

# CALFED Bay-Delta Program

## Ecosystem Restoration Multi-Year Program Plan (Years 6-9) and Year 6 Annotated Budget

**Implementing Agencies:**

California Department of Fish & Game  
United States Fish & Wildlife Service  
NOAA's National Marine Fisheries Service

**Important Dates:**

June 16: MYPP discussed at Ecosystem Restoration  
Subcommittee  
July 18: Final Version due for Review  
July 22: Ecosystem Restoration Subcommittee  
recommendation regarding MYPP due to BDPAC  
August 10 & 11: MYPPs completed and presented to  
Authority

**June 16, 2005**



# Goals, Objectives and Targets

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The CALFED Programmatic Environmental Impact Statement/Report (PEIS/R) identified six strategic goals for the Ecosystem Restoration Program (ERP) to meet over the 30-year or more course of the Bay-Delta Program. Strategic goals broadly define the scope and purpose of the ERP and provide the basis for a vision of a restored Bay-Delta system. These strategic goals guided how strategic objectives and targets are developed and are used to evaluate proposed restoration actions. Strategic objectives are listed for each goal. Strategic objectives are used to assess progress in achieving the ERP goals. Strategic objectives were used to develop and organize targets and programmatic actions. Targets are qualitative or quantitative statements of a strategic objective, and as such are designed to be more flexible than the strategic objective and will change as new information and progress indicates the need for change. Targets reflect the adaptive management principle, that is, as new information is developed, targets may change—adapt—to achieve the objective or goal. Actions are those measures designed to meet the specific target; actions are also subject to adaptive management and can change to meet the target. Currently, there are more than 300 targets and 600 programmatic actions described for the ERP. For more information about ERP's strategic goals, objectives, targets and programmatic actions, please see the Ecosystem Restoration Program Plan, Volume III (ERP Strategic Plan), of the CALFED PEIS/R. (Available at <http://calwater.ca.gov/Programs/EcosystemRestoration/EcosystemVol3RestorationPlan.shtml>)

The Record of Decision for the CALFED PEIS/R (ROD) (available at <http://calwater.ca.gov/Archives/GeneralArchive/RecordOfDecision2000.shtml>) incorporated 119 milestones contained in the endangered species programmatic biological opinions and Natural Community Conservation Plan Approval for the CALFED Program. The milestones, developed primarily from targets or actions in the ERP Plan and Water Quality Program (WQP) Plan, were those actions the fish and wildlife agencies expected would be implemented during Stage 1 (the first seven years of the 30-year program) to contribute towards CALFED's conservation goals.

The ERP has a long-term approach to reviewing and revising targets, actions and milestones. The long-term approach is part of the ERP's regional planning effort, such as the Delta Regional Ecosystem Restoration Implementation Plan (DRERIP). Work on DRERIP includes convening a panel of experts to help examine the ERP's actions, targets, and milestones for the Delta; this process includes review by the ERP Science Board and ERP Implementing Agencies (California Department of Fish and Game, U.S. Fish and Wildlife Service, and NOAA's National Marine Fisheries Service (NMFS) as well as opportunity for public and stakeholder input through public workshops and the DRERIP webpage (<http://www.delta.dfg.ca.gov/erpdeltaplan/>). (Throughout this report, the term "ERP Agencies" will be used for the collaborative efforts by the ERP Implementing Agencies and CBDA staff.) The regional planning process will be the primary forum for revising ERP targets.

The ERP Agencies completed an assessment of progress toward achieving the milestones and the efficacy of the Environmental Water Account (EWA) in September 2004. This assessment supported the reinitiation of consultation for the Bay-Delta Program, as established in the Record of Decision (ROD). To ensure that the ERP is being implemented in a manner and to an extent sufficient to sustain programmatic Federal Endangered Species Act, California Endangered Species Act, and NCCPA compliance for all CALFED Program elements, the ERP Agencies compiled information on projects funded by CALFED or closely related programs (i.e., which milestones were addressed by each project, and accomplishments of each

project). A “big picture” synthesis of the current status, progress of milestones (i.e., milestones completed, ahead of schedule, on-schedule, or behind schedule) and next steps was included in the assessment document. The Milestones Assessment documents may be accessed through DFG’s Environmental Compliance webpage (<http://www.delta.dfg.ca.gov/envcomp/milestones.asp>). The results of the Milestones Assessment were used by the ERP Agencies in developing this program plan. The milestones assessment activity involved input by the ERP Science Board and stakeholders. Information from the assessment process will help in setting ERP priorities for the ERP multi-year work plans, proposal solicitations, and directed actions in future years. A follow-up evaluation of progress toward meeting the milestones is scheduled for summer 2005.

Included in this Multi-Year Program Plan will be the Year 6 Annotated Budget for Implementing the Single Blueprint for Restoration and Recovery (Annotated Budget). The Annotated Budget is used by the ERP Agencies to guide their project funding decisions for a particular year.

The following table shows the ERP Strategic Goals and Objectives.

<b>CALFED Ecosystem Restoration Strategic Goals and Objectives</b>
<p><b>Goal 1: Endangered and Other At-risk Species and Native Biotic Communities</b></p> <p>Achieve recovery of at-risk native species dependent on the Delta and Suisun Bay as the first step toward establishing large, self-sustaining populations of these species; support similar recovery of at-risk native species in San Francisco Bay and the watershed above the estuary; and minimize the need for future endangered species listings by reversing downward population trends of native species that are not listed.</p>
<p><b>Objective 1:</b> Achieve, first, recovery and then large self-sustaining populations of the following at-risk native species dependent on the Delta, Suisun Bay, and Suisun Marsh: Central Valley winter-, spring- and fall/late fall-run Chinook salmon ESUs, Central Valley steelhead ESU, delta smelt, longfin smelt, Sacramento splittail, green sturgeon, valley elderberry longhorn beetle, Suisun ornate shrew, Suisun song sparrow, soft bird’s-beak, Suisun thistle, Mason’s lilaepsis, San Pablo song sparrow, Lange’s metalmark butterfly, Antioch Dunes evening primrose, Contra Costa wallflower, and Suisun Marsh aster.</p>
<p><b>Objective 2:</b> Contribute to the recovery of the following at-risk native species in the Bay-Delta estuary and its watershed: Sacramento perch, delta green ground beetle, giant garter snake, salt marsh harvest mouse, riparian brush rabbit, San Pablo California vole, San Joaquin Valley woodrat, least bell’s vireo, California clapper rail, California black rail, little willow flycatcher, bank swallow, western yellow-billed cuckoo, greater sandhill crane, Swainson’s hawk, California yellow warbler, salt marsh common yellowthroat, Crampton’s tuctoria, Northern California black walnut, delta tule pea, delta mudwort, bristly sedge, delta coyote thistle, alkali milkvetch, and Point Reyes bird’s beak.</p>
<p><b>Objective 3:</b> Enhance and/or conserve native biotic communities in the Bay-Delta estuary and its watershed, including the abundance and distribution of the following biotic assemblages and communities: native resident estuarine and freshwater fish assemblages, anadromous lampreys, neotropical migratory birds, wading birds, shore birds, waterfowl, native anuran amphibians, estuarine plankton assemblages, estuarine and freshwater marsh plant communities, riparian plant communities, seasonal wetland plant communities, vernal pool communities, aquatic plant communities, and terrestrial biotic assemblages associated with aquatic and wetland habitats.</p>
<p><b>Objective 4:</b> Maintain the abundance and distribution of the following species: hardhead, western least bittern, California tiger salamander, western spadefoot toad, California red-legged frog, western pond turtle, California freshwater shrimp, recurved larkspur, mad-dog skullcap, rose-mallow, eel-grass pondweed, Colusa grass, Boggs Lake hedge-hyssop, Contra Cost goldfields, Green’s legenera, heartscale, and other species designated “maintain” in the Multi-Species Conservation Strategy.</p>
<p><b>Goal 2: Ecological Processes</b></p> <p>Rehabilitate natural processes in the Bay-Delta estuary and its watershed to fully support, with minimal ongoing human intervention, natural aquatic and associated terrestrial biotic communities and habitats, in ways that favor native members of those communities.</p>
<p><b>Objective 1:</b> Establish and maintain hydrologic and hydrodynamic regimes for the Bay and Delta that support the recovery and restoration of native species and biotic communities, support the restoration and maintenance</p>

of functional natural habitats, and maintain harvested species.
<b>Objective 2:</b> Increase estuarine productivity and rehabilitate estuarine food web processes to support the recovery and restoration of native estuarine species and biotic communities.
<b>Objective 3:</b> Rehabilitate natural processes to create and maintain complex channel morphology, in-channel islands, and shallow water habitat in the Delta and Suisun Marsh.
<b>Objective 4:</b> Create and/or maintain flow and temperature regimes in rivers that support the recovery and restoration of native aquatic species.
<b>Objective 5:</b> Establish hydrologic regimes in streams, including sufficient flow timing, magnitude, duration, and high flow frequency, to maintain channel and sediment conditions supporting the recovery and restoration of native species and riparian species and biotic communities.
<b>Objective 6:</b> Reestablish floodplain inundation and channel-floodplain connectivity of sufficient frequency, timing, duration, and magnitude to support the restoration and maintenance of functional natural floodplain, riparian, and riverine habitats.
<b>Objective 7:</b> Restore coarse sediment supplies to sediment-starved rivers downstream of reservoirs to support the restoration and maintenance of functional natural riverine habitats.
<b>Objective 8:</b> Increase the extent of freely meandering reaches and other pre-1850 river channel forms to support the restoration and maintenance of functional natural riverine, riparian and floodplain habitats.
<b>Goal 3: Harvested Species</b>
Maintain and/or enhance populations of selected species for sustainable commercial and recreational harvest, consistent with the other ERP strategic goals.
<b>Objective 1:</b> Enhance fisheries for salmonids, white sturgeon, pacific herring, and native cyprinid fishes.
<b>Objective 2:</b> Maintain, to the extent consistent with ERP goals, fisheries for striped bass, American shad, signal crayfish, grass shrimp, and nonnative warm water game fishes.
<b>Objective 3:</b> Enhance, to the extent consistent with ERP goals, populations of waterfowl and upland game for harvest by hunting and for non-consumptive recreation.
<b>Objective 4:</b> Ensure that Chinook salmon, steelhead, trout, and striped bass hatchery, rearing, and planting programs do not have detrimental effects on wild populations of native fish species and ERP action.
<b>Goal 4: Habitats</b>
Protect and/or restore functional habitat types in the Bay-Delta estuary and its watershed for ecological and public values such as supporting species and biotic communities, ecological processes, recreation, scientific research, and aesthetics.
<b>Objective 1:</b> Restore large expanses of all major habitat types, and sufficient connectivity among habitats, in the Delta, Suisun Bay, Suisun Marsh, and San Francisco Bay to support recovery and restoration of native species and biotic communities and rehabilitation of ecological processes. These habitat types include tidal marsh (fresh, brackish, and saline), tidal perennial aquatic (including shallow water and tide flats), nontidal perennial aquatic, tidal sloughs, midchannel island and shoal, seasonal wetlands, riparian and shaded riverine aquatic, inland dune scrub, upland scrub, and perennial grasslands.
<b>Objective 2:</b> Restore large expanses of all major aquatic, wetland, and riparian habitats, and sufficient connectivity among habitats, in the Central Valley and its rivers to support recovery and restoration of native species and biotic communities and rehabilitation of ecological processes. These habitat types include riparian and shaded riverine aquatic, instream, fresh emergent wetlands, seasonal wetlands, other floodplain habitats, lacustrine, and other freshwater fish habitats.
<b>Objective 3:</b> Protect tracts of existing high quality major aquatic, wetland, and riparian habitat types, and sufficient connectivity among habitats, in the Bay-Delta estuary and its watershed to support recovery and restoration of native species and biotic communities, rehabilitation of ecological processes, and public value functions.
<b>Objective 4:</b> Minimize the conversion of agricultural land to urban and suburban uses and maintain open space buffers in areas adjacent to existing and future restored aquatic, riparian, and wetland habitats, and manage agricultural lands in ways that are favorable to birds and other wildlife.
<b>Objective 5:</b> Manage the Yolo and Sutter bypasses as major areas of seasonal shallow water habitat to enhance native fish and wildlife, consistent with CALFED Program objectives and solution principles.
<b>Goal 5: Nonnative Invasive Species</b>
Prevent the establishment of additional nonnative invasive species and reduce the negative ecological and economic impacts of established nonnative species in the Bay-Delta estuary and its watershed.
<b>Objective 1:</b> Eliminate further introductions of new species from the ballast water of ships into the Bay-Delta estuary.
<b>Objective 2:</b> Eliminate further introductions of new species from imported marine and freshwater baits into the

Bay-Delta estuary and its watershed.
<b>Objective 3:</b> Halt the unauthorized introduction and spread of potentially harmful nonnative introduced species of fish or other aquatic organisms in the Bay-Delta and Central Valley.
<b>Objective 4:</b> Halt the release of nonnative introduced fish and other aquatic organisms from private aquaculture operations and the aquarium and pet trades into the Bay-Delta estuary, its watershed, and other California waters.
<b>Objective 5:</b> Halt the introduction of nonnative invasive aquatic and terrestrial plants into the Bay-Delta estuary, its watershed, and other central California waters.
<b>Objective 6:</b> Reduce the impact of nonnative mammals on native birds, mammals, and other organisms.
<b>Objective 7:</b> Limit the spread or, when possible and appropriate, eradicate populations of nonnative invasive species through focused management efforts.
<b>Objective 8:</b> Prevent the invasion of the zebra mussel into California.
<b>Goal 6: Water and Sediment Quality</b>
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.
<b>Objective 1:</b> Reduce the loadings and concentrations of toxic contaminants in all aquatic environments in the bay-Delta estuary and watershed to levels that do not adversely affect aquatic organisms, wildlife, and human health,.
<b>Objective 2:</b> Reduce loadings of oxygen-depleting substances from human activities into aquatic ecosystems in the Bay-Delta estuary and watershed to levels that do not cause adverse ecological effects.
<b>Objective 3:</b> Reduce fine sediment loadings from human activities into rivers and streams to levels that do not cause adverse ecological effects.

## Performance Measures

Performance measures translate program goals and objectives into measurable benchmarks of success. Performance measures range from relatively simple metrics to complex cross program assessments. As such, current work on performance measures includes counting the simple metrics and laying the technical and scientific groundwork that will allow us to perform more complex assessments later.

