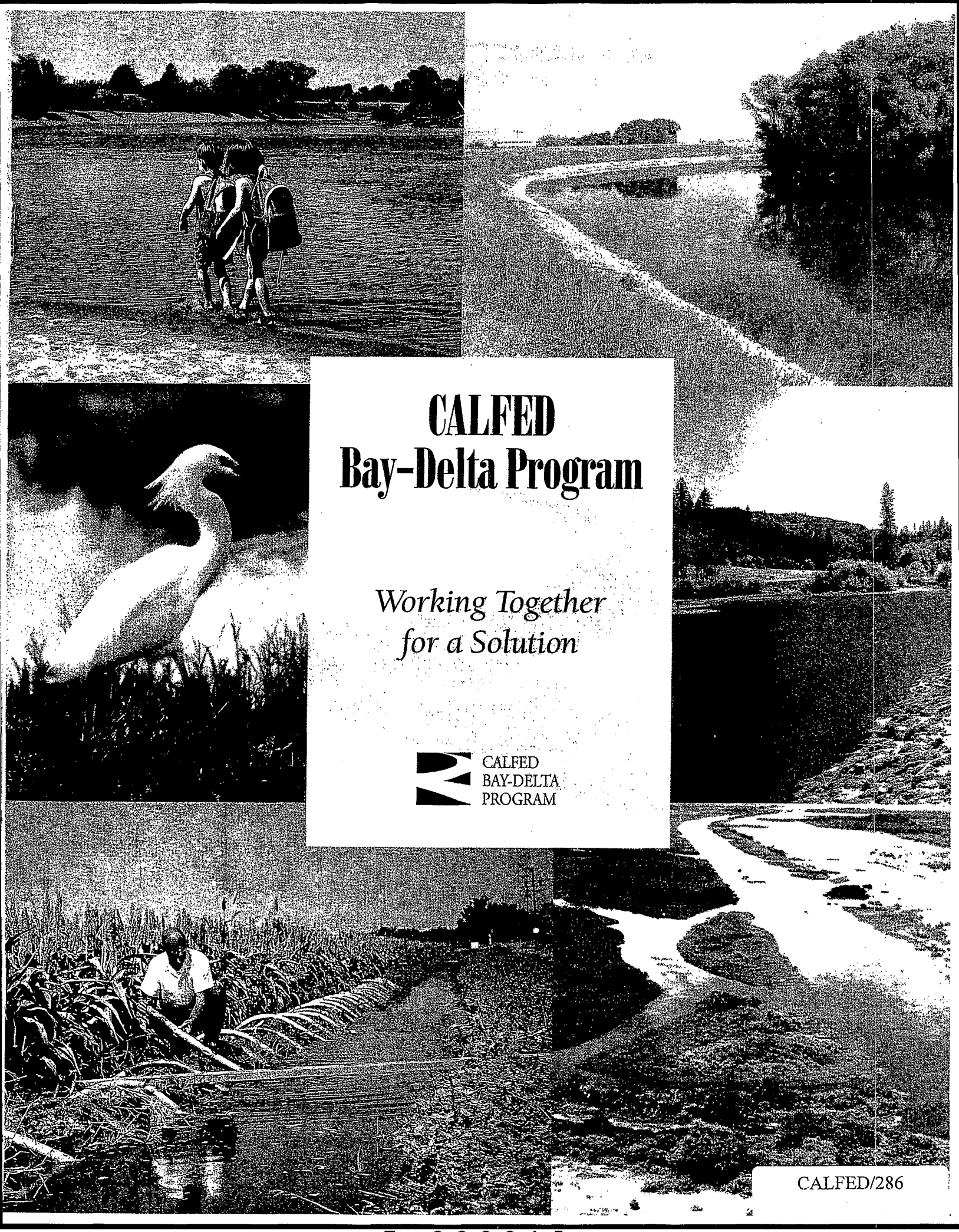

# CALFED Bay-Delta Program

*Working Together for a Solution*

CALFED
BAY-DELTA
PROGRAM

CALFED/286

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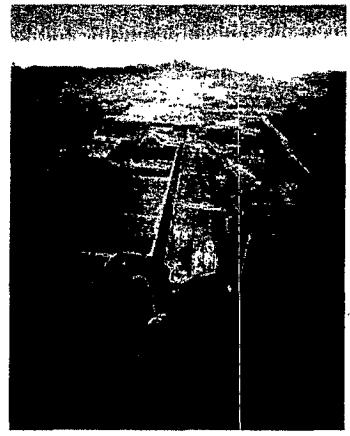
# Contents





**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 BAY-DELTA PROGRAM

1999

Dear Reader:

Government alone cannot solve the problems facing the Bay-Delta. Active participation and understanding of the issues by all the Bay-Delta interests and the public is the key to success. Already, thousands of Californians have contributed to the CALFED Bay-Delta Program. By volunteering time, sharing expertise, expressing an idea and/or casting a vote, all have helped shape the solutions being studied today. Each of us has an unprecedented opportunity to get involved in solving the water management and environmental problems of the Bay-Delta.

California's future depends on it!

Sincerely,

Lester A. Snow
Executive Director

**Please fill out the comment form in the back of this booklet and tell us what is important to you.**

## Commonly Asked Questions

### What does "Programmatic EIS/EIR" mean?

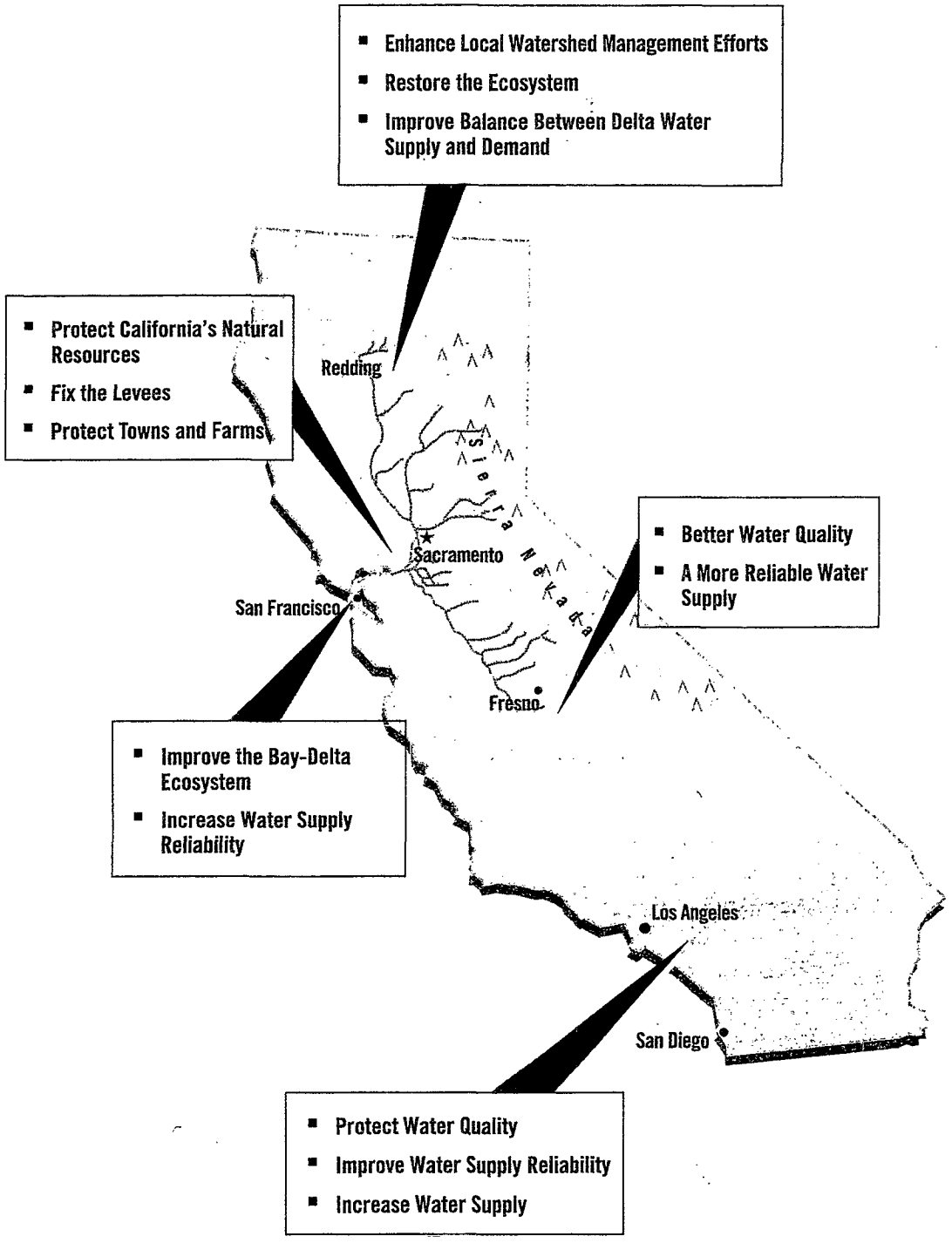
*Due to the size and complexity of the Bay-Delta system — affecting nearly the entire state of California — and the conceptual nature of the proposed actions, CALFED is first evaluating impacts and benefits on a very broad or "programmatic" scale. The analysis presented in the Programmatic EIS/EIR provides information to decision makers and the public on the range of possible environmental consequences associated with each of the Program alternatives. Site-specific, detailed environmental impact analysis will take place on each action contained in the final Bay-Delta solution once the broad-based plan is approved, but prior to implementation. Since the CALFED Bay-Delta Program consists of both state and federal agencies, its plan must meet the requirements for identifying potential impacts contained in both the state's California Environmental Quality Act (EIR) and the federal National Environmental Policy Act (EIS). Implementation of the solution is expected to take 25 to 30 years.*

