2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 1 **Fund (as is)**

Adopt-A-Watershed

Adopt-A-Watershed Leadership Development, Next Phase

Recommended Funding: $1,518,395.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal continues the work of Adopt-A-Watershed to refine and adapt its educational leadership models in schools in the Sacramento, San Joaquin, and Delta regions, where they would reach an additional 75,000 students. This three-year education proposal builds on needs identified in the program's earlier phases, such as increased public awareness of the role of K-12 education in ecosystem restoration and the value of networking between communities involved in watershed approaches to ecosystem restoration. This project calls for developing 25 new Leadership Teams in the regions.

Intial Selection Panel Review:

This proposal for next phase funding would continue the successful work of Adopt-A-Watershed to refine and adapt its educational leadership models in schools in the Sacramento Valley, where they would reach an additional 75,000 students. In consideration of the technical and regional reviews, the Selection Panel would like to see the applicant continue their work but with a much broader geographic scope. For that reason, the Panel would like the applicant to revise the proposal, to reflect expansion of efforts into the Delta and San Joaquin Regions, to be reconsidered as a directed action.

Final Selection Panel Review:

The Selection Panel had two concerns with the proposal which were addressed by the applicant in a comment letter. The Panel appreciates clarification provided by the applicant regarding 1) breadth of proposed project (i.e., it does include San Joaquin and Delta regions), which addresses the Selection Panel's concern regarding perceived scope limited to the Sacramento Basin, and 2) need for immediate funding to allow for implementation of project as proposed, which is the Panel's interest.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 4 **Fund (as is)**

American River Conservancy

Pine Hill Ecological Reserve

Recommended Funding: $800,000.00

Funding Source: CVPIA: Habitat Restoration Program ($400,000)

Conditions: None

Description:

This proposal is to acquire 100+ acres to add to the existing Pine Hill Ecological Reserve in western El Dorado County, which was established to protect an extremely rare natural plant community known as Gabbroic Northern Mixed Chaparral. This mixed chaparral includes several endangered and threatened plant species, and acquisition of the land falls within U.S. Fish and Wildlife Service's draft Recovery Plan objectives.

Intial Selection Panel Review:

This proposal would acquire gabbro-soil habitat within the Pine Hill Preserve and is significant to the recovery plan for five species endemic to this habitat. The Selection Panel recommends this proposal for funding, noting that this is a CVPIA priority in the PSP.

Final Selection Panel Review:

The Fish and Wildlife Service's comments endorse the project and pledge $400,000 towards its implementation.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 5 **Fund (as is)**

American River Conservancy

Upper Cosumnes River Watershed Conservation Project

Recommended Funding: $2,000,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to acquire 3,000 acres along the upper Cosumnes River to protect the river's natural hydrological variability and habitats.

Intial Selection Panel Review:

The Selection Panel recommends funding this proposal to protect habitat for red-legged and yellow-legged frogs, Northwestern pond turtle, California spotted owl and Northern goshawk. The applicant has identified willing sellers, and is encouraged to seek support from local governments because the identified parcels are zoned low density residential. The property is not prime or unique agricultural land and is not currently in agricultural use. This acquisition is time sensitive because of residential development and vineyard expansion.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 15 **Fund (in part)**

California Department of Fish and Game

Lower Yuba River Juvenile Chinook Salmon Life History And Thermal Bioenergetics Evaluation

Recommended Funding: $733,115.00

Funding Source: CVPIA : Anadromous Fish Restoration Program

Conditions: The Selection Panel recommends funding those tasks associated with the coded-wire tag and rotary screw trap work (tasks 1, 2, 3, 7A, and 9, and potentially portions of task 4).

Description:

CDFG proposes to monitor the Lower Yuba River to increase information about juvenile chinook salmon's life history, population trends, and thermal requirements. The Selection Panel recommends funding annual adult escapement surveys, rotary screw trap monitoring, coded-wiring tagging, and some water temperature monitoring.

Intial Selection Panel Review:

The Technical Panel rated the life-history elements of the proposal above average, supporting coded-wire tag and rotary screw trap work. These efforts to estimate contribution to adult escapement and to monitor juvenile migration timing with relative abundance are essential and should be routine and ongoing. The Technical Panel did not recommend the bioenergetic elements of the study (tasks 5, 7B and 8, and potentially portions of other tasks). The Selection Panel concurs with the recommendations of the Technical Panel and recommends partial funding of the study, limited to those tasks associated with the coded-wire tag and rotary screw trap work (tasks 1, 2, 3, 7A, and 9, and potentially portions of task 4).

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 17 **Fund (in part)**

California Department of Fish and Game

Suisun Marsh Land Acquisition and Tidal Marsh Restoration

Recommended Funding: $1,046,400.00

Funding Source: Prop. 204

Conditions: Fund tasks 1-6 only at this time.

Description:

This proposal is a land acquisition and tidal wetland restoration project in Suisun Marsh. Funds for the acquisition are recommended.

Intial Selection Panel Review:

The proposal is important and consistent with CALFED objectives. The local Resource Conservation District is a co-applicant, and acquisition will be from willing sellers. The site is zoned "marsh preservation" and is designated marsh in the local plan. The land is not prime or unique agricultural land and is not currently in agricultural use. However, later tasks within the proposal are not clearly defined and lack sufficient information to expend funds. Proponent should return with greater detail concerning tasks 7, 8a, 8b, 8c, 9 and 10 in the future.

Final Selection Panel Review:

In much of the Bay-Delta ecosystem, sediments are contaminated with mercury from historic mining activities or other sources. The Selection Panel is aware that wetlands are sites of active methylmercury production. In response to this contaminant issue, CALFED is organizing a workshop to develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. The workshop will provide a setting to coordinate CALFED-supported mercury monitoring and research with marsh restoration projects that the Selection Panel recommends, as recommended in the comment letter from the Clean Estuary Partnership. A letter from ABAG's CALFED Task Force and the San Francisco Estuary Project endorse the proposal, reinforcing the panel's conclusion that this is an important effort.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 18 **Fund (as is)**

California Department of Fish and Game

Transport, Cycling, and Fate of Mercury and Monomethyl Mercury in the San Francisco Delta and Tributaries--An Integrated Mass Balance Assessment Approach

Recommended Funding: $3,881,215.46

Funding Source: Prop. 204

Conditions: None

Description:

This proposal continues scientific research to understand environmental mercury and monomethyl mercury issues that is a part of the CALFED Mercury Research Project. The focus of this proposal is to understand the transport, cycling, and fate of mercury and monomethyal mercury in the San Francisco Delta and tributary watersheds using a biogeochemical mass-balance framework.

Intial Selection Panel Review:

The Selection Panel views quantification of the relative importance of external and internal sources of methylmercury as a critical first step toward identifying and focusing potential management approaches related to methylmercury contamination of aquatic biological resources within the Bay-Delta ecosystem. The centerpiece of this project is a mass-balance approach for total mercury and methylmercury in the Delta. The project also includes an array of supporting studies that will examine important fluxes and transformations of mercury in the ecosystem. (The investigators present preliminary information suggesting that riverine inputs are a major source of methylmercury to the Delta and that the influxes are greatest during periods of high flow.) The project will also examine inputs of mercury in atmospheric deposition and will indirectly assess internal production of methylmercury within the Delta (e.g., fluxes of methylmercury across the sediment-water interface). This project received a High ranking from the Bay and Sacramento regions, and a Low ranking from the Delta and San Joaquin regions. Despite the mixed regional support, the Selection Panel believes that this project will provide information of considerable utility to managers. This process-level study will be conducted at the ecosystem scale, is hypothesis driven, and addresses three regional and one multi-regional priorities. The investigators are knowledgeable and experienced. The project goals are ambitious, but most reviewers considered the likelihood of successful completion to be very good. The Panel expects that uncertainties in estimates of some fluxes (input and outputs) in the mass balance will be large; however, information on uncertainties can be useful for focusing future work, as appropriate and desirable.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

The Selection Panel concurs with the following two recommendations by the external scientific reviewers: Recommendation 1 - The investigators should modify the proposed temporal allocation of sampling effort to one that is more closely linked to the hydrograph, when influxes of total and methyl mercury to the Delta are greatest (monthly sampling intervals were proposed). In other words, sampling frequency should be increased during periods of high inflow from the tributaries, when influxes of total and methyl mercury to the Delta are expected to be greatest. Recommendation 2 - The investigators should seek to collaborate with scientists involved with direct measurement of mercury methylation and demethylation in aquatic sediments and wetland areas in the Delta. Such collaborative work would strengthen the interpretation of information on sources, sinks, and fluxes of methylmercury in the ecosystem. The Selection Panel also encourages the principal investigators to develop an analytical capability for low-level determinations of total mercury and methylmercury in dilute media, to reduce the costs of contractual analyses in mercury investigations.

Final Selection Panel Review:

Comments from the ABAG CALFED Task Force, the San Francisco Estuary Project, and the Clean Estuary Partnership endorsed this project, while asking for close coordination between mercury monitoring and wetland restoration and for more attention to public education about the public health impacts of mercury-contaminated sportfish. In much of the Bay-Delta ecosystem, sediments are contaminated with mercury from historic mining activities or other sources. This contamination's impacts in the Bay-Delta system are widespread. The Selection Panel is also aware that wetlands are sites of active methylmercury production. In response to these contaminant issues, CALFED is organizing a workshop to develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. In response to the Clean Estuary Partnership's comments regarding improving mercury source assessments, the Selection Panel also recommends that this project's Task 2C (Conduct sub-watershed studies of tributaries or source regions...) include estimation of episodic inputs of mercury to the San Joaquin River in the vicinity of Mud Slough, which receives mercury originating from the New Idria Mercury Mine via the Panoche Fan.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 24 **Fund (as is)**

California Department of Water Resources

Lower Butte Creek Project: Sutter Bypass - Willow Slough Weir Fish Passage Project - Preliminary Engineering Investigation

Recommended Funding: $155,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to develop preliminary engineering drawings, construction cost estimates, and an environmental check list for structural modifications of the Willow Slough Weir flow control structure and fish ladder. A technical report will include preliminary engineering drawings, discussion of alternatives and the selection process, operational concepts, design and construction cost estimates, and permitting requirements.

Intial Selection Panel Review:

Improving passage at Willow Slough Weir rates above average from the Technical Panel. It has strategic and regional values in recovery of at-risk salmonids species in Butte Creek. The Selection Panel strongly suggests the proponent move the development of alternatives right up front as an initial task. Input on alternatives could influence the data collection and design activities.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 25 **Fund (in part)**

California Department of Water Resources

Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

Recommended Funding: $300,000.00

Funding Source: Prop. 204

Conditions: Reflecting concerns that the proposed costs for year one efforts are high, the panel requests that the applicants reconsider their budget and propose a workplan that can be carried out for $300,000. The panel expects that proposed surveys, data collection activities, as well as modelling exercises can be completed at this level of funding.

Description:

This proposal is a multi-phased project to restore 489 acres of floodplain habitat in the Cosumnes River Nature Preserve for at risk species. Funding is recommended for Phase I, which includes data collecting, modeling, environmental planning, preliminary design and engineering, developing an adaptive management strategy, and completing a reconnaissance level study for the potential similar restoration efforts on adjacent parcels.

Intial Selection Panel Review:

The Selection Panel concurs with the detailed technical and other reviews regarding the merits and shortcomings of this proposal. The panel is concerned about the lack of links between geomorphology, hydrology, and biological endpoints (goals). Nonetheless, the panel wishes to fund year one of this effort, with close attention to reviewer criticisms and an important condition. Proportionately cut each task, as necessary.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 39 **Fund (in part)**

Carl Mesick Consultants

Continued Studies for the Knights Ferry Gravel Replenishment Project, Phase 2

Recommended Funding: $139,744.00

Funding Source: CVPIA : Anadromous Fish Restoration Program

Conditions: The Selection Panel recommends funding for one year (not three) of work as proposed.

Description:

This project continues the studies at Knights Ferry to investigate the benefits and methods of restoring spawning habitat for fall-run Chinook salmon at 18 restoration sites in the Stanislaus River between Goodwin Dam and Oakdale. This project continues to evaluate the hypothesis that riffles constructed in widened, mined channels will have a longer useful life than those constructed in narrow, unmined channels. The Selection Panel recommends funding only one, not three years, of this project.

Intial Selection Panel Review:

The Panel agrees with the comments of the previous reviewers, but believes this effort can be strengthened by: (1) providing a more clear explanation of how this Phase 2 work builds on Phase 1 results; and (2) collaborating with others pursuing similar work on Central Valley Rivers. To that end, the Selection Panel encourages the ERP and Science Program to organize a workshop on gravel replenishment projects, sediment quality, and salmonids (including coordination with the proposal from UC Davis re: "Demonstration project to test a new interdisciplinary approach to rehabilitating salmon spawning habitat in the Central Valley"), that includes the proponents of this proposal.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 51 **Fund (as is)**

Cottonwood Creek Watershed Group

Kids for Our Creeks

Recommended Funding: $164,579.00

Funding Source: Prop. 204

Conditions: None

Description:

Cottonwood Creek, an important Sacramento River tributary, harbors anadromous fish and other significant wildlife and is a major source of spawning gravel to the Sacramento's mainstem. This proposal builds on prior environmental education efforts by helping K-8 teachers to develop environmental education curriculum, service learning opportunities, and coordinate classroom and field work

Intial Selection Panel Review:

Cottonwood Creek is an important tributary to the Sacramento River, with anadromous fish and other significant wildlife, and is a major source of spawning gravel to the mainstem. CALFED previously supported the formation of the Cottonwood Creek Watershed Group in this largely rural area. This proposal will build on prior environmental education efforts and will target K-8 grades. The proposal was rated highly by the regional panel and the Environmental Education panel agreed that this has "great merit", although it did note the proposal could have been more artfully written. The Selection Panel viewed the proposal very positively and recommends full funding.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 54 **Fund (as is)**

Ducks Unlimited, Inc.

Butte Sink Water Control Structure Modifications - Phase III Construction

Recommended Funding: $5,748,112.00

Funding Source: Prop. 204

Conditions: None

Description:

The Butte Sink Water Control Structures Modification Project is designed to improve fish passage for anadromous fish in Butte Creek (a tributary to the Sacramento River) while maintaining the viability of agriculture and managed wetlands in the Butte Sink and surrounding area. This proposal is to upgrade existing structures with fish ladders and improved water control structures.

Intial Selection Panel Review:

Although the technical review panel rated the proposal as adequate, they did so based on the lack of a private cost-share. They identified no technical concerns, noting that the project was poised to proceed. The regional review panel gave the project a high rating, noting that the project was very important to overall restoration efforts in Butte Creek. As such, the project is part of a regionally significant, large-scale restoration effort. The project is for next-phase funding of a CALFED-funded project and will complement other restoration actions already completed or underway in the Butte Creek watershed. Previous phases showed significant cost share. The Selection Panel reviewed the rating summary and determined that the cost-share concern raised by the technical review panel should not deter funding this proposal. The Selection Panel recommended funding as proposed.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 58 **Fund (with conditions)**

Ducks Unlimited, Inc.

Staten Island Wildlife-Friendly Farming Demonstration

Recommended Funding: $1,507,459.00

Funding Source: Prop. 204

Conditions: The Selection Panel recommends that project implementation is consistent with the terms and conditions of the previous contracts that funded acquisition of Staten Island by The Nature Conservancy.

Description:

This proposal is to establish a pilot demonstration program to (1) support and improve wildlife-friendly agriculture that fosters at-risk species such as the greater sandhill crane and (2) investigate the effects of different agricultural practices on wildlife populations and water quality. This will be achieved by constructing low interior cross levees and a high volume discharge pump to improve water management on the island. Project monitoring will evaluate the effects of water management practices on habitat use by target species and on water quality, specifically dissolved carbon.

Intial Selection Panel Review:

The Selection Panel recommends full funding of $1,507,459 to this project as proposed. The Panel requests assurance that the landowner (TNC) has active involvement in the project. Panel members also recommend that to the extent possible, that pre-project monitoring be conducted to allow comparison of bird density and diversity to new shallow-water managed fields to otherwise similar fields that are not managed in this way. The Panel also suggests that the applicant assess of the cost and benefits of the wildlife-friendly agricultural practices on Staten Island not only to wildlife enhancement, but also to agricultural profitability. The project meets ERP strategic objectives by enhancing habitat in the Consumnes River Preserve corridor, providing additional water quality monitoring, and enhancing wildlife friendly agriculture opportunities. It may also provide future flood management benefits. The project should provide valuable information to CALFED. With suggested monitoring improvements, it can be an information-rich project with respect to bird species of concern. It will also provide information on farmland/wildlife/water quality interactions, in a reasonable time frame.

Final Selection Panel Review:

The Selection Panel continues to recommend full funding of the project.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Comments from the Delta Protection Commission and the Department of Water Resource's North Delta Planning Branch emphasized that it is important the project be carefully coordinated with Delta flood protection planning, in order to avoid project improvements that may be inconsistent with future flood management solutions. The Delta Protection Commission also reminded the committee of TNC's statements that its management of Staten Island would be neutral for agriculture and seasonal wildlife. In response to these comments, the Selection Panel recommends that the project should be developed to assure consistency with the ultimate outcome of ongoing planning processes including the CALFED Delta Regional Implementation Plan and CALFED North Delta Improvements. The panel believes the condition recommended will assure this outcome.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 63 **Fund (in part)**

Environmental Science Associates

DISTRIBUTION AND ECOLOGY OF LEPIDIUM LATIFOLIUM IN BAY-DELTA WETLANDS

Recommended Funding: $223,050.00

Funding Source: Prop. 204

Conditions: Task 1 should be funded.

Description:

The Selection Panel recommends funding Task 1 of this proposal: GIS mapping of Lepidium latifolium in Bay-Delta wetlands. This mapping, combined with additional field information and already available information, will be used to create a spatial model of invaded habitats; this model will be a tool to monitoring invaded areas as well as help identify habitats at risk of invasion.

Intial Selection Panel Review:

Funding is recommended for only Task 1 of this proposal's three components: (1) mapping, (2) edaphic and environmental issues associated with invasion and (3) an assessment of herbicide fate. Of the four external reviews it received two excellent ratings and two poor ratings. There is great variation in the rating among tasks. The technical panel recommends funding Task 1 - the GIS mapping, but not Tasks 2 and 3. There is overall agreement that Task 3 is poorly described in the proposal and addresses a very difficult problem. The combination of these factors indicates to the Selection Panel that Task 3 should not be funded. Task 2 has some problems with the experimental design, which are described in detail by one reviewer, and there is such a high degree of concern regarding the proposed approach that the Selection Panel feels this is not suitable for funding.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 69 **Fund (as is)**

Estuary Action Challenge Earth Island Institute

Estuary Action Challenge Environmental Education Program

Recommended Funding: $120,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This is a hands-on education program designed for teachers and students from low income, urban schools to study, clean up and restore urban creek and bay habitats, reduce urban runoff pollution, and address issues of water quality and safe bay food consumption. This project focuses on local water resources and environmental justice issues in under-served urban communities.

