



— BUREAU OF —
RECLAMATION

CALFED Annual Review - FY 2024

California-Great Basin Region



Mission Statements

The **U.S. Department of the Interior** protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the **Bureau of Reclamation** is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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 Annual Review - FY 2024

CALFED Bay-Delta Program

California-Great Basin Region

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Cover Photo: American River spawning habitat improvements at lower River Bend (Reclamation/John Hannon)

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Executive Summary

The Sacramento–San Joaquin River Delta, known as the Delta, is a vital ecosystem that supports over 750 species of wildlife and more than 120 species of fish. It also serves as a migratory corridor, hosting two-thirds of California’s salmon population and nearly half of the waterfowl and shorebirds along the Pacific flyway. Spanning five counties, the Delta is home to more than 500,000 people.

The Delta is also a key part of California’s water infrastructure. With most of the state’s rainfall occurring in the north and much of the population living in the south, the Delta is at the center of California’s water supply and delivery system. The Central Valley Project (CVP) and the State Water Project (SWP), California’s two major water projects, work together to store water in reservoirs upstream of the Delta and release it into the Sacramento and San Joaquin rivers. Once the water reaches the Delta, it is drawn southward towards pumps in the south Delta and then exported via the California Aqueduct and the federal Delta-Mendota Canal. These projects provide water for two-thirds of California's population and irrigate around three million acres of farmland in central and southern California.

However, the Delta has been significantly altered over time. More than 100 years ago, levees were built to transform the Delta from marshlands into dry "islands." Today, the Delta and the Suisun Marsh have over 1,300 miles of levees. Due to intensive agriculture, some of these islands have subsided, creating areas where the land is as much as 30 feet below the tops of the levees.

The Delta faces critical challenges, including water supply shortages, declining ecosystem health, and aging infrastructure. Growing demands from agricultural, urban, and environmental sectors have strained this vital resource, threatening California's long-term water reliability.

CALFED provides a collaborative solution. The Bureau of Reclamation, as a key federal partner, works with state and local agencies to improve water management and restore ecological health. Key actions include enhancing water storage, upgrading conveyance systems, and integrating habitat restoration efforts.

By applying science-driven solutions, Reclamation helps address immediate water challenges while ensuring the Delta’s sustainability for future generations.

Introduction

As Program Manager of the CALFED Bay-Delta Program, I am pleased to share the achievements and progress we’ve made over the past year. Fiscal Year 2024 was a pivotal period for us,

marked by successful project implementation, collaborative engagement, and significant resource investment. Thanks to the dedication of our partners, stakeholders, and team members, we continued to advance key initiatives focused on improving water quality, enhancing ecosystem health, and increasing water supply reliability across the Delta.

In FY24, we saw more than 92% of allocated funds expended as intended. This level of efficiency demonstrates our commitment to sound financial management and underscores the strategic value of the investments made in Delta-related projects. Our efforts were guided by a clear vision of long-term sustainability and resilience for the Bay-Delta system.

As we look ahead, some of the project allocations are expected to shift, aligning with emerging priorities and evolving conditions. In FY25 and beyond, the Bay-Delta Office anticipates it will require the same or additional commitment to stay on task, ensuring continued progress in areas such as scientific research, habitat restoration, and operational improvements. Maintaining our momentum will be essential as we navigate the complexities of the Delta's dynamic environment.

We remain committed to fostering collaboration and transparency across federal, state, and local agencies, as well as with the public. The challenges we face in the Delta require innovative thinking, adaptive management, and sustained funding to meet current and future needs. With the continued support of our partners and stakeholders, I am confident that we will achieve our shared goals for a healthier and more sustainable Bay-Delta system.

I look forward to continuing working with our partners to build on our accomplishments and address the challenges ahead.

Sincerely,

Todd Plain

CALFED Background

In 1995, CALFED was established to create a comprehensive Long-Term Coordination Plan to address the complex and interconnected issues facing the Delta, its tributary watersheds, and the regions that depend on its water.

- The goals of the program are to:
- Improve fish and wildlife habitat,
- Enhance water supply reliability,

- Improve water quality, and

Strengthen levee integrity in the San Francisco Bay-San Joaquin River Delta, the key hub of California's water distribution system.

