

Proposal Reviews

#25: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

California Department of Water Resources

Initial Selection Panel Review

Research and Restoration Technical Panel Review

Delta Regional Review

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Environmental Compliance

Budget

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

Proposal Number: 25

Applicant Organization: California Department of Water Resources

Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

Please provide an overall evaluation rating.

Explanation of Recommendation Categories: Fund

- **As Is** (a proposal recommended for funding as proposed)
- **In Part** (a proposal for which partial funding is recommended for selected project phases or components)
- **With Conditions** (a proposal for which funds are recommended if the applicant contractually agrees to meet the specified conditions)

Consider as Directed Action in Annual Workplan (a proposal addressing a high priority action that requires some revision followed by additional review prior to being recommended for funding)

Not Recommended (a proposal not currently recommended for funding-after revision may be considered in the future)

Note on "Amount":

For proposals recommended as Fund As Is, Fund In Part or Fund With Conditions, the dollar amount is the amount recommended by the Selection Panel.

For proposals recommended as Consider as Directed Action in Annual Workplan, the dollar amount is the amount requested by the applicant(s).

Fund	
As Is	-
In Part	X
With Conditions	-
Consider as Directed Action	-
Not Recommended	-

Amount: **\$300000**

Conditions, if any, of approval (if there are no conditions, please put "None"):

Reflecting concerns that the proposed costs for year one efforts are high, the panel requests that the applicants reconsider their budget and propose a workplan that can be carried out for \$300,000. The panel expects that proposed surveys, data collection activities, as well as modelling exercises can be completed at this level of funding.

Provide a brief explanation of your rating:

The Selection Panel concurs with the detailed technical and other reviews regarding the merits and shortcomings of this proposal. The panel is concerned about the lack of links between geomorphology, hydrology, and biological endpoints (goals). Nonetheless, the panel wishes to fund year one of this effort, with close attention to reviewer criticisms and an important condition. Proportionately cut each task, as necessary.

Research and Restoration Technical Panel Review:

CALFED Bay-Delta 2002 ERP PSP Research and Restoration Technical Panel Review Form

Proposal Number: 25

Applicant Organization: California Department of Water Resources

Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

Review:

Please provide an overall evaluation summary rating:

Superior: outstanding in all respects;

Above Average: Quality proposal, medium or high regional value, and no significant administrative concerns;

Adequate: No serious deficiencies, no significant regional impediments, and no significant administrative concerns;

Not Recommended: Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Superior	In summary, this project is strong in proposing a solid evaluation of the best approach for levee breaching at Grizzly Slough based on hydrodynamic modeling. However, the project suffered from inadequate attention to how the decision on the best approach will be made and on linkage between the desired biological endpoints and the hydrology & geomorphology. The panel felt favorable about providing partial funding (less than the amount requested for year 1) so that the PIs could collect soil data, topo and bathymetric surveys, and other information required to assess historic geomorphic and hydraulic characteristics and to begin the hydraulic modeling process. The PIs should consider resubmitting for additional funding after they have addressed the many concerns raised in the reviews and summarized above.
XAbove average	
-Adequate	
-Not recommended	

1. **Goals and Justification.** Does the proposal present a clear statement of goals, objectives and hypotheses? Does the proposal present a clear justification and conceptual model for the project?

Reviewers agreed that the objectives and goals were very clearly stated; however, the use of hypotheses was minimal very general statements were made that were not specifically testable. The conceptual model does not have sufficient detail.

2. **Likelihood of Success (Approach, Feasibility, Capabilities and Performance Measures).** Is the project likely to succeed based on the approach, feasibility and project team capabilities? Are the proposed performance measures adequate for measuring the project's success?

The work is very costly given that the outcome will only be a recommendation for how best to breach the Grizzly Slough levees (i.e., this is largely a study of the best restoration approach for a site). There were major concerns by reviewers and panelists over the lack of attention paid to how the decision will be made concerning which restoration approach will be chosen in the end. Specifically, what criteria will be used to determine the approach selected? The linkage between hydraulics (inundation frequency), sediment, and vegetation response is weak. No description is provided regarding how the hydrology and sediment information will be used to predict vegetation response (acres of community type). Will predictions be based on a numerical model, conceptual model, or professional judgment?