Intial Selection Panel Review:

The applicant has received past CALFED funding (1999, 2000) and has been successful in implementing a range of environmental education activities in economically disadvantaged East Bay communities. The proposal received positive reviews for merit, the presence of strong community support, and because the project would contribute to CALFED's efforts addressing environmental justice issues.

Final Selection Panel Review:

The ABAG-CALFED Tak Force and San Francisco Estuary project's comments endorse this project and offer suggestions for refining its activites. In response, Selection Panel encourages the applicant to use its role in implementing this environmental education program opportunisitically to reach other associated, at-risk communities who consume fishes caught in Bay waters.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 71 **Fund (as is)**

FARMS Leadership, Inc.

Cultivating Watershed Stewardship

Recommended Funding: $1,497,500.00

Funding Source: Prop. 204

Conditions: None

Description:

This is a proposal for an environmental education program for high school students in Sacramento and San Joaquin Valleys, Delta, and Bay. Students will participate in real-world habitat restoration and wildlife-friendly agriculture projects, working with local organizational partnerships. Funds are also provided to evaluate the feasibility of establishing a Farm and Nature Center in Winters, near Putah Creek, to provide professional development for local and regional environmental education programs.

Intial Selection Panel Review:

The Selection Panel recommends funding in full, including Task 3, which the Environmental Education Panel suggested not funding. The Learning Center's location near Willows and the interest expressed by numerous cost-sharing partners (Audubon, Yolo County Resource Conservation District, The Nature Conservancy, San Joaquin County Resource Conservation District, and the National Fish and Wildlife Foundation) make this a strategic investment.

Final Selection Panel Review:

The Selection Panel recognizes and appreciates the clarifying comments provided by the applicant (both the budget and location of the Farm and Nature Center), and recommends full funding for this project.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 80 **Fund (as is)**

H.A.R.T., Inc.

Sustainable Restoration Technologies for Bay/Delta Tidal Marsh and Riparian Habitat

Recommended Funding: $1,800,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is a research and restoration project that builds upon earlier work on the North Fork Mokelumne River and Georgiana Slough. The project includes bank protection work, reconstructing natural berm environments to create new riparian and shaded riverine aquatic habits, developing new freshwater tidal marsh habitat, removing non-native invasive weeds and replanting with native species, and monitoring the effectiveness of the different restoration technologies used for this work.

Intial Selection Panel Review:

Proposed treatments, selection of sites, and past performance supports the decision to fund this effort in full. The project has value to CALFED in issue areas including sedimentation dynamics, invasive plant species, revegation, and bank stabilization. Reviewers laud the relatively low overhead and administration costs. The work has reached a point at which efficiencies in restoration can be assessed through rigorous experimental tests of habitat enhancement techniques, which then can be articulated as directions to other efforts. As indicated in the technical and other reviews, the applicant should take advantage of experimental opportunities in the proposed restoration program by varying treatments within system constraints. Reviewers desire that the applicant synthesize lessons and promulgate the adaptive management message from this work to assist efforts elsewhere in the CALFED planning area.

Final Selection Panel Review:

The Delta Protection Commission's comments endorsing this project reinforce the Selection Panel's recommendation that it be funded as submitted.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 85 **Fund (with conditions)**

Hydrologic Research Center

INFORM - Integrated Forecast and Reservoir Management Demonstration for Northern California Water Resources

Recommended Funding: $600,000.00

Funding Source: Prop. 204

Conditions: The proposed cost share is under consideration by the NOAA OPG where an identical proposal was submitted. The scientific review panel and the selection panel felt this proposal should be funded, but that funding should be contingent upon NOAA funding the projected cost share component of this 5-year project.

Description:

This research proposal seeks to improve management of the network of reservoirs in the CALFED area by better integrating climate forecasts into models used to manage the system. The project's first years will be devoted to improving management models for individual reservoirs, while a later phase will be devoted to the interacting four-reservoir system of Folsom, Oroville, Shasta, and Trinity reservoirs. CALFED funding is conditioned upon the proponents securing matching funds from NOAA..

Intial Selection Panel Review:

This highly-rated research proposal seeks to improve management of the network of reservoirs in the CALFED area by improving the integration of climatic forecast into models used to manage the system. This is not the kind of proposal that is likely to draw a lot of public attention or involvement. Because it is about research to improve water supply, the regional panels felt that it wasn't as high a priority as it might be if it addressed immediate ecological issues within the Delta. At least one panel felt that the project should be undertaken by the water management entities and funded by another program related to water supply reliability. However, the Selection Panel felt that the strong scientific basis for the project and the possibility of increased and more reliable water supply, coupled with the potential contribution of funds by NOAA, makes it viable for funding by CALFED. Given the costs of water in California, if water supplies are enhanced then the costs are reasonable and the ecological benefits could be substantial if water management can be effectively used for ecological benefits. This project appears to have a high probability of success because of the close ties of the research group to the agencies involved in the water management and demonstrated expertise and success with a similar project. The panel noted that

for this project to ultimately succeed the implementation of the results by the water management entities is an essential step.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 90 **Fund (as is)**

Marin Audubon Society

Bahia Acquisition and Tidal Wetland Restoration

Recommended Funding: $3,345,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to acquire and permanently protect the 654-acre Bahia property on the lower Petaluma River, including restoration of 333 acres of diked baylands to tidal marsh.

Intial Selection Panel Review:

The Selection Panel recommends funding this acquisition and restoration project because the applicants: identified substantial cost sharing; are dealing with a willing seller; have county support; are consistent with the local voter referendum for protection of this parcel; are not affecting prime or unique farmland; will restore tidal wetlands, natural salinity regimes, channel complexity and vegetation; and because the one-year development moratorium will end soon and development or sale of the property is probable. Protecting and restoring San Pablo Bay tidal marsh, especially from old diked baylands, is a PSP priority (BR-1).

Final Selection Panel Review:

Many agencies' comments endorse this project: the city of Novato, Marin County, the San Francisco Bay Joint Venture, and the ABAG-CALFED Task Force and San Francisco Estuary Project. They reinforce the Selection Panel's recommendation that this project be funded as submitted. The Selection Panel is aware that wetlands are sites of active methylmercury production. In response to this contaminant issue, CALFED is organizing a workshop to develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. The workshop will provide a setting to coordinate CALFED-supported mercury monitoring and research with marsh restoration projects like this that the selection panel recommends, as suggested in the comment letter from the Clean Estuary Partnership.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 92 **Fund (as is)**

Meridian Farms Water Company

Meridian Farms Water Company - Positive Barrier Fish Screen Project

Recommended Funding: $750,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to prepare a feasibility study to evaluate consolidation of three pumping facilities on the Sacramento River into one screened diversion. Collectively, these diversions have the potential to divert a significant portion of the Sacramento River flow.

Intial Selection Panel Review:

This proposal is to prepare a feasibility study to evaluate consolidation of three pumping facilities on the Sacramento River into one screened diversion. Collectively, these diversions have the potential to divert a significant portion of the Sacramento River flow. The project is specifically identified as a priority in the 2002 PSP, it received an above average rating from the technical panel, and was rated high by the regional review panel. The Selection Panel notes that the contractors identified in this proposal were also identified in another proposal recommended for funding by the panel (proposal number 109, Patterson Irrigation District Fish Screen Design and Environmental Review). The total time collectively identified in these proposals for specific individuals likely exceeds the time they have available. The Selection Panel recommends funding this proposal, but encourages the applicant to work with the Anadromous Fish Screen Program to address cost concerns and to assure that identified contracting personnel are adequate to complete the project.

Final Selection Panel Review:

The comments from the Northern California Water Association and the Sacramento Valley Landowners Association supported the proposal, which is recommended for funding as is. Comments have been received requesting more time for public input on this proposal. The CALFED Ecosystem Restoration Program remains fully committed to local input and has provided opportunity for public involvement at multiple steps in the 2002 proposal solicitation and review process. Proposals have been available to the public since last fall, and local governments and watershed groups, including the Sacramento River Conservation Area Forum (the commenter asking for more time to review this

proposal), were notified of proposals in their area. The process also included regional review panels comprised of individuals with local expertise and perspectives. Because of the extensive technical and regional reviews, and the unexpectedly large number of proposals this year, the process has taken longer than anticipated. The final recommendation and subsequent funding decisions are long overdue. The 2002 Proposal Solicitation Package identified a 30-day public review period, and the ERP honored that commitment. While the Selection Panel agrees that additional time would help some parties, the panel does not recommend extending the comment period for this year's process

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 98 **Fund (as is)**

Natural Resource Scientists, Inc.

A Feasibility Investigation of Reintroduction of Anadromous Salmonids Above Crocker-Huffman Dam on the Merced River

Recommended Funding: $160,758.00

Funding Source: CVPIA : Anadromous Fish Restoration Program

Conditions: None

Description:

This proposal is to conduct a one-year feasibility study to examine the biological and technical issues associated with potentially opening three miles of the Merced River above Crocker-Huffman Dam to salmonids by establishing a fish passage and protection at the dam. The feasibility study will also investigate the river habitat between Crocker-Huffman and Merced Falls dams for potential biological production of anadromous salmonids. The study will examine how such restoration actions could interact with Merced River Hatchery operations and the opportunities and constraints of anadromous salmonid reintroduction upstream of Crocker-Huffman Dam.

Intial Selection Panel Review:

This proposal provides an assessment of the likely benefits of opening up three miles of cold water salmonid habitat within 12 months. It can lead to actions that increase the spawning, abundance and distribution of multiple at risk species. The need and feasibility of the study outweigh not very explicit descriptions of objectives, schedule and hypotheses. The strategic benefits lie in the likelihood of increasing access to and habitat for spawning, consistent with the Proposal Solicitation Package's priority SJR-3, by a qualified and experienced team. Ecological benefits in terms of new knowledge will help as well, and can lead to restoring natural processes for stream biota, including passage and spawning of salmon and steelhead.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 109 **Fund (as is)**

Patterson Irrigation District

Patterson Irrigation District Fish Screen Design and Environmental Review

Recommended Funding: $611,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to complete the final engineering design, final environmental assessments, and environmental permits for a fish screen project on the San Joaquin River. The diversion that would be screened has the potential to divert a significant portion of the San Joaquin River flow.

Intial Selection Panel Review:

This proposal is to complete the final engineering design and environmental permits for a fish screen project on the San Joaquin River. The diversion that would be screened if this project were to be implemented has the potential to divert a significant portion of the San Joaquin River flow. The project is specifically identified as a priority in the 2002 PSP, it received an above average rating from the technical panel, and was rated high by the regional review panel. The technical panel raised concerns that the costs for portions of this project were high. The Selection Panel notes that the contractors identified in this proposal were also identified in another proposal recommended for funding by the panel (proposal number 92, Meridian Farms Water Company - Positive Barrier Fish Screen Project). The total time collectively identified in these proposals for specific individuals likely exceeds the time they have available. The Selection Panel recommends funding this proposal, but encourages the applicant to work with the Anadromous Fish Screen Program to address cost concerns and to assure that identified contracting personnel are adequate to complete the project.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 112 **Fund (as is)**

Point Reyes Bird Observatory

Songbird population responses to riparian management and restoration at multiple scales: comparative analysis, predictive modeling, and the evaluation of monitoring programs.

Recommended Funding: $356,876.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal will use existing data to evaluate how best to promote self-sustaining bird communities through riparian restoration and management. The goals of the proposal are to (1) identify the major factors that influence the success of hydrological, vegetation management, and restoration activities that provide habitat for self-sustaining bird populations, (2) recommend how activities can best benefit breeding songbirds, and (3) evaluate the songbird monitoring strategy.

Intial Selection Panel Review:

Synthesis of the large, accruing datasets on riparian birds will be valuable to inform a great number of CALFED actions targeting bank and floodplain restoration. The products of this effort need to be integrated into an indicators analysis, allowing CALFED to better assess restoration project success and enhance management strategies. Reviewers are concerned that both the choice of population dynamics models and the the lack of detail concerning the tools used to analyze available data are a project shortcoming. The panel recommends that the applicants seek advice in approach to data analysis from a top flight biostatistician and submit to peer-review their interim products to assure rigor and usefulness of results.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 113 **Fund (as is)**

Portland State University

LIFE HISTORY OF EGERIA DENSA IN THE DELTA: FACTORS CONTROLLING PRODUCTION & FRAGMENT VIABILITY

Recommended Funding: $327,937.00

Funding Source: Prop. 204

Conditions: None

Description:

This is a research proposal to study the life history of Egeria, a nonnative invasive aquatic plant in the Delta, to investigate control measures that can be more readily designed, and to better understand the implications of existing management actions on both Egeria and others aquatic species

Intial Selection Panel Review:

This is a very sound research proposal that aims to elucidate the life history of Egeria such that control measures can be more readily designed, and/or we can better understand the implications of our management actions (both those targeted at Egeria and others) on the Egeria problem. The frustration of several technical reviewers seems be that the proposal is not set in the context of existing/planned restoration measures for the Delta, and perhaps the proposers lack of explicit reference to such means they have not fully considered where their work might be useful. Had their conceptual model included components that showed the effects of management actions on the various potential controlling environmental factors, this may have clarified this issue. However, the Selection Panel feels this is an important step forward on Egeria - in the CALFED adaptive management structure it certainly seems appropriate to present a research proposal because of the great uncertainty surrounding Egeria management. This study will likely provide some good information on Egeria that can aid ERP, and in a timely manner. No revision needed - the need is to get started.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 126 **Fund (as is)**

Sacramento Valley Open Space Conservancy

East Sacramento County Blue Oak Legacy Acquisition Area-Deer Creek Hills Project

Recommended Funding: $1,000,000.00

Funding Source: CVPIA: Habitat Restoration Program ($200,000)

Conditions: None

Description:

This proposal is to purchase 4,000+ acres in the foothill region of the upper Cosumnes River watershed. The site features blue oak woodland, vernal pools, and grasslands that are critical habitats that support a wide range of at risk species. Rapid suburban development threatens the area.

Intial Selection Panel Review:

Blue oak woodland, vernal pools, and grasslands are critical habitats that support a wide range of at risk species. These habitats are fast disappearing in the Central Valley. This 4,000+ acre acquisition is a high priority because of its location (i.e., upper Cosumnes River watershed, foothill region, rapidly developing urban/suburban zone), it is time sensitive (i.e., option expires December 10, 2002), and the land is at risk of imminent development (i.e., exisiting proposal for a senior citizen center). There are no prime farmlands on the property. The affected landowners are willing sellers. Protection of this land would likely provide downstream watershed benefits including instream water quality and ecosystem health benefits, as well as provide an opportunity to broaden understanding of biological and ecological value associated with these habitat types through surveys and monitoring.

Final Selection Panel Review:

The Fish and Wildlife Service's letter endorses the project and pledges $200,000 towards the project, confirming the value of purchasing these lands.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 138 **Fund (as is)**

San Francisco State University, Romberg Tiburon Center

Determining the mechanisms relating freshwater flow and abundance of estuarine biota (the "Fish-X2" relationships): Phase I

Recommended Funding: $509,222.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal responds to the need to more fully understand the mechanisms at work in the fish-X2 relationship in order to improve its effectiveness as an ecosystem management tool. This proposal includes (1) designing and planning a coordinated interdisciplinary research project of fish-X2 relationships and (2) conducting modeling studies to guide future field research. This research project could provide information for more scientifically-based restoration or water management.

Intial Selection Panel Review:

Technically, a key uncertainty begins to be addressed in this research planning project, but additional phases will be required to field-test hypotheses on fish-X2 relationships. The Bay panel's "do-not-fully-fund" recommendation is outweighed by the confidence in ratings from other panels. Strategically, this proposal could contribute to knowledge of Delta flow regimes to support at-risk species in the Bay and Delta, and to effects of Delta diversions. Proposal Solicitation Package priorities addressed include Bay Region-6, -7 and -8, which relate to at-risk species in the Bay/Delta. Evaluating ecological benefits vs. cost is hard now as this research is beginning. The importance of X2 justifies some risk. It may set the stage for science to contribute to decisions on restoration actions or water management after this 2-year project. Public support and implementability seem likely per Bay and Delta regional panels giving the proposal good and high ratings. Modeling efforts should support study design without getting ahead of the design. Proposal indicates modeling may be independent of the design effort.

Final Selection Panel Review:

The ABAG-CALFFED Task Force's and San Francisco Estuary Project's comments endorse the proposal, emphasizing its value to their region.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 142 **Fund (as is)**

San Joaquin County Resource Conservation District

Restoration and Monitoring of Riparian Habitat Corridors Along The Lower Mokelumne River

Recommended Funding: $859,405.00

Funding Source: Prop. 204

Conditions: None

Description:

This project proposes to restore approximately 45 acres of riparian habitat along two miles the Lower Mokelumne River to increase the diversity and richness of riparian birds. Monitoring will provide information about which plants benefit avian communities, reduce stream bank erosion, or enhance river functions for anadromous fish. Collected data also will be used in other CALFED adaptive management processes.

Intial Selection Panel Review:

The Selection Panel concurs with the Technical Panel that the riparian restoration and song bird monitoring merit support. The Panel encourages the proponents to consult with a bio-statistician to incorporate a statistically valid experimental design into the monitoring tasks for both bird species and plant species.

Final Selection Panel Review:

Several owners of land near this project site wrote letters during this proposal's review, expressing concern that it might adversely affect use of their property. Other landowners, the Lodi-Woodbridge Winegrape Commission, and the Riparian Habitat Joint Venture, submitted comments endorsing the project. After considering these comments, the Selection Panel continues to support funding this proposal to restore riparian corridor habitat and monitoring for benefits to neotropical migratory birds. Salmonid habitat restoration, about which several property owners expressed concern, is not a key feature of this project. This project exhibits willing landowner participation, overall community support and a collaborative approach. Project implementation will respect private property rights.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 150 **Fund (in part)**

Solano County Farmlands and Open Space Foundation

Restoring Ecosystem Integrity in the Northwest Delta: PHASE II

Recommended Funding: $246,370.00

Funding Source: Prop. 204

Conditions: The Selection Panel recommends funding most of this research, land acquisition, monitoring and outreach proposal. The project will protect and enhance habitat for as many as 29 target species and provides a native habitat bridge between the delta and Suisun Marsh and is part of the Jepson Prairie-Prospect Island Corridor. The land to be acquired (775 acres)is designated prime and unique agricultural land. .It is currently available for sale. It will remain in agricultural use for the time being. The research into levee setback and removal may result in up to 900 acres, including 40 acres on the acquired parcel as well as the adjacent publically-owned parcel, being taken out of agricultural production. The restoration proposed is being undertaken primarily because of resources present at and near this site, including an isolated population of Delta smelt. For this reason, the project can't be undertaken on existing public lands elsewhere.

