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CALFED Bay-Delta Program: Overview of Institutional and Water Use Issues

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CALFED Bay-Delta Program: Overview of Institutional and Water Use Issues

Summary

The California Bay-Delta Program (CALFED) was initiated in 1995 to resolve water resources conflicts in the Sacramento/San Joaquin Rivers Delta and San Francisco Bay (Bay-Delta) in California. The program planning effort focused on developing a plan to address three main problem areas in the Bay-Delta: ecosystem health, water quality, and water supply reliability. CALFED was initially authorized to receive federal funding from FY1998 to FY2000; and since that time only certain projects supporting CALFED goals received appropriations. The program was finally reauthorized October 25, 2004.

The Bay-Delta is formed by the confluence of the north-flowing San Joaquin River, the south-flowing Sacramento River, and the San Francisco Bay, to which the delta of the two rivers is linked. This 738,000-acre area contains a vast network of marshes, wetlands, and open water that supplies water to two-thirds of California's population and nearly seven million acres of farmland through a series of pumps, canals, and dams operated by the federal and state governments. The competing demands for Bay-Delta water have stretched the resource's capacity to provide reliable amounts of water to users (e.g., farmers) and the ecosystem. The Bay-Delta ecosystem is being altered by habitat conversion and water quality degradation, including salt water intrusion. For example, several fish populations have declined, and some species are on federal threatened and endangered species lists. Many attribute the deterioration to unnaturally low levels of water in the Bay-Delta. Listing of these species has affected the timing and use of water pumped from the Bay-Delta and has created uncertainty in water supplies for water users in southern California.

Allocating water from the Bay-Delta has been the subject of conflicts and disputes among stakeholders such as farmers, urban water contractors, and environmentalists for years. CALFED was developed as a response to these conflicts through a series of agreements and revisions that have involved federal and state legislation, and stakeholder accords. A Record of Decision (ROD) for the current CALFED Program was issued by a consortium of state and federal agencies in August 2000; however, legislation to implement the CALFED Program as outlined in the ROD had not been enacted until recently. CALFED, as described in the ROD, has 12 program components that range from water quality and supply to ecosystem restoration and governance. CALFED was planned to be implemented in three phases, of which two are already completed. The third phase is the implementation of the CALFED program as outlined in the ROD. Stage I (of three stages in phase III) of CALFED is currently underway and is expected to take seven years to complete and cost nearly $8.7 billion.

The reauthorization of CALFED funding has been controversial. Specific issues such as authorization for water storage projects, balance among project and program activities, and water supplies for the environment, as well as broader issues such as governance and the degree to which the ROD is implemented, were resolved to varying degrees with the passage of P.L. 108-361, which reauthorized the CALFED Program. This report will be updated as events warrant.

Contents

List of Figures

CALFED Bay-Delta Program: Overview of Institutional and Water Use Issues

Introduction

The 1,153-square mile estuary at the confluence of the San Francisco Bay and the Sacramento and San Joaquin Rivers Delta — the Bay-Delta — is also the hub of California's extensive water supply system. As such, the Bay-Delta has endured decades of competing water demands. During this time, the Bay-Delta ecosystem has experienced environmental degradation, increasing regional water demands, and a decrease in reliable water supplies for urban, agricultural, and natural areas. For example, by the late 1980's and early 1990''s fish species declines and water quality problems had become so severe that continued operation of the state and federal water supply projects were coming into conflict with state and federal environmental laws. To counter this trend and to avoid shutdown or severe operational changes to pumps at the heart of the State Water Project (SWP) and the federal Central Valley Project (CVP), the State of California and several federal agencies entered into a partnership to resolve resource conflicts. This partnership resulted in an agreement known as the Bay-Delta Accord, which ultimately led to the development of the CALFED Bay-Delta Program (CALFED) and the Record of Decision (ROD) for the CALFED Bay-Delta Final Programmatic Environmental Impact Statement and Report (EIS/EIR).[1] The objectives of CALFED were to restore ecological health, improve water quality, fortify infrastructure for managing water (e.g. improving Delta levees), and increase water supply reliability in the Bay-Delta area.

The authorization of an annual federal appropriation of $143 million from FY1998 to FY2000 for the CALFED program — to develop and implement specific portions of an ecosystem protection plan and long-term restoration projects for the Bay-Delta — expired September 30, 2000.[2] Between 1998 and 2000, $220 million in federal funds was appropriated for the CALFED program; however, absent an explicit authorization from the authorizing committees, congressional appropriators have been reluctant to directly fund the program since.

Three bills were introduced in the 108th Congress to authorize appropriations for federal participation in the CALFED program; H.R. 2828 (introduced July 23, 2003,

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[1] CALFED Bay-Delta Program, *Programmatic Record of Decision, Volume 1 - Record of Decision and Attachments I through 4* (California: August 28, 2000), hereafter referred to as the ROD.