## Bay-Delta Facts at a Glance

- Provides drinking water for more than 22 million Californians.
- Supplies irrigation water for more than 4 million acres of the world's most productive farmland, which produce 45 percent of the nation's fruits and vegetables.
- Supporting 750 plant and animal species, some found nowhere else on the planet, it is the largest wetland habitat and estuary in the West.
- Home to one of the nation's most productive salmon fisheries, as well as a significant recreational fishing area.
- A critical part of the Pacific Flyway over which thousands of migrating birds travel each year.
- Ultimately, the vitality of California's economy, the world's 7th largest, depends on the health of the Bay-Delta system to ensure the reliability of current and future water supplies while enhancing the Bay-Delta's unique environment.

# You Depend on the Bay-Delta

The state's economic and ecological future will be strengthened by solving the critical water management and environmental problems associated with the Bay-Delta system.



# The Problem

The Bay-Delta system has for decades been the focus of competing interests — economic, environmental, urban and agricultural. Disagreements among these interests have included how much water to take from the system and when, protecting endangered species, maintaining water quality and protecting those who live and work in the Delta itself. With little agreement and a lot of gridlock, over the years the Bay-Delta system has declined. 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.

**With little agreement and a lot of gridlock, over the years the Bay-Delta system has declined. Today the Bay-Delta system is in serious trouble.**

# Reasons To Care

- The Bay-Delta is the largest estuary on the west coasts of North and South America, home to plants and animals found nowhere else on the planet.
- More than 22 million Californians rely on the Bay-Delta system for all or some of their drinking water.
- There is concern that Delta levees are vulnerable to failure, especially during earthquakes or periods of high runoff. Such a failure could flood farmland and wildlife habitat, contaminate the fresh water supply, and cause a long interruption of water deliveries for both urban and agricultural users.
- Thousands of birds migrate through and live in the Bay-Delta, as do more than 53 species of fish, including one of the most productive natural salmon fisheries on the West Coast.
- Key California industries from agriculture to high-tech require a plentiful supply of quality water to prosper. Also, attracting new businesses to the state requires water supply reliability.
- The Bay-Delta system is a key component of the state's $26.8 billion agricultural industry, supplying irrigation water to millions of acres of the world's most productive farmland.
- The Bay-Delta supports one of the richest commercial fisheries in the nation.
- In addition to the State Water Project and the federal Central Valley Project, California's two largest water distribution systems, at least 7,000 other permitted water diverters, some large and some small, have developed water supplies from the watershed feeding the Bay-Delta estuary.

## Solution Principles

*Solution principles are the fundamental principles that guide the development and evaluation of the CALFED Program and development of the alternatives.*

**Affordable** - An affordable solution will be one that can be implemented and maintained within the foreseeable resources of the CALFED Bay-Delta Program and stakeholders.

**Equitable** - An equitable solution will focus on resolving problems in all problem areas. Improvements for some problems will not be made without corresponding improvements for other problems.

**Implementable** - An implementable solution will have broad public acceptance, legal feasibility and will be timely and relatively simple compared with other alternatives.

**Durable** - A durable solution will have political and economic staying power and will sustain the resources it was designed to protect and enhance.

**Reduce Conflicts in the System** - A solution will reduce major conflicts among beneficial users of water.

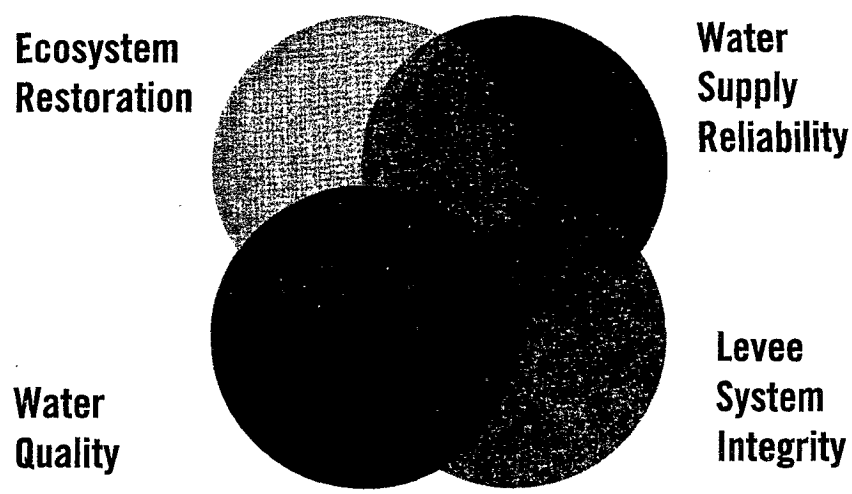
**No Significant Redirected Impacts** - A solution will not solve problems in the Bay-Delta system by redirecting significant negative impacts, when viewed in its entirety, in the Bay-Delta or other regions of California.

# What Is CALFED?

The CALFED Bay-Delta Program, initiated in 1995 by former Governor Pete Wilson and the Clinton Administration, is an unprecedented collaboration among state and federal agencies and the state's leading urban, agricultural and environmental interests to address and resolve the environmental and water management problems associated with the Bay-Delta system. CALFED consists of the decision-makers of these agencies as well as technical staff. Representatives of California stakeholder groups serve on a federally chartered advisory group. 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.