On July 21, 2000, the lead CALFED agencies released the final Programmatic Environmental Impact Statement/Environmental Impact Report and the Preferred Alternative, followed by the Programmatic Record of Decision (ROD) on August 28, 2000.

On October 25, 2004, Title I of Public Law 108-361, known as the CALFED Bay-Delta Authorization Act, was signed into law. This Act authorized multiple federal agencies to participate in implementing the CALFED Bay-Delta Program as outlined in the August 2000 ROD. The legislation provided \$389 million in funding and directed these agencies to carry out a broad range of actions identified in the ROD, within the bounds of existing laws.

However, the passage of the Delta Reform Act in 2009 significantly altered the governance structure of CALFED, particularly affecting the state's participation. The Delta Reform Act shifted California's focus towards long-term, sustainable management of the Delta, aligning the state's efforts with new policy objectives. This transition moved beyond the original CALFED framework, placing greater emphasis on ecosystem restoration, water supply reliability, and the coequal goals of protecting both the Delta's ecological health and the state's water needs.

Here are the lead federal and state CALFED agencies:

Federal Agencies:

- U.S. Department of the Interior (including):
 - Bureau of Reclamation
 - U.S. Fish and Wildlife Service
 - U.S. Environmental Protection Agency (EPA)
 - U.S. Army Corps of Engineers (USACE)
- U.S. Department of Agriculture (including the Natural Resources Conservation Service)
- National Oceanic and Atmospheric Administration (NOAA) Fisheries Service (formerly National Marine Fisheries Service)

California State Agencies:

- California Department of Water Resources (DWR)

- California Department of Fish and Game (now California Department of Fish and Wildlife)
- California Environmental Protection Agency (CalEPA)
- California Resources Agency (now California Natural Resources Agency)
- State Water Resources Control Board (SWRCB)

Authorization and Funding

Reclamation appropriations authorized are \$389 million (October 2004) for new and expanded authorities. The comparable Federal obligation through FY 2024 is \$66.4 million. Appropriate congressional committees will be advised of the ceiling status for this program as necessary.

For FY24, the specific Bureau of Reclamation funding and authorizations are:

- \$27.5 million for Conveyance Program activities (Reclamation's Federal obligation)
- \$8.5 million for implementation of the Environmental Water Account (Reclamation's Federal obligation)
- \$30.4 million for oversight and coordination of the Program (Reclamation's Federal obligation)

Milestones, Actions & Accomplishments

Water Conservation Projects - \$2,250,000

The CALFED Water Conservation grants provide financial and technical support to water agencies for projects that help conserve water. By funding improvements like upgrading irrigation systems, installing water measurement devices, fixing leaks, and automating water delivery. The funding helps reduce the demand for water from the Bay-Delta, which not only conserves water but also improves water quality, reliability, and stream flows.

In Fiscal Year 2024, the California-Great Basin (CGB) Region water conservation group accomplished:

- Managed previously awarded CALFED Water Conservation grants in action with

- Semitropic Water Storage District, Cawelo Water District, Meridian Farms Water Company and Contra Costa Water District
- Supported water conservation efforts with Semitropic Water Storage District and Shafter Wasco Irrigation District
- Prepared grant opportunities for the Bay-Delta Restoration Program: CALFED Water Use Efficiency Grants
- Working to publish a Notice of Funding Opportunity (NOFO) for upcoming grant cycles.
- Coordinating and facilitating multiple potential project awards
- Developing a draft funding opportunity while maintaining process privacy on specific applicants and project details

* Please see Reclamation image below



Semitropic Water Storage District's Cal Fed B230 System Extension Project showing the installation of the Pumping Station. (Reclamation photo)

Delta Conveyance Project - \$250,000

The CALFED Bay-Delta Program supports the California Department of Water Resources' Delta Conveyance Project by providing technical coordination and ensuring alignment with federal water management and ecosystem restoration goals. This project aims to modernize the State Water Project's infrastructure to improve water supply reliability while considering environmental impacts in the Sacramento-San Joaquin Delta. Reclamation's role includes facilitating interagency collaboration, integrating scientific research, and supporting efforts to balance water conveyance with Delta ecosystem health.

