FISCAL YEAR 2011

BUREAU OF RECLAMATION

ECOSYSTEM RESTORATION PROGRAM

Suisun Marsh Protection

Authority: P.L. 99-546, 100 Stat. 3052, October 27, 1986

FY 2011 Budget Request (000's): $1,569

Project Description: The Suisun Marsh Preservation Agreement (SMPA) was executed on March 2, 1987, among Reclamation, California Department of Water Resources, California Department of Fish and Game, and Suisun Resource Conservation District. The revised SMPA was executed on June 20, 2005, to reflect significant events and changed conditions that had occurred since the original SMPA was signed. The objective of the SMPA is to assure that a dependable water supply is maintained to mitigate the adverse effects on the Marsh from the Central Valley Project (CVP) and State Water Project (SWP) and a portion of the adverse effects of the other upstream diversions. Reclamation (CVP) is responsible for 40 percent of the construction and annual operation and maintenance costs associated with implementation of the SMPA; the State of California (SWP) is responsible for 60 percent of the implementation costs.

Current Status: The SMPA agencies propose to amend the Revised SMPA to establish a Preservation Agreement Improvement Fund, that would support cost sharing for improvement of managed wetland facilities and finance activities currently funded under the Joint Use Facilities Fund under a single cost sharing mechanism.

The managed wetland facilities improvement element of the proposed fund would include a 75/25 cost share program providing funds for infrastructure improvements necessary to meet the 30-day flood and drain cycle described in individual management plans, potentially including purchase and installation of new, larger, lowered, or relocated discharge facilities.

The managed wetland facilities improvement element of the proposed fund would also include a 50/50 cost share program providing funds for management and infrastructure improvements necessary to meet recommendations described in the individual management plans to improve leaching and drainage efficiency. Eligible activities would include cleaning, widening and deepening primary and secondary ditches, adding v-ditches or drainage swales, raising elevations of pond bottom sinks, installation or improvement of interior water control structures, coring of interior levees, offsetting electrical and fuel costs for portable and stationary pumps during spring leaching periods, and fish screen electrical costs.

The Joint Use Facility Improvements element of the proposed fund would provide financing on a 75/25 cost share basis for infrastructure improvement to increase efficient and cooperative use of

joint use water delivery systems to managed wetlands, including construction of or improvements to: interior levees, water conveyance ditches, water control structures, and permanent pumps. Funded activities include newly constructed facilities or improvements to existing facilities.

Reclamation is also a principal participant with the other SMPA signatories and other interested agencies in developing a regional plan that balances implementation of the CALFED Program, SMPA and other management and restoration programs within Suisun Marsh in a manner responsive to the concerns of stakeholders and based upon voluntary participation by private landowners. Reclamation is currently participating in development of a draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Suisun Marsh Plan, which will include environmental compliance documentation for implementation of the proposed amendment to the Revised SMPA. A public draft of the EIS/EIR is anticipated in 2010, and the proposed amendment to the revised SMPA would be implemented following completion of the EIS/EIR and related decision documents, also anticipated in late 2010.

Proposed Actions for FY 2011: Funding will continue Federal participation with the State of California to identify structural and nonstructural actions for the protection and preservation of Suisun Marsh to improve water quality, while preserving the CVP storage yield. Funding will support the Bureau of Reclamation's participation with the California Department of Water Resources to ensure dependable water supply of adequate quantity and quality to protect wildlife habitat in the Marsh for the protection and preservation of fish and wildlife, including the anticipated implementation of the previously described proposed amendment to the revised SMPA upon finalization of the Suisun Marsh Plan EIS/EIR.

Anadromous Fish Restoration Program

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(1)

FY 2011 Budget Request (000's): $6,070

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$5,850
U.S. Fish and Wildlife Service	$220

Project Description: The objectives of the Anadromous Fish Restoration Program are to (1) improve habitat for all life stages of anadromous fish through provision of flows of suitable quality, quantity, timing, and physical habitat; (2) improve survival rates by reducing or eliminating entrainment of juveniles at diversions; (3) improve the opportunity for adult fish to reach their spawning habitats in a timely manner; (4) collect fish population, health, and habitat data to facilitate evaluation of restoration actions; (5) integrate habitat restoration efforts with harvest and hatchery management; and (6) involve partners in the implementation and evaluation of restoration actions.

Current Status: In FY2010, the AFRP will continue to fund habitat restoration projects that improve habitat, survival, and passage of anadromous fish in Antelope Creek, Cottonwood

Creek, and the Calaveras, Cosumnes, Merced, Mokelumne, Stanislaus, and Tuolumne rivers. The program will continue to collect fish population data for Bear, Cottonwood, and Cow creeks and in the Stanislaus and Yuba rivers to facilitate evaluation of restoration actions.

The AFRP has addressed 30% of the actions and evaluations in the Final Restoration Plan since the program was implemented and the average natural production of Central Valley-wide Chinook salmon in the doubling period (1992-2007) is currently 477,337. The Chinook salmon natural production average has been decreasing in the last couple of years due to low adult escapement estimates in 2006 and 2007 resulting from poor ocean returns.

Proposed Actions for FY 2011: The AFRP will continue to make reasonable efforts to at least double natural production of anadromous fish. In pursuing this goal, AFRP will work with local watershed groups and other local partners to implement locally developed and supported watershed restoration plans, and to give first priority to actions, which protect and restore natural channel and riparian habitat values. The AFRP will focus on streams with the greatest potential to sustain natural production of fall-run, winter-run, and, spring-run Chinook salmon, and steelhead. The streams that support these species include the Sacramento, Yuba, Feather, American, and Stanislaus rivers, and Cottonwood, Cow, Mill, Deer, Battle, and Clear creeks. The highest priority will be to complete ongoing projects. Emphasis will be on improving access for spawning adults to upstream habitat, protecting and restoring riparian and shaded riverine aquatic habitat, improving access for juvenile fish to floodplain habitats, and reducing loss of juveniles along their rearing and migratory corridors. Fish screening and fish passage project planning and permitting will be a high priority. Furthermore, AFRP will collaborate and provide technical assistance to large-scale restoration efforts on the main-stem San Joaquin River and in the Delta.

Other CVP Impacts – Habitat Restoration Program 3406 (b)(1) Other

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(1) Other

FY 2011 Budget Request (000's): $1,700

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$1,016
U.S. Fish and Wildlife Service	$684

Project Description: Protect and restore native habitats impacted by the Central Valley Project (CVP) that are not specifically addressed in the Fish and Wildlife Restoration activities section of the CVPIA. The focus is on habitats known to have experienced the greatest percentage decline in habitat quantity and quality since construction of the CVP, where such decline could be attributed to the CVP (based on direct and indirect loss of habitat from CVP facilities and use of CVP water). These include rare serpentine soil habitat, alkali desert scrub and associated grasslands, vernal pools, foothill chaparral, riparian and associated oak woodlands.

Current Status: To date, the program has directed approximately 24 million dollars to fund 90 conservation actions. These actions include habitat protection (fee title/easement acquisition),

habitat restoration, research, and planning. As of FY 2009, the program has contributed to the protection of 92,430 acres and restoration of 7,400 acres. The program has also funded over 70 research and planning actions.

Proposed Actions for FY 2011 Funding will be used for protection of habitats through purchase of fee title or conservation easements; restoration and management of habitats as well as surveys and studies for federally listed species impacted by the CVP. The Program will focus on protecting and restoring threatened serpentine soil habitats in Santa Clara County, vernal pool wetlands in the Sacramento Valley, grassland and alkali scrub habitats in the San Joaquin Valley, Gabbro soils in El Dorado County, and aquatic/riparian habitats throughout the Central Valley. The Program will also solicit for targeted research and planning actions that coincide with high priority species and habitats. Proposals will be solicited on grant.gov with new projects being selected each year dependent on species and habitat priorities. It is anticipated that the funds will be committed to the following types of projects: 50% for land acquisition; 20% for habitat restoration; 20% for research; and 10% for other activities such as outreach and land management planning. The restoration activities of the (b)(1) "Other" Program is required as part of the Programmatic Section 7 Consultation for CVPIA and other Biological Opinions related to CVP operations. All projects will focus on improving conditions for CVP impacted species.

Anadromous Fish Screen Program (AFSP)

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(21)

FY 2011 Budget Request (000's): $5,712

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$5,382
U.S. Fish and Wildlife Service	$330

Project Description: The primary objective of the Anadromous Fish Screen Program (AFSP) is to protect juvenile Chinook salmon (all runs), steelhead trout, and green and white sturgeon from entrainment at priority diversions in California's Central Valley including the Sacramento and San Joaquin Rivers, their tributaries, the Delta, and the Suisun Marsh. Section 3406 (b)(21) of the Central Valley Project Improvement Act requires the Secretary of the Interior to assist the State of California in developing and implementing measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions.

Current Status: Prior year AFSP funding has contributed to preconstruction project activities including environmental compliance and project design for the Natomas Mutual Water Company, RD 2035, City of Yuba City, Meridian Farms Water Company, and Patterson Irrigation District fish screen projects.

In 2007, a 960 cfs diversion on the Sacramento River operated by Sutter Mutual Water Company was screened. This completed fish screen resulted in screening of the largest remaining unscreened diversion on the Sacramento River.

In 2008, construction of the RD 108 "Combined Pumping Plant and Fish Screen Project" is expected to be completed. This project involves combining three of RD 108's largest existing unscreened pumping plants on the Sacramento River into one new 300 cfs pumping plant with a positive barrier fish screen.

In 2009, construction of the Meridian Farms Phase I Fish Screen was completed. This project involved screening a 30 cfs diversion located at New Grimes on the Sacramento River.

In 2010, construction will begin for the Natomas Fish screen Project. Estimate completion 2012.

Proposed Actions for FY 2011: FY 2011 funds are anticipated to be used for cost share funding for environmental, design and/or construction activities for a number of fish screen projects. The selection of these projects is made based AFSP prioritization criteria which include: willing applicant, cost effectiveness, biological benefits, availability of non-Federal cost share, and ability to obtain preconstruction monitoring data. A number of on-going AFSP projects are expected to need construction funding in FY 2011 and they include: Natomas Mutual, RD 2035, Pleasant Grove-Verona and Meridian Farms Phase II.

Water Acquisition

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(3)-(d)(2)

FY 2011 Budget Request (000's): $13,700

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$13,388
U.S. Fish and Wildlife Service	$312

Project Description: Three key objectives of the Water Acquisition Program (WAP) are to: (1) Provide supplemental water supplies for refuges, referred to as Incremental Level 4, for critical wetland habitat supporting resident and migratory waterfowl, threatened and endangered species, and wetland dependent aquatic biota [CVPIA Sections 3406 (b)(3) and (d)(2)].

(2) Acquire instream flows in support of the San Joaquin River Agreement (SJRA) [CVPIA Section 3406 (b)(3)]. The increased flows benefit numerous resident and anadromous fish species, but are acquired primarily to benefit Chinook salmon.

(3) Acquire water to improve spawning and rearing habitat and increase migration flows for fall, winter and spring run Chinook salmon and steelhead in support of the Anadromous Fish Restoration Plan (AFRP) [CVPIA Section 3406 (b)(3)].

Current Status: The WAP continues its efforts to:

(1) Provide supplemental refuge water supplies (Incremental Level 4) through annual purchases. As a supplement to surface water acquisitions, in 2010 the WAP will continue to investigate and implement groundwater projects in order to lower costs and increase reliability of providing supplemental refuge water supplies. Refuge water quality data will be collected and analyzed to assess the potential for long-term groundwater projects while providing short-term Incremental Level 4 supplies.

(2) Provide additional instream flows in support of the SJRA. The WAP acquires water for the SJRA from the San Joaquin River Group Authority and its member agencies to provide additional spring and fall fishery flows on the Stanislaus, Tuolumne, Merced, and lower San Joaquin rivers. The SJRA expires in 2009 and will be extended one year through 2010. The State Water Board is actively reviewing San Joaquin River flow objectives and intends to consider adoption of those in 2010.

(3) Acquire water to improve spawning and rearing habitat to increase salmon and steelhead in support of the AFRP to the extent funds are available.

Proposed Actions for FY 2011: The CVPIA requires acquisition of 100 percent of Level 4 refuge water supplies, which are approximately 160,000 acre-feet (af), by 2002, for various wetland habitat areas within the Central Valley of California.

$8 million will be used to acquire approximately 46,000 af of Incremental Level 4 water supplies. Reclamation may acquire water supplies through short-term purchase agreements; purchase options, long-term water purchase agreements that require annual payments, and participation in groundwater banking. A large percentage of this water will be acquired within the San Joaquin Valley where most of the wetlands are located. Sources of water will include reservoir storage transfers, groundwater pumping, banked groundwater, and temporary or permanent transfers of surface supplies by water right holders or project contractors. Some water supplies may be transferred through the Delta for use on the San Joaquin Valley refuges. This only represents the cost to acquire the water as the delivery of Level 4 water from its sources to the wetlands boundary is dependent upon funding requested in the Refuge Wheeling Conveyance Program. In FY 2011, $5,700,000 will be used by the program to acquire water on the San Joaquin River from tributary water rights holders to provide additional flows in support of the San Joaquin River Agreement to meet instream and Delta flow objectives. Funds will be used for the Difference water, fall flows, Additional water from Oakdale Irrigation District and the Double Step.

<u>Dedicated Project Yield</u>

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(2)

FY 2011 Budget Request (000's): $800

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$454
U.S. Fish and Wildlife Service	$346

Project Description: The Department of the Interior has the responsibility to dedicate and manage annually 800,000 acre-feet of CVP water (b)(2) water) for fish, wildlife, and habitat restoration purposes and assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. The program objectives are to: (1) improve habitat conditions for anadromous fish in CVP controlled rivers and streams and the Bay-Delta to help meet the AFRP doubling goals; (2) increase survival of out migrant juvenile anadromous fish, especially in the Bay-Delta; (3) enhance recovery of listed threatened and endangered fish species; and (4) monitor and evaluate to assess the effectiveness of (b)(2) measures.

Current Status: The May 2003 Decision on Implementation of Section 3406(b)(2), clarified as necessary due to recent court decisions, will be implemented for the seventh year in 2010, upstream actions will be implemented; and monitoring and evaluation to assess the effectiveness of (b)(2) environmental measures will continue.

