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# Initial Study and Negative Declaration

# Acquisition of Water from Metropolitan Water District of Southern California (Stored in the Semitropic Groundwater Banking Program) for the Environmental Water Account

(This document is tiered from the CALFED Programmatic EIS/EIR, certified/Record of Decision issued August 2000, pursuant to CEQA Guidelines Section 15152.)

**State of California**
**The Resources Agency**
**DEPARTMENT OF WATER RESOURCES**

**December 22, 2000**

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

# PROPOSED NEGATIVE DECLARATION

## Acquisition of Water from Metropolitan Water District of Southern California (Stored in the Semitropic Groundwater Banking Program) for the Environmental Water Account

**Project Description:** Lead State Agency, California Department of Water Resources (Department) would purchase up to 31,500 acre-feet of Metropolitan Water District of Southern California (MWDSC) State Water Project (SWP) entitlement water stored in the Semitropic Groundwater Banking Program for use by the Environmental Water Account during 2001. This acquisition will be used for the first year EWA program. The EWA (managed by the regulatory agencies USFWS, NMFS and DFG) would use the water for the purpose of fish protection. The agreement includes an option of up to 31,500 acre-feet of recovery capacity during 2001, available only if the SWP allocation is greater than 70 percent. There would also be an option for the Department to recover the purchased water for EWA during 2002-04 at times mutually agreeable to the Department and MWDSC.

A. Water Purchase

MWDSC offers the Department an option to purchase up to 31,500 acre-feet of MWDSC's share of water in the Semitropic Groundwater Bank. Through entitlement exchange, this purchase will make available water in San Luis Reservoir for EWA. This purchase is on a one time only basis, during 2001. MWDSC is responsible for replacement of the water in the Semitropic Groundwater Bank with revenue from this project. This water would be recovered as described in (B) below.

B. Recovery Capacity

MWDSC offers up to 31,500 acre-feet of recovery capacity[1] when SWP allocations are 70 percent or greater during 2001 only. Recovery could also occur in 2002-2004, but only after MWDSC water requirements from the Semitropic Project have been met. MWDSC shall notify Semitropic of its intent to take delivery of the banked water as early in the year as possible, but no later than May 1 of the same year. If such notification is provided after May 1, Semitropic, at its sole discretion, may make reasonable efforts to comply with

[1] Recovery capacity: Recovery capacity refers to the ability for the Department to retrieve the purchased water from the Semitropic Groundwater Bank.

MWDSC's request. In the event of an emergency need for water by MWDSC, Semitropic shall endeavor to return banked water to MWDSC to the maximum extent feasible.

The Department can obtain the water from the Groundwater Bank either through pumping and then transfer into the California Aqueduct or through exchange of SWP entitlement water. In the case of exchange, Semitropic would forego an equivalent amount of SWP water deliveries and make use of groundwater for their local needs. The water in the Aqueduct (made available by recovery or entitlement exchange) would be delivered to Southern California in exchange for an equivalent amount of EWA water that would remain in San Luis Reservoir.

**The Finding:** The project will not have a significant negative impact on the environment.

**Basis for Finding:** This purchase and recovery of up to 31,500 acre-feet from the Semitropic Groundwater Bank is well within the capacity of Semitropic's normal operations of the Groundwater Bank and will not have a significant effect on the environment. Environmental effects from the construction and operation of the Semitropic Groundwater Bank were addressed in Semitropic's EIR adopted by the Semitropic Board in 1994. The only operations related environmental impact stated in the EIR was potential groundwater quality impacts that are mitigated with monitoring and corresponding adjustments of groundwater extraction. The planned purchase of 31,500 acre-feet is a small proportion of MWDSC's 350,000 acre-feet storage capacity in the Groundwater Bank. Currently, MWDSC has over 350,000 acre-feet stored in the Bank. Since this project would take place in 2001, MWDSC has adequate water stored in the Groundwater Bank for this purchase and extraction. Semitropic can extract 31,500 acre-feet of MWDSC's stored water in all years without any adverse environmental effects.

Therefore, this Negative Declaration is filed pursuant to Section 15070 et seq. of the Guidelines for Implementation of the California Environmental Quality Act.

The public review period for this proposed Negative Declaration and Initial Study will end January 22, 2000. All comments or questions should be directed to DWR Delores Brown, 3251 "S" Street, Sacramento, CA 95816-7017 (916/227-2407 and fax 916/227-7554). Copies of the Initial Study are available at the above address. The administrative record on which the Initial Study is based (including the Semitropic EIR) is available for viewing at 1416 Ninth Street, Room 1620-A4, Sacramento, CA 95814. CALFED's Programmatic EIS/EIR can be reviewed at the CALFED Bay-Delta Program, 1416 Ninth Street, Room 1147, Sacramento, CA and at http://calfed.ca.gov/.

Barbara J. McDonnell

Barbara J. McDonnell
Chief, Environmental Services Office

Date December 22, 2000

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# Initial Study

# Acquisition of Water from Metropolitan Water District of Southern California (Stored in the Semitropic Groundwater Storage District) for the Environmental Water Account

## I. INTRODUCTION

The CALFED Bay Delta Program a long-term comprehensive plan to restore the ecological health and improve water management for beneficial uses of the San Francisco Bay/Sacramento-San Joaquin Delta estuary system when it issued the Record of Decision for its *Final Programmatic Environmental Impact Statement/Environmental Impact Report* in August 2000. The long-term plan provides lead agencies, responsible agencies, and stakeholder agencies a starting point from which actions can be specifically reviewed, evaluated, and implemented.

The CALFED PEIS/EIR presented the general environmental consequences of the long-term plan. This Initial Study, tiered from the PEIS/EIR, addresses the establishment of a particular asset that will be used as part of the Environmental Water Account (EWA), a component of CALFED's long-term plan, adopted in the CALFED Bay-Delta Program Record of Decision (ROD), dated August 28, 2000. Under EWA, assets acquired will be used to efficiently manage water for environmental purposes while decreasing conflicts in use of water in the Bay-Delta estuary. By using a more flexible management of water operations, existing fish protection measures and the implementation of the EWA will achieve substantial fish recovery opportunities while providing improvements in water supply reliability and water quality.

### Purpose and Need for Action

The purpose of the CALFED Bay-Delta Program is to develop and implement a long-term comprehensive plan that restores ecological health and improves water management for beneficial uses in the Bay-Delta system. To practicably achieve this program purpose, CALFED will concurrently and comprehensively address problems of the Bay-Delta system within each of four resource categories: ecosystem quality, water quality, water supply reliability, and levee system integrity. CALFED agencies identified a need in the ROD for additional fisheries protection measures above and beyond baseline regulatory measures to speed recovery of listed fish species. The establishment of the EWA is a key component of this additional protection. The overall purpose of the EWA is to promote flexible water project management to provide additional protection and recovery of the fisheries of the San Francisco Bay/Sacramento-San Joaquin Delta estuary above the current regulatory baseline by taking advantage of

project flexibility. To accomplish this purpose, the EWA will incorporate environmentally beneficial changes to the operation of the State Water Project (SWP) and the Central Valley Project (CVP), at no uncompensated water cost to the projects' water users. The EWA, therefore, serves to meet CALFED's objectives for ecosystem quality and water supply reliability.

The EWA is intended to provide sufficient protections, combined with the Ecosystem Restoration Program and the regulatory baseline, to address CALFED's ecosystem quality needs in the areas of fishery protection, restoration and recovery needs. This approach to fish protection requires the acquisition of alternative sources of project water supply, called "EWA assets" which will be used to:

- augment streamflows and Delta outflows;
- modify exports to provide fishery benefits during critical life history; and
- replace project water supply interrupted by the changes to project operations.

The EWA water will compensate for reductions in deliveries relative to existing facilities, project operations, above the regulatory baseline as defined in the ROD, thereby helping to meet CALFED's water supply reliability objectives. The EWA will not be used to meet any new regulatory requirements under statutes other than the Federal Endangered Species Act and the California Endangered Species Act.

The EWA is a cooperative management program involving five CALFED agencies that have responsibility for implementing the EWA. The three Management Agencies, the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Game (DFG), have primary responsibility for managing the EWA assets and exercising their biological judgment to determine what SWP/CVP operational changes are beneficial to the Bay-Delta ecosystem and/or the long-term survival of fish species, including those listed under the State and Federal Endangered Species Acts. The two Project Agencies are the U.S. Bureau of Reclamation (Reclamation) and the California Department of Water Resources (DEPARTMENT). The Project Agencies will cooperate with the Management Agencies in administering the EWA, including banking, borrowing, transferring, selling, and arranging for the conveyance of EWA assets, and making the operational changes proposed by the Management Agencies. The EWA will be in effect for the first four years of Stage 1[2] of the CALFED Bay-Delta Program. The Department will be responsible for acquiring EWA assets for the first year (2001). After the first year, acquisitions may be made using a public process that may employ other agencies or third parties to acquire assets.

For the first year, State funds and State facilities will be used to create an operable EWA. During years two through four of the EWA, both federal and State actions will be required

[2] Stage 1 implementation covers the first seven years of implementation of the CALFED 30-year program and builds the foundation for long-term actions. The Stage 1 actions to implement the Preferred Program Alternative are described in the Record of Decision. These actions are dependent upon subsequent project-specific environmental analyses as well as on subsequent review of financial and legislative proposals by the State and Federal executive branches, Congress and the State Legislature.

to maintain the EWA (Appendix A)[3]. CEQA compliance will occur for all first year actions to create the EWA (Appendix B)[4]. CEQA and NEPA compliance will be accomplished for EWA establishment actions implemented in years two through four.

## Specific MWDSC (Semitropic) Water Purchase Project Purpose and Need for Action

To provide water for the EWA during 2001, the Department proposes to purchase up to 31,500 acre-feet from MWDSC stored water in the Semitropic Groundwater Banking Program. This water is important to the EWA because it will be stored south of the Delta and can be used to provide assurances for SWP supplies and deliveries. Water purchases south of the Delta are specified in the ROD and are essential to the EWA Program.

## Scheduling Use of EWA Assets during Water Year 2001

The timing of targeted fishery resources within the affected streams and rivers will depend on a number of environmental factors (photoperiod, Delta outflow, temperature, etc). The periods of greatest vulnerability to aquatic resources in the Delta vary from year to year. Coordination through the CALFED Operations Group[5] and the (b)(2) Implementation Team[6] meetings will be conducted monthly to optimize all environmental water for fishery benefits. Using an adaptive management approach, EWA assets will be scheduled by the Management Agencies in coordination with the Project Agencies. Decisions designed to protect species such as chinook salmon, Delta smelt, and splittail will be made based on real-time assessments of relative risk and benefit. The following operational scenario could be used for Water Year 2001 EWA and (b)(2) actions. It should be emphasized that the following example is highly provisional; actual actions will be based upon biological factors and hydrologic conditions.