In Fiscal Year 2024, the CGB Region Delta Conveyance group accomplished:

- Engaged on key Delta Conveyance Project (DCP) developments, including the release of the Final Environmental Impact Report (EIR), its integration into the Long-Term Operations (LTO) framework for future analysis, and DWR's petition to change its diversion point.
- In the coming year, the DCP will likely require regular coordination with DWR and USACE through weekly to monthly meetings. These meetings will focus on the Environmental Impact Report/Statement (EIR/EIS) and major developments such as the release of the Final EIS, water rights hearings, and key permitting decisions.



Aerial view of the Sacramento- San Joaquin Delta in San Joaquin County (DWR image)

Program to Meet Standards - \$750,000

Program to Meet Standards is taking steps to improve water quality in the Delta and San Joaquin River by monitoring and managing salinity and discharges. Efforts include developing best practices for wildlife refuges, using real-time water quality monitoring, and studying how salts move in the region. The Program is also working with stakeholders to create long-term solutions, including a salinity and nutrient management plan for the Central Valley.

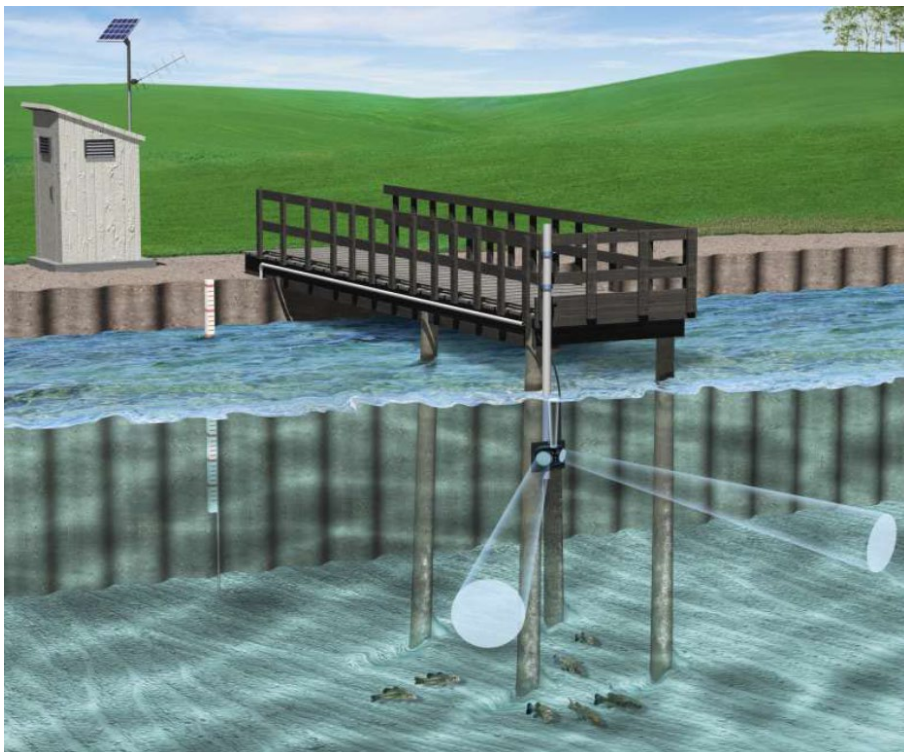
In Fiscal Year 2024, the CGB Region PTMS group accomplished:

- Enhanced the Watershed Analysis Risk Management Framework (WARMF) model with funding from PTMS, allowing Reclamation to deliver more accurate 14-day forecasts of flow and salinity at key compliance monitoring stations: Vernalis, Maze Road Bridge, and Crows Landing.
- Continued support through a Financial Assistance Agreement with the Grassland Water District in FY24, enabling the district to collect critical data for the WARMF model.
- Funded the installation of an acoustic Doppler at the USGS monitoring station at the Mud Slough (Gustine) bridge, which has been cost-effective during high-precipitation runoff seasons by addressing backwater conditions on the San Joaquin River and nearby sloughs.
- Mitigated the impact of backwater conditions on flow and salt load estimates, which are challenging due to high stage readings associated with these conditions.
- Provided funding for the development of a new Graphical User Interface (GUI) and self-calibration procedure for the WARMF model, enhancing modeling efficiency for flow and salinity predictions.