Description:

The portion of this project recommended for funding is the restoration of vernal pools on 1700 acres east of the Jepson Prairie in Solano County. This includes research on different grazing and burning practices to manage these habitats. Funds are also recommended for an outreach program to strengthen existing management partnerships in the Jepson Prairie-Prospect Island corridor, including work with agricultural interests

Intial Selection Panel Review:

The Selection Panel recommends funding most of this research, land acquisition, monitoring and outreach proposal. The project will protect and enhance habitat for as many as 29 target species and provides a native habitat bridge between the delta and Suisun Marsh and is part of the Jepson Prairie-Prospect Island Corridor. The land to be acquired (775 acres)is designated prime and unique agricultural land. .It is currently available for sale. It will remain in agricultural use for the time being. The research into levee setback and removal may result in up to 900 acres, including 40 acres on the acquired parcel as well as the adjacent publically-owned parcel, being taken out of agricultural production. The restoration proposed is being undertaken primarily because of resources present at

and near this site, including an isolated population of Delta smelt. For this reason, the project can't be undertaken on existing public lands elsewhere.

Final Selection Panel Review:

The local reclamation district and the two adjoining landowners commented on this application, expressing concern about how the project would affect local agriculture and alter flood protection in the area. The Delta Protection Commission (DPC) and the Department of Conservation also expressed concerns about potential impacts to farmland, with DPC recommending issues and procedures that it felt should be addressed in the applicant's restoration planning. In response, the Selection Panel now recommends funding of only the vernal pool restoration and public outreach and education components of the proposal. The Selection Panel further recommends that the CALFED agencies consider funding the planning components and acquisition ($1,556,853) as a directed action, but only after the applicant coordinates with the Delta Protection Commission, Reclamation District, and other local governmental entities.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 154 **Fund (as is)**

Stanford University

Shallow open water habitats: Hydrodynamics and benthic grazing

Recommended Funding: $471,661.00

Funding Source: Prop. 204

Conditions: None

Description:

This research proposal will develop, via field observation and modeling, a detailed view of how tides and wind-generated waves determine the physical structure and hydrodynamics of shallow estuarine waters, and how these physical processes can act to constrain net primary production through their effects on grazing and light. Field experiments in the shallows of Grizzly Bay and in Franks Tract will be conducted. The investigations will provide important information that can improve modeling of the Delta and planning of estuarine restoration projects.

Intial Selection Panel Review:

This proposal provides important information regarding shallow water hydrodynamics that can improve modeling of the Delta and thus be of great value to many aspects of the CALFED program beyond ERP. Its contributions to understanding of hydrodynamics (the fundamental driver of ecosystem processes in the tidal part of the system) will be widely beneficial. Emphasis on food web implications of boundary layer dynamics is also important for planning restoration projects. This team has the skills to link the developments they make directly into models of Delta hydrodynamics. This project can produce really important information, the cost is reasonable, and the likelihood of success is high. As the work develops, the proposers need to do a better job at showing how their project addresses critical uncertainties in the current conceptual models concerning intertidal and shallow subtidal habitat restoration (and thus cast their work more directly in the CALFED adaptive management framework).

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 161 **Fund (as is)**

Suisun Resource Conservation District

Update Individual Ownership Adaptive Management Habitat Plans

Recommended Funding: $214,943.33

Funding Source: Prop. 204

Conditions: None

Description:

In 1981 and 1982, the Suisun Resource Conservation District helped to develop 158 Individual Ownership Management Plans for privately owned lands in Suisun Marsh. These plans included a resource inventory, including information about soils, intake/drainage structures, and ditches, maps, and recommended management plans for water and vegetation. This proposal is to update these individual management plans so landowners will be able to manage their lands more effectively, using a new wetland management template that the SRCD wrote in 1998 to consider current information and changes in laws and regulations over the past 20 years.

Intial Selection Panel Review:

The Selection Panel concurs with the Technical Panel reviewers that this project is a very cost-effective means of updating 20-year-old information and land management plans for private landowners who manage three quarters of the Suisun Marsh land. The use of the new wetlands template for wetlands mangement will also benefit the landowners. This effort should lead to more successful management efforts in the marsh in the future.

Final Selection Panel Review:

The applicant's error in its Budget Summary Form, pointed out in its letter on the panel's initial recommendation, is duly noted. The project is recommended for funding at the corrected amount of $214,943. Endorsments for the project from the Clean Estuary Project and the ABAG-CALFED Task Force and San Francisco Estuary Project were also received, underscoring the regional importance of this effort.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 162 **Fund (in part)**

Sutter Mutual Water Company

Sutter Mutual Water Company-Tisdale Positive Barrier Fish Screen and Pumping Plant

Recommended Funding: $1,270,000.00

Funding Source: Prop. 204

Conditions: Provide funding for project feasibility and final design only, so that they can proceed while remaining questions about the project are resolved.

Description:

Screening Sutter Mutual Water Company's diversions from the Sacramento River is a priority project for CALFED. This proposal focuses on SMWC's Tisdale diversion, which was identified as a threat to entrain winter, spring, and fall-run chinook salmon, steelhead, and other high-risk species. The Selection Panel recommends funding the project from the feasibility study through final design.

Intial Selection Panel Review:

This project is a high priority fish screen project because it is the biggest unscreened diversion remaining in the system. However, the proposal has many shortcomings. The budget is large, the proposed cost share appears to be tenuous and reviewers question whether CALFED should be building a new pumping facility with little or no cost share from the company. The Selection Panel concurs with the recommendations of the technical panel and recommends that the applicant work with the Anadromous Fish Screen Program to establish reasonable costs for the proposed project. The panel also recommends that an independent value engineering analysis be performed to establish reasonable costs for the project. The applicant should take note that the panel looks most favorably on construction projects with merit that include a significant cost share from the applicant or other source.

Final Selection Panel Review:

Sutter Mutual Water Company commented on the panel's recommendation, urging full funding of its proposal, for which federal matching funds are available. However, the comments by the water company have offered nothing to change the panel's recommendation on funding this project. Nor does the panel recommend that the program reserve funds for portions of any project that does not yet merit full funding. Comments have been received requesting more time for public input on this proposal. The CALFED Ecosystem Restoration Program

remains fully committed to local input and has provided opportunity for public involvement at multiple steps in the 2002 proposal solicitation and review process. Proposals have been available to the public since last fall, and local governments and watershed groups, including the Sacramento River Conservation Area Forum (whose comments asked for more time to review this proposal), were notified of proposals in their area. The process also included regional review panels comprised of individuals with local expertise and perspectives. Because of the extensive technical and regional reviews, and the unexpectedly large number of proposals this year, the process has taken longer than anticipated. The final recommendation and subsequent funding decisions are long overdue. The 2002 Proposal Solicitation Package identified a 30-day public review period, and the ERP honored that commitment. While the Selection Panel agrees that additional time would help some parties, the panel does not recommend extending the comment period for this year's process The panel continues to look most favorably on construction projects with merit that include a significant cost share from the applicant or other source, especially when the benefits to the applicant are so tangible. The panel encourages the water company to consider innovative ways they might contribute to the costs of building the new pumping facility since the new facility should significantly benefit Sutter Mutual Water Company. Savings from reduced operating and maintenance costs associated with the new facilties might, for example, provide potential cost share funds. The company should also consider seeking other sources of cost share to make the project more competitive with other high priority projects. The Selection Panel reaffirms the recommendations of the technical panel and recommends that the applicant work with the Anadromous Fish Screen Program to establish reasonable costs for the proposed project and come up with a plan that is suitable for this particular project.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 168 **Fund (with conditions)**

The Nature Conservancy

McCormack-Williamson Tract Restoration: Wildlife-Friendly Levee Management

Recommended Funding: $2,476,835.00

Funding Source: Prop. 204

Conditions: The Selection Panel recommends that project implementation is consistent with the terms and conditions of the previous contracts that funded acquisition of the McCormack-Williamson Tract by The Nature Conservancy.

Description:

The McCormack-Williamson Tract provides opportunity to restore tidal freshwater wetlands, enhance riparian habitat, and potentially reduce flood damage to neighboring private land. The project proposes levee resloping and planting native vegetation to protect levees from interior wave erosion and create riparian habitat. This project is part of the larger CALFED goal of restoring ecosystem processes and habitat corridors, specifically shallow water tidal marsh, in the Delta.

Intial Selection Panel Review:

The Selection Panel recommends funding this proposal in full, and that The Nature Conservancy continues to work with the CALFED North Delta Improvements Group and the Mokelumne-Cosumnes Watershed Alliance during implementation.

Final Selection Panel Review:

The Selection Panel continues to recommend full funding of the project. The Panel agrees with the comments submitted by the Delta Protection Commission and the Department of Water Resources' North Delta Planning Branch, both of whom emphasized the importance of carefully coordinating this project with Delta flood protection planning, in order to avoid project improvements that may be inconsistent with future flood management solutions. The panel therefore recommends that the project be developed to assure consistency with the development of the CALFED Delta Regional Implementation Plan and the CALFED North Delta Improvements. The panel believes the condition recommended will assure this coordination.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 169 **Fund (as is)**

The Nature Conservancy

Mill and Deer Creeks Protection and Stewardship

Recommended Funding: $4,700,000.00

Funding Source: Prop. 204

Conditions: None

Description:

Mill and Deer Creeks are among the Sacramento Valley's critical salmon and steelhead watersheds. Under this proposal, The Nature Conservancy will acquire conservation easements from willing sellers and protect habitats on these conserved lands by fencing streamside areas to control livestock access, controlling invasive weeds, restoring natural plant communities, pursuing other conservation measures, and monitoring their activities' environmental benefits. The proposal continues existing Nature Conservancy actions in the area.

Intial Selection Panel Review:

Mill and Deer Creeks are critical watersheds in the Sacramento Valley Ecological Zone. This proposal continues TNC's previous successful efforts and CALFED's and CVPIA's previous investments. This proposal will add valuable watershed baseline data. The Selection Panel recommends funding this proposal because the landowners are willing sellers; the Mill Creek Conservancy and the Deer Creek Watershed Conservancy have expressed their support for the proposal; the properties are not prime and unique agricultural lands; and the applicant is acquiring easements, not fee title.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 172 **Fund (as is)**

The Nature Conservancy

Sub-Reach Planning for the Sacramento River: River Mile 144-164

Recommended Funding: $1,488,009.00

Funding Source: Prop. 204

Conditions: None

Description:

Protecting the Sacramento River meanderbelt is a CALFED Record of Decision Stage 1 action. This proposal represents an important planning phase in implementing riparian corridor protection and restoration, in the context of floodplain management, for a 20 mile sub-reach of the river between Colusa and Princeton. The proposal offers a strategic approach to conservation and restoration planning, using the best available science and ensuring stakeholder involvement

Intial Selection Panel Review:

Protection of the Sacramento River meanderbelt is a CALFED Record of Decision Stage 1 action. This proposal represents an important planning phase in implementing riparian corridor protection and restoration in the context of floodplain management, for a 20 mile sub-reach of the river. The stakeholder involvement process is a major strength of the sub-reach planning approach, especially in the subject reach. Applicants are encouraged at this stage to take steps to strengthen adaptive management - research design for future implementation plan phases.

Final Selection Panel Review:

The Sacramento Valley Landowners Association's support for funding of this project is noted. Comments have been received requesting more time for public input on this proposal. The CALFED Ecosystem Restoration Program remains fully committed to local input and has provided opportunity for public involvement at multiple steps in the 2002 proposal solicitation and review process. Proposals have been available to the public since last fall, and local governments and watershed groups, including the Sacramento River Conservation Area Forum (whose comments asked for more time to review this proposal), were notified of proposals in their area. The process also included regional review panels comprised of individuals with local expertise and perspectives. Because of the extensive technical and regional reviews, and the unexpectedly large number of proposals this year, the process has taken longer

than anticipated. The final recommendation and subsequent funding decisions are long overdue. The 2002 Proposal Solicitation Package identified a 30-day public review period, and the ERP honored that commitment. While the Selection Panel agrees that additional time would help some parties, the panel does not recommend extending the comment period for this year's process

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 175 **Fund (as is)**

Tri-Dam Project

Stanislaus - Lower San Joaquin River Water Temperature Modeling and Analysis

Recommended Funding: $661,902.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to improve temperature models for the Stanislaus- and lower San Joaquin Riverts to help guide dam operations to benefit for salmon, steelhead, and other fish. This proposal extends the existing water temperature model to the entire river system, from New Melones to the Bay-Delta, including that portion of the San Joaquin River between the confluence and Mossdale Bridge. New information gathered will assist in refining and developing water temperature improvements in the Stanislaus and Lower San Joaquin River.

Intial Selection Panel Review:

The Technical Panel rated this proposal above average because, in part, of the need to improve temperature models to help guide dam operations for downstream benefits for fish species of concern. The team is qualified and the proposal is well organized with clearly stated goals and objectives. Some concerns that need to be addressed if the proposal is revised include (1) better development of background and review of water temperature literature and expansion of our knowledge of existing models and their efficacy, (2) use, early in the project (not Task 7), of a task force of experts to evaluate and develop guidance on importance of temperature regimes and temperature models to fish and fish management and their application, and (3) development and evaluation of potential scenarios of dam operations that could achieve possible changes in downstream water temperatures. This Selection Panel recommends this proposal be revised and resubmitted as a directed action.

Final Selection Panel Review:

This project is primarily to extend an existing model downstream and to continue to improve it for the upstream portion of the Stanislaus. Its initial reviews concluded that it could be a very useful project, but also raised several issues that needed to be addressed before funds were awarded. The Selection Panel had recommended funding when all criticisms were addressed. The proposal's authors' comment letter points out that these issues had been investigated and resolved in the current proposal or in prior project phases that were documented

in the proposal. The Panel finds that the proposal did explain that there was an extensive procedure for model development in phase one, as documented in the proposal's references, which was one criticism of the panel's initial review. This prior effort also developed eleven scenarios for testing, another criticism of the review. The authors pointed out in response to comments that an expert panel was designed to be used in the project's first six months. The comment letter demonstrated that all issues raised by initial reviews were already presented in the proposal. Consequently, this project should be funded as is, based on the current proposal.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 176 **Fund (as is)**

Tri-Dam Project

Test and Demonstrate a Portable Alaskan Weir to Count and Characterize Runs of Anadromous Salmonids in the Stanislaus River

Recommended Funding: $659,590.00

Funding Source: CVPIA : Anadromous Fish Restoration Program

Conditions: None

Description:

This three-year study of Stanislaus River chinook salmon and steelhead will test the practicality of using a portable resistance board weir to (1) determine chinook salmon and steelhead escapement in the Stanislaus River, (2) collect data on chinook salmon and steelhead currently not being collected, and (3) measure the accuracy of traditional carcass survey estimates in the Stanislaus River and other Central Valley tributaries. The Alaskan weirs -- portable resistance board weirs used in Alaska -- are considered an effective and efficient method of counting upstream migrants, even during times of substantial flow fluctuations and debris loading.

Intial Selection Panel Review:

This proposal was rated superior by the technical review panel and has the potential to provide important information regarding the accuracy of existing methods of estimating numbers of chinook salmon returning to the Stanislaus River, as well as information on steelhead returning to the river. Information on the accuracy of chinook salmon estimates will likely have value throughout the Central Valley. The selection panel recommends funding this proposal. The panel encourages the applicant to consider the technical panel's comments concerning the potential to incorporate other counting techniques. The panel raised the question of coordination with California Department of Fish and Game and the usefulness of applying a functional technology to monitoring in other parts of the Sacramento River system. The monitoring need will have to be addressed by the management agencies, likely as part of regional coordination and goal implementation.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 179 **Fund (in part)**

Tuolumne River Preservation Trust

Tuolumne River - Big Bend Project

Recommended Funding: $706,649.00

Funding Source: DWR Flood Protection Corridor Program

Conditions: Fund acquisition-related components of the proposal.

Description:

This proposal is to acquire about 197 acres and restore about 254 acres of floodplain and riparian habitat along the lower Tuolumne River. The Selection Panel recommends funding only the acquisition parts of this project now. The project would acquire the acres on three parcels in separate phases. The project's remaining components will be considered as a potential directed action

Intial Selection Panel Review:

The proposed project will complement and enhance the benefits of previously funded CALFED and CVPIA funded restoration efforts in an area where both CALFED and CVPIA have focused restoration activities. The project received an above average rating from the technical panel and a high rating from the regional review panel. The applicants are dealing with willing sellers, have a letter of support from the Tuolumne River Coalition (which includes the Stanislaus County Parks and Recreation Department and other local government agencies), and will improve stream meander and natural floodplain and flood processes. The acquisitions are time sensitive. Although some of the soils on on the parcels meet the criteria for prime farmland, the lands also qualify for the Natural Resource Conservation Service Floodplain Protection Program and are not presently in agriculture. These lands' exposure to flooding impairs the economic feasibility of farming them. The technical panel strongly recommended the development of a more technically rigorous design for the monitoring component of the proposal. The Selection Panel concurs with the technical panel, and recommends funding the acquisition related components of the proposal. The Selection Panel also recommends that the applicant revise the restoration and monitoring portions of the proposal to address the technical panel's comments and submit a revised proposal for consideration as a directed action.

Final Selection Panel Review:

Three comment letters were submitted during the public comment period that supported full funding for the project. The local assemblyman wrote endorsing the project. A letter from the applicant noted that the project had been approved

for funding in full by the Department of Water Resources' Floodplain Protection Corridor Program. The applicant urged CALFED to fully fund the project or to at least coordinate with DWR's floodplain program without creating unnecessary duplication and delay. A third letter, from the Department of Conservation, recommended that the project, which will require cancellation of a Williamson Act contract, compensate for its impacts to farmlands by purchasing agricultural conservation easements on other, similarly-sized properties. In response to these comments, the Selection Panel recommends that the Ecosystem Restoration Program continue to consider this proposal in two parts, recommending funding for the acquisition with the remaining funding depending on a revised proposal or plan for the restoration and monitoring portions of the proposal. The Selection Panel further recommends that the ERP coordinate with DWR's floodplain program to ensure that the project meets standards established for ERP projects without creating unnecessary duplication and delay. The panel also urges DWR to assure that the project's environmental documents identify the project's impacts on agriculture and appropriate measures, if necessary, to mitigate significant adverse effects.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 182 **Fund (as is)**

Turlock Irrigation District

Tuolumne River Sediment Acquisition and Spawning Gravel Transfusion Project

Recommended Funding: $4,350,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This project includes river restoration through gravel transfusion and adjacent upland restoration. Gravel will be purchased from tailing piles at the Joe Domecq County Park and nearby private property. This project is upstream of an ongoing wetland and upland habitat restoration on the Tuolumne and is part of a long-term plan for Tuolumne river and floodplain restoration. This project also calls for restoration of recreational uses to the county park, including trails, campgrounds, and wildlife viewing.