The credentials of the PIs are excellent and the inclusion of PIs with expertise in geomorphology, hydrologic modeling and ecology (particularly botany) was viewed as a real strength.

3. **Outcomes and Products.** Will the project advance the state of scientific knowledge in general and/or make an important contribution to the state of knowledge of the Bay-Delta Watershed? For restoration proposals, is the project likely to contribute to ecosystem restoration or species recoveries in a significant way? Will the project produce products useful to decision-makers and scientists?

The reviewers agreed that, as written, the work proposed is not novel and the information gained will be of a site-specific nature --- i.e., it is not clear this will be of broad use to other areas nor that this will contribute to the larger state of knowledge. The project will however contribute to ecosystem restoration at this site by identifying the ways in which this site should/could be restored. The strength of this proposal is that a detailed consideration of the best approach for restoring the floodplains at this site would be completed prior to any specific proposal for the actual restoration project. This includes solid hydrodynamic modeling and assessment of historic conditions. This would have been a much stronger proposal if their modeling approach was extended so that they linked the predicted flow and geomorphic characteristics to recovery of species. I.e., as is the project outcomes will not address the biological aspects sufficiently.

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget is considered very high given that the actual restoration work will not be accomplished. The work on adjacent properties should not be supported as it was not adequately justified (this removes funding for tasks 3.1, 3.2, 3.3, 3.4 , 4.2.2, and 4.3.2. The budget overall was too high (inflated in most categories). Requests are made in year 2 for tasks that could be covered partially or entirely with the funds requested for year 1.

5. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

The regional panel ranked this high priority and were supportive of the project. Issues associated with infrastructure (bridges, roads) and reconnaissance studies for restoration on adjacent properties were of concern no indication that neighboring landowners were contacted. However, the panel favors action-oriented projects that do the actual restoration, rather than simply plan projects.

6. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

Concerns were raised that subcontracting to DWR was difficult and that the staff has persistent problems processing contracts in a timely fashion.

Miscellaneous comments:

None

Delta Regional Review:

Proposal Number: 25

Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

Overall Ranking: -Low -Medium **XHigh**

Provide a brief summary explanation of the committee's ranking:

The regional panel favors action-oriented projects that secure and restore critical parts of the Delta's habitat corridors.

1. Is the project feasible based on local constraints?

XYes -No

How?

Unknown.

DWR owns the property, so access should not be an issue. However, there are issues associated with infrastructure (bridge, road), and reconnaissance studies for restoration on adjacent properties, for which there is no indication that neighboring landowners have been contacted to date.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

XYes -No

How?

DR-1: Restore habitat in the East Delta. DR-2: Restore/Rehabilitate habitat in Eastside tributaries. DR-4: Restore habitat for one more more at-risk species.

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

XYes -No

How?

This project is intricately linked with all other projects in place at the Cosumnes Preserve, and is part of the Cosumnes habitat corridor. It would be tied in with regional planning efforts (CALFED North Delta Improvements, Mokelumne-Cosumnes Watershed Alliance, and Cosumnes River Task Force).

4. Does the project adequately involve local people and institutions?

☒ Yes -No

How?

DFG and DWR are involved in and supportive of this project. The project would involve stakeholders through the CEQA/NEPA environmental documentation process, and through newsletters and workshops.

Other Comments:

none

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **25**

Applicant Organization: **California Department of Water Resources**

Proposal Title: **Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
X Excellent	The project as described is adequate to accomplish the stated restoration goals. It may be that the cost and effort described are overkill to accomplish the goals.
-Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The goals of the project are clearly stated. The immediate objective is to investigate options to restore seasonal water flow from the Cosumnes River into a 489 acre tract that is currently bounded by levees. The long range objective is to restore, as nearly as possible, the ancestral ecosystem function and biota of the tract. The proposal is internally consistent in its organization regarding these objectives.

2. **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?