The Science Program has articulated the following three levels of performance measures. These will be refined as they are tailored for the unique needs of each program. For the ERP, examples of performance measures include:

- **Level 1: Simple administrative measures.** Reports of funding allocations (such as number of dollars spent and the number of projects funded). The target for this level of performance is the annual allocation of \$150 million to projects that meet ERP goals and objectives. The main source for this information, in addition to the ERP guiding documents, is the CALFED Annual Report and the Multi-Year Program Plan (MYPP). Annual appropriations are indicated in the MYPP cross-cut budget and adjusted by the annual report, which reflects how much of the appropriated funds were actually committed to ERP actions. ERP activities that support this level include developing an ERP database that can be used to evaluate administrative and financial aspects of ERP actions such as funds expended by individual projects by different Implementing Agencies, topic, species, geographic location, funding source, or acquired acreage. Another activity to support this level of measurement is the re-direction or dedication of a staff to ERP to track invoices, fund encumbrances, and work with external contract managers to oversee appropriate contractual agreements with project proponents.
- **Level 2: Quantifiable accomplishments directly related to program actions (targets).** Measures that track the direct results of implementing projects (such as miles of stream restored,

acres of habitat protected, or numbers of fish screens installed). The targets for this level of assessment vary according to ERP region and goal. The main source for this information is the Milestones Assessment document for this year's MYPP. The Milestones Assessment completed in September 2004 will help focus on measures useful in reaching program goals and objectives as these relate to species of concern, critical ecological functions to those species, and stressors that affect those species. This information is tracked in the ERP database by project.

The Terrestrial and Amphibian Monitoring Program (TAMP), for monitoring the terrestrial aspects of the ERP at a regional scale, was designed to incorporate data from existing long-standing monitoring programs such as the Interagency Ecological Program (IEP). Consequently, when indicators are selected, the long-term data set collected by long-standing monitoring programs such as IEP will be a valuable resource for the status and trend analyses need for developing and evaluating indicators. An aquatic monitoring program counterpart for regional monitoring is being developed by the Science Program. After significant progress is made on the aquatic monitoring program, the two programs will be integrated to assure appropriate coverage of interfacing and interacting aquatic and terrestrial habitats, species, and ecological processes.

- **Level 3: Indicators related to program goals.** Indicators that track responses to projects, or groups of projects, especially in relation to program goals and objectives (such as delta smelt adult abundance indices, spawning gravel recruitment, or salmon spawning escapement).

The ERP and the Science Program are developing guidelines for CBDA program managers in selecting performance indicators. In providing a common guideline in picking performance measures specific to a program, it may be possible to expand the selections to include representative performance measures for the entire CBDA program. Components to be developed in support of the selection rationale that accompanies each performance measure includes:

- A statement of the program goal and associated objective
- The selected indicator expected to track the program's progress in reaching the goal or objective;
- One or more metrics by which the state of the measure is determined;
- A conceptual model demonstrating the relationship of the indicator to the program goal and associated objective;
- A defined target or range for the measure to achieve; and
- A description of, and where possible, a method for isolating the effects of other activities that may affect the metric.

The ERP invested much effort in how to develop ecological indicators and meaningful measures of program progress. For Year 4, Levels 1 and 2 are reported in the Accomplishments section of this document; the *ERP Project Evaluation Phase 2 Report (Look Back Exercise)* chronicles these performance measures for years 1-3. Also during Year 4, the ERP conducted an assessment of program progress towards achieving milestones called *Reinitiation of Consultation: Assessing Progress Towards Milestones and the Efficacy of the Environmental Water Account*. This assessment was primarily a process of verifying the linkages of projects to milestones and was solely based on a review of project documents such as proposals and contracts. No on-site verification was conducted because of time constraints. Approximately

one-third of the milestones are written in a manner that can be measured or quantified, and when available in the project documentation, information was recorded relating to those quantifiable objectives.

The objective for Year 5 was to continue the assessment of progress towards milestones, beginning with developing protocols to measure the quantifiable information required by the milestones in a consistent and repeatable manner; these measurement protocols would then be applied to projects in the field. This data will be used in an annual assessment of progress toward achieving milestones in September 2005.

Although Level 3 ERP indicators have been in development for several years, significant work remains. The ERP Agencies—collaborating with CBDA ERP and Science Program staff, ERP Science Board, the Interagency Ecological Program (IEP) and other agencies—are taking a lead role in developing these indicators and associated monitoring protocol. Past indicator development efforts will be taken into consideration as the ERP Agencies integrate indicators supported by current conceptual models with ongoing monitoring results by existing programs such as DFG's Resources Assessment Program. The goal is to carry out specific aquatic and terrestrial monitoring needed to accurately track the success of the ERP beginning in Year 7. One ERP focused effort that contributes to this effort is the conceptual models being developed as part of the DRERIP and Suisun Marsh regional planning processes. The conceptual models will help show the interrelationships between the selected indicators and performance measures with ERP actions. A conceptual model also is being developed for dissolved oxygen in the Stockton Deep Water Ship Channel in the lower San Joaquin River. The dissolved oxygen conceptual model effort is in close coordination with the DRERIP.

Also in Year 5 the ERP asked the ERPSB to review past performance measure development efforts by ERP and the Science Program. This review will include evaluations of related indicator efforts such as Cal/EPA's Environmental Protection Indicators of California (EPIC) system, and the Bay Institute's Ecological Scorecard for the San Francisco Estuary as well as recent reviews regarding environmental indicator development. The ERPSB will then propose a template process and some sample indicators to assist the ERP and the Program at large. This indicator review effort is in coordination with the Program's Independent Science Board.

In Year 6 and beyond, the ERP will use the experience from the site assessments to refine specific measurement protocols and to assess how linkages in scale can be developed to correlate local environmental responses to projects with larger scale regional and system responses. The focus of this analysis will be on the statistical robustness of the collected data and the lessons learned from pilot programs like the Integrated Regional Wetlands Monitoring, funded by the Science Program, especially with respect to correlating the efforts of specific implementation projects on system level responses. The ERPSB will consider possible larger scale system simulations for use in policy and decision-making.

# Accomplishments

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Since its inception more than eight years ago, the ERP facilitated funding for a variety of projects contributing to ecosystem restoration within its geographic scope. ERP investments for the last five years contributed to sustaining regulatory commitments for all Bay-Delta Program elements in Years 1 through 5 as described in the previous section. There are at least three ways that ERP can assess its accomplishments: (1) tracking funding allocations (the focus of this discussion); (2) tracking progress toward targets; and (3) tracking progress toward specific goals or objectives. Work continues in all three areas, however, the current assessment and ensuing discussion focuses on funding allocations and progress toward targets for the ERP since its inception, and funding allocations only for Year 5.

Listed below is a breakdown of the 415 ERP funded projects by ERP goal as of December 2004. Because many ERP projects address more than one of the Strategic Goals, the following project numbers and percentages total more than 100 percent and more than 415 projects. Percentages in the table refer to the percent of total ERP-funded projects as of December 2004.

<b>Goal 1: At-Risk Species</b>
# Projects, %, address recovering endangered and other at-risk species and native biotic communities.
<b>Goal 2: Ecological Processes</b>
# Projects, %, address rehabilitating ecological processes.
<b>Goal 3: Harvestable Species</b>
# Projects, %, address maintaining or enhancing harvestable species populations.
<b>Goal 4: Habitat Restoration</b>
# Projects, %, address protecting and restoring habitats.
<b>Goal 5: Non-native Invasive Species</b>
# Projects, %, address preventing establishment of or reducing impacts from non-native invasive species.
<b>Goal 6: Environmental Water and Sediment Quality</b>
# Projects, %, address improving or maintaining water and sediment quality.

Improving the status of endangered or threatened plants, animals and their habitats is one of the central commitments of the CALFED Program. This commitment is embodied in the 2000 CALFED Programmatic ROD and attendant regulatory agreements regarding actions of the ERP. To gauge progress toward the ERP's goal for recovery of at-risk species, the endangered species regulatory agencies identified 119 milestones in 2000 that were expected to be achieved by the end of the 7-year-long Stage 1.

In July 2004, the ERP Agencies completed a mid-Stage 1 assessment of progress toward achieving the 119 milestones listed in the ROD. The assessment considered 416 ERP contracts, 83 Watershed Program contracts, and 68 Central Valley Project Improvement Act contracts, and also contained an evaluation of the efficacy of the EWA. On September 30, 2004, the regulatory agencies concluded that the CALFED

Program is meeting its substantial commitment to reviving California's Bay-Delta ecosystem while improving the reliability of the state's water supplies. As a result of that conclusion, the CALFED agencies extended the EWA and the CALFED Program commitment to not reduce water deliveries from the Delta for three more years. Progress toward milestones indicates that the CALFED Program is investing in actions that are expected to help recover at-risk species. Highlights from the assessment include:

- Nearly 80 percent of the 119 milestones provided for in CALFED's Stage 1 are on or ahead of schedule.
- More than 11,000 acres of wildlife friendly agriculture was protected in the Delta, meeting the Stage 1 target for the region.
- CALFED-funded cooperative projects are contributing to the restoration and protection of 7,000 acres of wetlands in San Pablo Bay and Suisun Marsh exceeding the Stage 1 target for tidal marsh restoration in San Pablo Bay.
- More than 50,000 acres of seasonal wetlands in the Sacramento River Region are being enhanced, protected or restored.
- About 500 acres of fresh emergent wetland in the San Joaquin River Region are being enhanced, protected or restored.
- Most of the environmental water quality milestones are being addressed by the 51 projects funded by the ERP; approximately 40 percent of those projects affect multiple regions.

The rest of this Accomplishments section provides a "snapshot in time" of the ERP activities during the prior year only (Year 5). Accomplishments include funded projects, completed projects as well as activities such as science workshops and public meetings.

Most ERP actions span more than one year, and many projects are multi-phased, with each phase spanning several years. ERP actions are divided into five categories for program tracking: Planning, Research, Implementation, Monitoring, and Oversight and Coordination. All ERP funded projects meet one or more of the ERP Strategic Goals. Because the following discussion focuses only on Year 5 activities, not all tasks or all goals may have projects associated with them.

Not all actions planned to begin in Year 5 happened as anticipated. Among the factors affecting ERP program planning are funding uncertainties because of budget shortfall and the unwieldy length of time it takes to get contracts approved, especially for season-sensitive activities.

Projects Funded during Year 5. During Year 5, the Authority gave the ERP approval to fund 7 projects, for a combined total of almost \$15,156,898 in grants [need to include amendments information]. Table 1 lists the projects, grant amount and recipient.

Complete copies of the project proposals are available at the ERP website  
<http://calwater.ca.gov/Programs/EcosystemRestoration/EcosystemRestorationGrants.shtml>

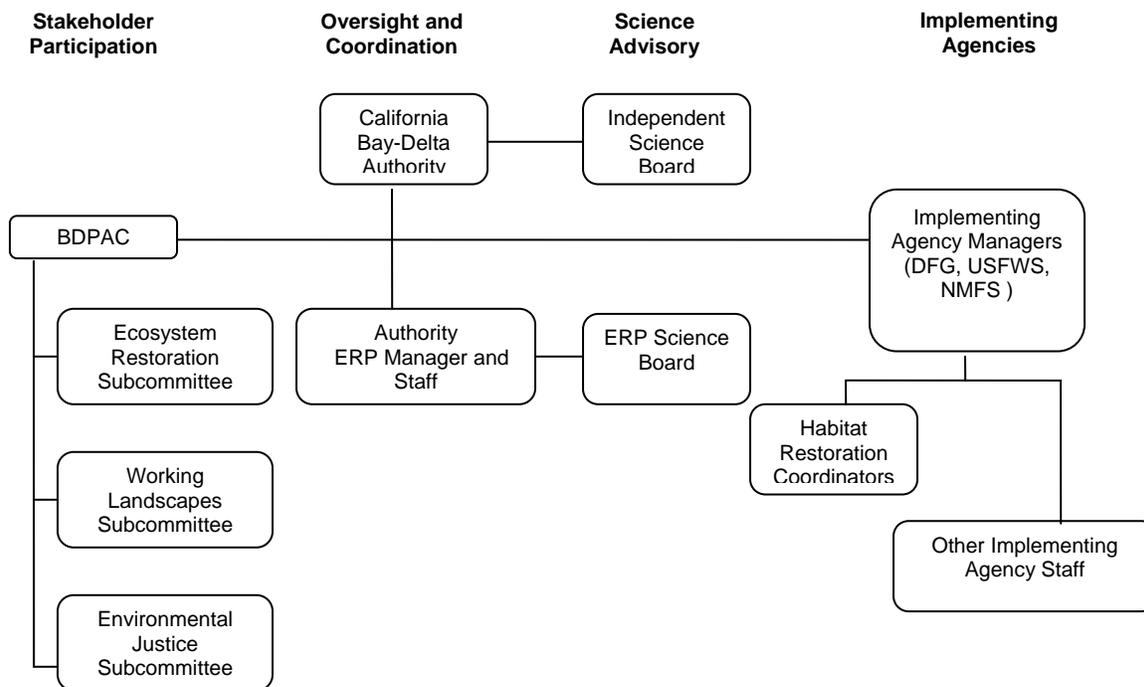
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Table 1. ERP-Funded Projects during Year 5
Task: Planning
Goal 4: Habitat Restoration
Sacramento River Restoration: Chico Landing Sub-Reach (RM 178-206). The project is to restore 1,056 acres of riparian habitat along the Sacramento River in the Chico Landing sub-reach near Hamilton City. Funds were granted to complete the site's restoration plan, carry out research activities, and prepare CEQA environmental documents. \$693,657 to The Nature Conservancy.
Task: Implementation
Goal 1: At-Risk Species
Wilkins Slough Positive Barrier Fish Screen—Sediment Removal Project. This project adds sediment removal facilities to an existing fish screen at Reclamation District No. 108's Wilkins Slough irrigation water diversion on the Sacramento River's west bank, near Grimes. The project will install hydraulic nozzles that jet sediment away and prevent its build-up near the screen face. \$495,000; to Reclamation District No. 108
Tisdale Positive Barrier Fish Screen Pumping Plants. This is a fish screen to minimize entrainment of fish at a large (960 cfs) irrigation water diversion on the Sacramento River's east bank, south of Meridian. This fish screen is recommended in the ERP's <i>Draft Stage 1 Implementation Plan</i> . \$6,856,500; to Sutter Mutual Water Company.
Goal 5: Non-Native Invasive Species
Expanded Prevention, Detection, and Control of Purple Loosestrife in the Bay-Delta Watershed. This project continues the California Department of Food and Agriculture's program to survey, control, and monitor purple loosestrife, a weed that is invading the Bay-Delta watershed. \$328,136; to the California Department of Food and Agriculture.
Cosumnes River Preserve Perennial Pepperweed Control Project. This project is to control pepperweed, an invasive plant that is infesting riparian areas and wetlands in the Cosumnes River Preserve. The project will survey pepperweed infestations and test different pepperweed control practices. \$418,995; to University of California, Davis.
Arundo Eradication and Coordination—Phase II. This is a three-year project to continue and expand efforts to control giant reed in 11 areas: the Lindo Channel near Chico; San Francisquito, Sonoma, Walnut, Putah, Cache, and Willow creeks; the Napa, lower American, and San Joaquin rivers; and the Gray Lodge Wildlife Area. \$1,840,791 to the Sonoma Ecology Center.
Task: Monitoring
Goal 6: Water and Sediment Quality
A Pilot Program for Monitoring, Stakeholder Involvement, and Risk Communication Relating to Mercury in Fish in the Bay-Delta Watershed. This project will monitor mercury in sport fish and other bioindicator organisms in the Bay-Delta system for three years. The project also includes consolidation of monitoring data, development of additional advisories and outreach and education activities, particularly for high-risk communities. This action is consistent with the Mercury Strategy for the Bay-Delta Ecosystem endorsed by the Authority. \$4,513,819 to San Francisco Estuary Institute, with subcontracts to DFG (monitoring), California Department of Health Services (outreach and education), and Office of Environmental Health Hazard Assessment (advisories).