Starting as early as December 2000, the Management Agencies may initiate Delta pumping cutbacks when fish are in the vicinity of the export pumps. As the cutbacks occur, the Management Agencies will release EWA assets to the Project Agencies to allow continued delivery of water supplies to water contractors.

In January, actions would focus on improving the survival of juvenile salmon emigrating through the Delta. This would be accomplished by curtailing project exports during

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[3] Appendix A contains an overview of the four year EWA program.

[4] Appendix B contains an overview of proposed EWA first year operations.

[5] CALFED Operations Group: The CALFED Ops group is charged with coordinating the operation of the water projects with requirements of the the CALFED Framework Agreement, the December 15, 1994 Principles of Agreement for the Bay-Delta Esturary and the State Water Resources Control Board Water Right decision 1641. DWR, USBR, NMFS, USFWS, EPA, DFG and SWRCB staff comprise the Ops group.

[6] (b)(2) Implementation Team: The (b)(2) Implementation Team implements the Central Valley Project Improvement Act Section 3406 (b)(2) reallocating 800,000 acre-feet of water for environmental purposes. Representatives of the USBR, USFWS, NMFS, DFG and DWR serve on the team.

critical periods to increase the survival of juvenile salmon. The timing and duration would be determined by a combination of biological factors.

To ensure survival of sensitive fish species, during February and March, the projects would curtail exports when fish densities are high near the pumps. The anticipated amount of curtailment is about 50,000 acre-feet. In dry conditions, exports would not be as high and there would be no need to curtail pumping.

In April and May both (b)(2) and EWA assets would be used to reduce exports before and after the VAMP[7] period. Assets would also be used to fill San Luis Reservoir.

During June and July exports could be reduced to avoid high salvage of sensitive species, such as delta smelt and splittail. EWA assets would be released to compensate for such actions. For the most part, upstream actions during water year 2001 would involve water releases from reservoirs to improve instream flow conditions for migration, spawning, egg incubation, rearing, and juvenile emigration of anadromous fish.

## CEQA Compliance

The California Environmental Quality Act, California Public Resources Code sections 21000 et. seq. (CEQA) requires that prior to deciding to implement a project, environmental effects of the project must be described and appropriately addressed. CEQA provides for tiering environmental documents. This document tiers from the CALFED Programmatic EIS/EIR, has considered the information, analysis and conclusions of the PEIR/EIR, and incorporates the PEIS/EIR by reference. The documentation for acquiring EWA assets during the first year will be evaluated using either an Initial Study, Negative Declaration, Mitigated Negative Declaration, Environmental Impact Report or deemed exempt. This Initial Study and proposed Negative Declaration were prepared to comply with the provisions of CEQA. The purpose of this Initial Study is to provide decision makers, public agencies, and the general public with an objective and informative document that fully discloses any potential impacts including mitigation associated with impacts that could be made by the project. All phases of project planning, implementation, and operation were considered in the Initial Study of this project. The Project Description Section discusses actions to be taken to secure a particular water supply as part of the EWA. The Project Location Section describes the major project features. Environmental Setting and Potential Environmental Impacts Section describes the existing environmental resources and analyzes potential impacts of the project on those resources.

[7] Vernalis Adaptive Management Program (VAMP): Under dry conditions (90% hydrology), CVP and SWP exports will be reduced to a combined total of 1,500 cfs for 31 days. Under normal conditions (50% hydrology), exports will be reduced to 2,250 cfs for 3 days. The reduction will be accomplished using a combination of (b)(2) and EWA assets. For example, (b)(2) will be used to reduce CVP exports and SWP exports from the “2:1” level contained in the delta smelt biological opinion down to the SWP share of the export objective during the VAMP period. The difference between “1:1” and “2:1” will be covered by the EWA.

## II. PROJECT DESCRIPTION

The Department would purchase up to 31,500 acre-feet of MWDSC's SWP entitlement water stored in the Semitropic Groundwater Banking Program for use by the Environmental Water Account during 2001. This acquisition will be used for the first year EWA program. The EWA (managed by the regulatory agencies USFWS, NMFS and DFG) would use the water for the purpose of fish protection. The agreement includes an option of up to 31,500 acre-feet of recovery capacity during 2001 available only if the SWP allocation is greater than 70 percent. There would also be an option for the Department to recover the purchased water for EWA during 2002-04 at times mutually agreeable to the Department and MWDSC.

This project will make use of an existing agreement between MWDSC and Semitropic Water Storage District for groundwater banking in the existing Semitropic Groundwater Banking Program. The Semitropic Groundwater Banking Program was evaluated in the Semitropic Groundwater Banking Project Environmental Impact Report (July 1994). Semitropic's 1994 EIR is hereby incorporated by reference.

A. Water Purchase

MWDSC offers the Department an option to purchase up to 31,500 acre-feet of MWDSC's share of water in the Semitropic Groundwater Bank. Through entitlement exchange, this purchase will make available water in San Luis Reservoir for EWA. This purchase is on a one time only basis, during 2001. MWDSC is responsible for replacement of the water in the Semitropic Groundwater Bank with revenue from this project. This water would be recovered as described in (B) below.

B. Recovery Capacity

MWDSC offers up to 31,500 acre-feet of recovery capacity[8] when SWP allocations are 70 percent or greater during 2001 only. Recovery could also occur in 2002-2004, but only after MWDSC water requirements from the Semitropic Project have been met. MWDSC shall notify Semitropic of its intent to take delivery of the banked water as early in the year as possible, but no later than May 1 of the same year. If such notification is provided after May 1, Semitropic, at its sole discretion, may make reasonable efforts to comply with MWDSC's request. In the event of an emergency need for water by MWDSC, Semitropic shall endeavor to return banked water to MWDSC to the maximum extent feasible.

[8] Recovery capacity: Recovery capacity refers to the ability for the Department to retrieve the purchased water from the Semitropic Groundwater Bank.

The Department can obtain the water from the Groundwater Bank either through pumping and then transfer into the California Aqueduct or through exchange of SWP entitlement water. In the case of exchange, Semitropic would forego an equivalent amount of SWP water deliveries and make use of groundwater for their local needs. The water in the Aqueduct (made available by recovery or entitlement exchange) would be delivered to Southern California in exchange for an equivalent amount of EWA water that would remain in San Luis Reservoir.

## III. PROJECT LOCATION

### Metropolitan Water District of Southern California

MWDSC was formed in 1928 under an enabling act of the California State Legislature. Historically, MWDSC has provided supplemental water to the Southern California coastal plain. MWDSC's deliveries augment local water supplies developed through surface catchment, groundwater production and water reclamation. This supplemental water is delivered to MWDSC's 27 member agencies through a regional network of canals, pipelines, reservoirs, treatment plants, and related facilities.

MWDSC's 5,135-square-mile service area covers portions of the six-county region of Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. MWDSC currently provides approximately 65 percent of the total water used in its service area. MWDSC serves a population of approximately 17 million in its service area.

Imported water is delivered to the MWDSC service area from northern California sources via the California Aqueduct to storage reservoirs such as Pyramid Lake, Castaic Lake, Silverwood Lake and Lake Perris. Other water supplies include Colorado River Aqueduct, local groundwater supplies, MWDSC reservoirs and reclamation. Water is delivered to MWDSC's 27 member agencies through a regional network of canals, pipelines, reservoirs, treatment plants, and related facilities.

MWDSC's SWP entitlement[9] is 2.01 million acre-feet of water per year. MWDSC has requested their full entitlement for the 2001 calendar year.

### State Water Project

The SWP includes 29 storage facilities, 18 pumping plants, 4 pumping-generating plants, 5 hydroelectric power plants, and approximately 660 miles of canals and pipelines. Its main purpose is water supply; that is, to divert and store surplus water during wet periods and distribute it to areas of need in Northern California, the San Francisco Bay area, the San Joaquin Valley, the Central Coast, and Southern California. Other project purposes include flood control, power generation, recreation, fish and wildlife enhancement, and water quality improvement in the Sacramento-San Joaquin Delta.

Twenty-nine urban and agricultural water agencies have long-term contracts for an ultimate total of just over 4 million acre-feet per year of water from the SWP. Figures 1 and 2 show major SWP features and contracting agencies, respectively.

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[9] SWP entitlement: SWP water supply contracts signed in the 1960s included an estimate of the amount of water the agency could expect to be delivered annually (annual entitlement). That amount was designed to increase gradually until the maximum amount of annual entitlement was reached, assuming full development of the SWP.

Figure 1. State Water Project Features

Figure 2. State Water Contractors

## San Luis Reservoir

The San Luis Reservoir, part of the State-federal San Luis Joint-Use Complex, is located in the eastern foothills of the Diablo Mountain Range in central California. The Reservoir holds water diverted from the Sacramento-San Joaquin River Delta for subsequent delivery to CVP and SWP contractors in the San Joaquin Valley, Southern California, and the federal San Felipe Project. The San Luis Reservoir can store a total of approximately 2 million acre-feet, of which approximately 1 million acre-feet is the State's share.

The Department pumps water as it is available for diversion from the Delta and delivers it directly to SWP contractors and/or stores it in the San Luis Reservoir for later delivery. San Luis Reservoir water is used to supplement other Project water during periods of constrained operations in the Delta and when demands exceed maximum capacity at Banks Pumping Plant.

## California Aqueduct

The California Aqueduct is the main conveyance facility of the SWP. It conveys water from the Harvey O. Banks Pumping Plant at Clifton Court Forebay in the southern portion of the Delta to SWP water contractors located in the South Bay, San Joaquin Valley and Southern California.