The proposed work is based on previous successful projects in areas with similar topography and land-use histories, in which levee breaches have resulted in desired water flow regimes. In these projects, restoration of wetland habitat appears to have been initiated by restoration of the flow regime. The proposal draws on the approach of these previous studies for justification of the proposed methods. Conceptually, the project is well-justified in its focus on habitat restoration for threatened biota and restoration of watershed dynamics.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? 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?

The methodology appears to be largely an adaptation of previously successful methods used in similar situations. The methodology is likely to be successful as a result, which is a plus. To answer a specific question, the project is not likely to produce novel information, methodology, or approaches, but this is not a minus. The methodology appears to be appropriate for meeting the objectives of the study, to provide options for the restoration of seasonal water flow to and sediment deposition in the tract, and the information will be useful when deciding the tract's land-use.

4. **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?

The proposed methods are not in my area of expertise; having said that, it appears that the methodology is largely adequate to accomplish the stated objectives and that a strong team of collaborators has been assembled to cover all relevant aspects of the project. I have some concerns about the scale of the project: the expected expense seems high to an outsider for the extent of the tract to be restored. I would also have liked to see more attention to the issue of recolonization of the habitat. It is stated that sources of propagules are nearby, but the fullest restoration of the system may require "assisted" transport of sessile and sedentary biota into the tract. More attention should perhaps be directed toward identifying source populations of poorly mobile biota that are not present in adjacent tracts or waterways, and methods for facilitating recolonization of these components of the desired community.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

This is a restoration project. Followup monitoring is described and the broad taxonomic range of expertise of the personnel seems adequate to accomplish the monitoring.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The principal product described will be the restored wetland. Additionally, a small portion of the tract will remain in agricultural production.

7. **Capabilities.** What is the track record of applicants in terms of past projects? 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?

An impressive group of collaborators will conduct this project, bringing extensive experience in the required techniques. Several have connections to UC Davis and presumably have access to infrastructure there to accomplish the goals of the project.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget seems high to accomplish the planning of a 489 acre wetland restoration, particularly given that similar areas have been restored successfully using similar methodology. It would seem that the past successes would largely indicate how a successful outcome could be achieved in the proposed project, at lower cost than is proposed.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **25**

Applicant Organization: **California Department of Water Resources**

Proposal Title: **Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	This proposal is an expensive planning effort that does not contribute strongly to our knowledge of these ecosystems or the restoration practices. It is simply another case study.
XGood	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The proposal clearly states the goal of restoring floodplains in the Cosumnes River. The planning objectives are identified clearly. The hypotheses are not testable and are basically a question of "Did the project work?" The conceptual model is basically a flow diagram of the elements of the project and the proposed action. There is little that is conceptual.

2. **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?

The proposal justifies the need for additional floodplain restoration but does not justify the addition to understanding of restoration.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? 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?

There is a reasonable likelihood that the proposed restoration efforts would successfully open additional floodplain habitat.

4. **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?

The approach is fundamentally sound and feasible.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Implementation of the proposal is likely. The measures of performance are largely descriptive and are statistically weak. There are no reference systems for comparison. Performance is based on meeting expected behavior as measured only in the treated system. The experimental design is weak. adequate for measuring the success of the project.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The project will add relatively little new understanding of the Bay Delta Watershed. The project is similar to previous restoration efforts and simply adds another case history. The project may increase the comfort of decision makers, but it largely repeats prior work. If sensitive species are found on the site, it could contribute to their recovery but it is not certain that these species occur on site. Ecologists and environmental scientists will gain an additional example of floodplain restoration, but little new knowledge will be provided.

7. **Capabilities.** What is the track record of applicants in terms of past projects? 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?

no comment

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget is high for a planning proposal (>\$900,000). This seems greater than required prior to implementation.

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **25**

Applicant Organization: **California Department of Water Resources**

Proposal Title: **Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	As previously noted, the final product of the project is confusing. In the text the proposal states that "100 percent design for construction that can go out to bid to contractors" will be prepared, but the budget and outcome tables show only "preliminary" design reports. This is a big disparity. Also, I think the cost of the work is on the high end, I would want to work with the authors to 1) understand what the end product will be and 2) to shave costs.
X Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

Goals and objectives are clearly stated, but there is confusion over the final product. The text says that after tasks that analyze the geo-hydro-bio conditions of the site they will produce a "final restoration designthat can go out to bid to contractors", but in the Tasks and Expected Products Table only a series of "preliminary design" reports will be produced.

