

**ATTACHMENT B**

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**POLICIES CONSIDERED IN THE DEVELOPMENT OF THE  
NO-ACTION ALTERNATIVE**

## Attachment B

### POLICIES CONSIDERED IN THE DEVELOPMENT OF THE NO-ACTION ALTERNATIVE

The following policies were considered in the development of the No-Action Alternative. All of these policies were included in the No-Action Alternative. The policies are summarized in Table B-1 and described in this attachment.

TABLE B-1

#### POLICIES CONSIDERED IN THE NO-ACTION ALTERNATIVE

Policy	Status for the No-Action Alternative
Central Valley Project Operations Criteria	Included
Trinity River Flows	Included
Coordinated Operations Agreement	Included
Bay-Delta Water Quality Criteria	Included
Biological Opinions on Endangered Species	Included
State Water Quality Objectives	Included
Water Contract Renewals	Included
Power Production	Included
Water Contract Ratesetting	Included
Water Conservation	Included
Acreage Limitations	Included
Refuge Water Supplies	Included

**CENTRAL VALLEY PROJECT OPERATIONS CRITERIA****Background**

The CVP operations criteria is based upon the 1992 Long-Term Central Valley Project Operations Criteria and Plan (CVP-OCAP), the Friant Operations Criteria and Plan (Friant OCAP), and Reclamation Mid-Pacific Region guidelines published prior to October 1992. The OCAPs describe the operations constraints, decision criteria, operations forecasting, and the water year operations plans.

The CVP-OCAP operations constraints addressed the following issues.

- CVP diversion water rights on the Sacramento River, Trinity River, American River, and Stanislaus River
- CVP water contracts, including exchange contracts and water rights on the Sacramento River, American River, Delta, and San Joaquin River
- Carryover storage in Shasta, Folsom, and San Luis reservoirs to balance reliable water supplies, flood control storage, cold water pools, recreation, power production, and water quality
- Streamflow criteria below Lewiston, Shasta, and Folsom dams to minimize flow fluctuations for fishery needs, minimize releases during flood events, minimize seepage along the Sacramento River, maintain temperatures for fishery needs, maintain recreational opportunities on the downstream rivers, periodic flow controls to allow installation of seasonal structures (Anderson-Cottonwood Irrigation District weir and Nimbus Hatchery fishracks), and minimum navigation flows and associated water depths on the Sacramento River.
- Refill operations curves for Clair Engle, Shasta, Folsom, and New Melones Reservoirs and associated runoff forecasts and accretions/depletions analyses
- Trinity River Division Operations
  - Minimum flows to Clear Creek at Whiskeytown Dam
  - Minimum release schedules from Whiskeytown Dam
  - General criteria for releases to Trinity River at Lewiston Dam
  - Temperature objectives for the Trinity River
  - Target operating levels for Whiskeytown Lake and power pool limitations for Clair Engle Lake
  - General guidelines for recreational and flood control purposes
- Shasta and Sacramento River Operations
  - Minimum flow releases into and from Keswick Dam
  - Ramping restrictions on Keswick Dam releases to minimize flow fluctuations
  - Temperature restrictions on Keswick Dam releases

**CVP OPERATIONS CRITERIA (continued)**

- Flood control objectives for Shasta Lake
  - Recreation use guidelines for Shasta Lake and Sacramento River
  - Depth requirements to provide for "navigation" and associated depths in the Sacramento River
  - Guidelines to coordinate releases from the Spring Creek Debris Dam with releases from the Spring Creek Powerplant and coordination of operations during flood periods
  - Flow depth guidelines in the Sacramento River to minimize seepage
  - Operation guidelines for the Anderson Cottonwood Irrigation District diversion dam
  - Operation guidelines for the Red Bluff Diversion Dam diversion to the Tehama Colusa Canal
- American River Operations
    - Folsom Lake and Nimbus Dam release patterns to protect fish
    - Flood control objectives for Folsom Lake
    - Temperature requirements for releases from Folsom Lake
    - Recreation guidelines for Folsom Lake and American River
  - Delta Operations
    - See separate policy for Bay-Delta Water Quality Standards and the Coordinated Operations Agreement
  - Delta-Mendota Canal and San Luis Division Operations
    - Coordinated operations of San Luis Reservoir with the SWP

The Friant OCAP addresses similar issues for Millerton Lake, San Joaquin River, and the Friant-Kern Unit Operations.

**Recommendation**

The No-Action Alternative assumes continuation of the existing OCAP and associated operating criteria.

## **TRINITY RIVER FLOWS**

### **Background**

The Trinity River Division Act in 1955 specified a minimum flow of 120,500 acre-feet/year for maintenance of fish life. The legislation also addressed provisions for 49,000 acre-feet/year for irrigable land and wood product industries within the Trinity River basin and Humboldt County. To date, water has not been diverted for irrigable land and/or wood product industries.

In 1963, flows were initially diverted from the Trinity River to the CVP. At that time, minimum flow requirements for the Trinity River downstream of Lewiston Dam were 120,500 acre-feet/year. After the Trinity River diversions were initiated, salmon and steelhead populations in the Trinity River system began to decline. In response to this decline, the Trinity River Task Force was initiated. In 1981, the Secretary of the Department of the Interior (Secretary) signed a decision to provide 340,000 acre-feet/year to the Trinity River in normal water years. This decision was based on the Trinity River Division Act that required that in-basin fishery needs to be met before Trinity River water is diverted and the Secretary's trust responsibilities to protect reserved fishing and water rights of the Hoopa Valley and Yurok Tribes.

