

## Draft Individual Review Form

Proposal number: 2001-C200-2

Short Proposal Title: Merced River Salmon Habitat River  
Mile 42 to 44 (Robinson Ranch)

**1a) Are the objectives and hypotheses clearly stated?**

Provide detailed comments in support of your conclusion:

Yes

The primary objectives of the revised project include improving upstream adult salmon passage, improving downstream juvenile salmon survival, removing salmonid predator habitat, improving spawning and rearing habitat for juvenile salmon at a badly altered and ecologically dysfunctional section of the Merced River. This situation worsened following the 1997 high flow event. Adult salmon passage will be improved by creating a functional stream channel which will eliminate the shallow, stream sheet flow situation which now exist during the spawning migration period. During past salmon spawning migrations, CDFG was forced to dig an emergency channel through the area so that adult salmon could move upstream. Juvenile salmon survival will be improved by reducing predator contact; by first, the reconstructed channel will quickly pass smolts through the project in a true stream channel, thus increasing the odds for predator avoidance; and second, the filling and isolation of existing ponds will remove warmwater habitat which supports large numbers of predator species. In order to improve spawning and rearing habitat for salmon, the channel will be reconfigured and spawning size gravel will be added.

c. Hypotheses being tested:

1. *Hypothesis 1* - Following restoration of physical habitat conditions at the project site (temperature, flows, etc.), more salmon smolts will survive through the project site;
2. *Hypothesis 2* - Water velocity, depths and temperature conditions will become more favorable for anadromous and resident salmomonids;
3. *Hypothesis 3* - Adding clean gravel and appropriate spawning depths to the streambed will increase the amount of spawning habitat for chinook salmon;
4. *Hypothesis 4* - Increase spawning success through increased spawning habitat can be associated with habitat restoration;
5. *Hypothesis 5* - Restoring seasonally inundated floodplain habitats will allow replanted native riparian and plant species to colonize and naturally reproduce under the reconfigured flow regime.
6. *Hypothesis 6* - Restoring floodplain and a source of available gravel will re-establish physical processes which are necessary to self-maintain salmon spawning and rearing habitat.

**1b1) Does the conceptual model clearly explain the underlying basis for the proposed work?**

Provide detailed comments in support of your conclusion:

Yes

This project represents the beginning of "Full-scale Implementation" of the Merced River Salmon Habitat Enhancement: River Miles 40 to 44. A small pilot salmon predator isolation project was constructed on the Merced River by DFG/DWR in 1996 at River Mile 30. This habitat enhancement project has since been repaired and modified following the 1997 high flows event. A great deal of knowledge regarding berm construction, floodplain restoration, and channel behavior during higher flows has been gained from this early project. Some of this knowledge has been acquired from observing how the project has integrated with the natural river processes and even more has evolved from a healthy post-project technical review discussions with other agencies, academics, stakeholders, and private consultants. Some of this knowledge was incorporated into the construction of the Ratzlaff Site project during the

summer of 1999, which was the first stage of the Merced River Salmon Habitat Enhancement Project and just downstream from the proposed Robinson Site. The Ratzlaff Site project on Merced River (River Miles 40 to 40.5) is considered the "Demonstration Project" for the entire proposed Merced Salmon Habitat Enhancement site. Although the Ratzlaff Site project has only experienced one full winter, initial observations and feedback from several concerned sources indicate that at least the floodplain elements of the project seems to be performing well. Elevated river flows during the winter and spring have inundated and deposited both sediment and vegetation plantings on the created floodplain. The proposed Robinson project design has incorporated the additional knowledge gained from constructing the Ratzlaff Project.

**1b2) Is the approach well designed and appropriate for meeting the objectives of the project?**

Provide detailed comments in support of your conclusion:

Yes

**1c1) Has the applicant justified the selection of research, pilot or demonstration project, or a full-scale implementation project?**

Provide detailed comments in support of your conclusion:

Yes

This project represents the beginning of "Full-scale Implementation" of the Merced River Salmon Habitat Enhancement:

**1c2) Is the project likely to generate information that can be used to inform future decision making?**

Provide detailed comments in support of your conclusion:

Yes, to some degree.

There are two more phases proposed for the Merced River Salmon Habitat Enhancement Project. As with information derived from Phase 1, this second phase should help improve implementation of subsequent phases. Although the proposal indicates the project is critical because it addresses several of the Central Valley anadromous fish and habitat restoration goals identified in the DFG Central Valley Action Plan, USFWS Anadromous Fish Restoration Plan, and the CALFED Ecosystem Restoration Plan it doesn't address how it might effect other future actions on other streams or elsewhere. However, I'm sure the information will be availed and utilized by others.