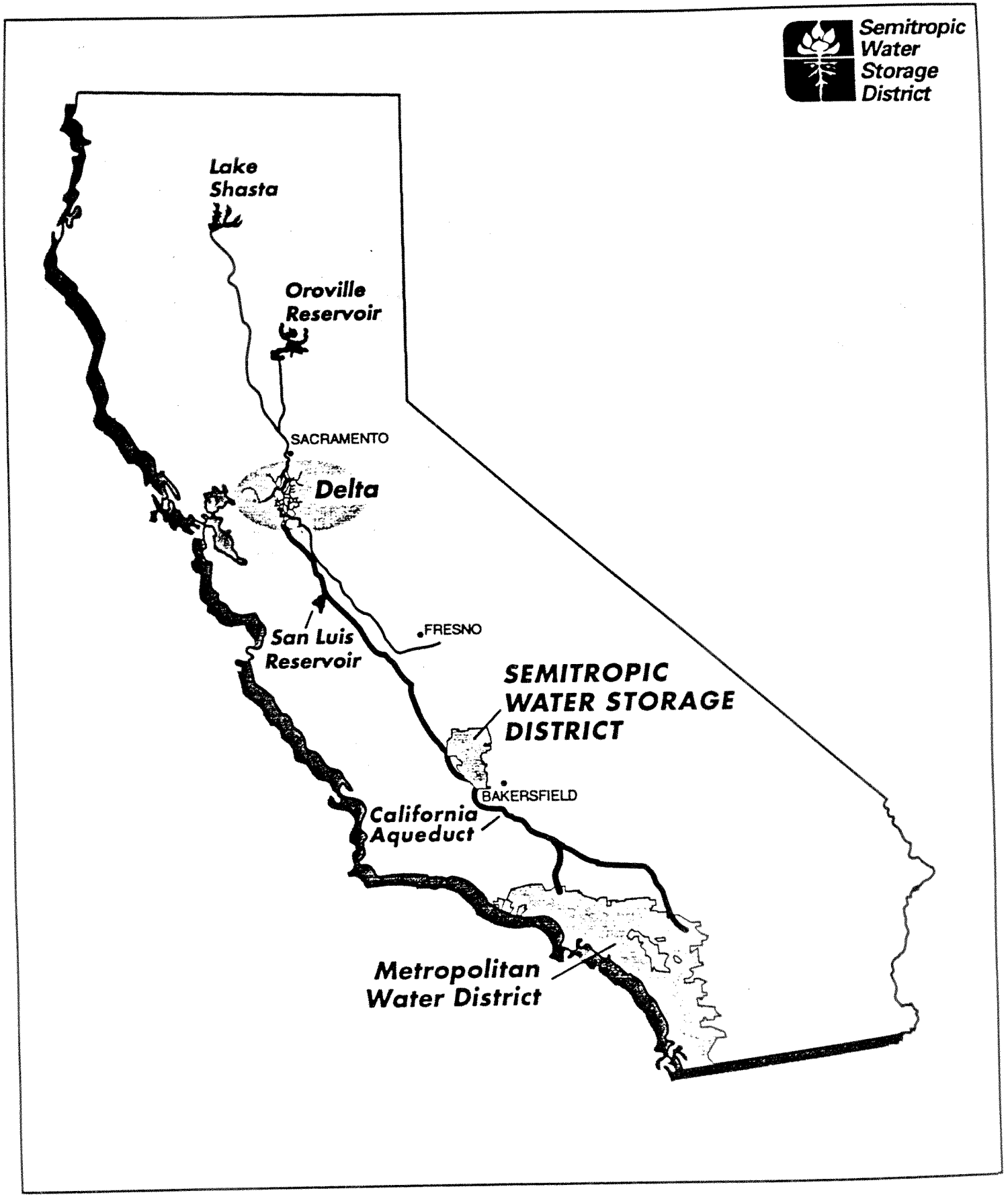
## Semitropic Water Storage District

The Semitropic Water Storage District is located in north-central Kern County in the San Joaquin Valley, about 20 miles northwest of the City of Bakersfield (Figure 3). The predominant land use is agriculture. The total area of Semitropic is approximately 221,000 acres (345 square miles), with about 136,000 acres (213 square miles) irrigated. There are no incorporated cities within the Semitropic Water Storage District.

Semitropic was organized in 1958 for the purpose of supplying supplemental water within its service area boundaries. During the 1960s, Semitropic developed plans for main conveyance and distribution system facilities to extend from the California Aqueduct to farm delivery locations. Prior to these deliveries, the irrigated agriculture within Semitropic was totally dependent on pumping the underlying groundwater.

### Semitropic Groundwater Banking Program

In 1995, Semitropic began implementation of the Semitropic Groundwater Banking Program. The Program is a long-term water storage program designed to recharge groundwater and reduce overdraft, increase operational reliability and flexibility, and optimize the distribution and use of available water resources between Semitropic and potential banking partners. Under the program, the banking partner would deliver a portion of its unused SWP, CVP or other surface water supplies to Semitropic during periods when such water is available. Semitropic may use this water in lieu of pumping groundwater for irrigation or to directly recharge the underlying groundwater basin. Upon


Semitropic
Water
Storage
District
Lake
Shasta
Oroville
Reservoir
SACRAMENTO
Delta
San Luis
Reservoir
FRESNO
SEMITROPIC
WATER STORAGE
DISTRICT
BAKERSFIELD
California
Aqueduct
Metropolitan
Water District

request, Semitropic would return the banking partner's previously stored water, either by pumping the water from its groundwater basin through pumpback facilities into the California Aqueduct, or by providing the banking partner with an equivalent portion of its SWP water supply. Under the first method (delivery of recovered banked water to the California Aqueduct), the water is delivered to the SWP water supply pool from which deliveries would be made to the banking partners.

The potential environmental impacts which may result from the construction and operation of the Semitropic Groundwater Banking Project were addressed in the Program's Final EIR which was approved and certified by Semitropic's Board of Directors as being in compliance with CEQA, on July 13, 1994.

Semitropic's defined total capacity is 1,000,000 acre-feet of which MWDSC has contracted for 350,000 acre-feet (35 percent) to store SWP entitlement water. As of April 2000, MWDSC had approximately 392,000 acre-feet stored in Semitropic. Total program annual withdrawal amounts are restricted by the size of the pumpback facility, contemporaneous scheduled SWP deliveries to Semitropic, and the proportion of the total program capacity that has been contracted to other banking partners. The annual withdrawal capacity of MWDSC's stored water currently ranges from 31,500 acre-feet per year up to 78,000 acre-feet subject to those items listed above including SWP allocations.

*Semitropic Groundwater Monitoring Program*

A groundwater monitoring program was established in 1994 to develop information so that any adverse impacts of the water banking project could be mitigated. The monitoring program is overseen by a committee made up of Semitropic Water Storage District, adjoining districts, and banking participants. Kern County Water Agency and the California Department of Water Resources are interested parties and participate in committee activities. Monitoring has included water level measurements in monitoring wells and groundwater quality (including salinity and nitrate) evaluations. The monitoring program includes the following (Semitropic Biennial Groundwater Monitoring Report, 1999):

- Semi-annual water level measurements in numerous water supply and monitoring wells
- Continuous water level measurements in selected monitoring wells and monthly water level measurement in other wells
- Annual water quality sampling of selected actively used water supply wells, and more frequent sampling of some monitoring wells
- Preparation of semi-annual (spring and fall) water-level elevation maps with the direction of groundwater flow indicated on the maps.
- Preparation of water-level hydrographs for many wells
- Preparation of a water-level change map for Spring 1995-Spring 1999 for use in evaluating the 1995-98 water banking activities

- Maps of total dissolved solids in the shallow and deep groundwater and TDS hydrographs
- Nitrate maps for groundwater

In addition, activities of the Semitropic Water Storage District and the adjoining activities that affect groundwater conditions have been obtained and complied. Included are diversions of surface water into each District, crop surveys and estimate of crop consumptive use, and where available, groundwater pumpage. Knowledge of this information is essential in order to determine changes in groundwater conditions due to the water banking project.

## V. ENVIRONMENTAL SETTING AND POTENTIAL ENVIRONMENTAL IMPACTS

The environmental setting and potential environmental impacts of this project are discussed below. This Initial Study refers to the 1994 Semitropic Groundwater Banking Project EIR for environmental impacts associated with operating the Semitropic Groundwater Bank. Since the proposed project is within the scope of normal operation of the Semitropic Groundwater Bank, any environmental effects associated with the operation of the water bank were addressed in the 1994 EIR. The project does not include any new construction of water facilities, infrastructure, or any other type of construction or land disturbance. The project, therefore, will not have any impact on aesthetics, cultural resources, hazards and hazardous materials, mineral resources, noise, population and housing, transportation/traffic and utilities and service systems (Environmental Checklist, Appendix C). These categories are eliminated from the discussion below.

Potentially affected environmental resources include air quality, power, geology, and water quality from groundwater extraction. These impacts are evaluated below and judged to be less than significant impacts.

### Agricultural Resources

Irrigated agriculture is the dominant land use in the Semitropic Groundwater banking area. The most extensive crop is cotton, with smaller amounts of alfalfa, hay and grains, and orchards (mostly almonds).

> Impacts: None. The planned purchase and extraction are well within the normal operating levels of the groundwater bank.

### Air Quality

Semitropic is located in the state San Joaquin Valley Air Basin, managed by the San Joaquin Valley Air Pollution Control District. Air quality in the southern San Joaquin Valley is generally poor with respect to ozone and particulate matter (as is much of the State of California). In 1997, there were 100 State ozone standard[10] exceedance days and 48 State standard $PM_{10}$[11] exceedance days (1999 California Air Quality and Emissions Almanac). The reader is referred to the 1994 Semitropic EIR for more details on the area air quality. The only potential air quality effect that could result from the project would be due to an increase in energy use which would increase energy-related emissions. However, both power requirements for moving water and for groundwater pumping should be less than significant (see Energy and Power section). Therefore, the project will have a less than significant impact to air quality.

> Impacts: Less-than-significant.

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[10] The State ozone standard is 0.09 ppm for 1 hour not to be exceeded.

[11] $PM_{10}$ refers to particles with an aerodynamic diameter of 10 microns or smaller. The State $PM_{10}$ standard is 50 micrograms/$m^3$ for 24 hours and 30 micrograms/$m^3$ annual geometric mean not to be exceeded.

## Biological Resources

The non-irrigated lands in Semitropic and the Kern National Wildlife Refuge include valley mesquite, saltbrush habitat and riparian-freshwater habitat. Occurrences of the latter are not common or extensive because of the lack of freshwater to sustain the habitat throughout the year. The low lying shrubs and scattered mesquite host a variety of birds, mammals, and insects including dove, quail and partridges, coyotes, rabbits and lizards. The limited marshlands support some waterfowl and waterfowl nesting and wintering habitat.

Irrigated agriculture is not considered valuable habitat for most wildlife. “Clean “ farming practices that include eradication of weeds and natural growth have eliminated the most suitable habitat for wildlife. This is especially true of large farms with cotton and barley, for example, where only a limited number of species are attracted to these areas. A few species, however, do utilize agricultural areas, including the ring-necked pheasant, the California quail, songbirds, small rodents, and amphibians.

