

1997 Proposal Report

INDIVIDUAL PROPOSAL REPORT

INTEGRATION PANEL 1997 CATEGORY III RECOMMENDATIONS

[Confidential]

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Individual Proposal Report

Title Selected fish screens on the Sacramento River and tributaries

Number A129

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Entrainment

Project Type Implementation

Applicant Type State

Recommended Funding \$446,250

Cost Share Applicant - \$151,000

Description Recommend funding \$446,250 of the \$3,230,850 request for fish screens at Mill Creek, Deer Creek, Butte Creek, and the Sacramento River. Funding of \$2,784,600 for screens on Montezuma Slough and associated new boom truck was deleted due to lower biological benefits than other screens. Spring run chinook salmon and other priority species would benefit from the screens.

ERPP Linkage

Zone: Sacramento River/Butte Basin

Ecosystem Elements and Targets (T):

Water Diversions

- T-1 Improve the survival of chinook salmon and steelhead in Butte Creek by helping to install positive-barrier fish screens (Volume II, Page 225)
- T-1 Reduce entrainment of juvenile salmon, steelhead, sturgeon, and splittail into water diversions to levels that will not impair stock rebuilding or species restoration (Volume II, Page 135)

Individual Proposal Report

Title RD 108 fish screen at Wilkins Slough Pumping Plant

Number A175

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Entrainment

Project Type Implementation

Applicant Type Local Government/Districts

Recommended Funding \$2,500,000

Cost Share CVPIA (Federal) \$5,800,000 (FY97 and FY98)
CVPIA (State/Proposition 204) \$2,950,000 (FY97 and FY98) proposed

Description Construction of fish screen on a 700 cfs diversion. Winter run chinook salmon and other priority fish species will be protected. Combined funding from Category III, CVPIA Federal, and CVPIA State covers total project cost.

ERPP Linkage

Zone: Sacramento River

Ecosystem Elements and Targets (T):

Water Diversions

- T-1 Reduce entrainment of juvenile salmon, steelhead, sturgeon, and splittail into water diversions to levels that will not impair stock rebuilding or species restoration (Volume II, Page 135).

Individual Proposal Report

Title Princeton fish screen (RD1004) on the Mainstem Sacramento River

Number A227

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Entrainment

Project Type Implementation

Applicant Type Local Government/Districts

Recommended Funding \$1,750,000

Cost Share CVPIA (Federal) \$3,525,000 (FY97 and FY98)
CVPIA (State/Proposition 204) \$1,750,000 (FY97 and FY98 (proposed))

Description Complete design and construction of a fish screen and relocated diversion on the Sacramento River near Princeton. Winter run chinook salmon and other priority fish species will be protected. Combined funding covers total cost of project.

ERPP Linkage

Zone: Sacramento River

Ecosystem Elements and Targets (T):

Water Diversions

- T-1 Reduce entrainment of juvenile salmon, steelhead, sturgeon, and splittail into water diversions to levels that will not impair stock rebuilding or species restoration (Volume II, Page 135)

Individual Proposal Report

Title Wilson Ranch fish screen

Number A313

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Entrainment

Project Type Implementation

Applicant Type Private

Recommended Funding \$200,000

Cost Share Applicant - O&M long term

Description Replacement of ineffective screen on a 29 cfs diversion on the mainstem Sacramento River. Winter run chinook salmon and other priority fish species will be protected. Recommended funding covers full project cost. Panels recommended deletion of \$28,000 in biological monitoring.

ERPP Linkage

Zone: Sacramento River

Ecosystem Elements and Targets (T):

Water Diversions

- T-1 Reduce entrainment of juvenile salmon, steelhead, sturgeon, and splittail into water diversions to levels that will not impair stock rebuilding or species restoration (Volume II, Page 135)

Individual Proposal Report

Title Assessment and implementation of urban use reduction of diazoin and chlorpyrifos
(Sacramento County)

Number B217

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Water Quality

Project Type Monitoring

Applicant Type Local Government/Districts

Recommended Funding \$663,500

Cost Share Various sources - in kind - \$193,000 in first year

Description Recommend first year funding for a multi-phase program to identify, evaluate, and eliminate the toxicity of urban runoff caused by elevated levels of diazinon and chlorpyrifos. Project includes water Quality Monitoring Program, Source Identification Program, Effects Evaluation Program, and an Education and Outreach Control Program. Second and third year funding (\$303,754 and \$452,877, respectively) was postponed.

ERPP Linkage

Zone: Sacramento River/American River Basin

Ecosystem Elements and Targets (T):

Contaminants

- T-1 Reduce application of herbicides, pesticides, fumigants, other agents toxic to fish and wildlife on agricultural lands that have the greatest risk to fish and wildlife populations (Volume II, Page 291)
- T-1 Reduce losses of fish/wildlife resulting from pesticide, hydrocarbon, heavy metal, other pollutants in the Sacramento River (Volume II, Page 138)

Individual Proposal Report

Title Watershed management planning for Sacramento River Riparian Program (SB1086)

Number G195

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Channel Form Changes

Project Type Planning

Applicant Type State

Recommended Funding \$100,000

Cost Share None

Description Recommend funding first of two years of a non-agency coordinator position for implementation of riparian ecosystem restoration of the Sacramento River, consistent with the SB1086 program. Involves staffing and planning implementation of meander zone restoration projects. Projects would benefit multiple species and habitats. A total of \$200,000 was requested for both years. (Possible EPA funding)

ERPP Linkage

Zone: Sacramento River

Ecosystem Elements and Targets (T):

Stream Meander Corridors

- T-1 Fee/easement acquisition to preserve and improve stream meander belt, Red Bluff to Chico Landing (Volume II, Page 132)
- T-2 Fee/easement acquisition to preserve and improve stream meander belt, Chico Landing to Colusa (Volume II, Page 133)

Natural Floodplain and Flood Processes

- T-1 Increase and maintain floodplains in conjunction with stream meander corridor restoration (Volume II, Page 133)

Riparian and Riverine Aquatic Habitats

- T-1 Provide conditions for riparian vegetation growth along channelized portions of Sacramento River (Volume II, Page 134)
- T-2 Increase ecological value of low-to-moderate-quality SRA habitat by changing land use/land management practices (Volume II, Page 135)
- T-3 Maintain existing streamside riparian vegetation (Volume II, Page 135)

Individual Proposal Report

Title Sacramento River floodplain acquisition and riparian restoration (SB1086)

Number G261

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Public/Non-profit Joint Venture

Recommended Funding \$9,879,800

Cost Share DWR - in-kind (mapping/surveying)

Description Recommended full funding for acquisition of fee title or permanent conservation easement for approximately 1500 acres in SB1086 Sacramento River Conservation Area between Keswick and Verona, consistent with the SB1086 program. Protection and restoration of riparian corridor; protection and expansion of meander belt and floodplain. Benefits to multiple species and habitats.