Yes, the project is timely and important.

2. **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?

Yes, based on the knowledge about the potential benefits of breaching dikes to restore historic floodplains the study is justified.

Yes, a conceptual model is clearly presented and is supported.

The type research is justified, i.e. the type of data to be collected is justified, but I think its too extensive and costly.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? 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?

On the project site the steps the team proposes includes 1) gathering data, 2) identification and modeling of alternatives, and 3)selection, refined modeling and design of the preffered alternative, which all makes since and will contribute to a base of knowledge. However, the team also proposes to 1) gather data and 2) identify and model alternatives on properties adjacent to the project site, but not do any design work there. The info gathered on the adjacent propeties will also add to a base of knowledge but I find it inappropriate because no plan is derived; it only serves to secure more work for the team in the future. I.e. you'd pay them a lot to study something but wouldnt get anything out of it but data. If thats what you want I guess thats okay.

Nothing very novel is likely to be generated by this project.

The information generated will allow decision-makers to decide whether they want to spend more money on implementing the designs for the project sight, and/or proceed with design work on the adacent properties.

4. **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?

The approach is completely feasible and will very likely succeed. However, the scale of the project is somewhat larger than the objectives. The proposal dedicates an excessive amount lot of time and money and work to study the site and pose several flooding scenarios, when only (prelinminary?)designs for only between 250 and 350 of restored as floodplain (with floodplain habitat values) will be produced.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Performance of the project would be measured by the completion of the expepected research and modeling products, which are clearly defined, with the exception of the outputs for "task 6. Restoration design for the preffered alternative". As mentioned earlier, the text says that after tasks that analize the geo-hydro-bio conditions of the site they will produce a "final restoration designthat can go out to bid to contractors", but in the Tasks and Expected Products Table only a series of "preliminary design" reports will be produced. Without clarification, the success of this task will be difficult to measure.

There is no detail about how the measure of performance would be quantified. Either the product would be ready by the time indicated in the project schedule, or it wouldn't be.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The product of this project will be: 1) detailed topo-soil-bio-hydro-geo data and initial hydraulic modeling of existing conditions of the Grizzly Slough site AND of adjacent properties, and 2) a set detailed flood-veg-habitat modeling alternatives for the project site, with a restoration plan, monitoring plan and adaptive management strategy of the preferred alternative. The detailed topo-soil-bio-hydro-geo data for the Grizzly Slough site is valuable and should contribute to a feasible restoration plan. However, the detailed topo-soil-bio-hydro-geo data of the adjacent properties is in order to evaluate the "potential for similar restoration projects." I don't find this to be a valuable product because additional grant proposal and funding will need to be pursued in order for the value of the work to be realized. (If such data is seen by CALFED as valuable in of itself, and CALFED feels that additional proposals for work in this area will likely be funded, then perhaps gathering of this data while already mobilized at the Grizzly Slough site is more cost effective than collecting this data and creating a restoration plan in a separate project. If this is the case then the data and initial modeling of current conditions on the properties adjacent to Grizzly Slough could be seen as a valuable product).

Having said this I should add that I feel that the amount detailed topo-soil-bio-hydro-geo data and hydraulic modeling is overkill for accomplishing the project objective. I think you could do far less data collection and modeling and reach a similar preferred alternative to restoring this property.

Finally, regarding interpretive outcomes, a "Fact Sheet-Newsletter" will be sent to a list of stakeholder and public agencies to provide an update on how the project is developing and summarize the results of work. This is NOT really an interpretive outcome. There are no others.

7. **Capabilities.** What is the track record of applicants in terms of past projects? 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?

