.8	7153.6	11273.1	13145.9	14947.0
2003	12648.7	11495.8	6244.7	1883.3	1362.5	2209.6	2112.0	1124.3	2778.0	6905.4	9144.1	10529.7
Average	8896.3	7747.1	6308.9	4526.8	2846.3	2435.8	2840.5	3900.5	5767.4	8269.6	10738.9	11696.0
Critical	11355.2	10557.7	10098.4	8574.4	6052.0	6087.8	7333.6	9082.2	11685.6	13829.8	15348.7	16459.5
Dry	8802.8	7853.4	6733.1	5972.7	4385.7	3305.4	3419.9	5273.3	8012.2	10918.3	13085.2	14730.7
BN	6383.4	5902.6	5874.0	5957.9	3424.3	2054.1	2379.5	3916.2	6065.5	8915.0	11034.6	13656.1
AN	11628.5	10029.2	7552.9	3331.7	1301.7	1192.2	1307.2	1663.4	3232.7	6331.2	9475.4	10793.8
Wet	6741.0	5415.1	3565.3	2011.5	1033.5	700.7	932.3	1506.9	2668.6	4848.6	7711.6	7845.3

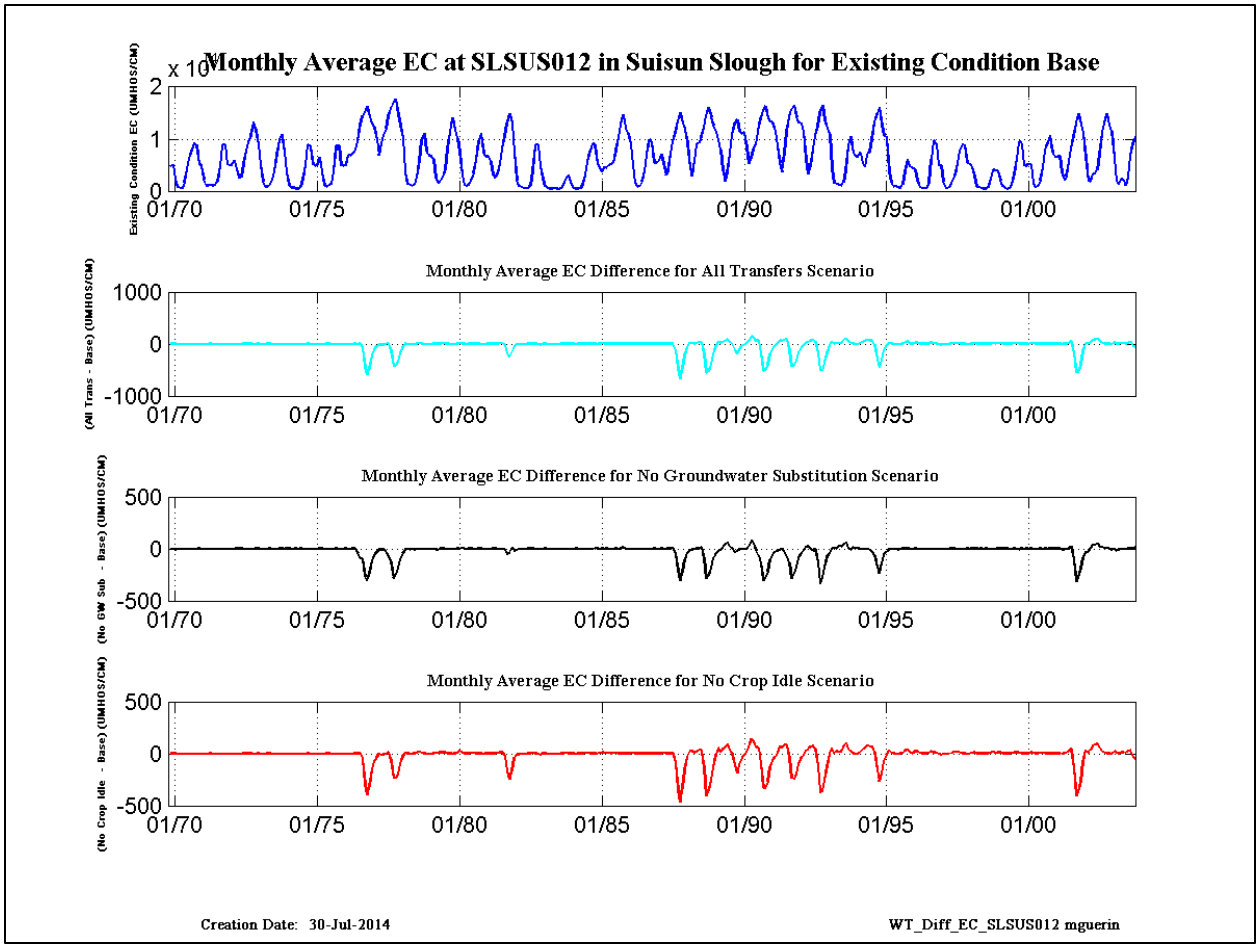


Figure 1-22.
Suisun Slough location SLMZU012EC for the Base condition and change from Base for the scenarios.

Table 1-138.
CCWD Intake location in Victoria Canal Base salinity (EC).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	310.0	341.7	340.9	387.2	334.2	307.6	329.5	382.1	340.3	259.8	268.5	431.3
1971	356.2	337.5	354.3	399.1	392.9	414.5	366.3	381.8	309.3	238.1	280.2	443.7
1972	352.3	359.9	305.4	399.5	455.7	451.8	458.6	451.2	358.4	273.3	316.2	452.8
1973	506.7	630.9	516.9	562.1	531.6	401.7	351.5	378.3	337.2	259.4	294.7	335.2
1974	315.0	305.9	352.6	467.9	421.4	346.0	302.0	379.7	367.2	300.0	283.4	356.4
1975	333.1	334.9	300.3	471.9	486.3	322.4	327.9	383.6	352.0	298.1	286.6	377.6
1976	324.1	328.3	282.4	456.2	503.1	466.5	467.3	462.1	449.9	431.3	564.2	517.9
1977	570.4	587.8	611.3	791.3	650.8	541.2	466.5	428.2	460.1	485.1	475.4	593.2
1978	709.7	611.8	626.5	653.4	585.1	548.4	308.2	247.9	343.5	320.0	302.4	334.5
1979	308.9	332.8	331.9	610.3	487.9	353.5	339.7	317.9	310.0	261.5	350.0	449.1
1980	483.2	436.8	479.5	465.0	363.0	225.0	311.0	357.9	366.7	347.9	299.6	317.4
1981	321.2	336.0	351.7	562.5	462.1	473.5	494.8	459.5	359.8	309.1	413.3	467.2
1982	526.6	481.1	335.7	483.2	371.2	376.7	192.1	175.3	288.9	338.7	290.4	259.0
1983	214.4	224.5	287.3	397.6	297.3	248.0	181.6	200.1	207.4	236.9	215.4	210.6
1984	254.5	203.8	233.2	338.6	295.6	282.4	327.2	391.9	336.9	264.2	277.9	384.6
1985	330.1	309.6	280.6	354.5	431.5	472.9	474.4	436.5	355.6	314.6	420.1	456.1
1986	497.1	460.0	586.7	541.7	500.8	347.9	252.4	253.1	337.8	295.6	299.9	327.4
1987	321.3	335.3	293.4	501.7	491.4	509.5	550.7	456.0	357.7	295.9	360.8	419.9
1988	504.5	511.1	551.1	507.5	576.7	521.2	503.6	462.6	416.0	321.9	404.4	478.6
1989	567.4	591.1	585.5	759.4	680.9	644.8	528.2	403.9	296.6	333.2	452.4	432.5
1990	444.9	508.4	580.7	607.1	470.5	425.1	400.9	388.9	397.0	399.8	531.9	515.6
1991	610.7	640.2	717.0	836.2	735.0	667.9	577.2	437.5	356.6	412.3	540.4	506.6
1992	596.4	620.4	685.1	765.7	774.5	594.0	465.4	391.9	335.7	294.7	416.2	487.7
1993	573.9	544.9	580.7	720.2	621.1	519.1	516.2	503.7	420.6	319.5	296.5	331.0
1994	311.6	357.2	362.8	618.8	547.6	467.5	434.0	413.0	396.3	424.7	565.3	484.1
1995	594.7	476.2	523.0	709.5	501.0	437.6	231.2	157.7	267.3	286.9	251.9	245.4
1996	304.6	323.1	307.4	483.3	480.3	346.6	318.0	333.3	357.6	286.8	304.6	411.8
1997	353.1	324.3	352.9	256.0	199.9	232.6	315.3	343.2	343.0	269.6	270.6	395.4
1998	359.0	344.5	299.4	549.4	558.5	349.3	196.9	174.1	257.8	279.9	251.4	246.3
1999	269.7	292.0	306.3	453.3	354.9	303.0	344.4	385.7	329.4	250.5	291.8	422.2
2000	367.5	345.2	285.7	520.8	588.3	343.1	331.0	385.5	342.2	274.9	273.6	337.1
2001	326.9	351.3	340.0	574.4	513.2	466.2	494.7	476.2	362.9	288.3	350.9	410.7
2002	494.5	469.6	511.3	541.7	442.9	435.6	489.9	507.4	391.5	343.1	432.6	447.4
2003	572.2	493.4	541.8	438.0	376.8	367.1	458.0	441.2	305.1	241.0	270.1	339.6
Average	420.2	416.2	423.6	534.9	484.8	417.9	385.5	375.0	347.5	310.5	350.1	400.8
Critical	480.4	507.6	541.5	654.7	608.3	526.2	473.6	426.3	401.7	395.7	499.7	512.0
Dry	393.6	398.8	393.8	549.0	503.7	500.4	505.5	456.6	354.0	314.0	405.0	439.0
BN	330.6	346.3	318.7	504.9	471.8	402.6	399.2	384.5	334.2	267.4	333.1	450.9
AN	535.5	510.5	505.2	559.9	511.0	400.7	379.3	385.7	352.6	293.8	289.5	332.4
Wet	360.6	342.3	352.3	456.8	399.6	331.9	283.5	303.2	315.0	277.3	274.8	347.1

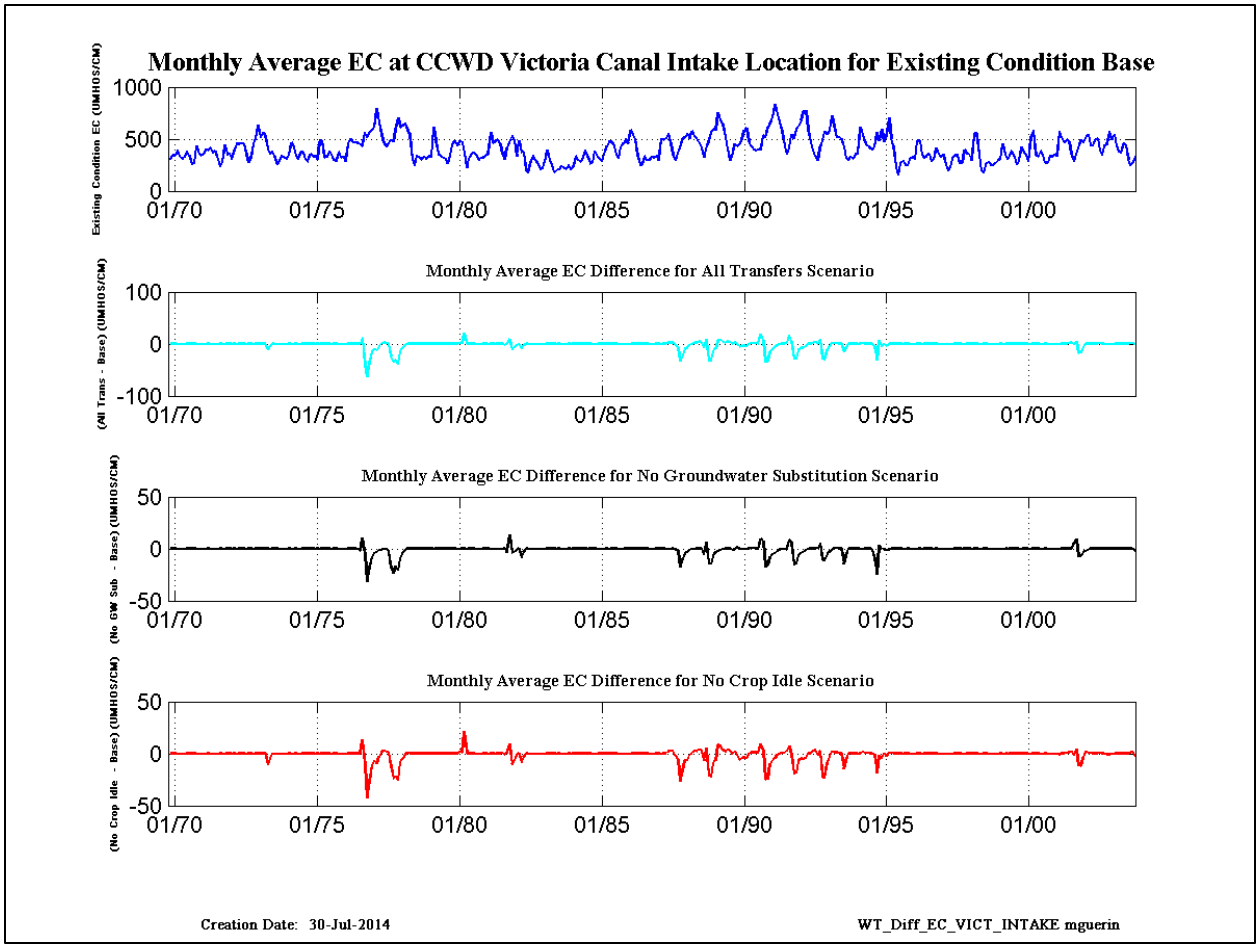


Figure 1-23.
CCWD Intake location in Victoria Canal EC for the Base condition and change from Base for the scenarios.

Table 1-139.
Upper Cache Slough location SLCCH016 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.5	-1.9
1977	-1.9	-1.0	-0.3	-0.1	0.0	0.0	0.1	0.0	0.1	-0.6	-2.2	-1.4
1978	-2.1	-1.3	-0.5	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3
1982	-0.1	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.0	-2.0
1988	-1.2	-0.4	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	-0.3	-1.2	-1.9
1989	-1.9	-0.9	-0.2	-0.1	0.0	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
1990	-0.1	0.0	0.1	0.1	0.1	0.3	0.2	0.0	0.1	-0.2	-0.8	-1.0
1991	-1.2	-0.5	0.0	0.2	0.2	0.2	0.3	0.2	0.1	-0.1	-0.6	-0.9
1992	-1.1	-0.5	0.0	0.2	0.2	0.3	0.2	0.1	0.1	-0.2	-1.0	-1.0
1993	-0.8	-0.5	-0.1	0.0	0.0	-0.2	0.1	0.1	0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	-0.2	-0.7
1995	-0.4	-0.1	0.0	0.0	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	-0.7	-1.0
2002	-0.8	-0.3	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Average	-0.3	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.4
Critical	-0.8	-0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.2	-0.9	-1.2
Dry	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.5	-0.3	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-140.
Upper Cache Slough location SLCCH016 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-1.0
1977	-1.0	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	0.1	-0.3	-1.1	-0.7
1978	-1.1	-0.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1982	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.5	-1.0
1988	-0.6	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.6	-1.0
1989	-1.0	-0.4	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1
1990	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.4	-0.5
1991	-0.6	-0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	-0.3	-0.5
1992	-0.6	-0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	-0.5	-0.5
1993	-0.4	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4
1995	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	-0.5
2002	-0.4	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
Critical	-0.4	-0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.5	-0.7
Dry	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-141.
Montezuma Slough location SLMZU011 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.3	0.9	-1.3	-0.3	-0.1	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.8	122.0	-78.7	-548.8	-710.7
1977	-414.0	-156.6	-69.9	-15.5	-3.1	-7.5	-6.3	2.9	39.6	-172.3	-530.7	-474.6
1978	-307.4	-113.8	-5.6	11.5	0.9	0.5	0.1	2.4	11.6	15.9	5.7	1.5
1979	0.2	0.0	-0.8	-6.4	6.3	10.2	8.9	11.7	8.5	2.9	0.8	0.1
1980	1.3	16.1	22.0	0.4	-0.2	0.0	1.4	4.9	4.4	1.2	0.3	0.1
1981	-0.1	0.3	2.1	-0.4	-6.2	2.2	6.4	11.1	13.1	-36.1	-219.5	-312.2
1982	-127.2	20.8	4.0	-0.1	-0.1	-0.4	0.0	0.5	3.0	4.7	1.8	0.0
1983	-32.6	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.3	6.9
1984	1.2	1.9	0.0	0.0	0.2	0.4	1.8	8.6	6.8	2.3	0.7	0.1
1985	-0.3	1.0	9.7	-0.1	1.6	6.3	4.6	7.2	7.2	2.9	1.6	1.1
1986	1.2	1.0	2.3	6.2	0.3	0.0	0.4	1.7	1.8	0.6	0.2	0.1
1987	0.0	0.1	0.5	3.2	5.3	3.0	2.5	2.7	16.5	-141.1	-577.4	-792.1
1988	-392.5	-145.2	9.6	17.1	16.4	3.8	26.8	43.1	39.8	-239.9	-685.8	-591.5
1989	-347.2	-116.5	37.3	66.1	10.4	46.9	46.9	75.5	26.8	-8.9	-136.7	-220.3
1990	-71.9	-21.9	-6.2	17.1	47.5	140.4	112.0	56.3	68.8	-174.0	-592.0	-580.5
1991	-370.3	-138.3	-62.0	-20.4	26.6	97.1	32.0	71.9	100.2	-152.8	-541.5	-473.7
1992	-290.4	-109.7	-47.6	-15.6	16.1	40.3	66.4	75.5	54.8	-208.1	-539.8	-565.0
1993	-317.5	-109.0	60.0	33.4	5.2	12.4	9.8	16.6	57.3	91.2	35.6	12.8
1994	0.2	0.5	-0.7	29.5	9.9	51.0	77.5	67.1	69.3	-30.4	-410.6	-685.7
1995	-255.5	-76.4	9.5	17.7	1.8	0.0	-0.7	-0.2	1.6	7.9	32.1	39.8
1996	-2.8	0.2	19.7	14.9	0.4	0.0	0.3	0.4	8.8	28.0	17.1	7.4
1997	-10.2	-19.4	-0.2	-0.1	-0.2	3.3	11.3	16.9	19.1	12.9	3.5	5.0
1998	-6.7	-0.5	5.5	8.6	-0.4	-0.4	0.0	0.1	0.1	1.1	9.7	20.2
1999	-1.9	10.8	5.4	1.3	0.1	0.1	0.8	3.7	10.1	11.8	4.3	1.4
2000	0.1	0.0	-0.2	9.9	3.1	0.2	1.8	5.6	6.5	2.9	1.1	0.3
2001	0.0	-0.1	1.3	2.7	-10.7	3.0	6.4	28.7	54.7	-227.8	-676.0	-630.5
2002	-344.9	-21.0	36.5	4.3	20.5	73.4	75.6	70.5	45.6	18.8	6.7	4.5
2003	1.5	-1.3	13.9	3.2	2.5	11.5	11.6	3.7	19.9	32.0	-43.0	-63.8
Average	-96.7	-28.7	1.4	5.5	4.5	14.6	14.7	17.3	24.0	-36.2	-158.2	-176.5
Critical	-219.8	-81.6	-25.3	1.7	16.2	46.4	44.2	45.2	70.6	-150.9	-549.9	-583.1
Dry	-115.4	-22.7	14.6	12.6	3.5	22.4	23.7	32.6	27.3	-65.4	-266.9	-324.9
BN	0.1	0.0	-0.4	-3.2	3.2	5.1	4.4	5.9	4.3	1.5	0.4	0.0
AN	-103.7	-34.7	15.0	9.7	1.9	4.2	4.3	5.3	16.6	23.9	0.0	-8.2
Wet	-33.4	-4.7	3.6	3.7	0.2	0.2	1.1	2.4	3.9	5.4	5.6	6.2

Table 1-142.
Montezuma Slough location SLMZU011 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-0.6	-4.0	-4.6
1977	-3.8	-1.6	-0.7	-0.3	-0.1	-0.1	-0.1	0.0	0.3	-1.2	-3.4	-2.9
1978	-2.9	-1.2	-0.1	1.2	0.3	0.2	0.0	0.4	0.6	0.3	0.1	0.0
1979	0.0	0.0	0.0	-0.2	0.7	1.6	0.8	0.7	0.3	0.0	0.0	0.0
1980	0.0	0.3	0.6	0.1	-0.1	0.0	0.2	0.3	0.2	0.0	0.0	0.0
1981	0.0	0.0	0.1	0.0	-0.5	0.2	0.3	0.3	0.2	-0.4	-1.9	-2.2
1982	-1.3	0.7	1.0	0.0	0.0	-0.2	0.0	0.2	0.4	0.2	0.0	0.0
1983	-1.4	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4
1984	0.1	0.3	0.0	0.0	0.1	0.1	0.2	0.4	0.1	0.0	0.0	0.0
1985	0.0	0.0	0.5	0.0	0.1	0.2	0.1	0.2	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.2	-1.4	-4.6	-5.5
1988	-4.0	-1.6	0.2	1.2	1.2	0.1	0.3	0.5	0.4	-2.2	-5.1	-3.9
1989	-3.1	-1.3	0.5	1.2	0.3	2.7	5.4	2.9	0.4	-0.1	-1.2	-1.8
1990	-0.9	-0.3	-0.1	0.4	2.5	3.0	1.7	0.7	0.7	-1.3	-4.1	-3.8
1991	-3.4	-1.3	-0.6	-0.3	0.6	3.5	1.5	1.2	1.0	-1.2	-3.7	-3.1
1992	-2.7	-1.1	-0.5	-0.2	0.7	2.6	1.9	1.1	0.6	-1.9	-3.8	-3.7
1993	-3.3	-1.2	0.9	2.3	1.5	3.0	2.6	3.6	6.6	3.0	0.5	0.1
1994	0.0	0.0	0.0	0.7	0.5	1.6	1.4	1.1	0.8	-0.2	-3.0	-4.6
1995	-3.1	-1.0	0.1	2.1	0.5	0.0	-0.3	-0.1	0.6	1.1	1.1	0.8
1996	-0.1	0.0	1.1	1.9	0.2	0.0	0.1	0.2	0.7	0.5	0.2	0.1
1997	-0.4	-0.9	0.0	-0.1	-0.1	0.6	0.8	0.7	0.4	0.2	0.0	0.1
1998	-0.2	0.0	0.2	0.7	-0.2	-0.2	0.0	0.1	0.0	0.3	0.5	0.7
1999	-0.1	0.6	0.6	0.3	0.1	0.0	0.2	0.4	0.4	0.2	0.1	0.0
2000	0.0	0.0	0.0	0.4	0.8	0.1	0.3	0.4	0.2	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	-0.7	0.3	0.3	0.6	0.8	-2.4	-5.6	-4.5
2002	-3.7	-0.3	1.4	0.8	2.4	3.6	3.3	2.3	0.8	0.2	0.1	0.0
2003	0.0	0.0	0.5	0.8	0.5	0.9	1.0	0.8	1.0	0.6	-0.5	-0.7
Average	-1.0	-0.3	0.2	0.4	0.3	0.7	0.7	0.6	0.6	-0.2	-1.1	-1.2
Critical	-2.1	-0.8	-0.2	0.2	0.8	1.5	1.0	0.7	0.7	-1.2	-3.9	-3.8
Dry	-1.1	-0.2	0.4	0.4	0.3	1.2	1.6	1.1	0.4	-0.7	-2.2	-2.3
BN	0.0	0.0	0.0	-0.1	0.3	0.8	0.4	0.4	0.1	0.0	0.0	0.0
AN	-1.0	-0.4	0.3	0.8	0.5	0.7	0.7	0.9	1.4	0.7	0.0	-0.1
Wet	-0.5	0.0	0.2	0.4	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2

Table 1-143.
Montezuma Slough location SLMZU025 salinity (EC)
difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.5	-1.5	-1.1	-0.2	-0.1	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-1.2	56.2	-216.8	-744.1	-788.5
1977	-375.3	-142.8	-64.7	-14.7	-10.0	-5.1	-3.3	9.5	46.4	-339.5	-666.4	-517.3
1978	-282.7	-104.4	0.6	3.7	0.6	0.3	0.2	0.8	6.2	9.6	4.1	1.1
1979	0.2	0.1	-0.7	5.8	2.1	1.4	3.0	4.2	4.3	1.8	0.6	0.1
1980	1.5	17.9	27.1	1.8	-0.5	0.1	0.4	1.7	1.9	0.6	0.2	0.1
1981	-0.1	0.5	2.0	2.9	-1.2	0.9	3.1	8.0	10.1	-53.0	-319.0	-335.7
1982	-110.2	-14.8	0.0	0.1	-0.4	-0.3	0.0	0.1	0.9	2.5	1.3	0.0
1983	2.8	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.6	1.8
1984	4.2	0.5	0.0	0.0	0.0	0.1	0.7	4.0	4.0	1.3	0.4	0.0
1985	-0.3	5.1	4.9	4.8	4.5	3.0	2.5	4.7	5.1	2.3	1.6	1.5
1986	1.2	1.1	7.4	3.1	0.0	0.0	0.2	0.6	0.9	0.3	0.1	0.0
1987	0.0	0.7	0.3	3.6	2.5	0.9	1.3	3.7	21.6	-235.6	-762.9	-842.9
1988	-349.7	-135.3	26.3	12.6	4.9	3.1	30.1	33.4	41.9	-426.6	-775.2	-625.0
1989	-320.0	-102.3	55.0	62.5	9.1	15.0	16.6	35.1	17.9	-21.4	-204.9	-215.4
1990	-59.8	-16.3	-6.7	21.2	58.8	104.4	69.3	46.7	73.5	-583.5	-768.8	-620.8
1991	-339.5	-123.9	-58.8	-19.8	36.5	30.1	24.9	67.0	104.8	-353.4	-652.2	-503.1
1992	-267.1	-100.2	-44.1	-15.5	9.7	16.2	44.3	56.4	55.6	-444.9	-785.1	-600.9
1993	-282.4	-100.4	78.3	16.0	1.3	3.1	1.2	3.1	18.4	46.6	22.8	6.8
1994	0.6	0.7	-0.7	41.4	12.0	34.8	52.0	48.8	64.2	-83.4	-590.2	-672.2
1995	-221.9	-74.8	18.4	5.5	0.5	0.0	0.1	0.0	0.2	2.2	22.1	20.9
1996	-0.5	0.0	14.4	2.2	0.0	0.0	0.0	0.1	5.4	16.3	10.7	2.8
1997	-1.7	-0.6	0.2	0.0	0.0	0.9	3.7	8.4	11.1	6.6	1.8	2.0
1998	-0.1	0.1	9.9	3.1	0.0	0.0	0.0	0.0	0.0	0.2	5.4	9.0
1999	2.9	5.4	1.2	0.1	0.0	0.0	0.1	1.3	6.2	7.0	2.7	0.5
2000	0.1	0.0	-0.1	9.8	0.3	0.0	0.4	2.0	3.8	1.8	0.6	0.1
2001	0.0	-0.1	1.7	7.2	2.0	0.8	3.1	25.7	52.9	-390.6	-729.9	-654.2
2002	-308.2	-1.0	21.3	1.1	11.9	29.0	34.7	37.4	30.4	13.1	6.6	5.3
2003	1.1	-1.1	7.0	0.3	0.5	3.7	2.7	0.5	21.3	1.6	-45.6	-49.5
Average	-85.4	-26.0	2.9	4.7	4.3	7.1	8.5	11.8	19.6	-89.3	-204.8	-187.5
Critical	-198.7	-74.0	-21.2	3.6	16.0	26.2	31.1	37.2	63.2	-349.7	-711.7	-618.3
Dry	-104.8	-16.2	14.2	13.7	4.8	8.3	10.2	19.1	23.0	-114.2	-334.8	-340.2
BN	0.1	0.0	-0.4	2.9	1.0	0.7	1.5	2.1	2.1	0.9	0.3	0.0
AN	-93.7	-31.3	18.8	5.3	0.4	1.1	0.6	1.2	8.6	10.0	-3.0	-6.9
Wet	-24.9	-6.3	4.0	1.1	0.0	0.1	0.4	1.1	2.2	2.8	3.5	2.8

Table 1-144.
Montezuma Slough location SLMZU025 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.3	-0.5	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-2.3	-7.4	-6.6
1977	-3.6	-1.5	-0.7	-0.3	-0.3	-0.1	-0.1	0.1	0.5	-3.0	-5.5	-4.0
1978	-2.9	-1.1	0.0	1.0	0.3	0.1	0.1	0.3	0.8	0.4	0.1	0.0
1979	0.0	0.0	0.0	0.4	0.7	0.5	0.7	0.8	0.3	0.0	0.0	0.0
1980	0.0	0.3	0.9	0.6	-0.2	0.0	0.2	0.3	0.2	0.0	0.0	0.0
1981	0.0	0.0	0.1	0.2	-0.3	0.2	0.4	0.4	0.2	-0.9	-3.9	-3.3
1982	-1.2	-1.0	0.0	0.0	-0.2	-0.2	0.0	0.0	0.3	0.1	0.0	0.0
1983	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3
1984	0.5	0.2	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.0	0.0	0.0
1985	0.0	0.6	0.6	0.3	0.4	0.2	0.2	0.2	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.2	0.4	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.4	-3.4	-8.3	-7.7
1988	-3.8	-1.5	0.7	2.4	0.8	0.1	0.7	0.7	0.8	-5.5	-7.7	-5.3
1989	-3.0	-1.2	0.7	1.3	0.2	2.5	5.0	3.0	0.5	-0.3	-2.6	-2.6
1990	-0.8	-0.2	-0.1	0.8	5.0	4.6	2.0	1.0	1.0	-6.0	-7.1	-5.2
1991	-3.3	-1.2	-0.6	-0.3	0.9	3.1	2.6	1.8	1.4	-3.6	-6.1	-4.2
1992	-2.6	-1.0	-0.4	-0.2	1.0	2.8	2.8	1.3	0.9	-5.6	-7.3	-5.0
1993	-3.1	-1.1	1.2	3.0	0.6	1.4	0.6	1.4	5.7	2.9	0.4	0.1
1994	0.0	0.0	0.0	1.1	1.3	2.4	2.0	1.5	1.1	-1.0	-6.1	-6.1
1995	-3.0	-1.0	0.3	1.5	0.2	0.0	0.0	0.0	0.1	0.7	1.5	1.0
1996	0.0	0.0	1.7	0.9	0.0	0.0	0.0	0.0	0.9	0.6	0.2	0.1
1997	-0.1	0.0	0.1	0.0	0.0	0.4	0.8	0.9	0.4	0.2	0.0	0.1
1998	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.9
1999	0.2	0.8	0.4	0.1	0.0	0.0	0.1	0.4	0.5	0.3	0.0	0.0
2000	0.0	0.0	0.0	0.8	0.1	0.0	0.2	0.4	0.2	0.1	0.0	0.0
2001	0.0	0.0	0.0	0.3	0.5	0.2	0.4	1.0	1.3	-6.1	-8.5	-6.2
2002	-3.5	0.0	1.7	0.5	3.3	4.2	4.5	2.9	0.8	0.2	0.1	0.1
2003	0.0	0.0	0.6	0.2	0.2	0.9	0.8	0.2	1.7	0.1	-0.9	-1.1
Average	-0.9	-0.2	0.2	0.5	0.4	0.7	0.7	0.6	0.6	-0.9	-2.0	-1.6
Critical	-2.0	-0.8	-0.2	0.5	1.2	1.8	1.4	0.9	0.9	-3.9	-6.7	-5.2
Dry	-1.1	-0.1	0.5	0.4	0.7	1.3	1.8	1.3	0.5	-1.7	-3.9	-3.3
BN	0.0	0.0	0.0	0.2	0.3	0.2	0.4	0.4	0.1	0.0	0.0	0.0
AN	-1.0	-0.3	0.5	0.9	0.2	0.4	0.2	0.4	1.4	0.6	-0.1	-0.1
Wet	-0.3	0.0	0.3	0.3	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2

Table 1-145.
Suisun Slough location SLSUS012 salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	1.6	2.3	-0.9	-0.3	-0.1	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.7	2.7	-68.5	-424.4	-595.7
1977	-449.7	-219.4	-109.7	-49.2	-12.6	-16.9	-11.5	-2.3	17.6	-130.8	-422.7	-411.4
1978	-328.3	-162.2	-50.8	2.4	-2.7	-6.4	-5.9	-2.2	8.4	14.0	3.5	-1.2
1979	-2.6	-2.5	-3.3	0.1	8.6	7.4	9.3	12.8	9.4	2.4	0.0	-0.9
1980	-0.3	9.2	25.0	5.5	1.4	-0.1	1.2	5.4	5.0	1.3	0.2	-0.2
1981	-0.4	-0.2	1.6	3.8	1.9	3.2	7.2	11.4	12.9	-29.6	-170.9	-256.9
1982	-158.5	-38.0	-9.5	-7.0	-3.1	-2.2	-1.7	1.3	2.7	5.1	0.8	-0.7
1983	-12.5	3.1	0.8	-0.7	-0.5	-0.5	-1.2	-0.6	-0.5	0.1	3.3	7.2
1984	4.2	2.7	0.2	-0.1	0.1	0.5	2.1	6.3	7.0	2.8	1.0	0.3
1985	-0.2	5.7	14.6	8.0	5.5	6.4	5.0	7.4	7.3	2.8	1.8	1.2
1986	1.1	0.9	1.6	9.4	2.5	0.7	0.9	2.3	2.3	0.9	0.5	0.3
1987	0.2	0.1	0.3	2.5	6.7	4.5	3.1	2.3	12.1	-109.8	-464.8	-667.9
1988	-453.1	-212.6	-51.1	19.0	19.3	1.5	19.5	37.3	30.3	-181.2	-554.0	-525.9
1989	-382.7	-182.0	-37.0	41.3	8.3	39.4	54.7	85.4	29.0	-4.7	-111.1	-187.5
1990	-102.3	-34.9	-17.4	10.9	59.3	143.8	115.9	58.5	61.1	-161.8	-511.6	-503.3
1991	-396.3	-185.6	-94.7	-43.4	0.4	63.8	53.1	79.2	90.2	-104.1	-423.6	-412.7
1992	-317.1	-157.0	-74.8	-35.2	23.1	35.6	61.8	71.3	47.3	-177.6	-506.2	-500.3
1993	-352.2	-165.6	-14.6	43.4	4.1	17.5	13.1	18.0	68.3	102.9	40.5	14.7
1994	1.7	-2.0	-1.9	16.5	36.6	59.1	77.4	68.7	69.2	-16.7	-292.7	-447.1
1995	-316.7	-110.1	-31.8	19.5	2.3	-0.6	-2.8	-3.2	-0.5	8.6	31.5	40.9
1996	6.4	0.6	22.3	21.1	4.4	0.6	0.1	0.4	8.6	23.3	10.9	5.7
1997	-2.8	-10.4	-1.9	-2.3	-3.7	4.4	12.6	17.8	18.2	9.3	3.4	2.9
1998	-2.0	-0.4	5.8	13.0	1.5	0.6	0.5	0.4	0.4	1.6	9.2	19.0
1999	4.0	13.6	13.2	4.0	1.3	0.6	1.5	5.0	13.3	11.8	6.9	1.2
2000	0.7	0.5	0.0	14.8	10.0	2.2	2.8	7.3	7.7	4.1	1.6	0.7
2001	0.4	0.2	0.5	4.7	-2.7	4.0	7.5	28.3	53.3	-173.3	-542.8	-550.0
2002	-397.8	-134.2	15.9	2.2	27.1	76.9	84.8	90.1	50.3	20.3	6.9	3.6
2003	1.3	-1.6	21.7	7.8	3.1	11.4	14.2	6.2	24.4	34.7	-34.1	-58.9
Average	-107.5	-46.5	-11.0	3.3	5.9	13.5	15.5	18.0	19.3	-26.8	-127.6	-147.7
Critical	-245.3	-115.9	-49.9	-11.6	18.0	41.0	45.2	44.5	45.5	-120.1	-447.9	-485.2
Dry	-130.1	-51.7	-0.7	10.4	7.8	22.4	27.0	37.5	27.5	-49.1	-213.5	-276.2
BN	-1.3	-1.3	-1.7	0.1	4.3	3.7	4.6	6.4	4.7	1.2	0.0	-0.5
AN	-113.1	-53.3	-3.1	12.3	2.7	4.4	4.6	5.6	18.9	26.1	1.9	-7.5
Wet	-36.7	-10.6	0.0	4.4	0.4	0.3	0.9	2.3	4.0	4.9	5.2	5.9

Table 1-146.
Suisun Slough location SLSUS012 salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-2.8	-3.7
1977	-3.2	-1.7	-0.9	-0.5	-0.2	-0.2	-0.1	0.0	0.1	-0.8	-2.5	-2.3
1978	-2.2	-1.3	-0.5	0.1	-0.2	-0.6	-0.6	-0.2	0.3	0.2	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.3	0.5	0.5	0.5	0.2	0.0	0.0	0.0
1980	0.0	0.1	0.3	0.2	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	-0.3	-1.3	-1.7
1982	-1.2	-0.5	-0.4	-0.7	-0.4	-0.4	-0.3	0.2	0.2	0.1	0.0	0.0
1983	-0.3	0.1	0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.0	0.2	0.3
1984	0.1	0.2	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0
1985	0.0	0.1	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	-1.0	-3.5	-4.4
1988	-3.5	-1.8	-0.5	0.4	0.6	0.0	0.2	0.4	0.3	-1.5	-3.8	-3.3
1989	-2.7	-1.4	-0.3	0.4	0.1	1.0	2.8	2.3	0.4	0.0	-0.9	-1.4
1990	-0.9	-0.3	-0.2	0.1	1.1	2.2	1.4	0.6	0.5	-1.1	-3.3	-3.1
1991	-2.8	-1.4	-0.7	-0.4	0.0	1.2	1.4	1.1	0.8	-0.7	-2.7	-2.5
1992	-2.2	-1.2	-0.6	-0.3	0.4	1.1	1.3	0.9	0.4	-1.4	-3.4	-3.0
1993	-2.6	-1.4	-0.1	1.0	0.3	1.3	1.1	1.7	4.2	2.6	0.5	0.1
1994	0.0	0.0	0.0	0.2	0.7	1.2	1.1	0.9	0.7	-0.1	-2.0	-2.8
1995	-2.5	-1.0	-0.3	0.5	0.1	-0.1	-0.3	-0.5	-0.1	0.7	0.8	0.7
1996	0.1	0.0	0.5	1.0	0.6	0.1	0.0	0.1	0.5	0.4	0.1	0.1
1997	-0.1	-0.2	-0.1	-0.4	-0.6	0.4	0.6	0.6	0.3	0.1	0.0	0.0
1998	0.0	0.0	0.1	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.5
1999	0.1	0.4	0.6	0.4	0.2	0.2	0.3	0.4	0.4	0.2	0.1	0.0
2000	0.0	0.0	0.0	0.3	0.7	0.3	0.3	0.4	0.2	0.1	0.0	0.0
2001	0.0	0.0	0.0	0.1	-0.1	0.2	0.3	0.5	0.6	-1.6	-4.2	-3.7
2002	-3.1	-1.2	0.2	0.1	1.5	2.4	2.5	2.2	0.7	0.2	0.1	0.0
2003	0.0	0.0	0.3	0.4	0.2	0.5	0.7	0.5	0.9	0.5	-0.4	-0.6
Average	-0.8	-0.4	-0.1	0.1	0.2	0.4	0.4	0.4	0.4	-0.1	-0.8	-0.9
Critical	-1.8	-0.9	-0.4	-0.1	0.4	0.8	0.8	0.5	0.4	-0.9	-2.9	-3.0
Dry	-1.0	-0.4	0.1	0.1	0.3	0.7	1.0	0.9	0.4	-0.4	-1.6	-1.9
BN	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0
AN	-0.8	-0.4	0.0	0.3	0.2	0.3	0.3	0.4	1.0	0.6	0.0	-0.1
Wet	-0.3	-0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1

Table 1-147.
CCWD Intake location in Victoria Canal salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.1	0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.1	0.0	0.0	0.2	-10.6	-4.4	0.0	-0.4	0.0	0.0	-0.1
1974	-0.2	0.0	0.1	0.0	-0.1	0.1	-0.2	0.0	0.1	0.1	0.0	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	0.0	0.0	0.0
1976	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.2	0.2	11.9	-40.5	-63.2
1977	-34.5	-14.5	-9.7	-11.5	-3.7	1.0	2.8	1.7	1.2	-23.6	-35.1	-31.4
1978	-38.5	-13.8	-7.4	-1.6	0.7	0.4	0.0	0.3	0.2	0.1	0.1	0.1
1979	0.1	0.1	0.0	0.1	0.3	0.1	0.3	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.1	2.0	1.0	21.8	0.4	0.2	0.3	0.1	-0.1	-0.1	0.0
1981	0.1	0.2	-0.1	0.0	0.1	0.0	0.2	0.5	0.9	-1.3	0.4	9.6
1982	-10.1	-6.7	-1.2	0.4	-8.0	-3.4	0.4	-0.4	-0.3	-0.2	0.0	-0.1
1983	-0.2	-0.1	-0.3	0.0	0.5	0.3	0.1	-0.3	0.2	-0.1	-0.2	-0.1
1984	0.1	-0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
1985	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	-0.1	-0.2	-0.3
1986	0.0	0.0	-0.2	0.4	0.1	0.3	0.1	0.0	0.2	0.1	0.0	-0.1
1987	0.0	0.2	0.1	-0.2	0.1	0.0	2.5	2.9	2.5	-2.2	-6.7	-32.9
1988	-21.0	-8.7	-7.8	-1.3	0.2	2.6	2.4	4.1	3.0	-7.5	8.9	-31.2
1989	-31.5	-13.0	-8.2	6.4	7.2	3.5	1.5	4.2	3.0	-0.4	2.5	-0.9
1990	-5.9	-4.5	-3.9	-4.2	-0.3	1.2	1.4	1.1	0.8	18.6	7.2	-34.1
1991	-33.3	-14.4	-9.9	-6.5	-2.3	-0.5	0.6	0.6	2.9	16.1	5.1	-28.9
1992	-27.5	-11.3	-7.7	-7.1	-4.7	0.1	0.5	2.9	3.3	0.6	8.5	-28.7
1993	-30.3	-11.1	-4.4	1.6	1.3	1.0	0.7	0.7	-14.5	-6.9	0.6	0.3
1994	0.0	0.0	0.0	0.4	1.5	0.8	0.6	0.5	0.4	-4.8	-30.5	6.0
1995	-4.9	-0.4	-4.1	0.0	0.7	0.3	0.2	0.1	0.2	-0.1	0.0	0.1
1996	-0.1	-0.1	0.0	0.1	0.2	-0.1	0.3	0.0	0.1	0.1	0.2	0.1
1997	0.0	-0.1	-0.1	-0.4	-0.2	0.0	0.0	0.3	0.2	0.1	-0.1	-0.3
1998	0.3	0.4	0.2	0.4	0.3	-0.1	0.0	0.4	0.2	-0.1	-0.2	0.0
1999	-0.1	0.0	0.1	-0.1	0.0	0.0	0.4	0.3	0.2	0.1	0.1	0.1
2000	0.0	0.0	-0.1	-0.3	0.1	0.3	0.3	-0.1	-0.1	0.1	0.0	0.0
2001	0.0	-0.1	-0.1	-0.6	0.1	0.1	0.9	1.0	2.1	-0.9	4.3	-17.7
2002	-16.5	-5.8	0.8	0.7	0.6	0.3	0.2	0.1	1.2	0.1	-0.1	-0.8
2003	-0.9	-0.1	-0.1	0.5	0.1	0.1	0.2	0.2	0.1	1.1	1.5	-2.6
Average	-7.5	-3.1	-1.8	-0.6	0.5	0.0	0.4	0.7	0.3	0.0	-2.2	-7.6
Critical	-17.5	-7.6	-5.6	-4.3	-1.3	0.7	1.2	1.6	1.7	1.6	-10.9	-30.2
Dry	-8.0	-3.1	-1.2	1.1	1.4	0.7	0.9	1.5	1.7	-0.8	0.0	-7.2
BN	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0
AN	-11.6	-4.2	-1.7	0.2	4.0	-1.4	-0.5	0.2	-2.4	-0.9	0.3	-0.4
Wet	-1.2	-0.6	-0.4	0.1	-0.5	-0.2	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-148.
CCWD Intake location in Victoria Canal salinity (EC) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.6	-1.3	0.0	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	-7.2	-12.2
1977	-6.0	-2.5	-1.6	-1.5	-0.6	0.2	0.6	0.4	0.3	-4.9	-7.4	-5.3
1978	-5.4	-2.3	-1.2	-0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.4	0.2	6.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	-0.4	0.1	2.1
1982	-1.9	-1.4	-0.4	0.1	-2.2	-0.9	0.2	-0.2	-0.1	-0.1	0.0	0.0
1983	-0.1	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	0.0	-0.1	-0.1
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1986	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.6	0.7	-0.7	-1.8	-7.8
1988	-4.2	-1.7	-1.4	-0.3	0.0	0.5	0.5	0.9	0.7	-2.3	2.2	-6.5
1989	-5.6	-2.2	-1.4	0.8	1.1	0.5	0.3	1.0	1.0	-0.1	0.6	-0.2
1990	-1.3	-0.9	-0.7	-0.7	-0.1	0.3	0.3	0.3	0.2	4.6	1.3	-6.6
1991	-5.4	-2.2	-1.4	-0.8	-0.3	-0.1	0.1	0.1	0.8	3.9	0.9	-5.7
1992	-4.6	-1.8	-1.1	-0.9	-0.6	0.0	0.1	0.7	1.0	0.2	2.0	-5.9
1993	-5.3	-2.0	-0.7	0.2	0.2	0.2	0.1	0.1	-3.4	-2.2	0.2	0.1
1994	0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.1	0.1	-1.1	-5.4	1.2
1995	-0.8	-0.1	-0.8	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	-0.1
1998	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	-0.1	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	-0.1	0.0	0.0	0.2	0.2	0.6	-0.3	1.2	-4.3
2002	-3.3	-1.2	0.2	0.1	0.1	0.1	0.0	0.0	0.3	0.0	0.0	-0.2
2003	-0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.6	-0.8
Average	-1.3	-0.5	-0.3	-0.1	0.1	0.0	0.1	0.2	0.1	0.0	-0.4	-1.5
Critical	-3.1	-1.3	-0.9	-0.6	-0.2	0.2	0.3	0.4	0.4	0.5	-1.9	-5.9
Dry	-1.5	-0.6	-0.2	0.1	0.2	0.1	0.2	0.3	0.5	-0.3	0.0	-1.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.8	-0.7	-0.3	0.0	1.1	-0.3	-0.1	0.1	-0.6	-0.3	0.1	-0.1
Wet	-0.2	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-149.
Upper Cache Slough location SLCCH016 salinity (EC) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.4	-1.1
1977	-1.1	-0.7	-0.3	-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.5	-1.6	-1.0
1978	-1.4	-1.0	-0.5	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1982	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	-1.2
1988	-0.7	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	-0.7	-1.1
1989	-1.2	-0.7	-0.3	-0.2	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	-0.1	-0.5	-0.7
1991	-0.8	-0.6	-0.3	-0.2	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.4	-0.6
1992	-0.8	-0.5	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.2	-0.6	-0.6
1993	-0.5	-0.3	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.4
1995	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	-0.5
2002	-0.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2
Critical	-0.5	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	-0.6	-0.8
Dry	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-150.
Upper Cache Slough location SLCCH016 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2	-0.6
1977	-0.6	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.8	-0.5
1978	-0.7	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.6
1988	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	-0.6
1989	-0.6	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	-0.3	-0.3
1991	-0.4	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3
1992	-0.4	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.3
1993	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3
2002	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Critical	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.4
Dry	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-151.
Montezuma Slough location SLMZU011 salinity (EC)
difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.6	0.0	-0.5	0.0	-0.1	-0.1	-0.3	-4.1	-4.9	-5.3	-2.5	-3.2
1971	7.9	0.2	-0.1	0.3	4.1	-1.0	0.0	-0.2	-0.2	-0.1	-0.1	-0.1
1972	0.0	0.0	-0.1	0.0	0.1	0.2	0.1	-0.2	-0.2	-0.2	-0.1	-0.2
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0
1974	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.1	0.8	-35.5	18.6	-98.6	-324.2	-351.6
1977	-206.0	-82.4	-40.3	-12.7	1.3	-2.7	-2.9	-40.6	-60.9	-145.4	-337.7	-281.6
1978	-170.8	-67.9	-21.8	2.5	-0.1	0.0	-0.3	-0.7	-1.0	-0.7	-0.7	-0.7
1979	-0.1	-0.1	-0.4	0.4	-1.1	-1.9	-0.1	0.0	0.1	-0.4	-1.0	-0.9
1980	-0.1	0.0	0.0	0.2	0.0	-0.2	0.1	0.0	-0.1	-0.1	0.2	0.5
1981	0.0	0.0	0.0	-0.1	0.6	0.2	-0.4	-0.2	-0.6	-5.2	-64.0	-52.1
1982	27.8	10.1	2.8	0.0	-0.1	-0.5	0.0	0.4	0.7	0.0	-0.1	-0.1
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2	-0.2	-0.3	-0.3	0.4
1985	0.1	-0.1	0.1	0.0	0.0	-0.1	-0.1	0.0	0.1	-0.2	0.7	2.7
1986	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2
1987	0.0	0.0	0.0	0.0	0.0	-0.3	0.4	3.4	16.5	-51.7	-260.1	-369.1
1988	-182.8	-71.0	-14.2	-4.0	-1.1	-1.1	-0.1	3.4	21.1	-116.8	-346.3	-278.9
1989	-169.7	-58.9	-28.1	-8.8	-7.5	22.6	31.7	54.9	17.7	-7.2	-37.4	-28.3
1990	-2.3	-2.0	-1.7	-2.1	20.1	75.7	47.6	-32.8	-71.4	-145.7	-330.0	-316.6
1991	-194.2	-78.9	-41.4	-17.8	-5.5	-3.2	-0.8	-33.2	-61.4	-142.7	-329.9	-269.1
1992	-158.7	-64.1	-33.2	-12.6	0.0	4.0	0.6	0.9	20.4	-139.8	-387.5	-274.8
1993	-153.2	-54.7	-27.3	10.4	3.4	3.1	1.8	5.2	32.4	63.8	22.4	5.7
1994	0.9	0.4	0.0	0.0	0.0	-0.5	-0.2	-11.2	-39.1	-76.9	-213.0	-279.5
1995	-107.2	-34.1	-15.6	0.2	-1.7	0.0	0.0	-0.2	0.7	2.1	3.1	4.1
1996	-7.5	0.0	3.1	0.8	0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	0.0
1997	-0.1	0.0	-0.1	0.0	-0.2	0.1	0.1	0.0	-0.4	-0.8	0.2	-0.4
1998	0.0	0.0	0.0	0.2	0.0	-0.1	0.1	0.0	0.1	-0.1	-0.5	-0.4
1999	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	0.3	0.2	-1.1	0.1
2000	-0.2	0.0	0.0	0.1	0.0	0.0	-0.5	0.2	0.2	-0.3	0.0	-0.1
2001	0.1	0.0	0.0	0.4	-0.9	-0.9	-0.4	3.4	21.1	-143.5	-403.8	-307.4
2002	-163.1	-42.3	5.6	-3.2	11.1	29.9	36.4	42.7	12.7	5.7	2.0	1.0
2003	0.4	0.0	0.0	-0.8	-0.7	-0.4	-0.2	0.2	1.9	-2.6	2.6	9.1
Average	-43.5	-16.1	-6.3	-1.4	0.6	3.6	3.3	-1.3	-2.2	-29.8	-88.5	-82.1
Critical	-106.2	-42.6	-18.7	-7.0	2.1	10.3	6.4	-21.3	-24.7	-123.7	-324.1	-293.2
Dry	-55.4	-16.9	-3.7	-2.0	0.5	8.6	11.3	17.4	11.3	-33.7	-127.1	-125.5
BN	-0.1	-0.1	-0.3	0.2	-0.5	-0.8	0.0	-0.1	0.0	-0.3	-0.6	-0.5
AN	-54.0	-20.4	-8.2	2.1	0.4	0.4	0.1	0.8	5.5	10.0	4.1	2.4
Wet	-6.1	-1.8	-0.8	0.1	0.2	-0.1	0.0	-0.4	-0.3	-0.4	-0.1	0.0

Table 1-152.
Montezuma Slough location SLMZU011 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0
1971	0.3	0.0	0.0	0.1	0.9	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.2	-0.7	-2.3	-2.3
1977	-1.9	-0.8	-0.4	-0.2	0.0	0.0	0.0	-0.4	-0.5	-1.0	-2.1	-1.7
1978	-1.6	-0.7	-0.4	0.3	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.5	-0.4
1982	0.3	0.3	0.7	0.0	0.0	-0.2	0.0	0.2	0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	-0.5	-2.1	-2.6
1988	-1.9	-0.8	-0.3	-0.3	-0.1	0.0	0.0	0.0	0.2	-1.1	-2.6	-1.8
1989	-1.5	-0.6	-0.4	-0.2	-0.2	1.3	3.6	2.1	0.3	-0.1	-0.3	-0.2
1990	0.0	0.0	0.0	-0.1	1.1	1.6	0.7	-0.4	-0.7	-1.1	-2.3	-2.1
1991	-1.8	-0.7	-0.4	-0.2	-0.1	-0.1	0.0	-0.5	-0.6	-1.1	-2.3	-1.7
1992	-1.5	-0.6	-0.3	-0.2	0.0	0.3	0.0	0.0	0.2	-1.3	-2.8	-1.8
1993	-1.6	-0.6	-0.4	0.7	1.0	0.7	0.5	1.1	3.7	2.1	0.3	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.4	-0.6	-1.6	-1.9
1995	-1.3	-0.5	-0.2	0.0	-0.5	0.0	0.0	-0.1	0.3	0.3	0.1	0.1
1996	-0.3	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.1	0.3	-1.5	-3.4	-2.2
2002	-1.7	-0.5	0.2	-0.6	1.3	1.5	1.6	1.4	0.2	0.1	0.0	0.0
2003	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Average	-0.4	-0.2	-0.1	0.0	0.1	0.1	0.2	0.1	0.1	-0.2	-0.6	-0.5
Critical	-1.0	-0.4	-0.2	-0.1	0.1	0.2	0.1	-0.3	-0.2	-1.0	-2.3	-1.9
Dry	-0.5	-0.2	0.0	-0.1	0.2	0.4	0.9	0.6	0.2	-0.3	-1.0	-0.9
BN	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.5	-0.2	-0.1	0.1	0.1	0.1	0.0	0.2	0.6	0.3	0.1	0.0
Wet	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-153.
Montezuma Slough location SLMZU025 salinity (EC)
difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.6	0.0	0.0	0.0	0.0	0.0	-0.1	-1.6	-2.2	-2.2	-1.3	-1.1
1971	0.6	0.0	0.0	0.0	1.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-60.5	-51.5	-188.5	-395.9	-376.4
1977	-187.3	-75.8	-38.2	-11.4	-4.2	-2.6	-1.1	-54.8	-53.8	-234.8	-405.4	-297.4
1978	-155.7	-63.2	-20.6	0.2	0.4	0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.2
1979	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.1	-0.1	-0.2	-0.3
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1981	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.4	8.0	-99.7	-38.5
1982	28.8	-25.0	0.1	0.0	-0.4	-0.4	0.0	0.0	0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.1
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.0	21.2	-92.9	-348.2	-391.8
1988	-165.2	-66.4	-17.6	-1.6	-0.2	-0.3	-0.1	6.1	29.9	-213.3	-383.3	-286.8
1989	-155.3	-52.6	-27.6	-8.1	-9.2	7.3	11.3	24.9	10.5	-13.6	-46.0	-22.3
1990	-1.2	-1.8	-1.5	-1.9	35.1	52.9	29.3	-44.0	-49.9	-398.8	-444.4	-328.2
1991	-177.5	-70.8	-39.1	-16.7	-6.2	-1.1	-0.1	-37.3	-43.1	-241.0	-387.3	-274.8
1992	-144.5	-59.6	-32.0	-12.4	0.1	0.9	0.6	5.0	32.8	-265.9	-423.4	-289.9
1993	-134.7	-53.2	-26.0	2.8	0.9	0.8	0.1	0.9	10.9	32.8	15.4	3.9
1994	0.7	0.2	0.1	0.0	0.0	-0.1	0.0	-12.1	-42.9	-80.2	-302.4	-300.1
1995	-90.9	-32.5	-15.5	0.1	0.1	0.0	0.0	0.0	0.1	0.5	2.2	2.2
1996	-1.7	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	0.1	-0.1
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1999	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.3	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	-0.1	0.1	0.0
2001	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	4.0	28.1	-240.5	-401.9	-301.8
2002	-147.0	-40.9	-15.0	-0.3	6.9	12.0	17.7	18.5	7.3	3.2	1.3	0.5
2003	0.2	0.0	0.0	0.0	-0.1	-0.1	0.0	0.1	1.3	-7.5	9.8	9.2
Average	-39.2	-15.9	-6.8	-1.4	0.7	2.0	1.7	-4.3	-3.0	-56.9	-106.2	-85.1
Critical	-96.4	-39.2	-18.3	-6.3	3.5	7.1	4.2	-28.2	-25.5	-231.8	-391.7	-307.6
Dry	-50.4	-15.6	-7.1	-1.4	-0.4	3.2	4.8	8.7	11.1	-56.0	-149.1	-125.5
BN	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.2
AN	-48.4	-19.4	-7.8	0.5	0.2	0.1	0.0	0.2	2.0	4.2	4.2	2.2
Wet	-4.9	-4.4	-1.2	0.0	0.1	0.0	0.0	-0.1	-0.2	-0.2	0.0	0.0

Table 1-154.
Montezuma Slough location SLMZU025 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.5	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-0.6	-2.0	-3.9	-3.2
1977	-1.8	-0.8	-0.4	-0.3	-0.1	-0.1	0.0	-0.7	-0.5	-2.1	-3.4	-2.3
1978	-1.6	-0.7	-0.4	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.2	-0.4
1982	0.3	-1.6	0.0	0.0	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	-1.4	-3.8	-3.6
1988	-1.8	-0.7	-0.5	-0.3	0.0	0.0	0.0	0.1	0.5	-2.7	-3.8	-2.4
1989	-1.5	-0.6	-0.4	-0.2	-0.2	1.2	3.4	2.1	0.3	-0.2	-0.6	-0.3
1990	0.0	0.0	0.0	-0.1	3.0	2.3	0.8	-1.0	-0.7	-4.1	-4.1	-2.8
1991	-1.7	-0.7	-0.4	-0.2	-0.1	-0.1	0.0	-1.0	-0.6	-2.5	-3.6	-2.3
1992	-1.4	-0.6	-0.3	-0.2	0.0	0.2	0.0	0.1	0.6	-3.4	-4.0	-2.4
1993	-1.5	-0.6	-0.4	0.5	0.4	0.4	0.1	0.4	3.4	2.1	0.3	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.7	-0.9	-3.1	-2.7
1995	-1.2	-0.4	-0.3	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1
1996	-0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	-3.8	-4.7	-2.8
2002	-1.7	-0.5	-1.2	-0.1	1.9	1.7	2.3	1.5	0.2	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	0.2	0.2
Average	-0.4	-0.2	-0.1	0.0	0.2	0.2	0.2	0.0	0.1	-0.6	-1.0	-0.7
Critical	-1.0	-0.4	-0.2	-0.1	0.4	0.3	0.1	-0.6	-0.3	-2.5	-3.7	-2.6
Dry	-0.5	-0.2	-0.3	0.0	0.3	0.5	0.9	0.6	0.3	-0.9	-1.7	-1.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.5	-0.2	-0.1	0.1	0.1	0.1	0.0	0.1	0.6	0.3	0.1	0.0
Wet	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-155.
Suisun Slough location SLSUS01 salinity (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-2.6	-3.0	-5.1	-3.6	-2.3	-1.5	-1.4	-2.6	-4.0	-3.0	-2.1	-3.4
1971	2.6	-0.4	-0.9	-1.7	-1.1	-0.5	0.0	-1.4	-0.9	-0.6	-0.5	-0.4
1972	-0.4	-0.6	-1.3	-0.9	1.6	1.6	0.7	-0.8	-0.8	-0.5	-0.5	-0.6
1973	0.1	0.1	0.0	-0.1	-0.4	-0.6	0.2	-0.4	-0.3	-0.3	0.5	0.1
1974	-0.3	0.2	1.1	-0.4	-2.6	0.8	-1.3	0.2	-0.2	-0.3	-0.4	-0.1
1975	0.0	-0.1	-0.1	0.0	1.2	0.0	-1.1	-0.3	0.0	0.0	0.0	-0.1
1976	-0.1	0.0	0.2	-0.2	-0.5	0.7	1.6	-37.5	-93.8	-98.9	-265.7	-305.8
1977	-227.8	-114.4	-60.3	-30.2	-5.5	-8.8	-7.2	-39.1	-73.9	-122.7	-280.7	-249.4
1978	-189.1	-95.0	-44.0	-8.5	-4.3	-5.4	-4.7	-5.5	-4.9	-3.0	-2.9	-2.9
1979	-2.2	-2.3	-1.6	-0.5	-7.0	-14.3	1.2	0.0	-0.2	-1.2	-4.2	-2.8
1980	-0.1	0.7	-0.5	8.7	-4.0	-3.8	2.1	0.2	-0.7	-0.2	0.5	2.4
1981	-0.8	-1.3	-1.5	-1.5	4.2	1.7	-2.3	-0.9	-2.1	-7.3	-47.1	-36.8
1982	11.8	-18.4	-12.2	-1.7	-3.5	-3.1	-0.3	0.7	0.8	0.4	-0.7	0.0
1983	-0.2	-0.5	0.5	-0.1	-0.2	-0.2	-0.8	-0.5	-1.1	-0.3	-0.2	-0.2
1984	-0.2	-0.2	-0.4	0.1	-0.5	-0.4	-0.2	-0.9	-1.1	-2.3	-3.7	4.9
1985	0.1	-0.7	0.7	-1.2	0.1	-0.8	-0.1	-0.2	1.6	-2.5	4.6	12.0
1986	-1.3	-1.7	-1.1	-0.5	0.0	-0.7	-0.7	-0.4	-0.4	-0.4	-0.2	-0.1
1987	0.1	-0.4	-0.2	0.1	-0.5	-2.7	2.1	1.8	13.0	-41.5	-209.5	-307.5
1988	-210.1	-101.4	-37.6	-16.6	-7.1	-4.6	2.3	0.4	15.1	-91.6	-281.7	-258.3
1989	-188.1	-87.8	-45.1	-20.4	-9.1	11.9	35.5	62.4	20.4	-3.3	-35.1	-24.5
1990	-8.0	-4.7	-4.4	-3.9	23.0	78.7	50.2	-19.5	-65.6	-138.7	-303.8	-281.0
1991	-214.7	-103.8	-59.7	-31.5	-17.1	-5.8	-4.5	-35.6	-78.8	-134.2	-281.9	-239.2
1992	-174.7	-84.3	-45.6	-18.1	16.3	21.7	-4.4	-17.1	-4.0	-124.6	-334.2	-276.2
1993	-177.6	-73.1	-41.1	3.5	7.7	3.7	31.4	22.2	36.8	63.9	2.6	-9.4
1994	12.8	5.0	0.8	-1.6	-0.4	-1.4	-1.0	-11.0	-33.4	-67.1	-171.4	-233.8
1995	-139.6	-53.2	-28.0	-7.3	-3.3	-4.3	-2.7	-5.2	-2.3	4.4	3.4	3.4
1996	-4.4	-1.2	1.7	-2.7	-0.1	-0.7	-1.2	-1.1	-0.5	-0.6	-0.6	-0.7
1997	-0.6	-0.7	-1.2	-1.9	-3.7	0.9	0.3	0.0	-4.5	-2.4	-1.1	-1.7
1998	0.0	0.0	0.1	2.5	0.7	-0.8	1.5	-0.7	1.3	-0.4	-3.4	-1.6
1999	-0.3	0.4	0.7	0.2	0.4	0.7	-0.2	-1.2	2.9	-1.1	-5.7	0.7
2000	-1.6	0.1	-0.7	1.0	-1.0	-1.1	-3.8	1.4	-0.2	0.2	-0.7	0.2
2001	0.9	1.2	2.0	3.1	-8.0	-7.2	-1.5	4.7	20.9	-108.2	-314.0	-273.9
2002	-181.8	-83.7	-33.0	-31.1	4.9	35.1	40.0	48.5	19.8	15.5	3.5	5.3
2003	1.4	-7.2	-4.6	-18.6	-6.9	-1.3	-2.5	-3.1	1.7	6.3	6.1	10.7
Average	-49.9	-24.5	-12.4	-5.5	-0.9	2.6	3.7	-1.3	-7.0	-25.5	-74.4	-72.7
Critical	-117.5	-57.6	-29.5	-14.6	1.2	11.5	5.3	-22.8	-47.8	-111.1	-274.2	-263.4
Dry	-61.6	-28.8	-12.8	-8.5	-1.4	6.3	12.3	19.4	12.3	-24.5	-99.6	-104.2
BN	-1.3	-1.4	-1.4	-0.7	-2.7	-6.4	1.0	-0.4	-0.5	-0.9	-2.3	-1.7
AN	-61.2	-29.1	-15.2	-2.3	-1.5	-1.4	3.8	2.5	5.4	11.1	1.0	0.2
Wet	-10.4	-6.1	-3.5	-1.3	-1.2	-0.8	-0.6	-1.0	-0.8	-0.5	-1.2	0.0

Table 1-156.
Suisun Slough location SLSUS012 salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.1	-0.1	-0.2	-0.5	-0.4	-0.3	-0.1	-0.1	-0.1	0.0	0.0	0.0
1971	0.1	0.0	0.0	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.1	-0.1	-0.4	0.2	-0.3	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.7	-0.7	-1.8	-1.9
1977	-1.6	-0.9	-0.5	-0.3	-0.1	-0.1	-0.1	-0.3	-0.5	-0.8	-1.7	-1.4
1978	-1.3	-0.7	-0.4	-0.2	-0.3	-0.5	-0.5	-0.4	-0.2	-0.1	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.3	-0.9	0.1	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.3	-0.4	-0.4	0.2	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.0	-0.1	-0.4	-0.2
1982	0.1	-0.2	-0.6	-0.2	-0.5	-0.5	0.0	0.1	0.1	0.0	0.0	0.0
1983	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.1	0.0	0.0
1984	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.1
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1986	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.1	-0.4	-1.6	-2.0
1988	-1.6	-0.8	-0.4	-0.4	-0.2	-0.1	0.0	0.0	0.1	-0.7	-1.9	-1.6
1989	-1.3	-0.7	-0.4	-0.2	-0.1	0.3	1.8	1.7	0.3	0.0	-0.3	-0.2
1990	-0.1	0.0	0.0	0.0	0.4	1.2	0.6	-0.2	-0.6	-1.0	-2.0	-1.7
1991	-1.5	-0.8	-0.5	-0.3	-0.2	-0.1	-0.1	-0.5	-0.7	-0.9	-1.8	-1.5
1992	-1.2	-0.6	-0.3	-0.2	0.3	0.7	-0.1	-0.2	0.0	-1.0	-2.2	-1.7
1993	-1.3	-0.6	-0.4	0.1	0.5	0.3	2.6	2.0	2.3	1.6	0.0	-0.1
1994	0.2	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.5	-1.2	-1.5
1995	-1.1	-0.5	-0.3	-0.2	-0.2	-0.5	-0.3	-0.8	-0.3	0.4	0.1	0.1
1996	-0.1	0.0	0.0	-0.1	0.0	-0.1	-0.2	-0.2	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	-0.3	-0.6	0.1	0.0	0.0	-0.1	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.1	0.1	-0.1	0.3	-0.1	0.3	-0.1	-0.1	0.0
1999	0.0	0.0	0.0	0.0	0.1	0.2	0.0	-0.1	0.1	0.0	-0.1	0.0
2000	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.4	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	-0.2	-0.3	-0.1	0.1	0.3	-1.0	-2.4	-1.8
2002	-1.4	-0.7	-0.5	-1.6	0.3	1.1	1.2	1.2	0.3	0.1	0.0	0.0
2003	0.0	-0.1	-0.1	-1.0	-0.5	-0.1	-0.1	-0.3	0.1	0.1	0.1	0.1
Average	-0.4	-0.2	-0.1	-0.2	-0.1	0.0	0.1	0.0	0.0	-0.2	-0.5	-0.5
Critical	-0.8	-0.4	-0.2	-0.2	0.0	0.2	0.1	-0.2	-0.4	-0.8	-1.8	-1.6
Dry	-0.5	-0.2	-0.1	-0.3	0.0	0.2	0.5	0.5	0.2	-0.2	-0.8	-0.7
BN	0.0	0.0	0.0	0.0	-0.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.4	-0.2	-0.1	-0.1	-0.1	-0.2	0.3	0.2	0.4	0.3	0.0	0.0
Wet	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0

Table 1-157.
CCWD Intake location in Victoria Canal salinity (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.1	0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.1	0.0	0.0	0.0	0.2	-0.1	0.2	0.1	0.0	0.0	-0.1
1974	-0.2	0.0	0.1	0.0	-0.1	0.1	-0.2	0.0	0.1	0.1	0.0	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	0.0	0.0	0.0
1976	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-1.9	10.9	-5.1	-31.3
1977	-18.0	-7.8	-4.3	-3.4	-1.5	-0.6	-0.3	-0.2	-2.4	-18.7	-23.9	-16.6
1978	-20.6	-8.5	-4.0	-1.1	0.3	0.3	0.0	0.3	0.2	0.1	0.0	0.1
1979	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.2	-0.3	0.2	0.3	0.1	-0.1	-0.1	0.0
1981	0.1	0.1	0.0	0.0	0.0	-0.1	-0.2	-0.1	-0.2	0.4	-3.6	13.8
1982	-3.7	-3.5	-1.2	0.3	-8.1	-3.4	0.4	-0.4	-0.3	-0.2	0.0	-0.1
1983	-0.2	-0.1	-0.3	0.0	0.5	0.2	0.2	-0.3	0.2	-0.1	-0.2	-0.1
1984	0.1	-0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1986	0.1	0.1	0.0	0.1	0.1	0.3	0.1	0.0	0.2	0.1	0.0	-0.1
1987	0.0	0.2	0.1	0.0	0.0	0.0	0.0	-0.1	0.1	-0.9	-1.6	-17.7
1988	-9.7	-4.3	-3.0	-1.1	-0.2	-0.1	0.0	0.0	0.1	-5.4	6.9	-13.6
1989	-14.3	-6.3	-3.1	-2.4	-1.2	-0.5	0.3	0.4	0.2	-1.2	-0.8	2.3
1990	-0.5	-0.3	-0.2	-0.2	0.1	0.7	0.7	0.5	-0.4	9.5	7.1	-17.2
1991	-15.9	-7.7	-5.0	-3.8	-2.1	-0.6	-0.2	-0.1	-0.8	8.5	5.6	-15.1
1992	-13.8	-6.5	-4.1	-2.9	-1.2	-0.1	0.0	0.0	0.1	0.9	5.3	-10.9
1993	-11.1	-4.4	-2.8	-0.9	0.7	0.5	0.3	0.4	-14.7	-7.0	0.4	0.2
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-9.8	-24.1	3.5
1995	0.5	-0.8	-1.4	-0.7	0.1	0.2	0.2	0.1	0.2	-0.1	0.0	0.0
1996	-0.1	-0.1	0.0	0.0	0.1	-0.1	0.3	0.0	0.0	0.0	0.0	0.0
1997	-0.1	-0.1	-0.1	-0.4	-0.2	0.0	0.0	0.3	0.2	0.0	0.0	0.0
1998	0.1	0.0	0.0	0.1	0.3	-0.1	0.0	0.4	0.2	-0.1	-0.2	0.0
1999	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.4	0.3	0.2	0.1	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.1	0.2	0.3	-0.1	-0.1	0.0	0.0	0.0
2001	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	5.5	9.3	-7.5
2002	-6.8	-2.5	-1.6	-0.6	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.2	-0.1	-2.7
Average	-3.4	-1.6	-0.9	-0.5	-0.3	-0.1	0.1	0.1	-0.5	-0.2	-0.7	-3.3
Critical	-8.3	-3.8	-2.4	-1.6	-0.7	-0.1	0.1	0.0	-0.8	-0.6	-4.0	-14.4
Dry	-3.5	-1.4	-0.8	-0.5	-0.2	-0.1	0.0	0.1	0.0	0.6	0.6	-1.5
BN	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
AN	-5.3	-2.1	-1.1	-0.3	0.2	0.2	0.2	0.2	-2.4	-1.1	0.0	-0.4
Wet	-0.3	-0.4	-0.2	-0.1	-0.6	-0.2	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-158.
CCWD Intake location in Victoria Canal salinity (EC) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	2.5	-0.9	-6.0
1977	-3.1	-1.3	-0.7	-0.4	-0.2	-0.1	-0.1	0.0	-0.5	-3.9	-5.0	-2.8
1978	-2.9	-1.4	-0.6	-0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.9	3.0
1982	-0.7	-0.7	-0.4	0.1	-2.2	-0.9	0.2	-0.2	-0.1	-0.1	0.0	0.0
1983	-0.1	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	0.0	-0.1	-0.1
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.4	-4.2
1988	-1.9	-0.8	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	-1.7	1.7	-2.8
1989	-2.5	-1.1	-0.5	-0.3	-0.2	-0.1	0.1	0.1	0.1	-0.4	-0.2	0.5
1990	-0.1	-0.1	0.0	0.0	0.0	0.2	0.2	0.1	-0.1	2.4	1.3	-3.3
1991	-2.6	-1.2	-0.7	-0.5	-0.3	-0.1	0.0	0.0	-0.2	2.1	1.0	-3.0
1992	-2.3	-1.0	-0.6	-0.4	-0.2	0.0	0.0	0.0	0.0	0.3	1.3	-2.2
1993	-1.9	-0.8	-0.5	-0.1	0.1	0.1	0.0	0.1	-3.5	-2.2	0.2	0.1
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-4.3	0.7
1995	0.1	-0.2	-0.3	-0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	-0.1	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.7	-1.8
2002	-1.4	-0.5	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.8
Average	-0.6	-0.3	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.7
Critical	-1.4	-0.6	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.2	-0.1	-0.7	-2.8
Dry	-0.6	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.8	-0.4	-0.2	0.0	0.0	0.0	0.0	0.1	-0.6	-0.3	0.0	-0.1
Wet	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-159.
Upper Cache Slough location SLCCH016 salinity (EC) difference
No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.3
1977	-1.3	-0.6	-0.2	0.0	0.0	0.0	0.1	0.0	0.1	-0.4	-1.4	-0.9
1978	-1.3	-0.7	-0.2	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3
1982	-0.1	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.8	-1.5
1988	-0.9	-0.3	-0.1	0.0	0.1	0.0	0.1	0.1	0.1	-0.2	-0.9	-1.2
1989	-1.3	-0.4	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
1990	-0.1	0.0	0.1	0.1	0.1	0.3	0.2	0.0	0.1	-0.1	-0.6	-0.7
1991	-0.8	-0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.1	0.0	-0.4	-0.5
1992	-0.7	-0.2	0.2	0.3	0.2	0.3	0.2	0.1	0.1	-0.1	-0.7	-0.8
1993	-0.6	-0.3	0.0	0.0	0.0	-0.2	0.1	0.1	0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	-0.1	-0.4
1995	-0.2	-0.1	0.0	0.0	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	-0.5	-0.6
2002	-0.5	-0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Average	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2
Critical	-0.5	-0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	-0.6	-0.8
Dry	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.3	-0.2	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-160.
Upper Cache Slough location SLCCH016 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.7
1977	-0.7	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.7	-0.4
1978	-0.6	-0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1982	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.8
1988	-0.4	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.5	-0.6
1989	-0.6	-0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1
1990	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.3	-0.4
1991	-0.4	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.2	-0.3
1992	-0.3	-0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	-0.1	-0.4	-0.4
1993	-0.3	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.3
2002	-0.3	-0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Critical	-0.3	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.3	-0.4
Dry	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-161.
Montezuma Slough location SLMZU011 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.3	0.9	-1.3	-0.3	-0.1	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.1	121.3	-51.1	-376.0	-463.0
1977	-287.7	-106.3	-45.1	-9.7	0.4	-3.8	-4.1	5.3	22.3	-89.9	-290.5	-273.1
1978	-185.4	-65.8	8.6	13.7	1.3	0.7	0.4	2.9	12.1	16.4	6.2	1.9
1979	0.3	0.0	-0.7	-6.4	6.5	10.3	9.1	11.9	8.7	3.2	1.0	0.2
1980	1.3	16.1	22.1	0.4	-0.2	0.0	1.5	5.0	4.5	1.3	0.4	0.1
1981	-0.1	0.3	2.1	-0.4	-6.2	2.3	6.4	11.2	13.0	-30.5	-207.3	-304.8
1982	-123.2	21.5	4.1	-0.1	-0.1	-0.4	0.0	0.5	3.0	4.7	1.8	0.1
1983	-32.6	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.4	7.0
1984	1.2	1.9	0.0	0.0	0.2	0.4	1.8	8.6	6.8	2.3	0.7	0.2
1985	-0.3	1.0	9.7	-0.1	1.6	6.3	4.6	7.2	7.3	2.9	1.6	1.1
1986	1.2	1.0	2.3	6.2	0.3	0.0	0.4	1.7	1.8	0.6	0.2	0.1
1987	0.0	0.1	0.5	3.2	5.3	3.0	2.5	1.3	9.6	-114.2	-424.6	-555.8
1988	-273.9	-103.2	18.1	19.6	17.3	4.4	27.3	42.0	29.0	-181.3	-496.9	-398.4
1989	-235.9	-75.2	56.3	70.3	13.4	48.0	47.3	76.0	27.2	-8.5	-136.3	-220.0
1990	-71.9	-21.9	-6.2	17.1	47.5	140.6	112.2	57.3	63.0	-111.5	-370.5	-385.1
1991	-252.2	-91.9	-40.2	-11.2	30.6	99.2	32.9	73.7	95.7	-67.6	-304.1	-284.9
1992	-179.4	-65.2	-24.1	-5.3	19.1	41.4	67.2	75.2	45.6	-154.8	-470.0	-410.7
1993	-225.5	-74.6	71.9	35.5	5.6	12.8	10.2	16.9	57.6	91.6	36.1	13.3
1994	0.3	0.6	-0.6	29.6	9.9	51.2	77.8	67.3	69.5	6.8	-224.0	-328.3
1995	-160.7	-44.6	21.2	19.0	2.1	0.0	-0.5	-0.2	1.7	8.2	32.4	40.1
1996	-2.6	0.3	19.8	15.0	0.4	0.0	0.3	0.5	8.9	28.2	17.2	7.5
1997	-10.1	-19.4	-0.1	-0.1	-0.2	3.3	11.3	17.0	19.1	13.0	3.6	5.1
1998	-6.7	-0.5	5.5	8.6	-0.4	-0.4	0.0	0.1	0.1	1.2	9.7	20.2
1999	-1.9	10.8	5.5	1.3	0.1	0.1	0.8	3.7	10.1	11.8	4.3	1.4
2000	0.1	0.0	-0.2	9.9	3.1	0.2	1.8	5.6	6.5	2.9	1.1	0.3
2001	0.0	-0.1	1.3	2.7	-10.7	3.0	6.4	27.3	52.6	-183.4	-508.8	-412.0
2002	-234.4	9.1	39.7	5.0	21.0	73.7	75.9	70.8	45.8	19.0	7.0	4.7
2003	1.5	-1.3	13.9	3.2	2.6	11.7	11.7	3.8	20.0	32.1	-42.9	-63.7
Average	-67.0	-17.8	5.5	6.7	5.0	15.0	14.9	17.4	22.4	-21.9	-109.6	-117.6
Critical	-152.1	-55.4	-14.0	5.7	17.8	47.6	44.8	45.8	63.8	-92.8	-361.7	-363.4
Dry	-78.4	-10.8	18.3	13.5	4.1	22.7	23.9	32.3	25.9	-52.5	-211.4	-247.8
BN	0.1	0.0	-0.3	-3.2	3.2	5.2	4.5	6.0	4.3	1.6	0.5	0.1
AN	-68.0	-20.9	19.4	10.5	2.1	4.3	4.4	5.5	16.7	24.0	0.1	-8.0
Wet	-25.8	-2.2	4.5	3.8	0.2	0.2	1.1	2.5	4.0	5.4	5.6	6.3

Table 1-162.
Montezuma Slough location SLMZU011 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-0.4	-2.7	-3.0
1977	-2.6	-1.1	-0.5	-0.2	0.0	-0.1	0.0	0.0	0.2	-0.6	-1.8	-1.6
1978	-1.8	-0.7	0.2	1.4	0.4	0.3	0.1	0.5	0.7	0.3	0.1	0.0
1979	0.0	0.0	0.0	-0.2	0.7	1.6	0.8	0.7	0.3	0.0	0.0	0.0
1980	0.0	0.3	0.6	0.1	-0.1	0.0	0.2	0.4	0.2	0.0	0.0	0.0
1981	0.0	0.0	0.1	0.0	-0.5	0.2	0.3	0.3	0.2	-0.3	-1.8	-2.2
1982	-1.3	0.7	1.0	0.0	0.0	-0.2	0.0	0.2	0.5	0.2	0.0	0.0
1983	-1.4	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4
1984	0.1	0.3	0.0	0.0	0.1	0.1	0.2	0.4	0.1	0.0	0.0	0.0
1985	0.0	0.0	0.5	0.0	0.1	0.2	0.1	0.2	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.1	-1.1	-3.4	-3.9
1988	-2.8	-1.1	0.4	1.3	1.3	0.1	0.4	0.5	0.3	-1.7	-3.7	-2.6
1989	-2.1	-0.8	0.7	1.3	0.3	2.8	5.4	2.9	0.4	-0.1	-1.2	-1.8
1990	-0.9	-0.3	-0.1	0.4	2.5	3.0	1.7	0.7	0.6	-0.9	-2.6	-2.5
1991	-2.3	-0.9	-0.4	-0.2	0.7	3.5	1.6	1.2	0.9	-0.5	-2.1	-1.8
1992	-1.6	-0.6	-0.2	-0.1	0.8	2.7	2.0	1.1	0.5	-1.4	-3.3	-2.7
1993	-2.3	-0.8	1.0	2.5	1.6	3.1	2.7	3.7	6.6	3.0	0.5	0.1
1994	0.0	0.0	0.0	0.7	0.5	1.6	1.4	1.1	0.8	0.1	-1.6	-2.2
1995	-1.9	-0.6	0.3	2.2	0.6	0.0	-0.2	-0.1	0.7	1.1	1.1	0.8
1996	-0.1	0.0	1.1	1.9	0.2	0.0	0.1	0.2	0.7	0.6	0.2	0.1
1997	-0.4	-0.9	0.0	-0.1	-0.1	0.6	0.8	0.7	0.4	0.2	0.0	0.1
1998	-0.2	0.0	0.2	0.7	-0.2	-0.2	0.0	0.1	0.0	0.3	0.5	0.7
1999	-0.1	0.6	0.6	0.3	0.1	0.0	0.2	0.4	0.4	0.2	0.1	0.0
2000	0.0	0.0	0.0	0.4	0.8	0.1	0.3	0.4	0.2	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.1	-0.7	0.3	0.3	0.6	0.7	-1.9	-4.2	-2.9
2002	-2.5	0.1	1.5	1.0	2.5	3.6	3.4	2.3	0.8	0.2	0.1	0.0
2003	0.0	0.0	0.5	0.8	0.5	0.9	1.0	0.8	1.0	0.6	-0.5	-0.7
Average	-0.7	-0.2	0.2	0.4	0.4	0.7	0.7	0.6	0.5	-0.1	-0.8	-0.8
Critical	-1.5	-0.6	-0.1	0.3	0.8	1.6	1.0	0.7	0.6	-0.8	-2.6	-2.4
Dry	-0.8	-0.1	0.5	0.4	0.3	1.2	1.6	1.0	0.4	-0.5	-1.7	-1.8
BN	0.0	0.0	0.0	-0.1	0.3	0.8	0.4	0.4	0.1	0.0	0.0	0.0
AN	-0.7	-0.2	0.4	0.9	0.5	0.8	0.8	1.0	1.4	0.7	0.0	-0.1
Wet	-0.4	0.0	0.3	0.4	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2

