

Proposal Reviews

#90: Bahia Acquisition and Tidal Wetland Restoration

Marin Audubon Society

Final Selection Panel Review

Initial Selection Panel Review

Research and Restoration Technical Panel Review

Land Acquisition

Bay Regional Review

External Scientific Review

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Prior Performance/Next Phase Funding

Environmental Compliance

Budget

Final Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Final Selection Panel Review

Proposal Number: 90

Applicant Organization: Marin Audubon Society

Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

Please provide an overall evaluation rating.

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

Amount: **\$3,345,000**

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

None

Provide a brief explanation of your rating:

Many agencies' comments endorse this project: the city of Novato, Marin County, the San Francisco Bay Joint Venture, and the ABAG-CALFED Task Force and San Francisco Estuary Project. They reinforce the Selection Panel's recommendation that this project be funded as submitted.

The Selection Panel is aware that wetlands are sites of active methylmercury production. In response to this contaminant issue, CALFED is organizing a workshop to develop an integrated science strategy to address questions pertaining to potential linkages between wetland-restoration activities, the production of methylmercury, and contamination of aquatic biota, fish, and wildlife, which can influence human exposure to methylmercury. The workshop will provide a setting to coordinate CALFED-supported mercury monitoring and research with marsh restoration projects like this that the selection panel recommends, as suggested in the comment letter from the Clean Estuary Partnership.

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

Proposal Number: 90

Applicant Organization: Marin Audubon Society

Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

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

Amount: **\$3,345,000.**

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

None.

Provide a brief explanation of your rating:

The Selection Panel recommends funding this acquisition and restoration project because the applicants: identified substantial cost sharing; are dealing with a willing seller; have county support; are consistent with the local voter referendum for protection of this parcel; are not affecting prime or unique farmland; will restore tidal wetlands, natural salinity regimes, channel complexity and vegetation; and because the one-year development moratorium will end soon and development or sale of the property is probable. Protecting and restoring San Pablo Bay tidal marsh, especially from old diked baylands, is a PSP priority (BR-1).

Research and Restoration Technical Panel Review:

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

Proposal Number: 90

Applicant Organization: Marin Audubon Society

Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

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
XSuperior	The panel felt that this is a well designed project and was worthy of a superior ranking. The large amount of cost-sharing demonstrates the broad-based support for the project. The monitoring plan and the baseline data collection need to be parallel using the same methods in order to make sense of changes that take place as a result of restoration. The monitoring plan should be developed to support multivariate analyses, assess success using performance measures, and support adaptive management. Due to potential development, this is a time-sensitive project so the land needs to be acquired now.
-Above 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?

Goals. This project would provide funds toward purchasing the 654 acre Bahia property (2 M of 18.3 M) along the lower Petaluma River. Possible residential development is an alternative to the property use. The rest of the money requested will go toward restoration design, permitting, monitoring, and restoration implementation of 333 acres of diked marsh. Tidal flow will be restored via levee removal. The goal is to benefit CALFED target species. The site has subsided several feet and has some seasonal wetlands but no fish habitat. There is the threat of development with a 424-unit housing plan on hold. A citizen-led movement resulted in a referendum postponing development (deadline = March 2002).

The goals and objectives are stated clearly in this well written proposal. The project is time-sensitive because of the development threat.

Reviewer: No hypotheses are presented for the physical and biological changes that are suggested that will occur due to tidal restoration.

Justification. Because it is surrounded by publicly owned marshes it is in an ideal location for restoration. Although it does provide some seasonal wetland habitat it is shut off from the tidal system and provides no fish habitat. Other restoration projects in the area will provide valuable information to guide the restoration plan of this site. They have provided thorough documentation as to how this project addresses the goals of CalFed. A full-scale implementation is justified. They are obtaining 83% of the funds needed for the project from other agencies and organizations, demonstrating broad-based support for the project.

Reviewer: Requesting only 17% of funding from CalFed demonstrates broad-based support for the project. The subcontractors and MAS are well qualified and have extensive experience.

The conceptual model is succinctly described without documentation or figures, though this model is becoming more widely accepted.

- 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?**

Approach. The project approach has been well thought out and will add to our knowledge base. They have outlined a series of eight tasks with quite good explanation of each. The only place lacking significantly is detail of the baseline monitoring plan (Task 2). For example, how will sedimentation be measured? How many sedimentation stations will there be and in what types of locations (along channels, marsh plain, etc.)? How will the vegetation be mapped using aerial photography? What methods will be used for sampling the various animals and how many sampling locations will there be? Their design planning process looks good (Tasks 3 and 4). They have anticipated many of the questions that will have to be addressed.

