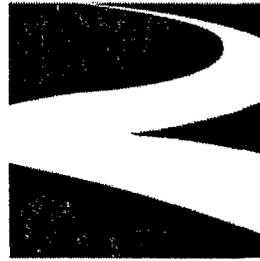


February 1999

Briefing Packet



CALFED BAY-DELTA PROGRAM

February 1999 Briefing Packet

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Program Overview

The CALFED Bay-Delta Program is a cooperative effort among state and federal agencies and California's environmental, urban and agricultural communities. It was initiated in 1995 by Governor Pete Wilson and the Clinton administration to address environmental and water management problems associated with the Bay-Delta system, an intricate web of waterways created at the junction of the San Francisco Bay and the Sacramento and San Joaquin rivers and the watershed that feeds them.

Today the Bay-Delta system is in serious trouble. Habitats are declining, and some native species are listed as endangered. The system has suffered from impaired water quality. Water supply reliability has declined significantly. Many levees are structurally weak and present a high risk of failure.

The Bay-Delta system is a critically important part of California's natural environment and economy. It supplies drinking water for more than 22 million Californians and irrigation water for the state's \$24 billion agricultural industry. It also supports 750+ plant and animal species, some found nowhere else on the planet. Ultimately, California's trillion-dollar economy, the seventh largest in the world, is at risk if Bay-Delta system environmental and water management problems are not resolved.

A New Approach

CALFED represents a new approach to natural resource management. It combines state and federal agencies with regulatory power over the system and California's leading urban, business, environmental and agricultural interests, all of whom are working together to develop a comprehensive solution to the problems of the Bay-Delta.

Public input is a key component of the process. Technical working groups, public meetings and workshops, and the federally chartered Bay-Delta Advisory Council all provide opportunities to participate in the decision-making process.

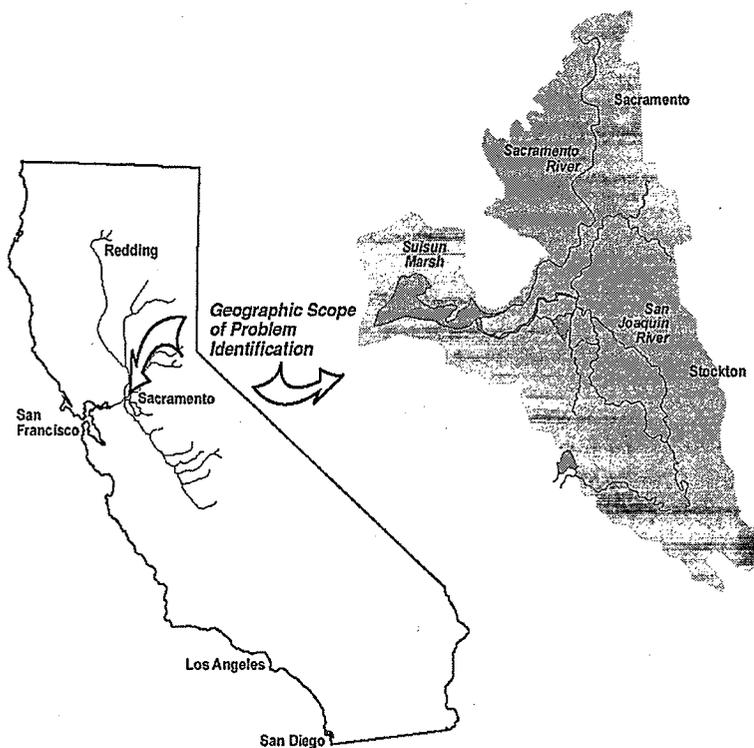
**East/West Comparison
of Scope of CALFED Solution Area**



Environmental Review

The CALFED Bay-Delta Program is divided into three phases. Phase I, completed in September 1996, concentrated on identifying and defining the problems confronting the Bay-Delta system. A mission statement and guiding principles were developed, along with Program objectives and an array of potential actions to meet them. Three preliminary alternatives were identified for further analyses in Phase II.

During Phase II, currently underway, the Program is developing a preferred program alternative and conducting a comprehensive programmatic environmental review process. Because the CALFED solution area is so large, and because it is approaching its task in an integrated, comprehensive way, environmental review must be conducted on a very broad level. Phase II will conclude with the Final Programmatic Environmental Statement/Environmental Impact Report (EIS/EIR). Final decision on the program plan is expected by June 2000.



Geographic Scope

The **geographic scope for the problems** consists of the legally defined Delta, Suisun Bay (extending to the Carquinez Strait) and Suisun Marsh.

The **geographic scope for developing possible solutions** includes a much broader area that extends both upstream and downstream of the Bay-Delta. This solution scope includes the Central Valley watershed, the Southern California water system service area, San Pablo Bay, San Francisco Bay, near-shore portions of the Pacific Ocean out to the Farallon Islands and north to the Oregon border, and the Trinity River watershed, from which flows are diverted into the Bay-Delta system.

Phase III – Program implementation will begin in Phase III, following completion of the final Programmatic EIS/EIR.

The CALFED solution plan is expected to take 25 to 30 years to complete. Implementation is roughly divided into three stages, with Stage 1 lasting seven years.

Site specific, detailed environmental review will occur during Phase III, prior to the implementation of each proposed action. Stage 1 actions will be grouped into a series of "bundles" to provide additional assurances for balancing benefits. For example, a bundle of actions could include levee work, habitat improvements, water quality work, and facilities and operations to improve water supply reliability. Linking the actions will help assure that progress is made in all areas. Actions may be linked within the same project EIS/EIR, by contractual documents, funding or other means.

Mission Statement, Objectives and Solution Principles

The mission of the CALFED Bay-Delta Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system.

CALFED developed the following objectives for a solution:

- Provide good water quality for all beneficial uses;
- Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species;
- Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system;
- Reduce the risk to land use and associated economic activities, water supply, infrastructure and the ecosystem from catastrophic breaching of Delta levees.

In addition, any CALFED solution must satisfy the following **solution principles**:

- ***Reduce Conflicts in the System*** Solutions will reduce major conflicts among beneficial uses of water.
- ***Be Equitable*** Solutions will focus on solving problems in all problem areas. Improvements for some problems will not be made without corresponding improvements for other problems.
- ***Be Affordable*** Solutions will be implementable and maintainable within the foreseeable resources of the Program and stakeholders.
- ***Be Durable*** Solutions will have political and economic staying power and will sustain the resources they were designed to protect and enhance.
- ***Be Implementable*** Solutions will have broad public acceptance and legal feasibility, and will be timely and relatively simple to implement compared with other alternatives.
- ***Have No Significant Redirected Impacts*** Solutions will not solve problems in the Bay-Delta system by redirecting significant negative impacts, when viewed in their entirety, within the Bay-Delta or to other regions of California.

Draft Preferred Program Alternative

The CALFED Bay-Delta Program Revised Phase II Report describes the draft preferred program alternative – a framework for restoring ecological health to the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta), providing more reliable water supply for agriculture and cities, and improving drinking water quality in California.

While the Revised Phase II Report represents a great stride forward in developing a balanced program to solve California's environmental and water needs, it is still very much a work in progress. Research and study, negotiations among stakeholders and state and federal public agencies, and public meetings will continue in 1999.

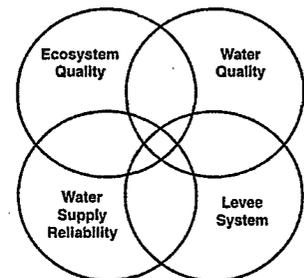
The draft preferred program alternative described in the Revised Phase II Report seeks to achieve improvements in the four interrelated problem areas: ecosystem health, water quality, levee system integrity, and water supply reliability. The "programmatic" nature of the alternative means that actions are described in broad terms. Site specific actions will be implemented after the broad program outline is adopted, and additional environmental and other permit reviews conducted. All of these actions will take an adaptive management approach: with careful monitoring, future actions will be modified as more is learned about the system and how it responds.

The Revised Phase II Report is available on CD-ROM, in print, and on the CALFED web site <http://calfed.ca.gov>.

The draft preferred program alternative begins with strategies for solving each of the four Bay-Delta problem areas in an integrated manner. These strategies are interwoven and each must be viewed in the context of the other strategies. For example, to fully implement the Ecosystem Restoration Program (ERP), CALFED must also have a successful strategy to provide the improved water quality that is needed by the ecosystem. The levee strategy provides new opportunities for improving levee-associated habitat for Delta species. Also, water for environmental uses will benefit from improved water supply reliability.

Key Strategies for the Four Problem Areas

Levees – Delta levees are critical to the physical integrity of the Delta, and the integrity of the state's water system. CALFED will perform risk assessment of all factors that can contribute to levee failure and the consequences of failure to Delta land uses, the ecosystem, water quality and water supply reliability, and implement appropriate risk management considering all available options. Levee improvements will incorporate successful techniques for restoring, enhancing or protecting ecosystem values.



Water Supply Reliability – The CALFED Program has proposed a water management strategy to ensure water supply reliability that recognizes the variability of water supply and demand in California. CALFED's water supply reliability goals are to:

- Reduce water diversion conflicts between environmental uses and consumptive uses;
- Decrease drought impacts for the environment and water users;
- Increase water supply availability by providing a means for water users and the environment to acquire additional water at high priority times and places;
- Increase operational flexibility by improving the ability of the system to respond to unforeseen or unpredictable events;
- Increase the utility of water used for all beneficial uses by improving water quality.