* Please see Reclamation images below



Picture of control center and pump station for new temporary subsurface drainage storage system in the San Joaquin River Improvement Project



A schematic of the SONTEK-SL Acoustic Velocity Meter, a vertically mounted monitor that senses flow with dual horizontal beams



Real-time diversion monitoring of flow and salinity at the Patterson Irrigation District inlet



Flooding in the San Joaquin River that causes backwater conditions in the main channel and in sloughs

and other drainages discharging into the river. Acoustic Doppler sensors measure velocity directly and can be used to maintain an accurate data record and save agency staff time

San Joaquin River Salinity Management - \$1,000,000

The San Joaquin River Salinity Management Group helps local districts improve water quality by funding projects that manage drainage, reuse water, and reduce salt and pollutants. These efforts, part of the Westside Regional Drainage Plan, have already lowered selenium and salt levels in the river and nearby wetlands.

In Fiscal Year 2024, the CGB Region San Joaquin River Salinity Management group accomplished:

- No new or active projects in FY24

* Funding was allocated to support other CALFED priority areas, and the group has requested that this allocation remain available for future needs.

Real Time Operations - \$7,250,000

Real-Time Operations helps monitor and manage water systems to balance ecosystem health with water deliveries. By tracking fish populations, water conditions, and environmental changes, operators can adjust the Central Valley Project (CVP) and State Water Project (SWP) more flexibly. This supports efforts like salmon monitoring, Delta Smelt studies, and decision-making tools to improve water management.

In Fiscal Year 2024, the CGB Region Real Time Operations activities during water year 2024 accomplished:

- Real-time monitoring of salmonid survival, routing and travel time and how these are affected by Spring pulse flow releases, diversions, and other CVP operational actions
- Real-time monitoring of Delta smelt regional distribution and abundance and how these are affected by seasonal flow routing to improve habitat suitability, diversions, releases of supplemented fish, and other CVP operational actions
- Accessibility and visualization of monitoring data for interagency technical teams assessing real-time operational conditions of the CVP to inform management teams

Real Time Operations CALFED contracts:

Coordinated Acoustic Telemetry Program Acoustic Telemetry Supplies:	\$1,756,194
Sacramento River Basin Salmon Carcass and Escapement:	\$2,419,207
Delta Juvenile Fish Monitoring Program:	\$2,223,676
Coordinated Acoustic Tagging and Telemetry Array:	\$500,414
IDIQ for Coded Wire Tags for Late Fall Run Chinook Salmon:	\$112,000
* Total amount may not match above total due to prior recoveries, realignment of funding	

Status and Trend Monitoring and Synthesis - \$6,000,000

Status and trend surveys help track changes in the Delta by collecting data on key environmental and wildlife conditions. These surveys estimate trends while accounting for uncertainty, helping water managers operate projects and develop models to predict future conditions. This allows for proactive decision-making in Delta management rather than just reacting to past events.

In Fiscal Year 2024, the CGB Region Status and Trend Monitoring and Synthesis activities during water year 2024 accomplished:

- Implementation of innovative genetic approaches to informing the presence of ESA-listed specific in salvage and operational monitoring activities to improve accuracy and precision of juvenile production estimates.
- Collection of water quality and food web observational data across the Delta to assess environmental conditions in the Bay-Delta.
- Measurement of salmon abundance by providing for tagging of Chinook salmon from the Sacramento and American River hatcheries and recapture of these fish in harvest and hatchery monitoring efforts in coastal and inland locations.

Status and Trend Monitoring CALFED contracts:

CDFW Bay Delta Long Term Aquatic Monitoring:	\$5,189,057
Environmental Monitoring Program with DWR:	\$2,901,309
* Total amount may not match above total due to prior recoveries, realignment of funding	

Habitat and Facility Improvement - \$8,900,000

Habitat and Facility Improvement efforts focus on improving the environment for fish and wildlife by creating better spawning areas, upgrading facilities, and restoring natural habitats. These projects help species thrive and mitigate impacts of existing structures on the ecosystem.

* Please note, the following two sections fall under this Habitat and Facility Improvement umbrella funding (Yolo Bypass Salmonid Habitat Restoration and Fish Passage, and Battle Creek Salmon and Steelhead Restoration Project.)

