California Department of Fish & Wildlife
National Oceanic & Atmospheric Administration
US Fish & Wildlife Service

Ecosystem Restoration Program Activities Report Year 14

Year 13 Accomplishments & Year 14 Proposed Work
(State FYs 2013-14; Federal FY 2014)

June 30, 2013

Introduction

The Ecosystem Restoration Program Activities Report Year 14 documents all activities ongoing, initiated, and/or completed in the Ecosystem Restoration Program (ERP) Year 13 and proposed to occur in Year 14 that contribute to achieving the ERP Goals. This activities report represents a “snapshot-in-time” on the continuum of the restoration and environmental compliance efforts by the ERP Implementing Agencies as they carry out their respective programs.

Ecosystem Restoration Program Background

The Sacramento-San Joaquin Delta Ecosystem is an area of critical importance to California. It is home to more than half a million people; contains 500,000 acres of agriculture; provides drinking water for more than 25 million Californians; and serves as habitat for a diverse assortment of native plant and animal species. The ERP is a multi-agency effort aimed at improving and increasing aquatic and terrestrial habitats and ecological function in the Delta and its tributaries.

The ERP is designed to (1) maintain, improve, and increase aquatic and terrestrial habitats and improve ecological functions in the ERP focus area to support sustainable populations of diverse plant and animal species; (2) achieve recovery of at-risk species dependent on the Delta and Suisun Bay; and (3) support the recovery of at-risk species in San Francisco Bay and in the watershed above the estuary. The ERP is guided by six strategic goals as follows: (1) recover endangered and other at-risk species and native biotic communities; (2) rehabilitate ecological processes; (3) maintain or enhance harvested species populations; (4) protect and restore habitats; (5) prevent the establishment of and reduce impacts from non-native invasive species; and (6) improve or maintain water and sediment quality.

The ERP focus area includes the Sacramento-San Joaquin Delta, Suisun Bay, the Sacramento River below Shasta Dam, the San Joaquin River below the confluence with the Merced River, and their major tributary watersheds directly connected to the Bay-Delta system below major dams and reservoirs.

Regulatory History

In 2000, the CALFED Record of Decision (ROD) was signed by 13 federal and state agencies with management and regulatory responsibilities in the Bay-Delta. Based on the analysis in the Multi-species Conservation Strategy (MSCS) and the Final Programmatic Environmental Impact Statement/Environmental Impact Report (Final PEIS/R), the CALFED Implementing Agencies fulfilled the regulatory requirement for its programmatic evaluation of the CALFED Program, under the Section 7 of the Endangered Species Act, and under the Natural Community Conservation Planning Act (NCCPA). As a result of meeting these requirements, three regulatory documents were issued concurrently with the ROD: a programmatic biological and conference opinion (1-

1-00F-184) by U.S. Fish and Wildlife Service (USFWS); a programmatic biological opinion (SWR-00-SA-0110-MEA) by NOAA's National Marine Fisheries Service (NMFS); and a programmatic Natural Community Conservation Plan (NCCP) approval by California Department of Fish and Wildlife (CDFW). These three regulatory documents addressed CALFED implementation and regulatory compliance requirements, as described in the Final PEIS/R, technical appendices program plans, implementation plan and Phase II Report. The Description of Proposed Actions in the programmatic biological and conference opinions is based on the CALFED Program documents, provides clarifications derived from the PEIS/R, and is intended to provide a comprehensive description of the CALFED Program.

The ERP is designed to uphold federal and state endangered species laws and to implement the many programs and commitments addressed in the ROD. To satisfy consultation reinitiation requirements in the programmatic biological opinions, the ERP completed a mid-Stage 1 assessment (in 2004) of progress towards achieving the milestones. The implementing agencies requested that the ERP report annually regarding the continued progress toward achieving the ERP goals.

Purpose of the ERP Activities Report Year 14

The ERP Activities Report Year 14 documents all activities ongoing, initiated, and/or completed in the ERP Year 13 and proposed to occur in Year 14 that contribute to achieving the ERP Goals (CALFED 2000 a-d). For specific information about any of the ERP projects please contact the ERP staff directly (see the ERP contacts at the ERP website: http://www.dfg.ca.gov/erp/).

The following list provides the ERP's Year 13 Accomplishments and Year 14 Proposed Work. Federal activities that contribute to ERP were drawn from the California Bay Delta Federal Cross-Cut Fiscal Year 2014 (USFWS 2013). Unless otherwise indicated, the ERP projects and activities listed in this report incorporate:

- **Environmental Review:** California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), California Endangered Species Act (CESA), and Federal Endangered Species Act (FESA) review and permitting.
- **Public Review:** Each project has been subjected to one or more of these public processes: the PSP, project specific environmental documentation process, and/or specific workgroup and local stakeholder group meetings (i.e., Yolo Bypass Working Group) or workshops.
- **Science Review:** The ERP strongly emphasizes a science-based approach to ecosystem restoration and continues to integrate science into all program activities including: 1) collaborative actions with the Delta Science Program; 2) technical and scientific review of the project proposals; 3) support of scientific workshops and conferences; 4) monitoring implementation results from project proposals and their contributions toward achieving the ERP objectives; and 5) updating conceptual models with newly developed information to be available for subsequent resource management decisions (adaptive management).

Terms Used in the Attached List. One of the challenges of the ERP as a cross-jurisdictional, multi-agency effort is finding and understanding terms used to describe the ERP efforts; in some cases terms have a legal or regulatory meaning that is not the intended meaning by the ERP Implementing Agencies in their efforts to describe the ERP's activities. The definitions of the terms used in the attached list are as follows:

Activity:	Refers to a project, program, or coordinated activity, and includes a brief description of the desired outcome.
Year 13 Accomplishments:	Lists the significant work or accomplishments related to the activity that happened between July 1, 2012 and June 30, 2013.
Year 13 Costs:	Refers to how much funding was granted, allocated, contracted, or spent between July 1, 2012 and June 30, 2013 for the activity.
Year 14 Proposed Work:	Refers to efforts related to the activity that are projected to take place between July 1, 2013 and June 30, 2014.

Year 14 Projected Costs:	Refers to the best projection of how much funding will be granted, allocated, contracted, or spent between July 1, 2013 and June 30, 2014 for the activity.
Funding Source:	Lists the existing and/or requested sources of funding for the activity.
Agencies:	Identifies the agencies or entities that will ensure that the activity is carried out.
Priority/Goal Addressed:	Identifies the 2010/2011 PSP Priority (DFG 2010) and/or the ERP Goal (CALFED 2000 a-d) addressed
Task Category:	Refers to the category that the activity represents. There are seven task categories: planning, research, implementation, education, monitoring, program support, and technical support.

Activity: A Socio-Economic and Behavioral Analysis of Farmers' Decisions to Adopt or Reject the CALFED Conservation Initiatives. This project will evaluate farmers/ranchers attitudes towards conservation and management changes, identify and appraise constraints, and identify the most important factors in influencing farmers' long-term commitments to conservation innovation and participation in habitat enhancement programs.
Year 13 Accomplishments: Sonoma State University (SSU) completed all surveys and is now analyzing the data to prepare the Manuscripts for the project. An abstract was submitted and presented at the Spring 2013 Association of American Geographers Conference.
Year 13 Cost: Utilized existing funds (Funded $175,228 in Year 10)
Year 14 Proposed Work: SSU will conduct a final short survey in March 2014, assessing grower commitment to the practices after the Winter 2013-2014 season, and produce final reports on findings.
Year 14 Projected Cost: Funded in prior years, no additional funds are requested.
Funding source: Proposition 50
Agencies: CDFW and Sonoma State University
Priority/Goal Addressed: ERP Goals 4
Task Category: Research

Activity: A Systems Biology Assessment of EDCs in the Delta. The project assess the genomic and proteomic responses of *Menidia beryllina* as a surrogate for Delta smelt after exposure to pyrethroid pesticides (represented by bifenthrin) and pharmaceuticals (represented by ibuprofen) and effluent from three wastewater treatment plants in the Suisun Bay area. In addition, estrogenic and anti-estrogenic activity will be assessed in these five sample types. Reproductive behavior will be assessed after exposure to bifenthrin and ibuprofen. The goals are to develop monitoring tools that can be applied to assess site-specific reproductive fitness of native wild fish populations in the Bay-Delta System.
Year 13 Accomplishments: The University of California, Davis (UC Davis) completed a working Draft of Study Plan, completed Microarray Development, determined that CALUX assays should be used on all future water sample analysis, established silverside cultures for use in spawner trials and developed a tagging protocol for identifying fish, in order to sacrifice fewer fish.
Year 13 Cost: $486, 411 (Funding for entire project)
Year 14 Proposed Work: UC Davis Aquatic Toxicology Laboratory will be conducting acute toxicity tests to assess the effects resulting from exposure to bifenthrin and ibuprofen.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and UC Davis
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1 and 6
Task Category: Research and Monitoring

Activity: American Basin Fish Screen and Habitat Improvement Project. The Natomas Mutual Water Company (NMWC) is a non-profit mutual water company that controls surface water rights for over 250 landowners within the 55,000 acres known as the American Basin. The purpose of this Project is to improve fish passage conditions for at-risk species in the Sacramento River by replacing existing unscreened diversions that meet or exceeds federal and state screening criteria. The project will include construction of a new 434 cfs screened pumping plant (Sankey Diversion) on the Sacramento River, construction of distribution facilities required to deliver water from the Sankey Diversion outfall to existing points of use, the decommissioning, demolition and site restoration of the Northern and Bennett Pumping Plants on the Natomas Cross Canal, and the decommissioning and removal of the Verona Diversion Dam. Additionally, the project will include upgrading and screening the existing 150 cfs Pritchard Lake Diversion. Beginning in November 2001, the Ecosystem Restoration Program provided grant funding for the planning, design, and environmental compliance phases of this project. This construction phase is expected to be complete in 2016. The ERP funded American Basin projects:

- American Basin Fish Screen and Habitat Improvement Project (ERP-01-N60)
- American Basin Fish Screen and Habitat Improvement Project (ERP-02-P09-D)
- American Basin Fish Screen and Habitat Improvement (Phase IV-Construction) Project (ERP-09D-S03)

Additional cost share for this project is being provided by the USBR's Anadromous Fish Screening Program, and the Sacramento Area Flood Control Agency.
Year 13 Accomplishments: In partnership with the Anadromous Fish Screen Program, NMWC completed construction of NMWC's 434 cfs screened Sankey Diversion intake facility on the Sacramento River. Design and permitting for the Pritchard Lake Diversion was initiated and nearly completed.
Year 13 Cost: Utilizing existing funds (Funded $12,600,000 in Year 4 (ERP-02-P09-D), and additionally $9,000,000 in Year 10 (ERP-09D-S03))
Year 14 Proposed Work: NMWC will continue to work on Sankey Canal and land acquisition. Construction will begin on the Pritchard Lake Diversion.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Propositions 204 and 84
Agencies: CDFW, NMFS, USFWS, SAFCA, and United States Bureau of Reclamation (USBR)
Priority/Goal Addressed: ERP Goals 1-3
Task Category: Planning and Implementation

Activity: American Basin Working Landscapes Project. This project develops a GIS-based "working landscapes" model/plan for the American basin. Also, implement voluntary practices where appropriate, including easements, riparian restoration, wetland restoration, and other on-farm, and farm edge habitat restoration practices.
Year 13 Accomplishments: This project supported the development of a Working Landscapes Strategy for the American and Sutter Basins to facilitate implementation of conservation-based farm management practices to benefit wildlife on working agricultural lands. This project restored 40 acres of riparian and floodplain wetland habitat, and 17 acres of valley oak riparian habitat along Coon Creek in the American Basin. Additionally an agricultural conservation easement was purchased in the Sutter Basin protecting 189 acres of rice land, keeping the land in private ownership while protecting associated wildlife values. This easement buffers 147 acres of wetlands previously protected through an NRCS Wetland Reserve Program conservation easement. In partnership with the California Department of Conservation, an agricultural conservation easement was purchased in the American Basin protecting 121 acres of rice land, and 65 acres of floodplain habitat along Coon Creek, keeping the land in private ownership while protecting associated wildlife and economic values.
Year 13 Cost: Utilized existing funds (Funded $1,860,898 in Year 10, Total amount spent $1,738,946)
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None
Funding source: Proposition 50
Agencies: CDFW and Placer County Resource Conservation District
Priority/Goal Addressed: ERP Goals 1, 3, 4, and 6
Task Category: Implementation

Activity: Anadromous Fish Restoration Program (AFRP). The objectives of the Anadromous Fish Restoration Program (AFRP) [CVPIA Section 3406 (b)(1)] 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.
Year 13 Accomplishments: The AFRP funded habitat restoration projects that improve habitat, survival, and passage of anadromous fish in Antelope Creek, Cow Creek, Cottonwood Creek, Deer Creek, Mill Creek, and the American, Cosumnes, Merced, Stanislaus, and Yuba Rivers. AFRP collected fish population data for Cottonwood, Cow, Deer, and Mill creeks and in the Merced, San Joaquin, Stanislaus, and Yuba rivers to facilitate evaluation of restoration actions.
Year 13 Cost: $5,500,000
Year 14 Proposed Work: The AFRP will 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 partners to implement 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, late 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.
Year 14 Projected Cost: $10,065,000
Funding Source: Federal (USBR) Funds
Agencies: CDFW, USBR, and USFWS
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Planning and Implementation

Activity: Anadromous Fish Screen Program (AFSP). The primary objective of the 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 (CVPIA) 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. The AFSP can provide up to fifty percent federal cost share for fish screen projects and requires a fifty percent non-federal match. The ERP contributions toward the AFSP's Year 13 Activities are shown in this table as separate State funded the ERP projects.
Year 13 Accomplishments: The AFSP provided additional funds to RD 2035 for their proposed intake/fish screen project. In addition, construction of Yuba City's intake continued; and many of the Family Water Alliance's fish screen projects started construction or were constructed. The AFSP worked with West Stanislaus Irrigation District's design, permitting, and environmental compliance activities.
Year 13 Cost: $3,200,000
Year 14 Proposed Work: Funds are anticipated to be used for cost share funding for environmental compliance, design, construction, and monitoring activities for a number of fish screen projects. The selection of these projects will be made based on AFSP prioritization criteria that include: willing applicant, cost effectiveness, biological benefits, availability of non-Federal cost share, and ability to obtain preconstruction monitoring data. In FY 2014, a number of ongoing AFSP projects are expected to need construction funding, including RD 2035 and Natomas Mutual Phase 2B.
Year 14 Projected Cost: $5,070,000
Funding Source: Federal (USBR) Funds
Agencies: CDFW, USBR, and USFWS
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Planning and Implementation

Activity: Battle Creek Salmon and Steelhead Restoration Project. This multi-phased project will restore approximately 42 miles of historical anadromous fish habitat in Battle Creek, and an additional 6 miles of habitat in its tributaries. Implementation includes modification of facilities at Battle Creek Hydroelectric Project diversion dam sites located on the North Fork Battle Creek, South Fork Battle Creek, and Baldwin Creek in three phases (Phases 1A, 1B and 2). Phase 1A includes installing fish screens and ladders at the North Battle Creek Feeder (NBCF) and Eagle Canyon diversion dams and removing Wildcat diversion dam and appurtenant conveyance systems on the North Fork; installing Eagle Canyon Canal pipeline; and modifying Asbury Dam on Baldwin Creek. Phase 1B includes installing an Inskip Powerhouse tailrace connector and bypass on the South Fork, and Phase 2 includes installing a fish screen and ladder on Inskip diversion dam, installing a South Powerhouse tailrace connector, and removing Lower Ripley Creek Feeder, Soap Creek Feeder, Coleman and South diversion dams, and appurtenant conveyance systems. The ERP funded Battle Creek projects that are currently active include:

- Anadromous Fish Habitat Monitoring for the Battle Creek Salmon and Steelhead Restoration (ERP-06D-S18)
- Battle Creek Salmon and Steelhead Restoration Project (ERP-99-B01)
- Battle Creek Salmon and Steelhead Restoration Project-Phase 1A (ERP-08D-S04)
- Outreach and Technical Services to Support Landowner and Watershed Resident's Participation in the Battle Creek Salmon and Steelhead Restoration Project (ERP-03-M10)

Year 13 Accomplishments: Phase 1A: The majority of fish screen and ladder construction has been completed at the Eagle Canyon and North Battle Creek Feeder (NBCF) diversion dams; hydraulic evaluations and physical modeling of the new facilities are currently occurring. A contractor completed non-ground disturbing vegetation clearing for the Asbury/Baldwin Creek site. Phase 1B: Completed construction of the Inskip Powerhouse penstock bypass system and a tailrace connector on the South Fork Battle Creek near Coleman Diversion Dam. Additional work is currently under review to address damage a storm caused in early December 2012. Phase 2: Cramer Fish Sciences (CFS) continued facilitation and development of a Coleman National Fish Hatchery Adaptive Management Plan (CNFH AMP). Public outreach to the Tehama Board of Supervisors, as well as to commercial and recreational fishing interests occurred. A first internal draft of the CNFH AMP document was completed in March 2013, followed by an independent science panel review in April-May 2013.
Year 13 Cost: $6,700,000 (Fish Restoration Program Agreement (FRPA)) (ERP provided $75.1M in previous years).
Year 14 Proposed Work: Phase 1A: Modifications to the fish facilities are required to improve the diversion, screening, and passage of the new facilities; and engineering designs are being developed in 2013, followed by construction planned for 2014 and 2015. For the Asbury/Baldwin Creek site in-stream work is planned to begin in this summer 2013. Construction of the new fish barrier, access road and canal culvert crossing, and flow measurement weir are anticipated to be complete in December 2013. Phase 1B: Additional work is currently under review to address storm damage. Phase 2: Construction will occur on South Fork Battle Creek and its tributaries, and is currently planned to occur under two construction contracts; one construction contract would involve the installation of a fish screen and ladder at Inskip diversion dam, installation of a tailrace tunnel connector from South Powerhouse to Inskip Canal, and removal of Lower Ripley Creek Feeder and Coleman diversion dams, and another construction contract would involve the removal of Soap Creek Feeder diversion and the removal of South diversion dam and appurtenant conveyance system, including the removal of South Canal. Phase 2 design works will be occurring in 2013 and construction is anticipated to occur between 2014 and 2015. CNFH AMP – A contract was awarded in March 2012 to Cramer Fish Sciences (CFS) for facilitation and development of a CNFH AMP. The CFS team will work with the Technical Advisory Committee to develop the AMP and address the Science Panel comments. A revised draft AMP will be available for public review in fall 2013 and the final CNFH AMP is anticipated to be completed in mid-2014.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Sources: FRPA (FY 2012), Federal Funds, Propositions 50, 84, California Urban Water Agencies (Category III)
Priority/Goal Addressed: ERP Goals 1-4
Task Category: Planning, Monitoring and Implementation