Proposed Actions for FY 2011: Funding will be used to continue efforts associated with the annual dedication and management of 800,000 acre-feet of CVP yield for the primary purpose of anadromous fish restoration as directed by the CVPIA. The May 2003 Decision on Implementation of Section 3406(b)(2), will be implemented for the eighth year in 2011; upstream actions will be implemented; and monitoring and evaluation to assess the effectiveness of (b)(2) environmental measures will continue. A portion of the funds will be used for litigation costs.

Clear Creek Restoration

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(12)

FY 2011 Budget Request (000's): $1,051

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$876
U.S. Fish and Wildlife Service	$175

Project Description: The purpose of the Clear Creek Restoration Program is to: (1) restore stream channel form and function necessary to optimize habitat for salmon and steelhead and the aquatic and terrestrial communities on which they depend; (2) determine long-term flow needs for spawning, incubation and rearing by conducting an Instream Flow Incremental Methodology study as mandated in Section 3406 (b)(12); (3) provide flows of adequate quality and quantity to meet the requirements of all life stages of Chinook salmon and steelhead trout known to use Clear Creek; (4) provide spawning gravel to replace supply blocked by Whiskeytown Dam; and (5) monitor project results.

Current Status: In FY 2010, Clear Creek restoration will focus on providing flows, restoring stream channel and instream habitat, and conduct monitoring to determine impacts of restoration actions.

Releases from Whiskeytown Dam will provide downstream fish habitat that is at least 90 percent of the maximum possible weighted usable area, will allow water temperatures to comply with the National Marine Fisheries Service's biological opinion, and allow passage of adult anadromous fish at the former McCormick-Saeltzer Dam location. Stream channel and instream habitat restoration will include placing about 25,000 tons of spawning gravel, continue design and permitting for using abandoned dredger mine tailings as an inexpensive source of spawning gravel for future placements, and continue preparing long-term programmatic environmental permits for various restoration actions. Monitoring activities will include work to ascertain impacts of restoration actions on fishery and geomorphic resources and determine the amount of spawning gravel needed to maximize the amount of spawning habitat.

Proposed Actions for FY 2011: Funds for the following activities require $1,051,000 which includes $251,000 from the Water and Related Resources request. Clear Creek restoration continues to aggressively implement Chinook salmon and steelhead habitat enhancement projects through partnerships with local landowners, public and private agencies, and universities. Projects are currently emphasizing restoration actions that will increase populations of spring-run Chinook salmon and steelhead, both listed as threatened under the Federal Endangered Species Act (ESA). Restoration activities will focus on implementing the Cloverview long-term Gravel Supply Project, Phase 1. The program will continue monitoring juvenile habitat use, spawning area mapping, juvenile habitat suitability indices, gravel quality, survival-to-emergence, fish rescue, benthic macroinvertebrate sampling, water quality and water temperature.

Spawning Gravel/Riparian Habitat

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(13)

FY 2011 Budget Request (000's): $700

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$630
U.S. Fish and Wildlife Service	$70

Project Description: The purpose of the Spawning Gravel/Riparian Habitat Program is to increase the availability of spawning gravel and rearing habitat, and subsequently monitor the results of these actions, for: (1) Sacramento River Basin Chinook salmon and steelhead trout in the reach of the mainstem Upper Sacramento River from Keswick Dam downriver to Red Bluff Diversion Dam; (2) American River Basin Chinook salmon and steelhead trout in the reach of the American River downriver from Nimbus Dam; and (3) Stanislaus River Chinook salmon and steelhead trout in the reach of the Stanislaus River downriver from Goodwin Dam.

Current Status: Gravel placement occurs each year in the upper Sacramento River downstream from Keswick Dam. New placement sites are being scoped and projects addressing rearing and spawning habitat limitations are planned starting in 2010. Monitoring of past projects is ongoing and a sediment budget is being developed.

The American River gravel placement program has identified sites as part of a five year series of projects between Nimbus Dam and River Bend Park to address spawning habitat and rearing habitat limitations. Projects include mainstem gravel placement and side channel creation for spawing and rearing habitat targeting steelhead. Monitoring of the effectiveness of past projects is ongoing.

The Stanislaus River program has identified rearing habitat as a key limitation to Chinook salmon so projects in 2010 will target gravel placement to enhance rearing and spawning habitat in conjunction with the Anadromous Fish Restoration Program. Monitoring of the effectiveness of past projects is ongoing.

Proposed Actions for FY 2011: Funding will be used for gravel restoration and rearing habitat projects on the Upper Sacramento, American, and Stanislaus rivers immediately downstream from Keswick, Nimbus, and Goodwin dams, respectively. Species to benefit include Sacramento, American and Stanislaus River Basin Chinook salmon and steelhead trout. The public involvement and permitting phases of project planning will determine final site selection in all three rivers. Monitoring will be incorporated into all projects to determine the effectiveness of projects at maintaining salmonid habitat. Specific gravel placement activities each year are dependent on watershed hydrology which modifies instream habitat.

Bay-Delta Conservation Plan (BDCP)

Authority: P.L. 85-624, Fish and Wildlife Coordination Act

FY 2011 Budget Request (000's): $6,500

Project Description: The BDCP is a Habitat Conservation Plan and Natural Communities Conservation Plan being prepared to meet requirements of the Federal Endangered Species Act (ESA), California Endangered Species Act (CESA), and Natural Communities Conservation Planning Act for CVP/SWP water operations and management activities in the Delta. The BDCP will also be used, if feasible, by Reclamation as the basis for ESA section 7 compliance, resulting in the issuance of Biological Opinions and Incidental Take Statements to Reclamation for their participation and implementation of the BDCP.

The BDCP plan will identify a set of water flow and habitat restoration actions to contribute to the recovery of endangered and sensitive species and their habitats in California's Sacramento-San Joaquin Delta. The goal of the BDCP is to provide for both species/habitat protection and improved reliability of water supplies. In order to select the most appropriate elements of the final conservation plan, the BDCP will consider a range of options for accomplishing these goals using information developed as part of an environmental review process. Potential habitat restoration and water supply conveyance options included in the BDCP will be assessed through

an Environmental Impact Report (EIR)/Environmental Impact Statement (EIS). Lead agencies for the EIR/EIS are the California Department of Water Resources, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and NOAA's National Marine Fisheries Service, in cooperation with the California Department of Fish and Game, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

Current Status: BDCP is currently investigating water conveyance alternatives to move Federal Central Valley Project (CVP) and State Water Project (SWP) water either through or around the Delta while restoring the Delta ecosystem. The ultimate goal is to identify a water conveyance system that will likely minimize the effects of project pumping while maximizing beneficial changes to the Delta ecosystem and provide flexibility to operation of the CVP and SWP. The BDCP will address water conveyance and project operations, habitat restoration, and other threats to the environment. Options currently being considered include:

- Water exports via dual conveyance facilities (using existing south Delta intakes and new intake facilities in the north Delta),
- Large Restoration of tidal marsh habitat, and
- Measures to address other stressors such as pollutants, introduced species, predation, and hatcheries management.

Proposed Actions for FY 2011: Issuance of the public Draft BDCP in September/fall 2010 and associated Draft EIS/EIR in March 2011. A final BDCP and EIS/EIR is scheduled for release in March 2012. A signed Record of Decision/Notice of Determination, FESA and CESA permits, and implementation agreements are expected in late 2012.

Comprehensive Assessment and Monitoring Program

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(16)

FY 2011 Budget Request (000's): $1,283

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$633
U.S. Fish and Wildlife Service	$650

Project Description: The Comprehensive Assessment and Monitoring Program (CAMP) is intended as the vehicle for comprehensively assessing the effects of all CVPIA restoration actions under Section 3406(b). The program has two objectives: (1) assess the overall (cumulative) effectiveness of actions implemented under CVPIA Section 3406(b), and (2) assess the relative effectiveness of categories of actions under CVPIA Section 3406(b). This will be primarily a data compilation and assessment effort, using ongoing project-specific and general monitoring to assess the progress of 3406(b) actions.

Current Status: The Program will continue efforts to monitor and evaluate the progress of CVPIA implementation actions as well as the progress toward achieving the anadromous fish doubling goals. Utilization of this information will allow the adaptive management of the

CVPIA anadromous fish restoration efforts. The 2007 CAMP annual report provides a synthesis and analysis of anadromous fish monitoring data collected between 1992 and 2006. This report suggests the majority of the AFRP production targets have not been met on a regular basis. This trend suggests a substantial increase in habitat restoration efforts will be required to promote measurable increases in Chinook salmon production and thereby achieve the AFRP fish production targets.

The CAMP is conducting a comprehensive assessment to determine the program's future scope, direction, and costs. The results from the assessment will be included in a programmatic document that updates the 1997 CAMP Implementation Plan. This assessment will: (1) review past and ongoing monitoring projects and identify existing data gaps that must be addressed to achieve the CAMP program objectives; (2) quantify the cost for completing critical monitoring activities that are not occurring but should take place between FY 2009 and 2014; (3) identify the partnerships CAMP should pursue to cooperatively fund projects where a partner may share a common interest; (4) describe methods for assimilating and storing data collected by CVPIA programs; (5) identify strategies for incorporating monitoring data into decision making efforts; and (6) identify mechanisms for providing monitoring information to interested parties.

The CAMP is currently working with entities that collect data summarized in CAMP reports. These efforts are intended to: (1) clarify how data have historically been collected; (2) provide templates for reporting data, analyses, and results to CAMP; and (3) provide more robust data collection techniques that describe the accuracy and precision of data that are collected.

The constant fractional marking program will enable estimates of the proportion of naturally produced and hatchery produced Chinook salmon contributing to commercial and recreational fisheries and in-river escapements. This data is essential in determining progress towards meeting the CVPIA goal of doubling naturally produced Chinook salmon and evaluating success of restoration actions.

Proposed Actions for FY 2011: The Program will continue efforts to monitor and evaluate the progress of CVPIA implementation actions as well as the progress toward achieving the anadromous fish doubling goals. Utilization of this information will allow the adaptive management of the CVPIA anadromous fish restoration efforts. In 2011 funds will be used for program management at the U.S. Fish and Wildlife Service and a data manager at Reclamation. The Service will prepare an Annual Report documenting the status of anadromous fish toward the doubling goal described in Section 3406(b)(1); continue tracking CVPIA programmatic and project specific monitoring efforts; identify future monitoring priorities; and synthesizing data in to usable reports. Reclamation will continue work on a new system for the management of CVPIA biological resource data. As a result of assessing future priorities, the program will fund a limited number of high priority monitoring projects necessary to develop the Annual Report. In addition, the program will participate in the development and implementation of a science-based framework for CVPIA, including monitoring protocols.

Red Bluff Pumping Plant and Fish Passage

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(10)

FY 2011 Budget Request (000's): $39,937

Project Description: The Red Bluff Diversion Dam is in the Sacramento River Division of the CVP. It has been identified as an impediment to upstream and downstream passage of salmonid species, as well as the green sturgeon (listed as threatened in April, 2006). In December 2006, Reclamation released a draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR), listing the preferred alternative as the construction of a screened pumping plant on the mainstem Sacramento River. The pumping plant would be capable of diverting the full capacity of the Tehama Colusa Canal with a build out capacity of 2500 cfs to maintain irrigation diversions without lowering the Diversion Dam. The Record of Decision was executed on July 16, 2008.

Current Status: A design conference, which involved Reclamation, the Tehama-Colusa Canal Authority (TCCA) and their consultants, produced the final version of specifications and drawings in mid September 2009. The American Recovery and Reinvestment Act initiated the project funding of $110m for FY09 and FY10. The first phase of construction of the bridge and siphon for the new pumping plant was awarded 12/21/09. Land acquisition is expected to be completed by May 2010. The fish screen and pumping plant construction contract is expected to be awarded by May 2010.

Proposed Actions for FY 2011: Additional impetus for the project was provided in the June 4, 2009 Biological Opinion for the Operations Criteria and Plan (OCAP) for the CVP specifically allowing for dam-only operation through the end of the 2011 irrigation season. Thus, beginning with the 2012 irrigation season, the pumping plant must be fully operational or the water supply will be greatly diminished. Funds requested will be used for construction support and for continued biological monitoring that is mandated by the OCAP BO.

WATER USE EFFICIENCY

Water Conservation

Authority: P.L. 97-293 Section 210, P.L. 102-575, Section 3405 (e), P.L. 111-11

FY 2011 Budget Request (000's): $8,576

Project Description: The Mid-Pacific Regional Office's Water Conservation Team (Team) administers the Central Valley Project (CVP) Water Conservation Program (Program) activities with assistance from the Area Offices. The Team performs duties required under the Central Valley Project Improvement Act of 1992 (CVPIA) (P.L. 102-575) and the Reclamation Reform Act of 1982 (RRA) (P.L. 97-293), which includes the development and administration of various Criteria – the Standard Criteria for Evaluating Water Management Plans, the Regional Criteria for the Sacramento Valley, and the Criteria for Developing Refuge Water Management Plans. Section 3405 (e) of the CVPIA, P.L. 102-575, directs the Secretary of the Interior (Secretary) to establish and administer an office on Central Valley water conservation best management practices that shall ". . . develop criteria for evaluating the adequacy of all water conservation plans developed by project contractors, including those plans required by Section 210 of the RRA, Public Law 97-293."

In FY 2010, the Team will implement water conservation measures through a competitive, water use efficiency grant program offered to water districts, irrigation districts, resource conservation districts, urban water agencies, etc. This program is designed to encourage cost shared water

conservation projects that meet the objectives contained in the CALFED Water Use Efficiency Program. Benefits of the awarded projects will include increased water supply reliability, water quality improvements, and contributions to ecosystem restoration. In addition, the funds will assist water contractors with the implementation of Best Management Practices, while focusing on water districts with a CALFED Bay-Delta connection.

Current Status: The Team continues to provide Federal leadership and expertise required to evaluate Plans and water use efficiency projects. The Team provides technical and financial assistance to water districts to prepare Plans and implement conservation measures. The competitive grant process will be completed and projects awarded by August of 2010. Through multiple public outreach efforts, Reclamation is maintaining an active water conservation program for its contractors and the public. Program staff works closely with other Federal, state, local, and environmental constituents on water conservation issues and policy development. The Conservation Connection Newsletter and the Watershare website are used to inform the public on Mid-Pacific Region water conservation activities and grant opportunities.

