

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

Proposal number: 2001-E212

Short Proposal Title: Ecological Monitoring of Tolay and Cullinan Ranch

Note: Only one individual review of this proposal was received. The summary of reviewer comments is that of the one review received.

1a) Are the objectives and hypotheses clearly stated?

Summary of Reviewer comments:

Yes, the 4 hypotheses are very clearly stated.

Panel Summary:

Objectives and hypotheses are clearly stated and straightforward.

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

Summary of Reviewer comments:

Yes, a very simple conceptual model of tidal marsh restoration is included.

Panel Summary:

Although simple, the conceptual model clearly explains the basis for the work and the diagram of the model is helpful to put ecosystem processes in perspective.

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

Summary of Reviewer comments:

In general, the approach is appropriate. Concerns about the sampling design are addressed in 2a (below).

Panel Summary:

The approach is generally appropriate. A strength is the length of the monitoring period. However, there are inadequacies in the design. The number of replicates for vegetation sampling is likely

insufficient. Epibenthic macroinvertebrate sampling should be included. There are no methods stated for insect sampling. Drop traps should be considered and evaluated for fish sampling in marsh vegetation.

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

Summary of Reviewer comments:

Yes, this is obviously a monitoring project.

Panel Summary:

A very well justified monitoring project.

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

Summary of Reviewer comments:

Yes, including a trajectory of tidal marsh restoration using several components (i.e., not just sedimentation rates or development of vegetation). Also, presence or absence of special status species, correlative factors, and population trends (although only at the restoration sites, not throughout the entire geographic region).

Panel Summary:

Yes, this is a large project with substantial information generating potential.

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

Summary of Reviewer comments:

More detail about the sampling design should be provided. The sampling design is ambiguous or conflicting depending on how communities develop over time. For example, the text states that “for fish and wildlife species, each refuge unit will be stratified into marsh plain and slough channel habitat types as they develop”. But in the following text, it is stated that sampling will be from “sample sites or transects” (fish) or from grids or along transects (mammals). Recommend that some type of stratified sampling design be developed for some of the components or tasks.

Epibenthic macroinvertebrates, specifically caridean shrimp and brachyuran crabs, should be included. They will not be sampled by the cores used for invertebrates, but may be sampled with some of the fish gear.

For some tasks, it is unclear how many samples will be collected at each site, station, grid, or transect. Also, the frequency of sampling is unclear for some tasks. For example, in the text it is stated that water levels will be monitored continually with data loggers, but the next sentence states that the hydrology components will be monitored each month or season. In the work schedule table, the frequency for this task is every 2 months.

Panel Summary:

The monitoring and assessment plans are generally adequate. A strength is the length of the monitoring period. All necessary monitoring elements are covered. However, not all are sufficiently described; for example, there are no methods stated for insect sampling. Other weaknesses are the number of replicates for vegetation sampling is likely insufficient.; drop traps should be considered and evaluated for fish sampling in marsh vegetation.

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

Summary of Reviewer comments:

Concerns about data collection (i.e. sampling design) are addressed above. The data analysis section is adequate, but the data management section only mentions what will be used for storing the data for spatial analyses, not the other analyses.

Panel Summary:

Data collection: See 2a response. The data analysis and data handling sections are good.

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

Summary of Reviewer comments:

Yes, but an improved sampling design should be developed for some tasks. May need to develop some alternative gears or methods (for example, no gear that specifically targets juvenile fishes and macroinvertebrates is included).

Panel Summary:

The panel generally agreed.

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

Summary of Reviewer comments:

Yes, the team is very well qualified for most of the tasks (unclear who is responsible for the invertebrate work).

Panel Summary:

The panel agrees. Some help will be needed in invertebrate identification.

5)Other comments

Summary of Reviewer comments:

Given the long-term and spatial nature of the monitoring program, monitoring locations should be GPS documented, and a well documented database should be developed given that staff will retire before monitoring will be completed.

INDIVIDUAL REVIEWER OVERALL EVALUATION SUMMARY RATING AND COMMENTS:

GOOD. I am impressed by the strong project team. CALFED should request improvements in sampling design for some tasks, including site selection for fish and mammals (stratified or fixed), frequency, and gear types

**Overall Evaluation
PANEL SUMMARY COMMENTS**

There are strengths (e.g., comprehensive, long duration of monitoring) and weaknesses (e.g., some elements inadequately described, sampling design inadequacies) in the approach and monitoring and assessment plans. The composition of the project team is a strength.

OVERALL PANEL EVALUATION SUMMARY RATING: VERY GOOD