Activity: <u>Bay Delta Conservation Plan (CDFW).</u> The BDCP is a (Habitat Conservation Plan (HCP) and NCCP being prepared to meet requirements of the FESA, and NCCPA for Central Valley Project (CVP)/State Water Project (SWP) water operations and management activities in the Delta. The BDCP will serve as the basis for incidental take permit applications for a new water conveyance facility around and/or through the Sacramento-San Joaquin River Delta, along with habitat restoration in the Delta, under section 10 of the ESA. The BDCP also will establish the parameters for modifications of the CVP that are subject to consultation under section 7 of the ESA. The section 10 permit issuance decisions and the associated federal actions which may be undertaken by the USBR are major Federal actions that require preparation of an Environmental Impact Statement (EIS) under the NEPA. Lead agencies for the EIS are USBR, the USFWS, and the NMFS. The BDCP also will serve as the planning and permitting document under State law for the new conveyance facility, operations, and habitat restoration, and a take permit for these activities under NCCPA administered by CDFW. CEQA requires the preparation of an Environmental Impact Report (EIR) for the BDCP. Lead agency for the EIR is DWR. The State and Federal lead agencies have decided to prepare a joint EIS/EIR. DWR initiated the Delta Habitat Conservation and Conveyance Program (DHCCP) to conduct engineering and environmental analysis and has engaged consultants to assist in the analysis. The DHCCP and consultants are preparing the EIS/EIR under direction and supervision of the four lead agencies. CDFW is providing technical assistance for analysis of ecological and biological effects of the proposed projects. BDCP planning activities are also coordinated with related, ongoing programs including the ERP, Delta Vision and Delta Vision Blue Ribbon Task Force, Delta Risk Management Strategy, Delta Science Program, Flood Safe, the IEP, and California Water Plan Update.
Year 13 Accomplishments: CDFW staff provided BDCP technical assistance including the development of biological goals and objectives, identifying potential conservation actions, developing operational parameters for water export, evaluation of potential project effects, selecting appropriate methods for scientific analysis, development of an adaptive management and monitoring program, and conducting data analysis, peer review, habitat mapping, and other activities necessary for development of a NCCP.
Year 13 Cost: $1,064,000
Year 14 Proposed Work: CDFW will provide technical assistance to the BDCP.
Year 14 Projected Cost: $1,064,000
Funding Sources: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning

Activity: <u>Bay Delta Conservation Plan (Federal).</u> The BDCP is a HCP and NCCP being prepared to meet requirements of the FESA, and NCCPA for CVP and SWP water operations and management activities in the Delta. The BDCP will serve as the basis for incidental take permit applications for a new water conveyance facility around and/or through the Sacramento-San Joaquin River Delta, along with habitat restoration, under section 10 of the ESA. Also, the information developed as part of the BDCP process will help inform the ESA Section 7 consultation on the coordinated long-term operation of the CVP and SWP. The section 10 permit issuance decisions and the associated Federal actions which may be undertaken by USBR are major Federal actions that require preparation of an EIS under the NEPA. Lead agencies for the EIS are USBR, the USFWS, and the NMFS. The BDCP also will serve as the planning and permitting document under State law for the new conveyance facility, operations, and habitat restoration, and a take permit for these activities under California's NCCPA administered by CDFW. CEQA requires the preparation of an EIR for the BDCP. The lead agency for the EIR is DWR.
Year 13 Accomplishments: USBR supported of the development of the EIR/EIS.
Year 13 Cost: $6,793,000
Year 14 Proposed Work: USBR will support the development of the EIR/EIS. A Public Draft BDCP EIR/EIS is currently scheduled for completion in 2013 and Final EIR/EIS will follow thereafter.
Year 14 Projected Cost: $3,500,000
Funding Sources: Federal (USBR) Funds
Agencies: CDFW, DWR, NMFS, USBR, and USFWS
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning

Activity: Blacklock Mercury Monitoring. The San Francisco Bay Regional Water Quality Control Board required mercury and methylmercury monitoring as part of the provisions in the Blacklock Restoration Project Monitoring Plan. Mercury concentrations were monitored in the Blacklock Wetland pre and post breach to determine if there are changes in concentrations. There is concern that creation of wetlands such as Blacklock will contaminate the fish and sediments within Blacklock and the adjacent Nurse Slough. Samples were collected for fish, water, and sediment and analyzed for total and methylmercury in Blacklock and Nurse Slough over a three-year period to evaluate whether total and methylmercury levels increased or decreased because of the restoration. This project conducts final analysis of the data generated.
Year 13 Accomplishments: CDFW completed study and submitted the manuscript to the San Francisco Estuary and Watershed Science online journal. CDFW presented findings at the 2012 Delta Science conference.
Year 13 Cost: Utilized existing funds (Funded $91,276 in Year 11)
Year 14 Proposed Work: Close out grant.
Year 14 Projected Cost: None
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goal 6
Task Category: Monitoring

Activity: Blacklock Restoration Project Monitoring. The 70-acre Blacklock property is being restored to a self-sustaining functioning brackish tidal marsh by restoring tidal action, reversing subsidence, and promoting establishment of native vegetation and a tidal marsh channel network appropriate to this location within the San Francisco Estuary. The Blacklock Restoration Project Monitoring will collect bathymetry, vegetation, channel morphology, water quality and sedimentation data following the restoration of tidal flow to the Blacklock parcel. This information is required by Bay Conservation and Development Commission as a condition of the restoration and will provide information on restoration trajectory that may be applicable to future tidal marsh restoration in the region.
Year 13 Accomplishments: None. Funded but not executed.
Year 13 Cost: None
Year 14 Proposed Work: Execute agreement and begin monitoring of levee breach geometry, inundation regime, surface elevation, changes in sedimentation, slough network evolution, native marsh vegetation
Year 14 Projected Cost: $382,250
Funding Source: Proposition 84
Agencies: CDFW and DWR
Priority/Goal Addressed: ERP Goals 1, 2, 4, and 6
Task Category: Monitoring

Activity: BREACH III: Evaluating and Predicting 'Restoration Thresholds' in Evolving Freshwater-Tidal Marshes. "BREACH III" Project activities involve Lower Yolo Bypass technical site evaluation, monitoring, research, and feasibility assessment. Several issues need to be addressed to assess long-term restoration potential, and management of publicly owned properties in the Lower Yolo Bypass. The BREACH III proposal will address both the physical and environmental processes occurring on the sites, and greatly improve our understanding of the aquatic species response to tidal wetland restoration. BREACH III will assess the natural development of tidal marsh at Liberty Island and the impacts of seasonal and interannual hydrologic variability. The results should be a comprehensive monitoring and research approach. A key component of the project is the development of hydrodynamically driven models, which may be run with restoration and management practitioner input. The technical approach should greatly improve decision making capacity in regards to future management, restoration potential, and evolving ecosystem and hydrodynamic conditions in the lower bypass.
Year 13 Accomplishments: USFWS monitoring of sediment, vegetation, biologic and trophic character of the evolving tidal marsh and upland ecotones on Liberty Island were completed. USFWS completed development and validation of quantitative landscape models of marsh evolution. USFWS established links between the quantitative model(s) and conceptual models to interpret the biotic and trophic character of model run scenarios. USFWS incorporated restoration and management practitioner input to predict ecological responses to change in habitat structure. USFWS interpreted alternative flow and marsh configuration scenarios. The final Modeling Workshop was held on June 11, 2013. The study found that Liberty Island is in the "slow phase" of emergent vegetation colonization, a sort of equilibrium with the wave and tidal action.
Year 13 Cost: Utilized existing funds (Funded $2,447,998 in Year 8)
Year 14 Proposed Work: Submit final reports (the basis for the modeling workshop presentations).
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW, NMFS, and USFWS
Priority/Goal Addressed: ERP Goals 1, 2, 4, and 6
Task Category: Monitoring and Research

Activity: Butte Creek Spring-run Chinook Salmon Life History Investigation. A partnership between California State University (CSU), Chico Research Foundation and the CDFW, will continue the Butte Creek spring-run Chinook salmon (SRCS) life history investigation. This project is located on Butte Creek, in Butte County, California near Chico. The objective is to continue development of an SRCS adult escapement estimate that will serve as a reliable and more precise "recovery-metric" providing a measure of overall restoration effectiveness and as a measure of recovery for the listed SRCS.
Year 13 Accomplishments: The annual Butte Creek spring-run Chinook salmon (*Oncoryhnchus tshawystcha*) (SRCS) spawning escapement survey was conducted July 10-13, 2012. The standard swimming snorkel methodology that has been employed since about 1988, was used again in 2012, and covered Centerville Head Dam to Parrott-Phelan Diversion Dam. The estimate for the adult 2012 SRCS snorkel escapement is 8,615 salmon. The SRCS pre-spawn mortality survey continued throughout the summer until the onset of spawning. Total pre-spawn mortalities were 177, which was attributed to natural attrition. The adult SRCS spawning escapement survey was conducted using the standard mark-recapture method and model. The carcass survey generated an estimate of adult spring-run that survived to spawn successfully. The estimate for Butte Creek SRCS for 2012 was 16,140. The Cormack-Jolly-Seber model generated the estimate. A comparison estimate was generated using the Schaefer model, that estimate was 19,776. CSU, Chico Research Foundation conduct the adult fall-run Chinook Salmon (FRCS) spawning survey, which generated an estimate of 814 Butte Creek fall-run Chinook salmon for 2012. The Cormack-Jolly-Seber model generated the estimate.
Year 13 Cost: Utilized existing funds (Funded in Year 7, reduced to $291,661 in Year 11)
Year 14 Proposed Work: CSU, Chico Research Foundation will conduct escapement surveys and pre-spawn mortality monitoring activities.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Agencies: CDFW and CSU Chico Research Foundation
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Monitoring and Research

Activity: CALFED Coordination. The California Bay Delta is an ecosystem of national significance, and the U.S. Army Corps of Engineers (USACE) is participating with other agencies in addressing the goals in the Interim Federal Action Plan (IFAP) for the Bay Delta. CALFED Coordination allows the USACE to participate in planning activities, interagency meetings and projects. Other coordination activities include watershed based planning and collaboration efforts along the Yuba River to help integrate Delta sustainability goals, as well as in southern California to advance statewide planning activities related to Delta sustainability. Interagency coordination includes the prioritization and implementation of existing projects benefiting the Bay Delta, by developing innovative ways to streamline the planning and implementation process of Bay Delta projects.
Year 13 Accomplishments: Attended interagency meetings and coordinated with applicants on processing Section 408 and 404 requests. USACE coordinated with DWR and Delta Stewardship Council (DSC). The DSC completed the DSC's Delta Plan. The USACE staff coordinated with DWR and the DSC to help integrate flood risk management elements of the watershed into the plan, as well as ecosystem restoration activities in the Delta.
Year 13 Cost: $100,000
Year 14 Proposed Work: The USACE will provide program support and coordinate with Bay-Delta ecosystem planning and restoration efforts.
Year 14 Projected Cost: $100,000
Funding Source: Federal
Agencies: Federal (USACE) Funds
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning and Program Support

Activity: CALFED Non-Native Invasive Species (NIS) Program (CDFW). CDFW provides support for various efforts with an overall goal to manage and reduce the spread of existing non-native invasive species (NIS) in the CALFED-ERP focus area and statewide. CDFW also supports research regarding potentially invasive species and coordinates with other agencies and entities to prevent the introduction and establishment of additional invasive species into California and the ERP focus area.

Year 13 Accomplishments: CDFW NIS program staff:

- Assessed live bait as a vector and developed live bait regulations;
- Developed fish hatchery Aquatic Invasive Species (AIS) monitoring and prevention protocol;
- Developed and distributed AIS information in state hunting, fishing, and boating regulations and licenses;
- Provided AIS outreach and education materials to the public, including direct mailings to boat owners, posting notifications at water bodies, distributing informational cards at multiple locations statewide, and providing information through the media;
- CDFW has funded, published, and/or assisted in the preparation of several documents, including response plans, action plans, guidebooks, and education/outreach materials, and developed and initiated response, action, and education/outreach programs for managing specific aquatic invasive species (AIS).
- Provided watercraft inspection and decontamination trainings to local communities statewide;
- Sponsored Dreissenid mussel workshops;
- Sponsored the AIS workshops for water body managers;
- Initiated the development and implementation of the AIS monitoring plans for high risk waters in the state;
- Increased inspections for the AIS at California Department of Food and Agriculture (CDFA) Border Protection Stations;
- Trained and deployed staff to survey and inspect water bodies statewide;
- Purchased and deployed portable recreational equipment wash stations in each of CDFW Region;
- Participated with the Invasive Species Council of California (ISCC) and the California Invasive Species Advisory Committee (CISAC).
- Published a quarterly newsletter, “Eyes on Invasives,” dedicated to informing the public about current invasive species activities being conducted in California.
- CDFW’s Marine Invasive Species Program coordinated with the State Lands Commission to control the introduction of nonnative species from the ballast of ocean-going vessels. The program includes biological surveys to monitor the waters of the state to determine the level of invasion by nonnative species, ballast water inspections, monitoring and research.
- CDFW’s Lands Program actively controls invasive plant species on CDFW-managed lands.
- CDFW is working with DWR to develop two conservation measures for the Delta under the BDCP that address: (1) controlling the introduction and spread of invasive aquatic plant species within the BDCP aquatic restoration areas and (2) preventing the introduction of new and reducing the spread of existing aquatic invasive species via recreational watercraft, trailers, and other equipment.

Year 13 Cost: $118,353

Year 14 Proposed Work: CDFW NIS program will:

- Provide input to the BDCP, ERP, and DSC regarding proposed actions to manage and reduce the spread of existing and prevent the introduction and establishment of new NIS in the Bay-Delta ecosystem;
- Conduct prevention and management actions for invasive species in an effort to meet Goal 3 of the Delta Vision Strategic Plan;
- Coordinate with the CDFA to identify the extent of existing invasive plants and identify new invasive plants in the Delta Watershed;
- Coordinate with USFWS to prevent the introduction of quagga and zebra mussels;
- Attend conferences, trainings, and workshops to gain and increased understanding of the NIS, their impacts, and prevention, control, and management strategies;
- Create fact sheets for the existing NIS in California and those species that have the potential to be introduced and become invasive;
- Create and distribute new outreach and education materials for Delta specific invasive species; and coordinate with other CDFW programs to integrate invasive species’ location information into existing databases such as BIOS or create a new database.

