

Panel Scientific and Technical Review Form
(Note: Review comments will be anonymous, but public.)

Proposal number: 2001-L204

Short Proposal Title: _Treadmill_

Note: An outside review of this proposal was made by a reviewer who had a conflict of interest because of an association with another proposal within the same topic area. That review was inadvertently distributed to this Topic Area Review Panel prior to the panel discussion. All panelists were polled and stated that they felt neither their opinions nor the panel discussion were influenced by having seen that particular review. This panel review was modified to remove any references to that outside review.

1a) Are the objectives and hypotheses clearly stated?

Summary of Reviewers comments:

Two reviewers only; both “yes”

Panel Summary:

Yes. This is a continuation and expansion of ongoing research into fish behavior relative to screens. Investigations under this proposal would include testing the influence of various debris loads on screens on fish behavior

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

Summary of Reviewers comments:

Yes.

Panel Summary:

Yes, but see below (1b2).

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

Summary of Reviewers comments:

Yes (with reservations)

Panel Summary:

Equipment proposed for use is suitable for proposed tests and has been used extensively in the past with good success. The fish treadmill is especially suitable for testing small fish, which generally need conservative testing. However, the experimental design is far more elaborate than is needed at this stage of investigations. For example, debris testing does not need the kind of statistical rigor proposed, and physiological testing can be cut back very significantly, based on results of past research. Furthermore, debris loading at a high rate is more likely to be a sign of a failed or inadequate cleaning system, would therefore not be reflective of a “typical” properly-functioning facility and would probably not reflect actual field conditions. High debris load trials could be

eliminated without compromising the need for this research. Other trials could focus only on those hydraulic conditions known to be “adverse” for fish with results compared to earlier debris-free results. Results may not be applicable to smaller screens, unless exposure time is limited to realistically reflect anticipated field conditions.

To the extent that actual criteria for fish screens will be set by this work, this is not the forum. However, some information will likely be provided which will help agencies of jurisdiction think about criteria. This work will be only one piece of the puzzle. Field data will also be very important, as will agency responsibility and accountability and authority.

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

Summary of Reviewers comments:

Yes.

Panel Summary:

Yes, but this is a laboratory setting only, and this is a first step to be followed by field testing/data under more realistic conditions. The approach for studying debris-fish interaction may need technical review prior to funding.

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

Summary of Reviewers comments:

Yes.

Panel Summary:

Yes, but see above regarding the appropriateness of this forum in setting criteria (a regulatory agency prerogative).

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

Summary of Reviewers comments:

Yes.

Panel Summary:

See above, especially 1b2.

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

Summary of Reviewers comments:

Yes.

Panel Summary:

Yes, **plans** are good, but performance has been poor in the past. One significant exception is the protocol for debris testing (see above, 1b2). It is unclear what is meant by various “% screen blockage” really means; does it mean blockage of water (33% impervious to water, therefore an increase in actual average approach velocity for the un-occluded portion of the screen), or just 33% of the screen surface in contact with some kind of debris? In research conducted to date, physiological parameters (“stress indicators”) have not helped in the development of screen design criteria or interpretation of other test results. Some outside technical review of these tests is appropriate prior to additional funding approval.

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

Summary of Reviewers comments:

Yes.

Panel Summary:

Laboratory testing is technically feasible, but results may be difficult to interpret when applied to criteria-generation. Actual generation of criteria is a regulatory agency prerogative.

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

Summary of Reviewers comments:

Yes.

Panel Summary:

Yes.

5) Other comments

This is an extremely expensive project. A careful review of costs and individual study items is appropriate. Although some valuable research has been conducted using this equipment in the past, this proposal contains some technical shortcomings, especially in emphasis. The focus should be on completing important and as yet uncompleted work that was funded under previous grants. Tests with limited value in the past (such as physiological parameter testing) should not be included unless a case can be made for usefulness in establishing design criteria. The number of experimental variables should be greatly reduced. The interagency team involved in this work should review the experimental design/scope and settle on a priority list of tests to be conducted.

The overhead structure (federal v. state) should be carefully examined.

Overall Evaluation PANEL SUMMARY COMMENTS

Summary Rating

Reviewers: Very good.

Excellent
Very Good
Good
Fair
Poor

Your Rating: VERY GOOD on CalFed basis; VERY GOOD on project basis (with scope and cost review)