Projects Completed during Year 5. Since it began more than eight years ago, the ERP facilitated funding for a variety of projects contributing to ecosystem restoration within its geographic scope. Because of the time-scale needed for ecosystem restoration, the ERP is just now approaching a time when it can begin to identify and articulate results from some of its funded projects. Table 2 lists the project title and short description, project type, and project proponent for those projects completed during Year 5.

Table 2. ERP Projects Completed during Year 5.
Research, Outreach and Education on Fish Contamination in the Sacramento-San Joaquin Delta Watershed—Phase I Scoping (\$82,610 to California Department of Health Services). Phase 1 included developing an agency/stakeholder advisory committee, collecting and analyzing existing information about fish contamination, conducting educational needs assessment in five priority counties, and developing a collaborative workplan for future phases of activities.
Selenium Effects on Health and Reproduction of White Sturgeon ( <i>Acipenser transmontanus</i> ) in the Sacramento-San Joaquin Estuary (\$150,047 to UC Davis). This project is research on the toxic effects of selenium accumulation in white sturgeon and how elevated selenium concentrations in white sturgeons may affect the species' health and reproduction.
Assessment of Pesticide Effects on Fish and Their Food Resources in the Sacramento-San Joaquin Delta (\$1,586,894 to UC Berkeley). Integrated lab and field study to provide information on pesticide toxicity to resident species, develop the data needed to apply laboratory-derived toxicity measures to realistic field conditions, and putting results in an ecological context focusing on juvenile Chinook salmon and their prey.

# Program Structure



Agency	Roles and Responsibilities
California Bay Delta Authority (Authority)	Oversight and coordination
California Department of Fish and Game (DFG)	Implementing agency Manages State Habitat Restoration Coordinators Lead for ERP regional planning Administers Section 1600 Stream Alteration Permits Administers the California Endangered Species Act, and Natural Community Conservation Planning Act; oversees MSCS implementation and state endangered species compliance for listed fish, wildlife, and plant species
U. S. Fish and Wildlife Service (USFWS)	Implementing agency Manages Federal Habitat Restoration Coordinators Lead for Environmental Water Program and Non-native Invasive Species Program Administers the Federal Endangered Species Act, oversees MSCS implementation and federal endangered species compliance for listed non-anadromous fish and listed wildlife Administers several restoration efforts under the Central Valley Project Improvement Act, including the Anadromous Fish Restoration Program and the Anadromous Fish Screen Program.

Agency	Roles and Responsibilities
NOAA's National Marine Fisheries Service (NMFS)	<p>Implementing agency</p> <p>Administers the Federal Endangered Species Act, oversees MSCS implementation and endangered species compliance for listed anadromous fish</p>
BDPAC Subcommittee	Roles and Responsibilities
Ecosystem Restoration Subcommittee	<p>Provides BDPAC with guidance and advice regarding ERP and related CALFED activities</p> <p>Provides forum for information exchange, issue analysis, and fact-finding</p> <p>Advises about ERP implementation, ERP regional restoration and implementation plans; ERP budgets, adaptive management activities, the Environmental Water Program, and cross-program coordination and integration</p>
Working Landscapes Subcommittee	<p>Provides BDPAC with guidance and advice regarding working landscapes issues in ERP and CALFED related activities</p> <p>Provides forum for information exchange, issue analysis, and fact-finding</p> <p>Advises about strategies to enhance the sustainability of California agriculture while restoring the ecological health and improving water management of the Bay-Delta system, water quality, water supply reliability, and levee systems integrity.</p>
Environmental Justice Subcommittee	<p>Provides BDPAC with guidance and advice regarding environmental justice issues in ERP and CALFED related activities</p> <p>Provides forum for information exchange, issue analysis, and fact-finding</p> <p>Advises about environmental justice issues related to CALFED Program annual plans, ways for CALFED to integrate environmental justice into project development, and solicit and consider diverse perspectives and recommendations from a broad public</p>
Independent Science Review	Roles and Responsibilities
Ecosystem Restoration Program Science Board	<p>Provides independent scientific advice and guidance to the ERP</p> <p>Assists with establishing a solid scientific and technical foundation for the ERP; scientific review, advice, and guidance; integrating ecosystem-based adaptive management into the ERP; engaging the scientific and technical questions that are at the root of policy issues; help set ERP priorities.</p>

## Major Activities

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Most ERP major activities fall under three broad categories: ROD commitments, agency efforts, and actions identified using open and competitive processes. The ERP intends to continue emphasizing local input, integration with other activities, science (especially independent peer review) and public transparency in decisions about which specific activities to fund in support of priorities identified in ERP planning documents. This section does not identify or present information about specific ERP-funded projects that will be undertaken by non-ERP Agencies.

This section needs to be thought of as a “snapshot in time” regarding the ERP ongoing planning process. The ERP currently is the only CALFED Program Element that has a Strategic Plan as well as a *Draft Stage 1 Implementation Plan*. Listed in the table are the major activities focusing on ERP commitments and on agency efforts. This table may not list those ERP-funded activities—whether grants, directed actions or efforts by ERP Agencies—currently being carried out or identified in previous program plans if those activities have not changed significantly and remain a priority for ongoing implementation. This table also does not list those ERP-funded activities that will be carried out by non-ERP Agencies; however, a list of new projects funded in the prior year can be found in the Accomplishments section. The ERP expects to fund projects that will contribute to all ERP tasks, goals, and commitments through Stage 1 and beyond.

The *Draft Stage 1 Implementation Plan* presents the restoration and information gathering priorities for the ERP during the first seven years of implementation. As outlined in the document, these Stage 1 actions were structured to accomplish significant improvement in Bay-Delta ecological health using the adaptive management approach as new information became available. The ERP Agencies continue to work on refining contracting procedures which have been a barrier in moving forward effectively with some of the actions outlined in the draft plan. Progress also is being made on environmental documentation and permitting strategies to assist with project implementation. Issues relating to insufficient funding for the ERP are addressed in the Goals, Objectives and Targets section of this report.

In August 2004, the California Bay-Delta Authority approved the Delta Improvements Package (DIP) Implementation Plan Regarding CALFED Bay-Delta Program Activities in the Delta. One element of the DIP includes ERP participation in efforts regarding dissolved oxygen in the San Joaquin River. CALFED Agencies including DWR, USBR, the ERP Agencies, and local interests are coordinating efforts to improve water quality beyond the water project operators’ obligations. The focus of these efforts is developing and carrying out a comprehensive strategy to improve dissolved oxygen conditions in the Deep Water Ship Channel near Stockton. For cross-program consistency, this strategy will be coordinated with and provide input to the regulatory processes of the State Water Resources Control Board and the Central Valley Regional Water Control Board (Central Valley RWQCB).

In February 2005, DWR completed the San Joaquin River Deep Water Ship Channel Demonstration Oxygen Aeration Facility Initial Study and Mitigated Negative Declaration as a first step in a series of actions to improve dissolved oxygen in the San Joaquin River. The schedule for other actions include:

- Complete the Central Valley RWQCB Phased Total Maximum Daily Loads (TMDL) and Basin Plan Amendment by December 2004;
- Complete monitoring and modeling studies by June 2007;

- Design, construct and operate a demonstration aeration system, fall 2005-2008;
- Evaluate other control projects and mitigation strategies, April 2004-December 2008; and
- Complete final TMDL and Basin Plan Amendment for long-term control by 2009.

In years 6 through 9, the ERP will continue to support agricultural activities that benefit wildlife, while assessing the efficacy of these approaches and more fully developing the institutional capacity of ERP Agencies to support agricultural activities benefiting wildlife.

In the following table, the activity is briefly summarized, including information about the probable funding source. When funding is noted as Proposition 50, it indicates that the activity is considered a high priority for the remaining funds from this source through Stage 1. Participating agencies listed include the lead agencies and main participants. Although not listed, there are often many other agencies and stakeholders involved in any given activity and are key to that activity's success. Finally, the budget year for the activity indicates the year funding is anticipated and needed. Schedules for specific projects are subject to change based on unforeseen circumstances such as funding availability, permitting and contracting delays, or modifications to the general implementation approach based on adaptive management feedback.

The activities are categorized under four areas: at risk Delta dependent fish species, including native anadromous fish and Delta pelagic fish; multiple species; mandated programs; and staff.

### At Risk Delta Dependent Fish Species

#### *Native Anadromous Fish*

**Battle Creek habitat restoration project.** The Battle Creek Salmon and Steelhead Restoration Project would restore approximately 42 miles of historical anadromous fish habitat in Battle Creek, and an additional 6 miles of habitat in its tributaries. Components of the project include:

- Removal of 5 diversion dams that would have marginal power production value after their releases are adjusted to meet streamflow needs below the dams,
- Installing fish ladders at 3 diversion dams and screening their associated diversions,
- Increasing flow releases from all remaining diversion dams affecting anadromous fish on Battle Creek,
- Direct connection of powerhouse tailraces to power canals to eliminate redundant screening requirements, flow fluctuations associated with powerhouse operations, and false attraction of returning fish to powerhouse tailraces containing a mixture of waters from different basins.

Due to delays and increased costs, the Restoration Project is seeking additional funding. Thus, it is currently undergoing technical review through the Ecosystem Restoration Program. It is expected that a funding decision will be made in 2005.

Budget Year(s): 06 Estimated Cost: \$60 million

Participating Agencies: USFWS, USBR

Milestone(s):

Task Category: Implementation

**Coleman Intake Screens.** Water intake structures at the Coleman National Fish Hatchery are currently either unscreened or poorly screened and therefore do not meet current criteria for fish screening/protection as prescribed by NOAA Fisheries and the California Department of Fish and Game. Properly screening and/or modifying the intakes will avoid the loss of naturally-produced outmigrating salmon and steelhead juveniles through impingement or entrainment and is an important step in the overall restoration of Battle Creek.

Budget Year(s): 07 Estimated Cost: \$4 million

Participating Agencies: USFWS

Milestone(s):

Task Category: Implementation

**Coleman Barrier Weir and Fish Ladder Modifications.** The proposed modifications of the existing Coleman National Fish Hatchery barrier weir and fish ladders are designed to provide improved fish passage management capability at this site. The proposed modifications of the structure will remedy these deficiencies and provide improved fish passage management capability consistent with objectives of the Battle Creek Restoration Project. June 2005 CBDA

Budget Year(s): 06 Estimated Cost: \$6.5 million

Participating Agencies: USBR, USFWS

Milestone(s):

Task Category: Implementation

**Butte Creek spring-run Chinook salmon life history investigation [2005 Monitoring PSP].** The project continues to monitor spring-run Chinook salmon and steelhead trout populations in Butte and Big Chico Creeks to evaluate the effectiveness of many anadromous fish restoration projects in the two watersheds and to develop better information on these species' life histories.

Budget Year(s): 06 Estimated Cost: \$513,281

Participating Agencies: DFG, CSU--Chico

Milestone(s):

Task Category: Monitoring and Research - Reconsider if Revised (Implementation Year 6)

**Clear Creek restoration.** Clear Creek restoration continues to implement Chinook salmon and steelhead habitat enhancement projects through partnerships with local landowners, public and private agencies, and universities. Restoration activities focus on channel restoration, adding spawning gravel, and erosion control.

Budget Year(s): 06 Estimated Cost: \$3.8 million

Participating Agencies: USFWS, DFG

Milestone(s):

Task Category: Implementation

**Clear Creek - Headcut Only.** Modifications to the channel bed to reverse head cutting issues will be completed to secure the benefits previously obtained through previously completed Clear Creek restoration activities targeting Chinook salmon and steelhead.

Budget Year(s): 06 Estimated Cost: \$1.5 million

Participating Agencies: USFWS, DFG

Milestone(s):

Task Category: Implementation

**Clear Creek anadromous salmonid monitoring program [2005 Monitoring PSP].** This project is a comprehensive salmonid monitoring program that will evaluate restoration actions and inform adaptive management of Clear Creek.

Budget Year(s): 06 Estimated Cost:

Participating Agencies: Unknown

Milestone(s):

Task Category: Monitoring and Research - Reconsider if Revised (Implementation Year 6)

Lower Clear Creek Monitoring Program [2005 Monitoring PSP]. The project monitors how the Lower Clear Creek Floodway Restoration Project is affecting the creek's geomorphology and streamside habitats, including riparian birds.

Budget Year(s): 06 Estimated Cost: \$1,308,449

Participating Agencies: Western Shasta Resource Conservation District , DFG

Milestone(s):

Task Category: Monitoring and Research – (Implementation in Year 6)

Status and trends/baselines (salmonids). NMFS and USFWS reinitiation efforts concerning the efficacy of the EWA and progress toward achieving milestones for the CALFED Bay-Delta Program (September 2004) recommended the CALFED program develop a Central Valley-wide comprehensive status and trends/baseline monitoring program, in coordination with existing monitoring programs, for all salmonids. A comprehensive monitoring program is needed to insure coordinated monitoring efforts, maximize monitoring opportunities, and avoid duplication of effort. Baseline and status and trends monitoring is necessary to measure, assess, and document the effects of CALFED restoration actions contributing toward the recovery of listed species and in achieving the milestones. This program would provide the oversight and guidance necessary to coordinate comprehensive monitoring efforts in the Central Valley for salmonids, including plans and pilot projects that would contribute to this effort, such as DFG's Adult Chinook Salmon Escapement Monitoring Plan and the Central Valley Steelhead Comprehensive Monitoring Plan (see below). NMFS' reinitiation also identified a need for scientifically sound performance measures to describe and evaluate the benefits of the CALFED program on listed salmonids. This work element would contribute significantly to developing relevant performance measures.

Budget Year(s): 06, 07 Estimated Cost: Year 6--\$2.75 million; Year 7--\$3 million

Participating Agencies: CDFG

Milestone(s):

Task Category: Monitoring and Research, Planning

Constant fractional marking. Implementation of a Constant Fractional Marking Program for fall-run Chinook salmon at Central Valley hatcheries. CFM plan developed by the IEP Central Valley Salmonid Project Work Team. Equipment purchase could be accomplished through a Purchase option. A Lease/Purchase option could be considered. It would increase equipment costs by about \$500,000 but spread costs over three years. Year 6 funding consists of \$25,000 for planning, \$4,000,000 for equipment purchases, and \$818,000 for initial implementation. Beyond Year 6 costs are solely implementation.