Federal and State threatened species known to occur in areas of Kern County adjoining Semitropic are the San Joaquin antelope ground squirrel, the Tipton kangaroo rat, the San Joaquin kit fox and the blunt-nosed leopard lizard.

> Impacts: None. The sale of the maximum amount of 31,500 acre-feet of groundwater will have no effect on biological resources.

## Economic Impacts

There will be no economic impacts from this project. The Department will use non-SWP funds (State General Fund) to pay for the project. The sale of 31,500 acre-feet represents only a small amount of the MWDSC budget (and contracted amount of Semitropic capacity), and therefore, will have no economic impact. Local water charges will not increase as a result of this project. Power costs are expected to be minimal to pump a maximum amount of 31,500 acre-feet of groundwater (see Energy and Power section).

> Impacts: None.

## Energy and Power

Energy and power usage will not significantly increase as a result of this project. Power costs are expected to be minimal to pump a maximum amount of 31,500 acre-feet of groundwater. Energy costs from transporting the purchased water from Semitropic to SWP customers in Southern California would be less than the energy costs of transporting SWP water to Southern California from either the Delta or San Luis Reservoir.

> Impacts: None.

## Environmental Justice

The federal requirement for environmental justice refers to the fair treatment of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Executive Order 12898, signed by President Clinton in 1994, requires federal government agencies to consider the potential for their actions or policies to place disproportionately high adverse human health or environmental effects on minority and low-income populations. Potential effects related to environmental justice would be effects that disproportionately affected minority populations.

Two State statutes were enacted to address State coordination and consultation requirements for Environmental Justice. These statutes, SB 115 (Solis) and SB 89 (Escutia) parallel federal mandates for environmental justice. SB 115 requires the Secretary for the California Environmental Protection Agency (CA EPA) to take specified actions in designing its mission for programs, policies, and standards within the Agency, and to develop a model environmental justice mission statement for boards, departments, and offices. SB 89 specifically requires the Secretary for CA EPA to convene a Working Group on Environmental Justice on or before January 15, 2002 to assist the CA EPA in developing an interagency environmental justice strategy.

> Impacts: This project will not disproportionately affect minority or low income populations. MWDSC's SWP water that is stored in Semitropic is surplus to MWDSC's needs for its service area. The proceeds from the sale of the water will have no adverse economic impact on MWDSC's overall budget, and local water costs will not increase as a result of this project.

## Geology and Soils

The geology of the groundwater basin in Semitropic is complex. The basin is generally divided into confined and unconfined zones that are separated by a layer of clay. The unconfined aquifer is above the clay layer and the confined aquifer is beneath. It is not known if the clay layer is continuous throughout Semitropic. The principal source of groundwater pumped in Semitropic is from the confined aquifer.

Groundwater withdrawal from the Central Valley aquifer system varies seasonally. The highest demand is generally during the peak growing season in spring and summer, which are the driest seasons of the year.

### Subsidence

The proposed project lies within an area of known and documented subsidence caused by the extraction of groundwater (Ground Water Atlas of the United States, California, Nevada, HA 730-B by Michael Planert and John S. Williams, 1995). Occasional large withdrawals from an aquifer are a viable solution to the problem of reduced surface-water supplies in dry periods, provided the aquifer is replenished during wet years. However, continual withdrawals of ground water in excess of recharge can increase the

cost of pumping, reduce water availability, and, in certain hydrogeologic settings, can cause land subsidence. The primary cause of land subsidence in the Sacramento and the San Joaquin Valleys has been the compaction of fine-grained sediments (predominantly clay) in the aquifer system following severe, long-term withdrawal of groundwater in excess of recharge.

There is an existing monitoring program to check groundwater levels (see Water Supply and Hydrology section). Subsidence monitoring with an extensometer has been proposed but not yet implemented.

> Impacts: None. The groundwater withdrawal of up to 31,500 acre-feet is within the normal operation of the groundwater bank and should not contribute to subsidence. Groundwater levels are monitored and extraction will be stopped if the fifteen feet-three year rule is violated (see next section).

## Water Resources

### Water Supply and Hydrology

Groundwater Levels

The groundwater basin underlying Semitropic, along with any potential effects of the Groundwater Banking Program were evaluated in detail in the 1994 Semitropic EIR. In this report, groundwater levels resulting from proposed MWDSC banking portion of Project operations in Semitropic were estimated using a modified version of the DEPARTMENT San Joaquin Valley Groundwater Model. The EIR showed no significant negative effect on groundwater levels due to the groundwater bank operations. However, as discussed in the EIR, a 15-feet, three-year rule[12] is in effect, where withdrawals will be stopped or modified at specific locations if such withdrawals would cause the average groundwater levels over a three-year period to be 15 feet less than what the average would have been without the groundwater banking project over the same three-year period.

MWDSC Semitropic Water Bank Supply

MWDSC currently has 392,000 acre-feet of water stored in Semitropic of the one million acre-foot defined storage capacity. The MWDSC share of Semitropic is 350,000 acre-feet. Total program annual withdrawal amounts are restricted by the size of the pumpback facility, contemporaneous scheduled SWP deliveries to Semitropic, and the proportion of the total program capacity that has been contracted to other banking partners. The annual withdrawal capacity of MWDSC's stored water currently ranges from 31,500 acre-feet per year up to 78,000 acre-feet subject to those items listed above including SWP allocations.

> Impacts: This project will not have an impact on water supply. The proposed withdrawal of 31,500 acre-feet is well within the operating capabilities of the Semitropic Groundwater Banking Program, and represents about ten percent of

[12] The fifteen-foot, three-year rule is further explained in Appendix D.

the water MWDSC currently has stored in the bank. Any groundwater level changes would be detected using the existing groundwater monitoring program. In addition, MWDSC has adequate alternate sources of water to sell 31,500 acre-feet of its water supply.

**Water Quality**

Groundwater Quality

Groundwater quality was evaluated in detail in the 1994 Semitropic EIR. There was a concern about high salinity groundwater from the west migrating east to the Semitropic area due to banking activities. Nitrate is also a potential concern due to high nitrate levels found in shallow groundwater areas in part of the basin, and east of the Semitropic Water Storage District. The EIR showed no significant negative effect on groundwater quality due to the groundwater bank operations.

California Aqueduct Water Quality

Along with other parts of the State Water Project, the Department monitors California Aqueduct water quality to ensure that SWP water quality meets Department of Health Services drinking water standards and Article 19 Water Quality Objectives[13] for long-term SWP contracts. The objective of the SWP water quality monitoring program is to maintain project water at a quality acceptable for recreation, agriculture, and public water supply for the present and future under a policy of multiple use of the facilities. These uses included fishing, boating, and water contact sports. The Department analyzes the water for physical parameters such as water temperature, specific conductance, and turbidity and more than 60 different chemical constituents including inorganic chemicals, pesticides, and organic carbon. A list of the Department's water quality sampling locations can be found in Appendix F.

The Department also regulates the quality of water pumped into the California Aqueduct. Any groundwater pumped into the Aqueduct would have to meet Department standards. New SWP pump-in standards are currently being drafted and will probably be similar in format to the standards applied in 1994. In general, the Department assures that water quality in the Aqueduct is not degraded due to pump-ins.

Impacts: The project will not adversely affect groundwater quality underlying Semitropic or the quality of water in the California Aqueduct. The minimum withdrawal proposed for Semitropic (31,500 acre-feet) is within the operations for Semitropic Groundwater Bank and would not affect water quality. Both Semitropic and DEPARTMENT monitor water quality before allowing water into the California Aqueduct, and DEPARTMENT monitors water quality in the Aqueduct. Note also

[13] Article 19 Objectives are included as standard provisions in the Department's water supply contracts. They require the collection and analysis of water quality samples in the SWP and the compilation of records. Article 19 (a) states: "It shall be the objective of the State and the State shall take all reasonable measures to make available, at all delivery structures for the delivery of Project water to the District, Project water of such quality that the following constituents do not exceed the concentrations stated." The constituents table is in Appendix E

that the water may be paid back via entitlement exchange which will not involve pumping groundwater into the Aqueduct.

## Land Use and Planning

The project will not change existing land use in the Semitropic area. The Semitropic Groundwater Storage Bank is a permitted land use, and this project is part of the Storage Bank operations. No new facilities will be constructed with this project.

Impacts: None.

## Population and Housing

The project will have no effect on population and housing. MWDSC's water stored in the Semitropic Groundwater Storage Bank and made available for sale to the EWA as part of this project will be sold to EWA for fisheries purposes, and not for urban uses.

Impacts: None.

## Public Services

As with Population and Housing, the project will have no effect on public services.

Impacts: None.