Seven general categories of tools are included in the management strategy, all of which are being used in California to some degree: water conservation; water recycling; water transfers, both short-term and long-term; storage, both groundwater and surface water; watershed management; water quality control; and monitoring and real-time diversion management.

A creative new component of this strategy could be an environmental water account. Through the environmental water account, environmental managers could control a package of assets that provides greater flexibility in helping fisheries recover. With an environmental water account, decision-makers could react quickly to the real-time actions of fish, which do not always act according to models and scientific analyses. CALFED intends to implement a pilot program in 1999 to refine the environmental water account concept and its role in the final plan.

Possible assets include a block of water; access to as much as 300,000 acre-feet of refillable, high priority storage; ability to option and purchase water; access to canals and facilities; funding for a conservation/recycling program that will yield water for the environment; the ability to flexibly apply export standards to create water for the environment; and a contingency fund. The environment would be able to trade assets with other water users for future water use.

Water Quality – CALFED's strategy is to provide good water quality for all beneficial uses, and includes reducing or eliminating elements that degrade water quality at its source. In addition, CALFED is committed to continuously improving source water quality that allows municipal water suppliers to deliver safe and affordable drinking water that reliably meets and, where feasible, exceeds applicable drinking water standards. CALFED program actions will be aimed at reducing the levels of problem pollutants such as bromide, organic carbon and pathogens in Delta drinking water sources. CALFED will consider additional water management options as necessary to achieve its goals and objectives, including, but not limited to, provision of alternative sources, use of storage facilities to improve drinking water quality, and an isolated facility to provide source water of better quality.

Integrated Water Management Strategy

Water Management Tools

Water Management Functions/Objectives

Reduce Diversion Conflicts

Increase Supply Predictability

Increase Supply Utility (WQ)

Decrease Drought Impacts
 • Enviro Flows
 • Ag/Urban Supply

Increase Supply Availability
 • Drought
 • Average

Increase Operational Flexibility

	Transfers • Long Term • Water Bank	Conservation • Ag • Urban • Wetlands	Reuse	Storage • Groundwater • Surface	Watershed Management	Water Quality	Monitoring	Diversion Management
Reduce Diversion Conflicts								
Increase Supply Predictability								
Increase Supply Utility (WQ)								
Decrease Drought Impacts • Enviro Flows • Ag/Urban Supply								
Increase Supply Availability • Drought • Average								
Increase Operational Flexibility								

Ecosystem Restoration – CALFED’s ecosystem restoration program (ERP) is the largest, most comprehensive, and most inclusive environmental restoration program in the United States. It provides a new perspective to restoration science by focusing on the rehabilitation, protection or restoration of ecological processes that create and maintain habitats needed by fish, wildlife and plant species dependent on the Delta and its tributary systems. This strategy emphasizes solid science, adaptive management and local participation: an innovative approach that is becoming a model for similar efforts throughout the nation. By restoring the natural processes that create and maintain diverse and vital habitats, CALFED aims to meet the needs of multiple plant and animal species while reducing the amount of human intervention required to maintain habitats.

Adaptive management is an essential program concept, part of each of these strategies. It is necessary to constantly monitor the system and adapt actions that are taken to restore ecological health and improve water management.

Delta Conveyance – In addition to these four strategies, CALFED must consider how various Delta conveyance configurations – how water is moved through the Delta – would help implement the strategies. The Delta conveyance strategy must consider fisheries and water quality for in-Delta uses and drinking water. The existing Delta channels will be an integral part of any CALFED decision for Delta conveyance. The reliance on these channels provides a shared interest in restoring, maintaining, and protecting Delta resources, including water supplies, water quality, levees, channel capacities, natural habitat and the Common Delta Pool.

CALFED’s Delta conveyance strategy is to develop a through-Delta conveyance alternative based on the existing Delta configuration with some modifications, evaluate its effectiveness and add additional conveyance and /or other water management actions if necessary to achieve CALFED goals and objectives.

Program Elements

CALFED developed eight program elements to carry out the strategies described above. The draft preferred program alternative is comprised of these program elements, to be implemented in stages over the next 30 years. Each of the elements contributes to improvements in the four problem areas.

Long-term Levee Protection Plan – The goal of the Levee Protection Plan is to improve levee stability, which will contribute to water supply reliability and water quality improvements for human consumption and the environment. The levees are an integral part of the Delta landscape and are key to preserving the Delta’s physical characteristics and processes.

Actions are based on the successes of existing programs. Levee protection actions provide base-level funding to reconstruct all Delta levees to a particular standard, and additional funding for special habitat improvement and levee stabilization projects. The program will also implement best management practices (BMPs) to control subsidence on levees; assess overall risk to the levee system and develop recommendations to manage the risk; and establish an emergency management plan.

Water Quality Program – Improving water quality is one of the CALFED Program’s basic objectives. CALFED is committed to achieving continuous improvement in the quality of the waters of the Bay-Delta Estuary for all beneficial uses and maintaining this quality once achieved. Some actions to achieve improvement can begin immediately; others will rely on comprehensive monitoring, pilot studies and research.

The Water Quality Program will focus on improving drinking water quality and reducing impacts from urban and agricultural pesticide use; trace metals; mercury; selenium; bromide; salinity; turbidity and sedimentation; low dissolved oxygen; and toxicity of unknown origin.

Ecosystem Restoration Program – The principal mechanism that CALFED will use to restore the health of the Bay-Delta ecosystem is the Ecosystem Restoration Program (ERP). The ERP emphasizes the restoration of ecological processes in order to create and maintain the diverse and vital habitats of the multiple plant and animal species in the Bay-Delta system. To do so, the ERP identifies over 700 programmatic restoration actions, including restoring, protecting and managing diverse habitat types representative of the system; restoring critical flows; improving Delta outflow during key springtime periods; developing prevention and control programs for invasive species; and modifying or eliminating fish passage barriers.

Water Use Efficiency Program – Water conservation is a concept broadly supported by Californians. The Water Use Efficiency Program includes both water conservation measures for agricultural, urban and wildlife refuge uses, and water recycling actions. The program relies on appropriate conservation measures and government assistance to help users comply with the programs. Existing state and federal programs will be expanded to provide increased levels of funding and technical assistance at the local level. A high-level of water use efficiency is expected to be required as a condition for permitting new surface storage projects.

CALFED agencies will work with the Legislature and stakeholders to develop state legislation that requires appropriate measurement or metering of water use for all water users in the state. Technical and stakeholder issues will be addressed to define “appropriate measurement,” which is expected to vary by region. The definition will include the nature of regional differences, appropriate point of measurement, and the feasible level of precision.

Water Transfer Program – Water transfers are currently an important water management tool and have the potential to play a more significant role. The Water Transfer Program

proposes a framework of actions, policies and processes that will facilitate water transfers and further develop a statewide water transfer market that can move water between users, including the environment, on a voluntary and compensated basis.

Key components of this program are establishing a California Water Transfers Information Clearinghouse to provide complete and accurate information and facilitate assessment of potential third-party impacts; coordinating among agencies to formulate policy and standardized procedures; and developing a process to identify transferable water, reservoir refill and carriage water criteria and costs for transporting water through state and federal conveyance facilities.

The Watershed Program – The success of every vision and objective encompassed within the CALFED Program depends on local cooperation and public support. The Watershed Program provides an important opportunity to involve the public and generate local support for projects that enhance the physical and biological processes that occur within individual watersheds and influence the Bay-Delta ecosystem. This grassroots approach involves the public and local communities in decision-making that affects local watershed resources.

In addition, the Watershed Program provides opportunities to educate the public on a variety of watershed issues; reduce conflict resulting from lack of understanding; bring together the public and local and regional experts to address topics related to watershed health; introduce watershed stewardship practices that residents can use to improve the health of the entire system; and foster creative problem-solving for watershed-based resource issues.

Storage – Both surface and groundwater storage are important water management tools, and some storage will be necessary to achieve water supply reliability goals. The appropriate mix between surface and groundwater storage will be determined during Stage 1 of program implementation. (Stage 1 is expected to be the first seven years of program implementation.) Target volume for groundwater banking is 500,000 acre-feet of storage.

CALFED will focus on consideration of off-stream reservoir sites for new surface storage, but will consider expanding existing on-stream reservoirs. Under the ERP, some dams and stream obstructions will be removed to open areas of fishery habitat. Even with new surface storage, there will be fewer stream miles blocked after implementation of the CALFED Program. CALFED has reduced the number of potential surface storage sites from 52 to 14, and the list will be further narrowed to 3 to 5 by the time of program certification. Should new surface storage be considered necessary to meet CALFED goals, site selection would take place in years 4-5 of program implementation.

Conveyance – CALFED's strategy is to use the existing Delta system with some modifications, evaluate its effectiveness, and add additional conveyance and/or other water management actions if necessary to achieve CALFED goals and objectives. These actions will be continually monitored, analyzed and improved as necessary to meet CALFED goals.

Potential Stage 1 improvements to the existing south Delta region include new screens for the SWP and CVP export facilities, changes in operations, channel enlargements, and other improvements to increase water supply reliability while decreasing impacts on fish and Delta water users. In the north Delta region proposals include channel enlargement for flood control, changes in Delta Cross-Channel operations, and consideration of a new screened diversion from the Sacramento River to the interior Delta to help balance water quality and fisheries concerns.

