ERP Monitoring and Evaluation Proposal Solicitation Package (September 2004)
Final Selection Panel Recommendations

The CALFED Bay-Delta Program Ecosystem Restoration Program (ERP) Selection Panel met in April 2005 to consider highly-rated proposals received and reviewed in response to the September 2004 Monitoring and Evaluation proposal solicitation package. The Initial Recommendation from the Selection Panel was made available in April 2005 for public comment for a 30-day period. The Selection Panel reconvened in May 2005 to consider these comments, and has prepared a set of Final Recommendations, summarized below.

The Department of Fish and Game (DFG) makes the final decision on the selection of grants to receive funding from this solicitation. Therefore, the Selection Panel's Final Recommendations have been submitted to the DFG Director for consideration. The DFG proposed decision will be brought to the California Bay-Delta Authority for their review at their August 11th meeting.

To view a proposal, select the proposal title.

To view the detailed reviews of a proposal, select the recommendation.

Explanation of Recommendation Categories:

The Selection Panel's recommendations fall into four categories.

Fund. Proposals may be recommended for funding, in whole or in part. Conditions of approval may be included in recommendations for funding of some proposals to address issues raised during the review process.

Reconsider if Revised. These are proposals that are high priorities and should be considered for funding if they are revised to address shortcomings identified in the review process. Revised proposals that are resubmitted for reconsideration will undergo additional review to ensure the shortcomings that the Selection Panel identified have been resolved satisfactorily.

Directed Action (Baseline Fish and Water Monitoring). Several proposals sought funds for baseline monitoring of salmon populations' status and trends or of water flows in the ERP's Sacramento Region. The Selection Panel and the PSP's Technical Panel concluded that this monitoring was not well suited to evaluating the outcome of ecosystem restoration actions, which was the focus of the proposal solicitation package. The Selection Panel nevertheless recognizes that this monitoring is of great utility in assessing status and trends of some priority salmon species' populations in the upper Sacramento River basin and of waters on which they depend. The Selection Panel

recognizes the value of these data for status and trends analyses, management activities such as setting take limits, and for ongoing modeling efforts, and encourages funding of these activities through a directed actions process.

Do Not Fund. These proposals have serious technical deficiencies or are of lower priority to the ERP at this time. This category also includes proposals that were rated both inadequate by the Technical Panel and medium or lower by the applicable Regional Panel. The Selection Panel did not review these proposals because of they were not highly rated.

A Note on "Amount". For proposals recommended for funding, the amount shown is an upper limit recommended by the Selection Panel. For proposals recommended for reconsideration if revised, the amount provides general guidance on a target that the Panel believes should be appropriate for the revised proposal's budget. In a few cases, the Panel is providing only general guidance on the topics or tasks that should be included in a revised proposal, without suggesting a specific amount.

Recommendations

For all of the proposals recommended for funding or for reconsideration if revised, the Selection Panel recommends that ERP implementing agencies' staff seek greater budget detail, revised budgets, and use other mechanisms to reduce costs as proposed by the applicants. Overhead and administrative rates, and fees paid for services and consultants, particularly private contractors, should receive particular attention.

California Department of Fish and Game
Juvenile Anadromous Salmonid Emigration Monitoring on the Sacramento River at the Glenn-Colusa Irrigation District (GCID) Fish Screen Bypass Channel

Amount sought: $90,072
Duration: 36 months

This project will continue an existing California Department of Fish and Game (CDFG) juvenile salmonid monitoring project located at the Glenn Colusa Irrigation District (GCID) diversion on the Sacramento River near Hamilton City. The project has, and continues to provide short-term monitoring specifically related to restoration actions (including Delta operations), and long-term monitoring to detect annular and cyclic population changes.

Recommendation: Directed Action (Baseline Fish and Water Monitoring)

California Department of Fish and Game
Merced River Restoration Project Monitoring, Crocker-Huffman Dam to Gallo Ranch

Amount sought: $2,051,106
Duration: 36 months

This project is located in the Merced County and includes 17.0 miles of the Merced River from Crocker Huffman Dam (RM 52.0) to Gallo Apple Ranch (RM 35.0). Tasks involved with this proposal include monitoring geomorphic and revegetation development on the Robinson Reach of the Merced River Salmon Habitat Enhancement Project. Fisheries monitoring will also evaluate salmonid production, survival and rearing habitat on the entire study reach but focusing on past restoration actions.

Recommendation: Do Not Fund

California Department of Water Resources
The COYOTE Project: a Unified Approach to Monitoring Floodplain and Freshwater Tidal Marsh Restoration in the Cosumnes Preserve and Yolo Bypass

Amount sought: $5,107,577
Duration: 36 months

This project will monitor connectivity and key ecological response variables at various spatial and temporal scales within the Yolo Bypass and the Cosumnes Preserve. The program will take advantage of comparisons between like ecosystems in the Yolo Bypass and Cosumnes River to assess project performance and the impacts of seasonal and interannual hydrologic variability. This project will be an integrated, multi-institutional, long term monitoring program for these two regions that: 1) assesses the response of ecosystems to management activities and hydrologic change, 2) develops indicators and performance measures to evaluate progress toward restoration objectives, 3) supports adaptive management of on-going restoration programs, and 4) develops new tools and methods to help guide floodplain and marsh restoration efforts throughout the CALFED region of interest.

Recommendation: Reconsider if Revised
Amount: $1,500,000

Conditions: The proposed project is a large-scale, multi−institutional monitoring program for the Cosumnes−Yolo terrestrial−aquatic ecotone region. The project continues and expands upon ongoing monitoring of the Yolo Bypass and the Cosumnes River Preserve and adds comparable monitoring for Liberty Island. The project is multidisciplinary and relatively comprehensive. The academic, agency and NGO partners proposing to collaborate in the project are highly qualified. However, the technical review panel rated the proposal as inadequate and had a number of serious

concerns. The project is also extremely expensive. On these bases, the Selection Panel recommends that the proposal be revised to address the
issues identified by the Technical Review panel in their reviews, the issues identified by the Selection Panel (below), and to meet a level of funding not to exceed $1,5000,000 (note that this amount is provided as general guidance). It will then be reconsidered for funding.