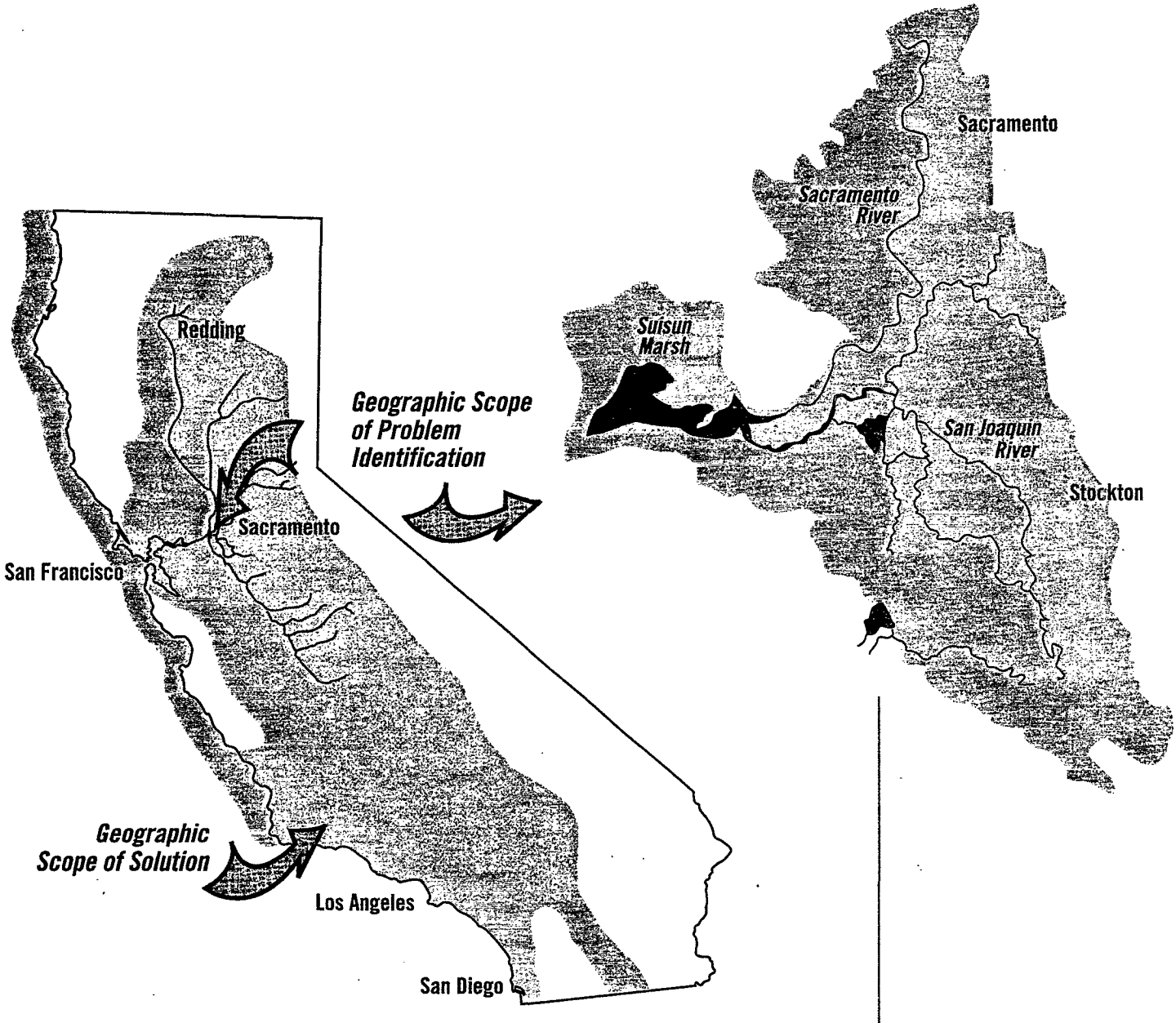
# A New Approach

In the past, most efforts to improve water supply reliability or water quality, improve ecosystem health, or maintain and improve Delta levees were single-purpose projects. While pursuing a single purpose can keep the scope of a project manageable, it can ultimately make the project more difficult to implement, given the inter-relationships of the problems affecting the Bay-Delta system. CALFED takes a different approach, recognizing that problems in one resource area cannot be solved effectively without addressing problems in all four areas at once. This greatly increases the scope of CALFED's efforts but will ultimately enable the Program to make progress toward a lasting solution.



# CALFED Problem and Solution Areas

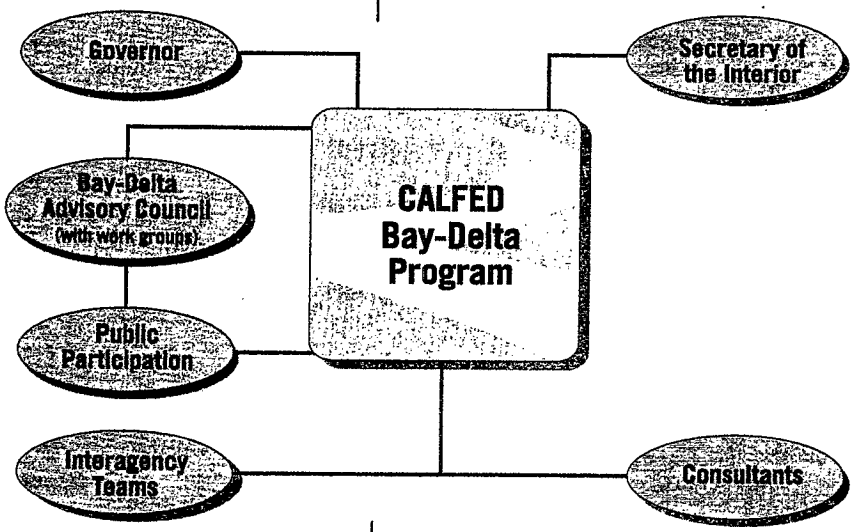
Although the majority of the problems of the Bay-Delta system are within the legally defined Delta, Suisun Bay (extending to Carquinez Strait) and Suisun Marsh, the geographic scope for developing possible solutions includes a much broader area that extends upstream and downstream of the Bay-Delta. This solution area includes the Central Valley watershed, the Southern California water system service area, San Pablo Bay, San Francisco Bay, and 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.



**The Bay-Delta Advisory Council is made up of representatives of stakeholder organizations from throughout California.**

# Collaboration, Cooperation, Consensus

Public participation is an essential part of the CALFED Program and comes through a variety of channels, including the federally-chartered Bay-Delta Advisory Council (BDAC), made up of representatives of stakeholder organizations from throughout California who meet regularly to offer advice to CALFED staff. The Ecosystem Roundtable, a subcommittee of BDAC, provides specific input on coordination of CALFED ecosystem restoration projects. The public is also involved through a number of other forums, including public meetings and hearings, technical working groups, issues workshops, a website, 24-hour public information telephone line, media outreach and small group presentations.




## CALFED Agencies

### Federal

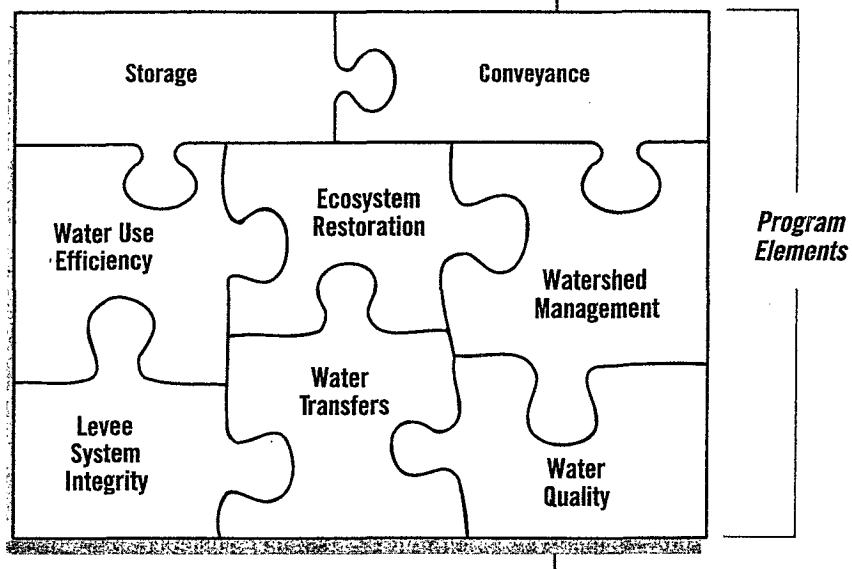
- Department of the Interior
  - Bureau of Reclamation
  - Fish & Wildlife Service
- Department of Agriculture
  - Natural Resources Conservation Service
- Environmental Protection Agency
- U.S. Army Corps of Engineers
- Department of Commerce
  - National Marine Fisheries Service

### State

- Resources Agency
  - Department of Water Resources
  - Department of Fish & Game
- Environmental Protection Agency
  - State Water Resources Control Board

# Developing a Draft Alternative

In March 1998, the CALFED Program released a draft Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) describing three proposed alternatives for a Bay-Delta solution. The "programmatic" nature of the alternative means that actions are described in broad terms.




All three alternatives were made of building blocks referred to as "program elements." Six program elements were common to all three draft alternatives: levee system integrity, water quality, ecosystem restoration, water use efficiency, watershed management and water transfers. Two elements varied from alternative to alternative – storage and conveyance, which describe how water is moved through the Bay-Delta system.

Technical staff and public working committees evaluated the three draft alternatives against such criteria as benefits to water quality, impacts on fish and wildlife, total cost, and operational flexibility. This technical information was then considered in the context of assurances, financing and overall ability to implement.

Choosing the best solution to the problems in the Bay-Delta system is not purely a technical decision. All three alternatives had both strengths and weaknesses. CALFED received thousands of comments on these alternatives, and used this input in the development of the draft alternative

**The CALFED solution is made up of building blocks called "program elements."**

## Draft Preferred Alternative

In December 1998 the CALFED Program released its Revised Phase II Report outlining a framework for the draft preferred program alternative. The draft preferred program alternative consists of strategies for solving each of the four Bay-Delta problem areas in an integrated manner. The strategies will be carried out through the eight program elements.