If CALFED's goals and objectives, such as its commitments to continuous water quality improvement and fisheries restoration, cannot be accomplished by this strategy during Stage 1, the preferred program alternative includes additional actions that may be taken toward these goals and objectives after thorough assessment of a variety of factors. Additional actions may be necessary to advance CALFED's commitment to seek continuous water quality improvement and achieve fishery recovery.

Decision Process

A Revised Draft Programmatic EIS/EIR is expected to be released in late June, followed by a 90-day public comment period. A final EIS/EIR is expected to be complete in April 2000, followed by state and federal program certification in June 2000.

Several key issues remain to be resolved over the next year.

- **Governance:** Define the future institutional structure for overall CALFED program management and coordination, and for management of each program element. Recommendations for required legislation will be made if necessary.
- **Conservation Strategy:** Complete the Conservation Strategy, which includes goals and actions for species recovery and provides the framework for incidental take associated with Stage 1 actions. Develop GIS capability. Establish a policy level agency team and policy level agency-stakeholder team to coordinate with technical effort.
- **Program Elements:** Complete strategic plans for each program element, with measurable performance goals; Stage 1 actions; financing; recommended governance; and key milestones and decision points. These plans will provide agencies, stakeholders and the public with a more complete picture of what can be expected from each program element.
- **Water Management Strategy:** Define specific water management objectives and the performance of the water management tools to achieve the objectives. Address supply/demand projections. Develop adaptive water management strategy responsive to the uncertainty of future conditions. Establish a policy level agency-stakeholder team.
- **Water Use Efficiency:**

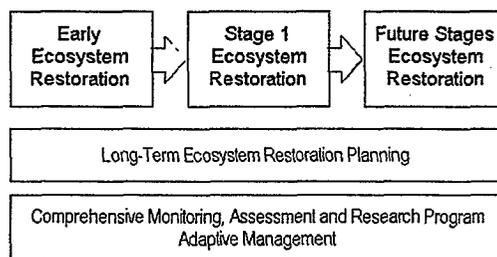
- Agriculture – Develop regional measurable objectives and incentive program, define “appropriate” measurement, define role of Ag Water Management Council.
 - Urban – Determine appropriate water conservation plan certification process.
 - Managed Wetlands – Complete management plan.
 - Water Recycling: Develop incentive program.
- **CMARP:** Refine CALFED Monitoring, Assessment & Research Program, with links to Stage 1 actions, Conservation Strategy and Ecosystem Restoration Program. Develop peer review process of early ecosystem restoration projects. Develop link between data and management decisions.
 - **Stage 1 Priorities:** Identify the first group of Stage 1 projects, and implement an environmental documentation and permit coordination process. To allow early Stage 1 projects to move forward efficiently, a process to coordinate and consolidate CEQA/NEPA requirements will be implemented. Identify funding and implementation actions necessary to move forward with high priority actions.
 - **Section 404/401 & Section 10 Compliance:** Develop a streamlined early permitting process for initial Stage 1 actions. Complete a Programmatic Section 404 Assurance Package, with a clearly defined 404 permitting process including appropriate decision criteria. Narrow the range of surface and groundwater storage facilities, and resolve the need for new surface storage.
 - **Water Quality:** Establish action priorities and interim water quality targets. Initiate implementation planning to acquire funding, determine agency roles, coordinate agency regulatory responsibilities, organize work teams, develop detailed action plans and establish expert panels. Establish policy level stakeholder and agency teams.
 - **Environmental Water Account (EWA):** Determine how an EWA could be structured. Develop and implement an EWA pilot project.
 - **Finance:** Refine Stage 1 cost estimates for each program element. Complete the Financing Plan for proposed program, including budget and funding sources; resolve financial principles.
 - **Water Transfers:** Complete strategic plan. Resolve need for legislation regarding water rights and Water Transfer Information Clearinghouse. Develop expedited approval process, methodology for tracking and accounting, process for calculating conveyance capacity.

Restoration Coordination Program

Background

The December 15, 1994, Bay-Delta Accord included a commitment to develop and fund non-flow related ecosystem restoration activities to improve the health of the Bay-Delta ecosystem. This funding source and commitment is commonly referred to as Category III. The Category III Steering Committee was formed to administer previous rounds of Category III funding. In 1996, the administration function for Category III funds was shifted to the CALFED Bay-Delta Program's Restoration Coordination Program. The CALFED Restoration Coordination Program is designed as a short-term program to allow implementation of ecosystem restoration actions while the programmatic environmental documents are being revised and finalized. It is expected that the Restoration Coordination Program will become part of the overall Ecosystem Restoration Program (ERP).

CALFED **Ecosystem Restoration**



The CALFED Restoration Coordination Program receives input from the Ecosystem Roundtable, the Bay-Delta Advisory Council (BDAC) and the general public. The Ecosystem Roundtable is a subcommittee of BDAC specifically created to provide input from a broad cross-section of stakeholder interests to the Restoration Coordination Program. BDAC consists of over 30 representatives of California stakeholder groups. BDAC is chartered under the

Federal Advisory Committee Act and provides input to the overall CALFED Program.

The Restoration Coordination Program also has the responsibility of improving coordination among fish and wildlife restoration programs in the Central Valley. The administrative function was assigned to CALFED to ensure that Category III programs and projects were well integrated with other restoration programs and were consistent with the long-term ERP and the Strategic Plan for Ecosystem Restoration.

Funding

To date, CALFED's Restoration Coordination Program has received more than 600 proposals and has funded 171 projects for a total of approximately \$177 million. Additionally, 13 projects for a total of approximately \$52 million dollars have recently been approved for FY 1999. Types of projects funded have included fish screens, fish ladders,

land acquisition, habitat restoration, and focused research and monitoring projects designed to provide information that will improve future restoration efforts.

Previous funding sources have included contributions from the California Urban Water Agencies, Proposition 204 State bond funds and funding from the Federal Bay-Delta Act, and Federal EPA watershed funding. In 1999 the majority of funds available are from the Federal Bay-Delta Act, with additional contributions from State Proposition 204.

Ecosystem Restoration Funding Sources

<p style="text-align: center;">Stakeholder Funds 1994-\$32 million</p>	<p style="text-align: center;">State Funds Proposition 204 Safe, Clean, Reliable Water Supply Act 1996 1996-\$60 million</p> <div style="border: 1px solid black; padding: 2px; margin: 5px auto; width: 80%;"> <p style="text-align: center; font-size: small;">Bay-Delta Ecosystem Account \$390 million</p> </div>	<p style="text-align: center;">Federal Funds California Bay-Delta Environmental Enhancement and Water Security Act 1998-\$85 million 1999-\$75 million</p> <div style="border: 1px solid black; padding: 2px; margin: 5px auto; width: 80%;"> <p style="text-align: center; font-size: small;">Balance of Authorization \$270 million</p> </div>
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How Projects are Selected

Ecosystem restoration projects may be selected through identification as a directed program or through a public solicitation process. CALFED has the discretion of directing funds towards specific actions – “directed programs” – that will help the program achieve its long-term ecosystem restoration goals. To be considered as a directed program, potential projects are required to meet three criteria:

- The project is considered to be a very high priority with substantial investment already made.
- Additional funding in the current fiscal year would result in substantial progress towards ecosystem restoration goals.
- The project is ready to go and the implementing entity has been identified.

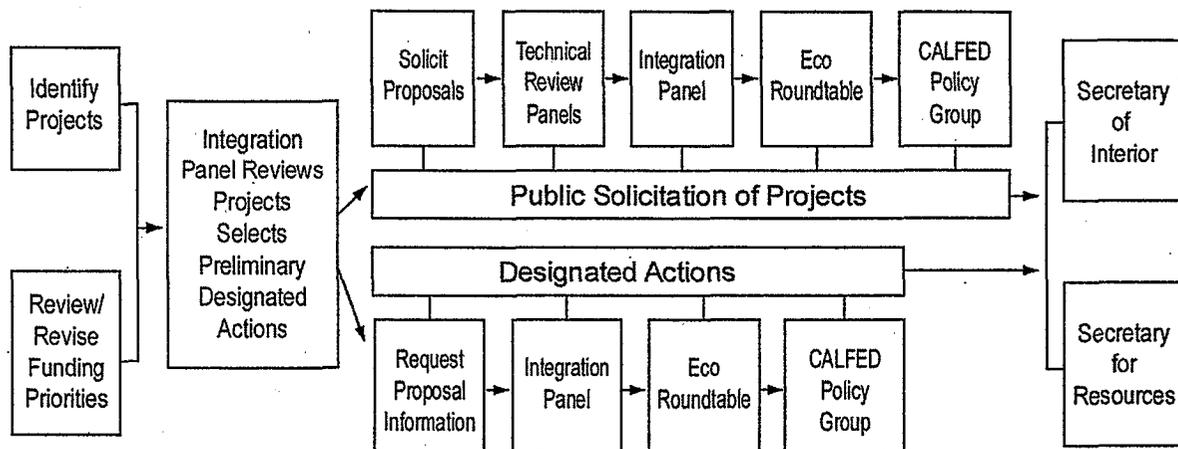
Projects selected as directed programs are identified through public and technical outreach and the use of the Strategic Plan for Ecosystem Restoration, the Ecosystem Restoration Program objectives and the draft Stage 1 action list.

