Sea Level Rise Planning Project

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Public Comments

No public comments were received for this proposal.

Collaboration Panel Review

Proposal Title

#0170: Sea Level Rise Planning Project

Final Panel Rating
above average

Collaboration Panel (Primary) Review

Collaboration:

Will the results of the collaborative effort be greater than the sum of its parts? Is it clear why the subprojects are part of a larger collaborative proposal rather than several independent smaller ones?

above average
The advantages of collaborative efforts are described under "Project Benefits." The planning tool (model) is expected to update existing knowledge developed by 3 other programs. Collaboration is both multi-disciplinary (hydrogeomorphology, coastal vegetation, fisheries ecology, avian ecology, and GIS modeling)and multi-institutional (state, non-profit, private, academic).

Interdependence And Integration:

Does the proposal have an example that clearly articulates the conceptual model of each subproject and how they link together as a whole? Are the boundaries of the study plans focused and cohesive, yet well delineated? Is there a plan for potential differences in the stages of subproject completion times? Are there clear plans for analyses and interpretations which seek to identify and quantify relationships among the data collected in various subprojects rather than separate analyses for each subproject?

above average
The roles and tasks of each group involved are clearly defined and delineated. Differences in completion times are not addressed, yet A greater level of planning is described in this proposal compared to others, which can result in adequate

time for correction as the study progresses. Plans for analyses and interpretations are identified. (A complex effort here.)

Project Management:

Is it clear who will be performing management tasks and administration of the project? Are there resources set aside for project management and time given for investigators to collaborate? Is there a process for making decisions during the course of the project? Are there acknowledgments of potential barriers to collaboration and explanations of how team members will overcome barriers particular to their institutions?

superior
Roles and tasks of project management are clearly described. Resource funds are identified for meetings. Decision-making processes are described and even include stakeholders (people not conducting the work, but who are affected and informed by it).

Team Composition:

Does the lead principal investigator have successful management history and experience leading collaborative teams? Is it clear that all key personnel are committed to making significant contributions to the project? Do team members have complementary skills?

superior
A collection of staff from independent organizations are identified in project management roles, rather than one individual per role. I see this as a benefit. Staff are clearly committed, tasks are specific and complementary.

Communication Of Results:

Is there a clear plan for comprehensive and cohesive reporting of project progress to the CALFED community?

above average
Staff and funding for preparing journal manuscript are identified, which is not often stated.

Additional Comments:

Collaboration Panel (Discussion) Review

Primary reviewer noted that this was one of the only proposals read to mention stakeholder meetings and workshops. Felt that given what was discussed among the panel, the rating could go higher to Superior.

Secondary reviewer rated it above average overall. Felt that the composition, communication of results were all above average.

Technical Synthesis Panel Review

Proposal Title

#0170: Sea Level Rise Planning Project

Final Panel Rating
adequate

Technical Synthesis Panel (Primary) Review

TSP Primary Reviewer's Evaluation Summary And Rating:

This proposal plans to develop a GIS database model using available data to predict responses of shoreline habitat. How will this project determine water levels and other variables for initial starting points? How will the sensitivity of individual components, e.g. tidal effects, sediment supply, etc, be used to change the model if they are deemed insensitive? The ability of this model to aid in planning for future sea level scenarious assumes that feedback mechanisms are sensitive enough to be predictive. There were reviewer questions of the adequacy of spatial coverage for sites from which feedback mechanisms will be derived. Reviewers also concerned about the overall cost of the projects, and especially costs for bird studies which some considered trivial to the overall study.

Additional Comments:

This proposal plans to develop a GIS database model using available data to predict responses of shoreline habitat. How will this project determine water levels and other variables for initial starting points? How will the sensitivity of individual components, e.g. tidal effects, sediment supply, etc, be used to change the model if they are deemed

insensitive? The ability of this model to aid in planning for future sea level scenarious assumes that feedback mechanisms are sensitive enough to be predictive. There were reviewer questions of the adequacy of spatial coverage for sites from which feedback mechanisms will be derived. Reviewers also concerned about the overall cost of the projects, and especially costs for bird studies which some considered trivial to the overall study.

Technical Synthesis Panel (Discussion) Review

TSP Observations, Findings And Recommendations:

The proposed work would result in a useful product for planning, but there is some uncertainty regarding its scientific value. The two technical reviewers evaluated the proposal very differently. The more critical review made a number of detailed comments, none of which identified serious technical deficiencies. However, there were some concerns regarding the development of the model and its potential contributions to knowledge and understanding of this topic. For example, the resulting model, while likely to be useful as a regional planning tool, may not be successful as a fine-scale modeling tool. The adequacy of available data to support model development, and biological and ecological aspects of the proposed model also were concerns. Costs for some components, especially avian studies were questioned as being excessive.