The team appears to be highly qualified to efficiently and effectively implement the proposed project. Likewise, they appear to have the necessary support to accomplish the work. They appear to have a good track record for successfully accomplishing these types of projects.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

If the end result is considered to be a preferred restoration design and plan, with "preliminary" design and engineering drawings for the 489 acres site, then CALFED will pay about \$2000/acre. (Data collection on adjacent properties is approximately an additional \$53,000). It is my professional opinion that \$2000/acre is on the very high end of what CALFED (and the people of California) should pay to plan to restore the site.

Miscellaneous comments:

If we could confirm that a complete design package was to be prepared by the team, i.e. there were no other design costs before the project were to go into the construction phase then I would feel better about this proposed project. However, it seems to me that there will be a whole other layer of costs before the construction costs kick in, making this a very expensive per acre cost, in

my opinion.

Also, a couple of the tasks and associated line item costs are noted in the text of the proposal as being "possibly" necessary. That is fine, but the budget doesnt show the \$45,000 associated with the item "may" not need to be spent. It is just added to the total...

Also, I would want to question some of the actual work in each task, cause to me they could be somewhat duplicative. Its hard to know though without speaking to the authors. I would want to talk with them to shave costs on items that were not absolutely necessary or possible duplicative.

External Scientific: #4

Research and Restoration External Scientific Review Form

Proposal Number: **25**

Applicant Organization: **California Department of Water Resources**

Proposal Title: **Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
X Excellent	The proposal is well-integrated, creative, and very timely. The team members seem eminently qualified to take on the work they have outlined. The results should be useful to decision makers and of interest to the scientific community.
-Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The proposal includes a restoration design (levee breaching and/or modification, to create habitat for native terrestrial and aquatic species, coexisting with some agricultural land use) and a reconnaissance level study of the potential for similar restoration projects on adjacent projects. The hypothesis is that the restoration of floodplain processes will provide hydrologic connectivity between channel and floodplain and recreate habitat types, thus improving ecosystem health. The hypothesis will be tested through a combination of modelling, field studies, and environmental impact analysis. These three methods appear to be well-integrated and focussed on achieving the stated outcome, and the results of the study will be highly relevant to nearby projects, as well as being of interest to the scientific community in general.

2. **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?

The conceptual model is very clearly stated and the relevant processes are explained (reestablishment of hydrologic connectivity between floodplain and channel will restore seasonal floodplain inundation that transports nutrients, biota, water and sediment from adjacent waterways). The proposal will test the hypothesis that a self-sustaining and dynamic system is created in this way. The modelling will be used to assess a range of flood scenarios and associated habitat creation. The study is clearly justified relative to existing knowledge.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? 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?

The approach outlined is an exciting combination of field and modelling work. Extensive GIS databases will be combined with hydrodynamic modelling to yield predictions about flooding frequencies under different scenarios for levee breaching and/or modification. The model can be verified by testing it against current conditions. The model should be of general interest to the scientific community, and may generate novel methodology depending on what sorts of model refinements are ultimately necessary (e.g., development of a 2-dimensional model). The inclusion of a hypothesis relating to coexistence of restored wildlife habitat and row-cropping agriculture makes the proposal even more relevant and timely.

4. **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?

The approach is well-documented and the project appears to be technical feasible. The main barrier to feasibility appears to be time constraints. The applicants plan to 'streamline' planning by developing the design at the same time as they work through the regulatory process. Unexpected issues (either scientific or regulatory) could pose some problems.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Performance measures seems quite adequate. Quality assurance of the various surveys seems reasonable. The model outcomes are clearly defined and the model can be verified using current conditions.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

Table 1 lists numerous baseline, technical, and preliminary design reports as expected products. These certainly appear adequate. No scientific publications are listed, although such publications may well be of general interest -- e.g., on the particular use of hydrological simulation modelling to guide restoration. Public outreach is anticipated in the initial study and again at the end of the project.

7. **Capabilities.** What is the track record of applicants in terms of past projects? 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?

The members of the project team seem to comprise a healthy mix of disciplines and experience. Several members of the team have extensive experience in designing and implementing restoration projects. The Biology and Ecology section is headed by a PhD population biologist/ecologist with research in wetland plants and experience in restoration projects. The other members of the Biology and Ecology section have experience with habitat modelling, GIS, and ecosystem restoration. The hydrodynamic modellers include a PhD fluvial morphologist with expertise in the field of watershed scale processes, and a water resources engineer who has developed a hydrodynamic model (MIKE11) to study the effects of flood flows on sediment transport, ecological function, and water quality. Given the expertise and experience of the applicants, this team should be ready to "hit the ground running".