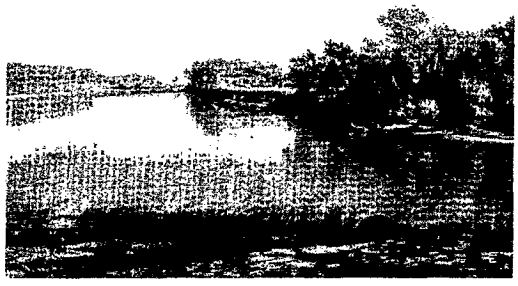
These strategies are interwoven and each must be viewed in the context of the other strategies. For example, to fully implement the Ecosystem Restoration Program (ERP), CALFED must also have a successful strategy to provide the improved water quality that is needed by the ecosystem. The levee strategy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

**The draft preferred program alternative consists of strategies for solving each of the four Bay-Delta problem areas in an integrated manner.**

# Key Strategies

## 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 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.

Possible assets include a block of water; access to 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.





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### 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, advanced treatment, more aggressive source control and an isolated facility.

### 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.

**CALFED's ecosystem restoration program (ERP) is the largest, most comprehensive, and most inclusive environmental restoration program in the United States.**

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

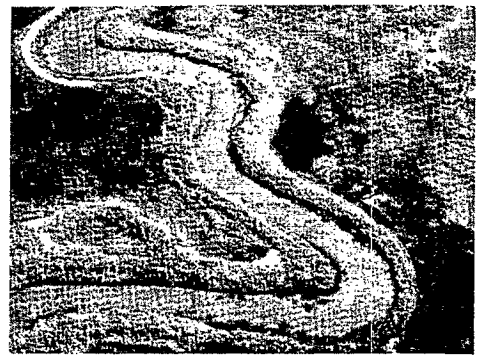
In addition to these four strategies, CALFED must consider how various Delta conveyance configurations – how water is moved through the Delta – would help implement the strategies. The Delta conveyance strategy must consider fisheries and water quality for in-Delta uses and drinking water. The existing 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 water management actions if necessary to achieve CALFED goals and objectives.

## Program Elements

- The draft preferred alternative consists of hundreds of programmatic actions in the eight programs of CALFED.
- All of these actions will employ an adaptive management approach with careful monitoring of performance to help adapt future actions as more is learned about the system and how it responds.
- The implementation of the preferred program alternative will be supported by an Assurances Plan, Financing Plan, and a Comprehensive Monitoring, Assessment and Research Program.

# Long-Term Levee Protection Plan



Delta levees are the most visible man-made feature of the Bay-Delta system. They are an integral part of the Delta landscape and are key to preserving the Delta's physical characteristics and processes, including definition of Delta waterways and islands. There is growing concern that levees are vulnerable to failure, especially during earthquakes or periods of high runoff. A significant levee failure in the Delta could not only flood farmland and wildlife habitat, but also interrupt water supply deliveries to urban and agricultural users, and disrupt highway and rail use. Most Delta islands have land surface elevations below sea level. Natural settling of the levees and shallow subsidence of Delta island soils (oxidation which lowers the level of the land over time) has resulted in the need to increase levee heights to maintain protection.

### Proposed actions to achieve the goals of the Levee Protection Plan are:

- Provide base-level funding to reconstruct all Delta levees to a particular standard (U.S. Army Corps of Engineers PL 84-99) and consistent with the Department of Water Resources Delta Levee Subvention Program.
- Fund special habitat improvements and levee stabilization projects above the base-level, based on benefit to the public. This would include flood protection to key Delta islands that provide statewide benefits to the ecosystem, water supply, water quality, economy and the infrastructure.
- Promote land management and levee maintenance practices to reduce subsidence that affects the levee system by funding grant projects to develop best management practices.
- Establish an emergency management plan, building upon existing state, federal and local agency emergency management programs, to improve protection of Delta resources in the event of a disaster.
- Assess and evaluate the potential performance of the existing levee system during emergencies, such as floods or earthquakes, as well as explore risk reduction strategies.

### How This Will Help

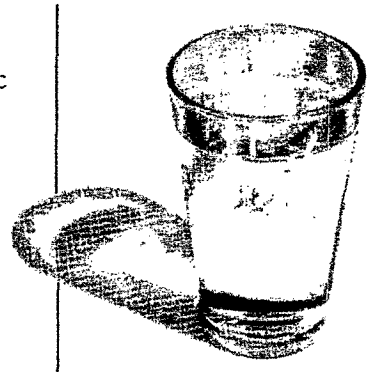
- Provides funding for continued levee maintenance to protect Delta functions.
- Ensures suitable funding, equipment and materials availability, and coordination to rapidly respond to levee failures.
- Subsidence reduction helps long-term Delta system integrity.
- Increases reliability of in-Delta and export water quality.
- Increases reliability protection and water supply for in-Delta land use.
- Increases protection and water supply reliability for in-Delta aquatic and wildlife habitat.

## Commonly Asked Questions

### What would happen if the levees were allowed to fail?

*Some say levees should be removed to allow the Delta to return to its "natural state." In addition to the thousands of homes, farms and businesses that would be lost in the Delta if this were to happen, consequences to water quality would be devastating and the system would cease to be a water source for two-thirds of the state.*

# Water Quality Program



Good quality water is needed in the Bay-Delta estuary to support many important aquatic species, and agricultural, industrial and recreational uses of the estuary waters. The Delta also supplies drinking water to about two-thirds of the population of California. Water quality problems in the estuary have been caused by runoff from harvested forests, farms, mines, residential landscaping and urban streets, and from municipal and industrial wastewater discharges. Also, mingling Delta fresh water with salty water from the San Francisco Bay reduces the quality of the water for irrigation and drinking water, and can affect the delicate balance of the ecosystem.

CALFED is committed to achieving continuous improvement in the quality of Bay-Delta estuary waters for all beneficial uses, and to maintaining this quality once achieved.

**The Water Quality Program includes the following broad categories of actions:**

- Reduce the loads and/or impacts of bromide, total organic carbon, pathogens, nutrients, salinity and turbidity through a combination of measures that includes source reduction, alternative sources of water, treatment, and storage and conveyance improvements.
- Reduce the impacts of pesticides through the development and implementation of BMPs for urban and agricultural uses. Support studies and provide education and assistance in implementing control strategies.
- Reduce the impacts of trace metals such as copper, cadmium and zinc in upper watershed areas near abandoned mine sites.
- Reduce the impacts of copper through urban storm water programs and agricultural BMPs. Study the ecological impacts of copper in the Delta. Determine the feasibility of copper reduction
- Reduce impacts of urban runoff through storm water programs and BMPs.
- Reduce agricultural drainage and runoff through irrigation improvements, crop selection, and changes in land use; incorporate real-time management of agricultural drainage water releases.
- Reduce salt sources in urban and industrial waste water to protect drinking and agricultural water supplies and to facilitate development of successful water recycling, source water blending, and groundwater storage programs.
- Reduce turbidity and sedimentation.

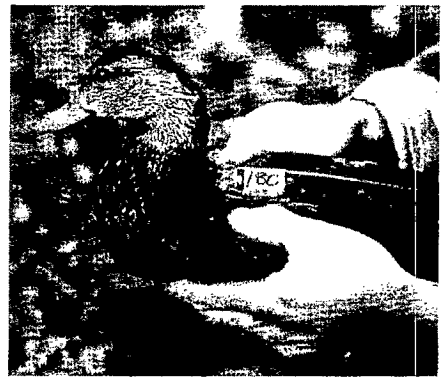
**The Delta supplies drinking water to about two-thirds of the population of California.**

## How This Will Help

- Improves Delta water quality by reducing the volume of urban and agricultural runoff/drainage and concentration of pollutants entering the Delta.
- Improves water quality for the ecosystem by reducing toxicants as a limiting factor.
- Improves protection of Delta drinking water supplies.
- Reduces concentration of compounds contributing to trihalomethane formation potential and degradation of drinking water supplies.
- Improves potential for wastewater reclamation to improve water use efficiency.

**Program Elements**

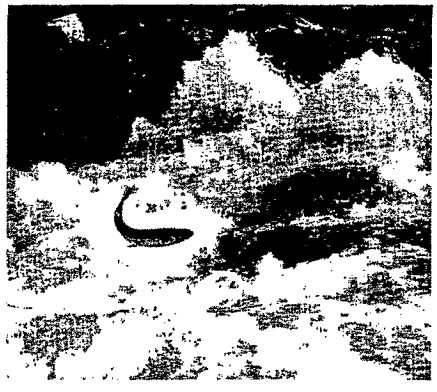
# Ecosystem Restoration Program



The Bay-Delta system is home to plants and animals found nowhere else. Thousands of birds migrate through and live in the Bay-Delta, as do more than 100 species of fish, including one of the most productive salmon fisheries on the West Coast. However, since the early 1800s, 700,000 acres of land naturally serving as flood overflow areas and seasonal habitat have been converted to agricultural and urban uses. Other practices, such as hydraulic mining and modern water project operations, have also contributed to habitat loss and species decline. Without ecosystem restoration, valuable native plant and animal populations will continue to be at risk.