Technical Review #1

proposal title: Sea Level Rise Planning Project

Review Form

Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	This proposal identifies two main goals (1) to develop new knowledge of ecosystem processes in the Bay as they are influenced by sea level rise and the relationship of these processes to the management of key species, and (2) to develop and implement planning and adaptive management tools. The PIs propose to develop a GIS using existing data to predict responses of shoreline habitat and biota to sea level rise. They will develop a model that incorporates hydrogeomorphic processes that govern changes in marsh surface elevation relative to tide level and the development of marsh vegetation. The goal is very ambitious, the methods are not.
Rating	good

Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full−scale implementation project justified?

Comments	I did not actually see a justification. It is assumed that sea level rise, sedimentation, and habitat change are important.
Rating	

	fair

Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

Comments	The team will assemble existing information on sedimentation, accretion, and erosion rates in "as spatially explicit a manner as possible" and apply these rates across the study area for our initial model estimates. They will then evaluate the sensitivity of these estimates to feedback mechanisms (e.g., tidal effects, habitat inundation, and sediment supply). If the team determines that these feedback mechanisms could significantly change the model estimates, they will develop methods to address these issues. How? The team should understand up front that there are feedback mechanisms that WILL significantly change model outputs. However, I am not convinced that the team will actually incorporate these feedbacks. What data exist on sedimentation rates? What happens if the spatial coverage of existing measurements is inadequate? For what is essentially a GIS of sedimentation rates, it is critical that the measurements actually exist. What is known about the effect of vegetation on sedimentation? The conceptual model included organic matter accretion, but I saw no plan for measuring it or incorporating this in the GIS.
Rating	poor

Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	Details of the proposed work are lacking. This is a proposal to develop a model without an equation. I am led to believe that there are no equations, just static rates that are plugged into GIS pixels. The “model” is run forward and the cells rise at the prescribed rates. It seems that simple, and grossly inadequate. Hopefully it is not that simple, but it is simply not possible to assess.
Rating	poor

Monitoring

If applicable, is monitoring appropriately designed (pre−post comparisons; treatment−control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

Comments	Not applicable
Rating	good

Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

Comments	The model will be validated by starting it at some time in the past and running it up to present time. This is fine, but I saw no discussion about how the initial values would be established. How will they determine what the elevations were in say 1920 or what ever start date? It is not valid to simply subtract the product of the existing sedimentation rate and time.
Rating	fair

Additional Comments

Comments

Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Comments	**The research team is a capable group. I have no doubt that the group is experienced in project management.**
Rating	**good**

Budget

Is the budget reasonable and adequate for the work proposed?

Comments	**The project is overpriced and the components are not justified. I can pick out a number of tasks, such as task 17, developing a GIS algorithm for birds, priced at $15.8K, that I would question. Based on the description in the proposal text, I estimate that this task involves identifying the characteristics of bird habitat from existing data or publications, then programming one or two lines of code in the GIS software that transforms relative elevation and vegetation cover to a qualitative estimate of the suitability of a particular pixel for birds. This seems trivial to me and not worth the price.**
Rating	**poor**

Overall

Provide a brief explanation of your summary rating.

Comments	This is an an expensive excercise in data massage.
Rating	poor

Technical Review #2

proposal title: Sea Level Rise Planning Project

Review Form

Goals

Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the idea timely and important?

Comments	The goals of this project by the San Francisco Bay Conservation and Development Commission (BCDC) are to meet Priority Topic Areas ii and iii of CALFED's Science Program. The objective is two−fold: 1. to understand sea level rise in the Bay and study effects upon species and 2. to create a planning and adaptive management tool to assess sea level rise− related management and policy issues. The goals, objectives, and hypotheses are clear and consistent− it is a neat package. The idea is timely and important− sea level rise is inevitable, and with potential climate change the results will only be worse. This is a great topic and this proposal looks to move in a very important direction, with a clear strategy.
Rating	excellent

Justification

Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full−scale implementation project justified?

Comments	The study is very justified. We know that sea level rise is existent, and has potential to get much worse with climate change. This is a very serious issue, one that has the potential to eliminate some of the most important habitat (marshes) along America's bays. It

	really needs to be studied in detail. The authors of the proposal have outlined the mechanics of the sea level rise process quite well– relative rise, subsidence, rates, scenarios, Bruun rule, etc. The story is simple, the water will come up, we will lose habitat– something must be done. The project is justified.
Rating	excellent

Approach

Is the approach well designed and appropriate for meeting the objectives of the project? Is the approach feasible? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches? Will the information ultimately be useful to decision makers?

