2001-L217
CVPIA
ONLY

PSP COVER SHEET (FY2001)

Proposal Title: Meridian Farms Water Company Fish Screen Project
Applicant Name: Gordon Rohler, Project Manager
Contact Name: Ronald Bachman
Mailing Address: USFWS, 2800 Cottage Way, Rm W-2605, Sacramento, CA 95825
Telephone: (916) 414-6543
Fax: (916) 414-6712
Email: Ronald_Bachman@fws.gov

Amount of funding requested: $0 from CALFED

Amount needed in FY2001 for Final Design and Environmental Documentation:
Total estimated $600k

State cost $300k (Prop.204) Federal cost $300k (AFSP)

Cost share partners? X Yes ___ No
Identify partners and amount contributed by each 50% Prop. 204 (potential), 50% AFSP

Indicate the Topic for which you are applying (check only one box).

☐	Natural Flow Regimes	☐	Beyond the Riparian Corridor
☐	Nonnative Invasive Species	☐	Local Watershed Stewardship
☐	Channel Dynamics/Sediment Transport	☐	Environmental Education
☐	Flow Management	☐	Special Status Species Surveys
☐	Shallow Water/Tidal Marsh Habitat	☐	Fishery Monitor, Assessmt & Resrch
☐	Contaminants	☒	Fish Screens

What county or counties is the project located in? Sutter County

What CALFED ecozone is the project located in? See attached list and indicate number. Be as specific as possible Sacramento River ecozone, Colusa to Verona (#3.4)

Indicate the type of applicant (check only one box):

☐	State agency	☐	Federal agency
☐	Public/Non-profit joint venture	☒	Non-profit
☐	Local government/district	☐	Tribes
☐	University	☐	Private party
☐	Other: _____		

Indicate the primary species which the proposal addresses (check all that apply):

☐	San Joaquin and East-side Delta tributaries fall-run chinook salmon		
☒	Winter-run chinook salmon	☒	Spring-run chinook salmon
☒	Late-fall run chinook salmon	☒	Fall-run chinook salmon
☐	Delta smelt	☐	Longfin smelt
☒	Sacramento splittail	☒	Steelhead trout
☒	Green Sturgeon	☒	Striped bass
☒	White Sturgeon	☐	All chinook species
☐	Waterfowl and Shorebirds	☐	All anadromous salmonids
☐	Migratory birds	☒	American shad
☐	Other listed T/E species: _____		

Indicate the type of project (check only one box):

☐	Research/Monitoring	☐	Watershed Planning
☐	Pilot/Demo Project	☐	Education
☒	Full-scale Implementation		

Is this a next-phase of an ongoing project? Yes _X_ No ___

Have you received funding from CALFED before? Yes ___ No _X_

If yes, list project title and CALFED number _____

Have you received funding from CVPIA before? Yes _X_ No ___

If yes, list CVPIA program providing funding, project title and CVPIA number (if applicable): Anadromous Fish Screen Program [(3406)(b)(21)], Meridian Farms Water Company, Grant # 99-FG-20-0251.

By signing below, the applicant declares the following:

- The truthfulness of all representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- The person submitting the application has read and understand the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Gordon Rohler
Printed name of applicant

Ronald Bachman for Gordon Rohler
Signature of applicant

B. Executive Summary

Project Title and Applicant Name:

Meridian Farms Water Company Fish Screen Project
Meridian Farms Water Company
Gordon Rohler, Project Manager
P.O. Box 308
Meridian, California 95957
Phone: (916) 696-2456

Project Description and Primary Biological/Ecological Objectives:

Meridian Farms Water Company currently uses three unscreened diversion points on the Sacramento River (RM 134.2, 128.5, and 125.8) with diversion capacities of 100, 40, and 50 cubic feet per second (cfs). A feasibility study is anticipated to be completed by September 30th, 2000, that will evaluate alternatives for consolidating the three diversions using one fish screen facility. If three diversion points cannot be consolidated, consolidation of two diversions would be evaluated. All diversions, whether or not consolidated, are targeted for screening. This project will provide benefits to anadromous fish identified in the CVPIA and to State and Federally listed fish species subject to impacts from unscreened or inadequately screened diversions.

Amount Requested:

No funding is requested from CALFED. An estimated total of $600,000 is needed for Final Design and environmental documentation in FY2001. $300,000 is requested from CVPIA (AFSP) and $300,000 from California Department of Fish and Game's (CDFG) Prop. 204.