[2] The initial authorization for CALFED funding (P.L. 104-208, Division E) came on the heels of a 1994 agreement among state and federal agencies, and urban, agricultural, and environmental interests to protect the Bay-Delta while satisfying key needs of various involved interests.

by Ken Calvert), H.R. 2641 (introduced June 26, 2003, by George Miller), and S. 1097 (introduced May 21, 2003, by Dianne Feinstein and Barbara Boxer).[3] All three bills would have authorized implementation of various CALFED program components, action items, and activities identified in the ROD; however, none of the bills would have authorized the implementation of the ROD in its entirety.[4]

The reauthorization of federal participation in the CALFED program was quite controversial. The controversy stems, in part, from the complex nature of water allocation from the Bay-Delta itself. For decades, two massive water supply projects — the State Water Project (SWP) and the federal Central Valley Project (CVP) — have moved water from northern California, through the Bay-Delta to water users in southern California. Decisions on who gets how much water and when they receive it are generally made annually and are based on a myriad of state and federal laws, historic water rights, contracts, and negotiated agreements. Any proposed change to this complex water allocation system is met with concern from water users who fear they may lose water, receive reduced priority for water supplies, or receive water of a degraded quality. On the other hand, many attribute the Bay-Delta's deterioration to unnaturally low water supplies resulting from the management of the state and federal projects and have called for changes in project operations. In particular, the decline of certain fish species (e.g., winter run chinook salmon) led to operational changes affecting when and how much water can be pumped from the Bay-Delta to supply water users south of the Delta. Additionally, environmental groups have advocated increased water supplies for environmental purposes to stave off the decline of fish and wildlife species, improve water quality for other uses, and restore the health and vitality of the Bay-Delta ecosystem.

While the CALFED program is an attempt to balance competing interests and develop a plan for managing Bay-Delta water resources to meet competing demands, all parties have not been 100% satisfied in the final goals, programmatic actions, and water management regimes called for the in the ROD. Specifically, some agricultural stakeholders have expressed concerns over how much water they will receive and have asked for assurances that they will receive a certain percentage of their contracted supplies; however, other agricultural and urban contractors fear their water supplies may be threatened by such assurances. Some of the same groups, and others, are concerned that the methods of distributing water will disadvantage them, that the program is not balanced (e.g. between ecosystem restoration and water storage facilities), and that funding levels and authorization for surface water storage facilities are inadequate. Further, some question the legitimacy of scientific findings regarding environmental water needs and believe the level of water allocated for recovering threatened and endangered species in the Bay-Delta may not be justified.

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[3] For a congressional distribution memo that provides a detailed comparison of all three bills related to the CALFED Bay-Delta Program, please contact Pervaze Sheikh at 7-6070 or Betsy Cody at 7-7229. Side-by-side comparisons of more recent versions of the bills are also available.

[4] CALFED program components as listed in the ROD include governance, ecosystem restoration, watersheds, water supply reliability, storage, conveyance, Environmental Water Account, water use efficiency, water quality, water transfers, levee stability, and science.

Others are concerned that legislative efforts to resolve some of these issues could undermine the ability of the CALFED program to restore fisheries and other resources associated with the Bay-Delta ecosystem. Some environmental groups argue for greater flows of water to natural areas to support the recovery of endangered and threatened plant and animal species. Some also advocate investing in water conservation and new pricing strategies to lower demand for Bay-Delta water, and using new technologies (e.g. desalination and water recycling) to stretch existing water supplies. In general, environmental groups oppose development of new surface storage projects preferring instead to manage existing supplies more efficiently.

Where there was once general agreement, perhaps tenuous, among the stakeholders who participated in development of the ROD, this agreement was based on a delicate balance of many interests and nearly a decade of fairly intense negotiations. Consequently, any attempt to authorize a program departing from the ROD has met with resistance from parties who fear their interests may not be well served. This report presents the historical progression of conflicts and agreements that led to the creation of CALFED, and discusses governance, ecosystem restoration, and water use issues related to the reauthorization of CALFED in the 108th Congress (P.L. 108-361). For more information on CALFED oversight in the 109th Congress, see CRS Report IB10019, *Western Water Resource Issues*, by Betsy Cody and Pervaze Sheikh.

Background

The Bay-Delta is a 1,153 square-mile area located where the Sacramento and San Joaquin Rivers converge and flow into San Francisco Bay. These rivers along with other tributaries form a mosaic of sloughs and waterways that surround 57 man-made islands within the Bay-Delta (see **Figure 1**). The Bay-Delta is considered the largest estuary on the West Coast and its combination of fresh and salt water ecosystems provide habitat for a diverse array of plant and animal life. An estimated 750 species of plants and animals, including over 130 species of fish are found in the Bay-Delta.[5] The Bay-Delta also contains over 700,000 acres of farmland,[6] and is used by approximately 12 million recreationists per year who among other activities, boat, fish, hike, and sightsee in the Bay-Delta.

The water regime of the Bay-Delta was significantly altered in the 1930s when the federal government at the behest of California, began a massive project to divert water from the Sacramento Valley and Delta to farmland in California's vast Central Valley. The state, some 20 years later, followed with its own State Water Project (SWP) which in large part parallels the federal Central Valley Project (CVP), diverting much of the natural inflow into the San Francisco Bay to agricultural, industrial, and urban consumers mostly in the San Joaquin Valley and Southern