ERPP Linkage

Zone: Sacramento River

Ecosystem Elements and Targets (T):

Stream Meander Corridors

- T-1 Fee/easement acquisition to preserve and improve stream meander belt, Red Bluff to Chico Landing (Volume II, Page 132)
- T-2 Fee/easement acquisition to preserve and improve stream meander belt, Chico Landing to Colusa (Volume II, Page 133)

Natural Floodplain and Flood Processes

- T-1 Increase and maintain floodplains in conjunction with stream meander corridor restoration (Volume II, Page 133)

Riparian and Riverine Aquatic Habitats

- T-1 Provide conditions for riparian vegetation growth along channelized portions of Sacramento River (Volume II, Page 134)
- T-2 Increase ecological value of low-to-moderate-quality SRA habitat by changing land use/land management practices (Volume II, Page 135)
- T-3 Maintain existing streamside riparian vegetation (Volume II, Page 135)

Individual Proposal Report

Title Sacramento River riparian forest restoration (SB1086)

Number G278

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Public/Non-profit Joint Venture

Recommended Funding \$1,292,500

Cost Share None

Description Recommend full funding for restoration of 300 acres of flood prone ag land to native riparian forest along the Sacramento River between Keswick and Verona. Restores SRA habitat and provides benefits to multiple species.

ERPP Linkage

Zone: Sacramento River

Ecosystem Elements and Targets (T):

Riparian and Riverine Aquatic Habitats

- T-2 Increase ecological value of low-to-moderate-quality SRA habitat by changing land use/land management practices (Volume II, Page 135)

Individual Proposal Report

Title Sacramento River meander belt restoration project (SB1086)

Number G291

Geographic Area Sacramento Mainstem

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Non-profit

Recommended Funding \$898,700

Cost Share None

Description Recommend full funding of riparian restoration project, consistent with the SB1086 program. Acquisition of 80 acres of flood prone ag land, restoration of 10 acres of riparian habitat. Removes last private in-holding of Sac River NWR on west bank of 10 mile river reach. Project would benefit multiple species and habitats.

ERPP Linkage

Zone: Sacramento River

Ecosystem Elements and Targets (T):

Stream Meander Corridors

- T-1 Fee/easement acquisition to preserve and improve stream meander belt, Red Bluff to Chico Landing (Volume II, Page 132)
- T-2 Fee/easement acquisition to preserve and improve stream meander belt, Chico Landing to Colusa (Volume II, Page 133)

Natural Floodplain and Flood Processes

- T-1 Increase and maintain floodplains in conjunction with stream meander corridor restoration (Volume II, Page 133)

Riparian and Riverine Aquatic Habitats

- T-1 Provide conditions for riparian vegetation growth along channelized portions of Sacramento River (Volume II, Page 134)
- T-2 Increase ecological value of low-to-moderate-quality SRA habitat by changing land use/land management practices (Volume II, Page 135)
- T-3 Maintain existing streamside riparian vegetation (Volume II, Page 135)

Individual Proposal Report

Title Watershed improvements/sediment stabilization (Deer, Mill, Antelope Creeks)

Number F5

Geographic Area Sacramento Tributaries

Primary Stressor Addressed Land Use

Project Type Planning

Applicant Type Federal

Recommended Funding \$371,000

Cost Share Applicant - \$69,000

Description Program to reduce generation of fine sediment from upland, riparian, and road related sources in three watersheds utilized by spring run salmon and steelhead. Stabilization measures would be implemented in known problem areas, and inventory, design, and planning measures pursued for remaining road related problems. Includes identification of willing sellers for potential land exchange related to acquisition of riparian areas. Combined funding sources cover full cost of the project. (Possible EPA funding).

ERPP Linkage

Zone: Butte Basin

Ecosystem Elements and Targets (T):

Upper Watershed Processes

T-1 Restore upper watershed processes (Volume II, Page 224)

Land Use

T-1 Protect, restore, maintain ecological functions/processes that create habitat for Delta-dependent species; reduce, eliminate stressors that impair their survival (Volume II, Page 226)

Individual Proposal Report

Title Restoration planning (M. and N. Fork American River, Auburn Ravine, Coon Creek)

Number F297

Geographic Area Sacramento Tributaries/American River

Primary Stressor Addressed Land Use

Project Type Planning

Applicant Type Local Government/Districts

Recommended Funding \$222,530

Cost Share None

Description Development of a Coordinated Resource and Management Plan (CRMP) for the Auburn Ravine and Coon Creek watersheds. Middle Fork and N. Fk. American River portions of the proposal (\$212,630) were not funded due to their location above Folsom Reservoir and inaccessibility to anadromous fish. Proposal emphasis is on protection and restoration of riparian and aquatic habitats, protection of watershed integrity, and improvement of water quality. Species benefited include steelhead and a number of other downstream aquatic species. (Possible EPA funding).

ERPP Linkage

Zone: American River Basin

Ecosystem Elements and Targets (T):

Upper Watershed Processes

T-2 Improve management practices in upper watersheds relating to road building and maintenance, and livestock grazing (Volume II, Page 286)

Individual Proposal Report

Title Battle Creek screens and fish passage

Number A194

Geographic Area Sacramento Tributaries/Battle Creek

Primary Stressor Addressed Entrainment

Project Type Planning

Applicant Type State

Recommended Funding \$395,000

Cost Share CVPIA (Federal) - \$395,000

Description Planning and design of fish passage and screening facilities on upper Battle Creek, to provide access to 32 miles of spawning and rearing habitat. Primary species benefits would be for winter run and spring run chinook salmon, and steelhead. Combined funding covers total project cost.

ERPP Linkage

Zone: North Sacramento Valley

Ecosystem Elements and Targets (T):

Water Diversions

- T-1 Reduce or eliminate conflicts between the diversions of water and chinook salmon and steelhead populations at all diversion sites on Battle Creek (Volume II, Page 168)

Dams, Reservoirs, Weirs, and Other Humanmade Structures

- T-3 Work with landowners, diverters, and other state or federal agencies managing Battle Creek to improve fish passage (Volume II, Page 169)

Individual Proposal Report

Title Watershed plan (Big Chico Creek)

Number F219

Geographic Area Sacramento Tributaries/Big Chico Creek

Primary Stressor Addressed Land Use

Project Type Planning

Applicant Type Public/Non-profit Joint Venture

Recommended Funding \$276,631

Cost Share None

Description Recommended full funding of Phase 1 of the proposal for a three-phase watershed plan for Big Chico Creek. Species potentially benefiting from improved water quality associated with watershed management include several runs of salmon (including spring run) and other resident species. Water quality benefits would accrue for downstream resources as well. Total funding request for all phases was \$422,830 (Possible EPA funding).