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget appears adequate and reasonable.

Miscellaneous comments:

none

External Scientific: #5

Research and Restoration External Scientific Review Form

Proposal Number: **25**

Applicant Organization: **California Department of Water Resources**

Proposal Title: **Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed**

Conflict of Interest Statements:

I have no financial interest in this proposal.

☒Correct

☐Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	A very well written and scientifically sound proposal; however the criteria for final design. The selection is not included. The metrics are not presented quantitatively. This work is largely a study which would represent Phase I of a project. Phase II would be the actual restoration work. This represents a nice mix of state-of-the-art approaches and scenario based decision making (adaptive design/management) but there are some weaknesses. The costs are very high
XGood	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The goals and objectives of this project are extremely well defined. This proposal is written extremely well and details on how the work will be accomplished are very well tied to the goals and objectives. As with most of the proposals I have read, using a hypothesis format for the proposal is sort of artificial. They do state hypotheses but only very generally and not very usefully. The idea is timely and important and would be a very firm foundation for Phase II work which would be the actual restoration.

2. **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?

Rating: 2 The study is extremely well explained and the conceptual model clearly laid out (page 6) quite well in the text and in diagram (page 6). The basis for the work is clearly explained and the need to restore floodplain habitat quite clear and informed. My concerns are that this is only a request for Phase I funds = funds for the study process. The study is very extensive and costly. The linkage to past efforts of a similar nature (e.g., Accidental Forest, Corps Breach) are not made explicit how much is new here. Certainly it is a new site but what was learned from past efforts?

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? 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?

This project is extremely well designed. It is really a study to prepare for a restoration project. The methods being employed are state-of-the art in terms of modeling approaches and scientific approach (e.g., fully detailed work on the geomorph, the soils, and the hydrology). The information will certainly be useful for this site and probably other sites; however, the latter is not discussed in any depths.

4. **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?

The approach is very well documented in general. The one exception is the way in which the decision on which approach (multiple scenarios for breeching are going to be considered) to use in the actual restoration (Phase II) has apparently not been thought out. (see task 4.5 on page 15). More attention to the criteria up front would be appropriate. This is an ambitious study and parts of it are quite likely to be successful, probably most of it with the caveat that the final decision criteria need more work.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

The proposal is weak in this area. (see two sentences on page 18). A stronger form of this proposal would have listed each task separately (they actually combine many, very different tasks into each of their task numbers) and discussed the progress of that task and how the work from that task (the product) will be linked to the other tasks/products (e.g., how the geomorphic, hydrologic, and ecological information will be used simultaneously to make the decision on what design to go with).

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

As discussed above, the outcomes as explained in this proposal are very tightly linked to this specific site. The extent to which the outcomes can be exported to other sites or of broad relevance/use is not developed in the proposal.

7. **Capabilities.** What is the track record of applicants in terms of past projects? 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?

Excellent credentials

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

A very costly study for a single site given the uncertainties about the metrics and the criteria for choosing a design.

Miscellaneous comments:

External Scientific: #6

Research and Restoration External Scientific Review Form

Proposal Number: **25**

Applicant Organization: **California Department of Water Resources**

Proposal Title: **Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
X Excellent	This looks like an important project, and the contracts look like they know what they are doing. The proposal itself does not provide enough specific information for me to really assess the project, but the "feel" is right. I don't believe that the applicants are necessarily at fault for providing overly vague information, but I would hope that CALFED would try to create higher standards for these proposals.
-Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

Yes. This proposal seeks to restore a section of the floodplain to restore more normal function to provide enhanced habitat. The hypotheses and goals are clearly stated and are internally consistent.

2. **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?

The study is justified in the sense that it is reasonable to assume that the work can reach the stated goals. The conceptual model is well founded and has a strong basis in similar work completed in the region. The researchers appear qualified and experienced. There is ample likelihood that the project will enhance floodplain processes and ecological function in the study area.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? 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?

