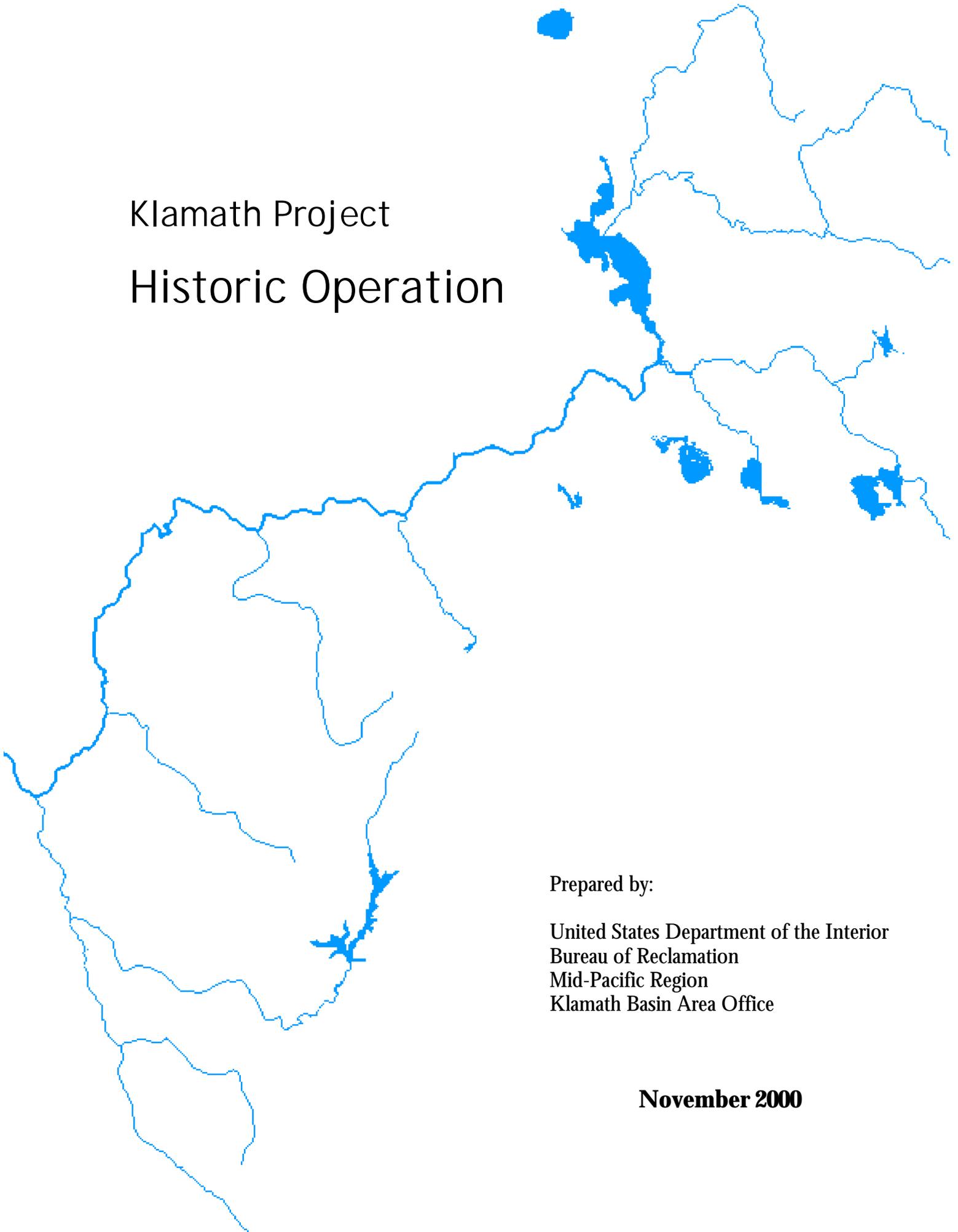


Klamath Project Historic Operation



Prepared by:

United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
Klamath Basin Area Office

November 2000

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MISSION STATEMENTS

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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INTRODUCTION

This report describes the features and facilities of the Klamath Project (Project), a federal reclamation project developed and operated by the U.S. Department of the Interior's Bureau of Reclamation (Reclamation). This report also describes Project operation. This information is needed for the Klamath Project Long-Term Operations Plan Environmental Impact Statement (EIS). It provides a benchmark description of project operation needed to properly assess the long-term changes in effects resulting from project operation in the future. This report focuses on Project operation from 1961 to 1999. This period is used, because all major Project features and facilities were operational and documented. This period is also the base period used in the Klamath Project Operations Simulation Model (KPOPSIM).

The Klamath Project is located in the upper portion of the Klamath River basin in southern Oregon and northern California (fig. 1). The total drainage area in the upper basin encompasses about 5,700 square miles. The project lands and facilities are located within Klamath County in Oregon, and Siskiyou and Modoc Counties in California (fig. 2). It also includes the Clear Lake-Lost River watershed, which is a closed basin within the larger Klamath River basin.

Klamath Project Historic Operation

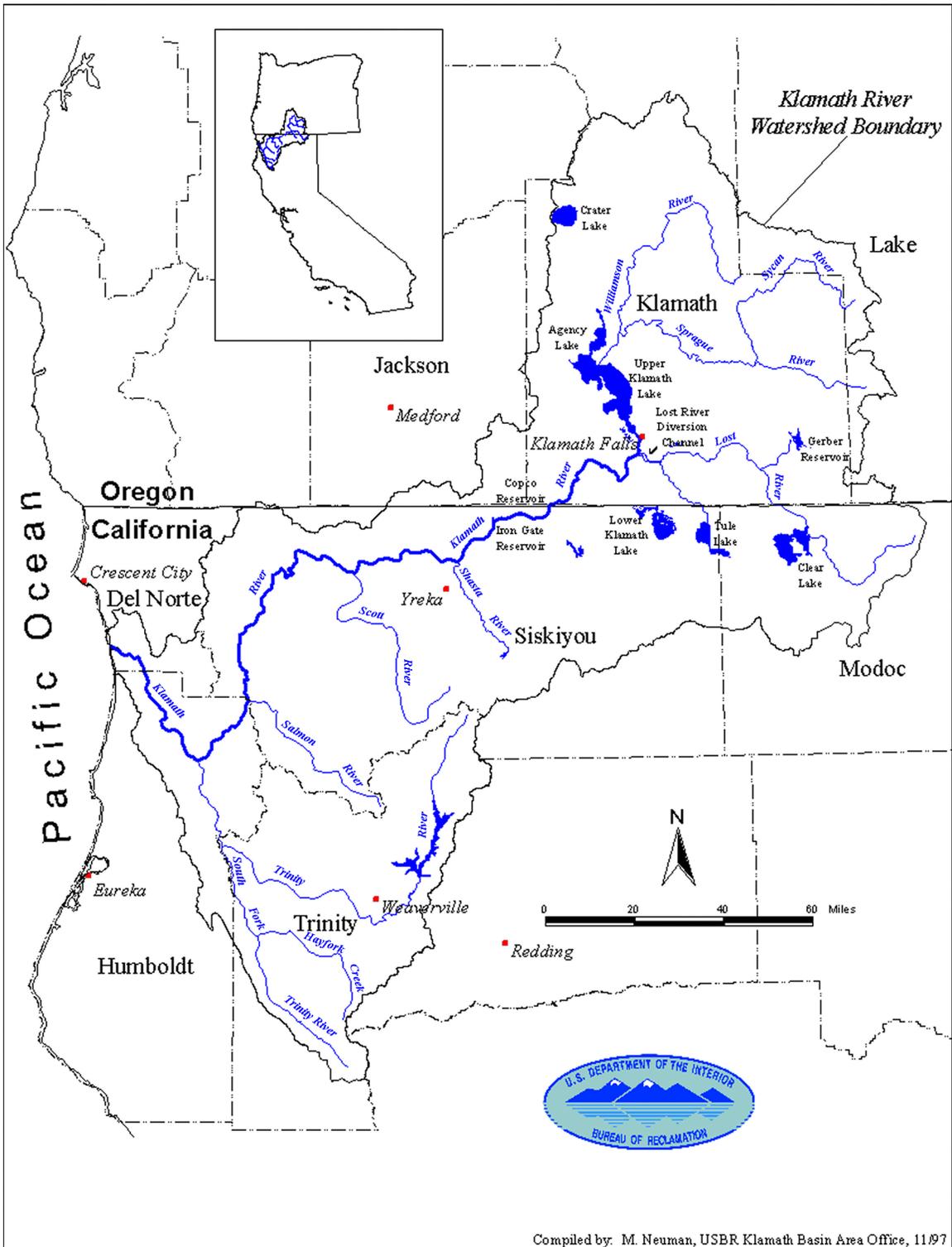
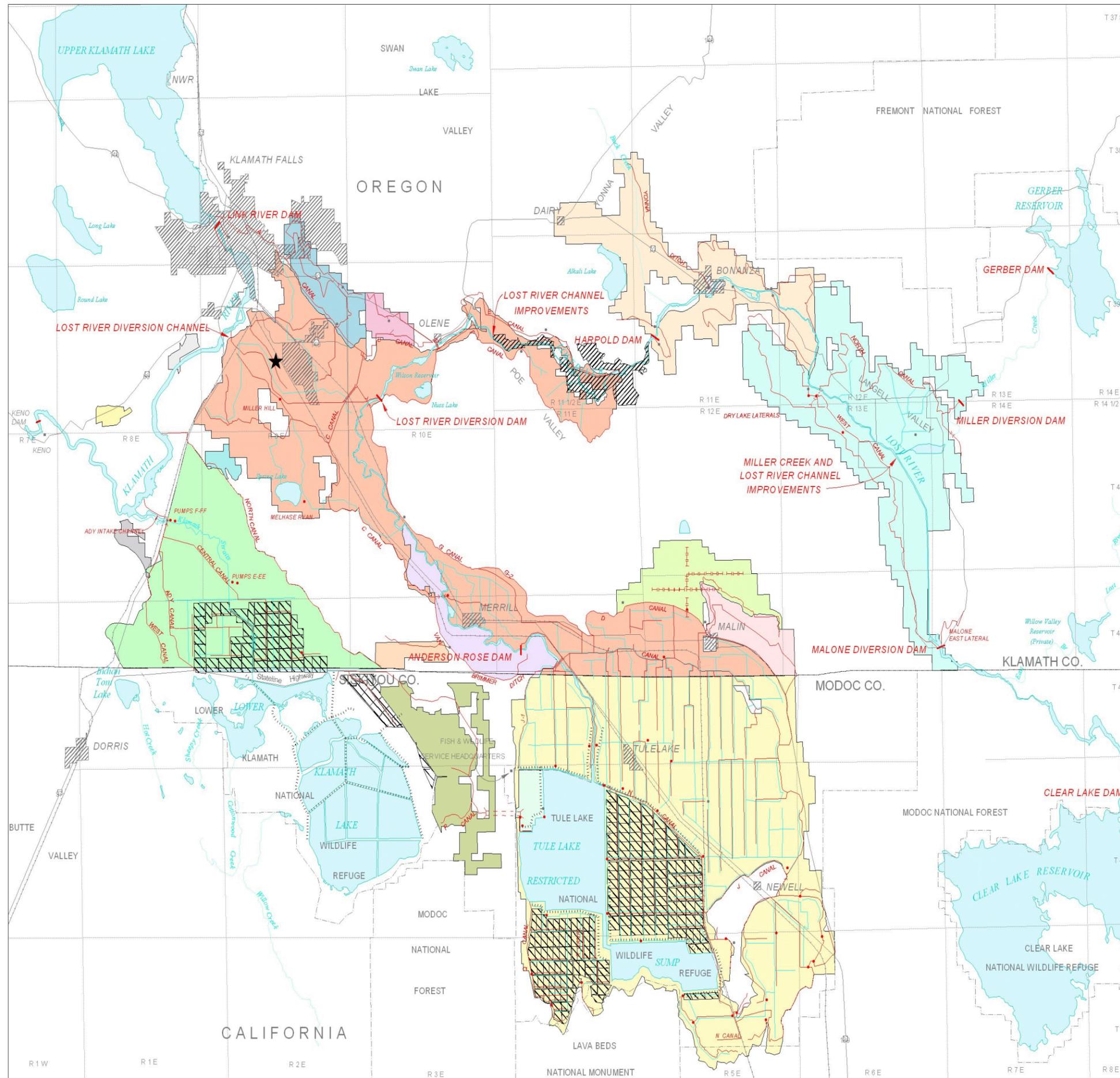


Figure 1.—Geographic scope of the Klamath Project.



LOCATION MAP

FEATURES:

- Hydrography
- Canal
- Drain
- Dike
- Tunnel
- Flume
- Siphon
- Pipeline
- Drop
- Pumping Plant
- Irrigation District Pumping Plant
- Private Utility Powerplant
- Project Headquarters
- Project Land Lease Area

MAJOR WATER DISTRICTS:

- Ady Dist. Improv. Co.
- Enterprise I.D.
- Horsefly I.D.
- Klamath Drain. Dist.
- Klamath I.D.
- Langell Valley I.D.
- Malin I.D.
- Midland Dist. Improv. Co.
- P Canal Mutual Water Co.
- Pine Grove I.D.
- Pioneer Dist. Improv. Co.
- Plevna Dist. Improv. Co.
- Poe Valley Improv. Dist.
- Shasta View I.D.
- Sunnyside I.D.
- Tulelake I.D.
- Van Brimmer Ditch Co.
- Westside Improv. Dist.

KLAMATH PROJECT

Oregon - California



Figure 2.—Klamath Project.

BACKGROUND¹ AND HISTORY

The Klamath Project provides irrigation water for both agricultural and national wildlife refuge lands in the Klamath Basin of south-central Oregon and north-central California, and also provides flood control along the Klamath River in and downstream of the Project area. The Klamath Project is located in the Klamath River and Lost River Basins in southern Oregon and northern California. Prior to development of the Project, agriculture in the surrounding area was limited.

Four watersheds comprise the Project area: the Klamath River watershed, which is the largest, and the Lost River watershed, collectively comprised of the Clear Lake, Malone and Gerber watersheds. Prior to development of the Project, the two major watersheds were linked by a flood channel that allowed water from the Klamath River to enter the Lost River and flow to Tule Lake during high runoff conditions. The two watersheds are still linked, but in a manner that facilitates the use of water by the Klamath Project for domestic, wildlife, and irrigation uses.

The Klamath Project is one of the earliest federal reclamation projects. The Oregon and California legislatures, on January 20 and February 3, 1905, respectively, passed legislation ceding certain lands in Lower Klamath and Tule Lakes to the United States for use by the Klamath Project for project development under provisions of the Reclamation Act of 1902. The Act of February 9, 1905, 33 Stat. 714, authorized the Secretary of the Interior (Secretary) to change the level of several lakes and to dispose of certain lands in the area that were later included in the Klamath Project.

Project construction was authorized by the Secretary on May 15, 1905, in accordance with the Reclamation Act (43 U.S.C. S 372 *et seq.*, Act of June 17, 1902, 32 Stat. 388) for project works to drain and reclaim lake bed lands of the Lower Klamath and Tule Lakes, to store water of the Klamath and Lost Rivers, including storage of water in Lower Klamath and Tule Lakes, to divert irrigation supplies, and to control flooding of the reclaimed lands. Under provisions of the Reclamation Act, Project costs were to be repaid through by the beneficiaries on the reclaimed Project lands.

In 1905, Reclamation filed a notice of intent to appropriate all of the then unappropriated waters of the Klamath Basin to support the Project. Reclamation also purchased various water rights and facilities existing prior to the Project. Work on the Project began in 1906 with the construction of the Main or A Canal. In 1907, the California Northeastern Railway Company, by virtue of an agreement with the United States, constructed a railroad line between the Klamath River and Lower Klamath Lake, which also served as a dike to control

¹ The information presented here was taken from the *Klamath Project Water Rights Data*, dated February 27, 1988, the *Klamath Basin* Report prepared by the Oregon State Water Resources Board, dated June 1971, and personal communication with Bureau of Reclamation, Klamath Project staff.

Klamath Project Historic Operation

the Klamath River overflow into Lower Klamath Lake.² In addition, the Lower Klamath Lake Wildlife Refuge was established in 1908, the Clear Lake Wildlife Refuge was established in 1911, the Upper Klamath Lake Wildlife Refuge was established in 1928, and the Tule Lake Wildlife Refuge was established in 1928.

Work continued with the construction of Clear Lake Dam in 1910 to hold back flood waters from Tule Lake and provide irrigation to the lands within Langell Valley. Various project facilities were built between 1906 and 1966. Major project facilities include Link River Dam (completed 1921), Clear Lake Dam (completed 1910), and Gerber Dam (completed 1925). Clear Lake and Gerber Dams provide flood protection and irrigation benefits to Lost-River-dependent lands.

The lands formerly inundated by Tule and Lower Klamath Lakes were dewatered as a result of flood control measures and were homesteaded by farmers as late as 1949. The Oregon and California legislation, which relinquished state title to project lands in 1905, and congressional action which directed the project undertaking, provided for disposition of the reclaimed lands in accordance with the 1902 Reclamation Act. Under provisions of the Act, the reclaimed public lands were to be opened for homesteading, subject to charges designed to repay project costs.

The first public lands were homesteaded in March 1917, for 3,250 acres of private lands and 2,700 acres of public lands. The 1917 land opening notice announced a construction charge of \$39 per irrigable acre for land already in private ownership and \$45 per irrigable acre for unentered public land. Reclaimed lands in the Tule Lake area were opened for homestead entry under 10 different public notices—the first in 1922 and the last in 1948. A total of about 44,000 acres, making up 614 farm units, were homesteaded in the Tule Lake area. The 1922 homestead notice, later recalled, included a construction charge of \$90 per irrigable acre. Subsequent land openings in the Tule Lake Division included a construction charge of \$88.35 per acre, contingent on the landowners forming an irrigation district to assume joint liability for construction costs.

The Project presently includes approximately 240,000 acres of irrigable lands plus national wildlife refuge lands. The Project has generally provided water to approximately 200,000 acres of agricultural lands per year, with the actual number of irrigated acres varying annually. High irrigation efficiencies are achieved Projectwide because of water reuse within the Project's boundaries. During a normal year, the net use on the Project is approximately 2.0 acre-feet per acre including the water used by the U.S. Fish and Wildlife Service in the Tule Lake and Lower Klamath National Wildlife Refuges.

In 1999, nearly 199,000 acres of crop land were irrigated on the Klamath Project. Gross crop value for 1999 was estimated at over 104 million dollars. Principal crops raised on the

² Agreement dated 10-24-07 between the United States and Southern Pacific Co./California Northeastern Railway Co. The agreement requires the railroads to maintain the railway to serve as a levee and permitted the severance of navigability.

Project include alfalfa, irrigated pasture, small grains, potatoes, onions, sugar beets, and miscellaneous crops. Wildlife benefits derived from Project operations include over 20,000 acres of seasonal and permanent marsh.

Major Project features are:

- Clear Lake Dam and Reservoir located on the Lost River in California
- Gerber Dam and Reservoir located on Miller Creek, a tributary of the Lost River in Oregon
- Malone Diversion Dam on the Lost River downstream from Clear Lake Dam in Oregon
- Lost River Diversion Dam on the Lost River in Oregon that diverts excess water to the Klamath River through the Lost River Diversion channel
- Anderson Rose Dam on the Lost River that diverts water for irrigation of California lands
- Link River Dam on the Link River at the head of the Klamath River regulates flow from Upper Klamath Lake into the Klamath River, and water diverted from Upper Klamath Lake provides the majority of irrigation supplies for the Project lands
- Tule Lake tunnel that conveys drainage water from Tule Lake to Lower Klamath Lake

The Project is operated so that flows of the Lost River and Klamath River are completely controlled except in some flood periods. Water that is diverted for use within the Project is reused several times before it returns to the Klamath River. The Project was designed based on this reuse of water.

It is important to note that the Klamath River Basin Compact (Compact) recognizes that the Lost River has been made a tributary to the Klamath River via the Project operation (see Klamath River Basin Compact, Article II—Definition of Terms³). The Compact was ratified by both California and Oregon and consented to by the United States (August 30, 1957; 71 Stat. 497). The stated purposes of the Compact are:

A. To facilitate and promote the orderly, integrated and comprehensive development, use, conservation and control thereof for various purposes, including, among others: the use of water for domestic purposes; the development of lands by irrigation and other means; the protection and enhancement of fish, wildlife and recreational resources; the use of water for industrial purposes and hydroelectric power production; and the use and control of water for navigation and flood prevention.

³ Congress consented to the negotiation of the Klamath River Basin Compact (between the States of Oregon and California) by the Act of August 9, 1955, 69 Stat. 613 and to the Compact itself by the Act of August 30, 1957, Public Law 85-222, 71 Stat. 497.

B. To further intergovernmental cooperation and comity with respect to these resources and programs for their use and development and to remove causes of present and future controversies by providing (1) for equitable distribution and use of water among the two states and the Federal Government, (2) for preferential rights to the use of water after the effective date of this compact for the anticipated ultimate requirements for domestic and irrigation purposes in the Upper Klamath River Basin in Oregon and California, and (3) for prescribed relationship between beneficial uses of water as a practical means of accomplishing such distribution and use.

Among other items, the Compact set relative priorities to the use of water that postdates the Compact. These priorities are:

1. Domestic use
2. Irrigation use
3. Recreational use, including use for fish and wildlife
4. Industrial use
5. Generation of hydroelectric power
6. Such other uses as are recognized under the laws of the state involved

Project Water Supply

Precipitation in the project area occurs mainly during the winter months, developing a snow pack that provides most of the water available for the Klamath Project and surrounding areas when it melts in the spring. A portion of the runoff is retained in Project reservoirs for release later during the summer. Two main sources water supply the Project. One consists of Upper Klamath Lake and the Klamath River. The other consists of Clear Lake, Gerber Reservoir, and Lost River. One additional source is Agency Lake Ranch, acquired by Reclamation in 1998, “. . . to make water available to all users in the Klamath Basin” (House Appropriation Committee 1998). Water is diverted from Sevenmile Creek onto the ranch for storage and release when needed.

Public Lease Lands

As Tule Lake receded, reclaimed lands were leased for farming before opening to homesteading. The practice of leasing served to develop and improve the land during construction of irrigation and drainage facilities to serve farm units and permit homestead entry. To protect developed homestead lands from flooding, areas at lower elevations were designated as sump areas and reserved for flood control and drainage. Some of the marginal sump acreage subject to less frequent flooding was made available for leasing, but retained in federal ownership. In addition to providing flood control, the reserved sump areas also preserved existing marsh habitat, which has been included within the basin’s national wildlife refuges.

The Klamath Project currently administers federal lease contracts with about 80 farmers for crop production on over 23,000 acres of lands within Tule Lake and Lower Klamath

National Wildlife Refuge. The Kuchel Act (P.L. 88-567) specifies that these lands be leased to farmers to the extent consistent with the primary purposes of the refuges. Gross annual revenue from these leases is approximately \$1.5 million. These lands are the most productive lands in the Klamath Basin and represent 10 percent of the land base receiving Project water.

Contracts are issued for 5 to 8 years but require annual renewal. The renewal and bidding for the federal leases occur from December through February to allow farmers to plan their crops, arrange financing, and order materials and equipment.

Hydroelectric Power

By contract executed in 1917, the United States authorized California-Oregon Power Company (now PacifiCorp) to construct Link River Dam. The dam, deeded to the United States, is operated and maintained by the power company in accordance with the contract. Under the contract, Reclamation directs operation of Link River Dam as necessary to meet Reclamation obligations under the Endangered Species Act (ESA), to protect tribal trust resources, and pursuant to contracts for agricultural water delivery and to wildlife refuges. Water users of the Klamath Project are provided for as preference power customers under the contract. The original contract was amended in 1956 and extended for a 50-year period. Pursuant to a 1956 contract with Reclamation, PacifiCorp operates Link River Dam. PacifiCorp independently operates several privately owned dams downstream of the project for hydroelectric power generation. These projects are operated under a Federal Energy Regulatory Commission (FERC) license, Proj. No. 2082. That license contains a schedule of minimum flows in the Klamath River below Iron Gate Dam. Relicensing of the power project by FERC is scheduled for 2006. The contract is also open for renegotiation at that time.