1. The proposal is clearly a request to continue ongoing and past work in both the Yolo Bypass and the Cosumnes River Preserve, work that has already produced valuable results and indications that floodplain restoration and/or manipulation can benefit ecosystems and priority species. The argument for the proposed COYOTE collaboration is to organize the effort and allow cross comparisons between the two systems. Rather than launch continued
monitoring, it seems logical that a first step in the new project would be to evaluate existing data, design performance measures for the proposed new project and then request funds for the monitoring and evaluation to continue. The revised proposal should therefore include some discussion and application of those results to the monitoring design proposed, draft performance measures (including responses of priority species, which can then be tested with the proposed monitoring and evaluation), and tools for adaptive management (including managed manipulation of the Yolo Bypass).

2. Use of a BACI design, even as modified as suggested in the proposal, is not an appropriate monitoring design. The monitoring design needs to be revised to more appropriately and clearly address the effects of restoration actions and, in the case of the Yolo Bypass where no restoration actions have been implemented to address potential managed manipulations of the system. The applicants need to make a clearer argument for connecting and relating monitoring of the two different floodplain systems (Yolo v Cosumnes).

3. Clarify and expand plans for integration of the various disciplines (tasks) of the proposed monitoring and evaluation (a consistent concern of the Technical reviewers, and apparent in the lack of integration evidenced in this proposal).

4. It is not realistic to request support from this PSP to initiate and implement a long-term monitoring program akin to LTER? If that is the objective, then the applicants need to develop (and include) a long-term funding plan to support this effort after completion of this 3−year project.

5. Clarify and provide additional information on the DWR financial support (i.e., matching funding) for ongoing and proposed monitoring in the Yolo Bypass.

California Department of Water Resources
Real-Time Flow Monitoring

Amount sought: $330,000
Duration: 36 months

This project funds the continued operation and maintenance of flow monitoring stations that are part of an effort to assess, acquire, and manage minimum base instream flows in four eastside Sacramento River tributaries,(Big Chico, Butte, Deer and Mill creeks). Additional efforts to determine appropriate instream flows are currently in progress and will require a long-term record of the daily hydrograph for the various reaches of each tributary. Installation and operation of flow monitoring stations specifically targeted for the management of anadromous fish migration will provide the necessary long-term time series data for determination of minimum base flows. Installation and operation of flow monitoring stations specifically targeted for the management of anadromous fish migration will ensure the presence of, and facilitate the management of, dedicated instream flows acquired for anadromous fish.

Recommendation: Directed Action (Baseline Fish and Water Monitoring)

California State Coastal Conservancy
Near-field and Far-field Effects of Tidal Wetland Restoration in the Lower Napa River

Amount sought: $2,731,376
Duration: 36 months

This project will monitor the effects of a large (3,900 ha) NSMR Project, and determine its effects on a relatively small (28 km long) Napa River Estuary. This ecosystem provides a unique opportunity to assess the effect of restoration actions on an undammed river, including the ability to contribute to recovery of at-risk fish species and other populations. This project will use a BACI (before-after, control-impact) sampling framework to determine changes in restored ponds in the Restoration Project, as well as to examine near-field and far-field effects in wetlands in the Napa River Estuary. This project will also measure changes in physical processes and biological responses.

Recommendation: Do Not Fund

California State Coastal Conservancy
Monitoring for Invasive Spartina Control in the San Francisco Estuary

Amount sought: $1,651,396
Duration: 36 months

The proposed project includes annual regional surveys for non-native cordgrasses (Spartina) in the San Francisco Estuary and outer coast marshes. It also will monitor marsh areas treated to control Spartina to determine if treatment was effective. A major research component of the proposal is the development of genetic markers to identify particularly invasive Spartina hybrid genotypes.

Recommendation: Fund

Conditions: The Selection Panel agrees with the Technical Panel that the genetic marking work is not essential. Eliminate the QTL development task and continue to use the RAPD method for a cost savings of $139,000 per year for 3 years - total $417,000. A detailed explanation of the proposed administrative overhead rates and an evaluation of the proposed administrative fees for the primary and subcontractor agreements is required. The panel recommends that State reserves the right to negotiate a reasonable administrative overhead rate and additional fee rates other than stated in the grant proposal. The proposed grantee shall provide a description of qualifications and a short justification for contracting services for pre-selected subcontractors. The proposed grantee shall submit a detailed budget identifying labor rates and indirect costs of the proposed subcontractors.

California State University, Chico
Butte Creek Spring-run Chinook Salmon Life History Investigation

Amount sought: $513,281
Duration: 36 months

This project, a partnership between California State University, Chico Research Foundation and the California Department of Fish and Game, will continue the Butte Creek spring-run Chinook salmon (SRCS) life history investigation for an additional three years. This project is located on Butte Creek, in Butte County, California near Chico. The objective is to continue development of an SRCS adult escapement estimate that will serve as a reliable and more precise "recovery-metric" providing a measure of overall restoration effectiveness and as a measure of recovery for the listed SRCS.

Recommendation: Reconsider if Revised

Conditions: This proposal meets the applicable guidelines for evaluating effectiveness of restoration actions and addresses the essence of the PSP in terms of monitoring priority fish species. There is a long history of monitoring this site and it is a high priority stream and species. Previous efforts have been providing monitoring data crucial to making management decisions in other parts of the watershed.

Although the proposed studies will provide valuable information for understanding spring run Chinook salmon (SRCS) and continue monitoring work established over 9

years, this project could provide considerably more information relevant to the efficacy of restoration actions if some improvements were made to the project as it is currently proposed. The current proposal suffers from a number of key details not being provided to the reviewers so they can properly evaluate the proposed work.

The selection panel recommends that this proposal be revised for reconsideration and address the proposal in light of all the technical review panel's comments.

1) Address the concerns from technical review regarding carcass washout and mortality of partially spawned adults and revise those methods if appropriate.

2) Describe the census methods better in a revised
proposal so they can be peer reviewed

3) State the purpose of the tissue archiving and if it's for genetic analysis provide the long term plan for the tissue analysis and justification for the number of samples.

4) Provide details of the juvenile trapping efficiency so they can be peer review.