ERPP Linkage

Zone: Butte Basin

Ecosystem Elements and Targets (T):

Upper Watershed Processes

T-1 Restore upper watershed processes (Volume II, Page 224)

Individual Proposal Report

Title Gorrill Dam screen and ladder

Number A179

Geographic Area Sacramento Tributaries/Butte Creek

Primary Stressor Addressed Entrainment

Project Type Implementation

Applicant Type Private

Recommended Funding \$369,641

Cost Share CVPIA (Federal) - \$788,000
CVPIA (State/Proposition 204) - \$304,256
Applicant - \$50,000 + \$17,500 yearly O&M

Description Funding for fish screen and ladders on Butte Creek to facilitate passage and outmigrant survival for spring run and fall run chinook salmon, and steelhead. Screen would be installed on a 122 cfs diversion. Combined funding covers total project cost.

ERPP Linkage

Zone: Butte Basin

Ecosystem Elements and Targets (T):

Water Diversions

- T-1 Improve the survival of chinook salmon and steelhead in Butte Creek by helping to install positive-barrier fish screens (Volume II, Page 225)

Programmatic Action 1D: Increase survival of juvenile chinook salmon and steelhead in Butte Creek by helping local interests to install positive-barrier fish screens at Gorrill Dam (Volume II, Page 225)

Dams, Reservoirs, Weirs, and Other Humanmade Structures

- T-4 Develop a cooperative program to improve upstream passage of adult spring-run chinook salmon and steelhead in Butte Creek to allow access to 100% of habitat below Centerville Head Dam (Volume II, Page 227)

Individual Proposal Report

Title Adams Dam screen and passage

Number A330

Geographic Area Sacramento Tributaries/Butte Creek

Primary Stressor Addressed Entrainment

Project Type Implementation

Applicant Type Non-profit

Recommended Funding \$217,000

Cost Share CVPIA (Federal) - \$508,000
CVPIA (State/Proposition 204) - \$225,000 (proposed)
Applicant - \$150,000

Description Fish screen and ladder on 135 cfs diversion on Butte Creek to protect spring run and fall run chinook salmon, and steelhead. Combined funding covers all except \$16,385 of total project cost. Additional Category III funding may need to be allocated to cover the total cost.

ERPP Linkage

Zone: Butte Basin

Ecosystem Elements and Targets (T):

Water Diversions

T-1 . Improve the survival of chinook salmon and steelhead in Butte Creek by helping to install positive-barrier fish screens (Volume II, Page 225)

Programmatic Action 1C: Increase survival of juvenile chinook salmon and steelhead in Butte Creek by helping local interests to install positive-barrier fish screens at Adams Dam (Volume II, Page 225)

Dams, Reservoirs, Weirs, and Other Humanmade Structures

T-4 Develop a cooperative program to improve upstream passage of adult spring-run chinook salmon and steelhead in Butte Creek to allow access to 100% of habitat below Centerville Head Dam (Volume II, Page 227)

Individual Proposal Report

Title Butte Creek acquisition and riparian restoration

Number G218

Geographic Area Sacramento Tributaries/Butte Creek

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type University

Recommended Funding \$186,128

Cost Share CVPIA (Federal) - \$125,000
NFWF - \$135,000

Description Recommend full funding for acquisition of 80+ acre Butte Creek parcel with 4,000 feet of creek frontage. CALFED contribution covers 25% of acquisition costs. Includes funds for development of a management plan for the parcel. Benefits to spring run and steelhead. Floodplain and riparian restoration being conducted jointly by agencies and local groups. Combined funding covers full cost of the project. (Potential EPA funding)

ERPP Linkage

Zone: Butte Basin

Ecosystem Elements and Targets (T):

Natural Sediment Supply

T-4 Improve spawning gravel and gravel availability in Butte Creek (Volume II, Page 223)

Stream Meander Corridor

T-1 Preserve or restore the floodplains along lower reaches of zone and reactivate channel meander by constructing setback levees (Volume II, Page 224)

Riparian and Riverine Aquatic Habitats

T-4 Develop a cooperative program to restore and maintain riparian habitat along 15 miles of Butte Creek (Volume II, Page 225)

Individual Proposal Report

Title Saeltzer Dam fish passage

Number A108

Geographic Area Sacramento Tributaries/Clear Creek

Primary Stressor Addressed Barriers and Straying

Project Type Planning

Applicant Type Private

Recommended Funding \$238,200

Cost Share Various other sources - \$150,000

Description Recommend funding only Phase 1 (design and permitting) of this project to remove Saeltzer Dam on Clear Creek and replace it with a low height "fish friendly" diversion structure, thereby opening 12 miles of upstream habitat for salmon and steelhead and improving downstream gravel recruitment. Full funding request of \$1,921,200 includes \$1,683,000 for construction.

ERPP Linkage

Zone: North Sacramento Valley

Ecosystem Elements and Targets (T):

Water Diversions

T-2 Reduce/eliminate conflicts between water diversion and chinook salmon and steelhead populations on Clear Creek (Volume II, Page 168)

Dams, Reservoirs, Weirs, and Other Humanmade Structures

T-4 Work with landowners and diverters on Clear Creek to improve fish passage between its mouth and Whiskeytown Dam (Volume II, Page 169)

T-4 Improve fish passage by working with landowners and diverters on Clear Creek between mouth and Whiskeytown Dam (Volume II, Page 169)

Individual Proposal Report

Title Cottonwood Creek channel restoration

Number G171

Geographic Area Sacramento Tributaries/Cottonwood Creek

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Private

Recommended Funding \$61,000

Cost Share Applicant - \$10,000

Description Full funding for hydrologic and geomorphic analyses, channel and riparian restoration design, and final design drawings and specifications for restoration of a 1-2 mile reach of Cottonwood Creek. A future phase of the project would be proposed for construction. Project is an alternative to traditional bank protection measures. Benefits to riparian habitat and non-natal rearing for anadromous fish. (Potential EPA funding).

ERPP Linkage

Zone: Cottonwood Creek

Ecosystem Elements and Targets (T):

Natural Sediment Supply

T-1 Maintain existing levels of erosion and gravel recruitment in zone and increase transport of these sediments to Sacramento River (Volume II, Page 182)

Stream Meander Corridor

T-1 Preserve or restore floodplain and existing channel meander characteristics of streams in the zone, particularly in low gradient areas in lower 20 miles (Volume II, Page 183)

Riparian and Riverine Aquatic Habitats

T-1 Conservation easements/fee acquisition or voluntary landowner measures to establish continuous 130-mile riparian habitat zone along Cottonwood Creek and tributaries (Volume II, Page 184)

Individual Proposal Report

Title Watershed plan (Deer Creek)

Number F237

Geographic Area Sacramento Tributaries/Deer Creek

Primary Stressor Addressed Land Use

Project Type Planning

Applicant Type Public/Non-profit Joint Venture

Recommended Funding \$196,554

Cost Share Various sources - in kind

Description Implementation of enhancement and restoration actions identified in the Deer Creek Watershed Management Strategy previously developed by the Deer Creek Watershed Conservancy. Includes implementation of a water quality monitoring program, rangeland monitoring program, emergency response program, and education/outreach program. Key species benefiting from the plan include spring run chinook salmon and steelhead. Combined funding covers full cost of the project. (Possible EPA funding).