Intial Selection Panel Review:

This project includes river restoration through gravel transfusion and adjacent upland restoration. Gravel will be purchased from nearby tailing piles. This project is upstream of an ongoing restoration activity on the Tuolumne and is part of a long-term plan for Tuolumne river/floodplain restoration. Although there is some concern for the requirement of continual gravel augmentation, one possible solution of grade control mentioned by some reviewers will not allow natural stream processes to take place. Although river restoration and gravel augmentation is of high priority to CALFED, the Selection Panel recommends that this proposal be revised and re-reviewed and be considered as a directed action. This recommendation is based on the need to include, as an important aspect of the revised proposal, application of science within the study design and adaptive management concepts into the project. Also, the revised proposal should respond to the Tuolumne River Adaptive Management Forum report and concepts.

Final Selection Panel Review:

This project's initial reviews raised issues that caused the Selection Panel to recommend it for potential "directed action". The proposal's authors pointed out that all issues raised were already addressed in the proposal. The Selection Panel reviewed the proposal to evaluate its contents relative to issues raised in earlier reviews. The Panel found that the project is science-based. It uses hypothesis testing and there is a significant section on adaptive management, for example. Consequently, this proposal does not need to be rewritten to address the reviews

and should be funded as is. The Panel also encourages Turlock Irrigation District to continue to interact with the Tuolumne River Adaptive Management Forum.

Reference number: 183 **Fund (as is)**

University of Arkansas

HYDROCLIMATIC RECONSTRUCTION AND ANCIENT BLUE OAK MAPPING OVER THE DRAINAGE BASIN OF SAN FRANCISCO BAY

Recommended Funding: $747,741.00

Funding Source: Prop. 204

Conditions: None

Description:

This research project will develop 500 year hydroclimatic models based upon ancient blue oak tree-ring chronologies and the blue oak's present distribution. Understanding the effects of these past climate changes can help improve understanding of future changes, improving abilities to develop restoration and water management measures that are sustainable as climate changes.

Intial Selection Panel Review:

This is a basic research project that will develop 500 year hydroclimatic models based upon ancient blue oak tree-ring chronologies as well as identifying the present distribution of blue oak. This addresses the PSP's multi-region priority #4, of ensuring that restoration and water management are sustainable under future climate change. Understanding effects of future climate change is dependent upon understanding effects of past climate change. This is an excellent research team. The results should be used by many future water, channel, and floodplain restoration programs as foundation data.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 194 **Fund (in part)**

University of California, Davis

Delta Smelt Culture and Research Program

Recommended Funding: $400,000.00

Funding Source: Prop. 204

Conditions: The Panel recommends partial funding (2 years) of the currently proposed project to continue culture development and expect that the expanded production (30,000 per year) and the nutritional studies should be included at the $200,000 per year level.

Description:

This proposal continues the on-going Delta Smelt Culture Project. This program provides smelt for studies of fish screens and other projects that affect the species, and researches basic smelt biology and life history. Information gathered in this project improves predictability of smelt performance in culture and may aid in predicting smelt performance in the field and in restoration projects.

Intial Selection Panel Review:

The review Panels, including the Selection Panel, recognize the value of culturing delta smelt but could not determine the continued need to support the culture of delta smelt as a distinct research project. Given that the culture techniques have been fairly well established, future support may need to be considered as part of the research activities the culture effort intends to support. The research proposed here was inadequately designed and not likely to be successful. The Panel decided that this question should be answered during the upcoming CALFED-sponsored delta smelt workshop. The Panel recommends partial funding (1 year) of the currently proposed project to continue culture development and production that should include the proposed nutritional studies.

Final Selection Panel Review:

Letters from the applicant, federal and state water agencies, DFG's Pesticide Investigations Unit, and other fishery scientists encouraged multi-year funding for the project at a level higher than the Selection Panel initially recommended. Some letters expressed concern that providing only a single year's funding would destablize the smelt culture program's staffing, undermining the program's reliability to produce smelt used in fish screen and pesticide research. The review panels and the Selection Panel recognize the value of culturing delta smelt, which these letters also point out. Sustaining this culture is a reason the Panel recommended the proposal for partial funding. The Panel cannot, however,

determine the continued need to support the culture of delta smelt as a distinct research project. The proposal's research tasks were poorly rated because, in the reviewers' opinions, they were inadequately designed and not likely to lead to significantly better smelt production rates. They do not merit funding as a separate research project. Some comment letters that addressed their programs' current needs for a supply of cultured delta smelt identified the level of funding necessary to continue smelt culture over the next two years. However, after another review of the budget, it continues to be the Selection Panel's opinion that the project's costs to continue supplying these smelt are excessive when compared to the work to be accomplished, and that at least the nutrition studies can also be accomplished within the base support described in the table of tasks with associated costs. The panel also questions the project management budget ($75,000) and the staff allocated to culture 30,000 smelt annually (1.5 post doctoral fellows, 3 full time technicians, plus part time lab assistants). Finally, given that the culture techniques have been fairly well established, the panel suggests that future support for smelt culture may need to come from the research and other projects the culture effort serves. It recommends, therefore, that its concerns, especially with regard to how to support smelt production in the future, should be addressed during a CALFED-sponsored delta smelt workshop to develop a comprehensive smelt research strategy. The workshop should include discussions to determine the role and need for delta smelt culture in the future, and should identify a strategy for continuing smelt culture for future research. After considering all these issues, the Panel is changing its recommendation. It now recommends two years of partial funding for the currently proposed project to continue culture development, and expects that the expanded production (30,000 per year) and the nutritional studies should be carried out at the $200,000 per year level.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 195 **Fund (as is)**

University of California, Davis

Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

Recommended Funding: $254,720.19

Funding Source: CVPIA : Anadromous Fish Restoration Program

Conditions: None

Description:

This demonstration project on the lower Mokelumne River is designed to show, using three applications, that gravel augmentation to enhance spawning habitat and fluvial complexity is improved when aided by an integrated design methods. These methods include using empirical geomorphology to guide design alternatives to promote improved natural geomorphic evolution and using computer-aided-design and a 2D mechanistic model to quantify fine-scale channel hydraulics, geomorphic complexity, sediment mobility, and spawning habitat conditions.

Intial Selection Panel Review:

An above average proposal to further develop a design and monitoring approach to rehabilitating salmon spawning habitat. Spawning habitat rehabilitation is widely practiced throughout the Central Valley, so this approach could have wide application. The Selection Panel recommends that this work be funded, and encourages the applicant to continue to work closely with biologists monitoring chinook salmon in the Mokelumne River. The technical reviews made several recommendations to improve the project, and these should be considered as the project moves toward implementation. For example, efforts to establish a long-term monitoring program to evaluate performance of implemented designs should include monitoring of actual spawner use and egg survival rates. To achieve wider consideration of the developing approach, the Selection Panel encourages the applicant to present the results of the efforts in regional forums, such as the CALFED Science Conference, and sub-regional forums, including local watershed technical groups where gravel rehabilitation projects are often discussed.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 199 **Fund (as is)**

University of California, Davis

Distribution, and abundance of shrimp, plankton and benthos in Suisun Marsh: Tidal marsh as a refuge for native species

Recommended Funding: $271,804.00

Funding Source: Prop. 204

Conditions: None

Description:

How non-native species are affecting San Francisco Bay is unclear. This two year research project will test the hypotheses that some native species find refuge in shallow water tidal marshes such as those found in Suisun Marsh. This proposal will investigate the current distribution of native and non-native shrimp, plankton, and benthos within Suisun Marsh's tidal marsh habitats.

Intial Selection Panel Review:

This is a good proposal by a competent investigator. The main drawbacks of this proposal seem to be related to the inherent difficulties of trying to keep it simple in an age when we understand the complexity of environmental issues. Moyle offers a single investigator effort when a multidisciplinary effort, with a more comprehensive understanding of the basis for productivity in the shallow habitat, could better resolve the basis of knowledge required to maximize the information value form this study. These drawbacks lead the panel to rate the proposal as above average rather than excellent. However, the principle investigator's (PI)reputation for producing something useful to CALFED and the low cost of the project (that will primarily fund students) make it especially viable for funding. The Panel recommends funding of the proposal, as is, but the PI should carefully review the comments of the reviewers and consider the recommendations, especially regarding alternative hypotheses for habitat use and the sources of carbon to drive shallow water systems. A potential solution to solving some of the problems related to productivity measurements might be to collaborate with a primary production/carbon source specialist and include a graduate student that could focus on that aspect of the study.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 207 **Fund (as is)**

University of California, Davis

Primary Production in the Delta: Monitoring Design, Data Analysis and Forecasting

Recommended Funding: $359,201.00

Funding Source: Prop. 204

Conditions: None

Description:

Because phytoplankton primary production plays a fundamental role in the ecosystem process, understanding this production is important to meeting ERP goals. This proposal builds upon existing data and research to improve monitoring of phytoplankton production and related water quality variables in the Delta and Suisun Bay.

Intial Selection Panel Review:

This proposal is of high technical quality and comes highly recommended for funding with minor or no reservation by any of the reviewers. One of the strengths of the proposal is that the work will focus on analyzing some of the historical data (plankton biomass and water quality data collected by the Interagency Ecological Program [IEP]). This proposal builds the basis for understanding, modeling and predicting ecosystem responses to changes that might affect system function. In that regard the progress and results should be invaluable to CALFED. The goal is to improve the basis for monitoring and forecasting primary productivity (PP). Since PP is driving the biological production within the system, a sound understanding of this process is essential to understanding ecosystem function at all trophic levels. The proposal's strong link to the IEP monitoring efforts (water quality project work team and other IEP teams) is another strength. The project addresses several priorities of the PSP directly or indirectly including adaptive management experiments, water movement through the Delta, and several others. This proposal has high information value to current and future CALFED efforts. This proposal is strongly supported by external and region reviews and panel evaluation. Funding is recommended, as is, given the reasonable costs, clear merits for CALFED goals and strong support by reviewers.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 208 **Fund (as is)**

University of California, Davis

Restoration of Sacramento Perch to San Francisco Estuary

Recommended Funding: $572,732.00

Funding Source: Prop. 204

Conditions: None

Description:

The Sacramento perch -- California's only native sunfish -- is no longer found in the San Francisco Estuary, but persists in small numbers in certain waters both in and outside its native range. It is a CALFED at-risk species and listed as a species of special concern by the Department of Fish and Game. Little is known about the early life history, environmental tolerance, and genetics of the Sacramento perch -- information that is crucial to any restoration plan. This project focuses on gaining the basic biological information needed for Sacramento perch restoration.

Intial Selection Panel Review:

This proposal received outstanding support from previous reviewers. This Panel notes that some comments, particularly referencing the genetics, need to be addressed as the applicants refine their experimental design. Nevertheless, this proposal identifies the appropriate first steps to investigate the feasibility of reintroducing the Sacramento perch (SP) to the Delta. Even if a reintroduction effort ultimately fails, this research will answer some basic questions concerning SP biology, and may help answer the question of why the species was extirpated from the Delta.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 209 **Fund (as is)**

University of California, Davis

Selenium Effects on Health and Reproduction of White Sturgeon, Acipenser transmontanus, in the Sacramento-San Joaquin Estuary

Recommended Funding: $199,732.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to research the key areas of scientific uncertainty about the toxic effects of selenium accumulation in white sturgeon, a valuable species in the Bay-Delta ecosystem. These studies will investigate how elevated selenium concentrations in white sturgeons may affect the species' health and reproduction. The results of the studies will provide information to decision makers about the ecological risk of Bay-Delta selenium contamination.

Intial Selection Panel Review:

This is an excellent proposal by a highly qualified applicant. The project will address a significant water-quality problem (selenium) that could adversely affect reproductive success of white sturgeon, causing adverse population-level consequences for this valuable species in the Bay-Delta ecosystem. The justification, conceptual framework, goals, and design of the proposed work are sound, and the Panel believes that project results will be relevant and useful to managers. The budget is reasonable, and the likelihood of successful completion is very good.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 210 **Fund (as is)**

University of California, Davis

Sex-reversal in Central Valley Chinook salmon: occurrence and population genetic consequences

Recommended Funding: $211,936.00

Funding Source: CVPIA : Anadromous Fish Restoration Program

Conditions: None

Description:

This research project will determine the relative distribution and frequency of sex-reversed fall-run chinook salmon in the Central Valley. It will also assess whether sex-reversed individuals are capable of being fertilized and producing viable offspring. Fall-run chinook salmon will be screened for a Y-chromosome specific marker to determine the frequency and distribution of phenotypic females that test positive for this genetic marker.

Intial Selection Panel Review:

This was judged to be an exceptionally well-crafted proposal, which focuses on a topic (sex reversal) that could have significant, adverse population-level consequences for chinook salmon. The information from this work is considered essential to restoration of chinook salmon, given that the potential population-level effects of sex reversal are substantial and adverse, potentially leading to a skewed sex ratio dominated by males and a decrease in the number of breeding females in the population. The principal investigator has presented significant preliminary evidence of sex reversal based on recent analysis of 298 fall-run chinook salmon carcasses from the Sacramento River basin, the San Joaquin River basin, and two hatcheries in these basins. The likelihood of success in achieving stated objectives was considered to be very favorable, and the budget for the proposed work is reasonable. The information from this project will be important for ensuring restoration and long-term natural reproduction of chinook salmon. The project addresses several PSP priorities and has strong regional support. Information from the proposed work will also be important for focusing subsequent studies to identify the endocrine-disrupting compound(s) causing sex reversal in these populations. The Panel recommends that the initial work de-emphasize within-tributary variation in the frequency of sex reversal (partly because of the downstream movement of spawned-out carcasses from upstream areas), and instead focus survey efforts on documenting the spatial extent of sex reversal in tributaries of the Sacramento and San Joaquin basins where fall-run chinook salmon spawn. This is viewed as a minor modification in the proposed

plan of study.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 213 **Fund (in part)**

University of California, Davis, Agronomy Department

The ecological and economic costs and benefits of alternative agricultural practices: Sediment, nutrient, and pesticides in runoff from conservation tillage and cover cropped systems

Recommended Funding: $1,892,916.00

Funding Source: Prop. 204

Conditions: Cut expenses ten percent from amount budgeted by increasing economy of effort rather than eliminating tasks

Description:

Conservation tillage and cover cropping have both reduced polluted runoff and provided other important ecological benefits in many other regions, yet little is known about the benefits these practices would have in California. This research and demonstration project will study the effects of conservation tillage and cover cropping on export of sediment, nutrients, and pesticides in runoff from conventional and organic farms. The research will also evaluate and quantify the feasibility and ecological and economic costs and benefits of these practices.

Intial Selection Panel Review:

The strength of this proposal is that it is highly applied research directed at a major problem for the Bay-Delta region, it has a high probability of success given that these techniques (conservation tillage and cover crop systems) have proven useful elsewhere and it includes both research and education elements. Reviewers expressed surprise that this kind of research had not already been conducted and implemented, given its application elsewhere. This proposal in many ways embodies the type of research proposal CALFED is seeking because of strong stakeholder involvement, strong technical marks from reviewers as well strong support among regional reviewers. The educational component was also considered a major strength. The panel recommends funding, but with several of the reviews suggesting addressing of additional issues. A major concern of at least one reviewer was the lack of an element in the proposal addressing the issue of impacts to groundwater related to pesticides and nutrients associated with different tillage and cropping practices. This would seem to be an important omission and the panel felt that an effort should be made to address this issue in the future. Although the project involves many elements, the costs are high and not completely justified. The panel believes the project can be accomplished without detriment to the results at a slightly reduced level of funding. Several cost share components are identified in the proposal and the selection panel

expects that they will remain fully committed to the project, despite the reduction in support from CALFED.

Final Selection Panel Review:

The Clean Estuary Partnership has expressed the opinion that task 1 should strategically determine which pesticides are of greatest concern for water quality and ensure that the study evaluate these pesticides. They also feel that task 2 should include attainment of water quality standards as an (performance) indicator. While it may not be within the scope of this research project to account for all current and potential scenarios of pesticide use and impacts of farm runoff on water quality, the panel encourages this research group to consider these comments as their research into agricultural runoff unfolds and interface with groups that have both a strong background and interests in water quality.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 215 **Fund (as is)**

University of California, Davis, Department of Environmental Science & Policy

Reducing the Introduction and Damage of Aquatic Nonindigenous Species through Outreach and Education, Phase 2

Recommended Funding: $179,783.00

Funding Source: Prop. 204

Conditions: None

Description:

The project will: a) use workshops, industry magazine ads and articles, best management practices manuals, and enhancement of an existing website to educate industries, such as landscapers or hobby aquarium suppliers, that sell or distribute exotic species about the potential impacts of those species' introduction and spread in the environment, and b) educate the general public about same through a video for use on commercial airplane flights, especially those arriving from overseas. These tasks will occur over a two year period.

Intial Selection Panel Review:

Prior work undertaken by applicant in Phase 1 (production of website and brochure) has been successful. The proposed project will: a) target industries that sell/distribute exotic species to the public/other industries and educate them about the potential impacts of the introduction and spread of those species in the environment through workshops, industry magazine ads and articles, best management practices manuals, enhancement of existing website, and b) target the general public about same through commercial airplane video. These tasks will occur over a two year period. This type of integrated outreach and education effort will compliment other efforts underway to reduce introduction of exotic species through ballast water exchange. The applicant will coordinate efforts with state and federal agencies and groups involved in local conservation, public interest, and outreach to enhance success. The panel encourages the applicants to include CDFG enforcement division in this coordination. CDFG has an invasive species coordinator. One drawback appears to be the need to produce media products in additional languages such as Vietnamese, Spanish, and Hmong). If applicant would require additional funds to produce products in languages other than those identified in the proposal then the applicant should come back to CALFED in a future PSP round to request those funds.

Final Selection Panel Review:

The Clean Estuary Project's comment endorsing the value to the Bay region from

funding of this proposal.

Reference number: 218 **Fund (as is)**

University of California, San Diego, Scripps Institute of Oceanography

Effects of Climate Variability and Change on the Vegetation and Hydrology of the Bay-Delta Watershed

Recommended Funding: $645,656.00

Funding Source: Prop. 204

Conditions: None

Description:

This study will use satellite data to characterize recent historical vegetation variability, develop a combined model of the watershed's hydrology and vegetation, and apply these tools to assess how vegetation shapes a watershed's hydrological response to climate variability and global climate change.

Intial Selection Panel Review:

This proposal ranks highly (2 excellent + 1 good) on external scientific review but poorly on regional panels. The view of the Selection Panel is to agree with the Technical Panel that this proposal is 'almost certain to improve our understanding of climate-vegetation-hydrology interactions' and 'will provide the scientific rationale to build an integrative modeling system that can be used to plan and evaluate CALFED restoration efforts'. The regional panels were concerned that this did not address the immediate restoration needs, which it does not, but it likely provides important information for the long-term effective restoration of the ecosystem.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 231 **Fund (as is)**

US Fish and Wildlife Service

Riparian Restoration Planning and Feasibility Study for the Riparian Sanctuary, Llano Seco Unit

Recommended Funding: $289,784.00

Funding Source: Prop. 204

Conditions: None

Description:

This proposal is to investigate restoration opportunities on 500 acres of the Riparian Sanctuary at the Sacramento River National Wildlife Refuge. Current conditions there contribute little to endangered species recovery, migratory bird habitat and overall riparian health. In addition, the local irrigation district's fish screen and pumping plant are at-risk as rock revetments in the area degrade . This project features an inclusive, science-based planning process to develop a detailed site assessment and restoration plan based on a comprehensive hydraulic assessment. The proposed restoration plan will examine important relationships between vegetation and natural processes that will contribute information to floodplain management decisions.