Proposals selected through the public solicitation process are evaluated and scored by technical review panels made up of state, federal and stakeholder technical representatives with the necessary expertise. Once potential projects are identified, either as directed programs or through technical scoring of solicited proposals, they are forwarded to the CALFED Integration Panel.

The CALFED Integration Panel, comprised of state, federal and stakeholder technical representatives, evaluates potential projects based on CALFED’s comprehensive goals for



Ecosystem Restoration Project Selection Process



ecosystem restoration. The Integration Panel takes into consideration the project's ability to meet the funding priorities and implementation guidelines, the system-wide ecosystem benefits of the project and compatibility with non-ecosystem CALFED objectives. The Integration Panel forwards preliminary recommendations for funding to the Ecosystem Roundtable and CALFED Policy Group. The CALFED member agencies, acting through the CALFED Policy Group, make final funding recommendations to the Secretary for Resources and the Secretary of Interior.

1999 Funding Priorities

Approximately \$85,679,000 is available for projects in fiscal year 1999. These include funds from the Federal Bay-Delta Act, with additional contributions from State Proposition 204. The CALFED Integration Panel, Ecosystem Roundtable and Policy Group have recommended 13 projects for funding as directed programs in 1999, at a total cost of approximately \$52,462,000. Approximately \$14,500,000 will be used for environmental water acquisition.

A public solicitation for ecosystem restoration projects will be used to identify projects for the balance of funds available in 1999, approximately \$18,700,000. It is expected that many more proposals will be received than can be funded with available funding sources. This solicitation will be used to identify and prioritize other valuable projects that could be considered for funding should additional Federal Bay-Delta Act funds be allocated in October of 1999 for fiscal year 2000.

The 1999 Public Solicitation Package (PSP) will be available to the public on February 16, 1999. Proposals must be submitted to CALFED no later than April 16, 1999. Final project selection is expected around the end of June 1999.

State and Federal Funds Available for Projects in FY 99

Source	Amount
Prop 204 Unallocated Funds	\$3,876,000
Prop 204 Hatchery Management Program - Unallocated	\$250,000
Prop 204 Fish Harvest Research Program - Unallocated	\$500,000
Prop 204 Sediment Management Program - Unallocated	\$500,000
Prop 204 Water Quality Program - Unallocated	\$2,700,000
FY 98 Federal Bay-Delta Act Fish Passage Program - Unallocated	\$1,524,000
FY 98 Federal Bay-Delta Act Water Acquisition Program - Unallocated	\$14,500,000
FY 99 Federal Bay-Delta Act Unallocated Funds	\$61,829,000
Total Estimated Funds Available	\$85,679,000

Project Profiles

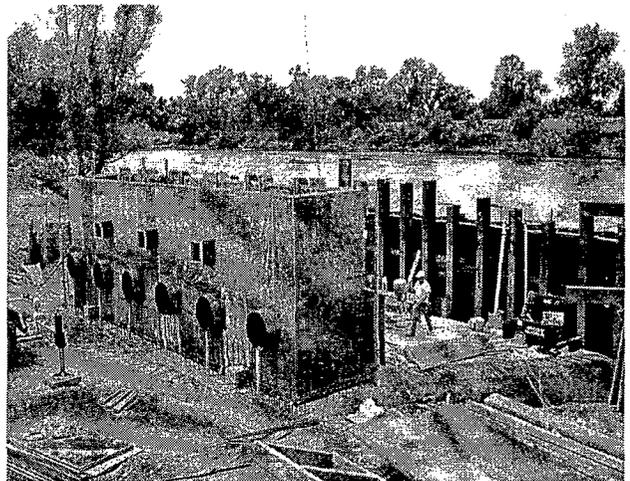
Since 1996, the CALFED Program has funded 171 projects and programs of many types. The following are brief descriptions of some representative projects that are underway.

Wilkins Slough Pumping Plant Fish Screen Project

Total cost: \$10,837,160

CALFED funding: \$2,500,000

The Wilkins Slough Pumping Plant Fish Screen Facility is a state-of-the-art positive barrier fish screen located on the Sacramento River about 45 miles northwest of Sacramento. California Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) have identified Wilkins Slough as a high priority facility for fish protection. This area of the Sacramento River is part of the area designated by NMFS as critical habitat for winter-run Chinook salmon.



The project proponent, Reclamation District 108, provides a water supply for approximately 48,000 acres of irrigated agricultural land. Water diversions are also made during the fall to flood rice fields to provide habitat for migrating waterfowl.

The new fish screen facility will prevent entrainment of several listed and at-risk species, including winter-run, spring-run and fall-run Chinook salmon, steelhead, and a variety of other resident and anadromous fish. It is one of the largest fish screen facilities on the Sacramento River, with a capacity of 700 cubic feet per second (cfs).

Additional funding for the project was provided by the U.S. Bureau of Reclamation (USBR) (\$5,035,859) through the CVPIA, DFG Proposition 204 funds (\$2,950,000) and RD 108 (\$351,301). RD108 and its landowners have provided financial support for the project and are committed to completing the fish screen. Technical staffs of the resource agencies (NMFS, DFG, FWS, and USBR) have been and continue to be involved in the project.

Extensive fisheries monitoring at the site for four years prior to project construction documented the species composition, seasonal occurrence, and size distribution of juvenile and adult fish entrained at the unscreened diversion. Additionally, alternative fish barrier technologies were studied, but those methods could not confirm that the efficiency criteria established by NMFS and DFG could be achieved. Phase V of the project will include performance testing and evaluation of the fish screen facilities to demonstrate compliance with NMFS/DFG criteria and long-term operations and maintenance capabilities.

Construction of the project is 95 percent complete, and the fish screen is fully operational. Facility start-up testing is scheduled for March or April 1999, depending on the weather.

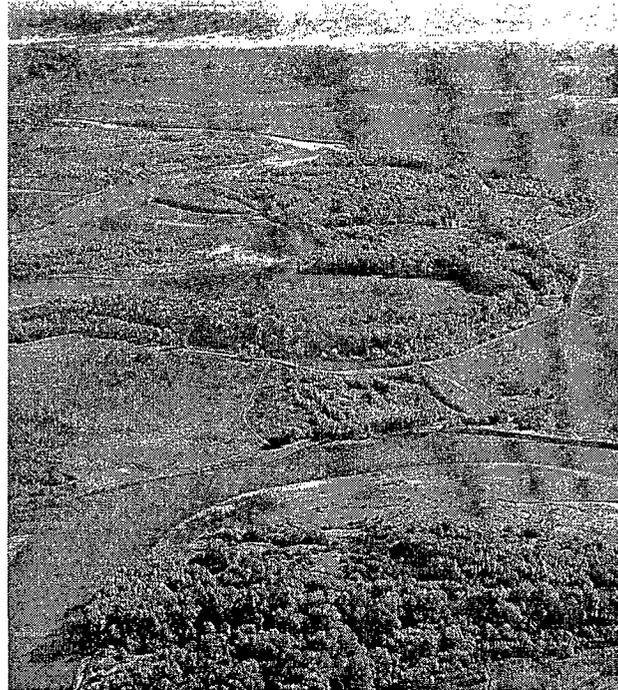
Ecosystem and Natural Process Restoration on the Sacramento River: Floodplain Acquisition and Management Project

Total cost: \$9,879,800

CALFED funding: \$9,879,800

The loss and degradation of aquatic and riparian habitat on the Sacramento River have reached critical levels. Shaded riverine aquatic, floodplain, and riparian woodland habitats have declined as human demands on the river's resources have intensified, with associated declines in aquatic and terrestrial species. Listed and at-risk anadromous fish, including winter-run, spring-run, fall-run, and late fall-run Chinook salmon, and steelhead trout, depend on the river as a migration corridor. Sacramento splittail (a resident fish) have also suffered declines.

Migratory birds, such as the western yellow-billed cuckoo (a state listed endangered species), have also suffered, along with numerous terrestrial species.



The project was proposed by The Nature Conservancy (TNC), U.S. Fish and Wildlife Service (FWS) and the Wildlife Conservation Board (WCB). TNC has worked with FWS and WCB to acquire lands for conservation in the Sacramento River National Wildlife Refuge, acquire

conservation easements, implement large-scale riparian forest restoration, and work with the local community on a wildlife-compatible agriculture program. This project builds on these acquisition and restoration successes. Based on criteria and guidelines set forth for refuge land acquisitions, existing management plans, and regional initiatives focused within the conservation area of the Sacramento River, lands will be acquired to ensure the integrity of a large portion of the Sacramento River's stream meander corridor. Lands acquired will come into conservation ownership and be managed in a manner consistent with the Sacramento River National Wildlife Refuge or state reserve system.

These land acquisitions will facilitate the recovery of natural processes within the floodplain, including the regeneration and restoration of native riparian habitat. The primary ecological objectives are to protect essential spawning, rearing and migratory pathways for anadromous fish, neotropical migratory birds and waterfowl; protect large continuous blocks of existing and restorable aquatic and riparian habitat to benefit aquatic and terrestrial species; and protect and allow for recovery of the 150-year meander belt, which will improve aquatic habitat through growth of riparian vegetation, recruitment of gravel and woody debris, and an increase in channel length and complexity. Along with acquisition, some restoration and ongoing management are planned, including some riparian restoration, project monitoring and evaluation to monitor the recovery of the meander zone and the establishment of riparian vegetation.