Budget Year(s): 06, 07, 08, 09 Estimated Cost: Year 6--\$4,835,000; Year 7--\$983,000

Participating Agencies: CDFG

Milestone(s):

Task Category: Implementation

Development of a Comprehensive Central Valley Adult Chinook Salmon Escapement Monitoring Plan. The Central Valley Chinook Salmon Escapement Monitoring Plan will be a long-term comprehensive plan designed to estimate population status and trends in abundance of adult Central Valley salmon in a statistically valid manner. Development of the plan will include review of existing monitoring programs, and development of revised programs including escapement estimation, coded-wire tag recovery, and aging programs, and a coordinated data management and reporting system.

Budget Year(s): 06 Estimated Cost: \$375,000

Participating Agencies: CDFG, PSMFC, USFWS, NMFS

Milestone(s):

Task Category: Monitoring - Directed Action

Upper Sacramento River basin Chinook salmon escapement monitoring program [2005 Monitoring PSP]. This proposal will continue monitoring of the annual abundance, migration timing, and distribution of adult winter, spring, late-fall Chinook salmon returning to spawn in the Upper Sacramento River basin for the next three years. Streams and species/runs to be monitored include: Sacramento River – winter, fall, and late fall-run Chinook; Clear Creek – fall-run Chinook; Battle Creek – fall-run Chinook; Mill Creek – fall and spring-run Chinook; Deer Creek – fall and spring-run Chinook; Beegum Creek – spring-run Chinook; Antelope Creek – spring-run Chinook.

Budget Year(s): 06 Estimated Cost: \$1,353,357  
Participating Agencies: Pacific States Marine Fisheries Commission, DFG  
Milestone(s):  
Task Category: Monitoring and Research – Directed Action

Development of a Central Valley Steelhead Comprehensive Monitoring Plan. The Central Valley Steelhead Monitoring Plan will be a comprehensive plan for steelhead population monitoring that, when implemented, will provide the data necessary to assess whether or not restoration and recovery goals are being achieved, and to improve management of the species.

Budget Year(s): 06 Estimated Cost: \$350,000  
Participating Agencies: CDFG, PSMFC, USFWS, NMFS  
Milestone(s):  
Task Category: Monitoring - Directed Action

Eastside tributary monitoring. Monitor status and trends of salmonids in Cosumnes, Mokelumne, and Calaveras rivers.

Budget Year(s): 06, 07, 09 Estimated Cost:  
Participating Agencies: Unknown  
Milestone(s):  
Task Category: Monitoring and Research

San Joaquin Basin monitoring. Monitor status and trends of salmonids in Stanislaus, Tuolumne and Merced rivers.

Budget Year(s): 06, 07, 08 Estimated Cost:  
Participating Agencies: Unknown  
Milestone(s):  
Task Category: Monitoring and Research

Determination of Age Structure of Central Valley Chinook Salmon. This project will determine the age structure of each population of Central Valley Chinook salmon through scale analysis. Age data will be used in combination with coded-wire tag recovery data to build cohort reconstructions for each year, and estimate population parameters for development of a full life cycle model for each Chinook run.

Budget Year(s): 06 Estimated Cost: Year 6--\$ 740,000  
Participating Agencies: CDFG, PSMFC  
Milestone(s):  
Task Category: Monitoring and Research—Directed Action from Science Program PSP—Recommended that ERP fund

Sacramento River juvenile winter Chinook salmon abundance estimates with comparisons to adult escapement [2005 Monitoring PSP]. The project will monitor juvenile winter-run Chinook passing the Red Bluff Diversion Dam to obtain juvenile winter-run Chinook production indices and to correlate these indices with estimated escapement of these fish.

Budget Year(s): 06 Estimated Cost: \$2,282,630  
Participating Agencies: USFWS, DFG  
Milestone(s):  
Task Category: Monitoring and Research – Directed Action

<p><b>Juvenile Outmigrant Sampling.</b> Juvenile outmigrant sampling needs include additional monitoring on the mainstem Sacramento River, discussed in meetings of the IEP Upper Sacramento River Monitoring and Juvenile Monitoring Project Work Teams. Monitoring will improve understanding of winter and spring-run Chinook migration through the Sacramento River prior to entering the Delta.</p> <p><b>Budget Year(s):</b> 06, 07, 08, 09    <b>Estimated Cost:</b>  <b>Participating Agencies:</b> CDFG  <b>Milestone(s):</b>  <b>Task Category:</b> Monitoring and Research</p>
<p><b>Juvenile anadromous salmonid emigration monitoring on the Sacramento River at the Glenn-Colusa Irrigation District (GCID) fish screen bypass channel [2005 Monitoring PSP].</b> This project will continue an existing California Department of Fish and Game juvenile salmonid monitoring project located at the Glenn Colusa Irrigation District (GCID) diversion on the Sacramento River near Hamilton.</p> <p><b>Budget Year(s):</b> 06    <b>Estimated Cost:</b> \$90,072  <b>Participating Agencies:</b> DFG  <b>Milestone(s):</b>  <b>Task Category:</b> Monitoring and Research – Directed Action</p>
<p><b>Real time flow monitoring in the Sacramento River system [2005 Monitoring PSP].</b> Continue operation and maintenance of stations that monitor stream flows and water quality in four eastside Sacramento River tributaries where the CVPIA has purchased water to maintain instream flows for salmonids: Big Chico, Butte, Deer and Mill creeks.</p> <p><b>Budget Year(s):</b> 06, 07    <b>Estimated Cost:</b> \$110,000  <b>Participating Agencies:</b> DWR, DFG  <b>Milestone(s):</b> 66, 115  <b>Task Category:</b> Monitoring and Research – Directed Action</p>
<p><b>San Joaquin Basin-wide temperature model.</b> CDFG will collect, store and manage water temperature and meteorological data in support of Tri-Dam Project's original approved ERP grant to develop a Water Temperature Model on the Stanislaus River; included in this task is expanded sampling on the Tuolumne and Merced rivers to develop a Basin-Wide Water Temperature Model. Year 7 total includes \$603,988 contract with Tri-Dam.</p> <p><b>Budget Year(s):</b>06, 07, 08    <b>Estimated Cost:</b> Year 6--\$244,000; Year 7--\$777,000  <b>Participating Agencies:</b> CDFG  <b>Milestone(s):</b>  <b>Task Category:</b> Implementation</p>
<p><b>Tuolumne River Restoration Monitoring [2005 Monitoring PSP].</b> This project monitors the effects on geomorphology, salmonids, and streamside habitats of four Tuolumne River restoration activities: gravel mining restoration, Special Run Pool 9 restoration, fine sediment management, and coarse sediment management.</p> <p><b>Budget Year:</b> 06    <b>Estimated Cost:</b> \$2,430,400  <b>Participating Agencies:</b> DFG, Turlock Irrigation District  <b>Milestone(s):</b>  <b>Task Category:</b> Monitoring and Research</p>
<p><b>EWP (Environmental Water Program).</b> The EWP is a ROD commitment to improve salmon spawning and juvenile survival in upstream tributaries to the Bay-Delta watershed by purchasing up to 100 TAF annually by the end of Stage 1. The USFWS is leading the EWP efforts to acquire this water.</p> <p><b>Budget Year(s):</b> 06, 07    <b>Estimated Cost:</b> Unknown  <b>Participating Agencies:</b> Unknown  <b>Milestone(s):</b>  <b>Task Category:</b> Implementation – CVPIA</p>

<p>Clear Creek. [need description]</p> <p>Budget Year(s): 08 Estimated Cost:                  Participating Agencies: Unknown                  Milestone(s):                  Task Category: Implementation</p>
<p>Tuolumne River. [need description]</p> <p>Budget Year(s): 08 Estimated Cost:                  Participating Agencies: Unknown                  Milestone(s):                  Task Category: Implementation</p>
<p>Deer Creek water use efficiency and ground water exchange. Provide 50 cfs at critical times to allow unimpaired passage of spring-run and steelhead. Ten year agreement.</p> <p>Budget Year(s): 08 Estimated Cost:                  Participating Agencies: Unknown                  Milestone(s):                  Task Category: Implementation</p>
<p>Other Water for Fish Purchase Opportunities including CVPIA. [need text]</p>
<p>Antelope Creek fish passage. Provide permanent 50 cfs from March through June for fall-run Chinook salmon, spring-run Chinook salmon, and Central Valley steelhead.</p> <p>Budget Year(s): 08 Estimated Cost:                  Participating Agencies: Unknown                  Milestone(s):                  Task Category: Implementation</p>
<p>Cow Creek and Bear Creek passage and flow improvement. Improve fish passage, flow and aquatic habitat conditions for Central Valley steelhead.</p> <p>Budget Year(s): 08 Estimated Cost:                  Participating Agencies: Unknown                  Milestone(s):                  Task Category: Implementation</p>
<p>M&amp;T Ranch—fish screen. This project would involve relocation of M&amp;T Ranches' Parrot-Phelan Pumping Station and implementation of fish screens on diversion structures to reduce fish entrainment on Big Chico Creek.</p> <p>Budget Year(s): 07 Estimated Cost: \$12 million                  Participating Agencies: Unknown                  Milestone(s):                  Task Category: Implementation</p>
<p>RD108 Fish Screen. This project represents completion of the five-phase project to design and construct a state-of-the-art fish screen at Reclamation District 108's Wilkins Sough diversion facility on the Yuba River to reduce entrainment of anadromous fish.</p> <p>Budget Year(s): 06 Estimated Cost: \$7.4 million                  Participating Agencies: RD108                  Milestones:                  Task Category: Implementation</p>

Rim Dam fish passage evaluation (NMFS). Evaluate salmonid passage feasibility above the rim dams of the Central Valley.

Budget Year(s): 06, 07 Estimated Cost:  
Participating Agencies: NMFS  
Milestone(s):  
Task Category: Planning

### *Non-Native Invasive Species*

Non-native Invasive Species (NIS) projects focused on the aquatic ecosystem in the Bay-Delta. (need description)

Budget Year(s): 09 Estimated Cost:  
Participating Agencies: USFWS, CDFG  
Milestone(s):  
Task Category: Implementation

Lake Davis pike eradication planning and implementation. CDFG will analyze alternatives through the CEQA/NEPA process and develop an implementation plan for ridding northern pike from Lake Davis. CDFG, in collaboration with stakeholders and other agencies, will conduct planning during Years 6 through 7 which will consist of developing alternatives, conducting an initial study, filing a Notice of Preparation, scoping, and EIR/EIS development. Implementation starts in Year 8 following obtaining the required permits. Post project monitoring will occur to assess the success of the eradication efforts.

Budget Year(s): 06, 07 Estimated Cost: Year 6--\$3.2 million; Year 7--\$3.5 million  
Participating Agencies: CDFG  
Milestone(s):  
Task Category: Planning, Implementation, and Monitoring

Zebra Mussel Rapid Response. This project will build on established partnerships and leverage federal monies that were used to establish a rapid response plan for zebra mussels in California. The new action items would be to enhance the current plan and develop a working group that would implement the plan and begin working on addressing commitments and responses to the introduction of zebra mussels into California waterways. The actions would be involvement of NISAC as short term Ad Hoc committee and the team would evolve to address other NIS issues as the team builds capacity. These funds would be competed.

Budget Year(s): 06, 07 Estimated Cost: \$50,000 annually  
Participating Agencies: Unknown  
Milestone(s):  
Task Category: Implementation

Zebra Mussel Prevention. This project will build on established partnerships and leverage federal monies used to address the prevention of zebra mussels entering into California waterways. The new action items will build on USFWS projects that targeted pathways for zebra mussels by surveying tailored boats and enhance traveler awareness by expanding these surveys as well as implementing Traveler Information Systems (TIS) in California. This two prong approach will assist with targeting areas where the California TIS system will need to be placed as well as integrating with the current TIS that the 100th Meridian Group (FWS) has in the Western United States. These funds would be competed (grants.gov)

Budget Year(s): 06, 07 Estimated Cost: \$67,000 annually  
Participating Agencies: Unknown  
Milestone(s):  
Task Category: Implementation

*Delta Pelagic Fishes*

**Blacklock tidal marsh habitat restoration project.** Restore tidal action to a 70 acre parcel of Blacklock Ranch in Suisun Marsh. Restore the Blacklock property to 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. This project will contribute to CALFED's ERP goal of restoring 5,000-7000 acres of tidal wetlands in Suisun Marsh.

**Budget Year(s):** 06, 07    **Estimated Cost:** \$1.5 million

**Participating Agencies:** DWR, CDFG, USFWS

**Milestone(s):** 39, 40, 41, 42

**Task Category:** Implementation

**Cullinan Ranch.** Tidal marshes and sloughs.

**Budget Year(s):** 07, 08    **Estimated Cost:**

**Participating Agencies:** Unknown

**Milestone(s):** 39, 40, 41, 42

**Task Category:** Implementation

**Calhoun Cut restoration.** Restoration based on plan prepared by Solano Land Trust (ERP-02D-P54).

**Budget Year(s):** 08, 09    **Estimated Cost:**

**Participating Agencies:** Unknown

**Milestone(s):**

**Task Category:** Implementation

**Pelagic fish species scientific investigations.** Conduct preliminary investigations to identify high priority research needs to address the decline in pelagic organisms in the Delta. Implement selected research projects developed by the IEP-G8Pelagic Organism Decline (POD) effort.

**Budget Year(s):** 06, 07    **Estimated Cost:** Year 6--\$1.5 million; Year 7--\$2 million

**Participating Agencies:** CDFG

**Milestone(s):**

**Task Category:** Monitoring and Research

**Monitoring responses of the Delta smelt populations to multiple restoration actions in the San Francisco estuary [2005 Monitoring PSP].** This project will monitor delta smelt to discern how environmental conditions, including access to restored habitats, affect survival and population abundance.

**Budget Year(s):** 06    **Estimated Cost:** \$1,482,480

**Participating Agencies:** UCDavis, DFG

**Milestone(s):**

**Task Category:** Monitoring and Research – Reconsider if Revised (Implementation Year 6)

**Delta Regional Ecosystem Restoration Implementation Plan. (DRERIP).** The DRERIP is the first of four regional plans envisioned in the ERP Strategic Plan, and will refine the ERP planning foundation specific to the Delta region. Funding is for federal implementing agency and consultant support.

**Budget Year(s):** 06, 07    **Estimated Cost:** \$300,000 annually

**Participating Agencies:** USFWS, CBDA, CDFG, NMFS

**Milestone(s):**

**Task Category:** Planning - CDFG Implementation and Program Support

**Aquatic monitoring (IEP +).** Expansion of existing IEP aquatic monitoring activities necessary to measure the indicators and develop the performance measures to assess the effectiveness of the ERP on restoring aquatic resources. This will supplement the POD efforts described above.