## Recreation

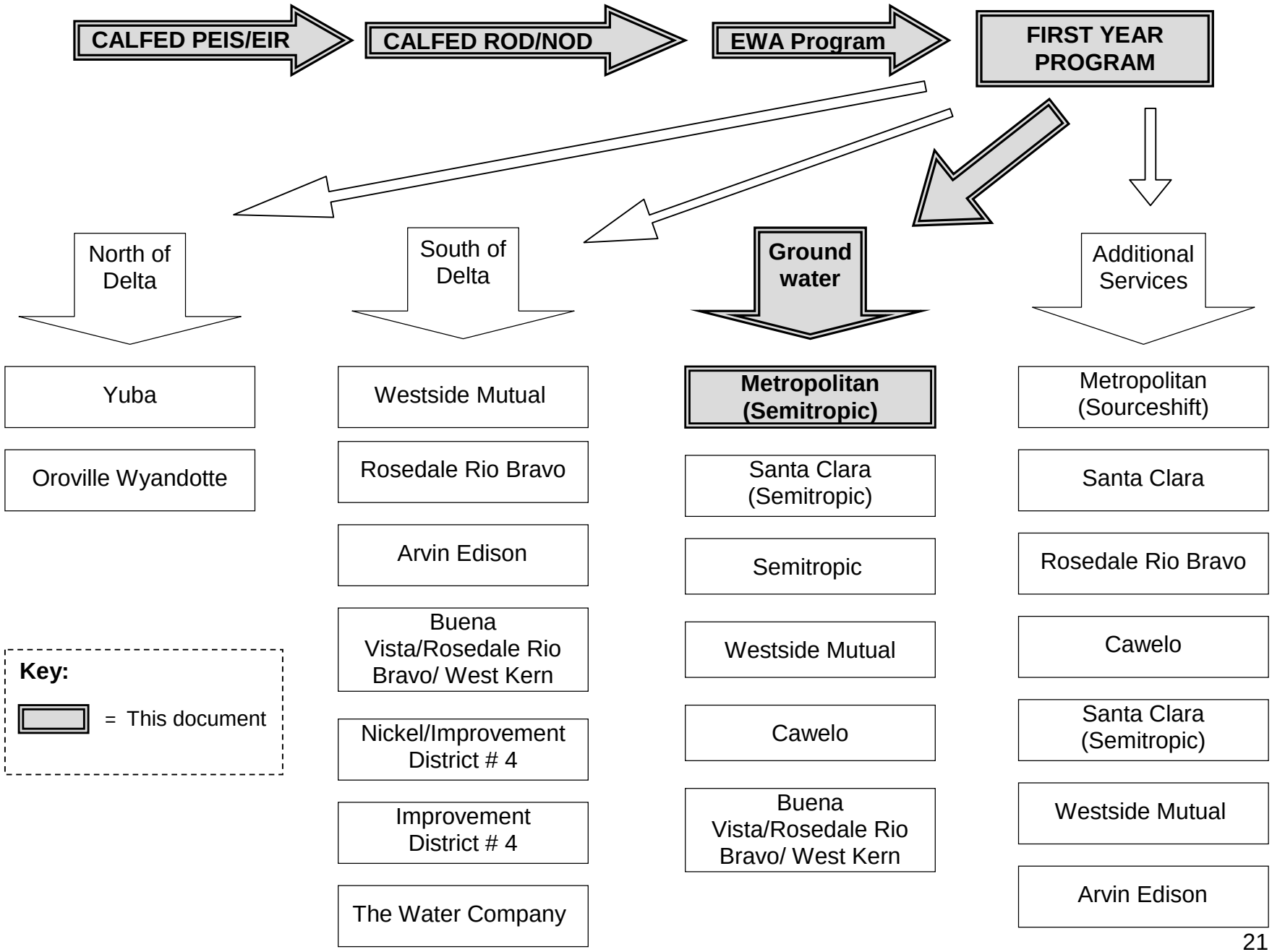
The project will take place in the Semitropic area and the California Aqueduct. Since there is no recreation associated with these facilities, the project will not have any effect on recreation.

Impacts: None.

## V. RELATED PROJECTS

The full array of EWA Program assets for 2001 that have been identified to date are shown in Figure 4 and are generally described in Appendix B, EWA Program Description. It is possible that other water transfers are proposed for 2001 between currently unknown and unidentified parties. The number and volume of water transfers in 2001 is to some degree, dependent upon the hydrologic conditions over this winter. Consequently, it is too speculative to determine to what degree other transfers will be proposed and implemented.

Figure 4. EWA First Year Asset Acquisition



## VI. CUMULATIVE EFFECTS

No cumulative effects are expected for any environmental resources during 2001. None of the related projects have significant effects in the following categories: Aesthetics, Agricultural Resources, Air Quality, Cultural Resources, Economic Impact, Environmental Justice, Geology and Soils, Hazards and Hazardous Materials, Mineral Resources, Noise, Water Quality, Land Use and Planning, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Service Systems.

Although there are no anticipated cumulative effects to the environmental resource categories, Water Supply and Power, these resource categories are discussed below because many of the related projects may involve changes in the timing of the use of these resources.

### Water Supply

The EWA is expected to make relatively small changes in the overall operations of the SWP and CVP facilities. Overall, the EWA should result in beneficial effects including increased instream flows and increased water levels in San Luis Reservoir. Operational changes in 2001 can be generally characterized as shifts in pumping rates at the SWP delta diversion pumps, shifts in the storage and release patterns at SWP reservoirs, shifts in groundwater pumping and storage patterns within KCWA, and shifts in surface water storage release patterns among local and regional agencies. Operations related to EWA will be affected by precipitation. In wet years, surface water will be the primary EWA asset and in dry years, groundwater will become the primary EWA asset and operations will shift accordingly. In general, the EWA will be expected to increase instream water levels and to provide for water in San Luis Reservoir similar to historical conditions.

The EWA will allow the further curtailment of Delta pumping to reduce the entrainment of fish at the SWP Banks pumping plant to achieve benefits beyond the existing environmental baseline. Pumping could increase when substantial impacts to sensitive fish are not likely, in order to move water controlled by the EWA. However, the final pumping pattern will remain within the possible patterns that the SWP is allowed under the existing SWRCB Water Quality Control Plan (WQCP).

San Luis Reservoir storage will drop in response to EWA Delta export cuts or if the EWA delivers water out of San Luis Reservoir to repay past borrowing from MWDSC, the SWP or the CVP. San Luis Reservoir storage will increase in response to higher Delta exports on behalf of the EWA or due to voluntary shifts in delivery patterns, water purchases in the export area, exchanges, or source shifts. However, San Luis storage patterns will range within the historical patterns that the CVP and SWP already allowed under existing regulations.

Purchases from the KCWA agencies will generally lead to increased groundwater pumping in 2001, with recovery of groundwater levels in subsequent years. If EWA takes advantage of the opportunity to deposit water into groundwater storage, groundwater levels could rise in 2001 in KCWA aquifers. Withdrawal could take place either in 2001 or in subsequent years. Groundwater extraction in subsidence prone areas (such as Semitropic) could contribute to subsidence, though extraction would be limited to established withdrawal rates for the groundwater banks to avoid this impact.

The source shifting agreement with MWDSC could lead to fluctuations in reservoir levels within the MWDSC service area. A water purchase from Yuba County Water Agency would lead to a reduction in storage levels in New Bullards Bar Reservoir over the course of the summer of 2001. That storage reduction would either be recovered through reduced spills in the following winter(s) or through increased groundwater pumping within YCWA.

Changes in storage levels and release patterns at Oroville Reservoir (SWP) could result from changes in operations at the Banks pumping plant in the Delta. In most instances, changes in operations will lead to temporary increases in storage levels. In some instances, the EWA could borrow water from upstream reservoirs, thereby lowering storage levels. Because the EWA assets are being acquired from diverse geographical areas of the State, there will be no cumulative impacts on any one water supply from EWA actions.

## Energy and Power

One of the EWA assets, an MWDSC Source Shift Agreement, would result in less pumping during the summer months and possibly greater pumping in the fall/winter. However, other water transfers proposed during the first year of EWA operations may result in moving water during the summer. The quantity of water moved during the spring/early summer would be less than SWP historically has moved during this time period. Therefore, although there may be changes in the timing of the movement of the water from historical patterns, the volume of water moved will not change and there should be no overall increase in power used to move water.

## VII. MANDATORY FINDINGS OF SIGNIFICANCE

The project does not have the potential to significantly affect an environmental resource. No mitigation is proposed since no potentially significant effects were found.

## VIII. CONSISTENCY WITH PLANS AND POLICIES

This project is consistent with the following policies and groundwater banking programs.

Coordinated Operations Agreement
The Project Agencies shall continue to adhere to the general sharing principles contained in the 1986 Coordinated Operations Agreement (COA) as modified by interim operating agreements to reflect changes in regulatory standards, facilities, and operating conditions, including the EWA.

Southern San Joaquin Groundwater Banking Programs
Arvin-Edison Groundwater Banking Program
Kern Water Bank
Pioneer Project
Semitropic Groundwater Banking Program

## IX. CONSULTATION AND COORDINATION

This Initial Study was prepared in consultation and coordination with applicable requirements. The Department of Water Resources is the Lead Agency responsible for preparing this Initial Study.

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**APPENDIX A**

# Overview of the Four-Year EWA Program

The EWA was established to provide a supplemental water supply for the protection and recovery of fish beyond what currently exists through the pre-CALFED Program environmental baseline. The existing regulatory baseline[14] programs established to provide a level of fishery protection include:

- 1993 Winter-run Biological Opinion (NMFS);
- 1995 Delta Water Quality Control Plan, State Water Resources Control Board (SWRCB);
- 1995 Delta Smelt Biological Opinion (USFWS);
- management of the full 800,000 acre-feet of CVP Yield Pursuant to Section 3406(b)(2) (or (b)(2) Water) of the Central Valley Project Improvement Act (CVPIA) ; and
- other environmental protections, including Level 2[15] refuge water supplies as required by the CVPIA.

Assets acquired for the EWA will vary from year to year depending on hydrologic and regulatory conditions, and are therefore not certain. As stated in the Introduction, the EWA will be implemented over four years. The initial water purchases and lease of groundwater storage will be secured by the Project Agencies from willing sellers by the end of 2000. The Project Agencies will enter into one-year contracts with the willing sellers. Several processes may be used to acquire EWA assets and/or functional equivalent sources of project water supply to offset the effects of operational curtailments under the EWA program so that deliveries will not be affected.

1. Acquisition of Water for the EWA

A. Purchases

The Project Agencies will use EWA funds to purchase EWA assets from willing sellers both north and south of the Delta. Purchases can include leases, options, long-term agreements, and any other property or contractual transaction that make alternative project supplies available south of the Delta or available for conveyance to south of the Delta. Purchases will also include the acquisition of storage space in groundwater basins to bank EWA assets. The Management Agencies will identify assets to replace water lost to the projects due to operational curtailment, and to be pledged as collateral when the EWA borrows from the Projects. The Project Agencies will accept the asset if the collateral meets the agreed guidelines for borrowing. The release of the asset shall be in accordance with a schedule agreed to by both the

[14] If an operable EWA is not in place by December 31, 2000, then the existing regulatory baseline would remain in place.
[15] Level 2 – The 1989 and 1992 Refuge Water Supply Studies define Level 2 refuge water supplies as the average amount of water the refuges received between 1974 and 1983.

Management Agencies and the Project Agencies. A tentative release schedule will accompany an identified asset. The Project Agencies will coordinate EWA water acquisition with Level 4[16] refuge water acquisitions to ensure the priority accomplishment of both each year.

B. Delta Operations

Delta project operations will involve four mechanisms by which EWA water assets are acquired.

i. Sharing of (b)(2) and Ecosystem Restoration Program (ERP) Water Pumped by the SWP.

The SWP and the EWA will share, on a 50-50 basis, the lesser of:

a) water released from storage or made available for upstream purposes under either CVPIA Section 3406(b)(2) or the Ecosystem Restoration Program (ERP) and arrives in the Delta with no further ERP or (b)(2) purposes to serve;
b) water that exceeds the export capacity of the CVP Tracy pumping plant;
c) water that the SWP and EWA have demand south of the Delta; and
d) water the SWP has capacity to pump.

ii. Joint Point[17]: SWP Wheeling of CVP and EWA water.