5) The number of coded wire tagged fish needs to be justified in terms of the goals of the monitoring and their ability to use the tagged fish to estimate significant population parameter of SRCS.

6) A plan needs to devised and clearly articulated for using the monitoring data to address the efficacy of restoration activities.

7) The budget should be properly justified, and other issues raised in administrative reviews should be addressed.

***NOTE: The following three applicants (California State University, Chico, River Partners, and The Nature Conservancy) should work together and resubmit one revised and coordinated proposal that addresses the conditions described below.**

Recommendation: Reconsider if Revised

Conditions: These three proposals address monitoring of the effects of a variety of restoration actions in a high priority area where there has been a significant ERP and CVPIA investment. Before a coordinated proposal is reconsidered, it needs to be better integrated with other monitoring proposals for this Sacramento River area.

A revised proposal, for a combined amount of approximately $2,000,000, should be developed cooperatively by the Nature Conservancy, River Partners, and CSU Chico, combining key tasks and personnel from each proposal, to address the goal of assessing riparian restoration, channel and river dynamics, and habitat development for species of concern through: (1) aerial photography, mapping, digitizing, and classifying

land cover and ownership, channels, and floodplains, (2) quantifying channel migration, including meander history erosion, and floodplain deposition including LIDAR and IKONOS subtasks (as appropriate and feasible within the funding limits), (3) monitoring of vegetation (including structure, composition, and cottonwood recruitment), birds, valley elderberry longhorn beetle and fish use of floodplain, and (4) producing reports about monitoring results (using the Scorecard approach proposed by TNC), and project management. Tasks addressing Argentine ants, large woody debris and social impact assessment should not be included in the revised proposal.

The Sacramento River Conservation Area Forum should be considered for the public outreach component of a revised proposal. For this proposal specifically, the Selection Panel concurs with the Sacramento Regional Panel rating of high priority and further recognizes the Sacramento River corridor covered by the proposal is an area of significant CALFED ERP investment. Although the Technical Panel concluded this proposal was above average, the evaluation also noted a lack of cohesion among tasks, and that individual external reviews were mixed. The Selection Panel reaction to the proposal was similarly mixed.

A comprehensive integrated monitoring strategy would be extremely valuable, but the individual proposals fall short of that goal. Instead, the tasks are presented in varying degrees of specificity and coordination. Direction is provided in the first paragraph above as to which elements should be retained and which should not, into a collaborative new proposal with the three teams. The Selection Panel would like to encourage that the CSU−DWR team be considered as the lead for the land cover/land use mapping and classification tasks in a new proposal, and further that the CNPS – Manual of California Vegetation be used in this element. However, the three teams should, in preparing the larger combined proposal, consult with the Riparian Habitat Joint Venture and Dr. Todd Keeler−Wolf of the Department of Fish and Game in designing the most appropriate vegetation classification system to use for the mapping task.

***California State University, Chico**
Sacramento River Riparian Monitoring and Assessment Consolidated Project

Amount sought: $3,222,967
Duration: 36 months

This project will measure a range of physical and biological indicators for ERP and AFRP-funded projects within the Sacramento River Ecological Management Zone (Red Bluff to Colusa) and compare them to previous conditions and reference systems in order to test whether restoration actions have been successful in improving riparian forest conditions and forest interactions with aquatic processes. Because local and regional perceptions of restoration can affect the implementation and effectiveness of ecosystem improvements, we will also test the effects of these restoration efforts on human attitudes towards ecosystem restoration.

Recommendation: Reconsider if Revised

Conditions: See above.

***River Partners**
VELB Colonization of Planted Riparian Restoration Projects along the Middle Sacramento River

Amount sought: $638,851
Duration: 36 months

Since 1993, riparian restoration has occurred on 3,600 acres of the USFWS Sacramento River National Wildlife Refuge. This project will survey eight selected refuge units spanning 73 river miles (RM 167 to 240) in the middle reach of the Sacramento River. These units represent a golden opportunity to study the recovery of VELB populations and how this recovery is influenced by both local site characteristics and proximity to existing natural beetle populations.

Recommendation: Reconsider if Revised

Conditions: See above.

***The Nature Conservancy**
Measuring the Performance of Riparian Restoration Projects on the Sacramento River

Amount sought: $1,103,944
Duration: 36 months

This project will determine the success of horticultural restoration projects towards (ERP goal 4), and (ERP goal 1) on a wider geographic basis. This project will use remote censusing and field-based monitoring techniques to better characterize existing habitats and species abundance, distributions, fecundity, and survival (at both restoration sites and in remnant riparian areas) at the landscape scale. The iterative process of mapping and characterizing riparian vegetation, ground-truthing mapped areas, and refining mapping methodologies will enable us to evaluate the recovery of riparian habitats, songbirds and the VELB at the scale of the entire Project area. In addition, it will allow us to better determine the relative utility that various types of GIS-derived landscape-scale data (e.g., relative elevation, landform age, channel position, channel features, etc.) have in predicting occurrences and abundances of key species and communities. A SECONDARY OBJECTIVE is to integrate new monitoring information into an ecological scorecard framework that tabulates and synthesizes information to characterize the status and trends of focal biodiversity in the Sacramento River Project area.

Recommendation: Reconsider if Revised

Conditions: See above.

California State University, Hayward
Multidisciplinary Monitoring of Environmental Processes in CALFED Restored Marshes in the Suisun Bay Ecological Zone. Phase Two: Importance of Marsh Tidal Pools, Algae, and Other Features along Marsh Channels.

Amount sought: $1,023,911
Duration: 36 months

This project would be Phase II of our mesohaline tidal marsh comparative monitoring, using non-destructive physical-chemical-biological monitoring with replication throughout each of our four recent CALFED collaborative marsh restorations and three (adjacent, ~100-yr-old, relatively natural) reference marshes. No other continued monitoring among these marsh sites is available. Central goals are to identify and improve factors that greatly enhance marsh (1) colonization, (2) productivity, (3) export, and (4) sustainability of dwindling and diverse native populations. This project will monitor and compare three reference marshes with >four replicate restored CALFED marshes both with and without pond connections, preferably including marsh maintenance as experimental field manipulations.