Passage of the Trinity River Basin Fish and Wildlife Restoration Act (PL 98-541) in October 1984 provided for a program to restore Trinity River Basin fish and wildlife resources to pre-CVP levels. Major features of the program include construction of Buckhorn Dam, a sediment control facility; modernization of the Trinity River Fish Hatchery; habitat improvement projects in the Trinity River and the tributaries; fish monitoring activities, and earth stabilization projects to reduce erosion in the watershed. The project is being completed with the assistance of the Task Force consisting of representatives from 14 federal, state, and county entities and the Hoopa Valley Tribe.

Interim results were discussed in an environmental assessment prepared by the Service in 1991. The report presented estimated relative habitat values associated with minimum flows in the Trinity River. The specific flows required to meet the goals of the Trinity River Restoration Program will be presented in the Environmental Impact Statement which is scheduled to be published in 1997.

Information collected by 1991 was included in the 1991 Environmental Assessment. Based upon this information, the 1981 Secretary of the Interior Decision was amended to provide a minimum instream flow goal of 340,000 acre-feet/year for all water year types. However, in critically dry years, it is recognized that 340,000 acre-feet/year will be released only if the water is available in the Trinity River Basin.

### **Timeline of Trinity River Issues**

- 1955** Congress authorized the Trinity River Division Act.
- 1980** Completion of the Draft EIS for the Trinity River Task Force Study.

**TRINITY RIVER FLOWS (continued)**

- 1981 Secretarial Decision to maintain minimum releases into the Trinity River of 340,000 acre-feet per year in normal years, 220,000 acre-feet per year in dry years, and 140,000 acre-feet per year in critically dry years.
- 1983 Final EIS filed by Fish and Wildlife Service for the Trinity River Basin Fish and Wildlife Management Program.
- 1984 Trinity River Task Force created with passage of the Trinity River Basin Fish and Wildlife Management Program Act (PL 98-541).
- 1985 Initiation of the Trinity Restoration Program Improvements.
- 1985 Trinity River Flow Evaluation Program begun. This program is being conducted concurrently with the Restoration Program.
- 1990 Preliminary Report prepared addressing the status of the Trinity River Restoration Program.
- 1990 Buckhorn Dam completed to trap sediment from Grass Valley Creek.
- 1991 Trinity River Salmon and Steelhead Hatchery improvements completed.
- 1991 Environmental Assessment presents preliminary observations and presents a range of minimum instream flows ranging from 406,000 acre-feet to 578,000 acre-feet with varying ranges of restoration actions.
- 1991 Secretary amends the 1981 Decision for a minimum instream flow goal of 340,000 acre-feet per year for all water year types, with the recognition that this amount will be provided in critically dry years to the extent possible.
- 1996 Trinity River Instream Flow Study completed.
- 1997 Trinity River Restoration Program Environmental Impact Statement to be completed.

**Recommendation**

It is recommended that the PEIS assume that the minimum instream flow in the Trinity River is 340,000 acre-feet for the No-Action Alternative. This reflects the ongoing policy and the current Secretary's Decision. In addition, the current minimum instream flow pattern of 340,000 acre-feet per year could not be modified without further environmental documentation. This recommendation is consistent with the No-Action Alternative that will be used for the Trinity River Restoration Program EIS.

**TRINITY RIVER FLOWS (continued)**

The No-Action Alternative does not include an additional amount of water to address the 50,000 acre-feet for in-basin uses. At this time, it is unclear if this demand is included in the 340,000 acre-feet of water (which is larger than the original minimum release of 120,500 acre-feet), and no specific needs or release patterns have been identified for water demands for irrigable lands or wood products industries.

**COORDINATED OPERATIONS AGREEMENT****Background**

The CVP and SWP reservoir releases and Delta exports are coordinated in accordance with the Coordinated Operations Agreement which became effective in 1986. The agreement defines the rights and responsibilities of the CVP and SWP to meet inbasin uses in the Sacramento Basin. The uses include compliance with Delta standards presented in the State Water Resource Control Board Decision 1485 (D-1485). The agreement defines balanced water conditions as when reservoir releases plus unregulated flows approximately equal water supply needs in the Sacramento Basin plus Delta export needs. The water balance is based on several defined terms based on daily mean flows, including the following items.

- United States Storage Withdrawal (sum of Whiskeytown withdrawals, Shasta storage withdrawals, and Folsom storage withdrawals).
- Whiskeytown Withdrawal (sum of diversions from Whiskeytown Lake to Spring Creek Powerplant, Whiskeytown releases Clear Creek, and deliveries from Whiskeytown; minus inflow to Whiskeytown Lake without flow through Carr Powerplant).
- Shasta Storage Withdrawal (sum of Keswick Dam releases to the Sacramento River and the deliveries from Shasta and Keswick Lakes, minus the sum of inflow to Shasta Lake and the discharge from the Spring Creek Powerplant).
- Folsom Storage Withdrawal (sum of Nimbus Dam releases to the American River, Nimbus Dam diversions to Folsom South Canal, and deliveries from Nimbus and Folsom Lakes; minus inflow into Folsom Lake).
- State Storage Withdrawal (equals Oroville Complex storage withdrawal unless State Department of Water Resources declares that the sum of the Oroville Complex storage withdrawal should be added to Upper Feather River storage withdrawal).
- Oroville Complex Storage Withdrawal (sum of diversions from Palermo Canal, Thermalito Diversion Dam to Feather River and to the hatchery, Diversion Structures for Butte County and for Thermalito Irrigation District, Richvale Canal, Western Canal, Pacific Gas & Electric Company Lateral, Sutter Butte Canal, and Thermalito Afterbay Outlet to the Feather River; minus the sum of inflow to Lake Oroville and discharge from Kelly Ridge Powerplant).
- Upper Feather River Storage Withdrawal (sum of releases from Lake Davis and Antelope Reservoir minus the sum of inflow to Lake Davis and Antelope Reservoir).
- United States Stored Water (sum of water stored in Shasta and Folsom lakes).
- State Stored Water (sum of water stored in Lake Oroville, and when declared, in the Upper Feather River reservoirs).