In Fiscal Year 2024, the CGB Region Habitat and Facility Improvement group accomplished:

- American River at Upper River Bend: completed a half mile long side channel with woody material clusters and alcove and four-acre spawning riffle in the main river channel ([Watch video here](#))
- American River at lower River Bend: substantially completed a 0.3-mile-long side channel with woody material clusters and floodplain and one acre spawning riffle will be finished in FY25
- Sacramento River at Shea Island: completed 1.6 miles of side channel and removed a perennial redd dewatering and juvenile salmon stranding area along the Sacramento River in Redding ([Watch video here](#))
- Keswick Dam Spawning gravel augmentation: added 20,000 tons of spawning gravel along the bank for high flows to distribute downstream of Keswick Dam
- Monitored effectiveness of past projects
- Continued design and permitting for upcoming projects
- Juvenile salmonid rearing and spawning habitat project planning, permitting, design, and implementation continue in 2025

Habitat and Facility CALFED contracts:

Sacramento River Salmonid Habitat Restoration:	\$2,876,296
Prospect Island Tidal Habitat Restoration Project with DWR:	\$2,200,000
Habitat Improvement Projects on the Lower Stanislaus River:	\$4,035,382
American Rivers INC	\$841,125

*Total amount may not match above total due to prior recoveries, realignment of funding

* Please see Reclamation images below





American River spawning habitat improvements at lower River Bend (Reclamation/John Hannon)



Sacramento River side channel spawning habitat improvements at Shea Island (Reclamation/John Hannon)

Battle Creek Salmon & Steelhead Restoration Project - \$1,500,000

Now included in the above subcategory, Habitat and Facility Improvement group, the Battle Creek Restoration Project is improving about 48 miles of habitat for endangered Chinook salmon and Central Valley steelhead by modifying hydroelectric facilities. Efforts include removing five diversion dams, adding fish ladders and screens to others, increasing water flow, and preventing water mixing between Battle Creek's North and South Forks. So far, the project has restored 16 miles of habitat by removing a dam, installing fish ladders and screens, and building a bypass channel. The next and final phase will remove four more dams, upgrade infrastructure, and enhance fish passage, with construction planned through 2027.

In Fiscal Year 2024, Battle Creek Salmon and Steelhead Restoration Project key accomplishments were:

- Completion of Final Design Plans and Specifications for the 1st Phase 2 construction contract to remove South Diversion Dam on South Fork Battle Creek, South Canal, and Lower Ripley Creek Feeder Diversion Dam and Soap Creek Feeder Diversion Dam on tributaries to South Fork Battle Creek.
- Completion of Final Design Plans and Specifications for a 2nd Phase 2 construction contract to remove Coleman Diversion Dam on South Fork Battle Creek.
- Issuance of the Phase 2 Clean Water Act (CWA) 401 Water Quality Certification and CWA 404 permit authorizations.
- Two design packages were completed, CWA permitting was issued, and the procurement package for the 1st Phase construction contract began to be prepared for solicitation in January 2025 and award in March 2025. The 2nd Phase 2 construction contract is planned to be awarded as soon as 2026.

* Please see Reclamation images below



South Diversion Dam



South Canal



Lower Ripley Creek Feeder Diversion Dam



Soap Creek Feeder Diversion Dam



Coleman Diversion Dam

Yolo Bypass Salmonid Habitat Restoration & Fish Passage - \$7,400,000

Now included in the above subcategory, Habitat and Facility Improvement group, the Yolo Bypass Salmonid Habitat Restoration and Fish Passage project focuses on fish passage and floodplain habitat restoration. It includes increased juvenile rearing habitat in the Lower Sacramento River and improved adult fish passage in the Yolo Bypass. Funding supports construction of the gated notch at Fremont Weir, channel improvements, and real estate activities. A Record of Decision was signed in September 2019, and construction began in summer 2020, with costs shared by DWR.

In Fiscal Year 2024, the CGB Region Yolo Bypass Salmonid Habitat Restoration and Fish Passage group accomplished:

- Construction of the Big Notch Project headworks structure in the Fremont weir was completed in FY24
- Construction of the Big Notch Project pedestrian bridge and control building for the project was completed in FY24
- Installation of two of the three gates for the Big Notch Project was completed in FY24
- Nearly completed construction of the gated notch and channel improvements.
- In FY25, the group anticipates completion of real estate acquisitions, as well as the commencement of construction of the Supplemental Fish Passage Structure and Agricultural Road Crossing

* See below Reclamation images of Yolo Bypass headworks structure



Yolo Bypass headworks structure

Special Studies - \$4,000,000

Special Studies focus on research to improve water project operations by reducing scientific uncertainties that lead to regulatory restrictions. These studies support decision-making tools and research on fish populations, environmental factors, and ecosystem health, including salmon, Delta smelt, and sturgeon.