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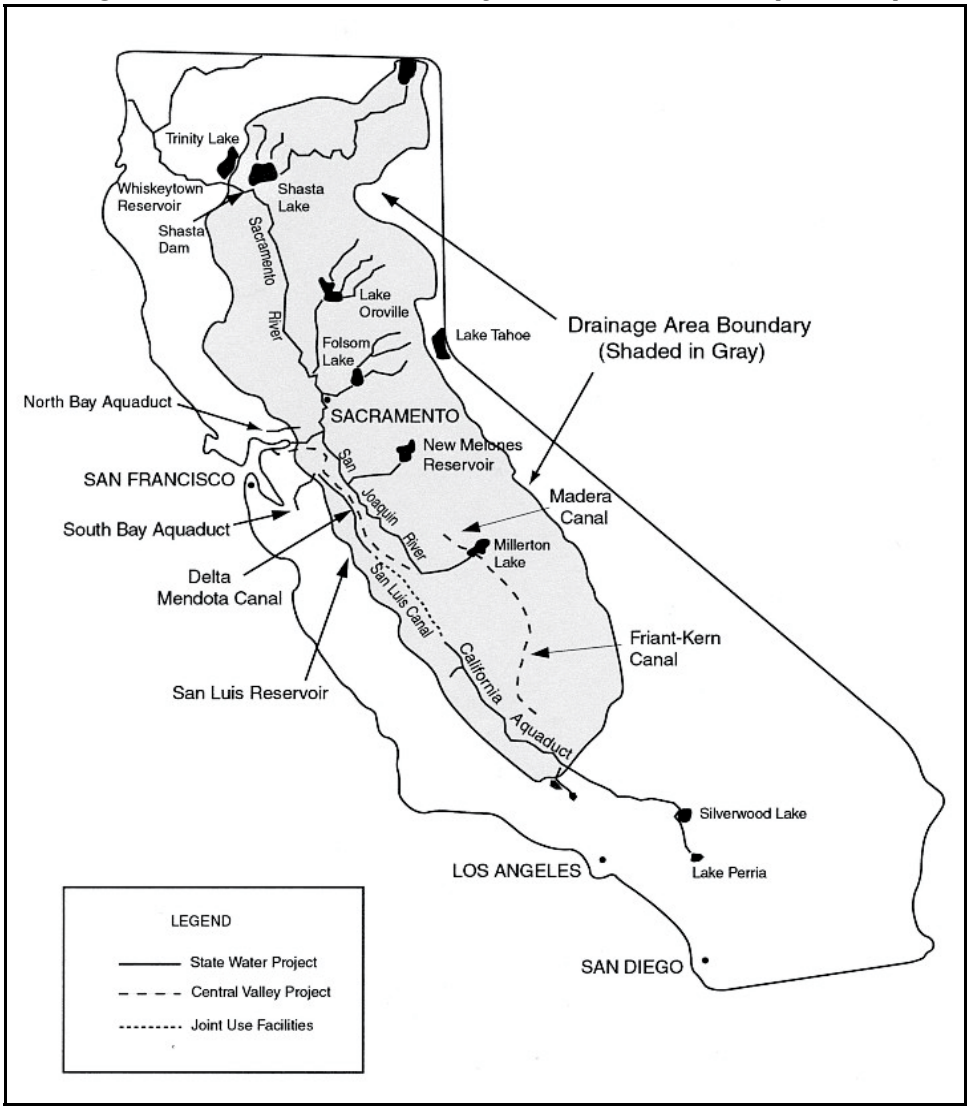
[5] CALFED Bay-Delta Program, *2003 Annual Report*, (Sacramento, CA:2003).

[6] The main crops grown in the Bay-Delta are wheat, alfalfa, cotton, corn, and tomatoes.

California.[7] The Bay-Delta now supplies water to 22 million people and millions of acres of farmland in California.[8] Two networks of pumps, dams, canals, and reservoirs take an estimated 5.9 million acre-feet (maf) of water from the San Joaquin and Sacramento Rivers and their tributaries, and distribute it to agricultural and urban water users in the California Central Valley via the CVP, and to Southern California via the SWP.[9] The combined annual amount of water taken by the CVP and SWP ranges between 20% and 70% of the total annual inflow in the Bay-Delta region.[10]

Figure 1. The California Bay-Delta Watershed (shaded)



Source: Adapted by CRS Map Resources.

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[7] K. Taylor, K. Jacobs, and S. Luoma, "CALFED: An Experiment in Science and Decision-making," *Environment* v.45 (2003), pp. 30-41.

[8] CALFED Bay-Delta Program, *2003 Annual Report*, (Sacramento, CA:2003).

[9] ROD.

[10] Ibid.

Construction and operation of the CVP and SWP projects over many decades fundamentally altered the physical environment of the Central Valley as well as the Bay-Delta. Hundreds of wetland areas were lost or altered, and by the late 1980s, water quality and Endangered Species Act (ESA) issues threatened the operation of the CVP and the SWP. Today, the Bay-Delta ecosystem is still generally considered to be unhealthy and unable to provide reliable amounts of water for water users. Some also believe that the Bay-Delta is unable to sustain viable habitats for all of its plant and animal life.[11] Water quality has deteriorated in the Bay-Delta partially due to drainage of freshwater and influx of highly saline water. Further, pollutants originating from agricultural runoff, cities, and ranches have lowered water quality in the Bay-Delta. The Bay-Delta has also suffered from fragmentation and loss of native habitat. Of the nearly 350,000 acres of original tidal marshland in the Bay-Delta, only 8,000 acres remain. Several plant and animal species are on state and federal endangered and threatened lists, including the steelhead trout and the winter-run chinook salmon. Problems in the Bay-Delta related to water quality and fish and wildlife have raised compliance issues with the Clean Water Act (CWA) (P.L. 92-500, as amended), the Endangered Species Act (ESA; P.L. 93-205, as amended), as well as comparable state laws. These issues are discussed in more detail below.

Conflicts and Federal Government Involvement

The limited supply of water in California has been the subject of conflicts among competing interests for decades. The fundamental controversy over water supplies more recently has centered on the distribution of water supplies to urban areas and agriculture, and their effect on the environment. In 1986, California and federal government entered into a Coordinated Operation Agreement (COA) to coordinate operations between the CVP and SWP, and to allow equitable sharing of surplus water.[12] Afterwards, controversy peaked when California was experiencing a six-year drought (1987 - 1992).[13] Limited water supplies during the drought led to water rationing in urban and agricultural areas, a reduction in crop productivity and cultivation, and environmental deterioration in river and marshland habitats. The distribution of water was further complicated by the implementation of the federal CWA and ESA in the Bay-Delta. Concerns that annual operations of the CVP and SWP may have been violating federal and state water quality and endangered species statutes resulted in new efforts to provide baseline water supplies for environmental purposes. In 1992, the Central Valley Project Improvement Act (Title 34 of P.L. 102-575; CVPIA) for the first time allocated specific water supplies for natural areas and for fish and wildlife.[14] The development of subsequent regulations affected

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[11] U.S. Senate Committee on Energy and Natural Resources, *CALFED Bay-Delta Authorization Act*, 107th Cong., 2nd Sess. (S.Rept. 107-171), June 24, 2002, (US GPO, Washington, DC: 2002).