ERPP Linkage

Zone: Butte Basin

Ecosystem Elements and Targets (T):

Upper Watershed Processes

T-1 Restore upper watershed processes (Volume II, Page 224)

Individual Proposal Report

Title Lower Mill Creek riparian restoration

Number G292

Geographic Area Sacramento Tributaries/Mill Creek

Primary Stressor Addressed Channel Form Changes

Project Type Education

Applicant Type Non-profit

Recommended Funding \$69,000

Cost Share CVPIA (Federal) - \$169,460
Various sources - in kind - volunteer

Description Recommend funding of riparian restoration education project (part of Phase II of the Mill Creek Riparian Restoration Project). Restoration and enhancement of native riparian vegetation along one or more Mill Creek parcels would be coordinated by non-profit groups, and would include planting native shrubs and trees, controlling invasive non-native plants, and monitoring plant survival and Mill Creek water temperatures. Steelhead and spring run salmon in Mill Creek would benefit from lower water temperatures associated with restoration of the riparian belt. Combined funding fully covers requested amount. (Possible EPA funding).

ERPP Linkage

Zone: Butte Basin

Ecosystem Elements and Targets (T):

Riparian and Riverine Aquatic Habitats

T-1 Restore and maintain riparian habitat along lower 10 miles of Mill Creek (Volume II, Page 225)

Individual Proposal Report

Title Hastings Tract fish screen feasibility study

Number A314

Geographic Area Delta

Primary Stressor Addressed Entrainment

Project Type Planning

Applicant Type Private

Recommended Funding \$27,000

Cost Share None

Description Plan to address feasibility of relocating a 53 cfs gravity intake diversion from Cache Slough to Lindsay Slough, and installing a fish screen to prevent entrainment of Delta smelt and other species. The current diversion site is heavily used by Delta smelt, but the screen would protect other priority Delta species as well. Panel recommended full funding for feasibility and delayed funding for construction.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Water Diversions

T-1 Reduce loss of important fish species at diversions (Volume II, Page 53)

Delta Smelt

T-1 Meet goals of Native Fish Recovery Plan (1996), which include recovery goals tied to fall midwater trawl survey and distribution of catch in various zones of trawl survey (Volume II, Page 58)

Individual Proposal Report

Title Monitoring of Delta contaminants

Number D264

Geographic Area Delta

Primary Stressor Addressed Water Quality

Project Type Monitoring

Applicant Type Non-profit

Recommended Funding \$100,000

Cost Share EPA 319h grant - \$20,000

Description Toxicity monitoring program at 12-14 sites in the Delta and East Side tributaries using trained volunteers for collection of samples. Species benefited include Delta resident and anadromous fish. Time sensitive opportunity for \$50,000 in matching challenge grant funds from the David Gold Foundation could reduce funding need to \$50,000. Recommend full funding of the proposal.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta/East Side Tributaries

Ecosystem Elements and Targets (T):

Contaminants

T-2 Reduce the input of nonpoint source contaminants into the Mokelumne River (Volume II, Page 336)

T-1 Reduce loading, concentrations, and bioaccumulation of contaminants of concern to ecosystem health in water, sediments, and tissues of fish and wildlife in the zone by 25-50% as measured against current average levels (Volume II, Page 57)

Individual Proposal Report

Title Effects of wetlands restoration on methyl Hg levels

Number D274

Geographic Area Delta

Primary Stressor Addressed Water Quality

Project Type Monitoring

Applicant Type University

Recommended Funding \$530,617

Cost Share None

Description Three-year monitoring and research project targeted at quantifying levels of elevated methyl mercury contamination caused by newly flooded wetlands. The research is applicable to numerous proposed restoration projects that involve re-flooding of former wetlands, breaching of dikes, etc. Potential benefits to many species that are affected by bioaccumulation of toxic methyl mercury in the food web. Funding covers total cost of 3 year project.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Contaminants

- T-1 Reduce loading, concentrations, and bioaccumulation of contaminants of concern to ecosystem health in water, sediments, and tissues of fish and wildlife in the zone by 25-50% as measured against current average levels (Volume II, Page 57)

Individual Proposal Report

Title Sedimentation movement and availability and monitoring in the Delta

Number D283

Geographic Area Delta

Primary Stressor Addressed Channel Form Changes

Project Type Monitoring

Applicant Type Federal

Recommended Funding \$587,010

Cost Share Applicant - \$213,200

Description Sediment transport research and monitoring at several sites in Suisun Bay and Delta, to help guide water quality and restoration planning activities.
Recommended funding first two years for \$587,010 out of \$833,000 request.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta and Suisun Marsh/North Bay

Ecosystem Elements and Targets (T):

Natural sediment supply is not specifically referenced in Delta or Suisun Marsh Ecozones. This is a deficiency in ERPP and will be addressed in revision of ERPP. (Volume II, Page)

Individual Proposal Report

Title Contaminant effects on smelt

Number E6

Geographic Area Delta

Primary Stressor Addressed Water Quality

Project Type Research

Applicant Type University

Recommended Funding \$437,000

Cost Share Various sources - in kind - undetermined \$

Description Research on the relative importance of contaminant effects relative to other potential sources of mortality for Delta smelt. Includes evaluations related to histopathology biomarkers of exposure and organ/tissue condition, biomarkers of DNA damage, and otolith growth rate analyses. Coordinated with efforts of the IEP Work Team. Recommend full funding of the proposal.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta and Suisun Marsh/North Bay

Ecosystem Elements and Targets (T):

Contaminants

- T-1 Reduce loading, concentrations, and bioaccumulation of contaminants of concern to ecosystem health in water, sediments, and tissues of fish and wildlife in the zone by 25-50% as measured against current average levels (Volume II, Page 57)

Delta Smelt

- T-1 Meet goals of Native Fish Recovery Plan (1996), which include recovery goals tied to fall midwater trawl survey and distribution of catch in various zones of trawl survey (Volume II, Page 58)

Individual Proposal Report

Title Culture of Delta Smelt

Number I166

Geographic Area Delta

Primary Stressor Addressed Population Management/Artificial Propagation

Project Type Research

Applicant Type University

Recommended Funding \$194,870

Cost Share None

Description First year funding of a research project aimed at culture of delta smelt. Second and third year funding (\$195,537 and \$202,369, respectively) was not recommended at this time. Project would provide all life stages of smelt for laboratory research, and ultimately support a better understanding of delta smelt biology. Funding covers the cost of the first year. Total funding request was \$592,776.