**COORDINATED OPERATIONS AGREEMENT (continued)**

When water is needed to supplement unregulated reservoir releases to meet inbasin needs, 75 percent of the water must be provided by the CVP and 25 percent must be provided by the SWP. These percentages were developed using reservoir/streamflow hydrologic studies to simulate CVP operations with and without the SWP while preserving the yield of the CVP. When unstored water is available for export, the sum of the stored CVP water, stored SWP water, and unstored water for export is allocated 55 percent for the CVP Delta export and 45 percent for the SWP Delta export. Daily accounting is maintained to preserve the sharing formula.

The agreement also addresses power and operation costs of shared facilities. The law adopted by Congress to implement the Coordinated Operations Agreement also contained provisions for water released for salinity control, water quality protections for the Delta and Contra Costa Water District intakes, refuge water supplies, rate adjustments to provide adequate funds for the CVP and to evaluate ability to pay, and methods to collect deficits for the operation and maintenance funds. The law also included the Suisun Marsh Preservation Agreement and modifications to the Small Reclamation Projects Act and the Federal Power Act.

Due to the implementation of the long-term biological opinions for operations of the CVP and SWP related to protection of winter-run chinook salmon and delta smelt, the sharing formulas cannot be readily used to allocate Delta export flows. Because of this discrepancy, the CVP and SWP are re-evaluating the agreements. However, these efforts have not been completed and the CVP and SWP are using the Coordinated Operations Agreement to the best extent possible.

**Recommendation**

The No-Action Alternative assumes operations under the Coordinated Operations Agreement by developing assumptions for the sharing agreement which are not specified in the existing Coordinated Operations Agreement.

## **BAY-DELTA WATER QUALITY STANDARDS**

### **Background**

The Sacramento-San Joaquin Delta water flow is affected by releases from storage on the major rivers, diversions by upstream diverters, diversions by Delta diverters, and export diversions by the CVP and SWP. Changes in flow patterns, diversions, and quantity can drastically effect salinity patterns and aquatic habitat conditions.

Protection for salinity control and aquatic habitat conditions was first addressed by the State of California in the late 1870s. Since that time, the State of California has issued water rights permits for the Delta that address salinity control measures and/or the right to revise water rights permits to control salinity and coordinate diversions with other diversions. A recent chronology is presented below.

**1978** The SWRCB adopted Decision 1485 (D-1485) to ensure protection of the Delta and coordinate operations of the two largest exporters, the CVP and the SWP. The SWRCB concurrently issued a Delta Water Quality Control Plan (Delta Plan) and an Environmental Impact Report on the Delta Plan. The basis for the Delta Plan and D-1485 was that the water quality was to be maintained at least to the level that would have existed if the CVP and SWP were not implemented. The D-1485 included flow and export standards through the water rights permits to maintain water quality standards.

The decision was overturned by the court, but subsequently the Court of Appeals agreed that D-1485 should remain in effect until the SWRCB Bay-Delta Hearings were completed. The Racanelli Decision issued by the appellate court broadly interpreted the SWRCB authority and advised the SWRCB to consider the effects of all Delta and upstream users in establishing water quality standards, not just the CVP and SWP.

**1987** The SWRCB initiated the Bay-Delta Hearings to update D-1485. The results of the hearings were used in the development of Decision 1630 (D-1630).

**1991** SWRCB adopted a Water Quality Control Plan pursuant to Clean Water Act.

EPA notified the SWRCB in September 1991 that the Water Quality Control Plan was not appropriate.

**1992** Governor of California requested that the SWRCB develop an interim Bay-Delta protection standards in April 1992.

PL 102-575 was adopted in September 1992.

Draft interim standards (Proposed Decision 1630 standards) were released for public review in December 1992. The Decision 1630 (D-1630) standards provided more stringent requirements for eliminating reverse flows in the western Delta; providing spring and fall pulse flows; restricting export pumping during spring months based on

**BAY-DELTA WATER QUALITY STANDARDS (continued)**

water year type; requiring more detailed management of the Delta Cross Channel to protect salmon, urban water conservation, and reduction in drainage problems; modifying deliveries of CVP and SWP to improve reliability, and establishing a mitigation and monitoring program. The D-1630 included both flow and water quality standards. The D-1630 standards were applied to other Delta and upstream diverters, not just the CVP and SWP.

The National Marine Fisheries Service issued a draft biological opinion for operations of the CVP and SWP to protect winter-run chinook salmon in December 1992.

**1993** EPA recommended changes to draft Decision 1630 in January 1993.

The National Marine Fisheries Service issued a biological opinion in February 1993 for operations of the CVP and SWP with respect to protection for winter-run chinook salmon. This biological opinion was more restrictive in several months than the proposed D-1630 standards.

The U.S. Fish and Wildlife Service listed delta smelt as a threatened species in March 1993, and NMFS issued an interim biological opinion for operations of the CVP and SWP to protect delta smelt.

The State of California withdrew the proposed D-1630 and focused efforts on developing a long-term standard in April 1993.

Audubon, et al, sued EPA in April 1993 for not promulgating water quality standards for the Bay-Delta.

The U.S. Fish and Wildlife Service issued a draft delta smelt Biological Opinion for one year in May 1993.