The SWP will use excess capacity at its Harvey O. Banks Pumping Plant to pump water for both the CVP and the EWA, to be shared between them on a 50-50 basis. The CVP water could be either from storage or from its Delta water rights to divert unstored water. The EWA water could be either from non-project water acquired north of the Delta or stored or unstored water pumped under CVP or SWP water rights. If either the CVP or EWA is demand-limited[18], the other's use of joint point will not count against its 50 percent share.

Use of excess capacity at Banks for the EWA and CVP will take precedence over all other non-project pumping, except for wheeling water to respond to facility outages and wheeling to supply CVP contractors for whom the SWP has traditionally wheeled CVP water. The relative priority of Level 4 refuge water is currently being determined.

iii. SWP Appropriation of Unregulated Flow.

[16] Level 4 – Level 4 refuge water supplies are defined in the 1989 and 1992 Refuge Water Supply Studies as the amount of water for full development of the refuges based upon management goals developed in the 1980s.
[17] The term joint point is used here to refer primarily to the use of the SWP point of diversion alone, and specifically, to the wheeling of EWA as well as CVP water.
[18] Demand-limited- A project is demand-limited if no contractors want any more water than they are currently receiving, and if available storage facilities and/or conveyance facilities are full.

The SWP may use its Delta diversion rights to pump water from the Delta for EWA purposes when the demand for SWP supplies is less than the available supply. The SWP diversion rights would be used in cases where Joint Point could also be used but where it would be preferable to create EWA assets south of the Delta to offset SWP rather than CVP losses to operational curtailments. As an adjunct to Joint Point, it would simply utilize SWP rather than CVP water rights to pump excess flows for the EWA's share. It would not affect the CVP's own share of excess SWP capacity.

iv. Project Pumping made Possible by Regulatory Relaxation

(a) Relaxation of the Section 10 Constraint

The SWP is limited under Section 10 of the Rivers and Harbors Act[19], pursuant to US Army Corps of Engineers (Corps) Public Notice 5829-A, to a three-day average rate of diversion of water into Clifton Court Forebay of 13,250 acre-feet per day. This is equal to an average, around the clock diversion rate of 6,680 cfs. This rate may be increased during winter months when the San Joaquin River flow is above 1,000 cfs.

The Corps granted permission to the SWP to increase the base diversion rate by the equivalent of 500 cfs to an average of 7,180 cfs for the months of July through September, through 2002. This 500 cfs will be dedicated to pumping for the EWA.

(b) Relaxation of the Export/Inflow Ratio

Under D-1641[20], and anticipated under the SWRCB order to be issued upon completion of the Bay-Delta water rights hearing, project exports are limited at different times of the year to a certain percentage of Delta inflow (usually 35 or 65 percent). This limitation is called the Export/Inflow, or E/I ratio. Both D-1641 and the 1995 Water Quality Control Plan, consistent with the 1994 Principles for Agreement (Bay-Delta Accord), allow for these ratios to be relaxed upon the meeting of certain requirements. Relaxation of the E/I ratio will be sought as appropriate and used to create EWA assets south of the Delta. By relaxing the E/I ratio, up to 20,000 acre-feet could be exported for the EWA. This water would be exported by the SWP and held in San Luis Reservoir for later use.

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[19] Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from the Army Corps of Engineers. Under Section 10, the Corps regulates projects or construction of structures that could interfere with navigation. A department of the Army permit is needed to construct any structure on any navigable water of the United States, to excavate or deposit material in such waters, or to do any work affecting the course, location, condition, or physical capacity of such waters.

[20] D-1641-The State Water Resources Control Board issued Decision 1641 on December 29, 1999. The order requires DEPARTMENT and the USBR maintain their respective outflow standards until November 30, 2001 or until the Board adopts a further decision during its water rights hearings. It is currently in litigation, but DEPARTMENT continues to voluntarily comply with the standards.

The decisions for implementation of EWA actions and using the various EWA assets will be coordinated through the CALFED Operations Group. The Ops Group will be used to report regularly on the EWA's operations, to help resolve issues that may arise, and to communicate to stakeholders. In addition, staff for the Managing and Project agencies is developing protocols for use of EWA assets. Once the protocols are completed, the CALFED Science Program will convene a scientific panel to review the EWA operations on an annual basis. The management agencies and the project agencies will keep this panel informed on a monthly basis through the CALFED Ops Group reporting process.

2. Banking of EWA Assets

A. Generally

Banking is the storage of water for later use that otherwise would be used or lost in the present. Water can be banked and used within the same water year or carried over for use in a subsequent water year. Even though the acquisition of stored water does not convert a transitory asset into a durable asset, banking is included as an EWA transaction. Like the acquisition of assets, banking transactions must provide for access to and the release of the stored EWA assets to the projects.

Priority of EWA assets in storage generally will be controlled by the provisions of the banking document. Unless the Management Agencies and the Project Agencies make other arrangements, EWA assets will have a lower priority for storage in project reservoirs than project water and thus will spill first. Project reservoirs are operated for project purposes such as flood control, downstream temperature control, minimum downstream flows for fish, meeting regulatory requirements, and providing contract water supply including contractor carryover water.

B. Banking in Project Reservoirs

EWA assets may be stored or “banked” in project reservoirs upstream of the Delta as well as in San Luis Reservoir, provided the Projects do not incur any additional adverse operational impacts. The EWA will share this lower storage priority with water acquired for Level 4 refuge needs. The Project and Management Agencies shall jointly establish reasonable and practical standards for determining when an EWA asset may be stored and when it would spill or be lost from upstream project storage.

Banking EWA water south of the Delta will be important because it creates highly reliable assets which are both durable and which may be released without Delta constraints being an issue.

C. Groundwater Banking

At times, the EWA may bank surface water within existing groundwater banks to prevent loss by spilling from project reservoirs. Usually, if imported water is physically stored in a groundwater basin, the storing agency will have a first and exclusive right to the water stored.

D. Source-Shifting Agreements

The purpose of water banking is to have water available for use at a time other than its original availability. Source-shifting agreements fall under this functional definition of “banking”. Source-shifting agreements are executed with a water agency that is able, at certain times, to call on non-Delta water sources to temporarily create an asset for use by the EWA. In these cases, the water agency is agreeing to a reduction in deliveries so these assets can be used for EWA operational curtailments. Replacement of the source-shifted water occurs at a mutually agreed upon time with the water agency without any incremental impacts to the Projects.

The proposed source-shifting agreement with The Metropolitan Water District of Southern California (MWDSC) described in more detail at p. 21 is an example of such a banking arrangement. MWDSC would provide 100,000 to 200,000 acre-feet to be used to enhance the effectiveness of the EWA, and to help provide assurance that SWP and CVP water deliveries and operations will not be affected by EWA operations.

3. Borrowing

Borrowing agreements will allow the EWA to borrow water from the CVP and SWP for fish protection during a water year as long as the water can be repaid without affecting the current or following year’s allocations. Borrowing of project water, specifically water in San Luis Reservoir, is intended to enhance the effectiveness and use of EWA assets. Project water in San Luis Reservoir may be borrowed to support an operational curtailment in lieu of immediately releasing an EWA asset when the borrowed water is not needed at that time to make project deliveries. Borrowing can only take place when the borrowed water would not create or exacerbate water quality and supply problems associated with the San Luis low point, and it meets reasonable carryover storage objectives.

An appropriate EWA asset will be pledged to assure that, if the borrowed water is not otherwise made up, release of the pledged asset will not cause project deliveries to be affected by the borrowing transaction.

4. Transfers Using Delta Conveyance

Transfers will be used to create assets south of the Delta out of assets upstream of the Delta. They can also be used to make acquisitions south of the Delta suitable for release to project use, where a change in the legal place or purpose of use or point of diversion of the water is needed.

**APPENDIX B**

# Overview Of First Year EWA Operation

In the year 2001, the Environmental Water Account (EWA) expects to make relatively small changes in the overall operations of the SWP, the CVP, and certain local and regional water agencies. The environmental water account is expected to have available to it certain "assets", defined by the CALFED Programmatic EIS/EIR Record of Decision/Notice of Determination (NOD) (see Table 1). Any subsequent reference in this document to the ROD includes the EIS/EIR and NOD.

While the EWA is under no obligation to utilize each of the assets to the maximum extent possible, it could do so. Also, the actual asset mix generated for the EWA could vary somewhat from the nominal values, provided that substitute actions are functionally equivalent to the actions replaced. For example, the EWA might purchase less than 150,000 acre-feet of water south of the Delta and more than 35,000 acre-feet of water North of the Delta, if the year 2001 is a dry year.

Representatives of U.S. Bureau of Reclamation, Department, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Department of Fish and Game are currently working on purchase, storage (including water), and source shifting agreements, called for in the ROD. Table 2 shows the maximum assets that could be acquired for the first year. The table also reflects the goals for each area targeted by the ROD.

As stated in the ROD, immediate development of assets for the first year (January 1, 2001 – December 31, 2001) is critical to EWA success. Initial water purchases, lease of groundwater storage and surface water storage will be secured from willing sellers by December 31, 2000. In addition to the assets to be acquired annually, as shown in Table 1, an initial one-time deposit of water equivalent to 200,000 acre-feet of south-of-Delta storage will be acquired from a variety of sources to assure the effectiveness of the EWA and provide assurances for SWP and CVP water supplies/deliveries. With EWA assets in place, pumping at SWP delta export pumps will be reduced during critical periods for chinook salmon, delta smelt, splittail, or other fishery resources, at the discretion of the fishery agencies.

To acquire all assets listed in Table 1 in 2001, the EWA will rely on the operation of the SWP and the facilities of certain local and regional water agencies. Implementation of the EWA in the first year will not involve changes to the operation of the CVP, use of federal facilities, or use of federal funds. Therefore, the first year operation will be implemented as a state only action. Actions characterized by purchases, storage

Table 1. EWA Assets In Accordance with the ROD

| Action Description | Water Available Annually (Average) |
|---|---|
| SWP Pumping of (b)(2)/ERP Upstream Releases[21] | 40,000 acre-feet[22] |
| EWA Use of Joint Point[23] | 75,000 acre-feet |
| Export/Inflow Ratio Flexibility | 30,000 acre-feet |
| 500 cfs SWP Pumping Increase | 50,000 acre-feet |
| Purchases – South of Delta | 150,000 acre-feet |
| Purchases – North of Delta[24] | 35,000 acre-feet |
| TOTAL | 380,000 acre-feet |
| Storage acquisition | 200,000 acre-feet of storage, filled; acquired in Year 1[25] |
| Source Shifting agreement | 100,000 acre-feet |

acquisitions and source shifting agreements require a negotiated agreement between EWA and participating local and regional water agencies. Agreements that have been or are being negotiated for the acquisition of assets in 2001 are given below. Each agreement will be evaluated individually under CEQA. This Initial Study evaluates the MWDSC source shifting agreement, and the description of other assets is included here as background information. Through these agreements EWA will acquire only the amount of water that is needed and may not purchase all of the water offered.