Proposed Actions for FY 2011: A majority of the funding will be used to fund and administer grant programs offered to water districts, irrigation districts, resource conservation districts, and urban water agencies through the CALFED Water Use Efficiency Grant Program. Funding will be used to staff a portion of the Central Valley Office of Water Conservation. Activities include. The program will fund awards that provide benefits to the Bay-Delta through water conservation activities. Other funding will be used to facilitate additional grant programs, criteria revision, plan reviews, technical assistance, publish news letters, host web site, and provide drought assistance.

San Jose Area Water Reclamation and Reuse Program

Authority: P.L. 102-575, Title XVI, Section 1607, as amended, Reclamation Wastewater and Groundwater Study and Facilities Act of 1992; P.L. 104-266, Reclamation Recycling and Water Conservation Act, October 1996

FY 2011 Budget Request (000's): $242

Project Description: This program calls for the planning, design, and construction of demonstration and permanent facilities to reclaim and reuse up to 36,000 acre-feet per year of wastewater treatment plant effluent in the San Jose metropolitan service area, in cooperation with the City of San Jose and Santa Clara Valley Water District. The total program includes about 300 miles of pipelines over a 150 square mile area in six cities providing reclaimed water to the San Jose metropolitan service area. The total program cost is estimated at $480 million, with the Federal contribution capped at $109.9 million.

Current Status: Phase I construction was completed in 1998, providing over 10,000 acre-feet of recycled water. For Phase I, Reclamation is reimbursing the City of San Jose by providing up to 25 percent or up to $35 million. Phase 1C is being funded through the ARRA. Phase 2B will be funded through W&R.

Proposed Actions for FY 2011: Funding will be used to continue the reimbursement to the City of San Jose for Phase I project construction, and to coordinate with the City regarding any future work.

Bay Area Regional Water Recycling Program

Authority: P.L. 102-575 – Title XVI, Reclamation Wastewater and Groundwater Study and Facilities Act, October 30, 1992; and P.L. 104-266, Reclamation Recycling and Water Conservation Act of 1996, October 9, 1996

FY 2011 Budget Request (000's): $1,215

Project Description: The Bay Area Regional Water Recycling Program (BARWRP) is a partnership of federal, state, and local agencies focused on the feasible use of recycled water in the five-county San Francisco Bay Area that is home to almost one-sixth of California's population. The Bay Area Water Recycling Program will assist CALFED in meeting its objectives related to water supply, water quality, and ecosystem enhancement. By maximizing utilization of recycled water for its permitted demands, water agencies can reduce the demands on their current high-quality water supplies and limit the need for new, possibly lower-quality supplies in the future. The CALFED Bay-Delta Program recognizes that increased water recycling should be part of the comprehensive solution for improving the Bay-Delta ecosystem. BARWRP plans to generate approximately 240,000 acre-feet per year of new supply by 2025 to partially meet the identified recycled water demand of 400,000 acre-feet per year.

Current Status: The number of authorized projects included in BARWRP is eight (Antioch, Pacifica, Palo Alto/Mountain View, Pittsburg, Redwood City Phase 1, San Jose, South Bay Advanced Recycled Water Treatment Facility, and South Santa Clara Recycled Water Master Plan Implementation) and is expected to increase by at least five by FY 2011 (Central Contra Costa Sanitary District, Dublin San Ramon Services District, City of Palo Alto, City of Petaluma, and Redwood City Phase 2). The estimated Federal cost share for the five additional projects is $21,775,000.

Proposed Actions for FY 2011: Construction work will continue on the authorized projects, including but not limited to the construction of pipelines, pumping facilities, and storage facilities, and feasibility work will continue on other projects. For the eight authorized projects, the total Federal cost share is approximately $35,850,000.

San Diego Area Water Reclamation Program

Authority: P.L. 102-575 – Title XVI, Reclamation Wastewater and Groundwater Study and Facilities Act, October 30, 1992; and P.L. 104-266, Reclamation Recycling and Water Conservation Act, October 9, 1996

FY 2011 Budget Request (000's): $4,969

Project Description: Greater use of reclaimed water results in decreased dependency on potable imported water including water from the Colorado River. This project consists of four units:

(1) The San Diego Water Reclamation Project is a regional water reclamation program being implemented by the cities of San Diego and Poway, Sweetwater Authority, and Otay Water District. The project provides for the construction of five new wastewater treatment plants, expansion of an existing plant, along with distribution systems, and two conjunctive use projects. Total system capacity upon completion will be approximately 57,116 acre-feet per year.

(2) The Escondido Water Reclamation Project is being implemented by the city of Escondido to upgrade its Hale Avenue Resource Recovery Facility from secondary treatment to tertiary treatment. A distribution system that will put the recycled water to beneficial use for non-potable purposes is also being constructed. In addition, the city of San Diego is planning to upgrade and expand its San Pasqual Water Reclamation Plant, which will produce recycled water for non-potable uses, and for a possible conjunctive use project. A distribution system will also be constructed. The City of Poway will construct a distribution system that will utilize recycled water from the San Pasqual Plant. When completed, the three project components will deliver a total of approximately 11,200 acre-feet of recycled water annually.

(3) The City of San Diego has resumed the San Diego Water Repurification Project, or Indirect Potable Reuse Project. A demonstration project has been implemented to further investigate the feasibility and reliability of the proposed project.

(4) The Padre Dam Municipal Water District Reclamation Project will upgrade and expand an existing water treatment plant and construct a distribution system that will deliver 2,000 acre-feet of recycled water annually. The primary customer will be the Helix Water District, which will use the recycled water primarily for groundwater recharge.

Current Status: Construction and expansion of recycled water systems by the City of San Diego, Otay Water District, Sweetwater Authority, Padre Dam Municipal Water District, and Helix Water District are underway. Portions are completed and operational.

Proposed Actions for FY 2011: Work for FY 2011 will continue on the construction of recycled water distribution systems (pipelines, pumping facilities, and storage facilities) from the City of San Diego's North City WRP and South Bay WRP. Work will also continue on recycled water systems being constructed by the Otay Water District, the Sweetwater Authority, the Padre Dam Municipal Water District, and the Helix Water District. As of September 30, 2009, this project has utilized 53 percent of its authorization ceiling. The project is scheduled for completion in 2028.

Calleguas Municipal Water District Recycling Project

Authority: P.L. 102-575 – Title XVI, Reclamation Wastewater and Groundwater Study and Facilities Act, October 30, 1992; and P.L. 104-266, Reclamation Recycling and Water Conservation Act of 1996, October 9, 1996

FY 2011 Budget Request (000's): $1,400

Project Description: This project consists of planning, designing, and constructing regional water recycling projects that include wastewater reclamation and reuse, brackish groundwater recovery, and regional salinity management projects. A total of ten specific projects are planned resulting in annual recycling or recovery of a total of 51,470 acre-feet of water in order to reduce the regions dependence on imported water supplies. This project is located in Ventura County, California.

Current Status: Two components will be funded in FY 2011. The Conejo Creek Diversion was completed in 2003 and is operational. Construction of the Regional Brine Line is underway.

Proposed Actions for FY 2011: Work will continue on the Regional Brine Line being constructed by the Calleguas MWD. As of September 30, 2009, this project has used 61 percent of its authorization ceiling. The project is scheduled for completion in 2014.

Long Beach Desalination Research and Development Project

Authority: P.L. 102-575 – Title XVI, Reclamation Wastewater and Groundwater Study and Facilities Act, October 30, 1992; and P.L. 104-266, Reclamation Recycling and Water Conservation Act of 1996, October 9, 1996

FY 2011 Budget Request (000's): $1,000

Project Description: This project is located in Los Angeles County, California. In partnership with the City of Long Beach and the Los Angeles Department of Water and Power, this research and development project will determine the feasibility of a new method of seawater desalination that uses existing membrane technology. Significant cost savings due to lower energy requirements are anticipated.

Current Status: The pilot plant has been constructed, and is being operated to collect data. An experimental system for intake and discharge using pipelines installed under the sea bed has been installed and is being evaluated.

Proposed Actions for FY 2011: For FY 2011 work will continue on the pilot plant, and if successful, preliminary work on a larger sized demonstration unit will begin. As of September 30, 2009, the project has used 40 percent of its authorization ceiling. The research and demonstration project is scheduled for completion in 2015.

Long Beach Area Recycling Project

Authority: P.L. 102-575 – Title XVI, Reclamation Wastewater and Groundwater Study and Facilities Act, October 30, 1992; and P.L. 104-266, Reclamation Recycling and Water Conservation Act of 1996, October 9, 1996

FY 2011 Budget Request (000's): $1,000

Project Description: This project is located in Los Angeles County, California, and consists of two units:

(1) The Alamitos Barrier Reclaimed Water Project will ultimately recycle about 8,000 acre-feet per year in lieu of imported water. Facilities will be constructed so that tertiary treated water from the existing Long Beach Water Reclamation Plant can be treated to advanced levels so that it can be used for groundwater injection into seawater intrusion barriers. Phase 1 was completed in 2005, and Phase 2 is scheduled to begin construction in 2012.

(2) The City of Long Beach Recycled Water System Expansion Project will construct an expansion of an existing distribution system that allows the use of recycled water throughout the city. The expansion consists of pumps, pipes, storage facilities, and control systems that would increase use of recycled water from 4,585 acre-feet per year to 16,677 acre-feet per year (including the Alamitos Barrier Project).

Current Status: Phase 1 of the Alamitos Barrier Project is complete and operational. Phase 2 preconstruction activities began in 2009. Construction of the recycled water system expansion for the City of Long Beach is underway.

Proposed Actions for FY 2011: For FY 2011 work will continue on the expansion of the City of Long Beach's recycled water distribution system, including the construction of pipelines, pumping facilities, and storage facilities. Work will also continue on preconstruction activities for ~~of~~ Phase 2 of the Alamitos Barrier Reclaimed Water Project. As of September 30, 2009, the project has used 55 percent of its authorization ceiling. Alamitos Barrier Reclaimed Water Project is scheduled for completion in 2013. City of Long Beach Recycled Water System Expansion Project is scheduled for completion in 2018.

DRINKING WATER QUALITY

<u>Drainage Management Program</u>

Authority: P.L. 86-488

FY 2011 Budget Request (000's): $7,377

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$7,377
U.S. Fish and Wildlife Service	

Project Description: A Record of Decision on Reclamation's efforts to develop a solution to address outstanding Federal drainage obligations under the 1960 San Luis Act, including efforts outlined in the Plan of Action for Drainage to the San Luis Unit submitted to the District Court in April 2001, in compliance with the Court's order, was completed in 2007. The FY 2010 budget

request continues Reclamation's participation in the ongoing Grasslands Bypass Project. The Grassland Bypass Project results in annual reductions in discharge of salts, selenium, and other constituents to the San Joaquin River.

Current Status: A Final EIS was completed in May 2006. A Record of Decision was completed in March 2007. Federal costs of drainage service alternatives exceed $2 billion, exceeding the authorized appropriation ceiling contained in the San Luis Act.
Meanwhile, Reclamation has continued to support on the ground drainage projects including the Grassland Bypass Project while these long term solutions are pursued. The Grassland Bypass Project provides drainage to the northerly San Luis Unit and adjacent area and includes actions consistent with both Reclamation's Feasibility Report alternative and the alternative resolution concepts under consideration. The project has broad support among all stakeholders including the environmental community.

Proposed Actions for FY 2011: FY 2011 funding will be used to continue Reclamation's involvement/support in the Grassland Bypass Project. Reclamation funding supports Reclamation & FWS participation in monitoring, data management and reporting, and other activities.

<u>San Joaquin Basin Action Plan</u>

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (d)(5)

FY 2011 Budget Request (000's): $550

Project Description: Reclamation and the U.S. Fish and Wildlife Service (FWS) are continuing coordinated efforts toward completion of construction of an internal water conveyance infrastructure on the East Bear Creek Unit (Refuge) of the San Luis National Wildlife Refuge, Los Banos, California. The East Bear Creek construction project was planned and designed in two phases, Phase I and Phase II, and is the last *major* refuge facility construction project for delivery of refuge water supplies within San Joaquin Basin Action Plan lands. Project planning for the Refuge has proceeded separately from other San Joaquin Basin Action Plan lands due to its location on the east side of the San Joaquin River. The Refuge is projected to be a 4,000 acre site that will have emergent and riparian wetlands and wetland associated upland areas. FWS obtained funding under the North American Wetlands Conservation Act for the purpose of restoring and enhancing the East Bear Creek Unit to a more natural environment.

Reclamation and the Central California Irrigation District are coordinating efforts for design and construction of an automated self-cleaning trash removal system to be installed at the diversion point from the Newman Canal to the J-Lateral, which provides water deliveries to the China Island Unit of the California North Grasslands Wildlife Area, Los Banos, California.

Under the San Joaquin Basin Action Plan and the mandate of CVPIA, Reclamation is responsible for the planning, design, and construction of water conveyance infrastructures for both East Bear Creek Unit and China Island Unit.

Current Status: In FY 2010 funds are being used to complete construction related activities for Phase I of the East Bear Creek Unit Project on the San Luis National Wildlife Refuge. Final testing of the pumping plant, pipeline, and storage tanks was performed in September 2009. Work has been considered substantially complete for Phase I as of December 2009. Final acceptance of construction is expected in early CY2010. Funds will also be used for design, construction and installation of an automated self cleaning trash removal system at the J-Lateral diversion point for water deliveries to China Island Unit. Construction on the trash removal system is scheduled to be complete by summer of 2010.

Proposed Actions for FY 2011: Funds for the following activities require at least $550,000 which includes $350,000 from the Water and Related Resources request. Requested funds will help to meet program needs to complete refuge facility construction for delivery of refuge water supplies within San Joaquin Basin Action Plan lands. Specific funding efforts will include: construction related activities for the East Bear Creek Unit Phase I, San Luis National Wildlife Refuge; and Newman Canal (service to China Island Unit) design and construction effort.

Land Retirement

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3408 (h)

FY 2011 Budget Request (000's): $550

Estimated Inter-agency Breakdown:

Agency	$000's
U.S. Bureau of Reclamation	$450
U.S. Fish and Wildlife Service	$100

Project Description: The purpose of the Land Retirement Program (LRP) is to evaluate impacts and benefits of retiring 15,000 acres of land from irrigated agriculture. The LRP will continue to purchase land from willing sellers as part of a Demonstration Project up to the targeted 15,000 acres and remove it from irrigated agriculture. Five years of monitoring conducted as part of the Land Retirement Demonstration Project (LRDP) indicate that retired lands have great potential to be restored to productive wildlife habitat, with potentially important endangered species benefits.