Recommendation: Do Not Fund

California State University, Sacramento
Effects of Structural Enhancement on Salmonid Spawning,

Amount sought: $188,776
Duration: 24 months

Due to the uncertainty of exactly how or why structure may attract spawning salmon or what benefits may be associated with spawning adjacent to objects, such as woody debris and boulders, this project will study the influence of structure on intergravel permeability, down-welling, sediment composition and behavior of spawning salmonids on known Chinook salmon and steelhead spawning habitat in the Central Valley of California, including existing enhanced spawning sites that have received AFRP and CALFED funding for either construction or monitoring.

Recommendation: Do Not Fund

Fishery Foundation of California
Cosumnes River Passage Improvement Monitoring Program

Amount sought: $251,647
Duration: 36 months

This project will continue to monitor a previously funded CALFED/Anadromous Fish Restoration Program (AFRP) project; The Cosumnes River Salmonid Barrier Improvement Project (Barriers Project). The project involved two CALFED/AFRP grants to improve passage at a low flow crossing near tidewater, four summer dams operated by the local water districts, and two fish ladders at Granlees Dam in Rancho Murieta. In total, improvements were made to six structures from River mile (RM) 6.75 through RM 34.5. The FFC proposes to continue monitoring the effectiveness of the individual barrier improvements and the response of the salmon population in terms of migration, escapement, and juvenile production to the restoration project as a whole. Total escapement will be estimated using the Peterson Index or modified Peterson Index.

Recommendation: Do Not Fund

Fishery Foundation of California
Monitoring Study of Western Delta Aquatic Habitat Restoration Sites including Twitchell Island Restoration Site – K250/1997

Amount sought: $411,820
Duration: 36 months

This project will build upon ongoing monitoring at two western Delta restorations sites and initiate monitoring at the Twitchell Island Set-Back Levee Restoration Site on the lower San Joaquin River. The objective of the proposed monitoring is to compare fish habitat use within and among the three sites and adjacent river reference areas of the Western Delta.

Recommendation: Do Not Fund

Friends of the Tuolumne, Incorporated
Tuolumne River Post Construction Habitat Evaluation

Amount sought: $353,790
Duration: 36 months

This project will monitor two separate restoration projects managed by Friends of the Tuolumne: BOBCAT FLAT RIVERMILE 43 AND GRAYSON RIVER RANCH. This project will monitor the instream habitat enhancements to evaluate the effectiveness of

the designs which aim to provide not only increased salmon spawning but also spawning and holding habitat for steelhead/trout.

Recommendation: Do Not Fund

Lassen National Forest
Monitoring Effectiveness of Watershed Improvement Measures in Deer, Mill, Antelope and Battle Creeks

Amount sought: $259,152
Duration: 36 months

This project would assess the effectiveness of past and ongoing watershed improvement activities in four of the five watersheds on the Lassen National Forest that support anadromous fishes. Data would be collected in the Deer, Mill, Antelope and Battle Creek watersheds. The plan proposes to monitor the effectiveness of implemented practices at site, reach, sub-watershed and watershed scales.

Recommendation: Do Not Fund

Marin Audubon Society
Petaluma Marsh Expansion Project -- Monitoring and Secondary Test Site for the Integrated Regional Wetland Monitoring Project

Amount sought: $235,000
Duration: 12 months

This project will monitor and evaluate the Petaluma Marsh Expansion Project (PMEP),(ERP Project # ERP-98-F13). This project will monitor this marsh as a secondary site within the Integrated Regional Wetland Monitoring Project (IRWM). This project will: 1) evaluate the underlying management question, how are ecosystem restoration efforts throughout the region affecting ecosystem processes at different scales; and (2) through application of adaptive monitoring strategy concepts, prepare for subsequent longer-term monitoring.

Recommendation: Fund

Conditions: Several concerns were raised by reviewers concerning the projects budget. Final approval of funding for this project should be conditioned on the applicants successfully providing detailed budget information addressing deficiencies identified in the budget review. According to the proposal, the California Department of Transportation provided $185,000 to complete regulatory compliance monitoring, but the applicants feel they need another $50,000 to fully implement the previously funded monitoring plan. The funding agency should confirm with CalTrans that the $50,000

requested in this proposal to implement the CalTrans funded monitoring plan is a reasonable investment of State funds. If the Science Program approves funding for a related proposal titled "Integrated Regional Wetland Monitoring (IRWM) Project", then final approval of funding for the Petaluma Marsh expansion monitoring project should also be conditioned on reconciling the budget for this effort with the budget for the related request before the Science Program, to ensure that funding is complementary and not duplicative.

National Audubon Society
Monitoring Ecosystem Response and Restoration Implementation in Western Sacramento Valley Watersheds

Amount sought: $1,200,000
Duration: 36 months

This project will expand the monitoring efforts initiated during our Willow Slough Rangeland Stewardship Program (ERP-01-N31). We propose to monitor restoration actions carried out by Audubon-California (ERP-98-E13, ERP-01-N31), the Center for Land-Based Learning (ERP-02-P11), the Solano Land Trust's Jepson Prairie Preserve (ERP 97-N10, ERP-02-P21), and The Nature Conservancy's Lassen Foothills Project (ERP-02-P26). The monitoring program is based on a conceptual model that takes a dual approach to measure indices of ecosystem response across landscape units while at the same time assessing restoration implementation at the project level.

Recommendation: Do Not Fund

Pacific States Marine Fisheries Commission
Upper Sacramento River Basin Chinook Salmon Escapement Monitoring Program

Amount sought: $1,353,357
Duration: 36 months

The CALFED ERP, the CVPIA Program, and other programs, have provided millions of dollars for the restoration of Chinook salmon habitat in the Upper Sacramento River Basin (USRB), including the mainstem Sacramento River, Clear Creek, Battle Creek, Deer Creek and Mill Creek. The primary objective of this proposal is to continue to monitor the annual abundance, migration timing, and distribution of adult winter, spring, late-fall and fall-run Chinook salmon returning to spawn in the USRB 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.