**Proposed Purchases South of Delta**

- Agencies within Kern County Water Agency (KCWA): Up to 200,000 acre-feet will be made available from Westside Mutual, Rosedale Rio Bravo WSD, West Kern WD, Improvement District 4, Buena Vista WSD and Cawelo to the SWP for distribution either through exchange or direct groundwater pumping.
- Arvin-Edison Water Storage District: From 5,000 to 10,000 acre-feet will be made available through exchange or direct groundwater pumping.

**Proposed Purchases North of Delta**

- Yuba County Water Agency (YCWA): Yuba County Water Agency may release up to 50,000 acre-feet in 2001 during the months of June through early September for recovery by the EWA in the Delta via SWP pumps. The water would come from storage in New Bullards Bar Reservoir.

[21] The EWA and the SWP will share equally the (b)(2) and ERP upstream releases pumped by the SWP after they have served their (b)(2) and ERP purposes.
[22] The amount of water derived from the first four actions will vary based on hydrologic conditions.
[23] The EWA will share access to joint point, with the CVP receiving 50% of the benefits.
[24] This is the amount of water targeted for the first year; higher amounts are anticipated in subsequent years. North of Delta assets assume a twenty percent carriage loss. The actual quantity of water acquired will be approximately 45,000 acre-feet.
[25] Of the 200,000, 100,000acre-feet would be retrievable within the year.

Oroville-Wyandotte Irrigation District: Oroville-Wyandotte may release up to 10,000 acre-feet of water into Lake Oroville for use by the EWA.

**Proposed Storage acquisitions**

- Agencies within KCWA: BVWSD, RRBWSD, WKWD, Westside Mutual, MWDSC (Semitropic) and Santa Clara (Semitropic) have offered to allow the EWA to deposit approximately 200,000 acre-feet of water into groundwater storage from December 2000 through mid-2001 or direct percolation.
- Arvin-Edison WSD: Arvin-Edison has offered to allow the EWA to deposit from 5 to 10,000 acre-feet of water into groundwater storage from December 2000 through mid-2001 or direct percolation.
- Santa Clara: Santa Clara may take early delivery of up to 20,000 acre-feet water and store it within its local system allowing the SWP to reduce delivery of a comparable volume of entitlement water later in the year.

**Proposed Source Shifting agreement**

- The Metropolitan Water District of Southern California (MWDSC): MWDSC would defer 100,000 to 200,000 acre-feet of its 2001 deliveries from the SWP from January through August 2001. The water would be returned in 2002 or 2003 unless the Department and MWDSC mutually agree to delay return of the water. MWDSC will rely upon local storage to buffer the changed delivery pattern.

Table 2. EWA Asset Acquisition Targeting the ROD (in TAF)

| **North of Delta Goal (35 TAF)** | | | **South of Delta Goal (150 TAF)** | | | **Groundwater Assets GW Storage/Extraction (200/100 TAF)** | | | **Additional GW or GW Equivalent** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dry | Wet | | Dry | Wet | | Dry | Wet | | Dry | Wet |
| Yuba | 50 | 50 | EWA Water in San Luis from CVP[26] | 72 | 72 | MWD (Semitropic) | 32/0 | 32/0 | MWD Source Shift Base | 100 | 100 |
| Oroville – Wyandotte | 10 | 0 | Westside Mutual 2000 purchase | 15 | 15 | Santa Clara (Semitropic) | 30/30 | 30/0 | MWD Source Shift Wet | 0 | 0 |
| | | | Rosedale Rio Bravo 2000 purchase | 19 | 19 | Westside Mutual | 50/20 | 50/0 | Deposit to Rosedale GW | 0 | 20 |
| | | | Arvin Edison 2000 Exchange/Purchase | 10 | 10 | Cawelo | 10/5 | 10/0 | Deposit to Santa Clara GW | 0 | 10 |
| | | | Arvin Edison 2001 Exchange/Purchase | 10 | 10 | Buena Vista/ Rosedale Rio Bravo/ West Kern | 25/25 | 0/0 | Westside Mutual | 0 | 18 |
| | | | Westside Mutual 2001 wet only purchase | 0 | 55 | Semitropic | 20/10 | 20/0 | Cawelo | 0 | 10 |
| | | | Buena Vista Water Storage District/ Rosedale Rio Bravo Water Storage District/ West Kern Water District | 0 | 35 | | | | | | |
| | | | Nickel/ Improvement District No. 4 of the Kern County Water Agency | 10 | 15 | | | | | | |
| | | | Improvement District No. 4 - 2001 | 10 | 15 | | | | | | |
| Subtotal | 60 | 50 | | 148 | 243 | | 147/145 | 109/2 | | | |
| Carryover Credit | | | | 13 | 5 | | 11/11 | 98/98 | | | |
| Carriage Losses | 12 | 10 | | | | | | | | | |
| TOTAL | 48 | 40 | TOTAL | 161 | 248 | TOTAL | 158/91 | 207/100 | TOTAL | 100 | 158 |
| Carryover credit to next category: | 13 | 5 | | 11 | 98 | | | | | | |

[26] See USBR Letter to USFWS, September 21, 2000 (Appendix G)

## APPENDIX C

## Environmental Checklist Form

1. Project title: Acquisition of Water from Metropolitan Water District of Southern California (Stored in the Semitropic Groundwater Banking Program) for the Environmental Water Account

2. Lead agency name and address:

California Department of Water Resources
3251 "S" Street
Sacramento, CA 95816

3. Contact person and phone number:

Delores Brown (916) 227-2407

4. Project location: Water will be stored in Semitropic Groundwater Storage Bank in Kern County. Water will be deferred from MWDSC service area (Los Angeles, Ventura, San Bernardino, Orange, Riverside, and San Diego counties).

5. Project sponsor's name and address:

Department of Water Resources
3251 "S" Street
Sacramento, CA 95816

6. General plan designation: N/A 7. Zoning: N/A

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

Lead State Agency, California Department of Water Resources (Department) would purchase up to 31,500 acre-feet of Metropolitan Water District of Southern California (MWDSC) State Water Project (SWP) entitlement water stored in the Semitropic Groundwater Banking Program for use by the Environmental Water Account during 2001. This acquisition will be used for the first year EWA program. The EWA (managed by the regulatory agencies USFWS, NMFS and DFG) would use the water for the purpose of fish protection. The agreement includes an option of up to 31,500 acre-feet of recovery capacity during 2001, available only if the SWP allocation is greater than 70 percent. There would also be an option for DWR to recover the purchased water for EWA during 2002-04 at times mutually agreeable to DWR and MWDSC.

[27] Recovery capacity: Recovery capacity refers to the ability for the Department to retrieve the purchased water from the Semitropic Groundwater Bank.

A. Water Purchase

MWDSC offers DWR an option to purchase up to 31,500 acre-feet of MWDSC's share of water in the Semitropic Groundwater Bank. Through entitlement exchange, this purchase will make available water in San Luis Reservoir for EWA. This purchase is on a one time only basis, during 2001. MWDSC is responsible for replacement of the water in the Semitropic Groundwater Bank with revenue from this project. This water would be recovered as described in (B) below.

B. Recovery Capacity

MWDSC offers up to 31,500 acre-feet of recovery capacity[27] when SWP allocations are 70 percent or greater during 2001 only. Recovery could also occur in 2002-2004, but only after MWDSC water requirements from the Semitropic Project have been met. MWDSC shall notify Semitropic of its intent to take delivery of the banked water as early in the year as possible, but no later than May 1 of the same year. If such notification is provided after May1, Semitropic, at its sole discretion, may make reasonable efforts to comply with MWDSC's request. In the event of an emergency need for water by MWDSC, Semitropic shall endeavor to return banked water to MWDSC to the maximum extent feasible.

DWR can obtain the water from the Groundwater Bank either through pumping and then transfer into the California Aqueduct or through exchange of SWP entitlement water. In the case of exchange, Semitropic would forego an equivalent amount of SWP water deliveries and make use of groundwater for their local needs. The water in the Aqueduct (made available by recovery or entitlement exchange) would be delivered to Southern California in exchange for an equivalent amount of EWA water that would remain in San Luis Reservoir.

9. Surrounding land uses and setting: Briefly describe the project's surroundings:

<u>State Water Project, California Aqueduct, San Luis Reservoir, Southern California Reservoirs</u>: The California Aqueduct delivers water from the Sacramento-San Joaquin Bay-Delta through central California to SWP water contractors and Southern California reservoirs. Most of the surrounding land use is agriculture or undeveloped natural habitat.

<u>Metropolitan Water District of Southern California Service Area</u>: MWDSC 5,135-square-mile service area covers portions of the six-county region of Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. MWDSC currently provides approximately 65 percent of the total water used in its service area and serves a population of approximately 17 million. The land use is largely urban.