**Budget Year(s):** 07, 08, 09    **Estimated Cost:**

**Participating Agencies:** CDFG

**Milestone(s):**

**Task Category:** Monitoring and Research

**Hamilton Airfield/Bel Marin Keys Wetland (BMK) Restoration.** Restore San Pablo Bay tidal creeks and marshes by implementing the Hamilton Air Force Base-Bel Marin Keys wetlands restoration plan. MSCS fish and wildlife will benefit from these habitats.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Year 6--\$13 million; Year 7--\$13 million; Year 8--\$27 million; Year 9--\$13 million

**Participating Agencies:** SCC, USACE

**Milestone(s):** 39, 41, 42

**Task Category:** Implementation

**Napa Salt Ponds restoration.** This project would implement the Napa Salt Marsh Restoration project by restoring 10,000 acres of tidal creeks and marshes and managed ponds to this property to support anadromous and resident estuarine fish and wildlife, including endangered species, waterfowl, and shorebirds.

**Budget Year(s):** 06, 07, 08    **Estimated Cost:** Year 6--\$500,000; Year 7--\$13,633,000; Year 8--\$13,633,000

**Participating Agencies:** DFG, USACE

**Milestones(s):** 39, 40, 41, 42

**Task Category:** Implementation

**Napa Salt Ponds monitoring.** This project would monitor the 10,000 acre Napa Salt Marsh Restoration project's effects on fish, wildlife and the Napa River estuary.

**Budget Year(s):** 06, 07, 08    **Estimated Cost:**

**Participating Agencies:** DFG, USACE

**Milestone(s):** 39, 40, 41, 42

**Task Category:** Monitoring and Research

**Tidal restoration of lands acquired through CALFED Grant ERP 01-C04 "Suisun Marsh Property Acquisition and Habitat Restoration."** Implement next phase tidal wetlands restoration of acquired property in the Suisun Marsh. Restore land to a fully functioning self-sustaining tidal wetland ecosystem which includes low-marsh, high-marsh, and upland transition zones, increasing the area and contiguity of saline emergent wetlands thereby assisting in the recovery of at-risk species.

**Budget Year(s):** 08    **Estimated Cost:** \$5 million

**Participating Agencies:** CDFG

**Milestone(s):**

**Task Category:** Implementation

**Tidal restoration of Mien's Landing in Suisun Marsh.** Complete the environmental documentation and permitting for a multi-phased project to restore tidal action to seasonal and permanent wetlands in the Suisun Marsh.

**Budget Year(s):** 08    **Estimated Cost:** \$1 million

**Participating Agencies:** CDFG, CDWR

**Milestone(s):** 39, 40, 41, 42

**Task Category:** Implementation

Tidal Restoration of Hill Slough Parcel in Suisun Marsh. Restore tidal creeks and wetlands adjacent to Suisun Marsh's Hill Slough to benefit estuarine fish and tidal marsh plants and wildlife.

Budget Year(s): 07, 08 Estimated Cost: \$1 million  
 Participating Agencies: Unknown  
 Milestone(s): 39, 40, 41, 42  
 Task Category: Implementation

### Multiple Species

Additional milestones projects for other at-risk species affected by Water Projects operations, based on annual milestones assessment. Milestones are a list of ERP, Multi-Species Conservation Strategy (MSCS), and Water Quality Program actions the CALFED Program will implement in Stage 1 to address covered species. The MSCS-ERP Milestones represent the ERP Agencies' objectives for ERP implementation that would allow covered species to make significant progress toward restoration and recovery. As stated in the ROD, the ERP Agencies will revise the milestones as necessary. During Year 5, a milestones assessment was completed and a long-term program of milestone assessment will be developed to ensure that the ERP and MSCS are implemented in a manner and to an extent sufficient to sustain programmatic FESA, CESA, and NCCPA compliance for all Program elements.

Budget Year(s): 06, 07 Estimated Cost: \$5 million annually  
 Participating Agencies: CDFG, USFWS, NMFS, CBDA  
 Milestone(s):  
 Task Category: Implementation

Terrestrial and other aquatic milestones and targets. Various other milestones, targets, and actions that have a less direct linkage to the restoration of aquatic resources that have the most influence over export facility operations.

Budget Year(s): 09 Estimated Cost:  
 Participating Agencies: CDFG  
 Milestone(s):  
 Task Category: Planning

Invasive *Spartina* control implementation in the San Francisco estuary [2005 Monitoring PSP]. Invasive *Spartina* control monitoring in the San Francisco Estuary. The project will monitor tidal marshes treated to control Atlantic cordgrass and its hybrids to determine if treatment was effective. Annual regional surveys for nonnative cordgrasses in the San Francisco Estuary will also be included.

Budget Year(s): 07 Estimated Cost: \$1,234,248  
 Participating Agencies: California State Coastal Conservancy  
 Milestone(s): 39, 112  
 Task Category: Monitoring and Research—(Implementation Year 7)

McCormack-Williamson Tract. Restoration being planned as part of the North Delta flood control and ecosystem restoration project.

Budget Year(s): 08 Estimated Cost:  
 Participating Agencies: CDFG, CDWR  
 Milestone(s):  
 Task Category: Implementation

Restoration of eastern delta floodplain habitats on Grizzly Slough in the Cosumnes River watershed (was 02-P05). Next phase funding for the restoration of Grizzly Slough in the Cosumnes River watershed; current grant, ERP-02-C08 is on going. Restoration is being planned as part of the North Delta flood control and ecosystem restoration project.

Budget Year(s): 09 Estimated Cost:  
 Participating Agencies: Unknown  
 Milestone(s): 1, 14  
 Task Category: Implementation

Sacramento River-Chico Landing Subreach habitat restoration. Will implement restoration planning and research on three sites within the Chico Landing Sub-reach (RM 178-206) in preparation for future restoration, and in a set of reference sites that were previously restored by a contractor 5-13 years ago. All sites are located within a portion of the Sacramento River Conservation Area. This project description needs to be rewritten.

Budget Year(s): 06 Estimated Cost: \$3.5 million  
 Participating Agencies: Unknown  
 Milestone(s): 59, 60, 62  
 Task Category: Implementation

Sacramento River riparian monitoring and assessment consolidated projects *[2005 Monitoring PSP]*. This project will measure a range of physical and biological indicators for ERP and AFRP-funded projects within the Sacramento River Ecological Management Zone between Red Bluff and Colusa and compare them to previous conditions and reference systems to test whether restoration actions have improved riparian forest conditions and forest interactions with aquatic processes.

Budget Year(s): 06 Estimated Cost: \$2 million  
 Participating Agencies: CSU-Chico, The Nature Conservancy, River Partners, DFG  
 Milestone(s):  
 Task Category: Monitoring and Research – Reconsider if Revised (Implementation Year 6)

Sacramento River conservation area forum base funding. As part of its commitment to protect and restore the Sacramento River meander corridor, ERP set as a Stage 1 priority, assistance to the Sacramento River Conservation Area Forum. The forum provides essential and critical stakeholder involvement in the restoration efforts along the Sacramento River.

Budget Year(s): 07 Estimated Cost: \$300,000  
 Participating Agencies: Unknown  
 Milestone(s): 59, 60, 61, 62, 63, 64, 112  
 Task Category: Planning

Yolo Bypass Strategic Plan support. Support for habitat restoration and stewardship planning (flood management). This description may be rewritten.

Budget Year(s): 06, 07 Estimated Cost: \$150,000 annually  
 Participating Agencies: Unknown  
 Milestone(s): 6, 7, 8, 13, 31, 78, 83  
 Task Category: Planning

Suisun Marsh Plan (SMP). The ERP Implementing Agencies as well as CDWR, USBR, Suisun Resource Conservation District (SRCDD), and the CBDA continue to participate in preparing the Habitat Management, Preservation, and Restoration Plan for Suisun Marsh (SMP) for the Suisun Marsh Ecological Management Zone.

Budget Year(s): 06, 07 Estimated Cost: Year 6--\$1,128,000; Year 7--\$115,000  
 Participating Agencies: USFWS, CBDA, CDFG, NMFS  
 Milestone(s):  
 Task Category: Planning - CDFG Implementation and Program Support

Wetland response to modified hydrology with respect to salinity management. CDFG, Grassland Water District, UC- Merced, and Humboldt State University, will collect water quality data in the Grassland Basin and San Joaquin River to further characterize outflow from managed wetlands, determine and compare productivity of differently managed wetlands in the basin, and monitor waterbird use of differently managed wetlands. This activity helps address water quality stressors of concern in the San Joaquin River and follows up on the previously funded Grassland Water District project titled Adaptive Real-Time Management of Seasonal Wetlands in the Grassland Water District to Improve Water Quality in the San Joaquin River, CALFED Contract No. ERP-00-FC-B05.

Budget Year(s): 06, 07, 08 Estimated Cost: Year 6--\$165,000; Year 7--\$135,000

Participating Agencies: CDFG, UC Merced, HSU, GWD

Milestone(s):

Task Category: Implementation

Conduct Comprehensive Terrestrial Monitoring. Terrestrial monitoring necessary to measure the indicators and develop the performance measures to assess the effectiveness of the ERP on restoring terrestrial resources.

Budget Year(s): 07, 08, 09 Estimated Cost: Year 7--\$1.5 million

Participating Agencies: CDFG

Milestone(s):

Task Category: Implementation

The Cosumnes-Yolo Terrestrial-aquatic Ecotone Project ("COYOTE Project"); A Unified Approach to Monitoring Floodplain and Freshwater Tidal Marsh Restoration in the Cosumnes Preserve and Yolo Bypass [2005 Monitoring PSP]. This project will monitor connectivity and key ecological variables within the Yolo Bypass and the Cosumnes Preserve. The program will take advantage of comparisons between similar ecosystems in the Yolo Bypass and Cosumnes River to assess project performance and the impacts of seasonal and interannual hydrologic variability.

Budget Year(s): 06 Estimated Cost: \$1.5 million

Participating Agencies: DWR

Milestone(s):

Task Category: Monitoring and Research - Reconsider if Revised (Implementation Year 6)

Petaluma Marsh Expansion Project: Monitoring and Secondary Test Site for the Integrated Regional Wetland Monitoring Project [2005 Monitoring PSP]. This project monitors effects of restoring tidal wetlands adjacent to Petaluma Marsh for MSCS fish and wildlife.

Budget Year(s): 06 Estimated Cost: \$235,000

Participating Agencies: Marin Audubon Society

Milestone(s): 39, 41, 42

Task Category: Monitoring and Research—(Implementation in Year 6)

Arundo donax eradication and coordination program: monitoring and evaluation [2005 Monitoring PSP]. This project will monitor sites where the Arundo Eradication and Coordination Program is attempting to eradicate giant reed to determine if their efforts are successful.

Budget Year(s): 06 Estimated Cost: \$111,000

Participating Agencies: Sonoma Ecology Center

Milestone(s): 22, 38, 62

Task Category: Monitoring PSP - Reconsider if Revised (Implementation Year 6)

## Mandated Programs

### *Central Valley Project Improvement Act*

CVPIA Contribution (Anadromous Fish Restoration Program b(1) Anadromous Fish Screen Program b(21) and other category A programs). According to the ROD, State and Federal funds would provide the bulk of funding, supplemented by Central Valley Project Improvement Act (CVPIA) Restoration Funds. The Anadromous Fish Restoration Program (AFRP) will continue to make reasonable efforts to at least double natural production of anadromous fish. To this end, AFRP will work with local watershed groups and other local partners to carry out locally developed and supported watershed restoration plans, giving priority to actions that restore natural channel and riparian habitat values [CVPIA Section 3406 (b)(1)]. The Anadromous Fish Screen Program (AFSP) plans to screen the largest diversions on the Sacramento River as diverters volunteer and funds become available. AFSP screens contribute to the “at least doubling” Central Valley anadromous fish populations CVPIA goal; these screens are also important to protect listed and candidate species such as the winter-run and spring-run Chinook salmon, Delta smelt, steelhead trout, and splittail [CVPIA Section 3406(b)(21)].

Budget Year(s): 06, 07 Estimated Cost: \$15 million annually  
 Participating Agencies: USFWS  
 Task Category: Implementation

### *Other*

Aquatic milestones and targets. Implement program actions that will address milestones, targets, and actions strongly linked to the recovery of at-risk native fish species that are greatly affected by, and in turn strongly affect, the operation of the State Water Project and Central Valley Project export facility operations in the Delta.

Budget Year(s): 07, 08, 09 Estimated Cost: \$5.0 million annually  
 Participating Agencies: CDFG, USFWS, NMFS, CBDA  
 Milestone(s):  
 Task Category: Planning and Implementation

Additional milestones projects based on annual milestones assessment. Milestones are a list of ERP, Multi-Species Conservation Strategy (MSCS), and Water Quality Program actions the CALFED Program will implement in Stage 1 to address covered species. The MSCS-ERP Milestones represent the ERP Agencies' objectives for ERP implementation that would allow covered species to make significant progress toward restoration and recovery. As stated in the ROD, the ERP Agencies will revise the milestones as necessary. During Year 5, a milestones assessment was completed and a long-term program of milestone assessment will be developed to ensure that the ERP and MSCS are implemented in a manner and to an extent sufficient to sustain programmatic FESA, CESA, and NCCPA compliance for all Program elements.

Budget Year(s): 06, 07 Estimated Cost: \$5 million annually  
 Participating Agencies: CDFG, USFWS, NMFS, CBDA  
 Milestone(s):  
 Task Category: Implementation

### *Assistance to Farmers Integrating Agricultural Activities with Ecosystem Restoration*

Assisting farmers in integrating agricultural activities with ecosystem restoration. Chapter 7 of Proposition 50 states that “not less than \$20 million shall be allocated for projects that assist farmers in integrating agricultural activities with ecosystem restoration.” During Year 6, ERP will dedicate funds in this category to a focused solicitation and directed actions to implement projects that benefit fish and other MSCS species on agricultural lands and technical assistance partnerships to facilitate integration of state-federal-local agricultural programs benefiting MSCS wildlife and fish.