ERPP Linkage

Zone:

Ecosystem Elements and Targets (T):

This is an important proposal to provide a supply of captive smelt for containment and fish screen research. (Volume II, Page)

Contaminants

T-1 Reduce loading, concentrations, and bioaccumulation of contaminants of concern to ecosystem health in water, sediments, and tissues of fish and wildlife in the zone by 25-50% as measured against current average levels (Volume II, Page 57)

Delta Smelt

T-1 Meet goals of Native Fish Recovery Plan (1996), which include recovery goals tied to fall midwater trawl survey and distribution of catch in various zones of trawl survey (Volume II, Page 58)

Individual Proposal Report

Title Jepson Prairie restoration of SRA and perennial grasslands

Number K109

Geographic Area Delta

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Non-profit

Recommended Funding \$244,000

Cost Share Applicant - share cost of coordinator

Description Recommend full funding for restoration of SRA habitat along 1 mile of Barker Slough and Calhoun Cut in the Delta (Solano County), restoration of several hundred acres of perennial grasslands at Jepson Prairie, design of habitat corridor between Jepson Prairie and Prospect Island. Benefits to all native Delta fish species.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Riparian and Riverine Aquatic Habitats

- T-5 Restore or plant riparian/riverine aquatic habitat and recreate slough habitat and set back levees (Volume II, Page 49)
- T-6 Protect existing riparian woodlands in North, East, South Delta Ecological Units (Volume II, Page 50)

Perennial Grassland

- T-1 Restore 4,000 to 6,000 acres of perennial grasses in North, East, South, Central, West Delta Ecological Units associated with existing or proposed wetlands/floodplain habitats (Volume II, Page 51)

Individual Proposal Report

Title Demonstration project for protection and enhancement of in-channel islands

Number K185

Geographic Area Delta

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Local Government/Districts

Recommended Funding \$245,700

Cost Share Various sources: in kind and \$15,000

Description Comparative demonstration projects using biotechnical methods for in-channel island restoration and preservation. Benefits to resident Delta fish species and migratory fish and wildlife species. Recommended funding \$270,270 for design and permitting phases, out of \$946,111 requested for design, permitting, construction, and handbook production.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Midchannel Islands and Shoals

T-1 Maintain existing channel islands and restore 50 to 200 acres high-value islands in selected sloughs and channels in each Delta ecological unit (Volume II, Page 45)

Individual Proposal Report

Title Liberty Island acquisition

Number K207

Geographic Area Delta

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Federal

Recommended Funding \$8,577,000

Cost Share Applicant - ongoing O&M

Description Acquisition of Liberty Island (4,760 acres) for future restoration of native Delta habitats and species. Strategic location in north Delta at southern end of Yolo Bypass provides potential wetlands, SRA, instream habitat for winter run, Delta smelt, splittail, and other species. Funding will cover full acquisition. Restoration funding not identified.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Tidal Perennial Aquatic Habitat

T-1 Restore 1,000 acres of shallow-water habitat in the East Delta Ecological Unit (Volume II, Page 43)

Individual Proposal Report

Title Franks Tract restoration of shallow water habitat, SRA, mid-channel islands

Number K216

Geographic Area Delta

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Public/Non-profit Joint Venture

Recommended Funding \$231,500

Cost Share Various sources - in kind

Description Restoration of 45 acres of deeply flooded open water habitat to a combination of tidal perennial aquatic habitat, SRA habitat, and mid-channel islands. Recommended funding Phase 1: permitting, CEQA/NEPA work, and final design and construction documents. Total funding requested was \$4,582,700, which would cover construction cost. Joint venture includes private engineering firm and state agencies who worked together on the planning and preliminary engineering designs.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Riparian and Riverine Aquatic Habitats

T-5 Restore or plant riparian/riverine aquatic habitat and recreate slough habitat and set back levees (Volume II, Page 49)

Tidal Perennial Aquatic Habitat

T-2 Restore 500 acres of shoals in westernmost portion of Central and West Delta (Volume II, Page 43)

Midchannel Islands and Shoals

T-1 Maintain existing channel islands and restore 50 to 200 acres high-value islands in selected sloughs and channels in each Delta ecological unit (Volume II, Page 45)

Individual Proposal Report

Title Tyler Island levee protection and habitat restoration pilot project

Number K38

Geographic Area Delta

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Private

Recommended Funding \$445,000

Cost Share None at this time.

Description Recommend funding 50% of total project cost for pilot restoration project. The project involves use of biotechnical bank and levee protection and enhancement methods to increase SRA and instream aquatic habitats along reaches of the North Fork Mokelumne River and Georgiana Slough at Tyler Island. Integration Panel recommended remaining 50% of project cost be sought from DFG's SB34 program.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Riparian and Riverine Aquatic Habitats

- T-4 Restore 5 to 10 linear miles of riparian and riverine habitat along the Mokelumne River (Volume II, Page 49)

Tidal Perennial Aquatic Habitat

- T-1 Restore 1,000 acres of shallow-water habitat in the East Delta Ecological Unit (Volume II, Page 43)

Individual Proposal Report

Title Cosumnes floodplain acquisition and restoration

Number H307

Geographic Area East Side Tributaries/Cosumnes River

Primary Stressor Addressed Floodplain/Marshplain changes

Project Type Implementation

Applicant Type Public/Non-profit Joint Venture

Recommended Funding \$5,374,300

Cost Share Various sources - \$7,800,000

Description Recommended partial funding of block grant for acquisition and enhancement of 2,915 acres of fisheries, riparian, and wetland habitats along the lower Cosumnes River floodplain and adjacent Delta lands that are contiguous to the Cosumnes River Preserve. Project provides flood management benefits. Recommended funding includes Task 1 acquisition costs (\$3.4 million) and O&M costs (\$1.4 million). Species benefits would accrue to San Joaquin fall run salmon, splittail, and migratory birds. Total requested funding from CALFED was \$20,670,000.