PROJECT FEATURES AND FACILITIES

Link River Dam and Upper Klamath Lake

General Description

Link River Dam regulates Upper Klamath Lake and is operated pursuant to contract with PacifiCorp (see p. 9, *Hydroelectric Power*). The contract gives the power company considerable latitude in operating the lake so long as all of Reclamation's obligations are met. If necessary, Reclamation reserves the right to operate the lake to meet its obligations. Releases during average years are dictated by the needs of PacifiCorp, which must balance flood control with water availability. During drought periods, such as a period in 1991, flows at critical points are monitored continuously. Reclamation provides the power company irrigation diversion requirements and minimum lake levels and flows below Keno and Iron Gate and the power company adjusts the outflow at Link River Dam to balance the system.

There are no fish screens on the outflow from Link River Dam; however, a fish ladder was constructed in 1926 and is functioning. Reclamation owns the dam, and the power company owns two power canals that carry water from the lake to two small powerplants on either side of the Link River.

The lake itself is highly eutrophic with considerable concentrations of blue-green algae during the summer months. Documented fish kills have occurred on the lake, but have not been tied directly to low water years.

Statistical Information

Location:	Section 30, Township 38 South, Range 9 East, WM
Type of Dam:	Concrete—reinforced concrete slab
Year Constructed:	1921
Spillway Crest Elevation:	4145.0 feet
Total Usable Storage Capacity:	486,830 acre-feet
Inactive Storage:	125,000 acre-feet
Dead Storage:	17,950 acre-feet
Maximum Surface Area:	77,593 acres
Shoreline Length:	98 miles
Watershed Area:	3,800 square miles
Average Annual Inflow:	1.3 million acre-feet
Operator:	PacifiCorp, pursuant to Contract No. 14-06-200-5075

Gerber Dam and Reservoir

General Description

Gerber Dam impounds the waters of upper Miller Creek to form Gerber Reservoir. Prior to the construction of the dam, no reservoir existed and Miller Creek ran dry from June to October in most years. Water is stored for irrigation of lands within Langell Valley Irrigation District (LVID) and flood protection of the Tule Lake lands.

Statistical Information

Location:	Section 12, Township 39 South, Range 13 East, WM
Type of Dam:	Concrete thin arch
Year Constructed:	1925
Spillway Crest Elevation:	4835.4 feet
Total Usable Storage Capacity:	94,300 acre-feet
Dead Storage:	None
Maximum Surface Area:	3,830 acres at maximum storage
Shoreline Length:	17 miles
Watershed Area:	230 square miles
Average Annual Inflow:	55,000 acre-feet
Outflow:	Normal irrigation release = 120 cubic feet per second (cfs) Normal maximum irrigation release = 170 cfs
Yield:	Firm annual yield = 25,000 acre-feet
Operator:	LVID under purchase order pursuant to Reclamation supervision

Clear Lake Dam and Reservoir

General Description

Clear Lake Dam and Reservoir are used to store seasonal runoff to meet later irrigation needs of the Project, principally the Langell Valley Irrigation District and Horsefly Irrigation District (HID), and reduce high flows to limit runoff into the Tule Lake area. Prior to the construction of the dam, a natural lake and marsh/meadow existed above the damsite. The meadow was seasonally farmed by the Carr Livestock Company. During most years, the Lost River below the present dam ran dry from June through October.

Statistical Information

Location:	Section 8, Township 47 North, Range 8 East, MDM
Type of Dam:	Earth and rockfill
Year Constructed:	1910

Spillway Crest Elevation:	4543.0 feet
Total Usable Storage Capacity:	527,000 acre-feet ⁴
Dead Storage:	Affected by silt ⁴
Maximum Surface Area:	25,760 acres at maximum storage
Watershed Area:	1,707 square miles
Average Annual Inflow:	117,000 acre-feet
Outflow:	Normal irrigation release = 120 cfs Normal maximum irrigation release = 170 cfs
Firm Annual Yield:	11,000 acre-feet
Operator:	LVID under Purchase Order pursuant to Reclamation supervision.

Wilson Diversion Dam and Reservoir (Lost River Diversion Dam)

General Description

Wilson Diversion Dam is located approximately eight miles southeast of Klamath Falls on the Lost River. The purpose of the dam is to divert water from the Lost River into the Klamath River for irrigation and flood control for the Tule Lake reclaimed lands.

Statistical Information

Location:	Section 29, Township 39 South, Range 10 East, WM
Type of Dam:	Concrete multiple arch with earth embankment wings
Year Constructed:	1912
Spillway Crest Elevation:	4094.5 feet
Total Usable Storage Capacity:	2,300 acre-feet
Maximum Surface Area:	340 acres
Shoreline Length:	N/A
Watershed Area:	N/A
Average Annual Inflow:	Dependent on Lost River flows
Maximum Outflow Diversion Channel:	3,000 cfs
Yield:	N/A
Operator:	Reclamation

⁴ Experience gained by the Project during the 1991 irrigation season indicate that considerable silting of the approach channel to the outlet works has occurred. As a result the available capacity of the reservoir has been diminished, possibly as much as 60,000 acre-feet. It has proved to be impracticable to release water when the lake elevation dropped below 4523.0.

Lost River Diversion Channel

General Description

The Diversion Channel begins at Wilson Diversion Dam and travels in a westerly direction, terminating at the Klamath River. The channel is capable of carrying 3,000 cfs to the Klamath River from the Lost River system. The channel is designed so that water can flow in either direction, depending on operational requirements. During the irrigation season, the predominant direction of flow is from the Klamath River. Miller Hill Pumping Plant is located on the channel along with the Station 48 drop to the Lost River system.

Statistical Information

Location:	Begins in Section 29, Township 39 South, Range 10 East, WM Ends in Section 17, Township 39 South, Range 9 East, WM
Type:	Earthen channel
Year Constructed:	1912 and later enlarged (the last time in 1948)
Length:	8 miles
Average Annual Inflow:	Dependent on Lost River flows
Maximum Capacity Diversion Channel:	3,000 cfs
Operator:	Reclamation

P Canal System

General Description

The P Canal system, consisting of the Tule Lake Tunnel and the P, P-1, and P-1-a Canals, conveys the water discharged from the Tunnel to multipurpose sumps located within the Lower Klamath National Wildlife Refuge. In addition, water is conveyed to federal leased lands in the lower Klamath area and to private land owners under surplus water rental agreements.

Statistical Information

Location:	Begins in Section 11, Township 47 North, Range 3 East, MDM
Type:	Unlined earth channel
Length:	15 miles
Year Constructed:	1942
Width:	Up to 25 feet
Depth:	Varies from 0 to 5 feet

Outflow: P-1 maximum flow = 250 cfs
P maximum flow = 150 cfs
P-1-a maximum flow = 50 cfs
Operator: Reclamation

Klamath Straits Drain and Pumping Plants E, EE, F, and FF

General Description

The Klamath Straits Drain begins at the Oregon-California border and proceeds north to the Klamath River. The water is relifted twice by pumps (initially at pumping plants E and EE, then at pumping plants F and FF) and is then released to the Klamath River. The Straits Drain is in the Lower Klamath National Wildlife Refuge, which in turn receives drainage water from the Tule Lake National Wildlife Refuge. An environmental impact statement was prepared on this enlargement.

Statistical Information

Location: Begins in Section 17, Township 48 North, Range 2 East, DM
Ends in Section 15 Township 40 South, Range 8 East, WM
Type: Earth channel with relift pumping stations
Length: 8.5 miles
Year Constructed: 1941
Width: 60 feet
Depth: 4-6 feet
Maximum flow: 600 cfs
Operator: Reclamation

Ady Canal Headworks (Southern Pacific Railroad Crossing—Ady)

General Description

The Southern Pacific Railroad constructed the headworks structure and dike, in cooperation with Reclamation, to control the flow of water from the Klamath River into the Klamath Straits. The Ady Canal was later constructed by Klamath Drainage District to serve lands within the District and later enlarged to serve water to the Lower Klamath National Wildlife Refuge. The current location of the gates in the railroad and structure constructed by the District control the flow of water in the Ady Canal system.

Statistical Information

Location: Section 15, Township 40 South, Range 8 East, WM
Type: Concrete box culvert with slide gates and stoplogs

Klamath Project Historic Operation

Year Constructed: 1912
Maximum Flow: Unknown
Irrigation Flow 250 cfs
Operator: Reclamation

Malone Diversion Dam

General Description

Malone Diversion Dam is located approximately 11 miles below Clear Lake Dam on the Lost River. The purpose of the dam is to divert water released from Clear Lake into the West Canal and the East Malone Lateral for irrigation in the Langell Valley Irrigation District.

Statistical Information

Location: Section 18, Township 41 South, Range 14 East, WM
Type of Dam: Earth embankment wing with a concrete gate structure
Year Constructed: 1923
Spillway Crest Elevation: 4,158 feet
Total Usable Storage: 500 acre-feet (est.)
Maximum Surface Area: N/A
Watershed Area: N/A
Inflow: Dependent on releases from Clear Lake
Outflow: Normal irrigation release West Canal = 130 cfs
Normal irrigation release East Canal = 30 cfs
Yield: N/A
Operator: Operated by LVID pursuant to Bureau supervision.

Anderson-Rose Diversion Dam (J Canal Headworks)

General Description

Reclamation constructed Anderson-Rose Dam to provide the necessary forebay for the J Canal headworks, which is located on the left abutment of the dam. The J Canal is the main distribution canal for the Tulelake Irrigation District (TID). The dam has two outlet gates into the Lost River. The dam is located on the Lost River in Oregon.

Statistical Information

Location: Section 7, Township 41 South, Range 11 East, WM
Type of Dam: Reinforced concrete slab and buttress, a concrete overflow spillway and gate structure
Year Constructed: 1921

Spillway Crest Elevation:	Height = 12 feet; length = 204 feet
Total Usable Storage Capacity:	N/A
Maximum Surface Area:	N/A
Watershed Area:	N/A
Average Annual Inflow:	Dependent on releases from Station 48 and irrigation return flows
Maximum Diversion:	800 cfs
Yield:	N/A
Operator:	Operated by TID pursuant to a contract with Reclamation

A Canal

General Description

The A Canal (formerly Main Canal) was the first irrigation facility completed on the Klamath Project. The canal supplies irrigation water, either directly or indirectly through return flows, to the majority of the Project. The headworks for the canal are located on Upper Klamath Lake west of the City of Klamath Falls.

Statistical Information

Location:	Begins in Section 30, Township 38 South, Range 9 East, WM Ends in Section 19 Township 39 South, Range 10 East, WM
Type:	Earth channel with lined sections
Length:	9 miles
Year Constructed:	1905
Width:	60 feet
Depth:	8 feet
Maximum flow:	1,150 cfs
Operator:	Klamath Irrigation District under contract with Reclamation

North Canal (Langell Valley Irrigation District)

General Description

A small diversion structure is located on Miller Creek approximately 6 miles below Gerber Dam. This structure diverts water released from Gerber during the irrigation season into the North Canal. No water is released to Miller Creek below the structure; however, return flows from irrigation of adjacent lands provide some inflow. The North Canal carries irrigation water to lands within LVID.

During the nonirrigation season, stoplogs in the structure are removed, allowing free passage of flow down Miller Creek.

Statistical Information

Location: Begins in Section 5, Township 40 South, Range 14 East, WM
Ends in Section 32 Township 39 South, Range 12 East, WM
Type: Earth channel
Length: 6 miles
Year Constructed: 1918
Width: 20 feet
Depth: 4 feet
Maximum flow: 200± cfs
Operator: Langell Valley Irrigation District under contract with Reclamation

West Canal (Langell Valley Irrigation District)

General Description

The West Canal headworks are located at Malone Dam on the Lost River approximately 10 miles below Clear Lake. Water is released at Clear Lake and then diverted by Malone into the canal. The West Canal supplies irrigation water to over 17,000 acres of land located in HID and LVID.

Statistical Information

Location: Begins in Section 18, Township 41 South, Range 14 East, WM
Ends in Section 32 Township 39 South, Range 12 East, WM
Type: Earth channel
Length: 10 miles
Year Constructed: 1918
Width: 20 feet
Depth: 4 feet
Maximum flow: 200± cfs
Operator: Langell Valley Irrigation District under contract with Reclamation

Miller Hill Pumping Plant (Lost River Diversion Channel)

General Description

Miller Hill Pumping Plant has three 35-cfs units that lift water from the Diversion Channel into the C-4-E Lateral (see *Lost River Diversion Channel*, p. 14) for irrigation use.

Statistical Information

Location: Located in Section 27, Township 39 South, Range 9 East, WM
Type: Concrete base interior design pumps

Year Constructed: 1941
Maximum flow: 105 cfs
Operator: Klamath Irrigation District pursuant to a contract with Reclamation

Station 48 Turnout (Lost River Diversion Channel)

General Description

Station 48 is a turnout located on the south bank of the Lost River Diversion Channel. The discharge from the turnout enters a short channel and then enters the Lost River. The turnout is operated by radio telemetry from the TID Headquarters.

Statistical Information

Location: Located in Section 30, Township 39 South, Range 10 East, WM
Type: Concrete box culvert w/slide gates
Year Constructed: 1948
Maximum flow: 550 cfs
Operator: Tulelake Irrigation District pursuant to a Purchase Order issued by Reclamation

Pumping Plant D (Tule Lake Sumps)

General Description

Pumping Plant D removes excess water from the Tule Lake Sumps and discharges it into the P Canal System. This is the only outlet point from the sump area. The low speed turbine type pumps are housed in a concrete building within the Tule Lake National Wildlife Refuge.

The sumps act as a natural collection area for drainage return flows from Project lands. A portion of water is then removed from the sumps and used to irrigate the reserved sump lease lands and wildlife lands within the Refuge and then returned to the sumps by pumping. A considerable area within the sumps has become a marsh due to low water depths caused by siltation.

Statistical Information

Location: Located in Section 27, Township 39 South, Range 9 East, WM
Type: Low speed interior design turbine pumps, five pumps with a combined total of 3,650 horsepower
Year Constructed: 1941, enlarged in 1949
Maximum flow: 300 cfs, total annual pumpage ranges from a low of 50,000 to a high of 143,000 acre-feet; average = 91,000 acre-feet
Operator: Tulelake Irrigation District pursuant to a contract with Reclamation

Sump Area

Location:	Located in Township 47 North, Ranges 4 & 5 East, MDM
Construction:	Earthen dikes surround the sump
Maximum Surface Area:	12,500 acres
Maximum Safe Water Surface Elev.:	4035.5 feet
Total Usable Storage Capacity:	Approximately 54,000 acre-feet
Depth:	Approximately 4 feet
Operator:	Tulelake Irrigation District pursuant to a contract with Reclamation

Minor Laterals

General Description

Reclamation constructed numerous small laterals beginning in 1905. They provide irrigation service to agricultural lands. Very little water is diverted directly from the main canal systems on the Project. Small laterals deliver approximately 95 percent of the water to farms. The laterals range in depth from 1 foot to over 5 feet, and in width from 2 feet to over 20 feet.

Statistical Information

Location:	Throughout Klamath Project Area
Type:	Earth channel (some are concrete lined)
Length:	680 miles
Year Constructed:	1905 to present
Width:	Varies
Depth:	Varies
Maximum flow:	0 to 250 cfs
Operator:	Reclamation, various irrigation districts, and U.S. Fish and Wildlife Service, pursuant to contracts and agreements with Reclamation

Minor Drains

General Description

Reclamation constructed hundreds of small drains beginning in 1905. They provide drainage to agricultural lands that receive irrigation water from Project facilities. The drains range in depth from a few feet below the land surface to over 10 feet. In most cases, water remains in the drains year round. The terminus of most drains is in either the Lost River or the Klamath River.

Statistical Information

Location:	Throughout Klamath Project Area
Type:	Earth channel
Length:	728 miles
Year Constructed:	1905 to present
Width:	Varies
Depth:	Varies
Maximum flow:	0 to 300 cfs
Operator:	Reclamation, various irrigation districts, and U.S. Fish and Wildlife Service, pursuant to contracts and agreements with Reclamation

Pumping Plants (General)

General Description

Numerous small pumping plants on the Klamath Project lift irrigation water and drainage flows. These plants are generally less than 10 cfs and are located throughout the Project. They are all electrically operated and in some cases, are automatic. They range from low head slow revolution to high speed turbine pumps. Most, if not all, have trashracks associated with them that must be cleaned periodically. Districts operate some of the pumps, but individuals operate most of them for their farming operations.

Statistical Information

Location:	Throughout the Klamath Project
Type:	Varies
Year Constructed:	Beginning in 1906
Maximum flow:	Maximum Flow = 1 to 100 cfs
Operator:	Reclamation, numerous irrigation and drainage districts, and individuals, pursuant to contracts and agreements with Reclamation

Direct Farm Deliveries (Water-User-Operated Facilities)

The U.S. Fish and Wildlife Service operates the Lower Klamath and Tule Lake National Wildlife Refuges. The Service makes decisions throughout the year regarding operation and management of marshlands and farmlands on the refuges. These decisions may affect Klamath Project operations and are coordinated with Reclamation.

Refuge Operations (Project Lease Lands)

General Description

Operations of the Lower Klamath and Tule Lake National Wildlife Refuges are integral with the operations of the Klamath Project. The U.S. Fish and Wildlife Service makes decisions during the year as to management of marshlands and farmlands. These decisions have an impact upon the Reclamation operations.

Klamath Project Lease Areas

The Klamath Project is responsible for leasing over 23,000 acres of farmland to individuals residing mostly in the Klamath Basin. These leases generated approximately \$1.5 million in annual gross revenue in recent years. The Kuchel Act (PL 88-567) governs the leasing of these lands. The Act states in part:

***Sec. 4.** The Secretary shall, consistent with proper water fowl management, continue the present pattern of leasing the reserved lands of the Klamath Straits unit, the Southwest Sump, the League of Nations unit, the Henzel lease, and the Frog Pond unit, all within the executive order boundaries of the lower Klamath and Tule Lake National Wildlife Refuges Leases for these lands shall be at a price or prices designed to obtain the maximum lease revenues. These leases shall provide for the growing of grain forage, and soil building crops . . . (78 Stat. 851; 16 U.S.C. § 695n)*

HISTORIC OPERATION

The Klamath Project stores water in Upper Klamath Lake (Klamath River system) and in Gerber Reservoir and Clear Lake (Lost River system). The distribution system delivers water via a system of canals to lands in the Langell Valley, Poe Valley, Klamath Irrigation District, Tule Lake area, and Lower Klamath Lake area. The primary diversion points include Malone and Miller Diversion Dams in the Langell Valley; the Lost River Diversion Dam and Channel, controlling diversions into and out of the Klamath River; the A Canal diversion works on Upper Klamath Lake, controlling water to the Klamath Irrigation District as well as the Poe Valley and the Tule Lake area; the Anderson-Rose Diversion Dam, on the Lost River, which also diverts to the Tule Lake area; and the Ady Canal, which diverts water from the Klamath River into the Lower Klamath Lake area. In addition, Project irrigators divert directly from both the river systems and Upper Klamath Lake. Figure 2 on page 3 shows the Klamath Project with its features.

Typical water delivery operations of the Project begin in late fall, when the Ady and North Canals are used to deliver water from the Klamath River to lands throughout the Lower Klamath Lake area. This water is used to flood irrigate private, federal lease, and Lower Klamath National Wildlife Refuge lands. The drain water from these lands is returned to the river via the Straits Drain. Winter flooding is the primary irrigation pattern for these lands. Irrigation and refuge water deliveries, however, continue throughout the year. Diversions range from a low during the summer months of 100 cfs to a high of 500 cfs during the late fall and winter.

In March or early April, the A Canal diversions from Upper Klamath Lake begin. Flows generally begin at about 500 cfs to charge the canal system, with a gradual increase to a peak of near 1,000 cfs in May or June. This diversion serves the largest area and delivers the most water of any Project feature. Water deliveries typically continue into October. Drainage water from this service area returns to the Klamath River via the Lost River Diversion Channel and it also flows into the Lost River for reuse by other districts and the Tule Lake National Wildlife Refuge.

Diversions at Miller and Malone Diversion Dams generally begin in April with flows of about 200 cfs. Flows reach a peak of about 400 cfs and generally end in October. These diversions serve about 30,000 acres in the Langell Valley. Drainage water from this system returns to the Lost River.

Diversions at Anderson-Rose generally begin in mid-March with flows of 200 cfs. Flows reach a peak of about 450 cfs and end in October. Anderson-Rose diversions serve the Tule Lake area. All the drainage flows enter the Tule Lake sump.

The Tule Lake National Wildlife Refuge receives water from the Tule Lake area and from the Lost River. Since the Lost River is in a naturally closed basin, Reclamation has constructed a pump and tunnel system (pump “D”) from Tule Lake to Lower Klamath National Wildlife Refuge. Return flows from irrigation accrue to Tule Lake and are reused

for irrigation before the water is ultimately passed through the pump system and to the Lower Klamath Lake area, where it is used on agricultural and refuge lands. Finally, the water is returned to the Klamath River via the Straits Drain.

In an average year, Gerber Dam, the source of water for Miller Diversion Dam, releases about 40,000 acre-feet of irrigation water. Clear Lake releases, during an average year, will be about 36,000 acre-feet. In an average year, Upper Klamath Lake is operated to stay within a set of guidelines that provide for irrigation storage, flood protection, ESA needs, and Tribal trusts. All water that is not needed to regulate within these guidelines is released to the Klamath River. During an average year, the Klamath River release is over 900,000 acre-feet. In addition, the Klamath Project uses 350,000 to 450,000 acre-feet for irrigation and refuge operations.

Link River Dam and Upper Klamath Lake

PacifiCorp operates Link River Dam by following the flood control envelope in figure 3 during the spring run-off period. During wet years, PacifiCorp follows the lower elevation of the envelope, and during low runoff periods, the high elevation. During the drawdown phase of operations, Reclamation directs the power company to meet downstream needs, irrigation requirements, and power demands, as well as maintain a sufficient carryover storage.

Gerber Dam and Reservoir

The outlet at Gerber is opened on approximately April 15 to provide irrigation water to the LVID lands. The outlets are normally shut off on October 1. To prevent freezing of the outlet valves during the winter, approximately 1 cfs is bypassed and released into the Miller Creek channel. The bypass usually begins in November and continues to the beginning of the irrigation season.

During the irrigation season, the outlets are operated on demand of LVID. Maximum flows recently experienced are in the 170-cfs range. LVID operates the dam during the irrigation season under a Purchase Order type agreement with Reclamation. During the fall and winter, Reclamation operates the dam. During the spring, the dam is operated to provide the maximum amount of storage possible and still provide flood protection to the Tule Lake lands. There is no attendant at the dam during the year; however, experience shows that the dam is visited by the district at least twice a week to make gate changes and record readings. Studies completed by Reclamation⁵ indicate that with a recurrence of the 1924-34 drought, deficiencies approaching 80 to 95 percent would occur. During the 1991 irrigation season, the reservoir release was stopped in early July due to the lack of inflow that spring.

⁵ Upper Lost River Division, Concluding report on possibilities for water resource development and a supplemental water supply for Langell Valley, Bureau of Reclamation, June 1972

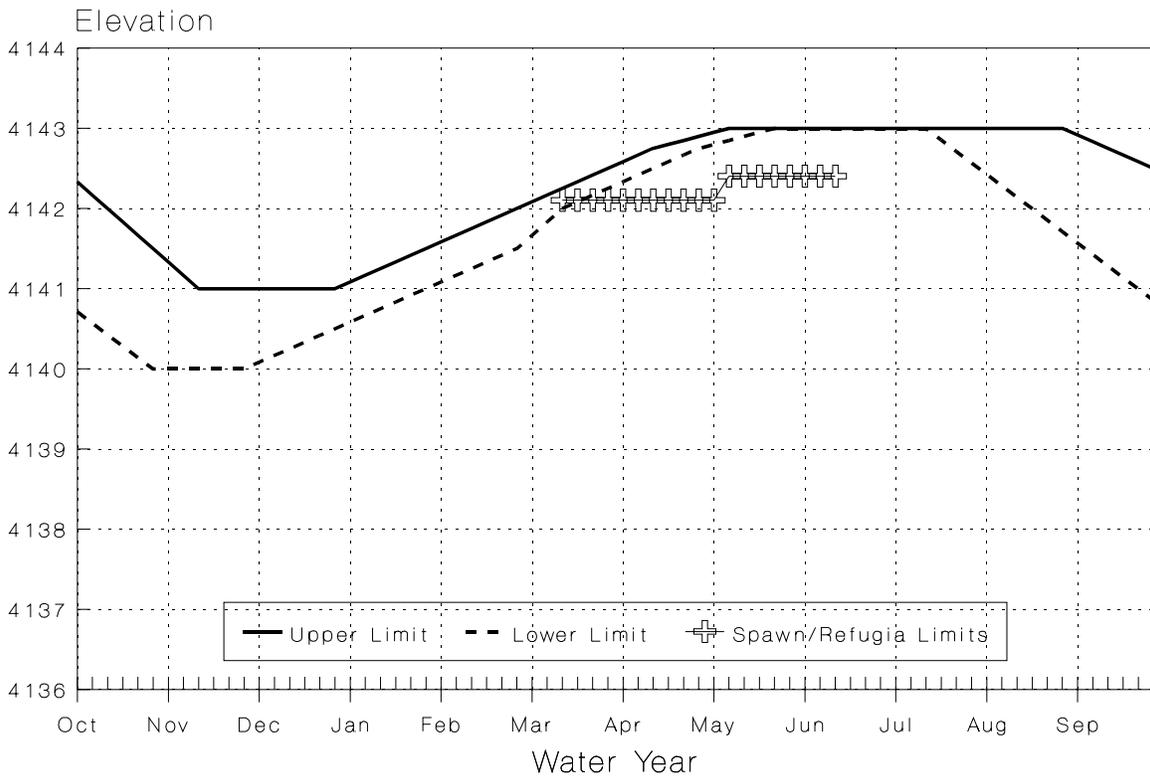


Figure 3.—Upper Klamath Lake operational envelope.