Comments	The approach is well–designed– Geographic Informations Systems (GIS) are ideally–suited for this type of work. The approach is very feasible. The story is very clean with regards to the mechanics– we can document mean high water MHW, MHHW, MLW, MLLW, etc. and the salt marsh plants follow these physical zones particulaly well as an ecological community, with zonation and distribution, so once the Digitial Elevation Models are accurately input, one can assume a rise of a certain rate/magnitude, and model the spatial distribution of the communities. The only bad news is that it might be a little harder for the upland communities/upper marsh communities/praries to be mapped, but it shouldn't matter too much, as it is the marshes and flats that are the critical habitat anyway. Another suggestion: by modeling a simple rise and its spatial effects in GIS, you are really only mapping habitat extents...it is an interesting question as to what will happen within each community/habitat...for example, I am currently involved in cellular automata modeling individual and community responses to sea level rise...this type of approach can detail the more "fine" scale effects to the community and this might be important to marsh

	migration...this proposal is much more "coarse" scaled, and is to be used as a planning tool more than anything...so it is appropriate. In summary, the method and approach are clear, very appropriate, and should work well to meet the goals and objectives.
Rating	excellent

Feasibility

Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives and within the grasp of authors?

Comments	The approach is well-documented and technically feasible. The likelihood of success is high. The authors are using a well-worn, yet technologically-advanced, method to study a very critical topic. The use of Stratus Consulting looks to be beneficial in that they have already done this sort of project in New Jersey, so there is a lot of value in having done this before. My only complaint is that I'm not really sure the Bird work will really pan out. It seems as though the data, the methodology, etc. are not really as clear-cut for this portion of the project. It seems more like a nice add-on sub-topic, but to do it, you really need to know the bird response to the habitat and as I'm sure some of the authors do, it's still a much more dicey story to tell. Even if the ecology of the birds is perfectly-known, for example we know that if sea-level forces a certain saltmarsh zone to migrate to a new location, but this location is closer to a road, how will the presence of that road affect the bird utilization of the habitat...once you start dealing with animals, it becomes a much more difficult proposition. It seems easiest to just say that the birds will follow the habitat, and just map the habitat, cutting the bird portion of the study for cost purposes. But, to summarize, the whole project, particularly the GIS main portion is very feasible.
Rating	

	very good

Monitoring

If applicable, is monitoring appropriately designed (pre−post comparisons; treatment−control comparisons)? Are there plans to interpret monitoring data or otherwise develop information?

Comments	Monitoring is appropriately designed. The project will do a validation of the GIS model with historical data. They will also do comparisions between the historical data trends and future scenarios. They have all the good modeling protocol down− verification, validation, sensitivity analysis, quality control, etc. The whole project will develop information for a broad region using this protocol.
Rating	excellent

Products

Are products of value likely from the project? Are contributions to larger data management systems relevant and considered? Are interpretive (or interpretable) outcomes likely from the project?

Comments	Products of very high value are likely. Contributions to larger data management systems are relevant...I particularly like the authors' organizational approach (they will use a data librarian! and they have the institutional structures and responsibilities well mapped out). Outcomes should be interpretable, particularly since the authors plan to have meetings with stakeholders, planners, citizen groups, agencies, etc. They've got a nice technical peer−review system that they will use with these groups to facilitate interaction and responsiveness. They'll have a website, etc.
Rating	

	excellent

Additional Comments

Comments	I would really stress that this project is needed, from both an ecological and planning perspective.

Capabilities

What is the track record of authors in terms of past performance? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Comments	The authors have a good track record it seems. The infrastructure and support is there. They have a well-rounded team of academics, policy-makers, managers, techs, scientists, computer programers, HR administrators, etc. My only complaint is it seems they could make better use of the academics such as J. Callaway, when you really look at the time that each contributes, you realize that he'll be an important component, but he's really only a small part of this project. I wish there was more reliance upon academics than private industry, but whoever can do this job will be fine, as it so urgently needs to be done. I would say, somewhat conversely, that it seems that the emphasis on private industry and public agencies (other than universities) may actually enhance interaction with stakeholders, as it is a little less focused upon scientific results, and more on policy. I think the BCDC will remain focused on their service to the greater good.
Rating	excellent

Budget

Is the budget reasonable and adequate for the work proposed?

Comments	I'm a little skeptical of the budget- it seems high. I guess that's what private consulting firms cost, it seems that it could be done cheaper. There's a lot of emphasis on management of people and data, a little more than I would think necessary. I'm not saying it's not needed, but it is a little too much. All you need is a good GIS person, a good wetlands ecologist, maybe a good bird ecologist (if you want to do that- see above), and a good public agent to accomplish 80% of the goals and objectives...and the cost could be half. I will say, however, that the project does seem like a class-act, so if you want really high quality it should be worth it. Plus, it's just so necessary to do this kind of study/planning.
Rating	good

Overall

Provide a brief explanation of your summary rating.

Comments	Overall, it is an excellent project as proposed. There is a strong need for this type of work, the authors have the proper methods, institutional structures, organization, previous experience, and are well-researched on this topic. It seems a little expensive for the work involved, but it is a large project with several institutions involved. This project should be funded; it should be beneficial to research in this area, the ecological systems in the Bay, as well as to the public in the SF Bay region.
Rating	excellent