

II. EXECUTIVE SUMMARY

a. Project Title and Applicant Name

Title: Cosumnes River Salmonid Barrier Program

Applicant: Fishery Foundation of California

b. Project Description and Primary Biological/Ecological Objectives

The Cosumnes River historically supported a substantial fall-run chinook salmon population - a CALFED priority species. However, during the recent past, the salmon population in the Cosumnes River has been significantly reduced due, in part, to several major barriers that impede upstream migration to most of the river's salmonid spawning habitat. Restoration of fall-run chinook salmon to the river will require removal of these migration barriers. The goal of this program is to design and implement measures to eliminate these barriers and monitor the success of these actions.

The Fishery Foundation of California ("FFC") and The Nature Conservancy ("TNC") have forged a cooperative effort to identify and resolve factors contributing to the decline of fall-run Chinook salmon and steelhead on the Cosumnes River. Assessments made by the FFC and Hanson Environmental Inc. biologists and CDFG hydraulic engineer George Heise suggest that there are four barriers within or below the spawning habitat that have the potential to significantly hinder upstream migration throughout a wide range of flows. The proposed project will improve passage by installing fish passage structures at two summer dams in the lower river, one low-flow road crossing, and by upgrading the fish ladders at Granlees Dam to current CDFG hydraulic specifications. Exact locations of the barrier sites are shown in Figure 1. After completing improvements of the fish passage structures, a monitoring program will be implemented to document the project's benefits to salmonids.

c. Approach/Tasks/Schedule

The project will evaluate and select engineered modifications for each of the three existing weirs and low-flow crossings that presently impede salmon migration. These barriers will then be modified to allow low-flow fish passage and continued use of the structures by the property owners. This will be accomplished by cutting a passage channel through the barrier during low flow conditions, and/or use of rock weirs. The proposed retrofit to the Granlees Diversion Dam will include enhanced access to the existing fish ladders, increased volumes within pools, reduced jump heights between pools, and eliminating confusing attraction flows. The schedule for these improvements are to finalize engineering specifications and plans by October 1998; put the specifications and plans out for bid by January, 1999; award the contract by March 1999; and undertake construction during the low flow period with a completion target date of October 15, 1999. Continued monitoring will occur for three years (1999-2002).

d. Justification for Project and Funding by CALFED

The proposed project would improve passage and provide long term ecological benefits to a first tier, priority species (fall-run chinook salmon). The project would also improve access for juvenile salmonids to downstream rearing areas. The improved connectivity between habitats on the Cosumnes River would lead to greater spawning and rearing success and will increase subsequent run strength. Each of these benefits addresses CALFED stressors and fall under both the ERPP and AFRP objectives. They represent the first step in restoring and maintaining consistent salmonid runs on the Cosumnes River.

e. Budget Costs and Third Party Impacts

Applicants are requesting CALFED funding for \$188,255, which is one-half of the total of the \$376,510 estimated cost for the four passage facilities. The Fishery Foundation has already contributed \$28,850 toward this project. Additional funds will be sought by the FFC and TNC from sources other than CALFED, such as Commercial Salmon Stamp, Department of Water Resources, Four Pumps Fish Mitigation, Striped Bass Stamp, Urban Stream, and others.

f. Applicant Qualifications

The FFC is a non-profit corporation established in 1985 to develop and implement innovative fishery restoration programs. Since 1992 the Foundation has successfully completed eleven state contracts and is currently managing two contracts with CDFG and DWR. These thirteen contracts are valued at over \$1.9 million. The FFC has completed fisheries habitat restoration and enhancement projects on several tributaries to the Eel River. Tom Hampson, a California State licensed building contractor and a licensed aquaculturist, will serve as Project Coordinator. Mr. Hampson has managed fishery restoration and enhancement projects for the FFC since 1992. Trevor Kennedy, Project Manager for the FFC, has a B.S. in Fisheries Biology. He is working with TNC and other agencies to develop the project and has begun baseline monitoring. Dr. Charles Hanson, Hanson Environmental, Inc., will act as fisheries consultant and scientific advisor on the proposed habitat project. Dr. Hanson has been actively involved in the monitoring and evaluation of fisheries populations within the Bay-Delta system for over 20 years.

g. Monitoring and Data Evaluation

Monitoring will be conducted before and after the barriers are modified to determine spatial and temporal spawning distribution, flows and temperatures required for upstream migration, spawning success and the quality, quantity and distribution of spawning habitat. Monitoring will be conducted in cooperation with the CDFG Stream Evaluation Program (STEP) who is currently evaluating salmon population and habitat conditions within the Cosumnes River to identify management options that could improve habitat and increase salmon production. Monitoring will include habitat mapping and salmon spawning distribution using aerial photography, spawning distribution and spawner abundance using salmon carcass surveys, estimation of a salmon production index using downstream migrant traps, evaluation of salmon rearing habitat, and an evaluation of habitat conditions (flow, temperature, channel attributes, etc.).

The value of the monitoring data will extend beyond the boundaries of the fish passage project to various other present and future projects within the watershed. It is very possible with good supporting biological information that flood control projects near the spawning zone could be configured to improve salmon habitat.

h. Local Support/Coordination with Other Programs/Compatibility with CALFED Objectives

The FFC is undertaking this project with cooperation from TNC, CDFG, and Rancho Murrieta Community Service District (RMCS D). The FFC has begun discussions with area landowners. The proposed project is consistent with both CALFED priorities and objectives and with actions designed to promote recovery and protection for both salmon and steelhead populations.