The approach is somewhat difficult to evaluate. Few specific details are provided in terms of the design criteria, for example, the target frequency of inundation is not clearly stated, and the nature of the geomorphic processes the PIs with to recreate is not stated in much detail. The project will involve quite a bit of modeling (and the project team is qualified to perform the modeling), but the hydraulic data required are not specified. For example, these kinds of models are best applied with specific field data to determine roughness coefficients, etc. so they may be properly calibrated. However, while the topographic data required are described in detail, field programs to obtain hydraulic data are not described. Additionally, the target function is also not defined (in terms of inundation frequency, sediment transport and deposition, etc.). It would be helpful if these targets could be identified BEFORE designing and implementing the project, so we could be confident that the research team really knew what environment they were trying to create. So, I conclude that the approach is well designed in the sense that the objective COULD be met, but the proposal does not do a very good job describing the environment to be created.

4. **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?

The approach is not fully documented, as described above. The methods are clearly stated, but the outcome to be created is not. It is likely that the approach will improve the interaction between the river and this section of its floodplain, but given that detailed functional "targets" are not provided, success cannot be measured. The effort does appear, however, to be of the proper scale needed to restore the study area.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

A detailed monitoring plan is provided. The performance measures are pretty vague, and are not presented in quantitative terms. However, the proposal does include a substantial monitoring effort that could provide enough information to assess the performance of the restoration.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The project is likely to develop a coherent restoration plan for the study area. The proposal is not designed to provide enough information to really evaluate the monitoring component, and to evaluate the ability of the contractor to interpret the results. The proposal clearly states that a detailed monitoring plan will be developed, that data will be collected, and that it will be

interpreted. The PIs appear highly competent, so one has to assume that they will design a good monitoring plan and that they will successfully interpret the data. The proposal itself, however, does not allow one to really evaluate the likelihood of this, except based on the experience of the contractors. They ARE experienced, so we can hope that they will do a good job.

7. **Capabilities.** What is the track record of applicants in terms of past projects? 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?

The applicants have very good qualifications and they appear to have all the necessary bases covered in terms of breadth and depth of experience.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget appears to be reasonable.

Miscellaneous comments:

Ideally, these proposals should be designed to provide some key SPECIFIC, testable hypotheses regarding the work to be performed. The proposal is quite lengthy and detailed, but few specific details of the experimental design are provided. For example, the contractors state that they will identify appropriate scenarios, based on the data to be obtained, for the restoration alternatives. While this is a reasonable approach in advance of having field data, it does not allow the work to be evaluated with much confidence. Reviewers can only assess the competence of the contractors, and then hope that the appropriate scenarios will in fact be well founded. If this proposal had been sent to the National Science Foundation, for example, greater detail would be expected. Surely enough is known about floodplains in general and the study area in particular, where many restoration projects have been completed, to provide more specific goals that would help evaluate and assess this project.

Prior Performance/Next Phase Funding: #1

New Proposal Number: 25

New Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

1. Prior CALFED project numbers, titles, and programs: *(list only projects for which you are the contract manager)*

01-N06 Revised Phase 2 - Merced River Salmon Habitat Enhancement (Robinson Reach)

2. Prior CVPIA project numbers, titles, and programs: *(list only projects for which you are the contract manager)*

N/A

3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

-Yes -No XN/A

If no, please explain any difficulties:

Contract is currently being developed as part of a larger interagency agreement between DWR and RA.

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

-Yes -No XN/A

If no, please explain any inaccuracies:

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

-Yes -No XN/A

If no, please explain deficiencies:

6. Is the applicant's reporting, records keeping, and financial management of these projects satisfactory?

-Yes -No XN/A

If no, please explain deficiencies:

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

-Yes -No **X**N/A

If no, please explain:

Other Comments:

Prior Performance/Next Phase Funding: #2

New Proposal Number: 25

New Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

1. Prior CALFED project numbers, titles, and programs: *(list only projects for which you are the contract manager)*

96-MO2 Prospect Island Restoration Project

96-MO3 Sacramento River Riparian Habitat Restoration Project

96-M26 Prospect Island Monitoring Plan

97-MO2 Battle Creek Fish Screen and Fish Passage Project

2. Prior CVPIA project numbers, titles, and programs: *(list only projects for which you are the contract manager)*
3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

-Yes **X**No -N/A

If no, please explain any difficulties:

Capable DWR staff has persistent difficulties in processing contracts in a timely manner.