**2a) Are the monitoring and information assessment plans adequate to assess the outcome of the project?**

Provide detailed comments in support of your conclusion:

Yes

Preliminary monitoring programs for Physical River Process, Fisheries Abundance, and Revegetation efforts were presented in the original 1998 project proposal (Attachment 1). These monitoring programs have undergone considerable discussion since that time and both the fisheries and geomorphic monitoring programs have been modified substantially. It is intended for the Robinson monitoring programs to compliment the current monitoring activities which are taking place at the recently constructed Ratzlaff Site 2, miles downstream. These Geomorphic and Fisheries monitoring programs are attached (Attachment 3 and 4). It should be noted that the U.S. Fish and Wildlife Service (USFWS) is also seeking AFRP funds to conduct PHABSIM monitoring over the entire 4 mile Merced River Salmon Habitat Enhancement Project site. Although this USFWS project is an important compliment to this proposed project, the prime objectives of this pilot monitoring program differs significantly from the geomorphic monitoring identified in this proposal. The objective of the monitoring presented in this proposal is to assess gravel movement and stream process change at the immediate project site. This information will be used to determine the gravel augmentation and project maintenance. The objective of the USFWS study is evaluate whether the Robinson restoration project increases

spawning habitat and rearing habitat as compared to PHABSIM modeling. The revegetation monitoring program presented in the 1998 proposal is patterned after required U.S. Army Corps of Engineers (USACOE) monitoring guidelines. This existing monitoring plan will be adhered to or exceeded, depending on final USACOE permit conditions.

**2b) Are data collection, data management, data analysis, and reporting plans well-described, scientifically sound and adequate to meet the proposed objectives?**

Provide detailed comments in support of your conclusion:

Yes

Data Handling and Storage: Quarterly Reports documenting construction activities; monitoring findings; and maintenance activities are intended to be produced by the participating partner and distributed to all funding agencies and interested stakeholders. (See Attachment 5)

**3) Is the proposed work likely to be technically feasible?**

Provide detailed comments in support of your conclusion:

Yes

Feasibility: The proposed project was originally planned for construction during the Summer of 2000. Experience and technical improvements gained as a result of the completion of the downstream Ratzlaff Site project during the Spring and Summer of 1999 have been incorporated into the planning and design of the proposed Robinson Site project. To accommodate the new changes, the project construction startup has been shifted to the Spring of 2001. At this time, all elements of the proposed project are currently on schedule to meet the necessary construction deadline. This schedule of project elements/tasks includes CEQA/NEPA environmental documentation; cost-share fiscal contracting; biological and physical monitoring preparation and pre-assessment; stakeholder involvement; and peer review of technical design.

**4) Is the proposed project team qualified to efficiently and effectively implement the proposed project?**

Provide detailed comments in support of your conclusion:

Yes

The CDFG is the legislative mandated "trustee of the State's fish and wildlife resources" and has for several decades been involved with salmon restoration actions within California. Specific to the Central Valley, since the 1986 Delta Fish Protection Agreement (Four Pumps Agreement) between CDFG and CDWR, the Four Pumps program has been instrumental in facilitating several salmon restoration actions within the San Joaquin and Sacramento River tributaries. The Four Pumps Program is unique in that it allow the two agreement parties, CDFG and CDWR, to draw upon the specialized talents and expertise which are available within the two California Resources Agency Departments. 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 involvement. Four Pumps restorations actions within the Central Valley continue to remain in the forefront of Central Valley salmon restoration planning efforts. Following are the identified project contacts, their qualifications were further documented in the proposal:

Biology Coordination - Rhonda J. Reed, Environmental Specialist IV for DFG-San Joaquin Region. (M.S. Ecology; B.S. Wildlife and Fisheries Biology)

Engineering Coordination - Kevin Faulkenberry, Associate Engineer (Registered) in CDWR San Joaquin District.

Project Development Coordination - Fred Jurick, Associate Fishery Biologist (M.S. Natural Resource Management; B.A. Marine Biology) in CDFG Inland Fisheries Division.

Financial Coordination - Stephani Spaar is an ES IV (M.S. Fisheries Biology) in DWR's Environmental Services Office.

Financial Coordination - Aric Lester is an ES I in DWR's Environmental Services Office

**Miscellaneous comments:**

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**Overall Evaluation  
Summary Rating**

- Excellent
- Very Good
- Good
- Fair
- Poor

**Provide a brief explanation of your summary rating:**

Proponents have presented a very good proposal, adequately addressing all elements required for CALFED review. Previous experience and knowledge of the agencies and personnel involved should insure a successful project.