C. Project Description

1. Statement of the Problem

a. **Problem**:
Fish are believed to be taken through entrainment at three unscreened diversion points owned by the Meridian Farms Water Company. Studies in the 1950's have shown that unscreened diversions cause a considerable amount of cumulative fish losses in the Central Valley (Hallock and Van Woert 1959). In addition, adult salmon and steelhead losses occurred from pump intakes without trash grids or screens (Hallock and Van Woert 1959). Recent surveys have documented that juvenile winter-run Chinook salmon, and other fish species, were entrained at RD1004 (Demko *et al.* 1995; Hanson 1996; Bemis 1997), a diversion upstream of the Meridian Farms Water Company, prior to a fish screen being installed. We believe that unscreened diversions in rearing areas and along migrating routes, which divert during periods of fish presence, take fish in quantities proportional to the size of their diversions. Because Meridian Farms Water Company's total diversion capacity is 190 cfs, fish losses will continue to occur unnecessarily at these diversions until they are consolidated and screened.

b. **Conceptual model**:
Juvenile anadromous fish of all species are vulnerable to direct and indirect mortality at unscreened or inadequately screened diversions in rearing areas and along migration routes. Screens designed and installed meeting appropriate regulatory criteria for mesh size, approach velocity, sweeping velocity, and when necessary, fish by-pass systems, will reduce mortality to near background levels.

c. **Hypothesis being tested**:
Construction of a positive barrier fish screen on the existing diversions or at a consolidated diversion, meeting the 0.33 feet/second approach velocity criteria currently in force for salmon and steelhead trout will substantially improve survival of juveniles of these two species in, or migrating through, the vicinity. In addition, entrainment and/or impingement of other species in the vicinity of the diversion(s) will also be reduced. This reduction in mortality is expected to contribute to the goal of the Central Valley Project Improvement Act to double the natural production (fish surviving to adulthood) of anadromous fish (salmon, steelhead trout, white sturgeon, green sturgeon, striped bass, and American shad).

d. **Adaptive Management**:
Fish screens are built to meet specific criteria found to be protective of juvenile salmonids and other species, as appropriate (e.g., Sacramento splittail). We will monitor performance of screens. Unless observations of divers indicate: a) fish screens are not meeting criteria; or b) screens are leaking or impinging fish, we will assume that the project is functioning as planned and contributing to the doubling goal. If screens are not meeting criteria or are leaking or impinging fish, remedial actions will be taken. If, at a later date, criteria are changed or become more stringent, we will consider upgrading the screens to meet the new criteria, but probably not until we have all major unscreened diversions screened.

2. **Proposed Scope of Work**

a. **Location and/or Geographic Boundaries of the Project**:
The three unscreened diversion points are located in Sutter County in the Sacramento River (RM 125.8, 128.5, and 134.2) south of Sycamore Slough and north of Tisdale Weir. These diversions are within the Sacramento River Ecozone (Ecozone #3).

b. **Approach**:
Feasibility Study is examining approaches to consolidating all three diversions. If three diversions points cannot be consolidated, consolidating two diversions would be evaluated. All diversions, whether or not they are consolidated, will be targeted for screening.

c. **Monitoring**:
There will be post-construction evaluation and assessment testing to ensure that the screen meets criteria specifications under all river conditions. In addition, an operations and maintenance plan is required to be prepared and performed to ensure functioning of fish screens in protecting juvenile fish. Before fish screens are allowed to work on a routine basis, screen performance would be tested and screens would have to meet criteria. Screen performance evaluations may include testing mechanical and electrical systems, automatic cleaning systems, fish entrainment, juvenile fish bypass systems, and fish screen hydraulics.

d. **Data Handling and Storage**:
Grantee is required to submit monitoring reports to the Project Manager of the Anadromous Fish Screen Program and to the Interagency Ecological Program for review and storage.

e. **Expected Products/Outcomes**:
A Feasibility Study is anticipated to be completed by September 30th, 2000. Depending on securing funding from Federal (AFSP) and State (Prop. 204), a final design study and environmental documentation could be completed in FY2001 and construction in FY2002.

f. **Work Schedule**:
Final Design would be dependent on acquiring cost-share funds from AFSP and Prop. 204. If funding can be acquired early in FY2001, Final Design and environmental documentation can be completed within the same fiscal year. Construction could begin late FY2001 or early FY2002 upon further funding.

g. **Feasibility**:
A feasibility study is in progress and is anticipated to be completed in September 2000, and includes preliminary engineering and cost estimates. This feasibility study would evaluate alternatives for consolidating the three diversion points, as well as installation of a fish screen if consolidation is possible. If the three diversion points are not feasiblely consolidated, two would be evaluated. All consolidated and unconsolidated diversion points would be targeted for screening.

D. **Applicability to CALFED ERP Goals and Implementation Plan and CVPIA Priorities.**

The proposal meets CALFED's Ecosystem Restoration Program strategic goals of supporting the recovery of at-risk species, as well as commercially and recreationally harvestable fish species. Protection and recovery of at-risk species include all four runs of chinook salmon, steelhead trout, Sacramento splittail, green sturgeon, and white sturgeon. Installing positive barrier fish screens would reduce the cumulative impacts of juvenile fish entrainment that occurs along the Sacramento River watershed and the Bay-Delta. Increasing the number of juvenile fish provides benefits to the overall ecological health of the Bay-Delta and its tributary watersheds. Implementation of this proposal also would contribute to the doubling of anadromous fish populations in the Central Valley.