Reclamation surveyed the entire Gerber watershed in 1970 to summarize available data on the use of water above the dam⁶.

Clear Lake Dam and Reservoir

The outlet at Clear Lake is opened, usually around April 15, to provide irrigation water to LVID, HID and private “Warren Act” contract lands. In most years, the outlets are closed around October 1. No other releases are made from the dam unless an emergency condition dictates otherwise. Since the reservoir has a storage limitation of 350,000 acre-feet from October 1 through March 1, occasional summer releases are necessary.

A purchase order is issued each year that permits LVID to operate the dam on a reimbursable basis. LVID operates the gates and reports the changes to Reclamation daily. Flow changes are dictated by the needs of HID and LVID and the private users along Lost River. During the nonirrigation season, Reclamation operates the dam and reservoir. The

⁶ Klamath Project, Gerber Watershed Report, Bureau of Reclamation, Water Rights Engineering Branch-Sacramento, April 1970

reservoir is managed to store as much water as possible without encroaching on the operational guidelines. Clear Lake Dam is currently under consideration for reconstruction because of safety deficiencies. Until that is complete, storage restrictions are in place that allow for the safe operation of the dam. Reconstruction of the dam is expected to be completed in 2 years. During the interim, the elevation of the reservoir determines visits to the damsite. At higher elevations, more frequent visits are necessary, as often as every day.

During 1970, a careful review and survey of all the water impoundments above the dam was made. This report⁷ gave pertinent facts about private and federal storage dams and induced high water irrigation techniques.

The June 1994 Biological Opinion requires that Clear Lake reservoir be operated to ensure an elevation of 4521.0 feet on October 1 of each year, as specified in Reclamation's biological assessment dated January 20, 1994. As a result, Project water cannot be delivered in some years.

Wilson Diversion Dam and Reservoir (Lost River Diversion Dam)

The dam is operated primarily as a diversion dam, diverting Lost River flows into the Lost River Diversion Channel and thence to the Klamath River. During the irrigation season, the water surface behind the dam is raised slightly to facilitate irrigation pumping from the reservoir. During the winter and spring, the reservoir is lowered to provide a cushion for high flow conditions. The dam is able to divert a maximum of 3,000 cfs of Lost River flows into the Diversion Channel and must spill any flows above that amount into the Lost River below the dam. The dam is equipped with automatic gates that maintain a constant lake elevation.

Lost River Diversion Channel

During the fall, winter, and spring, the channel is operated so that all of the water that enters from the Lost River is bypassed to the Klamath River. During periods when the flow is in excess of 3,000 cfs, water is bypassed into the Lost River. During the spring of most years, it is necessary to import water from the Klamath River to the Lost River for early irrigation in the Tule Lake area. During the summer months, the channel is operated as a forebay for the Miller Hill Pumping Plants (see below) and the Station 48 turnout (see below). Depending on the needs of these two irrigation diversions, water that is not able to come from the Lost River must come from the Klamath River.

⁷ Klamath Project, Clear Lake Watershed Report, Water Rights Engineering Branch-Sacramento, June 1970

If necessary, Reclamation can isolate the diversion channel from both the Lost River and the Klamath River for emergency and maintenance activities. During normal operations, water levels in the channel are maintained at or near the levels in the Klamath River.

P Canal System

This system is operated to transport water to and through the Lower Klamath Refuge. Pumping Plant D removes water from the Tule Lake Sump and discharges into the Tule Lake Tunnel. The water is then used by individuals or the Refuge, or discharged to the Klamath Straits Drain and thence to the Klamath River. On occasion, Pumping Plant D is not pumping in order to maintain objective levels in the sump. During these periods, “Special Pumping” is allowed so that water users, including the refuge, in the Lower Klamath Lake area can get water.

Klamath Straits Drain and Pumping Plants E, EE, F, and FF

The Klamath Straits Drain is operated at levels that will provide adequate drainage to both private lands and refuge lands. The pumps are operated to meet the flow conditions within the drain. Water quality conditions are monitored continuously near the outlet of the channel to the Klamath River.

Ady Canal Headworks (Southern Pacific Railroad Crossing—Ady)

Gates at the railroad are left in the open position all the time. Flow through the structure is controlled by the district’s automatic gates located downstream. The Ady Canal delivers water to the Lower Klamath Lake National Wildlife Refuge, in addition to private lands.

Malone Diversion Dam

When LVID begins receiving orders for irrigation deliveries from areas served by the West Canal and the East Malone Lateral, they lower the radial gates and begin to fill the reservoir. The reservoir water surface is maintained at or near 10.0 feet above the gate sill. The West and East Malone Canals are regulated at the dam. At the end of the irrigation season, the radial gates are raised to allow for passage of flood waters during the winter and spring. During some years, it is necessary to bypass flows to the Lost River through the dam.

Anderson-Rose Diversion Dam (J Canal Headworks)

During the irrigation season, the elevation of the Lost River is maintained at or very near the spillway crest. This provides for a maximum head for the J Canal intake structure. Releases are carefully controlled from Station 48, located approximately 10 miles above the dam, via telemetry. These releases are coordinated with return flows accruing to the Lost River and

irrigation demands of TID (J Canal) to minimize potential spills below the dam. Occasionally, operational spills do occur because of the time lag between Station 48 and the dam, and the fact that returns to the river are not premeasured.

Anderson-Rose Dam diverts water for Tulelake Irrigation District, with an average of 135,000 acre-feet per year diverted to the J Canal. Other sources of inflow to TID include return flows from several irrigation districts. Water in the system is eventually diverted onto individual farm units, either privately owned land or leased land within the Tule Lake National Wildlife Refuge (16,925 acres of irrigated land lie within the refuge). There are currently 37 pumping plants with a total of 69 pumps within TID. Capacities of these pumps range from 2 to 300 cfs. Irrigation in the district normally starts around March 1 and continues through mid-November. Return flows from fields eventually flow to the Tulelake Sumps. Annual average operations of TID are:

- Station 48 to the Lost River 60,000 acre-feet
- Diverted at Anderson Rose Dam 135,000 acre-feet
- Diversions within the system 250,000 acre-feet
- Pumping Plant D volume 100,000 acre-feet

A Canal

The canal is operated on a demand basis. Generally, the canal is charged with water in March or April. Flows average 500 cfs for this charge-up period. Orders for water are placed by irrigators with the watermaster, who then schedules the flow in the canal. At the end of the irrigation season, generally during October, the canal is drained into the Lost River and the Lost River Diversion Channel.

North Canal (Langell Valley Irrigation District)

The canal is operated in response to crop demand, generally beginning in April. At the end of the irrigation season (October), the canal is drained and the water returned to the Lost River. The entire supply of water for this canal comes from Gerber Reservoir.

West Canal (Langell Valley Irrigation District)

The canal is operated in response to crop demand. The entire supply of water for this canal comes from Clear Lake.

Miller Hill Pumping Plant (Lost River Diversion Channel)

The pumps are operated on demand of the irrigators who take water from the C-4-e system. The pumps are not used during the nonirrigation season.

Station 48 Turnout (Lost River Diversion Channel)

The Station 48 gates provide the required flow into the Lost River and then into the J Canal located at Anderson-Rose Diversion Dam. TID must estimate the amount of return flows to the Lost River between Station 48 and the headworks of the J Canal and then adjust Station 48 flows to provide for the J Canal needs. If the amount of water released is too high, the excess is spilled into the Lower Lost River below the dam. Gates are normally opened from the first of March until mid-November. From 12 to 36 hours are normally required for water from Station 48 to reach Anderson-Rose Dam. It is difficult to determine the amount of water required at the dam due to unknown quantities of return flow between Station 48 and the dam, and also the time lag between diversions at Station 48 and the dam.

Pumping Plant D (Tule Lake Sumps)

Pumping Plant D is operated to maintain certain objective water levels on the Tule Lake sumps. The sump areas provide flood control, protection of wildlife, and irrigated agriculture. The objective water levels are specified by regulations to facilitate waterfowl production and hunting, and protect the Tule Lake area and the reserved sumps that Reclamation leases for agricultural use. Occasionally, the pumping plant is operated to provide irrigation water to lands dependent upon the P Canal system, including both federal and private lands. Water delivered from the pumping plant is the sole source of irrigation water for some private lands and part of Lower Klamath National Wildlife Refuge. Water levels of the sump areas are kept low during the fall and spring to provide flood protection for private lands.

Considerable maintenance of the pumping plant is required during the operational period. Of particular concern is the need to remove great quantities of weeds that collect on the trashracks in front of the pumps.

Minor Drains

The drains are operated to provide agricultural drainage. Maintenance activities include periodic cleaning of the drains to maintain flows. Some relift pumping plants are located on the drainage system.

Minor Laterals

The laterals are operated by the various districts to provide field deliveries of irrigation water to farmers. Flows are dictated by the requirements of the farmers and the capacities of the laterals. As a rule, the laterals are drained during the nonirrigation season and refilled at the beginning of the season. During the drain-down of the laterals in the fall, water is released to drains and directly to the river systems, depending on location.

Laterals are periodically cleaned of sediment during the nonirrigation portion of the year. During the irrigation season, the laterals and canals are treated with herbicides to suppress the growth of aquatic weeds within the canal prism. This was the subject of a prior consultation with the Fish and Wildlife Service. A biological opinion, entitled *Formal Consultation on the Use of Acrolein in Canal and Drainage Ditches Within the Klamath Project Service Area*, was issued by the Fish and Wildlife Service on June 14, 1989.

Pumping Plants (General)

The pumps are operated on crop demand, to remove drainage water, or to provide irrigation. Some of the pumps are used all year and others only during the irrigation season.

Direct Farm Deliveries (Water-User-Operated Facilities)

Water deliveries are controlled, for the most part, by irrigation districts that have taken over operation and maintenance of project facilities. Scheduling of water deliveries allows the irrigation of all lands in rotation. The farmer orders a specific amount of water in advance of need.

Project Lease Lands

Leases are renewed beginning in December and any leases not renewed or coming up for rebidding are offered beginning in February to area farmers. All leasing arrangements are approved by Reclamation, in consultation with the U.S. Fish and Wildlife Service, prior to being offered.

Operations for Water Year Types

Wet Year Operations

During wetter than normal years, full supplies are available for Klamath River releases below Iron Gate Dam. Klamath Project irrigation needs are also fully met, along with the needs of the refuges. During these periods Gerber typically spills water and Clear Lake stores all inflow, or controlled releases are made to the Lost River. During a high runoff year, Upper Klamath Lake may produce as much as 2.4 million acre-feet of net inflow, most of which could not be stored and would have to be bypassed to the Klamath River.

The primary concern during wetter than normal years is for the protection of lives and property. Facilities are operated to provide for a controlled release of water from the basin. The Lost River is prone to localized flooding during high runoff periods. A system of dikes in Langell Valley channelizes the flow during these high flow periods.

Water may be bypassed into the lower Lost River (below Wilson Dam) to the sump area in the Tule Lake Refuge when the capacity to send the water to the Klamath River is exceeded.

It was necessary to flood the federal lease lands in the Tule Lake area, thus delaying the farming operations, during the 1964-65 flood. In addition, the Lower Klamath area experienced difficulty in the removal of water in time for the planting of crops.

Average Year Operations

In most average years the Project water users, including the wildlife refuges, receive sufficient water supplies. No restrictions are in place that affect timing or quantity of deliveries. The average year inflow to Upper Klamath is 1.3 million acre-feet. The Project, including the wildlife refuges, consumptively uses approximately 350,000 acre-feet. Supplies of irrigation water in the Lost River system depend upon the carryover storage from the previous year. Average inflow to Lost River reservoirs is insufficient to meet irrigation demand without sufficient carryover storage.

Drought Year Operations

During previous drought years, in order to conserve as much water in Upper Klamath Lake as possible, the Project initiated a variance (i.e., reduced flows to below those set forth by the Federal Energy Regulatory Commission) in the Klamath River below Iron Gate. The variance was issued as soon as irrigation supplies were threatened. The variance not only conserved water for irrigation, but also allowed for later releases of water for fish enhancement in the lower Klamath River.

Water Contracts

The Klamath Project water users obtain their irrigation water supply from Project facilities pursuant to various contracts with Reclamation. Reclamation obtained water rights for the Project in accordance with California and Oregon State law, pursuant to the Reclamation Act of 1902. The priority date for Project water rights is generally 1905, and some rights may date from 1878.

Reclamation entered into numerous contracts pursuant to Article 9(d) of the Reclamation Act of 1904 with various irrigation districts to provide for the repayment of Project costs and the granting of water rights. The contracts specify an acreage to be covered by the water right granted, and in most cases, do not specify an amount of water relying on beneficial use for the amount of water used. The contracts are all written in perpetuity.

In all, over 250 contracts for water service are administered either directly or through irrigation districts on the Klamath Project. Contracts also cover the operation of the facilities that were transferred to the water users for operational responsibility. Irrigation Districts that fall into this category are Klamath Irrigation District, Tule Lake Irrigation District, and the Langell Valley Irrigation District.

Klamath Project Historic Operation

In addition to the above, Reclamation entered into numerous contracts that were written pursuant to the Warren Act of 1911. These contracts provided for a water supply at a certain point, with the responsibility of the contractor to construct all the necessary conveyance facilities (i.e., pumps, laterals, and turnouts) and be responsible for their operation and maintenance.

Some of the districts (and their respective contracts, only the most recent of which is listed) that own all or a portion of their privately constructed facilities are:

<u>District Name</u>	<u>Contract Date</u>	<u>Acreage</u>
Van Brimmer Ditch Company	November 6, 1909	3,315
Klamath Basin Improvement District	April 25, 1932	10,403
Enterprise Irrigation District	March 18, 1935	2,981
Malin Irrigation District	May 5, 1936	3,507
Pine Grove irrigation District	June 19, 1936	927
Sunnyside Irrigation District	June 25, 1936	595
Westside Improvement District	October 20, 1936	1,190
Shasta View Irrigation District	August 20, 1938	4,141
Klamath Drainage District	April 28, 1943	19,229
Emmitt District Improvement Company	December 1, 1947	424
Midland District Improvement Company	February 2, 1952	581
Poe Valley Improvement District	July 20, 1953	2,636
Ady District Improvement Company	August 5, 1954	435
Plevna District Improvement Company	February 7, 1958	523
Horsefly Irrigation District	August 24, 1976	9,843
Upper Klamath Lake contractors	Various contract dates	7,918
Individual contracts	Various contract dates	9,960

Nearly all contracts written during the past 85 years on the Klamath Project obligate the United States to the delivery of irrigation water. Clauses in most contracts include language similar to the following example:

“The United States shall deliver in the Klamath River at the outlet of Upper Klamath Lake..in all a total of 522.7 irrigable acres, a sufficient quantity of water as may be beneficially used upon said lands...the quantity of water sufficient for the irrigation of said 522.7 acres shall be as determined by the Secretary of the Interior....”

Appendix C contains more detailed information on contractual relationships.

Temporary Water Contracts

Each year Reclamation determines whether surplus water is available to irrigators (see *Water Supply Forecasting* p. 36). In many cases, irrigators have been receiving surplus irrigation water from Reclamation for over 50 years. For numerous reasons, these irrigators were never given a permanent contract. Concurrently, the districts also make a determination whether or not to sell surplus water. The irrigable acreage covered by surplus water contracts in 2000 was approximately 5,248 acres.

The irrigable acreage represented by these temporary contracts is less than 2 percent of the total acreage irrigated on the Project. Water is delivered to these lands through the existing irrigation systems. In many cases, the water is delivered and controlled by the irrigation districts.

National Wildlife Refuges

Four national wildlife refuges lie adjacent to or within Klamath Project boundaries – Lower Klamath, Tule Lake, Clear Lake, and Upper Klamath. These refuges were established by Executive Orders dating as early as 1908. The refuges are managed by the U.S. Fish and Wildlife Service under the Migratory Bird Treaty Act, the Refuges Administration Act, the National Wildlife Refuge System Improvement Act, and other laws pertaining to the National Refuge System. These refuges support many fish and wildlife species and provide suitable habitat and resources for migratory birds of the Pacific Flyway. Portions of the refuges are also used for agricultural purposes. The refuges either receive water from or are associated with Project facilities. Reclamation has an obligation to ensure that the refuges receive adequate water to fulfill their federal reserved water rights (i.e., the amount of water necessary to fulfill the primary purposes of the refuges) when in priority and when water is available. In addition, Reclamation can continue to provide available Project water for beneficial reuse by the refuges to the extent of past and current usage and consistent with Project purposes (DOI, 1995). The refuges have federally reserved water rights for the water necessary to satisfy the refuges' primary purposes. In addition, the Lower Klamath and Tule Lake refuges have water rights based on a portion of the Klamath Project water right.

Power Contracts

In 1917, the United States entered into a contract with California Oregon Power Company, now PacifiCorp, under which the power company was given the right to construct Link River Dam at the outlet of Upper Klamath Lake, and the right to use certain amounts of water after the requirements of the Klamath Project were satisfied. The contract was to cease, and title of the dam was to vest in the United States 50 years from the date of execution. The contract was renewed early as a result of the FERC Project 2082 concerning the construction and operation of downstream Klamath dams operated by the power

company. The present contract, which will expire in 2006, allows PacifiCorp to operate the dam within certain guidelines (see *Hydroelectric Power*, p. 9 and *Link River Dam and Upper Klamath Lake*, p. 11).

Water Rights Information

Acquired Water Rights

In addition to initiating the appropriative rights procedure in the State of Oregon, the United States acquired some early pre-Project rights to use water by purchase from landowners with prior rights entitlements. The fact that a considerable number of these rights were purchased by the United States indicates that early private development of the basin was well under way at the advent of Reclamation. It was necessary to purchase these rights from the entities involved so that Reclamation had full control of all of the rights to the use of water in the basin to facilitate Project operation.

Appropriation by the United States

On May 19, 1905, a “Notice of Intention to Utilize All Waters of the Klamath Basin” was filed by the Reclamation Service, Predecessor to the Bureau of Reclamation, in the office of the State Engineer of Oregon. It is recorded in “Water Filings” on page 1. This notice was also published in the *Klamath Falls Express* of Klamath Falls, Oregon on June 15, 22, 29, and July 6, 1905.

The Reclamation Service of the United States filed detailed plans and specifications covering the construction of the Klamath Irrigation Project with the State Engineer of Oregon on May 6, 1908, and on May 8, 1909, filed with the State Engineer proof of authorization of the construction of the works therein set forth.

Prior to December 19, 1914, appropriative water rights could be acquired in California by posting and recording a notice stating the nature and quantity of the proposed appropriation and by thereafter exercising due diligence in putting the water to beneficial use. The required postings were made on behalf of the United States.

Adjudication Proceedings

A formal adjudication of a river system establishes in a competent court the relative rights to the use of water within the area that is being adjudicated. Testimony is received from all persons claiming a right and the State makes determinations based on the testimony of the relative priority dates. The Klamath River Basin is in such a process.

The State of Oregon began the adjudication of the Lost River system in 1910. Certificates were issued to individuals who had rights predating the Klamath Project’s filings. Since Reclamation was not a party to the adjudication, certificates were not issued to Reclamation

or its contractors. The State did, however, set aside 60,000 acres for Reclamation to later claim certificates on.

A number of irrigators above Gerber Dam claimed to have not been notified of the 1918 adjudication. As a result, the State reopened the adjudication process and completed it in 1989. This portion of the adjudication set forth the relative priorities of water use above Gerber Dam.

The Klamath River Basin Adjudication covers all Project lands served by the Klamath River. Other federal entities involved include the National Park Service, U.S. Department of Agriculture, Bureau of Land Management, the U.S. Fish and Wildlife Service, and Bureau of Indian Affairs on behalf of the Klamath Tribes. In 1975, the State of Oregon, through its Water Resources Department (OWRD), initiated the Klamath River Basin adjudication to determine all claims to surface water in the Basin. By 1986, the State of Oregon had completed a considerable amount of work in mapping the places of use within the Project.

In 1990, the OWRD reissued notices of intent to adjudicate the Klamath River Basin, and during 1991, required all persons claiming a right to the use of water from the River to file. The United States did not file, claiming that the adjudication violated the McCarran Amendment which requires that any adjudication involving the United States must be complete and include ground water. In subsequent legal proceedings, the United States lost, and as a result, all claims were to be filed with the State in April 1997 for both use and storage. Open inspection of claims was extended through March 2000. In May 2000, several thousand contests were filed on individual claimants and the State's Preliminary Evaluations of Claims.

Concurrent with the Klamath adjudication, the State of Oregon has begun an Alternative Dispute Resolution (ADR) process in an attempt to resolve as many water rights issues in the adjudication as possible to avoid litigation by various claimants. The U.S. has participated in the ADR process from its beginning, along with the Klamath Tribes, various individuals, and the Klamath Project water users. Meetings are held monthly. The ADR process may help solve disputes; however, difficult issues remain to be resolved.

The State of Oregon has proposed a broad settlement framework that is being considered by the Administrative Subcommittee of the ADR Group. In addition, the Klamath Tribes and project irrigators have negotiated a framework settlement agreement which is under review by various parties to the ADR. The Klamath Tribes have also presented a settlement proposal on the tributary area above Upper Klamath Lake. Several technical teams have been formed to deal with specific ADR issues. Reclamation actively participates on the Hydrology Technical Committee.

More detailed information on existing water rights can be found in appendix C.

Water Supply Forecasting

Each year, the Klamath Project forecasts available water supplies, beginning in January. Information such as watershed conditions, carryover storage, NRCS forecasts, projected water use for both irrigation and wildlife use, and other available data for varied sources are used by Klamath Project personnel to forecast the condition of Project systems during the ensuing year. The forecast and water supply declaration have been presented in annual operations plans since 1995.

The annual operation plan is presented to the water user community as soon as practicable, usually in early May. The plan delineates how much water is available to meet the demands that may be placed upon the Project.