**Without ecosystem restoration, valuable native plant and animal populations will continue to be at risk.**

The Ecosystem Restoration Program (ERP) is the principal mechanism that CALFED will use to restore the health of the Bay-Delta ecosystem. It is the largest, most comprehensive, and most inclusive environmental restoration program in the United States. The goal of the ERP is to 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.



Many people are concerned about the effects of the ERP on farmland, particularly in the Delta. CALFED seeks to preserve as much agricultural land as possible, consistent with meeting Program goals. The government already owns some of the land needed for Program

## Commonly Asked Questions

### How much will implementation of the ERP cost?

*Full implementation of the ERP is estimated at approximately $1.5 billion for the expected 25-30 year life of the program. Implementation will be paid for by a variety of public and private sources, including the funding contained in 1996's Proposition 204, a federal cost-share agreement, stakeholders who signed the 1994 Bay-Delta Accord and other funding sources.*

### How will local environmental, regulatory and governmental bodies be involved?

*The concept behind the actions and potential actions in CALFED's Ecosystem Restoration Program is that implementation be handled on the local level through partnership arrangements. This is already being done through the state and federal funding of more than 190 restoration projects proposed by a wide variety of organizations and agencies. Many stakeholders were also involved in the development of the ERP by submitting comments on earlier drafts, attending public meetings and participating in technical work groups. The release of CALFED's draft Programmatic Environmental Impact Report/Environmental Impact Statement is an opportunity for significant input from these entities as well.*

implementation, and that land will be used when appropriate. Partnerships with landowners, including easements with willing landowners, will be pursued if government land is not available. Acquisition of land will be from willing sellers only, when available government land or partnerships are not appropriate, available or cost-effective.


**Over seven hundred programmatic actions are identified in the ERP. Representative actions include:**

- Restore, protect and manage important habitat, including representative native habitat communities.
- Restore critical instream and channel-forming flows in the Delta and its tributaries.
- Improve Delta outflow during key springtime periods.
- Reconnect Bay-Delta tributaries with floodplains through construction of setback levees, acquisition of flood easements, and construction and expansion of flood bypasses.
- Develop assessment, prevention and control programs for invasive species.
- Restore stream sediment by relocating instream and floodplain gravel mines, and adding sediment to replace that trapped by dams.
- Reduce or eliminate barriers to fish passage.
- Target research to provide information needed to refine problems, and prioritize restoration actions.

### How This Will Help

- Reverses decline in ecosystem health.
- Supports a healthy Bay-Delta ecosystem.
- Supports sustainable production and survival of plant and wildlife species.
- Reduces the conflict between fisheries and water supply opportunities.

## Water Use Efficiency Program

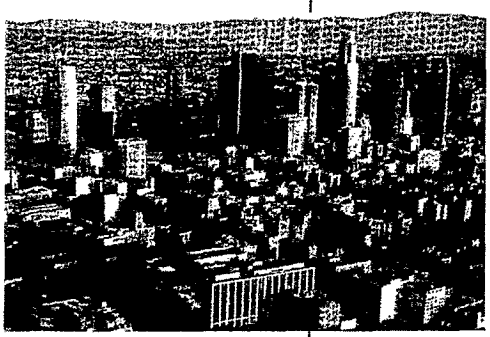
As overall water use has increased over the past several decades, so has competition among the different water uses. In addition, water flow and timing requirements established to protect certain fish and wildlife species that depend on fresh water flows can impact the Delta's ability to meet water supply demands. As a result, the question of water availability has created economic uncertainty in water service areas and conflict over available supplies.

The Water Use Efficiency Program builds upon the fact that implementation of efficiency measures occurs mostly at the local and regional levels. The goals of the Water Use Efficiency Program are to establish measurable objectives; offer support and incentives through expanded programs to provide planning, technical and financial assistance; monitor progress towards objectives; and if these objectives are not met, re-evaluate management options.

## Program Elements

**Conservation related actions include:**

- Implement agricultural and urban incentive programs that will provide funding for local and regional water conservation projects that can yield multiple benefits.
- Work with California Urban Water Conservation Council and the Agricultural Water Management Council to identify appropriate conservation measures, set appropriate levels of effort, and certify or endorse water suppliers that are implementing cost-effective, feasible measures.
- Expand state and federal programs to provide increased levels of planning, technical and financial assistance in the most effective manner.
- Help urban water suppliers comply with the Urban Water Management Planning Act.



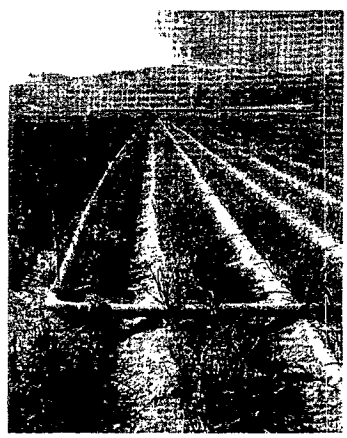
- Identify and implement practices to improve water management of wildlife refuges.
- Gather better information on water use; identify opportunities to improve water use efficiency; and measure effectiveness of conservation practices.
- Develop, in consultation with the Agricultural Water Management Council, a program of technical and financial incentives to achieve local-level implementation of water use efficiency measures in the agricultural sector.
- Identify measurable agricultural conservation objectives in regional strategic plans to assure improvements in water management.

**Water recycling actions include:**

- Help local and regional water agencies comply with the water recycling provisions in the Urban Water Management Planning Act.
- Expand state and federal recycling programs to provide increased levels of planning, technical and financial assistance (loans and grants) in the most effective manner.
- Provide regional planning assistance that can increase opportunities for use of recycled water.

**The CALFED Water Use Efficiency Program builds upon the fact that implementation of efficiency measures occurs mostly at the local and regional levels.**

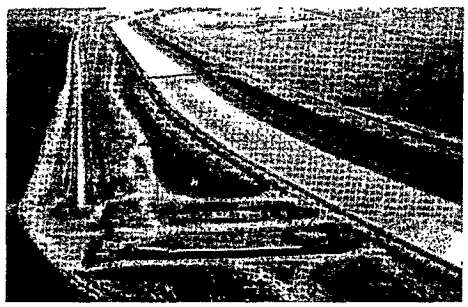
## How This Will Help



- Reduce demand for Delta exports and related entrainment effects on fisheries.
- Help in timing diversions for reduced entrainment effects on fisheries.
- Could make water available for transfers and for environmental flows.
- May improve overall Delta and tributary water quality.
- Could reduce the total salt load in the San Joaquin Valley.

# Water Transfers

Water transfers are an important water management tool in California and have the potential to play a more significant role in the future. Transfers can be an effective means of moving water between users on a voluntary and compensated basis, and can provide incentives for water users to implement improved local water management.



In the past, water transfers have been generally successful. Some transfers have raised concerns about adverse impacts to other water users, rural community economies and the environment. They also have highlighted contradictory interpretations of state law, the lack of reliable ways to transport water across the Delta, and complicated approval processes. For water transfers to be most effective, these problems need to be addressed.

**Water transfers are an important water management tool in California and have the potential to play a more significant role in the future.**

The Water Transfer Program proposes a framework of actions, policies and processes that will facilitate water transfers and further the development of a statewide water transfer market by addressing these problems. The framework also includes mechanisms to protect third-parties against adverse impacts.

- Establish a water transfers information clearinghouse to collect and disseminate data and information relating to water transfers and potential transfer impacts; research previous transfers to understand water transfer impacts.
- Coordinate with CALFED agencies to formulate policy under their existing authorities for required water transfer analyses. This information would be disclosed to the public through the proposed Water Transfers Clearinghouse.
- Provide forecasts on a monthly basis by the Department of Water Resources (DWR) and the Bureau of Reclamation (BOR) of potential conveyance capacity availability for cross-Delta water transfers.
- Develop a streamlined transfer approval process to be followed by each proposed transfer for review by the appropriate agency.
- Establish a process for CALFED agencies to work with stakeholders to reduce conflict in defining transferable water, reservoir refill and carriage water criteria; develop methodology to monitor instream transfers; and discuss opportunities to transport transferred water through federal or state conveyance facilities.