Purchase of the first property for this project is scheduled for completion by February 28, 1999. The property is approximately 666 acres of combined riparian and agricultural land that will become part of the Sacramento River National Wildlife Refuge.

Agricultural Conferences and Field Tours

Total cost: \$28,000

CALFED funding: \$28,000

Each year, millions of pounds of pesticides and herbicides are applied to agricultural ground in the San Joaquin Valley. Along with several billion pounds of animal wastes, fertilizer use has resulted in significantly increased levels of nitrates and ammonia in the San Joaquin watershed region, which can adversely impact sensitive species and their habitats.



Improving farming practices to be more compatible with fish and wildlife is an important part of the CALFED Program. The Committee for Sustainable Agriculture has designed agricultural conferences and field tours to address conservation needs in the San Joaquin Basin. Leading experts in the fields of agronomy, soil science, water resources management, integrated pest management,

The first conference, scheduled in February, will focus on orchard and row crop farming practices. The second, in May, will focus on livestock and dairy management. Presentations by various agricultural specialists will cover "best" land-use practices such as waste discharge management, water management, tillage practices, cover crop use, integrated pest management, erosion control, groundwater and surface water quality protection, buffers and easements.

The Committee for Sustainable Agriculture is presenting these conferences in cooperation with the U.S. Bureau of Reclamation and U.S. Forest Service. Since its founding in 1980, CSA has been a leader in presenting agricultural information and practices that preserve natural resources and protect human health and the environment.

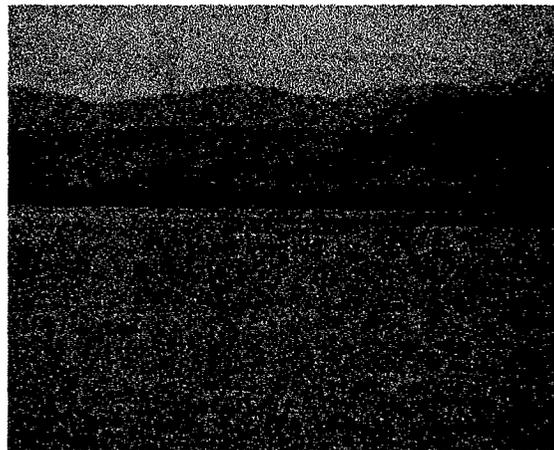
Tolay Creek Restoration

Total cost: \$705,000

CALFED funding: \$283,000

A critical slice of the historic San Pablo Bay wetlands habitat will be restored through the CALFED Program. A 435-acre portion of Tolay Creek, from the bay to Highway 37, was flooded early last December, beginning a process that will recreate the emergent saline marsh habitat. Part of the San Pablo Bay National Wildlife Refuge, Tolay Creek supports California clapper rail, the

California black rail, sora, Virginia rail, snowy egret, great egret, great blue heron, black-necked stilt, salt marsh harvest mouse, and Suisun ornate shrew. The restored creek will be home to many types of fish and as many as 75 species of shorebirds, waterbirds and raptors.



Historically, 860 square miles of marsh and hundreds of acres of mudflats surrounded the estuary. As that land was protected by levees and used by industry, defense, recreation, agriculture or housing, a number of species began to struggle for existence. Both the salt marsh harvest mouse and Suisun ornate shrew are endangered. Tolay Creek was converted from marsh to agriculture in the 1950s. A 70-acre farm was created by restricting tidal flows. A 105-acre lagoon created to offset approval of a development project also compromised the creek's status. Inadvertently, the lagoon contributed to the creek's isolation from the tides. Silt clogged the waterway.

This project was accomplished by bringing together several funding sources. Along with CALFED, Marin-Sonoma Mosquito Abatement District, Shell Oil Spill Litigation Fund, Sonoma Resource Conservation District and Save San Francisco Bay Association contributed

This project was accomplished by bringing together several funding sources. Along with CALFED, Marin-Sonoma Mosquito Abatement District, Shell Oil Spill Litigation Fund, Sonoma Resource Conservation District and Save San Francisco Bay Association contributed funding to the project. Project coordination was provided by Ducks Unlimited, which will be responsible for several years of monitoring to help measure the success of the project.

The Tolay Creek area is part of the San Pablo Bay National Wildlife Refuge and the Napa-Sonoma Marshes State Wildlife Management Area and will be managed jointly by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. An important aspect of the Tolay Creek project is the follow-up effort to monitor the progress of the mammals, fish and birds that move into the restored tidal marsh. The project partners can use information from these studies in future restorations in the San Francisco Bay estuary.

Integrated Pest Management in Suisun Bay

Total cost: \$266,000

CALFED funding: \$266,000

Many pesticides used in the urban environment end up in the Bay-Delta where they harm fish and wildlife. The Central Contra Costa Sanitary District discovered that pesticides in its treated wastewater were toxic to test organisms. The project goal is to reduce the urban use of pesticides through integrated pest management. A monitoring component of the project will assist in evaluation of its success.

By educating the community about the use of Integrated Pest Management (IPM) techniques, and increasing public awareness of the water quality risks of pesticide use, the program is designed to reduce the presence of toxic pesticides in Suisun Bay and local creeks from urban runoff.

IPM emphasizes non-chemical methods to keep pests at acceptably low levels. The project will promote IPM through videos, demonstration gardens, an "eco-friendly" yard campaign, and IPM training for pest control operators.

Reducing toxic pesticide from urban runoff into Suisun Bay and local creeks will improve these areas as wildlife habitat. Suisun Bay is a tidal perennial aquatic habitat and includes saline emergent wetlands habitats and priority habitats. Tidal perennial habitats potentially benefit a number of species, including Delta smelt; salmon; and wildlife and plant species in the shorebird and plant-wading bird guild, waterfowl guild and the freshwater emergent wetlands plant association. Key species for saline emergent wetlands include the Salt marsh harvest mouse and the Suisun song sparrow.

The urban creeks provide instream aquatic habitat, for a variety of non-game fish species, such as stickleback. In addition, steelhead trout use one of the project area urban creeks, as does the fall-run Chinook salmon.

Through community outreach and involvement, this is a project that can produce a healthier environment for people, fish and wildlife.

Bacterial Treatment of Selenium in the Panoche Drainage

Total cost: \$1,149,000

CALFED funding: \$1,149,000

Project Proponents: University of California, Berkeley (Lawrence Berkeley Laboratory)

The Panoche Drain project addresses an important water quality concern in the San Joaquin Valley. Presently, many farmlands in the west San Joaquin Valley discharge selenium-contaminated subsurface drainage water to the San Joaquin River Delta. While animals require very small amounts of selenium, excessive selenium has caused death and deformities in birds and wildlife. Short of extensive land retirement, drainage-water treatment is currently the only practical means of reducing the selenium load.

With the widespread implementation of experimental ABSR technology – Algal-Bacterial Selenium Removal – in the western San Joaquin Valley, the amount of selenium in the San Joaquin River and the Delta would be substantially reduced, thus lowering the potential for toxic impacts upon fish and wildlife.

CALFED will fund the continuing operation of the experimental ABSR Facility in the Panoche Drainage District (PDD) near Firebaugh in Fresno County. The ABSR Facility has removed 90 percent of total soluble selenium from a flow of 3,200 gallons per day of subsurface agriculture drainage water. The estimated cost of drainage water treatment at the PPD plant is less than \$100 per acre-foot. Through this project, the operational costs of full-scale ABSR facilities will be estimated, providing planning information for drainage districts and the State and Federal governments. If implemented on a large scale in the western San Joaquin Valley, the technology that is demonstrated at the Panoche site would significantly reduce the selenium load to the San Joaquin River north of Mud Slough and to the Delta.