Chronology of Key Events (1961 to 2000) Relevant to Project Operation

- | | |
|-----------|--|
| 1961 | Klamath Project facilities completed and fully operational. Reclamation operates the Project to meet its authorized purposes, in accordance with State law, the annual forecast/availability of water and contractual obligations with Project water users and PacifiCorp. |
| 1986 | State of Oregon initiates water rights adjudication for Klamath River for the Oregon portion of the Klamath Basin. |
| 1988 | The Lost River and shortnose suckers listed as endangered under the Endangered Species Act on July 18, 1988. |
| 1989 | First discussions with the Klamath Tribes regarding effects on tribal trust resources resulting from entrainment of endangered fishes into Project canals. |
| 1989 | Initial consultation with U.S. Fish and Wildlife Service under Section 7(a)(2) of the Endangered Species Act regarding effect of Klamath Project operation on listed species (“jeopardy” biological opinion dated June 14, 1989 on the effects of use of Acrolein on Project lands). |
| 1991-1992 | Several interim Section 7(a)(2) consultations with U.S. Fish and Wildlife Service completed for Project operations (biological opinions dated August 14, 1991 [jeopardy], January 6, 1992 [no jeopardy], March 27, 1992 [jeopardy] and May 1, 1992 [no jeopardy]). |
| 1992 | Critical dry water year, driest year on record since operation of Klamath Project began. Reclamation develops water conservation plan and Drought Plan. |

- 1992 Discussions with downstream Tribe(s) regarding impacts of Project operation on Klamath River flows and tribal fishery rights and resources.
- 1992 Comprehensive Section 7(a)(2) formal consultation with U.S. Fish and Wildlife Service completed on the effects of long-term operation of the Klamath Project (“jeopardy” biological opinion with reasonable and prudent alternative and incidental take statement dated July, 22, 1992) that superseded previous biological opinions.
- 1993 The Klamath River Basin Fishery Resources Restoration Act (P.L. 99-552) enacted and Klamath River Fisheries Task Force created resulting in heightened awareness of downstream issues and effects of Project operation.
- 1994 Section 7(a)(2) formal consultation with U.S. Fish and Wildlife Service on the long-term operation of the Klamath Project, with special reference to operations at Clear Lake on the Lost River Sucker, Shortnose Sucker, Bald eagle and Peregrine Falcon (“jeopardy” biological opinion dated August 11, 1994—this opinion’s Reasonable and Prudent Alternative superseded portions of the July 7, 1992 opinion that referred to Clear Lake and provided an updated Incidental Take Statement for Klamath Project operations.)
- 1994 Critical dry water year, third driest year on record. First government-to-government meetings held with Tribes, resulting in Reclamation’s heightened awareness of tribal trust responsibilities. Water users, Tribes and other interested parties ask Reclamation to prepare written plan of operation to allay concerns about uncertainty about availability of Project water. First attempts to initiate a Klamath Project Operations Plan (KPOP).
- 1995 Section 7(a)(2) consultation with U.S. Fish and Wildlife Service on use of pesticides and fertilizers on federal lease lands, and Acrolein and herbicide use on Klamath Project right-of-ways (“no jeopardy” biological opinion on endangered fishes dated February 9, 1995)
- 1995 Annual Operations Plan prepared by Reclamation for Klamath Project (plans subsequently prepared for years 1996-2000)
- 1995 Initial conferencing with NMFS on 1995 operations plan for the Klamath Project (letter of concurrence from NMFS dated April 7, 1995 stating that 1995 plan not likely to jeopardize the coho salmon [a species proposed for listing]).
- 1995 Reclamation receives Memorandum from Dept. of the Interior Regional Solicitor, Pacific Southwest Region, describing certain legal rights and obligations related to the Klamath Project for use in preparation of the

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- Klamath Project Operations Plan (app. A). Reclamation incorporates the advice given in this memorandum into its annual operations plans.
- 1996 Reinitiation of Section 7(a)(2) consultation on PacifiCorp and The New Earth Company operations permitted by Reclamation on the Lost River and Shortnose Sucker (biological opinion dated July 15, 1996 stating that the operations are not likely to jeopardize the species).
- 1997 Listing of the southern Oregon/northern California coho salmon as threatened under the Endangered Species Act on May 6, 1997.
- 1997 Reclamation publishes Notice of Intent (NOI) to prepare environmental impact statement on Klamath Project Long-Term Operations Plan (supplemental NOI issued in February 1999).
- 1998 First formal Section 7(a)(2) consultation with NMFS regarding Klamath Projects operations
- 1999 Biological Opinion issued, dated July 1999, stating that Project operation is not likely to jeopardize the coho salmon during the defined period of operation
- 2000 Project operation in accordance with determination pursuant to Section 7(d) of the ESA in a below-average water year

RIVER FLOWS AND LAKE ELEVATIONS RESULTING FROM HISTORIC OPERATION

Since 1995, Reclamation has operated the Klamath Project according to an annual operations plan. Each of these years was an above average water year. The most recent annual operations plan is dated April 26, 2000 and covers the period of April 1, 2000 through March 31, 2001. This water year was a below average water year. The annual operations plans have been developed to assist Reclamation in operating the Klamath Project consistent with its obligations and responsibilities, given varying hydrological conditions. Project operations plans have been influenced by events and actions such as:

- Varying hydrological conditions in the watershed from year to year
- Changes in the Klamath River watershed and lands adjacent to Upper Klamath Lake
- Changes in agricultural cropping patterns
- Changes in national wildlife refuge operations
- Previous consultations under Section 7(a)(2) of the ESA
- Recognition of trust responsibilities for Klamath Basin Indian Tribes, both upstream and downstream of the Project
- Reclamation's obligation and responsibilities described in the July 25, 1995 and January 9, 1997 Regional Solicitors' memoranda

This analysis uses historic Klamath River flows from 1961 through 1997. It uses historical water elevations of Upper Klamath Lake, Clear Lake, and Gerber Reservoir from October 1960 through September 1998. This period encompasses the time when existing project features/facilities have been in operation, and it is the period of hydrological and project operation records incorporated into the water accounting spreadsheet model (KPOPSIM) for the Klamath Project.

Water Year Types

The 38 years of historic April-through-September net inflow data to Upper Klamath Lake (using 1996 bathymetric data) were used in a statistical analysis to determine hydrologic year type indicators for the KPOPSIM water model. The first step was to determine if the data fit a normal distribution. Once this determination was made, the arithmetic mean (average) was calculated (500,400 ac-ft). Next the standard deviation (based on sample) was calculated (187,600 ac-ft). Approximately 68 percent of the inflow years fall within the range of $500,400 \pm 187,600$ acre-feet. The average minus one standard deviation equaled

approximately 312,000 acre-feet. The water years between 500,000 and 312,000 acre-feet are defined as below average inflow. Because there are significant operational spills for inflows above 500,000 acre-feet, the upper end of the area defined by mean plus one standard deviation was not used, and 500,000 acre-feet was used as the above average indicator. For the boundary between critical and dry, the mean minus two standard deviations was calculated and found to be lower than the lowest inflow on record. Since this couldn't be used, percentile rankings were developed for the full 38 years of inflow data, and the third percentile was found to be 185,000 acre-feet and was used for the dry indicator. Any year below the dry indicator was classified as a critical year.

Project Operation

From 1961 through 1994, operation decisions for flows downstream of Iron Gate Dam were made in coordination with PacifiCorp with consideration for current inflow, projected runoff, and projected irrigation and refuge needs. Deference was given to PacifiCorp's FERC flow schedule requirements when sufficient water supply was available. However, review of historic flow data contained in table 1 illustrates that the actual flows realized reflect an operation within hydrologic constraints and deliveries for agricultural and refuge uses, with a relatively minor influence of the FERC flow schedule. The data in table 1 also illustrate the lack of storage capability within the Klamath Project.

October through March

Irrigation and refuge water demands from October through March were relatively nominal, and the flows at Iron Gate were a function of balancing filling of Upper Klamath Lake against downstream flows. When flows exceeded the FERC minimum of 1,300 cfs (Note: Because the FERC minimum is an instantaneous value, when operating to the minimum, the average is generally 20 to 50 cfs above the minimum), it was a function of passing inflow to maintain flood control elevation in Upper Klamath Lake. The contrast between water year types is evident from the record during this period.

April through June

April through June is a transition period, including the recession of snow pack runoff and the onset of summer irrigation demand. The timing of runoff is highly dependent on weather and snow pack conditions. Upper Klamath Lake is operated to fill in accordance with flood control criteria and in consideration of forecasting of runoff from remaining snow pack. Inflow in excess of filling and diversion needs is released at Link River Dam. Link River releases and downstream accretions make up the flows at Iron Gate Dam. Typically there is a "lull" between late winter low elevation runoff and the onset of higher elevation snow melt. This has often resulted in a temporary reduction of flow at Iron Gate Dam. These fluctuations in flow depend on weather conditions that affect snow melt. Figure 4 illustrates these conditions. Reclamation will explore ways to minimize the depressed flows that occur during this period.

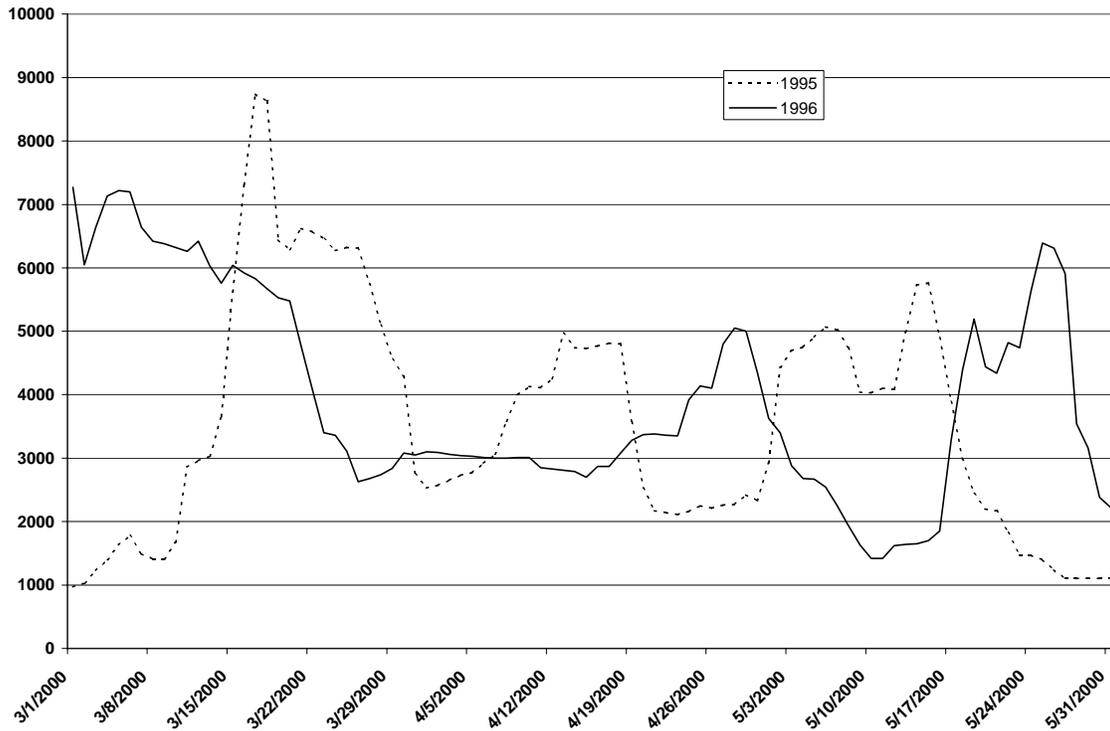


Figure 4.—Klamath River flows (in cfs) below Iron Gate Dam (1995-1996).

July - September

Snow pack has generally melted prior to this period. Inflow to reservoirs is the result of springs, stream flow, and occasional summer storms. During this period, the Project draws upon reservoir storage in addition to inflow to provide irrigation for crop production, refuge needs and flows to the Klamath River.

Klamath River Flows Below Iron Gate Dam

Table 1 contains historical data (1961 through 1997) for Iron Gate Dam flows, based on U.S. Geologic Survey (USGS) daily flow records. This table summarizes the historical daily minimum, maximum and average flows for the 17 time steps for each water year type. USGS data for historical flow at Iron Gate Dam is provided in daily cfs. Values for average monthly (or half-monthly) flow were developed for every time step in the period of record. These values were then split up by year type. Take the "dry" year type and the "October" time step for an example. Five years in the period of record are designated as dry. The five average flow values for Octobers in dry year types can be considered together to calculate an overall average for dry Octobers. Among these five values is also a lowest and highest, and

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these are the maximum and minimum values that appear in the table. This approach was used for every time step for every year type to create the table.

Table 1.—Historic Iron Gate Dam flows (1961 through 1997—values in cfs).

	19 Above Average				11 Below Average			
	Max.	Min.	Avg.	St. Dev.	Max.	Min.	Avg.	St. Dev.
Oct.	3353	1329	1912	586	2511	1308	1592	345
Nov.	5254	1337	2547	1071	2986	1324	1999	621
Dec.	6735	1387	2987	1213	6653	1435	2835	1507
Jan.	9553	1127	3249	1785	9489	1334	3166	2337
Feb.	9150	910	4143	2244	5656	1546	2532	1156
Mar. 1-15	12447	1953	4864	2851	5017	1439	2501	1006
Mar. 16-31	9219	2101	5268	2008	3682	1748	2391	591
Apr. 1-15	9254	1781	4805	1906	3067	1455	2009	587
Apr. 16-30	7205	1629	3860	1179	2493	1305	1701	426
May 1-15	5005	1730	3383	1088	2083	1010	1351	372
May 16-31	6247	1026	2761	1329	1714	1003	1188	228
Jun. 1-15	4495	760	1764	1150	1480	728	912	230
Jun. 16-30	2084	742	1031	365	1295	696	806	163
Jul. 1-15	2194	705	870	327	940	709	758	69
Jul. 16-31	1122	680	772	107	1023	682	784	94
Aug.	1208	1011	1049	46	1094	701	995	104
Sep.	2052	1035	1457	206	1428	725	1272	184
	5 Dry				2 Critical			
	Max.	Min.	Avg.	St. Dev.	Max.	Min.	Avg.	St. Dev.
Oct.	1382	852	1094	220	937	904	920	16
Nov.	1390	873	1218	189	915	909	912	3
Dec.	3903	889	2290	1305	944	914	929	15
Jan.	4348	888	2588	1307	1191	1011	1101	90
Feb.	2217	747	1554	505	730	525	627	103
Mar. 1-15	2790	725	1683	817	712	501	607	106
Mar. 16-31	2148	724	1464	545	572	521	547	26
Apr. 1-15	1767	728	1183	381	843	569	706	137
Apr. 16-30	1325	754	1039	241	636	574	605	31
May 1-15	1025	761	968	104	741	525	633	108
May 16-31	1039	924	996	41	714	501	608	106
Jun. 1-15	931	712	782	77	706	476	591	115
Jun. 16-30	735	612	700	45	702	536	619	83
Jul. 1-15	739	547	669	76	572	429	501	71
Jul. 16-31	742	542	678	75	575	427	501	74
Aug.	1033	647	824	152	636	398	517	119
Sep.	1048	749	953	112	906	538	722	184

Figures 5-8 graph the data in table 1. The graphs have boxes whose upper and lower bounds represent the average +1 standard deviation and the average -1 standard deviation respectively, and lines running up and down from the boxes which represent the magnitude of the maximum and minimum values that went into the average and standard deviation.

Above Average Years

Above average years (fig. 5) occurred in 19 of the 37 hydrologic years used for this analysis (51.3%). The minimum time step ranged from 680 cfs in the later part of July to 2,101 cfs in the later part of March. The average time step ranged from 772 cfs in late July to 5,268 cfs in late March.

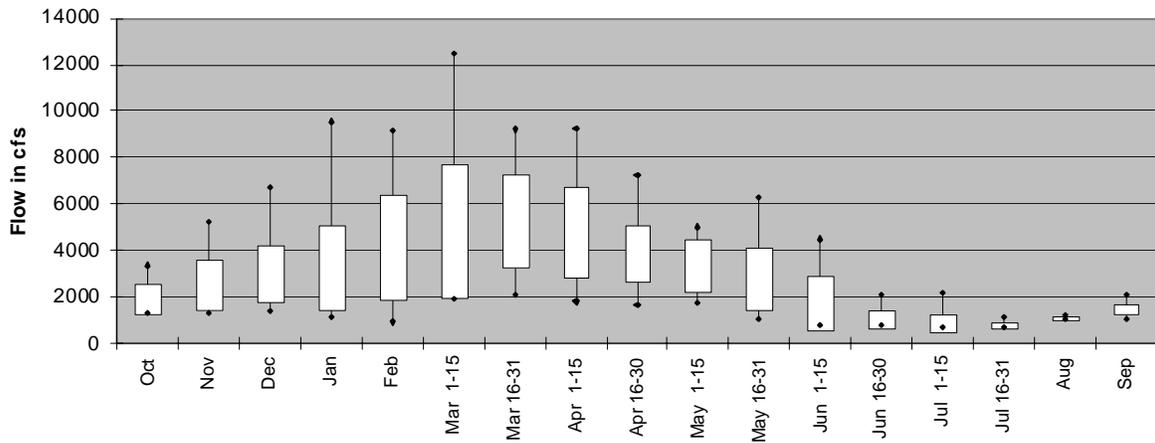


Figure 5.—Iron Gate Flow statistics—above average year types.

Below Average Years

Below average years (fig. 6) occurred in 11 of the 37 hydrologic years used for this analysis (29.7%). The minimum time step ranged from 682 cfs in late July to 1,748 cfs in late March. The average time step average ranged from 758 cfs in late July to 3166 cfs in January.

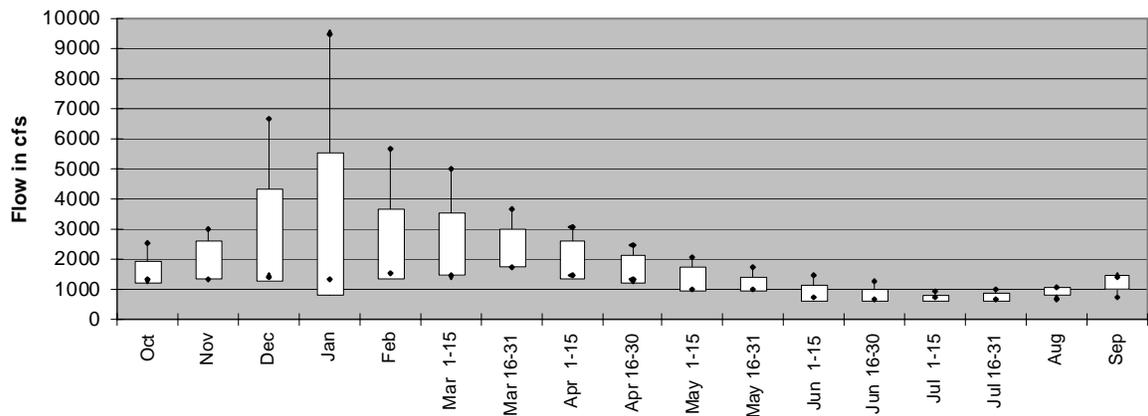


Figure 6.—Iron Gate Flow statistics—below average year types

Dry Years

Dry years (fig. 7) occurred in 5 of the 37 hydrologic years used for this analysis (13.5%). The minimum time step ranged from 542 cfs in late July to 924 cfs in late May. The average time step ranged from 669 cfs in late July to 2,588 cfs in January.

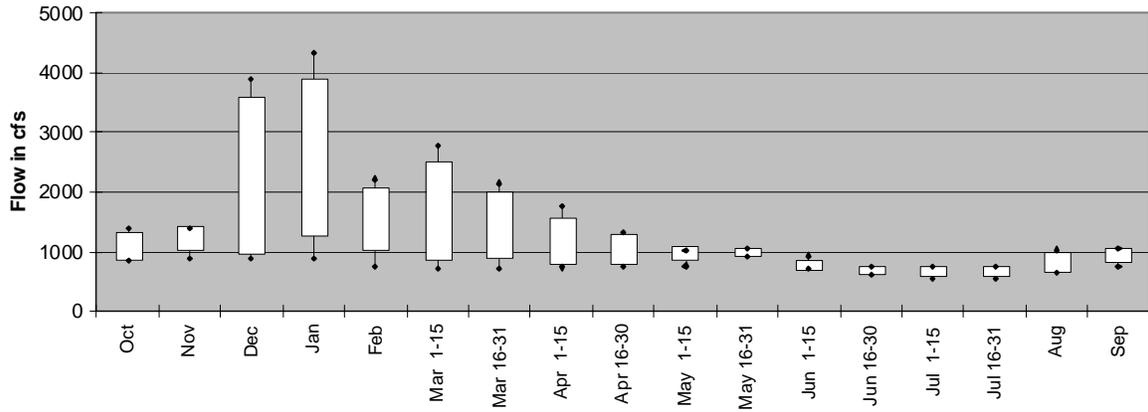


Figure 7.—Iron Gate Flow statistics—dry year types.

Critical Years

Critical years (fig. 9) occurred in 2 of the 37 hydrologic years used for this analysis (5.5%). The minimum time step ranged from 398 cfs in August to 1011 cfs in January. The average time step ranged from 501 cfs in July to 1,101 cfs in January.

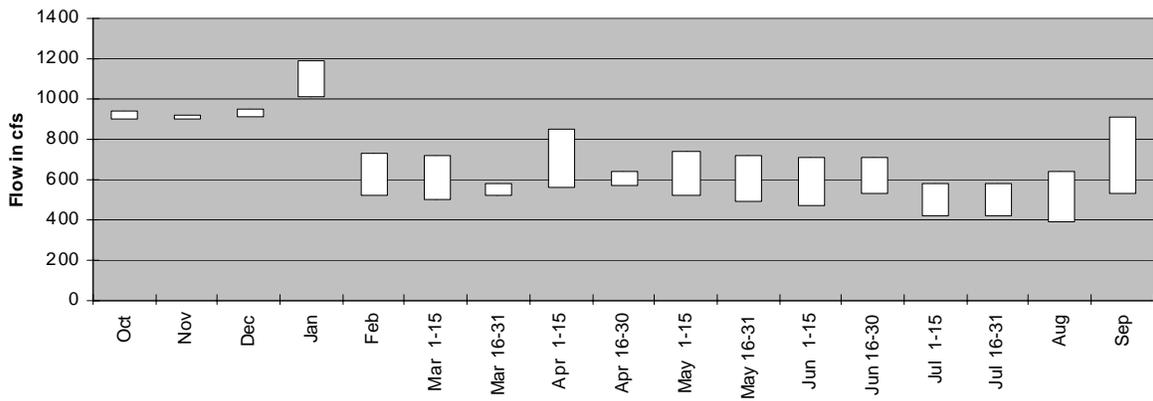


Figure 8.—Iron Gate Flow statistics—critical year types.

Upper Klamath Lake, Clear Lake, and Gerber Reservoir Elevations

Upper Klamath Lake

Table 2 contains historical water surface elevation data for water years 1961 through 1998 (October 1960 through September 1998), based on PacifiCorp's daily records. This table summarizes the historical end-of-month minimum, maximum, and average elevations for each water year type (critical, dry, below average, and above average). All values are in feet above mean sea level. Figures 9-12 present the historic data graphically. The graphs have boxes whose upper and lower bounds represent the average +1 standard deviation and the average -1 standard deviation respectively, and lines running up and down from the boxes represent the magnitude of the maximum and minimum values.

Table 2.—End-of-month Upper Klamath Lake elevations by water year type (1960-1998).

	20 Above Average				11 Below Average			
	Max.	Min.	Average	St. Dev.	Max.	Min.	Average	St. Dev.
Oct.	4141.41	4138.98	4140.57	0.73	4141.35	4138.36	4139.51	0.82
Nov.	4141.23	4139.55	4140.53	0.56	4141.21	4138.99	4140.00	0.72
Dec.	4141.63	4139.58	4140.64	0.52	4143.50	4138.80	4140.60	1.09
Jan.	4142.40	4139.54	4141.05	0.75	4143.02	4139.41	4140.96	1.00
Feb.	4142.87	4140.56	4141.86	0.55	4142.20	4140.15	4141.41	0.68
Mar.	4142.73	4141.10	4142.43	0.36	4142.73	4141.35	4142.25	0.37
Apr.	4143.21	4142.26	4142.86	0.21	4143.06	4142.15	4142.68	0.25
May.	4143.29	4142.85	4143.03	0.10	4143.16	4142.22	4142.64	0.30
Jun.	4143.25	4142.17	4142.78	0.34	4142.79	4141.30	4142.05	0.47
Jul.	4142.73	4140.83	4141.93	0.59	4141.91	4140.00	4140.97	0.61
Aug.	4142.34	4139.66	4141.07	0.78	4141.80	4138.85	4140.07	0.81
Sep.	4141.98	4138.95	4140.63	0.86	4141.46	4138.18	4139.53	0.84
	5 Dry				2 Critical			
	Max.	Min.	Average	St. Dev.	Max.	Min.	Average	St. Dev.
Oct.	4139.60	4138.18	4138.66	0.50	4137.59	4136.93	4137.26	0.33
Nov.	4140.50	4138.96	4139.78	0.51	4138.32	4137.80	4138.06	0.26
Dec.	4141.81	4139.66	4140.70	0.72	4139.27	4138.58	4138.93	0.34
Jan.	4141.54	4140.26	4141.12	0.46	4140.27	4140.01	4140.14	0.13
Feb.	4142.38	4140.41	4141.62	0.67	4141.35	4140.94	4141.15	0.20
Mar.	4142.84	4141.70	4142.42	0.43	4142.19	4141.80	4142.00	0.20
Apr.	4142.95	4141.68	4142.44	0.49	4142.12	4141.68	4141.90	0.22
May.	4142.85	4141.40	4142.43	0.54	4142.00	4140.70	4141.35	0.65
Jun.	4142.45	4140.39	4141.63	0.71	4140.81	4139.45	4140.13	0.68
Jul.	4140.86	4139.10	4140.21	0.63	4139.04	4138.77	4138.91	0.13
Aug.	4139.78	4138.38	4139.11	0.50	4137.72	4137.52	4137.62	0.10
Sep.	4139.45	4137.55	4138.49	0.62	4137.43	4136.84	4137.14	0.30

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Above Average Years.—Above average years occurred in 20 of the 38 hydrologic years used for this analysis (52.6%). The minimum elevation ranged from 4139.55 at the end of November to 4142.85 at the end of May. The average ranged from 4140.53 at the end of November to 4143.03 at the end of May (table 2, fig. 9).