Current Status: The LRP has acquired approximately 9,300 acres to date, and retired approximately 8,900 acres from irrigated agricultural production. In 2008, the program restored 320 acres to upland wildlife habitat. Implementation of the LRDP has eliminated the production of approximately 3,600 acre feet of poor quality drain water annually.

On average, the LRP has exceeded its land restoration performance goal of 400 acres per year. Since 1998, the LRP has restored approximately 5,300 acres. Restoration efforts on retired lands immediately increased biodiversity and abundance, including Special Status Species. Wildlife surveys of restored units observed important findings of sensitive San Joaquin Valley wildlife species, including populations of endangered Tipton kangaroo rats, burrowing owls, coast horned lizards, San Joaquin Valley Coachwhips, Swainson's hawks and a sensitive plant called Hoover's Woolystar.

Proposed Actions for FY 2011: Funds for the following activities require $550,000 which includes $50,000 from the Water and Related Resources request. The program will be used to acquire and restore land as part of the Five Year Land Retirement Demonstration Program (LRDP). Monitoring of physical and biological impacts of retired land and preparation of the final reports for compliance with the biological opinion will occur. Restoration at Atwell Island will continue in pursuit of acquiring the restoration target of 400 acres per year. Threatened and endangered species and drainage water reductions are the primary benefits. The LRDP has developed cost effective techniques for restoring retired farmlands in the San Joaquin Valley. The LRDP will continue to evaluate habitat rehabilitation techniques to determine the most effective and economical means to provide safe upland habitats to aid in the recovery of threatened and endangered species in the San Joaquin Valley and assist CVP water districts in managing and restoring retired agricultural lands.

San Joaquin River Salinity Management

Authority: P.L. 86-488

FY 2011 Budget Request (000's): $4,250

Project Description: The San Joaquin River Salinity Management Project is an action that contributes to the Program to Meet Standards (PTMS), mandated in Section 103(d) (2)(D) of P.L. 108-361. The project implements the stakeholder-developed "Westside Regional Drainage Plan" (WRDP). The Plan includes activities to assist the Grassland Bypass area's program to eliminate drainage to the San Luis Drain, and the plan itself is a key element of Reclamation's Action Plan to Address the Lower San Joaquin River Salinity TMDL and contributes to resolution of San Luis Unit drainage provision responsibilities. The Plan's key management components for the Grassland Drainage Area are: 1) Source Control, 2) Groundwater Management, 3) Drainage Reuse Projects, and 4) Drain Water Treatment and/or Salt Disposal.

Current Status: Reclamation has supported implementation of the WRDP. To date, Reclamation has contributed 12 percent of the overall funding for the purchase of 5,800 acres and development of 3,800 of those acres into reuse areas. In 2009-2012, the remaining 2,000 acres will be developed into reuse areas, meeting the interim goal of 6,000 acres of reuse area. Funding has also supported improving distribution efficiencies (eliminating leaks), piloting treatment technologies, and reducing groundwater impacts. As a result, in 2007 about 61 thousand tons of salt were prevented from entering the San Joaquin River.

Proposed Actions for FY 2011: Funding will continue crucial support of the development of the reuse areas (including permitting, land preparation, planting, delivery infrastructure, and wildlife mitigation) and the construction of shallow wells to lower the perched water table and reduce the discharge of nearby subsurface drainage systems. These actions will directly increase the amount of drainage that Grasslands can manage within their boundaries, and prevent its release to the San Joaquin River.

Program to Meet Standards

Authority: P.L. 86-488

FY 2011 Budget Request (000's): $750

Project Description: The Program to Meet Standards (PTMS) was initiated pursuant to P.L. 108-361, Section 103(d)(2)(D), which directs the Secretary of the Interior, in consultation with the Governor of California, to meet all existing water quality standards and objectives for which CVP has responsibility prior to increasing export limits from the Sacramento-San Joaquin Delta (Delta) for the purposes of conveying water to CVP contractors south of the Delta or increasing deliveries through an intertie between the California Aqueduct and Delta Mendota Canal (DMC). The PTMS may provide greater flexibility in meeting the existing water quality standards and objectives for which the CVP has responsibility and reduce the demand on water from New Melones Reservoir used for that purpose, and to assist the Secretary in meeting any obligations to CVP contractors from the New Melones Project. Reclamation is coordinating implementation with key stakeholders in the San Joaquin Valley. Funding for the PTMS is primarily provided to ensure that the actions identified in the Program, many of which are funded under individual authorities, move in concert to achieve the overall program objectives.

Current Status: Reclamation is continuing program implementation. In 2006, Reclamation submitted the PTMS plan to Congress and initiated implementation. Since FY 2007, funding was used to develop forecasting and monitoring tools needed to implement a real time salinity management program, which is not independently authorized, and implementation of a recirculation pilot program. These actions move the program towards its goal of greater flexibility in meeting existing and future water quality objectives. Other projects that support the PTMS include the Franks Tract Project, the New Melones Operations Plan, and the San Joaquin River Salinity Management Project. Due to the complex nature of water supply and quality issues on the lower San Joaquin River, these projects are all needed to contribute to the Program's objectives.

Proposed Actions for FY 2011: Funding will support the continued testing of wetland best management practices to reduce salinity loads to the San Joaquin River, the potential piloting of alternative treatment of drainage waste, the development and testing of a stakeholder-driven real time salinity management program on the river, and staff support of the program.

STORAGE

CVP, Yield Feasibility Investigation

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3408(j)

FY 2011 Budget Request (000's): $480

Project Description: Section 3408(j) of the Central Valley Project Improvement Act (CVPIA) of 1992 directs Reclamation "*to develop and submit to the Congress a least-cost plan to increase, within fifteen years after the date of enactment of this title, the yield of the Central Valley Project by the amount dedicated to fish and wildlife purposes under this title.*" It further directs Reclamation to examine options to replace the impact of dedicating 1.2 million acre-feet of Project yield for fish and wildlife purposes, such as: (1) improvements in, modification of, or additions to the facilities and operations of the project, (2) conservation, (3) transfers, (4) conjunctive use, (5) purchase of water, (6) purchase and idling of agricultural land, and (7) direct purchase of water rights.

Section 103(d)(1)(C) of P.L. 108-361 directs Reclamation to conduct a study, in coordination with the State, of available water supplies and existing and future water needs within the units of the CVP, the area served by CVP agricultural, municipal, and industrial water service contractors, and the CALFED Bay-Delta solution area. Study findings will be presented in a report to (1) identify possible projects and water management actions that could provide new firm yield and water supply improvements for the CVP while helping California meet its current and future water needs; and (2) assess potential costs, beneficiaries, and their willingness to pay for improvements.

Current Status: Reclamation has completed a report entitled "Water Supply and Yield Study" as directed in P.L. 108-361, which presents the results of a water supply and demand analysis and interprets demand as the amount of water a user desires to apply to a particular use regardless of influencing factors such as price, available supply, or facility constraints. Before transmitting the report to Congress, Reclamation is reviewing the report for consistency with current Department and Administration priorities. Depending on the results of this assessment, the report may be modified before transmission to Congress, which is likely in 2010. The document considers the average water year demand as the base condition and determines the supply-demand gap regionally relative to available supplies; and it recommends (1) the continued support of the CALFED storage and conveyance projects as well as other statewide water management actions but does not identify specific actions requiring additional authorization, and (2) additional data that could be collected to develop CVP-specific supply-demand gaps. This would allow for further analyses to identify supply-demand gaps by CVP division and projects and water management actions to fill the supply-demand gap by CVP division. A series of workshops was held during 2008 to identify critical success factors, develop management options and funding priorities. The results have been used to prepare a strategy document for future program actions in 2009 and beyond.

Proposed Actions for FY 2011: Funds will be used to continue actions to meet the intent of 3408(j) of Title XXXIV, mitigating the adverse impacts to CVP water supply contractors resulting from implementation of the CVPIA. The CVP Yield Feasibility Investigation Program will continue to monitor water supply trends and evaluate Federal, State, and local programs and projects for their impacts upon CVP yield, as well as any opportunity to increase CVP yield. Integrated resources planning efforts included in the strategy document will be implemented to address management issues and opportunities in the various geographic regions of the CVP to reduce gap between water supplies and demands. The impacts of climate change on agricultural, urban and environmental water uses will be addressed for each of the CVP Divisions through

continuation of the CVP Integrated Resource Plan (CVP IRP) study. The results of these studies will be used to develop and prioritize adaptation strategies and presented in planning reports and technical memoranda to support congressional authorization and/or appropriations.

Los Vaqueros Expansion Feasibility Study

Authority: P.L. 108-7, §215, Title II, Division D, 2003

FY 2011 Budget Request (000's): $1,152

Project Description: This feasibility study is evaluating the potential to expand the existing Los Vaqueros Reservoir by up to 275,000 acre-feet. Objectives of the study are to develop water supplies for environmental water management, to improve water supply reliability for Bay Area users, and improve the quality of water delivered to Bay Area agencies from the Delta.
Current Status: A Draft EIS/EIR was issued for public review and comment in February 2009. A Final EIS/EIR is being prepared for public release by mid-2010, with a proposed action/project that features a 60,000 acre-foot enlargement of Los Vaqueros Reservoir for implementation by Contra Costa Water District (CCWD). The proposed 60,000 acre-foot enlargement by CCWD has no Federal interest or involvement in implementation. Reclamation and CCWD are evaluating options for continuing feasibility studies for a larger expansion of LVE pursuant to the 2000 CALFED Bay-Delta Programmatic ROD. Reclamation and partners are assessing the effects of new State legislation referred to as the Comprehensive Water Package, and emerging Federal and State initiatives to refine the study strategy, schedule, and budget to accommodate continuing change and uncertainty. The requirements of the Comprehensive Water Package and delays in developing a reliable plan for improving conveyance through or around the Delta have exacerbated the physical, regulatory, and economic uncertainties about the reasonably foreseeable future condition in the Delta to assess the potential benefits, impacts and costs of alternative plans. This definition is essential for credible evaluations, complete and timely documentation, and legally defensible decision making.

Proposed Actions for FY 2011: Funds would be used to conduct and refine planning, engineering, environmental, economic, financial and other feasibility studies, prepare and process the draft Feasibility Report and EIS/EIR (for required technical, legal, and managerial review), continue stakeholder coordination and public involvement and outreach.

Upper San Joaquin River Basin Storage Investigation

Authority: P.L. 108-7, Section 215, Title II, Division D, 2003

FY 2011 Budget Request (000's): $1,528

Project Description: Reclamation is continuing a Feasibility Study in cooperation with the California Department of Water Resources (DWR) as the non-Federal partner that will include preparation of a Feasibility Report/Decision Document and Environmental Impact Statement/Report (EIS/EIR) for the Upper San Joaquin River Basin Storage Investigation. The feasibility study purpose is to determine the type and extent of Federal interest in a multiple

purpose plan to provide additional storage in the upper San Joaquin River watershed through enlargement of Millerton Lake at Friant Dam or a functionally equivalent storage program. The primary objectives for storage and management of water supply from the upper San Joaquin River are to improve water supply reliability for agricultural and urban uses and enhance water temperature and flow conditions in the San Joaquin River. Other opportunities and benefits include potential for increased management of flood flows at Friant Dam, improvements to urban water quality and development of hydropower generation and recreational opportunities.

Current Status: An Initial Alternatives Information Report, completed in 2005, describes water resources problems and needs, planning objectives, potential solutions, and recommends future actions. It developed and screened 24 water storage measures down to six measures, which were retained for further study. The San Joaquin River Settlement in 2006 requires changes in fishery releases and management, which affected formulation and evaluation of alternatives for the potential storage project. Reclamation has revised assumptions for existing and future conditions, and performed some reformulation of the planning objectives.

A Plan Formulation Report was completed in October 2008 and publically released in May 2009. The report will to update agency decision makers, stakeholders, and public on the progress and findings of the ongoing feasibility study, including development and refinement of a final array of preliminary alternative plans and mitigation requirements, analysis of potential environmental impacts, costs and benefits for further consideration during the feasibility study stage. Each action alternative would contribute directly and indirectly to CALFED Program objectives of water quality, water supply reliability, and ecosystem restoration. Activities in FY 2010 include continuing planning, engineering, environmental, economic and other studies needed to refine and evaluate alternatives and to develop the draft Feasibility Report and draft EIS/EIR, consistent with BDCP/DHCCP efforts, and re-scheduled for summer 2011.

Reclamation and partners are assessing the effects of new State legislation referred to as the Comprehensive Water Package, and emerging Federal and State initiatives to refine the study strategy, schedule, and budget to accommodate continuing change and uncertainty. The requirements of the Comprehensive Water Package and delays in developing a reliable plan for improving conveyance through or around the Delta have exacerbated the physical, regulatory, and economic uncertainties about the reasonably foreseeable future condition in the Delta to assess the potential benefits, impacts and costs of alternative plans. This definition is essential for credible evaluations, complete and timely documentation, and legally defensible decision making.

Proposed Actions for FY 2011: Funds would be used to conduct and refine planning, engineering, environmental, economic, financial, and other feasibility studies, prepare and process the draft Feasibility Report and EIS/EIR (for required technical, legal, and managerial review), continue stakeholder coordination and public involvement and outreach.

North of Delta Off-Stream Storage (Sites Reservoir) Investigation

Authority: P.L. 108-7, Section 215, Title II, Division, February 20, 2003; P.L. 108-137, Title II, Section 211, December 1, 2003

FY 2011 Budget Request (000's): $1,100

Project Description: Reclamation is conducting a Feasibility Study in cooperation with the California Department of Water Resources (DWR) as the non-Federal partner that will include preparation of a Feasibility Report/Decision Document and Environmental Impact Statement/Report (EIS/EIR) for the North of Delta Off-Stream Storage (NODOS) Investigation. The Feasibility Study purpose is to determine the type and extent of Federal interest in a multiple purpose plan to provide up to 1.8 million acre-feet of off-stream water storage at a potential Sites Reservoir or alternative locations in the Sacramento Valley North of the Delta. The proposed project would increase water supplies to meet existing contract requirements, including improved water supply reliability and greater flexibility in water management for agricultural, municipal, and environmental purposes; increase the survival of anadromous fish populations in the Sacramento River, as well as the survivability of other aquatic species; and improve drinking and environmental water quality in the Delta.