Year 14 Projected Cost: $118,353
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goal 5
Task Category: Planning and Implementation

Activity: CALFED Program Management, Oversight, and Coordination. Activities include Program support; program-wide tracking of schedules, finances, and performance; agency oversight and coordination of Program activities to ensure program balance and integration; development of interagency crosscut budgets; coordination of public outreach and involvement, including tribal, environmental justice, and public advisory activities; development of Annual Reports; and USBR's administration of the storage, conveyance, water use efficiency, environmental water account, ecosystem restoration, science, and water transfer programs.
Year 13 Accomplishments: USBR provided management, oversight, and coordinated CALFED activities.
Year 13 Cost: $1,900,000
Year 14 Proposed Work: USBR will provide management, oversight, and coordinate with CALFED activities.
Year 14 Projected Cost: $1,700,000
Funding Source: Federal (USBR) Funds
Agencies: USBR
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning and Program Support

Activity: Central Valley Project Improvement Act (CVPIA) Contribution. According to the ROD, up to $15 million of CVPIA restoration funds will be used for the purpose of protecting, restoring, and enhancing special-status species and their habitats in areas directly or indirectly affected by the CVP. The CVPIA programs that contribute to the ERP goals and objectives include the AFRP, AFSP, Battle Creek Restoration, Clear Creek Restoration, Dedicated Project Yield, Spawning Gravel/Riparian Habitat, and Water Acquisition programs. More information on the CVPIA accomplishments and activities can be found at http://www.usbr.gov/mp/cvpia/.
Year 13 Accomplishments: See Year 13 Activities for the AFRP, the AFSP, Battle Creek Restoration, Clear Creek Restoration, Dedicated Project Yield, Riparian Habitat/Spawning Gravel, and Water Acquisition programs.
Year 13 Cost: $15,000,000 (Year 13 funds are included in the AFRP, the AFSP, Battle Creek Restoration, Clear Creek Restoration, Dedicated Project Yield, Spawning Gravel/Riparian Habitat, and Water Acquisition programs).
Year 14 Proposed Work: See Year 14 Proposed Work for the AFRP, the AFSP, Battle Creek Restoration, Clear Creek Restoration, Dedicated Project Yield, Spawning Gravel/Riparian Habitat, and Water Acquisition programs.
Year 14 Projected Cost: $15,000,000 (Year 14 funds are included in the AFRP, the AFSP, Battle Creek Restoration, Clear Creek Restoration, Dedicated Project Yield, Spawning Gravel/Riparian Habitat, and Water Acquisition programs).
Funding Source: CVPIA Restoration Funds
Agencies: USFWS and USBR
Priority/Goal Addressed: ERP Goals 1-4
Task Category: Planning, Monitoring, and Implementation

Activity: Clear Creek Anadromous Salmonid Monitoring Program. This program is a comprehensive salmonid monitoring program that provided feedback for the adaptive management and evaluation of restoration actions of the Clear Creek Restoration Program and CVPIA B2 Water Program.
Year 13 Accomplishments: USFWS completed salmonid habitat use, reproduction, and escapement monitoring. USFWS submitted 2008-2012 Spawning Area Mapping Report and the Project Report.
Year 13 Cost: Utilized existing funds (Funded $1,974,068 in Year 6, Total amount spent $1,965,883)
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None
Funding Source: Proposition 50
Agencies: CDFW and USFWS
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Monitoring

Activity: Clear Creek Environmental Water Program. This project will develop a written on-the-ground in-season operational plan for the recommended Environmental Water Program (EWP) Whiskeytown Dam re-operation acceptable to Central Valley Operators, produce a companion core geomorphic and biological effectiveness-monitoring plan, and perform one EWP re-operation/release in 2013 or 2014 on Clear Creek. The monitored test of a planned mid-level flow is expected to have great geomorphic and ecological significance. The overall vision for the pilot EWP flow on Clear Creek is to release a discharge of sufficient magnitude, duration and frequency to reactivate natural fluvial geomorphic processes. These processes are fundamental for creating and maintaining the diverse template of habitats required in the Clear Creek ecosystem to recover and sustain aquatic and riparian species, particularly anadromous salmonids and native floodplain and riparian vegetation. The project is the fourth step in a directed action process for pilot flow augmentation under the existing Environmental Water Program in Clear Creek.
Year 13 Accomplishments: ESSA has submitted 6 draft technical briefs which USBR is reviewing. Northern Hydrology and Graham Matthews & Associates produced an estimate of Clear Creek channel capacity. ESSA produced a Technical Guidance Memo to Stillwater Sciences. Stillwater Sciences worked on the Draft Core Monitoring and Adaptive Management Plan.
Year 13 Cost: Utilized existing funds (Funded $813,745 in Year 10)
Year 14 Proposed Work: Finalize the six Technical Briefs and complete the NEPA/CEQA compliance document. Amend the project to extend to December 31, 2015 to facilitate the release of flushing flow, which had to be delayed until 2015.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW, USBR, and USFWS
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Planning and Implementation

Activity: Clear Creek Restoration. 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.
Year 13 Accomplishments: Clear Creek restoration focused on providing flows, the planning and design of restoration projects focusing on stream channel and instream habitat, and conducted monitoring to determine impacts of restoration actions. Releases from Whiskeytown Dam provided downstream fish habitat that is at least 90 percent of the maximum possible weighted usable area, allowed water temperatures to comply with the NMFS's biological opinion, and allowed passage of adult anadromous fish at the former McCormick-Saeltzer Dam location. Design and permitting were completed on the Cloverview Long-term Gravel Supply Project that will use abandoned dredger mine tailings as an inexpensive source of spawning gravel for future placements. Efforts to prepare long-term programmatic environmental permits for various restoration actions continued. Environmental compliance planning will be initiated for the Environmental Water Program's "geomorphic/channel maintenance flows". Monitoring activities included 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.
Year 13 Cost: $555,000
Year 14 Proposed Work: Clear Creek restoration will work 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 FESA. Restoration activities will focus on implementing the Cloverview Long-term Gravel Supply Project. The program will monitor juvenile habitat use, conduct spawning area mapping, calculate juvenile habitat suitability indices, assess gravel quality, monitor survival-to-emergence, provide fish rescue, conduct benthic macro invertebrate sampling, monitor water quality and water temperature. The program will also implement several in-stream spawning gravel placement projects. In addition, the Environmental Water Program is scheduled to implement its first "geomorphic/channel maintenance flows" discharge of 3,250 cfs, which will help promote proper functioning of more natural fluvial geomorphic processes in Clear Creek.
Year 14 Projected Cost: $800,000
Funding Source: Federal (USBR) Funds
Agencies: CDFW, USBR, and USFWS
Priority/Goal Addressed: ERP Goals 1-4
Task Category: Planning and Implementation

Activity: <u>Clover Creek/Millville Diversion Fisheries Restoration Project.</u> The Clover Creek/Millville Diversion Fisheries Restoration Project will remove fish passage barriers associated with the Millville Diversion Dam on Clover Creek, tributary to Cow Creek in Shasta County. Once these barriers are removed, approximately ten miles of spawning habitat will be available to anadromous salmonids.
Year 13 Accomplishments: The Western Shasta Resource Conservation District (WSRCD) and Technical Advisory Committee (TAC) submitted the final proposal for this project on April 4, 2013. It was approved by Director Bonham on August 13, 2013.
Year 13 Cost: N/A
Year 14 Proposed Work: WSRCD will complete CEQA/NEPA compliance documents; solicit bids and award the contract to finalize engineering designs developed to 50% by the Fish Passage Improvement Program; and develop and finalize the Quality Assurance Project Plan and the Project Monitoring Plan.
Year 14 Projected Cost: $2,000,000
Funding Source: Proposition 204
Agencies: WSRCD and CDFW
Priority/Goal Addressed: ERP Goals 1-4
Task Category: Implementation

Activity: <u>Complementing Water Planning Efforts for the Delta and Sacramento River: Application of the Ecological Flows Tool.</u> The project leverages recently completed efforts, the Sacramento River Ecological Flows Study, by expanding the capability of the developed Sacramento River Ecological Flows Tool (SacEFT) for application to the Delta. This project will conduct a set of refinements to increase the SacEFT's utility, and constructs a new Delta ecological flows tool (DeltaEFT) branch of the software. The DeltaEFT will have the ability to link explicitly upstream (Sacramento River) ecological responses evaluated with the SacEFT to ecosystem responses in the Delta evaluated with the DeltaEFT.
Year 13 Accomplishments: The Nature Conservancy (TNC) completed the SacEFT model and application was completed, and continued development of the DeltaEFT model. A website that houses all the EFT related products was updated (http://essa.com/tools/eft/). TNC conducted analyses on the BDCP scenarios with data obtained from DWR.
Year 13 Cost: Utilized existing funds (Funded $1,715,533 in Year 8)
Year 14 Proposed Work: TNC will complete development and make enhancements to the DeltaEFT model and application, and provide support to the ERP and the BDCP efforts.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning

Activity: <u>Conaway Ranch Agricultural Conservation Easement Acquisition.</u> Under this project, California Waterfowl Association (CWA) will acquire a conservation easement totaling 4,000 +/- acres of land for the protection of floodplain and wetland habitat areas. The conservation easement will protect existing aquatic and migratory bird habitat values by restricting land uses to current wildlife friendly agricultural practices on the property. The easement will allow for continuation of agricultural uses so long as those uses maintain the resource values as described under the conservation easement. The total cost of the easement is $5 million with costshare being provided by ERP ($4 million) and WCB ($1 million).
Year 13 Accomplishments: California Waterfowl Association acquired the 4,000 acre Conaway Ranch Agricultural Conservation Easement in the Yolo Bypass for the protection of aquatic and migratory bird habitats.
Year 13 Cost: $4,000,000 (Funding for entire project)
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None.
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 2 and 4
Task Category: Implementation

Activity: <u>Corona and Twin Peaks Mine Drainage Treatment Project.</u> The purpose of this project is to develop and demonstrate an effective approach for mine cleanup involving private landowners, non-profit organizations, regulators, and interested stakeholders. The project will need to address legal liability issues prior to initiation of large-scale mine remediation work efforts. The project addresses Ecosystem Restoration Program Goal 6 (Water and Sediment Quality), Objective 1 to "Improve and/or maintain water and sediment quality conditions that fully support healthy and diverse aquatic ecosystems in the Bay-Delta estuary and watershed; and eliminate, to the extent possible, toxic impacts to aquatic organisms, wildlife, and people."
Year 13 Accomplishments: Tuleyome, Inc. began CEQA documentation and baseline monitoring, and benchtop studies to determine proper scale of treatment project.
Year 13 Cost: $1,530,550 (Funding for entire project)
Year 14 Proposed Work: Tuleyome, Inc. will complete CEQA documentation, complete baseline monitoring, and benchtop studies.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 13
Agencies: CDFW
Priority/Goal Addressed: PSP Priority 3/ERP Goal 6
Task Category: Implementation

Activity: <u>Dedicated Project Yield.</u> 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.
Year 13 Accomplishments: Continued efforts associated with the annual dedication and management of 800,000 acre-feet of the CVP yield for the primary purpose of anadromous fish restoration. Upstream actions were implemented; and monitoring and evaluation to assess the effectiveness of (b)(2) environmental measures continued. A portion of the funds will be used for litigation costs.
Year 13 Cost: $600,000
Year 14 Proposed Work: Funding will be used to continue efforts associated with the annual dedication and management of 800,000 acre-feet of the CVP yield for the primary purpose of anadromous fish restoration as directed by the CVPIA. Upstream actions will be implemented; and monitoring and evaluation to assess the effectiveness of (b)(2) environmental measures will continue.
Year 14 Projected Cost: $600,000
Funding Source: Federal (USBR) Fund
Agencies: USBR
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Implementation and Monitoring

Activity: <u>Delta Dialogues, Phase II.</u> The Delta Dialogues fosters greater shared understanding of the different interests in the Delta, focusing on issues of water flow, levees, trust and governance, and water quality. During Phase II, the Delta Dialogues will be a platform for a core set of key Delta leaders to better understand the Bay-Delta Conservation Plan and its potential impacts on the Delta, and explore and create robust and innovative responses to the Delta's challenges. The Delta Dialogues will expand these conversations to a broader set of stakeholders to help break down the multiple myths that have contributed to gridlock in achieving progress in the co-equal goals of Delta ecosystem health and a sustainable water supply.
Year 13 Accomplishments: None
Year 13 Cost: None
Year 14 Proposed Work: Sacramento-San Joaquin Delta Conservancy (Delta Conservancy) will hold monthly, full-day, facilitated stakeholder meetings focused on building shared understanding and stronger relationships among the people in the room using a combination of site visits and the Dialogue Mapping technique. The Delta Conservancy will publish the resulting Dialogue Maps and other notes from the meetings on their website.
Year 14 Projected Cost: $100,800
Funding source: Proposition 84
Agencies: Delta Conservancy and CDFW
Priority/Goal Addressed: ERP Goals 1, 4, and 6
Task Category: Implementation

Activity: <u>Delta Working Landscapes.</u> This project provides support for local farmers to implement demonstration projects that improve habitat values while improving water quality, sediment transport, and levee stabilization. Evaluates operations of agriculture practices in the Delta that could be implemented elsewhere. This project will provide an educational and outreach festival to inform the public on the values of the Delta.
Year 13 Accomplishments: The Delta Protection Commission created 4 wetlands within the North and Central Delta area.

- Uslan Farms - 6 acre project, with 2 acres as a managed seasonal wetland.
- C&M Orchards - 3 acres of unfarmable land improved by creating low berms and buffers to trap flooded water into a swale pond - which will serve as valuable waterfowl habitat in the winter months.
- Generations - created 20 acres of managed seasonal wetlands.
- Berryhill - largest project of 140 acres of poorly drained soils that can be used for seasonal flooding. Low interior and perimeter berms will facilitate winter flooding capabilities for cornfields. Harvested flooded corn creates a feeding area for migratory waterfowl.

Year 13 Cost: Utilized existing funds (Funded $800,000 in Year 10)
Year 14 Proposed Work: Delta Protection Commission will complete remaining projects, project analysis, and final reports.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding source: Proposition 50
Agencies: CDFW and Delta Protection Commission
Priority/Goal Addressed: ERP Goals 1, 4, and 6
Task Category: Implementation

Activity: <u>Development Of A Spatially Explicit Ecosystem Model To Explore Physicochemical Drivers of Step Changes in POD Species And Distribution In The Sacramento-San Joaquin Delta And Suisun Bay.</u>
The purpose of this project is to improve a dynamic food web model of the Sacramento-San Joaquin Delta and Suisun Bay, so that U.S. Geological Survey (USGS) can move from using it as a hypothesis-exploration tool toward using it as a decision-support tool. This model can be used in conjunction with Monte Carlo simulations of the time-dynamic module as a tool for exploring the impacts of resource management decisions, and help to optimize the utility and effects of such decisions.
Year 13 Accomplishments: During the ERP Year 13, the USGS focused on Model Development. This included gathering and incorporating habitat preference data for focal species, incorporating new spatial and habitat data into the model, and developing a GIS Basemap for the model from the spatial and habitat data. The USGS incorporated habitat data and preferences into the Ecospace model, which will ultimately culminate in a functional Ecospace model. The USGS refined salinity preferences for species functional groups so the Ecospace model reflected the habitat intricacies of the Delta. Species were grouped by salinity preference and food web interactions within the model. The USGS separated species functional groups into three salinity groups; littoral fresh, pelagic fresh, and pelagic brackish. Biomass of each species functional group was then estimated using a combination of fall midwater trawl, bay study, beach seine, and benthic survey data as well as individual research data.
Year 13 Cost: $356,483 (Funding for entire project).
Year 14 Proposed Work: At this time, the Habitat Data Table and Ecospace Model Schematic are on schedule for completion in August 2013. USGS will develop a GIS-based map of the Delta and Suisun Bay. USGS will further work on development of the habitat data table and functional group information, the Ecopath model will be balanced and refined, and Ecospace model schematic work will be initiated with NOAA.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and USGS
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1-4
Task Category: Research

Activity: Development of Best Management Practices to Reduce Methyl Mercury Exports and Concentrations from Seasonal Wetlands in the Yolo Wildlife Area (DFG). This agreement supports CDFW staff at Moss Landing Marine Lab for the project. These pilot and demonstration projects will develop Best Management Practices (BMPs) to reduce Methyl Mercury (MMHg) concentrations and exports from wetlands. These projects will test whether physical modifications of the fields as well as modifications of methods employed in managing wetlands can reduce MMHg loads. The primary focus of this proposal is to construct a Pilot Project that consists of a 50-acre pond that will treat and remove MMHg from water and includes installations of small settling basins to catch particles.
Year 13 Accomplishments: CDFW continued with Year 12 activities, modifying them in response to recommendations from Science Advisory Panel. Monitored permanent ponds (through which water from seasonal ponds was moved). Monitoring focused on evaluating removal of MMHg in permanent ponds and determining the effect of size, depth, hydraulic residence time and age of permanent ponds on MMHg removal. The Project Team is summarizing the past year's data and synthesizing it with previous efforts in preparation of the final year of experiments.
Year 13 Cost: Utilized existing funds (Total funded $168,509 in Year 11)
Year 14 Proposed Work: The Project Team well complete summary of the past year's data and synthesize it with previous efforts in preparation of the final year of experiments.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 13
Agencies: CDFW
Priority/Goal Addressed: ERP Goal 4 and 6
Task Category: Research, Implementation

Activity: Development of Best Management Practices to Reduce Methyl Mercury Exports and Concentrations from Seasonal Wetlands in the Yolo Wildlife Area (SJSURF). The pilot and demonstration projects will develop BMPs to reduce methylmercury concentrations and exports from wetlands. These projects will test whether physical modifications of the fields as well as modifications of methods employed in managing wetlands can reduce MMHg loads. Following investigation of the various management measures, a final structure will be constructed to remove MMHg from water and reduce exports from the Yolo Wildlife Area.
Year 13 Accomplishments: The San Jose State University Foundation continued with Year 12 activities, modifying them in response to recommendations from Science Advisory Panel. Monitored permanent ponds (through which water from seasonal ponds was moved). Monitoring focused on evaluating removal of MMHg in permanent ponds and determining the effect of size, depth, hydraulic residence time and age of permanent ponds on MMHg removal. The Project Team is summarizing the past year's data and synthesizing it with previous efforts in preparation of the final year of experiments. The Project Team is in the process of summarizing the last year of data for use in planning the final year of field experiments. The Project Team presented this work to their Science Advisory Panel on June 20, 2013.
Year 13 Cost: Utilized existing funds (Total funded $1,632,491 in Year 12).
Year 14 Proposed Work: The Project Team well complete summary of the past year's data and synthesize it with previous efforts in preparation of the final year of experiments.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 13
Agencies: San Jose State University Research Foundation
Priority/Goal Addressed: ERP Goal 6
Task Category: Research, Implementation

Activity: Dutch Slough Restoration Project. The purpose of this project is to provide permitting, designs and Environmental compliance documentation prior to restoration of a 1,166 acre site in Oakley, CA. Project site is adjacent to Dutch Slough and the mouth of Marsh Creek in the western Delta. Current plans do not include construction of perimeter flood protection levees, only restoration of tidal influence on two-thirds of the site.
Year 13 Accomplishments: DWR completed engineering design and environmental documents.
Grantee submitted applications for all applicable environmental permits.
Year 13 Cost: Utilized existing funds (Funded $1,500,000 in Year 4)
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None
Funding Source: Proposition 204
Agencies: DWR
Priority/Goal Addressed: ERP Goals 1, 2, and 4
Task Category: Planning