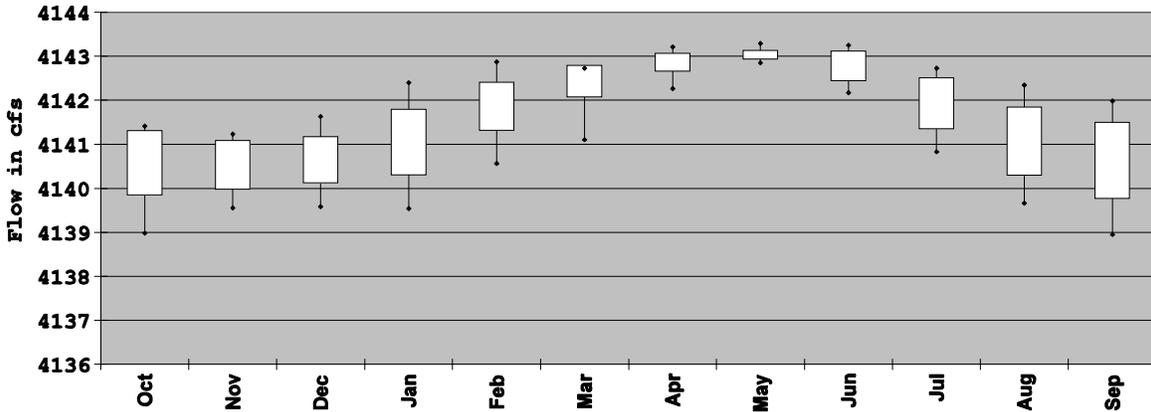


Figure 9.—Upper Klamath Lake elevations (1960-1998) by month for above average water years.

Below Average Years.—Below average years occurred 11 of the 38 hydrologic years used for this analysis (28.9%). The minimum elevation ranged from 4138.18 in September to 4142.22 in May (table 2, fig. 10). The average elevation ranged from 4139.51 in October to 4142.68 in April.

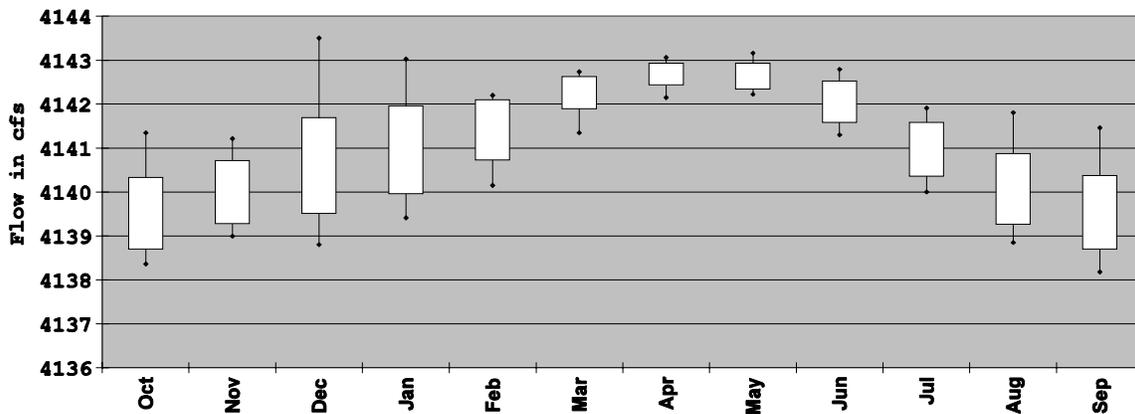


Figure 10.—Upper Klamath Lake elevations (1960-1998) by month for below average years.

Dry Years.—Dry water years occurred in 5 out of 38 years hydrologic years used for this analysis (13.2%). The minimum elevation ranged from 4137.55 in September to 4141.70 in March (table 2, fig. 11). The average elevation ranged from 4138.49 in September to 4142.44 in April.

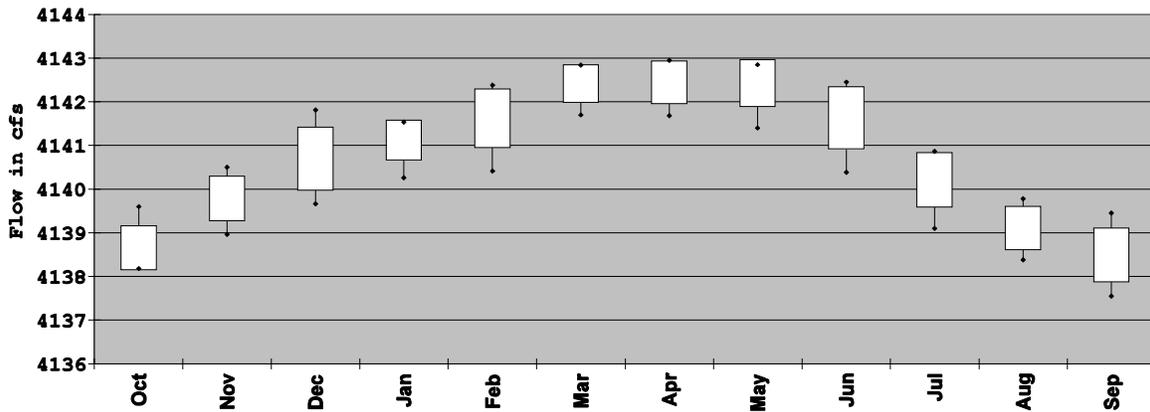


Figure 11.—Upper Klamath Lake elevations (1960-1998) by month for dry water years.

Critical Years.—Critical years occurred in 2 of the 38 hydrologic years used for this analysis (5.3%). The minimum elevation ranged from 4136.84 in September to 4141.80 March (table 2, fig. 12). The average elevation ranged from 4137.14 for September to 4142.00 for March.

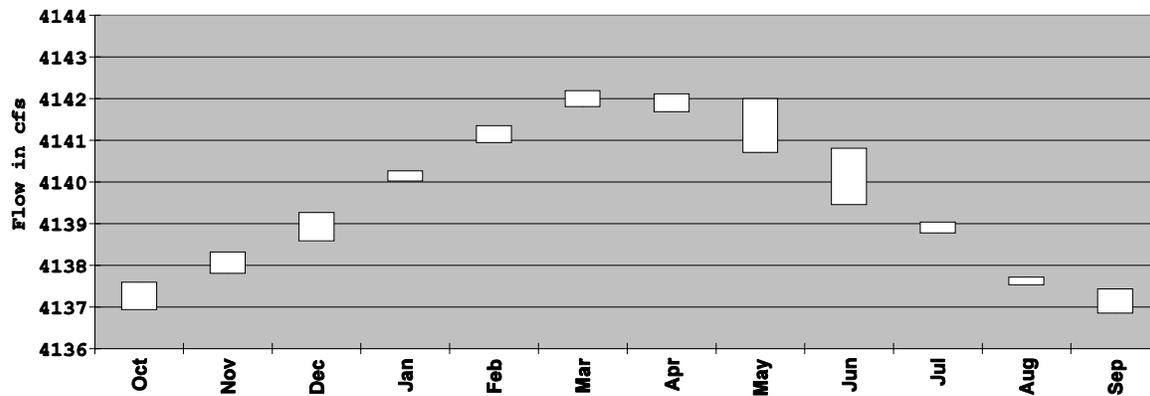


Figure 12.—Upper Klamath Lake elevations (1960-1998) by month for critical years.

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Clear Lake

Table 3 summarizes historical water surface elevations for water years 1961 through 1998 (October 1960 through September 1998). Figures 13-16 present the data graphically.

Table 3.—End-of-month Clear Lake elevations by water year type (1960-1998).

	20 Above Average				11 Below Average			
	Max.	Min.	Average	St. Dev.	Max.	Min.	Average	St. Dev.
Oct.	4537.02	4524.00	4531.90	3.37	4532.60	4521.33	4527.05	3.33
Nov.	4537.05	4524.05	4531.87	3.41	4532.96	4521.47	4527.17	3.36
Dec.	4539.43	4524.15	4532.21	3.70	4533.78	4521.70	4527.86	3.37
Jan.	4539.60	4524.30	4532.93	3.98	4535.44	4521.87	4528.70	3.75
Feb.	4540.11	4521.46	4532.97	4.68	4536.50	4523.37	4530.18	4.37
Mar.	4541.63	4526.57	4535.07	4.21	4537.45	4524.25	4530.91	4.35
Apr.	4542.28	4527.52	4536.08	3.80	4537.15	4525.50	4531.25	3.81
May.	4541.89	4527.70	4535.91	3.67	4536.50	4525.10	4530.66	3.69
Jun.	4541.27	4526.70	4535.16	3.68	4535.84	4524.08	4529.96	3.69
Jul.	4540.33	4525.70	4534.14	3.66	4534.70	4522.88	4528.81	3.77
Aug.	4538.97	4524.70	4533.08	3.57	4533.65	4521.90	4527.86	3.80
Sep.	4537.86	4524.12	4532.29	3.49	4532.86	4521.28	4527.17	3.78
	5 Dry				2 Critical			
	Max.	Min.	Average	St. Dev.	Max.	Min.	Average	St. Dev.
Oct.	4528.30	4522.50	4525.38	1.91	4521.54	4519.30	4520.42	1.12
Nov.	4528.30	4522.51	4525.71	1.85	4521.65	4519.29	4520.47	1.18
Dec.	4528.48	4522.80	4526.60	2.05	4521.96	4519.35	4520.66	1.30
Jan.	4529.02	4522.85	4527.45	2.32	4525.89	4519.40	4522.65	3.24
Feb.	4532.00	4527.00	4529.45	1.83	4526.20	4523.00	4524.60	1.60
Mar.	4532.68	4527.10	4529.85	1.87	4526.30	4522.84	4524.57	1.73
Apr.	4532.54	4526.90	4529.59	1.83	4525.84	4522.75	4524.30	1.54
May.	4532.18	4526.42	4529.14	1.87	4525.39	4521.77	4523.58	1.81
Jun.	4531.20	4525.65	4528.28	1.81	4524.49	4521.18	4522.84	1.66
Jul.	4530.20	4524.45	4527.11	1.87	4523.16	4520.44	4521.80	1.36
Aug.	4529.13	4523.52	4526.18	1.86	4521.43	4519.82	4520.63	0.80
Sep.	4528.30	4522.75	4525.52	1.88	4521.70	4519.42	4520.56	1.14

Above Average Years.—The minimum elevation ranged from 4524.00 in October to 4527.70 in May (table 3, fig. 13). The average ranged from 4531.87 in November to 4536.08 in April.

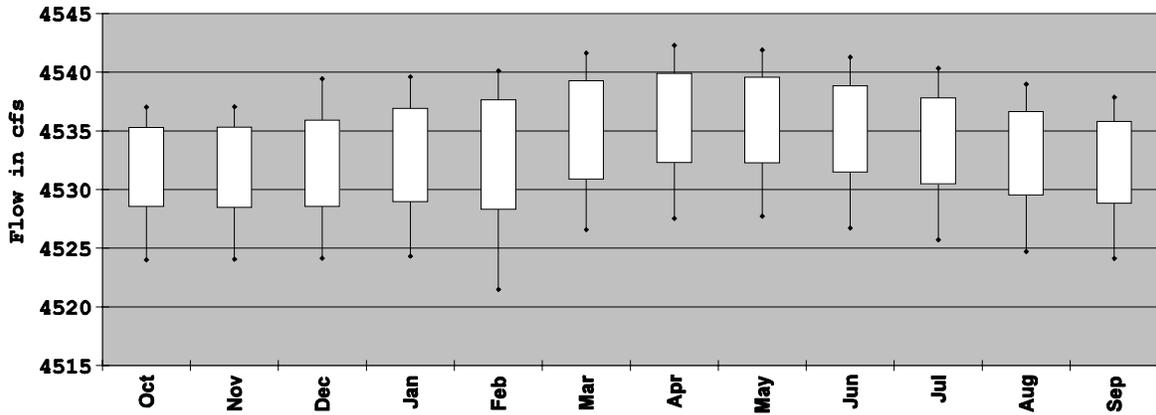


Figure 13.—Clear Lake elevations (1960-1998) by month for above average years.

Below Average Years.—The minimum elevation ranged from 4521.28 in September to 4525.50 in April (table 3, fig. 14). The average ranged from 4527.05 in October to 4531.25 in April.

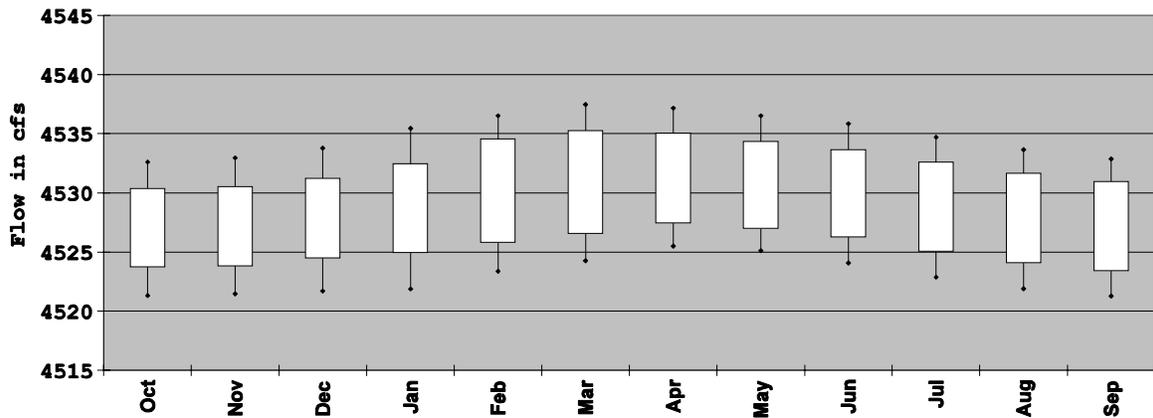


Figure 14.—Clear Lake elevations (1960-1998) by month for below average years.

Klamath Project Historic Operation

Dry Years.—The minimum elevation ranged from 4522.50 in October to 4527.10 in March (table 3, fig. 15). The average ranged from 4525.38 in October to 4529.85 in March.

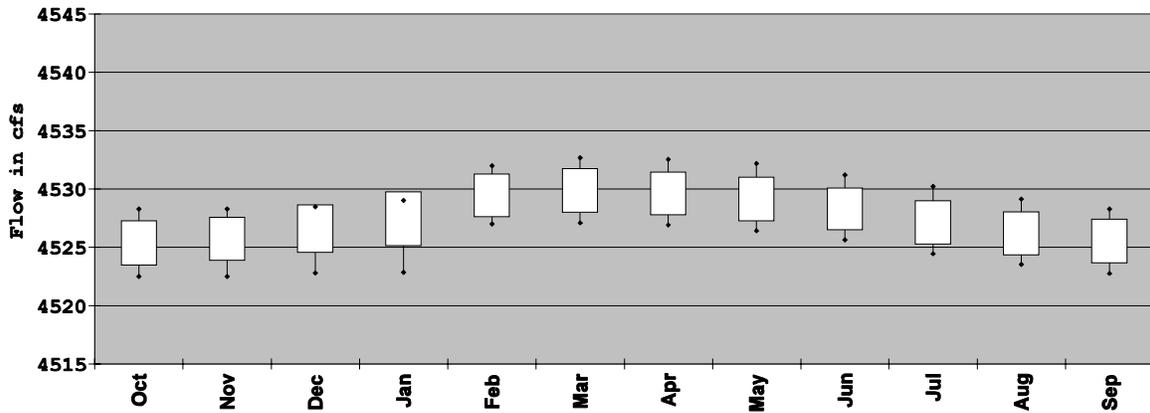


Figure 15.—Clear Lake elevations (1960-1998) by month for dry years.

Critical Years.—The minimum elevation ranged from 4519.30 in October to 4523.00 in February (table 3, fig. 16). The average ranged from 4520.42 in October to 4524.60 in February.

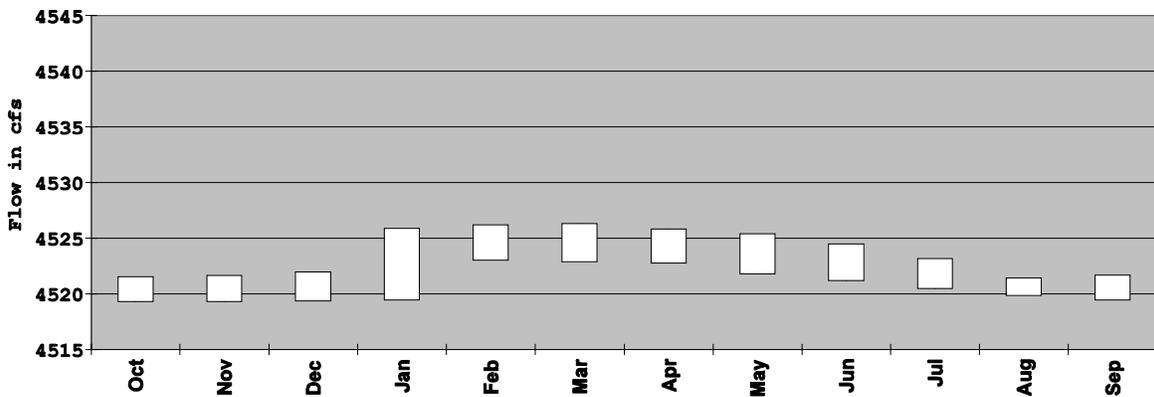


Figure 16.—Clear Lake elevations (1960-1998) by month for critical years.

Gerber Reservoir

Table 4 summarizes Gerber Reservoir historical water surface elevations for water years 1961 through 1998 (October 1960 through September 30, 1998). Figures 17-20 present the data graphically.

Table 4.—End-of-month Gerber Reservoir elevations by water year type (1960-1998).

	20 Above Average				11 Below Average			
	Max.	Min.	Average	St. Dev.	Max.	Min.	Average	St. Dev.
Oct.	4826.26	4815.18	4822.30	3.32	4821.49	4794.27	4810.09	8.00
Nov.	4828.12	4815.16	4822.54	3.55	4823.04	4795.93	4810.89	7.91
Dec.	4834.60	4815.20	4823.50	4.49	4831.40	4798.80	4814.01	9.16
Jan.	4834.18	4816.58	4824.79	4.94	4829.70	4799.14	4815.54	9.37
Feb.	4835.04	4802.24	4825.11	9.14	4832.03	4803.80	4819.94	7.85
Mar.	4836.19	4821.30	4831.21	5.00	4835.00	4809.00	4823.32	7.49
Apr.	4836.48	4827.30	4833.75	2.85	4834.59	4812.37	4825.40	5.94
May.	4836.29	4827.00	4832.83	2.71	4832.57	4810.35	4823.20	5.75
Jun.	4835.16	4824.10	4830.66	2.99	4830.03	4807.88	4820.67	6.04
Jul.	4832.68	4820.81	4827.80	3.19	4826.78	4804.13	4817.16	6.33
Aug.	4830.39	4817.98	4825.00	3.34	4823.64	4801.24	4814.01	6.61
Sep.	4828.00	4815.26	4822.76	3.39	4821.63	4794.47	4810.77	7.86
	5 Dry				2 Critical			
	Max.	Min.	Average	St. Dev.	Max.	Min.	Average	St. Dev.
Oct.	4809.20	4797.98	4803.25	3.64	4806.59	4796.62	4801.61	4.99
Nov.	4811.50	4797.96	4805.52	4.78	4806.74	4796.62	4801.68	5.06
Dec.	4821.60	4798.04	4808.91	7.84	4807.08	4797.06	4802.07	5.01
Jan.	4822.20	4798.18	4811.02	8.61	4816.63	4798.79	4807.71	8.92
Feb.	4825.65	4804.82	4816.35	6.69	4822.94	4800.74	4811.84	11.10
Mar.	4825.91	4804.18	4817.55	7.24	4823.30	4801.28	4812.29	11.01
Apr.	4824.71	4808.26	4818.08	5.58	4822.48	4801.14	4811.81	10.67
May.	4822.84	4808.10	4816.55	4.91	4820.80	4798.86	4809.83	10.97
Jun.	4819.52	4803.60	4813.29	5.39	4817.81	4798.36	4808.09	9.73
Jul.	4815.48	4799.22	4809.19	5.55	4814.08	4797.73	4805.91	8.18
Aug.	4812.90	4798.60	4806.10	4.70	4810.16	4797.01	4803.59	6.57
Sep.	4809.64	4798.08	4803.37	3.74	4806.78	4796.52	4801.65	5.13

Klamath Project Historic Operation

Above Average Years.—The minimum elevation ranged from 4815.16 in November to 4827.30 in April (table 4, fig. 17). The average ranged from 4826.26 in October to 4836.48 in April.

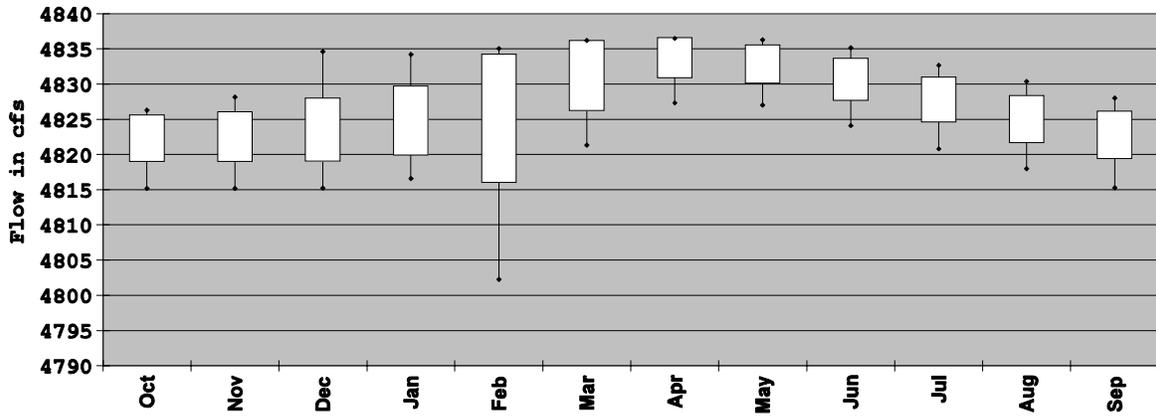


Figure 17.—Gerber Reservoir elevations (1960-1998) by month for above average years.

Below Average Years.—The minimum elevation ranged from 4794.27 in October to 4812.37 in April (table 4, fig. 18). The average ranged from 4810.09 in October to 4825.40 in April.

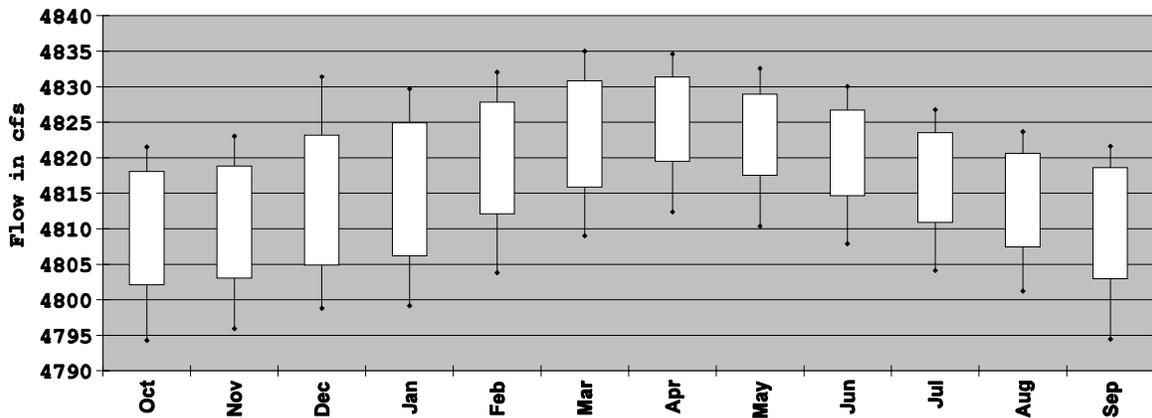


Figure 18.—Gerber Reservoir elevations (1960-1998) by month for below average years.