Current Status: A Plan Formulation Report was released in May 2009 to update decision makers, stakeholders, and public on the ongoing feasibility study, including development and refinement of an array of preliminary alternative plans and mitigation requirements, analysis of potential environmental impacts, costs and benefits, and potential allocation of costs and benefits that will be further evaluated in future phases of the feasibility study. Each action alternative would contribute directly and indirectly to the CALFED Program objectives of water quality, water supply reliability, ecosystem restoration, and delta levee system integrity. Reclamation and DWR are continuing the feasibility investigation to develop and refine alternative plans for a new offstream storage reservoir with up to 1.8 million acre-foot of storage capacity and perform related engineering, operational, environmental, and economic studies.

Reclamation and partners are assessing the effects of new State legislation referred to as the Comprehensive Water Package, and emerging Federal and State initiatives to refine the study strategy, schedule, and budget to accommodate continuing change and uncertainty. The requirements of the Comprehensive Water Package and delays in developing a reliable plan for improving conveyance through or around the Delta have exacerbated the physical, regulatory, and economic uncertainties about the reasonably foreseeable future condition in the Delta to assess the potential benefits, impacts and costs of alternative plans. This definition is essential for credible evaluations, complete and timely documentation, and legally defensible decision making. Activities in FY 2010 include planning, engineering, operations, environmental, economic, and other studies needed to develop the draft Feasibility Report and draft EIS/EIR, scheduled for release in the spring of 2011.

Proposed Actions for FY 2011: Funds would be used to continue feasibility studies; continue stakeholder coordination and public involvement and outreach; and prepare and process the draft Feasibility Report and EIS/EIR (for required technical, legal, and managerial review).

Shasta Lake Water Resources Investigation

Authority: P.L. 96-375, 1980

FY 2011 Budget Request (000's): $1,220

Project Description: Reclamation is continuing a Feasibility Study including preparation of a Feasibility Report/Decision Document and Environmental Impact Statement (EIS) for the Shasta Lake Water Resources Investigation (SLWRI). The purpose of the SLWRI is to determine the type and extent of Federal interest in a multiple purpose plan to modify Shasta Dam and Reservoir to increase survival of anadromous fish populations in the upper Sacramento River; increase water supplies and water supply reliability to agricultural, municipal and industrial, and environmental purposes; and to the extent possible through meeting these objectives, include features to benefit other identified ecosystem, flood damage reduction, and related water resources needs, consistent with the objectives of the CALFED Bay Delta Program.

Current Status: A Plan Formulation Report was released in March 2008 to update agency decision makers and stakeholders on the progress and findings of the ongoing Feasibility Study, including development and refinement of a final array of preliminary alternative plans and mitigation requirements, analysis of potential environmental impacts, costs and benefits for further consideration during the feasibility study stage. Each action alternative would contribute directly and indirectly to CALFED Program objectives to improve water supply reliability, ecosystem restoration, and water quality. Activities in FY 2010 include continuing planning, engineering, environmental, economic and other studies needed to refine and evaluate potential effects of alternatives and to develop the Draft Feasibility Report and EIS, scheduled for management review before public release in spring 2011. Specific activities include refinement of a final array of alternative plans; operational modeling; analyses of potential physical and operational impacts; identification of mitigation requirements; feasibility level engineering designs and cost estimates, including real estate costs; evaluation of potential cost and benefit effects; allocation of estimated costs and benefits for a recommended plan; and public involvement and outreach.

Reclamation and partners are assessing the effects of new State legislation referred to as the Comprehensive Water Package, and emerging Federal and State initiatives to refine the study strategy, schedule, and budget to accommodate continuing change and uncertainty. The requirements of the Comprehensive Water Package and delays in developing a reliable plan for improving conveyance through or around the Delta have exacerbated the physical, regulatory, and economic uncertainties about the reasonably foreseeable future condition in the Delta to assess the potential benefits, impacts and costs of alternative plans. This definition is essential for credible evaluations, complete and timely documentation, and legally defensible decision making.

Proposed Actions for FY 2011: Funds would be used to conduct and refine planning, engineering, environmental, economic, financial and other feasibility studies, prepare and process the draft Feasibility Report and EIS/EIR (for required technical, legal, and managerial review), continue stakeholder coordination and public involvement and outreach. .

CONVEYANCE

Tracy (Jones) Pumping Plant Mitigation Program

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(4)

FY 2011 Budget Request (000's): $2,051

Project Description: This activity identifies and implements physical improvements and operational changes assessing fishery conditions, and assessing salvage operations at the Tracy Fish Collecting Facility (TFCF) per the Central Valley Project Improvement Act and CVP Operations Criteria and Plan (OCAP) Biological Opinions.

Current Status: Research and operation assessment efforts continues in order to better understand present day operating performance of the TFCF, and to implement physical and operational changes in order to improve overall fish salvage capabilities. This is consistent with current CALFED South Delta Fish Facility Forum recommendations and CVP OCAP Biological Opinions. Some improvements have been implemented and many others are planned through FY 2015.

Proposed Actions for FY 2011: Proposed actions for FY 2010 include continuation of TFCF operational assessment for Chinook salmon, splittail, and white sturgeon. FY 2010 actions also include working on field data collected as a result of TFCF operational assessment for delta smelt and predator impacts and tests related to operation of a new fish transfer bucket. Other anticipated actions include continuing work on concept/design of electric fish crowders and strobe lights as a means of reducing predation impacts at the TFCF, field testing of above ground oval holding tank, publishing of the to be completed various Tracy Research Volume Series, and maintenance of the Tracy Research website.

Delta-Mendota Canal (DMC)-California Aqueduct Intertie

Authority: P.L. 108-361, Title I, Section 103 (d)(2)(C)

FY 2011 Budget Request (000's): $3,300

Project Description: Construction of an intertie between the State Water Project California Aqueduct and the Central Valley Project Delta-Mendota Canal.

Current Status: NEPA compliance is complete with the Final EIS published November 2009 and the record of decision signed December 2009. This project, with an initial capacity of 467 cfs toward the California Aqueduct and a reverse flow capability of 900 cfs toward the Delta-Mendota Canal, will allow for greater operation and maintenance flexibility for both the CVP and SWP, and enable the CVP to recover some conveyance capacity. Per the authorizing language, the intertie has been designed and will be constructed in a manner consistent with a possible future expansion of the intertie capacity (as described in subsection (f)(1)(B).

Proposed Actions for FY 2011: Funds will be used for construction and non-contract costs. Non-contract costs may include construction management, inspection, design support during

construction, reimbursement of California Department of Water Resources turnout agreement costs, legal and administrative costs.

<u>San Luis Reservoir Lowpoint Feasibility Study</u>

Authority: P.L. 108-361, Title I, Section 103 (f)(1)(A)

FY 2011 Budget Request (000's): $100

Project Description: This is a study of potential actions to increase the operational flexibility of storage in San Luis Reservoir and ensure a high quality, reliable water supply for San Felipe Division contractors.

Current Status: A Plan Formulation report will be completed in 2010. Studies continue to develop feasibility-level designs and address changes in Delta operations.

Proposed Actions for FY 2011: Funds would be used to monitor on-going Bay-Delta operation and management changes that impact the project studies and analyses. Formulation and refinement of an array of alternative plans and feasibility-level studies will occur once a baseline for Bay-Delta operation and management is determined by State and Federal multi-agency group.

<u>Franks Tract Feasibility Study/Through Delta/Delta Cross Channel Reoperation</u>

Authority: P.L. 108-361, Title I, Section 103 (f)(1)(C)

FY 2011 Budget Request (000's): $100

Project Description: Project objective is to significantly reduce salinity concentrations in the south Delta including at the CVP/SWP pumping facilities and to improve fisheries conditions throughout the Delta.

Current Status: Feasibility Study was initiated in 2007. An IAIR was completed in 2009, but will not be made publically available until 2010. In FY 2010, a Plan Formulation report will be completed.

Proposed Actions for FY 2011: Funds would be used to monitor on-going Bay-Delta operation and management changes that impact the project studies and analyses. Formulation and refinement of an array of alternative plans and feasibility-level studies will occur once a baseline for Bay-Delta operation and management is determined by State and Federal multi-agency group.

SCIENCE

<u>Interagency Ecological Program (IEP)</u>

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(1).

FY 2011 Budget Request (000's): $5,961

Project Description: Continues to support the IEP for the Sacramento-San Joaquin estuary for physical, chemical, and biological monitoring which is required as a condition of the joint Federal-State water export permit (D-1641) and by biological opinions issued under the Endangered Species Act of 1973.

Current Status: The IEP provides a variety of essential data utilized for management and operation of the Central Valley Project and for planning future projects involving Reclamation. Currently the IEP has withdrawn from conducting special studies and limits its endeavors to mandated monitoring of biological, water quality, and hydrological parameters.

Proposed Actions for FY 2011: Funding will be used to conduct mandated monitoring activities. These activities include the operation of delta flow and thermograph stations, the Environmental Monitoring Program, upper estuary zooplankton sampling, the fall midwater trawl and summer townet surveys, estuarine and Bay shrimp monitoring, Delta juvenile salmon monitoring, the Spring Kodiak trawl, larval fish and 20mm delta smelt surveys and screw trap monitoring for juvenile salmonids at Knights Landing, and Mill and Deer creeks.

Pelagic Organisms Decline (POD)

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(1).

FY 2011 Budget Request (000's): $1,851

Project Description: Continues to support the ongoing scientific investigation of the decline of native and non-native pelagic fishes in the Sacramento-San Joaquin Estuary. Personnel involved in the investigation include scientists, hydrologists and engineers from individual Interagency Ecological Program member agencies, CALFED, universities and the National Center for Ecological Analysis and Synthesis.

Current Status: Indices of relative abundance of four species of pelagic fishes in the Sacramento- San Joaquin Estuary continue to be at or near record lows. One species, the delta smelt, is protected under Federal Endangered Species Act and another, the longfin smelt, has been proposed for listing. A number of potential causes of the declines have been identified for further investigation including, but not limited to, the presence of exotic organisms, ammonia discharge from the Sacramento regional wastewater treatment facility, other contaminants/toxic algae and water project operations. Results of the POD investigations have been published in some 30 peer-reviewed scientific journal articles.

Proposed Actions for FY 2011: Activities will continue to implement recommendations from the POD Synthesis Report, complete follow-up work identified in the synthesis report, and develop adaptive management scenarios. Tasks include field monitoring, laboratory evaluations, special studies, statistical evaluations, mathematical model construction, hydrodynamic and particle

tracking modeling and program administration. Principal investigators will continue to publish their findings in peer-reviewed journals.

CALFED Science Activities

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(1).

FY 2011 Budget Request (000's): $4,500

Project Description: Continues investigation of the causes and consequences of the recent declines in the relative abundance of pelagic organisms in the Bay-Delta, including the delta smelt, a species listed as threatened under the Endangered Species Act. Also continues expert evaluations and scientific assessments of Program elements and assistance in CALFED agencies efforts to establish performance measures and to monitor and evaluate the performance of all Program elements.

Current Status: Indices of relative abundance of four species of pelagic fishes in the Sacramento- San Joaquin Estuary continue to be at or near record lows. One species, the delta smelt, is protected under Federal Endangered Species Act and another, the longfin smelt, has been proposed for listing. A number of potential causes of the declines have been identified for further investigation including, but not limited to, the presence of exotic organisms, ammonia discharge from the Sacramento regional wastewater treatment facility, other contaminants/toxic algae and water project operations. Results of the POD investigations have been published in some 30 peer-reviewed scientific journal articles.

Proposed Actions for FY 2011: Activities will continue to implement recommendations from the POD Synthesis Report, complete follow-up work identified in the synthesis report, and develop adaptive management scenarios. Tasks include field monitoring, laboratory evaluations, special studies, statistical evaluations, mathematical model construction, , hydrodynamic and particle tracking modeling and program administration. Principal investigators will continue to publish their findings in peer-reviewed journals.

Delta Smelt and Turbidity Study

Authority: Title XXXIV, H.R. 429, P.L. 102-575, Section 3406 (b)(4).

FY 2011 Budget Request (000's): $4,000

Project Description: Continues investigations by Reclamation, in coordination with other local, state, and Federal agencies, to test alternative ways of protecting delta smelt and other sensitive aquatic species from entrainment by the Delta export pumps. The Demonstration Project is a 5-year experiment to evaluate the effectiveness of placing operable gates on Old River and Connection Slough to modify flows in the Delta.

Current Status: Indices of relative abundance of four species of pelagic fishes in the Sacramento- San Joaquin Estuary continue to be at or near record lows. One species, the delta

smelt, is protected under Federal Endangered Species Act and another, the longfin smelt, has been proposed for listing. A number of potential causes of the declines have been identified for further investigation including, but not limited to, the presence of exotic organisms, ammonia discharge from the Sacramento regional wastewater treatment facility, other contaminants/toxic algae and water project operations.

Proposed Actions for FY 2011: Activities will continue to develop a environmentally adequate and permittable project. Tasks include field monitoring, laboratory evaluations, special studies, statistical evaluations, mathematical model construction, and program administration.

OVERSIGHT AND COORDINATION

CALFED Program Management, Oversight, and Coordination

Authority: P.L. 108-361, Title I, Section 103 (f)(4)

FY 2011 Budget Request (000's): $2,000

Project Description: Activities include Program support; Program-wide tracking of schedules, finances, and performance; multi-agency oversight and coordination of Program activities to ensure Program balance and integration; development of interagency crosscut budgets and a comprehensive finance plan to allocate costs in accordance with the beneficiary pays provisions of the Record of Decision; coordination of public outreach and involvement, including tribal, environmental justice, and public advisory activities in accordance with the Federal Advisory Committee Act (5 U.S.C. App.); development of Annual Reports; and Reclamation's administration of the storage, conveyance, water use efficiency, environmental water account, ecosystem restoration, science, and water transfer programs.