ERPP Linkage

Zone: East Side Tributaries

Ecosystem Elements and Targets (T):

Greater Sandhill Crane

T-1 Protect 10% of currently unprotected lands within 5-mile radius of a known roosting area; approximately 3,000 to 4,000 acres (Volume II, Page 342)

Natural Floodplain and Flood Processes

T-1 Restore and improve opportunities for rivers to seasonally inundate their floodplains (Volume II, Page 330)

Riparian and Riverine Aquatic Habitats

T-3 Restore minimum 1,240 acres of self-sustaining or managed diverse, natural riparian habitat along Cosumnes River, and protect existing riparian habitat (Volume II, Page 333)

Individual Proposal Report

Title Mokelumne River setback levee and habitat restoration

Number H304

Geographic Area East Side Tributaries/Mokelumne River

Primary Stressor Addressed Channel Form Changes

Project Type Planning

Applicant Type Local Government/Districts

Recommended Funding \$365,000

Cost Share None

Description Setback of 3.4 miles of levee on lower Mokelumne River. Benefits to resident and anadromous Delta species, SRA, other habitats. Flood management benefits. Recommended funding Phase 1: Project evaluation and preliminary design, environmental review and permitting, pre-project monitoring. Total funding requested for all phases, including final design and construction, is \$11,515,000.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta/East Side Tributaries

Ecosystem Elements and Targets (T):

Riparian and Riverine Aquatic Habitats

T-3 Restore minimum 1,240 acres of self-sustaining or managed diverse, natural riparian habitat along Cosumnes River, and protect existing riparian habitat (Volume II, Page 333)

T-5 Restore or plant riparian/riverine aquatic habitat and recreate slough habitat and set back levees (Volume II, Page 49)

Levees, Bridges, and Bank Protection

T-1 Change vegetation maintenance practice on water/land side of berms on 25-75 miles of Sacramento, Mokelumne, San Joaquin rivers to increase shoreline/floodplain riparian habitat (Volume II, Page 53)

Individual Proposal Report

Title Bay Point shoreline Restoration Plan

Number K42

Geographic Area Suisun Marsh and Bay

Primary Stressor Addressed Channel Form Changes

Project Type Planning

Applicant Type Local Government/Districts

Recommended Funding \$160,000

Cost Share Applicant - \$53,900

Description Restoration plan for 52 acres of upland, saline tidal wetlands, and isolated brackish wetlands that have subsided, been diked and filled, and invaded by exotic vegetation. The long-term goal is to return 35 acres to tidal action, reestablishing tidal flow and saline emergent tidal wetlands. Funding recommended for site analysis and design; no funding for permitting or plans and specifications. Total funding requested was \$235,000. Species benefits would be provided to nearly all priority species, as well as other special status species.

ERPP Linkage

Zone: Suisun Marsh/North Bay

Ecosystem Elements and Targets (T):

Saline Emergent Wetlands

T-1 Restore tidal action in Suisun Bay and Marsh, Napa River, Sonoma Creek, Petaluma River, and San Pablo Bay Ecological Units (Volume II, Page 97)

Individual Proposal Report

Title Martinez Regional shoreline restoration

Number K44

Geographic Area Suisun Marsh and Bay

Primary Stressor Addressed Channel Form Changes

Project Type Planning

Applicant Type Local Government/Districts

Recommended Funding \$325,000

Cost Share Applicant - \$67,375

Description Proposal to plan restoration of saline tidal marsh near the mouth of Alhambra Creek in an area that includes 90 acres of upland habitat and 112 acres of saline emergent tidal marsh. Partial funding recommendation includes the planning, and excludes the permitting and environmental review tasks. Total funding requested was \$450,000. Species that may benefit from future implementation of the project include most of the priority fish species, as well as migratory birds. Applicant expects to apply for future funding of "Phase II: construction and monitoring" in future funding cycles.

ERPP Linkage

Zone: Suisun Marsh/North Bay

Ecosystem Elements and Targets (T):

Saline Emergent Wetlands

T-1 Restore tidal action in Suisun Bay and Marsh, Napa River, Sonoma Creek, Petaluma River, and San Pablo Bay Ecological Units (Volume II, Page 97)

Individual Proposal Report

Title Preventing exotic introductions from ballast water

Number 146

Geographic Area North Bay

Primary Stressor Addressed Undesirable Species Interactions

Project Type Education

Applicant Type University

Recommended Funding \$222,830

Cost Share Various sources - \$63,885

Description Recommend full funding for two-year project to provide education and outreach to the maritime industry, resource agencies, and the public regarding ballast water management and exotic species introductions. Includes facilitation of industry interest and participation in development of ballast water management techniques and technologies.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Invasive Aquatic Organisms

T-1 Reduce or eliminate the influx of non-native aquatic species in ship ballast water
(Volume II, Page 56)

Individual Proposal Report

Title Cullinan Ranch restoration

Number M327

Geographic Area North Bay

Primary Stressor Addressed Floodplain/Marshplain changes

Project Type Implementation

Applicant Type Non-profit

Recommended Funding \$368,500

Cost Share Various sources - in kind and \$419,000

Description Full funding of restoration of 1,495 acres of saline emergent wetland habitat for the benefit of threatened and endangered species, especially migratory birds, on the San Pablo Bay National Wildlife Refuge. Funding for permitting and environmental documentation, final engineering and design, construction, and education programs.

ERPP Linkage

Zone: Suisun Marsh/North Bay

Ecosystem Elements and Targets (T):

Saline Emergent Wetlands

- T-1 Restore tidal action in Suisun Bay and Marsh, Napa River, Sonoma Creek, Petaluma River, and San Pablo Bay Ecological Units (Volume II, Page 97)

Individual Proposal Report

Title Tolay Creek restoration

Number M326

Geographic Area North Bay/Tolay Creek

Primary Stressor Addressed Floodplain/Marshplain changes

Project Type Implementation

Applicant Type Non-profit

Recommended Funding \$283,000

Cost Share Various other sources - \$422,000

Description Restoration and enhancement of 435 acres of saline emergent wetlands in the Tolay Creek floodplain for the benefit of migratory birds. Expanded floodplain area, and new channel and levee construction will likely reduce flooding potential in adjacent areas. Combined funding will cover the full cost of the project.

ERPP Linkage

Zone: Suisun Marsh/North Bay

Ecosystem Elements and Targets (T):

Saline Emergent Wetlands

T-1 Restore tidal action in Suisun Bay and Marsh, Napa River, Sonoma Creek, Petaluma River, and San Pablo Bay. Ecological Units (Volume II, Page 97)

Individual Proposal Report

Title Banta-Carbona fish screen

Number A101

Geographic Area San Joaquin Mainstem

Primary Stressor Addressed Entrainment

Project Type Implementation

Applicant Type Local Government/Districts

Recommended Funding \$938,875

Cost Share CVPIA (State/Proposition 204) \$1,000,000 (over two years) proposed

Description Recommend funding construction of fish screen on a 204 cfs diversion on the San Joaquin River to protect San Joaquin fall run chinook salmon and other species. Combined funding from Category III and CVPIA covers the total project cost.

ERPP Linkage

Zone: San Joaquin River

Ecosystem Elements and Targets (T):

Water Diversions

T-1 Reduce entrainment of fish/other aquatic organisms into diversions by 50%, by volume, from Merced River confluence to Vernalis (Volume II, Page 358)

Individual Proposal Report

Title Implementing programs to reduce the use of pesticides and fertilizers in Sacramento and San Joaquin watersheds

Number B289

Geographic Area San Joaquin Mainstem

Primary Stressor Addressed Water Quality

Project Type Implementation

Applicant Type Non-profit

Recommended Funding \$472,000

Cost Share None

Description Recommend first year funding of Biological Integrated Orchard Systems (BIOS) and Lighthouse Farm Network (LFN) technical assistance programs in 5 target counties, aimed at facilitating conversion to biological farming strategies that can lead to reductions in pesticide use. Improved water quality would benefit multiple fish species and enhance other beneficial uses of water in the Delta. Second year funding of \$803,181 and third year funding of \$405,450 was not included.