Audubon and EPA agreed in September 1993 that EPA would issue water quality standards by December 15, 1993 for the Bay-Delta.

**1993** The U.S. Environmental Protection Agency (EPA) issued draft water quality standards for the Delta in December 1993 in accordance with the Clean Water Act requirements. Due to federal-state jurisdictional limitations, the EPA could not issue flow standards associated with the water quality standards. Therefore, the SWRCB would initiate hearings to develop water rights permits to implement the standards after the standards were adopted.

The U.S. Fish and Wildlife Service issued a draft biological opinion for delta smelt for one-year in December 1993.

**BAY-DELTA WATER QUALITY STANDARDS (continued)**

**1994** Subsequent to the release of the 1993 draft water quality standards, the State of California, EPA, Reclamation, and the Service agreed to work with local agencies and interest groups to develop water quality standards for the Delta that would incorporate the interests and concerns of all affected parties.

In December 1994, the Bay-Delta Plan Accord was signed. The Bay-Delta Plan Accord established a set of water quality goals for the Delta and tributary watersheds. The Bay-Delta Plan Accord included an interim agreement that provided for the CVP and SWP to meet the water quality goals until a final solution was developed that could involve participation by other upstream water users. The Bay-Delta Plan Accord indicated that the time frame to develop the final plan would be about 3 years.

The U.S. Fish and Wildlife Service issued a final biological opinion for delta smelt in 1994.

**1995** The Cal-Fed Process was established to develop a solution provided for under the Bay-Delta Plan Accord. This process includes Federal, State, and local agencies and interest groups in a coordinated manner. The recommendations of the Cal-Fed Process are scheduled to be presented in 1997.

Concurrently, the SWRCB implemented a water rights/water quality hearings process to develop the Water Quality Management Plan for the Delta. The recommendations in this process will reflect the findings of the Cal-Fed Process.

Until a new water quality management program is developed, the CVP and SWP will continue to operate under the Bay-Delta Plan Accord provisions, as identified in Order WR 95-06. This decision by the SWRCB in May 1995 includes provisions to meet the requirements of the biological opinions for winter-run chinook salmon and delta smelt. Based upon these requirements, the Service and National Marine Fisheries Service found that the operations under Order WR 95-06 would not cause additional jeopardy to the winter-run chinook salmon and delta smelt.

**Recommendation**

The No-Action Alternative assumes an implementation plan based on the Bay-Delta Plan Accord and Order WR 95-06 because the process to develop the new Delta water quality standards was being implemented when CVPIA was passed. Several implementation methods were evaluated during the development of the PEIS, however, the provisions under the Bay-Delta Plan Accord and Order WR 95-06 were evaluated in environmental assessments prepared by the SWRCB. Any changes to those provisions would be further evaluated in subsequent environmental documentation. Therefore, the most certain action that has undergone environmental review is the inclusion of the Bay-Delta Plan Accord and Order WR 95-06 provisions in the No-Action Alternative. These provisions are discussed below.

**BIOLOGICAL OPINIONS ON SPECIAL STATUS SPECIES****Background**

Biological opinions have been issued by National Marine Fishery Service (NMFS) and the U.S. Fish and Wildlife Service (Service) for the protection of special status fish and wildlife species that live in California. The NMFS issued a biological opinion concerning winter-run chinook salmon related to long-term operations of the CVP and SWP. The Service issued interim biological opinions concerning delta smelt with discussions concerning Sacramento splittail.

The biological opinions contain reasonable and prudent alternatives which may be implemented to avoid jeopardy of the listed species. The issues discussed in the biological opinions are summarized below.

**1993 Biological Opinion for Winter-Run Chinook Salmon**

- Forecasting approach for precipitation and runoff
- Minimum carry-over storage in Shasta Reservoir
- Minimum flows from Keswick Dam into the Sacramento River
- Flow reduction ramping criteria for releases from Keswick Dam
- Maximum daily water temperatures for the Sacramento River at Bend Bridge and Jelly's Ferry
- Operation of the Red Bluff Diversion Dam
- Operation of the Delta Cross Channel gates and development of a monitoring program
- Reverse flow criteria in the western Delta
- Development of a monitoring program with Contra Costa Water District to monitor entrainment loss of winter-run chinook salmon at Rock Slough
- Development of a monitoring program for incidental take associated with operation of CVP and SWP Delta export pumping plants, and methods to reduce take values
- Continuation of programs to provide temperature control devices at Shasta Dam and Whiskeytown Dam
- Use of flows from Trinity River to control temperatures in Sacramento River
- Sampling and analytical methods for estimating winter-run chinook salmon salvage numbers at CVP and SWP Delta export pumping plants
- Development of a Upper Sacramento River daily temperature model
- Operation of Spring Creek Debris Dam and Shasta Dam to minimize chronic exposure of winter-run chinook salmon to toxic metal concentrations
- Methods to prevent entrapment of winter-run chinook salmon in stilling basin of Keswick Dam
- Methods to minimize air entrainment at fish bypass system at Tehama-Colusa Fish Facilities
- Methods to prevent entrapment of winter-run chinook salmon in Red Bluff Diversion Dam intakes
- Methods to prevent stranding of winter-run chinook salmon in Lake Red Bluff
- Staffing of CVP and SWP Delta export fish facilities
- Development of a demonstration project for barrier screens in the Sacramento River and the Delta
- Monitoring and reporting requirements

**BIOLOGICAL OPINIONS ON ENDANGERED SPECIES (continued)**

This biological opinion was issued in February 1993 and contained many of the provisions of 1991 SWRCB Water Rights Order concerning temperature control on the Sacramento River. A draft version was issued in December 1992. Prior to the draft version of this biological opinion, Reclamation had been working with NMFS to develop an operating scenario that would provide adequate protection. Reclamation had begun to operate preliminary provisions of the 1993 biological opinion in October 1992.