Intial Selection Panel Review:

This proposal was not originally reviewed by the Selection Panel

Final Selection Panel Review:

A comment letter from Sacramento River Partners, a co-applicant in the proposal, questioned the accuracy of this project's restoration panel review. In response, the Selection Panel reassessed the proposal. The Selection Panel recommends funding this project as proposed. It is a planning project to design (1) riparian restoration, (2) protection of a pumping site and (3) an interdisciplinary monitoring program. The project can contribute significantly, we now conclude, to restoration of riparian habitats in this area. Its importance is confirmed by its regional review, which found it pursued three of the PSP's regional priorities. The proposal provides an especially strategic opportunity to address both habitat restoration goals and the local irrigation district's need to reduce erosion threatening its facilities. The potential ecological benefits from addressing these issues simultaneously at this site are substantial. The Selection Panel's reassessment of the project found that proposal's technical review misinterpreted the project's emphasis. It does not have an implementation activity, so the outcome will be plans and reviews of plans using all interested parties for

restoration planning, and a panel of experts for the monitoring program. The proposal sets out step by step the approaches to be taken for each of the three phases. Most of the funds, about $160,000 of the requested $290,000, will go into restoration planning (not pump protection planning as implied by reviewers) for 500 acres (not the 77 acres mentioned in reviews), while only $50,000 will go into pump plant protection planning and $75,000 into monitoring planning. Because the project includes interested parties along with appropriate agencies, the outcome should have support of most groups. The use of an expert panel to help design the monitoring program might be expanded to having the panel help design or at least review the restoration and pump protection plans. Because the site is already publicly owned, a well received plan is likely to be highly implementable.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 237 **Fund (as is)**

US Geological Survey

EVALUATION OF MERCURY TRANSFORMATIONS AND TROPHIC TRANSFER IN THE SAN FRANCISCO BAY/DELTA: IDENTIFYING CRITICAL PROCESSES FOR THE ECOSYSTEM RESTORATION PROGRAM

Recommended Funding: $2,262,567.00

Funding Source: Prop. 204

Conditions: None

Description:

This project will examine processes that affect the biogeochemical transformations and transfers of mercury among physical (sediment and water) and biotic (food web) compartments at Franks Tract (a 3,188-acre lake in the central Delta) and the Cosumnes River. The processes to be studied include methylmercury production and degradation, transfer of methylmercury between sediment and water, the entry of methylmercury into the food web, and and its transfer and biomagnification in the food-web.

Intial Selection Panel Review:

This project will examine processes related to biogeochemical transformations and transfers of mercury among physical (sediment and water) and biotic (food web) compartments at two sites, Franks Tract (a 3188-acre lake in the central Delta) and the Cosumnes River. The processes to be studied include methylmercury production and degradation, transfer of methylmercury across the sediment-water interface, entry of methylmercury into the base of the food web (very poorly understood but critically important), and food-web transfer and biomagnification. The Panel believes that this information will advance scientific understanding of pathways leading to methylmercury contamination of aquatic biota in the Bay-Delta system. The project goals are ambitious, but the likelihood of successful completion should be high, given the substantial knowledge, skill, and experience of the investigators. The budget is realistic for an effort of this magnitude. To increase the strategic benefit of the information emanating from this research to CALFED, the Selection Panel strongly encourages the principal investigators to strengthen the linkage of this research effort to ecological restoration activities. The selection of study sites for this project was science-driven, and not linked to ecological restoration per se. The Panel strongly recommends that the investigators incorporate modifications, such as the inclusion of one or more sites being influenced by ecological restoration (e.g., the Yolo Bypass), to directly address management concerns (particularly multi-

regional priority MR-5) related to ecological restoration in this mercury-contaminated ecosystem.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 239 **Fund (in part)**

US Geological Survey

Investigating in situ Low Intensity Chemical Dosing to decrease Delta waters DOC concentrations and DBP Precursors while accelerating wetland peat accretion rates and reducing flood risks

Recommended Funding: $767,134.50

Funding Source: Prop. 204

Conditions: Provide half the project funds.

Description:

This proposal is for the first phase of a project to assess using low intensity chemical dosing of coagulants to remove DOC and disinfection byproduct precursors from Delta island drainage water. This phase includes both laboratory and field studies.

Intial Selection Panel Review:

This project seeks to build on increasing understanding of the drinking water quality implications of discharges (from ag returns and wetland environments) into the Delta containing certain types of dissolved organic carbon (DOC). It develops and tests, under controlled conditions, the applications of chemicals that cause the dissolved substances to flocculate and then settle from the water column. The settled sediments accumulate and contribute to subsidence mitigation. The proposal received 2 'excellent' grades and 1 'good' grade from external reviewers and a medium rating from the Delta panel. The concerns of the reviewers include the immediate need for the approach, the magnitude of the likely contribution of the flocculant to sediment accretion, and some wishes that this be coordinated with studies of Hg. The Selection Panel determined that this proposal stands alone - whether or not the sediments make an important contribution to subsidence mitigation (this issue appears to be the risk that the technical panel noted). The Panel's recommendation is to fund in part, providing half the costs ($767,134 is 50% of the requested funds) based on expected cost-sharing from the Drinking Water Quality Program.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 242 **Fund (in part)**

US Geological Survey

Pyrethroid Insecticides: Analysis, Occurrence, and Fate in the Sacramento and San Joaquin Rivers and Delta

Recommended Funding: $800,000.00

Funding Source: Prop. 204

Conditions: Fund only: (1) the study's methods development component and (2) the analysis of limited numbers of environmental samples (water, colloids, sediment, and aquatic biota) from the Sacramento and San Joaquin rivers and in the Delta, as needed and sufficient to test the analytical methodology.

Description:

Pyrethroid insecticides are extremely toxic to fish and invertebrates. Use of these insecticides is increasing in the Sacramento and San Joaquin River watersheds and the Delta. This proposal is to develop analytical methods to measure pyrethroid insecticides occurrence and fate in water, colloids, sediments, and biota and to analyze samples from the Sacramento and San Joaquin rivers and Delta. Funding is recommended for (1) the study's methods development component and (2) the analysis of limited numbers of environmental samples (water, colloids, sediment, and aquatic biota) from the Sacramento and San Joaquin rivers and in the Delta, as needed to test the analytical methodology.

Intial Selection Panel Review:

This proposed project would develop analytical methods (not presently available) for quantifying pyrethroid insecticides in a number of environmental matrices. Pyrethroids are an extremely toxic, hydrophobic group of insecticides whose application in the Sacramento and San Joaquin river basins has roughly tripled in recent years. Pyrethroid insecticides are extremely toxic to fish and could adversely hinder restoration of targeted fish species; however, exposure to and ecological effects of pyrethroid insecticides in the Sacramento and San Joaquin rivers and Delta cannot be assessed until reliable methods are available for quantifying their abundance in water, sediment, and biota. This proposal, which addresses one multi-regional and three regional priorities, received high rankings from the Delta, San Joaquin, and Sacramento regions. The project, as proposed, contains two distinct components. The first (funded) will develop analytical methods for quantifying pyrethroid insecticides in water, colloids, sediment, and biota. The project goals related to methods development are clearly stated and considered feasible by technical reviewers. The second proposed component (not

funded) would examine the occurrence and fate of pyrethroids in field studies; however, the proposed field component was considered to be less well developed and premature until reliable analytical methods have been developed. The Selection Panel agrees that the methods development component of this study should be funded, given that development of analytical methods for quantifying pyrethroid insecticides is an essential first step towards examining the abundance, fate, and ecological effects of these compounds in the ecosystem. The Panel supports the analysis of limited numbers of environmental samples (water, colloids, sediment, and aquatic biota) from the Sacramento and San Joaquin rivers and in the Delta, as needed to test the analytical methodology. The Panel, in agreement with the technical reviewers, does not support funding for the proposed field studies outlined in the proposal.

Final Selection Panel Review:

The Clean Estuary Partnership's comments endorse the panel's recommendation to partially fund this proposal.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 245 **Fund (as is)**

USDoC National Oceanographic and Atmospheric Administration, Southwest Fisheries Science Center

Comprehensive Assessment of Genetic Population Structure and Diversity for Central Valley Chinook Salmon

Recommended Funding: $385,869.00

Funding Source: CVPIA : Anadromous Fish Restoration Program

Conditions: None

Description:

This research project will describe the population structure and distribution of genetic variation in Central Valley chinook salmon. The project builds upon previous data to create a large, standardized, and comprehensive database. This database will help with recovery and restoration efforts by providing information about distribution of functional genetic variants, serving as a foundation for future genetic monitoring, and improving the baseline for genetic stock identifications used to estimate how various chinook salmon stocks contribute to ocean fisheries.

Intial Selection Panel Review:

A technically superior proposal to provide a system-wide assessment of genetic relationships among Central Valley chinook salmon populations that should inform regulatory decisions, hatchery management practices, and restoration efforts. The Selection Panel recommends funding this proposal.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 248 **Fund (in part)**

Water Education Foundation

Tiered Public Outreach Program

Recommended Funding: $360,000.00

Funding Source: Prop. 204

Conditions: Do not fund $36,640 of proposal for Science and Water Policy report.

Description:

This proposal is for a multi-faceted education program about the CALFED ecosystem restoration efforts. The proposal includes updating the PBS special "To Quench A Thirst;" updating the Delta Water Map; journalists' tours of the Bay Delta, and continued provision of a water related curriculum used to train teachers. A fifth component -- a Science and Water Policy report – is not recommended.

Intial Selection Panel Review:

The Selection Panel recommends funding the update of the video "To Quench A Thirst," the update of the Delta Water Map, the Delta tours for journalists, and the Teaching Tools components. The Selection Panel recommends not funding the Science and Water Policy briefing paper component of the proposal absent the identification of technically qualified authors and technically qualified editorial review body.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 249 **Fund (in part)**

WaterTech Partners

Full-Scale Demonstration of Agricultural Drainage-Water Recycling Process Using Membrane Technology

Recommended Funding: $316,090.00

Funding Source: Prop. 204

Conditions: Fund Tasks 1.1 through 1.4 only

Description:

This demonstration project is to test whether sustained, full-scale operation of an on-farm, tile-water recycling process can eliminate off-farm drainage disposal. This recycling process is the most technically, economically, and environmentally viable process to achieve the selenium water quality objectives for the San Joaquin River watershed. If the prototype full-scale demonstration project is successful, there are plans to build more, possibly cutting selenium discharge in to the San Joaquin River by 80 percent.

Intial Selection Panel Review:

The Selection Panel recognizes the importance of reducing selenium loading to the San Joaquin River and achieving a salt balance in the San Joaquin Valley. This project can provide incremental progress towards those goals. However, the successfull demonstration of the nanofiltration technology as a pre-treatment of drainage water supplied to reverse osmosis treatment plant must be accomplished prior to funding of the modification of the R/O facility and the construction of the salt concentrator. Therefore, the Panel recommends funding only Task 1 - demonstration of the nanofiltration technology. The Selection Panel also recommends close coordination of other CALFED programs (WUE, DWQ, and ERP) with the San Joaquin Valley Drainage Implementation Program to acheive a comprehensive solution to this problem.

Final Selection Panel Review:

A comment from the Clean Estuary Project emphasizes the project's potential value and supports the Selection Panel's recommendation.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 253 **Fund (as is)**

William Lettis & Associates, Inc.

Geomorphic and Geologic Mapping for Restoration Planning, Sacramento-San Joaquin Delta Region

Recommended Funding: $120,000.00

Funding Source: Prop. 204

Conditions: None

Description:

This is a geologic and geomorphic mapping project that will produce GIS maps of the eastern Delta and lower Sacramento and San Joaquin Rivers. These maps will integrate interpretation of early historical records with established geomorphic and geologic mapping techniques to reconstruct pre-existing river system components, including former floodplains that hosted much of the formerly extensive riparian habitat along the river. The maps will aid restoration and management in these areas.

Intial Selection Panel Review:

This is a geologic and geomorphic mapping project that will produce potentially very useful GIS maps for restoration and management in the delta region. These maps will be based, in part, on early photographs of delta formation, geology and sediment deposition processes. The research team should assure that they are not duplicating existing information by checking with state and federal agencies and others. The team should also coordinate their efforts with local Delta interets, including the Delta Protection Commission.

Final Selection Panel Review:

The Selection Panel's initial recommendation was to "fund as is". The Delta Protection Commission commented on the application, requesting that the information and data produced in this project be made available "free" to the public. A standard condition of all CALFED ERP funding, as documented in the PSP's Attachment D, is that all data and information, such as the documents developed through this project, are public information and may not be sold.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 257 **Fund (in part)**

Yolo County Parks

AT-RISK PLANT SPECIES, HABITAT RESTORATION AND RECOVERY, AND NON-NATIVE INVASIVE SPECIES MANAGEMENT

Recommended Funding: $400,000.00

Funding Source: Prop. 204

Conditions: Fund up to $400,000, with a revised budget justification, subject to approval by CALFED, for work to be completed for this amount.

Description:

This research project will investigate methods to eradicate pepperweed and other non-native plants that have invaded vernal pools in a Yolo County park. The project will use controlled experiments to identify non-native plant eradication practices that will not harm the sensitive native species, and then use the experiments' results to develop and implement management and monitoring plans for the site.

Intial Selection Panel Review:

This is one of very few well-designed non-native plant eradication proposals. The research team plans on doing baseline studies, evaluation of best eradication methods, development of conservation and management plans, and monitoring and adaptive management plans. There is some concern that the authors have not drawn from other studies on pepperweed eradication. The Selection Panel thinks the amount requested exceeds funds needed to fulfill the tasks designated, especially considering the limited acreage of native plants-of-concern, and the small size of the overall project. The Selection Panel requests that the authors address what components of the project can be completed with reduced funds.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 258 **Fund (as is)**

Yuba County Water Agency

Narrows 2 Powerplant Flow Bypass System

Recommended Funding: $4,280,600.00

Funding Source: Prop. 204

Conditions: None

Description:

The proposal provides a structural remedy to eliminate flow and temperature fluctuations from emergency and maintenance shutdowns at the Narrows 2 Hydropower Plant on the Yuba River. The project will benefit multiple species in the Yuba River, including chinook salmon and steelhead.

Intial Selection Panel Review:

The proposal provides a structural solution to an ongoing problem created by a design omission. The structural solution will eliminate flow and temperature fluctuations from emergency and maintenance shutdowns at the Narrows 2 Hydropower Plant on the Yuba River. The project will benefit multiple species in the Yuba River, including chinook salmon and steelhead. Existing knowledge of downstream conditions and future monitoring are well integrated in the project. The Selection Panel recommends funding this proposal.

Final Selection Panel Review:

The Selection Panel recommends funding this proposal, and notes that one letter received during the public comment period supported that recommendation.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for funding

Reference number: 260 **Fund (with conditions)**

Yuba County Water Agency

Yuba Goldfields Fish Barrier Replacement Project

Recommended Funding: $68,260.00

Funding Source: Prop. 204

Conditions: Fund 50% of project costs, so long as the applicant is not implementing this project pursuant to a State Water Resources Control Board order or decision.

Description:

This proposal is to replace a temporary fish barrier on the outlet canal between the Yuba Goldfields and the lower Yuba River with a more permanent "leaky-dike" barrier. The barrier will prevent adult anadromous fish from migrating into and becoming trapped in the Goldfields, while allowing water to flow from the Goldfields to the river. This should enhance the survival of spring-, fall--, and late fall-run chinook salmon and steelhead in the Yuba River.

Intial Selection Panel Review:

This proposal generally received high marks for adequately addressing an important fish passage issue on the Yuba River. The selection panel recommends that this action be funded if a fifty percent cost share could be provided from non-State and federal agency sources, and so long as the applicant is not implementing this project pursuant to a State Water Resources Control Board order or decision.

Final Selection Panel Review:

One supportive comment was received during the comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 3 **Consider as Directed Action**

American Land Conservancy

Aquatic and Wetland Habitat Restoration for the Sun River Property

Amount Requested: $242,404.00

Intial Selection Panel Review:

This proposal is timely and builds upon previous CALFED Bay-Delta Program investments. The applicants note significant cost-sharing. The project is likely to provide substantial benefits if successful. However, there was insufficient information on monitoring, including collecting baseline data, for the Selection Panel to recommend funding. The Panel recommends the applicant return with a detailed monitoring plan and that CALFED consider this as a directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

Reference number: 13 **Consider as Directed Action**

California Department of Fish and Game

Central Valley Steelhead Population Structure Evaluation

Amount Requested: $65,002.00

Intial Selection Panel Review:

Regional reviews support some progress on this topic. The technical quality is of concern regarding this project that could otherwise have strategic value. It does address Implementation Plan priorities and can build on prior work and provide ecological benefits regarding reintroduction of steelhead populations. Valuable information may be obtained if the method works and there are criteria to identify migratory vs non-migratory rainbows. External science reviewers caution this distinguishing ability is not apparent, and advise validating the method, reconsidering the design and hypothesis, and revising for consideration as a directed action before going to the next step. The Selection Panel concurs. A revised proposal may benefit from conferring with the proponents of proposals 15 and 123.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 22 **Consider as Directed Action**

California Department of Food and Agriculture

Expanded Prevention, Detection, and Control of Purple Loosestrife in the CALFED Bay-Delta Watershed

Amount Requested: $457,162.00

Intial Selection Panel Review:

This proposal builds on an existing effort to combat the invasion of purple loosestrife through a 3-phase approach: 1) education, 2) survey, and 3) eradication. The eradication component uses different approaches (bio-control, physical removal, herbicide). The proponents argue that they have readily met their goals set for their former funding and mention an adaptive management plan that has recently been submitted to CALFED. The proposal received several 'excellent' ratings by external reviewers but there were some concerns over the scientific components of the proposed program. This project would provide a good opportunity to learn more about purple loosestrife relevant to its eradication - e.g., For how many years are the seedbanks viable? For how many years is herbicide required? Have replicate treatments been used to document effectiveness? What are the performance measures for 'eradication'? It is possible that these have been addressed in the adaptive management plan but it would be helpful for them to be explicity addressed within a revised proposal. The technical panel expressed some concern that this effort should be funded by the state agency with a mandate for weed control, rather than CALFED. The Selection Panel felt this topic was appropriate for CALFED funding given the limited funding available within stage agencies for these kind of efforts and the likelihood of CALFED funding making a real difference at this early stage of the invasion. Revision and resubmission for consideration as a directed action is encouraged.

