

II. EXECUTIVE SUMMARY

- a. **Project Title:** Phase 3: Merced River Salmon Habitat Enhancement River Miles 42 to 43.5 (Robinson Ranch and Permit #307 sites).
- Applicant:** California Department of Fish and Game and the California Department of Water Resources.

b. **Project Description and Primary Biological/Ecological Objective:**

The primary objectives of the project include removing salmonid predator habitat and producing and improving spawning and rearing habitat for juvenile salmon. The predator habitat will be eliminated by both filling and isolating existing ponds from the channel. In order to improve spawning and rearing habitat for salmon, the channel will be reconfigured. This will include scaling the channel to fit the post-dam flow regime. Over the entire reach, the channel will be designed to include spawning riffles, runs, and pools, with a meander which fits the approximate slope and bankfull flow of 1,600 cfs. It will also include floodplains which will be replanted with native riparian vegetation.

Specific project biological/ecological objectives are:

- ◆ Eliminate juvenile salmon predator habitat *by filling the unnatural instream pond area;*
- ◆ Increase the quantity and quality of spawning habitat for chinook salmon *by adding spawning gravel, reconfiguring spawning beds and the river course thorough the filled pond;*
- ◆ Increase the quantity and quality of rearing habitat for chinook salmon *by increasing available in-channel diversity;*
- ◆ Improve river and floodplain dynamics *by reconfiguring the channel to better conform with the present flow regime;*
- ◆ Enhance riparian and seasonally inundated vegetation *by increasing and revegetating floodplain at the project site which will be captured by the river during high flows.*

c. **Approach/Tasks/Schedule:** The proposed project is on the Merced River between river miles 42.0 and 43.5, just upstream of the Highway 59 bridge (Figure 1). It consists of two of the five reaches of the Merced River Salmon Habitat Enhancement Project (Merced River Miles 40 to 43.5) which is being engineered for restoration by the Delta Pumps Fish Protection Program (CDWR and CDFG). Much like the entire 3-mile section of the river, prior to 1997, the proposed project consisted of a narrow channel confined between levees and contained several in-stream ponds (captured mining pits). After the high flows of January 1997, the proposed project site now consists of a wide, flat, shallow upstream river reach devoid of proper channel characteristics with several in-stream ponds in the downstream portion of the reach. The current river alignment bypasses much of the original channel, and therefore much of the coarse sediment which provides for existing salmon spawning and rearing habitat.

The project will include scaling the channel to fit the post-dam flow regime. Over the entire reach, the channel will be reshaped to include spawning riffles, runs, and pools, with a meander which fits the approximate slope and bankfull flow of 1,600 cfs. The floodplains will be replanted with native riparian vegetation. The upstream section of the project will consist of the reconstructed river channel, floodplains, and high terraces, while the downstream reach will use berms to isolate two ponds. The berms will be constructed to exclude a flow of at least 8,000 cfs (30 year event), and will include unique state-of-the-art "equalization saddles" and bank protection to minimize damage during high flows. Proposed project schedule is as follows (progress reports on construction, budget and monitoring will be submitted quarterly):

- Winter 1999 + Begin environmental documentation and permitting, access agreements;
+ Pre-project monitoring - finalize planning;
+ Final engineering designs (specifications and cost estimate);
- Spring 1999 - Begin monitoring;
- Winter 2000 + Complete environmental documentation and permitting
+ Pre-construction activity, final cost estimate, bid specifications;

- Spring 2000 + Construction contracting (bid documents, advertise, award bid);
- Summer 2000/01 - Project Construction (3 mo. between JUN-SEP)
- Construction management and survey
- Fall-Winter 2000/01 + Begin post-project monitoring
- + Begin revegetation were possible
- Fall 2001 - Complete Project Construction
- Continue post-project monitoring
- 2000-2002 + Revegetation activities
- + Post-project monitoring
- + Evaluate project/maintenance recommendations
- 2001 - 2012 * Continue project monitoring and project with adaptive maintenance

d. Justification for Project and Funding by CALFED: The proposed project has been identified as a priority salmon restoration action in the following Central Valley salmon restoration planning documents: "Anadromous Fish Restoration Plan - Revised Draft Restoration Plan for the Anadromous Fish Restoration Program" (May 30, 1997); "California Department of Fish and Game "Restoring Central Valley Streams: A Plan for Action" (November 1993); "Joint CALFED/SJRMP San Joaquin River Fishery Technical Team Meeting Report (Preliminary Draft, February 13, 1997); "Comprehensive Needs Assessment for Chinook Salmon Habitat Improvement Projects in the San Joaquin River Basin" -- March 1994; San Joaquin River Management Plan (February 1995).

e. Budget Costs:

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| Total Project Cost: | \$5,677,518 |
| Amount requested from CALFED: | <u>2,443,759</u> |
| Cost/share | \$3,233,759* |

**This is based on a \$540,000 minimum Four Pumps Program contribution which may increase. Additional in-kind contribution towards environmental documentation is being discussed with CalTrans.*

Third Party Impacts: None anticipated at this time.

f. Applicant Qualifications: The proposed project has been planned and developed by the CDFG/CDWR Four Pumps program which has been instrumental in facilitating several salmon restoration actions within the San Joaquin and Sacramento River tributaries. During the ten-year existence of the program, the quality of projects and staff capabilities of the program has increased significantly with program experience and stakeholder input. Four Pumps restorations actions within the Central Valley continue to remain in the forefront of Central Valley salmon restoration planning efforts.

g. Monitoring and Data Evaluation: To evaluate the project success, adapt and maintain the project over the engineered life of the project; it is necessary that a monitoring program be included to address the identified project objectives. Currently, a finalized monitoring program is being prepared and the basic monitoring objectives have been identified.

h. Local Support/Coordination with other Programs/Compatibility with CALFED Objectives: The local landowner is supportive of the proposed project. The proposed project was identified by the CALFED San Joaquin River Fishery Technical Team at the January 1997 Bass Lake planning workshop as a specific project need on the Merced River. Further, the proposed project has been identified specifically or in concept within several Central Valley chinook salmon planning documents including the USFWS *Anadromous Fish Restoration Plan* and the CDFG *Restoring Central Valley Streams: A Plan for Action*. The proposed project is located in the CALFED San Joaquin Watershed Basin; targets the Priority Species San Joaquin tributaries fall-run chinook salmon; and addresses improvements to Priority Instream Aquatic Habitats, Seasonal Wetland, and Shaded Riverine Aquatic Habitat.