[12] The COA received congressional approval in 1986 (P.L. 99-546).

[13] For background on the California drought, see CRS Report 91-208 ENR, *The California Drought: Effects on Agriculture and Related Resources*.

[14] Water was first allocated for fish and wildlife habitat in 1993 by the BOR; however, the accounting method for calculating the amount of water transferred to fish and wildlife (continued...)

water allocation, decision making, and infrastructure operation in the Bay-Delta and surrounding areas, and created new controversies among farmers, urban users, and environmentalists over water supply distribution.

Implementation of the Federal Endangered Species Act. Several fish species in the Bay-Delta have been listed as either endangered or threatened under the federal ESA. The ESA generally prohibits actions that involve "taking" (including harming) a listed species except under certain specified circumstances. It also directs federal agencies to avoid adverse modification of a listed species' critical habitat. Further, the ESA requires the designation of critical habitat areas where a species is currently found or which might provide additional habitat for species recovery.[15] Actions implemented under the ESA have resulted in changes to dam operations, water flow, and pumping facilities in the Bay-Delta. For example, exports of water out of the Bay-Delta were limited to protect salmon runs of the winter-run chinook salmon (*Onchorhyncus tshawtscha*), which was listed as endangered in 1989. As other fish species, such as the delta smelt (*Hypomesus transpacificus*) and spring-run chinook salmon (*Onchorhyncus tshawytscha)*, have been listed as threatened, further restrictions on water exports and project modifications have been implemented in the Bay-Delta. Controversy over water allocated to the environment for recovering fish was exemplified when efforts to protect the then federally listed threatened Sacramento splittail (*Pogonichthys macrolepidotus*) resulted in a lawsuit against the U.S. Fish and Wildlife Service (FWS) by state water contractors. A federal judge, in 2000, invalidated the decision to list the species, citing the failure of the FWS to consider the opinions of state game scientists, explain high stocking rates in 1998, and explain why the splittail was threatened. In September 2003, the FWS withdrew the splittail from the threatened species list after analyzing the population and determining that it would not become threatened or endangered in the foreseeable future.

Implementation of the CVPIA. Water allocation for endangered species and the environment in general was to be enhanced with the enactment of the CVPIA in 1992. The legislation was enacted largely in response to the decline of fish and wildlife species in the Bay-Delta and the Sacramento and San Joaquin Rivers system. The CVPIA changed the priorities for water supply for the CVP by ranking fish and wildlife water needs on par with irrigation and domestic water uses. Refuges are granted the same high priority given to agriculture; and water reductions to refuges may not exceed 25% during drought years. CVPIA also reallocates CVP water back to natural areas to benefit salmon, steelhead trout, and other fish and wildlife.[16] Some argue that limited funds appropriated for the restoration fund, litigation over

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[14] (...continued)
habitat has remained controversial.

[15] For greater detail on implementing ESA, see CRS Report RL31654, *Endangered Species Act: A Primer*, by Pamela Baldwin, Eugene Buck, and M. Lynne Corn. For more information on ESA legislation, see CRS Issue Brief IB10072, *Endangered Species: Difficult Choices*, by Eugene H. Buck, M. Lynne Corn, and Pamela Baldwin.

[16] The CVPIA authorizes the allocation of 800,000 acre-ft of water annually for fish and wildlife purposes, provides for anadromous fish restoration, and creates a restoration fund financed by water and power users.

providing 800,000 acre-feet of water for the environment each year, and controversy over contract renewal provisions has led to the CVPIA not fully meeting environmental expectations. At the same time, many farmers and others have called the CVPIA a disaster, claiming that the priority for allocating water supplies to the environment is too high.

Implementation of the Clean Water Act. Beginning in the late 1980's, the implementation of the CWA by the U.S. Environmental Protection Agency (EPA) generated controversy between the State Water Board and the federal government. The CWA regulates both surface water and groundwater quality and is enforced by the EPA. In 1987, the EPA notified the State of California that state surface water quality standards were not in compliance with the CWA. The state responded with new water standards that were again rejected by the EPA. In 1993, after a lawsuit brought by environmentalists, the EPA issued a set of federal water quality guidelines for implementation in California. These were later rejected by the state.

This ongoing struggle to address CWA requirements further threatened continued operation of the CVP and SWP, particularly operations of Delta pumping facilities. In order to forestall cutbacks in water project operations, state and federal authorities jointly adopted mutually acceptable water quality standards and agreed to regulate the CVP and SWP operations to meet these standards, as well as to develop target flows for ESA listed species. This agreement, known as the Bay-Delta Accord, included the following elements: provisions to regulate springtime flow and export limits to benefit fish species; operational flexibility to comply with provisions of the ESA that address water supply and species monitoring issues among others; and measures to improve environmental conditions in the Bay-Delta Estuary (e.g., waste discharge control and habitat restoration). The Accord was in effect until 2000 and then was incorporated in part by the ROD.

