

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

Proposal number: 2001-E213

Short Proposal Title: Mandeville Island

1a) Are the objectives and hypotheses clearly stated?

Summary of Reviewers Comments:

Discrepancy among reviewers:

One reviewer: Yes – seven specific objectives/hypotheses are clearly stated.

Two reviewers: No – the objectives are a bit cryptic and there is a general lack of clarity as to what is meant by a controlled tidal marsh. I believe the applicant is using levees and water control to reduce water levels and thereby create shallow water in an enclosed system, but it is not clear from the proposal. The fundamental concept is simply unstated. Hypotheses are very explicitly stated, however, they tend to be exclusively focused on technical/engineering feasibility rather than on how (e.g., the mechanisms) their project is specifically going to benefit to the “health” of the Bay-Delta ecosystem. The vague statements of hypotheses and their brief description are hidden in Appendix C where it is indicated that the reintroduction of natural (uncontrolled by any kind of water control structure) tidal processes will not be an objective.

Panel Summary:

Hypotheses 4, 5, and 7 are unclear. Also, the applicant indicates objectives in the project summary but in the proposal itself the objectives are unclear.

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

Summary of Reviewers Comments:

Discrepancy among reviewers:

One reviewer: Yes – the model is simple, straightforward and based upon reasonable assumptions regarding long-term biological/ecological effects of comprehensive habitat restoration.

Two reviewers: No – it is difficult to interpret the conceptual model because as described it does not actually provide a model of ecosystem restoration per se, but rather some basic statements and assumptions about the likely outcome of diverse manipulations of a diked, submerged Delta island. It does not establish the scientific basis for these assumptions in terms of either the processes that are predicted to promote wetland (habitat) development or the explicit role they will play in restoring ecosystem processes, biotic communities, at-risk species, habitats, harvestable species, and other CALFED ERP goals. Scientific uncertainties are not addressed and the extensive literature that documents the marginal fisheries and ecosystem benefit of managed wetlands is ignored. Further,

Ducks Unlimited summarizes the effort as being associated with draining and restoring a previously flooded island to tidal and seasonal wetlands. A flooded island is already tidal. It is not clear how making it a controlled tidal marsh (whatever that means) will benefit aquatic species. It is also unclear how Delta smelt and salmon will benefit from the project and whether they will be screened out or allowed into the flooded area.

Panel Summary:

Panel agrees that the Conceptual Model does not provide a model of ecosystem restoration. The Conceptual Model diagram is adequate, but what is needed is more emphasis of benefits in the text to accompany the diagram. Also, insufficient explanation of link between anthropogenic stressors and ecological attributes.

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

Summary of Reviewers Comments:

Discrepancy among reviewers:

One reviewer: Yes – all aspects have been carefully considered and appropriately planned.

Two reviewers: No – it is impossible to determine what the approach is and whether it addresses the (vague) objectives because specific design specifications are not included, nor are descriptions of how the various “mosaic elements” will be restored and enhanced. Further, there is no description of what a controlled tidal marsh is. Also, you cannot determine whether some or all of the levees are being reconstructed in the project, or whether portions of the site will be fully tidal or controlled in some way.

The majority of the project is devoted to heavily managed wetlands and “bio-technical” fixes that do not actually restore natural freshwater tidal ecosystem processes and habitats.

Panel Summary:

The Panel agrees with the latter reviewer as there is insufficient detail in the approach section to allow understanding of what the project actual is, and how things will be done on the ground. For example, we agree that it is unclear what is meant by a “controlled tidal marsh.” There are also real concerns about fish protection associated with controlling flows in and out of island.

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

Summary of Reviewers Comments:

Discrepancy among reviewers:

One reviewer: Yes, this is clearly a pilot/demonstration project as the applicant has stated that the levees are weak, the landowner is willing, and the position of the site is of sufficient size to test this restoration approach on a unit scale. (Still no understanding of a controlled tidal marsh.)

Two reviewers: No, there is very little information that justifies either the rationale for the particular approach(es) or the reason for this type of project at this location. The applicant should have classified this as a demonstration project for a fraction (e.g., 1%) of the cost that would involve tests of their hypotheses that water control structures and managed wetlands won't inhibit natural ecosystem processes, including habitat development and use by at-risk species.

Panel Summary:

The applicant indicates that this is the first of three phases but there is no information given about Phases 2 or 3. The scale is inappropriate for a demonstration/pilot project.

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

Summary of Reviewers Comments:

Discrepancy among reviewers:

One reviewer: Yes, a diversity of useful planning information is likely to be generated by this approach and comparative assessment of different restoration strategies and techniques and informing future restoration actions.

Two reviewers: No, the project lacks sufficient description of the basic approach and it is not clear whether the project will provide very applicable information on ecosystem restoration, although it may provide considerable information on habitat enhancement. It will provide little guidance for future restoration projects other than efforts to physically create or manage systems.