## How This Will Help

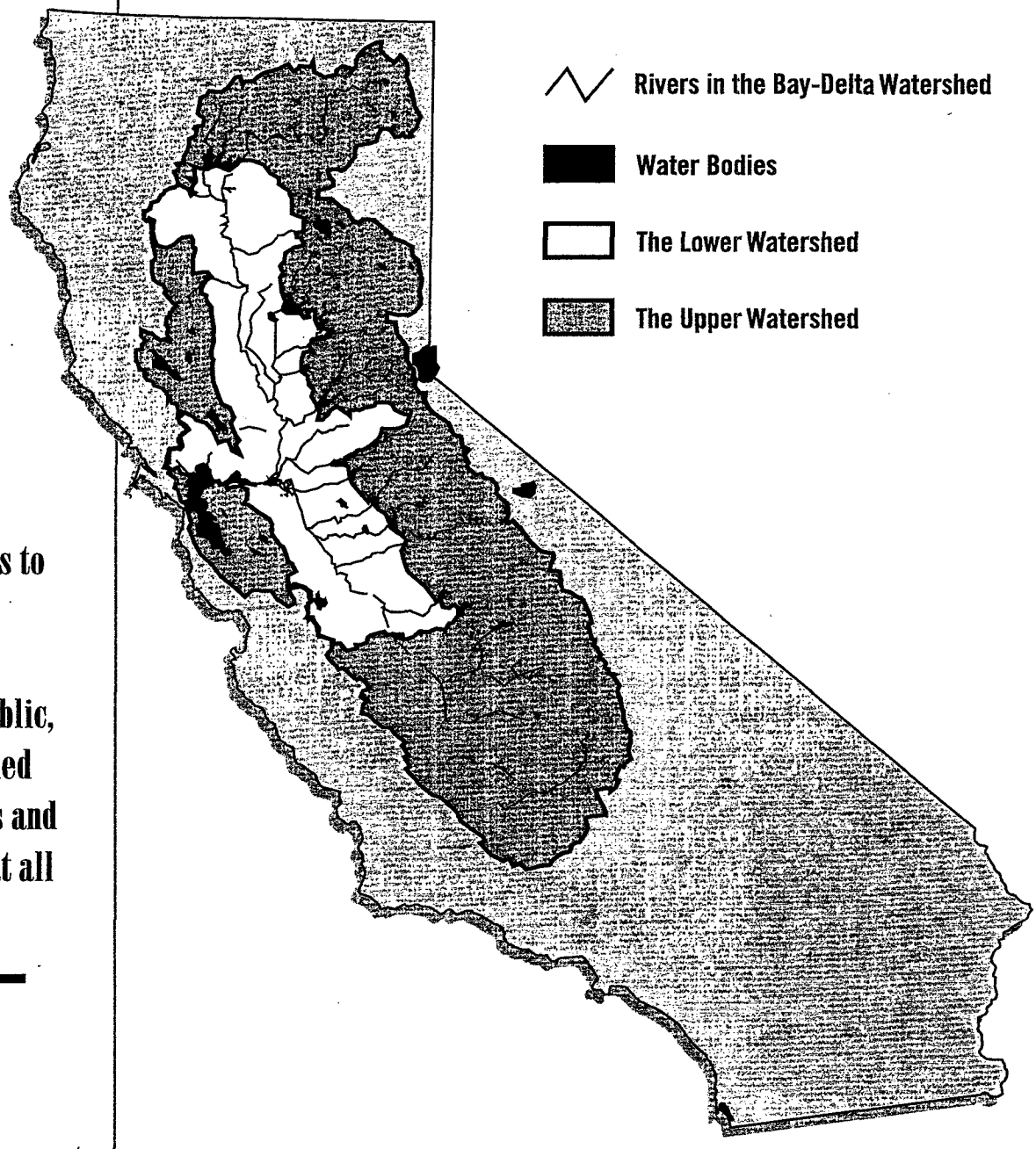
- Resolves issues constraining an effective water market.
- Provides an incentive for water users to implement cost-effective conservation measures.
- Increases the effectiveness of water transfers as part of a broad, statewide water management strategy for improved water supply reliability.

Program Elements

# Watershed Program

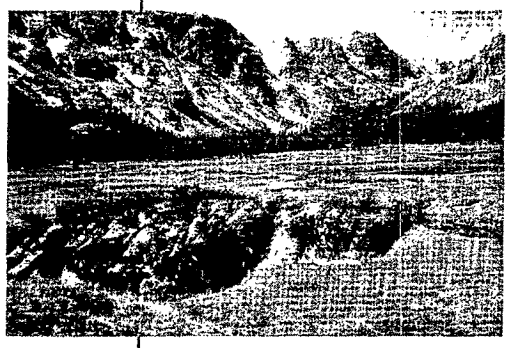
The Watershed Program supports and encourages locally-led watershed activities that benefit the Bay-Delta system with both financial and technical assistance. In addition, the program will strive to strengthen the partnerships and relationships among the public, local watershed organizations, and government at all levels. Emphasis is on the importance of community involvement and support.

## The Bay-Delta Watershed




**CALFED seeks to strengthen partnerships among the public, local watershed organizations and government at all levels.**

**The Watershed Program includes the following elements:**



- Implement local watershed restoration, maintenance, and conservation activities that support the goals and objectives of CALFED.
- Facilitate and improve coordination and assistance between government agencies, other organizations, and local groups.
- Facilitate monitoring activities consistent with CALFED's monitoring and research goals and support activities that ensure adaptive management processes can be applied.
- Support resource conservation education at the local watershed level and provide baseline support to watershed programs.
- Identify the watershed functions and processes that are relevant to CALFED goals and objectives, and provide examples of activities that could improve these functions and processes.
- Improve integration of the Watershed Program with other CALFED programs, especially the Ecosystem Restoration and Water Quality programs.

## How This Will Help

- Benefits ecosystem by increasing or improving fisheries habitat and passage, and restoring wetlands and the natural stream morphology affecting downstream flows or species.
- Watershed projects that reduce pollutant loads in streams, lakes or reservoirs could measurably improve downstream water quality.

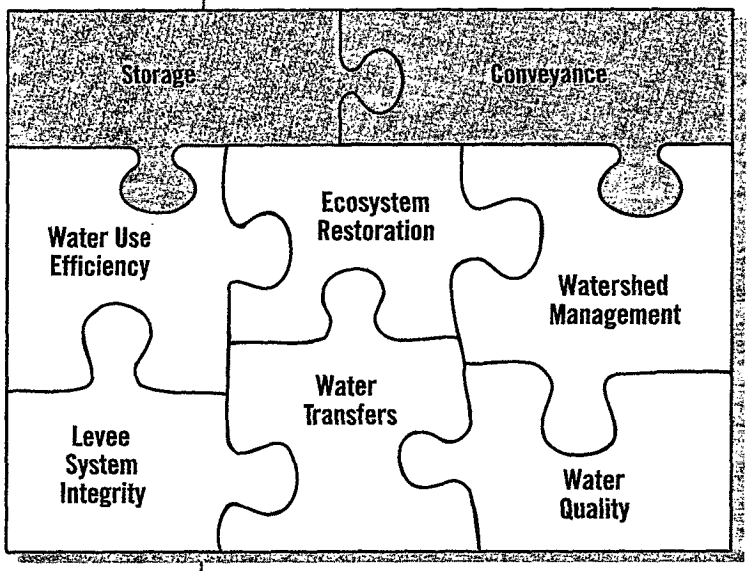
- Helps control excess flood runoff that threatens levees and decreases water supply opportunities.
- Watershed restoration can reduce flood risks, slow runoff to allow for greater groundwater recharge and surface storage opportunities.

Program Elements

# Storage

Storing water in surface reservoirs or groundwater basins can provide opportunities to improve the timing and availability of water for all uses. The benefits of surface and groundwater storage vary depending on the location, size, operational policies and linkage to other program elements. By storing during times of high flow and low environmental impact, more water is available during dry periods. Properly managed, storage turns low value water into high value water for all uses.

When combined with aggressive implementation of water conservation, recycling, and a water transfer market that protects water rights and third parties, storage can be an effective water management tool to ensure water supply reliability




CALFED will focus on groundwater storage and off-stream reservoir sites for new surface storage. While new on-stream storage will not be pursued, expansion of existing on-stream storage is being considered.

A fundamental principle is that the costs of storage should be borne by those who benefit from the program. In principle, public money will be used to finance storage projects only to the extent that the storage creates public benefits; user money will be used to finance the portion of storage that generates user benefits.