Activity: <u>Ecological Performance of Fishes in an Ever-changing Estuary: The Effects of Nutritional Status on Environmental Stress Tolerance in Sturgeon.</u> The purpose of the project is to do a systematic study designed to establish the relationship between nutritional status, an indicator of dietary quality and quantity, and physiological performance of green and white sturgeon when faced with key environmental stressors. This project is a 2010/2011 Directed Action.
Year 13 Accomplishments: UC Davis maintained the current UCD stocks of green sturgeon broodstock and updated feed rates every month. White sturgeon juvenile growth trials have been completed and sample analyses, including whole body moisture, crude protein, ash; muscle moisture content; blood hemoglobin; plasma glucose, lactate, protein, TAG are in progress. UC Davis has completed all analyses for the white sturgeon larvae feeding experiment. UC Davis planned and is conducting the white sturgeon young-of –the-year experiment to improve the optimum feeding rate model. UC Davis completed the CTmax and thermal challenge experiments on white sturgeon juveniles. UC Davis started both white and green species, sample analyses of osmolality, Na^+, K^+, Cl^-; and gill and pyloric ceca NaK ATPase. Green sturgeon fingerlings HSP70 sample analyses are in progress and the grantee is planning for white and green sturgeon juvenile HSP70 analyses. Analyses of white sturgeon larvae CTmax and thermal challenge experiments were completed. UC Davis has discussed statistical design for experiments on feeding rates for growth in green and white sturgeons as well as, the statistical design for experiments assessing the physiological tolerance to environmental stressors.
Year 13 Cost: $472,991 (Funding for entire project).
Year 14 Proposed Work: UC Davis will study the relationship between nutritional status, an indicator of dietary quality and quantity, and physiological performance of green and white sturgeon when faced with key environmental stressors.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and UC Davis
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1
Task Category: Research

Activity: <u>Ecosystem Restoration Program (ERP) Oversight & Coordination.</u> As an ERP implementing agency, the NMFS will continue the ERP planning efforts in collaboration with USFWS, CDFW, and DSC. Activities include program planning and implementation, tracking schedules, finances, and performance; coordination of Program activities to ensure Program balance and integration with other CALFED Programs; coordination of public outreach and involvement, including tribal, environmental justice, and public advisory activities in accordance with the Federal Advisory Committee Act. NMFS, through an interagency process, is also involved in planning in order to meet the requirement of FESA, CESA, and NCCPA.
Year 13 Accomplishments: NMFS provided the ERP with oversight and coordination on planning and implementation efforts including the ERP Conservation Strategy, performance measures, program plan, environmental compliance, project review, species and habitat modeling.
Year 13 Cost: $140,000
Year 14 Proposed Work: NMFS staff and management will assist coordination of implementation and integration of the ERP overall in meeting the ERP goals and objectives. NMFS will provide oversight and coordination of ERP planning efforts including performance measures, program plan, environmental compliance, project review, species and habitat modeling.
Year 14 Projected Cost: $129,000
Funding Source: Federal (NOAA) Funds
Agencies: NMFS
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning and Program Support

Activity: Ecosystem Restoration Program Implementation Staff. In support of the 30-year CALFED ROD, CDFW staff manage the ERP grants, support the ERP planning at program-wide and regional levels, support ongoing implementation activities, coordinate with the DSC, USFWS, NMFS, and other CDFW staff, as well as coordinate with other planning efforts that contribute or may affect CALFED, such as the CVPIA, the BDCP, and the CVFPP.
Year 13 Accomplishments: ERP staff produced the ERP Conservation Strategy and is waiting for final approval. The ERP implemented projects selected the ERP's 2010-2011 PSP, and Directed Actions that focused on priority restoration activities identified in the ERP Conservation Strategy. ERP staff managed existing projects. ERP staff participated, coordinated, reported, and provided input to Bay-Delta Ecosystem planning and monitoring efforts.
Year 13 Cost: $3,506,549
Year 14 Proposed Work: The ERP will approve the ERP Conservation Strategy, implement projects that selected through the ERP's 2010-2011 PSP, Directed Actions, as well as manage existing projects. ERP staff will participate, coordinate, report, and provide input to Bay-Delta Ecosystem planning and monitoring efforts.
Year 14 Projected Cost: $3,555,079
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Task Category: Planning and Implementation

Activity: Ecosystem Restoration Program Performance Measures Staff. CDFW staff support to comply with increased accountability requirements of bond-funded activities. This fulfills the requirement to follow an adaptive management process, and to monitor and evaluate the ERP program performance by developing indicators and performance measures.
Year 13 Accomplishments: In Coordination with DSP staff, the ERP Performance Measures staff revised the ERP adaptive management framework and are developing biological performance measures to evaluate the success of the ERP actions. Performance measure staff contributed to the development of the DSC's Delta Plan including performance measures contained therein. Staff coordinated CDFW's input on progress towards meeting Delta Vision actions for ecosystem restoration for the 2013 Delta Vision Report Card. Staff contributed to development of the adaptive management and monitoring program for the BDCP. Staff developed, revised, and published species life history and ecosystem conceptual models to contribute to improved understanding and improved planning for ecosystem restoration and other actions in the Delta.
Year 13 Cost: $563,000
Year 14 Proposed Work: ERP Performance Measures staff will develop and refine biological performance measures to evaluate the success of ERP actions and support adaptive management. Staff will coordinate with the DSC, DSP, FRPA, BDCP, CWQMC, SWRCB, Delta Conservancy, BDCP, California Water Monitoring Council, and other agencies and programs to develop and refine adaptive management processes and performance measures for ecosystem protection, enhancement, and restoration. ERP Performance Measures staff will develop, revise, and publish conceptual models of the Delta ecosystem to contribute to improved understanding and improved planning for ecosystem restoration and other actions
Year 14 Projected Cost: $563,000
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Task Category: Monitoring

Activity: Evaluation of Floodplain Rearing and Migration in the Yolo Bypass. This project directly address restoration actions currently being considered to improve passage for upstream-migrating fish such as salmon and sturgeon, and by using telemetry to document specific areas in the Bypass that present passage barriers to adult Chinook salmon and sturgeon under different hydrological conditions. It also collects information on juvenile salmon residence time and survival in the Bypass, using telemetry. Specific thresholds (flow and inundation criteria) for enhanced lower trophic productivity that have not yet been identified in the Bypass. The project will analyze an existing 12-year database to identify these thresholds. In addition, the project will collect new data on chlorophyll and densities of zooplankton and drift invertebrates in summer and fall months, as these months are not represented in the current long-term dataset.
Year 13 Accomplishments: DWR completed its first year cycle of telemetry studies of Chinook salmon and sturgeon. DWR submitted their first yearly telemetry report. DWR collected samples for the Chinook Salmon Genetic Analysis. DWR began analyzing the samples. DWR analyzed the Historical Salmon Data that they collected. DWR began the initial steps of the Sulfur Isotope Studies. DWR collected food web samples and has begun analyzing the samples. DWR began to develop the database for data entry.
Year 13 Cost: $878,020 (Funding for entire project)
Year 14 Proposed Work: DWR will:

- Conduct telemetry studies of Chinook salmon and sturgeon within the Yolo Bypass;
- Collect samples and run the Chinook Salmon Genetic Analysis;
- Analyze the Historical Salmon Data that DWR has collected;
- Conduct sulfur isotope studies;
- Collect and analyze food web samples;
- Develop the database for data entry.

Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and DWR
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1, 2, and 4
Task Category: Research

Activity: Expanding Fish Tracking Array with Real-Time Monitoring of Tagged Sturgeon and Salmonids.
The purpose of the project includes: 1) Upgrading 75 obsolete monitors in the array of 300 fish detecting monitors situated in the Sacramento River, Delta, and Suisun, Grizzly, San Pablo, and San Francisco Bays; 2) Creating a new online database using 'Hydra' software allowing for interaction between researchers and operators of telemetry receivers; and 3) Adding a real-time capability to the array that will enhance its effectiveness at providing timely information and could make it possible to respond to changes in the distribution of fishes on the temporal scale of a day.
Year 13 Accomplishments: UC Davis removed obsolete monitors and replaced them with new monitors. UC Davis has moved the biotelemetry data formerly housed at NOAA to the online database Hydrophone Data Repository (HYDRA) and the project team has begun placing real-time monitors into the field.
Year 13 Cost: Utilized existing funds (Funded $690,593 in Year 12)
Year 14 Proposed Work: UC Davis will begin placement of the 16 real-time stations at various designated locations in the Sacramento/San Joaquin watershed.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and UC Davis
Priority/Goal Addressed: ERP Goals 1 and 2
Task Category: Research and Monitoring

Activity: Fall X2 Fish Sampling: Contrasts in Health Indices, Growth and Reproductive Fitness of Delta Smelt and Other Pelagic Fishes Rearing in the Low Salinity Zone and Cache Slough Region. This project addresses a critical need for information on the impacts of recurring multiple stressors in the Delta - notably contaminants, disease, environmental stress, and the underlying role of nutrition - on delta smelt and three other pelagic fish. It responds to recommendations from scientific review of the Adaptive Management Plan for Delta Fall Outflow, a scientifically based adaptive management plan to investigate the relationship between the fall habitat quality index and delta smelt stock-recruit. This relationship is the biological underpinning for the USFWS Delta Smelt Biological Opinion Reasonable and Prudent Action Component 3 or Fall X2 Action. This project is a 2010/2011 Directed Action.
Year 13 Accomplishments: UC Davis investigated the relationship between the fall habitat quality index and delta smelt stock-recruit Project. UC Davis provided Fall Low Salinity Habitat (FLaSH) reports.
Year 13 Cost: Utilized existing funds (Funded $2,980,196 in Year 12).
Year 14 Proposed Work: UC Davis will research health indices, growth and reproductive fitness of Delta smelt rearing in the Low Salinity Zone and Cache Slough Regions.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and UC Davis
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1 and 2
Task Category: Research

Activity: Fish Friendly Farming Environmental Certification Program. This project expands the Fish Friendly Farming program in the Napa River watershed. The program assesses the site conditions on Napa Valley farms, develops plans for the application of BMPs (by private landowners) to improve water quality and associated salmonid habitat. Certification, planning and on the ground restoration activities will be confined to on streams in Napa River Watershed.
Year 13 Accomplishments: The California Land Stewardship Institute completed Gravel Augmentation Adaptive Management Plan and Water Quality monitoring Plan for evaluating the effectiveness of the Fish Friendly Farming activity in the watershed, the Arundo Control Plan for Fish Friendly Farming projects on the Napa River, Carneros Creek Management Plan, the Napa River Fine Sediment Control the BMPs Report and the USACE permit for the Migration barrier Removal on Murphy Creek.
Year 13 Cost: Utilized existing funds (Funded $1,000,243 in Year 8)
Year 14 Proposed Work: The Anadromous fish barrier project is one of the few remaining activities for this project. The California Land Stewardship Institute will complete the gravel augmentation plan and stream work.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested
Funding source: Proposition 50
Agencies: CDFW, U.S. Environmental Protection Agency, and Napa County Resource Conservation District
Priority/Goal Addressed: ERP Goals 1, 4, 5, and 6
Task Category: Implementation

Activity: Fish Passage Improvement Program. The Fish Passage Improvement Program (FPIP) team studies and evaluates constructed structures that impede anadromous fish migration and assists with engineering and environmental evaluations for migration barrier structure removal or modification within the ERP focus area. The FPIP team is guided by an annual work plan developed by an Interagency Review Team (IRT) that includes representatives from the ERP Implementing Agencies and FPIP and approved by the ERP Implementing Agency managers. The work plan identifies and addresses high priority fish passage issues and other engineering support requirements for ecosystem restoration that may be highlighted in the ERP regional restoration plans.
Year 13 Accomplishments: FPIP reviewed and edited the Preliminary Engineering Report for modification of the Millville Diversion Dam. FPIP began analyzing four alternatives for the Deer Creek Irrigation District fish passage project. FPIP discussed reclaiming the training walls in the Yuba River, and fish passage at the Daguerre Pont Dam with Teichert Materials. FPIP submitted plans for the Caprini Low-Water Crossing fish passage to Stockton East Water District. FPIP evaluated various modeling tools and completed a draft report on Technologies for Passing Fish at Large Dams. FPIP completed the Bear Creek Fish Passage analysis, the Clover Creek habitat assessment, and the engineering designs to 50% for the Clover Creek/Millville Diversion Fisheries Restoration Project.
Year 13 Cost: Utilized existing funds (Funded $1,307,000 in Year 12)
Year 14 Proposed Work: FPIP will design the Deer Creek Fish Passage project to 50% and study fish passage improvements at the Daguerre Point Dam.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: DWR and CDFW
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Planning

Activity: <u>Fish Restoration Program Agreement (FRPA).</u> FRPA is an agreement between CDFW and DWR that will address some of the requirements of the USFWS and NMFS Biological Opinions, and CDFW Incidental Take Permit (ITP). Pursuant to FRPA, CDFW commits to work cooperatively with and assist DWR in establishing the management and financial framework necessary to implement a fish restoration program that will meet the federal Biological Opinions and CDFW ITP. CDFW assists DWR to implement actions, including aquatic habitat restoration, for winter-run Chinook salmon, spring-run Chinook salmon, green sturgeon, delta smelt, and longfin smelt to mitigate impacts to these species caused by the SWP Delta Pumping Facilities. Measures provided under the FRPA would likely benefit non-target fish species as well. Specifically, these actions include:

- Delta Smelt Biological Opinion Reasonable and Prudent Alternative (RPA) Component 4 ("DWR to restore a minimum of 8,000 acres of intertidal and associated subtidal habitat in the Delta and Suisun Marsh");
- Biological Opinion RPA Actions 1.2.6 (participate in the restoration of Battle Creek);
- Biological Opinion RPA Action Suite 1.6 and 1.7. (funding and technical assistance for Yolo Bypass, Liberty Island and Lower Cache Slough fish passage improvement);
- Longfin Smelt ITP Condition 7 (800 acres and associated subtidal wetland habitat in the mesohaline part of the Delta estuary).

Year 13 Accomplishments:

- Programmatic Communication & Engagement Plan
- Programmatic Stakeholder Assessment
- Public Outreach Program
- FRPA website completed and online at: http://www.water.ca.gov/environmentalservices/frpa.cfm
- Overlook Club in Suisun Marsh purchased for restoration (245 acres)
- Land Acquisition work group formed and actively pursuing land for restoration and identifying constraints and opportunities for timely acquisition
- Prospect Island Tidal Restoration Project milestones:
    - Phase 1 hydraulic modeling completed
    - DRERIP evaluation of Prospect Island design alternatives https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=59671
    - Prospect Island Communication and Engagement Plan
    - Notice of Preparation released in May 2013
    - Public scoping meeting completed June 10, 2013

Year 13 Cost: Utilized existing funds (Funded $3,459,216 Year 12 for 10 years), for program staff.
Year 14 Work Proposed: CDFW will assist in the identification of additional projects, final design selection and environmental documentation for Prospect Island Restoration. Cache Slough Complex Conservation Assessment to be completed by Fall 2013. CDFW will work on the FRPA monitoring program.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: State Water Contractors
Agencies: CDFW, DWR, and NMFS
Priority/Goal Addressed: ERP Goals 1 - 4
Task Category: Planning and Implementation

Activity: <u>FloodSAFE California Initiative (FloodSAFE).</u> Funding for CDFW to provide DWR with data support, document review, and policy and technical advice related to the development and updating the Central Valley Flood Protection Plan (CVFPP) and its Conservation Strategy (CS). FloodSAFE is intended to be an integrated, system-wide approach for sustainable flood risk management in California. The overall vision of FloodSAFE is to improve public safety, protect and enhance environmental and cultural resources, and support economic growth by reducing the probability of destructive floods, promoting beneficial floodplain processes, and lowering the damages caused by flooding. CDFW participated in the development of the 2012 Central Valley Flood Protection Plan (CVFPP), including its accompanying Conservation Framework (CF), with the goal of providing input making it consistent with the ERP Conservation Strategy (DFG 2011). The 2012 CVFPP and CF were adopted by the Central Valley Flood Protection Board on June 29, 2012. The CVFPP must now be revised and adopted every 5 years, the next revision will be due in 2017. ERP and regional CDFW staff will provide DWR with data support, document review, as well as policy and technical advice related to the development of the first revision due in 2017 for the CVFPP and its accompanying Conservation Strategy, which will be developed from the 2012 Conservation Framework. The CVFPP was a legislatively mandated action by the Central Valley Flood Protection Act to plan the long-term improvement of the flood management system in California's Central Valley. The CVFPP is required to describe how DWR and other partners, will protect, enhance, and improve the status and trends of ecosystem processes, habitats, and species associated with this flood management system.
Year 13 Accomplishments: CDFW is coordinated closely with DWR to integrate ecosystem restoration with flood and water management actions and to develop a Conservation Strategy based on DWR's Conservation Framework. CDFW is participated in the development of the Conservation Strategy to identify areas for restoration or recovery that will improve physical habitats in the selected corridors. CDFW coordinated with DWR on the early stages of development for an NCCP to identify habitat corridor and floodplain improvement opportunities. DWR solicited grant proposals for projects within the State Plan of Flood Control Area that would provide advanced mitigation for activities planned as a part of the CVFPP. CDFW reviewed and commented on the forty-one grant proposals for restoration projects within the Sacramento and San Joaquin watersheds that were submitted, of which seven will be awarded funding. Those seven projects are in various locations, but three that are within the Delta or nearby are 1) State of California West Sacramento Floodplain Mitigation Bank (proposal from WSAFCA); 2) Bullock Bend Conservation Bank (for Salmonid habitat) which is in Yolo county within the Colusa basin on the Sacramento River, and 3) Brush Rabbit Flood Refugia, Census & Reintroduction within the San Joaquin National Wildlife Refuge.
Year 13 Cost: Utilized existing funds (Funded $3,220,262 in Year 11)
Year 14 Proposed Work: The ERP and regional CDFW staff provide DWR with data support, document review, as well as policy and technical advice, related to the development of their Conservation Strategy, which is being developed from the 2012 Conservation Framework. The Conservation Strategy is scheduled to be completed by June of 2014, and will be integrated into DWR's 2017 CVFPP.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 13
Agencies: CDFW and DWR
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Implementation

Activity: <u>Groundwater Monitoring Plan for the Lake Davis Pike Eradication Project.</u> CDFW will conduct well monitoring in the Lake Davis Vicinity, a requirement of the 2007 Lake Davis Northern Pike Eradication Project EIR. CDFW will implement the remaining years of the seven well ten-year monitoring program that began in 2008. CDFW will analyze samples for CFT formulation chemicals used in the 2007 Lake Davis treatment. CDFW will review and Interpret sample results, maintain a data tracking system, conduct repeat sampling as necessary, and consult with owners and local agencies as necessary depending on contaminants detected. CDFW will provide updates and conducts informational presentations in coordination with Plumas County Environmental Health, and Lake Davis Steering Committee, and prepare yearly Project Performance Status Reports.
Year 13 Accomplishments: Ground water monitoring and reporting activities were conducted.
Year 13 Cost: $49,000 (Funding for entire project)
Year 14 Proposed Work: Monitoring is complete.
Year 14 Projected Cost:. Monitoring is complete.
Funding Source: Proposition 50
Agencies: CDFW
Priority/Goal Addressed: ERP Goal 5
Task Category: Monitoring

Activity: Habitat Restoration. USFWS is leading habitat restoration activities within the Bay-Delta Estuary. This includes working with other Federal, State, and local agencies to plan and implement numerous programs, including the CALFED Ecosystem Restoration Program, CVPIA, portions of the Interim Federal Action Plan, the Central Valley Joint Venture, the Cooperative Endangered Species Conservation Fund, Endangered Species Recovery Program, Partners for Fish and Wildlife Program, Land Acquisition Program, the North American Wetlands Conservation Fund, and the Interagency Ecological Program. This overall effort so far has resulted in thousands of acres of restored and conserved habitats, providing benefits to numerous fish and wildlife species and the American public.