Recommendation: Directed Action (Baseline Fish and Water Monitoring)

Plumas Corporation
Upper Last Chance Restoration Project Monitoring

Amount sought: $473,804
Duration: 36 months

This project will continue on-going monitoring studies in the Last Chance Creek watershed, a tributary to the Feather River, in Plumas County. Last Chance Creek is the site of a nine-mile gully elimination project using the geomorphic pond and plug technique. The monitoring will focus on surface water discharge and timing, groundwater storage areas and volume, the evolution of channels newly subjected to bankfull flows, water temperature, evapotranspiration, and vegetative and beaver responses. The proposal also includes further refinement of the WEHY model currently being developed.

Recommendation: Do Not Fund

River Partners
Sub-surface water quality monitoring on restored riparian sites along the middle Sacramento River

Amount sought: $409,350
Duration: 36 months

This project will monitor the sub-surface soil water under planted riparian restoration sites adjacent to the Sacramento River between Red Bluff and Chico. The restoration plantings were originally carried out with the goal of improving wildlife habitat and populations (ERP Goal 3). This project will monitor the sub-surface groundwater at three historic restoration sites for concentrations of nitrates, redox potential, dissolved oxygen content and isotopic ratios of water.

Recommendation: Do Not Fund

River Partners
Vegetation and Wildlife Response to Native Grass Restoration on the Llano Seco Unit, Sacramento River National Wildlife Refuge

Amount sought: $372,100
Duration: 36 months

This project will examine the performance of a riparian savanna and grassland restoration. The monitoring effort will focus on key wildlife and vegetation responses. In

2000, River Partners initiated restoration on 206 acres of the Llano Seco Unit (Tract 4 and Tract 8) of the Sacramento River National Wildlife Refuge (Figures 1 and 2). Tract 4 (T4) and Tract 8 (T8) are located approximately 10 miles southwest of Chico, in Butte County, California. Funding was provided under the Central Valley Project Improvement Act (CVPIA).

Recommendation: Do Not Fund

River Partners
Assessment of Vegetative and Wildlife Responses to Innovative Restoration Design on the Beehive Bend Unit

Amount sought: $364,156
Duration: 36 months

This project will monitor the restoration responses of project ERP-97N03B (the Dept of Fish and Game's "Sacramento River Floodplain Acquisition - Riparian Forest Restoration"). This project will lead a collaborative effort to examine the responses of wildlife and vegetation to the restoration project and test some of the underlying assumptions that went into the project design on the Beehive Bend Unit.

Recommendation: Do Not Fund

San Francisco Estuary Institute
Implementation of A Wetlands Monitoring System Suitable for Assessing Ecosystem Response to Restoration Actions

Amount sought: $1,774,680
Duration: 36 months

The CWMV consists of a state-wide Core Team of agencies, NGOs and academics who advise multi-disciplinary Regional Teams to develop and implement a three-tiered approach to comprehensive wetlands monitoring. The three tiers of the CWMV are (1) habitat inventories; (2) rapid quantitative monitoring; and (3) intensive scientific study. The approach provides the most-cost-effective applications of science across the broadest array and largest number of restoration projects to report the distribution and abundance of wetlands, net changes in wetland acreage, and the condition of restoration projects relative to their performance standards, key ecological services, and ambient conditions.

Recommendation: Do Not Fund

San Joaquin County Resource Conservation District
Murphy Creek Restoration Monitoring Project

Amount sought: $583,054
Duration: 36 months

In 2002, the SJRCD and EBMUD were awarded a CALFED grant for the Murphy Creek Restoration Project. Sparrow Dam, the downstream-most dam in Murphy Creek, was removed in August 2003, opening an additional 0.8 mile of potential spawning and rearing habitat to anadromous salmonids. Cattle exclusion fencing was installed in the area along the previous impoundment location and an effort to remove non-native riparian vegetation has been implemented. This project will determine the extent to which restoration actions undertaken by the MCRP have resulted in measurable increases and/or improvements in habitat for spawning and rearing of anadromous salmonids, production of anadromous salmonids, the relative proportion of native fish fauna, and the water quality in Murphy Creek. A secondary goal is to identify additional hydrologic, physical, chemical, and biological factors that may be limiting production of anadromous salmonids.

Recommendation: Do Not Fund

Sonoma Ecology Center
Arundo donax Eradication and Coordination Program: Monitoring and Evaluation

Amount sought: $396,352
Duration: 36 months

This project will implement the monitoring of Arundo eradication sites for restoration success. Funding is requested to support two additional years of monitoring so that monitoring continues without interruption. This work will be carried out at all 10 partner projects of the Arundo Eradication and Coordination Program (Arundo Program), which is managed by the Sonoma Ecology Center

Recommendation: Reconsider if Revised
Amount: $111,000

Conditions: Team Arundo (Sonoma Ecology Center) should be funded to bring together an expert team to develop such a framework over a 1 year period, so that effective, comparable monitoring can take place. The proposal should be resubmitted focusing on Objective 1 and Tasks 11a, 12a, 12b, 13 a−c, 14 a−c, and validating the protocol and data management using one of the eradication sites. The Selection Panel believes this can be accomplished in one year with a budget not to exceed $111,000.

The proposal should be resubmitted focusing on Objective 1 and Tasks 11a, 12a, 12b, 13 a−c, 14 a−c, and the validating the protocol and data management using one of the

eradication sites. The Selection Panel believes this can be accomplished in one year with a budget not to exceed $111,000.

The proposed grantee shall provide a description of qualifications and a short justification for contracting services with pre−selected subcontractors (as cited on page 16 of the PSP). The proposed grantee shall also submit a detailed budget identifying the labor rates and indirect costs of the proposed subcontractors.

Sonoma Ecology Center
Does It Work? Measuring the Success of Salmonid Habitat Restoration at Multiple Scales

Amount sought: $810,324
Duration: 36 months

This project will quantify the impact of hundreds of thousands of CALFED dollars for restoration in the Sonoma Creek watershed in terms of actual steelhead (Oncorhynchus mykiss) population recovery. CALFED funding has equipped this project to develop an experimental design capable of measuring local benefits to habitat quality, reach-scale benefits in terms of increased fish productivity, and watershed-scale increases in total steelhead populations. Integrating reach- and watershed-scale approaches will allow this project to quantify the percentage of the fish population derived from treated reaches versus non-treated reaches.