Table 1-163.
Montezuma Slough location SLMZU025 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.5	-1.5	-1.1	-0.2	-0.1	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.6	51.5	-173.3	-492.8	-516.3
1977	-262.4	-96.6	-41.7	-8.5	-6.7	-2.9	-2.1	11.4	29.1	-179.3	-373.8	-305.6
1978	-171.7	-59.6	14.3	4.1	0.6	0.3	0.2	0.9	6.3	9.7	4.3	1.2
1979	0.2	0.1	-0.7	5.8	2.1	1.4	3.0	4.3	4.3	1.8	0.7	0.2
1980	1.5	17.9	27.1	1.8	-0.5	0.1	0.4	1.7	1.9	0.6	0.3	0.1
1981	-0.1	0.5	2.0	2.9	-1.2	0.9	3.1	8.0	9.9	-45.3	-307.1	-328.6
1982	-106.6	-14.5	0.0	0.1	-0.4	-0.3	0.0	0.1	0.9	2.5	1.3	0.0
1983	2.8	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.6	1.8
1984	4.2	0.5	0.0	0.0	0.0	0.1	0.7	4.0	4.0	1.3	0.4	0.0
1985	-0.3	5.1	4.9	4.8	4.5	3.0	2.5	4.7	5.1	2.3	1.6	1.5
1986	1.2	1.1	7.4	3.1	0.0	0.0	0.2	0.6	0.9	0.3	0.1	0.0
1987	0.0	0.7	0.3	3.6	2.5	0.9	1.4	1.6	12.4	-188.8	-552.8	-589.9
1988	-245.1	-95.9	36.4	13.5	5.1	3.3	30.3	31.1	28.8	-320.3	-552.6	-419.0
1989	-217.1	-65.3	72.7	67.9	13.2	15.3	16.7	35.2	18.0	-21.3	-204.8	-215.3
1990	-59.8	-16.3	-6.7	21.2	58.8	104.4	69.3	47.4	60.8	-401.4	-513.2	-417.6
1991	-231.1	-79.9	-37.1	-10.5	40.8	30.8	25.1	68.3	93.1	-182.9	-379.6	-306.7
1992	-163.7	-59.4	-21.8	-6.1	10.8	16.4	44.4	55.8	41.0	-303.9	-529.8	-433.6
1993	-201.7	-67.1	89.2	16.7	1.3	3.1	1.2	3.1	18.5	46.7	23.0	6.9
1994	0.6	0.7	-0.7	41.4	12.0	34.9	52.1	48.9	64.2	-30.3	-332.8	-366.5
1995	-141.2	-42.3	30.9	5.9	0.5	0.0	0.1	0.0	0.2	2.2	22.1	21.0
1996	-0.5	0.0	14.4	2.2	0.0	0.0	0.0	0.1	5.5	16.3	10.7	2.8
1997	-1.7	-0.6	0.2	0.0	0.0	0.9	3.7	8.5	11.2	6.6	1.9	2.0
1998	-0.1	0.1	9.9	3.1	0.0	0.0	0.0	0.0	0.0	0.2	5.4	9.0
1999	2.9	5.4	1.2	0.1	0.0	0.0	0.1	1.3	6.2	7.0	2.7	0.5
2000	0.1	0.0	-0.1	9.8	0.3	0.0	0.4	2.0	3.9	1.8	0.6	0.1
2001	0.0	-0.1	1.7	7.2	2.0	0.8	3.1	24.1	47.7	-318.2	-522.2	-419.6
2002	-210.5	31.2	22.3	1.2	12.0	29.1	34.7	37.5	30.5	13.2	6.6	5.4
2003	1.1	-1.1	7.0	0.3	0.5	3.7	2.7	0.5	21.3	1.6	-45.6	-49.5
Average	-58.8	-15.7	6.9	5.6	4.7	7.2	8.6	11.7	17.0	-60.3	-138.9	-126.9
Critical	-137.4	-49.6	-10.2	7.3	17.3	26.7	31.4	37.5	52.6	-227.3	-453.5	-395.1
Dry	-71.3	-4.7	17.3	14.6	5.5	8.3	10.2	18.5	20.6	-93.0	-263.1	-257.7
BN	0.1	0.0	-0.4	2.9	1.0	0.7	1.5	2.1	2.2	0.9	0.3	0.1
AN	-61.8	-18.3	22.9	5.5	0.4	1.1	0.6	1.2	8.6	10.1	-2.9	-6.9
Wet	-18.4	-3.7	4.9	1.1	0.0	0.1	0.4	1.1	2.2	2.8	3.6	2.8

Table 1-164.
Montezuma Slough location SLMZU025 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.3	-0.5	-0.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-1.9	-4.9	-4.3
1977	-2.5	-1.0	-0.4	-0.2	-0.2	-0.1	0.0	0.2	0.3	-1.6	-3.1	-2.3
1978	-1.7	-0.6	0.3	1.2	0.3	0.1	0.1	0.3	0.8	0.4	0.1	0.0
1979	0.0	0.0	0.0	0.4	0.7	0.5	0.7	0.8	0.3	0.0	0.0	0.0
1980	0.0	0.3	0.9	0.6	-0.2	0.0	0.2	0.3	0.2	0.0	0.0	0.0
1981	0.0	0.0	0.1	0.2	-0.3	0.2	0.4	0.4	0.2	-0.7	-3.7	-3.2
1982	-1.2	-0.9	0.0	0.0	-0.2	-0.2	0.0	0.0	0.3	0.1	0.0	0.0
1983	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3
1984	0.5	0.2	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.0	0.0	0.0
1985	0.0	0.6	0.6	0.3	0.4	0.2	0.2	0.2	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.2	0.4	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.2	-2.7	-6.0	-5.4
1988	-2.7	-1.1	1.0	2.6	0.8	0.1	0.7	0.7	0.5	-4.1	-5.5	-3.6
1989	-2.0	-0.8	0.9	1.4	0.4	2.6	5.0	3.0	0.5	-0.3	-2.6	-2.6
1990	-0.8	-0.2	-0.1	0.8	5.0	4.6	2.0	1.0	0.8	-4.1	-4.7	-3.5
1991	-2.3	-0.8	-0.4	-0.2	1.0	3.1	2.7	1.8	1.2	-1.9	-3.5	-2.6
1992	-1.6	-0.6	-0.2	-0.1	1.1	2.8	2.8	1.3	0.7	-3.8	-5.0	-3.6
1993	-2.2	-0.7	1.4	3.1	0.6	1.4	0.6	1.4	5.7	2.9	0.4	0.2
1994	0.0	0.0	0.0	1.1	1.3	2.4	2.0	1.5	1.1	-0.4	-3.4	-3.3
1995	-1.9	-0.6	0.5	1.6	0.2	0.0	0.0	0.0	0.1	0.7	1.5	1.0
1996	0.0	0.0	1.7	0.9	0.0	0.0	0.0	0.0	0.9	0.6	0.2	0.1
1997	-0.1	0.0	0.1	0.0	0.0	0.4	0.8	0.9	0.4	0.2	0.0	0.1
1998	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.9
1999	0.2	0.8	0.4	0.1	0.0	0.0	0.1	0.4	0.5	0.3	0.0	0.0
2000	0.0	0.0	0.0	0.8	0.1	0.0	0.2	0.4	0.2	0.1	0.0	0.0
2001	0.0	0.0	0.0	0.3	0.5	0.2	0.4	1.0	1.1	-5.0	-6.1	-3.9
2002	-2.4	0.4	1.8	0.5	3.3	4.2	4.5	2.9	0.8	0.2	0.1	0.1
2003	0.0	0.0	0.6	0.2	0.2	0.9	0.8	0.2	1.7	0.1	-0.9	-1.1
Average	-0.6	-0.1	0.3	0.5	0.4	0.7	0.7	0.6	0.6	-0.6	-1.4	-1.1
Critical	-1.4	-0.5	0.0	0.6	1.3	1.8	1.5	0.9	0.7	-2.5	-4.3	-3.3
Dry	-0.7	0.0	0.6	0.5	0.7	1.3	1.8	1.3	0.5	-1.4	-3.1	-2.5
BN	0.0	0.0	0.0	0.2	0.3	0.3	0.4	0.4	0.1	0.0	0.0	0.0
AN	-0.7	-0.2	0.5	1.0	0.2	0.4	0.2	0.4	1.4	0.6	-0.1	-0.1
Wet	-0.2	0.0	0.3	0.3	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2

Table 1-165.
Suisun Slough location SLSUS012 salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	1.6	2.3	-0.9	-0.3	-0.1	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	3.1	-45.5	-293.0	-390.6
1977	-306.2	-149.1	-73.6	-32.3	-4.2	-10.2	-7.6	1.2	16.3	-68.2	-232.1	-234.5
1978	-192.9	-94.5	-20.6	12.6	1.7	-2.5	-2.6	0.7	11.1	16.0	5.4	0.7
1979	-1.0	-1.2	-2.0	1.1	9.8	8.6	10.4	13.9	10.3	3.3	0.8	-0.1
1980	0.3	9.8	25.5	5.9	1.9	0.5	1.8	5.9	5.4	1.7	0.5	0.1
1981	-0.1	0.1	1.8	4.0	2.1	3.4	7.4	11.6	13.0	-24.8	-160.0	-249.9
1982	-153.8	-36.2	-8.9	-6.7	-2.9	-2.0	-1.5	1.4	2.8	5.2	1.0	-0.6
1983	-12.3	3.1	0.9	-0.7	-0.4	-0.4	-1.1	-0.5	-0.4	0.2	3.4	7.3
1984	4.2	2.8	0.2	-0.1	0.1	0.6	2.1	6.4	7.1	2.8	1.0	0.3
1985	-0.2	5.8	14.6	8.0	5.5	6.5	5.0	7.4	7.3	2.8	1.8	1.2
1986	1.2	0.9	1.6	9.4	2.5	0.7	0.9	2.3	2.3	0.9	0.5	0.3
1987	0.2	0.1	0.3	2.5	6.7	4.5	3.1	1.3	7.0	-88.7	-343.2	-468.8
1988	-316.2	-150.7	-28.1	27.9	23.8	4.2	21.4	37.7	25.3	-134.9	-401.0	-356.3
1989	-259.6	-120.9	-5.6	56.2	13.4	43.5	57.2	87.4	30.8	-3.1	-109.6	-186.0
1990	-100.9	-33.8	-16.4	11.9	60.3	144.8	116.7	60.1	58.8	-94.5	-325.2	-331.6
1991	-267.0	-122.7	-64.2	-29.0	9.0	69.2	56.6	82.7	89.3	-40.3	-233.0	-244.3
1992	-193.3	-93.9	-42.1	-17.0	30.9	40.2	65.6	73.2	42.5	-119.4	-368.7	-359.2
1993	-251.1	-117.4	8.8	50.9	8.4	21.4	16.4	20.4	70.5	104.8	42.6	16.7
1994	3.4	-0.6	-0.5	17.6	37.6	60.3	78.5	69.6	69.9	14.3	-159.4	-260.3
1995	-188.5	-68.8	-9.8	25.9	6.3	1.6	0.0	-1.3	1.3	10.1	32.9	42.3
1996	7.7	1.7	23.2	22.1	5.1	1.5	1.0	1.1	9.3	23.9	11.5	6.3
1997	-2.2	-9.9	-1.5	-2.0	-3.2	4.8	13.0	18.1	18.4	9.5	3.6	3.2
1998	-1.8	-0.2	6.0	13.2	1.6	0.8	0.7	0.6	0.5	1.8	9.3	19.1
1999	4.1	13.7	13.3	4.1	1.3	0.7	1.6	5.1	13.4	11.8	6.9	1.3
2000	0.8	0.6	0.0	14.8	10.0	2.2	2.9	7.3	7.7	4.1	1.6	0.7
2001	0.4	0.3	0.5	4.8	-2.7	4.0	7.6	27.2	48.6	-138.9	-405.9	-362.2
2002	-267.2	-73.9	34.6	8.2	30.4	79.2	86.5	91.6	51.4	21.3	8.0	4.6
2003	2.2	-0.9	22.3	8.6	3.8	12.2	14.8	6.7	24.8	35.2	-33.6	-58.4
Average	-73.2	-30.5	-3.5	6.5	7.6	14.8	16.5	18.8	19.0	-14.4	-86.3	-100.0
Critical	-168.6	-78.7	-32.1	-3.0	22.5	44.1	47.4	46.4	43.6	-69.8	-287.5	-311.0
Dry	-87.7	-31.4	7.7	14.0	9.2	23.5	27.8	37.7	26.4	-38.6	-168.2	-210.2
BN	-0.5	-0.6	-1.0	0.6	4.9	4.3	5.2	6.9	5.2	1.6	0.4	-0.1
AN	-73.5	-33.7	6.0	15.5	4.3	5.9	5.9	6.7	19.9	26.9	2.7	-6.7
Wet	-26.3	-7.1	1.9	5.0	0.8	0.6	1.3	2.5	4.2	5.1	5.4	6.1

Table 1-166.
Suisun Slough location SLSUS012 salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-1.9	-2.4
1977	-2.2	-1.2	-0.6	-0.3	-0.1	-0.1	-0.1	0.0	0.1	-0.4	-1.4	-1.3
1978	-1.3	-0.7	-0.2	0.3	0.1	-0.2	-0.3	0.1	0.4	0.3	0.1	0.0
1979	0.0	0.0	0.0	0.0	0.4	0.5	0.5	0.5	0.2	0.0	0.0	0.0
1980	0.0	0.1	0.3	0.2	0.2	0.1	0.1	0.3	0.2	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	-0.2	-1.2	-1.7
1982	-1.2	-0.5	-0.4	-0.7	-0.4	-0.3	-0.3	0.3	0.2	0.1	0.0	0.0
1983	-0.3	0.1	0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.0	0.2	0.3
1984	0.1	0.2	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0
1985	0.0	0.1	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	-0.8	-2.5	-3.1
1988	-2.4	-1.3	-0.3	0.6	0.8	0.1	0.2	0.4	0.2	-1.1	-2.8	-2.2
1989	-1.8	-0.9	0.0	0.6	0.2	1.1	2.9	2.3	0.4	0.0	-0.8	-1.4
1990	-0.9	-0.3	-0.1	0.1	1.1	2.2	1.4	0.7	0.5	-0.7	-2.1	-2.0
1991	-1.9	-0.9	-0.5	-0.3	0.1	1.3	1.5	1.1	0.8	-0.3	-1.5	-1.5
1992	-1.4	-0.7	-0.3	-0.1	0.5	1.2	1.3	0.9	0.4	-1.0	-2.5	-2.2
1993	-1.8	-1.0	0.1	1.2	0.5	1.6	1.4	1.9	4.4	2.6	0.5	0.2
1994	0.0	0.0	0.0	0.2	0.7	1.3	1.1	0.9	0.7	0.1	-1.1	-1.6
1995	-1.5	-0.6	-0.1	0.7	0.4	0.2	0.0	-0.2	0.2	0.8	0.9	0.7
1996	0.2	0.0	0.6	1.0	0.7	0.3	0.2	0.2	0.5	0.4	0.1	0.1
1997	0.0	-0.2	-0.1	-0.4	-0.6	0.5	0.6	0.6	0.3	0.1	0.0	0.0
1998	0.0	0.0	0.1	0.4	0.2	0.1	0.1	0.1	0.1	0.3	0.4	0.5
1999	0.1	0.4	0.7	0.4	0.3	0.2	0.3	0.4	0.4	0.2	0.1	0.0
2000	0.0	0.0	0.0	0.3	0.7	0.3	0.3	0.4	0.2	0.1	0.0	0.0
2001	0.0	0.0	0.0	0.1	-0.1	0.2	0.3	0.5	0.6	-1.3	-3.1	-2.4
2002	-2.1	-0.7	0.5	0.4	1.7	2.4	2.5	2.2	0.7	0.2	0.1	0.0
2003	0.0	0.0	0.4	0.5	0.3	0.6	0.7	0.6	0.9	0.5	-0.4	-0.6
Average	-0.5	-0.2	0.0	0.2	0.2	0.4	0.5	0.4	0.4	0.0	-0.6	-0.6
Critical	-1.2	-0.6	-0.3	0.0	0.5	0.8	0.8	0.6	0.4	-0.5	-1.9	-1.9
Dry	-0.6	-0.2	0.2	0.2	0.3	0.7	1.0	0.9	0.3	-0.4	-1.3	-1.4
BN	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.1	0.0	0.0	0.0
AN	-0.5	-0.3	0.1	0.4	0.3	0.4	0.4	0.5	1.0	0.6	0.0	-0.1
Wet	-0.2	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1

Table 1-167.
CCWD Intake location in Victoria Canal salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.1	0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1973	0.0	0.1	0.0	0.0	0.2	-10.6	-4.4	0.0	-0.4	0.0	0.0	-0.1
1974	-0.2	0.0	0.1	0.0	-0.1	0.1	-0.2	0.0	0.1	0.1	0.0	0.1
1975	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	0.0	0.0	0.0
1976	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.2	0.2	13.6	-11.8	-42.5
1977	-26.6	-10.6	-7.3	-9.5	-2.8	1.4	3.0	1.8	1.1	-12.6	-23.9	-22.4
1978	-25.0	-7.9	-4.7	-0.8	0.7	0.4	0.0	0.3	0.2	0.1	0.1	0.1
1979	0.1	0.1	0.0	0.1	0.3	0.1	0.3	0.2	0.1	0.0	0.0	0.0
1980	0.0	0.1	2.0	1.0	21.8	0.4	0.2	0.3	0.1	-0.1	-0.1	0.0
1981	0.1	0.2	-0.1	0.0	0.1	0.0	0.2	0.5	0.9	-1.2	0.9	9.5
1982	-10.1	-6.6	-1.2	0.4	-8.0	-3.4	0.4	-0.4	-0.3	-0.2	0.0	-0.1
1983	-0.2	-0.1	-0.3	0.0	0.5	0.3	0.1	-0.3	0.2	-0.1	-0.2	-0.1
1984	0.1	-0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
1985	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	-0.1	-0.2	-0.3
1986	0.0	0.0	-0.2	0.4	0.1	0.3	0.1	0.0	0.2	0.1	0.0	-0.1
1987	0.0	0.2	0.1	-0.2	0.1	0.0	2.5	2.9	2.4	-2.2	-5.2	-26.0
1988	-16.4	-6.3	-6.0	-0.6	0.4	2.6	2.4	4.1	3.0	-6.7	5.9	-20.9
1989	-22.1	-8.7	-6.1	8.0	8.0	3.8	1.6	4.2	3.0	-0.4	2.5	-0.9
1990	-5.9	-4.5	-3.9	-4.2	-0.3	1.2	1.4	1.1	0.8	9.7	2.2	-24.6
1991	-24.2	-9.8	-6.7	-4.1	-0.9	-0.1	0.7	0.6	2.7	7.2	-0.4	-19.0
1992	-18.1	-6.6	-4.7	-5.1	-3.9	0.2	0.5	2.9	3.2	-1.1	2.5	-22.6
1993	-23.2	-8.1	-2.7	2.2	1.3	1.0	0.7	0.7	-14.5	-6.9	0.6	0.3
1994	0.0	0.0	0.0	0.4	1.5	0.8	0.6	0.5	0.4	-0.8	-18.7	-1.7
1995	-4.6	0.5	-2.8	0.6	0.7	0.3	0.2	0.1	0.2	-0.1	0.0	0.1
1996	-0.1	-0.1	0.0	0.1	0.2	-0.1	0.3	0.0	0.1	0.1	0.2	0.1
1997	0.0	-0.1	-0.1	-0.4	-0.2	0.0	0.0	0.3	0.2	0.1	-0.1	-0.3
1998	0.3	0.4	0.2	0.4	0.3	-0.1	0.0	0.4	0.2	-0.1	-0.2	0.0
1999	-0.1	0.0	0.1	-0.1	0.0	0.0	0.4	0.3	0.2	0.1	0.1	0.1
2000	0.0	0.0	-0.1	-0.3	0.1	0.3	0.3	-0.1	-0.1	0.1	0.0	0.0
2001	0.0	-0.1	-0.1	-0.6	0.1	0.1	0.9	1.0	2.1	-1.8	4.5	-11.5
2002	-12.0	-4.0	1.7	0.8	0.6	0.3	0.2	0.1	1.2	0.1	-0.1	-0.8
2003	-0.9	-0.1	-0.1	0.5	0.1	0.1	0.2	0.2	0.1	1.1	1.5	-2.6
Average	-5.6	-2.1	-1.3	-0.3	0.6	0.0	0.4	0.7	0.2	0.0	-1.2	-5.5
Critical	-13.0	-5.4	-4.1	-3.3	-0.9	0.9	1.2	1.6	1.6	1.3	-6.3	-22.0
Dry	-5.7	-2.1	-0.7	1.4	1.5	0.7	0.9	1.5	1.6	-0.9	0.4	-5.0
BN	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0
AN	-8.2	-2.7	-0.9	0.4	4.0	-1.4	-0.5	0.2	-2.4	-0.9	0.3	-0.4
Wet	-1.1	-0.5	-0.3	0.1	-0.5	-0.2	0.1	0.0	0.1	0.0	0.0	0.0

Table 1-168.
CCWD Intake location in Victoria Canal salinity (EC) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-2.6	-1.3	0.0	-0.1	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	-2.1	-8.2
1977	-4.7	-1.8	-1.2	-1.2	-0.4	0.3	0.6	0.4	0.2	-2.6	-5.0	-3.8
1978	-3.5	-1.3	-0.7	-0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.4	0.2	6.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	-0.4	0.2	2.0
1982	-1.9	-1.4	-0.4	0.1	-2.2	-0.9	0.2	-0.2	-0.1	-0.1	0.0	0.0
1983	-0.1	0.0	-0.1	0.0	0.2	0.1	0.1	-0.2	0.1	0.0	-0.1	-0.1
1984	0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1
1986	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
1987	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.6	0.7	-0.7	-1.4	-6.2
1988	-3.3	-1.2	-1.1	-0.1	0.1	0.5	0.5	0.9	0.7	-2.1	1.5	-4.4
1989	-3.9	-1.5	-1.0	1.1	1.2	0.6	0.3	1.0	1.0	-0.1	0.6	-0.2
1990	-1.3	-0.9	-0.7	-0.7	-0.1	0.3	0.3	0.3	0.2	2.4	0.4	-4.8
1991	-4.0	-1.5	-0.9	-0.5	-0.1	0.0	0.1	0.1	0.8	1.8	-0.1	-3.8
1992	-3.0	-1.1	-0.7	-0.7	-0.5	0.0	0.1	0.7	1.0	-0.4	0.6	-4.6
1993	-4.0	-1.5	-0.5	0.3	0.2	0.2	0.1	0.1	-3.4	-2.2	0.2	0.1
1994	0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.1	0.1	-0.2	-3.3	-0.4
1995	-0.8	0.1	-0.5	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
1997	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	-0.1
1998	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	-0.1	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2000	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	-0.1	0.0	0.0	0.2	0.2	0.6	-0.6	1.3	-2.8
2002	-2.4	-0.8	0.3	0.1	0.1	0.1	0.0	0.0	0.3	0.0	0.0	-0.2
2003	-0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.6	-0.8
Average	-1.0	-0.4	-0.2	0.0	0.2	0.0	0.1	0.2	0.1	0.0	-0.2	-1.1
Critical	-2.3	-0.9	-0.7	-0.4	-0.1	0.2	0.3	0.4	0.4	0.3	-1.1	-4.3
Dry	-1.1	-0.4	-0.1	0.2	0.2	0.1	0.2	0.3	0.5	-0.3	0.1	-1.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-1.3	-0.5	-0.1	0.1	1.1	-0.3	-0.1	0.1	-0.6	-0.3	0.1	-0.1
Wet	-0.2	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

E.1.2 Stage Model Output

Model output for each location is presented here in two basic forms – as Tables and as Figures showing monthly average of daily minimum stage for the Base scenario and change from Base for monthly average of daily minimum stage, (Scenario – Base). The Tables have several subtypes, although all of them show results for water years 1970 – 2003, including average monthly results for the average over all water year types and results split by water year type. For each location, the Tables show Base monthly average of daily minimum stage, change from Base of Monthly Average of daily minimum stage and percent change from Base of monthly average of daily minimum stage for each of the three alternative scenarios (i.e., seven tables per location).

Results were calculated upstream and downstream of agricultural barrier locations in Old River, Middle River and Grant Line Canal, as well as at three additional locations: Old River near Middle River, Old River near Tracy, and RMID040 in Middle River.

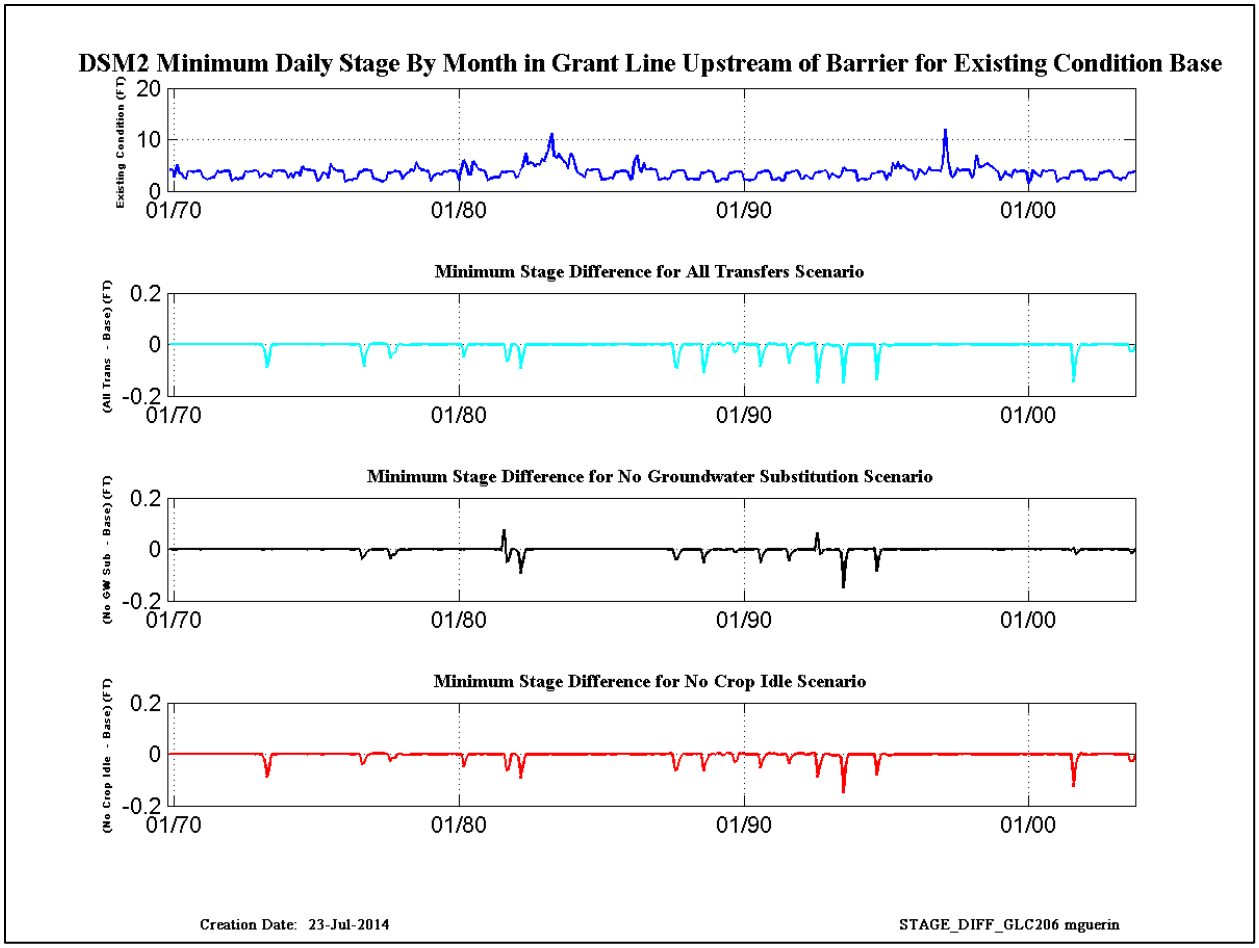


Figure 2-1.
Minimum stage at Grant Line barrier and minimum stage differences Scenario – Base.

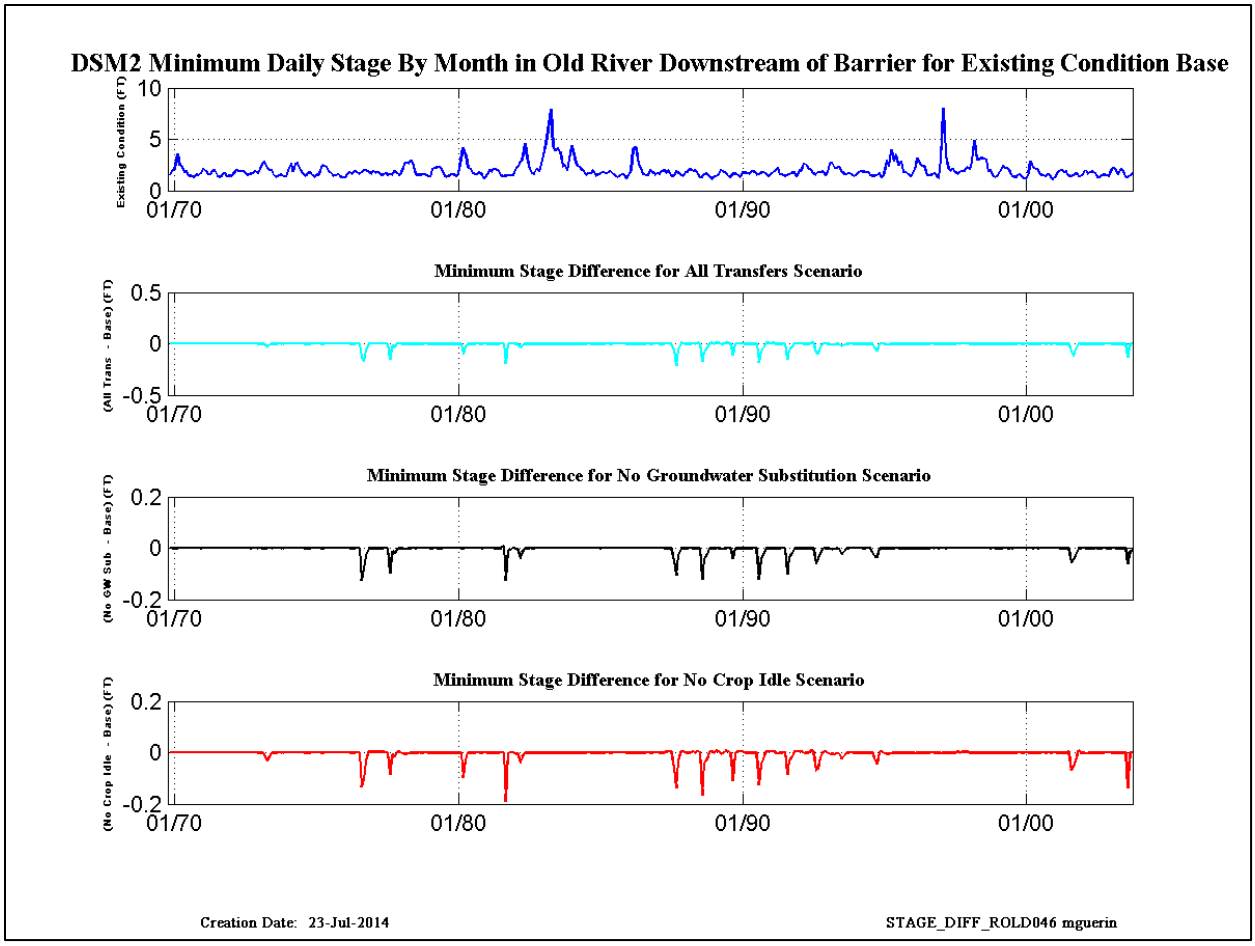


Figure 2-2.
Minimum stage at Old River Downstream barrier and minimum stage differences Scenario – Base.

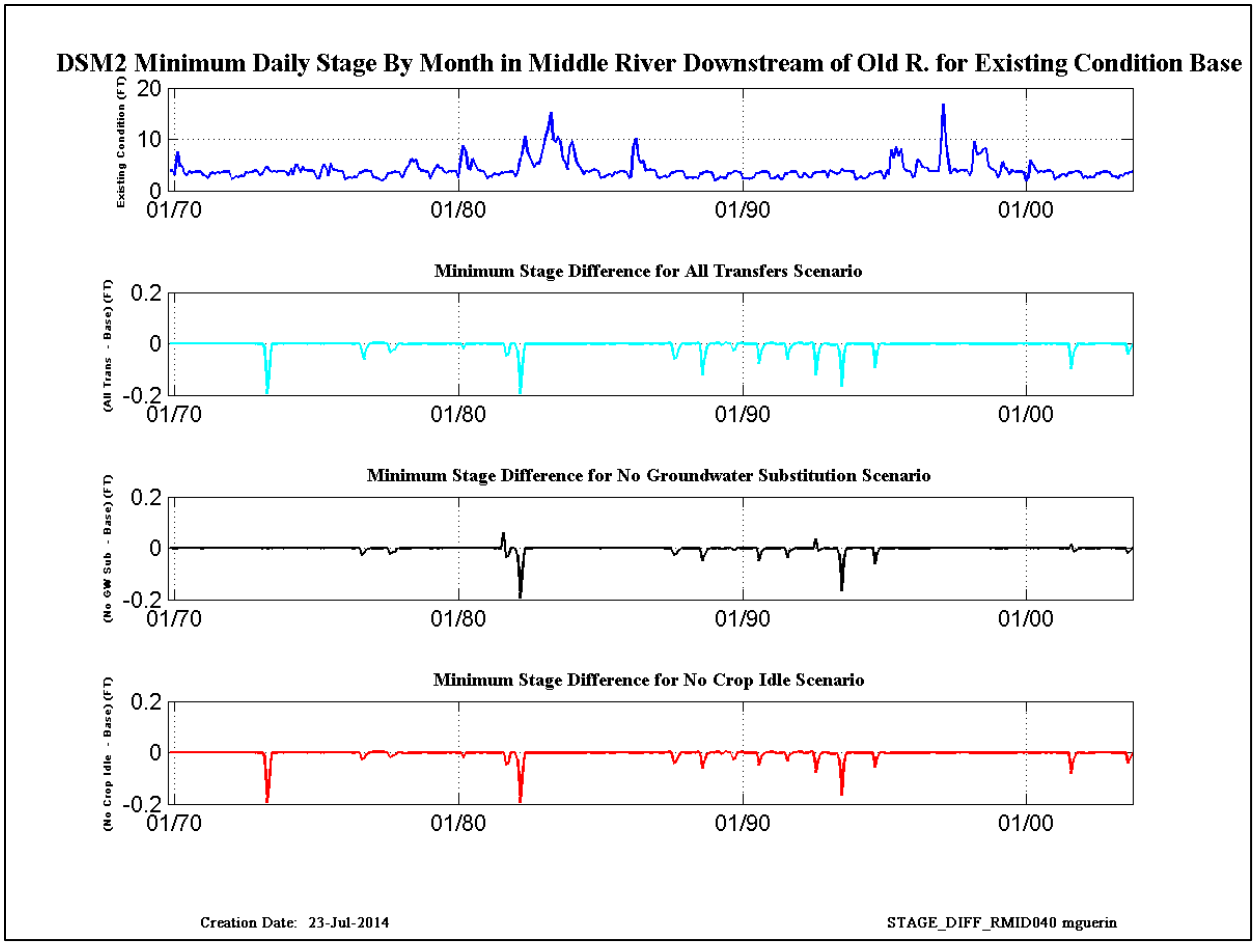


Figure 2-3.
Minimum stage at Middle River Downstream of Old R. barrier and minimum stage differences Scenario – Base.

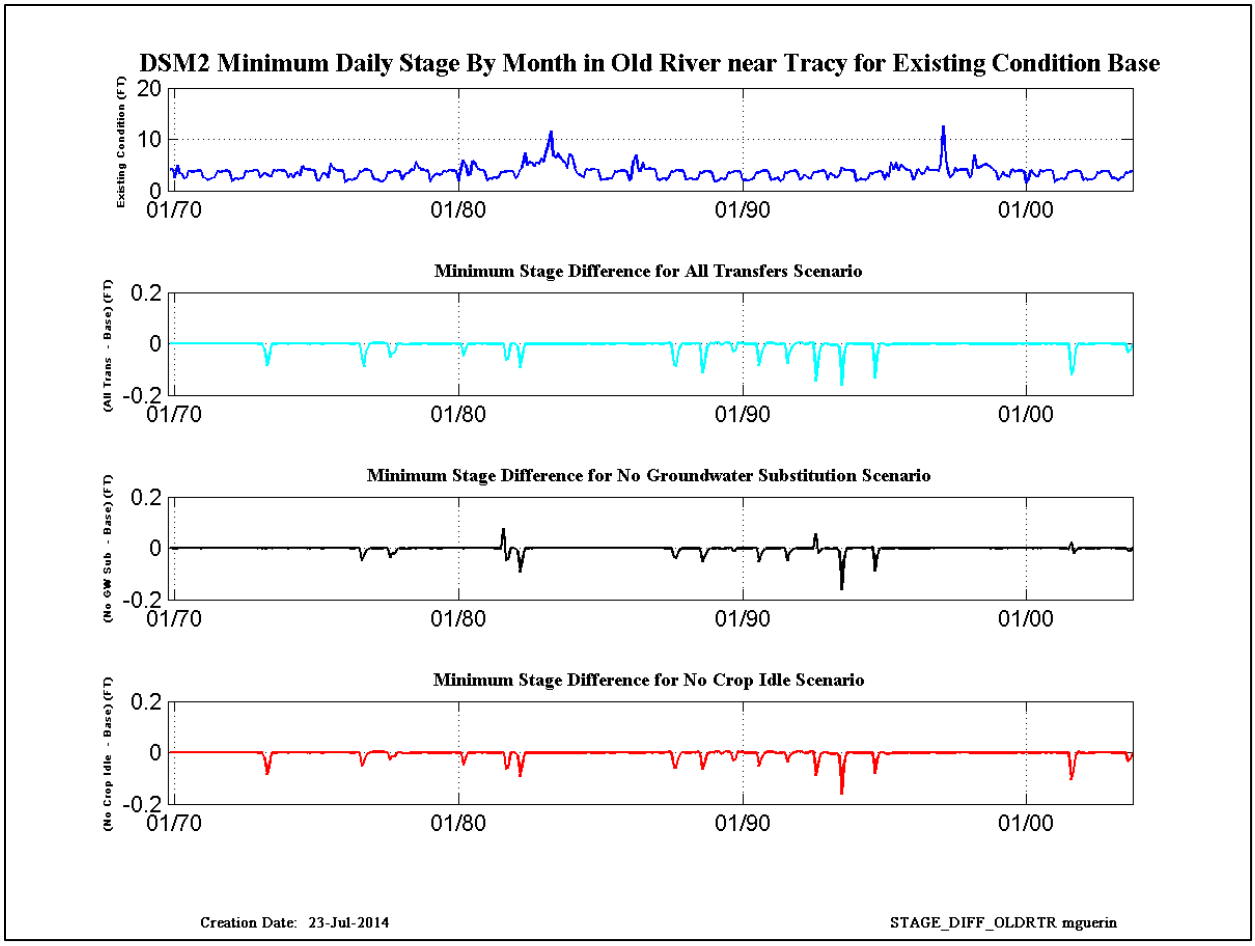


Figure 2-4.
Minimum stage at Old River near Tracy barrier and minimum stage differences Scenario – Base.

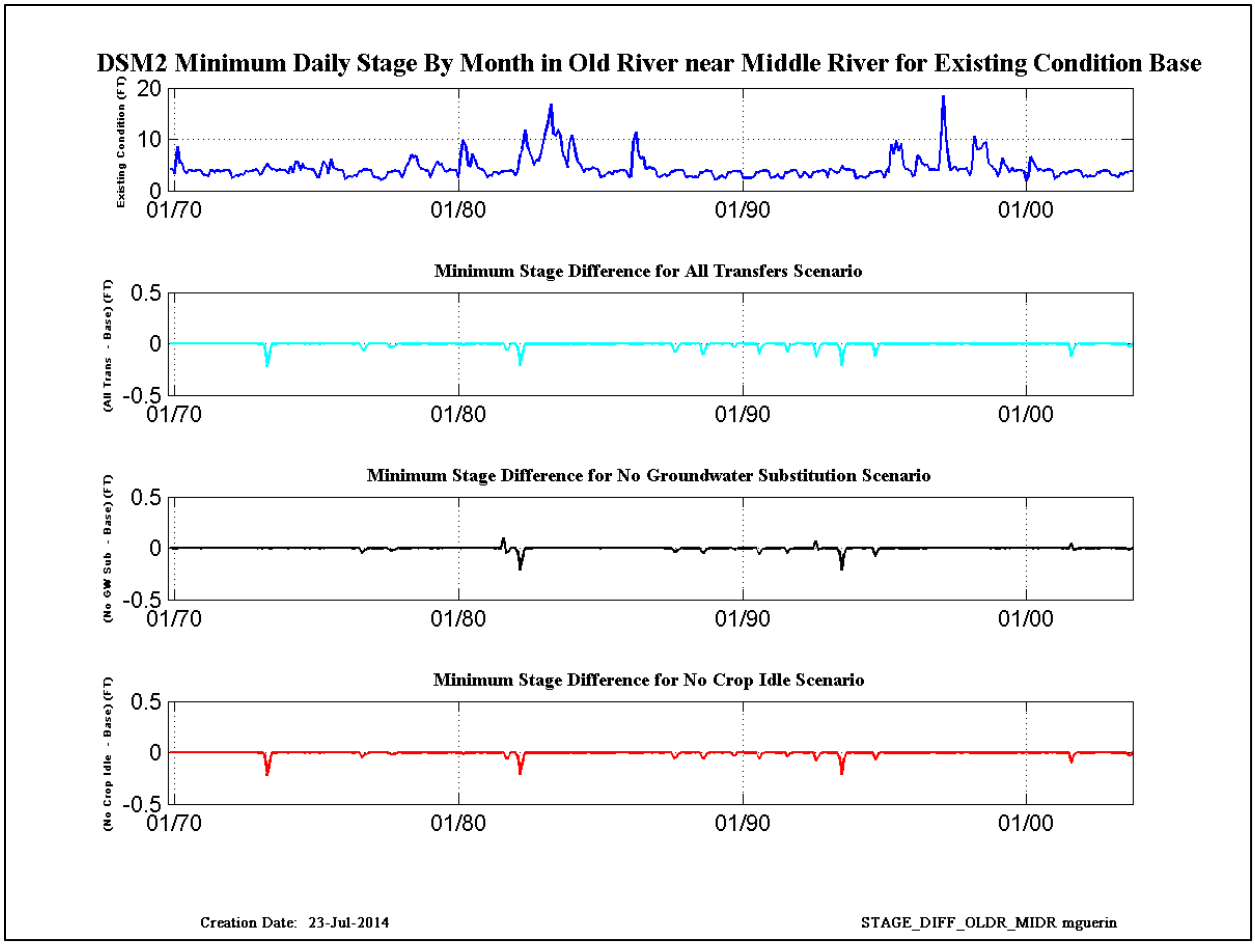


Figure 2-5.
Minimum stage at Old River near Middle River barrier and minimum stage differences Scenario – Base.

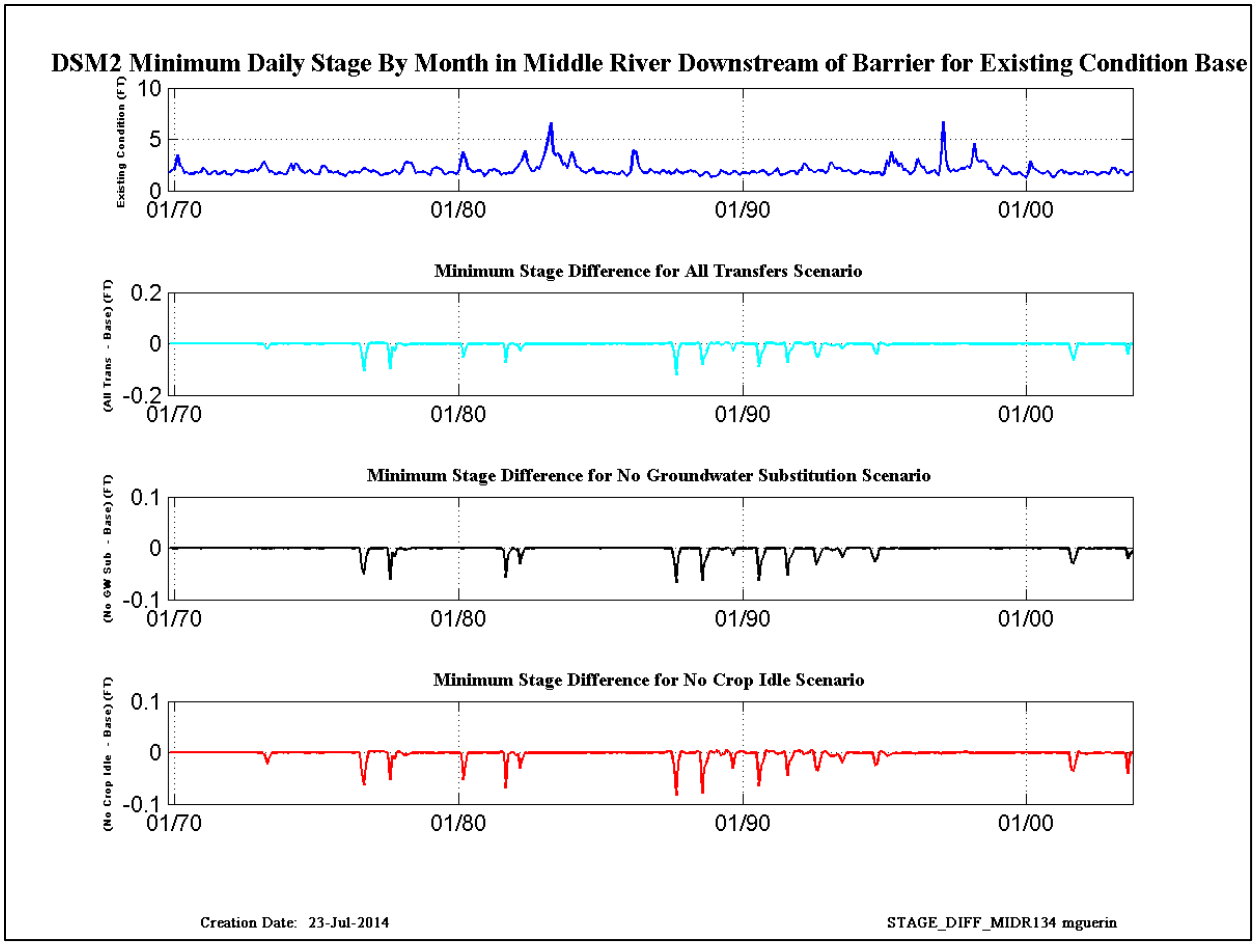


Figure 2-6.
Minimum stage at Middle River barrier and minimum stage differences Scenario – Base.

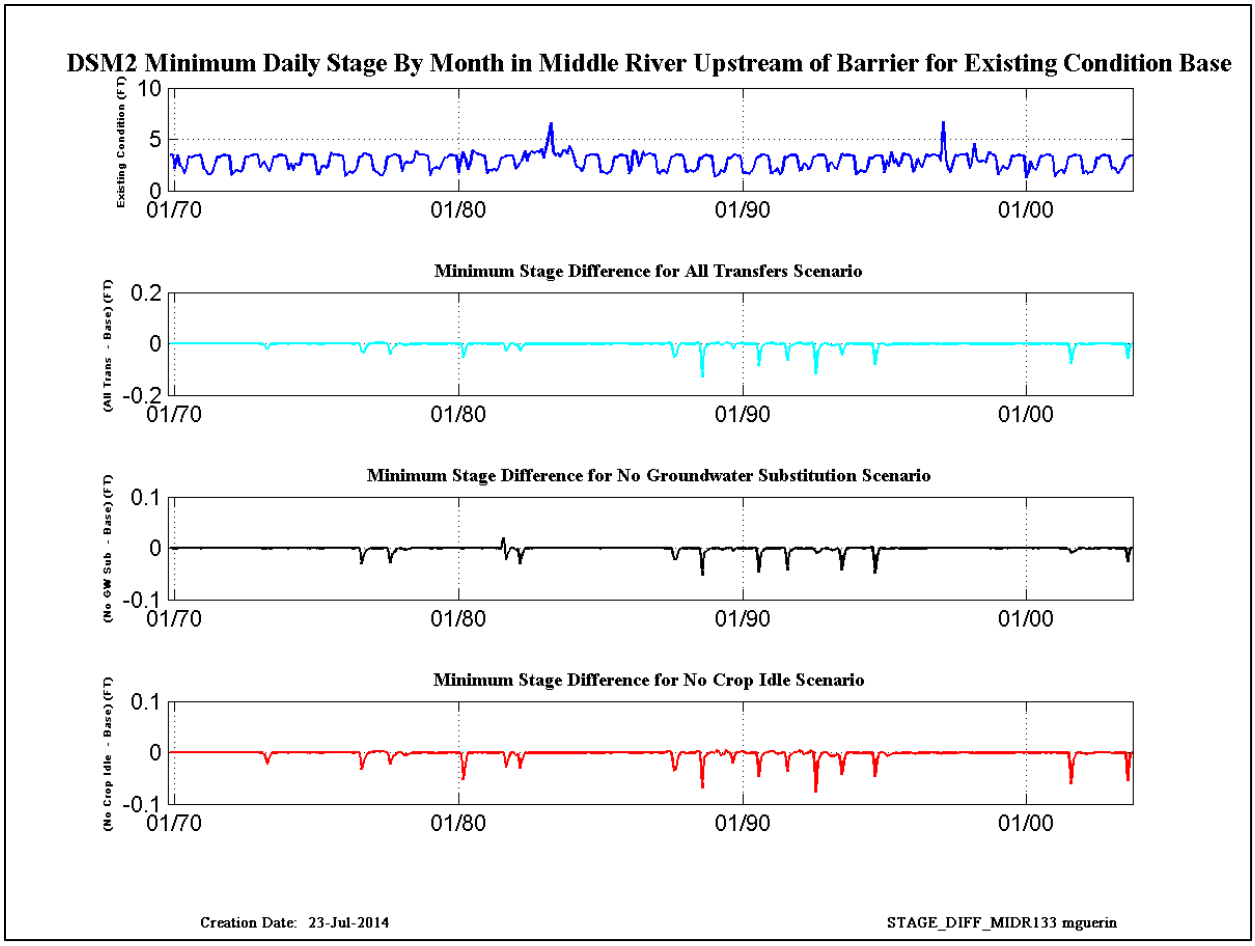


Figure 2-7.
Minimum stage at Middle River Upstream barrier and minimum stage differences Scenario – Base.

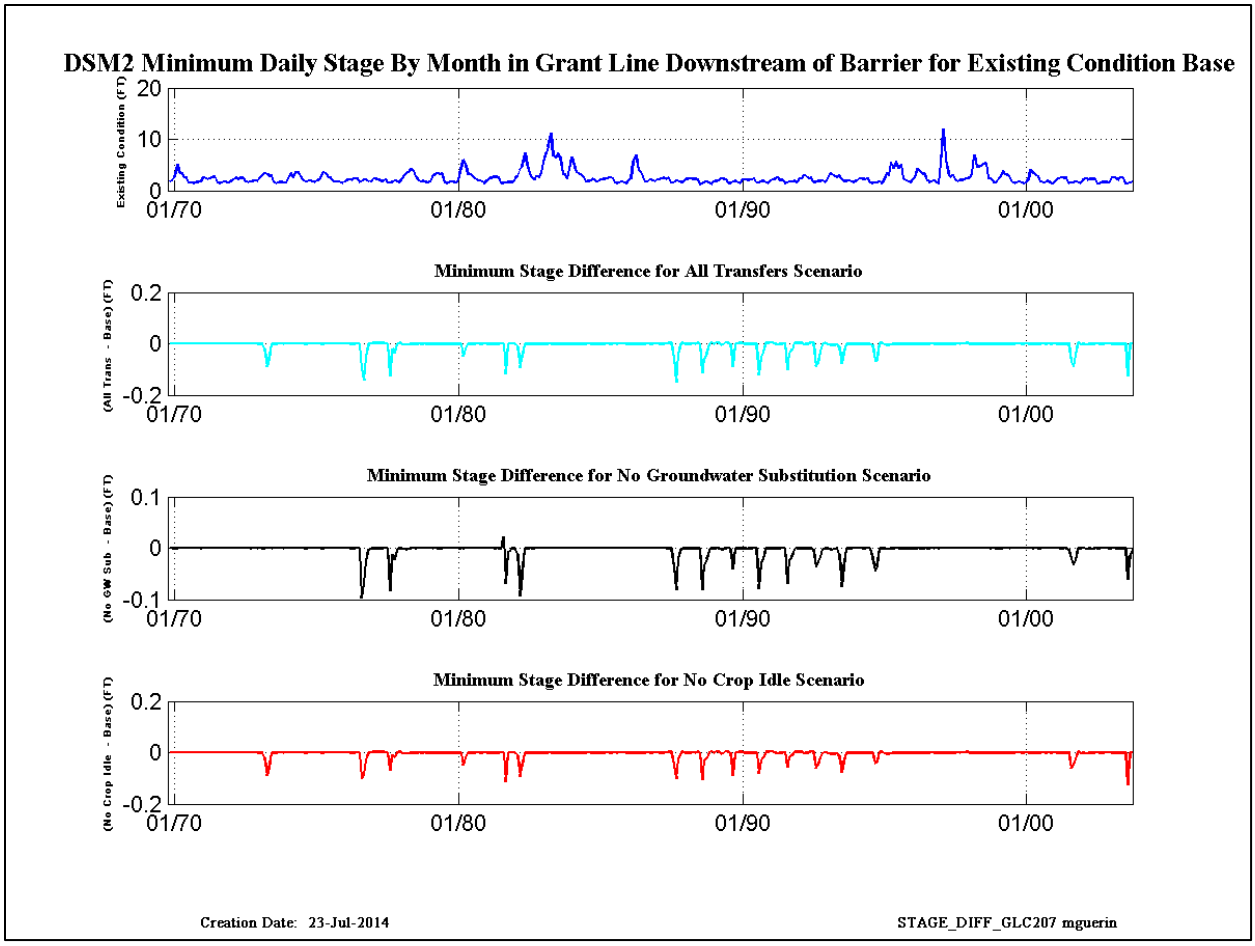


Figure 2-8.
Minimum stage downstream of Grant Line barrier and minimum stage differences Scenario – Base.

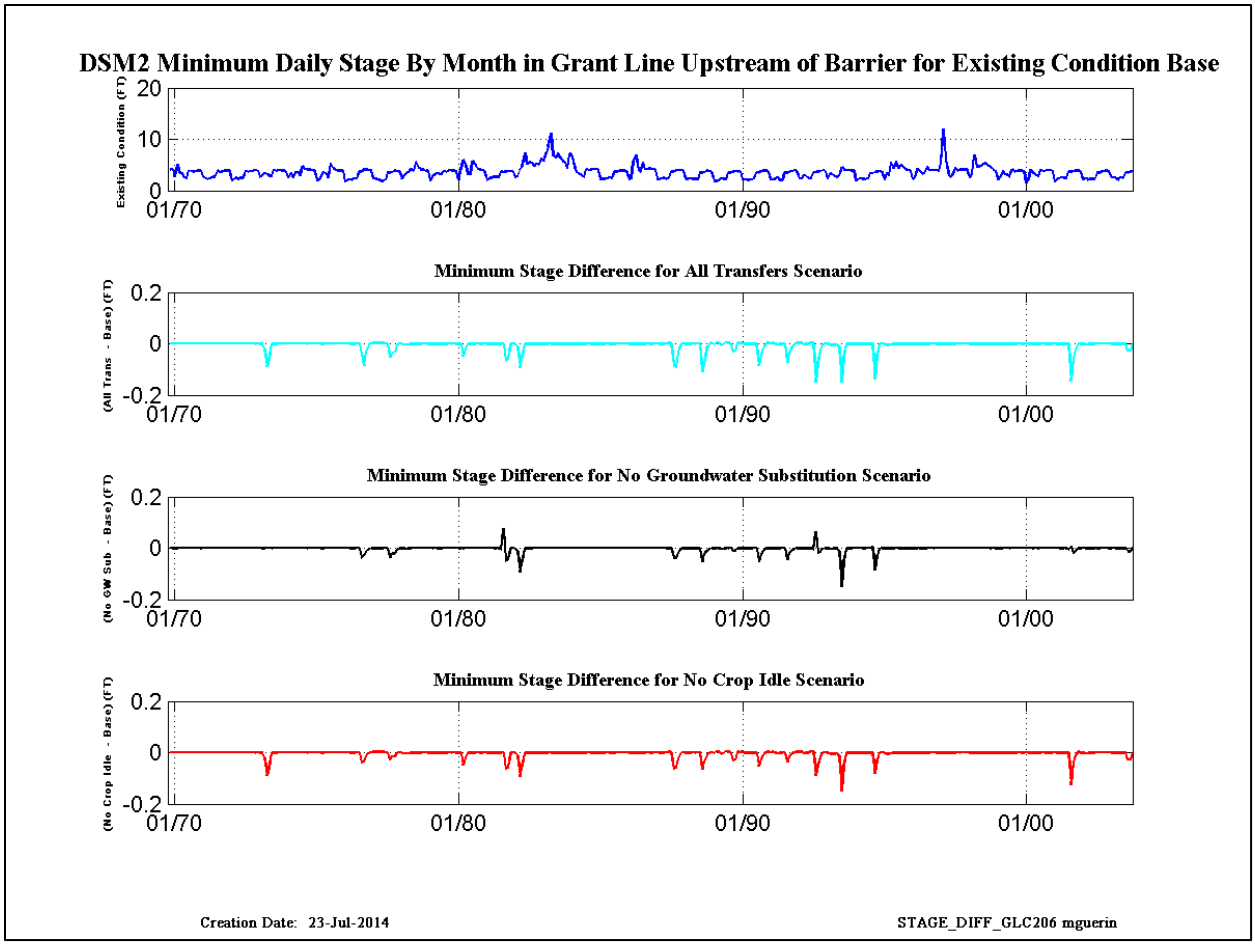


Figure 2-9.
Minimum stage at Grant Line Upstream barrier and minimum stage differences Scenario – Base.

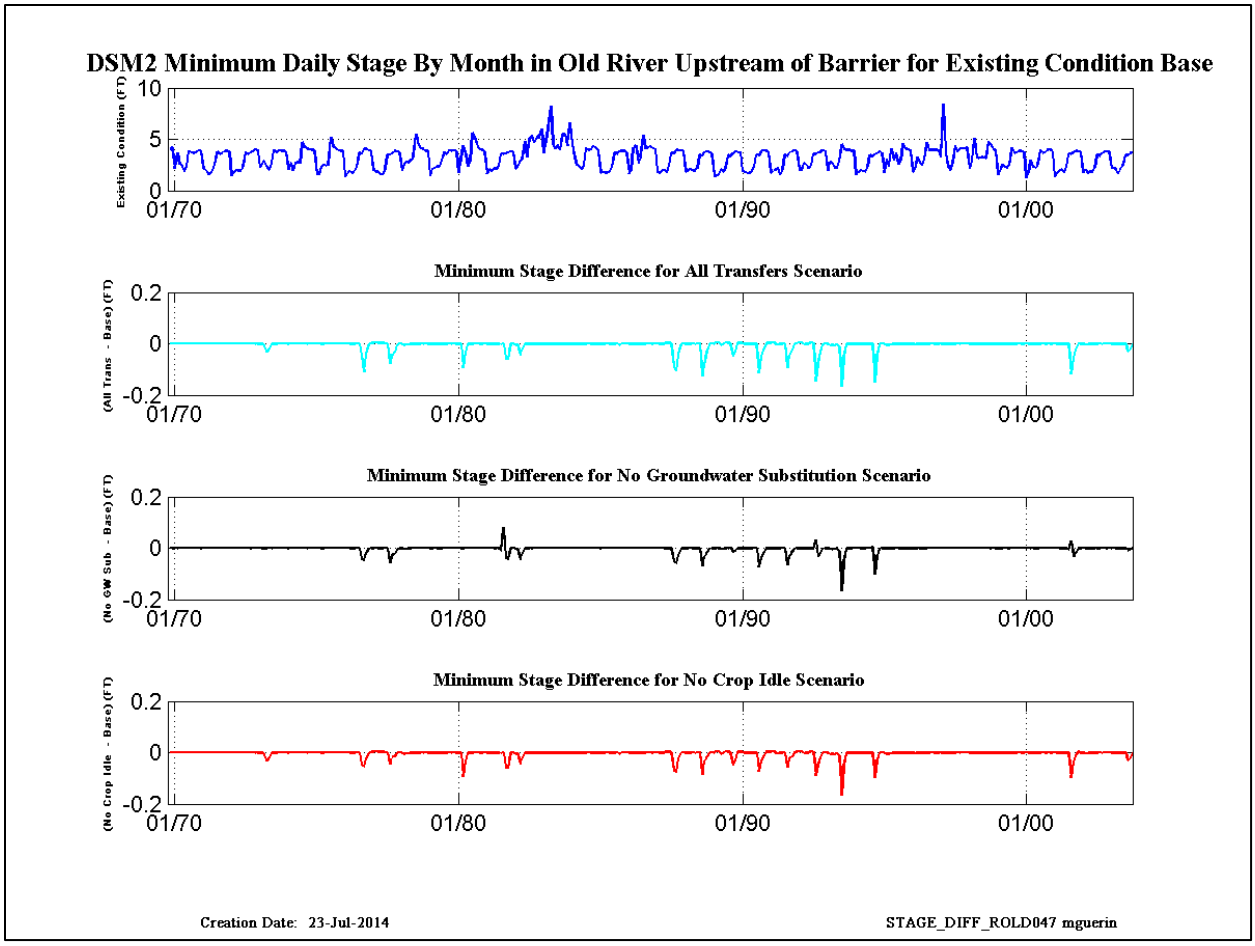


Figure 2-10.
Minimum stage at Old River Upstream barrier and minimum stage differences Scenario – Base.

Table 2-1.
Grant Line upstream of barrier Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	4.1	4.2	2.7	5.1	3.5	3.3	2.6	2.5	3.9	3.8	3.7	3.8
1971	3.9	3.9	2.6	2.4	2.1	2.5	2.7	2.7	3.9	3.6	3.7	3.8
1972	3.9	3.9	2.0	2.1	2.5	2.3	2.5	2.5	3.8	3.6	3.8	3.8
1973	4.0	3.9	2.6	3.0	3.4	3.2	2.9	2.9	4.0	3.8	4.0	3.9
1974	3.9	3.8	2.5	3.4	2.5	3.6	3.6	2.9	4.8	4.2	4.1	4.1
1975	4.0	3.9	2.1	2.1	3.0	3.6	3.2	2.6	5.3	4.3	4.1	3.9
1976	3.9	3.9	1.8	2.1	2.3	2.1	2.4	2.4	3.7	3.7	4.1	4.1
1977	4.0	3.9	2.4	2.2	2.2	1.9	1.9	2.2	3.5	3.5	3.6	3.9
1978	3.8	3.7	2.3	3.0	3.5	3.6	4.2	3.8	5.6	4.5	4.1	4.1
1979	3.8	3.9	1.9	2.7	3.1	3.5	3.2	3.2	3.8	3.6	4.0	3.9
1980	3.9	3.8	2.1	4.3	6.0	5.0	3.2	3.1	5.8	5.1	4.3	4.1
1981	4.0	3.8	2.1	2.5	2.3	2.7	2.6	2.6	3.7	3.6	3.7	3.8
1982	3.8	3.8	2.5	2.9	4.1	4.7	7.3	5.1	5.5	5.4	4.6	5.3
1983	5.1	6.2	5.7	7.4	8.6	11.2	6.8	6.3	7.2	6.5	5.7	5.6
1984	4.4	7.2	6.6	4.6	3.6	3.2	2.9	2.6	4.2	4.0	4.1	4.3
1985	4.1	4.0	2.2	2.3	2.3	2.4	2.6	2.4	3.8	3.6	3.9	3.9
1986	3.9	3.7	2.1	2.4	5.8	6.9	4.0	3.7	5.5	4.2	4.2	4.3
1987	4.2	4.1	2.3	2.1	2.4	2.5	2.2	2.5	3.7	3.7	4.0	3.9
1988	4.0	3.9	2.3	2.3	2.5	2.3	2.3	2.2	3.5	3.4	3.7	3.9
1989	3.8	3.6	1.9	1.8	2.1	2.4	2.2	2.2	3.5	3.4	3.7	3.9
1990	3.7	3.8	2.3	2.2	2.1	2.1	2.2	2.4	3.5	3.5	3.8	3.9
1991	3.9	3.8	2.1	2.2	2.3	2.7	2.0	2.0	3.5	3.4	3.7	3.8
1992	3.9	3.8	2.4	2.3	3.1	2.8	2.4	2.4	3.6	3.6	3.7	3.8
1993	3.9	3.8	2.3	3.3	3.2	2.8	2.7	2.9	4.6	4.1	4.0	4.0
1994	3.9	3.9	2.0	2.1	2.4	2.2	2.2	2.3	3.5	3.3	3.6	3.6
1995	3.9	3.7	2.1	3.5	2.8	5.5	4.3	5.7	4.3	5.1	4.6	4.1
1996	4.0	3.9	2.3	2.5	4.3	3.9	3.3	3.4	4.7	4.0	4.0	4.0
1997	4.0	3.9	5.3	12.1	6.2	3.6	2.7	3.1	4.5	3.8	4.1	4.1
1998	4.1	4.2	2.5	3.4	6.9	4.7	4.7	4.8	5.2	5.3	4.8	4.6
1999	4.1	3.9	2.1	2.6	3.8	3.2	3.0	2.7	4.2	3.7	3.8	3.9
2000	3.9	3.8	1.6	2.2	4.1	3.4	3.0	2.8	4.0	3.7	3.8	4.0
2001	4.0	3.8	1.8	2.2	2.3	2.6	2.5	2.5	3.7	3.6	3.8	3.9
2002	3.8	3.8	2.2	2.4	2.1	2.3	2.3	2.3	3.6	3.4	3.7	3.8
2003	3.8	3.8	2.6	2.6	2.4	2.1	2.6	2.5	3.5	3.5	3.7	3.8
Average	4.0	4.0	2.5	3.1	3.4	3.4	3.1	3.0	4.3	4.0	4.0	4.0
Critical	3.9	3.8	2.2	2.2	2.4	2.3	2.2	2.3	3.5	3.5	3.7	3.9
Dry	4.0	3.8	2.0	2.2	2.2	2.5	2.4	2.4	3.7	3.6	3.8	3.9
BN	3.9	3.9	1.9	2.4	2.8	2.9	2.8	2.9	3.8	3.6	3.9	3.9
AN	3.9	3.8	2.2	3.1	3.8	3.4	3.1	3.0	4.6	4.1	4.0	4.0
Wet	4.1	4.3	3.2	4.2	4.4	4.6	3.9	3.7	4.9	4.5	4.3	4.3

Table 2-2.
Grant Line downstream of barrier Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	1.8	2.0	2.6	5.1	3.5	3.3	2.6	2.5	1.6	1.6	1.5	1.7
1971	1.7	1.8	2.6	2.4	2.1	2.5	2.7	2.7	1.6	1.4	1.6	1.8
1972	1.6	1.5	1.9	2.1	2.5	2.3	2.5	2.5	1.7	1.6	1.8	1.8
1973	2.1	1.9	2.6	3.0	3.4	3.2	2.9	2.9	1.7	1.5	1.7	1.7
1974	1.6	1.5	2.5	3.4	2.5	3.6	3.6	2.9	2.2	1.8	1.8	2.0
1975	1.8	1.6	2.0	2.1	3.0	3.6	3.2	2.6	2.5	1.8	1.8	1.8
1976	1.5	1.5	1.7	2.1	2.3	2.1	2.4	2.4	1.6	1.8	2.1	2.1
1977	1.9	1.7	2.3	2.2	2.2	1.9	1.9	2.2	1.5	1.6	1.6	2.0
1978	1.7	1.5	2.2	3.0	3.5	3.6	4.2	3.8	2.6	2.0	1.8	1.9
1979	1.7	1.6	1.8	2.7	3.1	3.5	3.2	3.2	1.5	1.4	1.7	1.7
1980	1.7	1.6	2.1	4.3	6.0	5.0	3.2	3.1	2.9	2.3	2.0	2.0
1981	1.7	1.3	2.0	2.5	2.3	2.7	2.6	2.6	1.5	1.5	1.5	1.6
1982	1.6	1.7	2.5	2.9	4.1	4.7	7.3	5.1	3.4	2.6	2.1	2.8
1983	2.6	3.6	5.6	7.4	8.6	11.2	6.8	6.3	7.2	6.5	3.2	3.2
1984	2.3	4.4	6.6	4.6	3.6	3.2	2.9	2.6	1.8	1.9	1.9	2.3
1985	1.7	1.7	2.1	2.3	2.3	2.4	2.6	2.4	1.6	1.4	1.6	1.8
1986	1.6	1.4	2.1	2.4	5.8	6.9	4.0	3.7	2.6	1.8	1.8	2.2
1987	2.0	1.7	2.2	2.1	2.4	2.5	2.2	2.5	1.5	1.6	2.0	1.8
1988	1.7	1.6	2.2	2.3	2.5	2.3	2.3	2.2	1.3	1.4	1.6	1.7
1989	1.5	1.2	1.8	1.8	2.1	2.4	2.2	2.2	1.5	1.4	1.7	1.8
1990	1.6	1.5	2.2	2.2	2.1	2.1	2.2	2.4	1.6	1.6	1.8	1.9
1991	1.7	1.5	2.1	2.2	2.3	2.7	2.0	2.0	1.5	1.5	1.7	1.8
1992	1.9	1.5	2.3	2.3	3.1	2.8	2.4	2.4	1.7	1.7	1.9	1.8
1993	1.9	1.6	2.2	3.3	3.2	2.8	2.7	2.9	2.1	1.9	1.8	1.9
1994	1.8	1.6	1.9	2.1	2.4	2.2	2.2	2.3	1.6	1.5	1.5	1.6
1995	1.8	1.4	2.1	3.5	2.8	5.5	4.3	5.7	4.3	5.1	2.3	2.0
1996	1.8	1.5	2.2	2.5	4.3	3.9	3.3	3.4	2.0	1.7	1.8	1.9
1997	1.6	1.5	5.3	12.1	6.2	3.6	2.7	3.1	2.1	1.8	2.0	2.1
1998	2.1	2.4	2.5	3.4	6.9	4.7	4.7	4.8	5.2	5.3	2.4	2.3
1999	1.7	1.5	2.1	2.6	3.8	3.2	3.0	2.7	1.7	1.5	1.5	1.8
2000	1.6	1.3	1.6	2.2	4.1	3.4	3.0	2.8	1.7	1.6	1.6	1.8
2001	1.7	1.2	1.7	2.2	2.3	2.6	2.5	2.5	1.5	1.5	1.6	1.8
2002	1.6	1.5	2.1	2.4	2.1	2.3	2.3	2.3	1.4	1.4	1.6	1.7
2003	1.6	1.5	2.5	2.6	2.4	2.1	2.6	2.5	1.4	1.4	1.6	1.8
Average	1.8	1.7	2.5	3.1	3.4	3.4	3.1	3.0	2.2	2.0	1.8	1.9
Critical	1.7	1.6	2.1	2.2	2.4	2.3	2.2	2.3	1.5	1.6	1.8	1.8
Dry	1.7	1.5	2.0	2.2	2.2	2.5	2.4	2.4	1.5	1.5	1.7	1.8
BN	1.6	1.6	1.9	2.4	2.8	2.9	2.8	2.9	1.6	1.5	1.7	1.8
AN	1.8	1.6	2.2	3.1	3.8	3.4	3.1	3.0	2.1	1.8	1.8	1.8
Wet	1.8	2.0	3.1	4.2	4.4	4.6	3.9	3.7	2.9	2.7	2.0	2.2

Table 2-3.
Middle River upstream of barrier Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	3.5	3.5	2.1	3.5	2.5	2.2	1.7	2.3	3.4	3.3	3.4	3.4
1971	3.4	3.4	2.2	1.9	1.6	1.6	1.8	2.4	3.3	3.2	3.4	3.5
1972	3.4	3.4	1.5	1.7	2.0	1.9	1.8	2.3	3.3	3.2	3.4	3.5
1973	3.5	3.5	2.2	2.6	2.9	2.2	1.8	2.5	3.4	3.3	3.5	3.4
1974	3.4	3.4	2.0	2.7	1.9	2.6	2.5	2.5	3.6	3.4	3.5	3.5
1975	3.4	3.4	1.6	1.6	2.3	2.4	2.2	2.4	3.7	3.4	3.5	3.5
1976	3.4	3.4	1.4	1.6	1.9	1.7	1.8	2.2	3.3	3.3	3.6	3.6
1977	3.5	3.4	2.0	1.8	1.8	1.5	1.5	2.1	3.3	3.3	3.4	3.5
1978	3.4	3.4	1.9	2.6	2.8	2.7	2.7	2.9	3.8	3.5	3.5	3.5
1979	3.4	3.4	1.5	2.1	2.2	2.2	2.1	2.6	3.3	3.2	3.5	3.4
1980	3.4	3.4	1.8	2.9	3.8	3.0	2.1	2.7	3.9	3.7	3.5	3.5
1981	3.4	3.4	1.7	2.0	1.9	2.1	2.0	2.4	3.2	3.2	3.4	3.4
1982	3.4	3.4	2.1	2.3	2.7	3.0	3.9	2.8	3.6	3.8	3.6	3.9
1983	3.7	4.1	3.2	4.1	5.0	6.6	3.8	3.4	3.6	3.3	3.9	3.9
1984	3.6	4.4	3.8	2.9	2.3	2.2	1.9	2.3	3.4	3.4	3.5	3.6
1985	3.5	3.4	1.8	1.8	1.7	1.7	1.8	2.2	3.3	3.2	3.4	3.5
1986	3.4	3.4	1.6	1.9	3.9	3.8	2.3	2.8	3.8	3.4	3.5	3.6
1987	3.5	3.5	1.8	1.7	1.9	1.9	1.7	2.4	3.3	3.3	3.5	3.5
1988	3.4	3.4	1.8	1.8	2.0	1.8	1.9	2.1	3.2	3.2	3.4	3.5
1989	3.4	3.3	1.4	1.4	1.6	2.0	1.8	2.2	3.2	3.1	3.4	3.5
1990	3.4	3.4	1.8	1.8	1.7	1.7	1.9	2.4	3.2	3.2	3.5	3.5
1991	3.4	3.4	1.7	1.8	1.9	2.2	1.5	2.0	3.2	3.2	3.4	3.5
1992	3.5	3.4	2.0	2.0	2.6	2.5	2.1	2.4	3.3	3.3	3.5	3.5
1993	3.5	3.4	1.9	2.7	2.7	2.3	2.1	2.7	3.6	3.4	3.5	3.5
1994	3.4	3.4	1.6	1.8	2.0	1.8	1.8	2.3	3.2	3.1	3.4	3.4
1995	3.4	3.4	1.7	3.0	2.4	3.8	2.7	3.1	2.4	2.6	3.6	3.5
1996	3.4	3.4	1.8	2.0	3.1	2.6	2.2	2.8	3.6	3.3	3.5	3.5
1997	3.4	3.4	2.9	6.7	3.1	2.1	1.8	2.6	3.5	3.4	3.5	3.5
1998	3.5	3.6	2.2	2.8	4.5	3.0	2.8	2.9	2.9	2.7	3.7	3.6
1999	3.4	3.4	1.6	1.8	2.4	2.2	2.1	2.4	3.4	3.3	3.4	3.4
2000	3.4	3.4	1.3	1.7	2.8	2.2	2.0	2.5	3.4	3.3	3.4	3.5
2001	3.4	3.4	1.4	1.7	1.9	2.0	1.7	2.3	3.3	3.3	3.4	3.5
2002	3.4	3.4	1.7	1.9	1.7	1.8	1.8	2.2	3.2	3.1	3.4	3.4
2003	3.4	3.4	2.2	2.2	2.0	1.6	2.0	2.4	3.2	3.1	3.4	3.4
Average	3.4	3.5	1.9	2.3	2.5	2.4	2.1	2.5	3.4	3.3	3.5	3.5
Critical	3.4	3.4	1.8	1.8	2.0	1.9	1.8	2.2	3.3	3.2	3.4	3.5
Dry	3.4	3.4	1.6	1.8	1.8	1.9	1.8	2.3	3.3	3.2	3.4	3.5
BN	3.4	3.4	1.5	1.9	2.1	2.1	2.0	2.5	3.3	3.2	3.4	3.5
AN	3.4	3.4	1.9	2.5	2.8	2.3	2.1	2.6	3.5	3.4	3.5	3.5
Wet	3.5	3.5	2.2	2.9	2.9	2.9	2.4	2.7	3.4	3.3	3.5	3.6

Table 2-4.
Middle River downstream of barrier Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	1.8	2.0	2.1	3.5	2.5	2.2	1.7	1.8	1.6	1.7	1.6	1.8
1971	1.7	1.8	2.2	1.9	1.6	1.6	1.8	1.9	1.6	1.6	1.8	1.9
1972	1.6	1.6	1.5	1.7	2.0	1.9	1.8	1.8	1.8	1.8	1.9	1.9
1973	2.1	1.9	2.2	2.6	2.9	2.2	1.8	1.9	1.6	1.6	1.8	1.7
1974	1.6	1.6	2.0	2.7	1.9	2.6	2.5	2.0	1.8	1.7	1.8	2.0
1975	1.7	1.6	1.6	1.6	2.3	2.4	2.2	1.8	1.8	1.7	1.8	1.8
1976	1.6	1.5	1.4	1.6	1.9	1.7	1.8	1.8	1.7	2.0	2.2	2.1
1977	1.9	1.8	1.9	1.8	1.8	1.5	1.5	1.7	1.6	1.7	1.8	2.0
1978	1.8	1.6	1.9	2.6	2.8	2.7	2.7	2.2	1.7	1.8	1.8	1.9
1979	1.8	1.6	1.5	2.1	2.2	2.2	2.1	2.0	1.6	1.6	1.8	1.8
1980	1.7	1.6	1.8	2.9	3.8	3.0	2.1	2.0	1.8	1.8	1.9	2.0
1981	1.7	1.4	1.7	2.0	1.9	2.1	2.0	1.9	1.6	1.7	1.7	1.7
1982	1.7	1.7	2.1	2.3	2.7	3.0	3.9	2.8	2.2	1.9	1.9	2.3
1983	2.1	2.7	3.2	4.1	5.0	6.6	3.8	3.4	3.6	3.3	2.5	2.6
1984	2.1	3.0	3.8	2.9	2.3	2.2	1.9	1.8	1.7	1.9	2.0	2.2
1985	1.7	1.8	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.6	1.6	1.9
1986	1.7	1.4	1.6	1.9	3.9	3.8	2.3	2.1	1.7	1.7	1.8	2.1
1987	1.9	1.7	1.8	1.7	1.9	1.9	1.7	1.9	1.6	1.7	2.0	1.9
1988	1.7	1.7	1.8	1.8	2.0	1.8	1.9	1.6	1.4	1.5	1.7	1.8
1989	1.6	1.3	1.4	1.4	1.6	2.0	1.8	1.7	1.6	1.6	1.9	1.9
1990	1.7	1.5	1.8	1.8	1.7	1.7	1.9	1.8	1.7	1.8	1.9	1.9
1991	1.7	1.5	1.6	1.8	1.9	2.2	1.5	1.5	1.6	1.7	1.8	1.9
1992	1.9	1.5	1.9	2.0	2.6	2.5	2.1	2.0	1.8	1.8	2.0	1.9
1993	2.0	1.7	1.9	2.7	2.7	2.3	2.1	2.3	2.0	1.9	1.9	2.0
1994	1.8	1.6	1.6	1.8	2.0	1.8	1.8	1.8	1.7	1.7	1.7	1.7
1995	1.8	1.4	1.7	3.0	2.4	3.8	2.7	3.1	2.4	2.6	2.1	2.1
1996	1.8	1.5	1.8	2.0	3.1	2.6	2.2	2.3	1.7	1.8	1.8	2.0
1997	1.7	1.5	2.8	6.7	3.1	2.1	1.8	2.0	1.9	1.9	2.1	2.1
1998	2.1	2.4	2.2	2.8	4.5	3.0	2.8	2.9	2.9	2.7	2.1	2.1
1999	1.6	1.6	1.6	1.8	2.4	2.2	2.1	1.8	1.6	1.6	1.7	1.8
2000	1.6	1.4	1.2	1.7	2.8	2.2	2.0	1.9	1.7	1.7	1.7	1.9
2001	1.7	1.3	1.3	1.7	1.9	2.0	1.7	1.8	1.6	1.6	1.7	1.8
2002	1.6	1.6	1.7	1.9	1.7	1.8	1.8	1.7	1.5	1.6	1.7	1.8
2003	1.7	1.6	2.1	2.2	2.0	1.6	2.0	1.9	1.5	1.5	1.8	1.8
Average	1.8	1.7	1.9	2.3	2.5	2.4	2.1	2.0	1.8	1.8	1.9	1.9
Critical	1.8	1.6	1.7	1.8	2.0	1.9	1.8	1.7	1.6	1.7	1.9	1.9
Dry	1.7	1.5	1.6	1.8	1.8	1.9	1.8	1.8	1.6	1.6	1.8	1.8
BN	1.7	1.6	1.5	1.9	2.1	2.1	2.0	1.9	1.7	1.7	1.9	1.9
AN	1.8	1.6	1.8	2.5	2.8	2.3	2.1	2.0	1.7	1.7	1.8	1.9
Wet	1.8	1.9	2.2	2.9	2.9	2.9	2.4	2.3	2.0	2.0	1.9	2.1

Table 2-5.
Old River upstream of barrier Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	4.1	4.1	2.1	3.7	2.6	2.4	1.9	2.4	3.9	3.7	3.6	3.8
1971	3.9	3.8	2.2	2.0	1.6	1.6	2.0	2.6	3.8	3.6	3.7	3.8
1972	3.9	3.8	1.5	1.7	2.1	1.9	2.0	2.4	3.8	3.5	3.7	3.8
1973	4.0	3.9	2.2	2.6	2.9	2.3	2.0	2.6	4.0	3.7	4.0	3.9
1974	3.9	3.7	2.0	2.7	2.0	2.7	2.7	2.7	4.7	4.2	4.1	4.0
1975	4.0	3.9	1.6	1.6	2.3	2.5	2.4	2.5	5.2	4.3	4.1	3.9
1976	3.9	3.9	1.4	1.6	1.9	1.7	1.9	2.3	3.7	3.6	4.1	4.0
1977	4.0	3.8	2.0	1.8	1.8	1.6	1.6	2.2	3.5	3.5	3.6	3.9
1978	3.8	3.7	1.9	2.6	2.8	2.7	3.0	3.4	5.5	4.4	4.1	4.1
1979	3.8	3.8	1.5	2.2	2.3	2.3	2.3	2.9	3.7	3.6	4.0	3.9
1980	3.9	3.8	1.7	3.1	4.4	3.5	2.3	2.9	5.6	5.1	4.2	4.0
1981	4.0	3.8	1.7	2.0	1.9	2.1	2.1	2.5	3.6	3.5	3.6	3.7
1982	3.8	3.7	2.1	2.4	2.8	3.1	4.8	3.3	5.0	5.4	4.7	5.3
1983	5.1	6.0	3.7	4.9	6.1	8.3	4.5	4.1	4.4	4.0	5.5	5.5
1984	4.4	6.6	4.6	3.2	2.5	2.3	2.1	2.5	4.1	3.9	4.0	4.3
1985	4.1	3.9	1.8	1.8	1.7	1.7	1.9	2.3	3.7	3.6	3.8	3.9
1986	3.9	3.7	1.6	2.0	4.2	4.4	2.7	3.3	5.4	4.1	4.2	4.3
1987	4.2	4.1	1.8	1.7	2.0	2.0	1.8	2.5	3.6	3.6	3.9	3.9
1988	3.9	3.9	1.9	1.9	2.1	1.9	2.0	2.2	3.5	3.4	3.7	3.8
1989	3.7	3.6	1.4	1.4	1.6	2.1	1.9	2.2	3.5	3.3	3.6	3.8
1990	3.7	3.8	1.9	1.8	1.7	1.7	1.9	2.4	3.5	3.4	3.8	3.9
1991	3.8	3.8	1.8	1.9	2.0	2.3	1.6	2.1	3.5	3.4	3.7	3.8
1992	3.9	3.8	2.0	2.0	2.7	2.5	2.1	2.4	3.6	3.5	3.7	3.8
1993	3.9	3.8	1.9	2.8	2.7	2.3	2.3	2.9	4.5	4.0	4.0	3.9
1994	3.9	3.8	1.6	1.8	2.0	1.9	1.8	2.3	3.5	3.3	3.5	3.6
1995	3.8	3.7	1.7	3.0	2.4	4.1	3.0	3.7	2.6	3.0	4.6	4.0
1996	4.0	3.9	1.9	2.1	3.2	2.7	2.4	3.1	4.7	3.9	4.0	4.0
1997	3.9	3.9	3.3	8.4	3.7	2.3	2.0	2.8	4.4	3.8	4.1	4.1
1998	4.1	4.2	2.2	2.8	5.1	3.2	3.2	3.3	3.2	3.1	4.8	4.5
1999	4.1	3.9	1.6	1.9	2.5	2.3	2.3	2.5	4.2	3.7	3.8	3.8
2000	3.9	3.8	1.2	1.8	3.0	2.3	2.2	2.6	4.0	3.7	3.8	4.0
2001	4.0	3.7	1.3	1.7	1.9	2.0	1.8	2.4	3.6	3.6	3.8	3.9
2002	3.8	3.8	1.7	2.0	1.7	1.8	1.9	2.3	3.5	3.4	3.7	3.8
2003	3.8	3.8	2.2	2.2	2.1	1.6	2.1	2.4	3.5	3.4	3.7	3.7
Average	4.0	4.0	2.0	2.4	2.6	2.5	2.3	2.7	4.0	3.7	4.0	4.0
Critical	3.9	3.8	1.8	1.8	2.0	1.9	1.9	2.3	3.5	3.4	3.7	3.8
Dry	4.0	3.8	1.6	1.8	1.8	2.0	1.9	2.4	3.6	3.5	3.7	3.8
BN	3.8	3.8	1.5	2.0	2.2	2.1	2.2	2.7	3.8	3.5	3.8	3.8
AN	3.9	3.8	1.9	2.5	3.0	2.4	2.3	2.8	4.5	4.1	4.0	3.9
Wet	4.1	4.2	2.4	3.1	3.2	3.2	2.8	3.0	4.3	3.9	4.2	4.3