CALFED Bay-Delta Program

Controversies surrounding implementation of the federal statutes outlined above fueled the creation of the Bay-Delta Framework Agreement (a refinement of the Accord), which was signed in 1995 by state and federal agencies with regulatory responsibilities in the Bay-Delta. This agreement marked the beginning of the CALFED process and defined three issues that were deemed important for federal-state coordination and cooperation: the formulation of water quality standards; coordination of federal and state project operations with regulatory requirements (i.e., coordination of CVP and SWP operations to maintain compliance with the ESA, CVPIA, and state and federal water quality provisions); and development of a joint federal-state process to develop long-term solutions to environmental, water supply, and water quality problems in the Bay-Delta. The CALFED Program was created from the Framework Agreement to address these issues. The initial authorization of federal funding for the CALFED Program came in 1996 with the enactment of P.L. 104-208 (Division E, Title I). This legislation authorized nearly $430 million for FY1998 to FY2000. Funds appropriated for CALFED under this authorization were $85 million for FY1998, $75 million for FY1999, and $60 million for FY2000. The

funding authorization expired September 30, 2000; however, some activities that support CALFED program goals continued to receive federal funding.[17]

The CALFED process brought state, federal, and other stakeholders together to develop a programmatic response to restoration and water supply issues in the Bay-Delta. First, definitions of the problems to be addressed in the Bay-Delta were listed, and a set of alternative solutions was developed. Second, to comply with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), an environmental impact statement (EIS) and an environmental impact report (EIR) were prepared to identify the impacts associated with the individual solutions being considered. Then, from a set of four alternatives, a "Preferred Program Alternative" was selected as the long-term plan for improving water quality, stabilizing Bay-Delta levees, restoring the Bay-Delta ecosystem, and improving water supply reliability. This plan was announced August 28, 2000, in the Record of Decision for the CALFED Bay-Delta Final Programmatic Environmental Impact Statement and Report (ROD). The key components of the plan outlined in the ROD include specific activities in 12 program areas, among them, the development of an Environmental Water Account and the authority for a CALFED Policy Group.[18] The CALFED Policy Group, as proposed in the ROD, would have consisted of representatives from 23 federal and state agencies and would have been responsible for overseeing the implementation of CALFED, assessing its progress (including reports to federal and state legislatures), and reviewing and coordinating CALFED and related programs.[19] However, before federal legislation was enacted approving the ROD as a framework for implementing the CALFED program, the California legislature adopted its own governance structure for the CALFED program.

The State of California established the California Bay-Delta Authority (CALFED Authority) in September 2002. This state agency is housed in the California Resources Agency and is responsible for overseeing the implementation of the CALFED program. Specifically, the CALFED Authority is expected to oversee the state implementation of the CALFED Program according to the ROD, develop policies and track timelines associated with CALFED projects, report annually to state and federal legislatures, manage the science element of CALFED and establish an independent science board, review and approve program plans and

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[17] For CALFED-related funding requests for FY2005, see CRS Report RL32307, *Appropriations for FY2005: Energy and Water Development*, coordinated by Carl Behrens and Marc Humphries.

[18] Program components include governance, ecosystem restoration, watersheds, water supply reliability, storage, conveyance, Environmental Water Account, water use efficiency, water quality, water transfers, levees, and science.

[19] The primary or "lead" federal agencies involved in the CALFED process include the BOR and the FWS, both within the Department of the Interior; the EPA; the NOAA Fisheries (Department of Commerce; formerly the National Marine Fisheries Service); the U.S. Army Corps of Engineers (Department of Defense); and the Natural Resources Conservation Service (Department of Agriculture). State agencies include the Resources Agency (Department of Water Resources, Department of Fish and Game, Reclamation Board, and Delta Protection Commission); the California Environmental Protection Agency (including the State Water Resources Control Board); and the Department of Food and Agriculture.

budgets, and administer the CALFED Program (e.g., hiring staff and approving policies).[20] The agency is expected to consist of representatives from six California State agencies, six federal agencies, and the Bay Delta Public Advisory Committee, as well as five members of the public (each representing a program region[21]), two at-large members appointed by the State Senate and Assembly, and four non-voting members of the State Legislature. The state law establishing the CALFED Authority explicitly states that nothing should extend the application of federal law to actions by state agencies or extend state law to actions by federal agencies.[22] Further, the CALFED Authority will dismantle in 2006 unless federal legislation authorizing the participation of appropriate federal agencies in the CALFED Authority is enacted. P.L. 108-361 authorized the Secretary of the Interior and federal agency heads to participate as non-voting members of the CALFED Authority. It has not yet been determined if this provision will nullify the sunset clause for the CALFED Authority. The state law requires that the Secretary of the California Resources Agency make a determination and written notification that "federal legislation has been enacted authorizing the participation of appropriate federal agencies in the Authority" for the sunset clause to be removed.[23] This notification has not yet been issued.

CALFED Legislative Issues

The debate over the reauthorization of CALFED in the 108th Congress largely centered on specific issues such as the authorization for water storage projects, cost allocation, balance among project and program activities, and water supplies for the environment, as well as broader issues such as governance and the degree to which the ROD is implemented. Oversight issues during the 109th Congress are expected to include project financing, water storage project programs, and implementation of the Operations Criteria and Plan and South Delta Improvements Plan.

Three bills were introduced in the 108th Congress to authorize appropriations for federal participation in CALFED: H.R. 2641, H.R. 2828, and S. 1097. S. 1097 and H.R. 2828 were approved by respective full committees in the House and Senate (House Resources and Senate Energy and Natural Resources). H.R. 2828 passed the House, as amended, July 9, 2004. The Senate subsequently took up the House bill, amended it, and passed H.R. 2828 on September 15, 2004. After several weeks of tense negotiations, the House passed the Senate version under suspension of the rules and without amendment on October 6, 2004. The bill was signed into law October 25, 2004 (P.L. 108-361).