Appendices

Category III 1995-1996 Restoration Projects

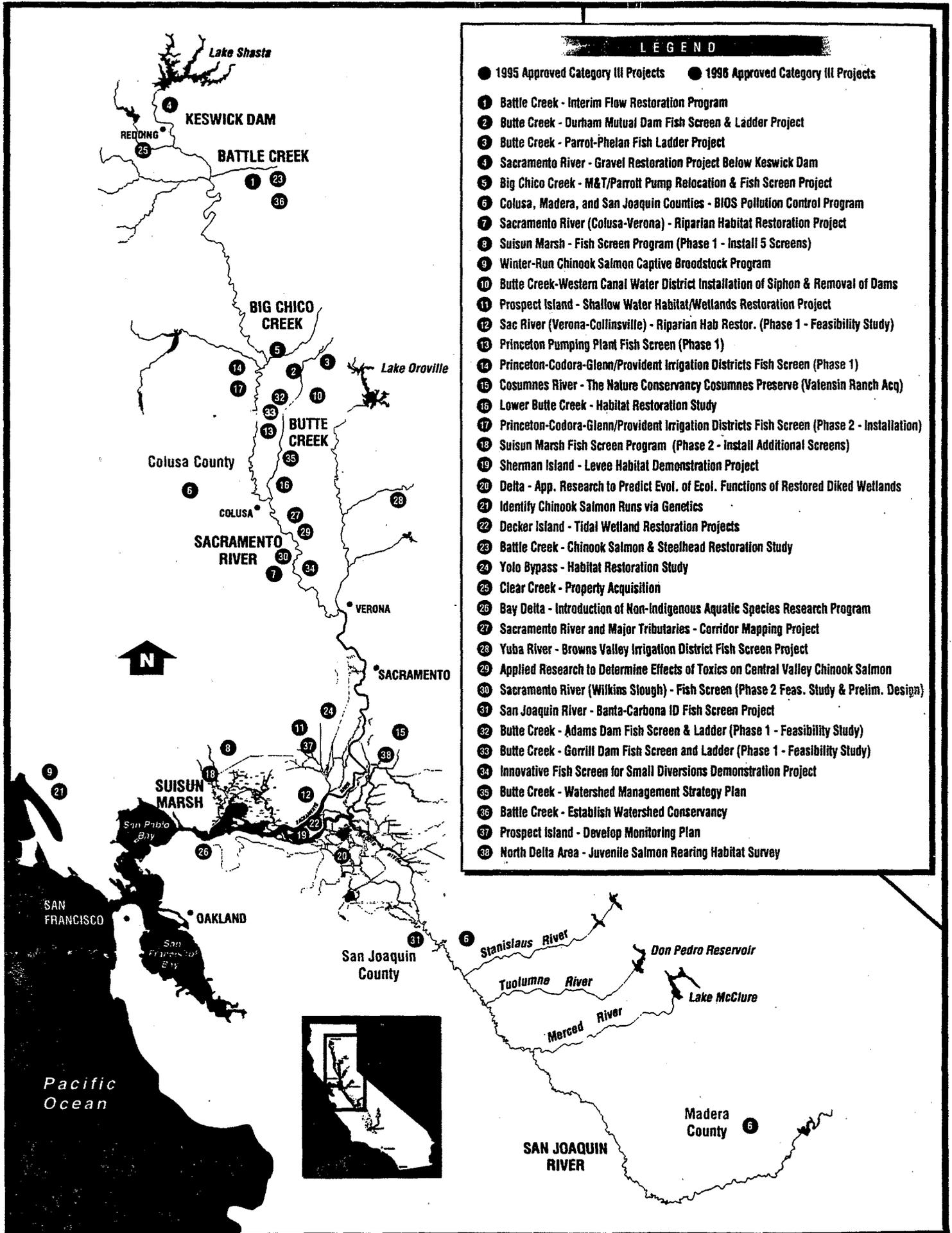
1997 Restoration Coordination Projects

1998 Restoration Coordination Projects

1999 Directed Programs

Press Release, "Babbitt-Wilson Announce Revised Bay-Delta Report"

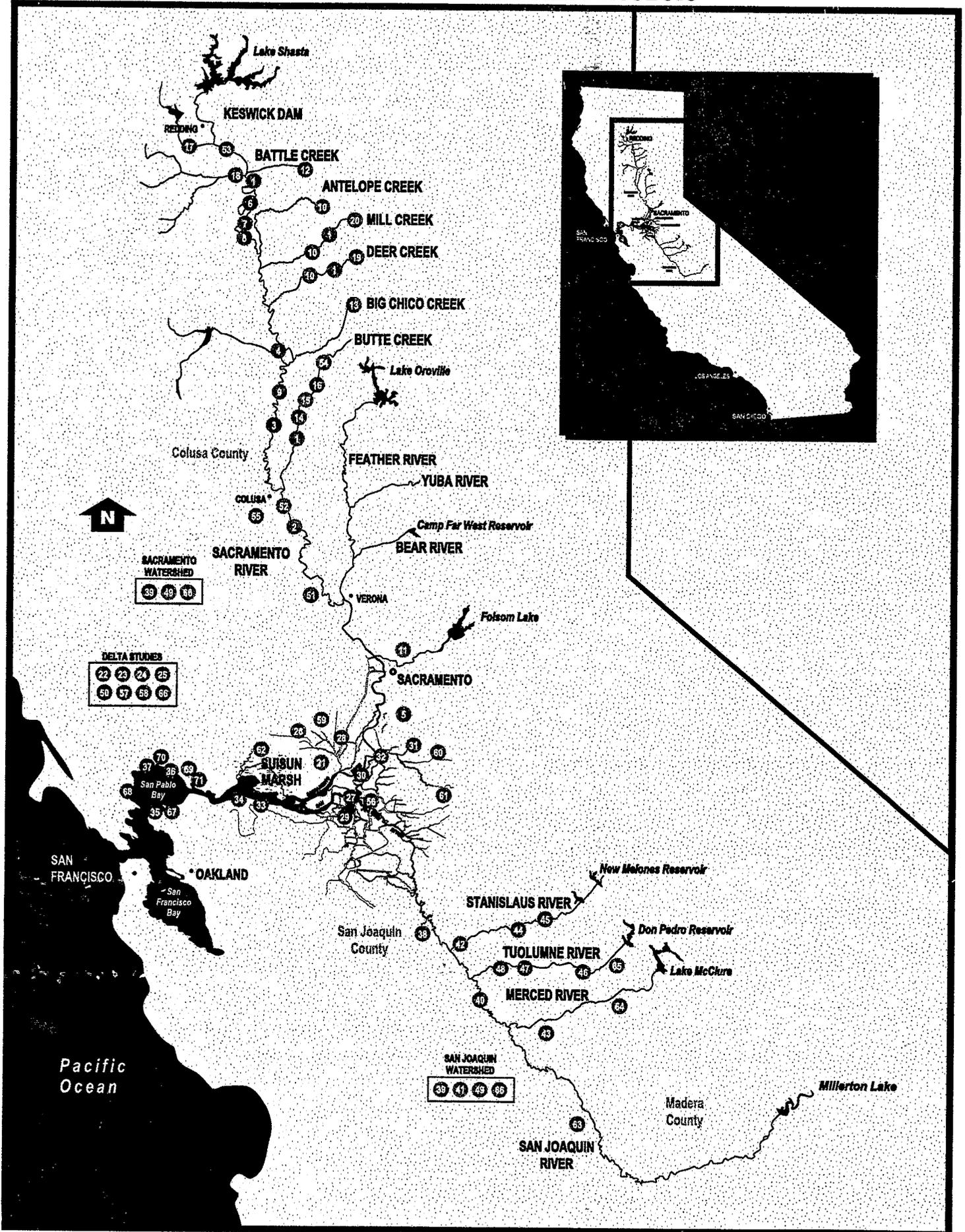
CATEGORY III 1995-1996 RESTORATION PROJECTS



CATEGORY III 1995 - 1996 RESTORATION PROJECTS

MAP #	Project Title	Amount Funded
1	Battle Creek - Interim Flow Restoration Program	500,000
2	Butte Creek - Durham Mutual Dam Fish Screen & Ladder Project	908,200
3	Butte Creek - Parrott-Phelan Dam Fish Ladder Project	418,000
4	Sacramento River - Keswick Dam Gravel Restoration Project	52,500
5	Big Chico Creek - M&T/Parrott Pump Relocation & Fish Screen Project	4,694,000
6	Colusa, Madera, & San Joaquin Co.- BIOS	660,000
7	Sacramento R. - Riparian Habitat Restoration Project	560,000
8	Suisun Marsh - Fish Screen Program	900,000
9	Winter-run Chinook Salmon Captive Broodstock Program	550,000
10	Butte Creek - Western Canal WD Install. of Siphon & Associated Improvements.	9,457,619
11	Prospect Island - Shallow Water Habitat/Wetlands Restor. Project	9,150,000
12	Sacramento R. - (Verona-Collinsville) Rip. Habitat Restoration	1,000,000
13	Sacramento R. - Princeton Pumping Plant Fish Screen	325,000
14	Sacto R-Princeton-Codora-Glenn/- Provident Fish Screen -Feasibility	150,000
15	Cosumnes R. - TNC Cosumnes Preserve (Valensin Ranch Acquisition)	12,000,000
16	Lower Butte Creek- Habitat Restoration Study	221,000
17	Sacto R. - Princeton-Codora-Glenn/Provident Fish Screen-Installation	10,781,200
18	Suisun Marsh - Fish Screen Program	1,000,000
19	Sherman Island - Levee Habitat Demonstration Project	960,000
20	Delta - App. Res. to Predict Evol. of Eco. Functions of Restored Diked Wetlands	475,000
21	Applied Research to Identify Chinook Salmon Runs via Genetics	1,050,000
22	Decker Island - Tidal Wetland Restoration	399,000
23	Battle Creek - Chinook Salmon & Steelhead Restoration Study	306,000.00
24	Yolo Bypass - Habitat Restoration Study	256,000.00
25	Clear Creek - Property Acquisition	422,000.00
26	Bay/Delta - Intro. of Non-indigenous Aquatic Species Research Program	197,000.00
27	Sacramento River and Major Trib.- Corridor Mapping Project	145,200.00
28	Yuba River - Browns Valley ID Fish Screen Project	346,000.00
29	Applied Res. to Determine Effects of Toxics on Cen. Valley Chinook Salmon	110,000.00
30	Sacto R. (Wilkins Slough) - Fish Screen	216,300.00
31	San Joaquin R. - Banta-Carbona ID Fish Screen Project	2,016,750.00
32	Butte Creek - Adams Dam Fish Screen & Ladder	120,304.00
33	Butte Creek - Gorrill Dam Fish Screen & Ladder	124,490.00
34	Innovative Fish Screen for Small Diversions Demonstration Project	90,000.00
35	Butte Creek - Watershed Management Strategy Plan	166,000.00
36	Battle Creek - Chinook Salmon & Establish Watershed Conservancy	100,000.00
37	Prospect Island - Develop Monitoring Plan	35,000.00
38	North Delta Area - Juvenile Salmon Rearing	24,500.00
Total		60,887,063