Table 2-6.
Old River downstream of barrier Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	1.5	1.9	2.1	3.6	2.5	2.3	1.8	1.8	1.5	1.4	1.3	1.5
1971	1.5	1.7	2.1	1.9	1.6	1.6	1.9	1.9	1.4	1.3	1.4	1.7
1972	1.4	1.4	1.4	1.7	2.0	1.9	1.9	1.9	1.6	1.5	1.6	1.7
1973	1.9	1.7	2.2	2.6	2.8	2.2	2.0	2.0	1.5	1.3	1.5	1.5
1974	1.4	1.4	2.0	2.6	1.9	2.6	2.7	2.1	1.7	1.4	1.5	1.8
1975	1.5	1.4	1.5	1.6	2.3	2.5	2.4	1.9	1.7	1.4	1.5	1.6
1976	1.3	1.3	1.3	1.6	1.8	1.6	1.9	1.8	1.6	1.8	2.0	1.9
1977	1.8	1.6	1.9	1.7	1.8	1.5	1.5	1.7	1.5	1.6	1.5	1.9
1978	1.7	1.5	1.8	2.6	2.7	2.6	2.9	2.4	1.5	1.5	1.5	1.6
1979	1.5	1.4	1.4	2.1	2.2	2.3	2.3	2.1	1.4	1.3	1.5	1.6
1980	1.5	1.4	1.7	3.0	4.2	3.3	2.3	2.1	1.7	1.6	1.7	1.7
1981	1.6	1.1	1.6	2.0	1.9	2.1	2.0	1.9	1.4	1.4	1.4	1.5
1982	1.5	1.5	2.1	2.3	2.7	3.0	4.6	3.2	2.1	1.7	1.6	2.1
1983	1.9	2.5	3.5	4.6	5.9	8.0	4.3	3.9	4.2	3.8	2.3	2.5
1984	1.9	3.1	4.4	3.1	2.4	2.3	2.1	1.9	1.5	1.7	1.7	2.0
1985	1.5	1.5	1.7	1.8	1.7	1.7	1.9	1.7	1.5	1.3	1.4	1.6
1986	1.5	1.2	1.5	1.9	4.1	4.2	2.6	2.2	1.6	1.5	1.5	2.0
1987	1.8	1.5	1.7	1.6	1.9	2.0	1.8	2.0	1.4	1.5	1.9	1.7
1988	1.5	1.5	1.8	1.8	2.1	1.9	1.9	1.7	1.3	1.3	1.6	1.6
1989	1.4	1.1	1.3	1.4	1.6	2.0	1.8	1.7	1.4	1.3	1.7	1.7
1990	1.5	1.3	1.8	1.7	1.7	1.7	1.9	1.9	1.6	1.6	1.7	1.8
1991	1.6	1.3	1.6	1.8	1.9	2.2	1.6	1.5	1.4	1.5	1.6	1.7
1992	1.7	1.4	2.0	2.0	2.7	2.4	2.1	2.0	1.6	1.6	1.8	1.8
1993	1.8	1.5	1.8	2.7	2.6	2.2	2.2	2.3	1.8	1.6	1.6	1.7
1994	1.6	1.4	1.5	1.7	2.0	1.8	1.8	1.8	1.6	1.4	1.4	1.5
1995	1.7	1.3	1.6	3.0	2.4	4.0	2.9	3.5	2.5	2.9	1.8	1.8
1996	1.6	1.3	1.8	2.0	3.2	2.6	2.4	2.4	1.5	1.5	1.5	1.7
1997	1.4	1.2	3.1	8.0	3.5	2.2	1.9	2.1	1.7	1.7	1.8	1.9
1998	1.9	2.3	2.1	2.8	4.9	3.1	3.1	3.2	3.1	3.0	1.9	1.9
1999	1.4	1.3	1.5	1.8	2.5	2.2	2.2	1.9	1.4	1.3	1.4	1.6
2000	1.5	1.2	1.2	1.7	2.9	2.2	2.1	2.0	1.5	1.5	1.4	1.6
2001	1.5	1.0	1.3	1.7	1.9	2.0	1.8	1.9	1.4	1.4	1.5	1.7
2002	1.4	1.4	1.6	1.9	1.6	1.8	1.8	1.7	1.3	1.3	1.5	1.5
2003	1.5	1.4	2.1	2.2	2.0	1.6	2.1	1.9	1.3	1.3	1.5	1.7
Average	1.6	1.5	1.9	2.4	2.5	2.5	2.2	2.1	1.7	1.6	1.6	1.7
Critical	1.6	1.4	1.7	1.8	2.0	1.9	1.8	1.8	1.5	1.5	1.7	1.8
Dry	1.5	1.3	1.5	1.7	1.8	1.9	1.8	1.8	1.4	1.4	1.6	1.6
BN	1.5	1.4	1.4	1.9	2.1	2.1	2.1	2.0	1.5	1.4	1.5	1.6
AN	1.6	1.4	1.8	2.5	2.9	2.4	2.3	2.1	1.6	1.5	1.5	1.6
Wet	1.6	1.7	2.3	3.0	3.1	3.1	2.7	2.5	2.0	1.9	1.6	1.9

Table 2-7.
Grant Line upstream of barrier stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-8.
Grant Line upstream of barrier stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.6	-2.8	-2.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-2.1	-0.7
1977	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-1.5	-1.0	-0.8
1978	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	-1.6
1982	0.0	0.0	-0.1	-0.4	-2.3	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-2.4	-2.3	-0.8
1988	-0.1	0.1	0.0	-0.1	0.0	0.1	0.0	0.2	0.0	-3.2	-2.2	-0.4
1989	-0.1	0.1	-0.1	0.2	0.2	-0.2	-0.1	0.3	0.1	0.0	-0.9	-0.7
1990	0.1	0.0	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-2.5	-1.1	-0.5
1991	0.0	0.1	0.1	0.2	0.0	-0.1	-0.1	0.0	0.0	-2.1	-0.9	-0.3
1992	0.0	0.1	0.1	0.1	-0.1	-0.1	0.0	0.2	0.1	-4.2	-2.0	-0.6
1993	-0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.5	-3.3	-1.2	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.9	-1.2
1995	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.0	-1.5	-0.5
2002	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.7	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.7	-0.6	-0.2
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-2.1	-1.9	-0.7
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-1.1	-1.1	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.6	-0.4	-0.1	-0.6	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-9.
Grant Line downstream of barrier stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-10.
Grant Line downstream of barrier stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.6	-2.8	-2.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.3	-6.6	-2.6
1977	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-7.9	-1.2	-1.8
1978	-0.1	0.2	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-7.6	-0.1
1982	0.0	0.0	-0.1	-0.4	-2.3	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	-3.5	-7.4	-2.2
1988	0.0	0.2	0.0	-0.1	0.0	0.1	0.0	0.2	0.1	-8.3	-3.8	-2.0
1989	0.0	0.3	-0.1	0.2	0.2	-0.2	-0.1	0.3	0.3	-0.1	-5.1	-0.2
1990	0.1	0.2	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-7.5	-2.9	-1.8
1991	0.2	0.2	0.2	0.2	0.0	-0.1	-0.1	0.0	0.2	-6.6	-2.2	-1.3
1992	0.1	0.2	0.1	0.1	-0.1	-0.1	0.0	0.2	0.2	-5.3	-4.2	-1.5
1993	-0.2	0.2	-0.1	-0.2	-0.2	-0.2	-0.1	-0.5	-3.5	-2.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-4.3	-4.1
1995	0.1	0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
1998	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-4.6	-5.5	-2.2
2002	0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-9.2	0.0	0.0
Average	0.0	0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-1.8	-1.5	-0.6
Critical	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-5.9	-3.6	-2.2
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-1.4	-4.3	-0.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.1	0.0	-0.1	-0.3	-0.6	-0.4	-0.1	-0.6	-1.9	0.0	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-11.
Middle River upstream of barrier stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-12.
Middle River upstream of barrier stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.2	-1.0	-0.5	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-1.0	-0.4
1977	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-1.3	-0.5	-0.4
1978	-0.1	0.0	0.0	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-1.4	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.5
1982	0.0	0.0	-0.2	-0.1	-1.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-1.5	-1.3	-0.3
1988	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.0	-4.1	-0.6	-0.2
1989	-0.1	0.0	-0.1	0.3	0.2	-0.3	-0.2	0.2	0.0	-0.1	-0.6	-0.1
1990	0.0	0.0	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-2.6	-0.5	-0.2
1991	0.0	0.0	0.2	0.2	0.0	-0.1	-0.1	0.0	0.0	-2.0	-0.4	-0.2
1992	0.0	0.0	0.2	0.1	-0.1	-0.1	0.0	0.2	0.0	-3.6	-0.9	-0.3
1993	-0.1	0.0	-0.1	-0.2	-0.2	-0.3	-0.1	-0.2	-1.2	-0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	-2.4	-0.7
1995	0.0	0.0	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-0.7	-0.2
2002	0.0	0.0	-0.1	-0.2	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-1.8	-0.1	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.6	-0.3	-0.1
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-0.9	-0.3
Dry	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.6	-0.6	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.1	0.0	-0.2	-0.4	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-13.
Middle River downstream of barrier stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-14.
Middle River downstream of barrier stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.2	-1.0	-0.5	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-4.9	-1.9
1977	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-5.6	-0.7	-1.3
1978	0.0	0.1	0.0	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-1.4	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-4.3	-0.2
1982	0.0	0.0	-0.2	-0.1	-1.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	-1.8	-6.0	-1.6
1988	0.1	0.1	-0.1	-0.1	0.0	0.0	0.0	0.2	0.1	-5.3	-3.1	-1.6
1989	0.1	0.2	-0.1	0.3	0.2	-0.3	-0.2	0.3	0.2	-0.1	-1.6	-0.2
1990	0.0	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-5.0	-2.1	-1.4
1991	0.2	0.2	0.2	0.2	0.0	-0.1	-0.1	0.0	0.1	-4.3	-1.9	-1.1
1992	0.1	0.2	0.2	0.1	-0.1	-0.1	0.0	0.2	0.1	-2.5	-2.6	-1.2
1993	-0.1	0.1	-0.1	-0.2	-0.2	-0.3	-0.1	-0.2	-1.0	-0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.2	-2.0	-2.3
1995	0.2	0.1	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.4	-3.8	-1.7
2002	0.2	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	-2.6	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-1.0	-1.0	-0.4
Critical	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-3.6	-2.5	-1.5
Dry	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	-0.7	-2.6	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.1	-0.1	-0.2	-0.5	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-15.
Old River upstream of barrier stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-16.
Old River upstream of barrier stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.3	-1.5	-0.9	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-2.7	-1.0
1977	-0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	-2.1	-1.2	-0.9
1978	-0.1	0.0	0.0	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-2.1	-0.9	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-1.6	-1.6
1982	0.0	0.0	-0.2	-0.2	-1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	-2.5	-2.6	-1.1
1988	-0.1	0.1	-0.1	-0.1	0.0	0.1	0.0	0.2	0.0	-3.7	-2.3	-0.7
1989	-0.1	0.1	-0.1	0.4	0.3	-0.3	-0.2	0.3	0.1	0.0	-1.3	-0.7
1990	0.1	0.1	0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	-3.3	-1.3	-0.6
1991	0.0	0.1	0.2	0.3	0.0	-0.1	-0.1	0.0	0.1	-2.8	-1.2	-0.7
1992	0.0	0.1	0.2	0.2	-0.1	-0.1	0.0	0.2	0.1	-4.1	-2.1	-0.8
1993	-0.1	0.0	-0.1	-0.2	-0.2	-0.3	-0.1	-0.5	-3.7	-1.3	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-4.2	-1.3
1995	-0.1	0.0	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	-1.5	-0.6
2002	0.0	0.0	-0.1	-0.2	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.9	-0.6	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	-0.7	-0.7	-0.3
Critical	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-2.5	-2.1	-0.9
Dry	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	-1.0	-1.2	-0.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.5	-0.5	-0.2	-0.1	-0.6	-0.4	-0.1	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-17.
Old River downstream of barrier stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-18.
Old River downstream of barrier stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.2	-1.4	-0.8	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.3	-8.4	-3.0
1977	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	-9.7	-1.0	-1.7
1978	0.0	0.2	0.0	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-2.3	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-13.7	-0.1
1982	0.1	0.0	-0.2	-0.2	-1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	-4.5	-11.2	-3.1
1988	0.4	0.3	-0.1	-0.1	0.0	0.2	0.0	0.3	0.1	-12.6	-5.1	-2.7
1989	0.3	0.5	-0.1	0.5	0.3	-0.3	-0.2	0.5	0.4	-0.1	-6.6	-0.2
1990	0.2	0.3	0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	-11.2	-4.2	-2.4
1991	0.3	0.4	0.3	0.3	0.0	-0.1	-0.1	0.0	0.3	-10.3	-3.7	-2.0
1992	0.3	0.3	0.2	0.2	-0.1	-0.1	0.0	0.4	0.3	-5.6	-5.6	-1.8
1993	-0.1	0.3	-0.1	-0.2	-0.2	-0.3	-0.1	-0.3	-1.4	-0.8	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.3	-3.3	-5.0
1995	0.3	0.3	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
1998	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2001	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	-5.3	-7.9	-3.0
2002	0.6	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	-10.8	0.0	0.0
Average	0.1	0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-2.3	-2.1	-0.7
Critical	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	-8.1	-4.5	-2.7
Dry	0.1	0.1	0.0	0.0	0.0	-0.1	0.0	0.1	0.2	-1.6	-6.6	-1.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.1	0.0	-0.1	-0.5	-0.5	-0.2	-0.1	-0.3	-1.9	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-19.
Grant Line upstream of barrier stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-20.
Grant Line upstream of barrier stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	-0.3
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.6	-0.5
1978	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.2	-1.3	-1.1
1982	0.0	0.0	-0.1	-0.4	-2.3	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-0.4
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.6	-0.3
1989	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.3	-0.3
1990	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-1.5	-0.6	-0.3
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-0.5	-0.2
1992	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.8	-0.5	-0.4
1993	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.4	-3.3	-1.2	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.4	-0.8
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	-0.5	-0.3
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.3	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.8	-0.4
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.5	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.5	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-21.
Grant Line downstream of barrier stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1982	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-22.
Grant Line downstream of barrier stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.3	-3.2	-1.1
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.3	-0.8	-1.2
1978	-0.2	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.4	-4.5	-0.5
1982	-0.3	0.0	-0.1	-0.4	-2.3	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-4.0	-1.1
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.9	-2.0	-1.2
1989	-0.2	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	-2.3	-0.1
1990	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-4.9	-1.6	-1.1
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.4	-1.4	-0.9
1992	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-2.2	-1.5	-0.9
1993	-0.2	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.4	-3.5	-2.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-2.9	-2.1
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.3	-2.0	-1.3
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.5	-0.8	-0.2
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-1.1	-0.8	-0.3
Critical	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.2	-1.9	-1.2
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-2.1	-0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	-1.1	-0.1	0.0
Wet	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-23.
Middle River upstream of barrier stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-24.
Middle River upstream of barrier stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.3	-0.2
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.3	-0.2
1978	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.6	-0.7	-0.2
1982	0.0	0.0	-0.2	-0.1	-1.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.6	-0.2
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.3	-0.1
1989	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.2	0.0
1990	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-1.4	-0.3	-0.1
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-0.3	-0.1
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	-0.1
1993	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.2	-1.2	-0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.4	-0.5
1995	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.2	-0.1
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.4	-0.2
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-25.
Middle River downstream of barrier stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-26.
Middle River downstream of barrier stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-2.3	-0.9
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	-0.5	-0.8
1978	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-3.4	-0.7
1982	-0.4	0.0	-0.2	-0.1	-1.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-3.2	-0.9
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.1	-1.7	-1.0
1989	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	-0.7	-0.1
1990	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-3.5	-1.3	-0.8
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	-1.2	-0.7
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.8	-1.1	-0.7
1993	-0.1	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-1.0	-0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-1.6	-1.2
1995	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.6	-1.7	-1.0
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.6	-0.2
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.6	-0.3
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-1.4	-0.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.5	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-27.
Old River upstream of barrier stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-28.
Old River upstream of barrier stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.1	-0.5
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.7	-0.5
1978	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	2.3	-1.1	-1.1
1982	0.0	0.0	-0.1	-0.2	-1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-1.5	-0.7
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-0.9	-0.5
1989	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.4	-0.3
1990	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-2.1	-0.9	-0.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-0.9	-0.4
1992	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.9	-0.8	-0.5
1993	-0.1	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.4	-3.7	-1.3	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.9	-0.8
1995	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.8	-0.8	-0.5
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.2	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.2	-0.4	-0.2
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.2	-0.5
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.3	-0.6	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	-0.3	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-29.
Old River downstream of barrier stage (ft) difference
No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-30.
Old River downstream of barriers stage (ft) of barrier stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.2	-4.0	-1.4
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.1	-0.7	-1.1
1978	-0.2	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-8.8	-0.6
1982	-0.5	0.0	-0.2	-0.2	-1.4	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-5.5	-1.7
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.2	-2.5	-1.6
1989	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	-2.5	-0.1
1990	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-7.6	-2.4	-1.3
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.7	-2.2	-1.2
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-3.8	-2.2	-1.1
1993	-0.1	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.2	-1.3	-0.8	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-2.4	-2.3
1995	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-3.9	-3.0	-1.6
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.9	-1.1	-0.3
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-1.6	-1.1	-0.4
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.9	-2.3	-1.4
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-3.3	-0.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.9	-0.2	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-31.
Grant Line upstream of barrier stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-32.
Grant Line upstream of barrier stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.6	-2.8	-2.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-0.9	-0.3
1977	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.8	-0.4	-0.4
1978	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	-1.5
1982	0.0	0.0	-0.1	-0.4	-2.3	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-1.7	-1.5	-0.5
1988	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.2	0.0	-1.9	-0.9	-0.2
1989	0.0	0.1	-0.1	0.2	0.2	-0.2	-0.1	0.3	0.1	0.0	-0.9	-0.7
1990	0.1	0.0	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-1.5	-0.6	-0.2
1991	0.0	0.1	0.1	0.2	0.0	-0.1	-0.1	0.0	0.0	-1.0	-0.4	-0.1
1992	0.0	0.1	0.1	0.1	-0.1	-0.1	0.0	0.2	0.1	-2.5	-1.3	-0.4
1993	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.5	-3.3	-1.2	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	-0.8
1995	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-1.0	-0.3
2002	0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.7	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.5	-0.4	-0.2
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-1.3	-1.0	-0.3
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.9	-0.8	-0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.6	-0.4	-0.1	-0.6	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-33.
Grant Line downstream of barrier stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-34.
Grant Line downstream of barrier stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.6	-2.8	-2.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.5	-4.0	-1.4
1977	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-4.5	-0.6	-0.9
1978	0.1	0.2	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-7.3	-0.1
1982	0.0	0.0	-0.1	-0.4	-2.3	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	-3.0	-5.1	-1.4
1988	0.1	0.2	0.0	-0.1	0.0	0.1	0.0	0.2	0.1	-7.7	-2.0	-1.2
1989	0.1	0.3	-0.1	0.2	0.2	-0.2	-0.1	0.3	0.3	-0.1	-5.1	-0.2
1990	0.1	0.2	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-5.1	-1.6	-1.0
1991	0.2	0.2	0.2	0.2	0.0	-0.1	-0.1	0.0	0.2	-3.7	-1.1	-0.6
1992	0.2	0.2	0.1	0.1	-0.1	-0.1	0.0	0.2	0.2	-3.8	-2.6	-0.9
1993	-0.1	0.2	-0.1	-0.2	-0.2	-0.2	-0.1	-0.5	-3.5	-2.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-2.4
1995	0.2	0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
1998	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-4.1	-3.0	-1.4
2002	0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-9.2	0.0	0.0
Average	0.0	0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-1.4	-1.0	-0.3
Critical	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	-4.3	-2.1	-1.2
Dry	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-1.2	-3.4	-0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.1	0.0	-0.1	-0.3	-0.6	-0.4	-0.1	-0.6	-1.9	0.0	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-35.
Middle River upstream of barrier stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-36.
Middle River upstream of barrier stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.2	-1.0	-0.5	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.4	-0.2
1977	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.7	-0.2	-0.2
1978	0.0	0.0	0.0	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-1.4	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.4
1982	0.0	0.0	-0.2	-0.1	-1.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-1.1	-0.9	-0.2
1988	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.0	-2.1	-0.3	-0.1
1989	0.0	0.0	-0.1	0.3	0.2	-0.3	-0.2	0.2	0.0	-0.1	-0.6	-0.1
1990	0.0	0.0	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-1.4	-0.3	-0.1
1991	0.0	0.0	0.2	0.2	0.0	-0.1	-0.1	0.0	0.0	-1.1	-0.2	-0.1
1992	0.0	0.0	0.2	0.1	-0.1	-0.1	0.0	0.2	0.0	-2.3	-0.5	-0.2
1993	0.0	0.0	-0.1	-0.2	-0.2	-0.3	-0.1	-0.2	-1.2	-0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	-1.4	-0.4
1995	0.0	0.0	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-0.4	-0.1
2002	0.0	0.0	-0.1	-0.2	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-1.8	-0.1	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.4	-0.2	-0.1
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-0.5	-0.2
Dry	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.5	-0.4	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.1	0.0	-0.2	-0.4	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-37.
Middle River downstream of barrier stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-38.
Middle River downstream of barrier stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.2	-1.0	-0.5	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-2.9	-1.0
1977	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-3.0	-0.3	-0.6
1978	0.1	0.1	0.0	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-1.4	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-4.2	-0.2
1982	0.0	0.0	-0.2	-0.1	-1.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	-1.5	-4.1	-1.0
1988	0.1	0.1	-0.1	-0.1	0.0	0.0	0.0	0.2	0.1	-5.1	-1.7	-1.0
1989	0.1	0.2	-0.1	0.3	0.2	-0.3	-0.2	0.3	0.2	-0.1	-1.6	-0.2
1990	0.0	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-3.7	-1.3	-0.9
1991	0.2	0.2	0.2	0.2	0.0	-0.1	-0.1	0.0	0.2	-2.6	-1.0	-0.5
1992	0.1	0.2	0.2	0.1	-0.1	-0.1	0.0	0.2	0.1	-1.9	-1.8	-0.7
1993	0.0	0.1	-0.1	-0.2	-0.2	-0.3	-0.1	-0.2	-1.0	-0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	-1.5	-1.3
1995	0.2	0.1	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.1	-2.1	-1.0
2002	0.2	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	-2.6	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.7	-0.7	-0.3
Critical	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-2.6	-1.5	-0.9
Dry	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	-0.6	-2.0	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.1	-0.1	-0.2	-0.5	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-39.
Old River upstream of barrier stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-40.
Old River upstream of barrier stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.3	-1.5	-0.9	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-1.3	-0.5
1977	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	-1.3	-0.5	-0.4
1978	0.0	0.0	0.0	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-2.1	-0.9	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-1.6	-1.6
1982	0.0	0.0	-0.2	-0.2	-1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	-1.9	-1.9	-0.6
1988	0.0	0.1	-0.1	-0.1	0.0	0.1	0.0	0.2	0.0	-2.4	-0.9	-0.5
1989	0.0	0.1	-0.1	0.4	0.3	-0.3	-0.2	0.3	0.1	0.0	-1.3	-0.7
1990	0.1	0.1	0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	-2.2	-0.8	-0.4
1991	0.1	0.1	0.2	0.3	0.0	-0.1	-0.1	0.0	0.1	-1.7	-0.6	-0.4
1992	0.0	0.1	0.2	0.2	-0.1	-0.1	0.0	0.2	0.1	-2.5	-1.3	-0.5
1993	0.0	0.0	-0.1	-0.2	-0.2	-0.3	-0.1	-0.5	-3.7	-1.3	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-2.8	-0.8
1995	0.0	0.0	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-1.0	-0.3
2002	0.1	0.0	-0.1	-0.2	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.9	-0.6	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	-0.5	-0.4	-0.2
Critical	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-1.6	-1.2	-0.5
Dry	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	-0.8	-1.0	-0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.5	-0.5	-0.2	-0.1	-0.6	-0.4	-0.1	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-41.
Old River downstream of barrier stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-42.
Old River downstream of barrier stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.2	-1.4	-0.8	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.6	-5.1	-1.7
1977	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	-5.3	-0.5	-0.8
1978	0.2	0.2	0.0	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-2.3	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-13.4	-0.1
1982	0.1	0.0	-0.2	-0.2	-1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	-4.0	-7.2	-1.9
1988	0.4	0.3	-0.1	-0.1	0.0	0.2	0.0	0.3	0.1	-12.5	-2.6	-1.6
1989	0.4	0.5	-0.1	0.5	0.3	-0.3	-0.2	0.5	0.4	-0.1	-6.6	-0.2
1990	0.2	0.3	0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	-7.9	-2.4	-1.4
1991	0.3	0.4	0.3	0.3	0.0	-0.1	-0.1	0.0	0.3	-5.6	-1.9	-0.9
1992	0.3	0.3	0.2	0.2	-0.1	-0.1	0.0	0.4	0.3	-4.4	-3.6	-0.9
1993	0.0	0.3	-0.1	-0.2	-0.2	-0.3	-0.1	-0.3	-1.4	-0.8	0.0	0.0
1994	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-2.2	-2.9
1995	0.3	0.3	-0.1	-0.2	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0
1996	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
1998	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2001	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	-4.8	-3.7	-1.9
2002	0.6	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1
2003	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	-10.8	0.0	0.0
Average	0.1	0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-1.9	-1.4	-0.4
Critical	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	-6.2	-2.6	-1.5
Dry	0.2	0.1	0.0	0.0	0.0	-0.1	0.0	0.1	0.2	-1.5	-5.2	-0.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.1	0.0	-0.1	-0.5	-0.5	-0.2	-0.1	-0.3	-1.9	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-43.
Old River near Middle River location Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	4.2	4.2	3.4	8.5	5.4	5.4	3.8	3.3	4.0	3.8	3.8	3.9
1971	4.0	3.9	3.1	3.0	2.8	3.9	3.9	3.5	4.0	3.7	3.8	3.9
1972	4.0	3.9	2.4	2.5	2.9	2.8	3.2	3.1	3.9	3.7	3.8	3.9
1973	4.1	3.9	3.1	3.4	4.4	5.2	4.6	4.1	4.2	3.9	4.1	4.0
1974	4.0	3.8	3.3	4.7	3.5	5.6	5.5	4.0	5.2	4.4	4.2	4.2
1975	4.1	4.0	2.6	2.6	4.3	5.8	4.9	3.3	6.1	4.5	4.3	4.0
1976	4.0	4.0	2.3	2.6	2.8	2.6	3.0	2.9	3.8	3.7	4.1	4.1
1977	4.0	3.9	2.7	2.6	2.5	2.1	2.1	2.5	3.5	3.6	3.7	3.9
1978	3.8	3.7	2.6	3.6	4.9	5.3	7.0	6.4	6.8	4.7	4.3	4.2
1979	3.9	3.9	2.4	3.6	4.7	5.7	5.0	5.1	3.9	3.7	4.1	3.9
1980	4.0	3.9	2.6	7.1	9.7	8.6	4.9	4.7	7.1	5.9	4.4	4.2
1981	4.1	3.9	2.5	2.9	2.9	3.6	3.6	3.2	3.7	3.7	3.8	3.8
1982	3.9	3.8	3.0	3.6	6.9	8.1	11.8	8.9	7.4	6.4	5.0	6.0
1983	5.8	7.5	9.7	11.9	13.3	16.8	11.0	10.6	11.8	10.8	6.8	6.4
1984	4.6	9.2	10.7	7.9	6.0	5.2	4.6	3.6	4.3	4.1	4.2	4.5
1985	4.3	4.0	2.6	2.8	2.9	3.3	3.6	3.1	3.8	3.7	3.9	4.0
1986	3.9	3.8	2.6	2.8	9.4	11.4	6.8	6.2	6.6	4.3	4.3	4.5
1987	4.3	4.2	2.7	2.6	2.9	3.1	2.8	3.0	3.7	3.7	4.0	4.0
1988	4.0	3.9	2.7	2.6	2.8	2.6	2.7	2.6	3.5	3.5	3.7	3.9
1989	3.8	3.7	2.2	2.2	2.5	2.9	2.7	2.5	3.6	3.4	3.7	3.9
1990	3.7	3.8	2.6	2.5	2.5	2.4	2.5	2.7	3.6	3.5	3.8	3.9
1991	3.9	3.8	2.5	2.5	2.7	3.2	2.5	2.4	3.5	3.5	3.7	3.8
1992	3.9	3.8	2.7	2.7	3.6	3.3	2.7	2.7	3.6	3.6	3.7	3.8
1993	3.9	3.8	2.6	4.2	4.0	3.6	3.4	3.6	4.8	4.2	4.1	4.1
1994	4.0	3.9	2.4	2.5	2.8	2.6	2.5	2.7	3.6	3.4	3.6	3.7
1995	3.9	3.7	2.5	4.2	3.4	9.0	7.3	9.7	7.8	9.2	5.1	4.2
1996	4.1	3.9	2.8	3.1	6.8	6.4	5.2	4.9	5.2	4.1	4.1	4.1
1997	4.0	4.0	9.3	18.5	10.6	6.2	3.9	4.4	4.7	3.9	4.2	4.2
1998	4.2	4.2	3.0	4.3	10.7	8.0	8.1	8.3	9.1	9.4	5.3	4.9
1999	4.3	4.0	2.8	3.8	6.4	4.9	4.6	3.6	4.4	3.8	3.9	4.0
2000	3.9	3.8	2.0	2.7	6.6	5.7	4.6	3.9	4.1	3.8	3.9	4.1
2001	4.1	3.8	2.3	2.7	2.9	3.4	3.5	3.1	3.7	3.7	3.8	4.0
2002	3.9	3.8	2.6	3.0	2.5	2.8	2.8	2.8	3.6	3.5	3.8	3.9
2003	3.9	3.8	3.0	2.9	2.8	2.6	3.4	3.0	3.6	3.5	3.8	3.8
Average	4.1	4.2	3.3	4.2	4.9	5.1	4.5	4.2	4.9	4.5	4.1	4.2
Critical	3.9	3.9	2.5	2.6	2.8	2.7	2.6	2.6	3.6	3.5	3.8	3.9
Dry	4.1	3.9	2.5	2.7	2.8	3.2	3.2	2.9	3.7	3.6	3.8	3.9
BN	3.9	3.9	2.4	3.1	3.8	4.3	4.1	4.1	3.9	3.7	4.0	3.9
AN	3.9	3.8	2.6	4.0	5.4	5.2	4.6	4.3	5.1	4.3	4.1	4.1
Wet	4.2	4.6	4.5	6.1	6.9	7.4	6.3	5.7	6.2	5.6	4.5	4.5

Table 2-44.
Old River near Tracy location Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	4.1	4.2	2.6	5.0	3.4	3.2	2.4	2.5	3.9	3.7	3.7	3.8
1971	3.9	3.8	2.6	2.3	2.0	2.3	2.5	2.7	3.8	3.6	3.7	3.8
1972	3.9	3.8	1.8	2.1	2.4	2.2	2.3	2.5	3.8	3.6	3.7	3.8
1973	4.0	3.9	2.5	2.9	3.4	3.1	2.7	2.9	4.0	3.7	4.0	3.9
1974	3.9	3.7	2.4	3.3	2.4	3.4	3.5	2.9	4.8	4.2	4.1	4.0
1975	4.0	3.9	1.9	2.0	2.9	3.4	3.1	2.6	5.3	4.3	4.1	3.9
1976	3.9	3.9	1.7	2.0	2.2	2.0	2.3	2.4	3.7	3.6	4.1	4.1
1977	4.0	3.8	2.3	2.1	2.1	1.8	1.8	2.2	3.5	3.5	3.6	3.9
1978	3.8	3.7	2.2	3.0	3.4	3.4	4.1	4.0	5.6	4.5	4.1	4.1
1979	3.8	3.9	1.8	2.6	3.0	3.3	3.1	3.3	3.8	3.6	4.0	3.9
1980	3.9	3.8	2.0	4.2	6.0	4.9	3.0	3.2	5.8	5.2	4.3	4.0
1981	4.0	3.8	1.9	2.4	2.3	2.6	2.5	2.6	3.6	3.6	3.7	3.7
1982	3.8	3.7	2.4	2.8	3.9	4.5	7.4	4.9	5.5	5.4	4.7	5.4
1983	5.2	6.2	5.6	7.5	8.8	11.6	6.8	6.3	7.2	6.4	5.7	5.6
1984	4.4	7.1	6.6	4.5	3.5	3.1	2.8	2.7	4.2	3.9	4.1	4.3
1985	4.1	3.9	2.0	2.2	2.1	2.2	2.4	2.4	3.7	3.6	3.8	3.9
1986	3.9	3.7	2.0	2.3	5.8	6.9	3.8	3.8	5.5	4.2	4.2	4.3
1987	4.2	4.1	2.2	2.0	2.3	2.4	2.1	2.6	3.7	3.6	4.0	3.9
1988	3.9	3.9	2.2	2.2	2.4	2.2	2.2	2.2	3.4	3.4	3.7	3.8
1989	3.7	3.6	1.8	1.7	2.0	2.3	2.1	2.3	3.5	3.3	3.7	3.9
1990	3.7	3.8	2.2	2.1	2.0	2.0	2.1	2.5	3.5	3.5	3.8	3.9
1991	3.8	3.8	2.1	2.2	2.2	2.6	1.9	2.1	3.5	3.4	3.7	3.8
1992	3.9	3.8	2.3	2.3	3.0	2.7	2.3	2.5	3.5	3.5	3.7	3.8
1993	3.9	3.8	2.2	3.2	3.1	2.7	2.6	3.0	4.5	4.1	4.0	4.0
1994	3.9	3.8	1.8	2.1	2.2	2.1	2.1	2.4	3.5	3.3	3.5	3.6
1995	3.8	3.7	2.1	3.4	2.8	5.5	4.1	5.6	4.0	5.0	4.7	4.1
1996	4.0	3.9	2.2	2.5	4.2	3.7	3.2	3.4	4.7	4.0	4.0	4.0
1997	4.0	3.9	5.2	12.6	6.2	3.3	2.5	3.1	4.4	3.8	4.1	4.1
1998	4.1	4.2	2.4	3.3	7.0	4.5	4.5	4.7	5.0	5.1	4.8	4.6
1999	4.1	3.9	2.0	2.5	3.6	3.0	2.9	2.7	4.2	3.7	3.8	3.9
2000	3.9	3.8	1.5	2.1	4.0	3.2	2.8	2.8	4.0	3.7	3.8	4.0
2001	4.0	3.7	1.6	2.1	2.3	2.5	2.3	2.5	3.6	3.6	3.8	3.9
2002	3.8	3.8	2.1	2.3	2.0	2.2	2.2	2.4	3.5	3.4	3.7	3.8
2003	3.8	3.8	2.5	2.5	2.4	2.0	2.5	2.5	3.5	3.4	3.7	3.7
Average	4.0	4.0	2.4	3.1	3.3	3.3	3.0	3.0	4.2	4.0	4.0	4.0
Critical	3.9	3.8	2.1	2.1	2.3	2.2	2.1	2.3	3.5	3.5	3.7	3.8
Dry	4.0	3.8	1.9	2.1	2.2	2.4	2.3	2.5	3.6	3.5	3.8	3.8
BN	3.8	3.8	1.8	2.4	2.7	2.7	2.7	2.9	3.8	3.6	3.9	3.8
AN	3.9	3.8	2.2	3.0	3.7	3.2	3.0	3.1	4.6	4.1	4.0	4.0
Wet	4.1	4.3	3.1	4.2	4.3	4.5	3.8	3.7	4.8	4.4	4.3	4.3

Table 2-45.
Middle River downstream of Old River location Base stage (ft).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	3.9	3.9	3.1	7.6	4.8	4.7	3.3	2.9	3.7	3.5	3.6	3.7
1971	3.7	3.7	2.9	2.8	2.5	3.4	3.5	3.2	3.6	3.4	3.6	3.7
1972	3.7	3.7	2.3	2.4	2.7	2.5	2.9	2.8	3.6	3.4	3.6	3.7
1973	3.8	3.7	2.9	3.3	4.1	4.6	4.0	3.6	3.8	3.6	3.8	3.7
1974	3.8	3.6	3.0	4.3	3.1	4.9	4.9	3.5	4.6	4.0	3.9	3.9
1975	3.8	3.8	2.4	2.4	3.8	5.1	4.3	3.0	5.3	4.0	3.9	3.8
1976	3.8	3.7	2.1	2.4	2.6	2.3	2.7	2.6	3.5	3.5	3.9	3.9
1977	3.8	3.7	2.6	2.5	2.3	2.0	2.0	2.4	3.3	3.4	3.5	3.7
1978	3.6	3.6	2.5	3.4	4.4	4.8	6.2	5.6	6.0	4.2	3.9	3.9
1979	3.7	3.7	2.3	3.3	4.2	5.0	4.4	4.4	3.6	3.4	3.8	3.7
1980	3.8	3.7	2.4	6.3	8.7	7.7	4.3	4.1	6.3	5.2	4.1	3.9
1981	3.8	3.6	2.4	2.8	2.7	3.3	3.2	2.9	3.4	3.4	3.6	3.6
1982	3.7	3.6	2.8	3.4	6.1	7.2	10.7	7.8	6.5	5.6	4.5	5.4
1983	5.2	6.7	8.6	10.7	12.1	15.3	9.9	9.5	10.6	9.7	6.0	5.7
1984	4.2	8.3	9.6	7.0	5.3	4.6	4.0	3.2	3.9	3.7	3.9	4.1
1985	4.0	3.8	2.4	2.6	2.7	3.0	3.2	2.7	3.5	3.4	3.7	3.7
1986	3.7	3.6	2.4	2.6	8.4	10.2	6.0	5.4	5.8	3.9	4.0	4.1
1987	4.0	3.9	2.6	2.4	2.7	2.9	2.5	2.8	3.5	3.5	3.8	3.7
1988	3.7	3.7	2.5	2.5	2.7	2.4	2.5	2.4	3.3	3.3	3.6	3.7
1989	3.6	3.5	2.1	2.1	2.3	2.7	2.5	2.4	3.4	3.2	3.6	3.7
1990	3.6	3.6	2.5	2.4	2.3	2.2	2.4	2.6	3.4	3.3	3.6	3.7
1991	3.7	3.6	2.3	2.4	2.5	3.0	2.2	2.2	3.4	3.3	3.6	3.7
1992	3.7	3.6	2.5	2.5	3.4	3.1	2.6	2.6	3.4	3.4	3.6	3.6
1993	3.7	3.6	2.5	3.9	3.7	3.4	3.1	3.4	4.3	3.8	3.8	3.8
1994	3.7	3.7	2.2	2.4	2.7	2.4	2.3	2.6	3.4	3.2	3.5	3.5
1995	3.7	3.5	2.3	4.0	3.2	8.1	6.4	8.7	6.8	8.1	4.6	3.9
1996	3.8	3.7	2.6	2.9	6.1	5.7	4.6	4.4	4.5	3.7	3.8	3.8
1997	3.8	3.8	8.3	16.8	9.5	5.5	3.4	3.9	4.2	3.6	3.9	3.9
1998	3.9	4.0	2.8	4.0	9.7	7.2	7.2	7.4	8.0	8.3	4.8	4.4
1999	3.9	3.7	2.5	3.4	5.7	4.4	4.1	3.2	3.9	3.5	3.7	3.7
2000	3.7	3.6	1.9	2.5	5.9	5.0	4.0	3.5	3.8	3.5	3.7	3.9
2001	3.8	3.6	2.1	2.5	2.7	3.1	3.2	2.8	3.4	3.5	3.6	3.7
2002	3.6	3.6	2.5	2.8	2.4	2.6	2.5	2.6	3.4	3.3	3.6	3.7
2003	3.6	3.6	2.8	2.8	2.7	2.4	3.1	2.8	3.4	3.3	3.6	3.6
Average	3.8	3.9	3.1	3.9	4.4	4.6	4.1	3.8	4.4	4.1	3.9	3.9
Critical	3.7	3.7	2.4	2.4	2.7	2.5	2.4	2.5	3.4	3.4	3.6	3.7
Dry	3.8	3.7	2.3	2.5	2.6	2.9	2.9	2.7	3.4	3.4	3.6	3.7
BN	3.7	3.7	2.3	2.8	3.5	3.8	3.6	3.6	3.6	3.4	3.7	3.7
AN	3.7	3.6	2.5	3.7	4.9	4.7	4.1	3.8	4.6	3.9	3.8	3.8
Wet	3.9	4.3	4.1	5.5	6.2	6.6	5.6	5.1	5.5	5.0	4.2	4.2

Table 2-46.
Old River near Middle River location stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-47.
Old River near Middle River location stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.4	-4.2	-3.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-1.7	-0.7
1977	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-1.1	-1.0	-0.7
1978	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-1.5
1982	0.0	0.0	-0.1	-1.1	-3.1	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-2.0	-1.9	-0.8
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-3.0	-2.6	-0.3
1989	-0.1	0.1	0.0	0.1	0.1	-0.1	-0.1	0.2	0.1	0.0	-0.8	-0.7
1990	0.1	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	-2.9	-1.0	-0.4
1991	0.0	0.1	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	-2.3	-0.8	-0.3
1992	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.2	0.1	-3.7	-1.9	-0.3
1993	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-1.1	-4.4	-1.4	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	-1.2
1995	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	-1.2	-0.5
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.7	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-0.6	-0.5	-0.2
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-1.7	-0.6
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.9	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	-0.1	-0.7	-0.5	-0.2	-0.7	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-48.
Old River near Tracy location stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-49.
Old River near Tracy location stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.6	-2.8	-2.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-2.1	-0.7
1977	-0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.0	0.0	-1.5	-1.0	-0.8
1978	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.8	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-1.6
1982	0.0	0.0	-0.1	-0.4	-2.4	-1.2	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-2.3	-2.2	-0.8
1988	-0.1	0.1	0.0	-0.1	0.0	0.1	0.0	0.1	0.0	-3.3	-2.6	-0.4
1989	-0.1	0.1	-0.1	0.3	0.2	-0.2	-0.2	0.3	0.1	0.0	-0.9	-0.7
1990	0.1	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-2.5	-1.1	-0.4
1991	0.0	0.1	0.2	0.2	0.0	-0.1	-0.1	0.0	0.0	-2.2	-0.9	-0.3
1992	0.0	0.1	0.2	0.2	-0.1	-0.1	0.0	0.2	0.1	-4.1	-2.1	-0.4
1993	-0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.5	-3.6	-1.3	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	-1.3
1995	-0.1	0.0	0.0	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	-2.7	-0.5
2002	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-0.7	-0.6	-0.2
Critical	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-2.1	-1.9	-0.6
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.9	-1.2	-0.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.6	-0.4	-0.1	-0.6	-0.4	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-50.
Middle River downstream of Old River location stage (ft) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-51.
Middle River downstream of Old River location stage percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.3	-4.2	-3.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-1.5	-0.6
1977	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-1.0	-0.8	-0.6
1978	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-1.2
1982	0.0	0.0	-0.1	-0.9	-3.1	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-1.7	-1.5	-0.6
1988	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	-3.6	-2.0	-0.3
1989	-0.1	0.0	0.0	0.1	0.2	-0.2	-0.1	0.2	0.1	0.0	-0.7	-0.6
1990	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	-2.3	-0.8	-0.3
1991	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	-1.8	-0.6	-0.2
1992	0.0	0.0	0.2	0.1	-0.1	-0.1	0.0	0.2	0.0	-3.5	-1.4	-0.2
1993	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.8	-3.8	-1.2	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-0.8
1995	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-1.0	-0.4
2002	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-0.6	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-0.6	-0.4	-0.2
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	-1.4	-0.4
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.7	-0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	-0.1	-0.7	-0.5	-0.1	-0.6	-0.4	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-52.
Old River near Middle River location stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-53.
Old River near Middle River location stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-0.6	-0.3
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.6	-0.5
1978	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.7	-1.2	-1.1
1982	0.0	0.0	-0.1	-1.1	-3.1	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.8	-0.4
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-1.1	-0.2
1989	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.3	-0.3
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-0.5	-0.2
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.5	-0.2
1992	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.0	-0.4	-0.2
1993	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	-1.1	-4.4	-1.4	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.2	-0.7
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.2	-0.4	-0.3
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.8	-0.3
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-0.4	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.7	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-54.
Old River near Tracy location stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-55.
Old River near Tracy location stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.7	-0.3
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.6	-0.5
1978	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	2.2	-1.3	-1.1
1982	0.0	0.0	-0.1	-0.4	-2.4	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-0.4
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.9	-0.3
1989	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.3	-0.2
1990	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-1.5	-0.6	-0.3
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.5	-0.2
1992	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.7	-0.5	-0.3
1993	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.4	-3.6	-1.3	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.5	-0.8
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.6	-0.5	-0.3
2002	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.9	-0.4
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-0.5	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-56.
Middle River downstream of Old River location stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-57.
Middle River downstream of Old River location stage percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.5	-0.2
1977	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.5	-0.4
1978	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.7	-1.0	-0.9
1982	0.0	0.0	-0.1	-0.9	-3.1	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.6	-0.3
1988	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.8	-0.2
1989	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.2	-0.2
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.4	-0.2
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-0.4	-0.2
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	1.1	-0.3	-0.2
1993	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.8	-3.8	-1.2	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-1.7	-0.5
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.4	-0.4	-0.3
2002	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.3	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.7	-0.3
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.4	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6	-0.3	0.0	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-58.
Old River near Middle River location stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-59.
Old River near Middle River location stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.4	-4.2	-3.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-0.7	-0.3
1977	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.5	-0.4	-0.3
1978	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-1.5
1982	0.0	0.0	-0.1	-1.1	-3.1	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-1.4	-1.2	-0.5
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-1.6	-1.4	-0.2
1989	0.0	0.1	0.0	0.1	0.1	-0.1	-0.1	0.2	0.1	0.0	-0.8	-0.7
1990	0.1	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	-1.8	-0.5	-0.2
1991	0.0	0.1	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	-1.1	-0.4	-0.1
1992	0.0	0.1	0.1	0.1	-0.1	0.0	0.0	0.2	0.1	-2.2	-1.2	-0.1
1993	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-1.1	-4.4	-1.4	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-0.7
1995	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-0.8	-0.3
2002	0.1	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.7	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-0.4	-0.3	-0.1
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-1.0	-0.3
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.7	-0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	-0.1	-0.7	-0.5	-0.2	-0.7	-0.3	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-60.
Old River near Tracy location stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
1982	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-61.
Old River near Tracy location stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.6	-2.8	-2.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	-0.9	-0.3
1977	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.0	0.0	-0.8	-0.4	-0.4
1978	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.8	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	-1.6
1982	0.0	0.0	-0.1	-0.4	-2.4	-1.2	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-1.6	-1.5	-0.5
1988	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.2	0.0	-1.9	-1.3	-0.2
1989	0.0	0.1	-0.1	0.3	0.2	-0.2	-0.2	0.3	0.1	0.0	-0.9	-0.7
1990	0.1	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	-1.6	-0.6	-0.2
1991	0.0	0.1	0.2	0.2	0.0	-0.1	-0.1	0.0	0.0	-1.1	-0.4	-0.1
1992	0.0	0.1	0.2	0.2	-0.1	-0.1	0.0	0.2	0.1	-2.5	-1.3	-0.2
1993	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.5	-3.6	-1.3	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-0.8
1995	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	-1.8	-0.3
2002	0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	-0.7	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-0.5	-0.4	-0.2
Critical	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-1.3	-1.0	-0.3
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.8	-1.0	-0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.1	-0.3	-0.6	-0.4	-0.1	-0.6	-0.4	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-62.
Middle River downstream of Old River location stage (ft) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-63.
Middle River downstream of Old River location stage percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.3	-4.2	-3.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.6	-0.2
1977	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.5	-0.4	-0.3
1978	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-1.2
1982	0.0	0.0	-0.1	-0.9	-3.1	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-1.2	-0.9	-0.4
1988	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	-1.9	-1.1	-0.2
1989	0.0	0.0	0.0	0.1	0.2	-0.2	-0.1	0.2	0.1	0.0	-0.7	-0.6
1990	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	-1.5	-0.4	-0.2
1991	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	-0.9	-0.3	-0.1
1992	0.0	0.0	0.2	0.1	-0.1	-0.1	0.0	0.2	0.0	-2.2	-0.9	-0.1
1993	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.8	-3.8	-1.2	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-0.5
1995	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-0.7	-0.2
2002	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-0.6	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-0.4	-0.3	-0.1
Critical	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-0.7	-0.2
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.6	-0.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	-0.1	-0.7	-0.5	-0.1	-0.6	-0.4	-0.1	0.0
Wet	0.0	0.0	0.0	-0.1	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-64.
Middle River downstream of Old River location maximum stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-65.
Old River near Tracy location maximum stage (ft) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-66.
Old River near Middle River location maximum stage (ft) difference
No Groundwater Substitution minus Base.

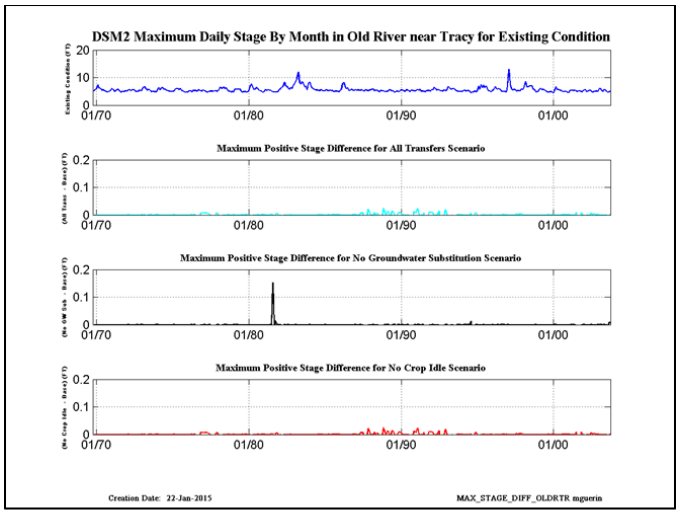
WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

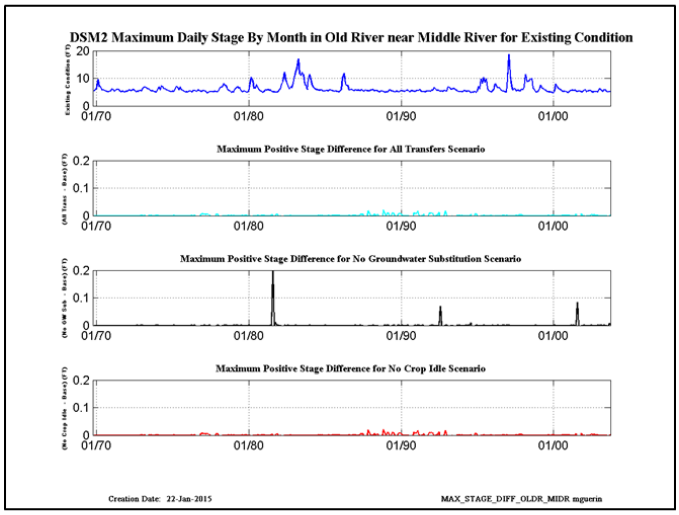
Table 2-67.
Grant Line Canal upstream of barrier location maximum stage (ft) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
1982	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2-68.
Old River upstream of barrier location maximum stage (ft) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





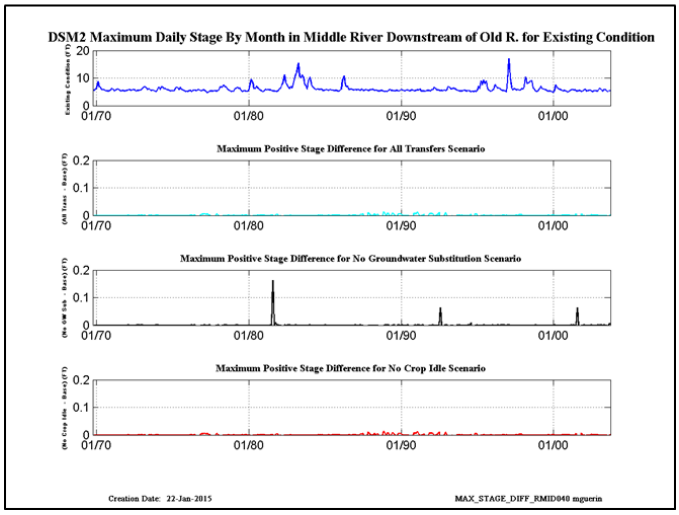
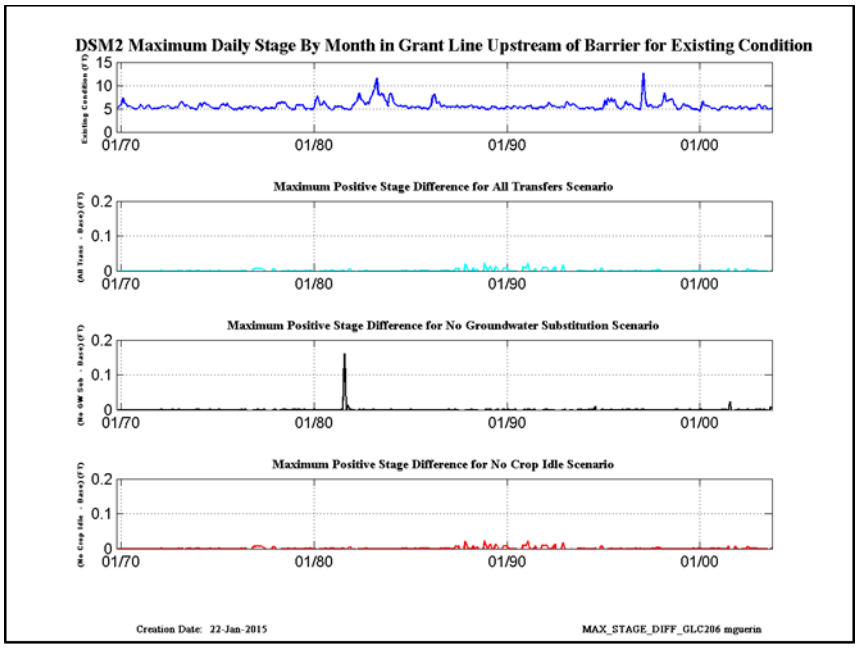


Figure 2-11.
Figures show the maximum positive stage difference at three locations.



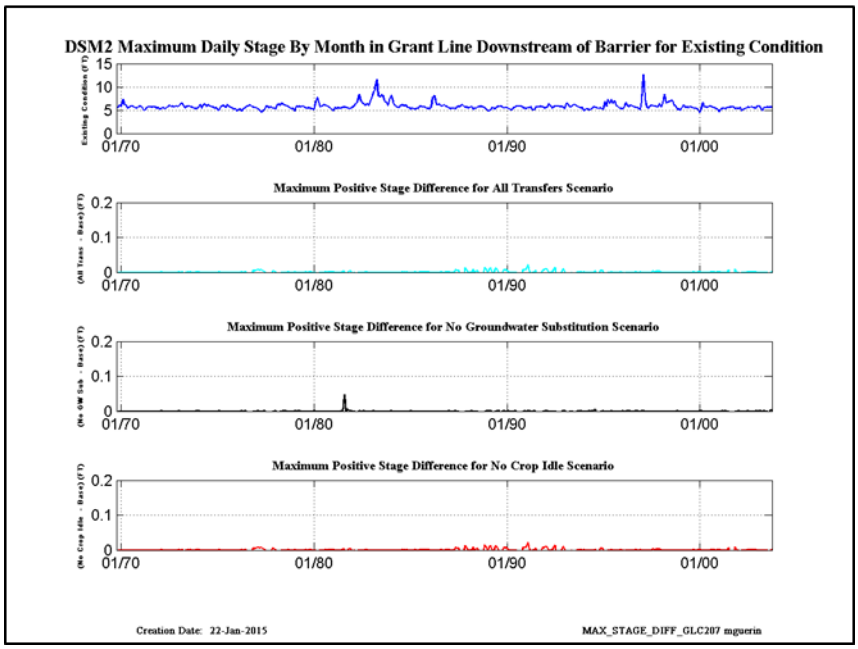


Figure 2-12.
Figures show the maximum positive stage difference upstream and downstream of the barrier in Grant Line Canal.

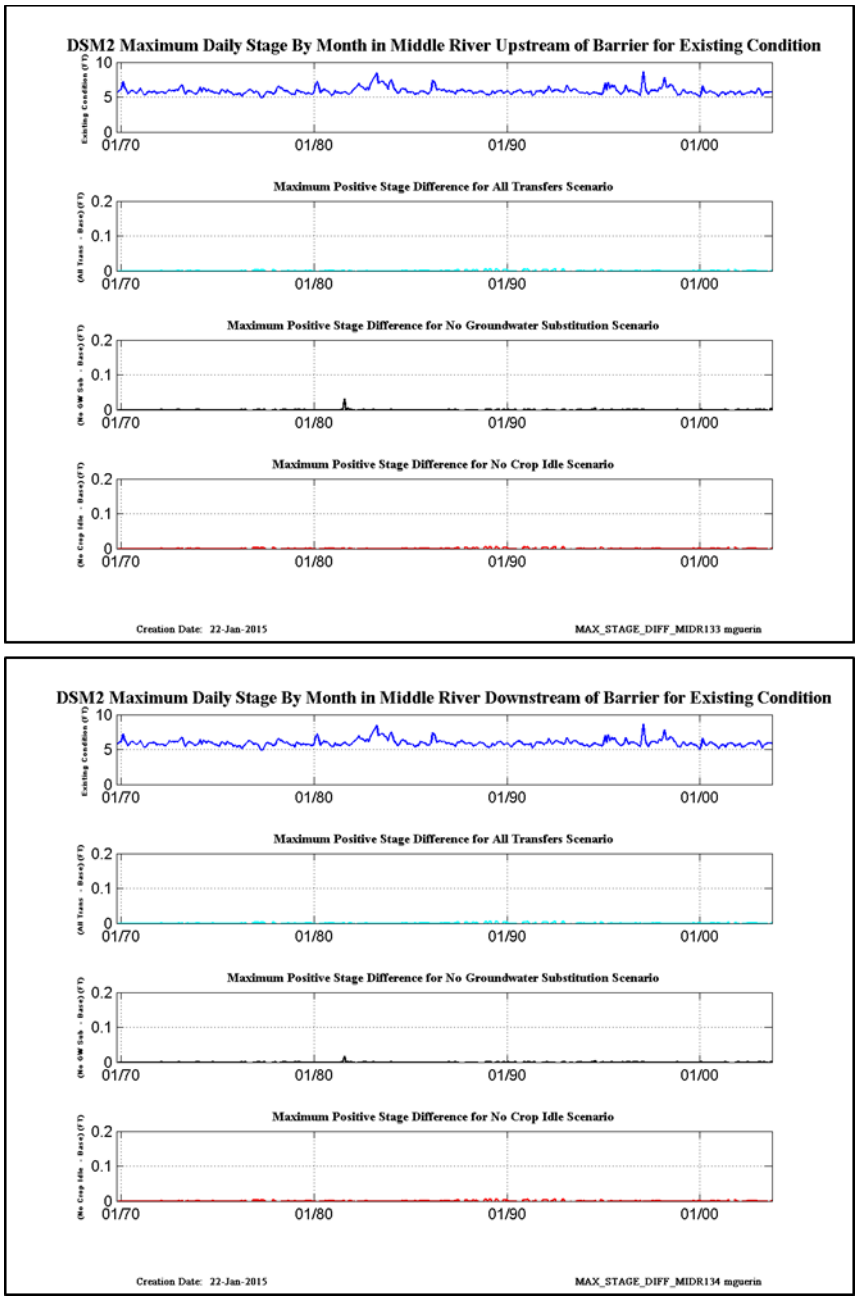
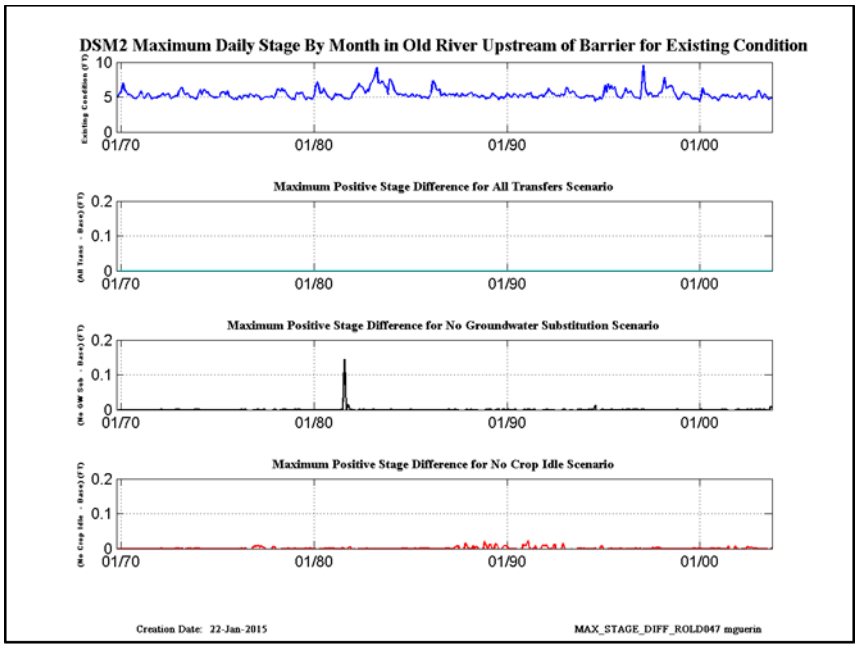


Figure 2-13.
Figures show the maximum positive stage difference upstream and downstream of the barrier in Middle River.



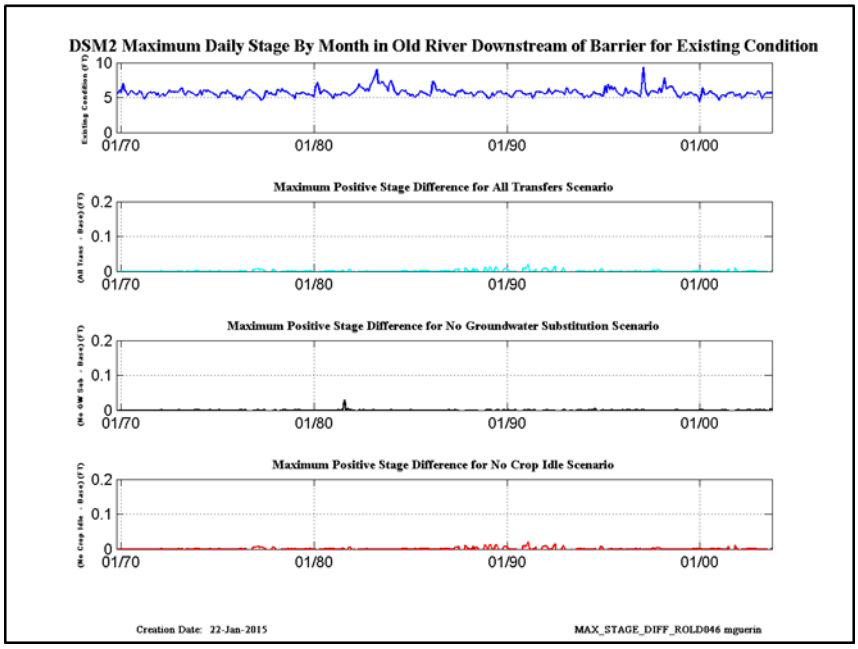


Figure 2-14.
Figures show the maximum positive stage difference upstream and downstream of the barrier in Old River.

E.1.3 X2 Model Output

X2 is defined as the distance in km from Golden Gate to the position of 2.0 ppt (parts per thousand) bottom salinity. Using EC data analysis at stations throughout the Delta, regression relationships were developed relating Net Delta Outflow (NDO) to EC measurements (Jassby *et.al.*, 1995). Using these data, it was also found that 2.0 ppt corresponds to 2640 μS cm^{-1} surface EC and to 3000 μS cm^{-1} bottom EC.

The position of X2 is regulated from February to June each year by the 1995 Bay/Delta Plan (SWRCB, 1995). The compliance standard for the position of X2 can be met either with flow objectives specified by the Net Delta Outflow Index (NDOI) or as an equivalent EC standard, each of which vary with the Sacramento Water Year Type[1]. Compliance is met by a 3-day NDOI for an X2 location at Collinsville (81 km, NDOI=7100 cfs), Chipps (75 km, NDOI=11,400 cfs) or at Port Chicago (64 km, NDOI=29,200 cfs). Equivalently, compliance can also be met at these locations using surface EC of 2640 μmhos cm^{-1}on a daily basis or on a 14-day running average basis.

DSM2 is depth-averaged EC, so as a proxy for X2, the methodology developed to use DSM2 EC output for the calculation of X2 assumed that the average of the top and bottom EC values for X2, 2820 μmhos cm^{-1} was the *de facto* location of X2. Using this estimate, the monthly average DSM2 EC output at six RKI[2] locations in the western Delta – RSAC054, RSAC064, RSAC075, RSAC077, RSAC081, RSAC084, RSAC092 and RSAC101 – were used to calculate X2 (see **Error! Reference source not found.**). Eastward movement of X2 is less desirable from a fish habitat standpoint.

Linear interpolation was used to estimate the location of X2 between successive points. Two exceptions occurred: if EC at RSAC054 (Martinez boundary) EC was less than 2820 μmhos cm^{-1}, X2 was set to be 54 km, or if EC at RSAC101was greater than 2820 μmhos cm^{-1}, X2 was set to be101 km – the latter case did not occur. When 2820 μmhos cm^{-1} occurred between two adjacent RKI locations, RKI_1 and RKI_2 (in km), the average change in EC per km between the points, delta_X2, was used to calculate the position of X2 as follows, where $EC(RKI_1)$ is the EC at RKI_1:

$$X2 = RKI_1 + (2820 - EC(RKI_1))/delta_X2$$

For each scenario, the position of X2 was calculated using the linear interpolation method. Plots of monthly average of X2 position are presented below, with Figure 3-3 also showing the change in X2, (Scenario minus Base), for all three alternative scenarios.

[1]Sacramento R. Water Year Index = 0.4 * Current Apr-Jul Runoff Forecast (MAF) + 0.3 * Current Oct-Mar Runoff (MAF) + 0.3 * Previous Water Year's Index (if it exceeds 10.0, then 10.0 is used)

[2]RKI is River Kilometer Index, the distance from the Golden Gate in km.

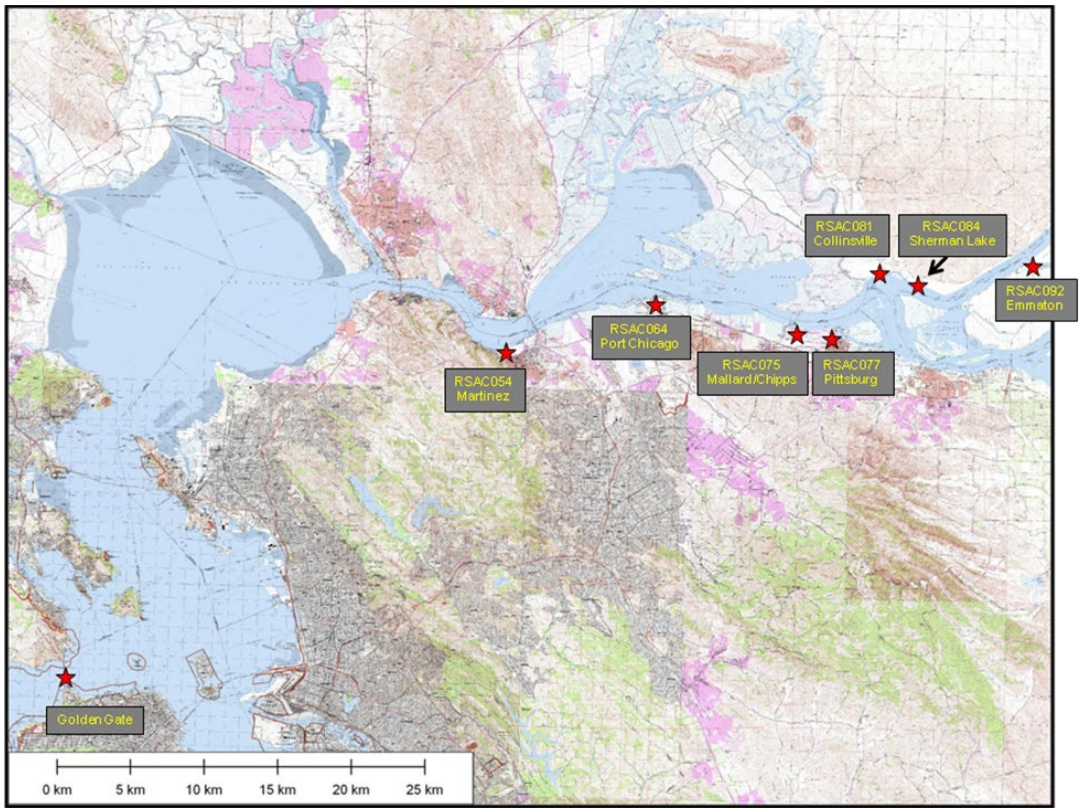


Figure 3-1.
DSM2 Output locations used in the calculation of X2 are on the Sacramento River from Rio Vista (upstream of Emmaton) to Martinez

E.1.3.1 Reference

Jassby, A.D., W.J. Kimmerer, S.G. Monosmith, C. Armour, J.E. Cloern, T.M. Powell, J.R. Schubel, T.J. Vendlinski. 1995. "Isohaline Position as a Habitat Indicator", Ecological Applications 5:1, pp 272 – 289.

State Water Resources Control Board (SWRCB). 1995. Water Quality Control Plan for the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary. 95-1WR. May 1995. Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/1995wqcp/docs/1995wqcpb.pdf

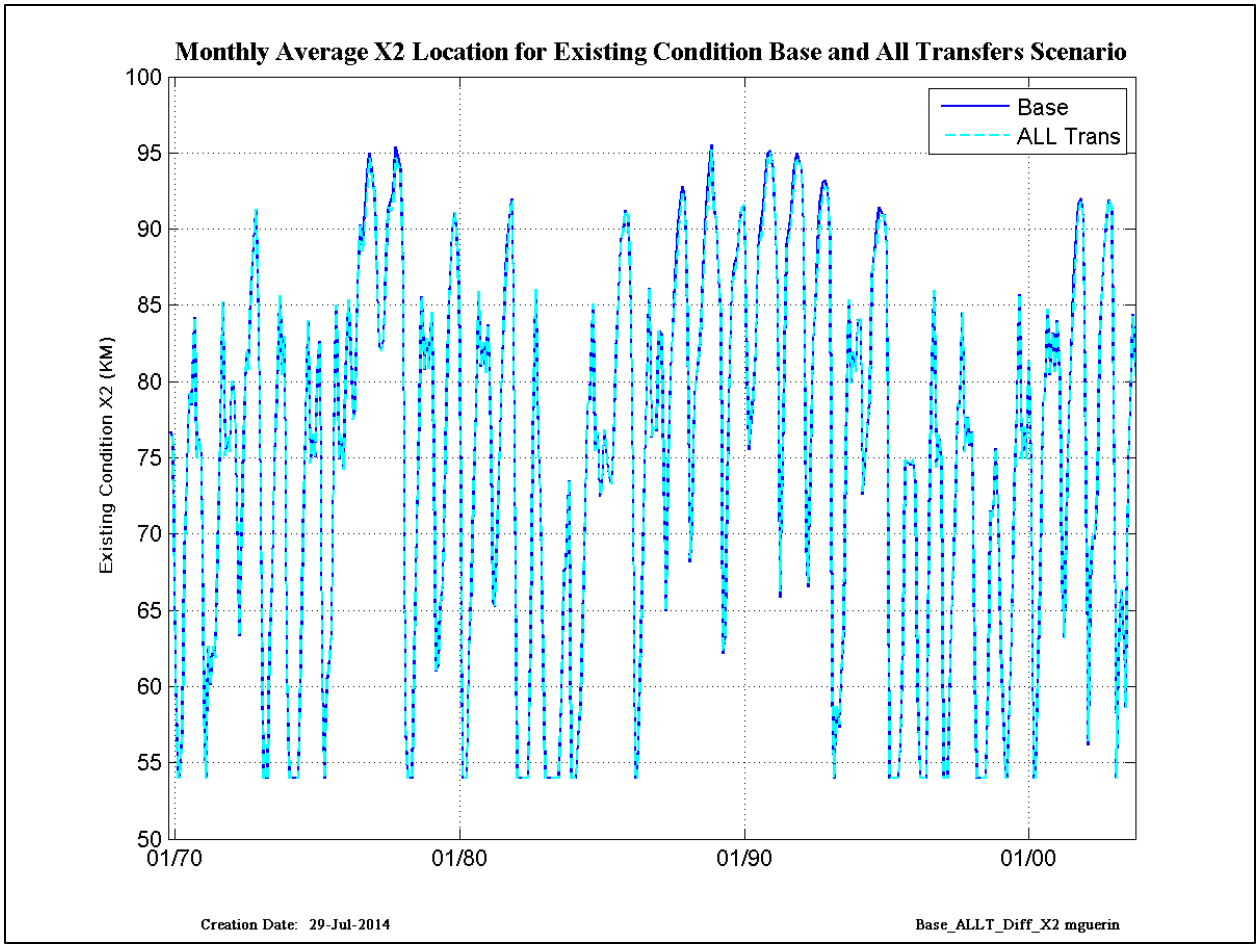


Figure 3-2.
Monthly Average X2 Location for Existing Condition Base and All Transfers Scenario.

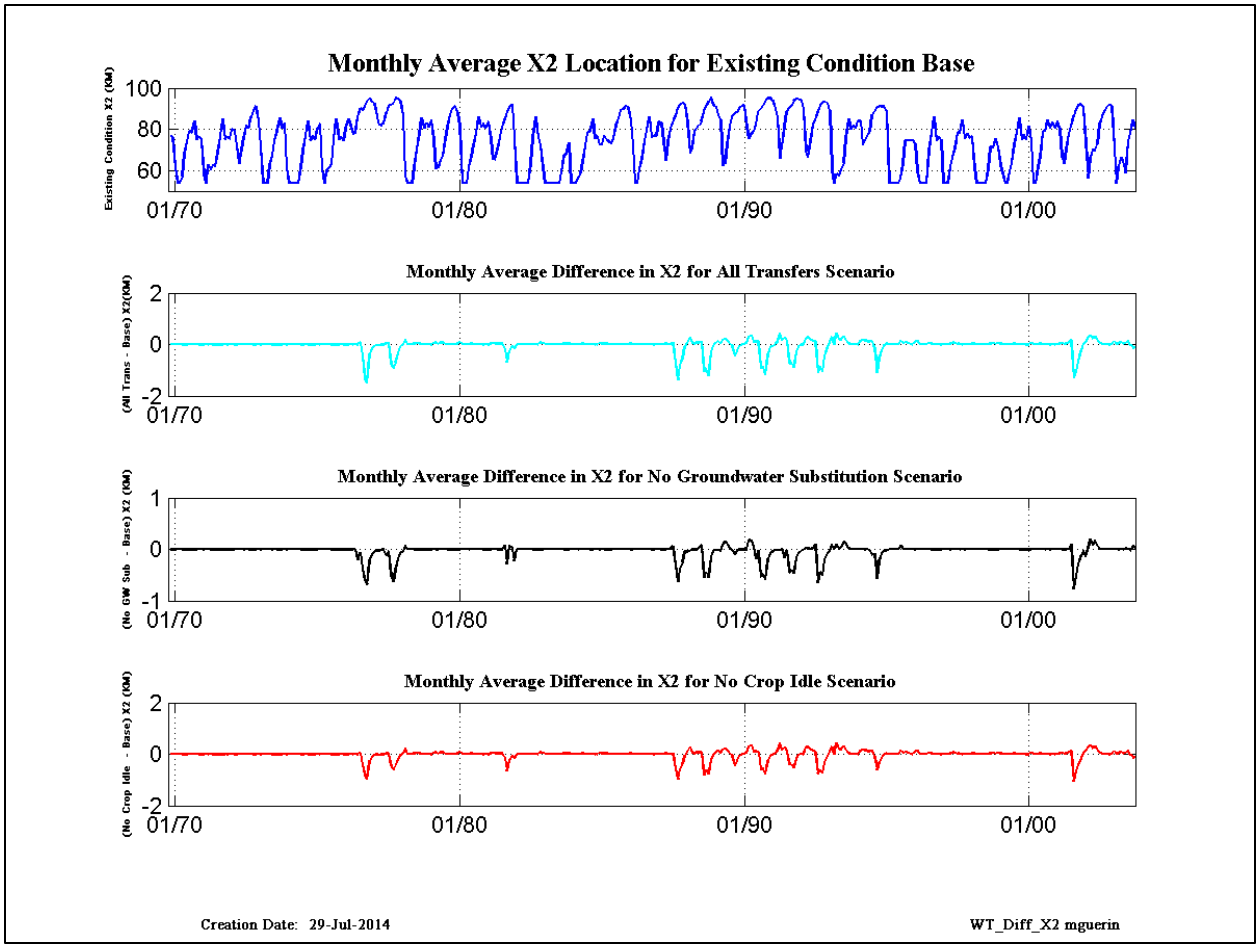


Figure 3-3.
Monthly Average X2 Location for Existing Condition Base and the differences Scenario – Base.

Table 3-1.
X2 (km) Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	76.7	75.9	61.1	54.0	54.0	57.2	68.7	73.9	79.2	78.5	84.2	75.0
1971	76.2	75.1	58.5	54.0	62.7	60.1	62.6	61.9	68.8	76.7	85.3	75.1
1972	76.4	75.4	80.1	79.0	72.1	63.3	70.3	76.2	82.0	80.8	86.1	89.1
1973	91.3	83.9	71.8	54.0	54.0	54.0	62.9	67.2	74.7	79.0	85.6	80.5
1974	83.0	61.3	54.0	54.0	54.0	54.0	54.0	61.9	69.8	77.2	84.0	74.7
1975	76.6	75.1	80.6	82.6	60.8	54.0	60.4	61.2	63.6	75.6	85.1	74.9
1976	76.3	74.3	80.4	85.3	82.0	77.5	78.2	86.2	90.3	89.0	91.3	93.7
1977	95.0	93.3	92.5	86.3	82.3	82.0	82.8	88.2	91.4	91.9	92.4	95.4
1978	94.5	93.8	86.7	57.6	54.0	54.0	54.0	61.8	70.7	78.0	85.6	80.8
1979	82.8	80.9	84.6	75.1	61.0	61.4	65.2	66.8	75.4	81.8	87.0	89.9
1980	91.1	88.3	82.2	54.0	54.0	54.0	62.1	66.7	72.7	78.5	85.9	81.0
1981	82.6	80.6	83.7	75.8	65.5	65.2	70.6	76.3	81.2	85.4	88.7	90.7
1982	92.0	75.4	54.0	54.0	54.0	54.0	54.0	54.0	63.4	75.8	86.1	75.9
1983	72.3	61.6	54.0	54.0	54.0	54.0	54.0	54.0	54.0	59.5	67.6	67.8
1984	73.5	54.0	54.0	54.0	56.6	58.9	64.2	72.0	78.5	78.8	85.1	75.5
1985	76.6	72.5	72.9	76.8	74.8	73.9	73.3	75.6	82.0	85.6	89.3	89.9
1986	91.2	90.9	84.5	72.6	54.0	54.0	60.7	65.9	74.4	79.6	86.1	76.4
1987	77.0	76.8	83.4	83.1	73.9	65.0	73.9	80.6	83.3	86.9	90.3	91.7
1988	92.8	92.0	83.5	68.2	70.5	79.1	80.4	81.9	83.9	88.7	91.4	93.3
1989	95.5	91.4	90.6	87.1	84.3	62.2	63.3	73.1	81.8	86.3	87.7	88.3
1990	90.3	91.4	91.6	80.9	75.6	77.5	79.1	82.2	88.6	90.1	91.5	93.5
1991	95.0	95.1	94.0	90.1	85.7	65.8	71.4	81.7	88.9	90.2	91.3	93.7
1992	95.0	94.4	94.1	89.8	69.5	66.5	74.4	82.5	84.7	88.8	91.7	93.0
1993	93.2	92.7	89.1	60.3	54.0	58.3	57.4	60.5	63.8	75.6	85.3	79.9
1994	81.9	80.7	84.0	84.0	72.6	74.9	76.8	78.8	86.9	88.4	90.3	91.4
1995	91.1	90.9	88.7	54.0	54.0	54.0	54.0	54.0	56.2	63.2	74.7	74.7
1996	74.5	74.9	73.2	59.9	54.0	54.0	54.0	54.0	70.1	78.8	86.0	74.4
1997	76.5	74.9	54.0	54.0	54.0	61.9	66.4	70.9	78.5	78.3	84.5	75.4
1998	77.7	75.8	76.7	61.4	54.0	54.0	54.0	54.0	54.0	60.8	71.5	71.1
1999	75.6	71.6	62.7	59.0	54.0	54.0	59.4	63.7	73.2	78.4	85.7	74.9
2000	77.0	74.9	81.3	74.3	54.0	54.0	61.9	67.1	78.5	79.3	84.7	80.4
2001	83.2	80.7	84.0	80.2	66.8	63.2	70.6	77.8	81.5	86.5	89.8	91.7
2002	92.0	90.7	73.4	56.2	66.5	69.8	69.7	73.1	82.5	86.4	88.8	90.9
2003	91.9	91.4	71.2	54.0	61.8	66.3	62.8	58.6	74.4	78.7	84.4	80.5
Average	84.4	81.0	76.8	68.2	63.4	62.1	65.5	69.5	76.0	80.5	86.0	83.1
Critical	89.5	88.7	88.6	83.5	76.9	74.8	77.6	83.1	87.8	89.6	91.4	93.4
Dry	84.5	82.1	81.3	76.5	72.0	66.5	70.2	76.1	82.0	86.2	89.1	90.5
BN	79.6	78.1	82.3	77.1	66.6	62.4	67.8	71.5	78.7	81.3	86.6	89.5
AN	89.8	87.5	80.4	59.0	55.3	56.8	60.2	63.6	72.5	78.2	85.3	80.5
Wet	79.8	73.6	65.8	59.0	55.4	55.7	59.0	61.7	68.0	73.9	82.0	74.3

Table 3-2.
X2 (km) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.4	-1.3	-1.5
1977	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	-0.8	-0.9	-0.7
1978	-0.3	-0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.7	-0.2
1982	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.7	-1.4	-0.8
1988	-0.5	-0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	-1.1	-1.0	-1.2
1989	-0.3	-0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.0	-0.1	-0.4	-0.2
1990	-0.1	0.0	0.0	0.0	0.3	0.3	0.1	0.1	0.1	-0.9	-0.9	-1.2
1991	-0.4	-0.1	0.0	0.0	0.1	0.4	0.2	0.2	0.2	-0.7	-0.7	-0.9
1992	-0.3	-0.1	0.0	0.0	0.3	0.3	0.2	0.1	0.1	-1.1	-0.9	-1.0
1993	-0.4	-0.1	0.1	0.3	0.0	0.4	0.2	0.2	0.3	0.2	0.0	0.0
1994	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	-0.2	-1.1	-0.5
1995	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1996	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	-1.3	-1.0	-0.6
2002	-0.2	0.0	0.1	0.3	0.4	0.2	0.3	0.1	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	-0.1	-0.1
Average	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	-0.2	-0.3	-0.3
Critical	-0.2	-0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	-0.7	-1.0	-1.0
Dry	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.4	-0.6	-0.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3-3.
X2 percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.5	-1.4	-1.6
1977	-0.4	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	-0.8	-1.0	-0.7
1978	-0.4	-0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.2	-0.8	-0.3
1982	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.8	-1.5	-0.9
1988	-0.5	-0.1	0.1	0.4	0.1	0.0	0.1	0.1	0.1	-1.2	-1.0	-1.3
1989	-0.3	-0.1	0.1	0.1	0.0	0.3	0.4	0.2	0.0	-0.1	-0.5	-0.3
1990	-0.1	0.0	0.0	0.1	0.4	0.4	0.2	0.1	0.1	-1.0	-1.0	-1.2
1991	-0.4	-0.1	-0.1	0.0	0.1	0.7	0.3	0.3	0.2	-0.8	-0.8	-1.0
1992	-0.3	-0.1	0.0	0.0	0.4	0.4	0.2	0.2	0.2	-1.2	-0.9	-1.1
1993	-0.5	-0.1	0.1	0.5	0.0	0.8	0.3	0.3	0.5	0.2	0.0	0.0
1994	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	-0.2	-1.2	-0.6
1995	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1
1996	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	-1.5	-1.2	-0.7
2002	-0.2	0.0	0.1	0.5	0.5	0.3	0.4	0.2	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.0	-0.2	-0.1
Average	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.2	-0.3	-0.3
Critical	-0.2	-0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.1	-0.8	-1.1	-1.1
Dry	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.4	-0.7	-0.4
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3-4.
X2 (km) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.4	-0.6	-0.7
1977	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.5	-0.6	-0.4
1978	-0.2	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	0.1
1982	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	-0.6	-0.4
1988	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.5	-0.5	-0.5
1989	-0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.2	0.2	0.0	-0.2	0.0	-0.5	-0.5	-0.6
1991	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	-0.5	-0.4	-0.5
1992	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.6	-0.4	-0.5
1993	-0.2	-0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.6	-0.2
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.8	-0.5	-0.3
2002	-0.1	0.0	-0.1	0.0	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
Critical	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.4	-0.5	-0.5
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.2	-0.2	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3-5.
X2 percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.4	-0.7	-0.7
1977	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.5	-0.7	-0.4
1978	-0.2	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	0.1
1982	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.3	-0.7	-0.4
1988	-0.3	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	-0.6	-0.5	-0.6
1989	-0.2	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	-0.1	0.0
1990	0.0	0.0	0.0	0.0	0.2	0.2	0.1	-0.2	0.0	-0.6	-0.5	-0.6
1991	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	-0.5	-0.4	-0.5
1992	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.7	-0.5	-0.5
1993	-0.2	-0.1	0.0	0.2	0.0	0.1	0.0	0.1	0.2	0.1	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.6	-0.2
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.9	-0.6	-0.3
2002	-0.1	0.0	-0.2	0.1	0.3	0.1	0.2	0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1
Critical	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.5	-0.6	-0.5
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.2	-0.3	-0.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3-6.
X2 (km) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.4	-0.8	-1.0
1977	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.6	-0.4
1978	-0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.7	-0.2
1982	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.0	-0.6
1988	-0.3	-0.1	0.1	0.3	0.1	0.0	0.1	0.1	0.1	-0.8	-0.6	-0.8
1989	-0.2	0.0	0.1	0.1	0.0	0.2	0.2	0.1	0.0	-0.1	-0.4	-0.2
1990	-0.1	0.0	0.0	0.0	0.3	0.3	0.1	0.1	0.1	-0.6	-0.6	-0.8
1991	-0.2	-0.1	0.0	0.0	0.1	0.4	0.2	0.3	0.1	-0.4	-0.4	-0.5
1992	-0.2	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.1	-0.7	-0.6	-0.7
1993	-0.3	-0.1	0.1	0.3	0.0	0.4	0.2	0.2	0.3	0.2	0.0	0.0
1994	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	-0.1	-0.6	-0.3
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
1996	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	-1.0	-0.7	-0.4
2002	-0.2	0.0	0.1	0.3	0.4	0.2	0.3	0.1	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	-0.1	-0.1
Average	-0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	-0.1	-0.2	-0.2
Critical	-0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	-0.5	-0.6	-0.6
Dry	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.3	-0.4	-0.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3-7.
X2 percent difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.4	-0.9	-1.0
1977	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.7	-0.4
1978	-0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.2	-0.7	-0.3
1982	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-1.1	-0.6
1988	-0.4	-0.1	0.1	0.4	0.1	0.0	0.1	0.1	0.1	-0.9	-0.7	-0.8
1989	-0.2	0.0	0.1	0.2	0.1	0.3	0.4	0.2	0.0	-0.1	-0.5	-0.3
1990	-0.1	0.0	0.0	0.1	0.4	0.4	0.2	0.1	0.1	-0.6	-0.6	-0.8
1991	-0.2	-0.1	0.0	0.0	0.1	0.7	0.3	0.3	0.1	-0.4	-0.5	-0.6
1992	-0.2	0.0	0.0	0.0	0.4	0.4	0.2	0.1	0.1	-0.8	-0.7	-0.8
1993	-0.3	-0.1	0.1	0.5	0.0	0.8	0.3	0.3	0.5	0.2	0.0	0.0
1994	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	-0.1	-0.7	-0.3
1995	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1
1996	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
1999	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	-1.2	-0.7	-0.4
2002	-0.2	0.1	0.2	0.5	0.5	0.3	0.4	0.2	0.1	0.0	0.0	0.0
2003	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.0	-0.2	-0.1
Average	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.2	-0.2	-0.2
Critical	-0.2	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	-0.5	-0.7	-0.7
Dry	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.3	-0.5	-0.3
BN	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
AN	-0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

E.1.4 OMR Model Output

See the text in Appendix E for details on OMR calculation.