Recommendation: Do Not Fund

Stockton East Water District
Calaveras River: Bellota Fish Ladder Passage Evaluation

Amount sought: $144,051
Duration: 36 months

In 2003, USFWS funded, through the Central Valley Project Improvement Act's (CVPIA) Anadromous Fish Restoration Program (AFRP), the construction and installation of a denil fish ladder at the lower end of the Bellota Weir (RM 24). Since its installation, there has been no comprehensive evaluation of the effectiveness of the ladders at providing fish passage. This monitoring project will evaluate the effectiveness of the ladders under low flow conditions by enumerating fish migrating through the ladders with an infra-red scanner (Vaki RiverWatcher). An additional objective is to evaluate flow conditions preceding recorded fish passage events by documenting flow data at two gaging stations.

Recommendation: Do Not Fund

The Nature Conservancy
Cosumnes River Preserve restoration monitoring data integration for adaptive management

Amount sought: $885,420
Duration: 36 months

This project will be implemented through a collaborative partnership with UCD (Information Center for the Environment) and PRBO Conservation Science. The primary objective is to monitor past restoration actions on the lower Cosumnes River floodplain by refining and measuring indicators for selected key ecological attributes and targets. This project will monitor: - Habitat distribution and amount by mapping and characterizing terrestrial land cover using aerial photos and remote imagery (UCD); - Habitat structure by establishing long-term permanent plots to monitor vegetation structure throughout riparian and floodplain habitat (TNC); and - Habitat function by monitoring riparian bird populations as indicators of ecosystem function (PRBO).

Recommendation: Do Not Fund

Tri-Dam Project
Stanislaus River Chinook Salmon and Steelhead Escapement Evaluation

Amount sought: $551,914
Duration: 36 months

This project will measure restoration success in the Central Valley with regard to Chinook salmon in the collection of escapement estimates, primarily obtained through carcass surveys. The Stanislaus River Weir is the only method capable of enumerating upstream migrating steelhead, which don't die after spawning and are not counted in traditional carcass surveys. Due to challenges encountered during the first two years of operation, steelhead enumeration was not possible and Chinook salmon enumeration was incomplete. Modifications to the monitoring system are anticipated to provide complete estimates of both steelhead and salmon abundance and run timing. Additional weir monitoring will also provide data to evaluate the influence of environmental conditions on fall-run Chinook run timing. Of particular interest is the potential for low dissolved oxygen concentrations in the Deep Water Ship Channel (DWSC) of the San Joaquin River to delay Chinook migration.

Recommendation: Do Not Fund

Tri-Dam Project
Assessment of Project Specific and Cumulative Effects of Restoration on Stanislaus River Juvenile Chinook Production

Amount sought: $478,509
Duration: 36 months

This project will use outmigration data collected with rotary screw traps in the lower Stanislaus River to continue monitoring the cumulative effects of in-channel restoration and other actions taken to restore and protect fall-run Chinook salmon (Oncorhynchus tshawytscha). Another goal of this project is to identify and quantify improvements in Stanislaus River juvenile production per spawner as a result of the Lovers' Leap Restoration Project. The Lovers' Leap Restoration Project, a gravel augmentation effort designed to increase the abundance of Chinook salmon and Central Valley steelhead, was funded by the United States Fish and Wildlife Service (USFWS), through the Central Valley Project Improvement Act's (CVPIA) Anadromous Fish Restoration Program (AFRP), and will be completed during 2005.

Recommendation: Do Not Fund

Turlock Irrigation District
Tuolumne River Restoration Monitoring

Amount sought: $2,430,400
Duration: 36 months

This project proposes monitoring that includes extension and, in some cases, augmentation, of project-specific effectiveness monitoring for four restoration projects on the Tuolumne River. We also propose to extend long-term, river-wide, biological trend monitoring needed to interpret project-specific monitoring results within tributary- and population-level contexts. Monitoring components include channel morphology, sediment transport, riparian vegetation, salmonid distribution and abundance, and salmonid habitat. Projects for which monitoring is proposed are: (1) Gravel Mining Reach Restoration (7/11 reach and M.J. Ruddy reach), (2) Special Run Pool 9 Restoration, (3) Fine Sediment Management, and (4) Coarse Sediment Management (Phases I through III, including coarse sediment augmentation at the Friends of the Tuolumne Bobcat Flat site).

Recommendation: Fund

Conditions: Several concerns were identified in the budget review that must be met prior to a final grant award. The proposed grantee shall provide a description of qualifications and a short justification for subcontracting services for pre-selected subcontractors. The proposed grantee shall also submit a detailed budget identifying the labor rates and indirect costs of the proposed subcontractors. A detailed explanation of the proposed

Administrative Overhead/Indirect costs rates and an evaluation of the proposed additional administrative fees for the primary and subcontractor agreements shall also be provided. The Selection Panel recommends that the State reserve the right to negotiate a reasonable administrative overhead rate and additional administrative fee rates other than stated in the grant proposal. In addition, the digital terrain model created for the project area must be available to the public.

US Fish and Wildlife Service
Monitoring and Evaluation of Riparian Habitat and Floodplain Restoration at San Joaquin River National Wildlife Refuge

Amount sought: $1,464,782
Duration: 36 months

This project will initiate a multidisciplinary monitoring and evaluation program on San Joaquin River floodplain lands protected and restored through previous CALFED Ecosystem Restoration Program funding on and adjacent to San Joaquin River National Wildlife Refuge. Part of the components of this monitoring will be new to the site while others will be a continuation of monitoring previously initiated as part of the restoration effort.

Recommendation: Do Not Fund

US Fish and Wildlife Service
Clear Creek Anadromous Salmonid Monitoring Program

Amount sought: $3,373,313
Duration: 36 months

This project is a comprehensive salmonid monitoring program that will provide feedback for the adaptive management and evaluation of restoration actions of the Clear Creek Restoration Program and B2 Water Program, funded by the Central Valley Project Improvement Act (CVPIA), and of the Ecosystem Restoration Program (ERP), Watershed Program, and potentially the Environmental Water Program, funded by CALFED. Five major restoration actions are monitored: increased instream flows, Saeltzer Dam removal, stream channel restoration, gravel augmentation, and erosion control. The three year monitoring program is based on a core of existing monitoring efforts currently funded by CALFED and CVPIA. The program complements a concurrent CALFED monitoring PSP proposal from the Western Shasta Resource Conservation District to provide geomorphological, riparian and avian monitoring of the same restoration actions.