Dry Years.—The minimum elevation ranged from 4797.98 in October to 4808.26 April (table 4, fig. 19). The average ranged from 4803.25 in October to 4818.08 in April.

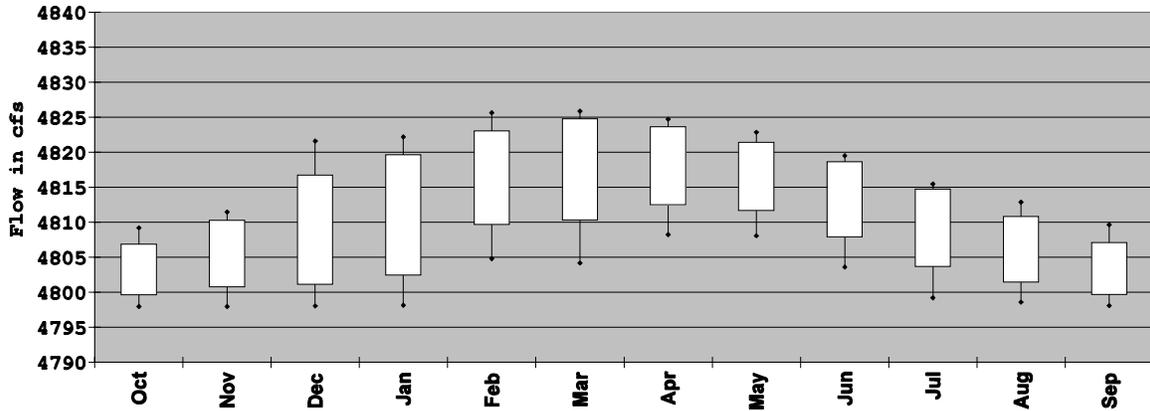


Figure 19.—Gerber Reservoir elevations (1960-1998) by month for dry years.

Critical Years.—The minimum elevation ranged from 4796.52 in September to 4801.28 in March (table 4, fig. 20). The average ranged from 4801.61 in October to 4812.29 in March.

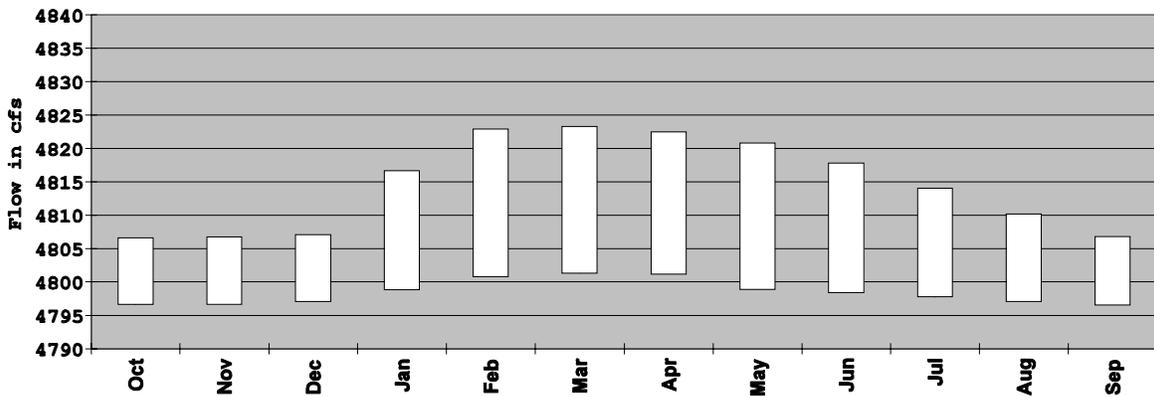


Figure 20.—Gerber Reservoir elevations (1960-1998) by month for critical years.

Appendix A

REGIONAL SOLICITORS' MEMORANDA

UNITED STATES DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
PACIFIC SOUTHWEST REGION

Memorandum dated July 25, 1995 describing certain legal rights and obligations related to the U.S. Bureau of Reclamation, Klamath Project for use in preparation of the Klamath Project Operations Plan

Memorandum dated January 9, 1997 from Pacific Southwest and Pacific Northwest Regional Solicitors describing legal rights and obligations related to the Klamath Project



United States Department of the Interior

OFFICE OF THE SOLICITOR

Pacific Southwest Region
2800 Cottage Way
Room E-2753
Sacramento, California 95825-1890

JUL 25 1995

IN REPLY REFER TO:

TO: Regional Director, Bureau of Reclamation,
Mid-Pacific Region

FROM: Regional Solicitor, Pacific Southwest Region

SUBJECT: Certain Legal Rights and Obligations Related
to the U.S. Bureau of Reclamation, Klamath
Project for Use in Preparation of the Klamath
Project Operations Plan (KPOP)

This memorandum describes the general rights to the waters in the Klamath and Lost River drainages affected by the operation of the U.S. Bureau of Reclamation's (Reclamation) Klamath Irrigation Project located within the Upper Klamath and Lost River Basins in Oregon and California. In addition, the obligations of Reclamation to the holders of these rights are discussed. The rights that are treated in this memorandum include those of the Klamath Project water users (those who hold contracts with the United States to receive water from the project), the Upper Klamath, Lower Klamath, Tule Lake, and Clear Lake National Wildlife Refuges (NWR) managed by the U.S. Fish and Wildlife Service (these refuges are located within the exterior boundaries of the Klamath Project), and the Klamath, Yurok, and Hoopa Tribes (they have treaty-based or federally reserved fishing and water rights that are or may be affected by project operations). None of the above water rights has been quantified.

Rights

Klamath Project Water Users

The Klamath Project water users obtain their supply of water for irrigation purposes from the project facilities pursuant to various contracts with Reclamation entered into pursuant to the Reclamation Act of 1902, 32 Stat. 390, 43 U.S.C. §§ 371 et seq., as amended and supplemented. The contracts are between Reclamation and a water district or Reclamation and an individual water user. These contracts provide, in general, that the water user is to receive enough water to satisfy the beneficial use for

¹ The existence and nature of the Klamath Tribes' reserved water rights for hunting, fishing, and gathering were declared in United States v. Adair, 723 F.2d 1394, 1412 (9th Cir.), cert. denied, 467 U.S. 1252 (1984).

the irrigation of a specified acreage. Certain of the contracts specify the beneficial use amount on a per acre basis.

The underlying water rights for the project, upon which the water supply stated in each of the contracts discussed above depends, were obtained by Reclamation, in accordance with state law, in 1905, when Reclamation filed a notice of intent to appropriate all of the available water in the Klamath River and Lost River and their tributaries in Oregon. Similar filings were made for the waters originating in California, within the Lost River and Clear Lake drainages.² Subsequent to these filings, Reclamation constructed project facilities through which water is delivered to the project water users. The project's 1905 water rights are junior to the reserved water rights of the tribes but senior to the reserved water rights of the refuges, as discussed below.

Federal law provides that Reclamation obtain water rights for its projects and administer its projects pursuant to state law relating to the control, appropriation, use or distribution of water used in irrigation, unless the state laws are inconsistent with express or clearly implied congressional directives. 43 U.S.C. § 383; California v. United States, 438 U.S. 645, 678 (1978); appeal on remand, 694 F.2d 117 (1982). The beneficial ownership of a project water right is in the water users who put the water to beneficial use. Nevada v. United States, 463 U.S. 110 (1983). Under law of most western states a water right is obtained through appropriation followed by application within a reasonable time to beneficial use. Nebraska v. Wyoming, 325 U.S. 589 (1945); Ickes v. Fox, 300 U.S. 82 (1937). Oregon law (as well as California law) is similar to the laws of most other western states in that actual application of the water to the land is required to perfect a water right for agricultural use.³

² Oregon statutes concerning the appropriation of water before February 24, 1909, the effective date of the Oregon Water Rights Act of 1909, provided that the extent of the appropriation was determined by the actual capacity of the completed diversion structure, assuming that the requirement to post a notice of intent to appropriate together with application of water to beneficial use within a reasonable time had occurred. See In re Waters of the Tualatin River and its Tributaries, 366 P.2d 174 (Or. 1961). The laws for appropriation of water in California that were in effect in 1905 were similar to those in Oregon. Cal. Civil Code of 1872, §§ 1410-22 (Deering 1977). The effective date of the California Water Commission Act, which established California's current appropriation scheme, is December 19, 1914.

³ See ORS §§ 539.010 et seq.; State ex rel. v. Hibbard, 570 P.2d 1190, 1194 (Or. Ct. App. 1977); Alexander v. Central Oregon Irrigation District, 528 P.2d 582 (Or. Ct. App. 1974), and Cal.

Oregon also recognizes that water for irrigation purposes is appurtenant to the land for which it is appropriated and applied, but is not inseparable from the land. In re Deschutes River and Tributaries, 286 P. 563 (Or. 1930); see also United States v. Alpine Land & Reservoir Co., 697 F.2d 851, 858 (9th Cir.), cert. denied, 464 U.S. 863 (1983). Federal law concerning Reclamation projects also provides that the use of water acquired under the Act "shall be appurtenant to the land irrigated, and beneficial use shall be the basis, measure, and the limit of the right." 43 U.S.C. § 372. Beneficial use is determined in accordance with state law to the extent not inconsistent with congressional directives. See Alpine Land & Reservoir Co., 697 F.2d at 853-854; see also California v. United States, 438 U.S. at 678.

Wildlife Refuges

There are two National Wildlife Refuges that are particularly dependent on project operations: Lower Klamath and Tule Lake NWRs.⁴ The Lower Klamath NWR consists of 51,713 acres which straddle the Oregon-California border. This NWR was created by Executive Order No. 924 (Aug. 8, 1908) "as a preserve and breeding ground for native birds." The boundaries of the Lower Klamath NWR were altered by Executive Order No. 2200 (May 14, 1915). The Tule Lake NWR is a 39,990 acre marsh area located in northern California just south of the Oregon border. Tule Lake was created by Executive Order No. 4975 (Oct. 4, 1928) also "as a refuge and breeding ground for birds."⁵

Each refuge has a federal reserved water right to the amount of water, unappropriated at the time of creation of the refuge, necessary to fulfill the primary purposes of the refuge. See United States v. New Mexico, 438 U.S. 696 (1978). The priority date for the reserved water right of each refuge is the date of the executive order creating that refuge. See Cappaert v. United

Water Code § 1240; Joerger v. Pacific Gas & Elec. Co., 276 P. 1017 (Cal. 1929); Madera Irr. Dist. v. All Persons, 306 P.2d 886 (Cal. 1957).

⁴ There are two other National Wildlife Refuges within the exterior boundaries of the project that are also dependent on project operations. The Upper Klamath NWR was created in 1928 and is located at the northern portion of Upper Klamath Lake. It encompasses 14,965 acres of marsh and open water. The Clear Lake NWR was created in 1911 and encompasses 20,000 acres of water surface and upland area within the Clear Lake drainage in the Lost River Basin.

⁵ The interrelation of the Klamath Project irrigation uses and the NWR purposes are further delineated in the Kuchel Act, 16 U.S.C. §§ 695k-695r.

States, 426 U.S. 128, 138 (1976). In addition, certain lands within the Lower Klamath and Tule Lake refuges that are irrigated have a priority date of 1905 based on the Klamath Project water rights. Finally, the refuges receive significant quantities of return flows and other project waters which, although initially used for irrigation purposes, are beneficially reused for refuge purposes.

Klamath Indian Tribes

The Klamath Indian Tribes have treaty-based rights. The exercise of certain of these rights are affected by project operations. The Tribes' primary interest is in the operation of Upper Klamath Lake because it serves as habitat for fish protected by their treaty rights, including two endangered species of fish, the Lost River and shortnose suckers. These fish are a traditional food source for the Tribes. Changing water elevation in the lake and recurring water quality problems impact the suckers.

A treaty entered into in 1864 reserves to the Klamath Tribes fishing, hunting, and gathering rights on lands that were formerly part of the original Klamath Indian Reservation in Oregon.⁶ The reservation abutted Upper Klamath Lake and included several of its tributaries, notably the Williamson River. Treaty Between the United States of America and the Klamath and Modoc Tribes and Yahooskin Band of Snake Indians, Oct. 14, 1864, 16 Stat. 107. The treaty reserves to the Tribes a federal Indian reserved water right to support their hunting, fishing, and gathering rights.⁷ United States v. Adair, 723 F.2d 1394 (9th Cir.), cert. denied, 444 U.S. 1252 (1984). The Tribes' water

⁶ In 1954, the Klamath Indian Reservation in Oregon was terminated pursuant to the Klamath Termination Act. Act of Aug. 13, 1954, c. 732, § 1, 68 Stat. 718 (codified at 25 U.S.C. §§ 564-564x). Under this Act, reservation lands were disposed to private parties, individual Indians, the Forest Service and the Fish and Wildlife Service, but the Tribes' hunting, fishing, and gathering rights, and supporting water rights, were left intact. United States v. Adair, 723 F.2d 1394, 1412 (9th Cir.), cert. denied, 467 U.S. 1252 (1984); Kimball v. Callahan, 590 F.2d 768, 775 (9th Cir.), cert. denied, 444 U.S. 826 (1979); Kimball v. Callahan, 493 F.2d 564, 568-69 (9th Cir.), cert. denied, 419 U.S. 1019 (1974). The Klamath Tribes were later restored as a federally recognized tribe under the Klamath Restoration Act of 1986. Pub. L. No. 99-398, 100 Stat. 849.

⁷ The Tribes' water right is not dependent on state law, but rather is controlled by federal law. However, in an adjudication of water rights pursuant to the McCarran Amendment, 43 U.S.C. § 666, this federal right would be subject to quantification by a state court. Adair, 723 F.2d at 1411 n.19.

Tribes' water right includes "the right to prevent other appropriators from depleting the streams['] waters below a protected level in any area where the non-consumptive right applies." Adair, 723 F.2d at 1411; accord Joint Board of Control v. United States, 832 F.2d 1127, 1131-32 (9th Cir. 1987), cert. denied, 486 U.S. 1007 (1988); Kittitas Reclamation District v. Sunnyside Valley Irrigation District, 763 F.2d 1032, 1033 (9th Cir. 1985), cert. denied, 474 U.S. 1032 (1985).

The Tribes' water right includes the right to certain conditions of water quality and flow to support all life stages of fish. See United States v. Anderson, 591 F.Supp. 1, 5-6 (E.D. Wash. 1982), aff'd in part & rev'd in part on other grounds, 736 F.2d 1358 (9th Cir. 1984); see also United States v. Gila Valley Irrigation Dist., 804 F.Supp. 1, 7 (D. Ariz. 1992), aff'd in part & vacated in part, 31 F.3d 1428 (9th Cir. 1994), on remand Globe Equity No. 59, Phase IV, slip op. (April 14, 1995). The Tribes' water right attaches to bodies of water located within the original boundaries of the Klamath Indian Reservation. The Tribes' fishing right also supports a water right in off-reservation areas to the extent necessary to support a tribal fishery within the original reservation. Cf. Arizona v. California, 373 U.S. 546, 595 n.97, 600, decree entered, 376 U.S. 340, 344 (1964) (awarding reserved water right in off-reservation river). The standard to be applied in determining the quantity of water secured by this right has not been determined as of the date of this memorandum. The Tribes' water right is aboriginal in origin and thus has a priority date of time immemorial. Adair, 723 F.2d at 1415.

Yurok and Hoopa Valley Indian Tribes

The Yurok and Hoopa Valley Tribes have federal Indian reserved fishing rights to take anadromous fish within their reservations in California. Memorandum from the Solicitor to the Secretary, Fishing Rights of the Yurok and Hoopa Valley Tribes, M-36979 (Oct. 4, 1993) (Sol. Op.). These rights were secured to the Yurok and Hoopa Indians by a series of nineteenth century executive orders and confirmed to the Yurok and Hoopa Tribes by

⁸ In the pending Snake River Basin Adjudication in Idaho, the United States has made claims for off-reservation instream flow water rights derived from Indian fishing rights to anadromous fish. The quantity of flow claimed is that amount required to provide adequate flows to maintain fisheries habitat in the stream reach on a monthly basis.

the 1988 Hoopa-Yurok Settlement Act (HYSA), 25 U.S.C. § 1300i et seq.

In 1855, the President, by Executive Proclamation, established the Klamath Reservation in California.¹⁰ I C. Kappler, Indian Affairs: Laws and Treaties 816-817 (1904). The Hoopa Valley Reservation was formally set aside for Indian purposes by executive order in 1876, and the reservation was extended by another executive order in 1891 to encompass the Klamath Reservation and the connecting strip of land in between.¹¹ Id. at 815; see People v. McCovey, 685 P.2d 687, 689 (Cal. 1984); see also Donnelly v. United States, 228 U.S. 243, 253-259 (1912); Blake v. Arnett, 663 F.2d 906, 911 (9th Cir. 1981); Esler v. Gill Net Number One, 54 Cal. Rptr. 568, 571-72 (1966). The HYSA partitioned the extended reservation into the present Hoopa Valley and Yurok Reservations and declared the assets of each reservation held in trust by the United States for the benefit of the respective Tribes. 25 U.S.C. § 1300i-1(b).

The Yurok and Hoopa Valley Tribes' fishing rights entitle them to take fish for ceremonial, subsistence, and commercial purposes. United States v. Eberhardt, 789 F.2d 1353, 1359 (9th Cir. 1986). Their fishing rights "include the right to harvest quantities of fish on their reservations sufficient to support a moderate standard of living." Sol. Op. at 3.

The executive orders setting aside what are now the Yurok and Hoopa Valley Reservations also reserved rights to an instream flow of water sufficient to protect the Tribes' rights to take fish within their reservations. See Colville Confederated Tribes v. Walton, 647 F.2d 42, 48 (9th Cir.), cert. denied, 454 U.S. 1092 (1981); Anderson, 591 F.Supp. at 5-6. As with the Klamath Tribes, the Yurok and Hoopa Tribes' water rights include the right to prevent other appropriators from depleting the streams' waters below a protected level. See Joint Board of Control, 832 F.2d at 1131-32; Adair, 723 F.2d at 1411; see also Kittitas Reclamation District, 763 F.2d at 1033. The Tribes' rights include the right to certain conditions of water quality and flow

⁹ For the purpose of determining the existence of reserved water rights, there is no consequence to the fact that the Tribes' rights are derived from executive orders rather than treaties. Arizona v. California, 373 U.S. at 598.

¹⁰ The executive order establishing the Klamath Indian Reservation was issued pursuant to the Act of March 3, 1853, 10 Stat. 238, authorizing the President "to make . . . reservations in the State of California for Indian purposes."

¹¹ These executive orders were issued pursuant to the Act of April 8, 1864, 13 Stat. 39.

to support all life stages of fish. See Anderson, 591 F.Supp. at 5-6; see also Gila Valley Irrigation District, 804 F.Supp. at 7. The Tribes' fishing right also supports a water right in off-reservation areas to the extent necessary to support the Tribes' on-reservation fisheries. Cf. Arizona v. California, 373 U.S. at 595 n.97, 600 (awarding reserved water right in off-reservation river). The exact standard to determine the amount of water secured by these rights has not been determined as of the date of this memorandum. The priority date of the Yurok and Hoopa water rights are at least as early as 1891, and may be earlier.

Obligations

Klamath Project Water Users

Reclamation has an obligation to deliver water to the project water users in accordance with the project water rights and the contracts between Reclamation and the water user (which may be through a water district) subject to the availability of water. Reclamation must protect the rights of the users of project water, see Filing of Claims for Water Rights in General Stream Adjudications, M-36966, 97 I.D. 21 (July 6, 1989), and cannot "ignore . . . the obligations that necessarily devolve upon it from having mere title to water rights for the [project], when the beneficial ownership of these water rights resides elsewhere." Nevada v. United States, 463 U.S. at 127. Water would not be available, for example, due to drought, a need to forego diversions to satisfy prior existing rights, or compliance with other federal laws such as the Endangered Species Act. Water lawfully stored in the project's reservoirs can be used for domestic and irrigation purposes to the extent the water is applied to beneficial use within the project. Reclamation cannot store or divert water for project purposes that is needed to satisfy prior existing rights.

Refuges

Reclamation has an obligation to ensure that the refuges receive adequate water to fulfill their federal reserved water rights (i.e., the amount of water necessary to fulfill the primary purposes of the refuges) when in priority and when water is available. In addition, Reclamation can continue to provide available project water for beneficial reuse by the refuges to the extent of past and current usage and consistent with project purposes.

The Kuchel Act (see footnote 5) requires that the refuge lands be used primarily for waterfowl purposes but with full consideration given to optimum agricultural use so far as agricultural use is consistent with the refuge purposes. 16 U.S.C. § 6951. In addition, the pattern of agricultural leasing existing in 1964 is to be continued on specified lands within the refuges as

consistent with proper waterfowl management. Id. § 695n. Thus, it is possible that certain irrigated lands within the refuge boundaries would not be cultivated in the usual manner if that would be inconsistent with the purposes of the refuges. If such change in cultivation resulted in less water being used for irrigation within the project, then more water may be available for the refuges, pursuant to a change in the water right or otherwise, subject to prior existing rights and water availability.

The Tribes

The United States has a trust responsibility to protect tribal trust resources. This trust responsibility is one held by all federal agencies. Pyramid Lake Paiute Tribe v. Department of the Navy, 898 F.2d 1410, 1420 (9th Cir. 1990). In general, the trust responsibility requires the United States to protect tribal fishing and water rights, which are held in trust for the benefit of the tribes. See Mitchell v. United States, 463 U.S. 206, 224-226 (1982); Fort Mojave Indian Tribe v. United States, 23 Cl. Ct. 417, 425-426 (1991); Joint Board of Control of the Flathead, Mission and Jocko Irr. Dist. v. United States, 862 F.2d 195 (1988).

Reclamation is obligated to ensure that project operations not interfere with the Tribes' senior water rights. This is dictated by the doctrine of prior appropriation as well as Reclamation's trust responsibility to protect tribal trust resources.

With respect to the Tribes' fishing rights, Reclamation must, pursuant to its trust responsibility and consistent with its other legal obligations, prevent activities under its control that would adversely affect those rights, even though those activities take place off-reservation. See Parravano v. Babbitt, 861 F.Supp. 914, 924 (N.D. Cal. 1994), appeal pending. Thus, Reclamation must use any operational discretion it may have to ensure that those rights are not diminished. In doing so, Reclamation, in formulating any operating plan, must minimize unnecessary waste and take such other steps within its legal and contractual authority as are necessary to protect tribal rights. Pyramid Lake Paiute Tribe of Indians v. Morton, 354 F.Supp. 252, 255-256 (1973). In relation to a different Reclamation project, a court directed Reclamation, in formulating an operating plan, to provide, among other things, an effective means to measure water use, to end delivery of water to unentitled lands, and to assure compliance with such measures by project water users. Id. at 258.

Endangered Species Act

The Endangered Species Act (ESA), 16 U.S.C. §§ 1531 et seq., requires Reclamation to review its programs and utilize them in furtherance of the purposes of the ESA. 16 U.S.C. § 1536(a)(1). Reclamation has an obligation not to engage in any action that is likely to jeopardize the continued existence of a listed species. In addition, Reclamation must consult with the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) (with respect to anadromous species) to insure that any action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat of such species.¹² Id. § 1536(a)(2). If as a result of such consultation, FWS or NMFS, as appropriate, finds that the action will result in the incidental taking of a listed species but is not likely to jeopardize the continued existence of the species, or that there is a reasonable and prudent alternative to the proposed action that will avoid such jeopardy, then FWS or NMFS will set forth the impact of such incidental taking, the reasonable and prudent measures necessary to minimize such impact, and the terms and conditions that Reclamation must comply with to implement such measures. Id. § 1536(b)(4).

Two species of sucker fish that occupy Upper Klamath Lake and its tributaries (as well as other water bodies within and adjacent to the project) have been listed as endangered under the ESA and Reclamation has consulted with the FWS with respect to the effects of project operations on these species. The FWS issued a Biological Opinion in 1992 (Long Term Biological Opinion) that set certain mandatory lake level elevations for Upper Klamath Lake necessary to avoid jeopardizing the species.