**Storing water in surface reservoirs or groundwater basins can provide opportunities to improve the timing and availability of water for all uses.**

**Groundwater conjunctive use programs will be constructed as necessary to meet CALFED's goals, provided:**

- Groundwater monitoring and modeling programs are established.
- Environmental documentation and permitting requirements are completed.
- There is a demonstrated commitment to finance by beneficiaries.
- Full recognition is given to the rights of landowners.
- Guidelines are developed to protect resources, address local concerns, and avoid potential negative impacts.

**New or expanded surface water storage will be constructed as necessary to meet CALFED's goals in conjunction with:**

- Demonstrated progress in meeting the CALFED Program's goals for water use efficiency, water transfer and other water management tools.
- Commitment to finance by beneficiaries.
- Completion of all environmental documentation and permitting requirements.

# Conveyance

Conveyance describes various ways water can be moved through the Delta. CALFED's basic 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 meet CALFED goals and objectives. Some modifications to the Delta channels can improve all Delta resources; water supply, water quality, levees, natural habitat, and the common Delta Pool. Investment in the Delta channels makes sense over the long-term and maximizes the chances that CALFED can meet its goals.

**Conveyance describes various ways water can be moved through the Delta.**

Proposed Delta conveyance improvements in the south Delta include new screens for the SWP and CVP export facilities, changes in operations and channel enlargements. In the north Delta CALFED proposes channel enlargements for flood control, changes in Delta Cross-Channel operations, and consideration of a new screened diversion from the Sacramento River to the interior Delta.

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 action that may be taken toward these goals and objectives after thorough assessment of a variety of factors. Actions include advanced water treatment, more aggressive source control, alternative sources of water, and an isolated facility.

# Getting to a Solution

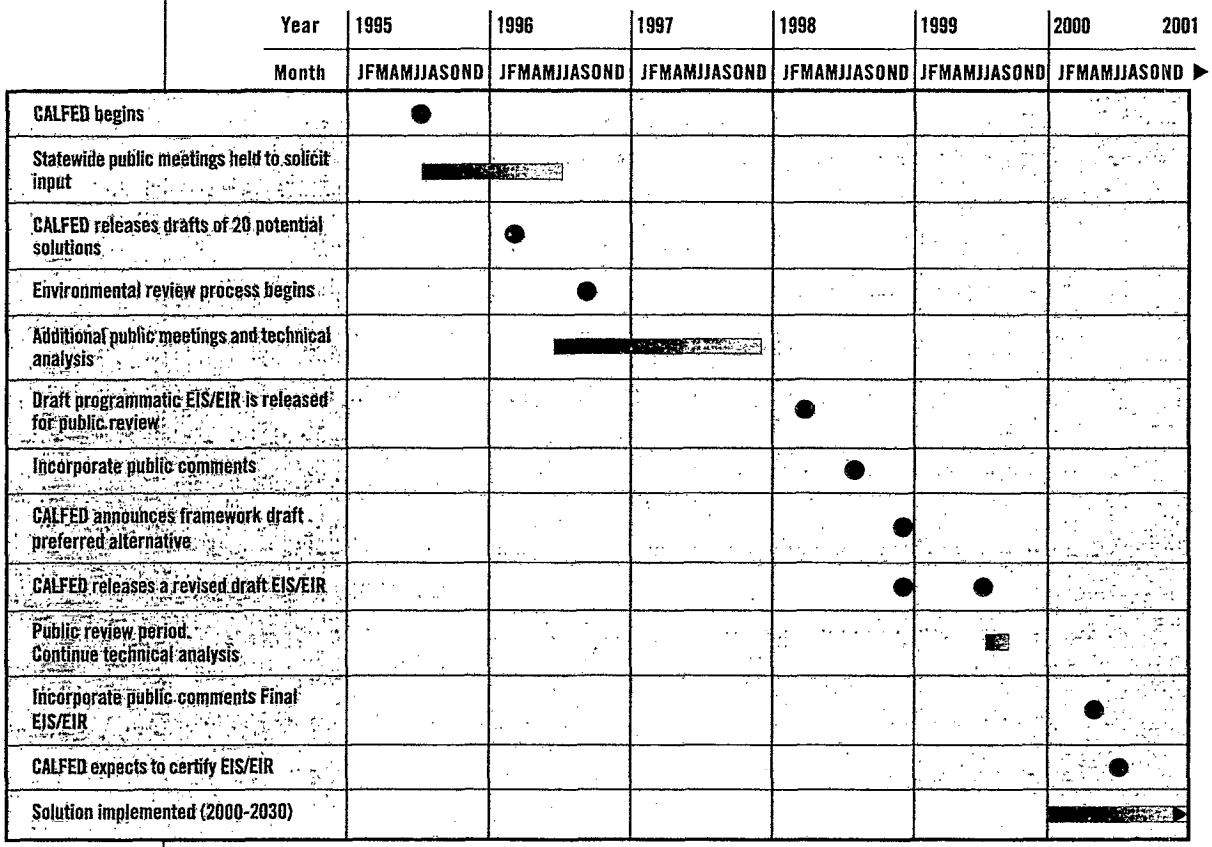
The revised draft Programmatic EIS/EIR will present analysis on the potential impacts of the Program alternatives. This information is the result of both technical analysis and stakeholder input. CALFED expects to certify the final EIS/EIR and begin program implementation in June 2000.

**The revised draft Programmatic EIS/EIR will present analysis on the potential impacts of the Program alternatives.**

## Commonly Asked Questions

### What happens to comments?

*Since the beginning, CALFED has solicited public feedback on all aspects of the Program, including goals, solution principles, priorities and implementation. Comments received during the public review period for the draft programmatic EIS/EIR were grouped in categories and forwarded as they come in to the appropriate technical staff for evaluation. If necessary, technical analysis was conducted as part of this evaluation process. Comments will be incorporated into a final programmatic EIS/EIR, which will also be circulated for public review and comment prior to signing of the Record of Decision and Certification.*



# Want to Know More?

## Environmental Review

To comply with the National Environmental Policy Act (EIS) and the California Environmental Quality Act (EIR), CALFED is preparing a programmatic Environmental Impact Statement/Environmental Impact Report.

## Main Document

The main document and executive summary contain the following information:

- Definition of Program scope.
- Potential impacts of the no-action alternative.
- Potential impacts of solution alternatives, including the preferred program alternative, each containing Program elements for ecosystem restoration, water quality, water use efficiency, levee system integrity, water transfers and watershed management coordination, Delta conveyance and a range of storage options.
- Public involvement opportunities.

## Appendices

- *Revised Phase II Report and Executive Summary*
- *Phase II Concluding Report*
- *Ecosystem Restoration Program, Volumes 1, 2, 3 and maps*
- *Long-Term Levee Protection Plan*
- *Water Quality Program*
- *Water Transfer Program*
- *Water Use Efficiency Program*
- *Watershed Program*
- *Conveyance and Storage Program*
- *Implementation Strategy*
- *Conservation Strategy*
- *Comprehensive Monitoring, Assessment and Research Program (CMARP)*

## Technical Reports

Technical supporting documents covering the following topics are also available to interested parties. These include:

- *Agricultural Resources*
- *Cultural Resources*
- *Fisheries & Aquatic Resources*
- *Flood Control Systems*
- *Geomorphology & Soils*
- *Groundwater Resources*
- *Power Production & Energy*
- *Recreational Resources*
- *Regional Economics*
- *Surface Water Resources*
- *Vegetation & Wildlife*
- *Water Quality*

## Would You Like a Copy?

**Website** — The Executive Summary, revised Phase II Report and revised program plans are available on the CALFED website at http://calfed.ca.gov.

**Toll-free Ordering** — You can also call **1-800-700-5752** to request documents.

**Libraries** — Many libraries in California have these documents. Call CALFED to find the one closest to you.

# Glossary of Terms

***AF:*** Abbreviation for acre feet; the volume of water that would cover 1 acre to a depth of 1 foot, or 325,851 gallons of water. On average, could supply one-two households with water for a year.

***Action:*** A structure, operating criteria, program, regulation, policy, or restoration activity that is intended to address a problem or resolve a conflict in the Bay-Delta system.

***Alternative:*** A collection of actions or action categories assembled to provide a comprehensive solution to problems in the Bay-Delta system.

***Anadromous Fish:*** Fish that spend a part of their life cycle in the sea and return to fresh water streams to spawn.

***Bay-Delta Advisory Council (BDAC):*** A 34-member federally chartered citizens advisory committee. BDAC provides formal comment and advice to the CALFED agencies during regularly scheduled meetings.