The Bay-Delta Plan Accord and Order 95-06 recognized and incorporated many of the requirements of the biological opinion. Therefore, NMFS found that no additional requirements were needed following development of the 1996 CVP operations plan.

**1993 and 1994 Draft Biological Opinions for Delta Smelt**

- Ratios of Sacramento and San Joaquin river flows
- Minimum Delta outflows
- Water quality requirements for salinity in the Delta
- Minimum flows in the San Joaquin River as measured at Vernalis
- Development of the Suisun Marsh Salinity Control Structure and operation of the existing Montezuma Slough gates for delta smelt and Sacramento splittail
- Transport flows for Sacramento splittail from confluence of Sacramento and Feather rivers
- Screening of CVP and SWP diversions on the Sacramento River downstream of the Feather River confluence
- Methods to improve salvage at the CVP and SWP Delta export fish facilities
- Reduction of incidental take values and CVP and SWP Delta export fish facilities, North Bay Aqueduct intake, Roaring River Diversion at Montezuma Slough, and Rock Slough
- Release sites for salvaged fish
- Screening of the Rock Slough diversion
- Approach velocities at Roaring River Diversion
- Monitoring and reporting procedures
- Management of areas used for spawning habitat
- Development of an ecosystem-centered analysis for the Bay-Delta operations

The Bay-Delta Plan Accord recognized and incorporated many of the requirements of the biological opinion. Therefore, the Service found that no additional requirements were needed following development of the 1996 CVP operations plan.

**Recommendation**

The No-Action Alternative includes the winter-run chinook salmon and delta smelt biological opinions which are consistent with the CVP operations under the Bay-Delta Plan Accord and Order 95-06. The CVP was being operated in October 1992 in accordance with provisions that would become part of the 1993 winter-run chinook salmon biological opinion. The delta smelt biological opinion was being developed as of October 1992. It is assumed that the listed species will not fully recover within the study period.

**BIOLOGICAL OPINIONS ON ENDANGERED SPECIES (continued)**

It is recognized that other biological opinions have been issued for species in the Central Valley. However, the provisions under the PEIS alternatives would not affect the conditions for these other special status species.

## **STATE WATER QUALITY OBJECTIVES**

### **Background**

The SWRCB adopted water quality control plans for inland surface waters and bays and estuaries in 1991. The water quality control plans included water quality objectives for toxic substances in accordance with the Clean Water Act. The toxic substances addressed in these plans include metals and priority pollutants that could be anticipated to adversely impact beneficial uses. The following constituents are considered in the water quality objectives.

- Metals (arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, and zinc)
- Organics (chlordane, DDT, dieldrin, endosulfan, endrin, halomethanes, heptachlor, polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), pentachlorophenol, toxaphene, and tributyltin)
- Temperature as defined in State Water Resources Control Board decisions.

The water quality objectives were developed to protect the most sensitive beneficial uses. The beneficial uses to be protected included both habitat for aquatic species and human health effects for potable and non-potable water uses.

For the No-Action Alternative, these water quality objectives primarily affect discharge of drainage water and wastewater treatment plant effluent. If the discharges are not in compliance with the water quality objectives, the dischargers could be issued a Cease and Desist Notice from the appropriate Regional Water Quality Control Boards. If additional waters are provided to dischargers in the future that could result in increased discharges, the impact of the additional discharges are considered in relationship to the water quality objectives.

In 1993, the water quality objectives were challenged and were suspended. The SWRCB will need to implement some type of water quality objectives, or EPA will intervene with separate water quality objectives under the Clean Water Act. This process is ongoing and is difficult to predict for several reasons. First, Congress is considering different methods to assess water quality and develop best management practices under the process for reauthorization of the Clean Water Act. This process may be completed in 1997. Second, effluent dischargers in California are developing specific projects and pollutant minimizing methods that are addressing watershed specific issues. The results of these projects may be considered by the SWRCB in developing the final revisions to the water quality criteria.

### **Recommendation**

At this time, the only water quality objectives that are available to be considered for the No-Action Alternative are the objectives published in 1991. The final objectives will probably be similar in nature. Therefore, for the purposes of the No-Action Alternative, the 1991 water quality objectives for inland surface waters and bays and estuaries are included. Additional

**STATE WATER QUALITY OBJECTIVES (continued)**

requirements for agricultural drainage discharges and sedimentation/siltation as adopted by the Central Valley Regional Water Quality Control Board also are considered.

However, due to the uncertain nature of the water quality control plans, it is assumed that discharges that are not in compliance with the proposed water quality objectives would not be modified. This assumption affects water quality assumptions for agricultural drainage and discharges and heavy metal discharges from municipal and industrial wastewater treatment plants. The No-Action Alternative does assume that all existing NPDES and Waste Discharge permits for municipal and industrial dischargers would remain in place and compliance would be mandatory.

## **WATER CONTRACT RENEWALS**

### **Background**

The CVP provides water with individual water users and districts throughout the CVP service area. Some of the individual water users and districts may hold water rights on the rivers regulated by CVP facilities and only receive a supplemental CVP water supply. The purpose of the contracts is to stipulate provisions under which a water supply is provided, and to produce revenues from the sale of CVP water sufficient to repay the appropriate share of capital costs and operation and maintenance costs.