<u>Arvin-Edison and Semitropic Water Storage Districts: These groundwater storage districts are located in the southern San Joaquin Valley (Kern County) and are predominantly agricultural lands.</u>

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)
<u>DFG, NMFS and USFWS: Participation in EWA.</u>

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

| | | | | | |
|---|---|---|---|---|---|
| | Aesthetics | | Agriculture Resources | | Air Quality |
| | Biological Resources | | Cultural Resources | | Geology /Soils |
| | Hazards & Hazardous Materials | | Hydrology / Water Quality | | Land Use / Planning |
| | Mineral Resources | | Noise | | Population / Housing |
| | Public Services | | Recreation | | Transportation/Traffic |
| | Utilities / Service Systems | | Mandatory Findings of Significance | | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

| | |
|---|---|
| ✓ | I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. |
| | I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. |
| | I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. |
| | I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| | I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. |

Delores Brown — December 22, 2000
Signature — Date

Barbara J. McDonnell — December 22, 2000
Signature — Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were

incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:
   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

Issues:

| | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| I. AESTHETICS -- Would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | | | | ✓ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | | | | ✓ |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | | | | ✓ |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | | | | ✓ |
| II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land | | | | |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | | | | ✓ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | | | | ✓ |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | | | | ✓ |
| III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | | | | ✓ |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | | | | ✓ |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone | | | | ✓ |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| precursors)? | | | | |
| d) Expose sensitive receptors to substantial pollutant concentrations? | | | | ✓ |
| e) Create objectionable odors affecting a substantial number of people? | | | | ✓ |
| IV. BIOLOGICAL RESOURCES -- Would the project: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | | | | ✓ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | | | | ✓ |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | | | | ✓ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | | | | ✓ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation | | | | ✓ |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| policy or ordinance? | | | | |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | | | | ✓ |
| V. CULTURAL RESOURCES -- Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | | | | ✓ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | | | | ✓ |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | | | | ✓ |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | | | | ✓ |
| VI. GEOLOGY AND SOILS -- Would the project: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | ✓ |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | | | | ✓ |
| ii) Strong seismic ground shaking? | | | | ✓ |
| | | | | |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| iii) Seismic-related ground failure, including liquefaction? | | | | ✓ |
| iv) Landslides? | | | | ✓ |
| b) Result in substantial soil erosion or the loss of topsoil? | | | | ✓ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | | | | ✓ |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | | | | ✓ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | | | | ✓ |
| VII. HAZARDS AND HAZARDOUS MATERIALS – Would the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | | | | ✓ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | | | | ✓ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or | | | | ✓ |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| proposed school? | | | | |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | | | | ✓ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | | | | ✓ |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | | | | ✓ |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | | | | ✓ |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | | | | ✓ |
| VIII. HYDROLOGY AND WATER QUALITY -- Would the project: | | | | |
| a) Violate any water quality standards or waste discharge requirements? | | | | ✓ |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater | | | ✓ | |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | | | | |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | | | | ✓ |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | | | | ✓ |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | | | | ✓ |
| f) Otherwise substantially degrade water quality? | | | | ✓ |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | | | | ✓ |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | | | | ✓ |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | | | | ✓ |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| j) Inundation by seiche, tsunami, or mudflow? | | | | ✓ |
| IX. LAND USE AND PLANNING - Would the project: | | | | |
| a) Physically divide an established community? | | | | ✓ |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | | | | ✓ |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | | | | ✓ |
| X. MINERAL RESOURCES -- Would the project: | | | | |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | | | | ✓ |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | | | | ✓ |
| XI. NOISE – Would the project result in: | | | | |
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | | | | ✓ |
| b) Exposure of persons to or generation | | | | ✓ |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| of excessive groundborne vibration or groundborne noise levels? | | | | |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | | | | ✓ |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | | | | ✓ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | | | | ✓ |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | | | | ✓ |
| XII. POPULATION AND HOUSING -- Would the project: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | | | | ✓ |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | | | | ✓ |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | | | | ✓ |
| | | | | |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| XIII. PUBLIC SERVICES | | | | |
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | ✓ |
| Fire protection? | | | | ✓ |
| Police protection? | | | | ✓ |
| Schools? | | | | ✓ |
| Parks? | | | | ✓ |
| Other public facilities? | | | | ✓ |
| XIV. RECREATION -- | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | | | | ✓ |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | | | | ✓ |
| XV. TRANSPORTATION/TRAFFIC -- Would the project: | | | | |
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle | | | | ✓ |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| trips, the volume to capacity ratio on roads, or congestion at intersections)? | | | | |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | | | | ✓ |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | | | | ✓ |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | | | | ✓ |
| e) Result in inadequate emergency access? | | | | ✓ |
| f) Result in inadequate parking capacity? | | | | ✓ |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | | | | ✓ |
| XVI. UTILITIES AND SERVICE SYSTEMS – Would the project: | | | | |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | | | | ✓ |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | | | | ✓ |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause | | | | ✓ |

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| significant environmental effects? | | | | |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | | | | ✓ |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | | | | ✓ |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | | | | ✓ |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | | | | ✓ |
| XVII. MANDATORY FINDINGS OF SIGNIFICANCE -- | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | | | | ✓ |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of | | | | ✓ |

| | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| other current projects, and the effects of probable future projects)? | | | | |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | | | | ✓ |

# APPENDIX D

## Implementation of Fifteen-Foot, Three-Year Criteria

## APPENDIX B

### IMPLEMENTATION OF FIFTEEN-FOOT, THREE-YEAR CRITERIA

To insure that the 1993 Temporary Water Banking Program (Program) will have no significant adverse impacts on ground water levels, extraction of stored ground water would be prohibited if such extraction would cause the average ground water levels over a three-year period to be 15 feet less than what the average ground water levels would have been without the Program over the same three-year period. The essence of the criteria is the comparison of water levels which occur with the Program in place to those which would have occurred without the Program. The criteria also involves predicting water levels in the upcoming year (both with and without the Program) as well as evaluating the two previous years. This predictive element for one year is required because the criteria is intended to prevent adverse ground water impacts before they occur.

The method to be used will rely largely on collection of ground water level data that are currently being accomplished by Semitropic to determine ground water levels. This will be supplemented by additional work on key wells which will be selected on the basis of increased ground water pumping as a result of the Program or on the basis of aquifer sensitivity to pumping.

The following steps would be used to implement the method:

1. After completing the annual evaluation of ground water conditions, an annual report on impacts of the Program would be prepared. The average water levels without the Program in each improvement district would be computed based on the hydrologic balance. Water levels at each "key" well without the Program would be evaluated by combining the hydrologic balance analysis with a drawdown analysis.

2. Based on projected water supply conditions for the upcoming year and on the preliminary projected operation of the Program, the anticipated water level conditions with and without the Program would be estimated at each "key" well.

3. The "Fifteen-Foot, Three-Year" criteria would be evaluated for each "key" well, based on the impact shown for the projected year (step 2 above) and the previous two years (step 1 above).

4. If the results of step 3 above indicate an unacceptable ground water level impact, the initially projected Program operations would be modified and steps 2 and 3 repeated until impacts are limited to an acceptable level. Potential operational modifications could range from modification of the pumping pattern of Semitropic's wells to reduction (and if necessary complete elimination) in pumping of these wells.

Modeling and monitoring of the Program would be coordinated with the surrounding districts and with the Kern County Ground Water Association when formed.

# Appendix E

## Article 19 Objectives for Water Quality Parameters

| Parameter | Units | Article 19 Objective | | |
|---|---|---|---|---|
| | | Monthly Average | 10 Year Average | Maximum |
| Arsenic | | | | 0.05 |
| Boron | | | | 0.6[28] |
| Chloride | mg/L | 110 | 55 | |
| Hexavalent Chromium | | | | 0.05 |
| Copper | | | | 3.0 |
| Fluoride | | | | 1.5 |
| Iron + Manganese | | | | 0.3 |
| Lead | | | | 0.1 |
| Selenium | | | | 0.05 |
| Sodium | %[29] | 50 | 40 | |
| Total Dissolved Solids | mg/L | 440 | 220 | |
| Total Hardness as $CaCO_3$ | mg/L | 180 | 110 | |
| Zinc | | | | 15 |

[28] Monthly Average
[29] Percentage of cationic composition

# APPENDIX F

## DWR Water Quality Sampling Stations

| Station Locations |
|---|
| North Bay Aqueduct at Barker Slough Pumping Plant |
| North Bay Aqueduct at Cordelia Pumping Plant |
| Clifton Court |
| Harvey O. Banks Pumping Plant |
| South Bay Aqueduct at Del Valle |
| South Bay Aqueduct at Santa Clara Terminal Tank |
| Ca Aqueduct at Inlet to O'Neill Forebay (Check 12) |
| San Luis Reservoir - Pacheco Pumping Plant |
| Ca Aqueduct at Outlet to O'Neill Forbay (Check 13) |
| Ca Aqueduct near Coalinga (Check 18) |
| Ca Aqueduct near Kettleman City (Check 21) |
| Coastal Aqueduct at Check 4 |
| Ca Aqueduct near near Hwy. 119 (Check 29) |
| Ca Aqueduct at Tehachapi Afterbay (Check 41) |
| MWD Pipeline at Castaic Lake |
| Mojave Siphon Inlet (Check 66) |
| Devil Canyon Headworks |

# APPENDIX G

## Letter From USBR to USFWS Entitled:

## Informal Consultation And Request For Concurrence With Determination Of Not Likely To Adversely Affect For Proposal To Use Water Acquired From Kern Water Bank Authority For The Environmental Water Account

MP-410
ENV-1.10

SEP 21 2000

MEMORANDUM

To: Field Supervisor, U.S. Fish and Wildlife Service, Sacramento CA
Attention: Wayne White

From: FOR John F. Davis
Regional Resources Manager
/S/ CHARLES B. JOHNSON JR.

Subject: Informal Consultation and Request for Concurrence with Determination of Not Likely to Adversely Affect for Proposal to Use Water Acquired from Kern Water Bank Authority for the Environmental Water Account

In May 2000, Reclamation finalized an Environmental Assessment/Finding of No Significant Impact for the *Temporary Water Acquisition in Support of Bureau of Reclamation Water Year 2000-2003 Operations* that included a concurrence by the U.S. Fish and Wildlife Service that the proposed action of acquiring 72,000 acre-feet of water is not likely to adversely affect listed species. Referring to your memorandum dated May 19, 2000, this concurrence was conditional that if the acquired water were to remain in San Luis Reservoir after February 28, 2001, Reclamation would consult with the U.S. Fish and Wildlife Service on any future use of the water. Reclamation has determined that the acquired water may remain in storage at San Luis Reservoir past the above indicated date for use by the Environmental Water Account (EWA), once the EWA becomes operational. Reclamation has the ability to use this water until June 30, 2001, the period for which the State Water Resources Control Board action is approved. Although it is possible that the EWA may expend the 72,000 acre-feet prior to February 28, 2001, it is almost certain that this EWA asset will be expended before June 30, 2001. In either case the use of this EWA asset is to benefit listed species. No changes in use from those already documented in the referenced environmental assessment will occur. For these reasons, Reclamation has determined that this proposal is not likely to adversely effect any listed species nor adversely modify any designated critical habitat.

We would appreciate your written concurrence with our finding within 30 days upon receipt of this letter. Please contact Mary Johannis, our EWA Program Manager at (916) 978-5202 (TDD 978-5608) if you have any questions.

Thank you for your ongoing assistance with this project.

cc: Field Supervisor, U.S. Fish and Wildlife Service, Sacramento CA
Attention: Joel Miller
Endangered Species Division, U.S. Fish and Wildlife Service, Sacramento CA
Attention: Peter Cross

bc: MP-150, 400, 410