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[20] The California Bay-Delta Authority Act, Chapter 812, Statutes of 2002 (SB 1653, Costa) of California State Law.

[21] The California Bay-Delta Program is divided into five regions including the Sacramento and San Joaquin River Delta, San Francisco Bay, Sacramento Valley, San Joaquin Valley, and Southern California.

[22] The California Bay-Delta Authority Act, Chapter 812, Statutes of 2002 (California Water Code §79400 et seq.).

[23] Ibid.

P.L. 108-361 approves the ROD as a framework for addressing the CALFED Bay-Delta Program and authorizes under existing and new authorizations, several activities and projects related to the components of CALFED.

S. 1097, as introduced, would have authorized federal agencies to conduct projects and activities included under 14 components similar to the 12 components defined in the ROD. These activities range from the specific, such as the construction of floodway improvements in the Lower Mokelumne River, to broad categories such as water conservation projects to enhance water supply reliability, water quality, and ecosystem benefits. S. 1097, as amended on May 20, 2004, would have authorized $389 million in funding for these activities from FY2005 to FY2010.

As passed by the House in July, H.R. 2828 was similar to S. 1097 in that it would have authorized federal agencies to conduct projects and activities included under components defined in the ROD and provided an authorization of $389 million for those activities. H.R. 2828, however, differed from S. 1097 in some ways. The July version of H.R. 2828 would have (1) approved the ROD as a *general framework*; (2) included a provision potentially pre-authorizing the construction of federal water projects; (3) contained additional requirements for land acquisition and ecosystem restoration projects; and (4) authorized appropriations from FY2005 to FY2008.[24]

Thematically, the major areas of bill differences include the degree to which the existing ROD would have been implemented, the entity in charge of managing program activities, the process for project approval (e.g., feasibility study and project authorization), cost allocation schemes, and requirements for land acquisition. Congress is expected to face other CALFED issues in the next few years, including funding levels, water storage, water supplies for the environment, land acquisition, and science. A summary of each of these issues is presented below.

Funding. The implementation of CALFED is expected to cost an estimated $10 billion dollars over 30 years; however, during the first seven years (referred to as Stage 1), implementation costs are estimated to be $8.7 billion. The CALFED program identified in the ROD envisions a three-way split in responsibility for funding between the federal government, state government, and local users (e.g., through user fees). However, each program element in the plan may have its own cost-sharing formula.

Federal appropriations for the CALFED Program are expected in the annual Energy and Water Development Appropriations bills; however, other federal funding may be provided via appropriations for other federal programs.[25] State funding is expected to come from a combination of state bond measures, restoration fees paid

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[24] For a Congressional distribution memo that contains a side-by-side analysis of H.R. 2828 and S. 1097, please contact either Pervaze Sheikh at 7-6070 or Betsy Cody at 7-7229.

[25] For example, federal appropriations are expected from federal agencies that provide funds to state programs (e.g., a California State revolving fund for improving drinking water quality that is receiving capitalization grants from the EPA), which would be provided under different appropriations bills.

under the authority of the CVPIA, state and federal appropriations, and local user fees (e.g., fees for water use). A draft finance plan was released on December 4, 2004. This plan specifies how funding for the CALFED Program is expected to be distributed among the federal and state government, water users, and local grant matching. A final version of this plan is expected in 2005.

In the past few years, Congress funded discrete projects within the CALFED program, but, lacking an authorizing statute, provided no appropriations for the overall program from FY2001 to FY2005. For example, in the joint explanatory statement to P.L. 108-137 (Energy and Water Development Appropriations for FY2004), conference managers stated that it would be difficult for Congress to support the CALFED program without program authorization by Congress. To date, federal funding has been appropriated to provide fish screens for existing water diversions; implement pollution control measures; manage fish, riparian, and estuarine habitat; and study water storage projects. The funding has been in addition to funds already authorized for projects and programs under the CVPIA and other previously authorized projects and programs. Although, no federal funds were appropriated for the CALFED Program from FY2001-FY2005, appropriations were provided for projects that support the goals of CALFED, such as the continued study of four water supply projects. No federal funds were appropriated for FY2001 for CALFED or any of its projects. For FY2002, FY2003, FY2004 and FY2005 Congress included $30 million, $23 million,$9.0 million, and $8.5 million, respectively, in the Water and Related Resources account of the Bureau of Reclamation (BOR) for projects supporting the goals of CALFED; however, again, it did not fund the CALFED program per se. As enacted, P.L. 108-361 authorizes $389 million for the CALFED program for FY2005 - FY2010.

Water Storage. Many argue that an increase in water supplies for California is needed due to population growth in the state and lower supplies from the Colorado River, among other things. One mechanism to increase the availability of additional water supplies is to increase the capacity for surface water storage. Several stakeholders, including some Members of Congress, have argued for an increase in investments for building additional surface water storage capacity in California. Others contend existing developed water supplies can be stretched through conservation, water reuse and recycling, conjunctive use (storing water in groundwater basins), water transfers, and changes in water management policy (e.g.,water pricing). During a House Resources committee hearing on a CALFED crosscut budget in May of 2003, several Members of Congress expressed concerns that more money has been spent on environmental activities than on storage. Program officials countered by explaining that the authorization for feasibility studies for water storage expansion projects were delayed until early in 2003, when they were authorized in the FY2003 Omnibus Appropriations (P.L. 108-7) and that over time, funding for water storage will increase relative to future ecosystem spending. Thus, they contend, the CALFED program is designed to be implemented in a "balanced" manner over the life of the program. Some supporters of ecosystem restoration spending note that the federal government has already invested $1.3 billion in the CVP and that this water supply investment is in part responsible for the critical state of species and water quality in the Bay-Delta.