FISCAL YEAR 2011

ARMY CORPS OF ENGINEERS

ECOSYSTEM RESTORATION PROGRAM

Hamilton Airfield Wetlands Restoration, CA

Authority: WRDA of 1999, Sec 101(b)(3) and WRDA of 2007, Sec. 3018

FY 2011 Budget Request (000's): $

Project Description: The project includes 988 acres of a former military airfield and adjacent California State Lands Commission areas. The site is located on San Pablo Bay, 4 miles east of the city of Novato, in Marin County, California. The levee-protected site has subsided below the elevation of surrounding properties, including the tidal wetlands immediately adjacent to San Pablo Bay. This wetlands restoration project would advance the beneficial reuse of dredged material from San Francisco Bay as part of the Long Term Management Strategy (LTMS). The California State Coastal Conservancy (Conservancy) is the non-Federal sponsor.

Current Status: Funds are being used to complete site preparation for dredge material placement for one segment. Complete containment levees for seasonal wetland and preparation for receipt of Oakland -50 foot project including the Wildlife Corridor Berm. Material placement will begin this fiscal year.

Key Milestones:
Engineering and Design January/September 2010
ATF Construction Contract January/April 2010

INTEGRATED REGIONAL WATER MANAGEMENT

Coyote Creek and Berryessa Creek, CA

Authority: WRDA 1990, National Defense Authorization Act for Fiscal Year 1994 (directed the Secretary to construct the project notwithstanding Section 902 of Water Resources Development Act of 1986).

FY 2011 Budget Request (000's): $

Project Description: The recommended project includes offset levees and an overflow channel on Coyote Creek, and two sedimentation basins, concrete lined trapezoidal channel and off-set levees on Berryessa Creek. Provisions are also included for fish and wildlife mitigation for both Coyote and Berryessa Creeks.

***Current Status**:* Coyote Creek element was completed in Aug 96. Mitigation planting contract was completed in Apr 97, and was followed by a 3-year plant establishment period. Severe flooding has occurred on both Coyote and Berryessa Creeks. In 1983 flooding on Coyote Creek caused over $6.0 million worth of damages. The Jan 97 flood was the highest recorded flow on Coyote Creek since completion of Anderson Dam in 1950. Although some flooding occurred upstream on Coyote Creek, flooding was averted in the project reach due to completion of the Coyote Creek project element in 1996, which provided for a 100-year level of protection.

In June 2001, the Reevaluation Cost Sharing Agreement (RCSA) was executed between the U.S. Army Corps of Engineers, Sacramento District, and the Santa Clara Valley Water District for a General Reevaluation Report (GRR) analysis of the Berryessa element. The project is cost shared on a 50/50 percent basis. The release of the GRR for public review is scheduled for late FY08, with completion of the report and start of design in early FY09. FY2009 funds will be used to continue design.

Key Milestones:

Public review of GRR August 2008
Completion of GRR October 2008

Napa River, CA

Authority: Flood Control Acts of 1965 & 1976

FY 2011 Budget Request (000's): $

***Project Description**:* The project is located within the city of Napa, CA. A major portion of the City is located within a high flood hazard area, which is continually subject to flooding. The NED Plan, which consists of over-bank excavation, floodwalls, vertical walls, levees, bridges, pumping stations, and flowage easements, would provide a 100-year level of protection from both the Napa River and Napa Creek. This plan also includes recreation trails and incidental restoration.

***Current Status**:* Work completed to date includes: Contract 1A Excavation in Oct 2000; Demolition work for the east side in Sep 2002; Railroad Relocation, including a bridge relocation (Federal responsibility) completed in 2002 by the local sponsor; first phase of Petroleum Remediation along east side of river in Dec 2002 and last phase in Jan 2004; Contract 1B Excavation in Apr 2004; 6th to 3rd Street Excavation in Sep 2005; Duden Excavation in Sep 2005; NSD Excavation in Dec 2006; Contract 2West (Hatt-to-First Street Floodwalls construction) in 2008; design completion (2008) for the Napa Valley Wine Train Relocation. The local sponsor completed the Third Street Bridge Relocation in Sep 2002, the Soscol Bridge Relocation in Jan 2004, and the First Street Bridge Relocation in Jan 2006. Relocation of the Maxwell Bridge was completed in Spring 2006. The sponsor continues with the extensive land acquisition and other utility relocations required for the Napa River Project. There will be at least five additional construction contracts to complete the flood protection features. During FY 2009, funds will be used to continue the Napa Wine Train Railroad Relocation contract.

Key Milestones:

Record of Decision for revised SEIS/EIR issued Jun 99
Project Partnership Agreement executed Feb 00
Napa Valley Wine Train Relocation Construction Contract Award in Sep 2008.
Several contracts completed, including recent Contract 2West (Hatt-to-First Street Reach).

Santa Ana River Mainstem, CA

Authority: WRDA 1986 (PL-99-662), Energy & Water Appropriations Act, 1988 (San Timoteo), WRDA 1990 (Santa Ana Trails), 1996 (Prado Dam, SR 71), WRDA 2007, Sec. 3027, 3033, 3036

FY 2011 Budget Request (000's):

Project Description: The project is located along a 75-mile (mi) reach of Santa Ana River in Orange, San Bernardino and Riverside Counties. Plan of improvement: Seven Oaks Dam (145,600 acre-feet), management of overflow area-Seven Oaks to Prado (35 mi); raise Mill Creek levee (2.4 mi); additional storage at Prado (140,600 acre-feet); improvements along: Oak Street Drain/Riverside County (3.6 mi) Santiago Creek/Orange County (1.2 mi), and lower Santa Ana River (31 mi); recreation development; mitigation and preservation; and San Timoteo (5.4 mi).

Current Status: Complete Prado Dam Embankment and Outlet, fully fund the Reach 9 Phase 2 construction, Reach 9 mitigation, continue Seven Oaks mitigation and continue design for Prado Phase II Interior Dikes and the Spillway. During FY 2010, funds will be used to initiate construction for the Reach 9 Phase 2A channel construction.

Key Milestones:

Award Reach 9 Phase 2A construction contract

FISCAL YEAR 2011

US GEOLOGICAL SURVEY

SCIENCE

Interagency Ecological Program

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2011 Budget Request (000's): $2,090

Project Description: In cooperation with other agencies in the Interagency Ecological Program (IEP: US Fish & Wildlife Service, US Bureau of Reclamation, USGS, US Army Corps of Engineers, US Environmental Protection Agency, CA Water Resources Control Board, CA Department of Water Resources, and CA Department of Fish & Game), the USGS is measuring within-Delta salt and water transfers and Delta outflow into the Bay, providing information needed for documenting salt transport mechanisms and managing freshwater flow to meet salinity standards. These studies also include areas in Suisun Marsh and South San Francisco Bay, as well as measuring temperature and suspended sediment at the entrance of the San Joaquin River into the Delta and special scientific studies of flows and turbidity in the Cache Slough and Liberty Island area.

Also begun in FY2010 was addition of 16 flow stations and 14 turbidity sensors, associated with some of the added flow stations, to monitor and assess turbidity patterns and intensities in the Delta. These data may be used to compare to occurrences of Delta smelt in an attempt to collect information relating Delta smelt migration to turbidity. This is only a first step toward better understanding these processes. FY2011 will see the implementation of a study specifically designed to test the hypothesis that an increase in turbidity is the signal that triggers the migration of smelt and that smelt do move with the turbidity plumes.

Current Status: The hydrodynamic flow and salinity stations funded by the IEP are an integral part of the entire flow network for the Delta. This data from this flow network are used in real-time decisions by water operators to divert water from the Delta to other parts of California (south and parts of the greater San Francisco bay area). More than 25 million Californians drink water originating from the Delta and this water is used to irrigate millions of acres of agricultural lands. The importance of this network also plays a key role in the ongoing attempt at assessing the migration patterns of threatened and endangered fish species in the Delta (salmon, pelagic organisms, etc.), and provides the framework for understanding the physical, chemical and biological interactions in the Delta, necessary information for solving the complex ecological and water supply issues in the Delta. The addition of the turbidity-flow data collection is focusing on the potential relationship (hypothetical) between turbidity movement and smelt migration. The study mentioned above to explicitly assess the smelt-turbidity relationship currently is being discussed and planned for implementation next year.

Related activities include studies of flow and salt transport in the central and south Delta, and Suisun Marsh, and flow and turbidity fields in relation to phytoplankton and Delta smelt in the northern Delta.

Carbon Sequestration, Subsidence Reversal Wetland (Carbon Capture Wetland Farm)

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2011 Budget Request (000's): $4,000

Project Description: Two 7-acre pilot wetlands have been growing on Twitchell Island in the Delta since 1997. The emergent marsh vegetation grows at almost the theoretical photosynthetic maximum, therefore sequestering almost the maximum amount of CO_2 possible. Data show that these wetlands sequester as much as 10 times that of forests. Because of this great potential, a larger (300 – 600 acre) demonstration wetland will be established to show how this potential can be realized at a farm scale. Included in the long-term project is research aimed at finding conditions that maximize carbon sequestration, minimize greenhouse gas (e.g., methane) emissions, and minimize the production of methylmercury, which could be a byproduct of the wetland.

Current Status: Assuming that the large-scale demonstration wetland is built by the fall of 2010, the wetland proper and research cells will be instrumented and background levels of aquatic and gaseous constituents will be monitored along with water flow and discharge during the flooding and equilibration period, probably a few months. After equilibrium or dynamic equilibrium is attained, various research experiments will be instigated carried forth. Other experiments already begun in the pilot wetlands will continue. We anticipate results will be reported at workshops and conferences as they become available.

Lead Scientist

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2011 Budget Request (000's): $740

Project Description: The U.S. Geological Survey provides support for the CALFED Bay-Delta Program's Lead Scientist and staff.

CALFED Bay-Delta Program is a multi-decade, multi-billion dollar cooperative effort of more than 20 State and Federal agencies working to improve the quality and reliability of California's water supplies and revive the San Francisco Bay-Delta ecosystem. The CALFED Science Program, led by the Lead Scientist, seeks to provide the best possible unbiased scientific information to inform water and environmental decision-making in the Sacramento-San Joaquin Delta. The Science Program is tasked with: providing a comprehensive and integrated scientific context for CALFED activities; ensuring the advance of science needed to guide Bay-Delta decisions and water project operations; establishing a framework to identify and articulate

relevant areas of scientific uncertainty; and developing strategies to reduce uncertainties and track progress toward CALFED goals. This is carried out through funding research, synthesizing and communicating scientific information to policymakers and decision-makers, promoting independent scientific peer review, organizing and running public workshops on science topics of interest and coordinating with Delta agencies to promote science-based adaptive management.

The Lead Scientist works with the CALFED Science Program staff, the CALFED Independent Science Board, CALFED implementing agency managers and scientists, and the scientific community at large to promote the use of peer-reviewed science throughout the CALFED Program. The Lead Scientist identifies, refines and implements the science agenda for the CALFED Program.

The Lead Scientist has oversight responsibility to ensure that CALFED studies are relevant, authoritative and objective and that they progressively reduce uncertainties about critical issues, add to the knowledge that aids water management and ecosystem restoration, and help prepare for future uncertainties. The Lead Scientist communicates new findings and current scientific understandings to the CALFED agency managers, stakeholders, scientific community and the public.

Current Status: The Lead Scientist and Staff are in place. (note: Shouse provided FY10 accomplishments that could be summarized here)

Place-based study of SF Bay

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2011 Budget Request (000's): $1.237

Project Description: The mission of Place Based Studies, now called Priority Ecosystem Science (PES), is to provide science in support of adaptive management of ecosystems that have near-term societal concern and significant long-term societal value. These studies are designed to serve local ecosystem management needs and to provide transferable knowledge and approaches. PES efforts focus in areas where new integrated science approaches can be developed to address the needs of a diverse group of decision-makers. Activities require collaboration and integration of expertise to achieve a system-scale understanding of the natural and anthropogenic factors affecting ecosystems and to better understand the interactive nature of resources and the environment.

Current Status: Current studies cover a range of activities from the watershed and Delta through Suisun Bay to South Bay and the Golden Gate dealing with climate change, hydrodynamic processes, sediment budgets, contaminant and ecological processes. The information and knowledge produced is integral to the developing understanding of wetland management and restoration, salt pond reclamation, salinity control and the success of native fish and their movements within and through the Delta.

Sacramento Basin National Water Quality Assessment (NAWQA)

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2011 Budget Request (000's): $465

Project Description: The National Water-Quality Assessment (NAWQA) Sacramento Basin Program is designed to assess the status and trends of water quality in the basin, and to understand the factors that affect it. Specifically, the Program goals are to characterize the condition of streams and ground water in the basin, evaluate how the water quality is changing over time, and to identify how natural features and human activities affect the quality of streams and ground water. The NAWQA Program is a long-term cyclical study that began in 1991.

Current Status: The Sacramento Basin Program has completed the first cycle, and is preparing for its second cycle. Recent activity has focused on the evaluation of Dissolved Organic Carbon (DOC) transported by the Sacramento River into the Delta and its effects on drinking water quality. The CALFED Drinking Water Program needs information on DOC concentrations and loads to the Delta. This project will provide critical information on the long-term trends in carbon loading and will improve the accuracy of flow measurements from the upstream sources.

San Joaquin Basin National Water Quality Assessment (NAWQA)

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2011 Budget Request (000's): $581

Project Description: The National Water-Quality Assessment (NAWQA) San Joaquin Basin Program is designed to assess the status and trends of water quality in the basin, and to understand the factors that affect it. Specifically, the Program goals are to characterize the condition of streams and ground water in the basin, evaluate how the water quality is changing over time, and to identify how natural features and human activities affect the quality of streams and ground water. The NAWQA Program is a long-term cyclical study that began in 1991.

The San Joaquin Basin National Water Quality Assessment is a long-term Program, and is one of 42 nationwide. Cycle 1 (Water Quality Status) started in 1991, and was completed in 2001. Cycle 2 (Water Quality Trends and Understanding) began in 2001, and is scheduled to end in 2011.

In the second cycle, efforts now in process focus on five major activities:
(1) Status assessment of mercury; (2) Status assessment of ground-water drinking water sources; (3) Assessment of water-quality trends in streams and ground water; (4) Topical study of transport of anthropogenic and natural contaminants to community supply wells; (5) Topical study of agricultural chemicals: sources, transport and fate.