<p><b>Program Implementation.</b> A focused solicitation will be issued to support targeted agricultural activities benefiting wildlife and fish and will identify funding priorities, priority practices, and geographical focus areas for projects that assist farmers in integrating agricultural activities with ecosystem restoration. A number of priority projects in this topic area will be undertaken as directed actions.</p> <p><b>Budget Year(s):</b> 06    <b>Estimated Cost:</b> \$17.9 million <b>Participating Agencies:</b> USFWS, CDFG, CBDA, DOC, DFA <b>Milestone(s):</b> <b>Task Category:</b> Implementation</p>
<p><b>Technical assistance partnerships to integrate agricultural activities with ecosystem restoration.</b> ERP will increase cooperative efforts with USDA's Natural Resources Conservation Service (NRCS), Resource Conservation Districts, and other technical non-profit agencies to provide technical assistance to landowners to implement agricultural activities benefiting MSCS wildlife and fish. This effort will provide a linkage between state and federal program and help develop the institutional capacity of implementing agencies and cooperators to support agricultural activities benefiting wildlife and fish.</p> <p><b>Budget Year(s):</b> 06, 07    <b>Estimated Cost:</b> Year 6--\$430,000; Year 7--\$500,000 <b>Participating Agencies:</b> USFWS, CBDA, CDFG, DOC, NRCS <b>Milestone(s):</b> <b>Task Category:</b> Implementation</p>
<p><b>South Delta Habitat.</b> This item is to ensure ERP that funding allocated in Proposition 204 related to the permanent barriers element of the South Delta Improvements Program contributes effectively to ERP implementation in support of the Delta Improvements Package actions related to water project operations in the Delta that will result in increased water supply reliability, improved water quality, environmental protection and ecosystem restoration, protection of the Delta Levee system, and analyses and evaluation to support improved real-time and long-term management. The Delta Improvements Package also outlines conditions under which the SWP would be allowed to increase its permitted export pumping capacity from 6,680 to 8,500 cubic feet per second.</p> <p><b>Budget Year(s):</b> 07    <b>Estimated Cost:</b> \$9.5 million <b>Participating Agencies:</b> Unknown <b>Milestone(s):</b> <b>Task Category:</b> Implementation</p>
<p><i>Mine Remediation and San Joaquin River Dissolved Oxygen Projects</i></p>
<p><b>Mine Remediation Projects.</b> Prop. 13 provides \$15 million for mine remediation projects. Priorities ought to include process studies that can assist with understanding resource management actions that can reduce methylmercury production and mine remediation projects. Highest priority will be given to projects that can provide improvements in water quality in areas of interest for restoration or habitat for key species.</p> <p><b>Budget Year(s):</b> 06    <b>Estimated Cost:</b> \$5,319,809 <b>Participating Agencies:</b> CBDA <b>Milestone(s):</b> <b>Task Category:</b> Implementation</p>
<p><b>San Joaquin River Dissolved Oxygen (DO) Issues.</b> Prop. 13 directs that funds be spent to complete the various studies and pilot demonstration projects designed to study sources, causes, and methods to correct dissolved oxygen depletion in the Stockton Deep Water Shipping Channel.</p> <p><b>Budget Year(s):</b> 06, 07    <b>Estimated Cost:</b> Year 6--\$13,575,693; Year 7--\$3.5 million <b>Participating Agencies:</b> CBDA <b>Milestone(s):</b> <b>Task Category:</b> Implementation</p>

## Staff

**CBDA ERP Oversight and Coordination.** Funding for permanent CBDA staff assigned to oversight and coordination of ERP implementation and associated administrative costs.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Years 6 and 7--\$246,000 annually

**Participating Agencies:** CBDA

**Milestone(s):**

**Task Category:** Oversight and Coordination - CBDA Implementation and Program Support

**CBDA Internal Contracts.** CBDA contracts with various entities such as Jones & Stokes, the Science Board, and CDFG to carry out activities associated with the ERP.

**Budget Year(s):** 06, 07    **Estimated Cost:** \$500,000 annually

**Participating Agencies:** CBDA

**Milestone(s):**

**Task Category:** Oversight and Coordination

**Data integration on water and sediment quality and fish contamination.** CDWR leads a multi-agency coordinated effort to develop and implement a database for reporting water, sediment and tissue data to facilitate data sharing and web-based availability. Funds are to continue implementing the refined database for new data collection projects and to convert the existing data sets into the new format.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Years 6 and 7--\$150,000 annually

**Participating Agencies:** CDWR

**Milestone(s):**

**Task Category:** Implementation

**DWR ARPI (Yolo Basin Studies) Staffing.** ARPI is designed to help carryout the ERP actions and programs in the Yolo Basin with local support. Pilot-scale restoration improvements and baseline studies were identified and will be implemented over the next several years. ARPI is working to incorporate bypass-scale restoration into the Sacramento Area Flood Control Agency's Lower Sacramento River Regional Project.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Years 6 and 7--\$1 million annually

**Participating Agencies:** CDWR

**Milestone(s):**

**Task Category:** Planning

**Environmental Water Quality coordination.** Part of the ERP's efforts to improve and maintain the water quality of the Sacramento-San Joaquin Delta estuary for beneficial uses related to the estuary's fish and wildlife resources and aquatic habitats is to coordinate and collaborate with agencies with jurisdiction over water quality, including the State Water Resources Control Board, Regional Water Quality Control Boards, the California Department of Health Services, and the California Environmental Protection Agency. Coordination activities could include participating in developing water quality strategies, reviewing regional plans and proposed projects, and reviewing and tracking environmental water quality performance measures and indicators.

**Budget Year(s):** 06, 07    **Estimated Cost:**

**Participating Agencies:** Unknown

**Milestone(s):**

**Task Category:** Implementation - CVPIA, Oversight and Coordination -CBDA Implementation and Program Support

**ERP Grant Management.** Funding for eleven permanent DFG staff assigned to coordinate ERP implementation with other restoration activities such as CVPIA and associated administrative costs.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Years 6 and 7--\$1,871,000 annually

**Participating Agencies:** CDFG

**Milestone(s):**

**Task Category:** Implementation - CDFG Implementation and Program Support

**ERP database strategy development and implementation.** Continued support for the ERP database, web based interface, GIS digitizing support, and data entry.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Years 6 and 7--\$150,000 annually

**Participating Agencies:** CDFG

**Milestone(s):**

**Task Category:** Implementation - CDFG Implementation and Program Support

**Fish and Wildlife Planning.** USFWS, as an ERP Implementing Agency, will continue ERP planning efforts in collaboration with NOAA Fisheries, CDFG and CBDA. Comprehensive efforts are currently underway to develop regional ecosystem restoration plans for areas such as Suisun Marsh and the Delta. USFWS, through an interagency process, is also involved in planning and developing the format and guidelines for preparing Action Specific Implementation Plans (ASIPs) for all CALFED projects in order to meet the requirement of FESA, CESA, and NCCPA. USFWS will continue planning efforts regarding the ERP PSP process and the USFWS continues to manage existing CALFED contracts that meet ERP goals and objectives. USFWS will continue efforts for the annual milestones assessments and other annual reporting requirements including the Multi-Year Program Plan.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Years 6 and 7--\$1,292,000 annually

**Participating Agencies:** USFWS

**Milestone(s):**

**Task Category:** Planning - US Fish and Wildlife Implementation and Program Support

**Fish Passage Improvement Program (FPIP) Staff.** The Fish Passage Improvement Program (FPIP) developed an Interagency Review Team (IRT), whose role is program oversight, includes representatives from the ERP implementing agencies and FPIP staff. FPIP staff will continue to study and evaluate constructed structures that impede anadromous fish migration and assist with engineering and environmental evaluations for migration barrier structure removal or modification within the ERP focus area. This work will occur under the auspices of the teams preparing and implementing the four regional restoration plans.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Year 6--\$1,114,000; Year 7--\$300,000

**Participating Agencies:** CDWR

**Milestone(s):**

**Task Category:** Planning

**Genetic/Scale Tissue Archive.** Funding for continued development and coordination of historic Central Valley genetics/scale tissue archive and database. Historic scale/tissue collections in Arcata, Fresno, and other locations will be cataloged, entered into a database, and made part of the existing DFG Central Valley genetics tissue archive; collections will be provided for research purposes according to standard protocols.

**Budget Year(s):** 06, 07, 08, 09    **Estimated Cost:** Years 6 and 7--\$344,000 annually

**Participating Agencies:** CDFG

**Milestone(s):**

**Task Category:** Implementation - CDFG Implementation and Program Support

<p><b>Non-native Invasive Species (DFG).</b> CDFG will work with the USFWS NIS Agency and Stakeholder Teams to implement and administer the NIS program, as developed and documented in the NIS Strategic and Implementation Plans.</p> <p><b>Budget Year(s):</b> 06, 07, 08, 09    <b>Estimated Cost:</b> <b>Participating Agencies:</b> CDFG <b>Milestone(s):</b> <b>Task Category:</b> Implementation - CDFG Implementation and Program Support</p>
<p><b>Non-native Invasive Species (USFWS).</b> USFWS will continue to work with the NIS Agency and Stakeholder Teams to implement and administer the NIS program, as developed and documented in the NIS Strategic and Implementation Plans.</p> <p><b>Budget Year(s):</b> 06, 07, 08, 09    <b>Estimated Cost:</b> Years 6 and 7--\$200,000 annually <b>Participating Agencies:</b> USFWS <b>Milestone(s):</b> <b>Task Category:</b> Implementation - CDFG Implementation and Program Support</p>
<p><b>Permit streamlining strategy, development and implementation (ASIPs).</b> Formation of an interagency team that will collaborate to ensure efficient and timely implementation of ERP projects. Yearly funding will be \$48,000 in general funds.</p> <p><b>Budget Year(s):</b> 06, 07, 08, 09    <b>Estimated Cost:</b> Years 6 and 7--\$48,000 annually <b>Participating Agencies:</b> USFWS, CDFG, NMFS, USCOE <b>Milestone(s):</b> <b>Task Category:</b> Implementation, Planning</p>
<p><b>Regional Implementation Coordination.</b> Funding for 5.25 permanent DFG staff assigned to implement the ERP grant management program and associated administrative costs. BCP 01-02?</p> <p><b>Budget Year(s):</b> 06, 07, 08, 09    <b>Estimated Cost:</b> Years 6 and 7--\$835,358 annually <b>Participating Agencies:</b> CDFG <b>Milestone(s):</b> <b>Task Category:</b> Implementation - CDFG Implementation and Program Support</p>
<p><b>Regional Planning and Implementation Support.</b> Funding for twelve permanent DFG staff assigned to prepare and maintain regional ERP implementation plans and to support ongoing implementation activities. This includes staff support for initiating work on the Sacramento River Regional Ecosystem Restoration Implementation Plan and the San Joaquin River Regional Ecosystem Restoration Implementation Plan (BCP 04-05).</p> <p><b>Budget Year(s):</b> 06, 07, 08, 09    <b>Estimated Cost:</b> Years 6 and 7--\$1,007,000 annually <b>Participating Agencies:</b> CDFG <b>Milestone(s):</b> <b>Task Category:</b> Planning - CDFG Implementation and Program Support</p>
<p><b>Restoration, Screens, etc.</b> NOAA's NMFS supports the ERP goals and efforts by providing expertise regarding restoration and fish screen projects.</p> <p><b>Budget Year(s):</b> 06, 07, 08, 09    <b>Estimated Cost:</b> Years 6 and 7--\$800,000 annually <b>Participating Agencies:</b> NMFS <b>Milestone(s):</b> <b>Task Category:</b> Planning</p>

# Public Involvement and Outreach

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Public and agency involvement through outreach and education has been a focus of the CALFED Bay-Delta Program since its initial stages. These efforts have helped shape the Program as well as the ERP. Since the ROD (August 2000) the ERP has relied on continuous comments and involvement from individuals and groups who have a stake in finding long-term solutions for the problems affecting the Bay-Delta system, focusing on ecosystem restoration efforts.

Participants representing rural, agricultural, municipal, and industrial water users; fishing interests; environmental organizations; businesses; and the general public have helped to define problems and evaluate alternatives to solve the challenges confronting the Bay-Delta system. To date, thousands of Californians have contributed to the Program by participating in public meetings and workshops- volunteering time, sharing expertise, and expressing ideas and opinions.

Broad categories of public involvement and outreach include public participation, agency participation, and science review.

## Public Participation

ERP is committed to public participation in implementing its goals and objectives. The following is a list of topics of ERP-focused public meetings or workshops. (See also the section entitled “Integration with Science, Environmental Justice and Tribal Relations.”)

- ERP Science Board
- Ecosystem Restoration Subcommittee
- Working Landscapes Subcommittee

In addition to the many public meetings or workshops, ERP Agencies are active in the following public outreach and education programs:

- ERP provided grants to the Department of Health Services (DHS) to promote better interagency and community collaboration about fish contamination issues, especially outreach and education to at-risk communities and populations which may be disproportionately affected by fish contamination, an environmental justice issue. DHS developed an ongoing interagency technical advisory group, a

## **Yolo Bypass Working Group**

The Yolo Bypass Working Group is a good example of how the ERP engages in public outreach. The working group was started by the Yolo Basin Foundation in 1998 using an ERP grant. The working group provides a place where key information and facilitated conversation can be shared by all Yolo Bypass stakeholders: landowners, land tenants, regulatory entities and other interested people.

This stakeholder group meets about every two months. More than 30 people attend these meetings regularly, representing a wide array of stakeholders. These include: landowners (ranchers, farmers and duck club owners); DWR, State Reclamation Board, DFG, USFWS, DFA, CBDA, NRCS, Dixon and Yolo resource conservation districts; Sacramento Area Flood Control Agency; Yolo County; City of West Sacramento; California Water Fowl Association; Ducks Unlimited; NOAA’s NMFS; National Weather Service, Sacramento-Yolo Mosquito Vector Control District, the Port of Sacramento and others.

In 2005 topics before the working group included: improving the Sacramento River Flood Control Project, including changes to the Yolo Bypass; conducting the Lower Yolo Bypass Feasibility Study; implementing mosquito control efforts, including those for West Nile Virus; the Yolo Wildlife Area Management Plan, anadromous fish issues, water quality, changes in land ownership and land use, and habitat restoration activities.

stakeholder advisory group that develops appropriate educational materials, and provided small grants to community-based organizations to develop their own outreach programs. Posters, post cards and brochures were developed in several languages and literacy levels and thousands of these were distributed. DHS also is working with counties and health care providers and providing training and materials to those working with people who may be at risk due to fish contamination.

- Regarding development of a habitat management, preservation and restoration plan for the Suisun Marsh, a website was established (<http://www.delta.dfg.ca.gov/suisunmarsh/charter/smip.asp>), newsletters were distributed, a scoping report for the plan's programmatic EIR/EIR was distributed and made available online ([http://www.delta.dfg.ca.gov/suisunmarsh/charter/atlas\\_documents/Scoping%20Report%205-11-04.pdf](http://www.delta.dfg.ca.gov/suisunmarsh/charter/atlas_documents/Scoping%20Report%205-11-04.pdf)), and hosted a *Making Science work for Suisun Marsh Workshop*, through the CALFED Bay-Delta Science Program and the Bay-Delta Science Consortium.
- A recently-funded project to monitor mercury in fish is convening a steering committee with stakeholders and agency participants to provide input about the monitoring program's design; this steering committee will also provide a forum for coordination and education regarding the project's findings.

The ERP Agencies' efforts to integrate agricultural activities with ecosystem restoration include public outreach to farmer organizations, non-governmental organizations, and through several forums that focus on the agriculture and wildlife interface. Among the forums are the USDA's State Technical Advisory Committee, the International Association of Fish and Wildlife Agencies' Agricultural Committee, and regional forums that address sustainable agriculture, such as the Sacramento River Conservation Area Forum, the Sacramento Valley Agricultural Forum, the California Association of Resource Conservation Districts, and the California Coalition for Food and Farming.

### Agency Participation

Agency participation in the ERP occurs at both the programmatic and process or project-specific levels. Programmatic-level participation focuses on coordinating planning and implementing the ERP as a whole and in each of the ERP regions. It includes participating in the Implementing Agency Managers meetings and in Restoration Coordinator meetings in each of the ERP regions. Each of these groups is described in the following paragraphs.