Year 13 Accomplishments:

- Assisted in implementing ERP restoration grants and to worked to approve additional projects as funding and authorization allowed;
- Supported the development of a designs to support the propagation and restoration of Delta native fish species;
- Participated in habitat restoration efforts such as restoration of flows on the San Joaquin River from Friant Dam to the confluence of the Merced River, and in efforts to restore self-sustaining habitat in Battle Creek, Cache Slough, and the Yolo Bypass Floodplain;
- Restored, enhanced, and protected thousands of acres of Delta and Delta watershed wetland and waterfowl-friendly agricultural habitats and secured full water supplies for Central Valley State and Federal refuges;
- Awarded Cooperative Endangered Species Conservation Fund grants as appropriate, based on regional and national competitions and program criteria;
- Worked on the Draft Delta Native Fishes Recovery Plan in 2013;
- Worked with numerous landowners, to restore thousands of acres of Delta and Delta watershed wetland, riparian, and instream habitat for numerous fish and wildlife species and provided extensive technical assistance.

Year 13 Cost: $2,937,000
Year 14 Proposed Work: USFWS will continue with Year 13 activities.
Year 14 Projected Cost: $2,937,000
Funding Source: Federal (FWS) Funds
Agencies: USFWS
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning, Research, and Implementation

Activity: Hamilton Airfield Wetlands Restoration. The project site is located on San Pablo Bay, four miles east of the city of Novato, Marin County, California. The project includes a 988-acre parcel with a former military airfield, adjacent California State Lands Commission areas, and the 1,612-acre Bel Marin Key Unit V (BMKV) parcel. The levee-protected site has subsided below the elevation of the surrounding properties, including the tidal wetlands immediately adjacent to San Pablo Bay. This project allows for the beneficial reuse of 24.4 million cubic yards of dredged material, including 3.5 million cubic yards from the Port of Oakland 50' Deepening Project. This wetlands-restoration project would advance the beneficial use of dredge material from San Francisco Bay as part of the Long Term Management Strategy (LTMS). The California State Coastal Conservancy is the non-Federal sponsor.

Year 13 Accomplishments:

- Completed seasonal wetland shaping;
- Developed plans & specifications for Hamilton Airfield completion and breach;
- Developed plans & Specifications for Bay Trail;
- Managed nursery management and planting.

Year 13 Cost: (Total Federal cost through FY13 $85,234,000)

Year 14 Proposed Work:

- Construct Bay Trail (pending cost-share agreement execution);
- Complete Hamilton Airfield and breach construction;
- Manage and administer construction contract;
- Conduct monitoring and adaptive management of the site;
- Manage nursery and planting.

Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Federal (USACE) Funds
Agencies: USACE
Priority/Goal Addressed: ERP Goal 4
Task Category: Task Category: Implementation

Activity: Hamilton City, CA. The project area includes Hamilton City and the surrounding rural area. The boundaries are the Sacramento River to the east, the Glenn Colusa Canal to the west and extend about two miles north and six miles south of Hamilton City. The project area lies just north of the existing Sacramento River Flood Control project levees and within the area of extent of the Chico Landing to Red Bluff bank protection project. The project will construct a setback levee, degrade an existing levee and revegetate the setback area to restore 1,145 acres of riparian woodland, 261 acres of riparian shrub, and 70 acres of floodplain meadow. The project will also reduce flood risk for Hamilton City and adjacent agricultural lands, and improve fish passage through the delta.
Year 13 Accomplishments: Execute Project Partnership Agreement (Dec 2012).
Year 13 Cost: $7,500,000
Year 14 Proposed Work: Current year funding and the FY 2014 budget request will be used to complete a Limited Reevaluation Report in September 2013 that will evaluate some of the design refinements focused on updating costs and benefits, contract award, and construction management. USACE will award contract for: Valley Elderberry Longhorn Beetle plantings and stream gauge (Aug 2013) and acquisition and propagation of plants and installation of half of the restoration area will be awarded (Aug 2013). USACE will initiate removal of existing levee and construction of setback levee in southern portion of Dunning Slough (Aug 2013).
Year 14 Projected Cost: $15,000,000
Funding Source: Federal (USACE) Funds
Agencies: USACE
Priority/Goal Addressed: ERP Goals 1, 2, and 5
Task Category: Planning and Implementation

Activity: Hill Slough West Restoration Project, Phase I-Preliminary Restoration Design, Environmental Documentation and Permitting. The purpose of the overall project is to restore brackish tidal marsh and associated upland ecotone at the northern Suisun Marsh near the corner of Highway 12 and Grizzly Island Road to benefit endangered as well as migratory and resident species. The funding under this Grant will support Phase 1, design, permitting and environmental compliance.
Year 13 Accomplishments: California Wildlife Foundation produced the preliminary restoration design and plan, management plan, final environmental documents, and prepared permits. The California Wildlife Foundation completed the EIR administrative draft.
Year 13 Cost: Utilized existing funds (Funded $646,642 in Year 9)
Year 14 Proposed Work: Finish permitting, environmental compliance and management plan.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 50
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1, 2, and 4
Task Category: Task Category: Planning and Research

Activity: Identifying habitat characteristics that support native fish in the Delta and Suisun Marsh. The purpose of this research is to develop a better understanding of how physical habitat, flow, and other factors interact to maintain assemblages of native and non-native species in an environmental gradient that supports populations of most of the native fishes in the upper estuary. By documenting how native and alien fishes use habitat around Suisun Marsh, Sherman Island, and the Cache Slough complex, insights can be gained and hypotheses tested that will aid the recovery of at-risk native species, inform flow and habitat management decisions, and allow for better adaptation to climate change.
Year 13 Accomplishments: UC Davis completed habitat mapping and has begun fish and habitat surveys. UC Davis is using otolith microchemistry to study splittail habitat connectivity.
Year 13 Cost: Utilized existing funds (Funded $1,152,195 in Year 12).
Year 14 Proposed Work: UC Davis will conduct fish and environmental surveys. Researchers will utilize otoliths to determine natal origin of adult Sacramento splittail and measurements of strontium isotopes to identify juvenile Sacramento splittail nursery areas.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: UC Davis and CDFW
Priority/Goal Addressed: PSP Priority 2/ERP Goal 1-4
Task Category: Research and Monitoring

Activity: Instream Flow Recommendations. USFWS will provide CDFW technical assistance, support, and training necessary to develop stream flow recommendations for Sacramento-San Joaquin Delta tributaries pursuant to SBX7 1 and necessary to identify streamflows on other priority streams to ensure the continued viability of stream-related fish and wildlife resources pursuant to PRC sections 10000 to 10005.
Year 13 Accomplishments: USFWS provided technical services to CDFW by identifying instream flow needs and developing flow recommendations for priority streams and Sacramento-San Joaquin Delta tributaries on up to two priority streams or rivers. USFWS also conducted field studies on priority streams as well as data analyses and model construction on selected streams.
Year 13 Cost: Utilized existing funds (Funded $437,326 in Year 12).
Year 14 Proposed Work: USFWS will provide technical services to CDFW by identifying instream flow needs and developing flow recommendations for priority streams and Sacramento-San Joaquin Delta tributaries. USFWS will also conduct field studies on priority streams as well as data analyses and model construction on selected streams.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and USFWS
Priority/Goal Addressed: ERP Goal 6
Task Category: Task Category: Research

Activity: IRWM Fish and Productivity Data Analysis and Interpretation. This project will analyze fish and food web data collected under a previous grant funded by the CALFED Science Program. The overall goal is to gain as much insight as possible from the IRWM field data on the nature and extent to which tidal marsh restoration contributes to ecological support for native resident and migratory fishes through direct provision of habitats and high quality productivity.
Year 13 Accomplishments: Association of Bay Area Governments (ABAG) analyzed fish and productivity data and prepared manuscripts to report the results. Two manuscripts are complete and ready for submission to peer reviewed journals.
Year 13 Cost: Utilized existing funds (Funded $420,000 in Year 11)
Year 14 Proposed Work: ABAG will complete analysis and prepare final reports.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: ABAG and CDFW
Priority/Goal Addressed: ERP Goals 1, 2, and 4
Task Category: Task Category: Research and Monitoring

Activity: Linking Habitat and Spatial Variability to Native Fish Predation. This research project uses genetic assays to identify the presence of Chinook salmon, steelhead trout, Delta and longfin smelt, white and green sturgeon, and Sacramento splittail in the stomachs of predatory fishes (striped bass and largemouth bass) as well as the native piscivore, Sacramento pikeminnow (*Ptychocheilus grandi*s), across migration corridors and habitats of the north Delta. Subsidiary studies of evacuation rates will contribute to estimating predation rates. Results will be combined with bioenergetic models to investigate population impacts.
Year 13 Accomplishments: UC Davis obtained all required permits. UC Davis conducted the first winter sample of fish predators and submitted the first yearly report and data. The grantee submitted a technical paper on genetic assays.
Year 13 Cost: Utilized existing funds (Funded in Year 12)
Year 14 Proposed Work: UC Davis will collect fish predators and analysis of the stomach contents. The captive feeding trial will take place in the Winter of 2013. UC Davis will conduct feeding trials to determine the maximum length of time of digestion to still detect individual fish DNA; and begin bioenergetics modeling.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and UC Davis
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1-3
Task Category: Research

Activity: Lower Clear Creek Aquatic Habitat and Mercury Abatement Project. The objective of the Lower Clear Creek Aquatic Habitat and Mercury Abatement Project is to remove the long-term impacts of mercury contamination in the project area, while creating a cost-effective 20-year supply of spawning gravel from dredger tailings for use in Lower Clear Creek to enhance listed salmon/steelhead species populations, and to create 5.72 acres of new wetlands.
Year 13 Accomplishments: 2010/2011 PSP selection.
Year 13 Cost: No funds expended in Year 13.
Year 14 Proposed Work: ERP will execute the agreement and WSRCD will begin project implementation.
Year 14 Projected Cost: $4,539,015 (Funding for entire project).
Funding Source: Proposition 13
Agencies: CDFW and WSRCD
Priority/Goal Addressed: PSP Priority 1 and 3/ERP Goals 1 - 4
Task Category: Implementation

Activity: Lower Clear Creek Floodway Rehabilitation Project (Phase 3B). This project completed the Lower Clear Creek Floodway Rehabilitation Project. Phase 3B reconstructed the bankfull channel and portions of floodplain along 0.9 miles in the center of the restoration project area in one construction season, as well as monitored project implementation for three years. The reconstructed bankfull channel is designed to function geomorphically within newly constructed floodplain surfaces completed in Phases 2A and 2B of the Lower Clear Creek Floodway Rehabilitation Project, which are immediately adjacent to Phase 3B. The work also addressed a headcut that has continued to migrate and is threatening the channel and riparian habitat created in previous project phases.
Year 13 Accomplishments: WSRCD implemented 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 FESA. Restoration activities focused on implementing the Cloverview long-term Gravel Supply Project. The program continued monitoring juvenile habitat use, spawning area mapping, juvenile habitat suitability indices, gravel quality, survival-to-emergence, fish rescue, benthic macro invertebrate sampling, water quality, and water temperature. The program also implemented several in-stream spawning gravel placement projects.
Year 13 Cost: Utilized existing funds (Funded $3,482,000 in Year 7)
Year 14 Proposed Work: WSRCD will complete three additional projects using the remaining grant funds. Project #1 will rip and replant a road to connect two large riparian areas. Project #2 will lower a scour channel and replant it with wetland vegetation. Project #3 will decommission a series of unnecessary road segments and replant and irrigate approximately 2.5 acres.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 50
Agencies: CDFW and WSRCD
Priority/Goal Addressed: ERP Goals 1-4
Task Category: Implementation and Monitoring

Activity: Lower Cosumnes River Floodplain Restoration Project. The purpose of this project is to restore 154 acres of historic floodplain in the Cougar Wetlands Unit of the Cosumnes River Preserve for the purpose of reconnecting historic tidal sloughs to the mainstem Cosumnes River and providing tidal wetland habitat for juvenile Chinook salmon, steelhead, and other native fish species. Consistent with Proposition 204 and ERP goals and objectives, this project will address the need for restoration of functioning riparian floodplains in the Sacramento-San Joaquin Delta ecosystem.
Year 13 Accomplishments: Ducks Unlimited initiated and nearly completed project design, environmental compliance and permitting, and hydraulic modeling. .
Year 13 Cost: Utilized existing funds (Funded $1,244,017 000 in Year 12)
Year 14 Proposed Work: Start construction.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 204
Agencies: CDFW, BLM, USFWS, DWR, and National Fish and Wildlife Foundation
Priority/Goal Addressed: PSP Priority 1/ERP Goals 1, 2, and 4
Task Category: Implementation

Activity: Lower Putah Creek Restoration from Toe Drain to Monticello Dam: Project Description Development, CEQA Compliance, Permits, Selected Final Design. The purpose of this project is to create the planning and designs needed to construct the Lower Putah Creek Channel and Tidal Marsh Restoration as described herein. Environmental documentation, designs and permitting prerequisite to construction will be provided by this grant.
Year 13 Accomplishments: To address the splitting of the CEQA leads, the Yolo Basin Foundation has developed an MOU with Solano county water Agency.
Year 13 Cost: Utilized existing funds (Funded $2,260,313 in Year 12).
Year 14 Proposed Work: Yolo Basin Foundation will perform environmental documentation, project design and permitting.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested
Funding Source: Proposition 204
Agencies: CDFW
Priority/Goal Addressed: PSP Priority 1/ERP Goals 1, 2, 5, and 6
Task Category: Planning

Activity: Lower Yolo Bypass Collaborative Process Project. The Lower Yolo Bypass Collaborative Process Project is expected to be a multi-stakeholder negotiation focused on developing a set of management recommendations for the Lower Yolo Basin (LYB). The working assumption is that these recommendations will be presented in the form of a comprehensive management plan for the LYB. The plan is expected to be provided to organizations and agencies that can effectively and legally implement these recommendations.
Year 13 Accomplishments: Center for Collaborative Policy conducted two public meetings for the Liberty Island Management Plan - one for public users (hunters, fishermen) and one for agencies and stakeholders.
Year 13 Cost: Utilized existing funds (Funded $300,000 in Year 9)
Year 14 Proposed Work: Deliver final report and close out project.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Task Category: Planning and Technical Support

Activity: M&T Chico Ranch/Llano Seco Rancho Fish Screen Facility Long-term Protection Project: Evaluation of Rock Removal on the Sacramento River (RM 194-187). This grant will assist CDFW in preserving and protecting fish and wildlife by determining a rock bank removal alternative on the Sacramento River that will benefit bank swallows and anadromous fish by providing essential riparian and instream habitats.
Year 13 Accomplishments: Began development of hydraulic models.
Year 13 Cost: $53,000 (Funding for entire project)
Year 14 Proposed Work: Complete hydraulic modeling and reporting.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 204
Agencies: CDFW and USFWS
Priority/Goal Addressed: ERP Goals 1, 2, and 4
Task Category: Planning