Both S. 1097 and H.R. 2828 included several provisions designed to provide balance among program components. H.R. 2828 as originally passed the House, further included a provision to possibly streamline project approval. The provision would have allowed the Secretary of Interior to proceed with water storage construction upon completion of a feasibility study, unless Congress passed a disapproval resolution within 120 legislative days (§103(b)(5)(A)(i)(III)). This provision was very controversial and was one of the major differences in the House and Senate bills upon which there was strong disagreement. Ultimately, the provision was dropped from the bill and replaced with a provision requiring a rebalancing of program elements and re-submission of options for water storage if Congress does not authorize construction of water storage facilities within a certain time frame.

Environmental Water Account. To increase water supply reliability, while not adversely affecting the Bay-Delta ecosystem, the ROD included an Environmental Water Account (EWA), which was established by CALFED agencies in 2000. The account is seen as a way to add flexibility to the regulatory system to ensure that fish are protected from water project operations while allowing for greater water supply reliability for agricultural and urban users. CALFED agencies are to use the EWA to annually acquire, bank, and transfer approximately 380,000 acre-feet of water and arrange for its conveyance. The account may use transfers, options, and acquisitions to obtain water to compensate water users when pumps are shut down to mitigate "fish take."[26] In addition, water may be obtained through financing conservation or recycling projects. Five CALFED agencies are partners in the EWA: U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Association Fisheries (NOAA Fisheries), BOR, California Department of Fish and Game, and California Department of Water Resources. These agencies authorize exports from the account to provide additional water for species protection.

The use of the EWA and the amount of water that is needed or desirable in the EWA has generated controversy. Prior CALFED bills would have directed that the EWA provide assurances that actions taken to protect species listed as threatened or endangered under the federal ESA avoid water delivery impacts and costs to project water users. This language would have significantly narrow the scope and priorities of the EWA, as compared with the ROD. For example, the ROD does not limit the scope of the EWA to only species listed under the ESA, nor does the ROD contain provisions that protect water users from costs associated with the function of the EWA. While many stakeholders support the EWA, they are divided as to how it should work. Some participants have expressed concern that the water level prescribed for fisheries is too low, that baseline water needs are not adequately defined, and that operating rules for the EWA are unclear. Others believe that too much water is already allocated for the environment and want assurances that certain

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[26] An environmental consequence of water pumping in the Bay-Delta is the death of fish at the pumping stations (i.e., "fish take"). Fish take limits (limit on how many fish may be harmed under the ESA) have been set by fish regulatory agencies in the Bay-Delta, and when these limits are approaching, an EWA panel consisting of representatives from five agencies can ask for pumps to be shut down. Water supplies lost during this period can be compensated from the EWA.

quantities of water for farming will be available. Both H.R. 2828 and S. 1097 included several provisions addressing the EWA, yet they differ in some respects. For example, the definitions of the EWA under S. 1097 and H.R. 2828 were largely tied to the ROD; however, S. 1097 noted that the EWA is to provide water in addition to the regulatory baseline quantity of water to protect and restore Delta fisheries, while H.R. 2828, as reported and enacted, defined the EWA as the cooperative management program established under the ROD. As enacted, P.L. 108-361, also authorizes the use of the existing Central Valley Project Restoration Fund for EWA purposes (not to exceed $10 million).

Science. Ecosystem restoration is generally undertaken with uncertainties in the restoration process (e.g., scientific uncertainty in the ability of some restoration projects to succeed). Specifically, restoration efforts may require the application of untested technologies, and may uncover unforeseen circumstances that may indicate a change in the initial restoration strategy. Indeed, some argue that identifying and eliminating all uncertainties involved with restoration is probably impossible. Some stakeholders question the level of scientific uncertainty in some restoration activities and regulations of CALFED. For example, some question the validity of provisions that specify the level of water needed for the Bay-Delta ecosystem to restore endangered fish species. They have called for an independent scientific review of the validity of the quantitative allocations of water to habitats of endangered and threatened fish species. Independent scientific review and the implementation of adaptive management was addressed under various versions of H.R. 2828 and S. 1097; P.L. 108-361 contains provisions that call for the establishment of an independent science board and other panels to provide oversight and peer review of the program; creation of monitoring and research programs and performance measures; and development and implementation of adaptive management.[27]

Land Acquisition. Federal and state land acquisition is expected to be necessary to implement several components of the CALFED Program according to the ROD. For example, the ROD estimates that nearly 260,000 acres of agricultural land will need to be used for ecosystem restoration, water quality, water storage and conveyance, and levee system integrity projects and activities. Because land acquisition may cause conflicts among stakeholders and affect surrounding landowners and local governments, as recognized by the ROD, land acquisition in the Bay-Delta is controversial. Some argue that land acquisition is essential for restoring ecosystems and should not be subjected to extended delays and restrictions; others argue that guidelines and assurances must be established to minimize potential economic impacts of land acquisition.