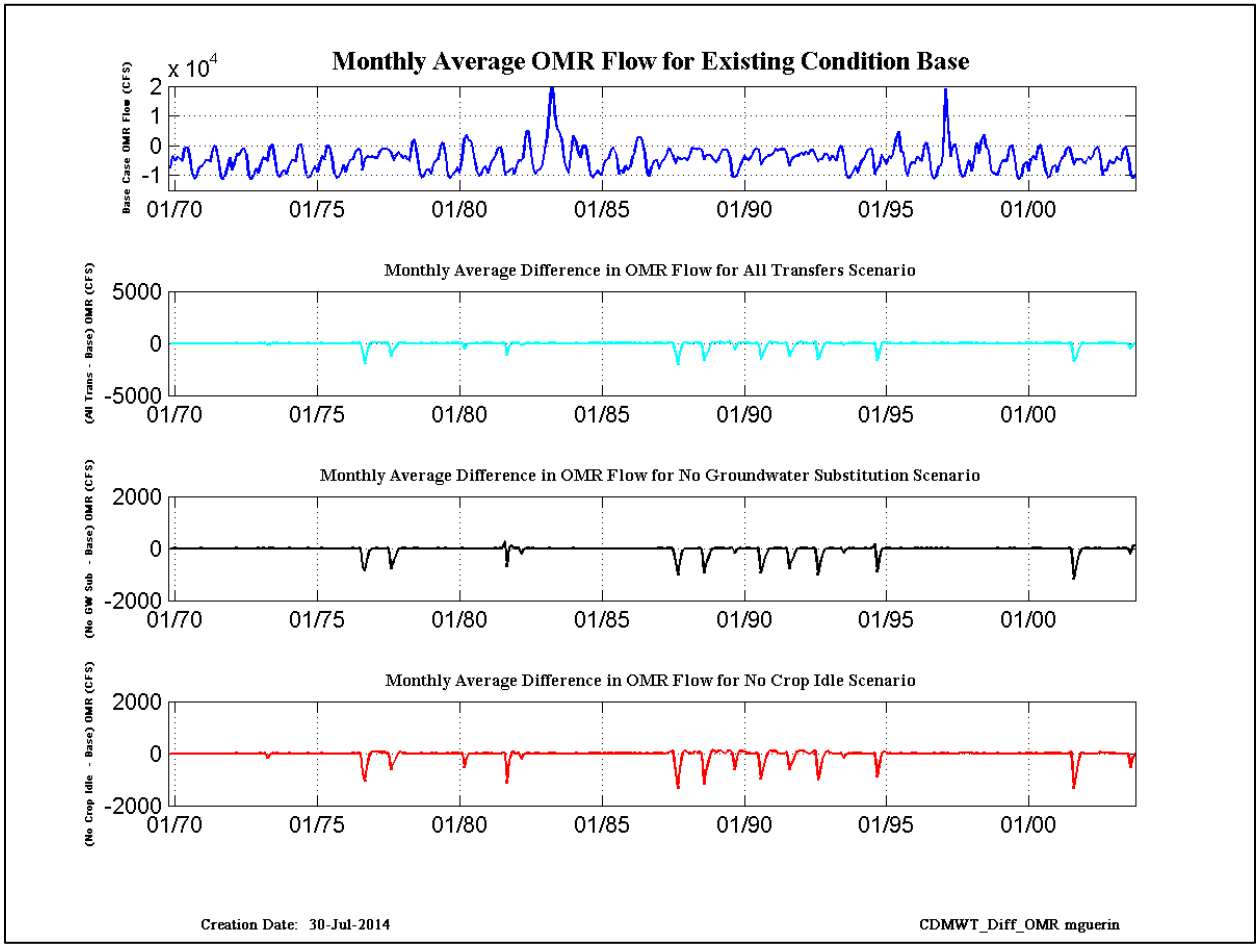


Figure 4-1.
Monthly average OMR flow (cfs) and flow differences Scenario – Base.

Table 4-1.
OMR Base flow (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-7495.0	-3464.3	-5193.7	-3968.9	-4657.4	-5144.2	-838.1	-480.5	-2947.5	-9091.5	-11098.4	-10579.6
1971	-7441.6	-7054.6	-6102.2	-4882.6	-4896.7	-5212.6	-927.1	-100.0	-3997.9	-10023.2	-11375.0	-10397.2
1972	-7721.4	-3896.0	-8206.4	-5960.7	-2821.5	-3174.6	-1248.8	-875.7	-3019.9	-9758.7	-11402.4	-10155.1
1973	-7693.4	-9240.3	-6633.4	-3803.1	-4672.4	-5087.2	-383.8	334.0	-3915.0	-9755.5	-10777.0	-9170.6
1974	-8189.7	-9657.4	-6835.6	-5095.0	-5015.9	-5284.6	130.3	471.4	-3935.7	-9371.3	-10793.8	-10352.2
1975	-8287.1	-6848.7	-8896.9	-6043.2	-3407.3	-4676.9	-173.2	-164.6	-3941.6	-9273.8	-10672.7	-10398.1
1976	-9165.6	-6304.9	-8885.8	-6076.9	-4928.8	-4609.9	-2019.8	-1272.1	-1366.5	-8305.5	-4666.6	-3688.0
1977	-3841.7	-3701.7	-4128.9	-4221.0	-2532.0	-1464.9	-1161.6	-1099.5	-1380.2	-2147.1	-5029.6	-3591.8
1978	-2282.9	-3035.3	-4315.3	-3571.5	-4666.0	-5157.2	963.5	2011.5	-3331.0	-9152.8	-10701.3	-10188.8
1979	-8335.5	-8103.3	-9588.6	-6164.2	-5169.1	-4567.5	3.3	992.9	-3715.2	-10117.0	-11025.9	-9982.4
1980	-8926.1	-7421.1	-9201.7	-4487.3	2201.7	3445.4	1629.1	797.4	-3300.4	-7879.0	-10231.8	-9888.0
1981	-7345.2	-7238.1	-9173.4	-6025.5	-4897.6	-3968.4	-1173.4	-628.2	-3002.5	-9792.5	-9065.7	-8366.6
1982	-7616.2	-9498.3	-6769.9	-4924.4	-5085.0	-3919.8	4723.9	4629.6	-2739.6	-7452.2	-9635.2	-8335.7
1983	-7887.2	-6060.2	-1619.0	3478.7	12068.5	22937.7	11740.8	5554.3	4635.3	2460.0	-5381.7	-7570.2
1984	-9116.2	-3255.4	3513.1	788.0	-2703.0	-4136.0	-205.9	-19.1	-4008.7	-9476.8	-10683.4	-9929.9
1985	-8377.7	-9464.1	-9686.2	-5972.5	-4989.6	-4205.3	-1330.3	-808.8	-3046.3	-9724.0	-8271.4	-9376.6
1986	-6759.7	-8123.8	-7197.5	-3756.8	-1924.2	2574.2	2707.7	1795.4	-2816.4	-9379.3	-10428.5	-7160.8
1987	-5256.9	-4840.2	-7859.5	-5785.9	-4923.6	-3276.5	-1047.7	-1626.2	-3279.9	-5994.3	-3822.1	-4631.3
1988	-4667.8	-4293.7	-5000.6	-3744.7	-950.8	-1171.6	-1293.8	-932.8	-1245.7	-4640.9	-3277.4	-3180.8
1989	-3462.4	-4802.4	-5735.5	-4941.5	-2721.6	-1485.7	-1475.9	-1615.2	-4393.4	-10291.5	-10455.9	-10015.5
1990	-7697.6	-5239.2	-3583.1	-4555.1	-4935.9	-3642.6	-1762.9	-1045.8	-1320.2	-6402.1	-4903.5	-4140.8
1991	-3394.2	-3376.1	-2922.7	-1120.6	-1640.3	-1340.9	-1199.8	-1339.0	-3168.9	-6723.6	-4869.1	-3758.5
1992	-3431.2	-3332.9	-2520.4	-3192.8	-1912.9	-2954.1	-1653.8	-1473.7	-3008.9	-5423.9	-4623.0	-4489.3
1993	-2888.3	-3001.0	-5118.0	-3503.7	-4459.8	-5009.1	-1053.6	-37.2	-3919.9	-9626.0	-11007.5	-10417.2
1994	-8233.8	-6768.7	-9149.4	-6052.3	-4987.0	-3755.6	-1748.8	-1167.3	-1319.9	-9417.4	-7405.2	-6979.4
1995	-3043.8	-4579.5	-6172.3	-3612.7	-4421.7	-2545.9	1807.5	4740.2	-2032.9	-2203.2	-8142.2	-10113.1
1996	-6769.5	-5665.9	-5765.6	-3894.9	-4786.3	-5034.9	-9.3	1071.4	-3710.7	-9756.7	-11023.6	-10373.6
1997	-7064.9	-6780.9	-2630.0	19251.5	6608.5	-3695.7	-820.4	422.5	-3765.7	-8790.4	-10532.1	-10271.5
1998	-7018.0	-4866.5	-8412.3	-4477.2	937.1	-2501.6	1799.7	3763.3	-563.1	-1587.4	-7883.0	-9353.9
1999	-9407.2	-9806.0	-6755.9	-5150.8	-5094.7	-5158.1	-195.8	196.5	-3994.2	-9899.2	-11214.5	-10337.4
2000	-6307.7	-5443.4	-8668.6	-4384.4	-3438.1	-4725.0	-358.8	328.0	-3933.9	-8212.6	-10685.9	-10399.5
2001	-7263.3	-6505.1	-8861.1	-5976.0	-4378.2	-3651.1	-1071.9	-500.9	-2933.1	-6256.1	-4622.6	-4749.9
2002	-4592.8	-5490.1	-5767.8	-3790.1	-4542.9	-3777.2	-1302.6	-497.6	-2932.2	-9917.0	-8226.5	-8311.4
2003	-5083.1	-5769.4	-5859.2	-3768.6	-4493.8	-4879.6	-1158.5	-534.5	-4162.4	-9521.3	-11054.5	-9888.6
Average	-6531.3	-5968.5	-6167.7	-3511.4	-2889.4	-2654.6	-3.2	320.3	-2809.2	-7732.5	-8676.1	-8251.3
Critical	-5776.0	-4716.7	-5170.1	-4137.6	-3126.8	-2705.7	-1548.7	-1190.1	-1830.0	-6151.5	-4967.8	-4261.2
Dry	-6049.7	-6390.0	-7847.2	-5415.3	-4408.9	-3394.0	-1233.6	-946.1	-3264.6	-8662.6	-7410.7	-7575.2
BN	-8028.5	-5999.6	-8897.5	-6062.4	-3995.3	-3871.1	-622.8	58.6	-3367.6	-9937.8	-11214.1	-10068.7
AN	-5530.2	-5651.8	-6632.7	-3919.8	-3254.7	-3568.8	-60.3	483.2	-3760.4	-9024.5	-10743.0	-9992.1
Wet	-7392.0	-6589.3	-5295.2	-1714.5	-1721.4	-1676.8	1518.5	1683.1	-2601.5	-7218.8	-9912.6	-9628.7

Table 4-2.
OMR flow (cfs) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	-0.1	2.6	-186.2	-56.5	1.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	1.6	-716.9	-1916.3	-931.5
1977	-52.1	78.3	66.0	63.8	58.7	55.1	42.4	18.6	2.9	-1213.9	-768.0	-406.7
1978	-28.2	66.1	15.5	0.0	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1980	8.9	2.7	0.0	0.0	-529.0	-148.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	10.2	2.8	0.0	0.0	0.0	0.0	0.0	27.1	7.7	-1176.1	-275.5
1982	70.5	14.5	0.2	2.9	-205.4	-61.8	1.7	0.0	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	2.7	0.0
1985	0.0	0.0	0.0	0.0	0.0	11.9	3.5	0.0	7.4	11.0	11.1	9.2
1986	8.3	8.4	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	6.6	8.3	1.8	0.0	0.0	31.7	60.0	82.1	-992.9	-2030.9	-903.9
1988	-19.9	98.2	20.6	0.0	-0.1	61.7	18.1	47.2	34.6	-1649.7	-1187.6	-559.1
1989	9.6	137.8	29.7	91.2	110.0	24.5	-0.4	88.2	104.8	22.2	-614.6	-138.3
1990	85.9	88.9	78.4	17.0	0.0	-0.1	-0.1	0.0	-0.1	-1589.4	-1018.3	-500.2
1991	-8.1	106.5	88.5	94.5	25.9	0.0	-0.3	0.0	71.8	-1219.4	-814.6	-385.8
1992	19.8	98.2	101.0	99.2	23.5	-0.3	0.0	75.2	118.3	-1556.8	-1158.0	-433.5
1993	-65.9	93.7	28.7	-0.1	-0.5	-0.6	-0.7	2.9	-160.9	-47.5	1.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	46.3	-1686.1	-846.6
1995	-33.5	81.0	19.0	0.1	-0.4	-0.3	0.0	-0.1	0.1	-0.1	-0.1	-0.1
1996	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	24.4	6.7	21.9
1998	27.8	33.9	7.7	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	10.6	3.0	0.0	0.0	0.0	0.0	0.0	13.5	3.7	0.0
2001	0.0	0.0	16.1	4.6	0.0	0.0	0.0	0.0	72.2	-1707.1	-1417.7	-656.9
2002	-35.7	20.9	-0.1	0.0	-0.3	-0.2	-0.1	-0.2	41.7	24.5	38.2	28.9
2003	7.3	17.8	5.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	-528.5	-142.5	6.7
Average	-0.2	28.3	14.7	11.1	-15.2	-7.2	1.2	8.8	11.9	-325.4	-407.9	-175.6
Critical	3.7	67.2	50.6	39.2	15.4	16.6	8.6	20.9	32.7	-1128.5	-1221.3	-580.5
Dry	-4.4	29.3	9.5	16.3	18.3	6.0	5.8	24.7	55.9	-439.1	-865.0	-322.8
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-13.0	30.0	10.0	0.5	-87.9	-55.8	-9.6	0.7	-26.8	-93.7	-22.9	1.1
Wet	5.6	10.6	2.2	0.2	-15.8	-4.8	0.1	0.0	0.0	2.6	0.7	1.7

Table 4-3.
OMR flow (cfs) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.1	3.7	14.7	0.4	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.1	8.6	41.1	25.3
1977	1.4	-2.1	-1.6	-1.5	-2.3	-3.8	-3.7	-1.7	-0.2	56.5	15.3	11.3
1978	1.2	-2.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1980	-0.1	0.0	0.0	0.0	-24.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.1	13.0	3.3
1982	-0.9	-0.2	0.0	-0.1	4.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.0	-0.2	-0.1	-0.1	-0.1
1986	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.1	0.0	0.0	0.0	-3.0	-3.7	-2.5	16.6	53.1	19.5
1988	0.4	-2.3	-0.4	0.0	0.0	-5.3	-1.4	-5.1	-2.8	35.5	36.2	17.6
1989	-0.3	-2.9	-0.5	-1.8	-4.0	-1.6	0.0	-5.5	-2.4	-0.2	5.9	1.4
1990	-1.1	-1.7	-2.2	-0.4	0.0	0.0	0.0	0.0	0.0	24.8	20.8	12.1
1991	0.2	-3.2	-3.0	-8.4	-1.6	0.0	0.0	0.0	-2.3	18.1	16.7	10.3
1992	-0.6	-2.9	-4.0	-3.1	-1.2	0.0	0.0	-5.1	-3.9	28.7	25.0	9.7
1993	2.3	-3.1	-0.6	0.0	0.0	0.0	0.1	-7.7	4.1	0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	22.8	12.1
1995	1.1	-1.8	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.2
1998	-0.4	-0.7	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0
2001	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	-2.5	27.3	30.7	13.8
2002	0.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.2	-0.5	-0.3
2003	-0.1	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	5.6	1.3	-0.1
Average	0.1	-0.7	-0.4	-0.5	-0.9	-0.3	0.2	-0.8	-0.4	6.5	8.3	4.0
Critical	0.0	-1.7	-1.6	-1.9	-0.7	-1.3	-0.7	-1.8	-1.3	24.6	25.4	14.0
Dry	0.1	-0.6	-0.1	-0.3	-0.7	-0.3	-0.5	-1.5	-1.7	7.2	17.0	6.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.5	-0.9	-0.2	0.0	-4.0	-0.1	2.5	-1.2	0.7	1.0	0.2	0.0
Wet	0.0	-0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 4-4.
OMR flow (cfs) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-692.0	-863.7	-447.6
1977	-71.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	-775.1	-484.4	-262.0
1978	-48.4	0.0	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-3.1	268.6	-687.0	73.1
1982	89.1	0.0	0.3	2.9	-205.4	-61.8	1.7	0.0	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-489.9	-1028.8	-509.1
1988	-71.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-920.2	-627.3	-346.6
1989	-66.9	0.0	0.0	0.0	0.0	0.1	-0.2	-0.2	0.0	32.7	-187.2	-35.9
1990	7.2	0.0	0.0	0.0	0.1	-0.1	0.0	-0.1	0.1	-948.7	-602.3	-307.9
1991	-58.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-774.1	-497.1	-255.0
1992	-48.4	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	-3.7	-1039.1	-632.8	-259.3
1993	-46.3	0.0	0.0	0.0	-0.3	-0.4	-0.1	3.0	-160.6	-47.3	1.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	165.4	-891.5	-435.4
1995	-39.8	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.2	-0.1	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-3.2	-1160.0	-734.4	-359.3
2002	-67.9	0.0	0.0	0.2	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-234.6	107.2	114.9
Average	-12.4	0.0	0.0	0.1	-6.1	-1.8	0.0	0.1	-5.0	-194.5	-209.7	-89.1
Critical	-34.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-711.9	-657.0	-330.5
Dry	-22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-224.8	-439.6	-138.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-15.8	0.0	0.0	0.0	-0.1	-0.1	0.0	0.5	-26.8	-47.0	18.0	19.1
Wet	3.8	0.0	0.0	0.2	-15.8	-4.8	0.1	0.0	0.0	0.0	0.0	0.0

Table 4-5.
OMR flow (cfs) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	18.5	12.1
1977	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	9.6	7.3
1978	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-2.7	7.6	-0.9
1982	-1.2	0.0	0.0	-0.1	4.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	26.9	11.0
1988	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	19.1	10.9
1989	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	1.8	0.4
1990	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	12.3	7.4
1991	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	10.2	6.8
1992	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	19.2	13.7	5.8
1993	1.6	0.0	0.0	0.0	0.0	0.0	0.0	-7.9	4.1	0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.8	12.0	6.2
1995	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	18.5	15.9	7.6
2002	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	-1.0	-1.2
Average	0.4	0.0	0.0	0.0	0.1	0.0	0.0	-0.2	0.1	4.0	4.3	2.2
Critical	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	13.6	8.1
Dry	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	8.7	3.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.6	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.7	0.5	-0.2	-0.2
Wet	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Table 4-6.
OMR flow (cfs) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	-0.1	2.6	-186.2	-56.5	1.2	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	1.6	-729.0	-1045.4	-515.7
1977	-7.9	78.3	66.0	63.8	58.7	55.1	42.4	18.6	2.9	-606.4	-372.8	-178.8
1978	14.7	66.1	15.5	0.0	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1980	8.9	2.7	0.0	0.0	-529.0	-148.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	10.2	2.8	0.0	0.0	0.0	0.0	0.0	27.1	10.6	-1153.1	-263.5
1982	72.0	14.5	0.2	2.9	-205.4	-61.8	1.7	0.0	-0.1	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	2.7	0.0
1985	0.0	0.0	0.0	0.0	0.0	11.9	3.5	0.0	7.4	11.0	11.1	9.2
1986	8.3	8.4	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	6.6	8.3	1.8	0.0	0.0	31.7	60.0	82.1	-725.7	-1349.3	-573.9
1988	24.4	98.2	20.6	0.0	-0.1	61.7	18.1	47.2	34.6	-1187.9	-697.5	-309.5
1989	51.5	137.8	29.7	91.2	110.0	24.5	-0.4	88.2	104.8	22.2	-614.6	-138.3
1990	85.9	88.9	78.4	17.0	0.0	-0.1	-0.1	0.0	-0.1	-967.7	-595.1	-271.1
1991	36.1	106.5	88.5	94.5	25.9	0.0	-0.3	0.0	71.8	-613.9	-406.1	-163.2
1992	62.7	98.2	101.0	99.2	23.5	-0.3	0.0	75.2	118.3	-1015.7	-754.9	-229.1
1993	-28.0	93.7	28.7	-0.1	-0.5	-0.6	-0.7	2.9	-160.9	-47.5	1.1	0.0
1994	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.5	-884.1	-454.8
1995	6.3	80.9	19.0	0.1	-0.4	-0.3	0.0	-0.1	0.1	-0.1	-0.1	-0.1
1996	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	24.4	6.7	21.9
1998	27.8	33.9	7.7	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	10.6	3.0	0.0	0.0	0.0	0.0	0.0	13.5	3.7	0.0
2001	0.0	0.0	16.1	4.6	0.0	0.0	0.0	0.0	72.2	-1325.9	-810.5	-356.7
2002	8.7	20.9	-0.1	0.0	-0.3	-0.2	-0.1	-0.2	41.7	24.5	38.2	28.9
2003	7.3	17.8	5.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	-528.5	-142.5	6.7
Average	11.1	28.3	14.7	11.1	-15.2	-7.2	1.2	8.8	11.9	-224.5	-257.7	-99.7
Critical	28.8	67.2	50.6	39.2	15.4	16.6	8.6	20.9	32.7	-731.5	-679.4	-303.2
Dry	10.0	29.3	9.5	16.3	18.3	6.0	5.8	24.7	55.9	-330.6	-646.4	-215.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.5	30.0	10.0	0.5	-87.9	-55.8	-9.6	0.7	-26.8	-93.7	-22.9	1.1
Wet	8.8	10.6	2.2	0.2	-15.8	-4.8	0.1	0.0	0.0	2.6	0.7	1.7

Table 4-7.
OMR flow (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	-0.1	3.7	14.7	0.4	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.1	8.8	22.4	14.0
1977	0.2	-2.1	-1.6	-1.5	-2.3	-3.8	-3.7	-1.7	-0.2	28.2	7.4	5.0
1978	-0.6	-2.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1980	-0.1	0.0	0.0	0.0	-24.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	-0.1	12.7	3.1
1982	-0.9	-0.2	0.0	-0.1	4.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.0	-0.2	-0.1	-0.1	-0.1
1986	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.1	0.0	0.0	0.0	-3.0	-3.7	-2.5	12.1	35.3	12.4
1988	-0.5	-2.3	-0.4	0.0	0.0	-5.3	-1.4	-5.1	-2.8	25.6	21.3	9.7
1989	-1.5	-2.9	-0.5	-1.8	-4.0	-1.6	0.0	-5.5	-2.4	-0.2	5.9	1.4
1990	-1.1	-1.7	-2.2	-0.4	0.0	0.0	0.0	0.0	0.0	15.1	12.1	6.5
1991	-1.1	-3.2	-3.0	-8.4	-1.6	0.0	0.0	0.0	-2.3	9.1	8.3	4.3
1992	-1.8	-2.9	-4.0	-3.1	-1.2	0.0	0.0	-5.1	-3.9	18.7	16.3	5.1
1993	1.0	-3.1	-0.6	0.0	0.0	0.0	0.1	-7.7	4.1	0.5	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9	6.5
1995	-0.2	-1.8	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.2
1998	-0.4	-0.7	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0
2001	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	-2.5	21.2	17.5	7.5
2002	-0.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-0.2	-0.5	-0.3
2003	-0.1	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	5.6	1.3	-0.1
Average	-0.2	-0.7	-0.4	-0.5	-0.9	-0.3	0.2	-0.8	-0.4	4.2	5.1	2.2
Critical	-0.6	-1.7	-1.6	-1.9	-0.7	-1.3	-0.7	-1.8	-1.3	15.1	14.3	7.3
Dry	-0.3	-0.6	-0.1	-0.3	-0.7	-0.3	-0.5	-1.5	-1.7	5.4	11.8	4.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	-0.9	-0.2	0.0	-4.0	-0.1	2.5	-1.2	0.7	1.0	0.2	0.0
Wet	-0.1	-0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0

E.1.5 Boundary Conditions: Sacramento and San Joaquin River Inflows, Net Delta Outflow (NDO) and San Joaquin River Salinity (EC)

See the text in Appendix E for details on the boundary conditions for the Base and the Alternatives 2- 4.

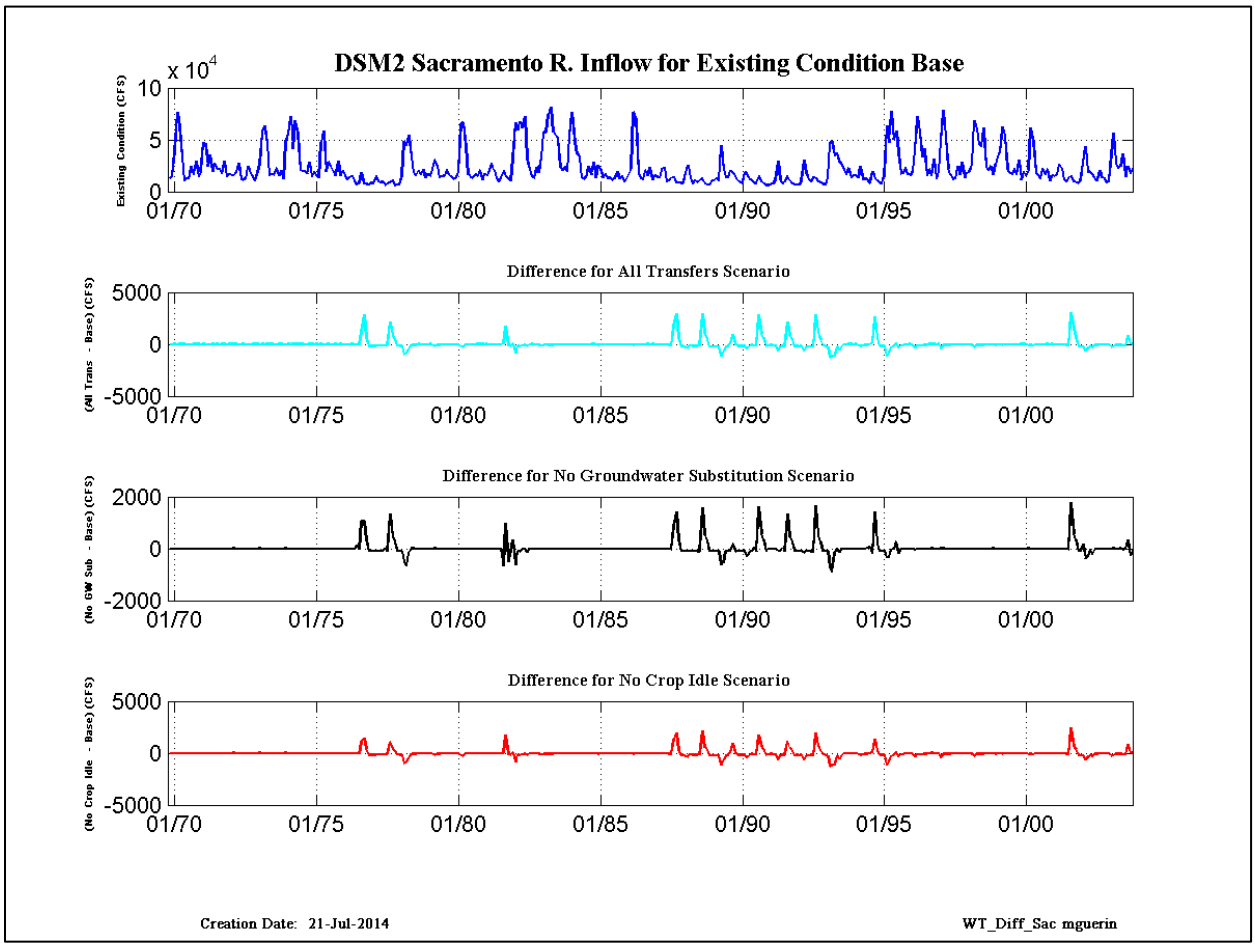


Figure 5-1.
Sacramento R. Inflow for the Base condition and change from Base for the scenarios.

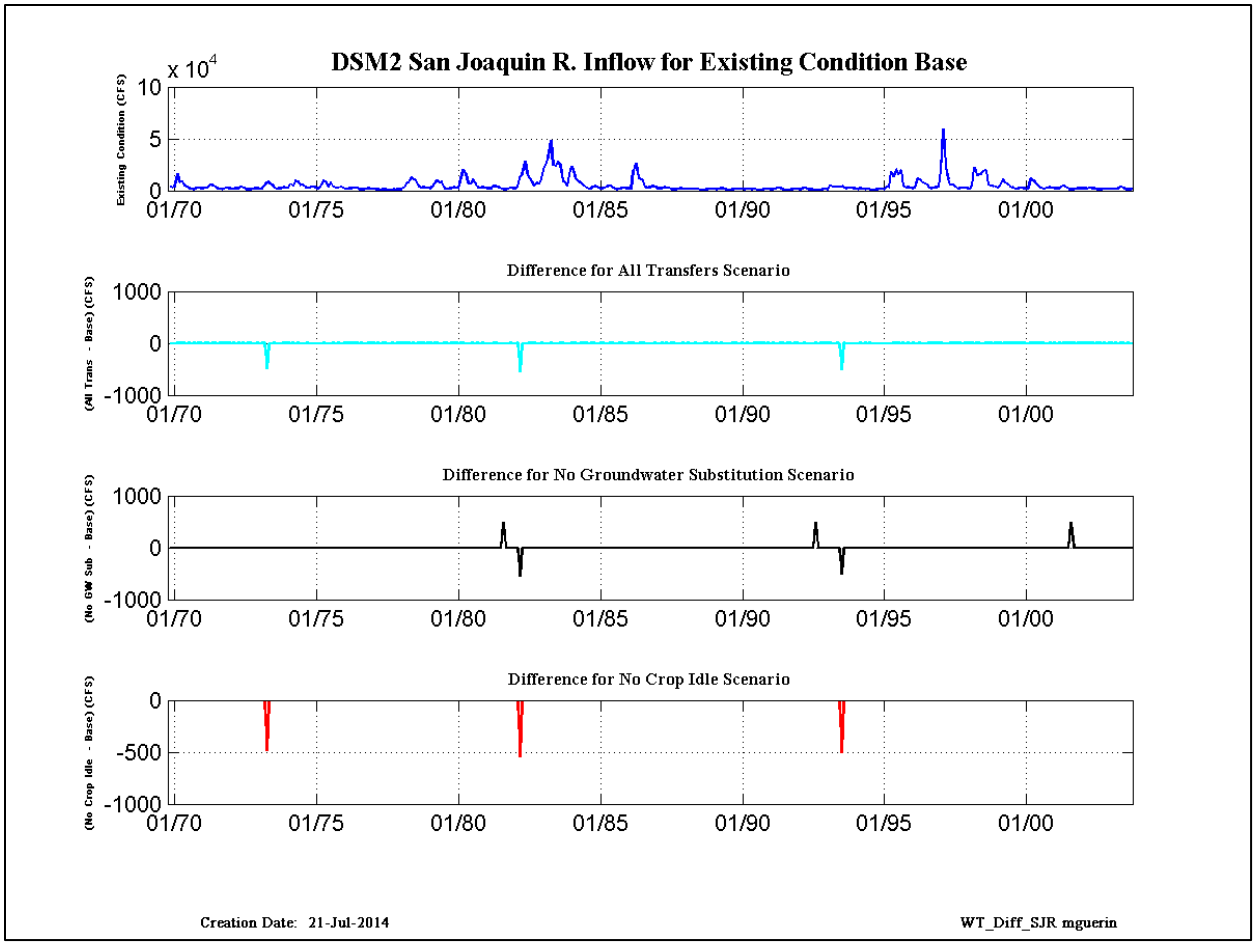


Figure 5-2.
San Joaquin R. Inflow for Existing Base condition and change from Base for the scenarios.

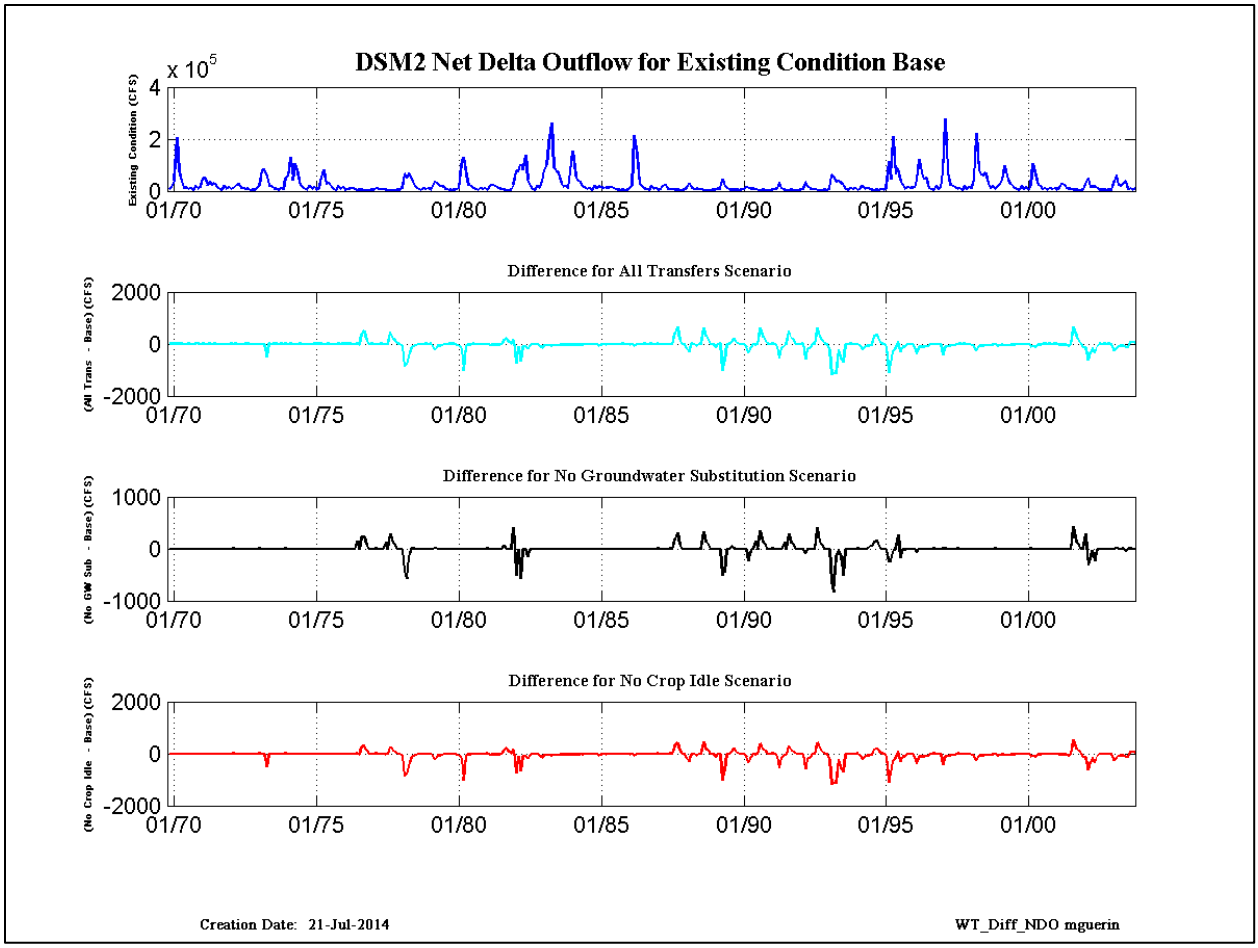


Figure 5-3.
Net Delta Outflow for the Base condition and change from Base for the scenarios.

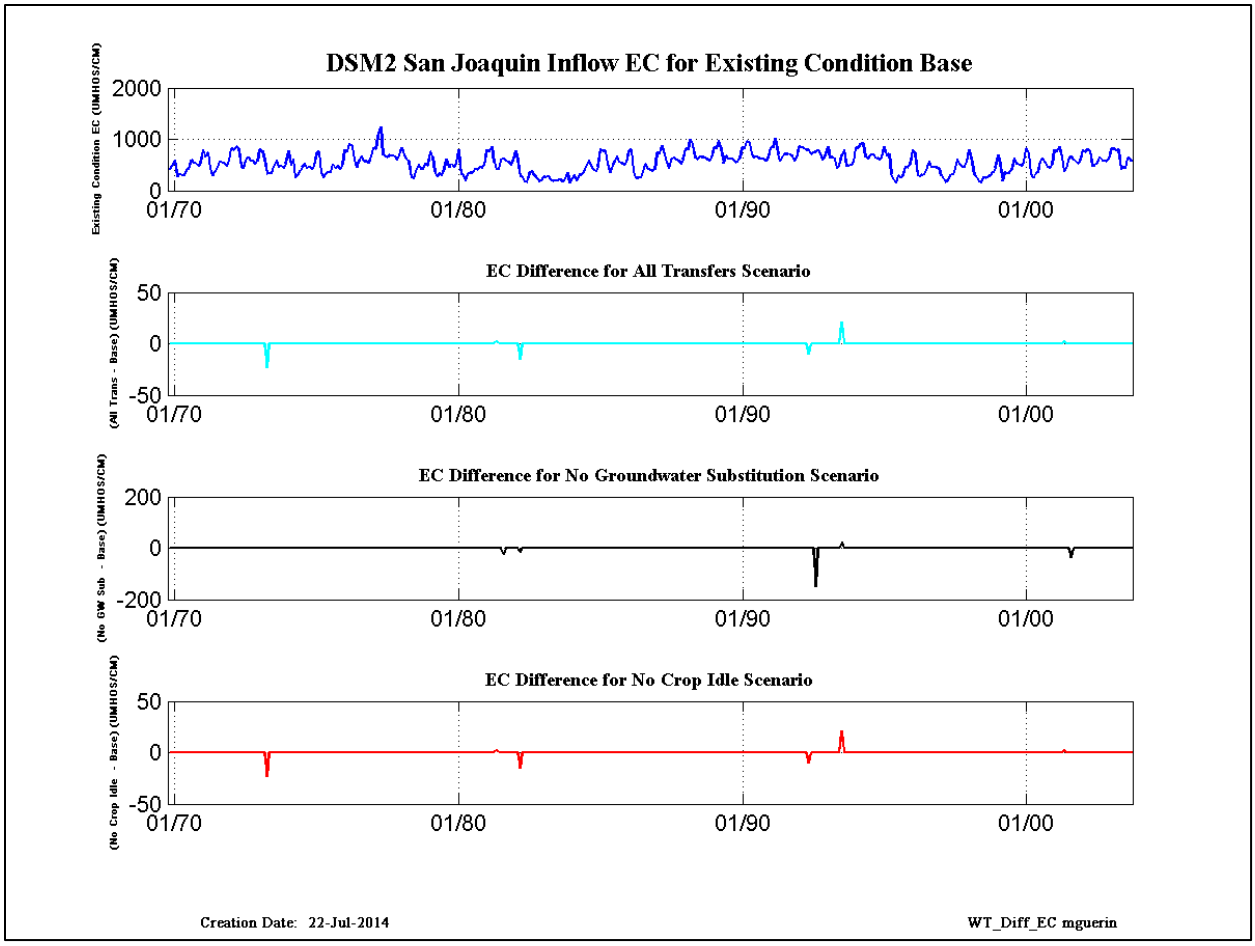


Figure 5-4.
San Joaquin Inflow EC for Existing Base condition and change from Base for the scenarios.

Table 5-1.
Sacramento River Base inflow (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	13169.5	15030.2	38985.0	76879.2	62925.7	33571.0	10845.8	12666.5	12895.4	24931.4	16762.8	29447.9
1971	14275.5	19579.5	47365.8	46356.4	24724.1	35936.3	19847.8	27399.0	21674.7	22450.3	17237.0	29804.6
1972	14594.1	16600.6	15651.7	16005.6	18971.6	27881.1	12105.4	11262.7	12598.4	24038.4	17049.0	14766.6
1973	10333.5	19133.7	26101.3	57692.8	63491.4	46989.9	15637.7	17111.0	16064.0	22844.1	15510.7	20364.8
1974	12939.5	48514.3	56875.6	72508.5	41804.7	68080.6	56314.9	20618.7	19493.6	19869.4	17033.3	28981.7
1975	14553.8	19396.1	14925.0	13471.1	47130.9	58710.3	19978.5	28823.8	24536.4	19542.2	15205.9	29588.1
1976	15513.8	20084.5	15568.1	11434.5	14117.3	15159.8	10294.9	6564.6	8290.0	18343.1	7883.3	7168.6
1977	6745.2	8287.5	8493.3	14841.8	9657.7	9027.2	9289.1	6067.2	8007.1	9026.5	10821.0	6283.0
1978	6502.4	6568.4	15571.1	48628.7	44316.3	54508.5	33667.7	18061.9	15802.4	20196.7	16452.4	21580.3
1979	13542.1	16845.2	15341.0	21552.7	30939.3	24900.8	13885.9	14651.4	15343.1	20830.1	16020.5	13708.0
1980	11735.6	13714.7	19535.9	65995.4	66815.8	43319.9	16875.5	14379.9	13196.2	16050.3	15327.8	20849.9
1981	11976.7	16798.8	15584.5	20930.6	26922.2	20299.5	13243.5	9847.9	13671.8	20224.2	14425.6	12327.3
1982	10918.3	32589.5	66283.2	59017.8	67544.7	61335.8	72176.4	31567.9	21052.5	14691.5	13190.1	23819.1
1983	18851.4	33898.4	57243.7	57365.0	74553.6	81218.2	57054.8	54471.4	51762.9	23527.8	20390.6	23971.6
1984	19106.7	54919.0	76014.2	47229.0	36617.4	33804.6	13671.3	12395.7	13962.0	24194.7	16007.0	28412.7
1985	13116.1	25317.3	21459.9	13844.3	17498.8	13270.5	13046.1	11392.1	12783.6	19935.3	12823.7	14777.7
1986	9142.0	12206.1	17131.2	22628.1	76672.5	70719.9	17937.1	12683.2	11561.2	20934.2	15431.6	23829.3
1987	11474.7	15878.4	14044.9	13795.9	21956.0	23028.4	9759.0	10535.8	13465.5	14450.3	8665.8	8871.2
1988	8066.7	8118.1	18384.8	25699.3	13287.3	7598.0	11017.1	8974.5	10928.5	12744.7	8109.0	7024.3
1989	6495.4	10332.1	10684.9	12811.6	10178.0	44407.4	21194.7	14106.6	13945.1	20458.9	17722.5	15124.2
1990	11069.6	8833.8	8332.8	18898.9	16052.6	12340.7	11295.6	8140.3	8134.6	15096.8	9890.9	7734.0
1991	6308.1	6374.6	7342.9	7575.1	10520.4	29303.4	11868.6	7820.9	9823.1	14728.1	10043.5	7531.9
1992	6656.3	6784.1	6929.7	10692.7	30330.1	18736.3	11534.3	9091.9	13553.7	12968.0	9805.5	8789.4
1993	7318.7	6683.3	13435.0	46916.1	48160.4	34709.9	37159.0	28605.1	25741.2	21467.4	16654.5	22924.9
1994	13623.7	16004.0	15481.7	13085.1	24379.4	11849.4	12836.6	10303.5	8336.6	19528.4	12459.7	11452.6
1995	8049.6	8315.8	15311.7	63795.5	47429.8	77273.3	50128.1	58571.8	37893.7	17181.4	17824.0	23602.4
1996	16878.4	15916.5	19772.0	40451.0	72313.1	57238.6	33302.4	41069.9	15240.3	21657.7	15847.5	31452.8
1997	12850.3	19289.7	49630.3	78330.0	52800.7	22177.8	16219.0	12429.2	12867.7	24525.7	16157.0	28814.4
1998	13079.6	18351.9	19346.2	26948.0	68021.1	60584.4	45597.2	43198.1	61417.2	23080.1	20056.5	24560.6
1999	16002.5	26617.5	33436.6	38835.1	62496.5	53344.8	22898.0	18412.5	16896.0	21883.1	16097.1	30087.1
2000	11909.9	19359.6	15029.2	21584.9	61207.3	47814.4	18229.8	15990.3	12961.1	22452.3	16925.5	21912.9
2001	10622.2	15674.7	14871.5	16534.5	26400.9	22373.9	11647.8	9239.3	13459.7	14659.4	9709.4	8549.0
2002	8122.6	10127.9	28744.8	43310.3	19020.7	19285.1	16565.0	12021.7	10818.3	20639.9	13591.0	12587.5
2003	8581.7	10299.0	36296.7	56676.5	27324.9	22303.7	24558.4	36943.2	14407.2	24534.2	17315.0	22225.8
Average	11591.9	17719.0	25153.1	35362.4	39311.3	37150.1	22696.6	19277.0	17429.0	19520.2	14542.5	18909.6
Critical	9711.9	10640.9	11504.8	14603.9	16906.4	14859.3	11162.3	8137.5	9581.9	14633.7	9859.0	7997.7
Dry	10301.3	15688.2	17565.1	20204.5	20329.4	23777.5	14242.7	11190.6	13024.0	18394.7	12823.0	12039.5
BN	14068.1	16722.9	15496.3	18779.1	24955.4	26391.0	12995.6	12957.0	13970.7	22434.3	16534.8	14237.3
AN	9397.0	12626.5	20994.8	49582.4	51886.0	41607.7	24354.7	21848.6	16362.0	21257.5	16364.3	21643.1
Wet	13832.1	24971.1	39409.3	49524.2	56541.1	54922.7	33536.3	28792.9	24711.8	21420.7	16710.8	27413.3

Table 5-2.
San Joaquin River Base inflow (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	3768.2	2936.4	3586.4	16926.6	8289.8	8768.7	5357.9	3585.1	2204.6	1761.4	1456.6	2037.4
1971	2847.6	2207.8	2077.1	2733.9	2821.6	5836.3	5489.7	4008.9	2341.4	1544.6	1417.8	1861.5
1972	2924.9	2058.9	1938.2	1573.8	2230.1	2234.7	3769.2	2932.7	1486.4	1199.0	1320.9	1604.4
1973	2286.3	2195.7	1935.2	2176.9	4981.5	8475.8	7146.1	5654.0	2685.7	1879.3	2418.0	2497.5
1974	3284.7	2581.8	3403.9	6480.1	4095.8	9057.5	8575.9	5164.3	5551.4	3388.1	2713.8	2788.4
1975	3602.3	3053.1	2450.1	2291.2	5840.3	9579.7	7376.5	3711.5	8129.2	3713.7	2792.5	2578.6
1976	3484.5	2781.3	1995.0	1990.9	2230.6	2355.0	2899.8	2589.0	1290.4	1124.0	1455.5	1619.1
1977	2084.7	1607.9	1500.6	1468.1	1412.9	872.2	1154.7	1419.7	698.1	618.4	695.6	1013.3
1978	1434.9	1460.6	1475.5	3053.5	6647.6	8137.9	12698.4	11108.7	10231.5	4243.7	2783.6	3275.7
1979	2552.3	2952.7	2326.6	3982.2	6950.8	9748.7	7763.4	8020.5	2028.8	1608.8	2452.4	2282.7
1980	3151.8	2543.7	2110.2	12875.6	20072.9	16873.3	7388.5	6912.1	10906.7	7286.5	3055.8	2746.1
1981	3335.6	2850.4	2017.1	2182.5	2411.4	4248.0	4429.0	3239.3	1581.1	1349.2	1320.3	1737.1
1982	2585.7	2139.5	2098.1	3749.6	12819.4	15750.1	28065.2	17966.2	11977.8	8608.9	4699.5	7232.5
1983	6774.0	11265.6	20556.0	27494.0	32934.1	48804.6	24500.0	23551.5	28265.1	24539.8	9180.6	7749.3
1984	4939.3	16633.1	23670.7	14694.0	10099.5	8292.2	6991.7	4493.9	3000.9	1962.5	2287.8	3605.6
1985	4267.1	3050.4	1903.6	2214.9	2981.0	4255.5	4819.7	3328.5	1628.2	1357.5	1616.8	2060.8
1986	2665.3	2419.3	2079.8	1845.6	19484.7	26225.5	12084.3	10712.5	9568.0	3063.4	2887.0	3434.2
1987	4034.1	3487.6	2142.4	2017.2	2162.6	3202.4	2802.8	2523.1	1310.0	1028.5	1243.1	1691.5
1988	2241.1	1938.8	1634.5	1627.8	1676.4	1758.2	1941.6	1694.1	986.3	724.1	932.6	1411.8
1989	1517.4	1744.8	1558.4	1446.6	1802.0	2121.7	2267.2	1399.5	941.0	832.4	1069.8	1808.7
1990	1852.0	1802.4	1508.7	1404.4	1839.9	1685.1	1212.3	1604.7	861.6	701.9	888.7	1376.7
1991	1800.3	1858.9	1396.4	1241.9	1552.3	3094.3	2053.6	1470.9	840.4	669.8	774.7	1066.4
1992	1638.7	1692.9	1288.3	1196.3	2610.9	2260.2	1256.1	1128.0	537.2	465.8	528.5	929.8
1993	1389.8	1500.6	1369.7	4671.8	3769.2	3840.3	3650.7	3617.4	4375.1	2587.8	2233.3	2568.3
1994	2674.2	2309.4	1637.5	1437.5	2120.8	1864.0	1438.9	1842.1	931.6	738.0	831.2	1214.1
1995	1580.5	1666.1	1335.4	3669.2	3160.3	18105.3	13322.5	20874.7	15410.6	19518.4	4737.5	2784.0
1996	3188.6	2690.5	2087.7	2699.3	11657.4	11004.8	8245.0	7120.1	5628.2	2572.5	2475.6	2671.8
1997	3140.8	3506.0	20158.9	59665.2	23357.5	11036.3	5500.8	6373.0	3890.7	1721.8	2302.6	2872.0
1998	2999.0	2154.6	1986.5	4970.9	22897.5	15256.5	15489.5	16158.1	18923.2	19964.7	5513.6	4981.8
1999	4466.2	3499.9	2871.8	5106.5	11331.2	7556.8	6982.8	4317.9	3421.8	1702.9	1887.6	2360.9
2000	2816.7	2278.9	1662.4	2257.2	11533.0	9676.8	6917.6	5094.9	2731.7	1566.5	1820.2	2871.0
2001	3380.6	2625.3	2119.9	2258.2	2392.7	3841.0	4839.5	2973.6	1478.6	1095.8	1311.7	1806.0
2002	2238.8	2042.6	2024.5	2414.6	1915.9	2592.7	2467.8	2213.1	1165.7	1016.7	1241.5	1663.7
2003	1824.1	1823.5	1825.7	1664.0	1812.6	2363.5	3737.7	2741.8	1226.5	1148.7	1359.2	1692.7
Average	2905.1	3040.0	3698.0	6102.4	7467.5	8552.2	6901.1	5927.8	4948.1	3744.3	2226.6	2526.3
Critical	2253.7	1998.8	1565.8	1481.0	1920.5	1984.2	1708.1	1678.4	877.9	720.3	872.4	1233.0
Dry	3128.9	2633.5	1961.0	2089.0	2277.6	3376.9	3604.3	2612.8	1350.8	1113.3	1300.5	1794.6
BN	2738.6	2505.8	2132.4	2778.0	4590.4	5991.7	5766.3	5476.6	1757.6	1403.9	1886.7	1943.6
AN	2150.6	1967.2	1729.8	4449.8	8136.1	8227.9	6923.2	5854.8	5359.5	3118.7	2278.3	2608.5
Wet	3526.3	4365.7	6797.1	11717.4	12983.8	15021.1	11383.2	9849.1	9101.0	7235.6	3411.7	3612.2

Table 5-3.
Net Delta Outflow (cfs) Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	7187.5	14640.8	42013.9	207621.7	77822.7	36548.8	13527.3	12532.2	7627.6	11076.4	4000.0	18437.5
1971	8437.5	15312.5	49917.8	48106.2	21508.4	37066.9	23384.3	29218.7	15234.4	8000.0	4000.0	19062.5
1972	8281.3	14591.1	6675.5	11909.4	18112.6	26002.5	12957.0	10053.1	6447.5	8880.9	4000.0	4192.2
1973	4000.0	11709.2	22091.2	80437.1	83604.2	56514.9	20261.8	19386.2	9382.9	8805.8	4000.0	11718.8
1974	6250.0	51476.8	58150.2	131491.9	40998.5	107783.3	69890.1	23550.8	15124.5	8000.0	5228.1	18906.3
1975	8125.0	14572.7	5352.6	9527.8	53868.6	83609.1	26862.2	30682.7	21480.5	8000.0	4000.0	19687.5
1976	8125.0	15937.5	5031.6	7008.7	9542.0	10771.1	9298.9	4000.0	4576.3	4755.4	3884.8	3000.0
1977	3000.0	4674.6	3500.0	10872.0	7521.4	7238.7	7100.0	4024.8	4000.0	4000.0	3368.9	3000.0
1978	4371.6	3500.0	11387.3	67380.2	51430.8	67829.5	46888.4	24774.3	13190.1	8000.0	4000.0	11562.5
1979	5937.5	10625.0	5056.7	21612.8	35577.7	27540.7	19555.2	19587.7	8150.0	6500.0	4086.6	3619.6
1980	4136.9	8004.0	10839.4	100182.6	130651.5	62796.1	21972.3	18834.8	12363.5	8000.0	4000.0	11562.5
1981	6250.0	10312.5	5145.4	19334.2	22884.2	19634.9	14190.8	8977.1	7100.0	5000.0	3996.8	3076.6
1982	4154.8	26104.0	79982.5	75273.3	101687.0	82095.6	139773.6	46361.5	20981.8	8000.0	4000.0	19375.0
1983	13461.7	39419.4	80646.5	102986.7	182104.6	260276.2	90337.6	76100.2	69560.8	34113.1	16717.0	20243.9
1984	11361.2	79829.7	154668.9	63210.5	40204.1	34662.4	18090.3	13461.4	7700.0	10698.3	4000.0	19062.5
1985	8281.3	19246.4	12118.9	10008.1	13889.1	12240.8	14203.4	10270.1	6406.3	5000.0	3791.0	4262.8
1986	4000.0	4617.0	11288.5	22623.1	214875.9	140086.7	26443.4	19792.2	9916.6	8000.0	4000.0	18437.5
1987	8125.0	12707.2	4619.9	9635.3	18313.5	23224.7	9227.1	7459.4	7100.0	5000.0	4147.4	3000.0
1988	4000.0	4500.0	13160.4	26671.0	13525.9	6088.3	9496.1	7100.0	7100.0	4000.0	3889.0	3000.0
1989	3000.0	5311.3	4411.1	8412.2	8635.7	47267.9	19653.7	11116.1	5937.5	5051.9	5359.5	4593.1
1990	4000.0	4500.0	4500.0	14585.4	11869.4	8990.5	9426.7	6832.7	4000.0	4000.0	4254.5	3000.0
1991	3438.6	3500.0	4140.6	7358.0	8748.0	33920.7	10515.9	5636.1	4000.0	4000.0	4409.0	3000.0
1992	3327.2	3618.3	4232.1	7538.7	35067.8	16743.3	9787.2	5997.6	7100.0	4000.0	3704.3	3000.0
1993	4857.6	3500.0	8379.2	63439.0	55587.7	35078.6	39776.0	30179.3	20923.0	8000.0	4000.0	12343.8
1994	6406.3	10312.5	5088.2	8972.5	21936.0	8465.7	11151.5	8677.6	4099.7	4000.0	4044.5	3000.0
1995	6342.1	3500.0	8995.3	112539.3	45657.8	208959.4	67780.3	87602.4	40848.3	22236.6	9017.5	14062.5
1996	11875.0	12570.3	15759.3	44785.6	123345.4	68296.1	46336.4	48365.0	10900.3	8000.0	4000.0	21250.0
1997	7812.5	15625.0	73827.6	276450.7	74642.5	22507.6	18591.8	14870.0	6843.4	11631.7	4000.0	18437.5
1998	7812.5	15312.5	9889.7	47972.5	220892.1	82137.0	64070.5	59459.6	71969.3	28161.0	11827.5	17524.4
1999	8906.3	19896.1	28686.9	40175.6	96127.9	58523.1	30458.2	20578.8	11277.5	8151.2	4000.0	20000.0
2000	7500.0	15398.1	4778.1	21731.5	104608.7	61479.6	22597.5	18264.0	6218.8	10481.6	4000.0	11718.8
2001	5781.3	10468.8	4853.0	13157.7	26754.6	22964.2	13236.0	8390.1	7100.0	5000.0	4185.0	3000.0
2002	4000.0	5791.9	27774.6	48417.2	14571.5	17226.7	16612.9	12736.2	4849.0	5312.3	4327.7	3000.0
2003	4614.9	4500.0	36796.8	61445.9	23945.5	18232.7	27994.6	38807.6	6689.2	9956.5	4000.0	11562.5
Average	6387.1	14576.0	24228.2	53025.7	59132.7	53317.8	29454.4	22461.2	13711.7	8876.8	4830.6	10726.5
Critical	4613.9	6720.4	5664.7	11858.1	15458.6	13174.1	9539.5	6038.4	4982.3	4107.9	3936.4	3000.0
Dry	5906.3	10639.7	9820.5	18160.8	17508.1	23759.9	14520.7	9824.8	6415.5	5060.7	4301.2	3488.8
BN	7109.4	12608.1	5866.1	16761.1	26845.1	26771.6	16256.1	14820.4	7298.8	7690.5	4043.3	3905.9
AN	4913.5	7768.5	15712.0	65769.4	74971.4	50321.9	29915.1	25041.0	11461.3	8874.0	4000.0	11744.8
Wet	8132.8	24067.5	47629.2	90981.9	99518.1	94042.5	48888.2	37121.2	23805.0	13389.9	6060.8	18806.7

Table 5-4.
San Joaquin River inflow salinity (EC, UMHOS/CM)

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	417.0	482.0	588.0	267.0	321.0	293.0	302.0	396.0	416.0	600.0	544.0	520.0
1971	480.0	565.0	790.0	660.0	740.0	429.0	289.0	356.0	450.0	567.0	544.0	533.0
1972	482.0	590.0	812.0	797.0	854.0	816.0	471.0	438.0	589.0	640.0	576.0	580.0
1973	519.0	575.0	798.0	768.0	623.0	333.0	335.0	342.0	477.0	592.0	459.0	486.0
1974	442.0	526.0	784.0	501.0	614.0	257.0	300.0	374.0	455.0	527.0	436.0	459.0
1975	424.0	472.0	746.0	754.0	360.0	254.0	330.0	360.0	369.0	514.0	426.0	476.0
1976	418.0	509.0	794.0	772.0	903.0	860.0	597.0	446.0	593.0	657.0	571.0	575.0
1977	527.0	667.0	837.0	817.0	1068.0	1243.0	702.0	675.0	651.0	693.0	677.0	659.0
1978	602.0	691.0	848.0	704.0	609.0	558.0	262.0	235.0	379.0	510.0	430.0	420.0
1979	517.0	490.0	765.0	652.0	366.0	278.0	337.0	295.0	432.0	612.0	457.0	509.0
1980	456.0	531.0	796.0	323.0	300.0	201.0	319.0	347.0	346.0	429.0	407.0	459.0
1981	449.0	503.0	791.0	760.0	857.0	560.0	417.0	416.0	597.0	618.0	579.0	565.0
1982	500.0	582.0	787.0	598.0	278.0	274.0	173.0	167.0	334.0	382.0	301.0	239.0
1983	186.0	192.0	270.0	257.0	281.0	220.0	174.0	198.0	198.0	216.0	163.0	225.0
1984	349.0	153.0	224.0	297.0	195.0	306.0	311.0	359.0	468.0	593.0	480.0	405.0
1985	378.0	471.0	810.0	761.0	768.0	544.0	362.0	437.0	580.0	670.0	556.0	532.0
1986	497.0	553.0	785.0	790.0	371.0	251.0	243.0	243.0	368.0	519.0	419.0	407.0
1987	390.0	424.0	744.0	737.0	876.0	702.0	559.0	438.0	603.0	649.0	600.0	582.0
1988	521.0	610.0	825.0	807.0	1000.0	906.0	637.0	603.0	659.0	648.0	641.0	610.0
1989	575.0	642.0	831.0	820.0	974.0	826.0	544.0	686.0	621.0	617.0	612.0	547.0
1990	573.0	630.0	839.0	830.0	963.0	917.0	717.0	644.0	668.0	633.0	626.0	612.0
1991	574.0	628.0	846.0	843.0	1020.0	714.0	583.0	672.0	715.0	717.0	697.0	670.0
1992	581.0	643.0	856.0	845.0	829.0	790.0	794.0	714.0	739.0	753.0	792.0	721.0
1993	599.0	674.0	856.0	645.0	649.0	624.0	440.0	485.0	701.0	789.0	475.0	481.0
1994	499.0	558.0	833.0	836.0	908.0	925.0	659.0	622.0	688.0	713.0	650.0	633.0
1995	603.0	647.0	853.0	677.0	712.0	332.0	204.0	148.0	294.0	245.0	296.0	467.0
1996	447.0	513.0	788.0	718.0	301.0	279.0	310.0	326.0	457.0	565.0	455.0	472.0
1997	449.0	439.0	287.0	228.0	165.0	196.0	303.0	315.0	435.0	608.0	496.0	462.0
1998	469.0	572.0	800.0	534.0	322.0	248.0	182.0	168.0	255.0	246.0	270.0	302.0
1999	354.0	447.0	695.0	510.0	201.0	347.0	334.0	347.0	414.0	629.0	524.0	504.0
2000	480.0	559.0	828.0	736.0	327.0	251.0	330.0	359.0	575.0	629.0	541.0	467.0
2001	434.0	519.0	788.0	760.0	856.0	654.0	380.0	434.0	602.0	658.0	599.0	565.0
2002	526.0	594.0	793.0	748.0	808.0	768.0	482.0	493.0	543.0	655.0	595.0	579.0
2003	574.0	623.0	812.0	814.0	786.0	798.0	418.0	446.0	439.0	644.0	591.0	581.0
Average	479.1	537.5	750.0	663.7	623.7	528.1	405.9	411.3	503.2	580.5	514.3	508.9
Critical	527.6	606.4	832.9	821.4	955.9	907.9	669.9	625.1	673.3	687.7	664.9	640.0
Dry	458.7	525.5	792.8	764.3	856.5	675.7	457.3	484.0	591.0	644.5	590.2	561.7
BN	499.5	540.0	788.5	724.5	610.0	547.0	404.0	366.5	510.5	626.0	516.5	544.5
AN	538.3	608.8	823.0	665.0	549.0	460.8	350.7	369.0	486.2	598.8	483.8	482.3
Wet	432.1	472.5	645.9	522.4	373.9	283.5	265.8	289.0	377.9	477.8	411.8	420.8

Table 5-5.
Sacramento River inflow (cfs) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.5	-0.2	0.0	-0.2	0.3	0.0	0.2	-0.5	-0.4	-0.4	0.2	0.1
1971	0.5	-0.5	0.2	-0.4	-0.1	-0.3	0.2	0.0	0.3	-0.3	0.0	0.4
1972	-0.1	0.4	0.3	0.4	0.4	-0.1	-0.4	0.3	-0.4	-0.4	0.0	0.4
1973	0.5	0.3	-0.3	0.2	-0.4	0.1	0.3	0.0	0.0	-0.1	0.3	0.2
1974	-0.5	-0.3	0.4	-0.5	0.3	0.4	0.1	0.3	0.4	-0.4	-0.3	0.3
1975	0.2	-0.1	0.0	-0.1	0.1	-0.3	-0.5	0.2	-0.4	-0.2	0.1	-0.1
1976	0.3	-0.5	-0.1	-0.5	-0.3	0.2	-2.9	-4.6	-45.0	1279.9	2802.7	693.4
1977	-180.2	-167.5	-155.3	-155.8	-148.7	-146.2	-127.1	-120.2	-97.1	2118.5	826.0	471.0
1978	-146.4	-160.4	-162.1	-961.7	-849.3	-464.5	-123.7	-92.9	-58.4	0.3	-0.4	-0.3
1979	-0.1	-0.2	0.0	-84.7	-239.3	-76.8	-65.9	-49.4	-0.1	-0.1	-0.5	0.0
1980	-12.6	-30.7	-69.9	-196.4	-291.8	-48.9	-34.5	-27.9	-0.2	-0.3	0.2	0.1
1981	0.3	-13.8	0.5	-43.6	-29.2	-28.5	-22.5	-19.9	-37.8	66.8	1740.4	-102.3
1982	-153.3	62.5	-817.2	-198.8	-218.7	-100.8	-84.4	-199.9	-40.5	0.5	-0.1	-0.1
1983	-84.4	-150.4	-64.7	-50.0	-56.6	-63.2	-56.8	-49.4	-40.9	-30.8	-27.6	-25.6
1984	-23.7	-37.0	-37.2	-35.0	-31.4	-29.6	-20.3	-17.7	0.0	-13.7	0.0	0.3
1985	-0.1	-76.3	-20.9	-16.3	-20.8	-16.5	-13.1	-12.1	-10.6	-12.3	-11.7	-9.7
1986	-9.0	-9.1	-22.2	-16.1	-77.5	-19.9	-18.1	-11.2	-0.2	-0.2	0.4	-0.3
1987	0.3	-9.4	-8.9	-8.9	-12.0	-17.4	-46.0	-77.8	-106.5	1818.7	2956.2	659.8
1988	-216.7	-182.1	-276.8	-384.3	-82.3	-173.0	-165.1	-158.5	-126.5	2939.3	1189.0	567.7
1989	-237.4	-229.1	-222.9	-213.6	-204.0	-1104.4	-698.7	-210.6	-196.1	59.1	959.5	-30.2
1990	-186.6	-179.8	-168.8	-189.9	-409.6	-227.7	-85.6	-144.3	-96.6	2801.2	1042.1	616.0
1991	-197.1	-113.6	-91.9	-111.1	-114.4	-620.4	-240.6	-177.9	-198.1	2186.9	856.5	463.1
1992	-209.3	-186.1	-200.7	-193.7	-674.1	-286.3	-234.3	-198.9	-235.7	2889.0	1185.5	443.6
1993	-85.7	-218.3	-298.0	-1265.1	-1190.4	-1136.9	-226.0	-595.1	-184.2	-0.4	-0.5	0.1
1994	0.3	0.0	0.3	-90.1	-216.4	-110.4	-73.6	-64.5	-43.6	142.6	2682.3	503.4
1995	-157.6	-176.8	-189.7	-1176.5	-837.8	-282.3	-183.1	109.2	-311.7	-108.4	-100.0	-0.4
1996	-0.4	0.5	-129.0	-397.0	-117.1	-109.6	-102.4	-97.9	-66.3	0.3	0.5	0.2
1997	-0.3	0.3	-406.3	-92.0	-83.7	-75.8	-54.0	-49.2	0.3	-33.7	0.0	-30.4
1998	-29.6	-37.9	-48.2	-90.0	-272.1	-81.4	-74.2	-67.1	-59.2	-46.1	-41.5	-38.6
1999	0.5	-89.5	-46.6	-39.1	-53.5	-47.8	-46.0	-38.5	-30.0	-0.1	-0.1	-0.1
2000	0.1	0.4	-14.2	-110.9	-69.3	-109.4	-39.8	-31.3	-0.1	-18.3	-0.5	0.1
2001	-0.2	0.3	-22.5	-38.5	-33.9	-31.9	-28.8	-82.3	-112.7	3053.6	1524.6	657.0
2002	-185.6	-220.9	-236.8	-692.3	-440.7	-176.1	-335.0	-76.7	-61.3	-15.9	-49.0	-25.5
2003	-2.7	-24.0	-264.7	-165.5	-81.9	-77.7	-75.4	-137.2	-133.2	800.8	55.0	46.6
Average	-62.3	-66.2	-116.9	-206.4	-201.7	-166.6	-96.4	-79.5	-67.4	584.6	517.3	142.9
Critical	-141.3	-118.5	-127.6	-160.8	-235.1	-223.4	-132.8	-124.1	-120.4	2051.0	1512.0	536.9
Dry	-70.4	-91.6	-85.3	-168.9	-123.4	-229.1	-190.7	-79.9	-87.5	828.3	1186.7	191.5
BN	-0.1	0.1	0.2	-42.1	-119.4	-38.5	-33.1	-24.5	-0.2	-0.3	-0.3	0.2
AN	-41.1	-72.1	-134.8	-449.9	-413.8	-306.2	-83.2	-147.4	-62.7	130.3	9.0	7.8
Wet	-35.2	-33.7	-135.4	-161.2	-134.4	-62.4	-49.2	-32.4	-42.2	-18.0	-12.9	-7.3

Table 5-6.
Sacramento River inflow percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.5	7.0	35.6	9.7
1977	-2.7	-2.0	-1.8	-1.0	-1.5	-1.6	-1.4	-2.0	-1.2	23.5	7.6	7.5
1978	-2.3	-2.4	-1.0	-2.0	-1.9	-0.9	-0.4	-0.5	-0.4	0.0	0.0	0.0
1979	0.0	0.0	0.0	-0.4	-0.8	-0.3	-0.5	-0.3	0.0	0.0	0.0	0.0
1980	-0.1	-0.2	-0.4	-0.3	-0.4	-0.1	-0.2	-0.2	0.0	0.0	0.0	0.0
1981	0.0	-0.1	0.0	-0.2	-0.1	-0.1	-0.2	-0.2	-0.3	0.3	12.1	-0.8
1982	-1.4	0.2	-1.2	-0.3	-0.3	-0.2	-0.1	-0.6	-0.2	0.0	0.0	0.0
1983	-0.4	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
1984	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0
1985	0.0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
1986	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.5	-0.7	-0.8	12.6	34.1	7.4
1988	-2.7	-2.2	-1.5	-1.5	-0.6	-2.3	-1.5	-1.8	-1.2	23.1	14.7	8.1
1989	-3.7	-2.2	-2.1	-1.7	-2.0	-2.5	-3.3	-1.5	-1.4	0.3	5.4	-0.2
1990	-1.7	-2.0	-2.0	-1.0	-2.6	-1.8	-0.8	-1.8	-1.2	18.6	10.5	8.0
1991	-3.1	-1.8	-1.3	-1.5	-1.1	-2.1	-2.0	-2.3	-2.0	14.8	8.5	6.1
1992	-3.1	-2.7	-2.9	-1.8	-2.2	-1.5	-2.0	-2.2	-1.7	22.3	12.1	5.0
1993	-1.2	-3.3	-2.2	-2.7	-2.5	-3.3	-0.6	-2.1	-0.7	0.0	0.0	0.0
1994	0.0	0.0	0.0	-0.7	-0.9	-0.9	-0.6	-0.6	-0.5	0.7	21.5	4.4
1995	-2.0	-2.1	-1.2	-1.8	-1.8	-0.4	-0.4	0.2	-0.8	-0.6	-0.6	0.0
1996	0.0	0.0	-0.7	-1.0	-0.2	-0.2	-0.3	-0.2	-0.4	0.0	0.0	0.0
1997	0.0	0.0	-0.8	-0.1	-0.2	-0.3	-0.3	-0.4	0.0	-0.1	0.0	-0.1
1998	-0.2	-0.2	-0.2	-0.3	-0.4	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	-0.2
1999	0.0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0
2000	0.0	0.0	-0.1	-0.5	-0.1	-0.2	-0.2	-0.2	0.0	-0.1	0.0	0.0
2001	0.0	0.0	-0.2	-0.2	-0.1	-0.1	-0.2	-0.9	-0.8	20.8	15.7	7.7
2002	-2.3	-2.2	-0.8	-1.6	-2.3	-0.9	-2.0	-0.6	-0.6	-0.1	-0.4	-0.2
2003	0.0	-0.2	-0.7	-0.3	-0.3	-0.3	-0.3	-0.4	-0.9	3.3	0.3	0.2
Average	-0.8	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.6	-0.5	4.3	5.2	1.8
Critical	-1.9	-1.5	-1.4	-1.1	-1.3	-1.5	-1.2	-1.5	-1.2	15.7	15.8	7.0
Dry	-1.0	-0.8	-0.5	-0.6	-0.8	-0.6	-1.1	-0.7	-0.7	5.6	11.1	2.3
BN	0.0	0.0	0.0	-0.2	-0.4	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0
AN	-0.6	-1.0	-0.7	-1.0	-0.9	-0.8	-0.3	-0.6	-0.3	0.5	0.1	0.0
Wet	-0.3	-0.2	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0

Table 5-7.
San Joaquin River inflow (cfs) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.2	-0.4	-0.4	0.4	0.2	0.3	0.1	-0.1	0.4	-0.4	0.4	-0.4
1971	0.4	0.2	-0.1	0.1	0.4	-0.3	0.3	0.1	-0.4	0.4	0.2	0.5
1972	0.1	0.1	-0.2	0.2	-0.1	0.3	-0.2	0.3	-0.4	0.0	0.1	-0.4
1973	-0.3	0.3	-0.2	0.1	0.5	-487.8	-0.1	0.0	0.3	-0.3	0.0	-0.5
1974	0.3	0.2	0.1	-0.1	0.2	-0.5	0.1	-0.3	-0.4	-0.1	0.2	-0.4
1975	-0.3	-0.1	-0.1	-0.2	-0.3	0.3	-0.5	-0.5	-0.2	0.3	-0.5	0.4
1976	-0.5	-0.3	0.0	0.1	0.4	0.0	0.2	0.0	-0.4	0.0	-0.5	-0.1
1977	0.3	0.1	0.4	-0.1	0.1	-0.2	0.3	0.3	-0.1	-0.4	0.4	-0.3
1978	0.1	0.4	0.5	0.5	0.4	0.1	-0.4	0.3	-0.5	0.3	0.4	0.3
1979	-0.3	0.3	0.4	-0.2	0.2	0.3	-0.4	-0.5	0.2	0.2	-0.4	0.3
1980	0.2	0.3	-0.2	0.4	0.1	-0.3	-0.5	-0.1	0.3	-0.5	0.2	-0.1
1981	0.4	-0.4	-0.1	-0.5	-0.4	0.0	0.0	-0.3	-0.1	-0.2	-0.3	-0.1
1982	0.3	-0.5	-0.1	0.4	-540.4	-0.1	-0.2	-0.2	0.2	0.1	0.5	-0.5
1983	0.0	0.4	0.0	0.0	-0.1	0.4	0.0	-0.5	-0.1	0.2	0.4	-0.3
1984	-0.3	-0.1	0.3	0.0	-0.5	-0.2	0.3	0.1	0.1	-0.5	0.2	0.4
1985	-0.1	-0.4	0.4	0.1	0.0	-0.5	0.3	0.5	-0.2	-0.5	0.2	0.2
1986	-0.3	-0.3	0.2	0.4	0.3	-0.5	-0.3	0.5	0.0	-0.4	0.0	-0.2
1987	-0.1	0.4	-0.4	-0.2	0.4	-0.4	0.2	-0.1	0.0	0.5	-0.1	-0.5
1988	-0.1	0.2	-0.5	0.2	-0.4	-0.2	0.4	-0.1	-0.3	-0.1	0.4	0.2
1989	-0.4	0.2	-0.4	0.4	0.0	0.3	-0.2	-0.5	0.0	-0.4	0.2	0.3
1990	0.0	-0.4	0.3	-0.4	0.1	-0.1	-0.3	0.3	0.4	0.1	0.3	0.3
1991	-0.3	0.1	-0.4	0.1	-0.3	-0.3	0.4	0.1	-0.4	0.2	0.3	-0.4
1992	0.3	0.1	-0.3	-0.3	0.1	-0.2	-0.1	0.0	-0.2	0.2	-0.5	0.2
1993	0.2	0.4	0.3	0.2	-0.2	-0.3	0.3	-0.4	-504.1	0.2	-0.3	-0.3
1994	-0.2	-0.4	-0.5	-0.5	0.2	0.0	0.1	-0.1	0.4	0.0	-0.2	-0.1
1995	-0.5	-0.1	-0.4	-0.2	-0.3	-0.3	0.5	0.3	0.4	-0.4	0.5	0.0
1996	0.4	-0.5	0.3	-0.3	-0.4	0.2	0.0	-0.1	-0.2	0.5	0.4	0.2
1997	0.2	0.0	0.1	-0.2	-0.5	-0.3	0.2	0.0	0.3	0.2	0.4	0.0
1998	0.0	0.4	0.5	0.1	-0.5	0.5	0.5	-0.1	-0.2	0.3	0.4	0.2
1999	-0.2	0.1	0.2	0.5	-0.2	0.2	0.2	0.1	0.2	0.1	0.4	0.1
2000	0.3	0.1	-0.4	-0.2	0.0	0.2	0.4	0.1	0.3	0.5	-0.2	0.0
2001	0.4	-0.3	0.1	-0.2	0.3	0.0	0.5	0.4	0.4	0.2	0.3	0.0
2002	0.2	0.4	0.5	0.4	0.1	0.3	0.2	-0.1	0.3	0.3	-0.5	0.3
2003	-0.1	0.5	0.3	0.0	0.4	-0.5	0.3	0.2	-0.5	0.3	-0.2	0.0
Average	0.0	0.0	0.0	0.0	-15.9	-14.4	0.1	0.0	-14.8	0.0	0.1	0.0
Critical	-0.1	-0.1	-0.1	-0.1	0.0	-0.2	0.1	0.1	-0.1	0.0	0.0	0.0
Dry	0.1	0.0	0.0	0.0	0.1	-0.1	0.2	0.0	0.1	0.0	0.0	0.0
BN	-0.1	0.2	0.1	0.0	0.1	0.3	-0.3	-0.1	-0.1	0.1	-0.2	-0.1
AN	0.1	0.3	0.1	0.2	0.2	-81.4	0.0	0.0	-84.0	0.1	0.0	-0.1
Wet	0.0	0.0	0.0	0.1	-41.7	0.0	0.1	-0.1	0.0	0.0	0.3	0.0