Current Status: The San Joaquin-Tulare Basin Program is in its second study cycle, and is one of five areas nationwide participating in an intensive study of the sources, transport, and fate of agricultural chemicals in relatively small agricultural watersheds. The primary goal of these studies is to estimate a mass balance for water and chemicals. To achieve this goal, all compartments of the hydrologic cycle have been monitored. These compartments include the atmosphere, surface runoff, vadose zone, and ground water. In addition, ground-water processes along a flowpath, and interactions between ground water and surface water at the toe of the flowpath have been monitored. The San Joaquin site is located within the Merced River Basin on the east side of the valley. The objective is to apply the information and understanding gained in this intensive study to larger areas, which in this case includes the Sacramento-San Joaquin River Delta.

[NOTE: There are no longer any USGS funds going toward toxics work in the SF Bay.]

FISCAL YEAR 2011

U.S FISH AND WILDLIFE SERVICE

ECOSYSTEM RESTORATION PROGRAM

ERP Administration

Authority: Central Valley Project Improvement Act, PL. 102-575 § 3406; CALFED Bay-Delta Authorization Act, PL 108-361; Fish and Wildlife Coordination Act, 16 U.S.C. 661-667(e)

Proposed FY 2011 Budget Request: **$1,229,637**

Project Description: The Service, as an Ecosystem Restoration Program (ERP) implementing agency, takes a leadership role in ERP planning efforts—in collaboration with the National Marine Fisheries Service (NMFS), California Department of Fish and Game (CDFG) and California Bay-Delta Authority (CBDA). Since 2001, ERP has funded 599 restoration projects, continues grants for 120 such projects and added 7 in calendar year 2009.

Comprehensive efforts continue to finalize the Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) species life-history and ecosystem conceptual models and to use these models for the scientific evaluation of restoration actions in the San Francisco Bay-Delta watershed. The DRERIP scientific evaluation process is being applied to multi-agency efforts to develop and implement restoration actions and to restore the ecological function in the San Francisco Bay-Delta, while working with stakeholders in a manner responsive to their concerns.

Under the CALFED Bay-Delta Authorization Act, the Service is charged with coordinating and tracking all ecosystem restoration actions using federal funds under the CALFED account. The Service tracks schedules, finances, and performance; coordinates Program activities to ensure Program balance and integration; and coordinates public outreach and involvement, including tribal, environmental justice, and public advisory activities in accordance with the Federal Advisory Committee Act.

Current Status: The Service, as an ERP implementing agency, will continue ERP planning efforts in collaboration with NMFS, CDFG and CBDA. The Service will continue to participate in the DRERIP scientific evaluation process for conservation and restoration actions within the San Francisco Bay-Delta watershed. The Service is in the process of finalizing and publishing the existing draft DRERIP conceptual models with other ERP managing agencies and is continuing to shepherd models through the scientific peer review. The Service is tracking schedules, finances, and performance; coordinating program activities to ensure Program balance and integration; and coordinating public outreach and involvement, including tribal, environmental justice, and public advisory activities in accordance with the Federal Advisory Committee Act.

In January 2006, a Statement of Principles was negotiated by State and Federal agencies and stakeholders involved in the CALFED process. It serves as the foundation for an agreement for

(1) development of one or more Bay-Delta Conservation Plans (BDCPs) and (2) implementation of key water quality, near-term water supply, ecosystem, and levee actions, subject to compliance with applicable environmental review under the National Environmental Policy Act and the California Environmental Quality Act. The Statement of Principles intends for the BDCPs to ensure implementation of actions that will adequately conserve and assist in the recovery of fish and wildlife affected by covered activities, and to provide long-term assurances related to implementation and operation of designated water and power related projects and other associated activities described in the BDCPs.

On December 31, 2007, the ERP implementing agencies completed a comprehensive assessment of the overall status of the ERP towards achieving the 119 implementation milestones identified in the Federal programmatic biological opinions and State Natural Community Conservation Plan Approval for the CALFED Program (Ecosystem Restoration Program End of Stage 1 Compliance Report: Assessing Progress Towards Milestones and the Efficacy of the Environmental Water Account). The milestones, developed primarily from targets or actions in the ERP Plan and Water Quality Program Plan, were those actions the fish and wildlife agencies expected would be implemented during Stage 1 (the first seven years of the 30-year CALFED program) to achieve CALFED's conservation goals. This assessment found that progress on nearly 80 percent of the milestones was on or ahead of schedule. This progress was sufficient to allow the state and federal regulatory agencies to continue coverage under FESA, CESA, and NCCPA for the entire CALFED Program, and contributed to continuance of their program-level commitments.

In 2008 the ERP prepared a draft Conservation Strategy to provide the ERP agencies' views for activities of CALFED and other programs in the Bay-Delta region following Stage 1, such as the Bay-Delta Conservation Plan, Delta Vision, and Delta Risk Management Strategy. The draft ERP Conservation Strategy summarizes integration with other programs and provides critical guidance on the development of a robust conservation strategy (such as viable populations, an analytical framework, and monitoring and performance measures). In 2008, the Service coordinated and completed both peer review and collegial review on the DRERIP species life-history conceptual models for seven species and four salmon runs. The Service assisted in the preparation and finalization of ecosystem conceptual models and began coordinating on the preparation of integrative models.

In 2009 CALFED milestones report and draft Conservation Strategy was completed. ERP funded an additional 7 restoration projects including fish screen facilities at Pleasant Grove, RD 2035, Meridian Farms and Natomas Mutual Water District, and ecosystem restoration including that along Battle Creek. ERP also continued to refine DRERIP conceptual models, using the associated DRERIP scientific evaluation process to evaluate restoration actions and conservation strategies, including ERP restoration actions, conservation measures developed for the BDCP, and the BDCP Conservation Strategy.

Key Objectives and Strategies for 2010 and 2011:

- Work to better align and function with new California State legislation focused on efforts to restore the Bay-Delta ecosystem and better meet the State's water needs.

- Continue to assist implementation of the existing ERP restoration grants and to work to approve additional projects as funding and authorization allow. Because grants will be awarded in FY 2010 and FY 2011 as appropriate based on regional competitions and program criteria, the amounts awarded may differ substantially from FY 2009 awards.

Interim Federal Action Plan Implementation

Authority: CALFED Bay-Delta Authorization Act, PL 108-361; Fish and Wildlife Coordination Act, 16 U.S.C. 661-667(e)

Proposed FY 2011 Budget Request: — The Service's funding request for the Bay Delta in FY 2011 is $4,000,000, but Bay Delta funding that will be specifically directed to CalFed is still TBD.

Project Description: Reflecting the Federal government's ongoing efforts to address California's water issues in an aggressive and coordinated fashion, an Interim Federal Action Plan (Interim Action Plan) was released on December 22, 2009 to further the goals of an MOU entered into by six Federal agencies on September 29, 2009. The MOU sets out the Administration's vision of a healthy and sustainable Bay-Delta ecosystem that provides for a high-quality, reliable, and sustainable long-term water supply for California, and restores the environmental integrity and sustainability of the Bay-Delta ecosystem. As noted above, the MOU formally establishes the Bay-Delta Federal Leadership Committee to coordinate Federal efforts related to California's ongoing water crisis, and it specifically provides for the expeditious development of this Interim Action Plan.

With this Interim Action Plan, the Federal agencies described a variety of Federal actions and investments the federal government is undertaking in a coordinated fashion to help address California's current water supply and ecological crises. The Federal Leadership Committee will be actively monitoring short, mid-term and long-term needs and developments. This Interim Action Plan will be subject to ongoing review and revision as circumstances warrant.
Current Status: In FY 2010, Federal, State, and local interests will continue to plan and begin implementation of actions associated with the Interim Federal Action Plan. This includes continued support for California's new water legislation, including its support for the BDCP process and the development of a new associated Delta plan. Federal agencies will continue to participate in the Bay-Delta Federal Leadership Committee to coordinate Federal efforts related to California's ongoing water crisis and to provide for expeditious implementation of the Interim Action Plan. In addition, Federal agencies will continue to reevauate their priorities and actions to help ensure synergies between Federal, State, and local activities and to leverage resources.

Key Objectives and Strategies for 2010 and 2011:

- Work to align and function with new California State legislation focused on efforts to restore the Bay-Delta ecosystem and better meet the State's water needs.

- Implement projects and planning efforts associated with the Action Plan for the California Bay-Delta (December 22, 2009). These short and long-term efforts will encourage smarter supply and use of Bay-Delta water, ensure healthy Bay-Delta ecosystems, improve water quality, help to deliver drought relief services and ensure integrated flood risk management. This implementation will include a high quality science framework from which to base decisions for developing and implementing solutions for diverse Bay-Delta challenges, establishment of clear concrete milestones and measures for success, and coordination and consultation with tribal governments.

- The Action Plan identifies specific Service involvement in the following areas:

  Invasive Species: Federal agencies will reinforce their cross-agency collaboration in the Service-led Bay-Delta Non-Native Invasive Species (NIS) program. The program will focus on preventing the introduction of new invasives (e.g., quagga mussels), limiting or eradicating existing invasives (e.g., *Egeria densa*), and reducing adverse impacts from infestations.

  Restoration of Species: The Service's work on the BDCP will identify and implement a set of water flow and habitat restoration actions to contribute to the recovery of endangered and sensitive species and their habitats in the Bay-Delta.

  Fish Restoration Facility: A Federal, State and City partnership, led by Service, will support the development of a facility designed to support the propagation and restoration of delta native fish species.

  Restoration Projects: Agencies will target their short-term habitat restoration effort such as restoring the flows to the San Joaquin River from Friant Dam to the confluence of the Merced River and restore a self-sustaining habitat in the following areas:

    San Joaquin River*:* The Service and other agencies will prioritize a comprehensive effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River and to restore a self-sustaining Chinook salmon fishery while reducing or avoiding adverse water supply impacts from restoration flows.

    Battle Creek: Reclamation, NMFS and the Service, the California Department of Fish and Game, and Pacific Gas and Electric Company will plan and implement a restoration project that will reestablish approximately 42 miles of prime salmon and steelhead habitat on Battle Creek, plus an additional six miles on its tributaries.

    Cache Slough: The Service and other agencies will plan and implement habitat restoration in Cache Slough. This area in the northern Bay-Delta has a high biodiversity of native aquatic species and sensitive habitat, and a high potential for restoration success.

Yolo Bypass Floodplain: Increasing the frequency, duration, and extent of inundation of the Yolo Bypass, a critical part of the Delta flood protection system and part of the overall Sacramento River floodplain, will increase the availability of shallow floodplain habitat known to provide good spawning conditions for splittail and good rearing conditions for splittail and juvenile Chinook salmon.

Other Studies: Agencies will facilitate permitting and construction of the Delta-Mendota and California Aqueduct Intertie, enhance water transfers, implement scientific evaluation of turbidity and Delta smelt, and conduct independent scientific reviews of the impact of Bay-Delta biological opinions.

Ecological Activities: Federal agencies will align their water conservation programs and focus efforts to help reduce demand in targeted regions. One of the most important features of the recently-enacted State legislation is the adoption of State-wide conservation strategies as a part of a comprehensive water supply plan for California's future. The Service will facilitate by providing technical assistance and environmental review.

Science (Carbon Sequestration and Delta Subsidence Reversal Project): USGS has provided seed funding to initiate a new project that builds upon the success of two pilot wetlands that have been in place on the Delta's Twitchell Island since 1997. The Service would assist by providing technical assistance and review.

- Provide sufficient resources and staffing to effectively participate in Bay-Delta efforts.

Central Valley Joint Venture

Authority: North American Waterfowl Management Plan 1986

Proposed FY 2011 Budget Request: $600,000

Project Description: The Central Valley Joint Venture (CVJV), one of eighteen North American Joint Ventures in the United States, is a public-private partnership of 22 agencies, conservation organizations, and one corporation. The CVJV mission is to work collaboratively through diverse partnerships to protect restore and enhance wetlands and associated habitats for waterfowl, shorebirds, waterbirds, and riparian songbirds, in accordance with biologically based conservation actions identified in its Implementation Plan.

Current Status: The Joint Venture partners are working toward achieving the stated goals of its 2006 implementation plan, which includes goals for the conservation of breeding and wintering waterfowl, breeding and wintering shorebirds, riparian birds, and waterbirds. In FY 2008, the Joint Venture Partners restored, enhanced, or protected 86,000 acres in wetlands and associated uplands. It is expected that the number or acres restored, enhanced, or protected will increase by approximately 3-5 percent annually in FY 2009, FY 2010, and FY 2011.

Key Objectives and Strategies for 2007 through 2011:

- Restore 108,527 acres of seasonal wetlands
- Enhance 23,884 acres of seasonal wetlands
- Restore 12,500 acres of semi-permanent wetlands
- Restore 10,000 acres of riparian habitat
- Enhance 477,000 acres of waterfowl-friendly agricultural crops
- Protect all unprotected seasonal wetlands with fee or conservation easements
- Secure full water supplies for Central Valley State and Federal refuges

Cooperative Endangered Species Conservation Fund

Authority: Endangered Species Act of 1973, 16 U.S.C 1361 et seq., as amended; Department of the Interior Appropriations, P.L.107-63.

FY 2011 Budget Request: **$TBD**

Project Description: The Cooperative Endangered Species Conservation Fund (CESCF) (Section 6 of the Endangered Species Act) provides funding to States and Territories for species and habitat conservation actions on non-Federal lands. States and Territories must contribute a minimum non-Federal match of 25% for the estimated program costs of approved projects, or 10% when two or more States or Territories implement a joint project. A State or Territory must currently have, or enter into a cooperative agreement with the U.S. Fish and Wildlife Service (Service) to receive grant funds.

Four grant programs are available through the CESCF, they include the "Traditional" Conservation Grants and the "Nontraditional" Habitat Conservation Plan (HCP) Land Acquisition, HCP Planning Assistance, and Recovery Land Acquisition Grants. Traditional conservation grants are based on a formula driven award. The Recovery Land Acquisition grants are awarded based on a regional competition, whereas the HCP Land Acquisition and Planning Assistance grants are awarded based on a national competition.

Current Status: In FY 2009, the Service awarded a total of $1,171,576 in HCP Planning Assistance Grants. The counties of Butte and Yolo received $536,588, and $634,988, respectively. Contra Costa County received a $2,500,000 HCP Land Acquisition Grant.