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

XYes -No -N/A

If no, please explain any inaccuracies:

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

XYes -No -N/A

If no, please explain deficiencies:

6. Is the applicant's reporting, records keeping, and financial management of these projects satisfactory?

XYes -No -N/A

If no, please explain deficiencies:

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

XYes -No -N/A

If no, please explain:

Other Comments:

Prior Performance/Next Phase Funding: #3

New Proposal Number: 25

New Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

1. Prior CALFED project numbers, titles, and programs: *(list only projects for which you are the contract manager)*

99-A02 Prospect Island Monitoring Plan

2. Prior CVPIA project numbers, titles, and programs: *(list only projects for which you are the contract manager)*
3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

☒Yes -No -N/A

If no, please explain any difficulties:

Difficulties regarding receivable authority have made subcontracting to DWR difficult. This is a systemic problem and not particular to this contract.

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

-Yes -No ☒N/A

If no, please explain any inaccuracies:

The subcontract for the monitoring has not been executed (see #3 above).

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

-Yes -No ☒N/A

If no, please explain deficiencies:

6. Is the applicant's reporting, records keeping, and financial management of these projects satisfactory?

☒Yes -No -N/A

If no, please explain deficiencies:

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

-Yes -No **X**N/A

If no, please explain:

Not seeking next phase funding.

Other Comments:

none

Prior Performance/Next Phase Funding: #4

New Proposal Number: 25

New Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

1. Prior CALFED project numbers, titles, and programs: *(list only projects for which you are the contract manager)*
2. Prior CVPIA project numbers, titles, and programs: *(list only projects for which you are the contract manager)*

Phase I Merced River Salmon Habitat Enhancement: River Mile 40 to 40.5 (Robinson/Gallo Project Ratzlaff Reach Site)

3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

XYes -No -N/A

If no, please explain any difficulties:

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

XYes -No -N/A

If no, please explain any inaccuracies:

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

XYes -No -N/A

If no, please explain deficiencies:

6. Is the applicant's reporting, records keeping, and financial management of these projects satisfactory?

XYes -No -N/A

If no, please explain deficiencies:

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

-Yes -No **X**N/A

If no, please explain:

Other Comments:

Environmental Compliance:

Proposal Number: 25

Applicant Organization: California Department of Water Resources

Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

1. Are the legal or regulatory issues that affect the proposal identified adequately in the proposal?

☒Yes ☐No

If no, please explain:

2. Does the project's timeline and budget reflect adequate planning to address legal and regulatory issues that affect the proposal?

☒Yes ☐No

If no, please explain:

3. Do the legal and regulatory issues that affect the proposal significantly impair the project's feasibility?

☐Yes ☒No

If yes, please explain:

Other Comments:

Budget:

Proposal Number: 25

Applicant Organization: California Department of Water Resources

Proposal Title: Restoration of Eastern Delta Floodplain Habitats on Grizzly Slough in the Cosumnes River Watershed

1. Does the proposal include a detailed budget for each year of requested support?

☒Yes ☐No

If no, please explain:

2. Does the proposal include a detailed budget for each task identified?

☒Yes ☐No

If no, please explain:

3. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

☒Yes ☐No

If no, please explain:

4. Are appropriate project management costs clearly identified?

☒Yes ☐No

If no, please explain:

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

☐Yes ☒No

If no, please explain (for example, are costs to be reimbursed by cost share funds included in the budget summary).

budget summary states \$1,020,059.00, for a total and there is no total in 17a.

6. Does the budget justification adequately explain major expenses?

☒Yes ☐No

If no, please explain:

7. Are there other budget issues that warrant consideration?

-Yes ☒No

If yes, please explain:

Other Comments: