

Draft Individual Review Form

Proposal number: 2001-K217-2

Short Proposal Title: Juvenile salmon migratory ...

1a) Are the objectives and hypotheses clearly stated?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

Hypotheses are stated in boxes on p. 3 & 4, and although somewhat general, appear to be testable with appropriate analysis. How these analyses will be performed (e.g., statistical treatment) is not stated. Objectives *per se* are not specifically stated, but reasonably interpretable from the Statement of the Problem.

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

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

Specifics of the Conceptual Model are not given in detail, and although Fig. 1 does express the conceptual model in a graphic way, many factors affecting fish migration are listed that may not be possible to investigate (at least in detail) in the study as designed. The "graphical" model appears to be overly ambitious and short on focus.

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

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The applicant has chosen radio telemetry as the primary technology for measurement of migratory behaviors, which is the most appropriate technique available at present. However, specifics on experimental design and especially treatment of the data are lacking. Will specific statistical/behavioral tests and data treatments be utilized? How will variability and inconsistencies in the data be handled? Are sample sizes adequate? How will an experimental control (if any) be employed? For these types of behavioral experiments, many of the classical experimental design components cannot be developed, but additional effort could have been made in the construction of this proposal. It appears that the applicant has prior experience in these studies and has demonstrated ability to extract significant information from the data (see 1c1 below), but the analytical methodologies are not described in this proposal.

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 [Note: in the electronic version, this will be an expandable field]

The selection of the research appears justified, if the solicitor of the proposal (CALFED) will be satisfied with largely qualitative results that pertain to questions about fish behavior, rather than specific mitigative solutions. If this is the case, then the solicitor should understand that, as described in this proposal, the results may be quite variable and subject to a high level of interpretation.

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 [Note: in the electronic version, this will be an expandable field]

On a general scale, yes. Determination of tidal transport behavior in outmigrant salmonids would provide a tool for managing flow/pumping operations that may impact fish via direct mortality or indirect migratory delay.

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

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The applicant does not provide details on the specifics of manual tracking. Two options are available: tracking of individual fish or continuously “running” channels and recording positions of fish when they are encountered. Some of the stated hypotheses can only be addressed by the continuous tracking method, which is labor intensive, and yields high degree of precision with respect to individual fish behaviors, but at a cost of data from fewer fish (given a fixed amount of manpower). I assume that this is the proposed method. Some data gaps (e.g., movements with respect to tidal cycle) will also result from tracking fish a maximum of 12-14 h per d; and although each fish will be tracked for four days after release, fish will have to be relocated each morning. This is a very labor-intensive technique; a total of 50 fish are proposed to be tracked by 2 crews at each of the three regions over a period of two months, which seems to be an overly ambitious schedule (also, the math doesn't quite work out if each fish is tracked for 4 days). It would be prudent for the applicant to provide a tracking schedule in more extensive logistical detail.

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 [Note: in the electronic version, this will be an expandable field]

See response listed in 1b2.

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

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

Based on the applicant's prior experience and demonstrated ability to conduct the work, there are few technical roadblocks to this work, except perhaps limitation of manpower and unforeseen climatic events. Some contingency plans might be considered for the latter.

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

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

Qualifications, knowledge and experience appear adequate.

Miscellaneous comments

[Note: in the electronic version, this will be an expandable field]

NOTE: My summary rating and comments appear here as I was unable to type into the fields below.

I rate this proposal as “Good” in that it appears to have the potential to answer some generalized questions about Pacific salmonid migratory behaviors that have relevance to resource problems in the S-SJ Delta region. It should provide essential “first-step” data on movements and how they may be influenced by tidal cycles and tidal transport behavior, flow direction, in-channel distribution and preference, and migratory behavior. Specifics on experimental design, logistics, and data analyses are lacking, so it is unclear that the results will be more than qualitative descriptions of general behaviors and trends. In themselves, these are important factors that have management value, but the funding

and management agencies should be aware that the utility of the results will have limited scope with respect to mitigation.

**Overall Evaluation
Summary Rating**

- Excellent
- Very Good
- XX Good
- Fair
- Poor

Provide a brief explanation of your summary rating

[Note: in the electronic version, this will be an expandable field]