ERPP Linkage

Zone: San Joaquin River

Ecosystem Elements and Targets (T):

Contaminants

T-1 Reduce losses of fish/wildlife from use of pesticides, hydrocarbons, heavy metals, and other pollutants in basin (Volume II, Page 359)

Individual Proposal Report

Title Real time monitoring to coordinate drainage discharge with San Joaquin flows

Number D190 A252

Geographic Area San Joaquin Mainstem

Primary Stressor Addressed Water Quality

Project Type Monitoring

Applicant Type Local Government/Districts

Recommended Funding \$496,500

Cost Share None

Description Implementation of real time monitoring and data management program to coordinate discharge of water from seasonal wetlands to help meet salt and boron water quality objectives in the San Joaquin river and Delta, as well as control potential water temperature effects associated with warmer wetland discharges. Benefits to San Joaquin fall run chinook salmon, other fish species, and water quality objectives. Funding covers total cost of 3 -year project.

ERPP Linkage

Zone: San Joaquin River

Ecosystem Elements and Targets (T):

Contaminants

- T-1 Reduce losses of fish/wildlife from use of pesticides, hydrocarbons, heavy metals, and other pollutants in basin (Volume II, Page 359)

Individual Proposal Report

Title Developing a genetic baseline for SJ salmon

Number I121

Geographic Area San Joaquin Mainstem

Primary Stressor Addressed Population Management/Artificial Propagation

Project Type Research

Applicant Type State

Recommended Funding \$387,003

Cost Share State - \$600,000

Description Recommend full funding of three-year research project to develop genetic archive and provide a genetic description of fall-run chinook salmon stocks within the San Joaquin River system. Addresses genetic factors that have been identified as an important population management stressor related to artificial propagation.

ERPP Linkage

Zone: East San Joaquin Basin

Ecosystem Elements and Targets (T):

Chinook Salmon

- T-1 Maintain average cohort replacement rate of fall-run chinook salmon above 1.0 while stocks rebuilding. Then maintain replacement rates equal to or greater than 1.0 when stocks reach restoration goal levels set by the regulatory agencies.
(Volume II, Page 394)

Individual Proposal Report

Title San Joaquin floodplain acquisition and riparian restoration

Number L209

Geographic Area San Joaquin Mainstem

Primary Stressor Addressed Floodplain/Marshplain changes

Project Type Implementation

Applicant Type Federal

Recommended Funding \$10,647,000

Cost Share Various other sources - \$10,000,000

Description Acquisition, preservation, and restoration of 6,169 acres of fish and wildlife habitat on the San Joaquin River floodplain. Benefits to migratory birds and other bird species, splittail, and San Joaquin fall run chinook. Provides some flood protection through widening of floodplain and transient storage of floodwaters. Combined funding will cover the total cost of the project.

ERPP Linkage

Zone: San Joaquin River/East San Joaquin Basin

Ecosystem Elements and Targets (T):

Natural Floodplain and Flood Processes

- T-1 Restore and improve opportunities for rivers to inundate their floodplain on a seasonal basis (Volume II, Page 389)
- T-1 Restore floodplain-river interactions in San Joaquin River between Vernalis and mouth of Merced River (Volume II, Page 356)

Individual Proposal Report

Title Bear Creek floodplain restoration demonstration project

Number L212

Geographic Area San Joaquin Tributaries/Bear Creek

Primary Stressor Addressed Floodplain/Marshplain changes

Project Type Planning

Applicant Type Federal

Recommended Funding \$334,000

Cost Share USBR - \$80,000
Applicant - in kind

Description Feasibility analysis for restoring floodplain function along the San Joaquin River and Bear Creek on public lands in order to provide flood protection benefits, enhance SRA habitat and wetlands, and improve instream habitat. Benefits to migratory birds, San Joaquin fall run chinook salmon, and several other fish species are expected. Combined funding will cover the total cost of the project.

ERPP Linkage

Zone: San Joaquin River

Ecosystem Elements and Targets (T):

Natural Floodplain and Flood Processes

- T-1 Restore floodplain-river interactions in San Joaquin River between Vernalis and mouth of Merced River (Volume II, Page 356)

Individual Proposal Report

Title Stanislaus River channel restoration at the Willms Site

Number H126

Geographic Area San Joaquin Tributaries/Stanislaus River

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type State

Recommended Funding \$1,037,899

Cost Share CVPIA (Federal) - \$1,187,899
Various other sources - \$262,200
CVPIA (B-13) - \$300,000

Description Removal of salmon predator habitat by filling a 10.65 acre, broad and shallow instream pond on the Stanislaus River. The existing channel would be reconfigured to restore salmon spawning and rearing habitat, as well as restore floodplain functions under the present flow regime. San Joaquin fall run salmon would benefit, as well as instream and SRA habitat. Combined funding covers total project cost.

ERPP Linkage

Zone: East San Joaquin Basin

Ecosystem Elements and Targets (T):

Predation and Competition

T-1 Reduce adverse effects of non-native fish species that have a significant effect on juvenile salmon production in the rivers (Volume II, Page 392)

Programmatic Action 1A: Eliminate gravel pits within or connected to the rivers (Volume II, Page 392)

Natural Floodplain and Flood Processes

T-1 Restore and improve opportunities for rivers to inundate their floodplain on a seasonal basis (Volume II, Page 389)

Individual Proposal Report

Title Stanislaus River spawning gravel replenishment at Knights Ferry

Number H137

Geographic Area San Joaquin Tributaries/Stanislaus River

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type Private

Recommended Funding \$536,410

Cost Share Applicant - \$90,000 for monitoring

Description Gravel replacement project to restore spawning habitat at 18 riffles in the Stanislaus River, using hydraulic pumps to place 10,800 tons of gravel. Pre-project spawner use, intragravel habitat quality, and site stability would be evaluated at each site, and compared to post-project evaluations. Comparisons would be made to other gravel augmentation methods. Benefitted species is San Joaquin fall run chinook salmon. Combined funding covers total project cost.