The coastal steelhead has been proposed for listing by NMFS. 60 Fed. Reg. 14253 (March 16, 1995). Reclamation has, through the conferencing provisions of the ESA, Id. § 1536(a)(4), determined that the 1995 operations of the Klamath Project will not jeopardize the continued existence of the steelhead. NMFS has concurred in this determination.¹³

Conclusion

None of the rights discussed above are quantified (except see footnote 1). Even so, Reclamation is not free to disregard these

¹² Critical habitat has not been designated for the Lost River and shortnose suckers.

¹³ A petition to list the chinook salmon has been received by NMFS. 60 Fed. Reg. 30263 (June 8, 1995). NMFS has proposed to list the coho salmon. ____ Fed. Reg. (____ July ____, 1995).

rights, and its discretion to determine the necessary means to protect and fulfill each of these rights is limited. Reclamation must exercise its statutory and contractual authority to the fullest extent to protect the tribal fisheries and tribal water rights. Reclamation must also, consistent with its statutory, contractual and trust obligations, fulfill the rights of the project water users and the refuges.

David Nawi
David Nawi



IN REPLY REFER TO:

United States Department of the Interior

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Sacramento, California 95825-1890

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KLAMATH FALLS OREGON

Memorandum

To: Regional Director, Region 1, U.S. Fish and Wildlife Service, Portland, OR
Regional Director, U.S. Bureau of Reclamation, Mid-Pacific Region, Sacramento, CA
Area Director, Portland Area Office, Bureau of Indian Affairs, Portland, OR
Area Director, Sacramento Area Office, Bureau of Indian Affairs, Sacramento, CA

From: Regional Solicitor Pacific Southwest Region *David Kouri*
Regional Solicitor Pacific Northwest Region *John Peterson*

Subject: Oregon Assistant Attorney General's March 18, 1996, Letter Regarding Klamath Basin Water Rights Adjudication and Management of the Klamath Project

As requested, we have reviewed the March 18, 1996, letter from Stephen Sanders, Assistant Attorney General, Natural Resources Section, to Martha Pagel, Director, Oregon Water Resources Department (OWRD) (March 18 letter). The March 18 letter responds to a request of the Director of the OWRD for "a description of the types of claims likely to be asserted by the federal government in the Klamath Basin adjudication, and an analysis of water management authority in the basin pending the completion of the adjudication." We are responding jointly because the March 18 letter addresses issues of concern to agencies within the responsibility of both the Pacific Southwest and the Pacific Northwest Regions of the Solicitor's Office.

The issues raised in the March 18 letter arise in the context of actions by the Secretary of the Interior (Secretary), acting through the Bureau of Reclamation (Reclamation), to manage and operate the Klamath Project (Project) and particularly to develop a Project operations plan. In so doing, Reclamation and other Federal agencies with responsibility related to water and wildlife resources, including Indian trust resources, in the Klamath Basin (Fish and Wildlife Service, Bureau of Indian Affairs, and National Marine Fisheries Service) are engaged in a process of consultation with and consideration of the interests of diverse groups,

including agricultural water users, Indian tribes, and wildlife interests, regarding Project operations and the development of a plan intended to govern operations pending completion of the Klamath Basin adjudication presently being conducted by the State of Oregon.¹

The March 18 letter raises issues regarding the authority of the Secretary to manage the Klamath Project pending completion of the adjudication, as well as issues regarding the United States' water rights, including tribal water rights the United States holds in trust, in the Klamath Basin. The March 18 letter is in wide circulation and may be read as calling into question the legal basis of various federal actions to manage the Project, including the development of an operations plan. Our conclusions regarding a number of the issues differ from those contained in the March 18 letter. For these reasons, we think it important to set out in general terms our views on the major issues for our client agencies and interested parties.

This memorandum reaffirms long-standing positions of the United States regarding management of water projects for irrigation, wildlife protection, and Indian rights, and builds on the July 25, 1995, memorandum from the Regional Solicitor, Pacific Southwest Region, to the Regional Director, Bureau of Reclamation, Mid-Pacific Region (July 25 memorandum).² This memorandum does not attempt to provide a complete legal analysis of all the issues raised by the March 18 letter. Further legal analysis will be presented, as needed, in connection with the adjudication or otherwise.

¹ Upon completion of the adjudication and pursuant to section 8 of the Reclamation Act of 1902, the Project will be operated in accordance with the outcome of the adjudication, as well as with other applicable requirements, and the operations plan will be revised as appropriate. As discussed throughout this memorandum, many of the issues raised in the March 18 letter arise as a result of Reclamation's need to meet its obligations and responsibilities in operating the Project, the absence of a completed adjudication of the Klamath Basin, and the lack of any other action by the State of Oregon to administer junior water rights in relation to senior unadjudicated water rights in the Basin.

² The March 18 letter contains several references to the July 25 memorandum, which describes the general rights to the waters of the Klamath and Lost River drainages affected by the operation of the Klamath Project and the obligations of the Bureau of Reclamation to the holders of these rights. We adhere to the conclusions set forth in the July 25 memorandum. This memorandum addresses additional issues not raised in the July 25 memorandum.

including agricultural water users, Indian tribes, and wildlife interests, regarding Project operations and the development of a plan intended to govern operations pending completion of the Klamath Basin adjudication presently being conducted by the State of Oregon.¹

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I. Management of the Klamath Project

The March 18 letter states that the United States, through development of an operations plan by Reclamation, is asserting that it has the authority to regulate water uses in the Klamath Basin where no such authority exists. March 18 letter, pages 5-7. The United States is not, however, seeking in the operations plan to preempt or supplant the State's role in adjudicating and administering water uses; rather, it is carrying out the responsibilities federal law places on it in managing the Klamath Project.³

An operations plan is being developed through an open process, including consultation with affected government and other interests and an opportunity for public comment, to arrive at an informed decision regarding Reclamation's operation of the Project pending completion of the adjudication. Reclamation is using this process to review Project operations to assure that they are consistent with all of Reclamation's responsibilities and obligations concerning senior water rights, tribal trust resources, Project water users' contractual rights, the Endangered Species Act (ESA) and other requirements mandated by law and within the authority of the Secretary.⁴

The March 18 letter states that it is unclear how water must be managed pending completion of the adjudication and declares that the state will not regulate or administer unadjudicated water rights or water uses. March 18 letter, page 5. The March 18 letter also asserts that the federal government lacks authority to manage any water uses in the basin, even those involving water

³ The March 18 letter refers to the project operations plan as the Klamath Project Operations Plan or "KPOP." KPOP is no longer the label applied to the operations plan now being developed which will address project management pending completion of the Klamath Basin adjudication being conducted by the State of Oregon. Our analysis of the underlying authorities is applicable to whatever operations plan is ultimately adopted.

⁴ The March 18 letter bases its analysis and conclusions on the proposition that the 1905 water rights filing by the United States for development of the Klamath Project is limited to irrigation uses. ("The rights developed under the Reclamation Act and the 1905 Notice must, therefore, be used for the purpose specified in the Act and the Notice, that is, only for irrigation." March 18 letter, page 3.) This memorandum focuses on the issue of authority raised in the March 18 letter. The nature of the Project water rights will be addressed at the appropriate time in the pending adjudication.

rights and uses subject to federal law. For the reasons set out below, we have a different view.

The Secretary, through Reclamation, must manage and operate reclamation projects developed pursuant to the Reclamation Act of 1902 (43 U.S.C. § 372 et seq., Act of June 17, 1902, 32 Stat. 388) and its amendments and supplements. Specifically, section 10 of the Reclamation Act, 43 U.S.C. § 373, expressly directs the Secretary "to perform any and all acts and to make such rules and regulations as may be necessary and proper" to carry out the reclamation laws. See United States v. Alpine Land and Reservoir Co., 887 F.2d 207, 212 (9th Cir. 1989). Districts and water users within the project must comply with such actions taken pursuant to section 10 and pursuant to contracts between Reclamation and the districts and water users. Id.; Pyramid Lake Paiute Tribe v. Hodel, 878 F.2d 1215 (9th Cir. 1989); Truckee-Carson Irrigation District v. Secretary of Department of Interior, 742 F.2d 527 (9th Cir. 1984), cert. denied, 472 U.S. 1007 (1985). The operations plan process and resulting plan are clearly authorized by section 10 of the Reclamation Act of 1902. See July 25 memorandum for further discussion.⁵

The federal courts have not hesitated to order the Secretary to fulfill his tribal trust obligations and to comply with the ESA in operating reclamation projects. See Pyramid Lake Paiute Tribe v. Morton, 353 F.Supp. 252, 255-56 (D.D.C. 1973). The Secretary, through Reclamation, must operate reclamation projects consistent with vested, fairly implied senior Indian water rights. Kittitas Reclamation District v. Sunnyside Valley Irrigation District, 763 F.2d 1032, 1033 (9th Cir.), cert. denied, 474 U.S. 1032 (1985) (district court did not abuse its discretion in ordering Reclamation to make water available to protect unquantified, unadjudicated treaty-reserved fisheries related water rights); Pyramid Lake Paiute Tribe v. Morton, supra (Secretary of the Interior "was obliged to formulate a closely developed regulation that would preserve water for the Tribe . . . [and] to assert his statutory and contractual authority to the fullest extent possible to accomplish the result." Id. at 256). Cf. Joint Board of Control of the Flathead, Mission, and Jocko Irrigation Districts v. United States, 832 F.2d 1127 (9th Cir. 1987), cert. denied, 486

⁵ See also Israel v. Morton, 549 F.2d 128, 132-33 (9th Cir. 1977) (water obtained from a federal reclamation project is not there for the taking by the landowner, but for the giving by the United States, and terms upon which water can be put to use, and manner in which rights to use can be acquired, are only for the United States to fix, and if such rights are subject to becoming vested beyond the power of the United States to take without compensation, such vesting can only occur on terms fixed by the United States).

U.S. 1007 (1988) (prior to allocating water from a federal irrigation project among project water users, the Department had to adequately protect the tribe's senior instream flow water rights). See also Parravano v. Babbitt, 861 F.Supp. 914 (N.D. Cal. 1994), aff'd, 70 F.3d 539 (9th Cir. 1995), cert. denied, 116 S. Ct. 2546 (1996) (Secretary of Commerce properly considered the tribe's federally reserved fishing rights in issuing emergency regulations reducing harvest limits of Klamath River salmon).

Moreover, a specific statutory directive is not needed for Reclamation to manage irrigation deliveries to protect senior tribal water rights. Although the Klamath Tribes' water rights have not yet been quantified in an adjudication, the existence of the Klamath Tribes' rights to the water needed to protect their treaty-reserved hunting and fishing rights (with a priority date of time immemorial) and for agricultural uses has been confirmed by the Ninth Circuit Court of Appeals. United States v. Adair, 723 F.2d 1394 (9th Cir. 1983), cert. denied, 467 U.S. 1252 (1984). The Yurok and Hoopa Valley Tribes in California hold unadjudicated water rights which vested at the latest in 1891 and perhaps as early as 1855. See, e.g., United States v. Adair, supra; Arizona v. California, 373 U.S. 546, 600 (1963); United States v. Winans, 198 U.S. 371 (1905). Cf. Solicitor's Opinion, M-36979, Fishing Rights of the Yurok and Hoopa Valley Tribes (Oct. 4, 1993).⁶

While the March 18 letter asserts that "[o]nly the state has the authority and the regulatory system to establish relative priority dates and enforce the priority system," March 18 letter, page 7, both federal and state courts have jurisdiction in appropriate cases to establish and enforce the priority system. See, e.g., Cappaert v. United States, 426 U.S. 126 (1976) and Winters v. United States, 207 U.S. 564 (1908). In addition, nothing in the McCarran Amendment, 43 U.S.C. § 666, prohibits the United States from managing and operating its reclamation projects. The priority water rights system is one of the bases upon which reclamation projects are operated. While Reclamation does not adjudicate water rights, the absence of a completed adjudication and Reclamation's legal obligation to manage the project in accordance with law require that Reclamation use its best efforts to operate the project consistent with existing water rights.

⁶ Although tacitly recognizing the fisheries reserved water rights of the Klamath Tribes and the Yurok and Hoopa Valley Tribes, the March 18 letter questions without answering the extent of the Klamath tribal right, and implies that the Yurok and Hoopa Valley Tribes' rights are "paper" rights with no enforceability. March 18 letter, pages 6-7, fn. 4. As discussed above, and in the July 25 memorandum, pages 4-5, in our view the tribes' rights are senior and enforceable against junior uses, and adjustments may be required in how the Klamath Project is operated to be consistent with the tribes' rights.

The March 18 letter further asserts that regulation in favor of senior tribal, federal, and project water rights may not occur until those rights have been adjudicated and cites South Delta Water Agency v. U.S. Department of the Interior, 767 F.2d 531 (9th Cir. 1985), as supporting the proposition. March 18 letter, pages 5-6. However, that case does not address the issue. The Ninth Circuit merely held that, contrary to the State of California's argument, suit cannot be brought pursuant to the McCarran Amendment against the United States for the administration of water rights without a prior general stream adjudication having determined those rights.

The State of Oregon has declined to administer junior rights to protect senior tribal, project, and other federal rights on the grounds that such rights are unknown until the adjudication is complete. However, in the absence of a completed adjudication or other determination of the senior water rights, the project must be operated based on the best available information. For example, the Project irrigation water rights can be reasonably estimated. Similarly, although the tribal instream flow and lake rights are complex, they also may be reasonably estimated; and even though unadjudicated, they are vested, senior rights, and Reclamation must operate the project consistent with those rights. Joint Board of Control of the Flathead, Mission, and Jocko Irrigation Districts v. United States, *supra*, at 1131-32. ("The priority date of time immemorial obviously predates all competing rights" and to ignore this would violate "the fundamental principles of the appropriative system of water rights.")

The March 18 letter also states that users junior to the Klamath Project should provide water to senior rights holders before the Project does so. March 18 letter, page 7. We agree that to do so best comports with the priority system of water rights administration. But the March 18 letter does not address the situation, as in this case, where the State is not protecting senior water rights. Moreover, the March 18 letter offers no avenue or mechanism for effecting calls on junior users. It adopts a hands-off position even though the State is in a better position to deal with junior nonfederal water users.⁷ In such a situation, the Secretary must exercise what authority he has in managing the Project to protect senior water rights and meet requirements of federal law.

⁷ The March 18 letter sets forth at page 5 Oregon's position that it "neither regulates in favor of nor against unadjudicated water rights." The letter fails, however, to discuss whether the State has authority to regulate junior water rights in relation to senior unadjudicated rights prior to completion of the adjudication, and if so, whether the State should exercise that authority in the Klamath Basin. This has contributed to the demand for Reclamation to prepare an operations plan.

We disagree with the assertions in the March 18 letter regarding the water rights for the national wildlife refuges.⁸ March 18 letter, pages 5-6. Among others, bases for the refuge water rights include state-based rights perfected by applying project water or return flows to beneficial use, and federal reserved rights to the water unappropriated at the time of the refuges' creation and needed to carry out the refuges' purposes. See Arizona v. California, supra, at 598.

In sum, the operations plan is not an attempt to regulate water uses in the Klamath Basin. Rather, it reflects Reclamation's effort to exercise its authority to manage the project consistent with all of its obligations, including senior Indian water rights, contractual obligations and ESA requirements. See Pyramid Lake Paiute Tribes v. Morton, supra; United States v. Alpine Land and Reservoir Co., supra.⁹

II. The Project Operations Plan is not a "Reallocation" of Klamath Project Water

The March 18 letter states that obligations to Indian tribes and listed species do not provide authority to "reallocate" water

⁸ Although the distinction may not be at issue here, we also disagree with the view expressed at page 6 of the March 18 letter that "[as] a technical matter, only 'land set aside from the public domain' may acquire a reserved right" and not land acquired by the United States. See Memorandum, Department of Justice, Office of Legal Counsel, June 16, 1982, at pages 77-78. In that opinion, the issue of reserved rights for acquired lands was directly addressed:

Much of the language used by the Court to describe the scope of the reservation doctrine, in fact, is broad enough to cover all lands set aside for a particular federal purpose, regardless of the prior ownership of the land. . . . [I]n [United States v. New Mexico], the Court did not suggest that the reserved rights doctrine applies only to lands that may be formally reserved from the public domain; it recognized rather that the doctrine applies to any land that has been set aside as a national forest (which could be reserved or acquired lands). See 438 U.S. at 698-99.

Id. at 78.

⁹ For the Newlands Project, discussed in United States v. Alpine Land and Reservoir Co., supra, the initial project operation criteria and procedures (OCAP) were issued prior to a final adjudication of water rights in the Newlands Project, while the final OCAP were adopted after the final decree was affirmed. The Alpine decision upheld the final OCAP.

absent specific federal authority for the new use and compliance with state law. March 18 letter, page 9; see also pages 3, 5, 8, 10, 11. Once again, we believe the March 18 letter mischaracterizes the nature of the issue. The lack of a completed water rights adjudication does not legitimize uses of water that would not otherwise be authorized. Reclamation's actions are intended to result in management and operation of the Klamath Project in a manner which is consistent with and carries out all its legal obligations and responsibilities. Operation of the project to reflect Reclamation's obligations is not a reallocation of water.

The March 18 letter cites several cases to support the proposition that Project water stored under a water right "acquired for irrigation" cannot be used to meet the United States' obligations to Indian tribes and under the ESA. March 18 letter, pages 9-10. In our view, the cases cited either do not apply to the situation at hand or do not support the proposition that the United States may ignore Indian water rights or its obligations under the ESA.

In Nevada v. United States, 463 U.S. 110 (1983), the Supreme Court simply held that the United States could not ignore the limits of decreed federal reserved or other water rights where all the water rights, including the Indian rights, had already been fully adjudicated. Nevada does not address the issue of whether project operations must be consistent with existing senior water rights or the ESA where none of the water rights have been fully adjudicated.

In Carson-Truckee Water Conservancy District v. Clark, 741 F.2d 257 (9th Cir. 1984), cert. denied, 470 U.S. 1083 (1985), the court found that the Secretary's decision to operate Stampede Dam solely for the purpose of conserving an endangered species of fish was not arbitrary. Although the court explicitly found that it need not address tribal water rights to reach its decision, the court stated that any asserted obligation of the Secretary to enter into contracts for the sale of project water for municipal and industrial purposes pursuant to the project's authorizing legislation should be considered only when his superseding obligations to the Tribe and under the ESA have been fulfilled. (This case concerned the same Reclamation project that was the subject of Nevada v. United States. However, the water rights connected with Stampede Dam are not adjudicated.)

Likewise, in O'Neill v. United States, 50 F.3d 677 (9th Cir.), cert. denied, U.S. 116 S. Ct. 672 (1995), the court held that the United States was not liable for not furnishing the full contractual amount of water to water users when that amount could not be delivered consistent with the requirements of the ESA and the Central Valley Project Improvement Act, Pub. L. No. 102-575. The court found that the provisions in the contract which precluded

federal liability for water shortage were broad enough to include the "mandates of valid legislation."¹⁰

Reclamation is mandated by the ESA to avoid jeopardizing the continued existence of listed species and to conserve listed species.¹¹ In addition, individual water users and water districts, as well as Reclamation, are subject to the prohibition in section 9 of the ESA on taking listed species. See, e.g., United States v. Glenn-Colusa Irrigation District, 788 F.Supp. 1126 (E.D. Cal. 1992).

As a final matter, the March 18 letter seems to assume that once the Klamath Basin adjudication is completed and the State begins administering the water rights, the Secretary will no longer need to manage the Project. See, e.g., March 18 letter, pages 2, 4-5. The cases make clear, however, that the Secretary's authority and responsibilities under federal law to manage the Project will continue, concurrent with the requirement to operate the Project consistent with adjudicated water rights. See Pyramid Lake Paiute Tribes v. Morton, supra and United States v. Alpine Land and Reservoir Co., supra, cases which involved previously adjudicated project water rights.

III. The Klamath Basin Adjudication

The March 18 letter addresses the three general categories of claims the author believes will be resolved in the Klamath Basin adjudication. We do not propose to address these issues now. The United States will make appropriate arguments and set forth in full the federal position regarding these issues in the course of the adjudication. We do, however, make the observations set out below with respect to certain points raised in the March 18 letter concerning the adjudication.¹²

¹⁰ Similar shortage provisions are found in Klamath Project contracts.

¹¹ Reclamation is also obligated to confer with the Fish and Wildlife Service or the National Marine Fisheries Service on any action which is likely to jeopardize the continued existence of any species proposed to be listed, and is authorized to take conservation measures to minimize impacts on the proposed species. ESA, section 7(a)(4), 16 U.S.C. § 1536(a)(4), and section 5(a), 16 U.S.C. § 1534(a).

¹² The March 18 letter was written by an Assistant Attorney General of the State of Oregon who we understand will advise the decision maker in the administrative phase of the adjudication. Several aspects of his letter raise a concern that he appears to have taken positions on issues to be determined in the adjudication before the parties have had opportunity to brief and litigate them.

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¹¹ Reclamation is also obligated to confer with the Fish and Wildlife Service or the National Marine Fisheries Service on any action which is likely to jeopardize the continued existence of any species proposed to be listed, and is authorized to take conservation measures to minimize impacts on the proposed species. ESA, section 7(a)(4), 16 U.S.C. § 1536(a)(4), and section 5(a), 16 U.S.C. § 1534(a).

¹² The March 18 letter was written by an Assistant Attorney General of the State of Oregon who we understand will advise the decision maker in the administrative phase of the adjudication. Several aspects of his letter raise a concern that he appears to have taken positions on issues to be determined in the adjudication before the parties have had opportunity to brief and litigate them.

The March 18 letter states that Klamath Project water rights "likely . . . are held by the irrigation districts or perhaps by individual district members" rather than by the United States. March 18 letter, page 4. It is well established, however, that the United States through the Bureau of Reclamation holds the legal title to the water rights for the project. Nevada v. United States, supra; Ide v. United States, 263 U.S. 497 (1924); United States v. Humboldt Lovelock Irr. Light & Power Co., 97 F.2d 38 (9th Cir. 1938), cert. denied, 305 U.S. 636 (1938); United States v. Tilley, 124 F.2d 850 (8th Cir. 1942); see also Solicitor's Opinion, M-36966, 97 I.D. 21, Filings of Claims for Water Rights in General Stream Adjudications (July 6, 1989); Solicitor's Opinion, M-36967, 97 I.D. 32, Authority to Provide Water to Stillwater Wildlife Management Area (July 10, 1989). In 1905, the United States, through the Secretary of the Interior, pursuant to the Reclamation Act of 1902 and Oregon law, initiated the appropriation of the amount of water necessary to develop the Klamath Project.

The United States Supreme Court has long held that individual water users who have entered into contracts with the United States to receive project water, hold a beneficial interest in that portion of the project water right actually put to beneficial use. Nevada v. United States, supra; Nebraska v. Wyoming, 325 U.S. 589 (1945); Ickes v. Fox, 300 U.S. 82 (1937). Unlike the United States and individual water users, in the typical case irrigation districts hold neither a legal nor beneficial interest in the water right. They have no property interest in the water, nor have they in their own right diverted the water to storage. Truckee-Carson Irrigation District v. Secretary of the Interior, supra. Moreover, the districts have not put the water to beneficial use and thus do not hold an interest in the water right.

In light of the foregoing, Reclamation is the proper entity to file claims on and hold the water rights for the Klamath Project, 97 I.D. 21, recognizing the beneficial interest of individual water users entitled to use project water for beneficial uses, provided that the use comports with the terms of applicable Reclamation contracts and state and federal law.

Although the March 18 letter does not discuss the subject, there are federally owned lands within the project boundaries that receive project water. The United States is the proper party to file for those water rights in this situation, where the United States holds both the legal and beneficial interests in the lands and the water.

Finally, the United States has control of the project return flows within the boundaries of the project, has the right to use the return flows, and has the right to continue such use. Ide v. United States, supra. Contrary to assertions in the March 18 letter, the United States Supreme Court did not hold in Ide that use of recaptured water had to be the original use; the Court

merely held that the recaptured water had to be beneficially used. Thus, we do not believe that Id or subsequent cases preclude the United States from using return flows for uses other than irrigation and domestic purposes.