Activity: M&T/Llano Seco Fish Screen Facility Long-Term Protection Project (Phase IV). Phase IV of this multi-phased project will prepare the environmental compliance documentation required under NEPA, CEQA, ESA, and CESA, for the M&T Chico Ranch/Llano Seco Rancho Fish Screen Facility Long-Term Protection Project, and obtain necessary permits required for implementation of the alternative selected at the conclusion of the environmental review process. Consistent with Proposition 84 and ERP goals and objectives, this project will provide an overall net benefit to Central Valley fisheries subjected to impacts from river diversions by ensuring project compliance with State and federal fish screen criteria, and maintenance of agreements not to divert 40 cfs of a water right from Butte Creek which currently serves to protect Spring-run Chinook salmon during critically dry years.
Year 13 Accomplishments: Ducks Unlimited continued work on the environmental compliance documents with oversight of the Project Team. Ducks Unlimited completed a special study to evaluate an M&T Ranch intake alternative on the west side of the River that is being considered for inclusion in the EIS/EIR.
Year 13 Cost: Funded in Year 12 for $2,480,610
Year 14 Proposed Work: Ducks Unlimited will develop an Administrative Draft Project EIS/EIR, work on project permitting, and conducting public scoping meetings.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 204
Agencies: CDFW and USFWS
Priority/Goal Addressed: ERP Goals 1, 2, and 4
Task Category: Planning

Activity: M&T/Llano Seco Fish Screen Facility Short-Term Protection Project-Environmental Compliance. The purpose of this project is to support the short-term protection of the existing M&T / Llano Seco Fish Screen Facility on the Sacramento River from being compromised by river sedimentation until a long-term solution for facility protection is implemented. This project will result in all environmental compliance documents and permits required to implement an instream dredge to protect the fish screen facility and extend the rock toe revetment protection on the opposite side of the River. This project will prepare the permits and environmental compliance documentation required under NEPA, CEQA, ESA, and CESA required for short-term protections for the M&T Chico Ranch/Llano Seco Rancho Fish Screen Facility Short-Term Protection Project.
Year 13 Accomplishments: Ducks Unlimited completed the Administrative Draft Environmental Assessment/Initial Study (EA/IS). Ducks Unlimited conducted bathymetry to evaluate movement of the submerged gravel bar.
Year 13 Cost: Utilized existing funds (Funded $542,640 in Year 12)
Year 14 Proposed Work: Next steps include finalization of the Public Draft EA/IS, and continuation of efforts on behalf of Ducks Unlimited and DFW to identify solutions for removal of stockpiled gravel on the M&T Ranch.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 204
Agencies: CDFW and USFWS
Priority/Goal Addressed: ERP Goals 1-4
Task Category: Planning

Activity: M&T/Llano Seco Fish Screen Facility Short-Term/Long-Term Protection Project. The objective of this project is to protect the existing M&T/Llano Seco fish-screen facility and its beneficiaries while investigating and identifying a technically and economically feasible long-term solution to adapt the fish-friendly pumping facility to the lateral migration of the Sacramento River.
Year 13 Accomplishments: Ducks Unlimited completed environmental document, monitoring and reporting.
Year 13 Cost: Utilized existing funds (Funded $4,390,087 in previous years, Total amount used $4,306,535)
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None
Funding Sources: Propositions 50 and 204
Agencies: CDFW and USFWS
Priority/Goal Addressed: ERP Goal 3
Task Category: Task Category: Planning

Activity: Management Tools for Landscape-Scale Restoration of Ecological Functions in the Delta.
Develops a set of tools facilitating landscape-scale restoration of the Sacramento-San Joaquin Delta ecosystem. The historical perspective will be compared to the present-day Delta to identify opportunities to restore ecological functions, not necessarily by replicating the historical Delta but by recreating viable habitat mosaics with the vision of how they connect at the landscape scale. Conceptual models will be developed to help practitioners identify these landscape level opportunities along with assistance given to develop appropriate metrics to assess individual projects.
Year 13 Accomplishments: For the historical and contemporary landscape analysis, the Aquatic Science Center (ASC) continued refining the metrics, based on feedback provided by the Landscape Interpretation Team (LIT). ASC coordinated this work with the ecological functions components of the project to ensure the metrics will support the selected ecological functions. During this time, Robin Grossinger communicated with interested agencies and researchers, including a presentation at the Delta Restoration Network.
Year 13 Cost: Utilized existing funds (Funded $875,000 in previous years)
Year 14 Proposed Work: ASC will:

- Refine and finalization of metrics;
- Prepare data and crosswalks prior to running metrics in GIS for metrics in process;
- Conduct literature review of relevant material;
- Develop material for a technical memo presenting the metrics measured for the historical and contemporary landscapes and landscape units;
- Refine the list of ecological function;
- Develop Landscape-scale Conceptual Models, Restoration principles, and Target Metrics.
- Develop materials and public outreach.

Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: PSP Priority 2/ERP Goal 1, 2, and 4
Task Category: Research

Activity: Managing Natural Resources for Adaptive Capacity: the Central Valley Chinook Salmon Portfolio.
The purpose of this project is to explore a variance-buffering "portfolio effect "(PE) in Central Valley fall-run Chinook by examining tradeoffs between multiple anthropogenic activities, including flow modification, hatcheries, and fisheries, by investigating 1) the role of phenotype diversity in contributing to PE, 2) effects of anthropogenic activities on PE, and 3) incorporating PE into management.
Year 13 Accomplishments: 2010/2011 PSP selection**.**
Year 13 Cost: No funds expended in Year 12.
Year 14 Proposed Work: ERP will complete the agreement and UC Berkeley will begin implementation.
Year 14 Projected Cost: $489,343 (Funding for entire project)
Funding Source: Proposition 84
Agencies: CDFW and UC Berkeley
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1 and 3
Task Category: Research

Activity: McCormack-Williamson Tract Flood Control and Ecosystem Restoration Project. The project will implement flood control improvements in a manner that benefits aquatic and terrestrial habitats, species and ecological processes. McCormack-Williamson plays a key role in north Delta hydraulics. The project is intended to allow passing of flood flows through the tract, in a way that minimizes flood impacts to the system. Because the tract's topography varies from roughly plus five feet above sea-level to minus four feet, the tract provides an ideal landscape gradient for a continuum of habitat types that provides for ecosystem benefits. This grant would be used to cover the 7% cost share of the 35% local match for project design and construction ($1.365 million) not being provided by DWR. In addition, this application seeks $1.95 million (10% of project design and construction cost) for pre and post construction monitoring and focused research. There will also be administrative and contingency costs associated with the project. Expected habitat outcomes with project implementation:

Floodplain: 400 acres
Riparian: 250 acres
Scrub-shrub: 100 acres
Channel aquatic: 200 acres
Dendritic intertidal: 100 acres
Shallow-water habitat: 500 acres
Emergency Marsh: 250 acres
Mudflat: 50 acres
Grassland: 150 acres

Year 13 Accomplishments: 2010/2011 PSP selection**.**
Year 13 Cost: No funds expended in Year 13.
Year 14 Proposed Work: ERP will complete the agreement and Reclamation District 2110 will begin implementation.
Year 14 Projected Cost: $3,314,300 (Funding for entire project)
Funding Source: Proposition 204
Agencies: CDFW
Priority/Goal Addressed: PSP Priority 1/ERP Goal 2
Task Category: Implementation and Monitoring

Activity: Mercury in San Francisco Bay-Delta Birds: Trophic Pathways, Bioaccumulation and Ecotoxicological Risk to Avian Reproduction. The primary project goal is to use an integrated field and laboratory approach to evaluate the risks of mercury (Hg) exposure to avian reproduction in the Bay and the Delta. This study will investigate three guilds of birds: recuvirostrids, terns, and diving ducks. This project will integrate a field assessment of exposure and effects with a laboratory assessment of the variation in sensitivity of avian embryos to methylmercury. The field approach will evaluate the relative hazard of Hg to three foraging guilds of marine-dependent birds and evaluate whether some species are experiencing adverse effects in the field that may be linked with Hg exposure. This project will also evaluate the potential influence of other contaminants of concern (COC's), primarily selenium (Se), polychlorinated biphenyls (PCB's) and polybrominated diphenyl ether (PBDE), which co-occur with Hg in some areas of the Bay-Delta.
Year 13 Accomplishments: No work has occurred.
Year 13 Cost: Utilized existing funds (Funded $5,823,262 in Year 5)
Year 14 Proposed Work: USFWS will complete remaining tasks and study synthesis.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 204
Agencies: USFWS and CDFW
Priority/Goal Addressed: ERP Goals 1, 3, and 6
Task Category: Task Category: Research and monitoring

Activity: Monitoring Responses of the Delta Smelt Population to Multiple Restoration Actions in the San Francisco Estuary. This project implements a state-of-the-art monitoring program to link key vital parameters for individual delta smelt with survival to adulthood at the population level. Measures five vital parameters for fish collected by the IEP, including growth and body condition, exposure to toxic chemicals, survival to the adult stage, spawning success, and feeding and food selectivity.
Year 13 Accomplishments: UC Davis submitted data for the 2008 delta smelt samples.
Year 13 Cost: Utilized existing funds (Funded $1,499,181 in Year 7)
Year 14 Proposed Work: UC Davis will complete the Final Report.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Sources: Propositions 50 and 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goal 1
Task Category: Monitoring and Research

Activity: <u>Other CVP Impacts.</u> Habitat Restoration Program 3406 (b)(1) Other, protects and restores native habitats and species impacted by the 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 scrub and associated grasslands, vernal pools, Central Valley wetlands, riverine dunes, and riparian habitats.
Year 13 Accomplishments: The program provided funding for protection and/or restoration of at least 2,000 acres of the CVP impacted habitats, captive breeding and reintroduction of federally listed species, and targeted research on the CVP impacted species and habitats.
Year 13 Cost: $1,500,000
Year 14 Proposed Work: Funding will be used for protection of habitats through purchase of fee title or conservation easements, restoration and management of habitats, and surveys and studies for Federally listed species impacted by the CVP. The program will focus on protecting and restoring endangered serpentine soil habitats in Santa Clara County, vernal pool wetlands throughout the Central Valley, grassland and alkali scrub habitats in the San Joaquin Valley and Tulare Basin, and aquatic/riparian habitats throughout the Central Valley. The program will also solicit for targeted research actions that coincide with high priority species and habitats. Proposals for project funding will be solicited on www.grants.gov, with the selection of new projects each year being dependent on the most current species and habitat priorities identified by the USFWS. It is anticipated that approximately 50% of project funds will be committed to land acquisition. Remaining project funds will be directed to habitat restoration and research to benefit Federally listed species. The activities are required as part of the Programmatic Section 7 Consultation for CVPIA and other Biological Opinions related to the CVP operations. All projects will focus on improving conditions for the CVP impacted species.
Year 14 Projected Cost: $1,500,000
Funding Source: Federal (USBR) Funds
Agencies: USBR
Priority/Goal Addressed: ERP Goals 1, 2, 3, and 4
Task Category: Planning, Implementation, and Research

Activity: <u>Pacific Flyway Center Initial Planning Project.</u> Funding for the initial planning phase of the Pacific Flyway Center (PFC), an educational facility and a site intended to serve the public. During prior Program years, Yolo Basin Foundation successfully completed the majority of the proposed project management, public participation, and environmental compliance work; however, an access road easement purchase fell through in mid-2006 that halted work on the proposed PFC Program and Project Development and Schematic Plans and Draft RFP/RFQ. Between 2006 and 2011, the YBF made a concerted effort to facilitate purchase of an alternate PFC site that was supported by the ERP through approval of several grant term extensions. In late 2011, the Yolo Basin Foundation Board of Directors began discussions with the California Natural Resources Agency on a new concept for a Delta Gateway Center that would include the PFC, a Bay Delta Conservation Plan headquarters, and a visitor center. In Year 13, the grant was closed due to administrative constraints associated with the agreement's age and number of amendments already executed because work could not proceed until a new site was secured.
Year 13 Accomplishments: ERP closed project, project complete.
Year 13 Cost: Utilized existing funds (Funded $334,021 in Year 5, Total amount spent $199,522)
Year 14 Proposed Work: None, project closed.
Year 14 Projected Cost: None
Funding Source: Proposition 204
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1, 2, and 4
Task Category: Task Category: Planning

Activity: <u>Providing Landowner Incentives to Encourage Riparian Restoration and Natural River Processes on Working Landscapes.</u> This project encourages and facilitates the stewardship and restoration of riparian habitat on agricultural lands within the Sacramento River Conservation Area. This is accomplished through the initiation of a Coordinated Conservation Effort that provides landowners the incentives and assurances needed to incorporate habitat restoration into their agricultural activities.
Year 13 Accomplishments: The Forum established and implemented a public outreach program focused on resolving conflicts between agriculture, restoration, recreation and flood management. Much of the Forum's effort for this project was focused on addressing regulatory assurances for landowners in implementing environmental restoration. The Forum worked with the U.S. Fish and Wildlife Service to develop a Programmatic Safe Harbor Agreement. The CSU, Chico Geographic Information Center completed mapping of riparian vegetation in Reaches 1 and 4 of Sacramento River.
Year 13 Cost: Utilized existing funds (Funded $599,821 in Year 7)
Year 14 Proposed Work: Project completed.
Year 14 Projected Cost: None
Funding source: Proposition 50
Agencies: CDFW and CSU Chico Research Foundation
Priority/Goal Addressed: ERP Goals 4 and 5
Task Category: Planning

Activity: <u>Quality Assurance Consulting Services.</u> San Jose State University Research Foundation (SJSURF) will provide general programmatic and technical assistance to the CDFW's Instream Flow program staff on the development and implementation of a Quality Assurance/Quality Control Program. The Quality Assurance Program is developing standard operating procedures (SOPs) and fact sheets to provide instream flow study design tools and guidance. The SOPs provide assistance for agencies, contractors, non-government organizations, and scientists collecting defensible, comparable instream flow data that meets CDFW's needs under mandates in Public Resources Code (PRC) §10000-10005.
Year 13 Accomplishments: SOPs were developed in Year 13 for:

1) measuring discharge;
2) collecting stream bed topography and water surface elevation data;
3) conducting critical riffle analysis;
4) conducting flow duration analyses; and
5) conducting wetted perimeter analysis.

The Quality Assurance (QA) Program developed draft fact sheets on instream flow methodologies, and program progress products, in addition to a guidance document on study plan structure during the reporting period. Progress was made during this reporting period on development of the overall Instream Flow Program Quality Assurance Manual. The QA Manual includes methods, templates, checklists, standard operating procedures, and the QA components to achieve program comparability for instream flow data. Development and implementation of CDFW's QA Program for instream flow is coordinated with the SWRCB Division of Water Rights as well as the SWRCB Division of Water Quality's Surface Water Ambient Monitoring Program (SWAMP).
Year 13 Cost: $143,674 (Funding for entire project)
Year 14 Proposed Work: SJSURF will develop the overall Instream Flow Program QA Manual. SJSURF will coordinate the implementation of CDFW's QA Program for instream flow with the SWRCB Division of Water Rights as well as the SWAMP.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and SJSURF
Priority/Goal Addressed: ERP Goal 2
Task Category: Task Category: Planning

Activity: Recovery Implementation for Riparian Brush Rabbit and Riparian Woodrat on the Lower Stanislaus River. This project restores riparian habitats along the lower Stanislaus and San Joaquin Rivers adjacent to the Caswell State Park and the San Joaquin River National Wildlife Refuge.
Year 13 Accomplishments: USFWS made progress on tasks that include, biological assessment and permitting, riparian brush rabbit reintroduction, and restoration of 50 acres of riparian habitat. USFWS conducted reproductive assessment trapping and translocation of suitable offspring to San Joaquin River NWR – West Unit, San Joaquin River NWR – East/Buffington Unit, and Faith Ranch. USFWS maintained enclosure vegetation. USFWS monitored survival and movements of radio-collared rabbits. USFWS trapped rabbits to remove or replace radio-collars as needed. USFWS maintained riparian restoration sites.
Year 13 Cost: Utilized existing funds (Funded $5,465,944 in Year 7)
Year 14 Proposed Work: USFWS will complete riparian brush rabbit reintroduction and translocation.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 204
Agencies: CDFW and USFWS
Priority/Goal Addressed: ERP Goals 1, 2, 3 and 5
Task Category: Task Category: Implementation

Activity: Refine the Fall-run Chinook Salmon Population Model. The project will provide structural, statistical and computer-processing refinements to the fall-run Chinook salmon population model, which will allow for a much broader suite of management action probability questions to determine instream flow level recommendations for fall-run Chinook salmon in the San Joaquin River. The refined model will provide the ability to focus future restoration water releases toward the most limiting salmon life stages and processes, and will assist State/federal agencies in developing a conceptual and operational understanding of these life processes and needs to restore fall-run Chinook salmon in the San Joaquin River.
Year 13 Accomplishments: California State University (CSU), Fresno Foundation developed the coding for the new version of the fall-run Chinook salmon population model. Provided model documentation and user's guide.
Year 13 Cost: Utilized existing funds (Funded $1,000,000 total from prior years)
Year 14 Proposed Work: The ERP will complete project close out.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Sources: General Fund, Propositions 13 and 84, and Federal Funds
Agencies: CDFW and CSU Fresno Foundation
Priority/Goal Addressed: ERP Goals 1-3
Task Category: Task Category: Planning

Activity: Renewed Federal State Partnership. USFWS is working to renew Federal and State partnerships that are invested in restoring the Bay-Delta. With support from our partners, the USFWS will identify water flow and habitat restoration actions to recover endangered and sensitive species and their habitats as well as address long-term critical water issues facing California. These efforts support the BDCP and the Administration's Interim Federal Action Plan (IFAP).
Year 13 Accomplishments: USFWS reviewed the draft BDCP. USFWS worked with state and local interests to plan and implement activities under the IFAP.
Year 13 Cost: $793,000
Year 14 Proposed Work: The public draft BDCP will be completed and available for public review in 2013.