E. **Qualifications**

Meridian Farms Water Company is anticipated to continue it's contract with Montgomery Watson for final design and environmental documentation. Montgomery Watson is a consulting firm knowledgeable in local issues, regulatory criteria, and engineering designs.

F. **Cost and Cost-Sharing**

The feasibility study has been funded by Anadromous Fish Screen Program in FY1999. A total of approximately $600,000 is needed for final design phase in FY2001. $300,000 is requested from CVPIA's AFSP and another $300,000 from DFG's Prop. 204. Proposed cost-sharing partners include Department of Fish and Game's Prop. 204 funds, while AFSP would cover the Federal funds. No CALFED funds are being requested at this point.

G. **Local Involvement**

The feasibility study has been funded by the AFSP, which includes involvement with various resource and regulatory agencies. There are no anticipated third party impacts.

H. **Literature Cited**

Bemis, B. J. 1997. Results of the 1996 juvenile winter-run chinook salmon incidental take monitoring at Reclamation District 1004. Prepared for Reclamation District 1004. Hanson Environmental, Inc., February 1997.

Demko, D. B., S. P. Cramer, and M. Simpson. 1995. 1994 Final Report - Evaluation of an acoustical fish guidance systems at Reclamation District 1004. S.P. Cramer & Associates, Inc., March 1995.

Hallock, R. J. and W. F. Van Woert. 1959. A survey of anadromous fish losses in irrigation diversions in the Sacramento and San Joaquin River. California Department of Fish and Game. Vol. 45(4), October 1959.

Hanson, C. H. 1996. Guidance efficiency of an acoustic (low-frequency sound) barrier in reducing juvenile chinook salmon entrainment at the Reclamation District 1004 Princeton Slough Diversion: 1995 Field studies and evaluation. Prepared for Reclamation District 1004. Hanson Environmental, Inc. June 1996.

Environmental Compliance Checklist

All applicants must fill out this Environmental Compliance checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. *Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.*

1. Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA) or both?

X
YES

_____
NO

2. If you answered yes to #1, identify the lead governmental agency for CEQA/NEPA compliance.

Department of Fish and Game (CEQA) and Bureau of Reclamation (NEPA)
Lead Agency

3. If you answered no to #1, explain why CEQA/NEPA compliance is not required for the actions in the proposal.

4. If CEQA/NEPA compliance is required, describe how the project will comply with either or both of these laws. Describe where the project is in the compliance process and the expected date of completion.
A joint environmental document (i.e., Environmental Assessment/Initial Study) will be prepared to meet CEQA/NEPA compliance. If funding can be obtained from AFSP and Prop. 204, a final design and the environmental document can be completed in FY2001.

5. Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?

_____
YES

X
NO

6. Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.

LOCAL

Conditional use permit	___
Variance	___
Subdivision Map Act approval	___
Grading permit	X
Specific plan approval	X
Rezone	___
Williamson Act Contract cancellation	___
Other (please specify) _____	
None required	___

STATE

CESA Compliance	X (CDFG)
Streambed alteration permit	X (CDFG)
CWA (Sect 401) certification	X (RWQCB)
Coastal development permit	___ (Coastal Commission/BCDC)
Reclamation Board approval	X
Notification	___ (DPC, BCDC)
Other (please specify) _____	
None required	___

FEDERAL

ESA Consultation	X (USFWS and NMFS)
Rivers and Harbors Act permit	X (ACOE)
CWA Sect 404 permit	X (ACOE)
Other (please specify) _____	
None required	___

DPC = Delta Protection Commission
CWA = Clean Water Act
CESA = CA Endangered Species Act
USFWS = U.S. Fish and Wildlife Service
ACOE = U.S. Army Corps of Engineers
BCDC = Bay Conservation and Development Comm.

ESA = Endangered Species Act
CDFG = CA Department of Fish and Game
RWQCB = Regional Water Quality Control Board
NMFS = National Marine Fisheries Service

Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. *Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.*

1. Do the actions in the proposal involve physical changes to the land (i.e., grading, planting vegetation, or breeching levees) or restrictions in land use (i.e., conservation easement or placement of land in a wildlife refuge)?

X
YES _____ **NO**

2. If NO to #1, explain what type of actions are involved in the proposal (i.e., research only, planning only).

3. If YES to #1, what is the proposed land use change or restriction under the proposal? Consolidation of diversions may require diversion canals and other conveyance facilities to change. In addition, levees may need to be breeched, if necessary.

4. If YES to #1, is the land under a Williamson Act contract?

_____ **YES** X **NO**

5. If YES to #1, answer the following:

Current land use	Agricultural
Current zoning	Agricultural
Current general plan designation	Agricultural

6. If YES to #1, is the land classified as Prime Farmland, Farmland of Statewide Importance or Unique Farmland on the Department of Conservation Important Farmland Maps?

_____ **YES** X **NO** _____ **DON'T KNOW**

7. If YES to #1, how many acres of land will be subject to physical change or land use restrictions under the proposal? 3 - 4 acres

8. If YES to #1, is the property currently being commercially farmed or grazed?

X
YES _____ **NO**