Three types of water service contracts are used by the CVP: long-term contracts for more than 10 years; short-term contracts for more than 5 years but less than 10 years; and temporary contracts for less than 5 years. The Reclamation Act of 1956 provided for contract renewals of long-term contracts to agricultural users. The Reclamation Act of 1963 provided for contract renewals for long-term contracts to municipal and industrial users.

The CVP water service contracts typically contain a definition of the type of water delivered, maximum quantity of CVP water that can be made available pursuant to the contract, water shortage provisions, acreage limitations, water conservation, water and air pollution controls, and ratesetting provisions (as discussed in the following sections of this appendix). The types of water delivered include irrigation and municipal/industrial water. The CVP contracts stipulate that Reclamation is obligated to provide water subject to the availability of water and based on the assumption that Reclamation will use all reasonable means to protect the CVP from shortages. If the total water supply is reduced by drought or unavoidable causes, Reclamation may reduce the contractual water supplies in accordance with the deficiencies specified in the contract.

Because the CVP operates under a water right provided by the SWRCB and state water law, the CVP must comply with the terms and conditions established by the SWRCB. One of the requirements of the water right, expressed in the California Water Code, is to ensure that the water is being used in a beneficial use manner and in a reasonable manner. In addition, the Reclamation Act of 1956 also requires an analysis of beneficial use for water used on irrigable lands within the boundaries of the contractor. To determine this, the CVP water service contract renewal process includes a needs analysis. The needs analysis includes an evaluation of the proposed unit water demand to determine if the appropriate conservation measures were implemented and if all other water supplies, including groundwater and other surface water supplies, were used to the maximum extent possible prior to using CVP water. It should be noted that term "contract amount" is defined as equal to the amount of the CVP water service contract. The term "contract amount" does not include the amount non-Federal water rights water that are delivered by CVP to water rights settlement contracts.

Another part of the contract renewal process involves the determination if under the renewed contract, CVP water would be used on lands currently not irrigated with CVP water. If this would occur, a biological assessment would need to be completed to determine if the Federal

**WATER CONTRACT RENEWALS (continued)**

action of providing CVP water to the lands not previously served by CVP would result in jeopardy for special status species.

**Recommendation**

Based on the provisions of the Reclamation Acts of 1956 and 1963, the No-Action Alternative assumes that renewable long-term contracts would have been renewed if PL 102-575 had not been adopted. The No-Action Alternative assumes contract renewals at a division or unit level. The assumed contract amounts are considered in the PEIS at the programmatic level. Specific contract amounts will be determined during site-specific contract renewal programs. During future site-specific environmental documents for contract renewals, beneficial uses and needs analyses will be conducted. The needs analyses will consider appropriate applied water rates and cropping patterns for farms using CVP water.

Historically, the full amount of water provided in several contracts has not been delivered because the conveyance facilities (including canals and intake pumps) are not constructed or do not have adequate capacity. Because these conveyance facilities would require environmental documentation and permits from regulatory agencies, the final design criteria may not provide for delivery of the full contract amounts if the construction or operation of the conveyance facilities could cause significant and non-mitigable impacts. Therefore, the contract amounts were assumed to be renewed, but the maximum amount that could be delivered was assumed in the PEIS to be limited to the capacity of existing facilities.

The PEIS also recognizes the need to complete a needs analysis and any biological assessments prior to contract renewals. These analyses would have been difficult to complete within the timeframe of the PEIS. Therefore, for the purposes of the PEIS, beneficial uses and an estimate of water that would be used on lands previously irrigated with CVP water was completed based upon historical water deliveries (1980 through 1993) to determine if the full contract amounts had been delivered when the water was available due to hydrologic conditions. In most cases, the full contract amounts were delivered in at least one year during the 12-year historic period in which consistent records were readily available. However, some contractors had not fully used their full contract amounts due to implementation of water conservation, long-term changes in crop patterns, or limitations of conveyance facilities. Full contract amounts were recognized for contractors that had not used the full contract amount in the past 12 years, but had completed adequate environmental documentation to allow the public to review any potential impacts to special status species, impacts due to conveyance facility expansions, and appropriate water use projections. Most of the municipal contractors which had not used their full contract amounts had environmental documentation completed as part of previous general plans and/or master plans. The environmental documents included assessments and mitigation measures to reduce potential impacts to a level of less than significance.

Therefore, the full contract amounts of those contractors were included in the No-Action Alternative and the other alternatives. Most agricultural contractors did not have this level of

**WATER CONTRACT RENEWALS (continued)**

environmental documentation, and therefore, the full contract amounts of those contractors were not included in the No-Action Alternative.

It should be noted that Reclamation intends to deliver the full CVP water contract amount consistent with hydrologic conditions and regulatory/environmental requirements. Municipal and industrial water service contract demands in the PEIS are based upon projected needs as established by adopted planning documents and environmental requirements and permits, but limited by contract amounts. Agricultural water service contract demands in the PEIS are based upon demonstrated needs as defined by maximum historical use from 1980 to 1993, but limited by contract amounts. The specific allocations under a CVP water service contract in the PEIS would not inhibit in any way the contractors ability to develop projects to take delivery of full contract amounts. All decisions concerning specific CVP contract renewal amounts will not be based upon the findings of the PEIS, but rather upon project-specific contract renewal environmental documentation. In those documents, all contractors will be considered equally with their appropriate type of contract.

The PEIS analysis also assumes the normal operations of the Central Valley water resources facilities over the historic hydrological period of 1922 through 1991. Emergency operations of individual facilities, such as might occur after a major contaminant spill in the Delta or a levee failure, were not considered in the PEIS. For example, temporary increases in diversions that may occur during an emergency situation were not included in the PEIS analysis.

It is assumed that short-term, temporary, and interim contracts will not be renewed under the No-Action Alternative.