- Following a public review period and a comprehensive outside expert scientific review, a final BDCP is expected to be completed before the end of 2014.
- Associated with the IFAP, the USFWS will work to align and function with new California State legislation focused on efforts to restore the Bay-Delta Estuary and better meet the state's water needs.
- The USFWS will work with state and local interests to plan and implement activities under the IFAP.

Year 14 Projected Cost: $793,000
Funding Source: Federal (USFWS) Funds
Agencies: USFWS
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning and Program Support

Activity: <u>Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks.</u> This project completes phase II of a four-phase project to protect and restore 311 acres of flood prone, ecologically significant land located within the Sacramento River Conservation Area at the confluence of the Sacramento River, Big Chico and Mud Creeks at river miles 194-195. The goal of this project is to protect and complete restoration and management planning for three properties located in Butte County: Nicolaus, Nock, and Singh properties. The objectives are to improve the viability of at-risk species by protecting and restoring riparian habitat and rehabilitating floodplain processes, increasing the knowledge of ecosystem function, reducing flood damage to important human infrastructure by increasing floodwater storage in project area, and improving water quality.
Year 13 Accomplishments: TNC worked extensively with State Parks to help them prepare for the first stakeholder meeting which was held in November 2012 in an effort to secure resolve stakeholder concerns raised during the encroachment permit application process. Attendees included two private landowners that neighbor the Singh Unit, the managing director of the Sacramento River Conservation Area Forum, TNC, and the Chief of Resources for State Parks. Following the stakeholder meeting, TNC worked with State Parks to identify maintenance actions that could be taken on the Singh Unit restoration site (when implemented) to ensure that flood flows can pass through the site unimpeded, satisfy stakeholder concerns regarding flood flows across the site. Through a collaborative process, State Parks has come up with items they may offer Butte County that will be offered at the next stakeholder meeting.
Year 13 Cost: Utilized existing funds (Funded $2,603,377 in Year 4)
Year 14 Proposed Work: TNC will work with State Parks to address concerns the CVFPB staff have regarding the Singh Unit floodplain encroachment permit application. One final facilitated public meeting will be held with project neighbors and Butte County to discuss stakeholder concerns about the project based on outcomes from interviews held with interested parties to the Singh Project.

Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 204
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1, 2, 4, and 6
Task Category: Task Category: Planning and Implementation

Activity: <u>Restoring Ecosystem Integrity in the Northwest Delta: Phase II.</u> Acquires conservation easements within the Cache Slough complex, along the Barker, Lindsey and Calhoun Sloughs, north Delta tidal channels located west of the Yolo Bypass. Note: Project was split into two parts, both bare the same name. (Part 1 of 2)
Year 13 Accomplishments: The Solano Land Trust submitted all required applications for permits needed for the restoration of the Lindsey Slough/Calhoun Cut.
Year 13 Cost: Utilized existing funds ($1,781,658 in Year 4)
Year 14 Proposed Work: Upon release of the final MND for the project, the Solano Land Trust will submit all final permits and final report.
Year 14 Projected Cost: No additional funds requested.
Funding Source: Proposition 204
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1-5
Task Category: Task Category: Acquisition

Activity: <u>Rice-Cover Crop Rotation Pilot Program.</u> This project seeks to implement an incentive-based 3-year pilot project to benefit ground nesting birds, giant garter snakes, and other wetland dependent species through altered crop rotations and semi-permanent wetlands.
Year 13 Accomplishments: In partnership with the California Waterfowl Association, the Wildlife Conservation Board (WCB), and the USFWS, completed a pilot project to benefit ground nesting birds, waterfowl, giant garter snakes, and other wetland-dependent species through a combination of altered crop rotations and semi-permanent wetland management. California Waterfowl Association enrolled 7,263 acres of privately owned rice fields and wetlands in this pilot project.
Year 13 Cost: Utilized existing funds (Funded $1,649,051 in Year 8)
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None
Funding source: Proposition 50
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1, 3, and 4
Task Category: Implementation

Activity: Riparian Sanctuary (Phase II) – Bringing Agricultural and Ecological Interests Together for Pumping Plant Protection and Riparian Restoration (Sacramento River Mile 178) - Design Development and Environmental Compliance. This project supports planning and design efforts to develop second phase of multi-phase process to protect PCGID-PID's pumping plant and fish screen facility and to meet Sacramento River National Wildlife Refuge habitat goals for the Riparian Sanctuary.
Year 13 Accomplishments: River Partners completed the Final EIS/EIR to restore riparian habitat at the Llano Seco Riparian Sanctuary Unit of the Sacramento River National Wildlife Refuge, and to protect the alignment of the Sacramento River at the water diversion for the Princeton-Codora-Glenn and Provident Irrigation Districts pumping plant and fish screen facility.
Year 13 Cost: Utilized existing funds (Funded $683,698 in Year 8)
Year 14 Proposed Work: River Partners will obtain project permits and the grant will close.
Year 14 Projected Cost: Funded in prior years, no additional funds are requested.
Funding source: Proposition 50
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1, 2, 4, and 5
Task Category: Planning

Activity: <u>Sacramento – San Joaquin Delta Tributary Instream Flow Program.</u> The objective of CDFW's Sacramento – San Joaquin Delta Tributary (Delta) Instream Flow Program (IFP) is to collect scientifically based defensible data on the relationships between flow and available stream habitat. CDFW's instream flow studies use a multi-disciplinary approach including hydrology, open-channel flow hydraulics, geomorphology, biology, water quality and connectivity. Study results establish flow needs, timing, and duration for maintaining the natural function of stream channels that provide critical habitat for different life stages of stream fishes. The IFP works to recommend flow regimes that will improve ecosystem health and meet species critical life stage requirements. CDFW must conduct and provide oversight on new flow studies in Delta tributaries as necessary to fulfill the mandates of SBX7 1 over the next ten years (FY 10/11 through FY 20/21) and make flow recommendations to be provided to the SWRCB. Flow habitat relationships for critical aquatic species' life stages will be developed on selected priority streams. Anticipated projects may include relationships of flow to aquatic habitat, aquatic habitat suitability, stream temperature, channel geomorphology, riparian habitat and restoration activities; the temporal and spatial hydrologic characteristics of flow regimes; fish population abundance, distribution and dynamics; and aquatic invertebrate production. CDFW's instream flow efforts may also include performance review of studies and development of flows by CDFW or its contractors; consultation regarding study plans with individuals, agencies or corporations performing studies; review of instream flow studies not performed by CDFW itself; and development of associated recommendations from studies not performed by CDFW.
Year 13 Accomplishments: The Lower Butte Creek instream flow study is underway. Upstream passage of adult Spring-run Chinook salmon (SRCS) has been identified as the primary species and life stage that requires a flow recommendation. USFWS prepared a draft study plan and data collection began. On Mill Creek staff performed reconnaissance surveys to understand conditions on the creek and inform development of a study plan. Regional staff have identified passage of adult SRCS as the primary species and lifestage that requires a flow recommendation. To fill some of the remaining data gaps, CDFW has installed temperature monitoring equipment in Mill Creek. The data will be used to support and inform the study components and methods needed to complete a study and eventual flow recommendation on Mill Creek. Staff performed reconnaissance surveys on Deer Creek to understand conditions on the creek and inform development of a study plan. Regional staff have identified passage of adult SRCS as the primary species and lifestage that requires a flow recommendation. The program's fisheries biologists participated in snorkel surveys of the upper watershed to understand current SRCS populations in Deer Creek. Staff are preparing an invitation for bid document for the Deer Creek instream flow study. An independent contractor will be selected to collect data necessary to inform the study.
Year 13 Cost: $388,000
Year 14 Proposed Work:

- Other priority Delta Tributaries (identified in the IFP prioritized list of Delta Tributaries prepared in FY 11-12) will be considered for evaluation in FY 13-14 as CDFW IFP staff coordinate with the SWRCB.
- The final lower Butte Creek study plan will be issued early in FY 13-14. Data collection will be completed on the lower Butte Creek instream flow study and preparation of the instream flow study report should be largely completed by the end of FY 13-14. Development of CDFW flow recommendation for lower Butte Creek is scheduled to begin in FY 13-14.
- The IFP plans to develop the draft instream flow study plan for Mill Creek in FY 13-14.
- The IFP plans to circulate an invitation for bid on Deer Creek in FY 13-14.

Year 14 Projected Cost: $388,000
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1 and 2
Task Category: Task Category: Planning

Activity: <u>Sacramento River Conservation Area Forum (SRCAF).</u> This grant provides funding to continue the efforts of the Sacramento River Conservation Area Forum to act as a coordinating body between local, state, and federal agencies regarding restoration activities in the Sacramento River watershed.
Year 13 Accomplishments: The Forum participated in multiple ecosystem planning and restoration project efforts along the Sacramento River. The Landowner Incentive Library has been established on the Forum's website, providing access to information on federal, state and local programs to support conservation. The Forum has continued to use Project Tracker to maintain and provide public access to information on projects and coordinated **efforts along the river.**
Year 13 Cost: Utilized existing funds (Funded $656,277 in Year 7)
Year 14 Proposed Work: Project completed
Year 14 Projected Cost: None
Funding Source: Proposition 50
Agencies: CDFW, California State University, and Chico Research Foundation
Priority/Goal Addressed: ERP Goal 4
Task Category: Task Category: Planning

Activity: <u>Sacramento Valley/Delta Fish Screen Program.</u> This project will monitor and screen up to fifteen small diversions in the Sacramento River. There will be two years of data collection prior to screening each diversion. Fifty percent cost share funding for this project is provided by USBR's AFSP.
Year 13 Accomplishments: During Year 13, fish screens were installed on the Alamo Farms diversion (35 cfs) on the Sacramento River and the Sanchez Farms Diversion (25 cfs) on Steamboat Slough. Family Water Alliance worked on permitting for the remaining diversion sites, which are scheduled for fish screen installation in Fall 2013. Subcontractor Natural Resource Scientists is currently preparing biological assessment information for the final biological assessment report, which will include results of this multi-year entrainment monitoring effort.
Year 13 Cost: Utilized existing funds (Funded $4,525,636 in Year 9) (State Match to AFSP)
Year 14 Proposed Work: Fish screens will be installed on the Tisdale (44 cfs), River Garden Farms (62 cfs), and Cranmore (40 cfs) diversions on the Sacramento River and the final report on biological assessments will be completed.. Project will close during Year 14.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and USBR
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Task Category: Planning and Implementation

Activity: <u>Sacramento-Central Valley Fish Screen Program.</u> This program reduces entrainment mortality of juvenile fish species from Delta and river diversions by installing state-of-the-art self-cleaning fish screens. Fifty percent cost share funding for this project is provided by USBR's AFSP.
Year 13 Accomplishments: In partnership with the Anadromous Fish Screen Program and the Sacramento-Central Valley Fish Screen Program, Family Water Alliance worked with its subcontractors to prepare environmental documents and permit applications and complete fish screen designs for the three diversions that will be screened in Fall 2014.
Year 13 Cost: Utilized existing funds (Funded $1,500,000 in Year 10) (State Match to AFSP)
Year 14 Proposed Work: Family Water Alliance will complete environmental documentation and obtain all permits necessary to install fish screens on two Feather River diversions (40 cfs and 78 cfs) and one screen on Auburn Ravine (80 cfs) in Fall 2014.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and USBR
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Task Category: Implementation and Monitoring

Activity: <u>Salinity effects on native and introduced SAV of Suisun Bay and the Delta.</u> This research project will evaluate the role of increased salinity on native versus introduced submerged aquatic vegetation beds in an effort to predict how native *Stuckenia spp.* beds might contribute to restoration of native communities and functions in the Delta region. The project is a companion to recently funded projects (NMFS and Delta Science) mapping Stuckenia distribution and characterizing *Stuckenia* beds as habitat for epifaunal invertebrates and fish.
Year 13 Accomplishments: San Francisco State University (SFSU) continued studies to characterize salinity and other abiotic factors in and outside native *Stuckenia pectinata* beds with comparisons to four invasive *Egeria densa* beds, and used mescosom experiments to evaluate and predict the effects of increased salinity on *Stuckenia* and *Egeria*, and their invertebrate assemblages.
Year 13 Cost: $412,410 (Funding for entire project)
Year 14 Proposed Work: SFSU will monitor of water quality at all eight sites with hand held instruments as well as sampling for nutrients. SFSU will conduct Egeria salinity experiments in the controlled temperature room. SFSU will conduct turbidity/salinity experiment in the large tanks in the greenhouse. SFSU will process samples and analyze data as it becomes available.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and SFSU
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1, 2, 4, and 5
Task Category: Research

Activity: San Joaquin River Dissolved Oxygen/Oxygen-consuming materials in San Joaquin River. The purpose of this project is to collect and analyze data on the sources of nutrients, phytoplankton, and oxygen-consuming materials in the San Joaquin River estuary to support the development of an estuary model. This model is needed by the Central Valley Regional Water Quality Control Board to complete the SJR Dissolved Oxygen Total Maximum Daily Load development and allocation process.
Year 13 Accomplishments: University of the Pacific collected and analyzed data on the sources of nutrients, phytoplankton and oxygen-consuming materials in the San Joaquin River estuary to support the development of an estuary model and finish QA of model data, calibration, sensitivity analysis, and model simulations.
Year 13 Cost: Utilized existing funds (Funded $2,992,933 in Year 9)
Year 14 Proposed Work: The project team will prepare the draft final report for submittal around July 24, 2013. The Project Team will participate in an independent science review of the models developed under this agreement.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: University of the Pacific and CDFW
Priority/Goal Addressed: ERP Goals 1 and 6
Task Category: Task Category: Research

Activity: San Pablo Bay Watershed and Suisun Marsh Ecosystem Restoration, CA. The San Pablo Bay Watershed is the northern arm of San Francisco Bay drainage basin, within the boundaries of Marin, Sonoma, Napa, Solano and Contra Costa Counties, California. Within the watershed, there are opportunities to increase the states' wetland acreage by over five percent. Suisun Marsh is located in southern Solano County, California about 35 miles northeast of San Francisco. The watershed study identifies and implements Federal participation for restoration projects and resource protection opportunities of these areas. Additionally, it may look at levee stability in the Suisun Marsh. As the largest contiguous brackish water marsh remaining on the west coast of North America, the Marsh is a critical part of the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) estuary ecosystem.
Year 13 Accomplishments: USACE developed the Final Watershed Management Report that incorporates and responds to Public and Agency comments. The plan describes activities that would restore critical habitat throughout the watershed. The Watershed Management Plan identifies high priority project proposals and management measures, rank the watershed's critical habitats, and set priorities for restoration. In accordance with Section 5053(c), prioritizing projects for implementation, USACE will be able to consult with and consider the priorities of public private entities that are active in the San Pablo Bay and Suisun marsh areas. $40M is authorized to implement restoration projects in accordance with general procedures for Section 206 Continuing Authorities Program. FY 2013 Key Milestones: Complete the feasibility and design phases of two restoration projects and submit for approval the Final San Pablo Bay Watershed Management Report.
Year 13 Cost: $216,000
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None
Funding Source: Federal (USACE) Funds
Agencies: USACE
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning and Implementation

Activity: Screen Engineering and Review. NMFS staff provide technical review and comment of proposed projects under the AFSP.
Year 13 Accomplishments: NMFS staff reviewed ERP-funded fish screens and improvement projects as they develop for compliance with section 7 FESA and existing biological opinions. Specific issues for program staff included reviewing the SWP and CVP Fish Collection Facilities in the Delta. Staff participation on the Tracy Technical Advisory Team, South Delta Fish Facility Forum, and Central Valley Fish Facility Team, all of which are involved in developing new ways to salvage fish from water and debris and return them unharmed to the Delta. Staff reviewed and commented on fish studies, research projects, facility evaluations, and operations and maintenance of the Delta fish facilities for compliance with current biological opinions.
Year 13 Cost: $70,000
Year 14 Proposed Work: NMFS staff will provide technical assistance to AFSP as described in Year 13.
Year 14 Projected Cost: $65,000
Funding Source: Federal (NOAA) Funds
Agencies: NMFS
Task Category: Planning

Activity: <u>Selby Creek Stream Habitat Restoration and Riparian Revegetation Project.</u> This project continues support for restoration efforts based on the Selby Creek Project (watershed plan) on Selby Creek in the Napa watershed.
Year 13 Accomplishments: Bioengineering Institute completed the final Bioengineering Construction and Revegetation projects along Selby Creek. Bioengineering Institute completed 2nd year of monitoring and reporting.
Year 13 Cost: Utilized existing funds (Funded $475,000 in Year 11)
Year 14 Proposed Work: Bioengineering Institute will conduct remaining landowner and education outreach workshops. Will complete final year of monitoring and submit final monitoring report, and final project report.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding source: Proposition 50
Agencies: CDFW and USGS
Priority/Goal Addressed: ERP Goals 4
Task Category: Implementation