Final Selection Panel Review:

Comments were received indicating that an NPDES permit may be required. The Panel concurs that any and all necessary permits must be obtained by the applicant before actions requiring permits are undertaken. This permit requirement should be addressed in the revised proposal.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 29 **Consider as Directed Action**

California State Coastal Conservancy

Big Break and Marsh Creek Water Quality and Habitat Restoration Program

Amount Requested: $2,998,049.00

Intial Selection Panel Review:

This project aims to provide water quality improvements, restore 5,000 feet of riparian habitat, and encourage stewardship and education opportunities. However, the aspect of the proposal which deals with tidal marsh restoration was problematic. The Selection Panel is requesting that the applicant revise the latter aspect of the proposal and resubmit the entire proposal for consideration as a directed action. The Selection Panel's main concerns were centered on, a) why locked tidal gates would be used to "restore tidal marsh," as this seemed an incongruous approach, and b) what benefits the creation of shallow water pools would present (Figure 16). These aspects of the proposal should be more explicitly justified in a revised proposal. In addition, the particular physical/hydrologic attributes of tidal marsh restoration component that are expected to benefit at-risk species should be identified and integrated with the conceptual model.

Final Selection Panel Review:

Endorsements for this project were coupled with support for the nearby Dutch Slough project in many comment letters from Contra Costa County residents. The local sanitary district also wrote to endorse the project and grant permission for project activities on its lands. These letters underscore the project's potential benefits, if other questions raised during the proposal's review can be satisfactorily addressed. The Selection Panel looks forward, therefore, to receiving a revised proposal - to be considered as a directed action - that addresses the following issues (which include issues raised in comment letters and/or issues raised by the Panel): 1) There are technical concerns about the proposed approach (use of tidal gates) to restoring tidal regime and optimizing shallow water habitat and rearing conditions for Delta smelt, splittail, and chinook salmon, which require explicit clarification and should be addressed in the revised proposal; 2) The presence of the Mt. Diablo Mercury Mine and related discharge will likely confound proposed habitat restoration efforts. This was not dealt with in the proposal and should be addressed, as recommended in the comment letter from the Clean Estuary Partnership. 3) The Selection Panel is aware that wetlands are also sites of active methylmercury production. In response to this contaminant issue, CALFED is organizing a workshop to develop

an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. The workshop will provide a setting to coordinate CALFED-supported mercury monitoring and research with marsh restoration projects that the selection panel recommends, as recommended in the comment letter from the Clean Estuary Partnership.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 30 **Consider as Directed Action**

California State Coastal Conservancy

Dutch Slough Tidal Marsh Restoration Project

Amount Requested: $32,500,000.00

Intial Selection Panel Review:

This project seeks to acquire a 1200 acre parcel in the western Delta, and develop and implement an adaptive management-based restoration plan for part of the parcel. The Selection Panel agrees that this parcel presents a substantial opportunity for habitat restoration consistent with the goals of CALFED's Ecosystem Restoration Program. In addition, there are willing sellers who are interested in their land becoming part of habitat restoration efforts in the Delta. The Selection Panel agrees, however, with the Technical Review Panel that the restoration implementation as currently proposed should not be funded. In addition, the Selection Panel recognizes some problems with the approach to planning and design in the current proposal. Since this property is within the Oakley city limits and is zoned for residential development, the Selection Panel believes it is important that the City of Oakley be supportive of restoration on the parcel. Considering the issues, the Selection Panel's recommendation is that the proposal be revised and submitted for consideration as a directed action where it will be receive timely attention. The Coastal Conservancy and the Natural Heritage Institute are encouraged to continue their collaboration and cooperation with the City of Oakley. As the applicants develop the revisions to the planning and design components, the current team should convene their proposed Adaptive Management Working Group, with assistance from the CALFED Science Program and the ERP Independent Science Board as appropriate, and include individuals with scientific expertise in tidal marsh restoration, habitat utilization by the species of interest, and hydrodynamics and water quality issues in this part of the Delta. The revised conceptual model should explicitly relate attributes of the restored system to expected ecological and water quality benefits.

Final Selection Panel Review:

The Selection Panel acknowledges the broad-based local support for the project as reflected in the numerous letters of support, and commends all parties for their hard work to this point. The applicants are encouraged to continue their dialog with the local community to ensure that non-technical concerns are addressed. On consideration of all the submitted comments, both supporting and opposing, the Panel concurs with its original recommendation, "Consider as Directed Action". There are many technical concerns, some of which are echoed in comment letters,

that still need to be addressed. Given the complexities and many uncertainties involved in tidal marsh restoration, the Panel believes it is essential that a focused conceptual model is presented before such substantial resources are committed to the project. The revised proposal should identify the specific restoration approaches that will be used, how and why these will lead to expected benefits, and how possible ancillary effects, such as on water quality and levee stability, will be addressed.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 31 **Consider as Directed Action**

California State Coastal Conservancy

Napa-Sonoma Marsh Restoration Project

Amount Requested: $4,511,400.00

Intial Selection Panel Review:

This project is important regionally and would be well justified for two critical reasons: 1) restoration of tidal marsh in the North Bay (9850 acres, 3 of 12 existing salt ponds) would likely provide habitat for a wide range of at-risk species, and 2) the lessons learned from this effort would likely be transferable to the restoration of other salt ponds in the South Bay, which may be acquired from the Cargill Salt Company. However, the reviews indicated that the proposal was lacking in information critical to properly evaluating the proposed approach. For example, the absence of a conceptual model left reviewers struggling with how tidal action would be restored to the ponds and subsequently managed, and further, the absence of hypotheses regarding expected ecological response left reviewers unable to evaluate how performance and success would ultimately be measured. The Selection Panel has recommended that the proposal be revised for consideration as a directed action because there is significant merit - from both a scientific and restoration perspecitive - in understanding how to restore these diked salt ponds, which could lead to the restoration of other salt ponds in the bay.

Final Selection Panel Review:

Comments endorsing the project were received from the Department of Fish and Game, US Fish and Wildlife Service's San Pablo Bay National Wildlife Refuge, and the ABAG-CALFED Task Force and San Francisco Estuary Project. These letters, and the Coastal Conservancy's comment letter, emphasize the project's potential regional significance in terms of knowledge and information that could be gained through implementation that might guide future, large scale efforts to restore salt ponds in the North Bay (and perhaps the South Bay). The Selection Panel recognizes these adaptive management opportunities, and so looks forward to receiving a revised proposal to be considered as a directed action that addresses the following: a) a wide range of issues raised by the technical reviewers ranging from lack of conceptual model to specific concerns regarding proposed design/technical approach; and, b)information and guidance that may be derived from this summer's Draft EIS on site restoration, as noted in the Army Corps of Engineers' comments, that may provide insight into restoration feasibility. In addition, the Selection Panel is aware that wetlands are sites of active

methylmercury production. In response to this contaminant issue, CALFED is organizing a workshop to develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. The workshop will provide a setting to coordinate CALFED-supported mercury monitoring and research with marsh restoration projects that the selection panel recommends, as recommended in the comment letter from the Clean Estuary Partnership.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 32 **Consider as Directed Action**

California State Reclamation Board

TWO-DIMENSIONAL DETAILED HYDRAULIC MODEL FOR DETERMINING FLOOD CONVEYANCE IMPACTS OF ECOSYSTEM RESTORATION PROJECTS IN THE YOLO BYPASS

Amount Requested: $635,382.00

Intial Selection Panel Review:

This proposal was not originally reviewed by the Selection Panel

Final Selection Panel Review:

Although the Selection Panel received many supportive comments about this proposal, it has several weaknesses. The panel recognizes that a well-designed 2-D hydraulic model (handling unsteady states) for determining impacts of restoration projects in the Yolo Bypass on flood conveyence is a high priority. In 1995 the project developed a functional RMA-2 hydraulic model but because of insufficient computer power it apparently was not used. That 2-D model was designed as a steady state model while the need is for an "unsteady" state model. This project is costly and part of this cost is that a great deal of the funds will be used for management, coordination and over $100K for a case study. The lack of use of the initial RMA-2 model which this project proposes to improve upon leaves the Panel questioning whether the users fully understand the model's importance and use. It also reflects on the record of the investigators. The Selection Panel recommends "Consider as a Directed Action" whereby the authors are encouraged to rewrite the proposal including a thorough justification of the qualifications of the modelers who will develop an appropriate 2-D hydraulic model for Yolo Bypass. The authors also should consider development of a new and appropriate budget for model development, potentially considering lower funding than in the initial proposal. If the authors think the case study is an essential part of the model development, this also needs to be fully justified. All of the criticisms of the many reviewers need to be addressed in a clear and concise fashion to assure that this project will not languish, as did the previous effort. A major rewrite of the proposal is in order and an intensive review by hydraulic modelers and users must be undertaken prior to any funding consideration.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 53 **Consider as Directed Action**

Deer Creek Watershed Conservancy

Lower Deer Creek Restoration and Flood Management: Feasibility Study and Conceptual Design

Amount Requested: $1,860,000.00

Intial Selection Panel Review:

The Selection Panel recognizes the importance of Deer Creek in the ERP and the critical role and good work of the Deer Creek Watershed Conservancy, but does not recommend funding this proposal. Although the Technical and Regional Panel reviews are generally favorable, the Selection Panel is concerned with the cost and scope of the proposal. The Panel suggests that the Deer Creek Watershed Conservancy prepare a revised proposal for Phases 1 and 2 (Feasibility Study and Conceptual Design of initial projects elements) in cooperation with the U.S. Army Corps of Engineers, Reclamation Board, and Tehama County for consideration as a directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 59 **Consider as Directed Action**

Ducks Unlimited, Inc.

White Mallard Dam and Associated Diversions - Phase III Construction

Amount Requested: $7,047,987.00

Intial Selection Panel Review:

This proposal was not originally reviewed by the Selection Panel

Final Selection Panel Review:

This proposed project would improve passage and screen diversions on Butte Creek, and is part of a regionally significant, large-scale restoration effort. The Sacramento Regional Review Panel gave the project a high rating, but noted that while project and components are critical to the overall restoration efforts in Butte Creek, project development is not at a stage ready for construction funding, with the possible exception of Task 3, Subtask 3.1 - White Mallard Dam upgrade. The regional panel recommended that funding for this task should be conditioned upon: 1) completion of the management agreement for Sanborn Slough, 2) completion of a draft management agreement for flow management through the Butte Sink, and 3) completion of the draft environmental review (CEQA/NEPA). The Fish Screen and Ladder Construction Panel agreed with the regional panel's concerns, and raised another concern. The panel was concerned about a potential change of point of diversion for about 70 cfs that was not presented in the proposal. In a comment letter the applicant responded by stating that the potential change of point of diversion had been considered and rejected prior to the proposal being submitted, and provided evidence that supported their assertion. The applicant also stated that the concerns raised by the regional panel with respect to structural and operational issues could best be dealt with through the contracting or directed action process. The Selection Panel recommends that this proposal be considered as a directed action, and recommends that the applicants revise their proposal to address the regional panel's concerns, either by resolving the issues prior to submitting a revised proposal or by clearly describing how the issues will be addressed in the revised proposal.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 89 **Consider as Directed Action**

M & T Chico Ranch

M&T/Llano Seco Fish Screen Facility - Short-Term/Long-Term Protection Project

Amount Requested: $1,816,500.00

Intial Selection Panel Review:

The applicant proposes to implement a short-term and to study a long-term solution to threats posed by river meander to continued operation of the M&T/Llano Seco fish screen facility. The facility contributes to efforts to restore Butte and Big Chico creeks. The river meander and sediment deposition processes that threaten the facilities continued operation are key to efforts to restore the Sacramento River corridor. Efforts to maintain M&T/Llano Seco's ability to divert water from the Sacramento River in a fish friendly manner is highly visible and has broad public and agency support. The proposal has the potential to provide information on how to maintain river meander and protect fish from the impacts of water diversion. This information should have broad application for the Valley sections of many Central Valley rivers. The technical review panel gave the proposal an adequate rating, recommended some reimbursement for work already performed on the short-term solution and did not recommend future studies intended to provide information leading to a long-term solution. The short-term solution has already been implemented and the Selection Panel does not recommend funding this portion of the proposal. The technical panel based their recommendation to not fund future studies on the perception that there is a lack of certainty regarding river meander and sediment deposition and that this uncertainty warrants inaction. Because river meander and sediment deposition will continue (only the rate of meander and deposition is uncertain), and because the proposed study will reduce uncertainty and provide information needed to make informed decisions, the Selection Panel recommends that the applicant revise the study portion of the proposal for consideration as a directed action. The Selection Panel does not recommend funding for task 12, described as "obtain funding for a preferred alternative." The revised proposal should not be solely focused on protecting the existing facility, but should consider alternative means of meeting the water needs of beneficiaries of the present facility, including modifications to the existing facility to accommodate river meander and sediment deposition. The Selection Panel encourages the applicant to structure the process to develop the long-term solution such that it is likely to result in innovative solutions, informed by experts on innovative diversion techniques, fish protection facilities, and natural riverine processes from outside the Central Valley. The Selection Panel recommends formation of a

steering committee to guide development of the long-term solution to ensure it appropriately considers objectives to maintain an effective, fish-friendly diversion for M&T/Llano Seco and to maintain river meander.

Final Selection Panel Review:

The applicant responded to the Selection Panel's recommendation to consider this proposal as a direction action, and asked for clarification on CALFED's position regarding river sedimentation, meander, and hard points for pumping plants on the river, for a contact person and a well-defined framework to guide them through the directed action process, and for assurances to meet ongoing water needs of the beneficiaries of the diversion. The Selection Panel recommends that the Ecosystem Restoration Program identify a contact person (or persons) to assist the applicants with the directed action process, and that the ERP consider the applicant's need to meet ongoing water needs of the beneficiaries of the facility while a long-term solution is identified.

Reference number: 96 **Consider as Directed Action**

Natomas Mutual Water Company

American Basin Fish Screen and Habitat Improvement Project

Amount Requested: $10,175,000.00

Intial Selection Panel Review:

The proposed project is a priority screening action on the Sacramento River. Previous reviewers expressed that cost-share issues should be clarified, a Value Engineering review should be included in the planning process, and that Technical Advisory Teams should approve final design. The Selection Panel concurs with the technical panel and recommends that the applicant work with the Anadromous Fish Screen Program to finalize the design, establish a reasonable cost for an appropriately screened facility, and submit a revised proposal for consideration as a directed action. The Panel would be more favorably inclined to provide funding if a local cost share was included as part of the project.

Final Selection Panel Review:

The applicant provided a letter during the comment period which clarified some of the issues brought up by previous panels, and pledges to continue refining the project with the ASFP.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 116 **Consider as Directed Action**

Reclamation District 108

Reclamation District No. 108 Consolidated Pumping Facility and Fish Screen

Amount Requested: $7,200,000.00

Intial Selection Panel Review:

This project is specifically identified as a priority in the 2002 PSP, it received an above average rating from the technical panel, and was rated high by the regional review panel. The technical panel recommended that an independent value engineering analysis to establish a reasonable cost for an appropriately screened facility. The Selection Panel concurs with the technical panel and recommends that the applicant work with the Anadromous Fish Screen Program to establish a reasonable cost for an appropriately screened facility, and submit a revised proposal for consideration as a directed action.

Final Selection Panel Review:

The applicant responded to the Selection Panel's recommendation to consider this proposal as a direction action, and requested $630,000 as a directed action this year, noting that a Federal cost-share is available. The Selection Panel encourages the Ecosystem Restoration Program to work with the Anadromous Fish Screen Program (the source of the Federal funds) to address the applicant's concerns concurrently with efforts to establish a reasonable cost for an appropriately screened facility.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 123 **Consider as Directed Action**

S.P. Cramer & Associates, Inc.

Assessment of Life-History Characteristics and Genetic Composition of Oncorhynchus mykiss Throughout California

Amount Requested: $698,730.00

Intial Selection Panel Review:

Although the technical review panel gave the proposal an above average rating, the panel recommended the proposal be revised to reflect clear coordination of genetics collections with CDFG and NMFS, and be coordinated with CDFG's otolith microchemistry study of steelhead (Proposal 13, Central Valley Steelhead Population Structure Evaluation). The proposal should be revised to address these and other concerns raised by the technical panel and be focused on the Central Valley ESU and on that portion of the Central California Coast ESU that resides within the ERP geographic scope. The Selection Panel recommends that the applicant revise the proposal to address the technical panel's comments and submit the revised proposal for consideration as a directed action.

Final Selection Panel Review:

A comment letter was submitted during the public comment period that noted that this proposal received a low rating from the Sacramento Regional Review Panel. The Selection Panel notes that this proposal has application throughout the Central Valley and received higher ratings from the three other regional review panels, and therefore continues to support the initial recommendation.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 129 **Consider as Directed Action**

San Francisco Estuary Institute

Mercury and Methylmercury Processes in North San Francisco Bay Tidal Wetland Ecosystems

Amount Requested: $1,108,380.00

Intial Selection Panel Review:

This proposal addresses topics of significant ecological and management concern: the production of methylmercury and its bioaccumulation in food webs supporting nesting birds and their young. The proposed work would focus on processes and factors influencing methylmercury exposure of the federally endangered clapper rail in tidal wetlands in North San Francisco Bay. Analyses of clapper rail eggs from nests in this area have shown high concentrations of mercury that could adversely affect developing young. The clapper rail nests in the study area (tidal marshes), and its feeding range is believed to be local. Diminished reproductive success could adversely affect populations of clapper rails and other avian species exposed to high levels of methylmercury via dietary uptake. A multidisciplinary team of investigators, including a microbial ecologist, an environmental biogeochemist, a wildlife biologist, and aquatic biologists, would do the proposed work. The two USGS scientists on the team have extensive experience with large, process-level studies of mercury cycling at the ecosystem scale, and the Selection Panel believes that their leadership on the scientific team would be essential to the success of the project. Scientific reviewers emphasized that success will hinge on identifying trophic pathways for methylmercury exposure in the clapper rail. The project budget is realistic and well justified. The scientific reviewers and Selection Panel were generally supportive of the proposal, but agreed that much more emphasis should be given to ecological work to define the diet and food web of the clapper rail. The Selection Panel believes that this proposal should be considered as a directed action after these comments have been addressed in a revised proposal. The Panel also recommends that the applicants participate in the Mercury Science Strategy Workshop being planned by CALFED, tentatively for fall 2002. The applicants should also consider and incorporate recommendations emanating from that workshop into their revised proposal.