**POWER PRODUCTION****Background**

Hydropower, as provided in the Rivers and Harbors Act of 1937, is another CVP authorized project function. Hydropower generation, power expenses, and power loads are directly related to CVP water storage, releases, and use. Therefore, changes in CVP operations will directly impact power generation, purchased power and other costs, CVP project use loads, and customer loads.

The CVP powerplants have a maximum capacity of approximately 2 million kilowatts and have generated an average of 5 billion kilowatt hours per year. On a daily and annual basis, CVP water and power facilities are operated conjunctively to maximize project benefits. Daily generation is scheduled in coordination with Pacific Gas & Electric Company (PG&E) to meet peak loads. Pumping is schedule for offpeak hours as much as possible. Seasonal reservoir operations are planned as much as possible to efficiently use generation facilities and to meet contractual requirements with PG&E.

In 1967, Reclamation contracted with PG&E for sale, interchange, and transmission of electric capacity and energy. Administered by Western, the contract created a banking arrangement under which excess CVP energy and capacity are sold to PG&E in return for PG&E power deliveries to CVP power customers. PG&E supplies baseload energy and capacity to CVP power customers and CVP hydropower is used during peak load periods for PG&E. This contract expires in 2004, and will probably not be renewed due to the de-regulation of power generation in California.

Since 1977, the Western Area Power Administration (Western) has had the responsibility for marketing CVP power and energy. Western dispatches power and energy and maintains a portion of the CVP transmission facilities. Revenues to Western are based on commercial power sales, CVP project use, transmission service, meter rentals, curtailable energy sales, and sales to PG&E. The CVP commercial power rates are based on expenses such as operation and maintenance costs, purchased power costs, transmission service costs, and interest on debt service. CVP expenses also include deficit payments, debt service payments, replacements, and possibly payments to offset ability-to-pay deficits.

The CVP power is applied first to meeting CVP loads and second to meet Western commercial customer contracts. Excess power may be sold commercially, primarily to PG&E. The CVP power load is about 30 percent of the total energy generated by CVP facilities.

**Recommendation**

The agreements between Western and PG&E will change within the study period. However, it is relatively assured that all power generated by the CVP could continued to be used. Therefore, the No-Action Alternative assumes that current power generation criteria will continue.

**WATER CONTRACT RATESETTING****Background**

Ratesetting policies have been established to recover the Federal investment, including operation and maintenance costs that are applicable to the CVP water users. The costs associated with the water users are determined by cost allocation policies established by Congress. The costs are allocated to non-reimbursable components, such as flood control and navigation; and reimbursable components, including irrigation, municipal and industrial, and power users. The non-reimbursable costs are funded by the Federal Government. The reimbursable costs are funded by the water and power users.

The current repayment period has been established as 50 years. Repayment periods for all divisions except for the San Felipe Division are scheduled to terminate in 2030. The repayment period for the San Felipe Division is scheduled to terminate in 2036. The rates are based on a cost-of-service basis with capital costs amortized over a 50-year period. Water rates are based on the "pooled and average costs" established by Congress and reaffirmed with each reauthorization of the CVP. The water rates may include up to seven components, including water marketing, storage, conveyance, conveyance pumping, San Luis Drain, direct pumping, and adjustment for historic individual contractor repayment or deficit balances. The municipal and industrial users do not include costs for the San Luis Drain but do include interest costs. Ratesetting policies were established for irrigation users in 1988 and for municipal and industrial users in 1984. These policies reflect changes established by the Reclamation Reform Act of 1982.

**Recommendation**

The No-Action Alternative uses the ratesetting policies in place as of October 30, 1992.

## **WATER CONSERVATION**

### **Background**

In 1989, Reclamation issued new water conservation criteria for all water contractors in accordance with the requirement of the Reclamation Reform Act of 1982. The new criteria required new water conservation plans for all contractors by 1995. In March 1991, the Reclamation Mid-Pacific Region issued more specific guidelines for water conservation plans. These guidelines required contractors to identify total water use and conveyance efficiencies, drainage methods, information about groundwater levels and wells, groundwater recharge capabilities, water balance in the user's service area, water conservation opportunities, and an economic analysis for implementation of appropriate water conservation methods.

In addition to Reclamation requirements, the State of California also requires all users to implement water conservation programs that include Efficient Water Management Practices.

In August 1993, the Reclamation Mid-Pacific Region issued a guidebook for preparing water conservation plans in accordance with the requirements of PL 102-575. These requirements were more stringent than the 1991 guidelines. The new guidelines also discussed provisions in the water conservation plans for water shortage allocation policies, water quality monitoring, and methods for evaluation of water conservation best management practices.

### **Recommendation**

The No-Action Alternative includes water conservation guidelines issued by the Reclamation Mid-Pacific Region in 1991. Information submitted by users to Reclamation and DWR was considered in the development of assumptions concerning the amount of water that could be conserved within the next 30 years.

## **ACREAGE LIMITATIONS**

### **Background**

The Reclamation Reform Act of 1982 (RRA) enacted on October 12, 1982, modernized of Reclamation Law by providing viable farm opportunities on land receiving Reclamation water; widely distributing the benefits of the Reclamation program; expanding the acreage eligible to receive Reclamation water; precluding the accrual of speculative gain in the disposition of excess lands not eligible for Reclamation water; requiring reimbursement to the Federal Government of full cost of irrigation water to landholdings that exceed specified limits; and encouraging water conservation. Whenever contractors entered into new contracts or amended old contracts with Reclamation, they automatically became subject to the new ownership and pricing provisions of the law.

