

Draft Individual Review Form

Proposal number: 2001-F204-1

Short Proposal Title: Monitoring and assessing ecosystem/water quality

1a) Are the objectives and hypotheses clearly stated?

The primary objective is clearly stated. However, the authors fail to address hypotheses that this methodology may be able to test, or alternatively, how this methodology may be able to help frame management questions that can lead to testable hypotheses. Therefore, the proposal never steps out of generalities and doesn't sufficiently link indicators of ecological condition and sustainability with the proposed deliverables that the methodology is expected to provide.

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

My impression is that the proposal was somewhat too hurriedly put together and therefore does not contain a conceptual model in graphic format or in narrative form that would give the reader a sense of the proponents understanding of how their work may be used in a management context.

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

In principle, the proposed work has merit and would likely contribute valuable data to ecosystem assessments. The authors fail to explain, however, how the presumed and never clearly stated indicators of ecosystem condition and the remote sensing spectral data are expected to be used to determine baseline condition, natural and human-induced change, and using this methodology to track the success or failure of ecosystem management and restoration actions. The authors use the term "water quality" in a very loose way and do not demonstrate a clear understanding of the water quality-related limiting factors for CALFED species of concern. No rationale is given for why it may be useful to determine sediment content in those surface water layers that remote sensing tools can penetrate. It is misleading to state that the methodology may be able to address contaminant issues or water quality parameters other than sediment and possibly water temperature.

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

The applicants clearly state that their project is a pilot project designed to develop and test a little-used methodology that might be of great benefit to environmental management agencies. Again, the justification is not convincing enough for the investigators to demonstrate a clear understanding of what the management questions and needs are.

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

The proposal completely lacks any appreciation for, or understanding of, adaptive management, and how scientific information might be used to advance the experimental use of policy or on-the-ground management decisions. No mention is made about the ultimate uses of project deliverables, how they may help CALFED managers in making better decisions, and what the specific benefits of the methodology might be for answering questions.

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

The proposal lacks specificity in reporting plans, at what stages the project's success will be evaluated, and what the criteria are for determining 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?

The proposal is extremely vague regarding data management, analysis, and reporting plans – in fact, no mention is made of what hardware and software will be used to generate the data, how the data will be maintained and managed, or in what form data will be transferred to the users.

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

There are two components to the proposed work: 1) Collecting spectral data suitable for evaluating certain ecosystem characteristics and features, and 2) Collecting spectral data for evaluating “contaminants and water quality.” The authors overstate the ability of remote sensing techniques to assess “water quality”, and the authors’ use of the term indicates inadequate understanding of the factors related to “water quality” that might limit ecosystem recovery and recovery of target species. Although the authors only mention sediment, chlorophyll-a, and temperature as example parameters, the implication is that they intend to address other “contaminants” (mercury?, registered pesticides?) with remote sensing methodology, but fail to convince the reviewers how they may accomplish that.

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

The qualifications of the applicants are impressive and relevant to the work proposed. It is therefore surprising and disappointing that the proposal does not live up to the level that it could have achieved with a bit more preparation time or greater internal review prior to submittal.

Miscellaneous comments

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

Overall, I believe the application of remote sensing techniques is a valuable and unfortunately underused tool among the mix of CALFED ecosystem assessment efforts. However, the authors do not demonstrate a clear understanding of how to apply this tool in the assessment process that is relevant to environmental managers.

<p>Overall Evaluation Summary Rating</p> <p><input type="checkbox"/> Excellent <input type="checkbox"/> Very Good <input type="checkbox"/> Good</p> <p><input type="checkbox"/> Fair <input checked="" type="checkbox"/> X Poor</p>	<p>Provide a brief explanation of your summary rating</p> <p>The rating of “poor” is primarily based on the fact that the proposal lacks clear links between the information generated by the proposed work and its use in an environmental management context.</p>
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Reviewer’s Name and Title (Your name and title will not be passed on with your review; all independent reviews will remain anonymous.)