In Fiscal Year 2024, the CGB Region Special Study activities during water year 2024 accomplished:

- Special investigations, led by US Fish and Wildlife Service, on Delta smelt supplementation to test field methods to improve release survival and develop genetic tagging methods for measuring benefits and risks of the actions.
- Development of decision analysis case studies, led by US Geological Survey, utilizing Value of Information methods to inform prioritization of management and monitoring activities for salmonids and Delta smelt.
- Special investigations on steelhead biology, demographics, and modeling to information gaps in estimating juvenile production and spawner abundance in the Stanislaus River.

Special Studies CALFED contracts:

Independent Scientific Rev Panel Services: Delta Stewardship Council:	\$2,254,032
Sac Deepwater ship channel Food Web Study by UCD:	\$308,307
Directed Outflow Project (DOP): Environmental Effects:	\$1,235,968

* Total amount may not match above total due to prior recoveries, realignment of funding

Program Management, Oversight, & Coordination - \$2,600,000

The Program Management, Oversight, and Coordination effort supports Reclamation's work in water storage, delivery, conservation, ecosystem restoration, and water quality. It ensures projects stay on track by managing schedules, budgets, and performance while coordinating with state and federal agencies. This includes participation in key Delta planning efforts, working with advisory groups, and fulfilling reporting requirements. Public and tribal outreach is also a key focus, along with producing annual reports to track progress.

In Fiscal Year 2024, the CGB Region Program Management, Oversight, and Coordination group accomplished:

- Continued support for Reclamation’s administration of storage, conveyance, water use efficiency, ecosystem restoration, science, and water quality program support
- Program-wide tracking of schedules, finances, and performance
- Oversight and coordination of Program activities with State agencies and other Federal agencies to ensure Program balance and integration, including participation in the Delta Plan Inter-Agency Implementation Committee (DPIIC)
- Development of interagency cross-cut budgets and coordination with the Delta Stewardship Council on reporting requirements under Section 105 of the CALFED Act
- Coordination of public outreach and involvement, including tribal and public advisory activities, with flexibility to utilize external committees in accordance with the Federal Advisory Committee Act (5 U.S.C. App.)
- Development of annual reports

Where We Go from Here: The CALFED Program in Fiscal Year 2025

As we embark on Fiscal Year 2025, we remain steadfast in our mission to create a Delta that is more resilient, sustainable, and capable of meeting the diverse needs of California’s water users and ecosystems. Through continued innovation, collaboration, and investment, we are building a future where water reliability and ecological health go hand in hand.

We are excited to integrate emerging technologies and adaptive management strategies into our work. Advancements in remote sensing, real-time data collection, and predictive modeling are enhancing our ability to respond proactively to environmental and operational challenges. Additionally, we continue to foster partnerships with researchers, local agencies, and stakeholders to drive collaborative solutions that benefit both people and the environment.

The CALFED program thrives on partnerships, and we recognize that achieving long-term success in the Delta requires the collective efforts of federal, state, and local agencies, as well as the broader water and environmental communities. We remain committed to transparency, science-based planning, and engagement with all stakeholders as we navigate the complex challenges of Delta management.

Stay engaged with us as we move forward, and let’s continue working together to shape a Delta that serves both today’s needs and future generations!

APPENDIX

California Bay-Delta Restoration Fiscal Year 24 budget summary table:

Program/Project	FY 2024
Water Conservation Projects	\$2,250,000
Delta Conveyance Project	\$250,000
Program to Meet Standards	\$750,000
San Joaquin River Salinity Management	\$1,000,000
Real Time Operations	\$7,250,000
Status and Trend Monitoring and Synthesis	\$6,000,000
Habitat and Facility Improvement: Yolo Bypass Salmonid Habitat Restoration & Fish Passage	\$8,900,000 [\$7,400,000]
Battle Creek Salmon & Steelhead Restoration Project	[\$1,500,000]
Special Studies	\$4,000.000
Program Management, Oversight and Coordination	\$2,600.000
California Bay-Delta Restoration Total:	\$33,000.000

* Each year, CALFED obligates up to 90% of the approved \$33M. It tries to carry over about \$100K to \$150K to cover obligations in the first quarter of the following fiscal year.