

## Draft Individual Review Form

**Proposal number: 2001-C208-1**

**Short Proposal Title: Tuolomne R. Fine  
Sediment Mgt.**

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

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

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

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

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

This project proposes an excellent integration of basic research on relationships stream physical processes and fish ecology with direct application of habitat improvement technologies. Fine sediment has been identified as a stressor to salmonid production in a substantial reach of the river, and the combined goal is to reduce both the inputs of sediments to the reach from problem tributaries and to reduce the standing stock of sediment within the reach. An important parallel effort will develop a good scientific basis for characterizing the influence of sediments on quality of the substrate for spawning and egg survival using both natural and manipulative experiments. This is a good example of what CalFed should be supporting - direct habitat improvement along with substantial research that will have broad application to other restoration programs in the region and elsewhere. Ecosystem treatments are to include both simulated scouring of the substrate to remove fines since reduced flows have diminished the capacity for discharge to adequately transport sediments, and sediment management upstream via a catch basin and other source reduction methods.

The hypotheses are real, not manufactured to attempt to fit the RFP requirements, and are presented as testable questions rather than simple and unfalsifiable goal statements. The results of certain components of the research then feed directly into the management decisions that will be applied to the system, satisfying the need for 'adaptive mgt.' in the work. I wish that more supporting data could have been presented regarding information developed to-date, but at least previous results were fully cited and appear to be sound.

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

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

Looks very adequate and well conceived on all aspects, although details of monitoring methods could have been expanded.

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

Except for the research components, which will be developed during the course of the study, all other elements of the project are well-tested and appropriate technical approaches.

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

The team is very diverse representing a strong research and application background in both the physical and the biological components of the project.

**Miscellaneous comments**

What is the particle size of sediments that will be retained within the sedimentation basin, and will it efficiently trap transportable material? Would channel and riparian resotation upstream obviate the need for a catch basin or is this input naturally high? Is a 'brief...field survey' sufficient to evaluate sediment sources in the Gasburg Cr. tributary? Is there a contingency plan to remove the sediment trap if source reduction is successful in the channel?

Although I agree that studies of substrate permeability and survival to emergence will be very valuable, the lack of related studies might have been slightly overstated. Also, one of the routine problems with fry emergence traps over redds is that they sometimes collect fine sediments themselves, so how will you compensate for this experimental artifact? I am intrigued by the idea that permeability is a better indicator than gravel composition, but it would be useful to develop this idea further. Is there a good range of natural permeabilities available to test this?

Do you think that bedload samplers will give an accurate estimate of actual bedload, or might they accentuate the process as a consequence of creating flow disruptions at the sampling sites?

Why is there a whole 1 and a half years for planning/permitting? Is this timeframe necessary for generating a baseline dataset? I thought that you had baseline data already, and that agreements among stakeholders were in hand.

Although I agree that the team is already able to sample sediment, it would be useful to see more description of the methods to be used - there are lots of methods, and fine sediment is often not all that easy to measure accurately with respect to biological relationships. What water will be used to 'scour' the substrate? Pumped water from in-stream, or generating a downstream release?

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**Overall Evaluation Summary Rating**

- X  **Excellent**  
 Very Good  
 Good  
 Fair  
 Poor

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

**Excellent** This is an excellent blending of important fisheries research and stream habitat improvement. The proposed work offers a high probability of success, and high degree of applicability to other stream systems within the CalFed region.