Activity: <u>Spawning Gravel/Riparian Habitat.</u> 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.
Year 13 Accomplishments: Gravel placement occurs annually in the upper Sacramento River downstream from Keswick Dam. Gravel is replenished at existing augmentation sites as the placed gravel is washed downstream. New placement sites are being scoped and new projects addressing rearing and spawning habitat limitations are being considered. Monitoring of past projects is ongoing and a sediment budget is being developed. The American River gravel placement program has identified specific project sites as part of a multi-year series of projects, beginning in 2008, between Nimbus Dam and River Bend Park to address spawning habitat and rearing habitat limitations. Projects have been completed at five sites. Projects include mainstem gravel placement and side channel creation for spawning and rearing habitat targeting steelhead. Evaluating the effectiveness of past projects is ongoing. The Stanislaus River program has identified rearing habitat as a key limitation to Chinook salmon so projects will target gravel placement to enhance rearing and spawning habitat. The National Oceanic and Atmospheric Administration Reasonable and Prudent Alternative for operations of the CVP and SWP included an action to place 50,000 cubic yards of gravel in the Stanislaus by 2014 and 8,000 cubic yards per year thereafter (for steelhead). Stanislaus projects are striving to meet this action. Evaluating the effectiveness of past projects is ongoing.
Year 13 Cost: $903,000
Year 14 Proposed Work: 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.
Year 14 Projected Cost: $1,200,000
Funding Source: Federal (USBR) Funds
Agencies: USBR
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Planning and Implementation

Activity: Suisun Marsh Land Acquisition and Tidal Marsh Restoration-Elevation and Contaminant Surveys, Review of Land Acquisition Package, and Review of Property Appraisal. ERP will acquire, by either fee title and/or conservation easement, up to 500 acres of land in northern or western Suisun Marsh with the exact location dependent upon willing sellers. The choice of this area for restoration was based upon the high potential benefit for native and at-risk species, contiguity with non-urban or similarly managed lands, the low potential for conflict with neighboring land use, the low risk of downstream flooding, and the low risk of negative salinity changes. The established Environmental Coordination Advisory Team list of selection criteria, in accordance with the Suisun Charter Implementation Plan, will be used to identify parcel(s) that are appropriate for tidal marsh restoration. Parcels must have the potential to include all features of a fully functional, self-sustaining tidal marsh including tidal sloughs and low, middle, and high marsh zones.
Year 13 Accomplishments: WCB searched for properties with willing sellers.
Year 13 Cost: Utilized existing funds (Funded $926,869.64 in Year 10)
Year 14 Proposed Work: WCB will search for additional acquisition opportunities.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and WCB
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Task Category: Implementation

Activity: Suisun Marsh Land Acquisition and Tidal Marsh Restoration - Public Notification and Site Selection. This grant supports the public notification and site selection component of the Suisun Marsh Land Acquisition and Tidal Marsh Restoration project, by conducting public notifications, property owner contacts, compiling information, ensuring the project location is consistent with local general plans and has all necessary environmental documentation and permitting necessary to acquire the acreage identified.
Year 13 Accomplishments: On standby to provide public notification, environmental compliance, and permitting for parcels belonging to willing sellers.
Year 13 Cost: Utilized existing funds (Funded $16,500 in Year 9)
Year 14 Proposed Work: Suisun Resource Conservation District will provide public notifications, property owner contacts, compiling information.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: Suisun Resource Conservation District and CDFW
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Task Category: Implementation

Activity: Suisun Marsh Protection. The Suisun Marsh Preservation Agreement (SMPA) was executed on March 2, 1987, among USBR, DWR, CDFW, 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 CVP and SWP and a portion of the adverse effects of the other upstream diversions. USBR (CVP) is responsible for 40 percent of the construction and annual operation and maintenance costs associated with implementation of the SMPA; the State (SWP) is responsible for 60 percent of the implementation costs.
Year 13 Accomplishments: A final draft of the EIS/EIR was released on December 6, 2011, and the proposed amendment to the revised SMPA will be implemented following completion of necessary environmental compliance documentation, including Endangered Species Act Consultations, and Record of Decision, anticipated in FY 2013.
Year 13 Cost: $1,432,000
Year 14 Proposed Work: USBR will participate 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. USBR work with DWR to ensure dependable water supply of adequate quantity and quality to protect wildlife habitat in the Suisun Marsh for the protection and preservation of fish and wildlife. Funding also supports operation and maintenance of SMPA facilities.
Year 14 Projected Cost: $1,423,000
Funding Source: Federal (USBR) Funds
Agencies: USBR
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Planning and Implementation

Activity: Survival and Migratory Patterns of Juvenile Spring and Fall Run Chinook Salmon in the Sacramento River and Delta. This research will measure reach-specific survival rates of juvenile Chinook salmon (*Oncorhynchus tshawytscha*), and determine survival differences between spring and fall runs. The project provides resource managers in California with a more comprehensive understanding of the response of juvenile salmon outmigration under a wide variety of flow conditions and Delta water management practices. Acoustic transmitters will be implanted in critical life stages of Chinook salmon to track hatchery-raised fall and spring run smolts released annually over a period of three years. The effects of natural and anthropogenic changes in flow and related water project operations on their survival and movement patterns within the Sacramento River and Delta will be evaluated.
Year 13 Accomplishments: UC Davis has completed range and reliability tests on biotelemetry receivers and tags, and the process of updating outdated monitors has begun. Research team biologists have begun tagging and releasing hatchery-raised fall and spring-run Chinook salmon with JSAT beacons to track reach specific survival during downstream migration.
Year 13 Cost: $1,746,955 (Funding for entire project).
Year 14 Proposed Work: UC Davis will research and monitoring survival and migratory patterns of juvenile spring and fall run Chinook salmon in the Sacramento River and Delta.
Year 14 Projected Cost: Project undergoing an amendment review requesting and additional $358,956 to cover increased costs due to long delay in funding from the time of initial proposal submission.
Funding Source: Proposition 84
Agencies: CDFW and UC Davis
Priority/Goal Addressed: PSP Priority 2/ERP Goals 1 and 3
Task Category: Research

Activity: UCD Project Review Office Services. This agreement is for UC Davis support in technical and peer reviews, workshops, training, and other relevant ERP activities.
Year 13 Accomplishments: UC Davis supported evaluation of Prospect Island tidal wetland restoration project alternatives utilizing the DRERIP conceptual models and scientific evaluation process. UC Davis supported the review of a draft adaptive management plan for Coleman Fish Hatchery, a review of control studies developed under the Methylmercury Total Maximum Daily Load for the Delta by the Technical Advisory Committee, a review of the current work effort under the Yolo Wildlife Area Best Management Practices grant by their Science Advisory Panel, and review of proposals for 1) a monitoring plan for steelhead and 2) restoration project on Cow Creek.
Year 13 Cost: Utilized existing funds (Funded $3,999,997 in Year 10)
Year 14 Proposed Work: UC Davis will support the State of the Science Workshop on Fish Predation on Central Valley Salmonids in the Bay-Delta Watershed workshop, biomarkers workshop, second DRERIP evaluation for Prospect Island tidal wetland restoration project, and review of the models developed under the San Joaquin River Dissolved Oxygen Total Maximum Daily Load ERP grant. This agreement will also support a facilitator for the California Estuaries Portal Workgroup.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: UC Davis
Priority/Goal Addressed: ERP Goals 1-6
Task Category: Task Category: Planning and Implementation

Activity: Upper Sacramento River Winter Chinook Salmon Carcass Survey Project (USFWS). The Upper Sacramento River Winter Chinook Carcass Survey monitors the annual abundance, migration timing, spawning distribution, and several life history characteristics of hatchery and natural winter-run Chinook salmon.
Year 13 Activities: USFWS collected, analyzed, and reported on data for 2012 escapement survey. USFWS began the 2013 winter Chinook carcass survey, which will continue 7 days per week through late August.
Year 13 Cost: Utilized existing funds (Funded $496,210 in Year 7)
Year 14 Activities: USFWS will conduct another survey season. USFWS will conduct analysis of recovered coded-wire tags. USFWS will finalize data entry, data proofing, and initiate data analyses.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 50
Agencies: USFWS and CDFW
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Task Category: Monitoring

Activity: <u>Water Acquisition.</u> The two 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, land, water, and conveyance to improve spawning and rearing habitat and increase migration instream flows for fall, winter and spring run Chinook salmon and steelhead in support of the Anadromous Fish Restoration Plan [CVPIA Section 3406 (b)(3)].
Year 13 Accomplishments: WAP provided supplemental refuge water supplies (Incremental Level 4) through annual purchases. As a supplement to surface water acquisitions, the WAP continued to investigate and implement groundwater projects in order to lower costs and increase reliability of providing supplemental refuge water supplies. Refuge water quality data was collected and analyzed to assess the potential for long-term groundwater projects while providing short-term Incremental Level 4 supplies. WAP provided additional in-stream flows in support of the Central Valley wide fish doubling goal, as described in (b)(1). WAP acquired Merced Irrigation District (MID) water to provide additional spring fishery flows on the Merced and lower San Joaquin Rivers; (3) Acquired water to enhance in-stream flows, thus improving spawning and rearing habitat for salmon and steelhead in support of the AFRP.
Year 13 Cost: $19,600,000
Year 14 Proposed Work: WAP plans to acquire approximately 56,000 af of Incremental Level 4 water supplies. USBR 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 may 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. In addition to the water acquisition cost, there are delivery costs to get the water to the refuges. Funding is provided under the Refuge Wheeling Conveyance Program. Funds will also be used by the WAP to acquire water to supplement the quantity of water dedicated under (b)(2) for fish, wildlife and habitat restoration purposes. Acquisitions will focus on flows to support the Central Valley wide fish doubling goal as described in (b)(1).
Year 14 Projected Cost: $21,406,000
Funding Source: Federal Funds (USBR)
Agencies: USBR
Priority/Goal Addressed: 1 and 3
Task Category: Implementation

Activity: <u>Water Quality Effects on Survival, Growth, and Feeding Performance in Larval Delta Smelt (*Hypomesus transpacificus*) from the Sacramento-San Joaquin Delta.</u> The primary objective of this investigation is to assess the impacts of waterborne contaminants found in Delta water on larval delta smelt. The project team proposes to investigate the sub-lethal physiological stresses imposed on Delta smelt by utilizing excess larvae from the USFWS Livingston Stone National Fish Hatchery refugial population. Assessing these sub-lethal effects will lead to a better understanding of the role contaminants play in recent population collapses. To reach this objective the project team will: 1) Determine if exposure of delta smelt yolk-sac larvae to Delta water impairs 6-day post-hatch survival, growth rate, or ability to feed; 2) Assess any temporal influences, between April and July, on survival or feeding; and 3) Assess correlations between organophosphate, organochlorine, pyrethroid, or fungicide concentrations in Delta water with 6-day post-hatch survival, growth, or ability to feed.
Year 13 Accomplishments: USFWS collected water samples for bioassay and chemical analysis. The analyses included organochlorines, organophosphates, pyrethroid, and fungicides on the water samples. Larval Delta smelt bioassays were conducted.
Year 13 Cost: $224,760 (Funding for entire project)
Year 14 Proposed Work: USFWS will complete sampling and bioassay trials for 2013, prepare 2013 annual report. Initiate 2014 bioassays and chemical analysis.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW and USFWS
Priority/Goal Addressed: PSP Priority 2/ERP Goal 6
Task Category: Research

Activity: West Coast Ballast Outreach Project. The goal is to reduce the number of aquatic nuisance species (ANS) that are introduced to the west coast of the U.S.A. via ballast water discharges from merchant vessels. This project will continue to improve knowledge and understanding of current ballast water management (BWM) strategies and ANS issues; to coordinate BWM activities along the west coast, and with Federal and international programs; to maintain open communication and promote cooperation between private industry, regulators, and researchers; and to bolster industry interest and participation in BWM issues. This training includes the distribution of educational materials, a website, and ballast water management practices. The project has been amended to encompass the most pressing aquatic invasive species (Eurasian mussels).
Year 13 Accomplishments: The Regents of the University of California provided education and outreach regarding ANS with focus on quagga/zebra mussels, includes updating educational material and holding and/or participating in workshops.
Year 13 Cost: Utilized existing funds (Funded $478,395 in Year 5)
Year 14 Proposed Work: None, project complete.
Year 14 Projected Cost: None
Funding Source: Proposition 204
Agencies: UC Davis and CDFW
Priority/Goal Addressed: ERP Goal 5
Task Category: Education

Activity: West Stanislaus Irrigation District Fish Screen Intake Final Design Planning, Environmental Compliance and Permitting Project. West Stanislaus Irrigation District (WSID) will complete the final planning designs, environmental compliance and permitting of a new fish screen on their 347 cubic foot per second year-around diversion from the lower San Joaquin River, Stanislaus County. This is Phase II of the Project which includes detailed final engineering, refined construction cost estimates of a preferred alternative, bid specifications, necessary State and Federal environmental compliance and the necessary permits required to later construct (Phase III). Fifty percent cost share funding for this project is provided by USBR's AFSP.
Year 13 Accomplishments: WSID initiated work in support of environmental compliance and permitting, preliminary design, and geotechnical investigations.
Year 13 Cost: $2,600,000 (Funding for entire project) (State Match to AFSP)
Year 14 Proposed Work: WSID will conduct environmental compliance and permitting, preliminary design, geotechnical investigations, surveying and mapping.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 50
Agencies: CDFW, USBR, and WSID
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Task Category: Planning

Activity: Wetland and Rice Management to Limit Methylmercury Production and Export. This project undertakes measurements of labile carbon, as well as a suite of measurements of factors that are likely to affect mercury methylation activities, including the quality of organic carbon, total mercury, pH, etc. Porewater methylmercury will be measured to give site specific (within each type of pilot manipulation) information on the effects of the treatments. Builds upon an existing grant that tests whether changes in rice harvesting methods, or control of water levels in wetlands, will lower the rates of microbial methylmercury production (from inorganic mercury).
Year 13 Accomplishments: USGS assessed datasets for data quality using Quality Assurance Project Plan (QAPP guidelines). All samples were collected and preserved for analyses and archival storage. Analyses of sediment and porewater MeHg samples are now 100% complete. Ancillary surface water (sulfate, Ct DOC) and porewater data (acetate, DOC, sulfate and chloride) are now 100% complete. Sediment analyses were completed for THg, MeHg, RHg, LOI, GS, and Fe for all sampling events.
Year 13 Cost: $197,416 (Funding for entire project)
Year 14 Proposed Work: Complete final analyses and produce final report.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: USGS
Priority/Goal Addressed: PSP Priority 3/ERP Goal 6
Task Category: Task Category: Planning

Activity: Wildlife and Vegetation Response to Experimental and Restoration of Flooded Riparian Forest Habitat for The Cosumnes River Preserve. This project includes the following long-term goals: 1) use engineered levee breaches and grading to restore an active and regular flooding regime to the Oneto Horseshoe and Denier II properties (owned and managed by CDFW and TNC) within the Cosumnes River Preserve; 2) restore approximately 600 acres of flooded riparian forest habitat using a combination of horticultural restoration and natural process restoration techniques where possible, each carried out in a controlled experimental context; 3) measure wildlife and plant community response to the habitat restoration treatments; 4) monitor changes in surface and ground water hydrology; and 5) monitor geomorphic changes occurring throughout the restored site using remote sensing techniques. Moreover, this restoration and monitoring project will be one of the first such projects to enumerate changes in Bay-Delta ecosystem services, specifically groundwater recharge, soil carbon storage, and flood abatement, from floodplain reconnection.
Year 13 Accomplishments: TNC and UC Davis completed the first year of pre-restoration biophysical monitoring data collection and submitted the annual biophysical monitoring report. Work began on the second year of biophysical monitoring
Year 13 Cost: $2,055,022 (Funding for entire project)
Year 14 Proposed Work: TNC and UC Davis will complete the second year of biophysical monitoring and complete the second annual report. Work will begin on the third year of biophysical monitoring.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1, 3, and 4
Task Category: Monitoring

Activity: Working Waterways Program. Yolo County Resource Conservation District (Yolo County RCD) that will complete activities started under the Yolo-Solano Conservation Partnership AFI grant. This project includes riparian habitat enhancements, irrigation canal re-vegetation, farm pond habitats, and wildlife and vegetation monitoring along with studies on ecosystem services, outreach, and education. Conservation strategies successful in Yolo County will be transferred to Solano county.
Year 13 Accomplishments: The Yolo County RCD conducted outreach activities and potential project assessments as well as winter wildlife monitoring.
Year 13 Cost: $643,000 (Funding for entire project)
Year 14 Proposed Work: The Yolo County RCD will implement the Habitat Creation on Working Landscapes in order to contribute to the conservation of Giant Garter Snake, Swainson's Hawk, Sacramento Perch and other species. Building upon prior success expanding habitat creation and conservation capacity, the Yolo County RCD will extend conservation partnerships begun in Yolo and Solano counties.
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 50
Agencies: CDFW and Yolo County RCD
Priority/Goal Addressed: ERP Goal 1-4
Task Category: Implementation

Activity: Yuba City Fish Screen Project. The purpose of this project is to provide cost share funding for construction of a new 74 cfs intake structure for the City of Yuba City that includes a fish screen and increased diversion capacity. The new facility has been designed to meet the State and Federal protection criteria for anadromous salmonids. The project will be located on the Feather River in Sutter County just upstream of the City's current intake location. Fifty percent cost share funding for this project is provided by USBR's AFSP.
Year 13 Accomplishments: Construction began on the City of Yuba City's new screened Feather River Intake Facility and is approximately 90% complete.
Year 13 Cost: Utilized existing funds (Funded $500,000 in Year 10) (State Match to AFSP)
Year 14 Proposed Work: Remaining intake construction will be completed and the new screened intake facility will be operational. Project will be closed..
Year 14 Projected Cost: Utilizing existing funds, no additional funds requested.
Funding Source: Proposition 84
Agencies: CDFW
Priority/Goal Addressed: ERP Goals 1 and 3
Task Category: Implementation

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