Table 5-8.
San Joaquin River inflow percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-5.8	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-11.5	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	-0.3	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	-1.9	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-9.
NDO (cfs) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.5	0.2	0.1	0.3	0.3	0.2	-0.3	-0.2	0.4	-0.4	0.0	0.5
1971	0.5	-0.5	0.2	-0.2	-0.4	0.1	-0.3	0.3	-0.4	0.0	0.0	-0.5
1972	-0.3	-0.1	0.5	-0.4	0.4	-0.5	0.0	-0.1	0.5	0.1	0.0	-0.2
1973	0.0	-0.2	-0.2	-0.1	-0.2	-487.9	0.2	-0.2	0.1	0.2	0.0	0.3
1974	0.0	0.2	-0.2	0.1	-0.5	-0.3	-0.1	0.2	-0.5	0.0	-0.1	-0.3
1975	0.0	0.3	0.4	0.2	0.4	-0.1	-0.2	0.3	-0.5	0.0	0.0	0.5
1976	0.0	0.5	0.4	0.3	0.0	-0.1	-2.9	10.0	-34.3	389.6	504.2	181.0
1977	0.0	0.4	0.0	0.0	-0.4	0.3	0.0	-12.8	0.0	460.0	205.1	133.0
1978	0.4	0.0	-76.3	-876.2	-763.8	-464.5	-123.4	-93.3	-58.1	0.0	0.0	-0.5
1979	0.5	0.0	0.3	-84.8	-238.7	-76.7	-66.2	-49.7	0.0	0.0	0.4	0.4
1980	0.1	-30.0	-69.4	-196.6	-1026.5	-49.1	-34.3	-27.8	0.5	0.0	0.0	-0.5
1981	0.0	-0.5	-0.4	-44.2	-29.2	-27.9	-22.8	-20.1	0.0	152.0	210.2	79.4
1982	0.2	148.0	-731.5	-113.3	-673.0	-100.6	-84.6	-199.5	-40.8	0.0	0.0	0.0
1983	-83.7	-150.4	-64.5	-50.7	-56.6	-63.2	-56.6	-50.2	-40.8	-31.1	-28.0	-25.9
1984	-24.2	-37.7	-36.9	-34.5	-32.1	-29.4	-20.3	-18.4	0.0	-0.3	0.0	-0.5
1985	-0.3	-76.4	-20.9	-17.1	-21.1	0.2	-13.4	-12.1	-0.3	0.0	0.0	0.2
1986	0.0	0.0	-22.5	-16.1	-76.9	-19.7	-18.4	-11.2	0.4	0.0	0.0	0.5
1987	0.0	-0.2	0.1	-9.3	-11.5	-17.7	-0.1	-0.4	0.0	408.0	640.6	181.0
1988	0.0	0.0	-191.4	-299.0	0.1	-0.3	-80.1	0.0	0.0	637.0	290.0	165.0
1989	0.0	-0.3	-137.1	-0.2	0.3	-1018.9	-613.7	-0.1	0.5	66.1	197.5	47.9
1990	0.0	0.0	0.0	-104.4	-323.4	-142.5	0.3	-51.7	0.0	609.0	261.5	176.0
1991	0.4	0.0	0.4	0.0	-115.0	-534.7	-154.9	-85.1	0.0	485.0	221.0	141.0
1992	-0.2	-0.3	-0.1	0.3	-591.8	-200.3	-148.2	0.4	0.0	628.0	288.7	141.0
1993	0.4	0.0	-212.2	-1180.0	-1104.7	-1136.6	-226.0	-595.3	-689.0	0.0	0.0	0.3
1994	-0.3	-0.5	-0.2	-90.5	-217.0	-110.7	-73.5	-64.6	-42.7	293.0	349.5	143.0
1995	3.9	0.0	-104.3	-1091.3	-752.8	-282.4	-183.3	109.6	-311.3	-108.6	-100.5	-0.5
1996	0.0	-0.3	-129.3	-397.6	-117.4	-110.1	-102.4	-98.0	-66.3	0.0	0.0	0.0
1997	-0.5	0.0	-406.6	-91.7	-83.5	-76.6	-53.8	-50.0	-0.4	0.3	0.0	0.5
1998	-0.5	-0.5	-48.7	-89.5	-272.1	-81.0	-73.5	-66.6	-59.3	-47.0	-41.5	-38.4
1999	0.8	-89.1	-45.9	-39.6	-52.9	-48.1	-46.2	-37.8	-30.5	-0.2	0.0	0.0
2000	0.0	-0.1	-0.1	-110.5	-69.7	-109.6	-39.5	-32.0	0.3	0.4	0.0	0.3
2001	-0.3	0.3	0.0	-38.7	-33.6	-32.2	-28.0	-75.1	0.0	655.0	355.0	181.0
2002	1.0	-134.9	-151.6	-607.2	-354.5	-175.7	-334.9	-76.2	0.0	-0.3	0.3	0.0
2003	0.1	0.0	-263.8	-165.9	-81.5	-77.7	-74.6	-136.6	-133.2	69.5	70.0	51.3
Average	-3.0	-10.9	-79.8	-169.1	-208.8	-161.0	-78.7	-51.3	-44.3	137.2	100.7	45.8
Critical	0.0	0.0	-27.3	-70.5	-178.2	-141.2	-65.6	-29.1	-11.0	500.2	302.9	154.3
Dry	0.1	-35.3	-51.7	-119.4	-74.9	-212.0	-168.8	-30.7	0.0	213.5	233.9	81.6
BN	0.1	-0.1	0.4	-42.6	-119.1	-38.6	-33.1	-24.9	0.3	0.0	0.2	0.1
AN	0.2	-5.0	-103.7	-421.5	-507.8	-387.6	-82.9	-147.5	-146.6	11.7	11.7	8.5
Wet	-7.9	-10.0	-122.3	-148.0	-162.9	-62.4	-49.2	-32.4	-42.3	-14.4	-13.1	-4.9

Table 5-10.
NDO percent difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-0.8	8.2	13.0	6.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	11.5	6.1	4.4
1978	0.0	0.0	-0.7	-1.3	-1.5	-0.7	-0.3	-0.4	-0.4	0.0	0.0	0.0
1979	0.0	0.0	0.0	-0.4	-0.7	-0.3	-0.3	-0.3	0.0	0.0	0.0	0.0
1980	0.0	-0.4	-0.6	-0.2	-0.8	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.2	-0.2	0.0	3.0	5.3	2.6
1982	0.0	0.6	-0.9	-0.2	-0.7	-0.1	-0.1	-0.4	-0.2	0.0	0.0	0.0
1983	-0.6	-0.4	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1
1984	-0.2	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0
1985	0.0	-0.4	-0.2	-0.2	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
1986	0.0	0.0	-0.2	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	8.2	15.4	6.0
1988	0.0	0.0	-1.5	-1.1	0.0	0.0	-0.8	0.0	0.0	15.9	7.5	5.5
1989	0.0	0.0	-3.1	0.0	0.0	-2.2	-3.1	0.0	0.0	1.3	3.7	1.0
1990	0.0	0.0	0.0	-0.7	-2.7	-1.6	0.0	-0.8	0.0	15.2	6.1	5.9
1991	0.0	0.0	0.0	0.0	-1.3	-1.6	-1.5	-1.5	0.0	12.1	5.0	4.7
1992	0.0	0.0	0.0	0.0	-1.7	-1.2	-1.5	0.0	0.0	15.7	7.8	4.7
1993	0.0	0.0	-2.5	-1.9	-2.0	-3.2	-0.6	-2.0	-3.3	0.0	0.0	0.0
1994	0.0	0.0	0.0	-1.0	-1.0	-1.3	-0.7	-0.7	-1.0	7.3	8.6	4.8
1995	0.1	0.0	-1.2	-1.0	-1.6	-0.1	-0.3	0.1	-0.8	-0.5	-1.1	0.0
1996	0.0	0.0	-0.8	-0.9	-0.1	-0.2	-0.2	-0.2	-0.6	0.0	0.0	0.0
1997	0.0	0.0	-0.6	0.0	-0.1	-0.3	-0.3	-0.3	0.0	0.0	0.0	0.0
1998	0.0	0.0	-0.5	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.4	-0.2
1999	0.0	-0.4	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	0.0	0.0	0.0
2000	0.0	0.0	0.0	-0.5	-0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	-0.3	-0.1	-0.1	-0.2	-0.9	0.0	13.1	8.5	6.0
2002	0.0	-2.3	-0.5	-1.3	-2.4	-1.0	-2.0	-0.6	0.0	0.0	0.0	0.0
2003	0.0	0.0	-0.7	-0.3	-0.3	-0.4	-0.3	-0.4	-2.0	0.7	1.8	0.4
Average	0.0	-0.1	-0.4	-0.4	-0.5	-0.5	-0.4	-0.3	-0.3	3.3	2.6	1.5
Critical	0.0	0.0	-0.2	-0.4	-1.0	-0.8	-0.6	-0.4	-0.3	12.3	7.7	5.1
Dry	0.0	-0.5	-0.6	-0.3	-0.5	-0.6	-0.9	-0.3	0.0	4.3	5.5	2.6
BN	0.0	0.0	0.0	-0.2	-0.3	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0
AN	0.0	-0.1	-0.8	-0.7	-0.8	-0.9	-0.2	-0.5	-1.0	0.1	0.3	0.1
Wet	-0.1	0.0	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.0

Table 5-11.
San Joaquin River inflow salinity (EC) difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-23.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	-10.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.4	-0.7	-0.1	0.0	0.6	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	3.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-12.
San Joaquin River inflow salinity (EC) percent difference All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-6.9	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-13.
Sacramento River inflow (cfs) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	127.7	-27.7	1077.3	1049.4	342.7
1977	-85.5	-85.5	-85.5	-85.5	-85.5	-85.5	-85.5	14.4	-113.2	1325.0	478.4	278.7
1978	-85.5	-85.5	-85.5	-510.8	-663.6	-156.0	1.4	0.5	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-654.7	971.6	-505.6
1982	-85.5	322.3	-601.4	-97.5	-123.4	-14.7	0.0	-142.9	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-18.3	-27.7	843.2	1429.5	342.7
1988	-85.5	-85.5	-85.5	-85.5	-82.7	-85.5	-85.5	-103.8	-113.2	1581.1	532.6	313.7
1989	-85.5	-85.5	-85.5	-85.5	-85.4	-601.6	-539.4	-85.5	-85.5	-85.5	191.0	-119.1
1990	-85.5	-85.5	-85.5	-85.5	-310.6	-126.0	-85.5	42.2	-113.2	1630.5	577.5	342.7
1991	-80.1	0.0	0.0	0.0	0.0	-85.5	-85.5	14.4	-113.2	1325.0	478.4	278.7
1992	-85.5	-85.5	-85.5	-85.5	-169.3	-85.5	-85.5	-103.8	-113.2	1655.2	503.2	260.7
1993	-85.5	-85.5	-85.5	-712.7	-910.6	-143.8	0.0	-151.3	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.1	50.4	-189.3	1419.6	162.0
1995	-85.5	-85.5	-85.5	-335.0	-317.2	-50.4	0.0	270.6	-175.7	-6.0	-11.0	0.0
1996	0.0	0.0	0.0	-62.2	0.0	0.0	0.0	-3.2	0.0	0.0	0.1	0.0
1997	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.6	-0.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-18.3	-27.7	1776.5	577.5	342.7
2002	-85.5	-85.5	197.7	-398.7	-284.6	-34.1	-227.6	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	15.9	0.0	0.0	0.3	-50.4	0.0	325.3	-244.0	-84.0
Average	-27.5	-13.2	-32.0	-74.4	-88.8	-43.2	-35.1	-5.0	-25.3	311.9	233.9	57.5
Critical	-60.3	-48.9	-48.9	-48.9	-92.6	-66.9	-61.1	4.3	-77.6	1200.7	719.9	282.7
Dry	-28.5	-28.5	18.7	-80.7	-61.7	-106.0	-127.8	-20.3	-23.5	313.2	528.3	10.1
BN	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-28.5	-28.5	-28.5	-201.3	-262.4	-50.0	0.3	-33.5	0.0	54.2	-40.7	-14.0
Wet	-13.1	18.2	-52.9	-38.0	-33.9	-5.0	0.0	9.6	-13.5	-0.5	-0.8	0.0

Table 5-14.
Sacramento River inflow (cfs) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	-0.3	5.9	13.3	4.8
1977	-1.3	-1.0	-1.0	-0.6	-0.9	-0.9	-0.9	0.2	-1.4	14.7	4.4	4.4
1978	-1.3	-1.3	-0.5	-1.1	-1.5	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.2	6.7	-4.1
1982	-0.8	1.0	-0.9	-0.2	-0.2	0.0	0.0	-0.5	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	5.8	16.5	3.9
1988	-1.1	-1.1	-0.5	-0.3	-0.6	-1.1	-0.8	-1.2	-1.0	12.4	6.6	4.5
1989	-1.3	-0.8	-0.8	-0.7	-0.8	-1.4	-2.5	-0.6	-0.6	-0.4	1.1	-0.8
1990	-0.8	-1.0	-1.0	-0.5	-1.9	-1.0	-0.8	0.5	-1.4	10.8	5.8	4.4
1991	-1.3	0.0	0.0	0.0	0.0	-0.3	-0.7	0.2	-1.2	9.0	4.8	3.7
1992	-1.3	-1.3	-1.2	-0.8	-0.6	-0.5	-0.7	-1.1	-0.8	12.8	5.1	3.0
1993	-1.2	-1.3	-0.6	-1.5	-1.9	-0.4	0.0	-0.5	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	-1.0	11.4	1.4
1995	-1.1	-1.0	-0.6	-0.5	-0.7	-0.1	0.0	0.5	-0.5	0.0	-0.1	0.0
1996	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	12.1	5.9	4.0
2002	-1.1	-0.8	0.7	-0.9	-1.5	-0.2	-1.4	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	1.3	-1.4	-0.4
Average	-0.4	-0.3	-0.2	-0.2	-0.3	-0.2	-0.2	0.0	-0.2	2.4	2.4	0.8
Critical	-0.8	-0.6	-0.5	-0.3	-0.6	-0.5	-0.6	0.1	-0.8	9.2	7.3	3.7
Dry	-0.4	-0.3	0.0	-0.3	-0.4	-0.3	-0.7	-0.2	-0.2	2.4	5.0	0.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.4	-0.4	-0.2	-0.4	-0.6	-0.1	0.0	-0.1	0.0	0.2	-0.2	-0.1
Wet	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-15.
San Joaquin River inflow (cfs) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	487.9	0.0	0.0
1982	0.0	0.0	0.0	0.0	-540.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	487.9	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-504.2	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	487.9	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-15.9	0.0	0.0	0.0	-14.8	43.1	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	69.7	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	162.6	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-84.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-41.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-16.
San Joaquin River inflow (cfs) percent difference of
No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	0.0	0.0
1982	0.0	0.0	0.0	0.0	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	104.8	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-11.5	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.5	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.3	5.5	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-17.
NDO (cfs) difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	146.0	0.0	238.4	232.8	89.4
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	118.2	0.0	288.0	118.6	76.6
1978	0.0	0.0	0.0	-425.3	-578.2	-156.0	1.4	0.5	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.1	0.0	0.0
1982	0.0	407.8	-515.9	-12.0	-578.1	-14.6	0.0	-142.9	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	191.6	308.9	89.4
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	339.2	129.5	83.6
1989	0.0	0.0	0.0	0.0	0.0	-516.1	-453.9	0.0	0.0	45.5	3.3	0.0
1990	0.0	0.0	0.0	0.0	-225.3	-40.5	0.0	146.0	0.0	349.1	138.5	89.4
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	118.2	0.0	288.0	118.6	76.6
1992	0.0	0.0	0.0	0.0	-86.9	0.0	0.0	0.0	0.0	402.8	123.6	73.0
1993	0.0	0.0	0.0	-627.2	-825.2	-143.8	0.0	-151.3	-504.2	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.1	50.4	125.6	154.7	49.5
1995	0.0	0.0	0.0	-249.5	-231.7	-50.4	0.0	270.6	-175.7	-6.0	-11.0	0.0
1996	0.0	0.0	0.0	-62.2	0.0	0.0	0.0	-3.2	0.0	0.0	0.1	0.0
1997	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.6	-0.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	427.0	138.5	89.4
2002	0.0	0.0	283.2	-313.2	-199.1	-34.1	-227.6	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	15.9	0.0	0.0	0.3	-50.4	0.0	0.0	0.0	0.0
Average	0.0	12.0	-6.8	-49.2	-79.7	-28.1	-20.0	14.4	-18.5	81.0	42.8	21.1
Critical	0.0	0.0	0.0	0.0	-44.6	-5.8	0.0	81.1	7.2	290.1	145.2	76.9
Dry	0.0	0.0	47.2	-52.2	-33.2	-91.7	-113.6	0.0	0.0	121.5	75.1	29.8
BN	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-172.8	-233.9	-50.0	0.3	-33.5	-84.0	0.0	0.0	0.0
Wet	0.0	31.4	-39.7	-24.9	-62.3	-5.0	0.0	9.6	-13.5	-0.5	-0.8	0.0

Table 5-18.
NDO percent difference No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	5.0	6.0	3.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	7.2	3.5	2.6
1978	0.0	0.0	0.0	-0.6	-1.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
1982	0.0	1.6	-0.6	0.0	-0.6	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	7.4	3.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	3.3	2.8
1989	0.0	0.0	0.0	0.0	0.0	-1.1	-2.3	0.0	0.0	0.9	0.1	0.0
1990	0.0	0.0	0.0	0.0	-1.9	-0.5	0.0	2.1	0.0	8.7	3.3	3.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	7.2	2.7	2.6
1992	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	10.1	3.3	2.4
1993	0.0	0.0	0.0	-1.0	-1.5	-0.4	0.0	-0.5	-2.4	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.2	3.1	3.8	1.7
1995	0.0	0.0	0.0	-0.2	-0.5	0.0	0.0	0.3	-0.4	0.0	-0.1	0.0
1996	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	3.3	3.0
2002	0.0	0.0	1.0	-0.6	-1.4	-0.2	-1.4	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	-0.1	-0.2	-0.1	-0.1	0.3	0.0	1.9	1.1	0.7
Critical	0.0	0.0	0.0	0.0	-0.3	-0.1	0.0	1.6	0.2	7.1	3.7	2.6
Dry	0.0	0.0	0.2	-0.1	-0.2	-0.2	-0.6	0.0	0.0	2.4	1.8	1.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	-0.3	-0.4	-0.1	0.0	-0.1	-0.4	0.0	0.0	0.0
Wet	0.0	0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-19.
San Joaquin River inflow salinity (EC) difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-26.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-149.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-35.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.6	-6.2	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-21.3	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-10.2	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-20.
San Joaquin River inflow salinity (EC) percent difference
No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.2	0.0	0.0
1982	0.0	0.0	0.0	0.0	-5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-19.8	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.3	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.1	-0.9	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-21.
Sacramento River inflow (cfs) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	-4.9	-34.2	1191.1	1402.3	423.3
1977	-179.8	-167.3	-155.1	-155.7	-148.5	-146.0	-127.5	-120.9	-85.5	1077.7	420.6	209.5
1978	-146.4	-160.6	-162.1	-962.1	-849.3	-464.9	-123.6	-93.2	-58.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	-85.0	-239.2	-76.5	-66.3	-49.4	0.0	0.0	0.0	0.0
1980	-12.1	-30.5	-69.7	-196.6	-291.3	-48.6	-34.4	-28.3	0.0	0.0	0.0	0.0
1981	0.0	-14.0	0.0	-43.8	-28.8	-28.1	-22.5	-20.1	-38.2	45.7	1710.6	-111.3
1982	-153.7	62.6	-817.0	-198.4	-218.8	-100.4	-84.3	-199.7	-40.9	0.0	0.0	0.0
1983	-83.9	-150.7	-64.4	-50.3	-56.8	-63.1	-57.1	-49.8	-40.9	-30.9	-27.7	-25.4
1984	-23.8	-37.4	-36.9	-34.8	-31.8	-29.2	-20.0	-18.1	0.0	-13.4	0.0	0.0
1985	0.0	-76.1	-21.2	-16.6	-20.6	-16.5	-13.6	-11.9	-10.4	-12.3	-11.9	-9.2
1986	-8.8	-9.0	-22.5	-16.6	-77.2	-20.0	-18.0	-11.5	0.0	0.0	0.0	0.0
1987	0.0	-9.1	-9.0	-9.0	-11.8	-17.7	-45.7	-71.0	-95.2	1357.7	1920.3	390.2
1988	-217.0	-182.3	-277.2	-384.8	-82.7	-172.7	-165.3	-151.4	-115.1	2121.9	591.5	313.2
1989	-237.4	-228.8	-222.4	-213.2	-204.1	-1104.4	-698.7	-211.0	-196.1	59.1	959.7	-29.9
1990	-186.4	-180.2	-169.0	-190.1	-409.2	-227.7	-85.5	-144.2	-85.5	1728.8	624.4	346.3
1991	-197.4	-113.6	-92.1	-110.7	-114.8	-620.5	-240.9	-179.1	-187.3	1146.4	450.8	201.1
1992	-208.9	-185.8	-200.3	-193.9	-674.0	-286.2	-234.2	-191.4	-224.2	1927.2	776.9	214.0
1993	-85.5	-218.2	-298.0	-1265.4	-1190.5	-1136.7	-225.7	-595.3	-184.4	0.0	0.0	0.0
1994	0.0	0.0	0.0	-90.5	-216.8	-110.4	-73.5	-64.9	-43.2	80.1	1389.8	256.6
1995	-157.7	-176.8	-189.5	-1176.3	-838.3	-282.3	-183.2	109.5	-311.3	-108.1	-100.3	0.0
1996	0.0	0.0	-129.2	-397.4	-117.1	-109.7	-102.8	-98.1	-66.4	0.0	0.1	0.0
1997	0.0	0.0	-406.3	-92.0	-83.9	-76.2	-54.1	-49.6	0.0	-33.6	0.0	-30.0
1998	-29.6	-38.4	-48.5	-89.7	-272.2	-81.1	-73.8	-66.7	-59.1	-46.6	-41.9	-38.6
1999	0.6	-89.3	-46.3	-39.2	-53.0	-48.1	-45.8	-38.0	-30.5	0.0	0.0	0.0
2000	0.0	0.0	-14.7	-110.5	-69.7	-109.4	-39.3	-31.8	0.0	-18.5	0.0	0.0
2001	0.0	0.0	-22.4	-38.4	-33.8	-32.1	-28.4	-74.6	-101.7	2404.1	676.8	387.6
2002	-185.8	-220.9	-236.9	-692.7	-440.3	-176.1	-335.0	-76.4	-61.0	-16.3	-49.2	-25.3
2003	-2.9	-24.3	-264.3	-165.4	-81.8	-77.9	-75.0	-137.0	-133.4	801.1	55.0	46.6
Average	-62.2	-66.2	-116.9	-206.4	-201.7	-166.5	-96.4	-78.8	-64.8	401.8	316.1	74.1
Critical	-141.4	-118.5	-127.7	-160.8	-235.1	-223.3	-132.8	-122.4	-110.7	1324.8	808.0	280.6
Dry	-70.5	-91.5	-85.3	-169.0	-123.2	-229.1	-190.7	-77.5	-83.8	639.7	867.7	100.4
BN	0.0	0.0	0.0	-42.5	-119.6	-38.3	-33.2	-24.7	0.0	0.0	0.0	0.0
AN	-41.1	-72.3	-134.8	-450.0	-413.8	-306.3	-83.0	-147.6	-62.6	130.4	9.2	7.8
Wet	-35.1	-33.8	-135.4	-161.1	-134.6	-62.3	-49.2	-32.5	-42.2	-17.9	-13.1	-7.2

Table 5-22.
Sacramento River inflow (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.4	6.5	17.8	5.9
1977	-2.7	-2.0	-1.8	-1.0	-1.5	-1.6	-1.4	-2.0	-1.1	11.9	3.9	3.3
1978	-2.3	-2.4	-1.0	-2.0	-1.9	-0.9	-0.4	-0.5	-0.4	0.0	0.0	0.0
1979	0.0	0.0	0.0	-0.4	-0.8	-0.3	-0.5	-0.3	0.0	0.0	0.0	0.0
1980	-0.1	-0.2	-0.4	-0.3	-0.4	-0.1	-0.2	-0.2	0.0	0.0	0.0	0.0
1981	0.0	-0.1	0.0	-0.2	-0.1	-0.1	-0.2	-0.2	-0.3	0.2	11.9	-0.9
1982	-1.4	0.2	-1.2	-0.3	-0.3	-0.2	-0.1	-0.6	-0.2	0.0	0.0	0.0
1983	-0.4	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
1984	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0
1985	0.0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
1986	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.5	-0.7	-0.7	9.4	22.2	4.4
1988	-2.7	-2.2	-1.5	-1.5	-0.6	-2.3	-1.5	-1.7	-1.1	16.6	7.3	4.5
1989	-3.7	-2.2	-2.1	-1.7	-2.0	-2.5	-3.3	-1.5	-1.4	0.3	5.4	-0.2
1990	-1.7	-2.0	-2.0	-1.0	-2.5	-1.8	-0.8	-1.8	-1.1	11.5	6.3	4.5
1991	-3.1	-1.8	-1.3	-1.5	-1.1	-2.1	-2.0	-2.3	-1.9	7.8	4.5	2.7
1992	-3.1	-2.7	-2.9	-1.8	-2.2	-1.5	-2.0	-2.1	-1.7	14.9	7.9	2.4
1993	-1.2	-3.3	-2.2	-2.7	-2.5	-3.3	-0.6	-2.1	-0.7	0.0	0.0	0.0
1994	0.0	0.0	0.0	-0.7	-0.9	-0.9	-0.6	-0.6	-0.5	0.4	11.2	2.2
1995	-2.0	-2.1	-1.2	-1.8	-1.8	-0.4	-0.4	0.2	-0.8	-0.6	-0.6	0.0
1996	0.0	0.0	-0.7	-1.0	-0.2	-0.2	-0.3	-0.2	-0.4	0.0	0.0	0.0
1997	0.0	0.0	-0.8	-0.1	-0.2	-0.3	-0.3	-0.4	0.0	-0.1	0.0	-0.1
1998	-0.2	-0.2	-0.3	-0.3	-0.4	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	-0.2
1999	0.0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0
2000	0.0	0.0	-0.1	-0.5	-0.1	-0.2	-0.2	-0.2	0.0	-0.1	0.0	0.0
2001	0.0	0.0	-0.2	-0.2	-0.1	-0.1	-0.2	-0.8	-0.8	16.4	7.0	4.5
2002	-2.3	-2.2	-0.8	-1.6	-2.3	-0.9	-2.0	-0.6	-0.6	-0.1	-0.4	-0.2
2003	0.0	-0.2	-0.7	-0.3	-0.3	-0.3	-0.3	-0.4	-0.9	3.3	0.3	0.2
Average	-0.8	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.6	-0.4	2.9	3.1	1.0
Critical	-1.9	-1.5	-1.4	-1.1	-1.3	-1.5	-1.2	-1.5	-1.1	9.9	8.4	3.6
Dry	-1.0	-0.8	-0.5	-0.6	-0.8	-0.6	-1.1	-0.7	-0.6	4.4	7.7	1.3
BN	0.0	0.0	0.0	-0.2	-0.4	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0
AN	-0.6	-1.0	-0.7	-1.0	-0.9	-0.8	-0.3	-0.6	-0.3	0.5	0.1	0.0
Wet	-0.3	-0.2	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0

Table 5-23.
San Joaquin River inflow (cfs) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-487.9	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-540.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-504.2	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-15.9	-14.4	0.0	0.0	-14.8	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-81.3	0.0	0.0	-84.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-41.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-24.
San Joaquin River inflow (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-5.8	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-11.5	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	-0.3	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0	-1.9	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-25.
NDO (cfs) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.2	-0.1	0.0	-487.9	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	-2.6	2.9	-34.2	271.8	319.4	125.1
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-20.9	0.0	249.9	121.5	78.6
1978	0.0	0.0	-76.6	-876.6	-764.0	-464.9	-123.6	-93.2	-58.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	-85.0	-239.2	-76.5	-66.3	-49.4	0.0	0.0	0.0	0.0
1980	0.0	-30.5	-69.7	-196.6	-1026.4	-48.6	-34.4	-28.3	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	-43.8	-28.8	-28.1	-22.5	-20.1	0.0	135.2	211.0	77.8
1982	0.0	148.1	-731.5	-112.9	-673.4	-100.4	-84.3	-199.7	-40.9	0.0	0.0	0.0
1983	-83.9	-150.7	-64.4	-50.3	-56.8	-63.1	-57.1	-49.8	-40.9	-30.9	-27.7	-25.4
1984	-23.8	-37.4	-36.9	-34.8	-31.8	-29.2	-20.0	-18.1	0.0	0.0	0.0	0.0
1985	0.0	-76.1	-21.2	-16.6	-20.6	0.0	-13.6	-11.9	0.0	0.0	0.0	0.0
1986	0.0	0.0	-22.5	-16.6	-77.2	-20.0	-18.0	-11.5	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	-9.0	-11.8	-17.7	0.0	0.0	0.0	313.9	430.7	125.1
1988	0.0	0.0	-191.7	-299.3	0.0	0.0	-79.8	0.0	0.0	471.4	168.7	113.1
1989	0.0	0.0	-136.9	0.0	0.0	-1018.9	-613.2	0.0	0.0	65.9	197.2	47.9
1990	0.0	0.0	0.0	-104.6	-323.8	-142.2	0.0	-58.7	0.0	391.9	175.5	120.1
1991	0.0	0.0	0.0	0.0	-114.8	-535.0	-155.4	-93.6	0.0	274.3	137.2	86.7
1992	0.0	0.0	0.0	0.0	-591.6	-200.7	-148.7	0.0	0.0	432.7	204.5	93.7
1993	0.0	0.0	-212.5	-1179.9	-1105.1	-1136.7	-225.7	-595.3	-688.6	0.0	0.0	0.0
1994	0.0	0.0	0.0	-90.5	-216.8	-110.4	-73.5	-64.9	-43.2	166.3	204.9	93.7
1995	3.9	0.0	-104.0	-1090.8	-752.8	-282.3	-183.2	109.5	-311.3	-108.1	-100.3	0.0
1996	0.0	0.0	-129.2	-397.4	-117.1	-109.7	-102.8	-98.1	-66.4	0.0	0.1	0.0
1997	0.0	0.0	-406.3	-92.0	-83.9	-76.2	-54.1	-49.6	0.0	0.0	0.0	0.0
1998	0.0	0.0	-48.5	-89.7	-272.2	-81.1	-73.8	-66.7	-59.1	-46.6	-41.9	-38.6
1999	0.6	-89.3	-46.3	-39.2	-53.0	-48.1	-45.8	-38.0	-30.5	0.0	0.0	0.0
2000	0.0	0.0	0.0	-110.5	-69.7	-109.4	-39.3	-31.8	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	-38.4	-33.8	-32.1	-28.4	-74.6	0.0	523.0	182.6	125.1
2002	0.6	-135.4	-151.4	-607.2	-354.8	-176.1	-335.0	-76.4	0.0	0.0	0.0	0.0
2003	0.0	0.0	-264.3	-165.4	-81.8	-77.9	-75.0	-137.0	-133.4	69.5	69.5	51.3
Average	-3.0	-10.9	-79.8	-169.0	-208.9	-161.0	-78.7	-52.2	-44.3	93.5	66.3	31.6
Critical	0.0	0.0	-27.4	-70.6	-178.1	-141.2	-65.7	-33.6	-11.1	322.6	190.2	101.6
Dry	0.1	-35.3	-51.6	-119.2	-75.0	-212.1	-168.8	-30.5	0.0	173.0	170.3	62.6
BN	0.0	0.0	0.0	-42.5	-119.6	-38.3	-33.2	-24.7	0.0	0.0	0.0	0.0
AN	0.0	-5.1	-103.8	-421.5	-507.8	-387.6	-83.0	-147.6	-146.7	11.6	11.6	8.6
Wet	-7.9	-9.9	-122.3	-148.0	-163.0	-62.3	-49.2	-32.5	-42.2	-14.3	-13.1	-4.9

Table 5-26.
NDO (cfs) percent difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.7	5.7	8.2	4.2
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	6.2	3.6	2.6
1978	0.0	0.0	-0.7	-1.3	-1.5	-0.7	-0.3	-0.4	-0.4	0.0	0.0	0.0
1979	0.0	0.0	0.0	-0.4	-0.7	-0.3	-0.3	-0.3	0.0	0.0	0.0	0.0
1980	0.0	-0.4	-0.6	-0.2	-0.8	-0.1	-0.2	-0.2	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.2	-0.2	0.0	2.7	5.3	2.5
1982	0.0	0.6	-0.9	-0.1	-0.7	-0.1	-0.1	-0.4	-0.2	0.0	0.0	0.0
1983	-0.6	-0.4	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1
1984	-0.2	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0
1985	0.0	-0.4	-0.2	-0.2	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
1986	0.0	0.0	-0.2	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	6.3	10.4	4.2
1988	0.0	0.0	-1.5	-1.1	0.0	0.0	-0.8	0.0	0.0	11.8	4.3	3.8
1989	0.0	0.0	-3.1	0.0	0.0	-2.2	-3.1	0.0	0.0	1.3	3.7	1.0
1990	0.0	0.0	0.0	-0.7	-2.7	-1.6	0.0	-0.9	0.0	9.8	4.1	4.0
1991	0.0	0.0	0.0	0.0	-1.3	-1.6	-1.5	-1.7	0.0	6.9	3.1	2.9
1992	0.0	0.0	0.0	0.0	-1.7	-1.2	-1.5	0.0	0.0	10.8	5.5	3.1
1993	0.0	0.0	-2.5	-1.9	-2.0	-3.2	-0.6	-2.0	-3.3	0.0	0.0	0.0
1994	0.0	0.0	0.0	-1.0	-1.0	-1.3	-0.7	-0.7	-1.1	4.2	5.1	3.1
1995	0.1	0.0	-1.2	-1.0	-1.6	-0.1	-0.3	0.1	-0.8	-0.5	-1.1	0.0
1996	0.0	0.0	-0.8	-0.9	-0.1	-0.2	-0.2	-0.2	-0.6	0.0	0.0	0.0
1997	0.0	0.0	-0.6	0.0	-0.1	-0.3	-0.3	-0.3	0.0	0.0	0.0	0.0
1998	0.0	0.0	-0.5	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.4	-0.2
1999	0.0	-0.4	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	0.0	0.0	0.0
2000	0.0	0.0	0.0	-0.5	-0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	-0.3	-0.1	-0.1	-0.2	-0.9	0.0	10.5	4.4	4.2
2002	0.0	-2.3	-0.5	-1.3	-2.4	-1.0	-2.0	-0.6	0.0	0.0	0.0	0.0
2003	0.0	0.0	-0.7	-0.3	-0.3	-0.4	-0.3	-0.4	-2.0	0.7	1.7	0.4
Average	0.0	-0.1	-0.4	-0.4	-0.5	-0.5	-0.4	-0.3	-0.3	2.2	1.7	1.1
Critical	0.0	0.0	-0.2	-0.4	-1.0	-0.8	-0.6	-0.5	-0.3	7.9	4.9	3.4
Dry	0.0	-0.5	-0.6	-0.3	-0.5	-0.6	-0.9	-0.3	0.0	3.5	4.0	2.0
BN	0.0	0.0	0.0	-0.2	-0.3	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0
AN	0.0	-0.1	-0.8	-0.7	-0.8	-0.9	-0.2	-0.5	-1.0	0.1	0.3	0.1
Wet	-0.1	0.0	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.0

Table 5-27.
San Joaquin River salinity (EC) difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-23.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	-10.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.4	-0.7	-0.1	0.0	0.6	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	3.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5-28.
San Joaquin River salinity (EC) percent difference No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	-6.9	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	-5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	0.0	0.1	0.0	0.0	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.5	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0

E.1.6 Export Boundary Conditions

See the text in Appendix E for details on the export boundary conditions.

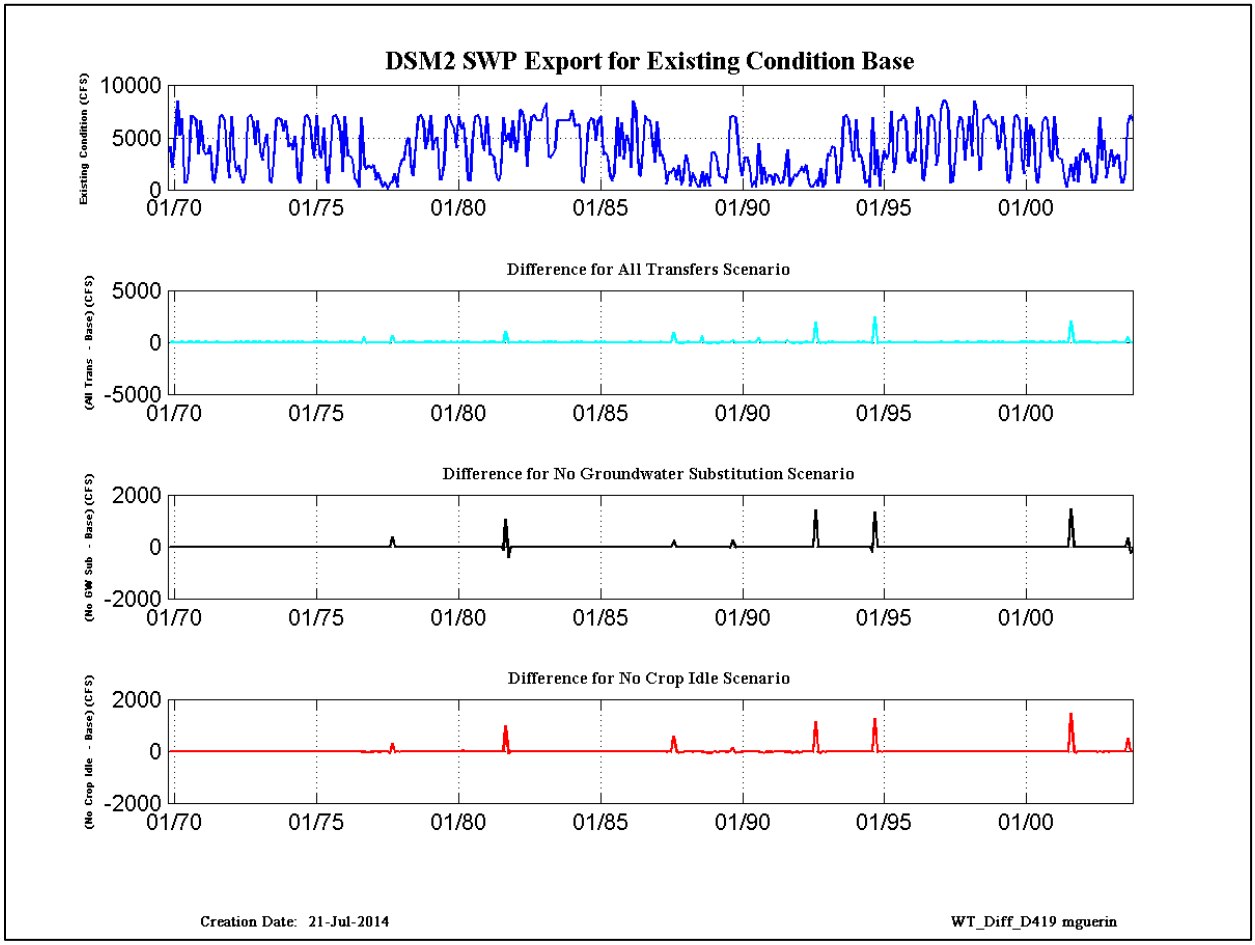


Figure 6-1.
SWP Export for the Base condition and change from Base for the scenarios.

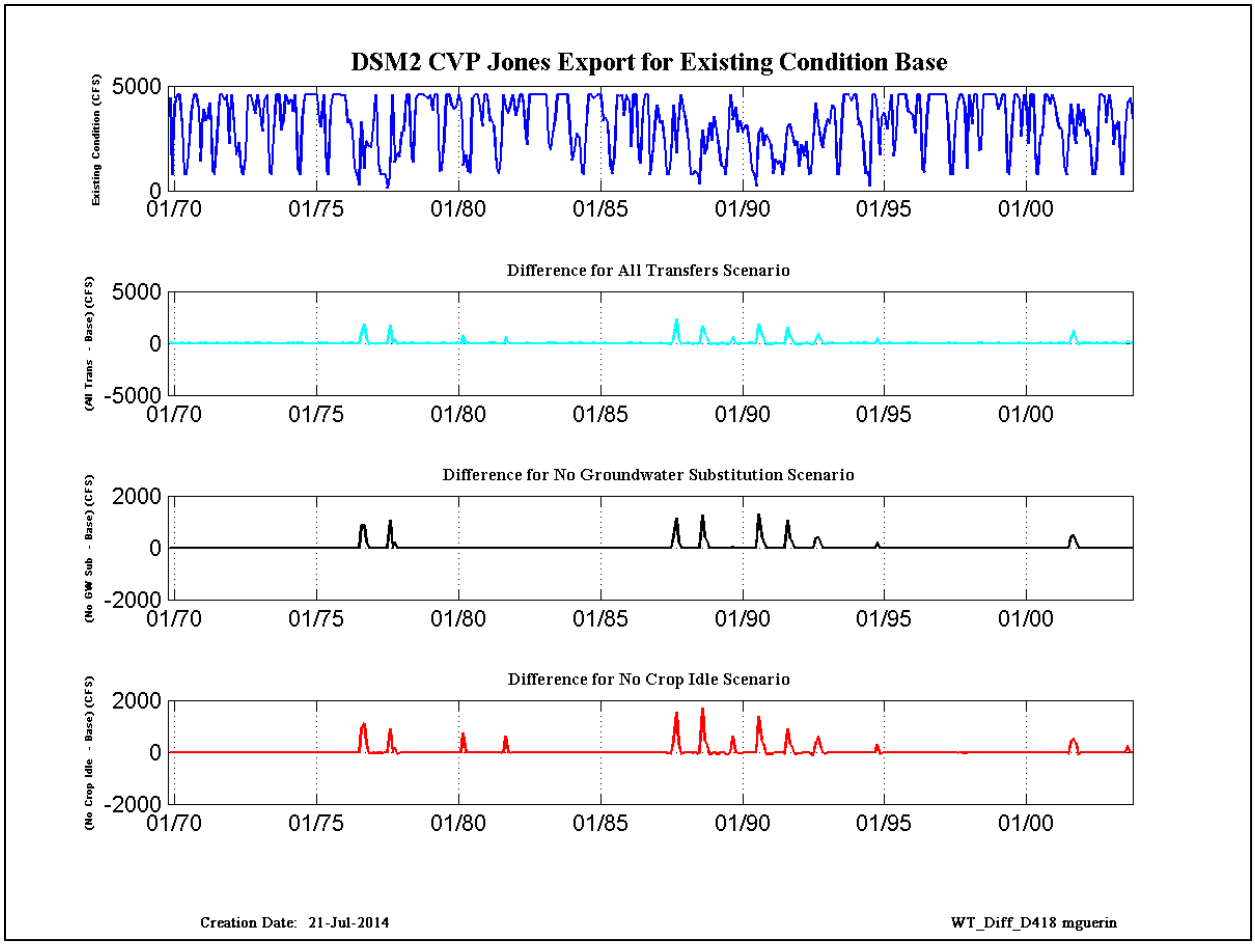


Figure 6-2.
CVP Jones Export for the Base condition and change from Base for the scenarios.

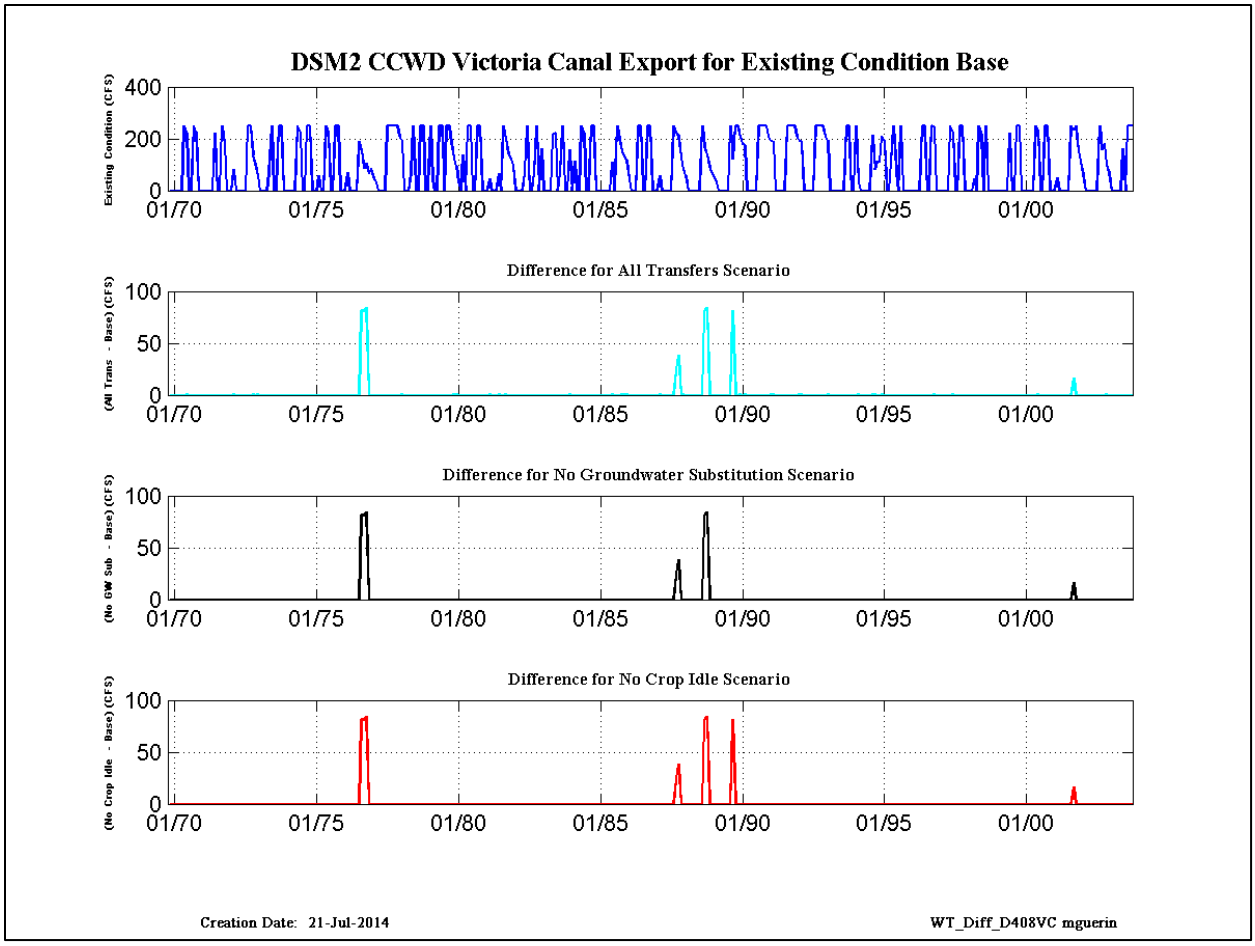


Figure 6-3.
CCWD Victoria Canal Export for the Base condition and change from Base for the scenarios.

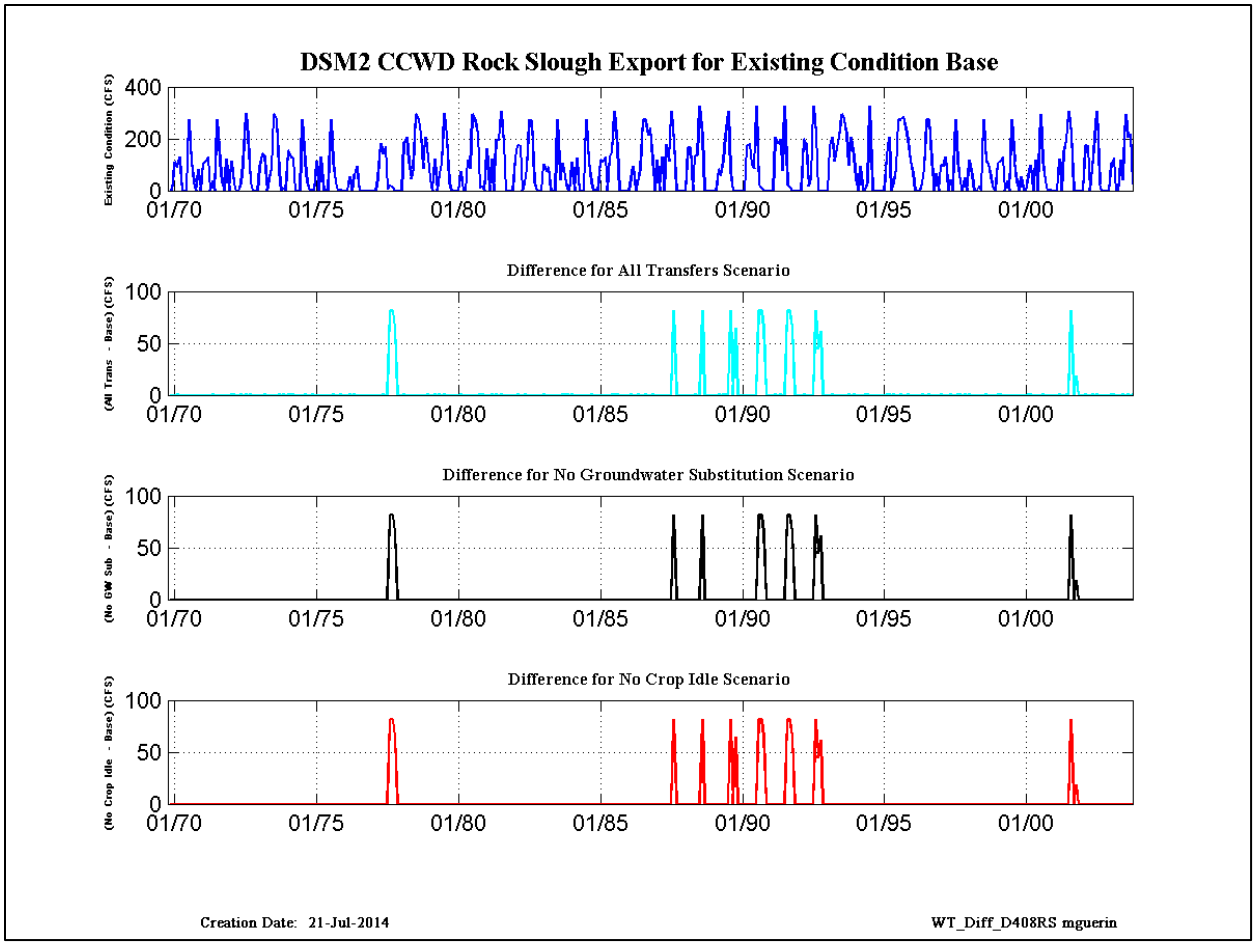


Figure 6-4.
CCWD Rock Slough Export for the Base condition and change from Base for the scenarios.

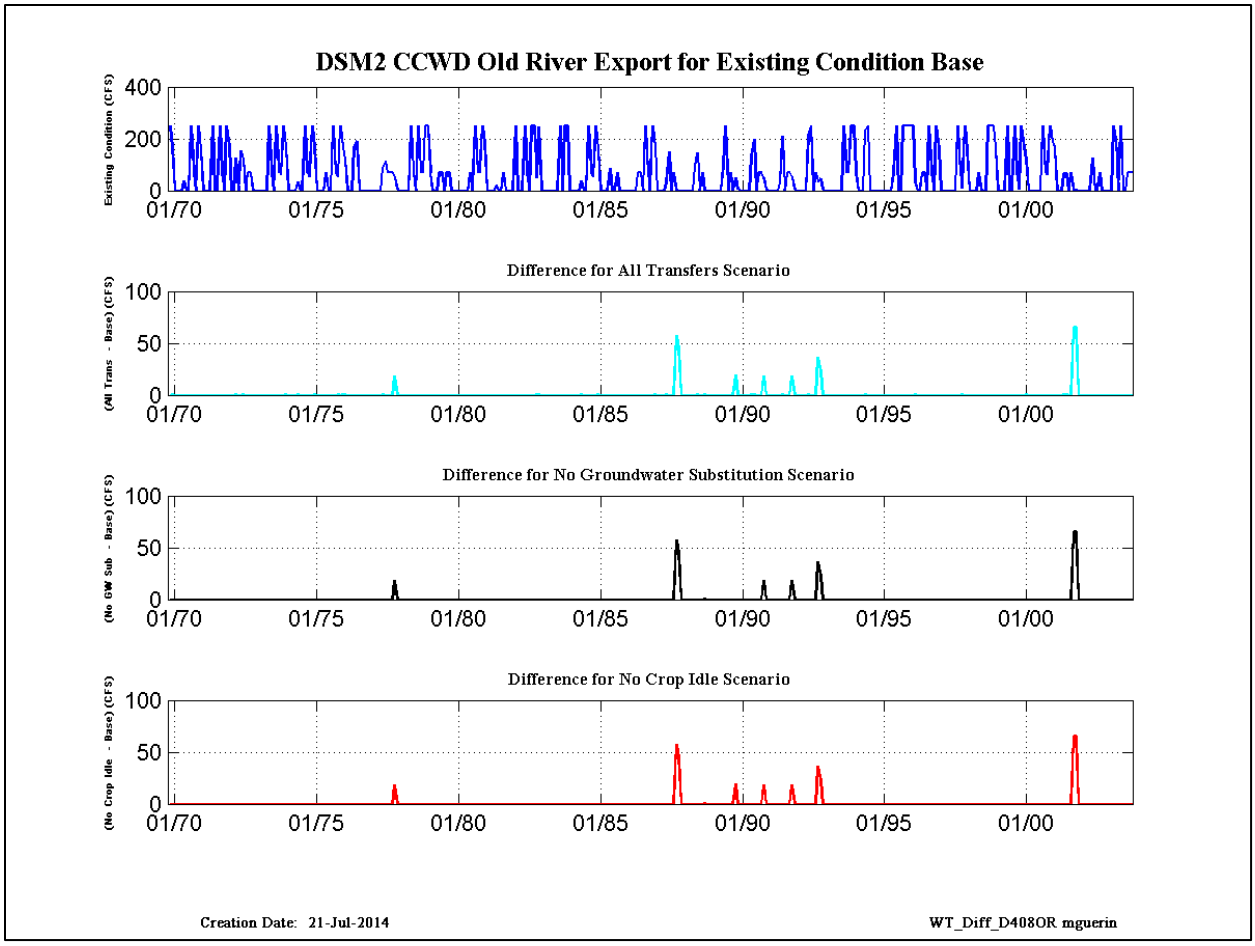


Figure 6-5.
CCWD Old River Export for the Base condition and change from Base for the scenarios.

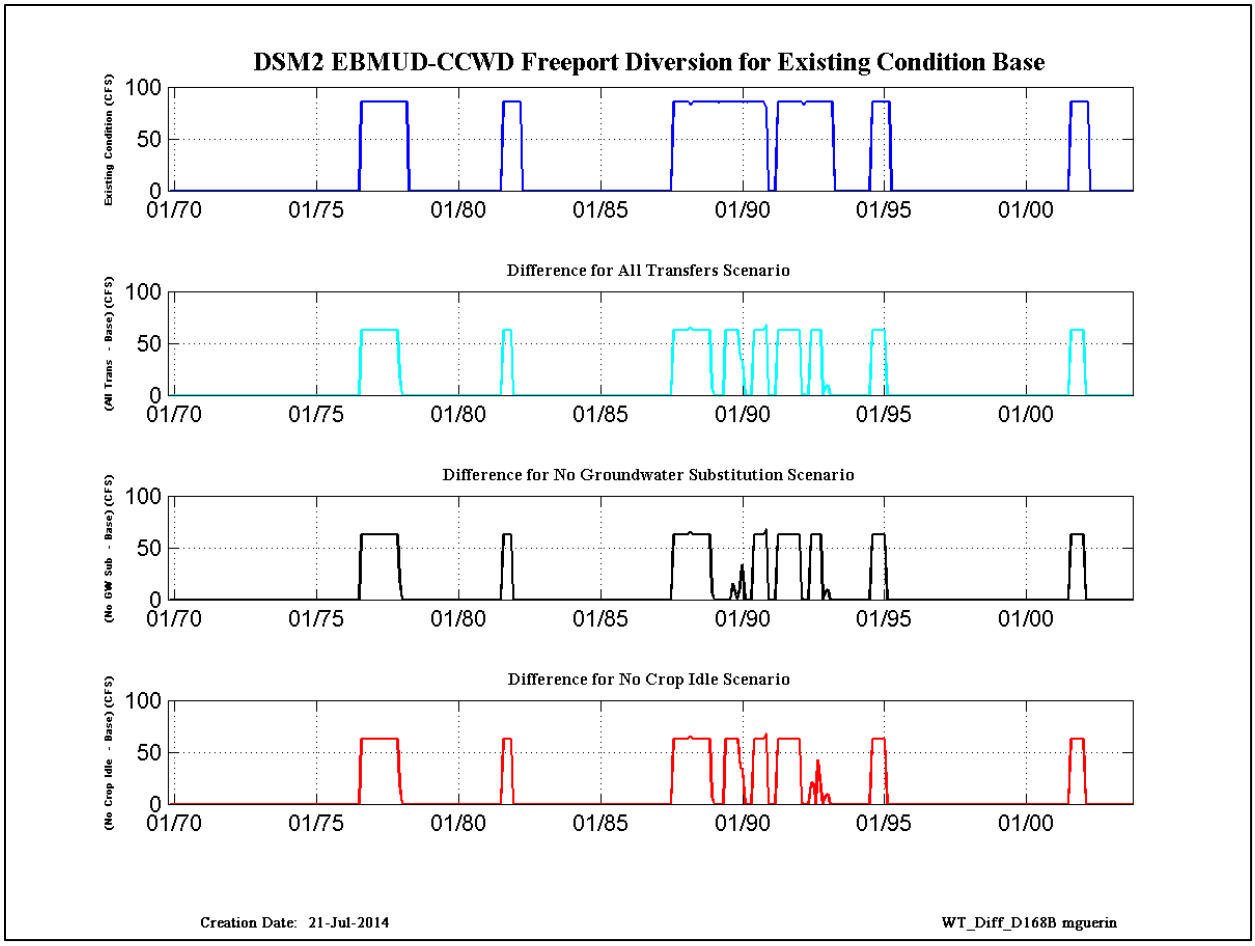


Figure 6-6.
EBMUD Freeport Diversion for the Base condition and change from Base for the scenarios.

Table 6-1.
EBMUD at Freeport Base exports (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.5	85.5	85.5
1977	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
1978	85.5	85.5	85.5	85.5	85.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.5	85.5	85.5
1982	85.5	85.5	85.5	85.5	85.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.5	85.5	85.5
1988	85.5	85.5	85.5	85.5	82.7	85.5	85.5	85.5	85.5	85.5	85.5	85.5
1989	85.5	85.5	85.5	85.5	85.4	85.5	85.5	85.5	85.5	85.5	85.5	85.5
1990	85.5	85.5	85.5	85.5	85.4	85.5	85.5	85.5	85.5	85.5	85.5	85.5
1991	80.1	0.0	0.0	0.0	0.0	85.5	85.5	85.5	85.5	85.5	85.5	85.5
1992	85.5	85.5	85.5	85.5	82.4	85.5	85.5	85.5	85.5	85.5	85.5	85.5
1993	85.5	85.5	85.5	85.5	85.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.5	85.5	85.5
1995	85.5	85.5	85.5	85.5	85.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.5	85.5	85.5
2002	85.5	85.5	85.5	85.5	85.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	27.5	25.1	25.1	25.1	25.0	15.1	15.1	15.1	15.1	27.7	27.7	27.7
Critical	60.3	48.9	48.9	48.9	48.0	61.1	61.1	61.1	61.1	85.5	85.5	85.5
Dry	28.5	28.5	28.5	28.5	28.5	14.3	14.3	14.3	14.3	57.0	57.0	57.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	28.5	28.5	28.5	28.5	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	13.2	13.2	13.2	13.2	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-2.
CVP-Jones Base exports (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	4480.8	800.0	4128.0	4600.0	4600.0	3102.3	800.0	800.0	1834.1	3728.1	4600.0	4600.0
1971	3903.3	1444.7	3942.9	3379.3	3474.6	4233.7	914.9	800.0	2639.9	4600.0	4600.0	4356.3
1972	4600.0	2272.1	4600.0	3161.6	1736.9	2331.3	887.5	800.0	1636.9	4583.7	4600.0	4228.6
1973	3721.4	4600.0	3775.4	2881.5	4366.0	4600.0	893.3	800.0	2706.7	4600.0	4600.0	2921.4
1974	3384.7	4600.0	4162.3	4387.9	3806.6	4600.0	1072.0	800.0	3390.2	4600.0	4600.0	4600.0
1975	4600.0	4600.0	4600.0	3344.8	3071.3	4600.0	922.1	800.0	3960.4	4600.0	4600.0	4600.0
1976	4600.0	4598.6	4600.0	3254.0	3425.9	2938.3	1112.2	800.0	284.3	3340.8	1080.2	2382.8
1977	2140.4	2115.7	3081.7	4600.0	1334.3	800.0	800.0	800.0	113.4	675.9	4600.0	1386.5
1978	1778.2	1648.5	2813.8	2873.0	4600.0	4600.0	1587.3	1388.6	4440.5	4600.0	4600.0	4600.0
1979	4525.2	4448.5	4600.0	3879.5	4600.0	4600.0	970.4	1002.6	2566.1	4600.0	4600.0	4125.5
1980	3949.5	4028.1	4600.0	4229.0	1222.7	1728.3	923.6	864.0	4466.8	4600.0	4600.0	4019.0
1981	3111.1	4600.0	4600.0	3355.2	3380.3	3122.1	1107.2	809.8	1642.4	4600.0	3988.5	3732.0
1982	4199.1	4600.0	3634.1	3878.2	4600.0	4600.0	3218.9	2245.8	4600.0	4600.0	4600.0	4600.0
1983	4600.0	4600.0	4600.0	4600.0	2308.6	1991.0	2721.7	3487.1	4600.0	4600.0	4600.0	4600.0
1984	4600.0	2978.3	1461.8	1972.7	2764.8	2529.0	874.0	800.0	2832.0	4600.0	4600.0	4456.4
1985	4559.4	4600.0	4600.0	3381.7	3523.1	3257.4	1204.9	832.1	1668.5	4600.0	4550.0	4600.0
1986	3630.3	4600.0	4272.0	2121.1	4600.0	4600.0	1510.5	1339.1	3908.8	4600.0	4600.0	800.0
1987	1565.4	3157.2	4101.9	3269.7	3352.4	2342.5	800.0	800.0	1638.9	4139.7	1812.7	3183.2
1988	4600.0	3975.4	3317.4	2347.8	800.0	800.0	929.0	800.0	329.6	2917.2	1799.6	2077.9
1989	3272.2	2445.9	3584.9	2856.7	2019.0	1204.1	1133.6	800.0	2364.1	4600.0	3422.9	4014.0
1990	2806.8	3355.7	2819.0	3060.3	3132.8	2125.8	1031.7	800.0	229.5	2787.1	3045.7	2160.1
1991	2686.6	2504.7	2216.2	804.6	1517.8	1290.8	1433.6	800.0	1561.0	3048.2	3221.5	2732.6
1992	2170.0	2379.3	1177.1	2223.9	1690.0	2384.8	800.0	856.7	2308.1	4230.8	3221.9	2474.0
1993	2089.8	2979.7	3459.1	3201.5	4120.7	3944.0	800.0	800.0	3132.0	4600.0	4600.0	4600.0
1994	4310.4	4600.0	4600.0	3168.1	3338.1	2298.4	836.6	866.3	225.1	4600.0	4600.0	3869.4
1995	1714.6	3565.8	3743.9	2985.9	3563.0	4600.0	1665.3	2609.3	4600.0	4600.0	4600.0	4600.0
1996	3808.5	3773.6	3649.3	2798.5	4600.0	4600.0	1030.6	890.0	3364.5	4600.0	4600.0	4600.0
1997	4600.0	4600.0	4600.0	4600.0	4600.0	2980.5	800.0	800.0	3120.9	4229.9	4600.0	4600.0
1998	3984.1	1085.1	4600.0	3205.9	4600.0	4600.0	1936.2	2019.8	4600.0	4600.0	4600.0	4600.0
1999	4600.0	4600.0	3925.6	4072.3	4600.0	4600.0	872.8	800.0	2921.8	4600.0	4600.0	4421.6
2000	2622.6	4600.0	4188.0	2250.7	4600.0	4600.0	864.7	800.0	2680.5	2666.0	4600.0	4600.0
2001	4173.5	4600.0	4246.4	3425.9	3035.8	2905.9	1209.9	800.0	2287.8	4188.4	2863.7	2268.6
2002	4171.7	3148.9	3903.0	2636.0	2944.8	2593.6	800.0	800.0	1610.6	4600.0	4600.0	4519.8
2003	3283.2	4600.0	3829.3	2243.4	3154.2	3345.1	800.0	800.0	3057.7	4245.8	4458.4	3473.5
Average	3613.0	3561.9	3824.5	3207.4	3326.0	3219.1	1154.8	1059.2	2568.3	4158.3	4096.0	3747.2
Critical	3330.6	3361.3	3115.9	2779.8	2177.0	1805.4	991.9	817.6	721.6	3085.7	3081.3	2440.5
Dry	3475.5	3758.7	4172.7	3154.2	3042.6	2570.9	1042.6	807.0	1868.7	4454.7	3539.6	3719.6
BN	4562.6	3360.3	4600.0	3520.6	3168.4	3465.7	929.0	901.3	2101.5	4591.8	4600.0	4177.1
AN	2907.4	3742.7	3777.6	2946.5	3677.3	3802.9	978.1	908.8	3414.1	4218.6	4576.4	4035.7
Wet	4008.1	3526.7	3947.7	3534.4	3937.6	3972.0	1410.7	1399.3	3567.1	4504.5	4600.0	4264.2

Table 6-3.
SWP-Banks Base exports (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	4178.7	2198.2	4128.0	8500.0	5205.9	6828.3	700.0	700.0	1834.1	7114.9	7029.9	6675.3
1971	3459.6	6680.0	3942.9	3379.3	3474.6	4233.7	914.9	700.0	2639.9	7004.9	7180.0	6680.0
1972	3210.1	1138.4	7034.3	3161.6	1736.9	2331.3	997.1	700.0	1636.9	6915.0	7180.0	6530.6
1973	4303.6	6680.0	3775.4	2881.5	4366.0	5383.7	893.3	700.0	2706.7	6781.0	6905.7	6680.0
1974	5649.7	6680.0	4162.3	4387.9	3806.6	5169.9	1072.0	700.0	3390.2	7004.9	7180.0	6680.0
1975	4169.5	3019.6	7127.9	3344.8	3071.3	5940.6	922.1	700.0	3960.4	7004.9	7180.0	6680.0
1976	5344.3	1767.3	7044.7	3254.0	3200.6	2938.3	1112.2	895.0	284.3	6976.9	2325.3	1995.7
1977	2302.7	2014.0	2366.9	911.3	1684.8	789.4	300.0	700.0	16.2	554.7	735.9	1543.0
1978	300.0	2007.6	2813.8	2873.0	4676.4	4994.0	1587.3	1388.6	4440.5	7004.9	7180.0	6680.0
1979	3938.2	4789.9	7105.3	3879.5	4680.3	5000.1	970.4	1002.6	2566.1	7004.9	7180.0	6528.9
1980	5864.1	4028.1	7065.7	5838.8	6424.1	3839.7	923.6	864.0	4466.8	7004.9	7180.0	6680.0
1981	4414.0	3748.7	7048.7	3355.2	3380.3	3122.1	1107.2	809.8	1642.4	6928.9	4653.0	5413.9
1982	4065.5	6680.0	3634.1	3878.2	7627.6	7560.6	6125.3	2245.8	5267.0	7004.9	7180.0	6680.0
1983	6680.0	6680.0	7678.1	8342.5	3195.0	3109.4	3357.5	4038.7	6680.0	6680.0	6680.0	6680.0
1984	6680.0	6680.0	7678.1	6131.6	6180.4	6237.3	874.0	700.0	2832.0	6492.0	6933.9	6680.0
1985	4774.8	6680.0	7028.0	3381.7	3523.1	3204.9	1204.9	832.1	1668.5	6915.0	3221.1	6419.4
1986	2997.1	5267.4	4272.0	2121.1	8500.0	7560.6	1510.5	1339.1	3894.4	7114.9	6690.9	6680.0
1987	4335.7	2662.5	6587.7	3269.7	3352.4	2342.5	562.2	1723.1	1638.9	2097.1	985.0	2347.9
1988	438.4	904.4	3317.4	2347.8	304.6	1672.1	929.0	300.0	300.0	1724.8	350.0	1507.0
1989	387.1	3518.2	3584.9	3149.1	1322.9	1204.1	1133.6	700.0	2364.1	6914.9	7058.5	6991.9
1990	4781.7	1814.9	1379.0	3060.3	3132.8	2125.8	300.0	804.7	229.5	4458.0	549.9	2163.2
1991	672.7	1320.5	1352.0	414.3	1517.8	1290.8	620.0	700.0	1561.0	3862.4	380.3	757.5
1992	1496.2	1280.2	1774.0	2182.6	1690.0	2384.8	700.0	300.0	330.1	891.5	350.0	2088.6
1993	300.0	543.2	3459.1	3201.5	4120.7	3944.0	700.0	700.0	3132.0	7004.9	7180.0	6680.0
1994	4085.8	2718.4	6774.6	3168.1	3338.1	2298.4	663.4	866.3	225.1	6976.9	1423.5	3834.3
1995	334.2	2393.5	3743.9	2985.9	3563.0	7560.6	1665.3	2609.3	6680.0	6680.0	7180.0	6680.0
1996	2709.2	2590.6	3649.3	2798.5	7909.4	6853.0	1030.6	890.0	3364.5	7004.9	7180.0	6680.0
1997	2391.4	3493.7	7678.1	8500.0	8500.0	7560.6	700.0	793.2	2955.1	5761.8	7029.9	6680.0
1998	2889.9	4239.9	7043.1	3205.9	8500.0	7560.6	1936.2	2019.8	6680.0	6843.0	7180.0	6680.0
1999	6234.0	6680.0	3925.6	4072.3	7020.4	4748.7	872.8	700.0	2921.8	7004.9	7180.0	6680.0
2000	3159.1	1593.2	6983.9	2250.7	6246.4	5828.3	864.7	700.0	2680.5	6549.6	7029.9	6680.0
2001	3279.3	2798.2	7067.5	3425.9	3035.8	2905.9	1209.9	300.0	928.0	2457.4	897.7	3181.8
2002	719.2	3447.9	3903.0	2636.0	3541.8	2593.6	700.0	700.0	1610.6	6929.0	2852.7	4777.7
2003	1176.8	2477.5	3829.3	2243.4	3154.2	3345.1	700.0	700.0	1600.6	6279.1	7180.0	6680.0
Average	3286.0	3565.2	4998.8	3603.9	4264.2	4248.9	1172.4	1015.4	2621.4	5910.2	5135.4	5382.3
Critical	2731.7	1688.5	3429.8	2191.2	2124.1	1928.5	660.7	652.3	420.9	3635.0	873.6	1984.2
Dry	2985.0	3809.3	5870.0	3202.9	3026.0	2562.2	986.3	844.2	1642.1	5373.7	3278.0	4855.4
BN	3574.1	2964.1	7069.8	3520.6	3208.6	3665.7	983.7	851.3	2101.5	6959.9	7180.0	6529.7
AN	2517.3	2888.2	4654.5	3214.8	4831.3	4555.8	944.8	842.1	3171.2	6770.7	7109.3	6680.0
Wet	4033.8	4867.9	5281.8	4742.2	5888.8	6224.9	1667.8	1395.1	4084.6	6824.3	7061.9	6679.6

Table 6-4.
CCDW Old River Base exports (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	250.0	168.1	0.0	0.0	0.0	0.0	37.8	0.0	0.0	250.0	70.0	0.0
1971	250.0	157.0	0.0	0.0	0.0	0.0	250.0	0.0	0.0	250.0	70.0	0.0
1972	250.0	168.3	0.0	0.0	127.7	0.0	153.0	122.3	0.0	70.0	70.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	250.0	70.0	0.0	250.0	70.0	62.5
1974	250.0	171.3	0.0	0.0	0.0	0.0	32.1	0.0	0.0	250.0	70.0	55.6
1975	250.0	168.9	0.0	0.0	0.0	0.0	70.0	0.0	0.0	250.0	70.0	53.2
1976	250.0	169.6	120.2	0.0	0.0	0.0	171.0	190.9	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	89.9	114.0	70.0	70.0	70.0	51.5
1978	4.7	0.0	0.0	0.0	0.0	0.0	250.0	70.0	0.0	250.0	70.0	70.0
1979	250.0	250.0	70.0	0.0	0.0	0.0	70.0	70.0	0.0	70.0	70.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.0	0.0	250.0	70.0	70.0
1981	250.0	184.6	0.0	0.0	0.0	0.0	22.3	0.0	0.0	70.0	0.0	0.0
1982	0.0	0.0	250.0	0.0	0.0	0.0	250.0	70.0	0.0	250.0	250.0	51.5
1983	247.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	250.0	0.0	250.0
1984	250.0	0.0	0.0	0.0	0.0	0.0	37.9	0.0	0.0	250.0	70.0	53.8
1985	250.0	157.8	0.0	0.0	0.0	0.0	86.4	0.0	0.0	70.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	70.0	70.0	0.0	250.0	70.0	0.0
1987	250.0	170.0	0.0	0.0	0.0	0.0	35.2	148.7	0.0	70.0	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	99.0	147.9	0.0	70.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	98.0	250.0	0.0	70.0	0.0	50.6
1990	6.2	0.0	0.0	0.0	0.0	0.0	135.6	198.6	0.0	70.0	70.0	51.5
1991	4.7	0.0	0.0	0.0	0.0	0.0	35.5	208.1	0.0	70.0	70.0	51.5
1992	4.7	0.0	0.0	0.0	0.0	0.0	215.6	250.0	0.0	70.0	33.3	48.0
1993	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	250.0	70.0	70.0
1994	250.0	250.0	70.0	0.0	0.0	0.0	232.5	250.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	70.0	250.0	0.0	0.0	250.0	250.0
1996	250.0	250.0	250.0	34.8	0.0	0.0	70.0	70.0	0.0	250.0	70.0	0.0
1997	250.0	162.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	250.0	70.0	8.1
1998	250.0	159.6	0.0	0.0	0.0	0.0	70.0	0.0	0.0	0.0	250.0	250.0
1999	250.0	165.7	0.0	0.0	0.0	0.0	250.0	0.0	0.0	250.0	70.0	6.3
2000	250.0	165.8	122.3	0.0	0.0	0.0	0.0	0.0	0.0	250.0	70.0	62.6
2001	250.0	189.4	167.0	0.0	0.0	0.0	64.9	66.9	0.0	70.0	0.0	4.7
2002	0.0	0.0	0.0	0.0	0.0	0.0	127.2	0.0	0.0	70.0	0.0	0.0
2003	0.0	0.0	0.0	250.0	201.3	0.0	250.0	0.0	0.0	70.0	70.0	70.0
Average	140.4	91.4	30.9	8.4	9.7	0.0	105.7	79.0	2.1	146.5	64.2	48.3
Critical	73.7	59.9	27.2	0.0	0.0	0.0	139.9	194.2	10.0	50.0	34.8	28.9
Dry	166.7	117.0	27.8	0.0	0.0	0.0	72.3	77.6	0.0	70.0	0.0	9.2
BN	250.0	209.2	35.0	0.0	63.8	0.0	111.5	96.1	0.0	70.0	70.0	0.0
AN	43.2	27.6	20.4	41.7	33.6	0.0	125.0	35.0	0.0	220.0	70.0	67.5
Wet	192.1	107.9	38.5	2.7	0.0	0.0	92.9	35.4	0.0	211.5	106.2	75.3

Table 6-5.
CCDW Rock Slough Base exports (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	3.3	0.0	111.7	88.8	128.8	0.0	0.0	0.0	273.4	113.0	34.2	0.0
1971	81.3	0.0	104.7	112.0	128.8	0.0	38.9	0.0	273.4	113.5	34.2	0.0
1972	123.9	0.0	112.0	28.9	0.0	0.0	31.2	102.9	296.4	210.7	34.9	0.0
1973	0.0	0.0	95.3	143.2	135.7	0.0	47.1	84.2	295.6	275.7	78.3	0.0
1974	9.9	0.0	155.1	128.2	122.0	0.0	0.0	0.0	273.4	111.7	34.2	0.0
1975	3.9	0.0	115.2	0.0	128.8	0.0	4.8	0.0	273.4	113.0	33.4	0.0
1976	3.3	0.0	0.0	0.0	56.0	0.0	61.7	93.5	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	50.2	180.9	142.8	170.4	6.5	20.5	10.8	0.0
1978	0.0	0.0	0.0	187.0	206.0	114.9	47.1	84.2	295.6	275.7	217.1	88.0
1979	205.1	130.5	44.7	0.0	122.0	0.0	64.2	105.2	296.4	210.7	34.3	0.0
1980	0.0	0.0	0.0	73.7	0.0	0.0	117.1	84.2	295.6	275.7	217.1	13.1
1981	14.1	0.0	162.6	0.0	122.0	0.0	192.6	195.0	305.5	184.8	0.0	0.0
1982	0.0	0.0	131.6	175.9	172.8	0.0	31.5	85.9	273.4	268.8	34.2	0.0
1983	0.0	0.0	102.8	72.1	91.0	0.0	0.0	0.0	273.4	43.4	104.0	53.8
1984	5.1	0.0	108.4	0.0	124.3	0.0	0.0	0.0	273.4	113.4	34.1	0.0
1985	4.1	0.0	117.5	112.0	128.8	0.0	128.5	150.0	305.5	166.5	0.0	0.0
1986	0.0	0.0	0.0	48.6	94.1	0.0	31.5	85.9	273.4	272.1	214.5	240.6
1987	118.1	0.0	118.7	0.0	128.8	0.0	179.7	112.2	305.5	190.2	0.0	0.0
1988	0.0	0.0	0.0	164.9	166.8	0.0	133.8	136.5	326.5	210.4	0.0	0.0
1989	0.0	0.0	0.0	0.0	84.0	58.4	116.9	210.9	305.5	79.4	0.0	0.0
1990	0.0	0.0	0.0	0.0	172.8	180.9	97.2	85.8	326.5	20.5	10.8	0.0
1991	0.0	0.0	0.0	0.0	206.0	180.9	197.2	76.3	326.5	20.5	10.8	0.0
1992	0.0	0.0	0.0	0.0	198.9	180.9	17.2	47.3	326.5	220.5	0.0	0.0
1993	0.0	0.0	0.0	172.0	206.0	114.9	167.1	204.2	295.6	275.7	217.1	99.4
1994	205.1	130.5	44.7	0.0	93.4	0.0	0.3	34.4	326.5	0.0	0.0	0.0
1995	0.0	0.0	0.0	134.8	206.0	0.0	31.5	85.9	273.4	272.1	284.5	240.6
1996	197.0	115.8	68.7	0.0	0.0	0.0	31.5	85.9	273.4	272.1	116.8	0.0
1997	64.6	0.0	97.7	94.7	128.8	0.0	42.7	0.0	273.4	112.7	33.3	0.0
1998	50.0	0.0	116.1	56.4	0.0	0.0	16.8	0.0	273.4	113.3	104.2	55.2
1999	6.1	0.0	107.6	110.1	128.8	0.0	38.3	0.0	273.4	112.5	34.0	0.0
2000	53.4	0.0	0.0	56.3	96.4	0.0	117.1	0.0	295.6	116.6	36.5	0.0
2001	5.1	0.0	0.0	0.0	122.0	0.0	150.0	194.1	305.5	221.1	0.0	0.0
2002	0.0	0.0	0.0	175.9	172.8	0.0	87.7	206.7	305.5	24.4	0.0	0.0
2003	0.0	0.0	106.7	125.9	0.0	0.0	117.1	40.6	295.6	205.7	217.1	25.6
Average	33.9	11.1	59.5	66.5	115.4	29.8	73.0	81.2	276.3	154.0	64.1	24.0
Critical	29.8	18.6	6.4	23.6	134.9	103.3	92.9	92.0	234.1	70.4	4.6	0.0
Dry	23.6	0.0	66.5	48.0	126.4	9.7	142.6	178.2	305.5	144.4	0.0	0.0
BN	164.5	65.3	78.4	14.4	61.0	0.0	47.7	104.1	296.4	210.7	34.6	0.0
AN	8.9	0.0	33.7	126.3	107.3	38.3	102.1	82.9	295.6	237.6	163.8	37.7
Wet	32.4	8.9	93.8	78.6	111.9	0.0	20.6	26.4	273.4	156.3	84.3	45.4

Table 6-6.
CCDW Victoria Canal Base exports (cfs).