Final Selection Panel Review:

Letters from the ABAG CALFED Task Force and San Francisco Estuary Project and from the Clean Estuary Partnership commented on this proposal. The Selection Panel believes the applicants should respond to these comments when

their proposal is revised for consideration as a directed action, following the CALFED Science Program mercury workshop. The workshop will develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. It will provide a setting to coordinate CALFED-supported mercury monitoring and research with marsh restoration projects that the selection panel recommends, as suggested in the comment letter from the Clean Estuary Partnership. The applicants should consider and incorporate recommendations emanating from that workshop into their revised proposal.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 130 **Consider as Directed Action**

San Francisco Estuary Institute

MERCURY IN CENTRAL VALLEY SPORT FISH: DEFINING THE MERCURY PROBLEM

Amount Requested: $2,116,121.00

Intial Selection Panel Review:

The scope of this proposal overlaps with two others (#131 and #196) that propose to monitor or survey methylmercury in fish and aquatic biota. As proposed, this project would spatially expand sampling of fish done for a previous CALFED project, to characterize contamination of sport fish throughout the Delta watershed. Efforts would focus on largemouth bass, a widespread species that is sought by many anglers. The Panel agrees that measurement of mercury concentrations in sport fish can provide a very useful "critical performance measure" related to the mercury problem. Inventories of inorganic mercury are large in this ecosystem (watersheds, streams, tributaries, and Delta), and restoration activities could increase production of methylmercury and its concentrations in aquatic food webs supporting production of sport fish in parts of the system. Exposure of humans to methylmercury results almost entirely from consumption of commercial and sport fish. The information obtained in the study, as proposed, would be useful primarily in risk communication, to inform the public about methylmercury contamination of fish and (presumably) to provide risk-based advice concerning consumption of sport fish. This would be accomplished by sharing of information with the public and stakeholders, including environmental health professionals. The Selection Panel doubts that substantial scientific understanding would accrue from tests of the four hypotheses listed in the proposal, given that the hypothesized spatial patterns in methylmercury contamination would be expected, based on published scientific work on mercury or on prior mercury investigations in the watershed. The Panel believes that this work can be made much more cost effective by a much stronger linkage to other scientific work on processes and factors that affect methylmercury concentrations in fish. Such factors include methylmercury production and demethylation, abundance of methylmercury in water and the diet, food-web structure, and possibly, disturbances associated with ecological restoration activities. The Selection Panel recommends that the applicants work with others to combine this proposal with two others (#131 and #196) to produce a single, integrated proposal that would (1) provide cost-effective monitoring of mercury in fish, producing information relevant to methylmercury exposure in humans and fish-eating wildlife, and (2) be designed to facilitate linkage of fish-

mercury data to information on processes and factors affecting methylmercury concentrations in fish. The Panel recommends that the applicants on this proposal participate in the Mercury Science Strategy Workshop being planned by CALFED for fall 2002. The applicants should consider and incorporate recommendations emanating from that workshop into a revised, integrated proposal that the Panel recommends be considered as a directed action.

Final Selection Panel Review:

The ABAG CALFED Task Force and San Franciso Estuary Project, and the Clean Estuary Partnership commented on this application, as they have on other mercury-related proposals, encouraging outreach to people likely to catch or eat mercury-tainted sportfish and to urge coordination between wetland restoration and mercury research proposals. The Selection Panel believes the applicants should respond to these comments when their proposal is revised for consideration as a directed action, following their partcipation in the CALFED Science Program mercury workshop. The workshop will develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. It will provide a setting to coordinate CALFED-supported mercury monitoring and research with the marsh restoration projects that the selection panel recommends, as suggested in the comment letter from the Clean Estuary Partnership. The applicants should consider and incorporate recommendations emanating from that workshop into their revised proposal. The Selection Panel recommends that the applicants work with others to combine this proposal with two others (#131 and #196) to produce a single, integrated proposal that would (1) provide cost-effective monitoring of mercury in fish, producing information relevant to methylmercury exposure in humans and fish-eating wildlife, (2) be designed to facilitate linkage of fish-mercury data to information on processes and factors affecting methylmercury concentrations in fish, and (3) include a coordinated outreach component to transfer information regarding methylmercury contamination of fishery resources to local stakeholders to facilitate assessment and communication of potential health risks of fish consumption.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 131 **Consider as Directed Action**

San Francisco Estuary Institute

MERCURY IN DELTA FISH: ESTABLISHING A NETWORK FOR LONG TERM STUDY

Amount Requested: $1,456,531.00

Intial Selection Panel Review:

This proposed project would establish a monitoring network for total mercury (present largely in the form of methylmercury) to assess mercury contamination of fish in the Delta. The information from monitoring would be transferred via public education and outreach and by the involvement of a network of stakeholders, including environmental health officials involved with risk communication to the general public. The overall scope of this proposal overlaps with two others (#130 and #196) that propose to monitor or survey methylmercury in fish or other aquatic biota in the Bay-Delta ecosystem. The Panel agrees that measurement of mercury concentrations in sport fish would be a useful "performance measure" related to the mercury problem in the Delta and concurs with the view that a mercury-monitoring effort should be in place in the Bay-Delta system during ecological restoration, given that restoration activities could increase production of methylmercury and its concentration in aquatic food webs supporting fish production. The Panel believes that the benefits of a monitoring program would be greatly enhanced by linking monitoring efforts to other scientific work on processes and factors that affect methylmercury concentrations in fish. Such factors include methylmercury production and demethylation, abundance of methylmercury in water and the diet, food-web structure, trophic transfer, and possibly, disturbances associated with ecological restoration activities. The Selection Panel recommends that the applicants work with others to combine this proposal with two others (#130 and #196) to produce a single, integrated proposal that would (1) provide cost-effective monitoring of mercury in fish, producing information relevant to methylmercury exposure in humans and fish-eating wildlife, and (2) be designed to facilitate linkage of fish-mercury data to information on causal processes and factors affecting methylmercury concentrations in fish. Moreover, the Panel strongly encourages the applicants on the three proposals (130, 131, and 196) to consider developing an analytical capability for measurement of total mercury and methylmercury in fish, other aquatic biota, and water. This could substantially reduce the high analytical costs associated with contractual analyses of samples (particularly for methylmercury) from a large-scale monitoring effort. The Panel recommends that the applicants on this proposal participate in the Mercury Science Strategy

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Workshop being planned by CALFED for fall 2002. The applicants should consider and incorporate recommendations emanating from that workshop into a revised, integrated proposal that the Panel recommends be considered as a directed action.

Final Selection Panel Review:

The ABAG CALFED Task Force, San Francisco Estuary Project, and Clean Estuary Partnership's comments encourage better outreach to anglers and others who might be exposed to mercury-contaminated fish in the Bay-Delta system. In response, the panel recommends that coordinated outreach to transfer information regarding methylmercury contamination of fishery resources to local stakeholders to facilitate assessment and communication of potential health risks of fish consumption should be among the topics addressed at the Mercury Science Strategy Workshop being planned by CALFED for fall 2002. The applicants could then consider and incorporate recommendations emanating from that workshop into a revised, integrated proposal that the Panel recommends be considered as a directed action.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 150 **Consider as Directed Action (also being ' Funded in Part' for $ 246,370)**

Solano County Farmlands and Open Space Foundation

Restoring Ecosystem Integrity in the Northwest Delta: PHASE II

Amount Requested: $1,556,853.00

Intial Selection Panel Review:

The Selection Panel recommends funding most of this research, land acquisition, monitoring and outreach proposal. The project will protect and enhance habitat for as many as 29 target species and provides a native habitat bridge between the delta and Suisun Marsh and is part of the Jepson Prairie-Prospect Island Corridor. The land to be acquired (775 acres)is designated prime and unique agricultural land. It is currently available for sale. It will remain in agricultural use for the time being. The research into levee setback and removal may result in up to 900 acres, including 40 acres on the acquired parcel as well as the adjacent publically-owned parcel, being taken out of agricultural production. The restoration proposed is being undertaken primarily because of resources present at and near this site, including an isolated population of Delta smelt. For this reason, the project can't be undertaken on existing public lands elsewhere.

Final Selection Panel Review:

The local reclamation district and the two adjoining landowners commented on this application, expressing concern about how the project would affect local agriculture and alter flood protection in the area. The Delta Protection Commission (DPC) and the Department of Conservation also expressed concerns about potential impacts to farmland, with DPC recommending issues and procedures that it felt should be addressed in the applicant's restoration planning. In response, the Selection Panel now recommends funding of only the vernal pool restoration and public outreach and education components of the proposal. The Selection Panel further recommends that the CALFED agencies consider funding the planning components and acquisition ($1,556,853) as a directed action, but only after the applicant coordinates with the Delta Protection Commission, Reclamation District, and other local governmental entities.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 151 **Consider as Directed Action**

Sonoma Ecology Center

Arundo Eradication and Coordination

Amount Requested: $2,066,432.00

Intial Selection Panel Review:

The Selection Panel recognizes the importance of invasive weed management to ecosystem restoration and the proven track record of the project proponents. The Panel also supports the approach described in the proposal. However, the Panel is requiring for all weed management projects that strong experimental, monitoring and adaptive management components be included. Information to be gained from these components should include comparisons of the effectiveness of different weed management tactics, the integration with restoration of native plants, and monitoring of results over the long term. Therefore, the Panel recommends that the proponent revise and resubmit the proposal for consideration as a directed action with the above-recommended elements.

Final Selection Panel Review:

The applicants submitted a detailed letter defending their proposal. Nevtheless, the Selection Panel continues to recommend the project for directed action, rather than immediate funding. The importance of invasive weed mangement to ecosystem restoration is well recognized. The Selection Panel recommends that the CALFED Science Program convene a workshop in the near future to develop a comprehensive strategy to address the issue. It is anticipated that workshop will identify invasive weed management efforts that include appropriate experimental design and monitoring to link these efforts into the overall goal of ecosystem restoration. The Selection Panel encourages the participation of the project proponent in this workshop.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 158 **Consider as Directed Action**

Stillwater Sciences

Merced River Corridor Restoration Plan Phase IV: Dredger Tailings Reach

Amount Requested: $8,547,285.00

Intial Selection Panel Review:

This project includes in-channel and floodplain restoration on the Dredger Tailings Reach on the Merced River. Gravels will be moved from nearby tailing piles on the floodplain and used for river channel formation and instream gravel augmentation. This project is phase IV of an ongoing restoration program on the Merced River aligned with the Merced River Stakeholder Group and Technical Adisory Committee. Although river and floodplain restoration and gravel augmentation is of high priority to CALFED, the Selection Panel recommends that this proposal be rewritten and re-reviewed to be considered for directed action. This recommendation is based on the need to include, as an important aspect of the revised proposal, application of science within the study design and adaptive management concepts into the project. Certainly baseline monitoring and vegetation experimentation with pilot plantings are good examples of addressing these concepts but long-term evaluation of post-project is also needed. The rewrite should respond to the Merced River Adaptive Management Forum report and concepts. It also should defend the ecological benefit/cost importance of spending $140,000 per acre for river/floodplain restoration on the Merced River and in the larger context of the Central Valley rivers.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 159 **Consider as Directed Action**

Stillwater Sciences

Physical modeling experiments to guide river restoration projects

Amount Requested: $2,472,750.00

Intial Selection Panel Review:

This project proposes to build a flume, do flume experiments on gravel augmentation, analyze effects of dam removal, sediment transport, channel meander, etc. and then use this information to quantify fluvial geomorphic models. This is the right team to do this research; however, there is no evidence that the authors of the proposal attempted to show connections of their approaches to ongoing studies by other researchers who are working on geomorphological processes on the rivers under CALFED auspices. These connections are important both to show the significance of the flume studies, and to guide the types of flume studies to be undertaken. The authors should also demonstrate how the type of flume studies and resulting models can be scaled up to actual river processes. This could be done with citation of appropriate literature. They also need to explain what we will learn from the flume studies that haven't been learned by years of channel hydraulic studies by academics and agencies. Lastly, the authors should present a properly calculated budget when they submit a reworked proposal for consideration as a directed proposal.

Final Selection Panel Review:

In response to the panel's initial review the proposal team attempted to fully explain the proposal. They list channel formation projects where flume experiments would be useful, but still don't demonstrate the actual connection. Their evidence, and the thrust of the proposal, is all future oriented with little or no retrospective aspects tying the work back to existing projects. They propose to upgrade the UCB flumes to address dam removal studies (evidenced only in response comments), and they have addressed questions on dissemination of information and cleared up the budget. Submitting this information in a comment letter does not provide an adequate basis to recommend funding for the project now. Instead, the proposal should be rewritten to incorporate these comments. In a rewrite, the authors should also more critically address comments of the initial review process.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 166 **Consider as Directed Action**

The Nature Conservancy

Battle Creek Protection and Stewardship

Amount Requested: $2,200,000.00

Intial Selection Panel Review:

The Selection Panel recognizes the value of Battle Creek to the ERP and the role of conservation easements to protect and restore this critical watershed. However, the Selection Panel agrees with the comments of the Technical Review Panel. The current proposal would benefit from a better developed monitoring and stewardship plan. The Panel recommends the applicant revise the proposal to address these issues and resubmit for consideration as a directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 167 **Consider as Directed Action**

The Nature Conservancy

Implementing a Collaborative Approach to Quantifying Ecosystem Flow Regime Needs for the Sacramento River

Amount Requested: $1,927,032.00

Intial Selection Panel Review:

This is a research proposal directed at understanding the linkages between water flow and ecosystem function. The applicant proposes to develop strategies to achieve multi-species conservation benefits through a number of means. The ratings of this proposal were mixed and it received weak support from the regional reviewers because it lacked specific details for key sections of the proposed effort. The reviewers that supported the proposal with a high rating recognized the value of the proposed effort and the importance of this type of effort in restoration activities, not just in the CALFED area. The proposal has several technical drawbacks. They proposed hypotheses that are untestable and the investigators need to acknowledge that some elements may be at odds regardless of the flow condition. Although this project is directed at many CALFED and CVPIA goals, it lacks the specificity to properly evaluate the contributions it will make to improved management of at-risk species, riparian habitats or river processes. Weak public involvement and poor local support were noted by the regional reviewers. Those drawbacks combined with a need to interface with other efforts that have relevance to the proposed one and a large and poorly justified budget make this a strong candidate for possible reconsideration at a future date. If The Nature Conservancy carefully considers the remarks of the reviewers and develops a strategy to improve the basis for the scientific and technical merits of this proposal in collaboration with regional experts and the Sacramento and San Joaquin River Basins Comprehensive Study effort to model ecosystem function along the Sacramento River, this effort will be considered for a directed action. CALFED ERP staff, the ERP Independent Science Board and Science Program are available to help foster the collaboration necessary to make this proposal more acceptable.

Final Selection Panel Review:

This project's weak regional support precipitated negative public comments questioning the merit of this project's inclusion for directed action. But because the goals of the project have inherit merit for ecosystem management, the panel recommends that the Nature Conservancy attempt to build regional support, carefully consider reducing costs of the project, and develop a sound research

plan. The panel's recommendation to include this project as a directed actions stands.

Reference number: 170 **Consider as Directed Action**

The Nature Conservancy

Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

Amount Requested: $2,882,945.00

Intial Selection Panel Review:

This proposal, along with 171, have the potential for high ecosystem benefits and would help fulfill ROD commitment to protect Sacramento River meanderbelt as well as tributary floodplain habitats. However, 170 and 171 do not have a well-developed adaptive management approach with hypothesis testing and experimental design. The Selection Panel would like the applicant to stengthen the scientific approach in order to better judge future acquisitions and to increase the information value of restoration projects. This effort to improve the scientific approach would also be informed by completion of the currently on-going sub-reach planning studies which are underway under previous grant funding. The Nature Conservancy is recognized has having many efforts in progress for Sacramento River corridor restoration planning and implementation and CALFED requests the applicants to work with the CALFED science program and ERP Independent Science Board prior to resubmitting a revised proposal or proposals for the Chico Landing sub-reach activities. These proposals will be considered for directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 171 **Consider as Directed Action**

The Nature Conservancy

Sacramento River Restoration: Chico Landing Sub-Reach (RM 178-206)

Amount Requested: $4,950,032.00

Intial Selection Panel Review:

This proposal, along with #170, have the potential for high ecosystem benefits and would help fulfill CALFED's Record of Decision commitment to protect Sacramento River meanderbelt as well as tributary floodplain habitats. However, #170 and #171 do not have a well-developed adaptive management approach with hypothesis testing and experimental design. The Selection Panel would like the applicant to stengthen the scientific approach in order to better judge future acquisition and to increase the information value of restoration projects. This effort to improve the scientific approach would also be informed by completion of the currently on-going sub-reach planning studies which are underway under previous grant funding. The Nature Conservancy is recognized as having many efforts in progress for Sacramento River corridor restoration planning and implementation and CALFED requests the applicants to work with the CALFED science program and ERP Independent Science Board prior to resubmitting a revised proposal or proposals for the Chico Landing sub-reach activities. These proposals will be considered for directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 174 **Consider as Directed Action**

The Water Forum

Lake Natoma Temperature Curtains Pilot Project

Amount Requested: $1,960,196.00

Intial Selection Panel Review:

Although reducing temperatures on the American River is a high regional priority, the technical panel questioned whether the project was ready to proceed to pilot implementation and raised significant concerns regarding lack of modeling and appropriate monitoring of effects on fish. The Selection Panel recommends that the applicant revise the proposal to address the technical panel's comments and submit the revised proposal for consideration as a directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 179 **Consider as Directed Action (also being ' Funded in Part' for $ 706,649)**

Tuolumne River Preservation Trust

Tuolumne River - Big Bend Project

Amount Requested: $974,474.00

Intial Selection Panel Review:

The proposed project will complement and enhance the benefits of previously funded CALFED and CVPIA funded restoration efforts in an area where both CALFED and CVPIA have focused restoration activities. The project received an above average rating from the technical panel and a high rating from the regional review panel. The applicants are dealing with willing sellers, have a letter of support from the Tuolumne River Coalition (which includes the Stanislaus County Parks and Recreation Department and other local government agencies), and will improve stream meander and natural floodplain and flood processes. The acquisitions are time sensitive. Although some of the soils on on the parcels meet the criteria for prime farmland, the lands also qualify for the Natural Resource Conservation Service Floodplain Protection Program and are not presently in agriculture. These lands' exposure to flooding impairs the economic feasibility of farming them. The technical panel strongly recommended the development of a more technically rigorous design for the monitoring component of the proposal. The Selection Panel concurs with the technical panel, and recommends funding the acquisition related components of the proposal. The Selection Panel also recommends that the applicant revise the restoration and monitoring portions of the proposal to address the technical panel's comments and submit a revised proposal for consideration as a directed action.