In December 1983, the U.S. Department of the Interior published final regulations for administering the RRA. In 1987, the regulations were amended primarily to implement section 203(b) of the law which was not addressed in the 1983 regulations. Revisions also were made to other specific provisions of the regulations. Additional revisions to the regulations were made in 1988, 1991, and 1995. The regulations describe Prior Law and new law recipients, however only new law recipients will receive Reclamation water after water contracts were renewed. Because all contracts will be renewed within the study period for this PEIS, only new law recipient water contracts are discussed in this appendix. The regulations describe a "qualified recipient" as an individual or legal entity that benefits not more than 25 natural persons, and a "limited recipient" as a legal entity that benefits more than 25 natural persons. The RRA does not limit the amount of land that is owned by either recipients, but does limit the amount of land that can be owned by the recipients and irrigated with Reclamation water. The maximum amount of land that can be owned and irrigated with Reclamation water is 960 acres for a qualified recipient and 640 for a limited recipient.

There also is no limit on the amount of land that can be leased by these recipients, however the recipients must pay a full cost rate for water to landholdings (owned and leased) that are irrigated with Reclamation water. The term "full cost" is defined as the annual rate as determined by the Secretary of the Interior that shall amortize the expenditures for construction that are properly allocable to irrigation facilities in service, including all operation and maintenance costs and deficits funded by the Federal Government, less payments over the repayment period with interest accruing from October 1982 on costs outstanding at that date or from the date incurred after October 1982. The maximum acreage that can be irrigated with non-full cost water is 960 acres for qualified recipients and 320 acres for limited recipients with the second 320 acres at full cost. If the limited recipient did not receive Reclamation water before October 1981, then all Reclamation water is delivered at full cost. The acreage limitations are calculated throughout the entire 17 western states Reclamation service area.

In March 1992, the U.S. District Court for the Eastern District of California ruled that promulgation of the 1987 and 1988 regulations "constituted a major Federal action significantly affecting the quality of the human environment," and therefore an EIS was required. The Court ordered Reclamation to "prepare and issue, in full compliance with all applicable laws, interim

**ACREAGE LIMITATIONS (continued)**

rules implementing the intent and provisions of the RRA within the Central Valley Project, of California, and a separate Environmental Impact Statement in conjunction with that interim rulemaking" by June 1993. Those documents were submitted to the Court. The Court subsequently required Reclamation to issue new regulations and an associated EIS for the 17 western states Reclamation service area. The Final EIS has been completed. Recommendations of this process will be presented in the Record of Decision which is under preparation.

New rules and regulations were published on December 18, 1996. The new rules and regulations were written and organized to be clear and easy to administer. With one exception, the rules and regulations become effective on January 1, 1998. The exception changed the certification and reporting thresholds and became effective on January 1, 1997. As a result of the change, the certification threshold for landholders in discretionary districts was raised from 40 acres to 240 acres. All other changes were minor in nature and incorporated existing policies.

**Recommendation**

The No-Action Alternative recognizes that the final regulations implementing the RRA would have been modified without the passage of PL 102-575. The No-Action Alternative for the PEIS assumes implementation of the December 18, 1996 rules and regulations that will be in effect on January 1, 1998.

**REFUGE WATER SUPPLY****Background**

The wetlands of the Central Valley provide critical habitat for migratory birds and resident wildlife, including many threatened and endangered animal and plant species. The Central Valley lies at the southerly end of the Pacific Flyway, a major migratory waterfowl route extending over Canada, the United States, and Mexico. Management of the Flyway is governed by international treaties between the US, Canada, and Mexico. Reclamation is the lead agency in a cooperative effort among federal, state, and local agencies in planning for the development of dependable water supplies for the Central Valley refuges.

The wildlife refuges considered in the CVPIA and the PEIS are the refuges evaluated in the 1989 and 1992 Refuge Water Supply Studies, and in the San Joaquin Basin Action Plan. The following refuges were considered in that study.

**Sacramento Valley**

- Sacramento National Wildlife Refuge
- Delevan National Wildlife Refuge
- Colusa National Wildlife Refuge
- Sutter National Wildlife Refuge
- Gray Lodge Wildlife Management Area

**San Joaquin Valley**

- Grassland Resource Conservation District
- Volta Wildlife Management Area
- Los Banos Wildlife Management Area
- Kesterson National Wildlife Refuge
- San Luis National Wildlife Refuge
- Merced National Wildlife Refuge
- Mendota Wildlife Management Area
- San Joaquin Basin Action Plan Lands

**Tulare Lake Basin**

- Pixley National Wildlife Refuge
- Kern National Wildlife Refuge

In 1989, Reclamation evaluated existing and ultimate water supply requirements for these refuges, and established a four-level classification system. Level 1 represents firm water supply contracts, water rights, and reliable wells. Level 2 represents average historic deliveries between 1974 and 1983, many of which relied upon return flows. These flows have diminished recently due to the implementation of water conservation. Level 3 represents the water required for full use of the

**REFUGE WATER SUPPLY (continued)**

lands within the refuge boundaries that were developed in 1984. Level 4 reflects water requirements for optimum refuge management of lands within the refuge boundaries.

Level 1 water supplies also have been restricted to several of the San Joaquin Valley refuges in the San Luis Complex due to presence of contamination in conveyance canals. This limitation primarily affects the Grasslands Resource Conservation District.

**Recommendation**

The No-Action Alternative assumes that the refuges would continue to seek sources of water and obtain Level 2 water quantities, as limited due to conveyance limitations and conservation-induced reductions in return flows. Due to the impacts of these restrictions, the quantities of Level 2 water supply for No-Action Alternative are less than Level 2 historic deliveries.