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	250.0	222.8	0.0	0.0	250.0	226.4
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	220.4	0.0	0.0	250.0	183.1
1972	0.0	0.0	0.0	83.1	0.0	0.0	0.0	0.0	0.0	250.0	250.0	136.7
1973	101.0	57.9	0.0	0.0	0.0	0.0	70.0	250.0	0.0	0.0	250.0	250.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	250.0	222.8	0.0	0.0	250.0	250.0
1975	0.0	0.0	0.0	58.6	0.0	0.0	250.0	222.8	0.0	0.0	250.0	250.0
1976	0.0	0.0	0.0	71.0	0.0	0.0	0.0	0.0	190.1	159.6	86.9	104.6
1977	66.7	84.9	48.1	32.5	0.0	0.0	0.0	0.0	250.0	250.0	250.0	250.0
1978	250.0	210.0	192.0	0.0	0.0	0.0	70.0	250.0	0.0	0.0	250.0	250.0
1979	0.0	0.0	250.0	43.4	0.0	0.0	250.0	250.0	0.0	250.0	250.0	187.2
1980	126.9	92.7	34.3	0.0	138.0	0.0	250.0	250.0	0.0	0.0	250.0	250.0
1981	0.0	0.0	0.0	46.0	0.0	0.0	0.0	65.9	0.0	250.0	203.3	143.5
1982	123.7	96.3	0.0	0.0	0.0	0.0	70.0	250.0	0.0	0.0	70.0	250.0
1983	0.0	161.5	0.0	0.0	0.0	0.0	215.2	222.1	0.0	70.0	250.0	0.0
1984	0.0	157.5	0.0	113.7	0.0	0.0	250.0	222.8	0.0	0.0	250.0	250.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	110.9	0.0	250.0	201.4	150.9
1986	134.9	117.9	44.1	0.0	0.0	0.0	250.0	250.0	0.0	0.0	250.0	250.0
1987	0.0	0.0	0.0	57.9	0.0	0.0	0.0	0.0	0.0	250.0	225.8	211.1
1988	130.7	83.1	56.3	0.0	0.0	0.0	0.0	0.0	0.0	250.0	169.4	139.9
1989	94.9	71.3	50.6	35.9	0.0	0.0	0.0	0.0	0.0	250.0	122.9	250.0
1990	250.0	207.3	181.6	175.9	0.0	0.0	0.0	0.0	0.0	250.0	250.0	250.0
1991	250.0	210.0	192.0	187.0	0.0	0.0	0.0	0.0	0.0	250.0	250.0	250.0
1992	250.0	210.0	192.0	187.0	0.0	0.0	0.0	0.0	0.0	250.0	250.0	250.0
1993	250.0	210.0	192.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	250.0	250.0
1994	0.0	0.0	250.0	32.5	0.0	0.0	0.0	0.0	0.0	213.3	82.2	111.9
1995	110.0	208.2	190.6	0.0	0.0	113.8	250.0	70.0	0.0	250.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	250.0	250.0	0.0	0.0	250.0	242.9
1997	0.0	0.0	0.0	0.0	0.0	0.0	250.0	222.3	0.0	0.0	250.0	250.0
1998	0.0	0.0	0.0	0.0	47.0	0.0	250.0	215.7	0.0	250.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	221.8	0.0	0.0	250.0	250.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	250.0	229.7	0.0	0.0	250.0	250.0
2001	0.0	0.0	0.0	50.9	0.0	0.0	0.0	0.0	0.0	250.0	233.8	250.0
2002	152.6	115.5	62.2	0.0	0.0	0.0	0.0	0.0	0.0	250.0	159.6	181.9
2003	102.5	69.3	0.0	0.0	0.0	0.0	0.0	163.6	0.0	250.0	250.0	250.0
Average	70.4	69.5	56.9	34.6	5.4	3.3	100.7	128.9	12.9	130.7	207.5	199.1
Critical	135.3	113.6	131.4	98.0	0.0	0.0	0.0	0.0	62.9	231.8	191.2	193.8
Dry	41.3	31.1	18.8	31.8	0.0	0.0	0.0	29.5	0.0	250.0	191.1	197.9
BN	0.0	0.0	125.0	63.3	0.0	0.0	125.0	125.0	0.0	250.0	250.0	162.0
AN	138.4	106.6	69.7	0.0	23.0	0.0	106.7	190.6	0.0	41.7	250.0	250.0
Wet	28.4	57.0	18.1	13.3	3.6	8.8	195.0	216.4	0.0	43.8	197.7	184.8

Table 6-7.
EBMUD at Freeport export difference (cfs) All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1977	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1978	62.5	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1982	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1988	62.5	62.5	62.5	62.5	65.3	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1989	62.5	7.5	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1990	62.5	34.5	33.0	0.9	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1991	67.9	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1992	62.5	62.5	62.5	1.2	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1993	0.0	6.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1995	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
2002	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	18.5	11.2	10.5	3.7	3.8	5.5	5.5	11.0	11.0	20.2	20.2	20.2
Critical	45.4	31.7	31.5	18.2	18.3	26.8	26.8	44.6	44.6	62.5	62.5	62.5
Dry	20.8	11.7	10.4	0.0	0.0	0.0	0.0	10.4	10.4	41.7	41.7	41.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	10.4	4.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	9.6	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-8.
EBMUD at Freeport export (cfs) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1977	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1978	73.1	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1982	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1988	73.1	73.1	73.1	73.1	79.0	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1989	73.1	8.8	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1
1990	73.1	40.3	38.6	1.1	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1
1991	84.7	0.0	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1992	73.1	73.1	73.1	1.4	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1
1993	0.0	7.9	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1995	73.1	73.1	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
2002	73.1	73.1	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	21.8	13.1	12.2	4.4	4.5	6.4	6.4	12.9	12.9	23.6	23.6	23.6
Critical	53.9	37.1	36.8	21.2	21.7	31.3	31.3	52.2	52.2	73.1	73.1	73.1
Dry	24.4	13.6	12.2	0.0	0.0	0.0	0.0	12.2	12.2	48.7	48.7	48.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	12.2	5.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	11.2	5.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-9.
CVP-Jones export difference (cfs) All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.9	0.0	962.3	1853.9	574.1
1977	-51.9	-45.0	-38.3	-52.7	-34.6	-33.0	-42.0	-14.5	0.0	1760.0	0.0	389.1
1978	-60.9	-41.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	722.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-14.0	0.0	0.0	0.0	0.0	0.0	0.0	-28.6	0.0	611.5	0.0
1982	-37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-13.4	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-9.1	0.0	0.0	-7.2	-9.2	-8.9	-4.1
1986	-3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-6.8	-5.0	0.0	0.0	0.0	-25.1	-51.1	-71.4	460.3	2369.0	555.9
1988	-72.3	-44.5	0.0	0.0	0.0	-62.6	0.0	-65.9	-29.6	1682.8	955.6	486.3
1989	-83.6	-64.5	0.0	-70.3	-65.3	0.0	0.0	-94.1	-83.0	0.0	630.0	0.0
1990	-55.5	-52.1	-45.9	0.0	0.0	0.0	0.0	0.0	0.0	1812.9	838.5	525.3
1991	-82.2	-78.6	-64.9	-60.9	0.0	0.0	0.0	0.0	-69.9	1551.8	689.1	397.6
1992	-67.9	-69.5	-53.7	-52.5	0.0	0.0	0.0	-105.9	-108.5	369.2	953.1	387.8
1993	0.0	-73.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	503.3
1995	-76.2	-42.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-33.6	0.0	-30.0
1998	-29.6	-38.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	-14.7	0.0	0.0	0.0	0.0	0.0	0.0	-18.5	0.0	0.0
2001	0.0	0.0	-12.3	0.0	0.0	0.0	0.0	0.0	-76.4	411.6	1223.4	554.4
2002	-100.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	235.6	0.0	0.0
Average	-21.2	-16.8	-6.9	-7.0	18.3	-3.1	-2.0	-10.0	-14.0	269.8	297.5	127.6
Critical	-47.1	-41.4	-29.0	-23.7	-4.9	-13.6	-6.0	-27.8	-29.7	1162.7	755.7	466.2
Dry	-30.7	-14.2	-2.9	-11.7	-10.9	-1.5	-4.2	-24.2	-44.4	143.8	804.2	184.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-10.1	-19.1	-2.4	0.0	120.4	0.0	0.0	0.0	0.0	36.2	0.0	0.0
Wet	-11.3	-6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	0.0	-2.3

Table 6-10.
CVP-Jones export (cfs) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	28.8	171.6	24.1
1977	-2.4	-2.1	-1.2	-1.1	-2.6	-4.1	-5.3	-1.8	0.0	260.4	0.0	28.1
1978	-3.4	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	59.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.0	15.3	0.0
1982	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	-0.4	-0.2	-0.2	-0.1
1986	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.2	-0.1	0.0	0.0	0.0	-3.1	-6.4	-4.4	11.1	130.7	17.5
1988	-1.6	-1.1	0.0	0.0	0.0	-7.8	0.0	-8.2	-9.0	57.7	53.1	23.4
1989	-2.6	-2.6	0.0	-2.5	-3.2	0.0	0.0	-11.8	-3.5	0.0	18.4	0.0
1990	-2.0	-1.6	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	65.0	27.5	24.3
1991	-3.1	-3.1	-2.9	-7.6	0.0	0.0	0.0	0.0	-4.5	50.9	21.4	14.5
1992	-3.1	-2.9	-4.6	-2.4	0.0	0.0	0.0	-12.4	-4.7	8.7	29.6	15.7
1993	0.0	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
1995	-4.4	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	0.0	-0.7
1998	-0.7	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.0	0.0
2001	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-3.3	9.8	42.7	24.4
2002	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0
Average	-0.8	-0.7	-0.3	-0.4	1.6	-0.4	-0.2	-1.2	-0.9	14.6	15.0	5.4
Critical	-1.7	-1.6	-1.5	-1.6	-0.4	-1.7	-0.8	-3.3	-2.6	67.4	43.3	20.4
Dry	-0.8	-0.5	-0.1	-0.4	-0.5	0.0	-0.5	-3.0	-2.2	3.5	34.5	7.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.8	-0.1	0.0	9.8	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Wet	-0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1

Table 6-11.
SWP-Banks export difference (cfs) All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-55.5	460.6	-52.5
1977	-42.5	-36.8	-31.4	-17.6	-28.3	-27.4	0.0	0.0	0.0	-86.2	637.0	-41.3
1978	0.0	-33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	-12.1	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5	0.0	1004.0	-96.2
1982	-30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-7.5	0.0	0.0	-3.2	-3.1	-3.0	-5.2
1986	-5.0	-8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-2.3	-4.0	0.0	0.0	0.0	-20.5	-19.9	-23.8	965.9	-36.9	-67.4
1988	-59.1	-52.3	0.0	0.0	0.0	-24.6	0.0	0.0	0.0	635.1	-41.6	-74.9
1989	-68.3	-78.8	0.0	-57.5	-53.4	0.0	0.0	-31.4	-27.7	-2.5	136.7	-76.4
1990	-45.4	-42.6	-37.6	0.0	0.0	0.0	0.0	0.0	0.0	395.5	-41.8	-75.9
1991	-35.1	-35.0	-27.3	-49.8	0.0	0.0	0.0	0.0	-31.9	166.4	-37.3	-66.1
1992	-55.5	-30.8	-61.1	-55.9	0.0	0.0	0.0	0.0	-30.1	1908.6	-40.0	-76.0
1993	0.0	-59.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-64.2	2418.7	-56.9
1995	0.0	-48.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-10.1	0.0	0.0	0.0	0.0	0.0	-25.5	2002.9	-37.7	-68.6
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-61.0	-16.3	-49.2	-25.3
2003	-2.9	-24.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	496.0	-14.6	-4.7
Average	-10.5	-13.3	-5.0	-5.3	-2.0	-1.8	-0.6	-1.5	-6.3	186.5	128.1	-23.2
Critical	-33.9	-28.2	-22.5	-17.6	-4.1	-7.4	0.0	0.0	-8.9	414.2	479.4	-63.4
Dry	-11.4	-13.5	-2.3	-9.6	-8.9	-1.2	-3.4	-8.6	-25.1	491.1	169.0	-56.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-2.5	-19.6	0.0	0.0	2.2	0.0	0.0	0.0	0.0	82.7	-2.4	-0.8
Wet	-2.8	-4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-12.
SWP-Banks export (cfs) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	19.8	-2.6
1977	-1.8	-1.8	-1.3	-1.9	-1.7	-3.5	0.0	0.0	-0.1	-15.5	86.6	-2.7
1978	0.0	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	-0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	0.0	21.6	-1.8
1982	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.2	0.0	-0.1	-0.1
1986	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.1	0.0	0.0	0.0	-3.7	-1.2	-1.5	46.1	-3.7	-2.9
1988	-13.5	-5.8	0.0	0.0	0.0	-1.5	0.0	0.0	0.0	36.8	-11.9	-5.0
1989	-17.6	-2.2	0.0	-1.8	-4.0	0.0	0.0	-4.5	-1.2	0.0	1.9	-1.1
1990	-0.9	-2.3	-2.7	0.0	0.0	0.0	0.0	0.0	0.0	8.9	-7.6	-3.5
1991	-5.2	-2.6	-2.0	-12.0	0.0	0.0	0.0	0.0	-2.0	4.3	-9.8	-8.7
1992	-3.7	-2.4	-3.4	-2.6	0.0	0.0	0.0	0.0	-9.1	214.1	-11.4	-3.6
1993	0.0	-11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	169.9	-1.5
1995	0.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-2.7	81.5	-4.2	-2.2
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	-0.2	-1.7	-0.5
2003	-0.2	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	-0.2	-0.1
Average	-1.3	-1.0	-0.3	-0.5	-0.2	-0.2	-0.1	-0.2	-0.6	11.2	7.3	-1.1
Critical	-3.6	-2.1	-1.4	-2.4	-0.2	-0.7	0.0	0.0	-1.6	35.3	33.7	-3.9
Dry	-2.9	-0.4	0.0	-0.3	-0.7	0.0	-0.6	-0.9	-1.7	21.2	2.3	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	-2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Wet	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-13.
CCDW Old River export difference (cfs) All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	45.1
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	22.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.1	65.3
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	11.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	21.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-14.
CCDW Old River export (cfs) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.2
1990	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	110.4	46.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1378.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	47.6
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	21.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	283.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-15.
CCDW Rock Slough export difference (cfs) All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	64.7
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	44.6	62.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	18.8
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	8.5	10.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.1	41.2	36.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	0.0	13.9
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-16.
CCDW Rock Slough export (cfs) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
1976	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.1	
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5	0.0	
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.1	
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.1	
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9		
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0	
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	68.6	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	180.7	377.5	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.3	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-17.
CCDW Victoria Canal export difference (cfs) All Transfers minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	84.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2	38.9
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.6	84.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	8.3	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	23.1	24.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3	6.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-18.
CCDW Victoria Canal export (cfs) percent difference of All Transfers from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.0	93.6	80.3
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	18.4
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	60.1
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.6	4.7
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	20.2	20.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	3.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-19.
EBMUD at Freeport export difference (cfs) No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1977	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1978	62.5	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1982	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1988	62.5	62.5	62.5	62.5	65.3	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1989	62.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	5.6
1990	0.0	12.6	33.0	0.9	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1991	67.9	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1992	62.5	62.5	62.5	1.2	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1993	0.0	6.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1995	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
2002	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	16.7	10.6	10.5	3.7	3.8	5.5	5.5	9.2	9.2	18.4	18.8	18.5
Critical	36.5	28.6	31.5	18.2	18.3	26.8	26.8	44.6	44.6	62.5	62.5	62.5
Dry	20.8	11.7	10.4	0.0	0.0	0.0	0.0	0.0	0.0	31.3	33.9	32.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	10.4	4.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	9.6	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-20.
EBMUD at Freeport export (cfs) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1977	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1978	73.1	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1982	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1988	73.1	73.1	73.1	73.1	79.0	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1989	73.1	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	6.5
1990	0.0	14.8	38.6	1.1	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1
1991	84.7	0.0	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1992	73.1	73.1	73.1	1.4	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1
1993	0.0	7.9	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1995	73.1	73.1	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
2002	73.1	73.1	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	19.7	12.4	12.2	4.4	4.5	6.4	6.4	10.7	10.7	21.5	22.0	21.7
Critical	43.4	33.4	36.8	21.2	21.7	31.3	31.3	52.2	52.2	73.1	73.1	73.1
Dry	24.4	13.6	12.2	0.0	0.0	0.0	0.0	0.0	0.0	36.5	39.6	37.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	12.2	5.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	11.2	5.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-21.
CVP-Jones export difference (cfs) No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	872.4	850.0	273.7
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1070.5	0.0	222.4
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	460.3	1154.1	273.7
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1275.4	436.6	250.5
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1314.9	472.5	273.7
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1070.5	393.2	222.4
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	369.2	413.0	208.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	198.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	411.6	472.5	273.7
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	201.3	123.7	64.6
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	853.3	366.5	235.5
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	145.3	273.3	91.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-22.
CVP-Jones export (cfs) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.1	78.7	11.5
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	158.4	0.0	16.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	63.7	8.6
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.7	24.3	12.1
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.2	15.5	12.7
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	12.2	8.1
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	12.8	8.4
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	16.5	12.1
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	6.6	2.8
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.6	20.5	10.6
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	13.4	3.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-23.
SWP-Banks export difference (cfs) No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	393.2	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-146.4	1057.1	-420.1
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	224.7	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-45.5	260.2	-33.6
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1404.6	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-229.4	1350.5	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1459.3	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	325.3	-244.0	-84.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.0	82.9	-15.8
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	167.9	249.1	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	248.7	219.6	-75.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.2	-40.7	-14.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-24.
SWP-Banks export (cfs) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.4	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	22.7	-7.8
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	3.7	-0.5
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	157.6	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3	94.9	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.4	0.0	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	-3.4	-1.3
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	5.0	-0.3
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	21.2	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	4.4	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-0.6	-0.2
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-25.
CCDW Old River export difference (cfs) No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	45.1
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	22.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.1	65.3
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	5.5
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	11.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	18.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-26.
CCDW Old River export (cfs) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	110.4	46.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1378.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	46.4
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	21.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	275.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-27.
CCDW Rock Slough export difference (cfs) No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	44.6	62.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	18.8
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	8.5	8.2
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.1	41.2	36.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.1	0.0	3.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-28.
CCDW Rock Slough export (cfs) percent difference of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.0	
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.0	
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9		
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0	
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.5	68.6	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	180.7	377.5	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-29.
CCDW Victoria Canal export difference (cfs) No Groundwater Substitution minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	84.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2	38.9
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.6	84.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	6.0	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	23.1	24.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	6.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-30.
CCDW Victoria Canal export difference (cfs) of No Groundwater Substitution from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.0	93.6	80.3
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	18.4
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	60.1
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	4.7	4.7
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	20.2	20.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	3.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-31.
EBMUD at Freeport export difference (cfs) No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1977	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1978	62.5	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1982	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1988	62.5	62.5	62.5	62.5	65.3	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1989	62.5	7.5	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1990	62.5	34.5	33.0	0.9	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1991	67.9	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1992	62.5	62.5	62.5	1.2	0.0	0.0	0.0	20.3	19.7	0.0	42.4	15.5
1993	0.0	6.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1995	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
2002	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	18.5	11.2	10.5	3.7	3.8	5.5	5.5	9.8	9.8	18.4	19.6	18.8
Critical	45.4	31.7	31.5	18.2	18.3	26.8	26.8	38.6	38.5	53.6	59.6	55.8
Dry	20.8	11.7	10.4	0.0	0.0	0.0	0.0	10.4	10.4	41.7	41.7	41.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	10.4	4.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	9.6	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-32.
EBMUD at Freeport export difference (cfs) No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1977	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1978	62.5	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1982	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1988	62.5	62.5	62.5	62.5	65.3	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1989	62.5	7.5	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1990	62.5	34.5	33.0	0.9	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5
1991	67.9	0.0	0.0	0.0	0.0	62.5	62.5	62.5	62.5	62.5	62.5	62.5
1992	62.5	62.5	62.5	1.2	0.0	0.0	0.0	20.3	19.7	0.0	42.4	15.5
1993	0.0	6.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
1995	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	62.5	62.5
2002	62.5	62.5	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	18.5	11.2	10.5	3.7	3.8	5.5	5.5	9.8	9.8	18.4	19.6	18.8
Critical	45.4	31.7	31.5	18.2	18.3	26.8	26.8	38.6	38.5	53.6	59.6	55.8
Dry	20.8	11.7	10.4	0.0	0.0	0.0	0.0	10.4	10.4	41.7	41.7	41.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	10.4	4.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	9.6	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-33.
EBMUD at Freeport export (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1977	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1978	73.1	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1982	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1988	73.1	73.1	73.1	73.1	79.0	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1989	73.1	8.8	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1
1990	73.1	40.3	38.6	1.1	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1
1991	84.7	0.0	0.0	0.0	0.0	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1992	73.1	73.1	73.1	1.4	0.0	0.0	0.0	23.7	23.1	0.0	49.6	18.1
1993	0.0	7.9	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
1995	73.1	73.1	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	73.1	73.1
2002	73.1	73.1	73.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	21.8	13.1	12.2	4.4	4.5	6.4	6.4	11.4	11.4	21.5	23.0	22.0
Critical	53.9	37.1	36.8	21.2	21.7	31.3	31.3	45.2	45.1	62.7	69.7	65.2
Dry	24.4	13.6	12.2	0.0	0.0	0.0	0.0	12.2	12.2	48.7	48.7	48.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	12.2	5.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	11.2	5.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-34.
CVP-Jones export difference (cfs) No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.9	0.0	944.1	1114.4	352.2
1977	-51.8	-45.0	-38.3	-52.7	-34.6	-33.0	-42.0	-14.5	0.0	918.2	0.0	173.6
1978	-60.9	-41.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	722.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-14.0	0.0	0.0	0.0	0.0	0.0	0.0	-28.6	0.0	611.5	0.0
1982	-37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-13.4	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-9.1	0.0	0.0	-7.2	-9.2	-8.9	-4.1
1986	-3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-6.8	-4.9	0.0	0.0	0.0	-25.1	-51.1	-71.4	460.3	1530.7	334.0
1988	-72.3	-44.5	0.0	0.0	0.0	-62.6	0.0	-65.9	-29.6	1682.8	468.6	276.6
1989	-83.5	-64.5	0.0	-70.2	-65.3	0.0	0.0	-94.1	-83.0	0.0	629.9	0.0
1990	-55.5	-52.1	-46.0	0.0	0.0	0.0	0.0	0.0	0.0	1377.4	494.9	303.5
1991	-82.2	-78.6	-64.9	-60.9	0.0	0.0	0.0	0.0	-69.9	911.2	355.2	182.0
1992	-67.9	-69.5	-53.7	-52.5	0.0	0.0	0.0	-105.9	-108.5	369.2	616.6	197.8
1993	0.0	-73.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	305.3
1995	-76.2	-43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-33.6	0.0	-30.0
1998	-29.6	-38.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	-14.7	0.0	0.0	0.0	0.0	0.0	0.0	-18.5	0.0	0.0
2001	0.0	0.0	-12.3	0.0	0.0	0.0	0.0	0.0	-76.3	411.6	536.0	332.6
2002	-100.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	235.6	0.0	0.0
Average	-21.2	-16.8	-6.9	-6.9	18.3	-3.1	-2.0	-10.0	-14.0	212.8	186.7	71.3
Critical	-47.1	-41.4	-29.0	-23.7	-4.9	-13.7	-6.0	-27.7	-29.7	886.1	435.7	255.8
Dry	-30.7	-14.2	-2.9	-11.7	-10.9	-1.5	-4.2	-24.2	-44.4	143.8	549.9	110.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-10.2	-19.0	-2.5	0.0	120.4	0.0	0.0	0.0	0.0	36.2	0.0	0.0
Wet	-11.3	-6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.6	0.0	-2.3

Table 6-35.
CVP-Jones export (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.0	28.3	103.2	14.8
1977	-2.4	-2.1	-1.2	-1.1	-2.6	-4.1	-5.2	-1.8	0.0	135.9	0.0	12.5
1978	-3.4	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	59.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	-1.7	0.0	15.3	0.0
1982	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	-0.4	-0.2	-0.2	-0.1
1986	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.2	-0.1	0.0	0.0	0.0	-3.1	-6.4	-4.4	11.1	84.4	10.5
1988	-1.6	-1.1	0.0	0.0	0.0	-7.8	0.0	-8.2	-9.0	57.7	26.0	13.3
1989	-2.6	-2.6	0.0	-2.5	-3.2	0.0	0.0	-11.8	-3.5	0.0	18.4	0.0
1990	-2.0	-1.6	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	49.4	16.3	14.1
1991	-3.1	-3.1	-2.9	-7.6	0.0	0.0	0.0	0.0	-4.5	29.9	11.0	6.7
1992	-3.1	-2.9	-4.6	-2.4	0.0	0.0	0.0	-12.4	-4.7	8.7	19.1	8.0
1993	0.0	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
1995	-4.4	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	0.0	-0.7
1998	-0.7	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.0	0.0
2001	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-3.3	9.8	18.7	14.7
2002	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0
Average	-0.8	-0.7	-0.3	-0.4	1.6	-0.4	-0.2	-1.2	-0.9	9.8	9.2	3.0
Critical	-1.7	-1.6	-1.5	-1.6	-0.4	-1.7	-0.7	-3.3	-2.6	44.3	25.1	11.0
Dry	-0.8	-0.5	-0.1	-0.4	-0.5	0.0	-0.5	-3.0	-2.2	3.5	22.8	4.2
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.6	-0.8	-0.1	0.0	9.8	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Wet	-0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1

Table 6-36.
SWP-Banks export difference (cfs) No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-20.6	-27.3	-52.5
1977	-42.4	-36.8	-31.3	-17.6	-28.3	-27.4	0.0	0.0	0.0	-86.2	303.3	-41.2
1978	0.0	-33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	-12.1	0.0	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.5	-4.0	973.6	-103.6
1982	-30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-7.4	0.0	0.0	-3.2	-3.1	-3.0	-5.1
1986	-4.9	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-2.3	-4.0	0.0	0.0	0.0	-20.6	-19.9	-23.8	587.6	-36.9	-67.4
1988	-59.2	-52.3	0.0	0.0	0.0	-24.6	0.0	0.0	0.0	-28.0	-41.6	-75.0
1989	-68.3	-78.8	0.0	-57.5	-53.5	0.0	0.0	-31.4	-27.7	-2.6	136.7	-76.3
1990	-45.4	-42.6	-37.6	0.0	0.0	0.0	0.0	0.0	0.0	-36.3	-41.9	-75.8
1991	-35.1	-34.9	-27.2	-49.8	0.0	0.0	0.0	0.0	-31.9	-34.8	-37.4	-66.1
1992	-55.5	-30.8	-61.1	-55.9	0.0	0.0	0.0	0.0	-30.1	1129.4	-40.0	-76.0
1993	0.0	-59.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	1270.4	-56.9
1995	0.0	-48.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-10.1	0.0	0.0	0.0	0.0	0.0	-25.4	1473.7	-37.7	-68.6
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-61.0	-16.3	-49.2	-25.3
2003	-2.9	-24.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	496.0	-14.6	-4.7
Average	-10.5	-13.3	-5.0	-5.3	-2.0	-1.7	-0.6	-1.5	-6.3	101.6	69.2	-23.4
Critical	-33.9	-28.2	-22.5	-17.6	-4.0	-7.4	0.0	0.0	-8.9	131.8	197.9	-63.4
Dry	-11.4	-13.5	-2.4	-9.6	-8.9	-1.2	-3.4	-8.5	-25.1	339.2	163.9	-57.7
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-2.5	-19.6	0.0	0.0	2.2	0.0	0.0	0.0	0.0	82.7	-2.4	-0.8
Wet	-2.7	-4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-37.
SWP-Banks export (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-1.2	-2.6
1977	-1.8	-1.8	-1.3	-1.9	-1.7	-3.5	0.0	0.0	0.0	-15.5	41.2	-2.7
1978	0.0	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	-0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.1	20.9	-1.9
1982	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.2	0.0	-0.1	-0.1
1986	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	-0.1	-0.1	0.0	0.0	0.0	-3.7	-1.2	-1.5	28.0	-3.7	-2.9
1988	-13.5	-5.8	0.0	0.0	0.0	-1.5	0.0	0.0	0.0	-1.6	-11.9	-5.0
1989	-17.7	-2.2	0.0	-1.8	-4.0	0.0	0.0	-4.5	-1.2	0.0	1.9	-1.1
1990	-0.9	-2.3	-2.7	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-7.6	-3.5
1991	-5.2	-2.6	-2.0	-12.0	0.0	0.0	0.0	0.0	-2.0	-0.9	-9.8	-8.7
1992	-3.7	-2.4	-3.4	-2.6	0.0	0.0	0.0	0.0	-9.1	126.7	-11.4	-3.6
1993	0.0	-11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.2	-1.5
1995	0.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-2.7	60.0	-4.2	-2.2
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.8	-0.2	-1.7	-0.5
2003	-0.2	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	-0.2	-0.1
Average	-1.3	-1.0	-0.3	-0.5	-0.2	-0.2	-0.1	-0.2	-0.6	6.0	3.0	-1.1
Critical	-3.6	-2.1	-1.4	-2.4	-0.2	-0.7	0.0	0.0	-1.6	15.4	12.6	-3.9
Dry	-2.9	-0.4	0.0	-0.3	-0.7	0.0	-0.6	-0.9	-1.7	14.6	2.2	-1.4
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	-0.1	-2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Wet	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-38.
CCDW Old River export difference (cfs) No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	45.1
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	22.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.1	65.3
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	11.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	21.6
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-39.
CCDW Old River export (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.2
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	110.4	46.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1378.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	47.6
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	21.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	283.3
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-40.
CCDW Rock Slough export difference (cfs) No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	64.7
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	65.5
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	44.6	62.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	18.8
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.1	8.5	10.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.1	41.2	36.9
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	0.0	13.9
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-41.
CCDW Rock Slough export (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.0	
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	0.0	0.0
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5	0.0	
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.0	
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.4	755.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9		
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0	
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	68.6	0.0
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	180.7	377.5	0.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.3	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-42.
CCDW Victoria Canal export difference (cfs) No Crop Idle Minus Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	81.3	84.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2	38.9
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.6	84.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	8.3	6.1
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	23.1	24.0
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3	6.5
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 6-43.
CCDW Victoria Canal export (cfs) percent difference of No Crop Idle from Base.

WY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.0	93.6	80.3
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	18.4
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	60.1
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0
2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.6	4.7
Critical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	20.2	20.1
Dry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	3.1
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Appendix F
Groundwater Existing Conditions