CALFED 1997 APPROVED PROJECTS

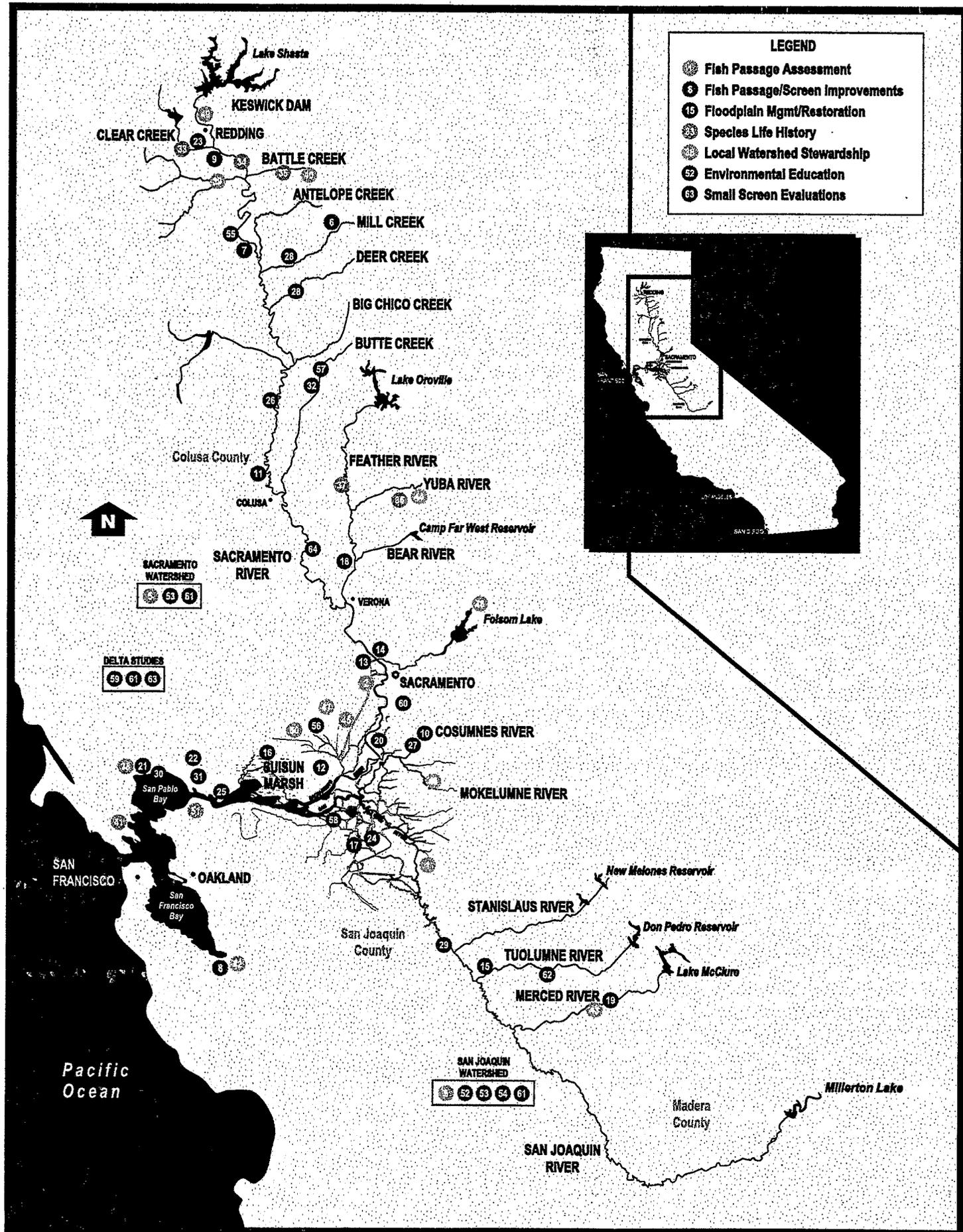


1997 Restoration Coordination Projects

Map #	Project Description	Amount Funded
1	IPM Partnership to Improve Water Quality in Suisun Bay and Local Creeks	\$266,000
2	RD 108 Screen	\$2,500,000
3	Princeton Fish Screen	\$1,750,000
4	Wilson Ranch Screen	\$200,000
5	Assessment & Implementation of Urban Use Reduction of Diazion & Chlorpyrifos	\$663,500
6	Watershed Management Planning – Upper Sacramento River	\$200,000
7	Sacramento River Floodplain Acquisition – National Process Restoration	\$9,879,800
8	Sacramento River Floodplain Acquisition – Active Riparian Forest Restoration	\$1,292,500
9	Sacramento River Meander Restoration Project	\$898,700
10	Watershed Improvements/Sediment Stabilization (Deer, Mill, Antelope Creeks)	\$371,000
11	Watershed Restoration Planning	\$222,530
12	Battle Creek Screens and Fish Passage	\$395,000
13	Watershed Plan (Big Chico Creek)	\$422,830
14	Gorrill Dam Screen and Ladder	\$369,641
15	Adams Dam Screen and Passage	\$242,000
16	Butte Creek Acquisition and Riparian Restoration	\$186,128
17	Saeltzer Dam Fish Passage	\$238,200
18	Cottonwood Creek Channel Restoration	\$61,000
19	Watershed Plan Implementation (Deer Creek)	\$196,554
20	Lower Mill Creek Riparian Restoration	\$69,000
21	Hastings Tract Screen Feasibility Study	\$27,000
22	Monitoring of Delta contaminants	\$100,000
23	Effects of Wetlands Restoration on Methyl Mercury Levels	\$530,617
24	Sedimentation Movement, & Availability & Monitoring in the Delta	\$1,046,200
25	Contaminant Effects on Smelt	\$437,000
26	Jepson Prairie Restoration	\$244,000
27	In-Channel Island Demonstration Project	\$270,270
28	Liberty Island Acquisition	\$8,577,000
29	Franks Tract Restoration	\$231,500
30	Tyler Island Levee Protection & Habitat Restoration Pilot Project	\$885,202
31	Cosumnes Floodplain Acquisition & Restoration	\$10,375,100
32	Mokelumne River Setback Levee & Habitat Restoration	\$365,000
33	Bay Point Shoreline Restoration Plan	\$185,000
34	Martinez Regional Shoreline Restoration	\$325,000
35	Preventing Exotic Introductions from Ballast Water	\$222,830
36	Cullinan Ranch Restoration	\$368,500
37	Tolay Creek Restoration	\$283,000
38	Banta-Carbona Fish Screen	\$938,875
39	Biologically Integrated Orchard Systems (BIOS) – Pesticide and Fertilizer Reductions	\$1,680,631
40	San Joaquin River Real-time Water Quality Management Program	\$932,000

41	Developing a Genetic Baseline for San Joaquin Salmon	\$387,003
42	Acquisition and Restoration of Refuge Lands	\$10,647,000
43	Bear Creek Floodplain Restoration Demonstration Project	\$334,000
44	Stanislaus River Channel Restoration	\$1,037,899
45	Knights Ferry Gravel Replenishment	\$536,410
46	Gravel Replacement (Basso Bridge)	\$250,975
47	Tuolumne River Channel Restoration	\$2,353,100
48	Tuolumne River Setback Levees & Channel Restoration	\$2,801,000
49	Evaluation of Alternative Pesticide Use Reduction Practices	\$957,781
50	Assessment of Organic Matter in the Habitat and Its Relationship to the Food Chain	\$1,400,000
51	Richter Brothers Screen	\$49,000
52	Boeger Family Farm Screen	\$15,000
53	ACID fish Passage	\$325,000
54	Butte Creek Watershed	\$294,000
55	Sand and Salt Creek Watershed Project	\$598,633
56	Twitchell Island Restoration	\$3,000,000
57	Evaluation of Selenium Sources, Levels and Consequences in the Delta	\$1,588,709
58	Culture of Delta Smelt	\$194,870
59	Cache Slough Habitat Enhancement	\$85,000
60	Inventory of Forest Road Systems, Cat Creek Watershed	\$38,000
61	Woodbridge Fish Screen and Passage	\$1,575,000
62	Selected Fish Screens, Suisun Marsh	\$3,230,850
63	Bacterial Treatment of Solum in the Panoche Drainage	\$1,148,326
64	Merced River Ranch Acquisition and Restoration	\$658,000
65	Basso Bridge Land Acquisition	\$172,500
66	Evaluation of Tagging Data	\$625,000
67	San Francisco Bay Area Wetlands Ecosystem Goals Project	\$76,000
68	Hamilton Wetlands Restoration Project	\$1,000,000
69	Napa River Watershed Stewardship	\$250,000
70	Sonoma Creek Watershed Restoration Project	\$300,000
71	South Napa River Wetlands Acquisition & Restoration Program	\$1,000,000
TOTAL FUNDS APPROVED		\$85,378,164
TOTAL # PROJECTS		71