The ERP Implementing Agency Managers (ERPIAMs) are managers from the agencies tasked with implementing the ERP under the California Bay-Delta Authority Act. (These are the same agencies that developed the Multi-Species Conservation Strategy for the CALFED Bay-Delta Program.) The ERPIAMs meet at least bi-monthly to ensure coordinated implementation and planning for the ERP, and specifically to guide the activities of the Restoration Coordinators and other ERP Agencies staff.

The Restoration Coordinators are restoration coordinators from the ERP Agencies and staff from the ERP. Each of these restoration coordinators is assigned to geographic regions throughout the ERP's geographic scope and represent their respective agencies and the ERP in developing and nurturing partnerships with local entities to identify priorities and to encourage project development that contribute to ERP goals. The Regional Coordinators also oversee implementation of projects in which the ERP invests funds. The

Restoration Coordinators from all four ERP regions meet quarterly to coordinate activities throughout the ERP geographic scope. The ERPIAMs and the Chief of the ERP direct the Restoration Coordinators and other ERP Agencies staff.

Process or project-specific levels of participation focus on specific topics such as contract management, or on projects such as developing the Mercury Strategy. Specific examples of activities include the ERP Contract Amendment Workshops, the ERP Contracts Administrators meetings, and the DRERIP meetings. Below is a list of process or project-specific meetings that are held regularly.

- ERP Implementing Agency Managers (Bi-Monthly meetings)
- Restoration Coordinators (Quarterly meetings)
- Restoration Coordinators, regional meetings (Bi-monthly meetings)
- ERP Contract Amendment Meeting (Quarterly meetings)
- DRERIP
- Prop. 13 funding decisions for Dissolved Oxygen and Abandoned Mines (Monthly meetings)
- Suisun Marsh Plan (Monthly meetings)

### 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 CALFED's Science Program; (2) direct involvement of the CALFED Lead Scientist in developing the project proposal review and project selection process; (3) technical and scientific review of project proposals; (4) support of scientific workshops; (5) support of the 12-member ERP Science Board (ERPSB); and (6) support of the evaluation of progress toward achieving the ERP/MSCS ROD milestones.

Each year the ERP is a principle participant in planning and implementing a conference that is open to the public. Information presented at these conferences is pertinent to the Bay-Delta Authority and the problems and solutions faced the program in order to achieve its goals. The conferences are the BDA's Science Conference and the Biennial State of the Estuary Conference; these conferences are held in alternating years.

The Science Conference is organized by multiple concurrent sessions with about 250 oral presentations and 130 poster presentations. This conference has become a major event among national estuary researchers. When the Science Conference began, it focused on technical level presentations of primarily scientific studies. At the 2004 conference, however, the range of topics was expanded to include talks and a panel discussion about BDA environmental justice issues.

The Biennial State of Estuary Conference emphasizes broader issue-based presentations than the Science Conference. The Estuary Conference is a three-day conference providing a series of single-session presentations. These presentations are around a theme selected for the conference that reflects contemporary concerns in the Bay-Delta Estuary. Speakers are selected based on their expertise on the topic; expertise of speakers is varied and has included scientific, political, social, economic, legal and historic backgrounds.

The ERPSB is a group of academic scientists that provides the ERP Agencies with advice and guidance, specifically to establish a solid scientific foundation for the ERP, to help ingrain scientifically-based adaptive management in the implementation of the ERP, and to discuss the scientific and technical questions at the root of policy issues and priorities. The following is a list of the boards, panels, and committees that provide scientific review to the ERP Agencies.

- ERP Science Board
- Issue-specific Scientific/Technical Review Panels
- Directed Action-PSP Technical Review Panels

The ERP Agencies will continue to work with the ERPSB, Science Program, and the Authority's Independent Science Board to update the peer review process used in proposal solicitation process, work on performance measures, support continuing the adaptive management forums on the Merced and Tuolumne rivers and Clear Creek, and continue planning and implementing adaptive management experiments developed with the assistance of the ERPSB.

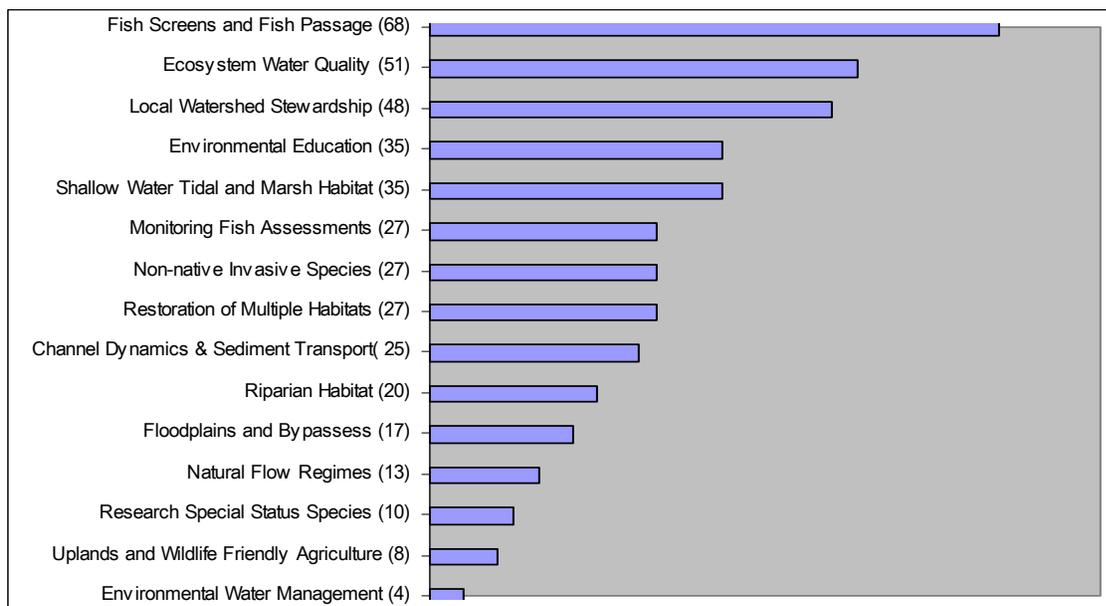
The ERP Agencies are working with the University of California, Davis extension program to provide workshops about mercury research, tidal marshes and floodplains, and large meandering rivers during Year 6.

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# Schedule

The 30-year plan for ecosystem restoration has guided the 400-plus ERP projects directly designed to address ecosystem restoration. Given the time-scale of ecosystem restoration projects, many of the funded projects need to take place in phases; many ERP projects are at a point of needing next phase review and possible funding while others are in various stages of completion or just starting. Since ecosystem restoration has a 30-year or more implementation schedule, the information below provides insight into the areas in which ERP actions are taking place. Definitions of the project types may be found in the ERP *Draft Stage 1 Implementation Plan*.

## Types and Number of Restoration Projects Funded by the ERP Through 2004



## Fund Sources and Amount of Funding to Support ERP Projects Through 2004

Fund Source	Percent of Total ERP Funding	Fund Source	Percent of Total ERP Funding
Prop. 204, Chapter 4	1%	General Fund	1%
Prop. 50, Chapter 7	39%	Restoration Fund (Federal)	8%
Local Cost Share for PSP Projects	11%	Water and Related Funds (Federal)	1%
Prop. 13. Environmental Water Quality	6%	Prop. 204, Chapter 7	28%
DWR State Water Projects	4%	Other Federal Funding	1%

Total Amount: \$172,920,000. (Amount includes \$7,268,000 from State Water Projects for mitigation and \$20,000,000 in local cost-share which are not counted toward the \$150 million commitment toward the Ecosystem Restoration Program.)

# Integration with Science, Environmental Justice, and Tribal Relations

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## **Science:**

The ERP is committed to a science-based, adaptive management approach to ecosystem restoration. Ensuring the scientific credibility of the ERP is an important responsibility of the Authority and the ERP Agencies because a science-based approach will help maximize the effectiveness of the ERP and build confidence and support for the program's efforts.

The ERP Agencies coordinate with the Science Program to develop Performance Measures and incorporate review, insights, and advice from independent science experts to ensure that the best possible scientific information guides decision-making within the ERP and within programs linked to the ERP. The Science Program's approach for incorporating independent science expertise involves four levels of working groups along with independent peer review by individuals: the CALFED Bay-Delta Program-wide Independent Science Board, program-specific Science Boards<sup>1</sup>, Standing Boards<sup>2</sup>, and Technical Panels. In Years 1 and 2, the ERP provided more than \$15 million to the Science Program to support scientific studies associated with restoration.

The Science Program is involved in ERP efforts, providing assistance in developing the *Draft Stage 1 Implementation Plan*, assisting with external scientific review and research technical review for proposals, and many more scientific review coordination efforts. Science integration into the DRERIP planning effort is facilitated by the Adaptive Management Planning Team (AMPT), a group of agency, academic, and stakeholder scientists. The AMPT is helping the ERP Agencies to make sure that the proposed targets, actions and milestones for the Delta Region have a strong scientific foundation. The Suisun Marsh Plan engaged a Science Advisor to accomplish science integration into that planning effort. A representative from the ERPSB is assisting in both planning efforts.

Several linkages exist between the ERP Agencies and the Science Program to ensure integration and coordination of resource management, policy decision-making, and science program activities. For example, DFG, USFWS, and NMFS are member agencies of the Interagency Ecological Program (IEP) of the Sacramento-San Joaquin Estuary. The Science Program is integrated with the IEP at various levels within the IEP organization and is represented in the IEP Science Advisory Group and Agency Coordinators. The Science Program provides input to the IEP work plan and provides updates of its activities at the annual IEP conference. Another example of integration is the collaboration between ERP,

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<sup>1</sup> Science Boards advise programs regarding the application of science and effectiveness of science practices within that program.

<sup>2</sup> Standing Boards combine the expertise and experience of individuals who together can represent the range of interdisciplinary knowledge of the variety of issues and challenges that converge in a program, a complicated issue, a specific region (e.g., the Delta), or a circumstance where multiple issues need to be addressed.

Science Program, and CVPIA Anadromous Fish Restoration Program's independent review processes, including the Adaptive Management Forums for Clear Creek and the Tuolumne and Merced rivers.

The ERP uses these various levels of science boards and panels, and promotes overlap in membership across the panels to provide panelists with an increased understanding of ERP-wide issues. The ERP's Science Board (ERPSB) consists of 13 international and local experts. ERP standing boards (or panels) include the Selection Panel, the Upper Yuba River Studies Technical Review Panel, the Mercury Peer Review Panel, and the Adaptive Management Forum for Large-Scale River Restoration. The ERP plans to initiate additional standing review panels including a Wetland and Floodplain Restoration Standing Review Panel, the Stockton Dissolved Oxygen Review Panel, and a Sacramento River Corridor Restoration Standing Review Panel.

In its draft Annual Report, the ERPSB noted the significant progress the ERP has made in incorporating independent, objective science into program planning and implementation. Notable examples include using outside peer reviews in selecting restoration projects for funding; requiring project applicants to include conceptual models with their project applications; establishing the Adaptive Management Forum to review large-scale river restoration projects; and reviewing and reorganizing the ERP milestones and developing science-based rationale for these milestones.

Even with the progress so far, the ERPSB made several recommendations regarding how the ERP could improve the scientific foundation of its program and more effectively engage science in the management decision making process. Recommendations included:

- Providing more attention to and scientific engagement in the monitoring and assessment aspects of funded restoration projects. These are critical steps in adaptive management. Continuous monitoring (including pre-project monitoring), evaluation, and adaptation will be needed if long-term restoration is to be realized.
- Increasing the existing feed-back loop component of Adaptive Management, assessing and acting upon the results.
- Implementing recommendations from the Adaptive Management Workshop. The ERPSB is concerned about the slow rate in which the concepts and practical steps developed at the workshop are being carried out.
- Enhancing efforts to develop conceptual and operation models to aid decision making. These should include a set of nested models, including an integrated regional model and location and issue specific models that are consistent with this larger model.
- Continuing the work in critically analyzing and articulating the scientific rationales for ERP Milestones.
- Completing a comprehensive review of ERP funded projects (Phase 3 of the Projects Evaluation).
- Updating and refining the ERP Strategic Plan to provide timely guidance for the ERP.
- Developing and adopting a set of performance indicators.

The ERP Agencies and Science Programs will consider the ERPSB's recommendations in planning staff and project actions. Members of the ERPSB anticipate continued collaboration with both the ERP Agencies and Science Program staff in assisting those programs in their respective efforts at using science to help direct program actions.

Another issue of concern, but not called out by the ERPSB as a specific recommendation is the “closing of the adaptive management loop.” In the adaptive management model described in the Strategic Plan for Ecosystem Restoration and adopted in the ROD, information from activities would feedback into the decision making chain and allow for modified approaches as new information is developed. This feedback loop requires monitoring and reporting on a timely basis. Among the factors limiting the feedback loop is adequate funding and contracting ability.

One example of closing the adaptive management feedback loop is the mercury annual review. Working with the mercury coordinator, an annual review workshop will convene all of the mercury researchers and restoration managers with a scientific review. The annual workshop will be a forum to summarize current knowledge about mercury management and make recommendations to adjust activities.

The ERP has funded several projects that assist farmers in integrating agricultural activities with ecosystem restoration. In carrying out proposed activities regarding this topic ERP will work with the ERP Science Board to better address how such activities contribute toward milestones and how habitat enhancements on working farms and ranches fit into a conserved habitat mosaic. Among the planned actions that will incorporate science review include developing a framework for agricultural activities benefiting wildlife and fish and analyzing the effects of previous ERP-funded agricultural projects benefiting wildlife and fish.

## **Environmental Justice and Tribal Relations:**

Environmental Justice and tribal relations are important implementation commitments of the Bay-Delta Program, and are important components of the ERP. The ERP maintains an extensive list of local agencies, tribes, and nonprofit organizations, including many representing economically disadvantaged communities, to whom it provides notices about the ERP’s activities and proposal solicitation packages. The ERP holds workshops to explain grant-making guidelines, criteria and processes in communities in its solution area and provides assistance to grant seekers through a toll-free telephone number and on-line materials. Local agencies and tribes are notified when the ERP Agencies receive proposals within their jurisdictions so they are aware and can provide comments if they choose to do so. Their comments are considered in grant recommendations.

Two activities illustrate how ERP Agencies integrate environmental justice concerns and tribal relations: the ERP funded studies involving fish consumption and the Environmental Water Program.

Since 2000, the ERP has provided financial support for public health agencies to provide outreach and education for disadvantaged and at-risk communities for fish contamination. DHS is engaging communities and stakeholders in developing educational materials and methods of educating people in the Bay Region and Central Valley. DHS’ efforts are focused on using existing networks to develop and disseminate the information about the risks of eating contaminated fish; existing networks include community-based organizations, county environmental health departments, food stamp programs and health care providers. With involvement by these stakeholders, educational materials were developed in several languages and at different literacy levels and are available to any interested groups or individuals.