F.1 Redding Groundwater Basin

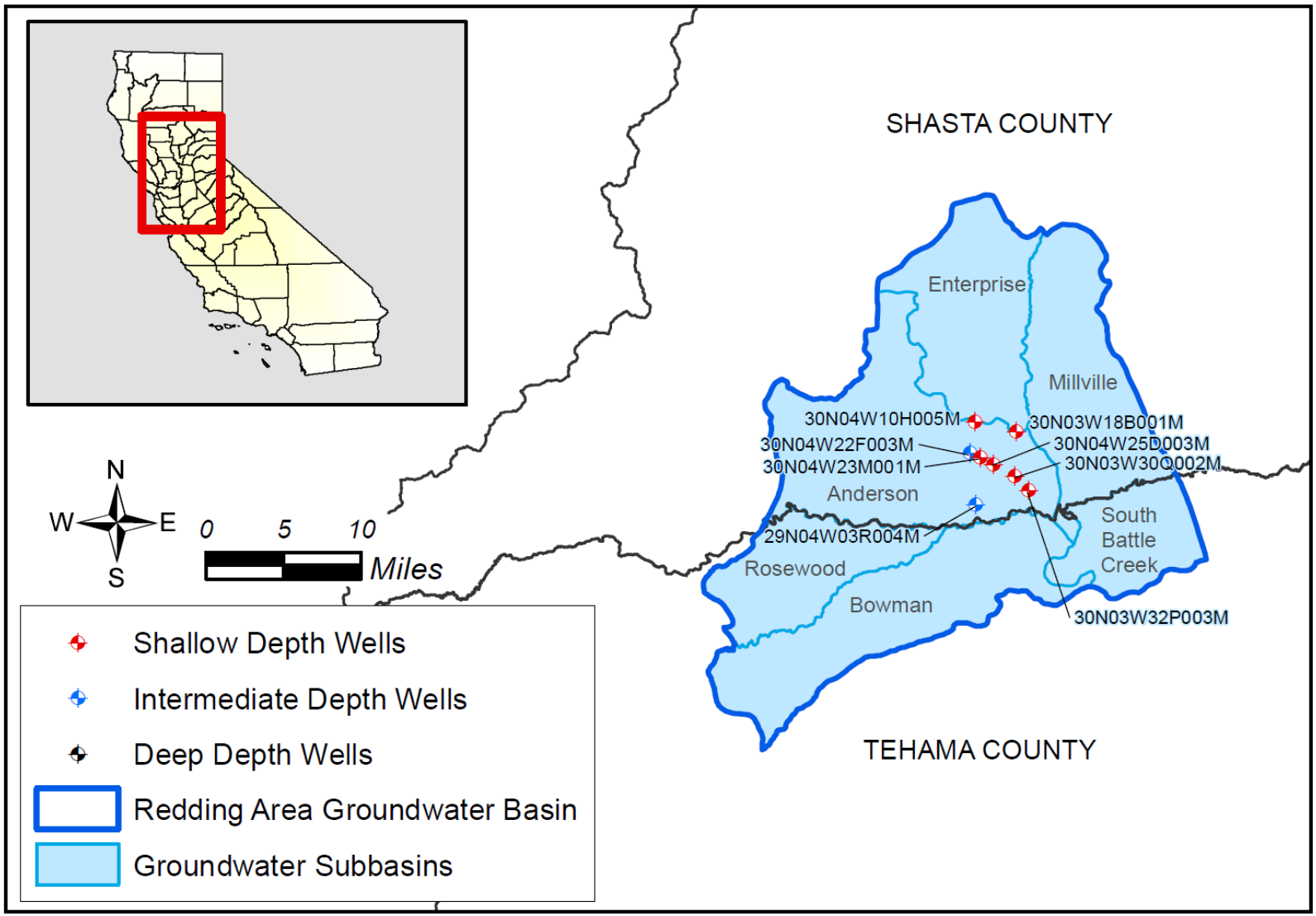


Figure F-1.
Location of Groundwater wells in Redding Area Groundwater Basin

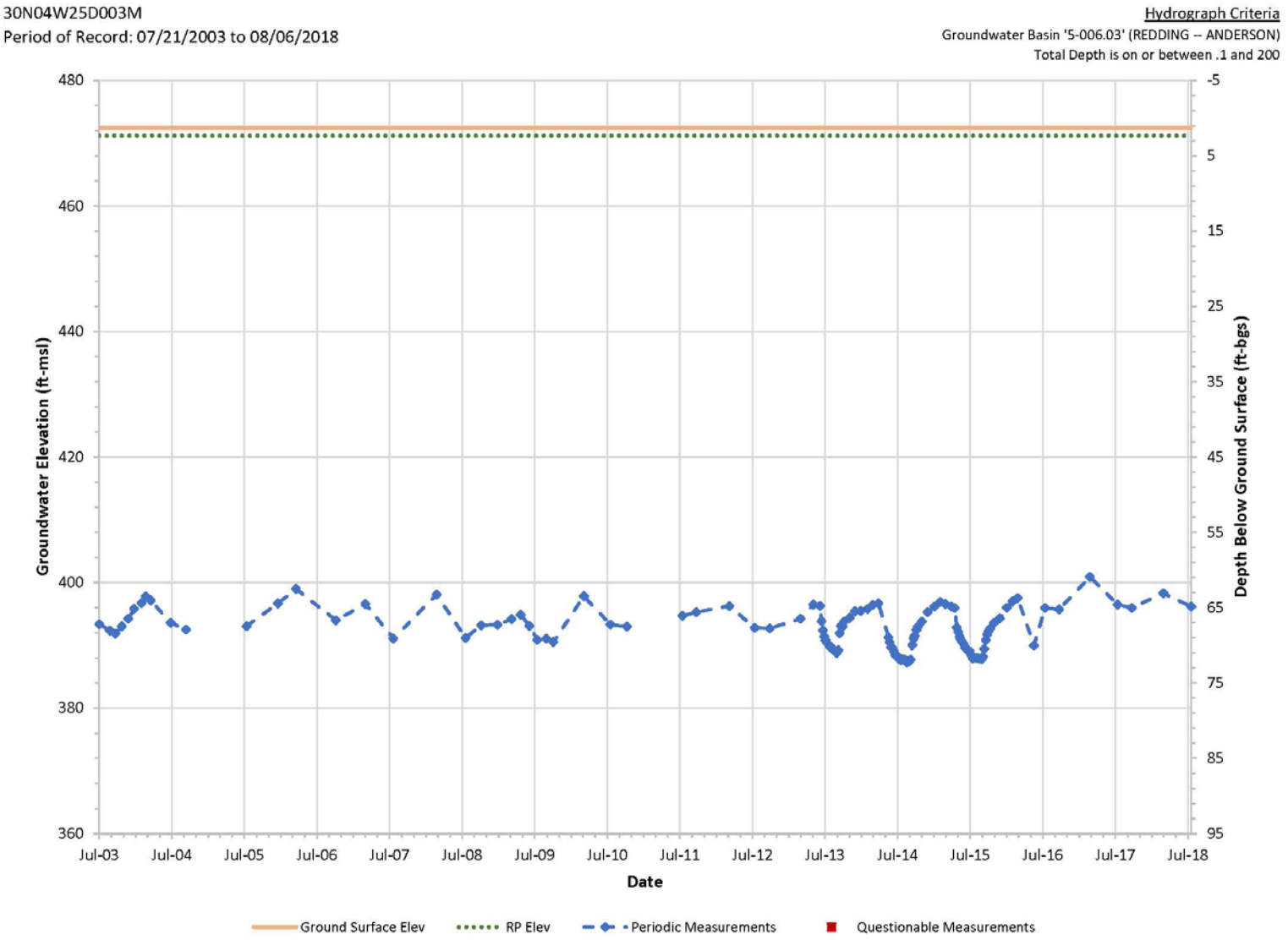


Figure F-2.
Hydrograph for 30N04W25D003M

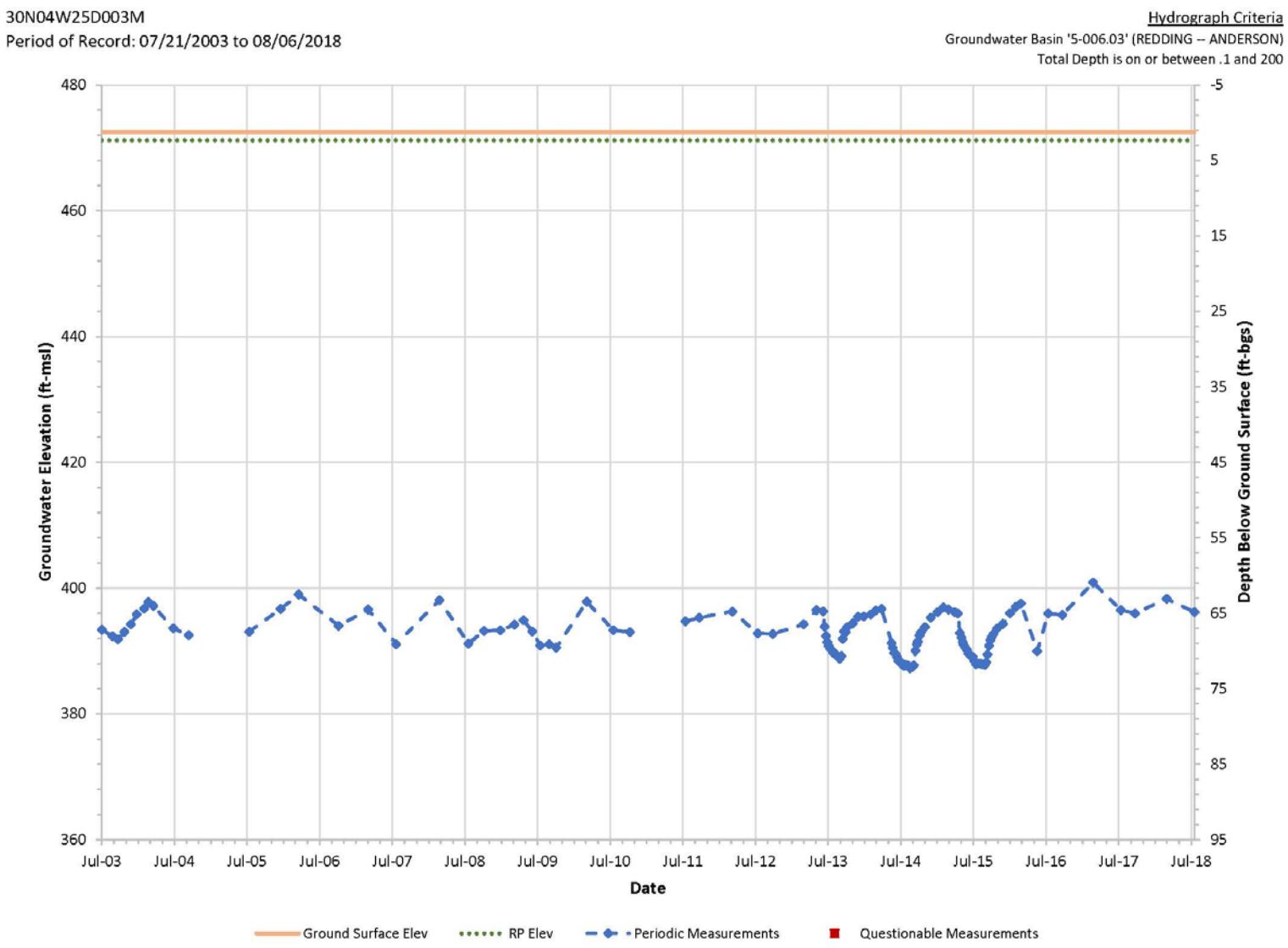


Figure F-3.
Hydrograph for 30N03W18B001M

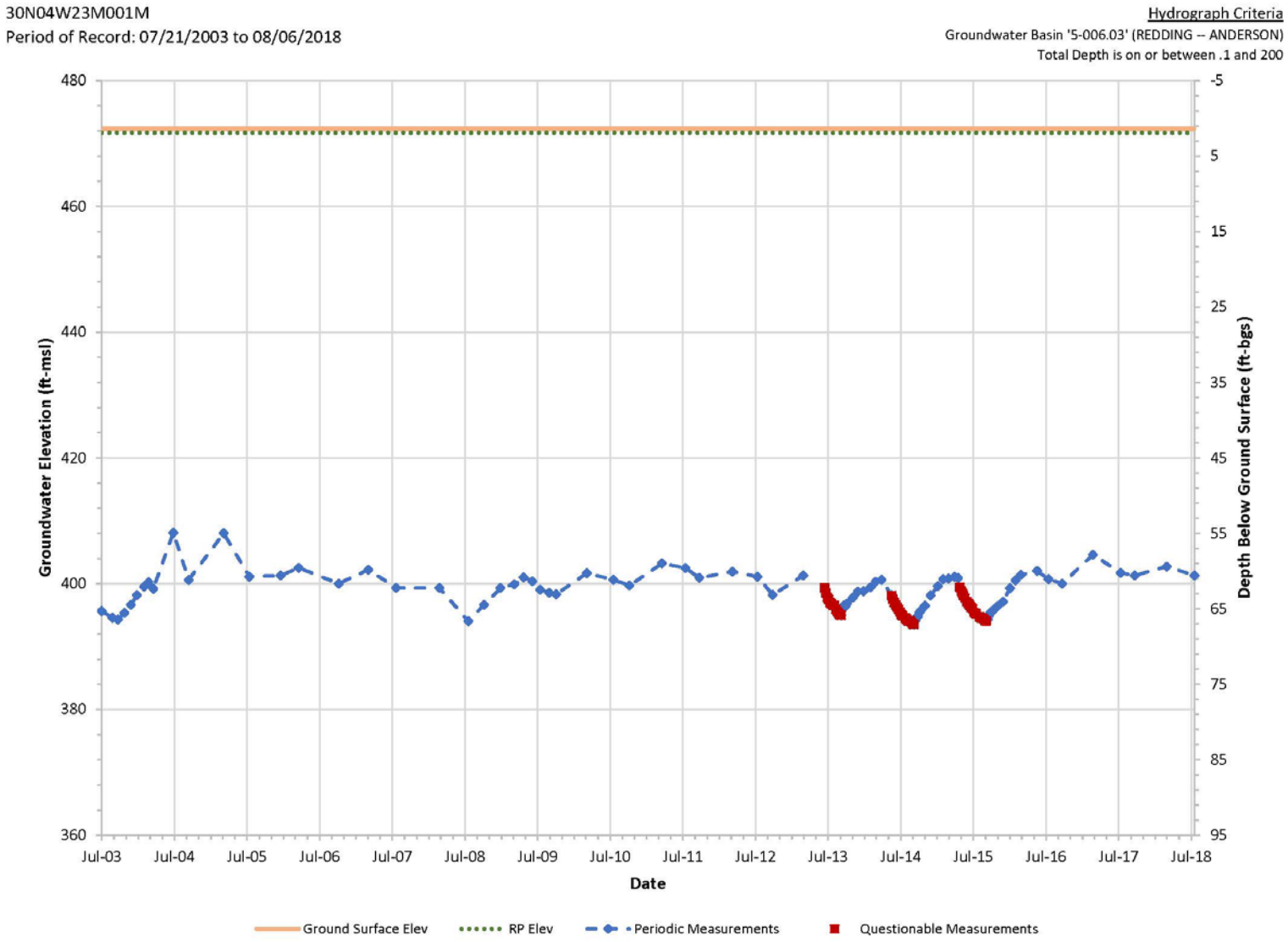


Figure F-4.
Hydrograph for 30N04W23M001M

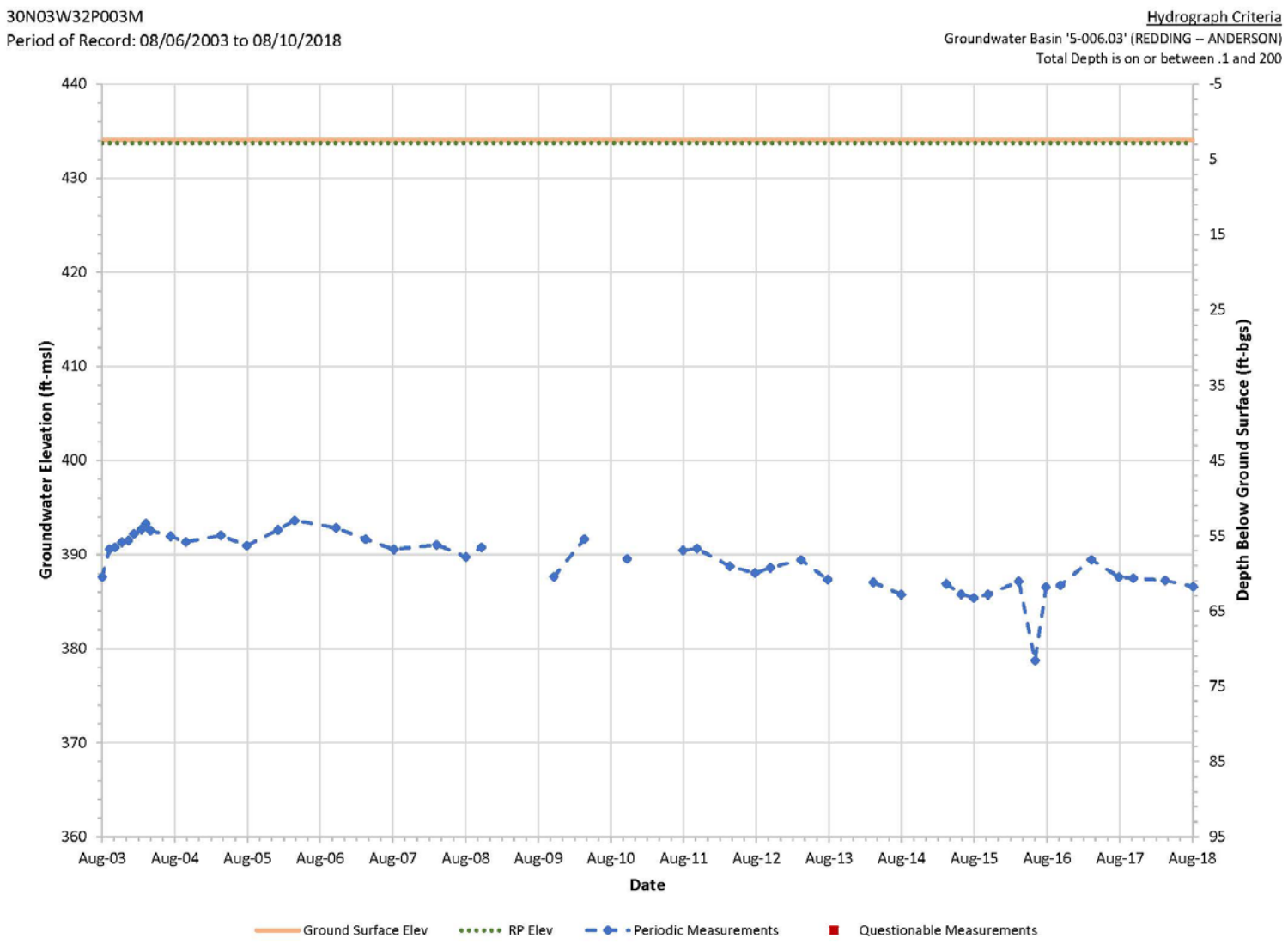


Figure F-5.
Hydrograph for 30N03W32P003M

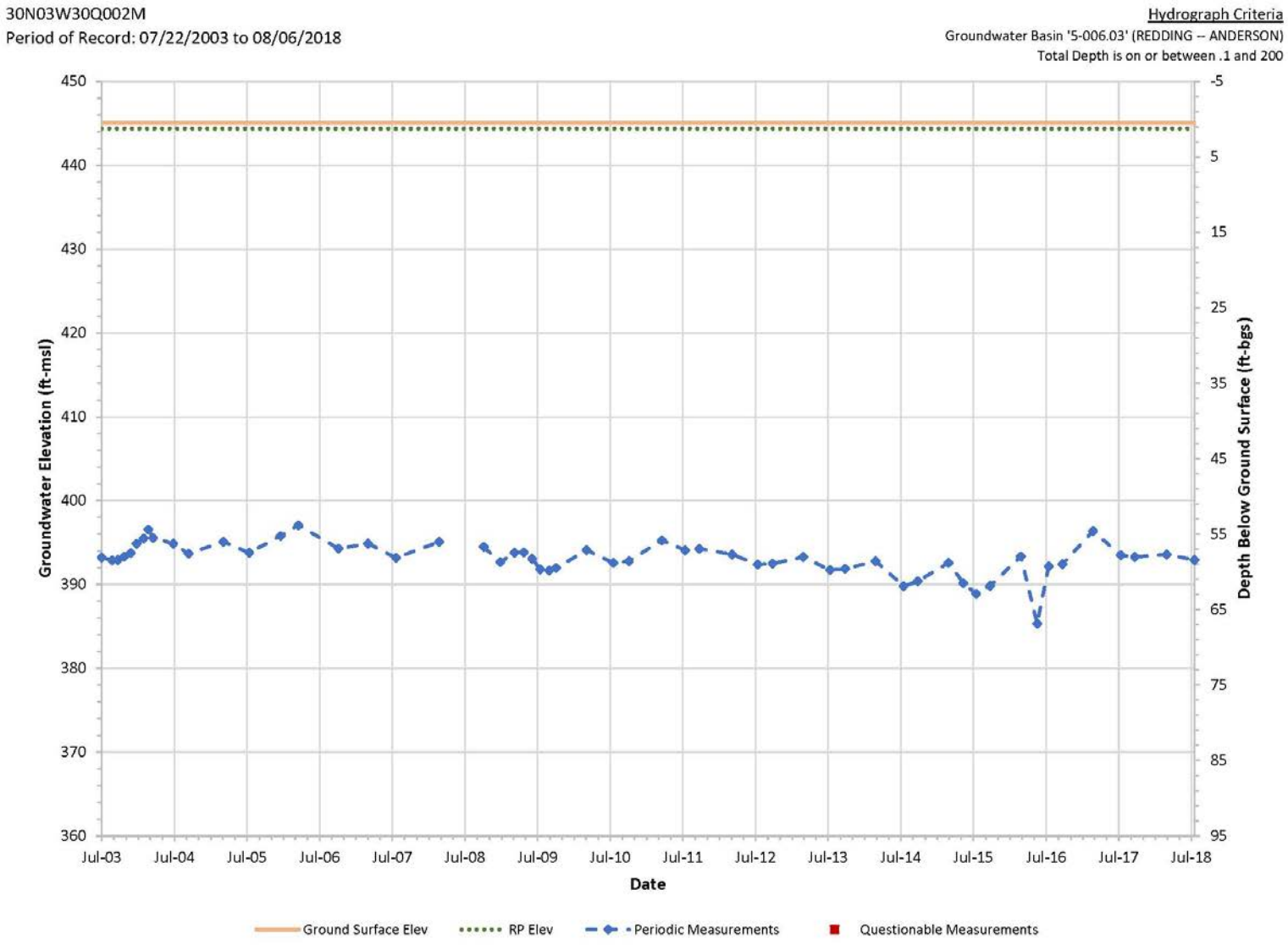


Figure F-6.
Hydrograph for 30N03W30Q002M

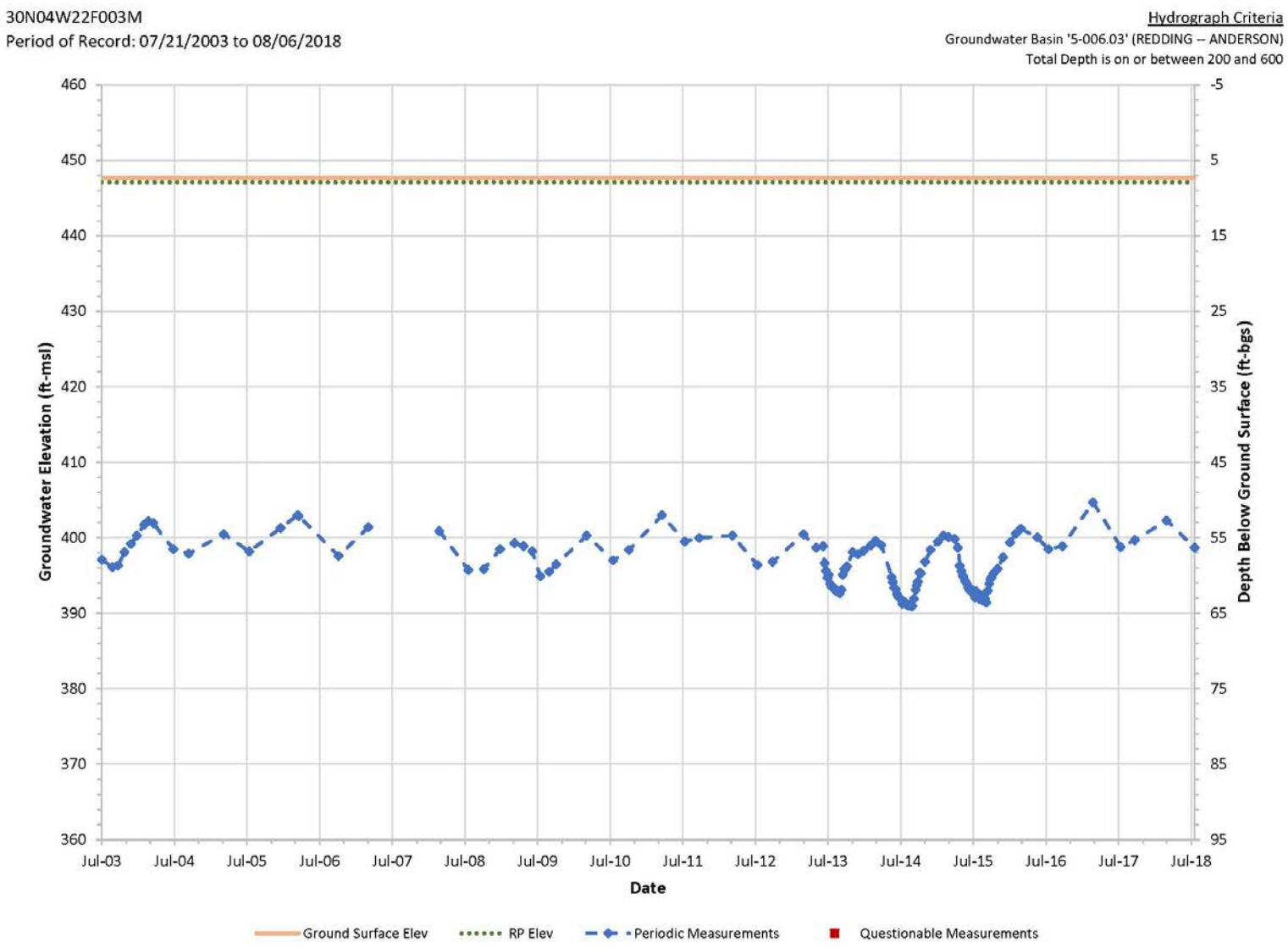


Figure F-7.
Hydrograph for 30N04W22F003M

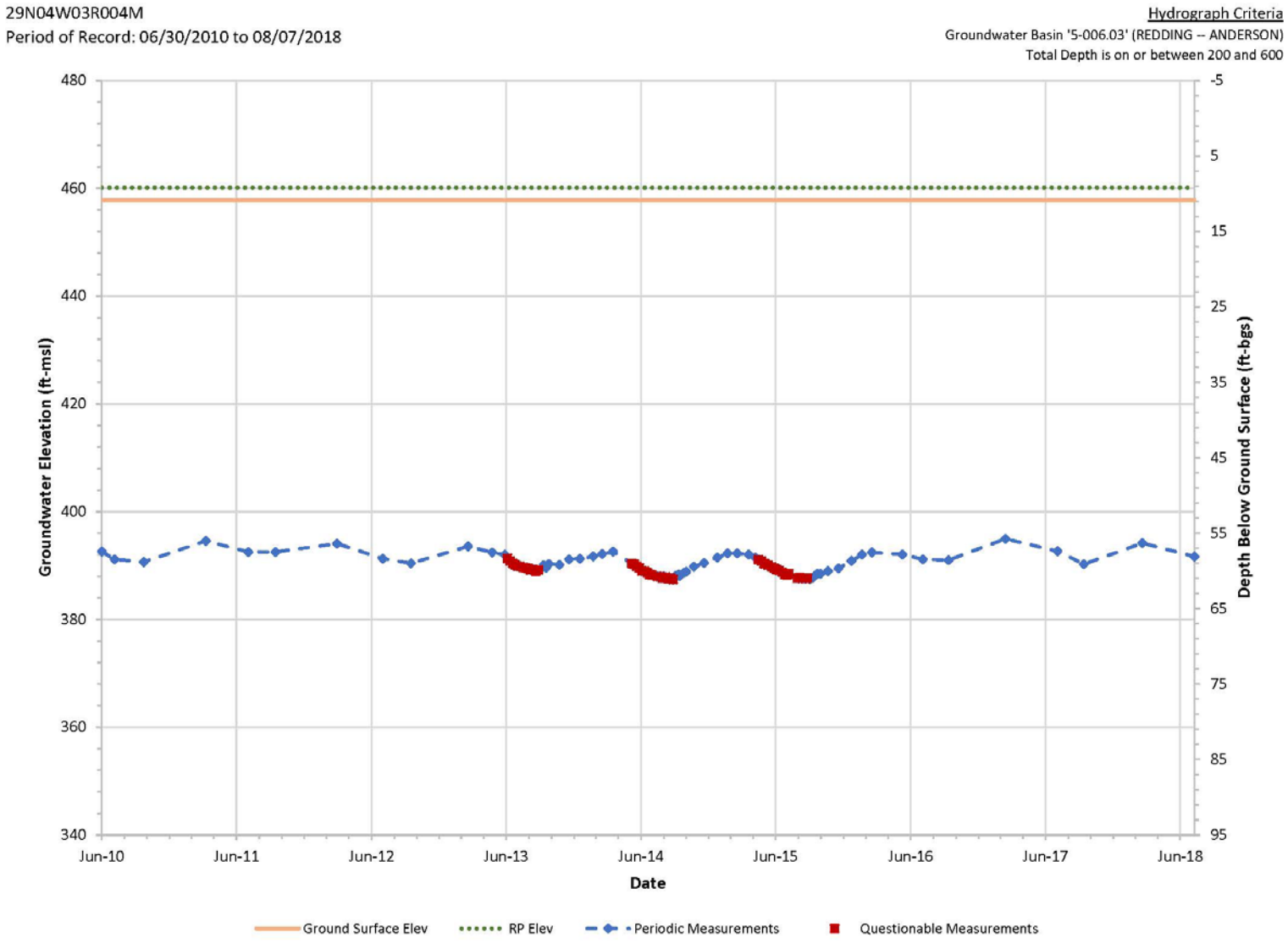


Figure F-8.
Hydrograph for 29N04W03R004M

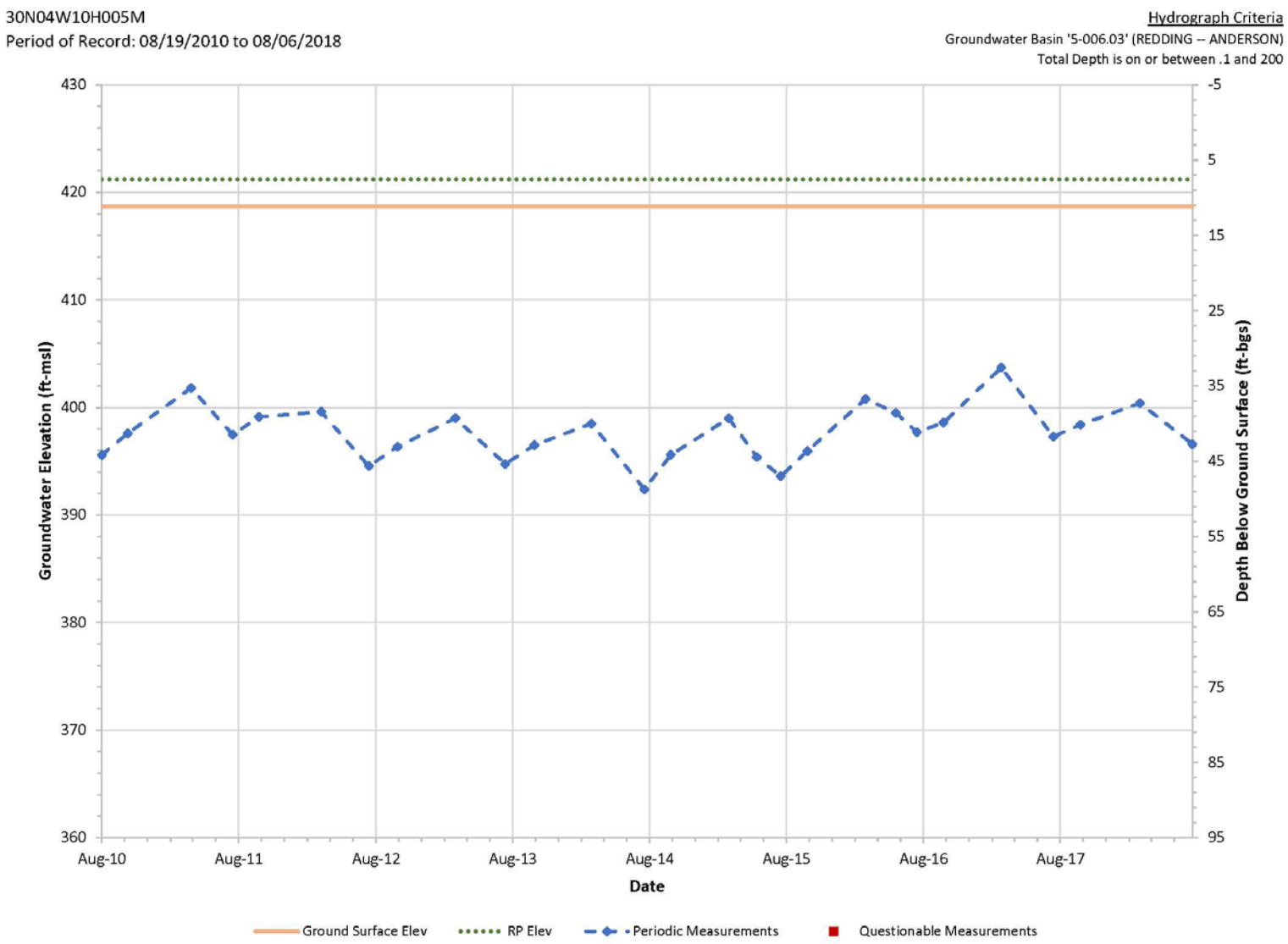


Figure F-9.
Hydrograph for 30N04W10H005M

F.2 Sacramento Valley Groundwater Basin

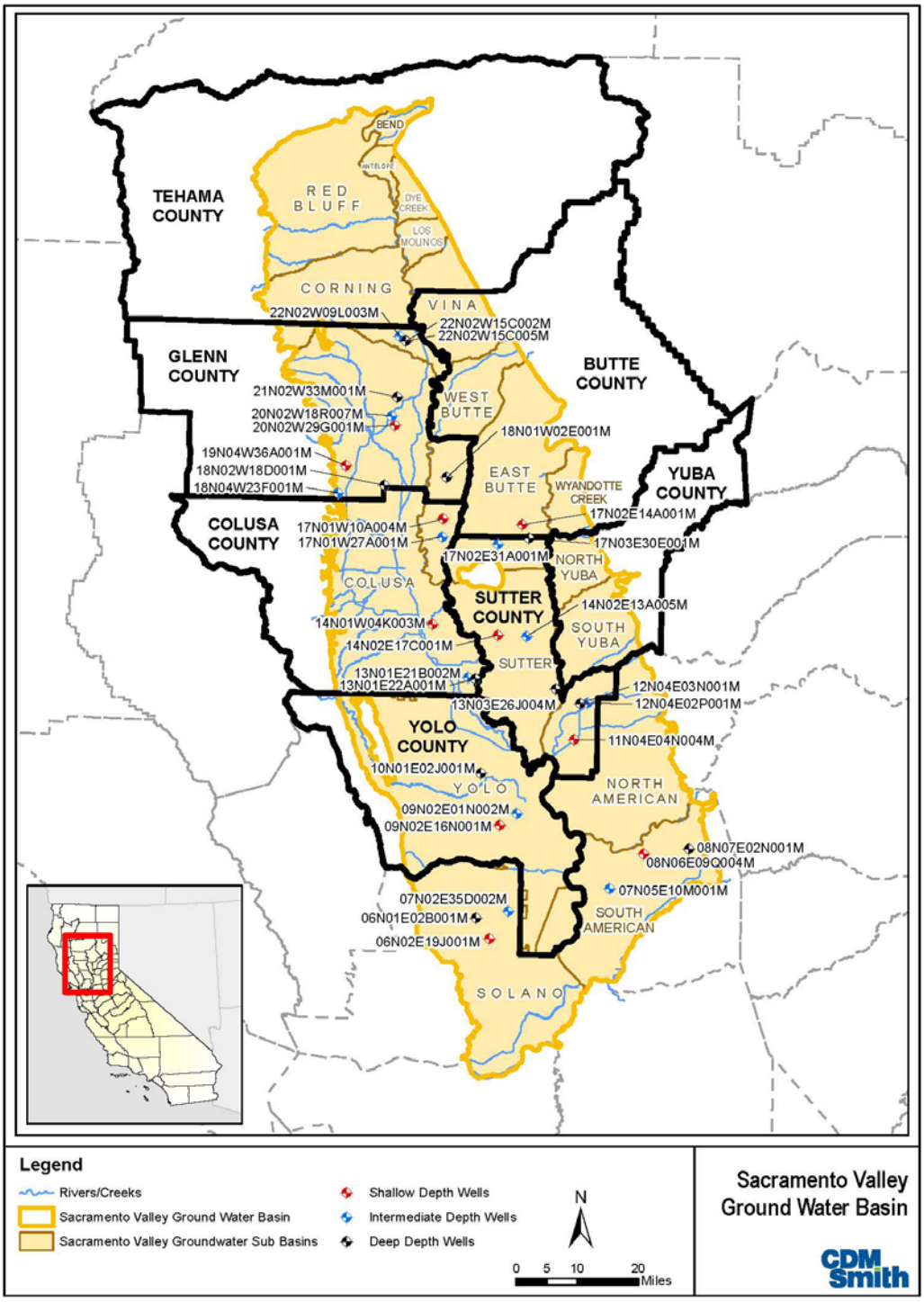


Figure F-10.
Location of Groundwater well in Sacramento Valley Groundwater Basin

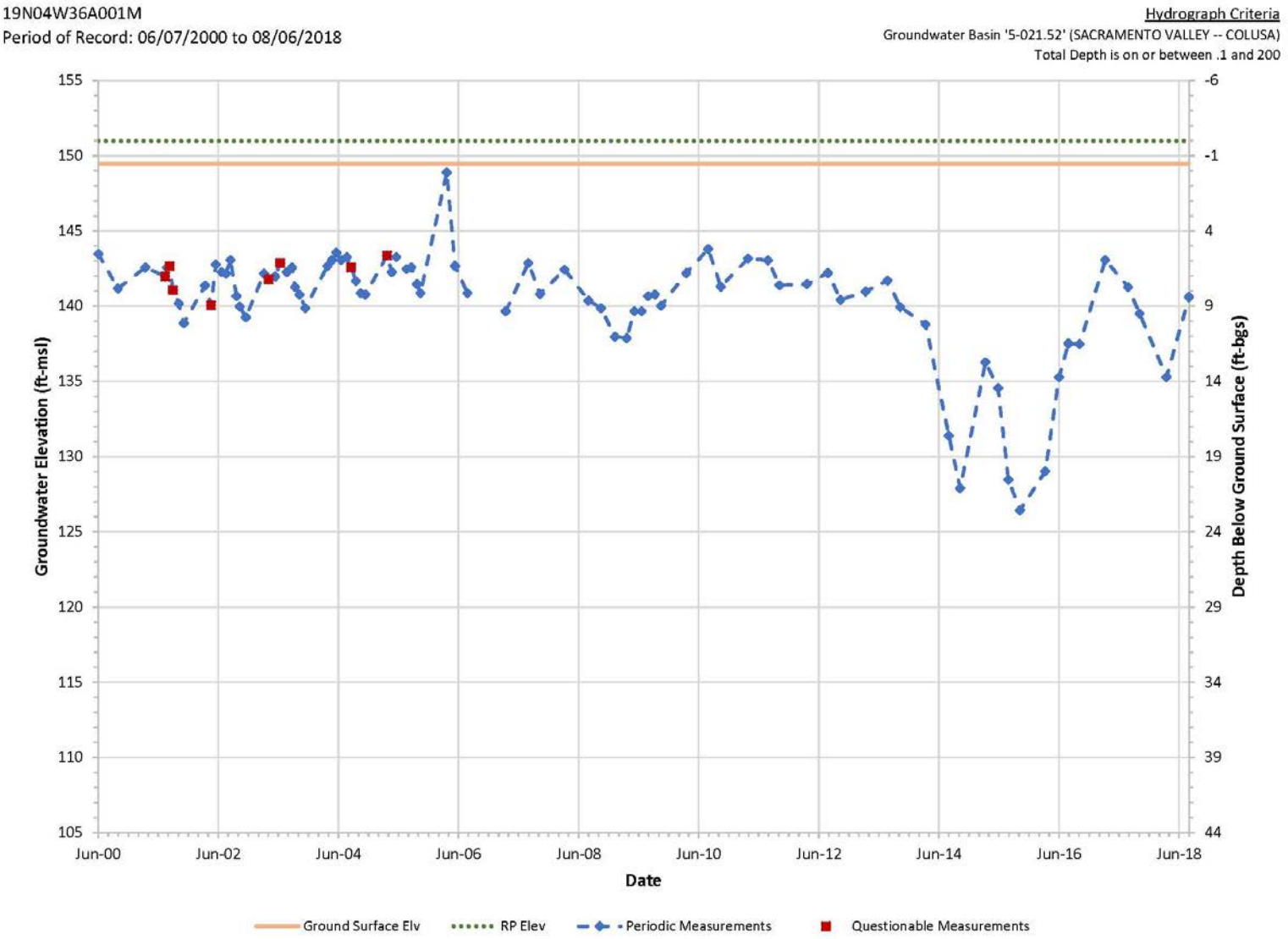


Figure F-11.
Hydrograph for 19N04W36A001M

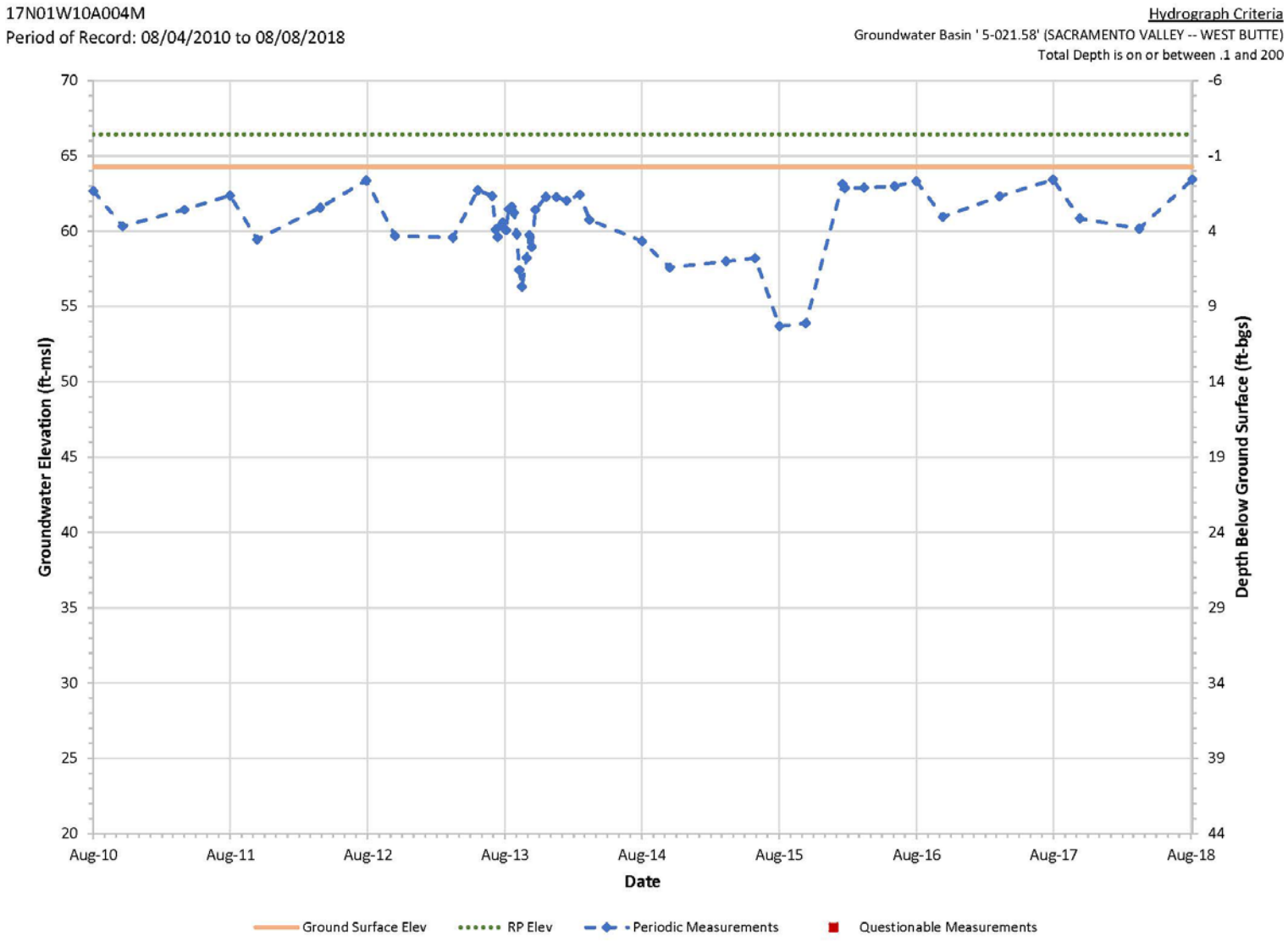


Figure F-12.
Hydrograph for 17N01W10A004M

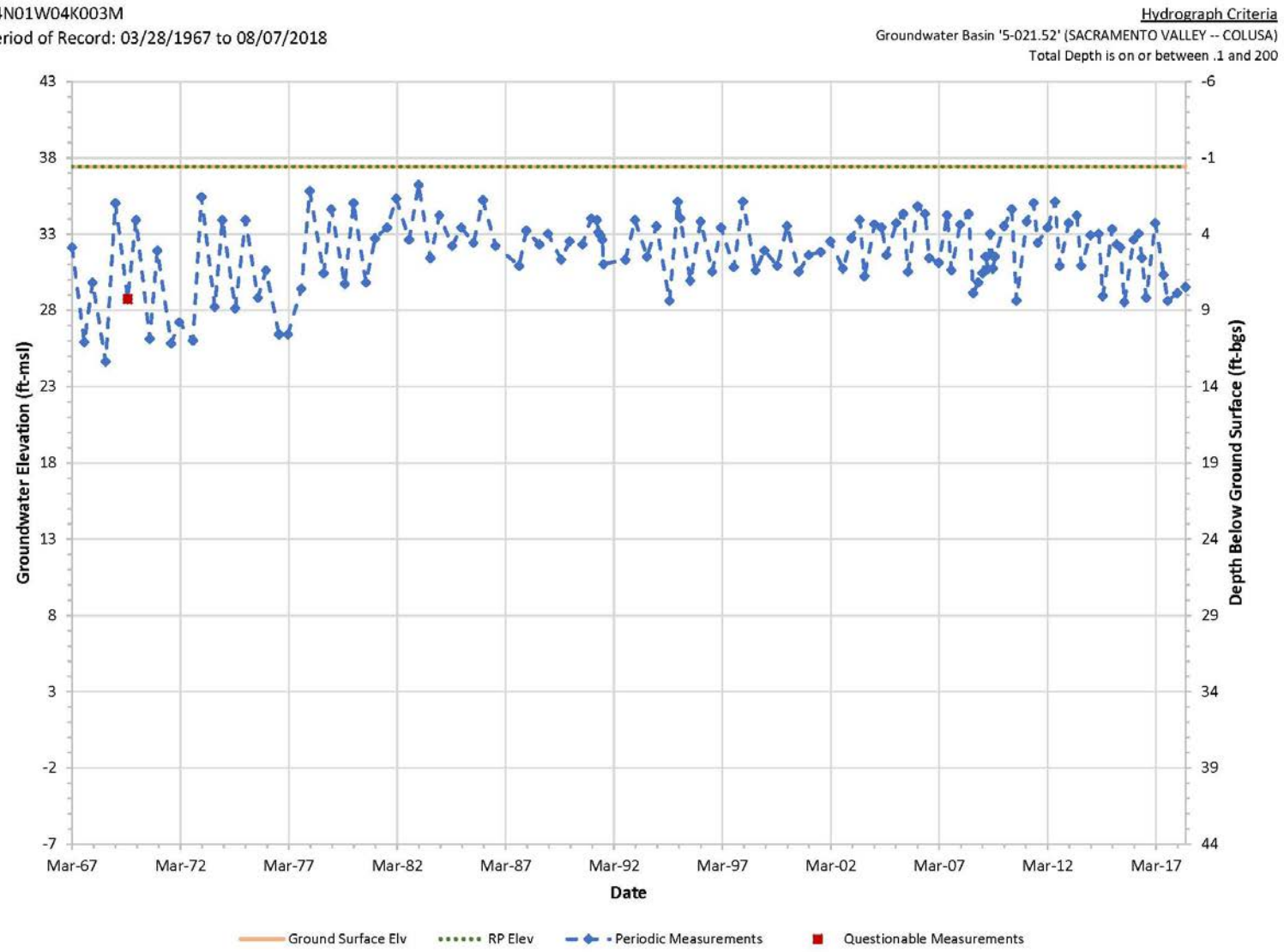


Figure F-13.
Hydrograph for 14N01W04K003M

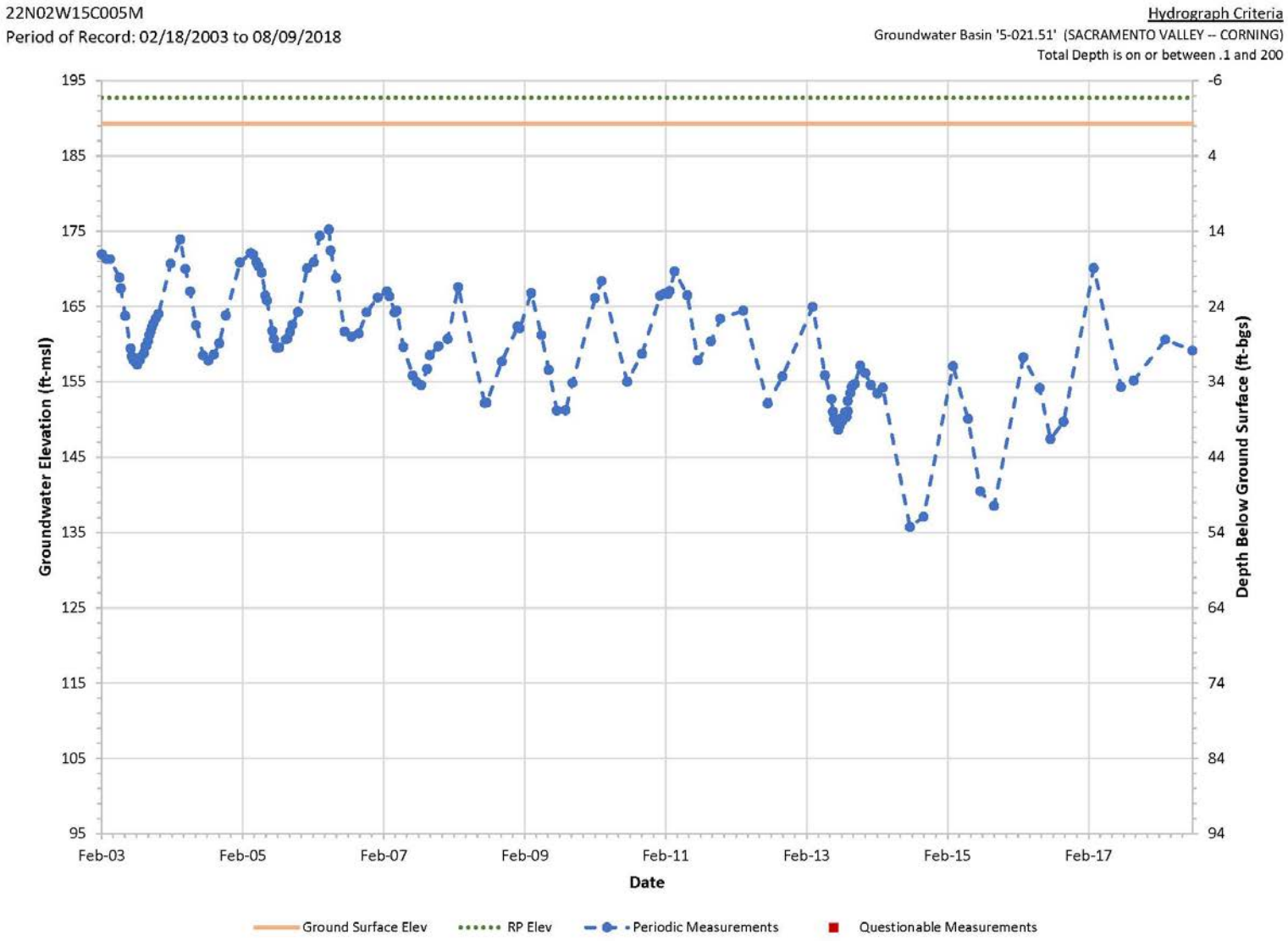


Figure F-14.
Hydrograph for 22N02W15C005M

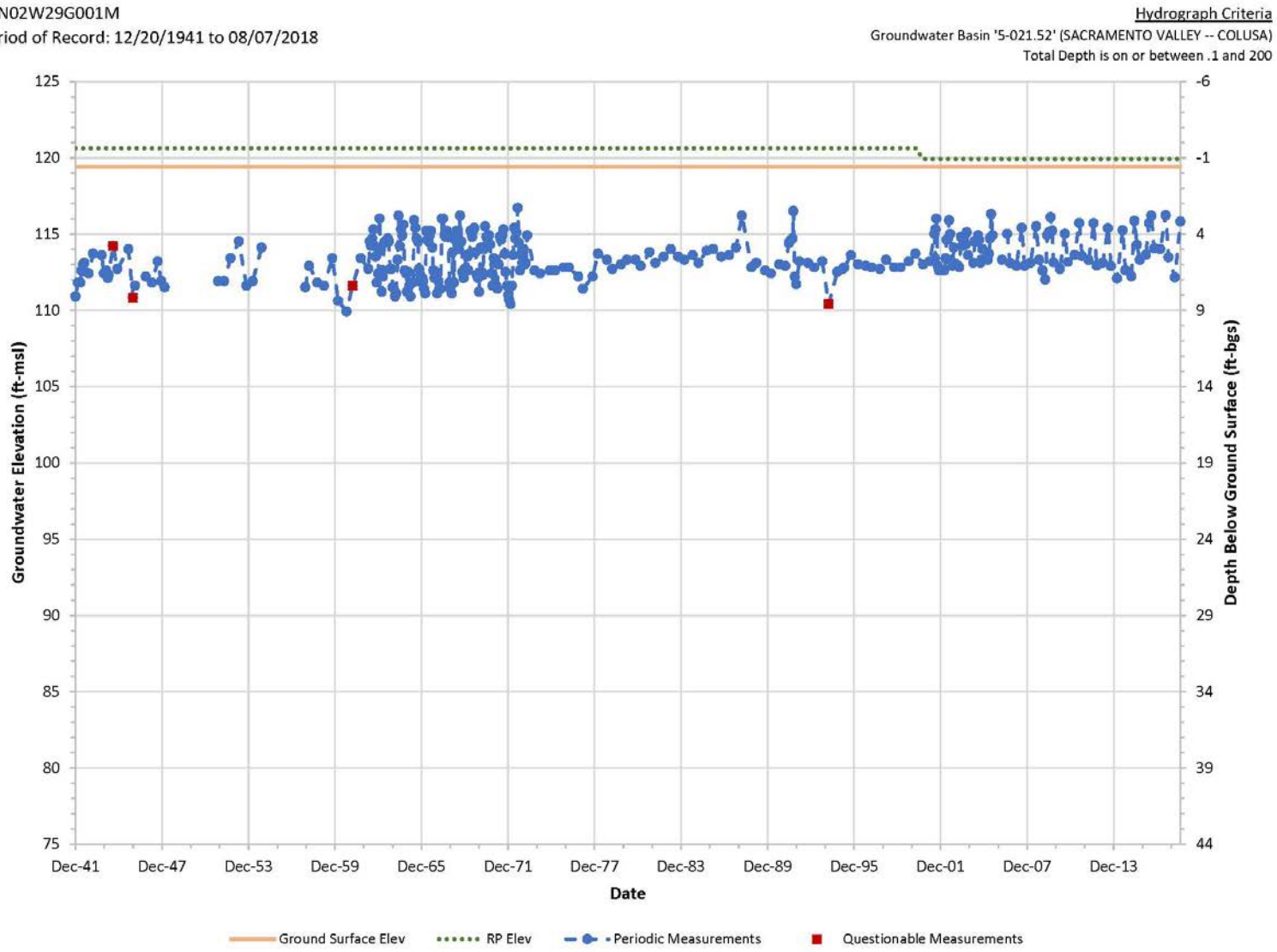


Figure F-15.
Hydrograph for 20N02W29G001M

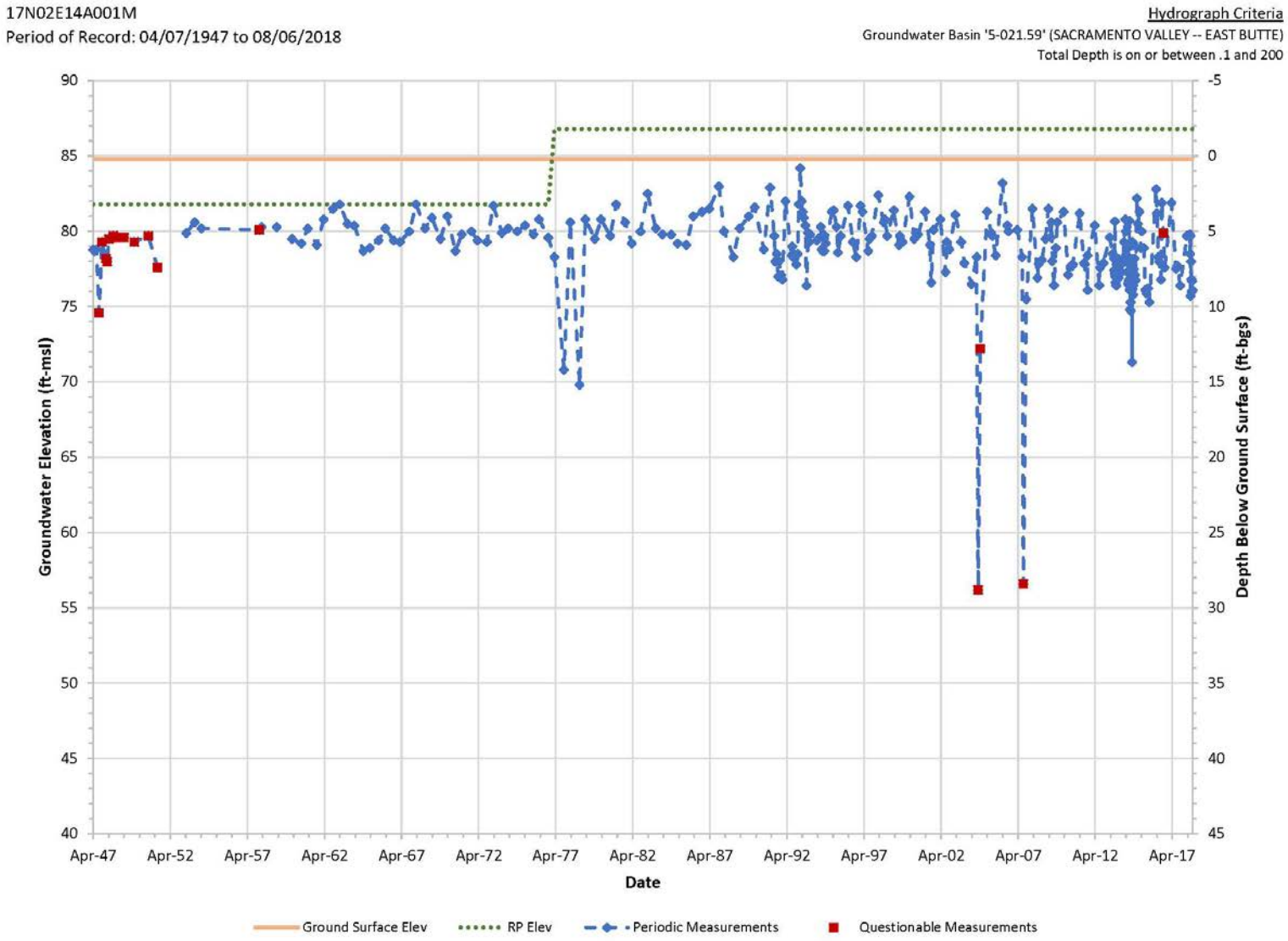


Figure F-16.
Hydrograph for 17N02E14A001M

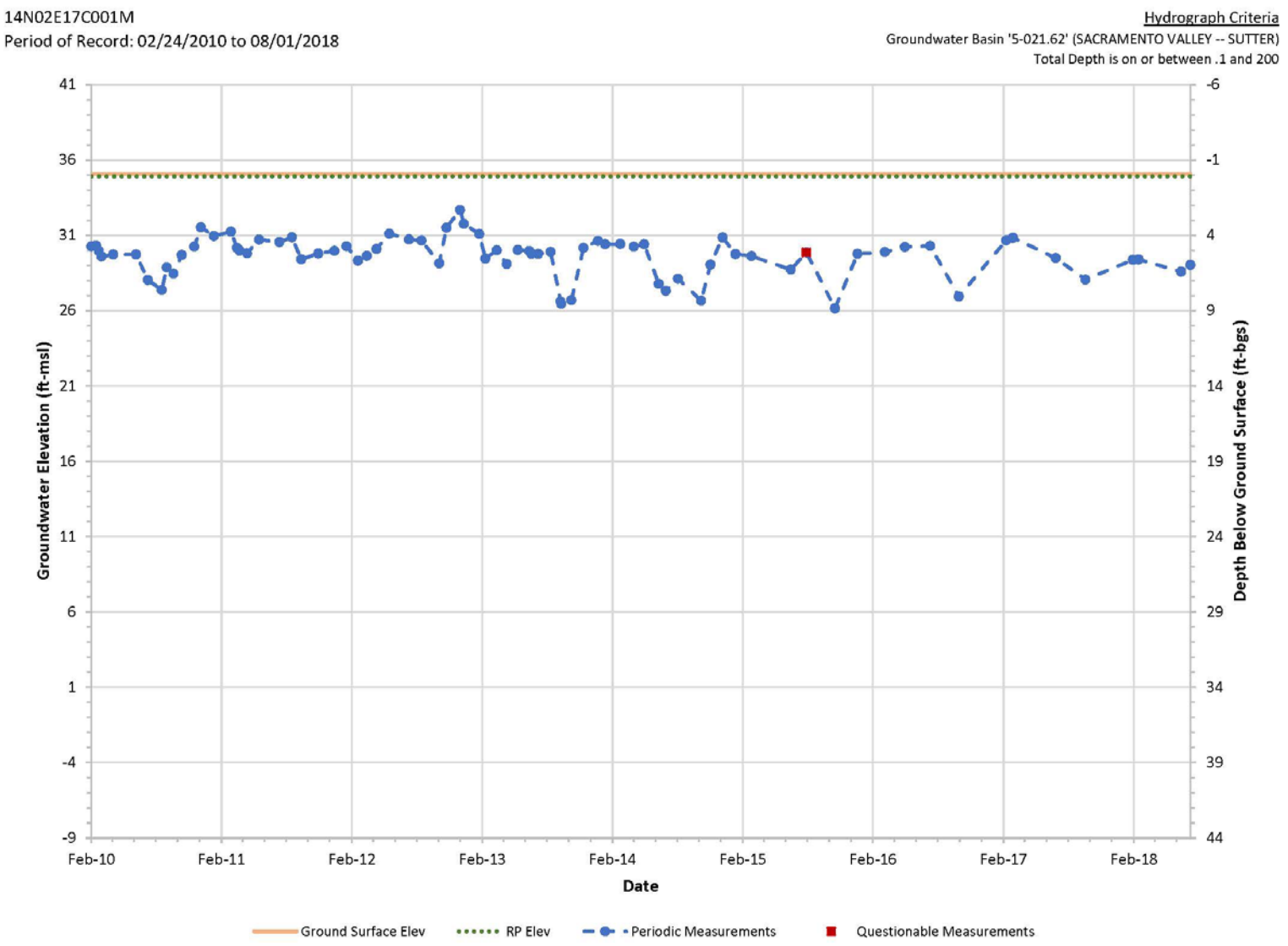


Figure F-17.
Hydrograph for 14N02E17C001M

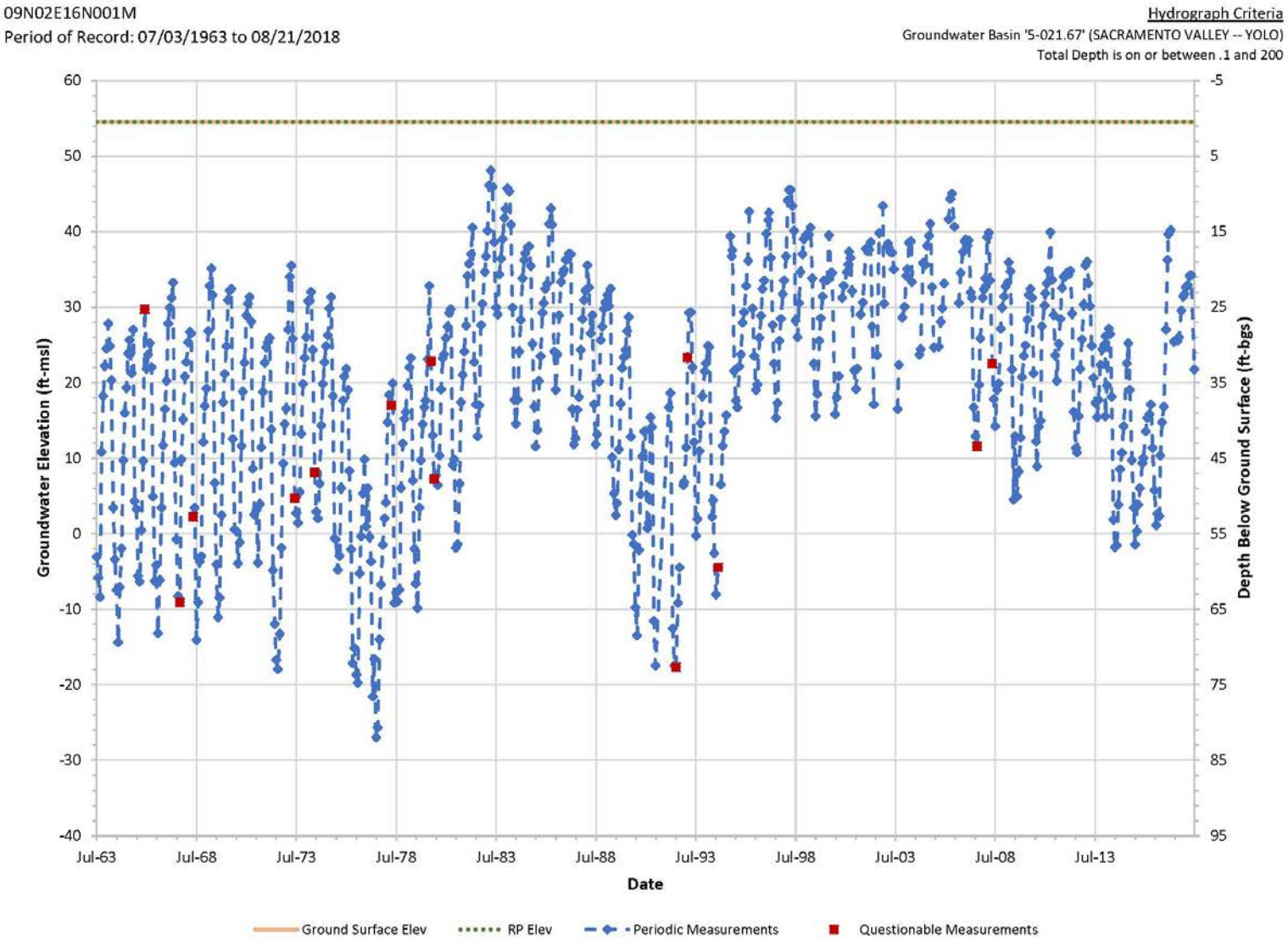


Figure F-18.
Hydrograph for 09N02E16N001M

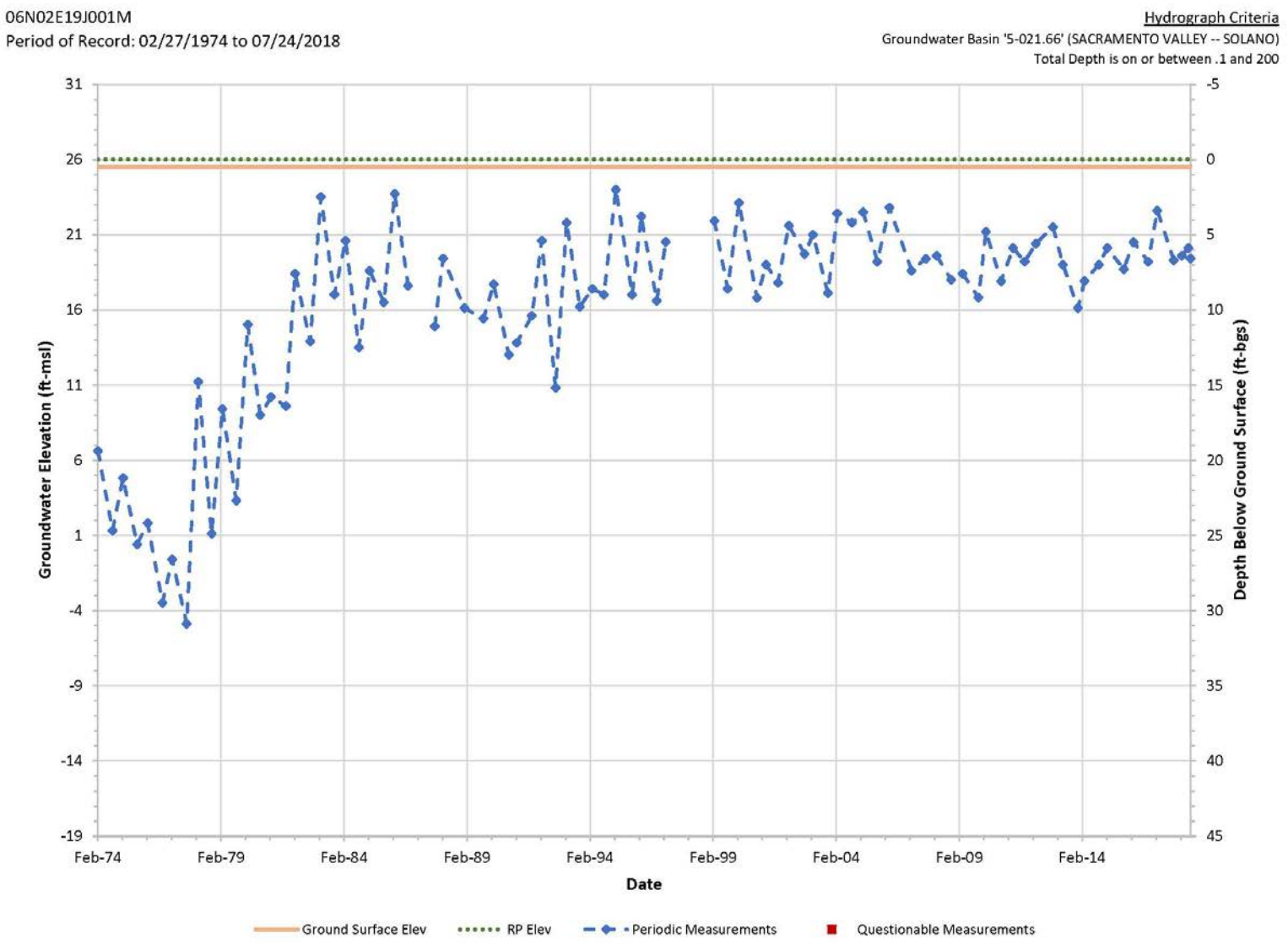


Figure F-19.
Hydrograph for 06N02E19J001M

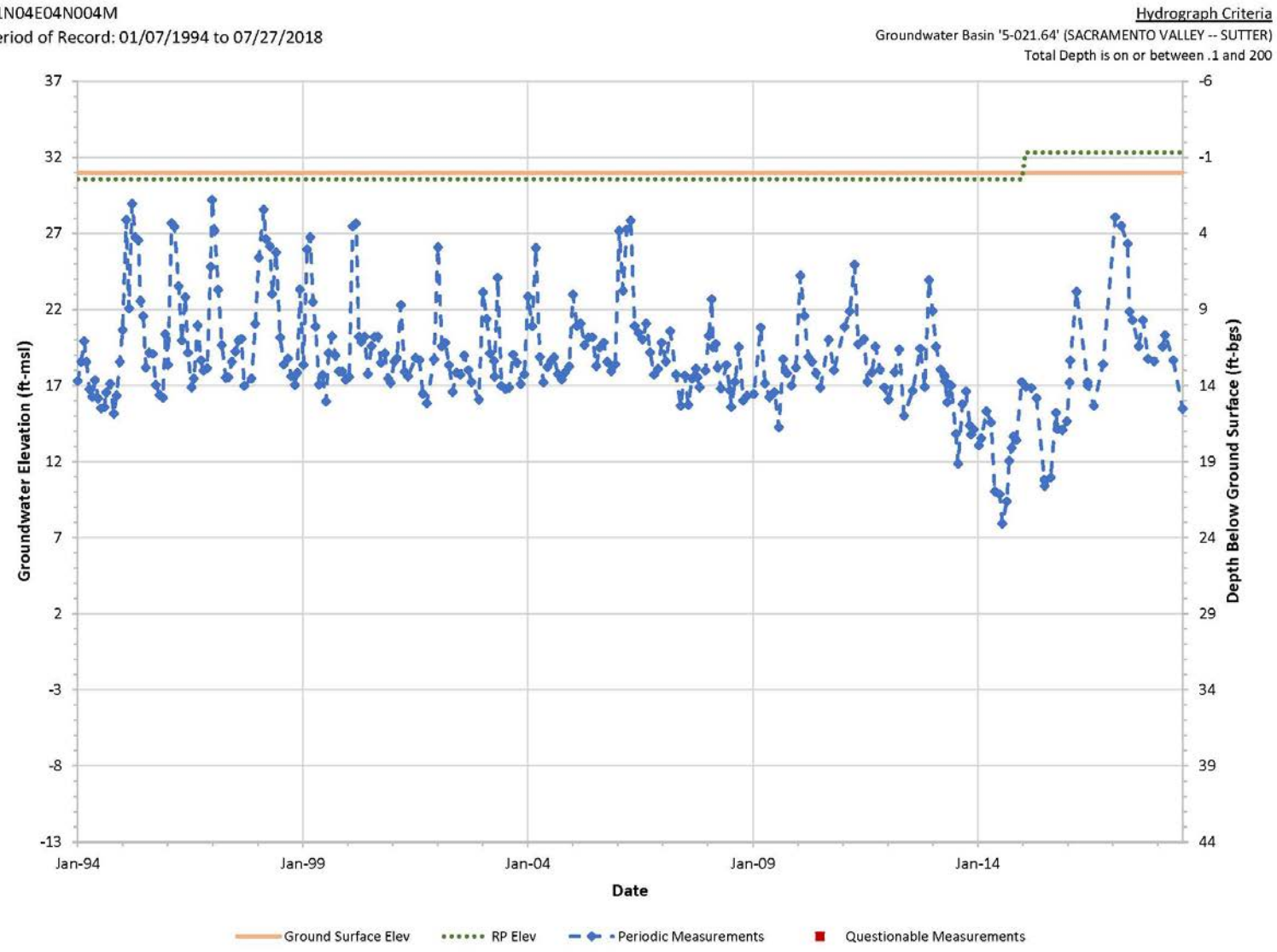


Figure F-20.
Hydrograph for 11N04E04N004M

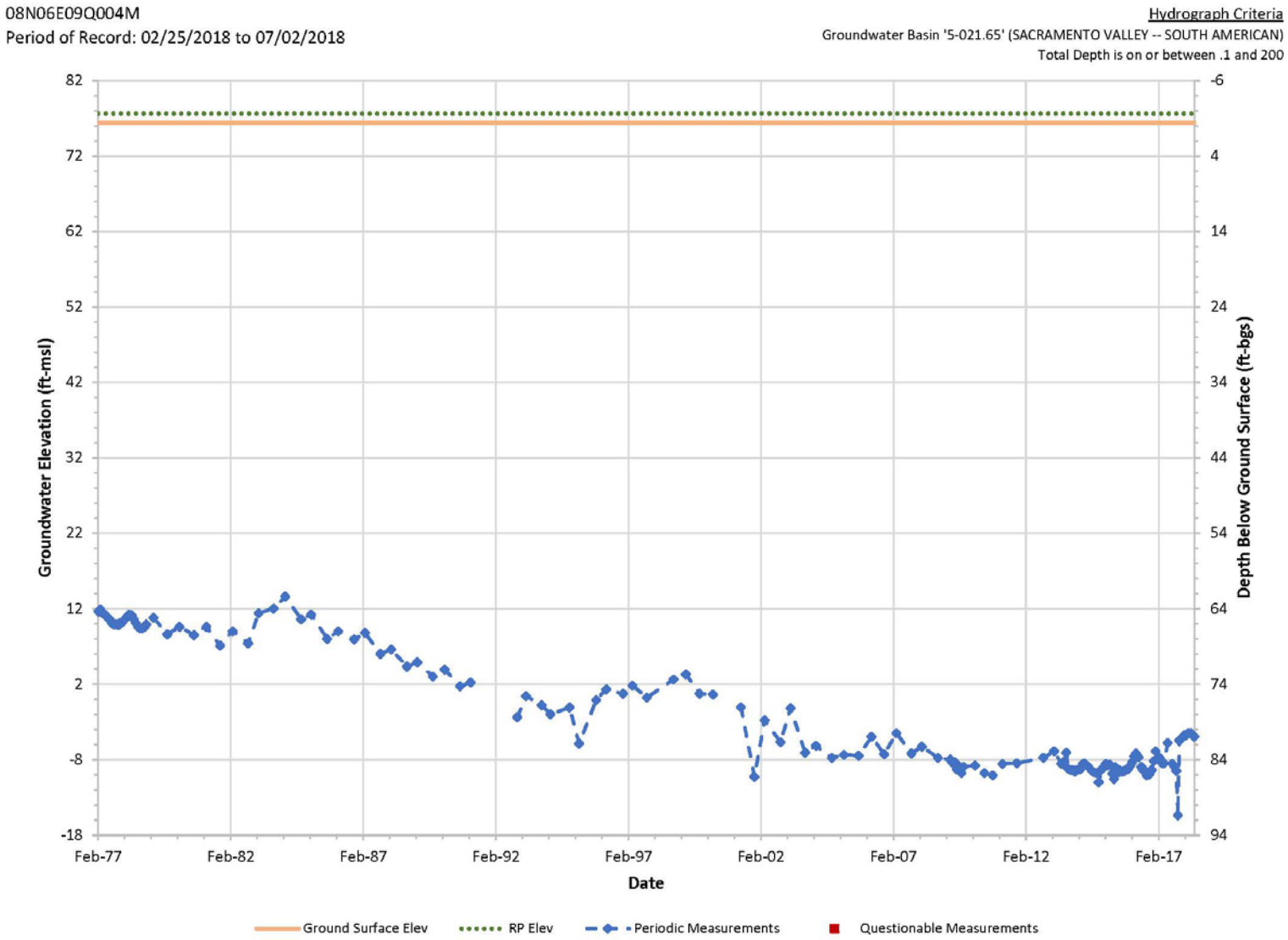


Figure F-21.
Hydrograph for 08N06E09Q004M

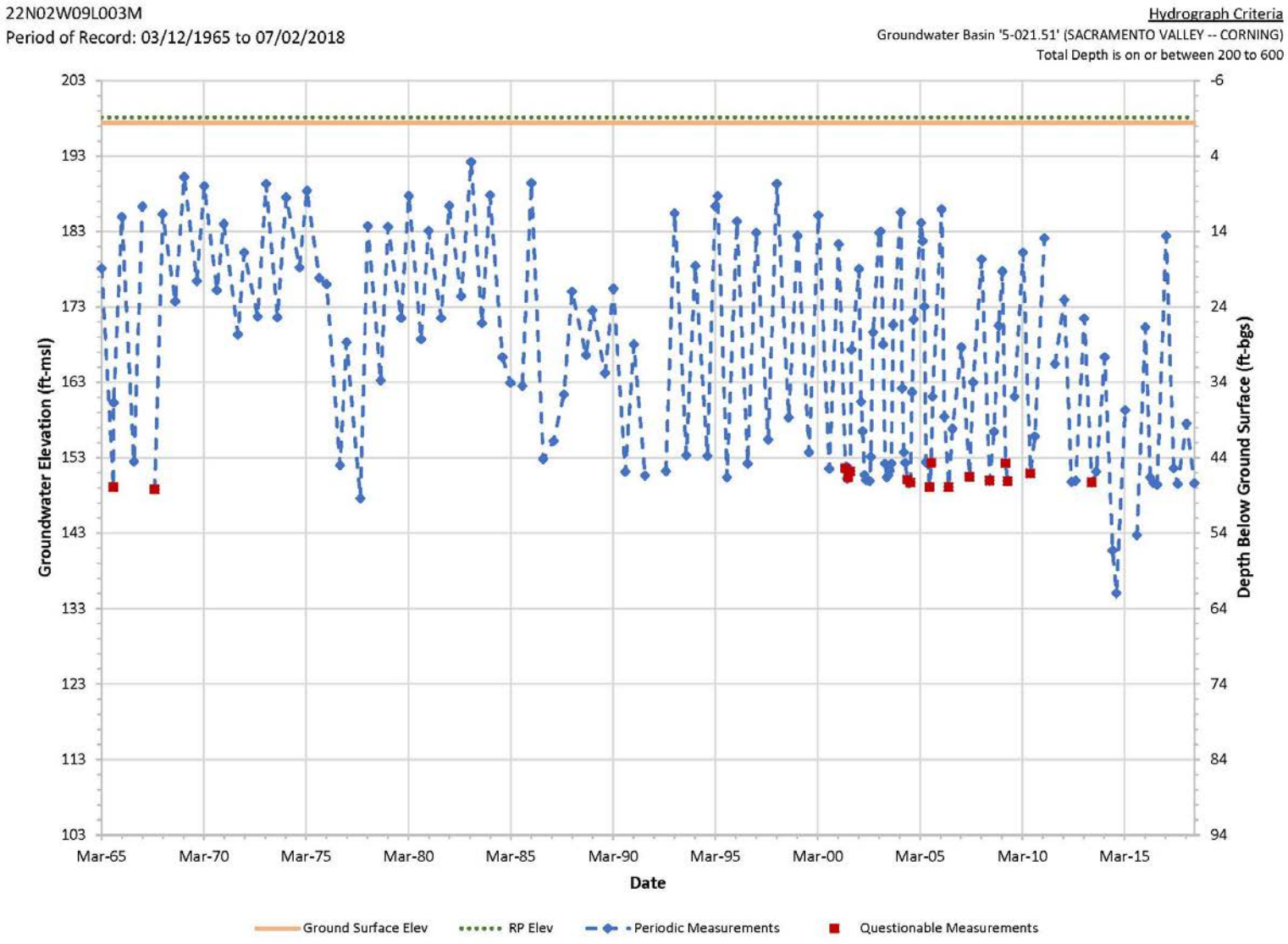


Figure F-22.
Hydrograph for 22N02W09L003M

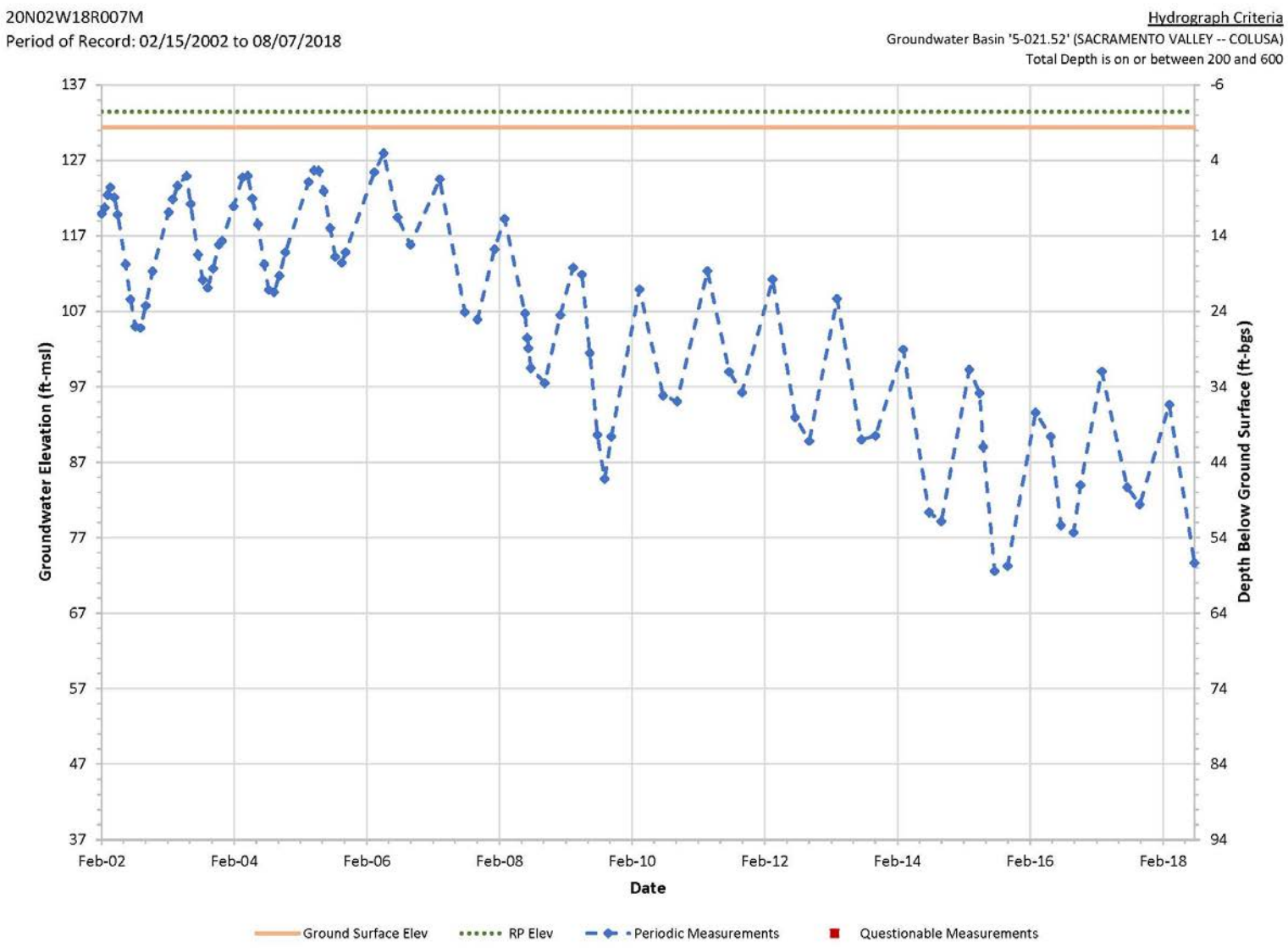


Figure F-23.
Hydrograph for 20N02W18R007M

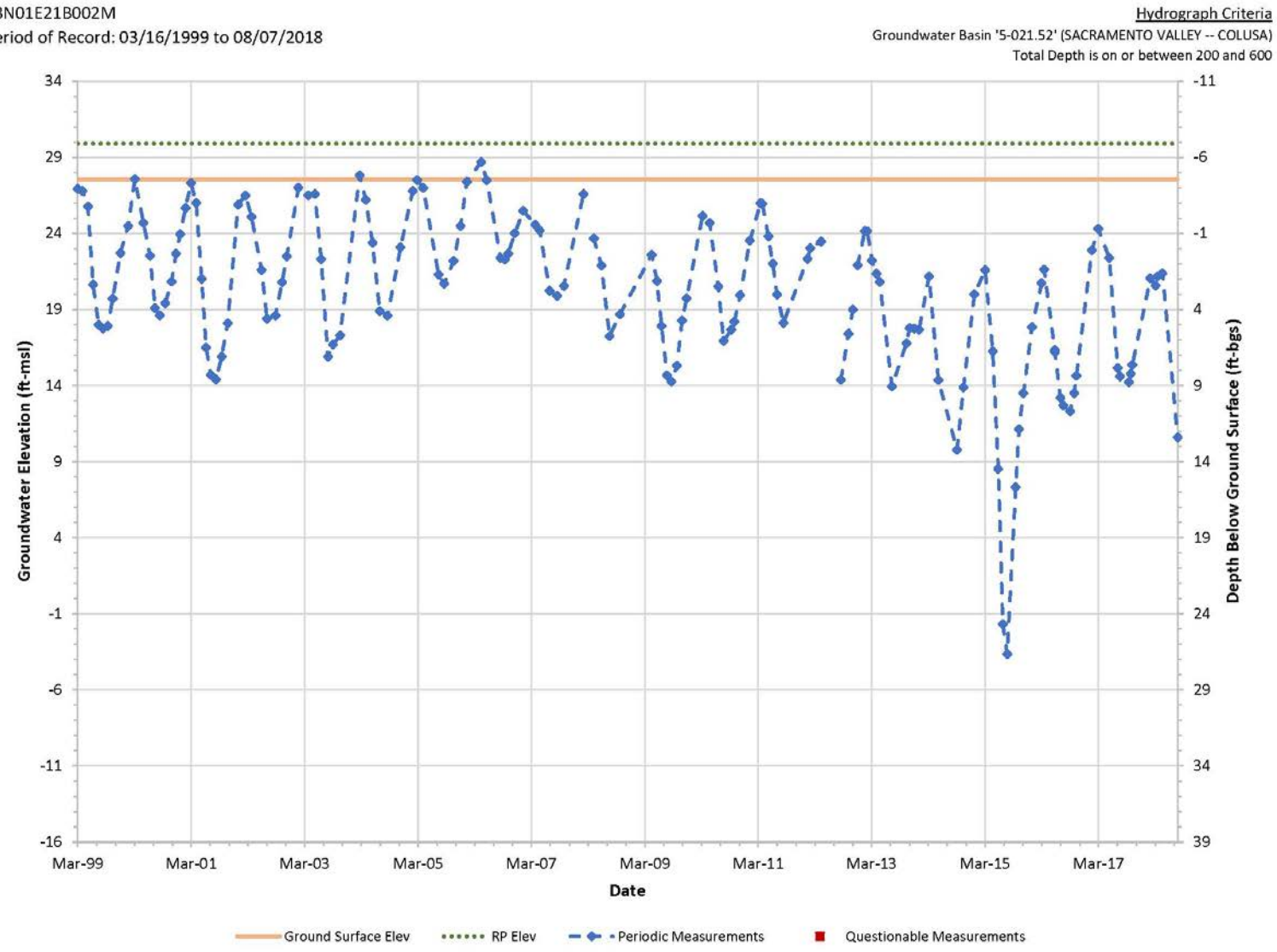


Figure F-24.
Hydrograph for 13N01E21B002M

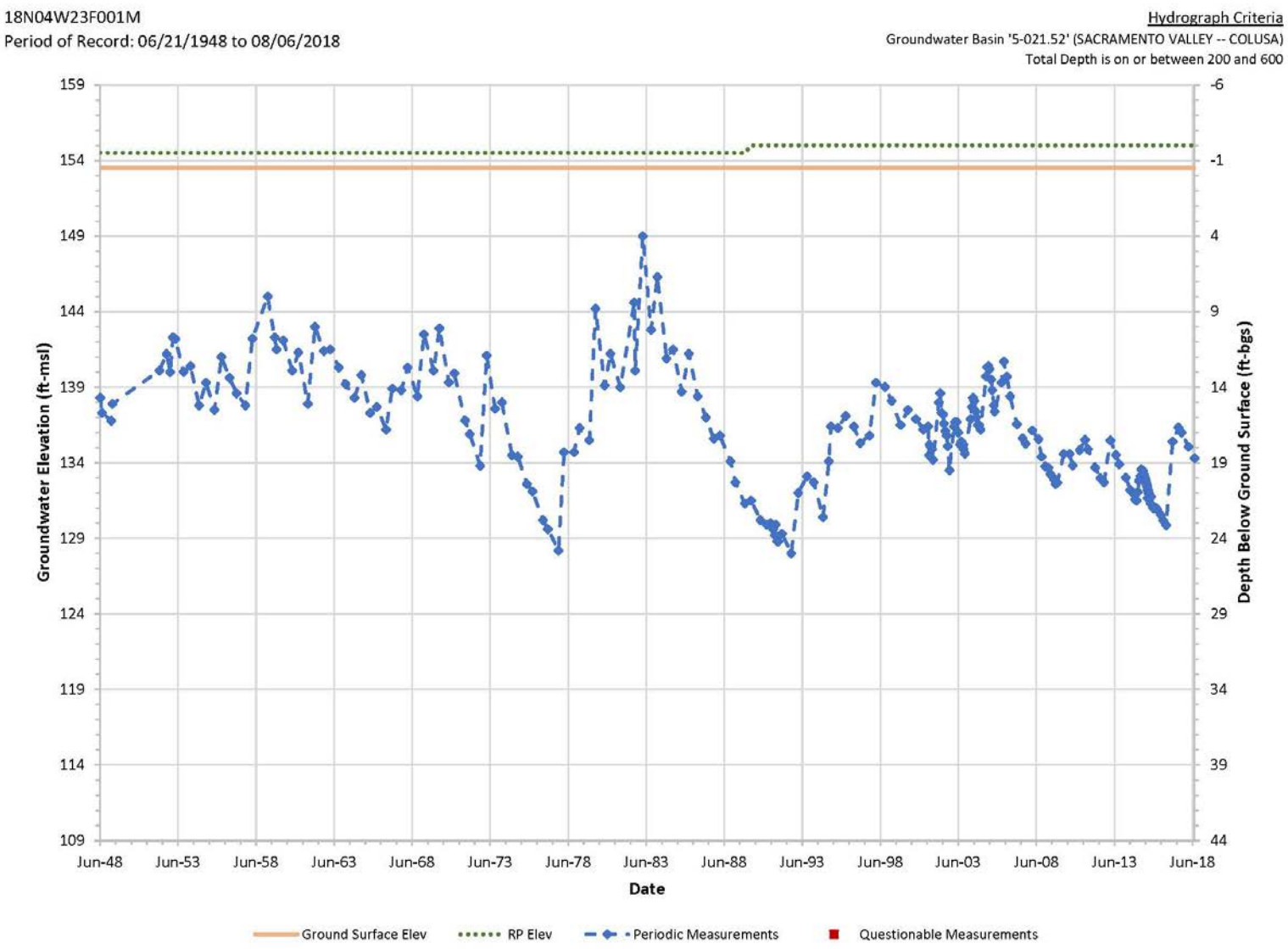


Figure F-25.
Hydrograph for 18N04W23F001M

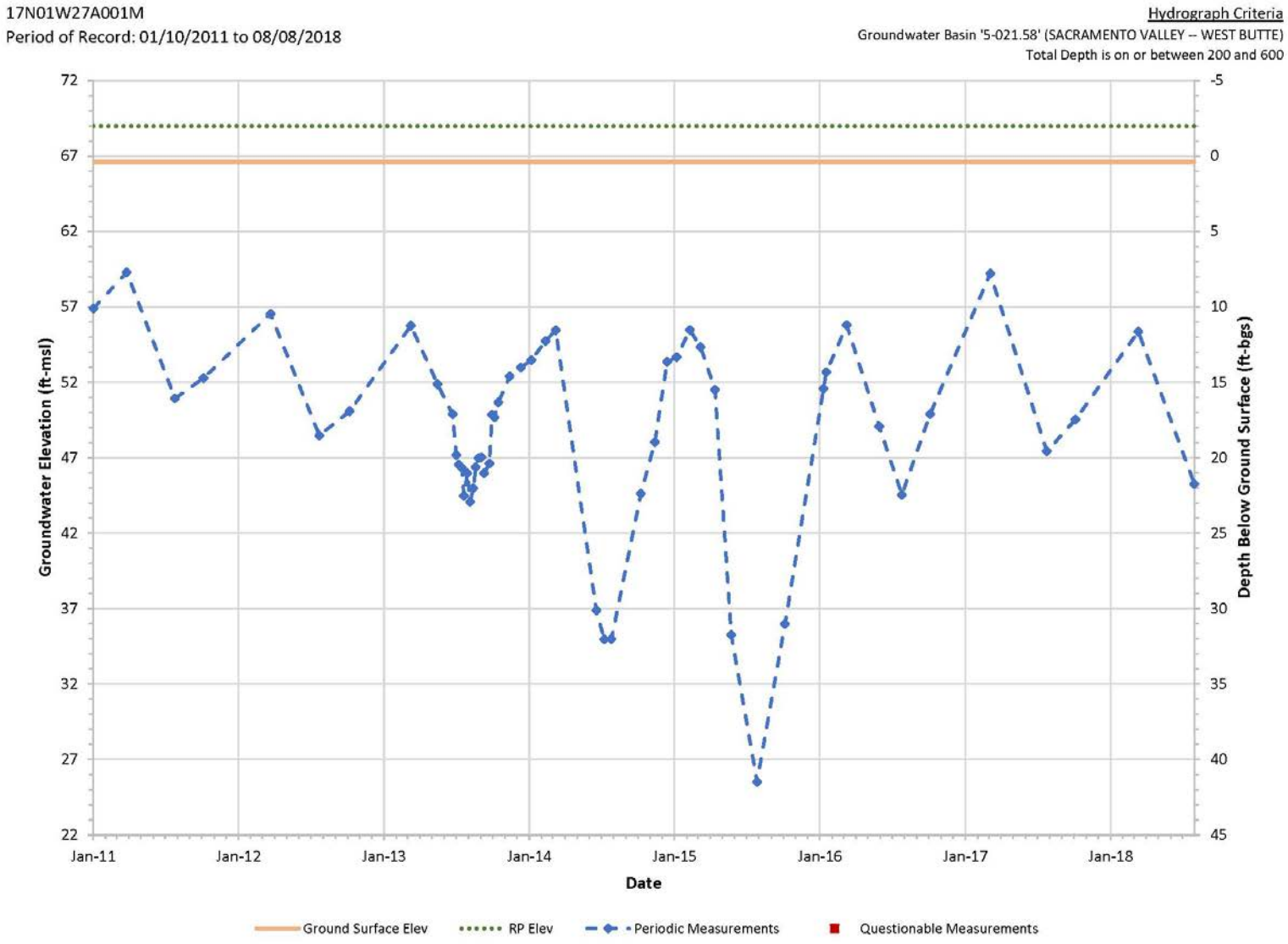


Figure F-26.
Hydrograph for 17N01W27A001M

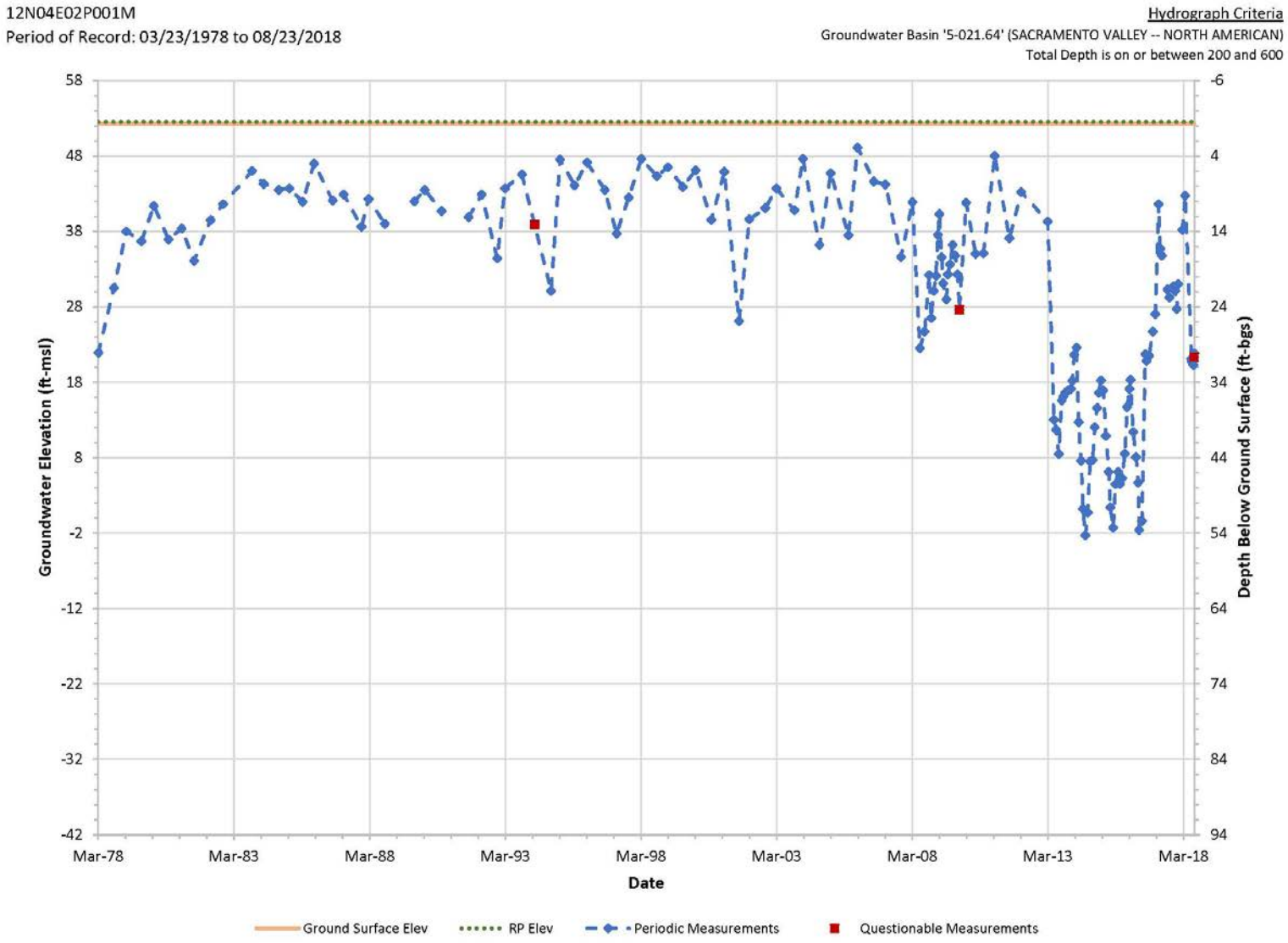


Figure F-27.
Hydrograph for 12N04E02P001M

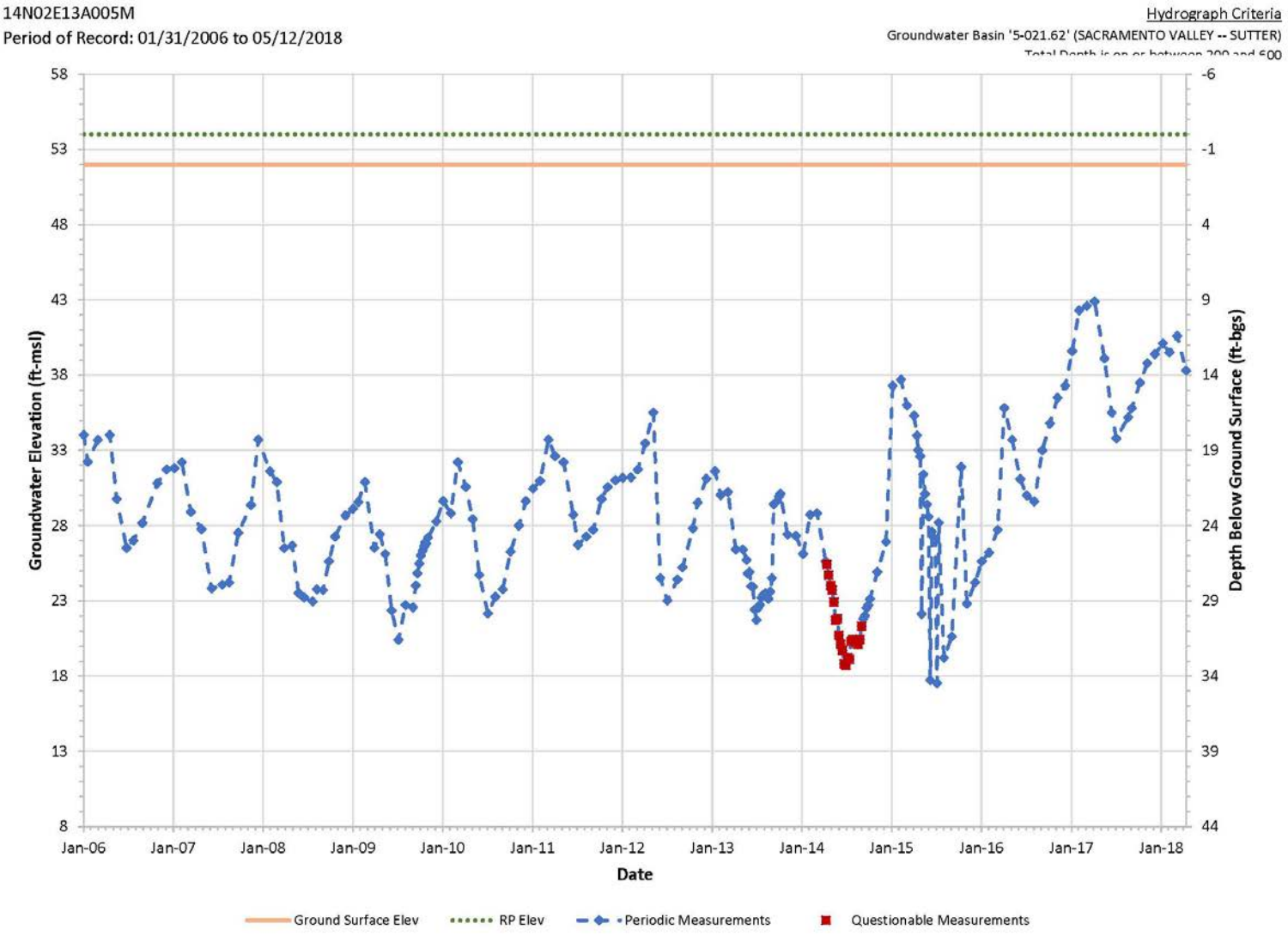


Figure F-28.
Hydrograph for 14N02E13A005M

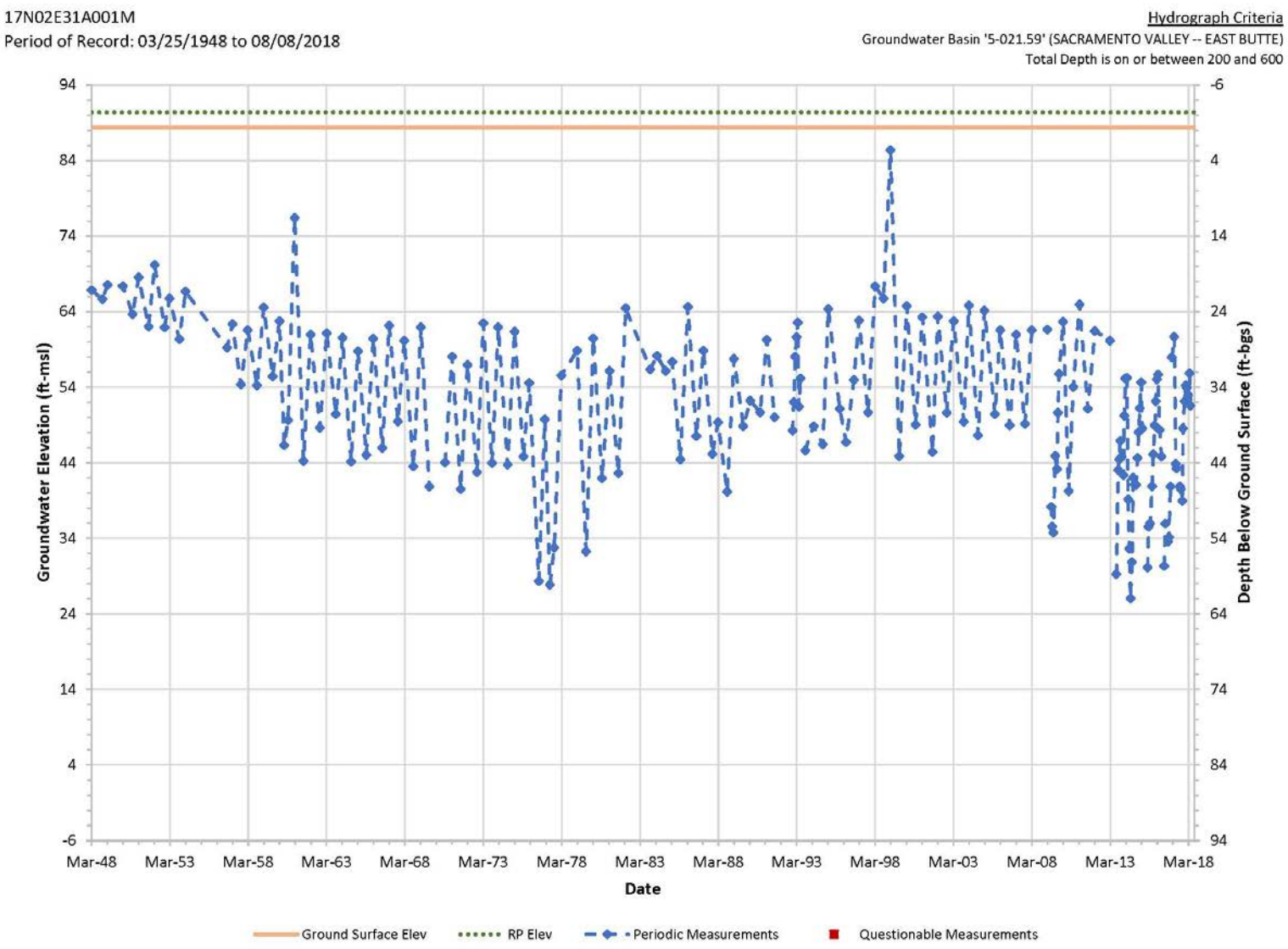


Figure F-29.
Hydrograph for 17N02E31A001M

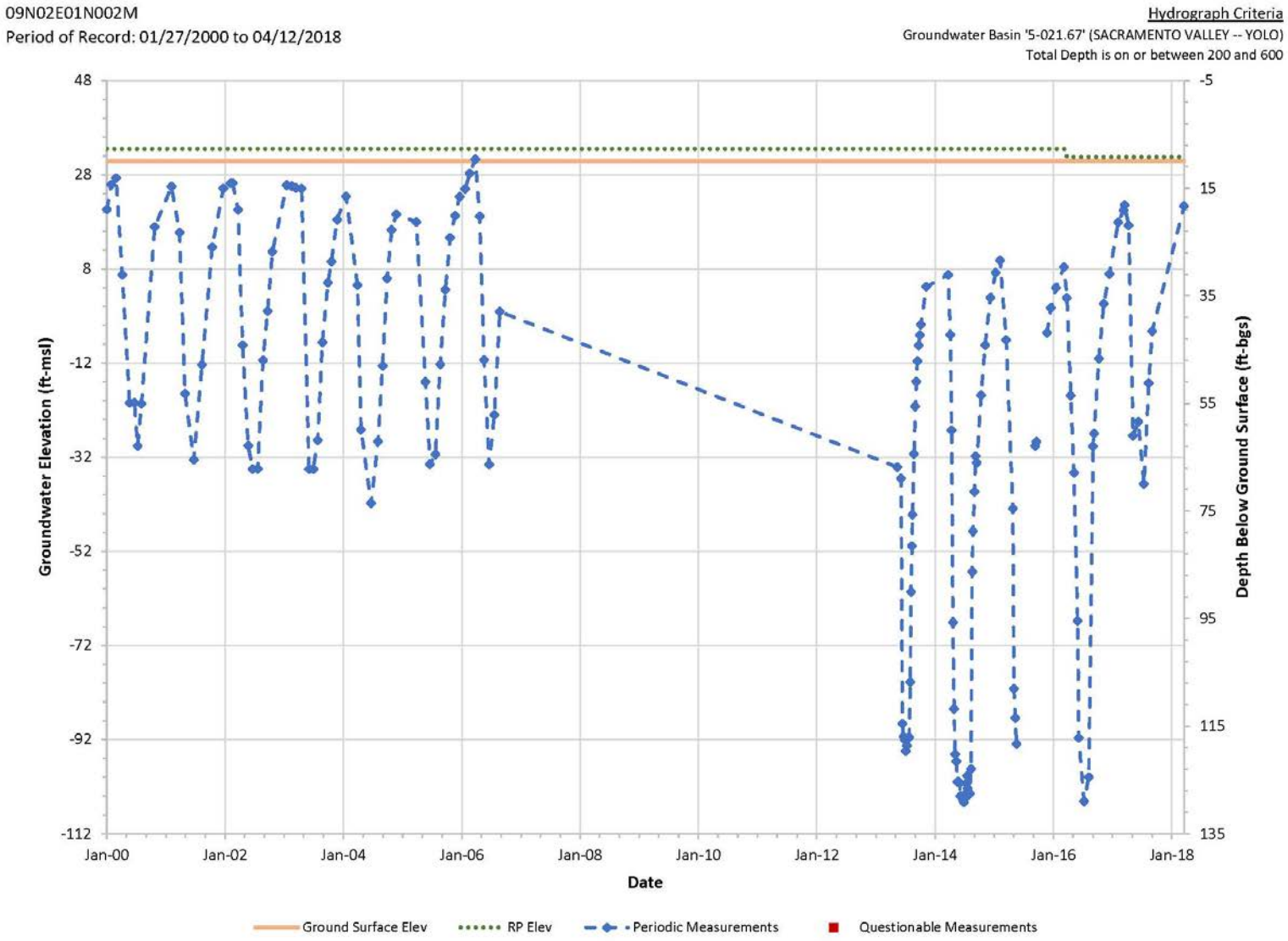


Figure F-30.
Hydrograph for 09N02E01N002M

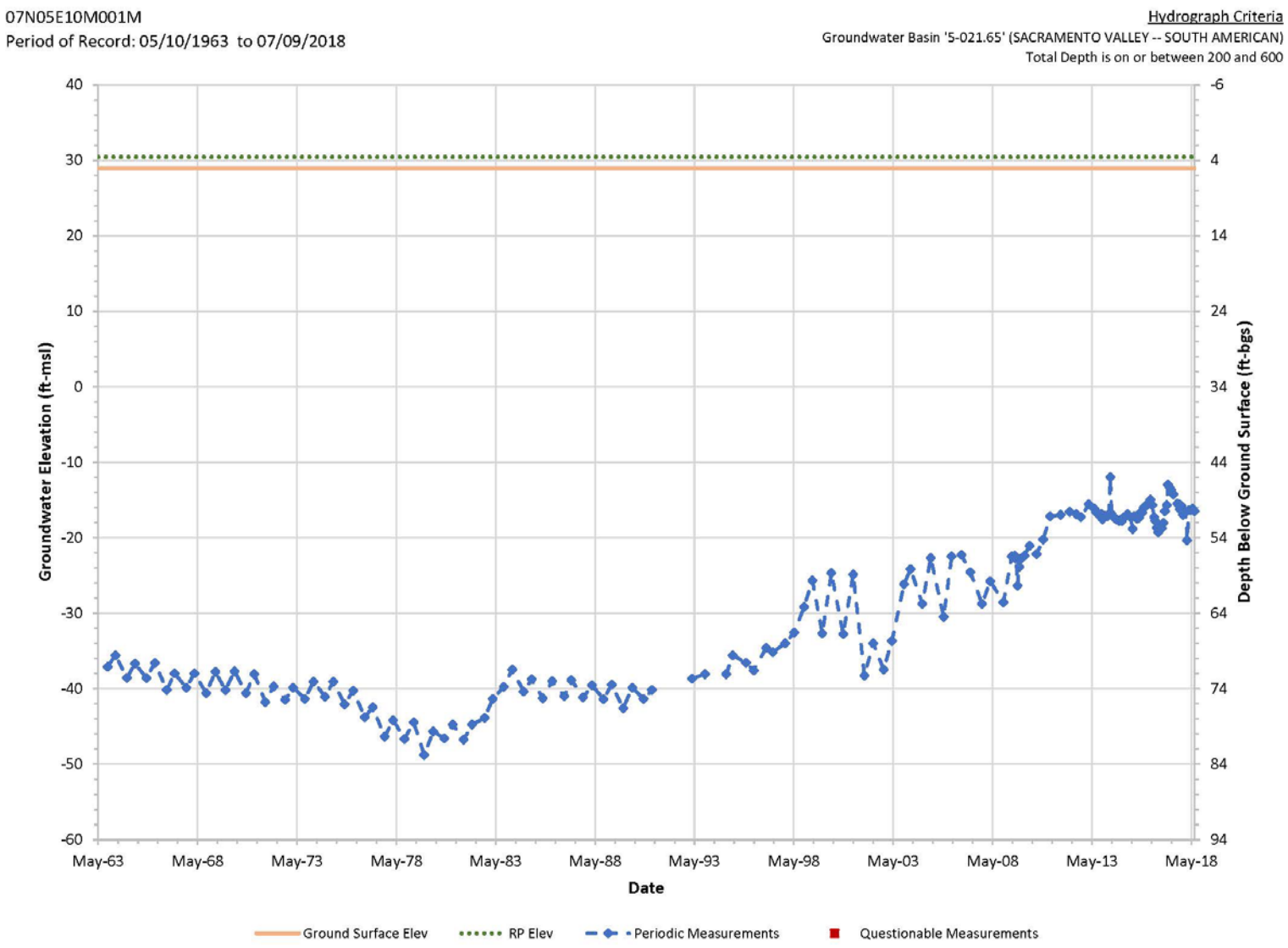


Figure F-31.
Hydrograph for 07N05E10M001M

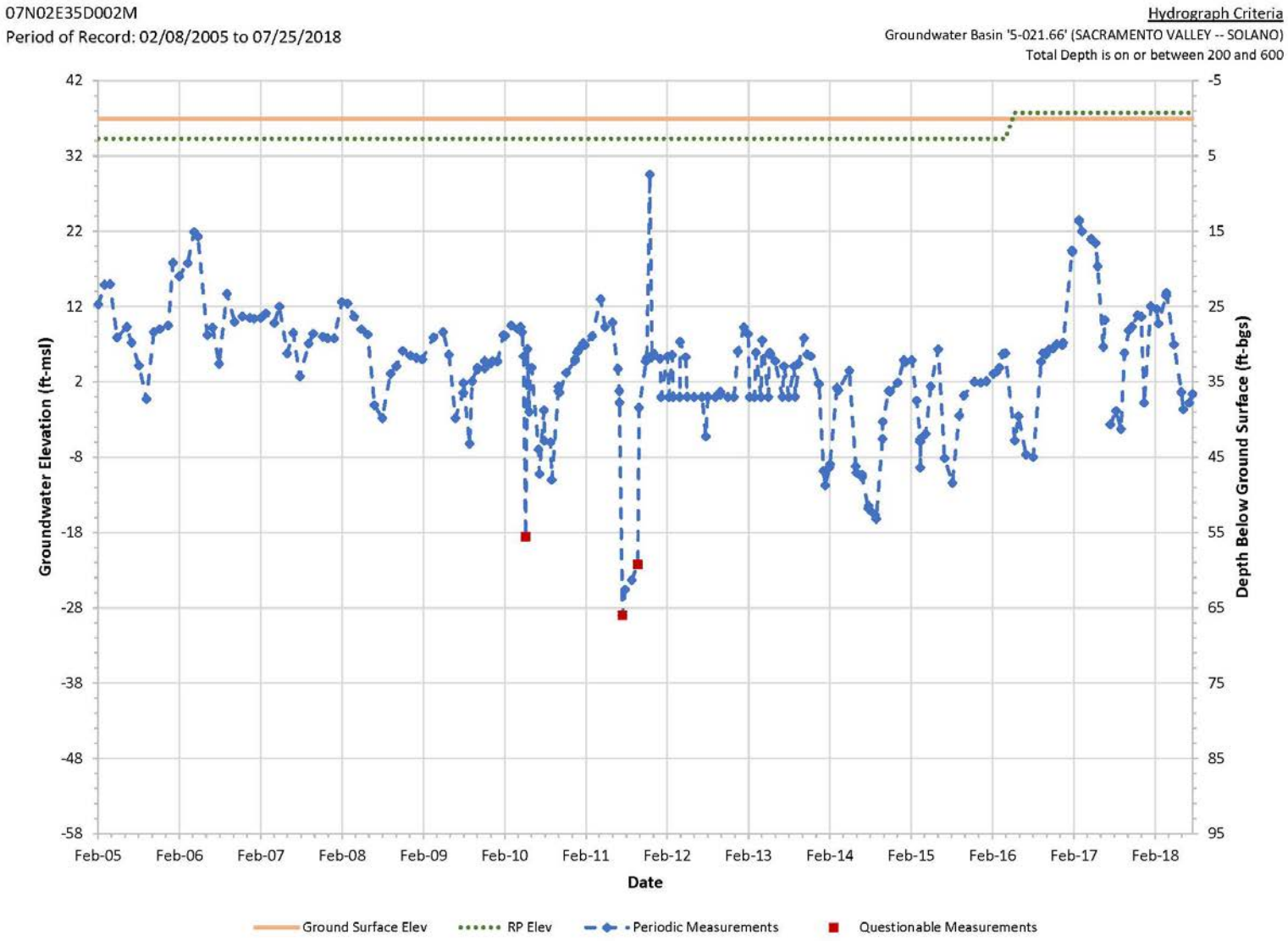


Figure F-32.
Hydrograph for 07N02E35D002M

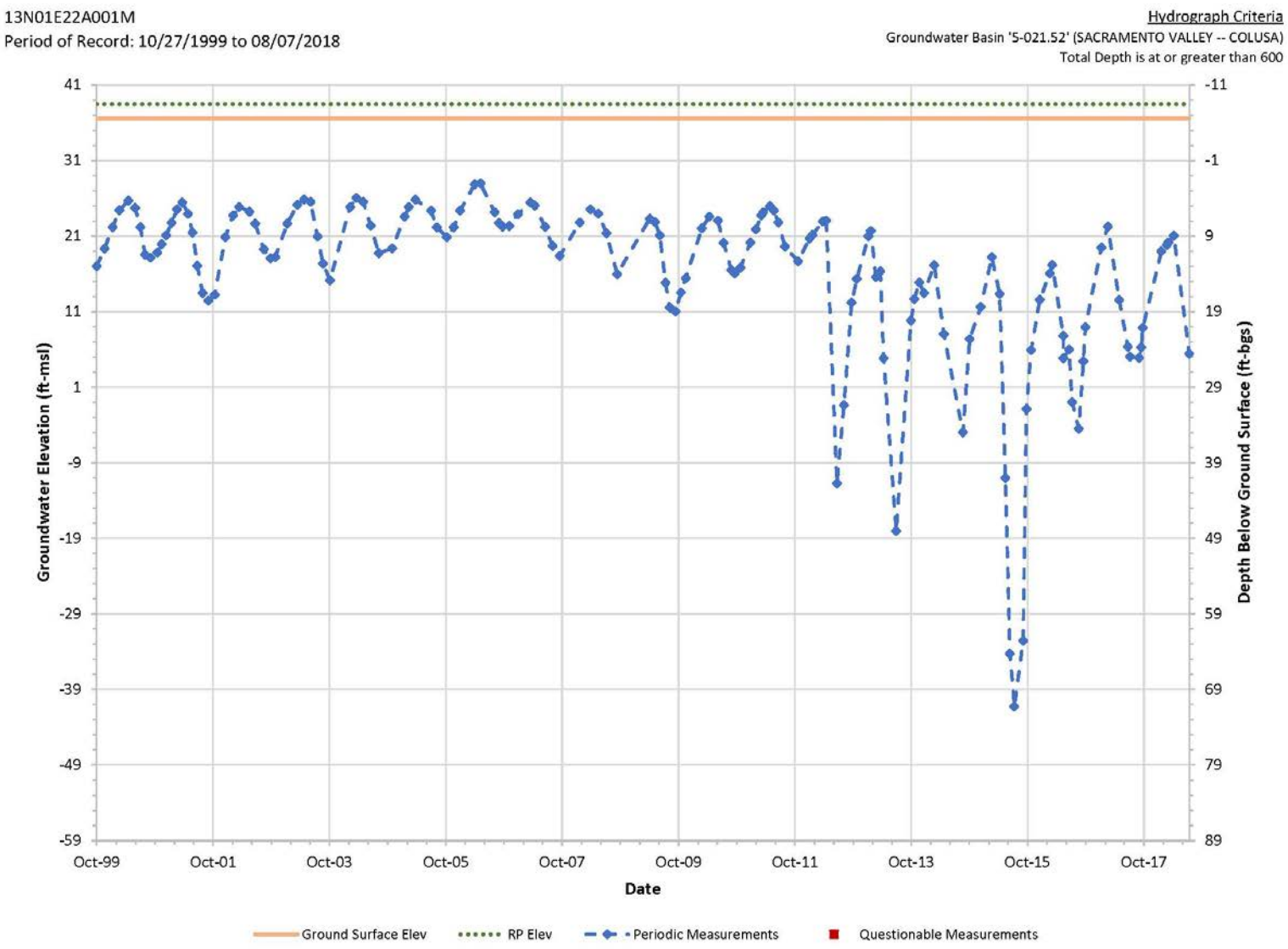


Figure F-33.
Hydrograph for 13N01E22A001M

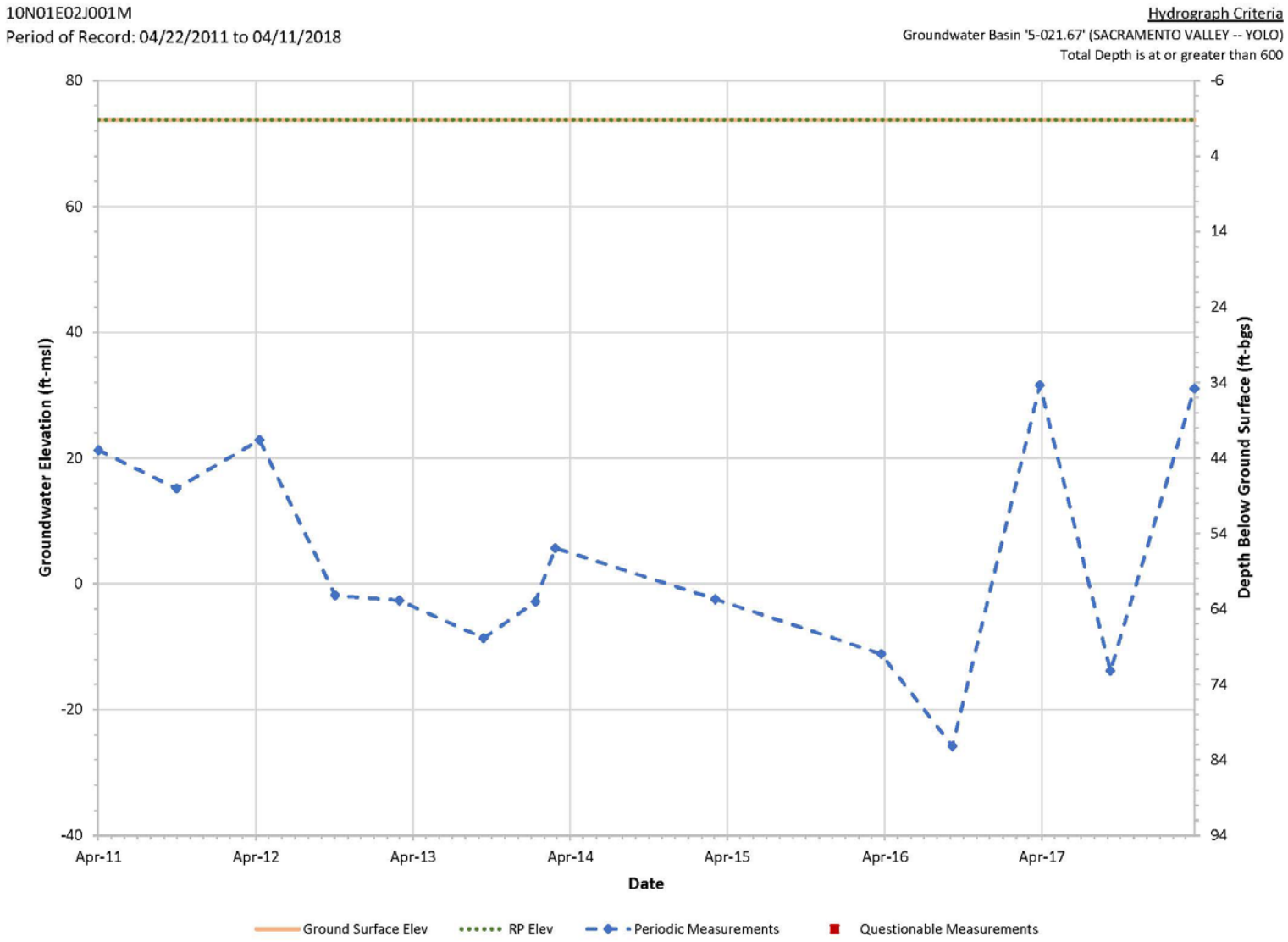


Figure F-34.
Hydrograph for 10N01E02J001M

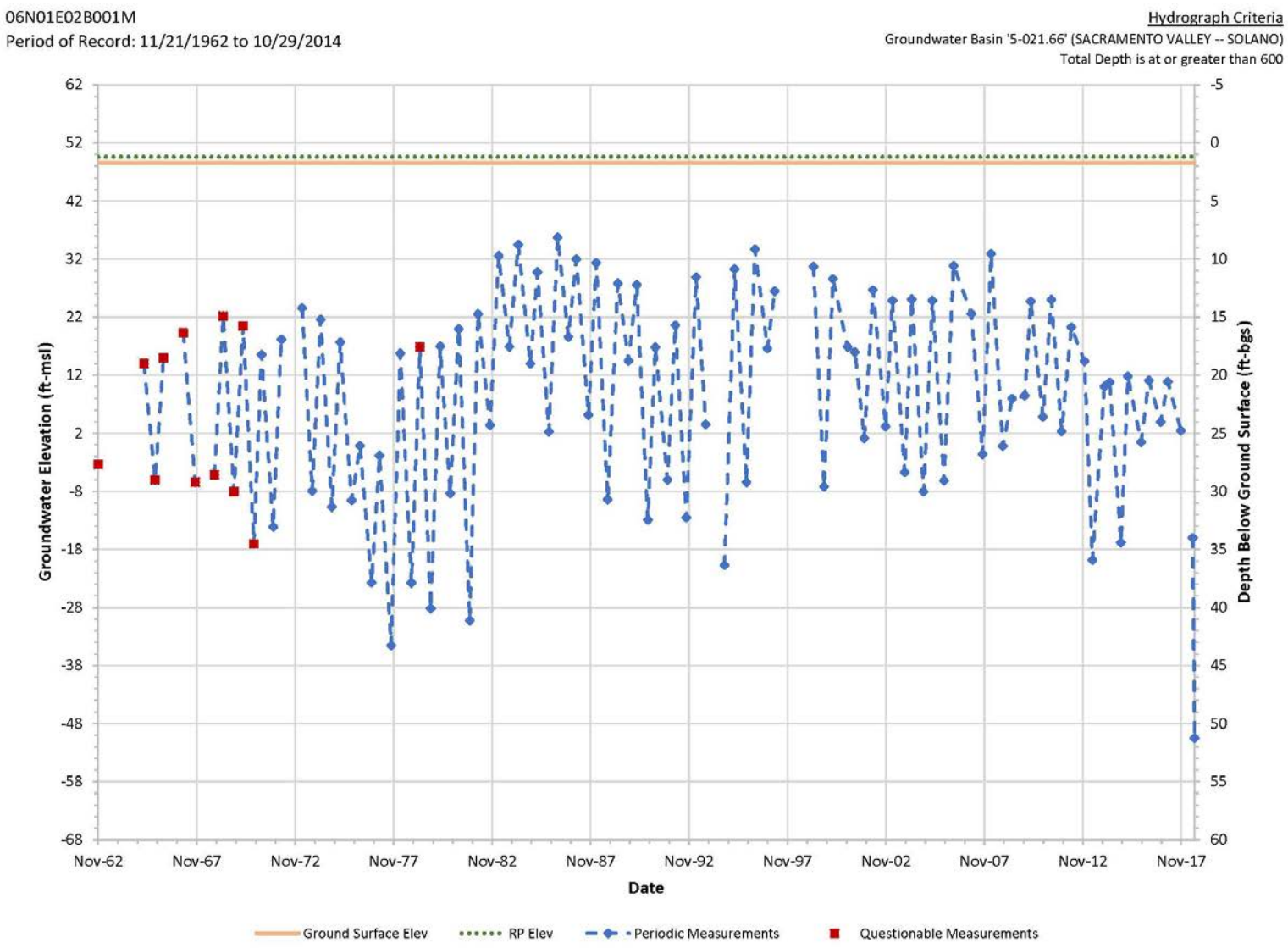


Figure F-35.
Hydrograph for 06N01E02B001M

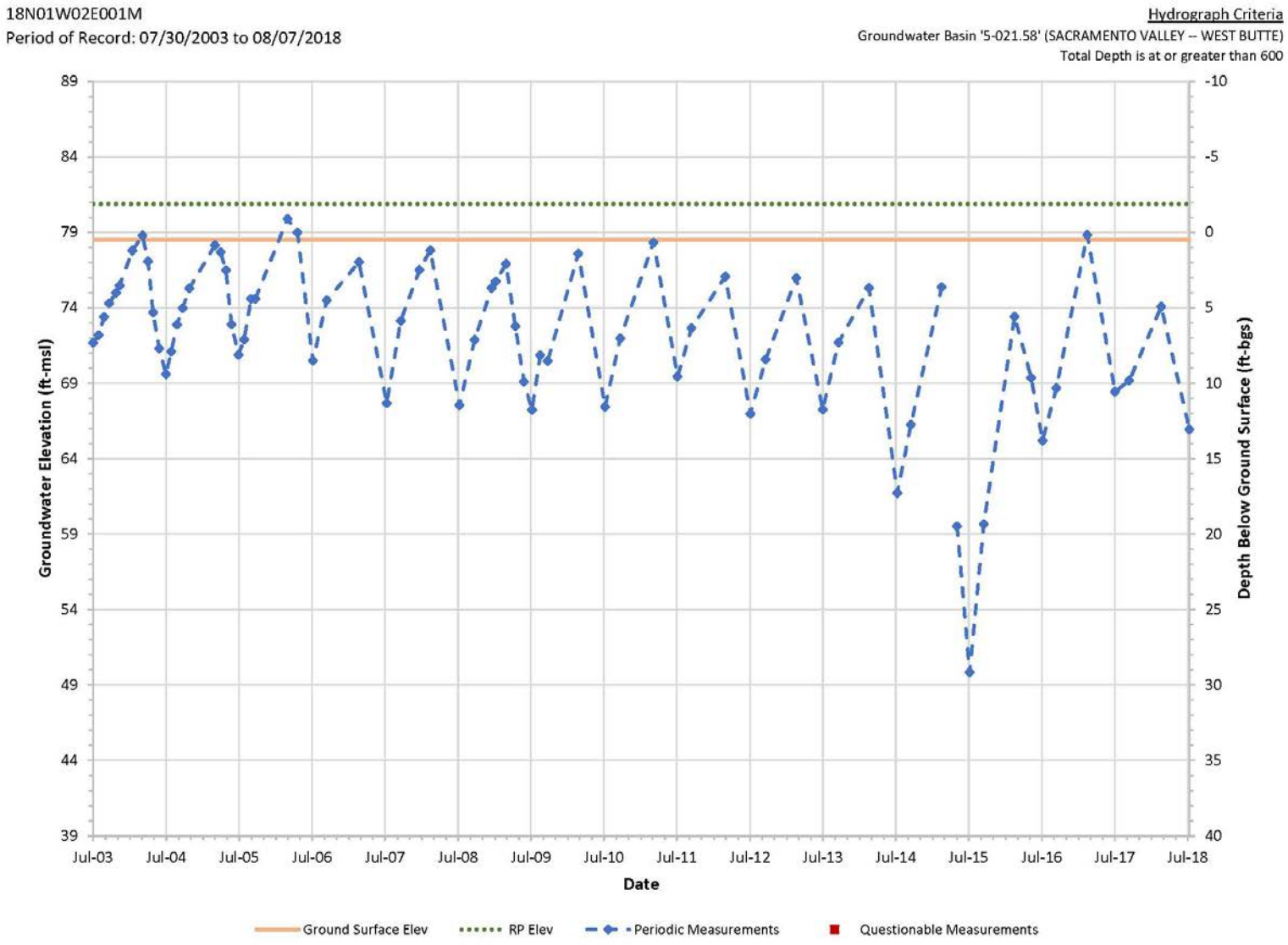


Figure F-36.
Hydrograph for 18N01W02E001M

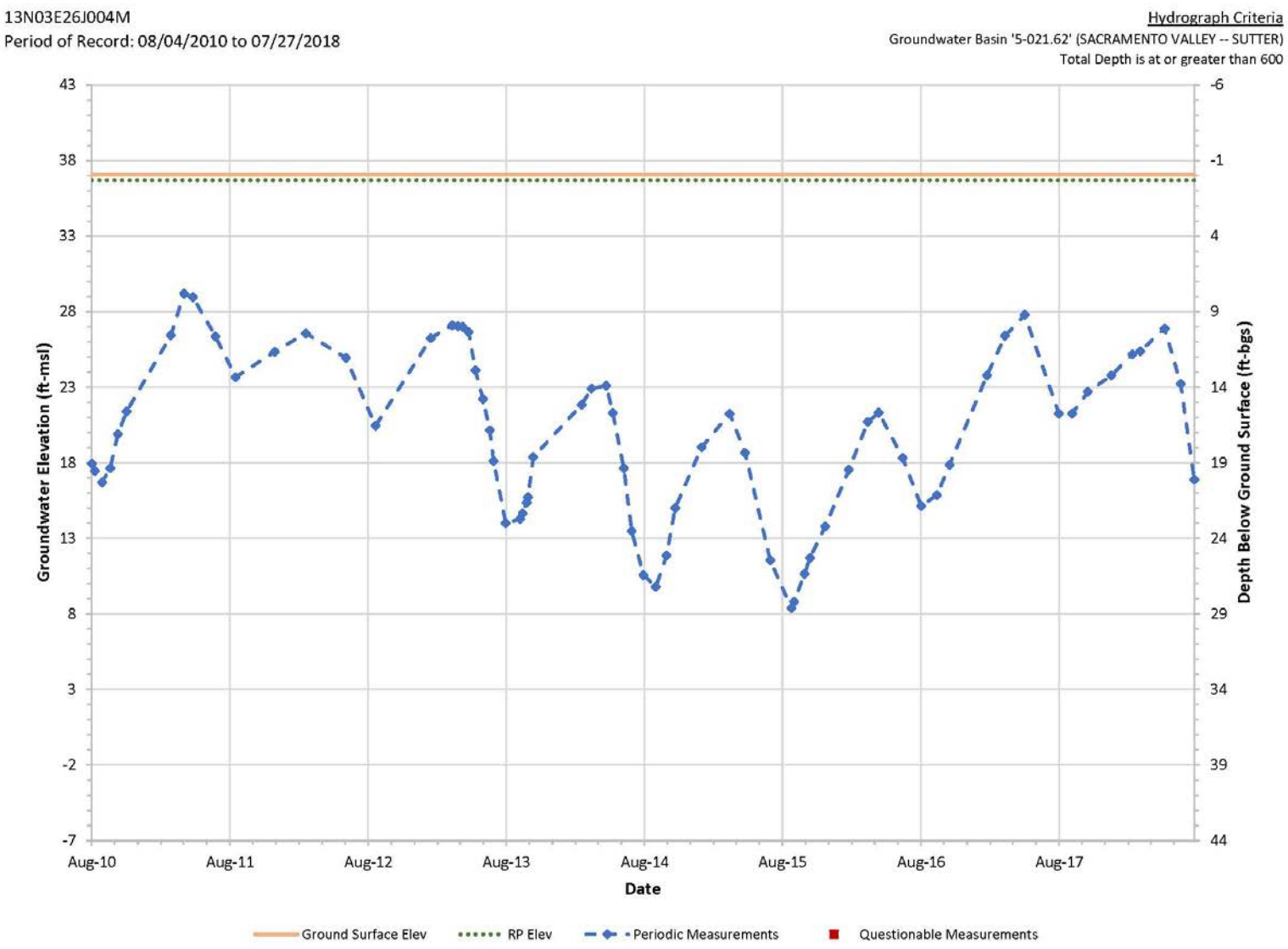


Figure F-37.
Hydrograph for 13N03E26J004M

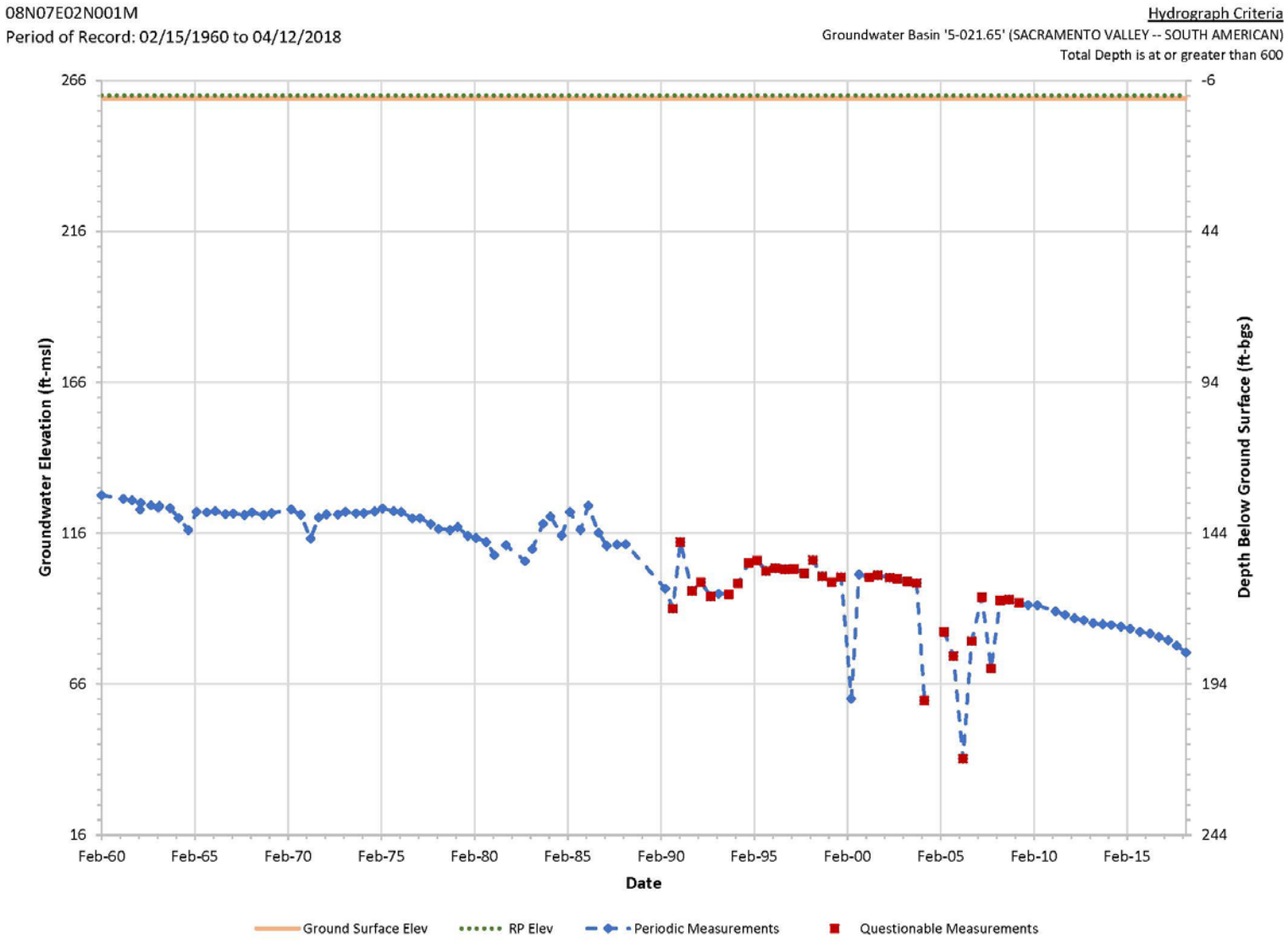


Figure F-38.
Hydrograph for 08N07E02N001M

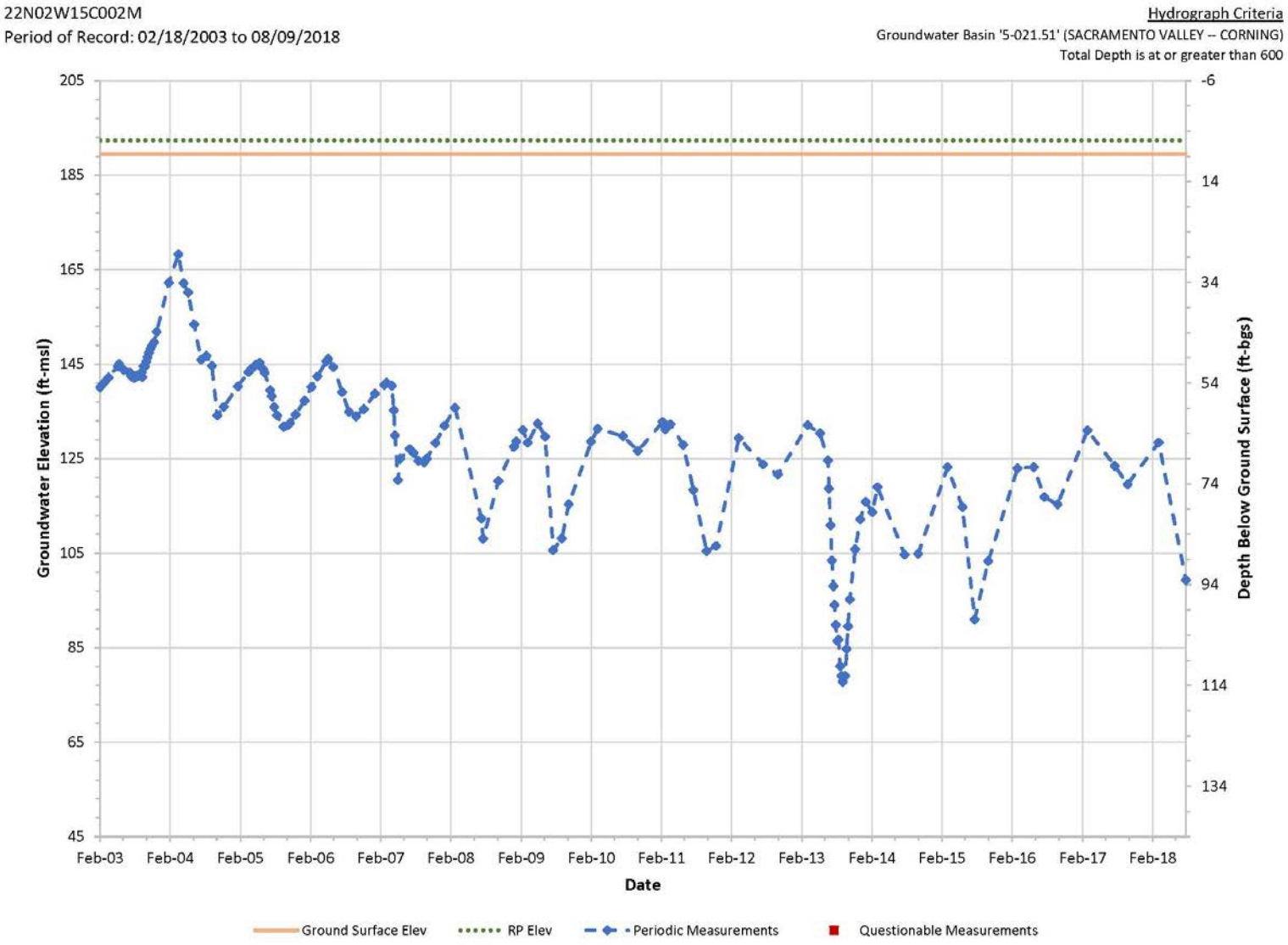


Figure F-39.
Hydrograph for 22N02W15C002M

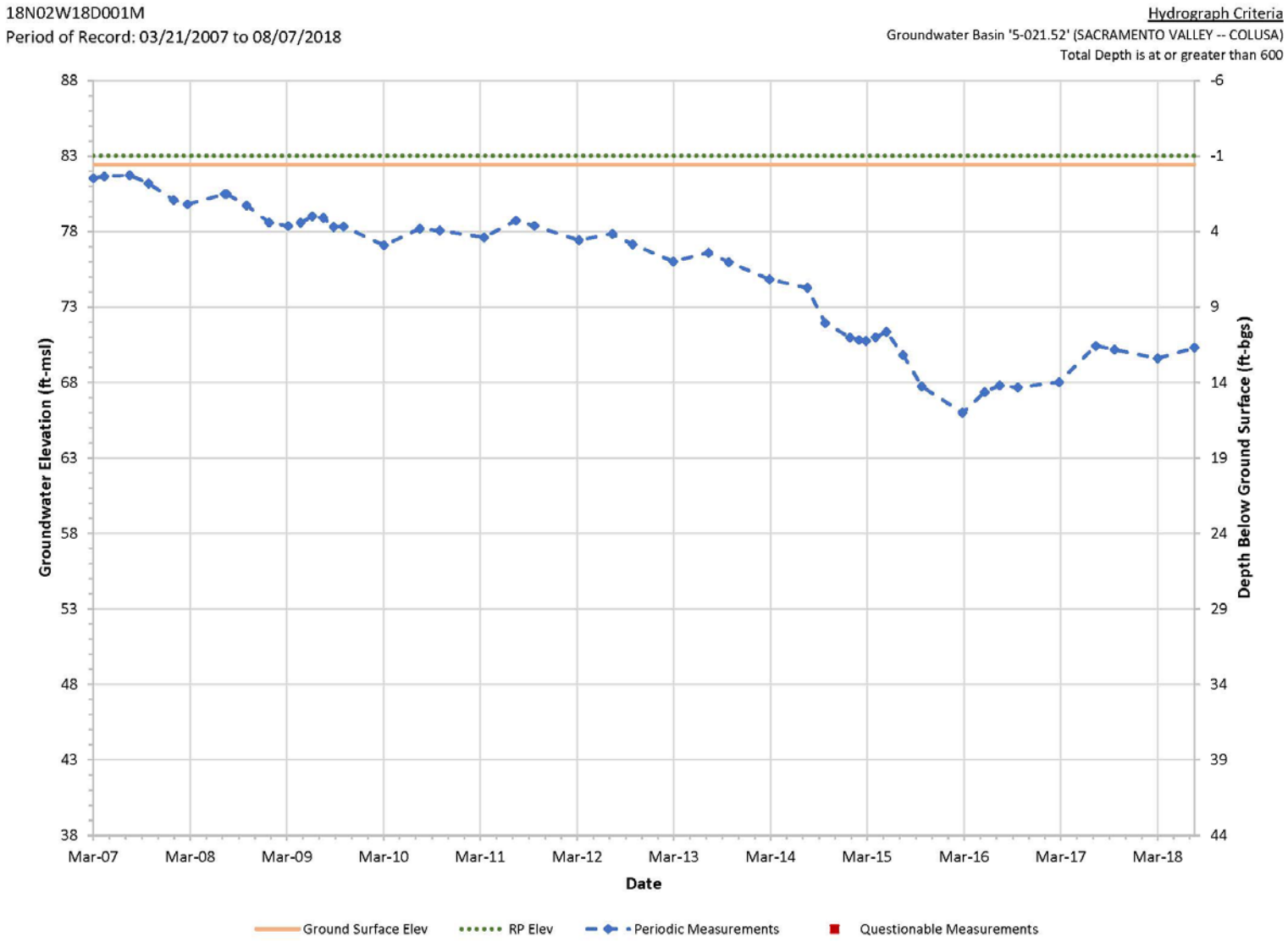


Figure F-40.
Hydrograph for 18N02W18D001M

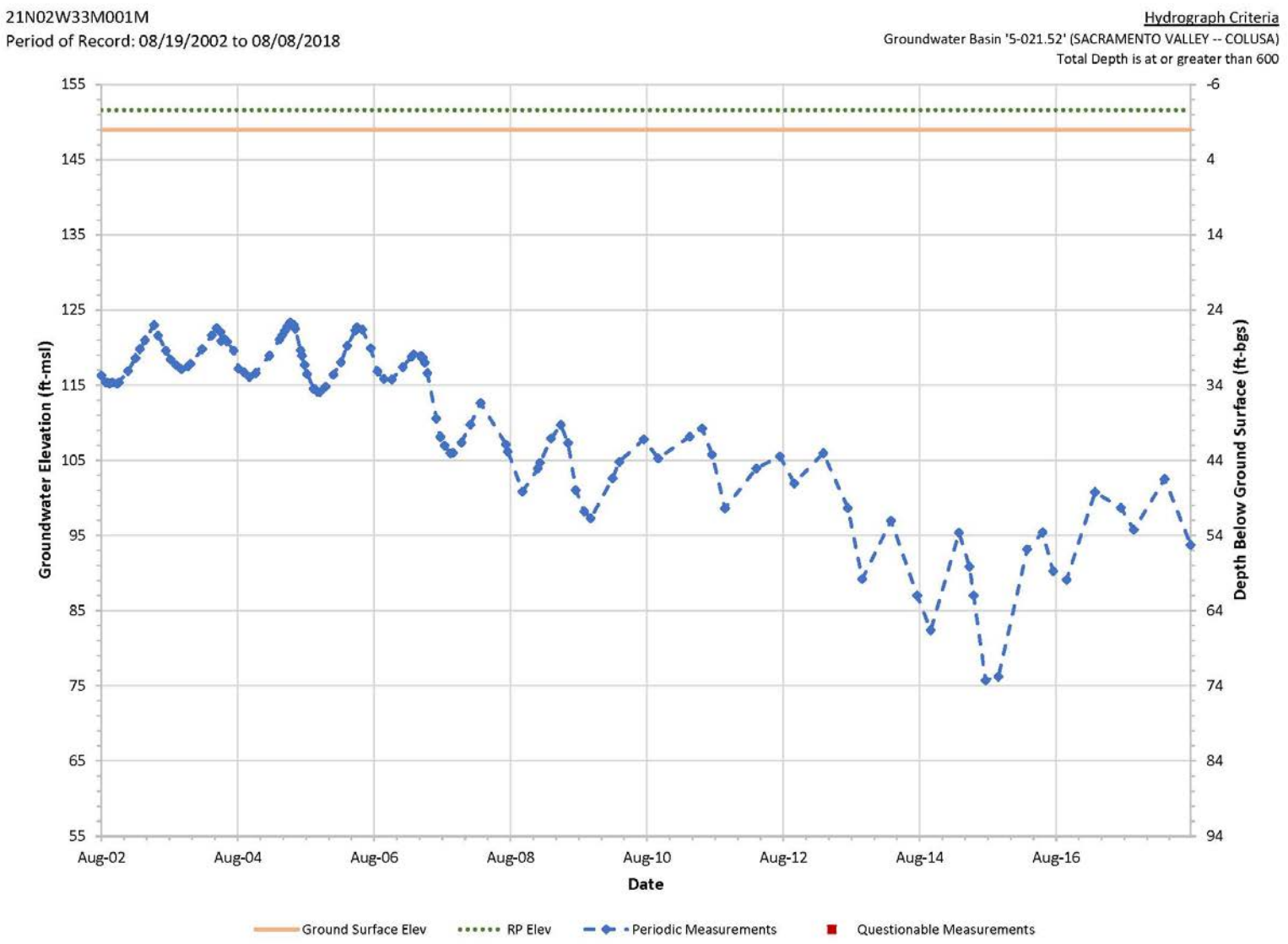


Figure F-41.
Hydrograph for 21N02W33M001M

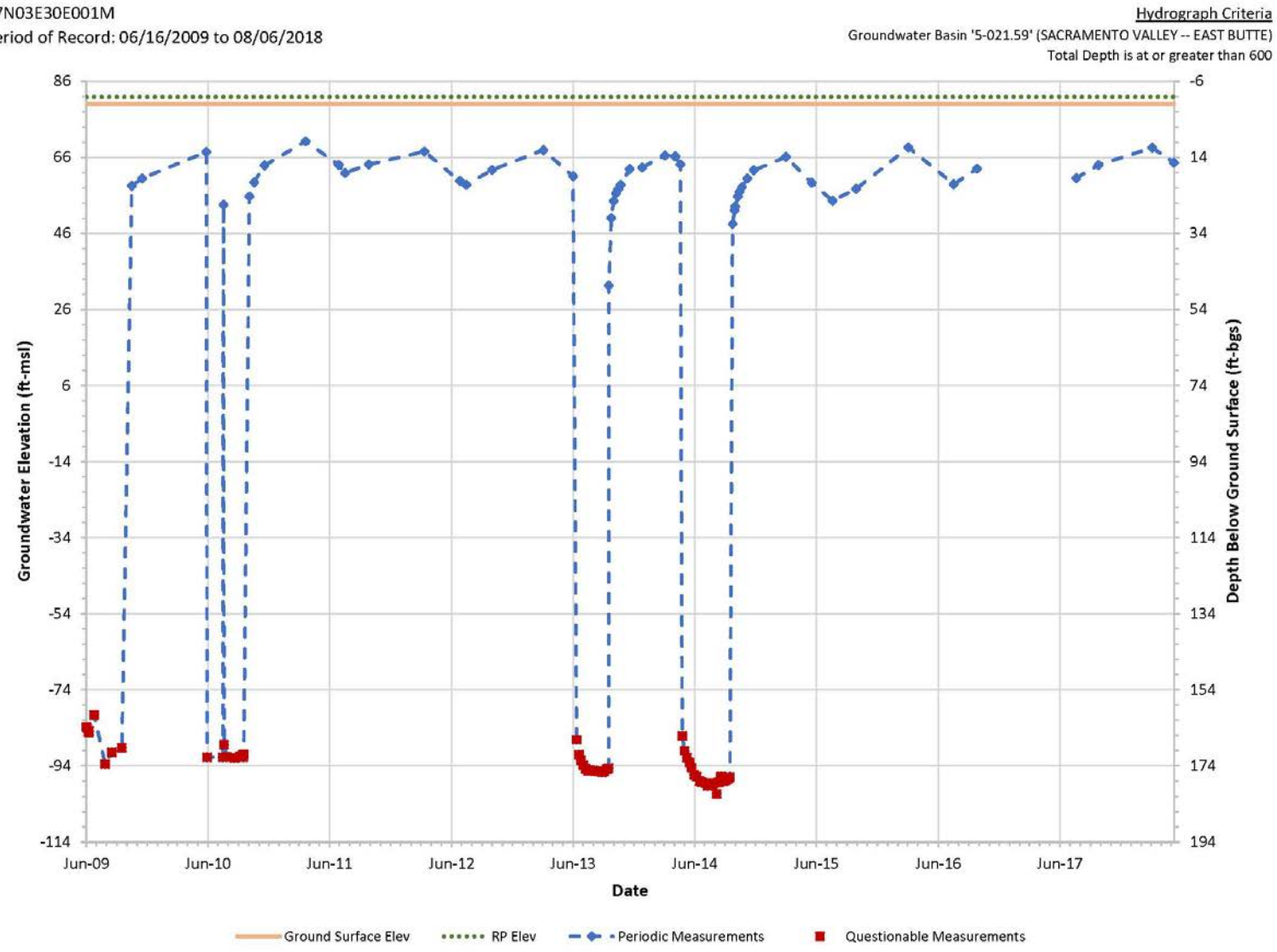


Figure F-42.
Hydrograph for 17N03E30E001M

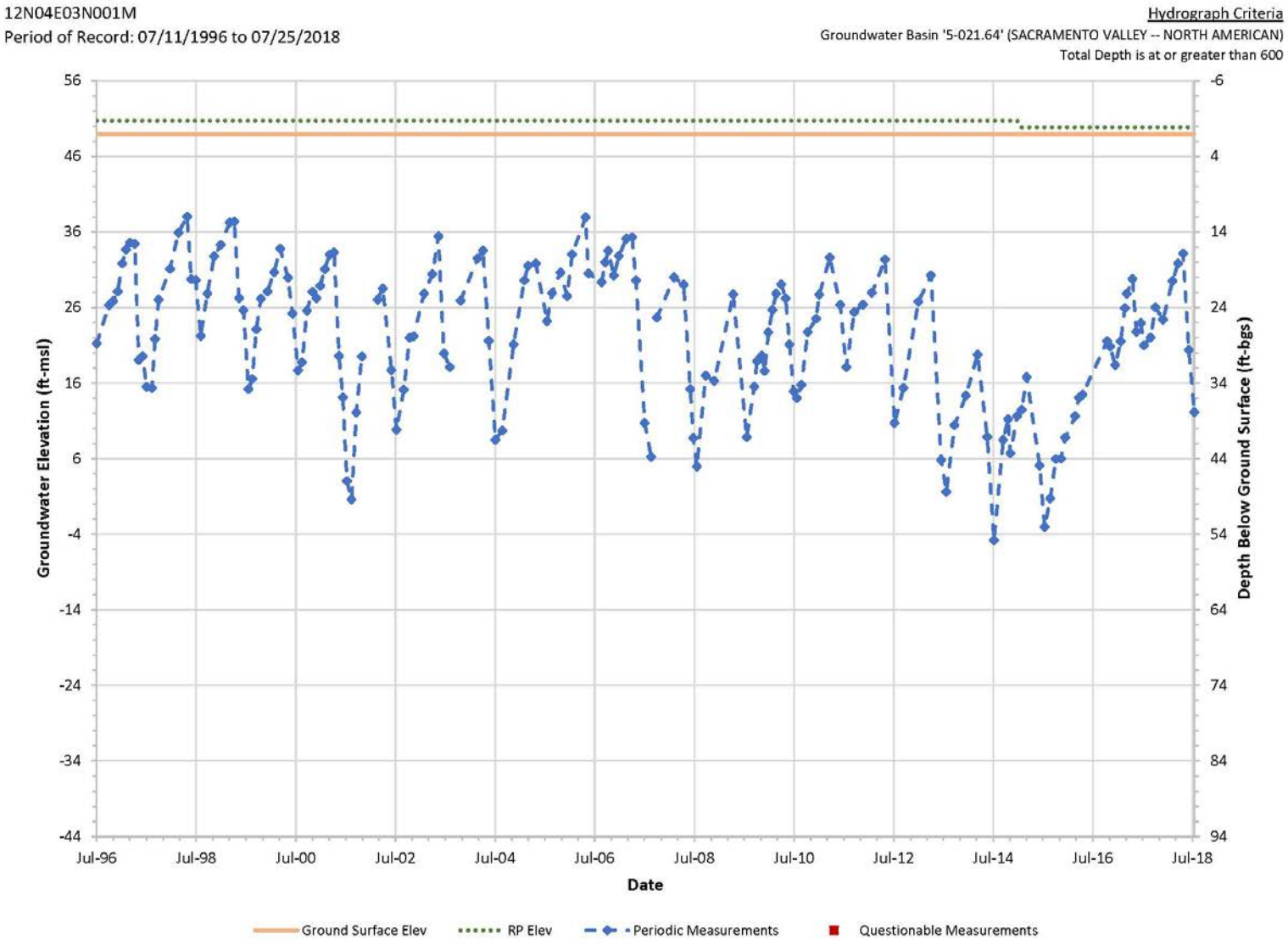
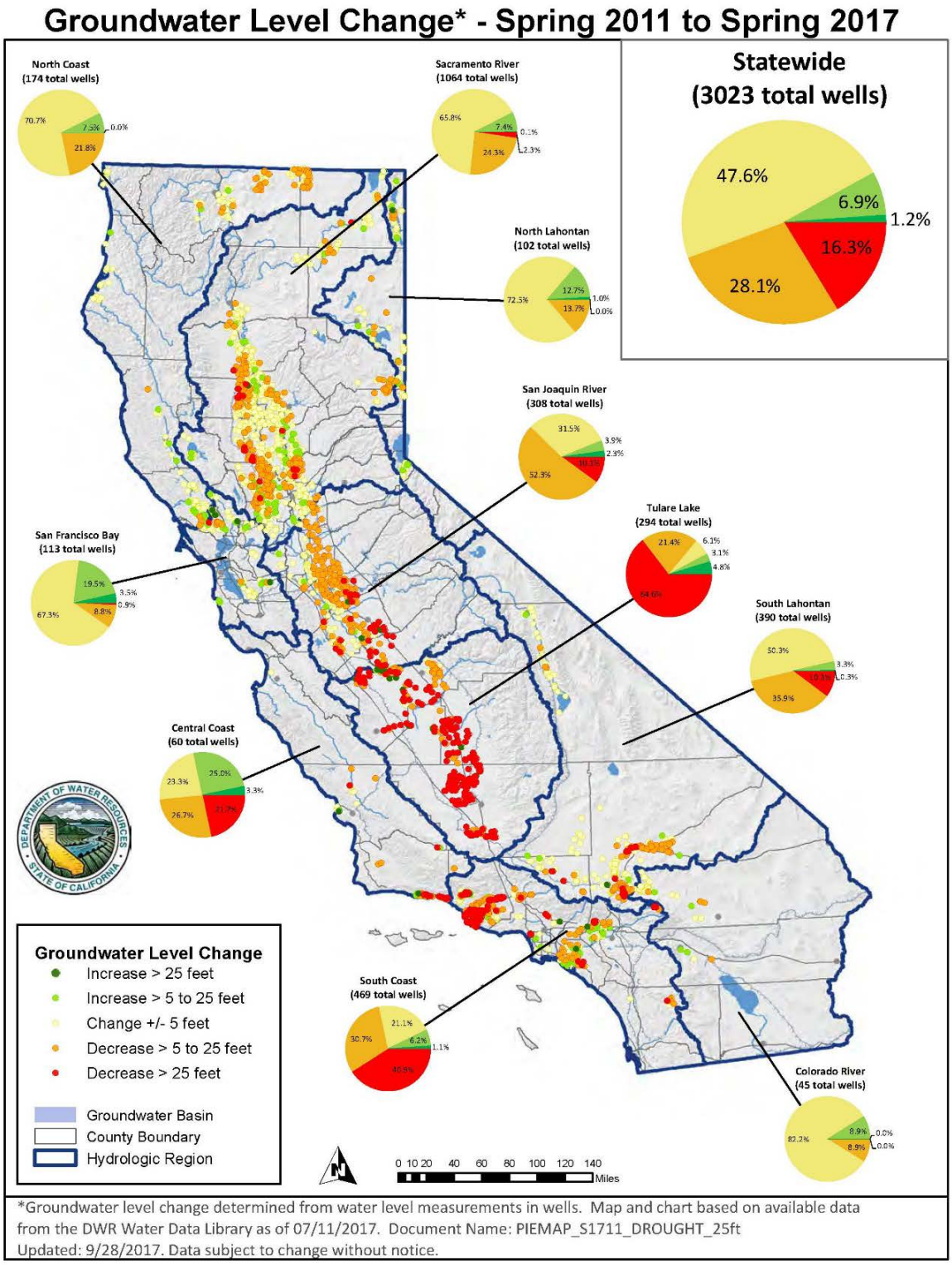


Figure F-43.
Hydrograph for 12N04E03N001M



*Groundwater level change determined from water level measurements in wells. Map and chart based on available data from the DWR Water Data Library as of 07/11/2017. Document Name: PIEMAP_S1711_DROUGHT_25ft
Updated: 9/28/2017. Data subject to change without notice.

Figure F-44.
Change in Groundwater Level, Spring 2011 to Spring 2017

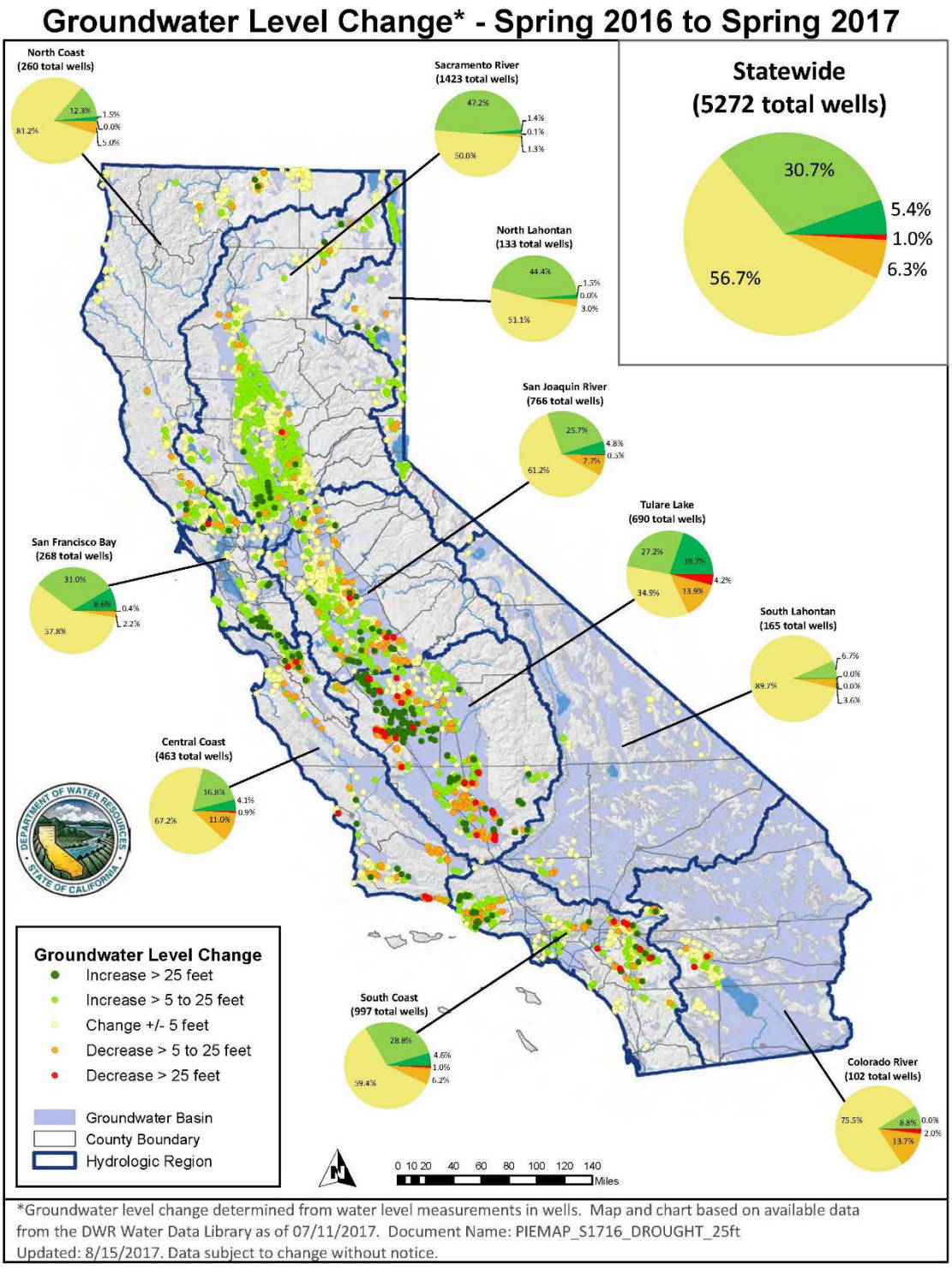


Figure F-45.
Change in Groundwater Level, Spring 2016 to Spring 2017

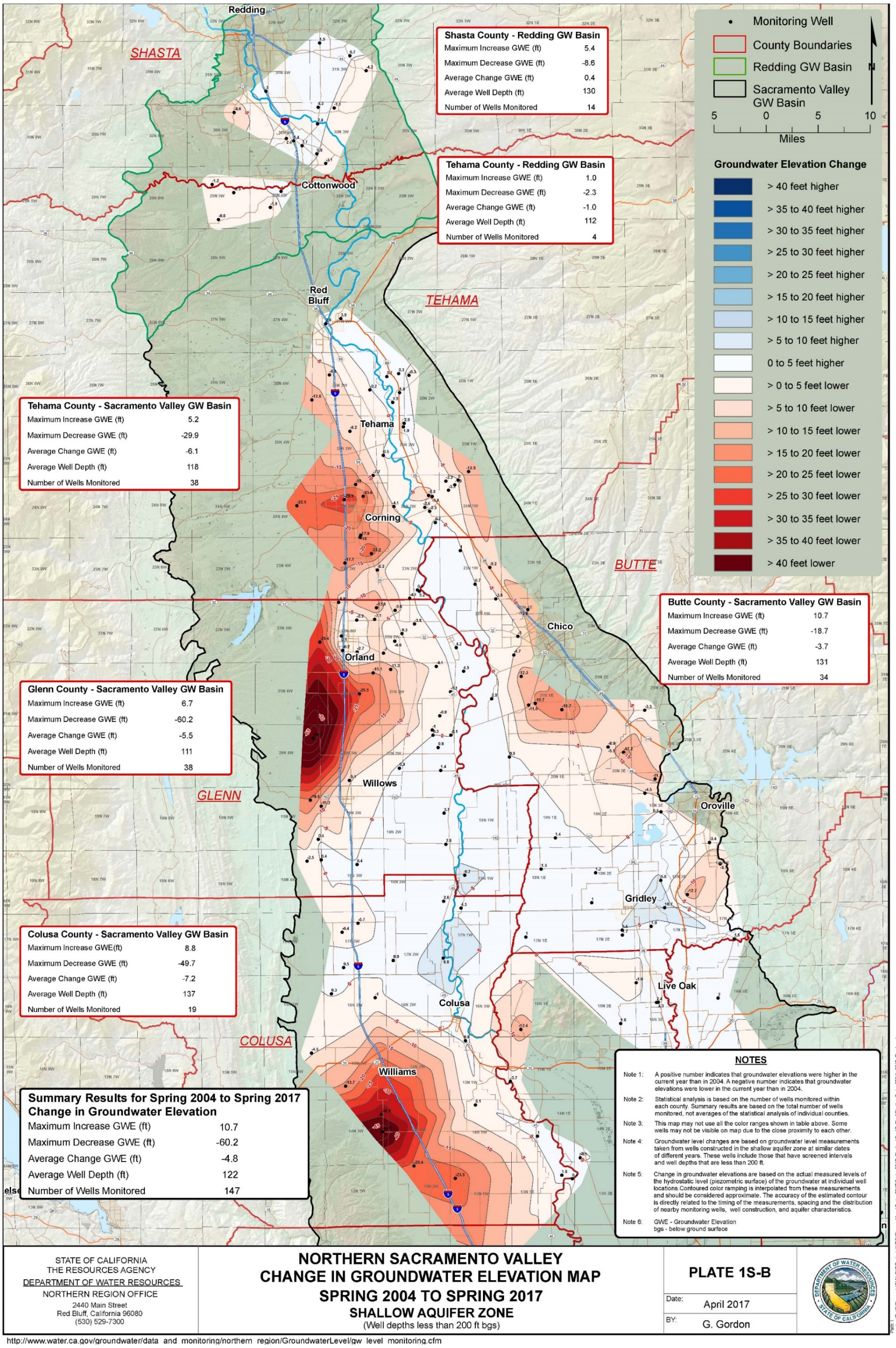


Figure F-46.
Change in Groundwater Levels in Shallow Aquifer Zone, Spring 2004 to Spring 2017

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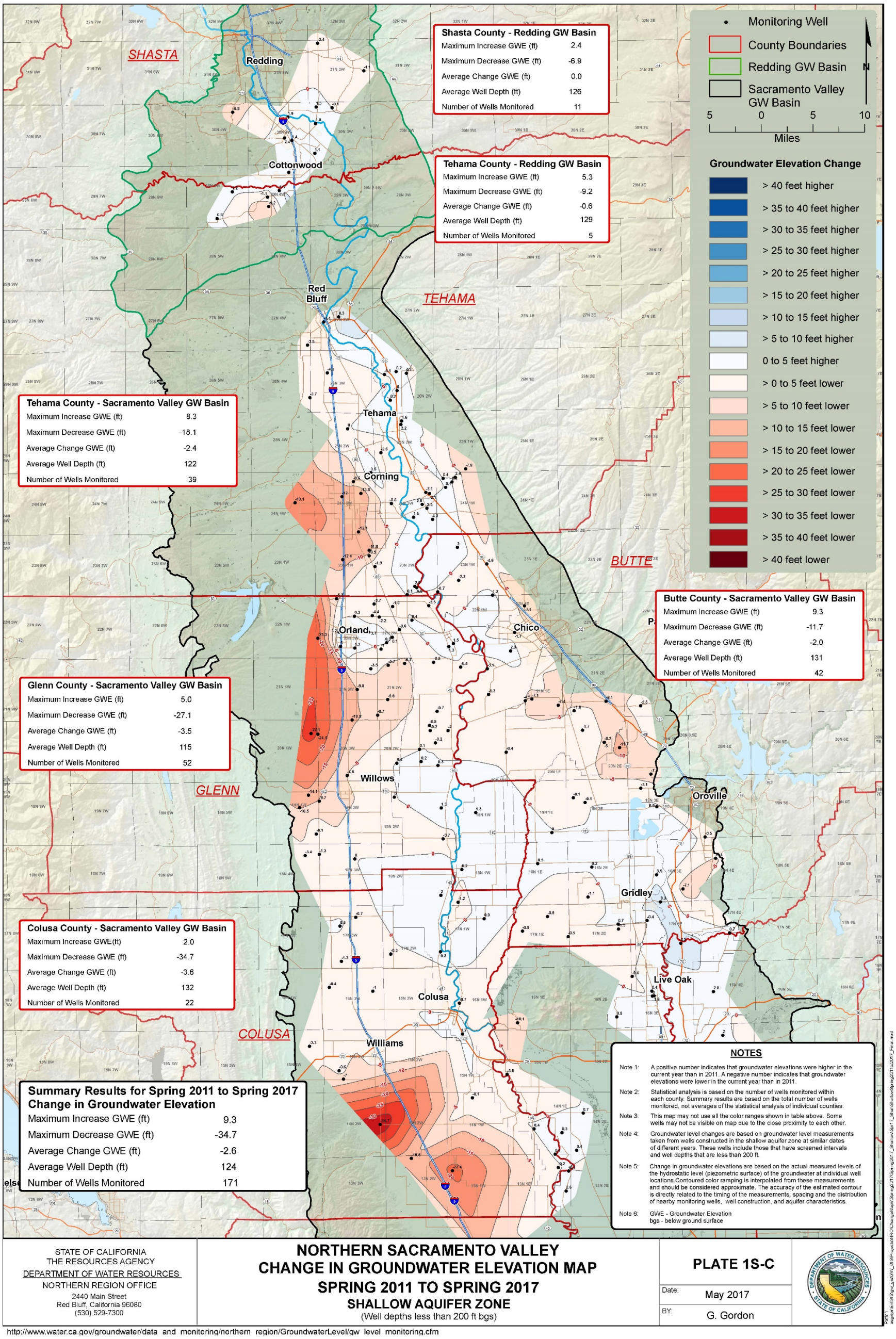


Figure F-47.
Change in Groundwater Levels in Shallow Aquifer Zone, Spring 2011 to Spring 2017

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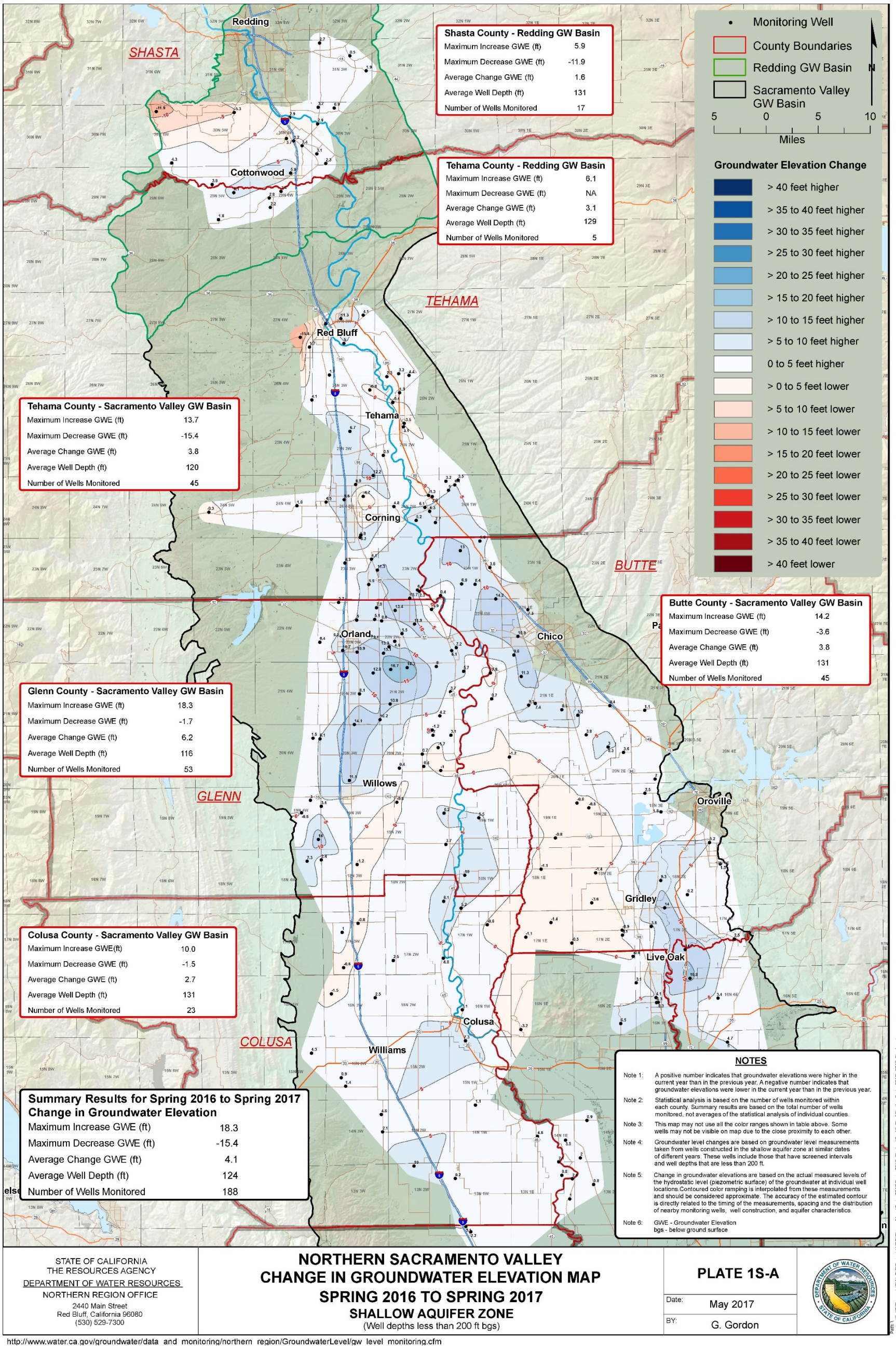


Figure F-48.
Change in Groundwater Levels in Shallow Aquifer Zone, Spring 2016 to Spring 2017

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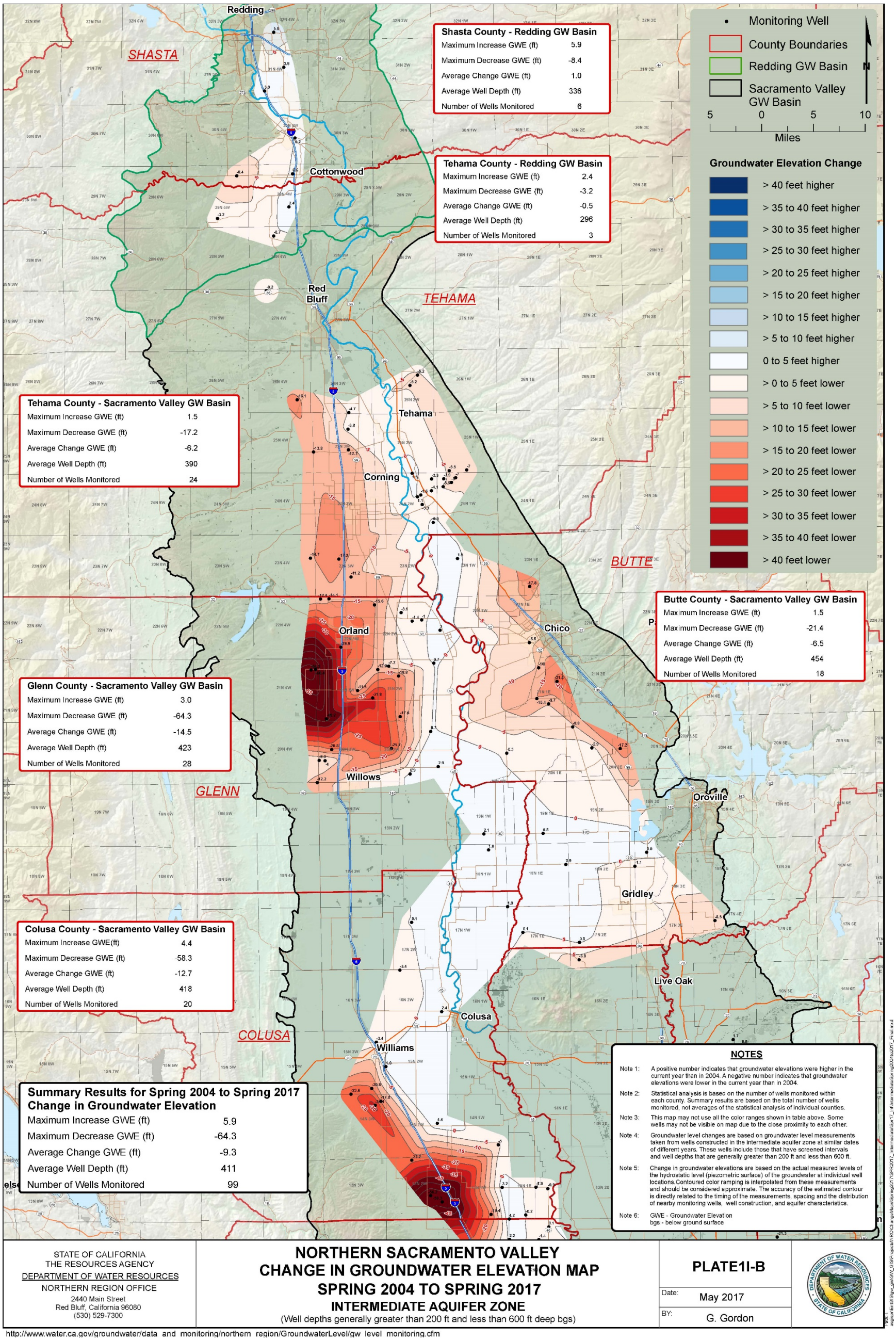


Figure F-49.
Change in Groundwater Levels in Intermediate Aquifer Zone, Spring 2004 to Spring 2017

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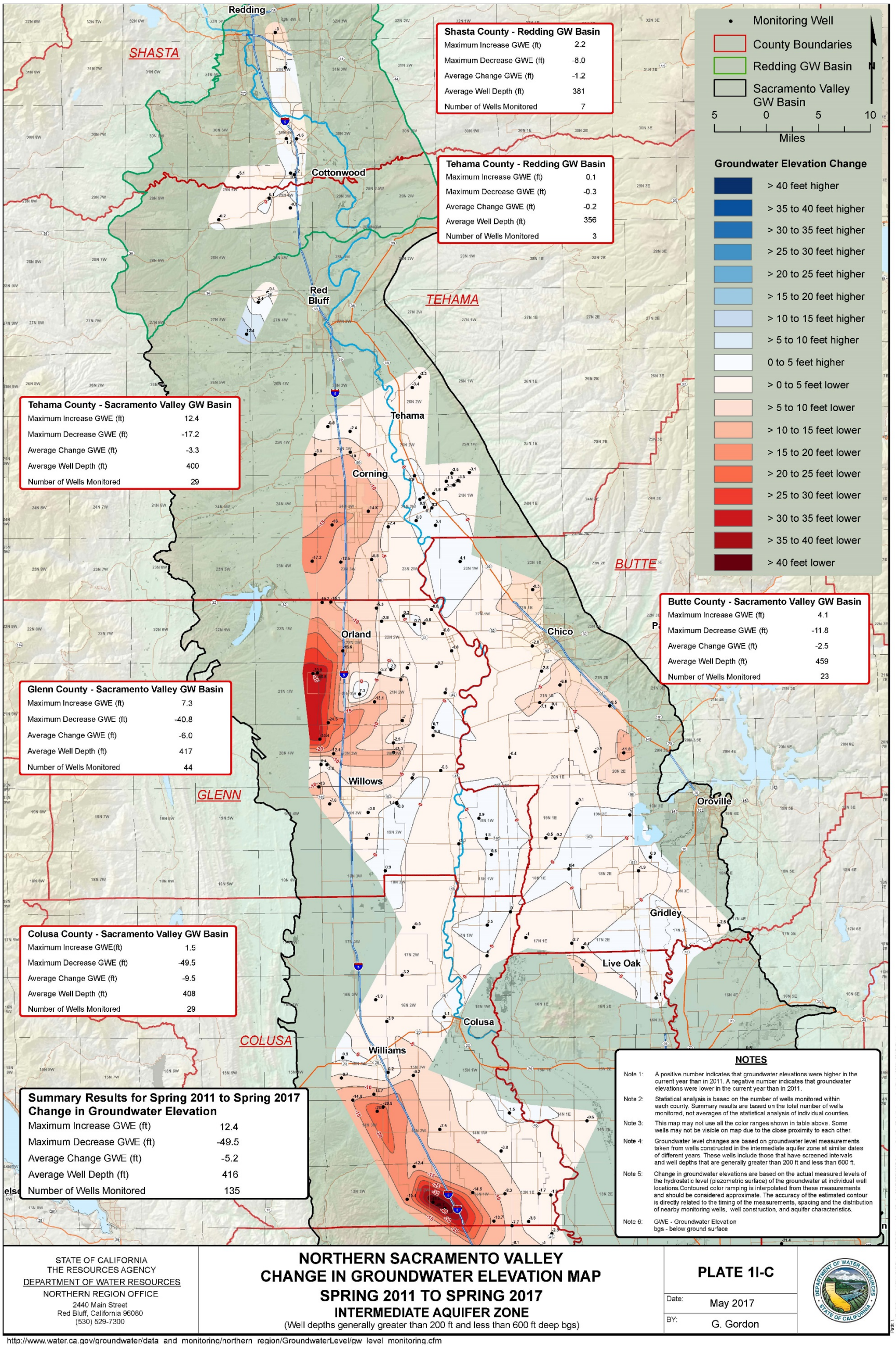


Figure F-50.
Change in Groundwater Levels in Intermediate Aquifer Zone, Spring 2011 to Spring 2017

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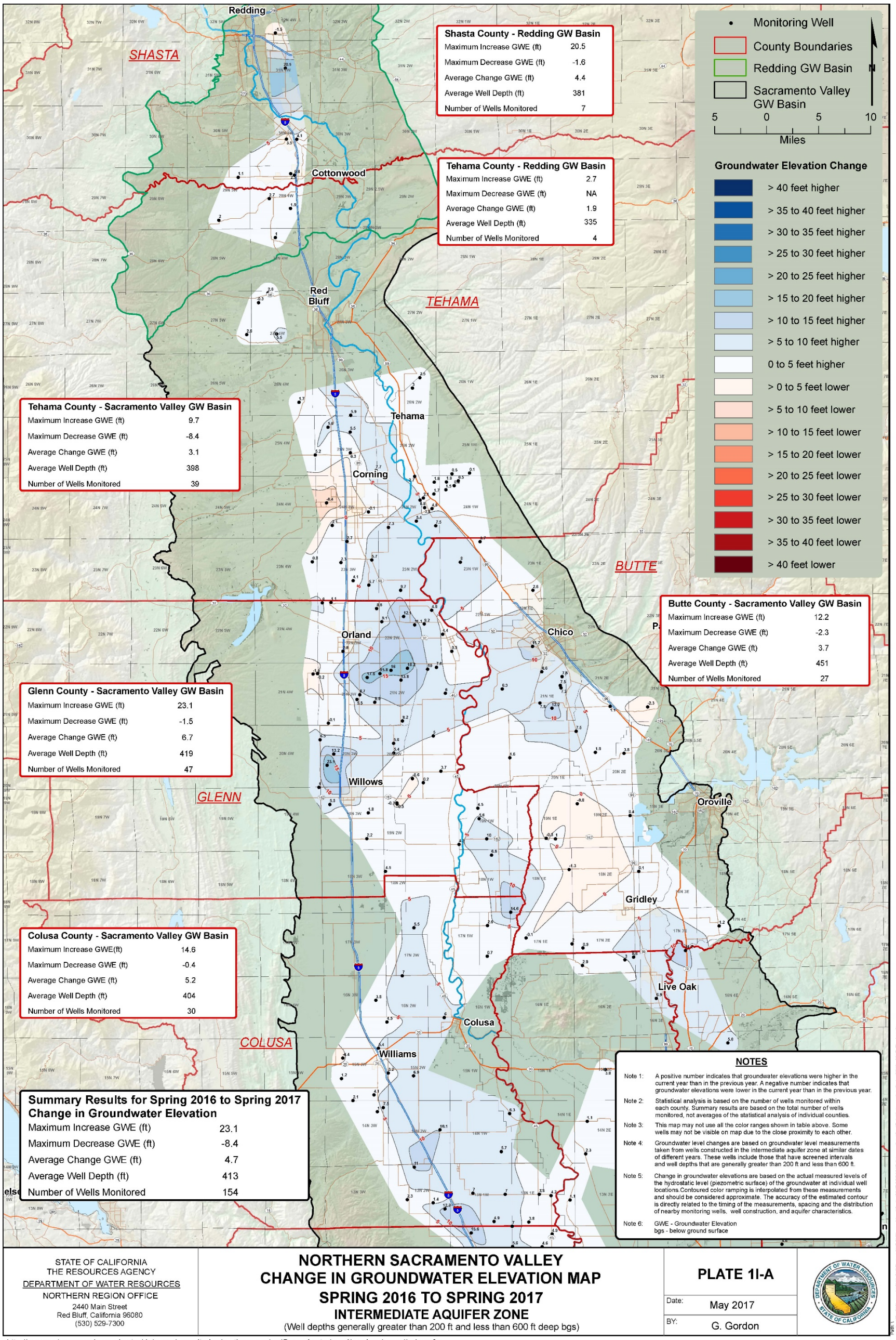


Figure F-51.
Change in Groundwater Levels in Intermediate Aquifer Zone, Spring 2016 to Spring 2017

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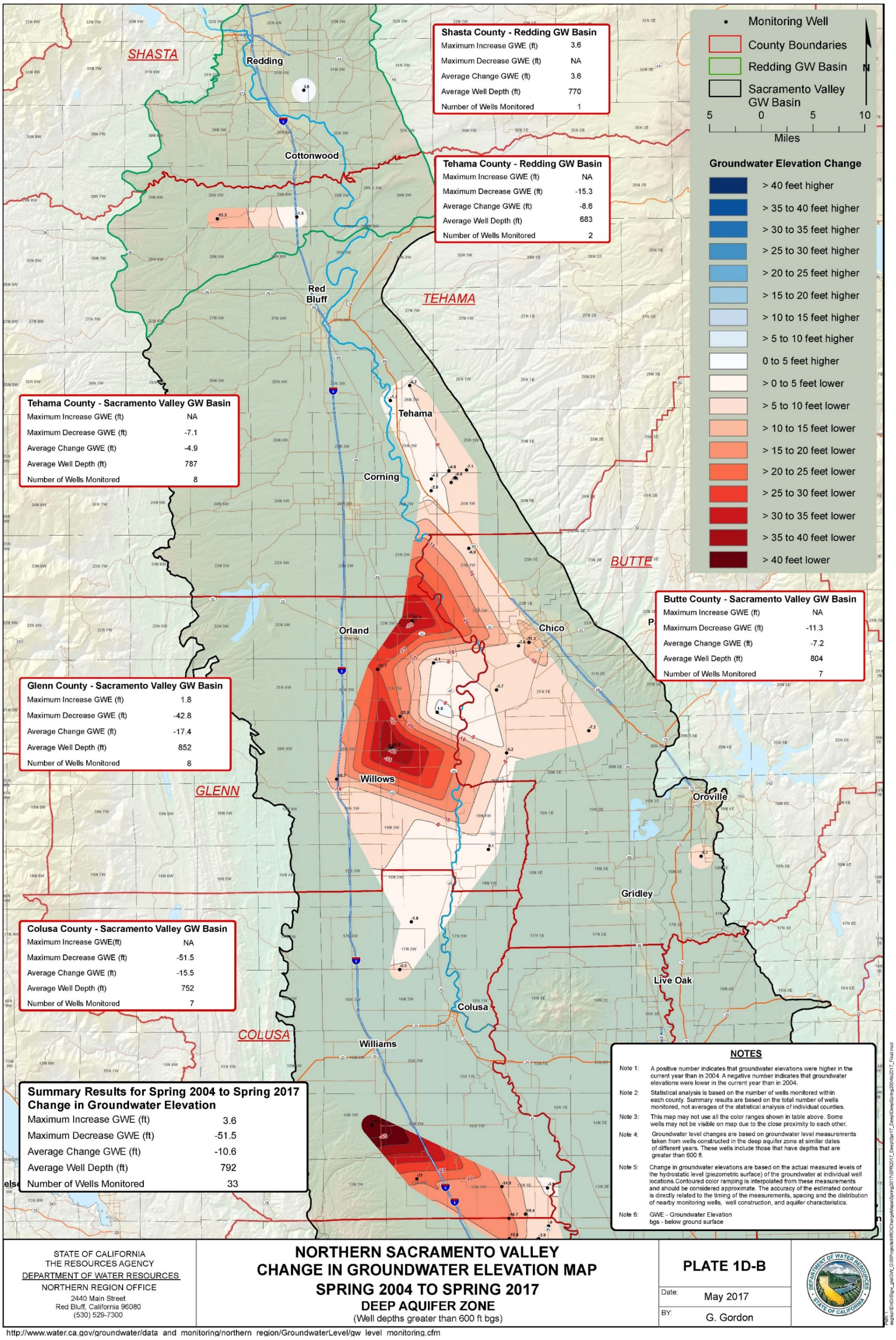


Figure F-52.
Change in Groundwater Levels in Deep Aquifer Zone, Spring 2004 to Spring 2017

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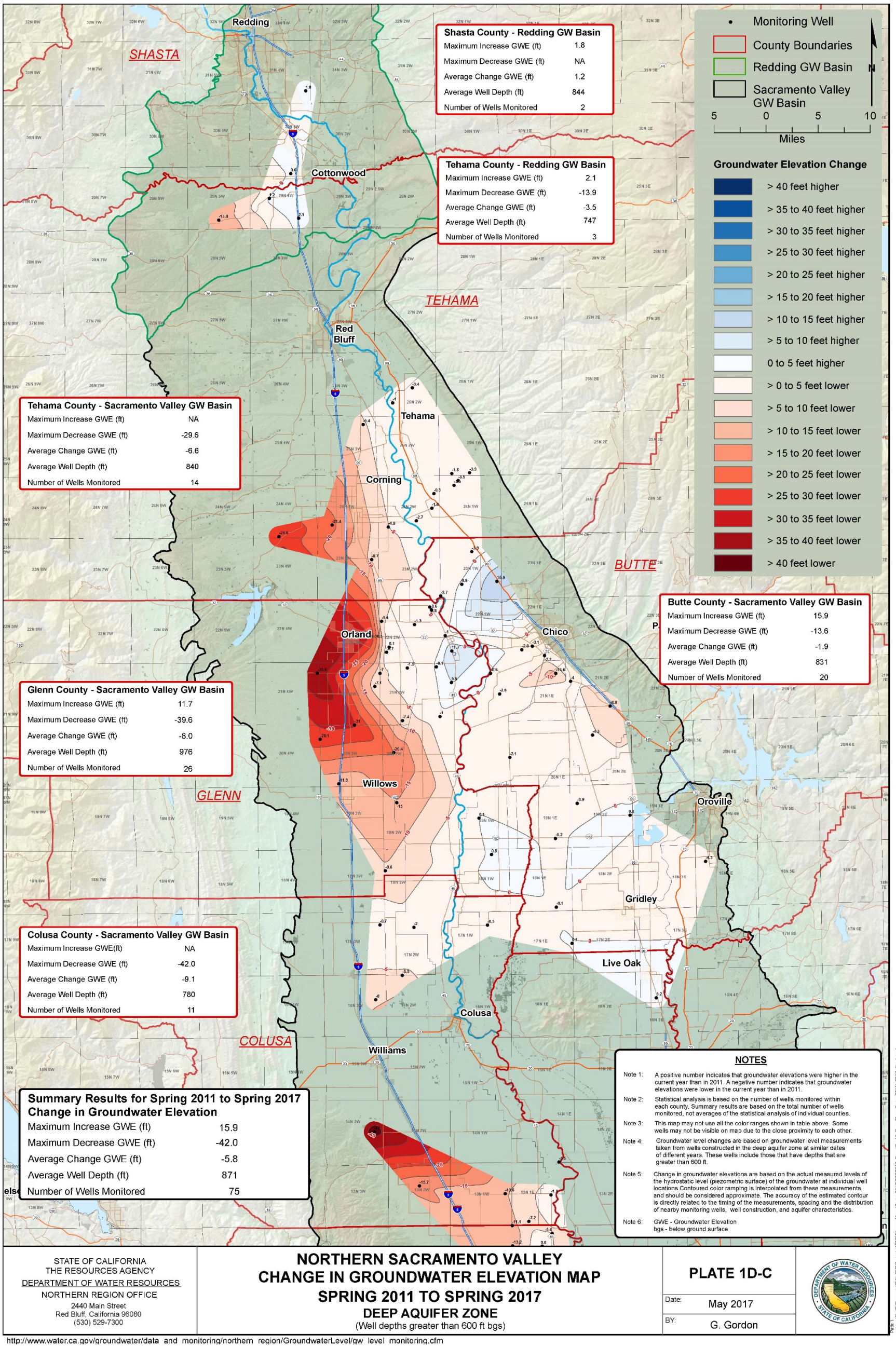


Figure F-53.
Change in Groundwater Levels in Deep Aquifer Zone, Spring 2011 to Spring 2017

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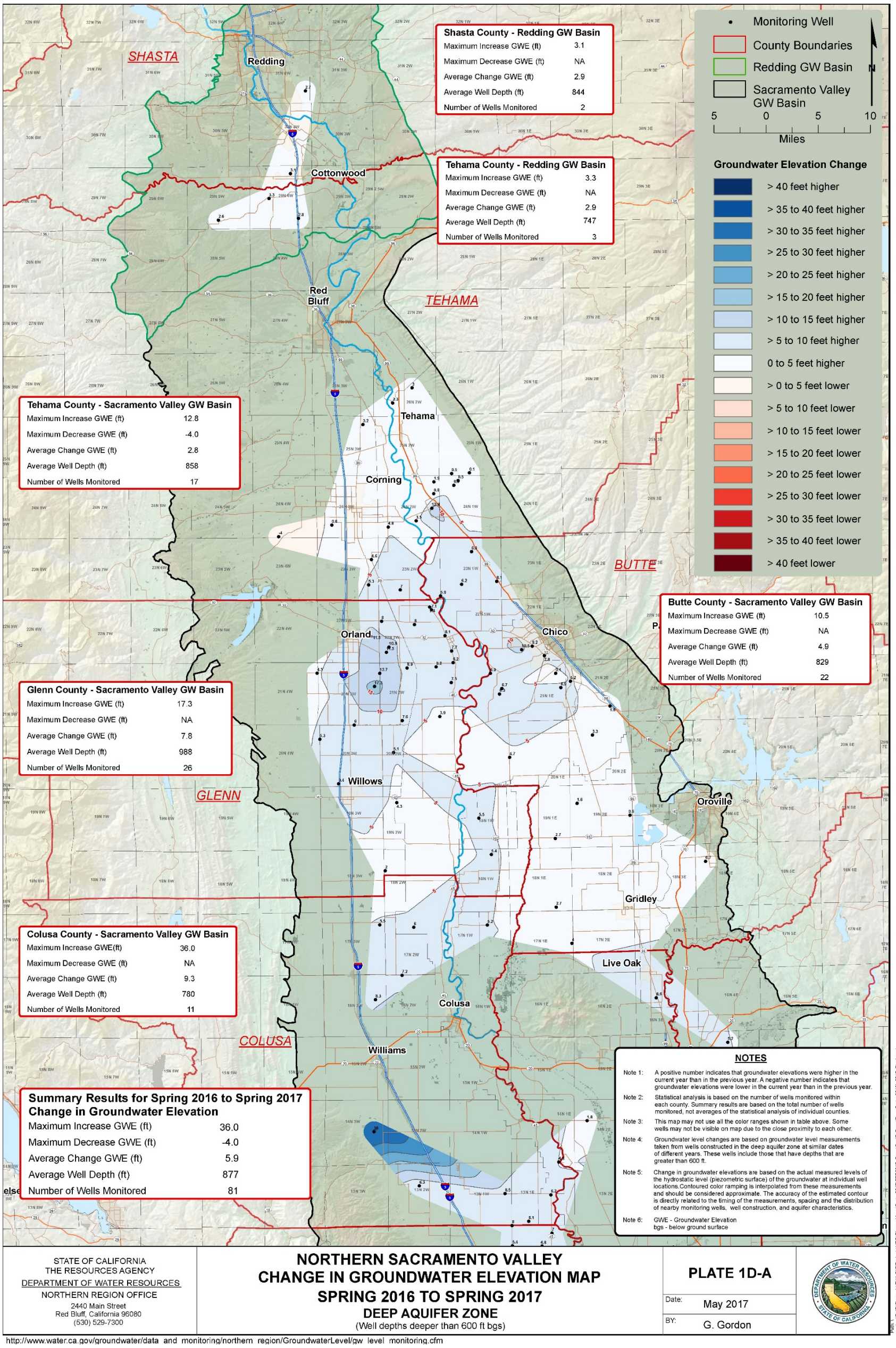
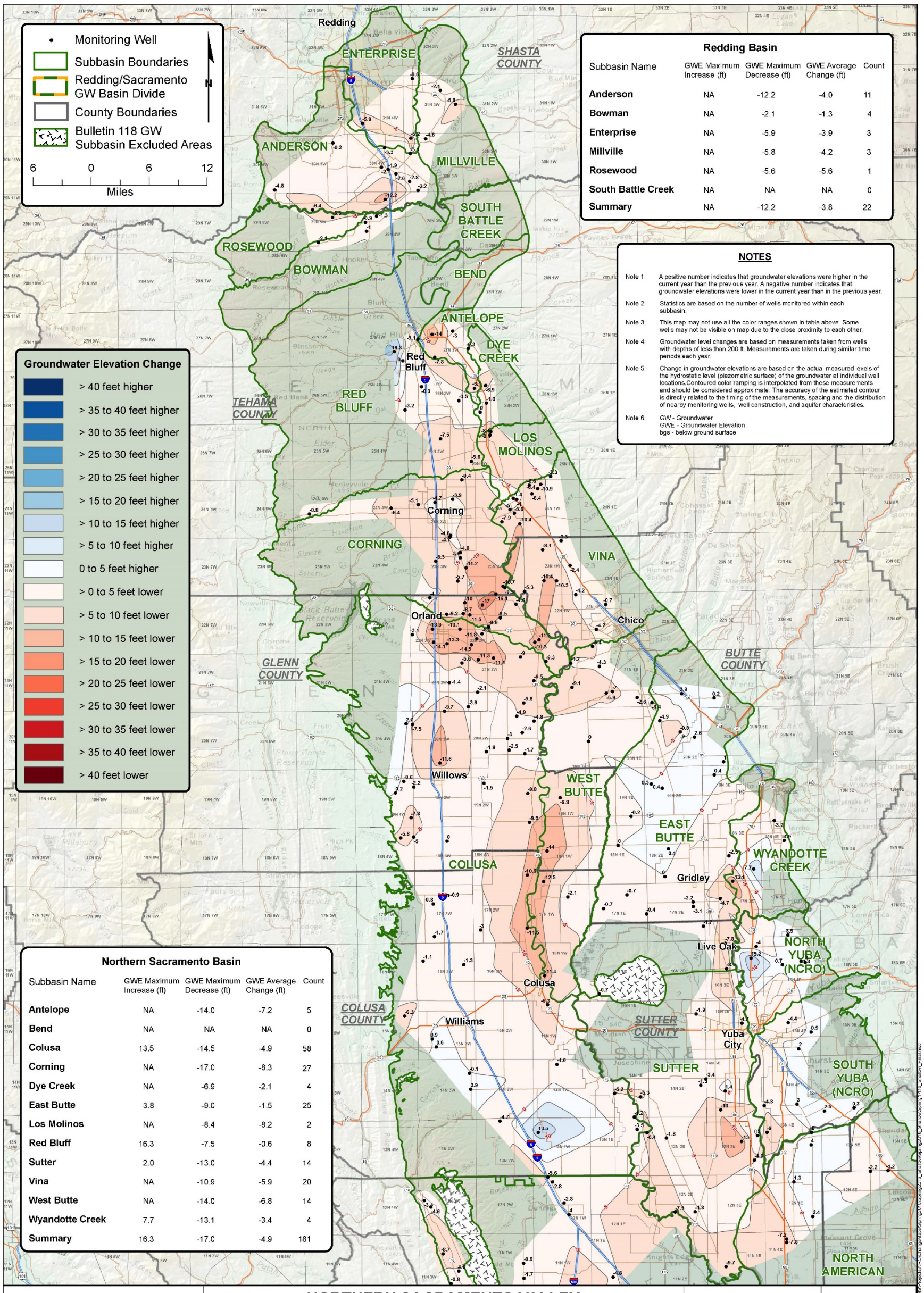


Figure F-54.
Change in Groundwater Levels in Deep Aquifer Zone, Spring 2016 to Spring 2017

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Redding Basin

Subbasin Name	GWE Maximum Increase (ft)	GWE Maximum Decrease (ft)	GWE Average Change (ft)	Count
Anderson	NA	-12.2	-4.0	11
Bowman	NA	-2.1	-1.3	4
Enterprise	NA	-5.9	-3.9	3
Millville	NA	-5.8	-4.2	3
Rosewood	NA	-5.6	-5.6	1
South Battle Creek	NA	NA	NA	0
Summary	NA	-12.2	-3.8	22

NOTES

Note 1: A positive number indicates that groundwater elevations were higher in the current year than the previous year. A negative number indicates that groundwater elevations were lower in the current year than in the previous year.

Note 2: Statistics are based on the number of wells monitored within each subbasin.

Note 3: This map may not use all the color ranges shown in table above. Some wells may not be visible on map due to the close proximity to each other.

Note 4: Groundwater level changes are based on measurements taken from wells with depths of less than 200 ft. Measurements are taken during similar time periods each year.