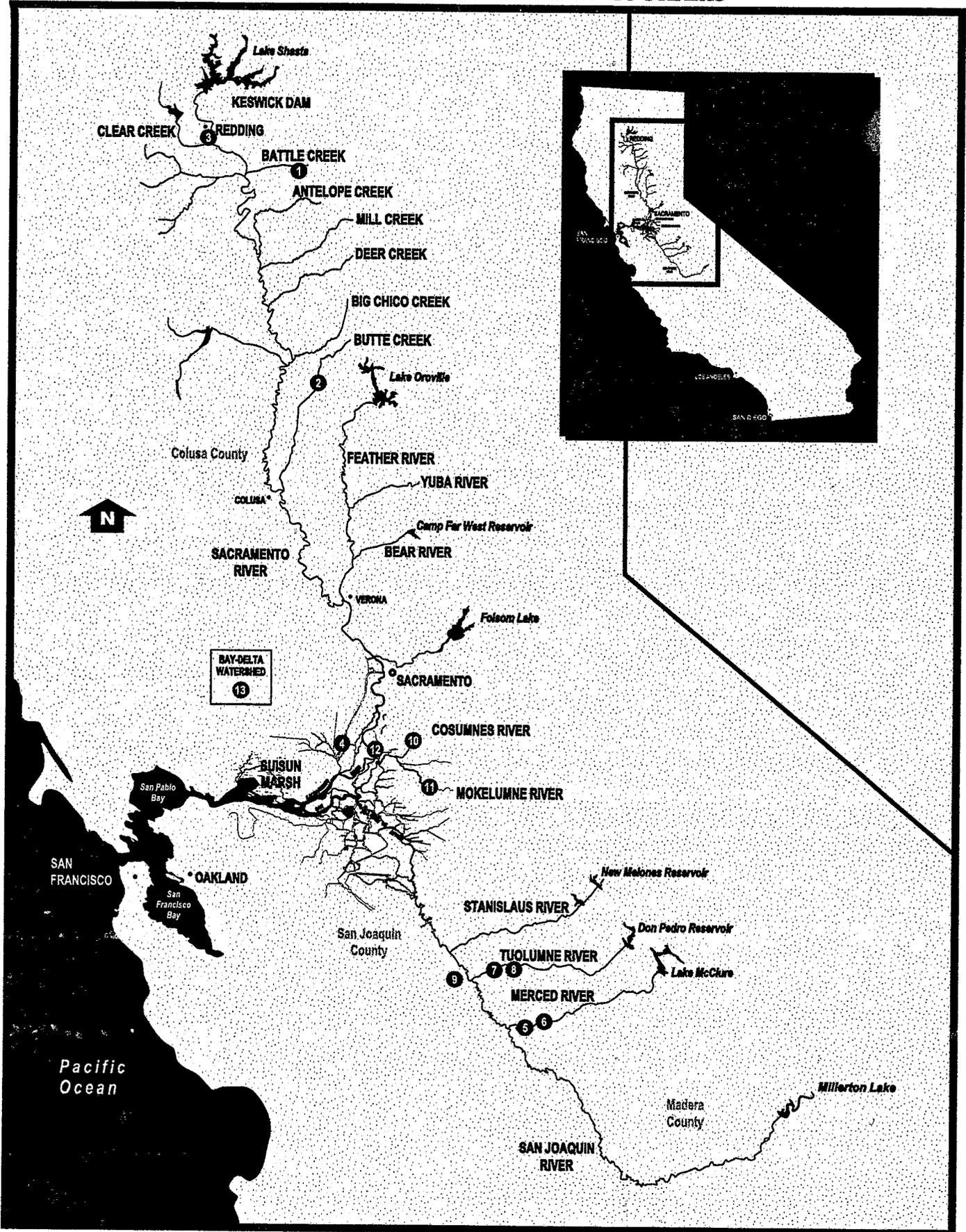
1998 PSP APPROVED PROJECTS



1998 Restoration Projects

Map #	Project Title	Amount Funded
1	Adult Fall-Run Chinook Salmon Movement in the lower San Joaquin River and south Delta	285,000
2	Reclamation District 2035 Fish Screen	100,000
5	Expanding CA Salmon Habitat Through Non-governmental/Nonregulatory Mechanisms	49,000
6	Anadromous Fish Passage at Clough Dam on Mill Creek	1,280,000
7	Fish Passage Improvement Project at the Red Bluff Diversion Dam	340,600
8	Steelhead and Chinook Salmon Fish Passage Barrier Remediation on the Guadalupe River	178,200
9	ACID Fish Passage and Fish Screen Improvement Project, Phase II	860,000
10	Cosumnes River Salmonid Barrier Program	188,255
11	Boeger Family Farms Fish Screen Phase III: Construction	139,500
12	Hastings Tract Fish Screen Phase II: Construction	271,250
13	City of Sacramento Fish Screen Replacement Project Phase 2	654,500
14	American Basin Fish Screen and Habitat Improvement Project	200,000
15	Grayson River Ranch Perpetual Easement and Restoration	732,000
16	Hill Slough West Habitat Demonstration Project	200,000
17	Rhode Island Floodplain Management and Habitat Restoration	25,000
18	Nelson Slough Wildlife Area Restoration Demonstration Project	256,476
19	Phase 3 - Merced River Salmon Habitat Enhancement	2,433,759
20	Stone Lakes NWR Land Acquisitions	1,900,000
21	Petaluma Marsh Expansion Project - Marin County	352,135
22	South Napa River Wetlands Acquisition and Restoration Program	431,000
23	Lower Clear Creek Floodway Restoration Project	3,559,596
24	Fern-Headreach Tidal Perennial Aquatic and Shaded River Aquatic Conservation Project	425,000
25	Benicia Waterfront Marsh Restoration	59,000
26	Floodplain Acquisition, Management, and Monitoring on the Sacramento River	1,000,000
27	Consumnes River Acquisition, Restoration Planning and Demonstration	750,000
28	Deer and Mill Creeks Acquisition and Enhancement	1,000,000
29	Lower San Joaquin River Floodplain Protection and Restoration Project	1,100,000
30	Biological Restoration and Monitoring in the Suisun Marsh/North San Francisco Bay	772,667
31	South Napa River Tidal Slough and Floodplain Restoration Project	1,455,000
32	Butte Creek Riparian Restoration Demonstration	76,348
33	Genetic comparison of stocks considered for re-establishing steelhead in Clear Creek	45,493
34	Spawning areas of green sturgeon in the upper Sacramento River	60,801
35	Monitoring adult and juvenile spring and winter Chinook salmon and steelhead, Battle Creek	150,000
36	Life History and Stock Composition of Steelhead Trout	120,000
37	Biological Assessment of Green Sturgeon in the Sacramento-San Joaquin Watershed	241,000
38	Petaluma River Watershed Restoration Program	220,000
39	Cottonwood Creek Watershed Group Formation	161,000
40	Battle Creek Watershed Stewardship	145,000
41	Local Watershed Stewardship: Steelhead Trout Plan	47,500
42	Cold Water Fisheries and Water Quality Element	200,000
43	Merced River Corridor Restoration Plan	300,000
44	South Yuba River Coordinated Watershed Management Plan	264,000
45	Watershed Restoration Strategy for the Yolo Bypass	244,188
46	Proposal to Develop Local Watershed Stewardship Plan for the Lower Mokelumne River	159,000
47	Union School Slough Watershed Improvement Program	636,000
48	American River Integrated Watershed Stewardship Strategy	220,750
49	Sulphur Creek Coordinated Resource Management Planning Group	23,828
50	Lower Putah Creek Watershed Stewardship Program	100,500
51	Alhambra Creek Watershed CRMP Program	138,500
52	San Joaquin Valley 'Salmonids in the Classroom' Program Enhancement	3,000
53	Traveling Film Festival/Heron Booth/Video Archive	54,000
54	Environmental Agriculture Conferences and Field Tours	28,000
55	Sacramento River, Headwaters to the Ocean, Public Information and Education	49,640
56	Discover the Flyway	49,000
57	The Butte Creek Watershed Educational Workshops and Field Tours Series	33,000
58	Bay-Delta Environmental Restoration Education Program	40,000
59	The Virtual Science Center and Hands-on Learning Programs	42,000
60	Water Hyacinth Education Program	9,600
61	Water Challenge 2010	64,500
62	Tuolumne River Natural Resources Program	44,700
63	Developing a Methodology to Accurately Simulate the Entrainment of Fish	200,000
64	Pelger Mutual Water Company: Small Fish Screen Evaluation	95,000

FEBRUARY 1999 DIRECTED PROGRAMS



February 1999 Directed Programs

Map #	Project Title	Amount Funded
1	Battle Creek Salmon and Steelhead Restoration Project	\$27,158,100
2	Lower Butte Creek Project: Phase II - Preliminary Engineering and Environmental Analysis	\$750,000
3	ACID Fish Passage Improvement Project, Phase III	\$10,200,000
4	Prospect Island Monitoring Project	\$885,737
5	Lower Western Stone Project	\$125,000
6	Phase I: Robinson/Gallo Project - Ratzlaff Reach Site	\$1,584,002
7	Special Run Pool 10 Restoration	\$160,000
8	Mining Reach Restoration Project No. 2 - MJ Ruddy Segment	\$3,235,000
9	Cost share with NRCS easements. 4 on the Tuolumne and 5 on the San Joaquin	\$1,500,000
10	East Delta Corridor Habitat Study Cosumnes River Feasibility Study	\$400,000
11	East Delta Corridor Habitat Study Mokelumne River Feasibility Study	\$400,000
12	McCormack-Williamson Tract's Wildlife-Friendly Levee Management Program	\$835,707
13	Assessment of Ecological and Human Health Impacts of Mercury in the Bay-Delta Watershed	\$3,700,000
		\$50,933,546