ERPP Linkage

Zone: East San Joaquin Basin

Ecosystem Elements and Targets (T):

Chinook Salmon

- T-1 Maintain average cohort replacement rate of fall-run chinook salmon above 1.0 while stocks rebuilding. Then maintain replacement rates equal to or greater than 1.0 when stocks reach restoration goal levels set by the regulatory agencies. (Volume II, Page 394)

Natural Sediment Supply

- T-1 Maintain existing levels of erosion and gravel recruitment in tributaries or restore desirable levels by directly manipulating/augmenting gravel supplies where natural low flow process has been interrupted (Volume II, Page 387)

Individual Proposal Report

Title Gravel Replacement at Basso Bridge

Number H125

Geographic Area San Joaquin Tributaries/Tuolumne River

Primary Stressor Addressed Channel Form Changes

Project Type Implementation

Applicant Type State

Recommended Funding \$250,975

Cost Share Applicant - in kind and \$22,000

Description Gravel replacement in the Tuolumne River between La Grange Dam and Old Basso Bridge, in order to supplement the coarse sediment supply cut off by La Grange Dam. Spawning gravel is currently limiting to the salmon population in this river reach. During Phase I, 10,000 cubic yards of gravel would be placed at appropriate sites along the bank and allowed to redistribute naturally. Phase II would add an additional 10,000 cubic yards in another area. Benefits would be provided to San Joaquin fall run chinook salmon. Full funding recommended through Phase I construction. Total cost including Phase II construction is \$504,450.

ERPP Linkage

Zone: East San Joaquin Basin

Ecosystem Elements and Targets (T):

Chinook Salmon

- T-1 Maintain average cohort replacement rate of fall-run chinook salmon above 1.0 while stocks rebuilding. Then maintain replacement rates equal to or greater than 1.0 when stocks reach restoration goal levels set by the regulatory agencies. (Volume II, Page 394)

Natural Sediment Supply

- T-1 Maintain existing levels of erosion and gravel recruitment in tributaries or restore desirable levels by directly manipulating/augmenting gravel supplies where natural low flow process has been interrupted (Volume II, Page 387)

Programmatic Action 1B: Evaluate spawning gravel quality in areas used by chinook salmon in Tuolumne River (Volume II, Page 387)

Individual Proposal Report

Title Tuolumne River channel restoration (Special Run Pool 9)

Number H134

Geographic Area San Joaquin Tributaries/Tuolumne River

Primary Stressor Addressed Floodplain/Marshplain changes

Project Type Implementation

Applicant Type Local Government/Districts

Recommended Funding \$2,353,100

Cost Share CVPIA (Federal) - \$249,000
Various sources- in kind and \$50,000

Description Restoration of instream and SRA habitat on a segment of the Tuolumne River through reconfiguration of the channel and filling of in-river gravel ponds, resulting in lower predation on San Joaquin fall run salmon and improved spawning and rearing habitat. Cost share from several parties for permitting, environmental documentation, and construction design. Combined funding covers total project cost.

ERPP Linkage

Zone: East San Joaquin Basin

Ecosystem Elements and Targets (T):

Predation and Competition

T-1 Reduce adverse effects of non-native fish species that have a significant effect on juvenile salmon production in the rivers (Volume II, Page 392)

Programmatic Action 1A: Eliminate gravel pits within or connected to the rivers (Volume II, Page 392)

Chinook Salmon

T-1 Maintain average cohort replacement rate of fall-run chinook salmon above 1.0 while stocks rebuilding. Then maintain replacement rates equal to or greater than 1.0 when stocks reach restoration goal levels set by the regulatory agencies. (Volume II, Page 394)

Riparian and Riverine Aquatic Habitats

T-1 Provide conditions for riparian vegetation growth along sections of rivers in zone (Volume II, Page 390)

Individual Proposal Report

Title Tuolumne River setback levees and channel restoration in the Mining Reach

Number H136

Geographic Area San Joaquin Tributaries/Tuolumne River

Primary Stressor Addressed Floodplain/Marshplain changes

Project Type Implementation

Applicant Type Local Government/Districts

Recommended Funding \$2,801,000

Cost Share CVPIA (Federal) - \$3,512,000 (FY97 and FY98)
Local groups - \$50,000

Description Restoration of instream aquatic and SRA habitat for the primary benefit of San Joaquin fall run chinook salmon in a 6.1 mile reach of the lower Tuolumne River. Reformation of floodplain and reconfiguration of the river channel and setback of levees along offstream gravel mining areas. Cost share from several parties for permitting, environmental documentation, and design and construction. Combined funding covers total project cost.

ERPP Linkage

Zone: East San Joaquin Basin

Ecosystem Elements and Targets (T):

Chinook Salmon

- T-1 Maintain average cohort replacement rate of fall-run chinook salmon above 1.0 while stocks rebuilding. Then maintain replacement rates equal to or greater than 1.0 when stocks reach restoration goal levels set by the regulatory agencies. (Volume II, Page 394)

Riparian and Riverine Aquatic Habitats

- T-1 Provide conditions for riparian vegetation growth along sections of rivers in zone. (Volume II, Page 390)

Need to add Levees, Bridges, and Bank Protection in ERPP revision (Volume II, Page)

Individual Proposal Report

Title Evaluation of alternative pesticide use reduction practices for diazinon and chlorpyrifos

Number B211

Geographic Area Landscape/Other

Primary Stressor Addressed Water Quality

Project Type Monitoring

Applicant Type University

Recommended Funding \$957,781

Cost Share None

Description Request for Phase II funding to synthesize data on alternatives to heavy use of diazinon and chlorpyrifos, conduct monitoring studies of alternatives, and perform education and outreach activities with the agricultural community. Potential benefits to multiple fish species. Funding covers full cost of Phase II.

ERPP Linkage

Zone: San Joaquin River, Sacramento River, Suisun Marsh/North Bay, and Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Contaminants

- T-1 Reduce losses of fish/wildlife from use of pesticides, hydrocarbons, heavy metals, and other pollutants in basin (Volume II, Page 359)
- T-1 Reduce input of herbicides, pesticides, fumigants, and other agents toxic to fish and wildlife in zone (Volume II, Page 100)
- T-1 Reduce losses of fish/wildlife resulting from pesticide, hydrocarbon, heavy metal, other pollutants in the Sacramento River (Volume II, Page 138)
- T-1 Reduce loading, concentrations, and bioaccumulation of contaminants of concern to ecosystem health in water, sediments, and tissues of fish and wildlife in the zone by 25-50% as measured against current average levels (Volume II, Page 57)

Individual Proposal Report

Title Assessment of organic matter in the habitat and its relationship to the food chain

Number J3

Geographic Area Landscape/Other

Primary Stressor Addressed Water Quality

Project Type Research

Applicant Type Federal

Recommended Funding \$517,000

Cost Share Applicant - \$244,000

Description Research proposal for a comprehensive assessment of the production, import, utilization, and export of the organic matter that serves as food for small aquatic organisms that are the food resource for fish in their early life stages. Lower tropic level ecosystem functions potentially limit fish population growth in the Delta. Benefits to multiple fish species. Recommend first year funding. Total funding request from applicant for 3- year project is \$1,400,000.

ERPP Linkage

Zone: Sacramento-San Joaquin Delta

Ecosystem Elements and Targets (T):

Bay-Delta Aquatic Foodweb

T-1 Increase primary and secondary nutrient productivity in Delta to historically observed levels in 1960s and early 1970s (Volume II, Page 42)