Note 5: Change in groundwater elevations are based on the actual measured levels of the hydrostatic level (piezometric surface) of the groundwater at individual well locations.Contoured color ramping is interpolated from these measurements and should be considered approximate. The accuracy of the estimated contour is directly related to the timing of the measurements, spacing and the distribution of nearby monitoring wells, well construction, and aquifer characteristics.

Note 6: GW - Groundwater
GWE - Groundwater Elevation
bgs - below ground surface

Northern Sacramento Basin

Subbasin Name	GWE Maximum Increase (ft)	GWE Maximum Decrease (ft)	GWE Average Change (ft)	Count
Antelope	NA	-14.0	-7.2	5
Bend	NA	NA	NA	0
Colusa	13.5	-14.5	-4.9	58
Corning	NA	-17.0	-8.3	27
Dye Creek	NA	-6.9	-2.1	4
East Butte	3.8	-9.0	-1.5	25
Los Molinos	NA	-8.4	-8.2	2
Red Bluff	16.3	-7.5	-0.6	8
Sutter	2.0	-13.0	-4.4	14
Vina	NA	-10.9	-5.9	20
West Butte	NA	-14.0	-6.8	14
Wyandotte Creek	7.7	-13.1	-3.4	4
Summary	16.3	-17.0	-4.9	181

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DEPARTMENT OF WATER RESOURCES
NORTHERN REGION OFFICE
2440 Main Street
Red Bluff, California 96080
(530) 529-7300

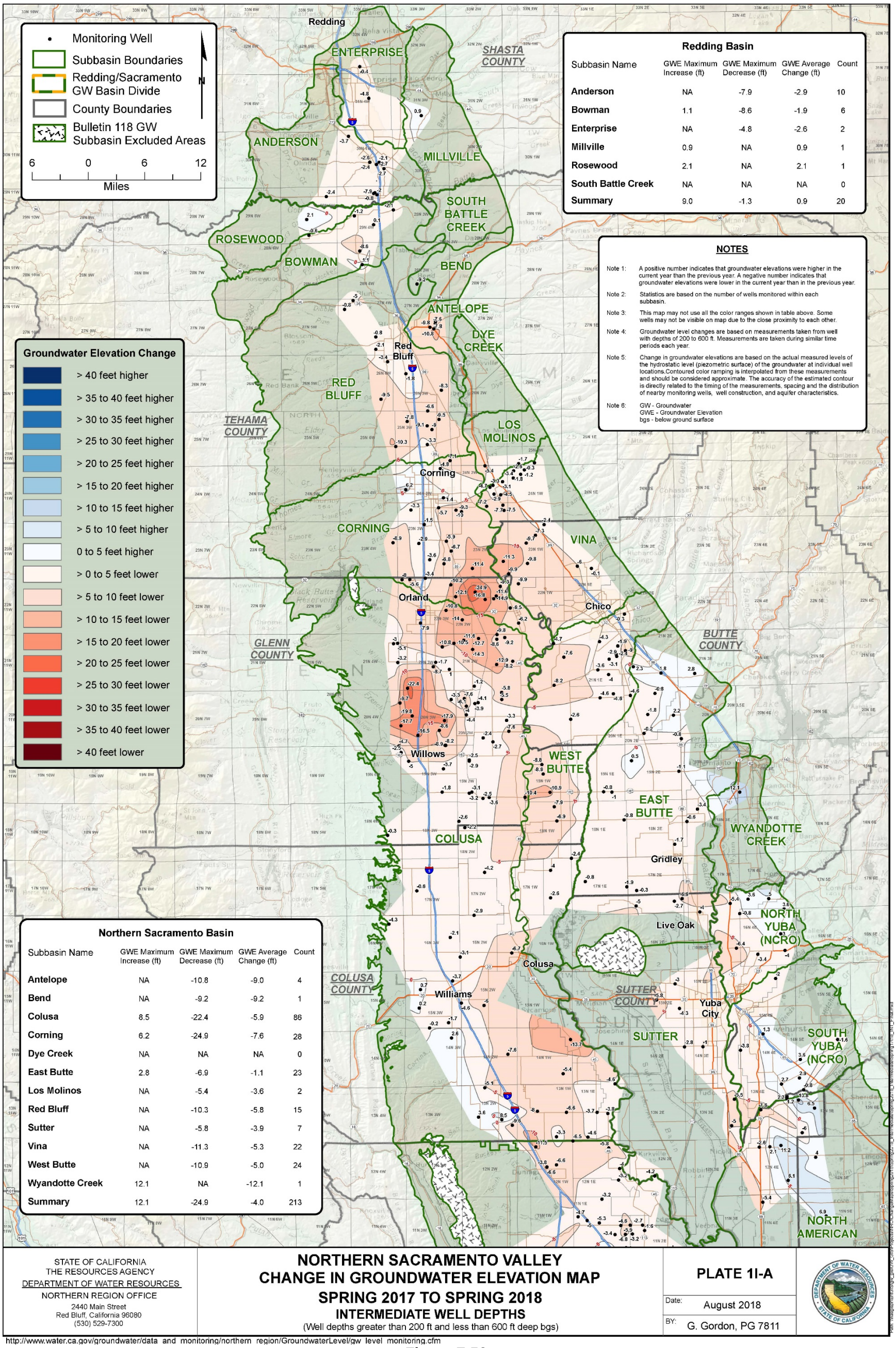
NORTHERN SACRAMENTO VALLEY
CHANGE IN GROUNDWATER ELEVATION MAP
SPRING 2017 TO SPRING 2018
SHALLOW WELL DEPTHS
(Well depths less than 200 ft deep bgs)

PLATE 1S-A
Date: August 2018
BY: G. Gordon, PG 7811

http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/gw_level_monitoring.cfm

Figure F-55.
Change in Groundwater Levels in Shallow Aquifer Zone, Spring 2017 to Spring 2018

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Redding Basin

Subbasin Name	GWE Maximum Increase (ft)	GWE Maximum Decrease (ft)	GWE Average Change (ft)	Count
Anderson	NA	-7.9	-2.9	10
Bowman	1.1	-8.6	-1.9	6
Enterprise	NA	-4.8	-2.6	2
Millville	0.9	NA	0.9	1
Rosewood	2.1	NA	2.1	1
South Battle Creek	NA	NA	NA	0
Summary	9.0	-1.3	0.9	20

NOTES

Note 1: A positive number indicates that groundwater elevations were higher in the current year than the previous year. A negative number indicates that groundwater elevations were lower in the current year than in the previous year.

Note 2: Statistics are based on the number of wells monitored within each subbasin.

Note 3: This map may not use all the color ranges shown in table above. Some wells may not be visible on map due to the close proximity to each other.

Note 4: Groundwater level changes are based on measurements taken from well with depths of 200 to 600 ft. Measurements are taken during similar time periods each year.

Note 5: Change in groundwater elevations are based on the actual measured levels of the hydrostatic level (piezometric surface) of the groundwater at individual well locations.Contoured color ramping is interpolated from these measurements and should be considered approximate. The accuracy of the estimated contour is directly related to the timing of the measurements, spacing and the distribution of nearby monitoring wells, well construction, and aquifer characteristics.

Note 6: GW - Groundwater
GWE - Groundwater Elevation
bgs - below ground surface

Northern Sacramento Basin

Subbasin Name	GWE Maximum Increase (ft)	GWE Maximum Decrease (ft)	GWE Average Change (ft)	Count
Antelope	NA	-10.8	-9.0	4
Bend	NA	-9.2	-9.2	1
Colusa	8.5	-22.4	-5.9	86
Corning	6.2	-24.9	-7.6	28
Dye Creek	NA	NA	NA	0
East Butte	2.8	-6.9	-1.1	23
Los Molinos	NA	-5.4	-3.6	2
Red Bluff	NA	-10.3	-5.8	15
Sutter	NA	-5.8	-3.9	7
Vina	NA	-11.3	-5.3	22
West Butte	NA	-10.9	-5.0	24
Wyandotte Creek	12.1	NA	-12.1	1
Summary	12.1	-24.9	-4.0	213

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Red Bluff, California 96080
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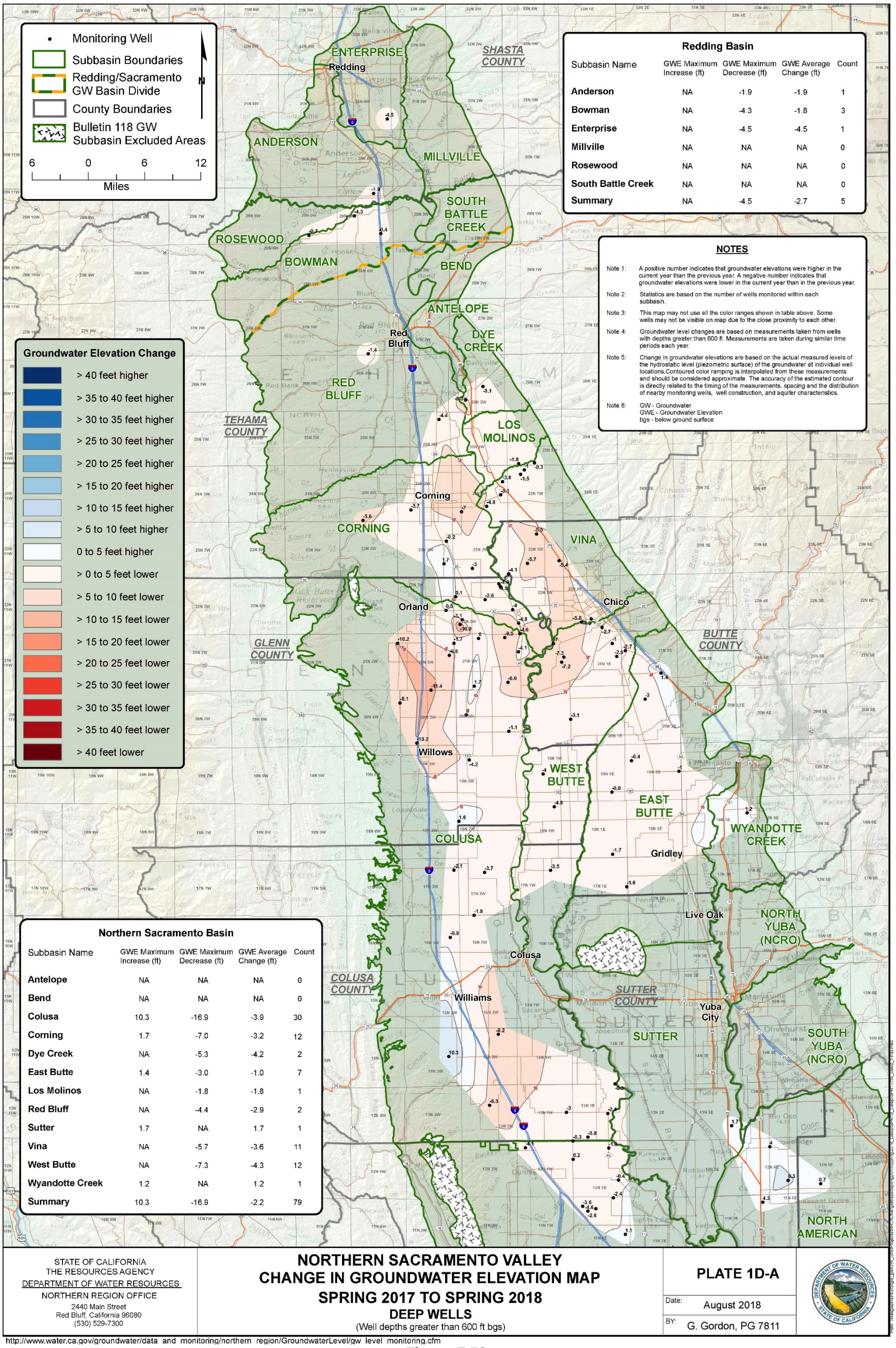
NORTHERN SACRAMENTO VALLEY
CHANGE IN GROUNDWATER ELEVATION MAP
SPRING 2017 TO SPRING 2018
INTERMEDIATE WELL DEPTHS
(Well depths greater than 200 ft and less than 600 ft deep bgs)

PLATE 1I-A
Date: August 2018
BY: G. Gordon, PG 7811

http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/gw_level_monitoring.cfm

Figure F-56.
Change in Groundwater Levels in Intermediate Aquifer Zone, Spring 2017 to Spring 2018

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Redding Basin

Subbasin Name	GWE Maximum Increase (ft)	GWE Maximum Decrease (ft)	GWE Average Change (ft)	Count
Anderson	NA	-1.9	-1.9	1
Bowman	NA	-4.3	-1.8	3
Enterprise	NA	-4.5	-4.5	1
Millville	NA	NA	NA	0
Rosewood	NA	NA	NA	0
South Battle Creek	NA	NA	NA	0
Summary	NA	-4.5	-2.7	5

NOTES

Note 1: A positive number indicates that groundwater elevations were higher in the current year than the previous year. A negative number indicates that groundwater elevations were lower in the current year than in the previous year.

Note 2: Statistics are based on the number of wells monitored within each subbasin.

Note 3: This map may not use all the color ranges shown in table above. Some wells may not be visible on map due to the close proximity to each other.

Note 4: Groundwater level changes are based on measurements taken from wells with depths greater than 600 ft. Measurements are taken during similar time periods each year.

Note 5: Change in groundwater elevations are based on the actual measured levels of the hydrostatic level (piezometric surface) of the groundwater at individual well locations.Contoured color ramping is interpolated from these measurements and should be considered approximate. The accuracy of the estimated contour is directly related to the timing of the measurements, spacing and the distribution of nearby monitoring wells, well construction, and aquifer characteristics.

Note 6: GW - Groundwater
GWE - Groundwater Elevation
bgs - below ground surface

Northern Sacramento Basin

Subbasin Name	GWE Maximum Increase (ft)	GWE Maximum Decrease (ft)	GWE Average Change (ft)	Count
Antelope	NA	NA	NA	0
Bend	NA	NA	NA	0
Colusa	10.3	-16.9	-3.9	30
Corning	1.7	-7.0	-3.2	12
Dye Creek	NA	-5.3	-4.2	2
East Butte	1.4	-3.0	-1.0	7
Los Molinos	NA	-1.8	-1.8	1
Red Bluff	NA	-4.4	-2.9	2
Sutter	1.7	NA	1.7	1
Vina	NA	-5.7	-3.6	11
West Butte	NA	-7.3	-4.3	12
Wyandotte Creek	1.2	NA	1.2	1
Summary	10.3	-16.9	-2.2	79

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
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NORTHERN SACRAMENTO VALLEY
CHANGE IN GROUNDWATER ELEVATION MAP
SPRING 2017 TO SPRING 2018
DEEP WELLS
(Well depths greater than 600 ft bgs)

PLATE 1D-A
Date: August 2018
BY: G. Gordon, PG 7811

http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/gw_level_monitoring.cfm

Figure F-58.
Change in Groundwater Levels in Deep Aquifer Zone, Spring 2018 to Spring 2019

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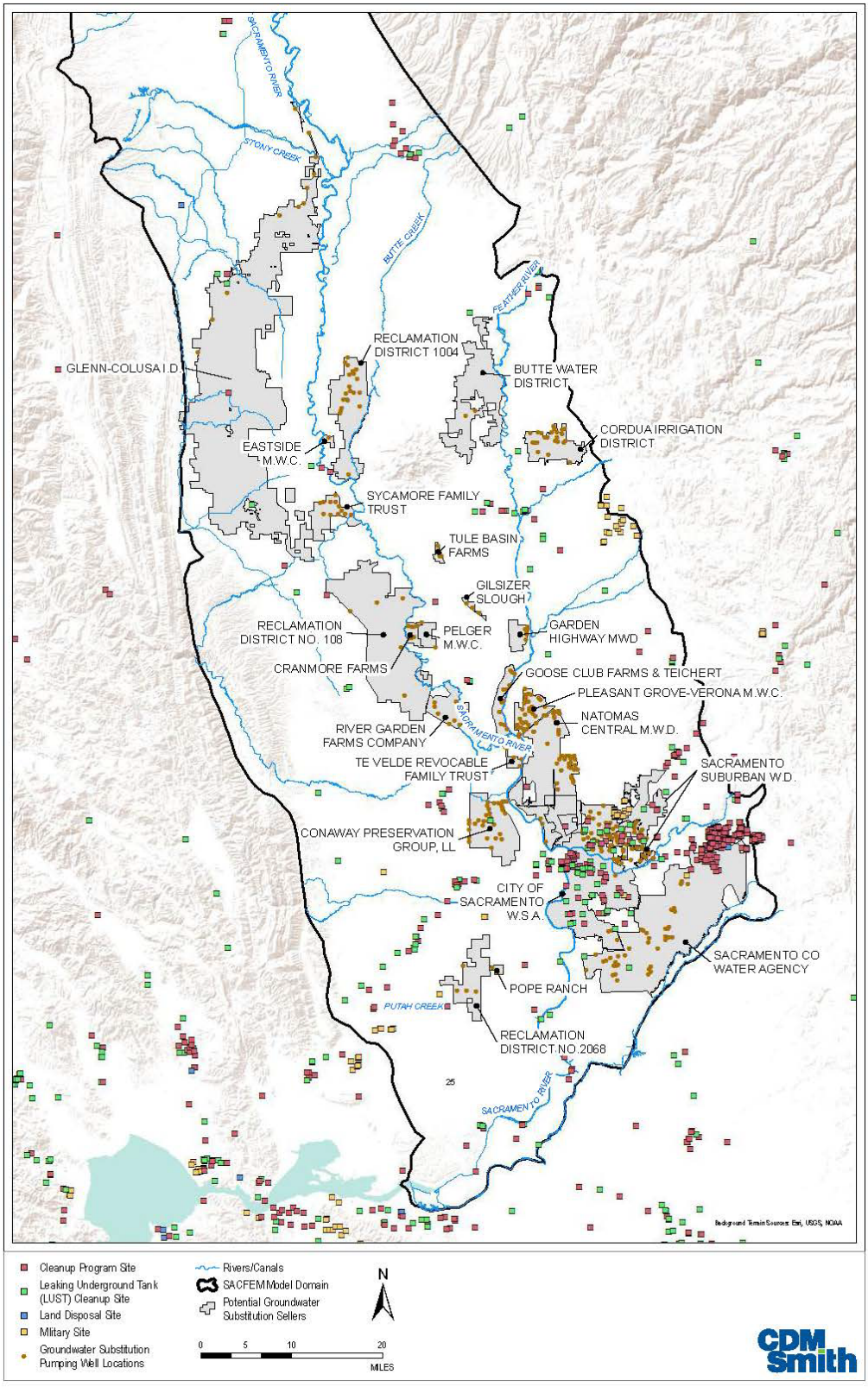


Figure F-59.
Active Geotracker Clean-Up Sites as of August 29, 2018

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