Final Selection Panel Review:

Three comment letters were submitted during the public comment period that supported full funding for the project. The local assemblyman wrote endorsing the project. A letter from the applicant noted that the project had been approved for funding in full by the Department of Water Resources' Floodplain Protection Corridor Program. The applicant urged CALFED to fully fund the project or to at least coordinate with DWR's floodplain program without creating unnecessary duplication and delay. A third letter, from the Department of Conservation, recommended that the project, which will require cancellation of a Williamson Act contract, compensate for its impacts to farmlands by purchasing agricultural conservation easements on other, similarly-sized properties. In response to these comments, the Selection Panel recommends that the Ecosystem Restoration

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Program continue to consider this proposal in two parts, recommending funding for the acquisition with the remaining funding depending on a revised proposal or plan for the restoration and monitoring portions of the proposal. The Selection Panel further recommends that the ERP coordinate with DWR's floodplain program to ensure that the project meets standards established for ERP projects without creating unnecessary duplication and delay. The panel also urges DWR to assure that the project's environmental documents identify the project's impacts on agriculture and appropriate measures, if necessary, to mitigate significant adverse effects.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 181 **Consider as Directed Action**

Turlock Irrigation District

Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction

Amount Requested: $10,839,000.00

Intial Selection Panel Review:

The Selection Panel does not agree with the recommendation of the Technical Panel. The Tuolumne River is an important Central Valley River for the ERP, and this proposal is Phase 3 of a four-phase project. Phases 1 and 2 have been supported and funded by the ERP and CVPIA. The Technical Panel comments raise concerns with costs, the need for continuous gravel augmentation, and alternative designs (e.g., grade control structures). The cost of this proposal is in alignment with previous phases, and the Selection Panel acknowledges the high costs. However, the Tuolumne River is a high priority for the ERP, and restoration of this reach of the river is also a high priority. In addition, the Selection Panel does not agree with the comments regarding the benefit of grade control structures. This approach has been tested in the past on San Joaquin Rivers, including the Tuolumne, and results indicate that this approach is not appropriate in the context of restoring (and sustaining) physical processes as a component of the river ecosytem. Although the Selection Panel does not recommend funding at this time, the Panel requests that the applicant revise the proposal to address the experimental design of the project and resubmit for a directed action. The Panel also requests that the applicant consult with the Tuolumne Adaptive Management Forum participants who are working on design and monitoring aspects of large-scale channel restoration projects.

Final Selection Panel Review:

The Selection Panel appreciates the extensive comments submitted by the applicant. Most of these comments are best described as new information and should be incorporated in a revised proposal. The Panel recommends that this recommendation remain as a directed action.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 185 **Consider as Directed Action**

University of California Sea Grant

West Coast Ballast Outreach Project

Amount Requested: $526,259.00

Intial Selection Panel Review:

The Selection Panel recognizes the need for futher education of the maritime industry concerning the introduction of non-native invasive species from ballast water and the management practices available to reduce and eliminate those occurances. The Panel indicated the need for the proposal to include performance measures to assess the success of the program to date, especially relative to participation in the education program and implementation of best management practices. Therefore, the Panel recommends that the proponent revise the proposal for reconsideration with the above-recommended features.

Final Selection Panel Review:

A comment letter from the Clean Estuary Partnetship endorsing the project confirms this project's potential value in the region, if the proposal's shortcomings are addressed adequately when it is reconsidered for potential directed action.

Reference number: 193 **Consider as Directed Action**

University of California, Davis

BIOLOGICAL ASSESSMENT OF GREEN STURGEON IN THE SACRAMENTO-SAN JOAQUIN WATERSHED

Amount Requested: $1,219,387.00

Intial Selection Panel Review:

Results of the proposed research would contribute to our understanding of this at-risk fish species. Concerns with the proposal which were expressed by this and previous panels include: 1) the proposal needs a better explanantion of how physiological studies would be applied; 2) a better experimental design for telemetry studies should be developed; and 3) other funding sources should be found to support any Klamath River telemetry work. We recommend that the applicants review the comments and resubmit the proposal for consideration as a directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 196 **Consider as Directed Action**

University of California, Davis

Development and Implementation of Bioaccumulation-Based Mercury Monitoring in Support of Restoration, Remediation, and the Regulatory Process for Cache Creek, Prospect Island and Adjacent Tracts, the Yolo Bypass, and Cosumnes River

Amount Requested: $895,571.00

Intial Selection Panel Review:

The scope of this proposal overlaps with two others (#130 and #131) that propose to monitor or survey mercury in aquatic biota. This proposed project would sample water, invertebrates, and small fish at four sites to develop and implement monitoring approaches focusing on bioindicator species. The consensus of reviewers is that the proposal needs further development before funding. Scientific reviewers regarded the proposed project as overly ambitious in scope and recommended that it be limited to two sites, Cache Creek and Yolo Bypass. In addition, monitoring data - in the absence of other, supporting information - would not conclusively demonstrate cause and effect associations. The Selection Panel believes that the benefits of this work would be greatly increased by a stronger link to other scientific work on processes and factors that affect methylmercury concentrations in fish. Reviewers stressed that some basic ecological research on feeding habits (diet) would also be useful for identifying potential bioindicator species and for interpreting monitoring data on mercury. The Selection Panel recommends that the applicant work with others to combine this proposal with proposals #130 and #131 into a single, integrated proposal that would (1) provide cost-effective monitoring of mercury in fish and aquatic biota, producing information relevant to assessing methylmercury exposure in humans and wildlife in upper trophic levels, and (2) be designed to facilitate linkage of fish-mercury data to information on processes and factors affecting methylmercury concentrations in fish. Moreover, the applicants on the three proposals (#130, #131, and #196) should consider developing an analytical capability for measurement of methylmercury, as well as total mercury, in water and aquatic biota. This could substantially reduce the high analytical costs associated with contractual analyses of samples, particularly for methylmercury. The Panel also recommends that the applicant participate in the Mercury Science Strategy Workshop being planned by CALFED, tentatively for fall 2002. The applicant should consider and incorporate recommendations emanating from that workshop into a revised, integrated proposal that the Panel recommends be considered as a directed action.

Final Selection Panel Review:

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

In response to public comments, the Selection Panel recommends that monitoring efforts include a coordinated outreach component to transfer information regarding methylmercury contamination of fishery resources to local stakeholders to facilitate assessment and communication of potential health risks of fish consumption. The Panel also continues to recommends that the applicant participate in the Mercury Science Strategy Workshop being planned by CALFED, tentatively for fall 2002. The workshop will develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. The workshop will provide a setting to coordinate CALFED-supported mercury monitoring and research with marsh restoration projects that the selection panel recommends, as suggested in the comment letter from the Clean Estuary Partnership. The applicant should consider and incorporate recommendations emanating from that workshop into a revised, integrated proposal that the Panel recommends be considered as a directed action.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 203 **Consider as Directed Action**

University of California, Davis

Improved Fish Screen Design and Operation for Native Sacramento-San Joaquin Watershed Fishes

Amount Requested: $2,243,794.00

Intial Selection Panel Review:

This proposal is to continue laboratory-based efforts to develop information that can be used to improved fish screen design and operation. CALFED and others have made substantial investments in this effort over the last several years. The proposal received an adequate rating from the technical review panel, where reviewers identified concerns with that essentially questioned the adequacy of the proposal as written. The technical review panel did not find the ongoing nature of the proposed work to be a compelling reason to continue funding. The Selection Panel concluded that work completed to this point should be more fully assessed prior to any decision to continue funding the effort. The Selection Panel does not recommend funding for this proposal.

Final Selection Panel Review:

The Selection Panel considered the comments provided by the Principal Investigator, who argued that the proposal was unfairly ranked, and from the National Marine Fisheries Service, which emphasized this fish treadmill research's importance to development of Delta Fish Facilities. In response to those comments the Selection Panel decided to recommend the proposal as a potential directed action. The rewritten proposal should: 1) Incorporate the appendices and make full use of the opportunity to provide a proposal that meets the Solitation Package's proposal guidelines. 2) Justify the funding and staffing levels, specifically the need for four post doctoral fellows. (Can four post docs really work full time on the treadmill?) 3) Consult and coordinate with CALFED's Science and Ecosystem Restoration Programs and include a proposal briefing to clarify concerns and relate the need and relationship of the proposal to the Tracy Fish Test Facility. The proposal's relationship to the need for baseline data relevant to the testing needs of the Tracy Fish Test Facility was compelling to the decision to rank the proposal "Consider as a Directed Action", provided the conditions identified above can be satisfied, rather than its initial "Do Not Consider Further" recommendation.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 205 **Consider as Directed Action**

University of California, Davis

Invasion dynamics of perennial pepperweed, Lepidium latifolium, and their consequences for protection of natural and restored wetlands in the San Francisco Estuary

Amount Requested: $152,272.00

Intial Selection Panel Review:

This research proposal has potential to provide valuable information that can be used in control and eradication efforts for pepperweed. The studies will be conducted in the lab and in mesocosms rather than by experimental introduction in the field, satisfying some of the concerns raised in regional review. The Technical panel and the external scientific reviews raise some concerns on various aspects of the study. The Selection Panel's recommendation is that the proposer revise in accordance with the comments of the external reviewers and resubmit the project for funding as a directed action.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 222 **Consider as Directed Action**

US Bureau of Land Management

Cosumnes River Preserve Perennial Pepperweed Control Project

Amount Requested: $141,500.00

Intial Selection Panel Review:

The Selection Panel recognizes the importance of invasive weed management to ecosystem restoration and the collaborative effort evident in the project proposal. The Panel also supports the approach described in the proposal. However, the Panel is requiring that all weed management projects include strong experimental, monitoring and adaptive management components. Information to be gained from these components should include comparisons of the effectiveness of different weed management tactics, the integration with restoration of native plants, and monitoring of results over the long term. Therefore, the Panel recommends that the proponent revise and resubmit the proposal for consideration as a directed action with the above-recommended elements.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 223 **Consider as Directed Action**

US Bureau of Reclamation

Battle Creek Salmon and Steelhead Restoration Project

Amount Requested: $12,000,000.00

Intial Selection Panel Review:

The supplement requested increases the fish benefits consistent with the goals of the original 1999 proposal CALFED ERP funded for $28,000,000. Two technical panels gave "not recommended" ratings to this proposal citing the proposal text as not justifying the benefits and costs of the supplementation. Four external science reviews gave a "poor," "good," and two "excellents," while the regional review gave the proposal a high rating. The Selection Panel does not see an immediate need for funding as the NEPA Draft is not out yet, local concerns have not been resolved, and the justification for the funding is inadequate. The Selection Panel recognizes the very important value of the Battle Creek Restoration Project, and that this project should have been largely complete by now. The Selection Panel recommends the proponent revise and re-submit a clear, high-quality, critically reviewed supplemental funding request for consideration as a directed project. The re-submitted proposal should include documentation of resolved local concerns, an explanation of each of the supplementation needs, and dates for the need for supplementation funds. The Selection Panel recommends the re-submitted proposal include project completion dates and commitments to those dates.

Final Selection Panel Review:

The comments from the Bureau of Reclamation, National Marine Fisheries Service, Fish and Wildlife Service, and Department of Fish and Game indicate support for the proposal and provide information on the timing effects, funding justification, and the problems with local and broader concerns over the effects of Coleman National Fish Hatchery (CNFH). The Selection Panel considered much of the funding information appropriate for a revised proposal, and remained unchanged regarding the timing and local concerns. The Selection Panel encourages a timely revised proposal addressing comments in the panel's initial recommendation. Should a revised proposal be submitted, the Selection Panel encourages: 1)Re-review and a fund/no-fund decision in a timely manner to prevent funding from significantly delaying the restoration process this year, and 2) a workshop on Battle Creek restoration and CNFH operations by late summer/early fall to address remaining issues related to restoration.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 228 **Consider as Directed Action**

US Fish and Wildlife Service

Mercury in birds of the Bay/Delta Watershed - adverse effects to reproduction and patterns of bioaccumulation.

Amount Requested: $1,080,855.00

Intial Selection Panel Review:

This proposal addresses topics of significant ecological concern, the bioaccumulation of methylmercury in birds and its effects on avian reproduction. This is an area of ecotoxicology for which definitive information is needed, given that diminished reproductive success could adversely affect bird populations in areas where dietary exposure to methylmercury is high. The applicant's prior work in the Bay-Delta ecosystem has shown that mercury concentrations in eggs of some nesting aquatic birds exceed threshold concentrations associated with adverse effects on developing embryos in laboratory experiments with avian test species, such as mallards. This proposal addresses one regional and two multi-regional priorities, yet received weak to modest regional support. The consensus of scientific reviewers and the Selection Panel is that the proposal needs further development and refinement. Areas needing improvement include (1) a much stronger illustration of the potential application of project results to management planning and ecological restoration, (2) approaches for distinguishing amongst the effects of co-occurring contaminants (e.g., mercury, selenium, and PCBs) in a descriptive field study, (3) analysis of food webs and interpretation of stable-isotope (C, N, S) data, and (4) linkage of the proposed field work to controlled laboratory studies to experimentally examine cause-effect relations between methylmercury (possibly including selenium) exposure that are suggested by correlative field data. Two of these concerns (2 and 4) can be addressed by combining this field study with proposal 234 ("Assessing the hazards of mercury and selenium to the reproductive success of birds" by G. Heinz and D. Hoffman, USGS), combining field and laboratory into a single integrated, cost-effective proposal. The Panel recommends that the applicant participate in the Mercury Science Strategy Workshop being planned by CALFED for fall 2002. The applicant should consider and incorporate recommendations emanating from that workshop into a revised, integrated proposal to be considered as a directed action.

Final Selection Panel Review:

The Clean Estuary Partnership's comment letter encourages implementation of this project concurrently with CALFED-funded wetland restoration projects, in order to assess whether potential mercury methylization associated with the

restorations affects the Bay's sensitive biota. The Selection Panel is aware that wetlands are sites of active methylmercury production. Encouraging the coordination of wetland restoration and mercury research projects should be an objective of the science program's mercury workshop.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 230 **Consider as Directed Action**

US Fish and Wildlife Service

Recovery Implementation for Riparian Brush Rabbit and Riparian Woodrat on the Lower Stanislaus River

Amount Requested: $13,903,917.00

Intial Selection Panel Review:

This proposal was not originally reviewed by the Selection Panel

Final Selection Panel Review:

The Fish and Wildlife Service submitted extensive comments on this proposal, which the technical panel did not recommend funding. A Department of Parks and Recreation letter also supported the project. The Selection Panel recognizes the need for the immediate conservation action that these agencies urge to save the greatly imperiled riparian brush rabbit and riparian woodrat. However, the panel shares the technical panel's concerns that the merits of this expensive land purchase are difficult to assess and that the Service's captive breeding program has not been integrated into effort that applies adaptive management to the reintroduction of captive-bred animals to the wild. The proposal and the USFWS's comment letter promise habitat restoration and management that will be critical to project success (especially with at least half of land to be acquired currently in cultivation), but the program's details are lacking in the proposal. The Panel believes that an experimental framework within which data from monitoring can be used to inform ongoing conservation planning and actions is required before recommending this important effort. Also missing is a conceptual model that describes, not just the project's approach, but how that approach can be effective given the current knowledge of the species and their habitats. The Selection Panel therefore recommends that the CALFED ERP pursue this project as an expedited directed action. The panel further recommends that the applicants work with the ERP to address the proposal's shortcomings, in particular, to develop an integrated conservation strategy that introduces land acquisition opportunities and captive breeding efforts into a well-informed, fully intergrated species and habitat management action plan. Given the urgency to address these species' conservation needs, the CALFED ERP may want to consider funding in part of immediate actions that are critical to the survival of the riparian brush rat and riparian woodrat as the revised proposal is being developed.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 232 **Consider as Directed Action**

US Fish and Wildlife Service

Sacramento River Chinook Salmon Individual-based Model

Amount Requested: $350,000.00

Intial Selection Panel Review:

Technical and external science review ratings were adequate and poor-good, with regional ratings ranging from poor to good. The strategic benefit to this desktop modeling pilot study was not apparent although it does link to PSP Multi-Region Priority 6 on understanding of at-risk species. The model's development can be very important once the model expands geographically and progresses through the validation stage. The proposal needs considerable specific information, including the tests and deliverables expected from this portion of individual-based model development, and an explanation of the loss of the prior funding source. Thus, review and revision as a directed action are encouraged. The USFWS Fishery Research Office in Vancouver, Washington, has unique skill in developing chinook salmon population models. The proposal may benefit from their review. Suggest proposal team include critical technical and proposal strategy reviewers of the draft proposal and include details on the products of this effort and why it cannot be funded by others.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

Reference number: 234 **Consider as Directed Action**

US Geological Survey

Assessing the hazards of mercury and selenium to the reproductive success of birds .

Amount Requested: $394,922.00

Intial Selection Panel Review:

This proposal addresses topics of significant ecological concern, the effects of methylmercury and selenium (singly and in combination) on avian reproduction. This is an area for which definitive experimental research is needed, given that diminished reproductive success could adversely affect bird populations in areas where dietary exposure to methylmercury and/or selenium is high. Prior work in the Bay-Delta ecosystem has shown that mercury concentrations in eggs of some nesting aquatic birds exceed threshold concentrations associated with adverse effects on developing embryos in laboratory experiments with avian test species, such as mallards. The applicants are accomplished scientists with extensive experience in avian toxicology, including effects of methylmercury and selenium on reproductive success (and other toxicological endpoints) in birds. Regional reviews generally recognized the importance of mercury and selenium as significant issues for restoration projects, but expressed concern that the proposed project would have little application to management decisions regarding ecological restoration projects. The consensus of science reviewers and the selection panel is that the proposal needs further development and refinement. Needed improvements include (1) a much stronger illustration of the potential utility and application of project results to management planning and ecological restoration, (2) a description of approaches for relating results from the proposed egg-injection experiments to the situation in the field, which involves dietary exposure in wild birds atop food webs in the Bay-Delta ecosystem, and (3) the crafting of timely research products (beyond papers in refereed scientific journals) that will benefit managers and decision makers involved with ecological restoration in the Bay-Delta ecosystem. One of these concerns (2) can be partly addressed by combining this field study with proposal 228 ("Mercury in birds of the Bay/Delta Watershed: adverse effects to reproduction and patterns of bioaccumulation" by S. Schwartzbach), combining laboratory and field studies into a single integrated, cost-effective proposal. The Panel recommends that at least one of the two applicants on this proposal participate in the Mercury Science Strategy Workshop being planned by CALFED for fall 2002. The applicants should consider and incorporate recommendations emanating from that workshop into a revised, integrated proposal for consideration as a directed project.

Final Selection Panel Review:

2002 PSP Final Selection Panel Recommendations

-Projects recommended for consideration as directed action

The Clean Estuary Partnership commented on this proposal, recommending that it be implemented concurrently with CALFED-supported Bay-Delta wetland restoration projects, in order to assess whether potential mercury methylization associated with the restorations affects the Bay's sensitive biota. The Selection Panel is aware that wetlands are sites of active methylmercury production. Encouraging the coordination of wetland restoration and mercury research projects should be an objective of the science program's mercury workshop, the Selection Panel recommends.

Reference number: 256 **Consider as Directed Action**

Yolo Basin Foundation

Pacific Flyway Center Initial Planning

Amount Requested: $394,919.00

Intial Selection Panel Review:

The idea of a Pacific Flyway Center is consistent with the CALFED Bay-Delta Program. However, the current proposal identifies planning efforts without an adequate amount of information to justify the expenditure of funds at this time. The Selection Panel recommends that the applicants revise the proposal to address the Environmental Education and the regional panels' comments and resubmit it for consideration as a directed project.

Final Selection Panel Review:

No additional review was completed for this proposal after the public comment period.