Key Objectives and Strategies for 2010 and 2011:

- Grants will be awarded in FY 2010 and FY 2011 as appropriate based on regional and national competitions and program criteria and amounts awarded may differ substantially from FY 2009 awards

Endangered Species Recovery Program Funds

Authority: Endangered Species Act of 1973, 16 U.S.C 1361 et seq., as amended

FY 2011 Budget Request: **$TBD**

Project Description: The Recovery Program's objective is to remove Federally threatened and endangered species from the endangered species list or to downlist them from an endangered status to a threatened status. This objective is accomplished in three ways: 1) through the development of comprehensive species-specific or ecosystem-specific recovery plans; 2) through the implementation of actions outlined in the recovery plans; and 3) through the issuance of section 10(a)(1)(A) recovery permits for the enhancement and survival of each species.

Current Status: The program is currently in the process of completing three recovery plans. Plans currently under development include a final draft plan for the giant garter snake, a second draft plan for Chaparral communities in the east SF Bay area, and a draft tidal marsh recovery plan for northern and central California.

The Recovery Program continues an annual schedule of writing 5-year reviews of listed species found within the jurisdiction of the Sacramento Fish and Wildlife Office. Twenty 5-year reviews were finalized in 2009, including the Bay checkerspot butterfly, Callippe silverspot butterfly, Clara Hunt's milk-vetch, hairy Orcutt grass, Kenwood Marsh checkermallow, Lake County stonecrop, Loch Lomond coyote thistle, palmate-bracted bird's-beak, Pitkin Marsh lily, Shasta crayfish, Springville clarkia, white sedge, Delta green ground beetle, Hoover's spurge, large-flowered fiddleneck, many-flowered navarretia, Myrtle's silverspot butterfly, soft bird's-beak, Solano grass and Suisun thistle. We also developed 5-year action plans for the Antioch Dunes evening-primrose, Contra Costa wallflower, Delta smelt, Lange's metalmark butterfly, and valley elderberry longhorn beetle

In addition to recovery planning, research and numerous on-the-ground recovery actions are on-going, or have been completed. For example, the Implementation Team for the Vernal Pool Recovery Plan has been formed and is currently updating baseline data and establishing geographic working groups; full-scale captive propagation and reintroduction programs are on-going for the riparian brush rabbit and the Lange's metalmark butterfly; removal of invasive plant species; habitat restoration for the riparian brush rabbit and giant garter snake; and numerous projects involving seed collection, storage, reintroduction, and research for numerous listed plant species. In addition, a research project in support of conservation has been initiated to determine the genetic relationships among vernal pool complexes for the vernal pool fairy shrimp.

The Sacramento Fish and Wildlife Office received $2,320,099 and the Bay-Delta Fish and Wildlife Office received $200,000 for the Endangered Species Recovery Program in FY 2009. The level of Endangered Species recovery program funds obligated to projects are based on two factors, availability of funds and project proposals. Project selection is competitive and the level awarded varies annually; thus, funding amounts and locations of future projects cannot be projected based on outcomes in prior years.

Key Objectives and Strategies for 2010 and 2011:

- Publish the Draft tidal marsh recovery plan by February 2010
- Publish the Giant garter snake second draft recovery plan in 2010
- Publish the Draft Delta native fishes recovery plan in 2011

Partners for Fish and Wildlife

Authority: Fish and Wildlife Coordination Act, 16 U.S.C. 661, 16 U.S.C. 742a-j, 16 U.S.C. 3741

Proposed FY 2011 Budget Request: **$TBD**

The Partners for Fish and Wildlife is a voluntary partnership program that assists private landowners in restoring wetlands and other important fish and wildlife habitat on their lands. Given that it is a voluntary program, the success and the level of effort rely on the private landowner's willingness to accept technical and financial assistance from the Service. Projects for FY 2010 have not been selected and, therefore, future amounts to be expended and planned actions are undetermined at this time.

Project Description: The Partners for Fish and Wildlife program is the Service's primary mechanism for delivering voluntary on-the-ground habitat improvement projects on private lands for the benefit of Federal trust species. It provides technical and financial assistance to landowners to help meet the habitat needs of Federal trust species on private lands. Program projects may include improving habitat for any or all of the following: migratory bird species; anadromous fish species of special concern to the Service; endangered, threatened, or candidate species; species proposed for listing; and other declining or imperiled species.

Current Status: In FY 2009, the program implemented "Initiative Areas" enabling the Service to focus its efforts in critical watersheds and threatened landscapes in the Region. In those areas, Partners for Fish and Wildlife focused on the restoration and enhancement of wetlands, riparian areas, native uplands, habitats for threatened and endangered species, and the elimination of invasive plants. The program also provided technical assistance to landowners seeking assistance with restoration or enhancement projects. The total Service Partners program expenditures for FY 2009 were $2,921,084.

Since 1990, Partners for Fish and Wildlife in California has restored or enhanced 134,158 acres of wetland habitats, 50,333 acres of upland habitats, 1,998 acres of riparian habitats, 357 miles of riparian habitats, and 310 miles of instream habitats improved for aquatic species on 902 properties.

Key Objectives and Strategies for 2010 and 2011 (based on GRPA goals for 2009):

- Restore 2,700 acres of wetlands in the Central Valley and Central Coast
- Restore 10 miles of riparian habitats in the Central Valley and Central Coast
- Restore 20 miles of instream habitat for salmon and steelhead by removing fish barriers from Central Valley and Pacific Coast waterways
- Provide technical assistance to 600 landowners annually

Land Acquisition

Authority: Migratory Bird Conservation Act, The Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), The Endangered Species Act of 1973, as amended (PL 93-205), The Migratory Bird Hunting and Conservation Stamp Act (16 U.S.C. 718-718j, 48 Stat. 452), The Refuge Recreation Act of 1962 (87-714), The Refuge Recreation Act of 1962 (87-714), The Emergency Wetlands Resources Act of 1986 (PL. 99-645), Land and Water Conservation Fund (16 USC 460l - 460l-11).

Proposed FY 2011 Budget Request: $4,500,000

Project Description: The objective is acquiring property, either in fee title or through perpetual conservation easements, for wildlife habitat protection, restoration or enhancement benefits within the National Wildlife Refuge System. The program is administered by SERVICE Realty staff within approved project boundaries, in cooperation with refuge staff personnel. In addition to land acquisition, program responsibilities include land exchanges, rights-of-way, relocations, and revenue sharing.

Current Status: In FY 2009, this program continued to seek out willing sellers within approved refuge acquisition boundaries, concentrating on perpetual conservation easements. This program works with the U.S. Fish and Wildlife Division of Realty, who coordinates with willing sellers and local governments. In FY 2009, this program acquired 3,120 acres of conservation easements and 612 acres of lands in fee title within the CALFED solution area. Total cost for both was nearly $9 million.

Within the Central Valley in the past 25 years, over 100,000 acres of private managed wetland habitat has been protected by conservation easements. Several existing refuges have had lands acquired in fee and added to current acreage, many with listed species as the focus. The Service currently is seeking to acquire perpetual conservation easements within the approved land acquisition boundaries of the Grasslands WMA, North Central Valley WMA, Willow Creek-Lurline WMA, and Tulare Basin WMA. Since its inception, over $15,000,000 in CALFED monies has been used to acquire several thousand acres in fee and easements throughout the Central Valley.

Key Objectives and Strategies for 2010 and 2011:

- Within fiscal cycles, we plan to use various funding sources to acquire between 2,000 and 3,700 acres of wildlife habitat during 2010 and 2011, at an estimated cost of approximately $8-9 million annually.

North American Wetlands Conservation Fund (NAWCF)

Authority: North American Wetlands Conservation Act of 1989 (PL. 101-233)

Proposed FY 2011 Budget Request: **$TBD**

Project Description: The North American Wetlands Conservation Act (NAWCA) of 1989 provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico. The NAWCA was passed, in part, to support activities under the North American Waterfowl Management Plan, an international agreement that provides a strategy for the long-term protection of wetlands and associated uplands habitats needed by waterfowl and other migratory birds in North America. In December 2002, Congress reauthorized appropriations for the NAWCA through FY 2007, reflecting the public's support of the NAWCA's goals. Congress has subsequently increased the appropriation authorization to $75 million through 2012. Actual annual appropriations are usually in the $40-$45 million range, Nationally.

Current Status: The NAWCA established the North American Wetlands Conservation Act Council to review and recommend project proposals to the Migratory Bird Conservation Commission (MBCC), which has the authority to approve funding for projects. The Council meets three times each year.

The North American Wetlands Conservation Fund is a competitive grant program that does not have a set-aside for CALFED. Five proposals were awarded in FY 2008, each receiving $1 million of Federal funding with at least a 2:1 non-federal match: (1) North San Joaquin Valley Wetland Habitat Project Phase III, (2) Yolo and Delta Basins Wetland Restoration and Enhancement Phase II, (3) American and Sutter Basins Wetlands Project, (4) Grasslands VI, Snow-bird Unit, (5) North Sacramento Valley Wetland Habitat Project Phase 3.

Six proposals were awarded in FY 2009, totaling $4,125,000 of Federal funding with at least a 2:1 non-federal match : Grasslands Wetland Enhancement Project I ($75,000); Grizzly Ranch Wetland Enhancement Project ($50,000); Northern Tulare / San Joaquin Basins II ($1 million); San Luis - Private Lands I ($1 million); Suisun Marsh Managed Wetlands Enhancement Project, Phase II ($1 million); and Yolo Basin Wetland Habitat Project, Phase IV ($1 million).

Key Objectives and Strategies for 2010 and 2011:

- An estimated $4 million in grant funding will be awarded to Central Valley projects annually in FY10 and FY11.

SCIENCE

<u>Interagency Ecological Program</u>

Authority: Fish and Wildlife Coordination Act, 16 U.S.C. 661-667(e)

Proposed FY 2011 Budget Request: **$189,000**

Project Description: The Interagency Ecological Program (IEP) is an estuarine ecological monitoring and special study collaboration by three state and six federal agencies with management and/or regulatory responsibilities in the San Francisco Estuary and Sacramento-San Joaquin Delta, California. The three state agencies are the California Department of Fish and Game (DFG), California Department of Water Resource (DWR), and California State Water Resource Control Board (SWRCB); the federal agencies include U.S. Fish and Wildlife Service (Service), U.S. Bureau of Reclamation (USBR), National Ocean and Atmospheric Administration Fisheries (NOAA Fisheries), U.S. Geological Survey (USGS), U.S. Environmental Protection Agency (USEPA), and the U.S. Army Corps of Engineers (USACE). The purpose of this collaboration is to gather in an efficient, coordinated and cooperative way the ecological information required by the agencies to effectively carry out their management and regulatory responsibilities.

The goals and objectives to address the mission of the IEP are (1) describe the status and trends of aquatic ecological factors of interest in the estuary; (2) develop an understanding of environmental factors that influence observed aquatic ecological status and trends; (3) use knowledge of previous information in a collaboration process to support natural resource planning, management, and regulatory activities in the estuary; (4) continually reassess and enhance long-term monitoring and research activities that demonstrate scientific excellence; (5) provide scientific information about the estuary that is accurate, accessible, reliable, and timely; and (6) respond to management needs in a timely fashion.

Current Status: The Service part of the Interagency Ecological Program is comprised of long-term monitoring, water operations monitoring, and special studies. The IEP is committed to conducting the mandated monitoring studies required by NOAA Fisheries and Service biological opinions and SWRCB Water Rights Decision D-1641. There is also a commitment to continue providing the "real-time" data needed to make water operation decisions. Work to be done includes:

- Providing funding is available, implementing coded-wire tagging of all CNFH late-fall run production to ensure proper race identification during subsequent recovery of fish at Delta export facilities and in juvenile and adult sampling programs.
- Recovery of tagged late-fall run fish is also part of the spring-run recovery plan.
- Sampling juvenile salmon and other delta fishes with midwater trawls, Kodiak trawls and beach seines in the Delta that supports or provides information useful to water project operations. Distribution and abundance of juvenile salmonids are required by NOAA Fisheries OCAP BO for winter-run and spring-run Chinook salmon.
- Trawling and seining at key sites in the lower rivers, Delta and estuary targeting all races of juvenile salmon emigrating through, and rearing in the Delta. The program is multipurpose, providing information on the timing of emigration extent of rearing in the Delta, and annual production. Although this effort focuses on juvenile salmon, information is also collected on all other delta fishes. Distribution and abundance of juvenile salmonids are required by NOAA Fisheries OCAP BO for winter-run and spring-run Chinook salmon.
- Studying pelagic organism decline (POD) and Delta smelt. As part of the POD investigations we are providing statistical analysis and biological expertise in determining

the cause of the decline and potential actions to mitigate these losses. We are working closely with other IEP agencies and the UC Santa Barbara, National Center for Ecological Analysis to get a broad look at factors affecting Delta smelt and other aquatic organisms in the Bay and Delta.

- Continuing experimentation and monitoring of juvenile salmon (smolt and fry) survival through the Delta. We have taken an active role in acoustic tagging and monitoring studies, and are working with our partners to develop acoustic tagging studies as well as deploy additional receivers for studies throughout the Delta.
- Mitten crab monitoring and reporting. This element will operate the online reporting system for mitten crab collections and observations and will implement summer surveys of mitten crab distribution and abundance. The main part of this element will be funded and staffed by Service non-native invasive species program personnel with some sharing of resources from IEP.

Key Objectives and Strategies for 2010 and 2011:

- We will continue to sample salmon, steelhead trout and Delta smelt distribution and abundance, record water quality measurements, and provide data on a real-time basis to make day-to-day water operations decisions during Data Assessment Team (DAT) conference calls and Water Operations Management Team (WOMT) meetings. Fish samples from this activity support genetic analyses to differentiate Chinook salmon runs and support the collection and processing of fish that are marked with coded-wire tags to help estimate fish survival. We are continuing to transition to acoustic tag mark and recapture studies instead of the more traditional coded wire tag studies.
- Monitoring and reporting of mitten crab abundance and distribution is an ongoing long-term project that will continue in FY 2010, and is expected to continue in future years, provided sufficient funding is available.

Note: All amounts included herein are projected amounts and are subject to change based on Presidential prerogatives and Congressional action.

FISCAL YEAR 2011

ENVIRONMENTAL PROTECTION AGENCY

EPA is unable to forecast CALFED spending as it is primarily determined through the State Revolving Funds (SRFs).