***Best Management Practices (BMP):*** An urban water conservation measure that the California Urban Water Conservation Council agrees to implement among member agencies. The term is also used in reference to other activities such as water quality standards, and water management.

***Carriage Water:*** Additional flows released during export periods to ensure maintenance of water quality standards and assist with maintaining natural outflow patterns in Delta channels. For instance, a portion of transfer water released from upstream of the Delta intended for export from south Delta would be used for Delta outflow.

***Central Valley Project (CVP):*** Federally operated water management and conveyance system that provides water to agricultural, urban, and industrial users in California. Authorized by legislation in 1937.

***Central Valley Project Improvement Act (CVPIA):*** Federal legislation, signed into law on Oct. 30, 1992, mandating major changes in the management of the federal Central Valley Project. The CVPIA puts fish and wildlife on an equal footing with agricultural, municipal, industrial, and hydropower users.

***CFS:*** An abbreviation for cubic feet per second.

***Channel Islands:*** Natural, unleveed land masses within Delta channels. Typically good sources of habitat.

***Common Delta Pool:*** This concept suggests the Delta provides a common resource, including fresh water supply for all Delta water users, and all those whose actions have an impact on the Delta environment share in the obligation to restore, maintain and protect Delta resources, including water supplies, water quality, and natural habitat.

***Conjunctive Use:*** The operation of a groundwater basin in combination or "conjunction" with a surface water storage and conveyance system. Water is stored in the groundwater basin for later use in place of or to supplement surface supplies. Water is stored by intentionally recharging the basin during years of above-average water supply.

***Conveyance:*** A pipeline, canal, natural channel or other similar facility that transports water from one location to another.

***Delta Islands:*** Islands in the Sacramento-San Joaquin Delta protected by levees. Delta islands provide space for numerous functions including agriculture, communities, and important infrastructure such as power plants, transmission lines, pipelines, and roadways.

***Demand Management:*** Programs that seek to reduce demand for water through conservation, rate incentives, drought rationing, and other activities.

***Diversions:*** The action of taking water out of a river system or changing the flow of water in a system for use in another location.

***Drought Conditions:*** A time when rainfall and runoff are much less than average. One method to categorize annual rainfall is as follows, with the last two categories being drought conditions: wet, above normal, below normal, dry critical.

***Dual Conveyance System:*** A means of improving conveyance across the Bay-Delta by improving through Delta conveyance and isolating a portion of conveyance from Delta channels.

***Ecosystem:*** A recognizable, relatively homogeneous unit that includes organisms, their environment, and all the interactions among them.

***Entrainment:*** The process of drawing fish into diversions along with water, resulting in the loss of such fish.

***Environmental Water Account:*** A method of accounting for the water and financial assets that can be managed to provide additional protections for fishery resources.

***ESA (Endangered Species Act):*** Federal and state legislation that provides protection for species that are in danger of extinction.

***Export:*** Water diversion from the Delta used for purposes outside the Delta.

***Fish Screens:*** Physical structures placed at water diversion facilities to keep fish from getting pulled into the facility and dying there.

# Glossary of Terms (cont.)

***Groundwater Banking:*** Storing water in the ground for use to meet demand during dry years. In-lieu groundwater banking replaces groundwater used by irrigators with surface water to build up and save underground water supply for use during drought conditions. "See Conjunctive Use."

***Hydrograph:*** A chart or graph showing the change in flow over time for a particular stream or river.

***In-Delta Storage:*** Water storage within the Delta formed by converting an existing island to a reservoir.

***Isolated Conveyance Facility:*** A canal or pipeline that transports water between two different locations while keeping it separate from Delta water.

***Land Fallowing/Retirement:*** Allowing previously irrigated agricultural land to temporarily lie idle or purchasing such land and allowing it to remain out of production for a variety of purposes.

***MAF:*** An abbreviation for million acre feet.

***Meander Belt:*** Protecting and preserving land in the vicinity of a river channel in order to allow the river to meander. Meander belts are a way to allow the development of natural habitat around a river.

***Mining Drainage Remediation:*** Controlling or treating polluted drainage from abandoned mines.

***Non-native Species:*** Also called introduced species or exotic species; refers to plants and animals that originated elsewhere and are brought into a new area, where they may dominate the local species or in some way negatively impact the environment for native species.

***Program Elements:*** The program elements for the Phase II Alternatives are Water Use Efficiency, Water Quality, Levee System Integrity, Ecosystem Restoration, Water Transfers, Watershed Management, Storage and Conveyance.

***Real-Time Monitoring:*** Continuous observation in multiple locations of biological conditions on-site in order to adjust water management operations to protect fish species and allow optimal operation of the water supply system.

***Riparian:*** Area adjacent to natural water course such as a river or stream. Often supports vegetation ranging from dense shrubs to large trees that provides important wildlife habitat, including the best fish habitat values when growing large enough to overhang the bank.

***Riverine:*** Habitat within or alongside a river or channel.

***Setback Levee:*** A constructed embankment to prevent flooding that is positioned some distance from the edge of the river or channel. Setback levees allow wildlife habitat to develop between the levee and the river or stream.

***Shallow Water:*** Water with enough depth to allow for sunlight penetration, plant growth, and the development of small organisms that function as fish food. Serves as spawning areas for Delta smelt.

***Smolt:*** A young salmon that has assumed the silvery color of an adult and is ready to migrate to the sea.

***Solution Principles:*** Fundamental principles that guide the development and evaluation of Program alternatives. They provide an overall measure of acceptability of the alternatives.

***South of Delta Storage:*** Water storage supplied with water exported south from the Delta.

***State Water Project (SWP):*** A California state water conveyance system that pumps water from the Delta for agricultural, urban domestic, and industrial purposes. Authorized by legislation in 1957.

***TAF:*** An abbreviation for thousand acre feet, as in 125 TAF or 125,000 AF.

***Take Limit:*** The numbers of fish allowed to be lost or entrained at a water management facility before it must limit or cease operations. The numbers are set for different species by regulations.

***Terrestrial:*** Types of species of animal and plant wildlife that live on or grow from the land.

***Through Delta Conveyance:*** A means of improving conveyance across the Bay-Delta by a variety of modifications to Delta channels.

***Upstream Storage:*** Any water storage upstream of the Delta supplied by the Sacramento or San Joaquin rivers or their tributaries.

***Water Conservation:*** Those practices that encourage consumers to reduce the use of water. The extent to which these practices actually create a saving in water depends on the total or basin-wide use of water.

***Water Recycling:*** Practices that capture, treat and reuse water. The wastewater is treated to meet health and safety standards depending on its intended use. Also called water reclamation.

***Watershed:*** An area that drains ultimately to a particular channel or river, usually bounded peripherally by a natural divide of some kind such as a hill, ridge, or mountain.

***Water Transfers:*** Voluntary water transactions conducted under state law and in keeping with federal regulations. The agency most involved is the State Water Resources Control Board (SWRCB).

# Comment Form

## Give Us Your Input!

Public input from thousands of Californians has already helped shape the CALFED Bay-Delta solution. However, there are many significant issues that still need to be decided. Please fill out this form and tell us what you think is important when developing an equitable, feasible and durable Bay-Delta solution.

**Name** _____

**Organization (optional)** _____

**Address** _____

**Phone** _____

**e-mail** _____

## Comments:

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Use additional sheets if necessary.

## Please clip out this form, fold, staple and return to:

**CALFED Bay-Delta Program**
**1416 Ninth Street, Suite 1155**
**Sacramento, CA 95814**

All comments will be immediately forwarded to CALFED technical staff and comments relating to the draft programmatic EIS/EIR will be addressed in a response to comments document.

Important!
Public Comment Enclosed

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# What's at Stake

"The agreement to join in the CALFED Program is good for economic growth, good for the environment and good for California and the nation."

— *President Bill Clinton*

"... I will keep the CALFED effort moving forward to address our critical water needs in a balanced and responsible way. I will ensure that all the parties have a stake in the process and I will require compromise by them all. No one will get everything they want but no one will come away empty handed."

— *Governor Gray Davis*

"We can pay for the fix now, or we can pay later in ways too costly to be calcu lated: jobs, farmland, natural habitat and lifestyle."

— *Editorial, Contra Costa Times*

"Many officials and California business leaders believe the CALFED process is the last real opportunity to solve the state's most vexing water supply problem. It must not be allowed to founder in more years of conflict, regional dispute and legal confrontation. No area of the state can afford that."

— *Editorial, Los Angeles Times*

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