Similarly, Jones v. Warm Springs Irrigation District, 91 P.2d 542 (Or. 1939), is not applicable to circumstances where water remains within the project boundaries and control of the appropriator; that case concerned return flow deemed to be abandoned because there had been no indication of an attempt to recapture. Finally, the Oregon Supreme Court in Cleaver v. Judd, 393 P.2d 193 (Or. 1964), recognized that under Oregon law an appropriator is justified in recapturing waste, seepage, and occasional surface water runoff.

IV. CONCLUSION

Pending completion of the adjudication, Reclamation is authorized and obligated to manage and operate the Klamath Project consistent with all of Reclamation's responsibilities and obligations concerning senior water rights, tribal trust resources, Project water users' contractual rights, the Endangered Species Act and other requirements mandated by law and within the authority of the Secretary. These obligations may be clarified or otherwise affected by the pending adjudication; however, Reclamation will continue to have authority to manage and operate the Project consistent with its obligations after completion of the adjudication.

Appendix B
DROUGHT PLAN

February 12, 1992

DROUGHT PLAN

Upper Klamath Lake Watershed

Priority and Execution Plan for Administration of Water Rights and Water Delivery on the Klamath Project in the Event of a Drought

General

It should be emphasized that before any actions are taken to limit the amount of water available to Klamath Project water users, efforts will be made to minimize, or possibly avert, the shortages that are forecasted. Water users will be represented in these efforts to attempt to work out a plan that will be fair and equitable to those involved.

It should also be noted that return flows generated by Project water users are an important factor in determining the total amount of water use figures. These return flows are reused many times in the agricultural use cycle and may ultimately affect several downstream users.

An emphasis would be placed on conserving water, growing crops that use less water, farming practices that will save water, possible fallowing of land that is less productive, and most important, cooperation among the water users. Only after avenues of conservation and cooperation are explored would the water be allocated on a priority basis within the Klamath Project.

One of the key themes in any prioritization of water rights on the Project is that we claim a 1905 right for all Project lands regardless of the type of contract that the water users may have. However, within the Project we can prioritize use by date of contract and type of contract. All other diverters of water not in the Project would be considered junior to our Project needs if their priority date was after 1905.

There are two basic types of contracts on the Project, a 9(d) Repayment contract and a Warren Act type contract. The 9(d) type contract was used for Main and Tulelake Divisions of the Project. These Divisions were, for the most part, homesteaded by Reclamation. The Warren Act was used to grant a secondary right of use to users above the gravity system and/or not in the above mentioned Divisions of the Klamath Project.

First Priority of Use Within the Project (Class A)

Van Brimmer Irrigation District's contract with the United States recognizes that district's right to the use of 50 cfs. The United States eliminated the district's supply of water by reclaiming Lower Klamath Lake, and was then obligated to provide another source of

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supply. The result of that obligation is that the Van Brimmer Irrigation District has a priority that predates 1905.

Klamath Irrigation District, also known as the Main Division, was the first land developed for irrigation and, as such, would have the first right to the use of irrigation water after Van Brimmer. The district was the successor to the Klamath Water Users Association who contracted with the United States on November 6, 1905. The first contract between the United States and the district was dated July 6, 1918 and was written pursuant to the 1902 Federal Reclamation Act.

Tulelake Irrigation District's contract is dated September 9, 1956, and is also a 9(d) type contract. The contract specifically states that the district has the same contractual right and priority date as other contracts written pursuant to the 1902 Act on the Project.

Federally owned areas leased by the United States are considered to have the same priority date as other Class A users. During extreme drought circumstances Reclamation may voluntarily limit deliveries to federal lease lands, thus preserving a supply to the other Class A water users.

There are several individual contracts within Klamath Irrigation District that were written pursuant to the 1902 Act in the 1970's. These are for minor acreages, somewhere in the neighborhood of 400 acres.

Second Priority of Use Within the Project (Class B)

All of the following contracts were written pursuant to the Warren Act of February 21, 1911. These contracts include a clause which states that the water right is subject to the main division land's first right. The Warren Act was cited in the contracts so that a secondary right could be issued to the contractor. The Warren Act contains a clause in Article 1 which states in part "..., preserving a first right to lands and entrymen under the Project.". In addition, most of the contracts contain the very same wording. Given that understanding, the following order of precedence by contract date will be followed:

Enterprise Irrigation District Receives water out of the A-Canal through the Klamath Irrigation District system. The date of the contract is October 5, 1920.

Klamath Drainage District Receives water out of the Klamath River below the Link River Dam. The date of the contract is August 24, 1921.

Malin Irrigation District Receives water out of the D-Canal through the Klamath Irrigation District system. The date of the contract is September 9, 1922

Shasta View Irrigation District Receives water out of the D-Canal through the Klamath Irrigation District system. The date of the contract is October 6, 1922.

Sunnyside Irrigation District Receives water out of the Van Brimmer Canal system. The Van Brimmer Canal gets its supply of water from Upper Klamath Lake through the Klamath Irrigation District system. The date of the contract is October 24, 1922.

Pine Grove Irrigation District Receives water out of the A-Canal (Klamath Irrigation District system). The date of the contract is June 19, 1936.

Colonial Realty Company-Westside Improvement District Receives water out of the Tulelake Sump and at the end of the J-1 lateral. The District was incorporated into Tulelake Irrigation District as an improvement district. The date of the contract is October 20, 1936.

Plevna District Improvement Company Receives water out of the Klamath River below the Link River Dam. The date of the contract is April 1, 1940.

Emmitt District Improvement Company Receives water out of the Klamath River below the Link River Dam. The date of the contract is December 1, 1947.

Midland District Improvement Company Receives water out of the Klamath River below the Link River Dam. The date of the contract is February 2, 1952.

Poe Valley Improvement District Receives water out of the Lost River below Harpold Dam. The District is highly dependent on return flows from the Klamath Irrigation District system in Poe Valley. The contract does not mention where the water is to come from, only that it will be made available in the Lost River. The date of the contract is July 20, 1953.

Ady District Improvement Company Receives water out of the Klamath River below the Link River Dam. The date of the contract is August 5, 1954.

Klamath Basin Improvement District Receives water through the Klamath Irrigation District system. The date of the contract is April 25, 1962.

Miscellaneous Warren Act Contracts This group of contracts are scattered throughout the Project and get their water supply from the Lost River and Upper Klamath Lake/Klamath River. Some of the contracts have been turned over to Klamath Irrigation District to administer. Contract dates range from 1915± to 1960±.

Third Priority of Use Within the Project (Class C)

The first group of water users that would need to be shut off in the event of water shortages would be the temporary water rental contracts. Rental water is sold to individual farmers on an "if and when available" status. Klamath Irrigation District and Tulelake Irrigation District both have clauses that allow them to sell rental water. In addition, Reclamation has rental contracts with users in the P-Canal and the Lost River areas.

EXECUTION PLAN

In the event that there was insufficient projected supplies of water available within the system from the Klamath River the following actions would be taken:

March 10 If necessary, on this date or before, letters will be sent to all water users advising them that we can expect a deficiency in supplies of irrigation water and that sales of rental water may not be allowed pending the outcome of the April 10 meeting and April forecasts. Also, at this time, separate letters will be sent to the Class B users advising them of our intent to limit their use of water should supplies fall below our projections. The letter would also request that the appropriate portion of Exhibit 1 be completed by the respective districts and returned to the Bureau of Reclamation no later than March 26.

April 10 On or before this date an allocation projection meeting would be hosted by Reclamation in which the district manager and the board chairman from each district would attend. Reclamation would have the information from Exhibit 1 compiled and a proposed allocation available. This would become the basis for discussions, potential revisions and efforts to arrive at an equitable reallocation of available supplies. Factors such as reduced acreages, crops that use less water, farming practices that reduce water use, and other water saving measures would be taken into consideration. The final projected allocation would be determined from this meeting.

May 10 Reclamation would revise the allocation using percentages based on changes in storage and run-off that occur between April 1 and May 1 and send the data to the districts via certified mail.

In the event that the cooperative effort discussed in the April 10 meeting reaches an impasse, the following plan would be followed:

The sufficiency of the water supply would re-evaluated by the Klamath Project and, if found insufficient to meet secondary demands, Klamath Irrigation District, Tulelake Irrigation District and Klamath Drainage District, would be notified to stop or limit deliveries to the specified Class B users under their delivery control points. In addition, The Klamath Project would notify other specified Class B users to stop or limit delivery of irrigation water.

Letters would be sent to the Class A Users assigning them an acre-foot allocation and flow schedule for the balance of the irrigation season.

The above described measures would remain in effect until the Bureau of Reclamation declared a water supply status capable of meeting all contractual commitments.

Appendix C

CONTRACTS AND WATER RIGHTS

Contractual Relationships

Power Contract

In 1917, the United States entered into a contract with California Oregon Power Company, now PacifiCorp, under which the power company was given the right to construct Link River Dam at the outlet of Upper Klamath Lake, and the right to use certain amounts of water after the requirements of the Klamath Project were satisfied. The contract was to cease, and title of the dam was to vest in the United States 50 years from the date of execution. The contract was renewed early as a result of the FERC Project 2082 concerning the construction and operation of downstream Klamath dams operated by the power company. The present contract, which will expire in 2006, allows PacifiCorp to operate the dam within certain guidelines (see *Hydroelectric Power*, p. 9 and *Link River Dam and Upper Klamath Lake*, p. 11).

Repayment Contracts

The Bureau of Reclamation entered into numerous contracts pursuant to Article 9(d) of the Reclamation Act of 1939 with various irrigation districts to provide for repayment of Project costs and a supply of Project water. The contracts specify an acreage to be covered and in most cases, do not specify an amount of water, relying on beneficial use for the amount of water used. The contracts are all written in perpetuity.

In all, over 250 contracts for delivery of Project water are administered either directly or through irrigation districts on the Klamath Project. Contracts also cover the operation of the system that was transferred to the water users for operational responsibility. Irrigation districts that fall into this category and the contracts follow:

Klamath Irrigation District

November 29, 1954	Operational responsibility and water supply
June 2, 1950	Water supply
November 24, 1928	Drainage and repayment
June 25, 1927	Exclusion of land payment adjustment
April 10, 1922	Amendment to earlier contract
June 28, 1920	Repayment adjustment
July 6, 1918	Original contract

Tulelake Irrigation District

September 10, 1956	Operational responsibility and water supply
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Langell Valley Irrigation District

July 29, 1965	Acreage and payment adjustment
May 17, 1951	Water rights adjustment/inclusion

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November 18, 1935	Water rights adjustment
January 11, 1934	Water rights adjustment
April 13, 1931	Dredging Clear Lake/priority of use
October 17, 1925	Rechannel Lost River/Miller Creek
October 15, 1923	Increase water entitlement to HID
June 18, 1923	Construction of Gerber Dam on Miller Creek
March 27, 1922	Original water supply/repayment contract

In addition to the above, Reclamation entered into numerous contracts that were written pursuant to the Warren Act of 1911. These contracts provided for a water supply at a certain point, with the responsibility of the contractor to construct all the necessary conveyance facilities (i.e., pumps, laterals, and turnouts) and be responsible for their operation and maintenance.

Some of the districts (and their respective contracts, only the most recent of which is listed) that own all or a portion of their privately constructed facilities are:

<u>District Name</u>	<u>Contract Date</u>	<u>Acreage</u>
Van Brimmer Ditch Company	November 6, 1909	3,315
Klamath Basin Improvement District	April 25, 1932	10,403
Enterprise Irrigation District	March 18, 1935	2,981
Malin Irrigation District	May 5, 1936	3,507
Pine Grove irrigation District	June 19, 1936	927
Sunnyside Irrigation District	June 25, 1936	595
Westside Improvement District	October 20, 1936	1,190
Shasta View Irrigation District	August 20, 1938	4,141
Klamath Drainage District	April 28, 1943	19,229
Emmitt District Improvement Company	December 1, 1947	424
Midland District Improvement Company	February 2, 1952	581
Poe Valley Improvement District	July 20, 1953	2,636
Ady District Improvement Company	August 5, 1954	435
Plevna District Improvement Company	February 7, 1958	523
Horsefly Irrigation District	August 24, 1976	9,843
Upper Klamath Lake contractors	Various contract dates	7,918
Individual contracts	Various contract dates	9,960

Temporary Water Contracts

Each year Reclamation determines whether surplus water is available to irrigators (see *Water Supply Forecasting* p. 36). In many cases, irrigators have been receiving surplus irrigation water from Reclamation for over 50 years. For numerous reasons, these irrigators were never given a permanent contract. Concurrently, the districts also make a determination whether or not to sell surplus water. The following irrigable acreages were covered by surplus water contracts in 1990:

Klamath Irrigation District	59.0
Langell Valley Irrigation District	134.0
Tulelake Irrigation District	1,955.0
Bureau of Reclamation	1,649.0
	<u>3,797.0</u>

The irrigable acreage represented by these temporary contracts is less than 2 percent of the total acreage irrigated on the Project. Water is delivered to these lands through the existing irrigation systems. In many cases, the water is delivered and controlled by the irrigation districts.

Water Rights Information

Acquired Water Rights

In addition to initiating the appropriative rights procedure in the State of Oregon, the United States acquired some early pre-Project rights to use water by purchase from landowners with prior rights entitlements. Water Rights were acquired from: Moore Brothers, Link River; Klamath Canal Company, Link River; Klamath Falls Irrigating Company (Ankeny Canal System), Upper Klamath Lake; Little Klamath Water Ditch Company (Adams Canal), Lower Klamath Lake; Van Brimmer Ditch Company, Lower Klamath Lake; Tule Lake Land and Livestock Company (Jesse D. Carr Land and Livestock Company Ranch in Clear Lake); Jesse D. Carr Land and Livestock Company, Tule Lake; and Griffith & Phillips, Lost River.

The fact that a considerable number of these rights were purchased by the United States indicates that early private development of the basin was well under way at the advent of Reclamation. It was necessary to purchase these rights from the entities involved so that Reclamation had full control of all of the rights to the use of water in the basin to facilitate Project operation.

Appropriation by the United States

The basic water rights required for the operation of the Klamath Project are derived from certain legislation of the State of Oregon enacted in 1905 (Chap. 228, Ore. Gen. Laws, 1905) and later (Sec. 116.438, Ore. Comp. Laws Annotated). This act was repealed by House Bill 224, approved April 13, 1953. Section 2 of this act provides:

Whenever the proper officers of the United States, authorized by law to construct works for the utilization of water within this State, shall file in the office of the State Engineer a written notice that the United States intends to utilize certain specified waters, the waters described in such notice and unappropriated at the time of the filing thereof shall not be subject to further appropriation under the laws of this State, but shall be deemed to have been appropriated by the United States; provided that within a period of three years from the date of filing such notice the proper officer of the United States shall file final plans of the proposed works in the office of the State Engineer for his information; and provided further, that within four years from the date of such notice the United States shall authorize the construction of such proposed work. No adverse claims to the use of the water required in connection with such plans shall be acquired under the laws of this State except as for such amount of said waters described in such notice as may be formally released in writing by an officer of the United States thereunto duly authorized, which release shall also be filed in the office of the State Engineer. In case of failure of the United States to file such plans or authorized construction of such works within the respective periods herein provided, the waters specified in such notices, filed by the United States, shall become subject to appropriation by other parties. Notice of the withdrawal herein mentioned shall be published by the State Engineer in a newspaper published and of general circulation in the stream system affected thereby, and a like notice upon the release of any lands so withdrawn, such notices to be published for a period not exceeding thirty days.

At the same session, Chapter 5, General Laws of Oregon, 1905, was enacted. It provides:

Section 1. That for the purpose of aiding in the operations of irrigation and reclamation, conducted by the Reclamation Service of the United States, established by the act of Congress, approved June 17, 1902 (32 Stat. 388), known as the Reclamation Act, the United States is hereby authorized to lower the water level of Upper Klamath Lake, situate in Klamath County, Oregon, and to lower the water level of, or to drain any or all of the following lakes: Lower or Little Klamath Lake, and the Tule or Rhett Lake, situate in Klamath County, Oregon, and Goose Lake, situate in Lake County, Oregon; and to use any part or all of the beds of said lakes for the storage of water in connection with such operations.

Section 2. That there be and hereby is ceded to the United States all the right, title, interest, or claim of this State to any land uncovered by the lowering of the water levels, or by the drainage of any or all of said lakes not already disposed of by the State; and the lands hereby ceded may be disposed of by the United States, free of any claim on the part of this State in any manner that may be deemed advisable by its authorized agencies, in pursuance of the provisions of said Reclamation Act.

Similar legislation was enacted by the Legislature of California on February 3, 1905, relative to the Klamath Project areas in California. The following is quoted therefrom:

The people of the State of California, Represented in Senate and Assembly, do Enact as Follows:

Section 1. That for the purpose of aiding in the operations of irrigation and reclamation conducted by the Reclamation Service of the United States, established by the act of Congress approved June seventeenth, nineteen hundred and two (Thirty-second Statutes, page three hundred and eighty-eight),

known as the reclamation act, the United States is hereby authorized to lower following lakes: Lower or Little Klamath Lake, Tule or Rhett Lake, Goose Lake, and Clear Lake, situated in Siskiyou and Modoc Counties, as shown by the map of the United States Geological Survey, and to use any part or all of the beds of said lakes for the storage of water in connection with such operations.

Section 2. And there is hereby ceded to the United States all the right, title, interest, or claim of this State to any lands uncovered by the lowering of the water levels of any or all of said lakes not already disposed of by this State; and the lands hereby ceded may be disposed of by the United States free of any claim on the part of this State in any manner that may be deemed advisable by the authorized agencies of the United States in pursuance of the provisions of said reclamation act: Provided, That this act shall not be in effect as to lakes herein named, which lie partly in the State of Oregon, until a similar cession has been made by that State.

Approved February 3, 1905. (Cal. Stats. 1905, P.)

On May 19, 1905, a "Notice of Intention to Utilize All Waters of the Klamath Basin" was filed by the Reclamation Service, Predecessor to the Bureau of Reclamation, in the office of the State Engineer of Oregon. It is recorded in "Water Filings" at Page 1. The notice is as follows:

NOTICE

Notice is hereby given that the United States intends to utilize certain specified waters, as follows, to-wit:

All of the waters of the Klamath Basin in Oregon, constituting the entire drainage basins of the Klamath River and Lost River and Lost River, and all of the lakes, streams, and rivers supplying water thereto or receiving water therefrom, including the following and all their tributaries:

Upper Klamath Lake, Lower Klamath Lake, Tule or Rhett Lake, Little Klamath Lake, Lake Ewauna, White Lake, Miller Lake, Swan Lake, Alkali Lake, Dry Lake, Sprague River, Sycan River, Williamson River, Crooked River, Wood River, Link River, Seven Mile Creek, Klamath River, Three Mile Creek, Cherry Creek, Rock Creek, Four Mile Creek, and the slough or stream connecting Lower or Little Klamath Lake with Klamath River, Clear Lake, Spencer Creek, Lost River, Miller Creek, Prairie Creek, Barnes Valley Creek, and Buck Creek.

It is the intention of the United States to completely utilize all the waters of the Klamath Basin in Oregon, and to this end this notice includes all lakes, springs, streams, marshes, and all other available waters lying or flowing therein.

That the United States intends to use the above-described waters in the operation of works for the utilization of water in the State of Oregon under the provisions of the act of Congress approved June 17, 1902 (32 Stat. 388) known as the Reclamation Act.

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This notice is given under the provisions of Section Two (2) of an act passed by the Legislature of the State of Oregon, filed in the office of the Secretary of State, February 22, 1905, and constituting Chapter 288 of the General Laws of Oregon 1905, as compiled by the Secretary of State.

This notice is given by T.H. Humphreys, Engineer of the United States Reclamation Service thereto duly authorized by the Secretary of the Interior of the United States.

Dated at Klamath Falls, Oregon, this 17th day of May, 1905.

*T.H. Humphreys
Engineer of the U.S. Reclamation Service*

The Reclamation Service of the United States filed detailed plans and specifications covering the construction of the Klamath Irrigation Project with the State Engineer of Oregon on May 6, 1908, and on May 8, 1909, filed with the State Engineer proof of authorization of the construction of the works therein set forth.

Prior to December 19, 1914, appropriate water rights could be acquired in California by posting and recording a notice stating the nature and quantity of the proposed appropriation and by thereafter exercising due diligence in putting the water to beneficial use. The following postings were made.

1. Notice of Appropriation of all the unappropriated waters, approximately 10,000 miners' inches (equivalent to a flow of 250 cubic feet per second) (in California and Oregon a flow of 40 miners' inches is equivalent to a cubic foot per second), and maximum flow of 150,000 miners' inches, of Willow Creek, Miller Creek, Clear Lake and its tributaries, and Lost River in Modoc County, California, was posted on behalf of the United States at the intended point of diversion on July 8, 1909, and was filed and recorded July 14, 1909, in Volume 2, Page 84 of "Water Claims", Modoc County, California.

2. A previous notice of appropriation covering 5,000 second-feet of the waters of Lost River was posted December 19, 1904, and recorded on December 28, 1904, on Page 15 of Volume 2 of "Water Claims" of Modoc County. This notice was also recorded in Klamath County, Oregon, Volume 1, at Page 185, "Water Rights."

3. A Notice of Appropriation of all of the unappropriated waters of Willow Creek, Mill Creek, Clear Lake, Lost River and Tributaries, etc., being an average yearly flow of 10,000 miners' inches (250 cfs) and maximum flow of 150,000 miners' inches, was posted relative to diversion in Sections 22, 23, 26, and 27 of T. 48 N., R. 7 E., MDB&M, and was recorded April 9, 1910, on Page 132 of Volume 2 of "Water Claims", Modoc County.

4. A nearly identical notice concerning diversion in Sections 25, 26, 35, 36 of T. 48 N., R. 7 E., MDB&M, was posted and recorded on April 9, 1910, on Page 134 of Volume 2 of "Water Claims", Modoc County, California.

Adjudication Proceedings

A formal adjudication of a river system establishes in a competent court the relative rights to the use of water within the area that is being adjudicated. Testimony is received from all persons claiming a right and the State makes determinations based on the testimony of the relative priority dates. The Klamath River Basin is in such a process.

The State of Oregon began the adjudication of the Lost River system in 1910. Certificates were issued to individuals who had rights predating the Klamath Project's filings. Since Reclamation was not a party to the adjudication, certificates were not issued to Reclamation or its contractors. The State did, however, set aside 60,000 acres for Reclamation to later claim certificates on.

A number of irrigators above Gerber Dam claimed to have not been notified of the 1918 adjudication. As a result, the State reopened the adjudication process and completed it in 1989. This portion of the adjudication set forth the relative priorities of water use above Gerber Dam.

The Klamath River Basin Adjudication covers all Project lands served by the Klamath River. Other federal entities involved include the National Park Service, U.S. Department of Agriculture, Bureau of Land Management, the U.S. Fish and Wildlife Service, and Bureau of Indian Affairs on behalf of the Klamath Tribes. In 1975, the State of Oregon, through its Water Resources Department (OWRD), initiated the Klamath River Basin adjudication to determine all claims to surface water in the Basin. By 1986, the State of Oregon had completed a considerable amount of work in mapping the places of use within the Project.

In 1990, the OWRD reissued notices of intent to adjudicate the Klamath River Basin, and during 1991, required all persons claiming a right to the use of water from the River to file. The United States did not file, claiming that the adjudication violated the McCarran Amendment which requires that any adjudication involving the United States must be complete and include ground water. In subsequent legal proceedings, the United States lost, and as a result, all claims were to be filed with the State in April 1997 for both use and storage. Open inspection of claims was extended through March 2000. In May 2000, several thousand contests were filed on individual claimants and the State's Preliminary Evaluations of Claims.

Concurrent with the Klamath adjudication, the State of Oregon has begun an Alternative Dispute Resolution (ADR) process in an attempt to resolve as many water rights issues in the adjudication as possible to avoid litigation by various claimants. The U.S. has participated in the ADR process from its beginning, along with the Klamath Tribes, various individuals, and the Klamath Project water users. Meetings are held monthly. The ADR process may help solve disputes; however, difficult issues remain to be resolved.

The State of Oregon has proposed a broad settlement framework that is being considered by the Administrative Subcommittee of the ADR Group. In addition, the Klamath Tribes and

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project irrigators have negotiated a framework settlement agreement which is under review by various parties to the ADR. The Klamath Tribes have also presented a settlement proposal on the tributary area above Upper Klamath Lake. Several technical teams have been formed to deal with specific ADR issues. Reclamation actively participates on the Hydrology Technical Committee.