Panel Summary:

No. The Panel agrees with the latter reviewers.

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

Summary of Reviewers Comments:

Discrepancy among reviewers:

One reviewer: Yes, the monitoring plan appears to be thorough covering an extensive suite of information-rich parameters that might yield useful information within the 3-yr period, however, 3 years will likely be insufficient to properly evaluate the full biological effects of the project as species assemblages will still be in successional transition.

Two reviewers: The monitoring plan is adequate to assess the project but what is the project?

Panel Summary:

It is difficult to ascertain what the project is and therefore it is difficult to determine whether information generated through the monitoring program, which contains reasonable elements, will be useful in assessing the outcome of the project. The duration of monitoring (3 year period) is likely insufficient to evaluate ecological effects.

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:

Discrepancy among reviewers:

Two reviewers: Yes, these elements are satisfactorily addressed.

One reviewer: No, description of data management is limited as far how it will be handled and where it will be compiled. There is no discussion about how data quality, completeness, and other data QA/QC will be handled, how various data will be analyzed, what archiving procedures will be used, public access, etc.

Panel Summary:

Panel agrees with former two reviewers in that these elements are satisfactorily addressed, though it is somewhat weak on analysis.

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

Summary of Reviewers Comments:

Discrepancy among reviewers:

One reviewer: Yes, there are no obvious flaws in the proposed approach.

Two reviewers: It is impossible to know from this proposal because the technical details are not provided (e.g., no cross-sections of levees) and no examples of case studies from other projects are used to provide evidence of feasibility, and the level of subsidence is not stated. Further, the proposal actually states and assumes that marsh conversion will occur within 3 yr, which is exceedingly naive and not likely based on the scientific literature (at least none is provided).

Panel Summary:

Cannot determine whether the project is technically feasible because no information is given on methods or approach, nor are there citations to technical literature or other projects underway or completed that would help justify this project.

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

Summary of Reviewers Comments:

The team appears to be well qualified with appropriate expertise in all disciplines including biologists, conservationists, and engineers. However, much of DU's experience may be dominated by land acquisition and management of seasonal freshwater wetlands, rather than natural tidal ecosystems.

Panel Summary:

Until it is clear what is being proposed it is not possible to evaluate the qualifications of proponents.

5) Other comments

Summary of Reviewers Comments:

One reviewer: This is a well documented proposal that describes a project that would offer great promise.

Another reviewer: There are a few attractive elements in this proposal, such as the riparian enhancement along levees and tidal mounds that on their own basis would comprise an intriguing and supportable project. Adaptive management is restricted to plant recolonization, but does not address the multitude of other uncertainties inherent in this project, such as fish and macroinvertebrate access and habitat utilization.

Panel Summary:

The cost associated with this vague demonstration project seems unreasonable. Many of the engineering questions could likely be answered at a much smaller scale however, due to lack of detail in proposal we cannot make a recommendation in this regard. The cost to ecosystem restoration benefit ratio of this proposal compared to others is somewhat low.

INDIVIDUAL REVIEWER OVERALL EVALUATION SUMMARY RATING AND COMMENTS:

EXCELLENT. High marks in all categories. Costs seem reasonable considering the extensive benefits likely to accrue from this project.

FAIR. At the outset, the applicant simply fails to make clear what the basic approaches of restoration would be, leaving this reviewer mystified as to what construction would be done, and whether and how water levels would be managed and where. These are critical gaps that must be addressed for a request of such magnitude in cost and dedication in Delta area., and for CALFED to fairly address the benefits to priority species. I recommend CALFED deny funding of this proposal in its current form, but encourage resubmission after thorough revision.

FAIR. This is a very confusing proposal that lacks specifics and detail, that is incredibly vague for a \$17 million price tag, and under the PSP topic of Shallow Water Tidal/Marsh Habitat actually promotes actions that do not generate natural Delta habitats, e.g., fully tidal ecosystems!. Whether intended or not, the reviewer is left with the impression that they were actually trying to rehabilitate levees and promote seasonal(managed) wetlands under the guise of restoration. Given other proposals that almost guarantee long-term restoration of 500 ac or more for <10% of the cost, it is difficult to support this proposal as a fully implemented, high-risk project that appears to be devoted to managed wetland creation and enhancement rather than restoration.

**Overall Evaluation
PANEL SUMMARY COMMENTS**

The Panel cannot interpret what the applicant is proposing to do and this is a fatal flaw. The hypotheses are unclear, the conceptual model is inadequate, there are no specifics described in project approach, there is no justification for this work based on other similar pilot/demonstration projects nor is there literature cited, qualifications of applicant appears insufficient, etc.

OVERALL PANEL EVALUATION SUMMARY RATING: POOR