Recommendation: Reconsider if Revised
Amount: $3,373,313

Conditions: This proposal is recommended for reconsideration, if revised. The Technical Panel concluded this proposal was “adequate” and that it was a well integrated study of several restoration efforts on Clear Creek, and the regional rating is “high.” The project is likely to produce information on the achievements of the ERP, have value for resource managers and decision makers in assessing progress, and for evaluating and modeling trends in population growth and productivity of Clear Creek. However, the Selection Panel has several serious concerns that would need to be addressed in a revised and resubmitted proposal, including the following:

• Identification and justification of control or reference sites
• Tasks described in enough detail to allow clearer technical evaluation.
• Clear description of existing knowledge on baseline conditions.
• Justification of the groupings of tasks within tiers and the prioritization of tiers.
• Clear budgeting for the separate tiers
• Provision of budget information in detail and in units that allow identification and evaluation of levels of effort.
• Clarification of whether this project includes fall run Chinook surveys.
• Addressing other identified reviewer concerns, including those identified in the budget reviews.
• Consideration of the approaches used in the Tuolumne Irrigation District's proposal (#97).

US Fish and Wildlife Service
Estimating the Abundance of Sacramento River Juvenile Winter Chinook Salmon with Comparisons to Adult Escapement

Amount sought: $2,282,630
Duration: 36 months

Rotary-screw traps at Red Bluff Diversion Dam (RBDD) have provided estimates of abundance and outmigration timing of downstream migrating salmonids since 1994. The primary objective of this project is to obtain juvenile winter Chinook production indices and to correlate these indices with estimated escapement from adult counts at RBDD and the winter-run carcass survey.

Recommendation: Directed Action (Baseline Fish and Water Monitoring)

US Geological Survey
Evaluation of the conservation value of lands purchased with CALFED funds for wintering Sandhill Cranes

Amount sought: $490,909
Duration: 36 months

This project fills the need for a monitoring and applied research study to evaluate how CALFED's investments in land acquisitions, easements and habitat enhancements in the San Joaquin-Sacramento Delta region (hereafter called the Delta) can contribute to the conservation and recovery of threatened Greater Sandhill Cranes (Grus canadensis tabida). Detailed information on crane habitat requirements and movement patterns is needed to understand the critical links between properties purchased by CALFED and surrounding privately owned lands. A meaningful evaluation also needs to consider crane use at a larger spatial scale by asking questions about connectivity among sites and the role of CALFED properties in meeting the needs of all cranes wintering in the Delta Region.

Recommendation: Fund

Conditions: A detailed explanation of the proposed Administrative Overhead/Indirect costs rates and an evaluation of the proposed additional administrative fees for the primary and subcontractor agreement is required. The State reserves the right to negotiate a reasonable administrative overhead rate and additional administrative fee rates other than stated in the grant proposal. In addition the proposed grantee shall provide a short justification for pre-selected subcontractors/consultants (as sited on page 16 of the PSP). The proposed grantee must also: (1) Clarify how this project will evaluate both public and private lands used by the birds in the work products. (2) Initiate closer coordination with landowners and management agencies. This should include a written plan that outlines how such coordination will be achieved on an on-going basis, describes the information and management needs of stakeholder agencies or organizations (Stone Lake Wildlife Refuge and Staten Island) and describes explicit steps for sharing information with the site managers to help address those needs. (3) Provide an updated monitoring plan that builds off the methods and results of DU's current effort and consider locations in the eastern Delta. (4) Coordinate project start-up to avoid duplication with DU's final year of monitoring.

US Geological Survey
Comparison of hyporheic water quality and methylmercury exposure in salmonid redds within restored and unrestored gravels in the lower American River

Amount sought: $996,307
Duration: 36 months

This project will examine hyporheic water quality and the potential for methylmercury exposure in salmonid redds on the Lower American River. Three existing CVPIA gravel restoration sites will be evaluated for indicator conditions that could potentially lead to methylmercury production, and water samples will be collected and analyzed for a variety of compounds that are related to methylmercury production. These include redox, sulfate or iron, low dissolved oxygen conditions, reactive mercury, organic carbon, pH and temperature.

Recommendation: Do Not Fund

University of California, Davis
Monitoring Sacramento perch populations in the Central Valley

Amount sought: $715,362
Duration: 36 months

This project is a logical follow-up to a present project (ERP 02-P34) to study the basic biology of Sacramento Perch (SP), which was listed as Milestone 117 by the CBDA (2004). This project will monitor four established experimental SP populations and of three others to be established in 2005. This project will establish and monitor at least three other sites in 2006 as additional fish become available. Ultimately, this project will monitor a minimum of ten pilot reintroduction sites in the Delta and Suisun Marsh to gather data that can be used to optimize management strategies for current and future restoration sites.

Recommendation: Do Not Fund

University of California, Davis
Hypothesis-driven Monitoring of the CALFED/CVPIA Sponsored Gravel Augmentation on the Lower Mokelumne River

Amount sought: $705,052
Duration: 36 months

In this next-phase monitoring and hypothesis-testing project, the project goal is to test 3 sets of hypotheses nested into a multi-scalar framework that explicitly recognizes the diverse needs for hydrogeomorphic and biological monitoring at reach, geomorphic-unit, and hydraulic-unit scales. At the reach scale the key performance questions evaluate the extent to which coarse sediment addition has re-started self-sustainable sediment transport continuity and whether the fish community shows a response to rehabilitation over a decade (1997-2008). At the geomorphic-unit scale a sediment budget framework is used to evaluate performance and persistence of complex pool-riffle units designed using SHIRA. At the hydraulic-unit scale the key performance questions evaluate the large uncertainty surrounding the hydrogeomorphic and biological functionality as well as rehabilitation value of artificially placed boulders, woody debris, and other habitat heterogeneity features.