S. 1097 and H.R. 2828 would have authorized federal funds to acquire fee title to land only where consistent with the ROD in implementing the CALFED Program (§4(f) of S. 1097 and §104(e) of H.R. 2828). This provision would have applied to all components under each bill. H.R. 2828, as passed by the House in July, included

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[27] Adaptive management within the context of CALFED could be described as incorporating new information learned from experience and scientific studies into restoration and water supply projects or policies that may make these projects and policies progress more efficiently toward reaching their goals.

additional requirements for land to be acquired for ecosystem restoration. For example, it would have directed that potential impacts of acquiring land be reported and mitigated; preliminary management plans be created to report existing conditions, expected ecological benefits, cost estimates, and implementation schedules; and federal land acquisitions be identified. Some fear such language would constrain ecosystem restoration activities, while others argue that such language is needed to reduce pressure on acquiring private property and to ensure success in ecological restoration. P.L. 108-361 incorporates much of the language in H.R. 2828, including a provision that requires federal funds for the implementation of CALFED be used to acquire fee title to land only where consistent with the ROD. Other provisions require the Secretary of the Interior to identify parcels of land to be acquired, and provide notice of land acquisitions, 150 days before the project is approved, to appropriate authorizing committees of the House and Senate and Senators and Representatives whose districts will be affected. P.L. 108-361 also contains a set of reporting provisions from H.R. 2828 that are to describe the process and timing of notifying public and local governments of land acquisitions; describe the measures taken to reduce impacts of land acquisition on agricultural lands, pursuant to the ROD; and include preliminary management plans for all lands acquired, including the expected ecological benefits, cost estimates, and implementation schedules.

Conclusion

A decade-long attempt to address water quality, water supply, and ESA issues in the California Bay-Delta via the CALFED process ultimately resulted in development of an estimated 30-year, $10 billion plan to manage water and related resources throughout most of the state. A formal Record of Decision for the plan and associated program activities was released in August 2000, shortly before authorization of federal funding for the CALFED process expired. Several attempts were made to reauthorize federal funding for the program during the 107th Congress; however, no authorizing legislation was enacted. Failure to reauthorize federal funding and participation in the CALFED program resulted in piecemeal appropriations for specific projects and activities that support the goals of the CALFED program for FY2001 - FY2005. Appropriators repeatedly indicated a reluctance to provide more general program funding until the program was reauthorized.

The debate to reauthorize CALFED continued in the 108th Congress, ultimately resulting in the passage of H.R. 2828, as amended in the Senate, and passed by the House, October 6, 2004 (P.L. 108-361). Several issues were debated, including streamlined water supply project approval, balance among program activities (e.g. water supply and ecosystem restoration), the level of federal and state funding for the program, and the quality of science used to support policy decisions.

An emphasis on increasing water supply through surface and ground water storage projects associated with CALFED has become a priority for California due to population growth, increasingly limited water supplies, and insecurity of water supplies from the Colorado River. With diminished water supplies from the

Colorado River, added pressure for water could be placed on the Bay-Delta, which in turn might affect the viability of the CALFED Program.[28] Oversight issues before the 109th Congress are likely to include program budgeting and financing, status of storage projects, and overall program balance.

[28] Editorial Opinion, A Critical Water Deal for California, *The San Diego Union-Tribune*, April 6, 2003.

Appendix A. Chronology of Events Relevant to Restoration of the California Bay-Delta

1978 — State Board adopts Water Rights Decision 1485 and a water quality control plan for the Bay-Delta. Decision 1485 set forth conditions for the SWP and CVP operations in the Delta that included water quality standards, export limitations, and minimum flow rates.

1986 — Several lawsuits challenged Decision 1485. In 1986, the "Racanelli ruling" (named after Judge Racanelli who wrote the opinion) determines 1978 plan inadequate because it only assessed the effects of the CVP and SWP. Ruling stipulates that the State Board should consider all beneficial uses, instream and consumptive, when setting water quality standards.

1987 — EPA officials notify State Board that the 1978 water quality plan is inadequate under federal Clean Water Act (CWA).

1989 — Winter-run chinook salmon (*Onchorhyncus tshawtscha*) listed as endangered.

1991 — State Board adopts water quality control plan for the Bay-Delta and begins work on a separate water rights decision. EPA disapproves the plan under the CWA.

1992 — State Board releases and later withdraws interim Delta standards, Decision 1630. Congress passes the Central Valley Project Improvement Act (CVPIA, Title 34 of P.L. 102-575), which included several fish and wildlife protection and restoration goals, including dedicating 800,000 acre-feet of water to fish and wildlife purposes.

1993 — The EPA released draft federal water quality standards after being sued by environmentalists.

1994 — The Bay-Delta Accord is signed, marking an agreement between state and federal officials on water quality standards, and creating the CALFED Bay-Delta Program. In addition, state and federal officials announce a framework agreement that will coordinate CVP and SWP operations to meet water quality standards and protect endangered species; adopt state water quality standards; and develop a long-term strategy to resolve Delta fish and wildlife, water supply reliability, levee stability and water quality problems.

1995 — State Board adopts water quality plan with objectives similar to those in the accord. EPA approves plan and withdraws federal standards.

1996 — Congress authorizes development of a CALFED plan (program) with $143 million in annual funding for FY1996 to FY2000 (P.L. 104-208, Division E). CALFED Bay-Delta Program releases phase I report outlining core programs and three potential solutions.

1998 — CALFED Bay-Delta Program releases phase II draft EIS/EIR with three alternatives.

1999 — CALFED releases a draft programmatic EIS/EIR.

2000 — The Record of Decision (ROD) is signed and CALFED Program begins its implementation.

2001 — CALFED Program enters the first year of a seven-year phase III — implementation of the preferred alternative.

2002 — The CALFED Bay-Delta Authority is established by the state to oversee the implementation of the CALFED Program according to the principles outlined in the ROD.

2003 — The Sacramento splittail is delisted from the threatened species list by the U.S. Fish and Wildlife Service.

2004 — The Water Supply, Reliability, and Environmental Improvement Act is signed into law on October 25, 2004 (P.L. 108-361) reauthorizing the CALFED Program and authorizing $389 million in federal funds for FY2005 - FY2010.