DHS is using an ERP grant to provide mini-grants to several community-based organizations for specialized outreach to specific at-risk groups. A local stakeholder group meets regularly to collaborate and develop educational materials. These educational materials also emphasize the benefits of eating fish and provide information about the types of fish that can be eaten safely. A fish monitoring project, recently

funded by ERP, also is developing advisories, outreach and educational efforts. This project involves a diverse stakeholder and agency steering committee to provide input and assist with outreach efforts and integrates environmental justice principles into the project.

Among the other issues that the ERP Agencies and the Environmental Justice Subcommittee will work to address is that of identifying potential third party impacts from environmental restoration activities.

- Continue to involve Environmental Justice Subcommittee and other community based organizations in the fish contamination monitoring and outreach and education activities. Recent activities include funds to support a local stakeholder advisory group to develop outreach materials and strategy, community-based organizations and tribal involvement in the steering committee for the fish tissue monitoring project, and a DHS project that provides mini-grants to local community organizations to do outreach on the fish contamination issue.

The ERP Agencies also will work with the CBDA Tribal Relations Coordinator to help foster more meaningful tribal input and participation on issues or concerns of the tribes. Among the opportunities to do so are:

- **Tribal Water Programs (Clean Water Act 106, 319H, etc.)** The majority of California Tribes developed USEPA Tribal Environmental Programs with extensive water protection and water quality programs that should be considered in ecosystem restoration project planning and implementation.
- **Tribal MOUs/Programmatic Agreements (PAs).** Memorandums of Understanding (MOUs), Memorandums of Agreement (MOAs) and Programmatic Agreements (PAs) with California Tribes are an effective method of conducting initial consultation and final decision-making in implementing the ERP.
- **Stewardship.** Tribes are very aware of stewardship concepts and have formed partnerships with many local agencies and environmental groups to promote such concepts and on-the-ground projects. The ERP may be able to assist in its capacity-building function in helping to continue existing connections and foster new relationships between Tribes and other stakeholder groups to meet mutual environmental restoration needs.
- **Bay-Delta Public Advisory Committee (BDPAC) Tribal Representatives.** California Tribes have been involved with the CALFED Bay-Delta Program for several years in various stakeholder groups and other public forums. There currently are two Tribal Advisory Members serving on BDPAC and several of its subcommittees, including the Ecosystem Restoration Subcommittee. CBDA's Tribal Coordinator, along with the ERP Agencies, can assist in relaying information about ERP implementation between BDPAC, its subcommittees and the California Tribes.
- **Role of the Bureau of Indian Affairs (BIA).** Although the BIA is not a CALFED member agency, it is the lead federal agency for protecting Indian Trust Assets (ITAs). The BIA reviews environmental compliance documents of CALFED projects impacting ITA's.
- **Grant opportunities/educational outreach.** The ERP Agencies will work with the CBDA Tribal Coordinator to continue to notify tribal governments of grant opportunities that promote ecosystem restoration.

The ERP Agencies and the CBDA Tribal Coordinator will continue to work together to explore other opportunities to enhance tribal relations and outreach to tribes regarding ecosystem restoration and related issues.

## Cross-Program Relationships

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**Environmental Water Account (EWA)** – Ensuring that the short- and long-term water management efforts of the projects protect the ecosystem or are consistent with or complementary of the ERP is a key linkage that will be the responsibility of DFG, NMFS, and the USFWS.

ERP integration with the EWA is on the critical path for Delta Improvement Package Actions and Schedules. The ERP and the EWA share a common biological goal of protecting and enhancing at-risk fish species. Although the ERP and EWA are designed to reach these goals through different mechanisms (habitat creation and management in the case of the ERP versus flow manipulation in the case of the EWA), the two programs can increase their biological effectiveness by coordinating their activities. A 2001 briefing paper for the EWP listed a number of important means by which the EWA and the EWP could work together in acquiring and using water resources. A great deal of valuable coordination has already taken place. The managers of the various programs meet with each other and discuss opportunities for coordination. The CALFED program often uses (b)(2) and EWA water conjunctively to reduce pumping operations, with the EWA water being used to reduce pumping at the State Water Project while (b)(2) water is used to reduce pumping at the Central Valley Project. The management agencies also have looked for ways of using EWA water to simultaneously reduce take at the pumps and achieve other fishery benefits such as increased flows in upstream areas and decreased water temperatures.

Integration and communication between each of the environmental water programs (EWA, EWP, CVPIA (b)(2), and CVPIA WAP) has increased and the 2004 EWA Review Panel workshop also included for the first time a presentation and discussion of the ERP's EWP and its relationship to the EWA. Increased collaboration between these two environmental water programs is critically important, because the science supporting both programs is inseparable. Although the EWP has yet to exercise its own authorized water purchase element, future implementation should further unite and expand the coordination of these two programs.

EWA Implementing Agencies are CDWR, USBR, USFWS, NMFS, and DFG. USFWS, NMFS, and DFG are also ERP Agencies.

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**Storage, Conveyance, and Conjunctive Use** – Ensuring that the short- and long-term water management efforts of these projects protect the ecosystem or are consistent with or complementary of the ERP is a key linkage that will be the responsibility of DFG, NMFS, and the USFWS, in collaboration with DWR and USBR.

Many planned Conveyance Program actions could have ecosystem impacts that will be addressed in project-specific environmental documents. Planned Conveyance Program actions being evaluated include constructing a new screened intake at Clifton Court Forebay, increasing SWP pumping, constructing operable barriers on the south Delta, revising Delta Cross Channel (DCC) operation, and implementing restoration efforts as part of the North Delta Flood Control and Ecosystem Restoration Improvement Program. ERP involvement in the North Delta Flood Control and Ecosystem Restoration Improvement Program planning efforts includes ongoing participation on the North Delta Agency Team, North Delta Improvement Group, and recently increased communication among ERP agency scientists and North Delta Program staff.

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ERP integration with the Storage, Conveyance and Conjunctive Use programs is on the critical path for Delta Improvement Package Actions and Schedules for OCAP ESA and SDIP ESA consultations.

The ERP Agencies engage in the Storage program through their regulatory processes, participating on technical panels, assisting in the collection of biological data at proposed storage projects, support of environmental documentation preparation, and in their efforts to develop and share science supporting Storage Program decisions.

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**Water Transfer** – The EWA, ERP, and EWP are all interconnected by the shared goal of recovering at-risk fish species. There are undeveloped opportunities for cross-program linkages between ERP and the Water Transfer Program. To develop cross-program linkages, the EWP developed a process for selecting pilot water acquisitions that includes a related program coordination plan (potential EWP projects will be evaluated by staff from all programs that seek to acquire or transfer water). The ERP proposes the development and implementation of conservation strategies for water dependent wildlife such as the listed giant garter snake. These activities support ongoing water transfer and EWA activities.

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**Drinking Water Quality (DWQ)** – The ERP has worked closely with the DWQ Program in developing information and selecting projects to address water quality issues that impact both ecosystem and human health. For example, ERP coordinates its San Joaquin Salinity and Selenium Reduction activities with DWQ. To date, the ERP has invested over \$44 million in water quality projects, many of which have drinking and environmental water quality benefits. In addition, ERP investments in other areas, such as watershed protection and restoration of riparian buffer zones are likely to reduce run-off from urban and agricultural sources and therefore improve drinking water quality. An example of an ERP project that meets both ERP and DWQ goals is the San Joaquin River Real-time Water Quality Management Program.

The ERP provided \$1.2 million to DWR for the *Feasibility Study of Ecosystem and Water Quality Benefits Associated with Restoration of Franks Tract, Big Break, and Lower Sherman Lake* through the 2001 PSP. Franks Tract restoration originally was considered an ERP project; however, initial studies and modeling suggested that proposed actions could have greater water quality benefits and warranted additional study. This study will be completed in June 2005. The Franks Tract project now is considered part of the Drinking Water Quality Program (DWQP) because one of the project's goals is to improve water project operations while reducing salinity levels in the South Delta and at the Contra Cost Water District intakes and the water projects export facilities. The DWQP is working closely with DWR to fully understand the potential of this project, to implement pilot tests, and to ensure that water quality gains are maintained through appropriate changes in the Water Quality Control Plan or project operations agreements.

In cases where ERP investments may adversely affect drinking water quality, the ERP has invested in research and monitoring to better understand potential effects. The ERP has invested over \$10 million in six different research projects that investigate the potential impacts to drinking water from wetland restoration and organic carbon as a food resource for the aquatic ecosystem.

A lot of overlap on water quality issues and both program have funded projects that benefit overall water quality for both programs, including projects that research sources and cycling of organic carbon, projects to investigate and implement methods to improve water quality from agricultural and urban runoff.

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**Water Use Efficiency (WUE)** – Improvements in water use efficiency have the potential to benefit aquatic habitats, through improvements in both the quality and quantity of instream flows. The water use efficiency investments take place at the local level, and to that end, the ERP Agencies’ regional coordinators play a significant role in the ERP-Water Use Efficiency Program linkage.

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**Watershed** – Prior to the Watershed Program developing its ability to provide funding, the ERP funded capacity building for local watershed groups. Now that the Watershed Program funds such capacity building, the ERP has focused on funding restoration projects developed in support of local watershed plans. Complementary efforts in numerous watersheds have been funded by both programs through close collaboration during project selection processes. Two ERP Implementing Agencies (DFG and USFWS) are also implementing agencies for the Watershed Program.

The ERP established the EWP to acquire water on upstream tributaries to the Bay-Delta system to improve spawning and rearing habitat for salmonids and to implement ERP flow-related objectives on these tributaries. EWP water acquisitions will use communication networks established by prior ERP and continuing Watershed efforts.

Most projects funded by the Watershed Program have water quality benefits for the ecosystem, including projects that directly improve water quality by controlling sources of pollution in the watershed, and projects that indirectly benefit water quality through assessment, planning, local involvement, outreach and education and improving watershed stewardship throughout the watershed.

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**Levee System Integrity** – The ERP has invested more than \$85 million in at least 31 projects related to the Levee System Integrity Program, including projects that specifically address levee system integrity and others that help the Levee program meet its habitat enhancement requirements for levee maintenance. An example of an ERP project that meets both ERP and Levee System Integrity needs is a *Feasibility Study of the Ecosystem and Water Quality Benefits Associated with Restoration of Franks Tract, Big Break, and Lower Sherman Lake*. A wildlife-friendly levee habitat restoration and management project on McCormack-Williamson Tract also contributes to improved levee system integrity.

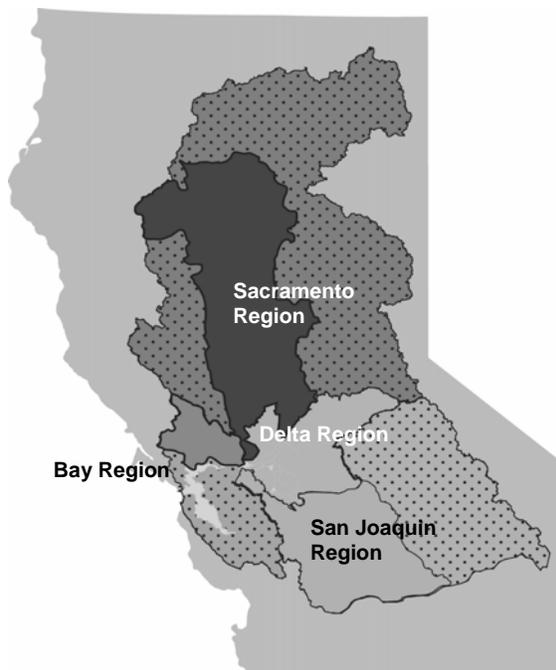
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# Funding

<b>Ecosystem Restoration</b> (\$ in millions)	YR 1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	Grand Total
State	36.8	158.3	128.2	136.1					
Federal	11.5	3.5	4.7	1.6					
Local	19.7	16.5	16.5	20.0					
Water User	18.8	34.0	25.5	22.5					
Available Funding Total	86.8	212.2	174.9	174.1					
Projected Needs Estimate	228.0	190.0	163.0	168.0					
Original ROD Estimate (Aug. 2000)	228.0	190.0	163.0	168.0	220.0	218.0	218.0		
Information in this draft comes from the cross cut budget (dated Jan 10, 2005), the Finance Plan (page 28) and last year's MYPP.									

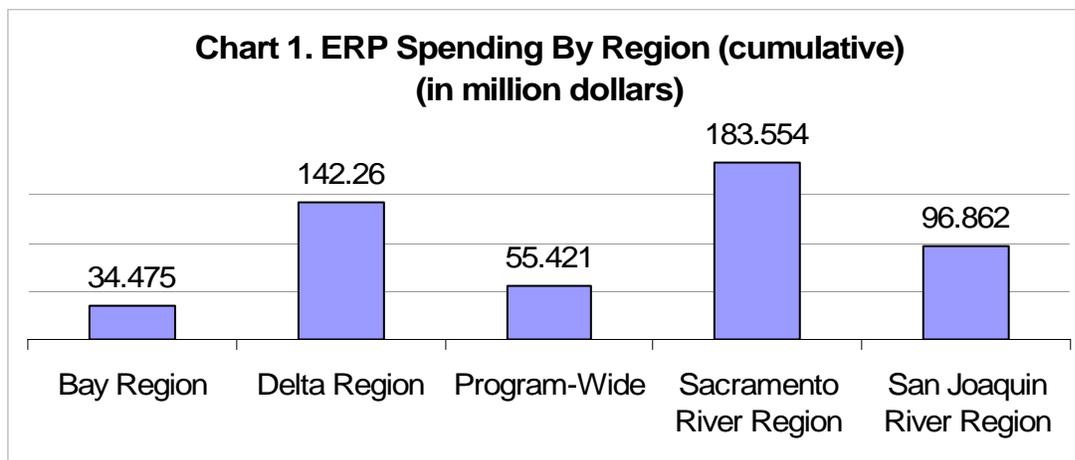
# Geographical Distribution of Activities

Among the ways in which ERP categorizes its activities is by ERP Region, or geographical distribution of its activities. The ERP geographic scope differs slightly from the overall Bay-Delta Program regions because the focus of the ERP is on the Bay-Delta and its watersheds. The ERP geographic scope fits within four of the five CALFED regions.



The figure shows the ERP geographic scope; the solid areas represent the area where most of the ecosystem restoration activities have taken place, as guided by the Ecosystem Restoration Program Plan (ERPP) and other guiding documents. For more information please see the ERPP Strategic Plan.

The tables below show ERP funding by ERP Region and by ERP topic areas. Topic areas provide a better depiction of the variety of ERP projects than organizing by goals would achieve. In terms of percent of total money allocated (\$512,572,673), two-thirds of the funds are allocated to projects in the Sacramento and Delta regions, while the remaining two regions and the Multi-Region, Landscape and Program-wide category make up the final third. Chart 1 shows the percentages of project dollars spent in each region.



## Regional Spending

Percent of total dollars spent in respective regions on ERP actions