Recommendation: Do Not Fund

University of California, Davis
Monitoring Responses of the Delta Smelt Population to Multiple Restoration Actions in the San Francisco Estuary

Amount sought: $2,658,648
Duration: 36 months

This project requests three years of support to implement a state-of-the-art monitoring program to link key vital parameters for individual delta smelt with survival to adulthood at the population level. Our plan is to measure five vital parameters for fish collected by the IEP, including growth and body condition, exposure to toxic chemicals, survival to the adult stage, spawning success, and feeding and food selectivity. We previously developed the methodology for measuring four of these parameters for delta smelt and the fifth is a standard technique. Our approach is novel because it combines information from histopathology of fish tissues, gut contents, and analyses of fish growth from otoliths to distinguish among mechanisms influencing the state of the individual fish. By combining this information on surviving fish with region-specific information on the vital rates and risk of loss to the water export facilities, we can begin to discern what combinations of environmental conditions result in high or low survival and population abundance.

Recommendation: Reconsider if Revised
Amount: $1,482,480

Conditions: The applicants submitted a letter in response to the Selection Panel's initial recommendation in which they acknowledge many of the recommendations made by the Panel and other reviewers. The Panel has considered the applicant's comments and appreciates their thoughtful response.

The Panel feels the real issue for smelt monitoring is to sort out the population bottlenecks in the smelt life cycle. This requires a comprehensive assessment of the mortality patterns within the entire system. The effort described in this proposal, together with other studies under consideration by the CBDA's Science Program and the Interagency Ecological Program (IEP), could provide key information on age and growth of different segments of the smelt population that could allow a better understanding of when and where their current life history bottlenecks take place and whether their patterns of growth are consistent with prevailing theories of population declines. The recommendations for revisions are designed to position this research team to provide key information on age and growth and spawning that can be interfaced with other management efforts to begin to assess and understand those patterns and to ensure coordination of this work, including an appropriate sequencing of studies, with other investigations.

The Panel recommendation that the proposal be reconsidered if revised is unchanged, but the review has been revised to emphasize key points that should be addressed by

the PI's. The recommendation as well as technical panel comments should be carefully considered in the revised submission:

1) This project proposes to consider a somewhat narrow set of potential mechanisms that could be impacting current recruitment levels of Delta smelt (food, contaminants) and disregards several other potentially important factors. It is also unclear how the project will focus the subsampling of available smelt to understand specific bottlenecks to Delta smelt recruitment. The Panel recognizes the impossible nature of trying to address all potential causes for smelt mortality and suggests that rather than broaden the scope, the project focus initially on providing age and growth information and spawning habitat data. Both types of data are needed by managers and can be funneled into the larger effort to understand smelt dynamics. A plan should be devised and clearly articulated in the proposal that includes a sample analysis plan that can best provide a basis for understanding of Delta smelt population dynamics within the system. The panel recommends that the mortality patterns of delta smelt observed in the IEP sampling should be reviewed before analyzing age and growth of smelt samples from a given year. A strategy should be devised in consultation with managers to strategically analyze the age and growth of smelt specimens that can best address the variety of factors affecting smelt in any given year.

2) The panel believes this project should not ignore entrained fish as a source of samples. The water projects generate large numbers of fish, perhaps greater numbers and at different intervals than IEP monitoring. Sampling fish from the projects might provide some key insights into smelt behavior at times of entrainment. At a minimum this project could determine if there are any differences in growth or other characteristics of entrained fishes and potential use the otolith chemistry to identify their source. This is possibly a key element in understanding population dynamics of smelt.

3) Better understanding about whether and how contaminants may be affecting smelt is important, the Panel concurs. Given funding limitations and other considerations, however, the Panel believes a decision about funding experiments on contaminant exposure needs to be considered as part of other decisions about investigations of the continued decline in smelt populations. A decision about whether to proceed with the experiments on contaminant exposure that are part of this project's task 3, therefore, should be reached after consultation with the science program and IEP (once their respective grants and work plans are finalized). This coordination should include considering whether funding for these investigations of contaminants' effects should be deferred until after other elements of the new smelt population investigations have made sufficient progress to warrant the histopathology research outlined in this proposal. If a decision to proceed with Task 3 is made, funds beyond the $1.5 million listed above will be needed.

4) Given the importance of spawning habitat to any species, the assessment of smelt spawning habitat should be a priority for this project. However, the methods should be more carefully planned and articulated for the revised proposal.

5) Although the otolith chemistry appears to be well developed, the methods need to be clearly articulated in the proposal so they can be peer reviewed. The panel also noted that seasonal and interannual variability in Sr isotope ratios could make discriminating the source of some individual smelt tenuous, especially within waters of the Delta where the source waters from the various rivers systems are well mixed. The PI should consider those constraints in the sampling design.

6) The selection panel concurs with the technical panel that the costs for the microscope, grinding wheel and the CCD camera are excessive, and is puzzled by the need for new polishing tools and a new microscope in this project. The panel recommends that the task 2 budget be limited to $35K for equipment ($30K for a microscope and $5K for a polishing wheel).

7) Concerns raised in the administrative review should be addressed.

Western Shasta Resource Conservation District
Lower Clear Creek Monitoring Program

Amount sought: $1,308,449
Duration: 36 months

The Lower Clear Creek Floodway Restoration Project is a CALFED funded, three phase project. This project will include the following: (1) Avian Monitoring, which will use five metrics to monitor essential avian populations, including the collection of data on an established set of riparian focal species; (2) Geomorphic Monitoring, which will include the measurement of geomorphic changes at both the project scale and on the entire watershed; (3) Riparian Habitat Monitoring, which will measure eight elements of vegetation survival and productivity, wetland creation, and the success of exotic species control efforts.

Recommendation: Fund

Conditions: The grant is subject to a detailed evaluation and approval of the whole budget to determine if labor rates and services are reasonable for services provided and are comparable to state or market rates. For subcontractor portion of the budget, the proposed grantee shall provide a description of qualifications and a short justification for subcontracting services for pre-selected subcontractors (as sited on page 16 of PSP). The proposed grantee shall also submit a detailed budget identifying the labor rates and indirect costs of the proposed subcontractors.