Reviewer: The project is not approached as an experiment, so even well planned data collections may not have far-reaching impacts on the CALFED program. Without knowing monitoring details it is difficult to judge the value of the information produced by restoration and monitoring.

Feasibility. The project is certainly feasible and they have documented the value of this particular site for restoration. They are allowing 10 months to get the permits and don't anticipate problems. They point out that sedimentation will be important to the subsided areas. They mention that in Carls Marsh on the opposite side of the Petaluma river there was up to 2.5 feet per year of deposition. Are there measurements for sedimentation on the marsh plain itself? Since there is no development near this site flooding is not a concern and flood protection levees are not necessary. The tasks they have outlined are well thought out making the likelihood of success high.

Reviewer: The approach is poorly documented. The feasibility is high.

Capabilities. MAS has had a lot of experience in restoration. The project manager looks well qualified and a construction contractor has been identified that has a good track record for marsh restoration according to MAS. It looks like they will put a good team together.

Performance Measures. They give a list of parameters that will be evaluated. The quality of the measurements will depend on the monitoring plan that they design and conduct which is part of the project plan and has not been detailed yet. So how they will be quantified is unknown. They do say that the monitoring plan will be consistent with procedures currently under development in the proposed San Francisco Estuary Institute Regional Wetlands Monitoring Plan.

Reviewer: The performance measures following implementation of the design will be consistent with established measures for similar projects and procedures currently under development as part of the proposed San Francisco Estuary Institute Regional Wetlands Monitoring Plan.

Reviewer: The development of the monitoring program is the final task (Task 8) for the project, well after all baseline data have been collected. However, the same methods have to be used before restoration to make sense of any changes.

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?

Their products will be the outcome of each of the 8 tasks, including the purchase of the property and the consequent protection of 654 acres of undeveloped land. We suggest that they also publish a paper or two for a refereed journal so that the valuable information coming out of the project gets wide distribution.

Reviewer: Preservation of the Blue Oak woodland and the upland grasslands is valuable. Monitoring is consistent with regional and agency requirements.

A web site will be created to inform the public of progress.

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

The budget seems reasonable and they are getting significant funds from other organizations demonstrating broad-based support for the project. As with many of the proposals, I never quite understand how they come up with the construction numbers for the budget before they have developed a restoration plan.

Reviewer: While the price is high, the purchase of the property is endorsed by numerous organizations and the public. Many CalFed provisions will be met.

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?

Rank = High, one of the highest priority projects identified by the Bay review team.

The reviewer says this is a key area and clapper rail recovery will be supported. It is also time sensitive due to potential development. It is an important site because of the blue oak habitat abutting tidal wetlands.

There is extensive local support and significant additional funding sources have been identified. It will link with other restoration projects in the region.

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?

Prior Performance all has run smoothly with the Petaluma Marsh Expansion Project.

Environmental Compliance They need a 1) scientific collecting permit, 2) 1600 Agreement, 3) maybe a Reclamation Board Encroachment Permit for levee removal and breaching if part of a flood control project. Because the salt marsh harvest mouse, California clapper rail, and black rail are fully protected by DFG they cannot get Take permits for these species. They need to get a Section 7 Consultation, then if the USFWS determines that they need a Section 10 permit they will also need a Habitat Conservation Plan. The reviewer doesnt believe this significantly impairs the project but they must get the above permits prior to proceeding. In the proposal the applicants state that they have not obtained permits yet awaiting news of funding but are allowing 10 months to get the permits and dont anticipate problems.

Budget The budget shows \$3,345,000 while Question 17A shows \$3,000.

Miscellaneous comments:

This is a well written and well thought out proposal and should result in a successful restoration project. Because of pending development it needs to be funded now.

External Scientific Review. 3 - Excellent

Land Acquisition:

Proposal Number: 90

Applicant Organization: Marin Audubon Society

Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

1. Is the site's ecological importance documented in the proposal?

XYes -No

If yes, please import relevant text and citations here:

The property is undeveloped and currently consists of an unusual mix of habitats: 333-acre diked historic bayland, 18 acres of seasonal wetland; a 5.64-acre deepwater lagoon, 6 acres of ephemeral streams, and a 214-acre Blue Oak woodland with an understory consisting of native and non-native grassland.

This project ... restores 333 acres of tidal marsh, permanently protects 654 acres of baylands and associated uplands, and removes the potential threat of urbanization at the site. These activities will assist in the recovery of endangered and other special status fish and other wildlife along the Petaluma River. Breaching and lowering portions of the levees [at the site] will restore significant tidal wetland acreage, natural salinity regimes, channel complexity and vegetative habitat. A restored Bahia marsh will support the recovery of endangered and special status birds and fish.... Current data collected by PRBO indicate that tidal marsh habitat in the adjacent California State property on Black Johns Slough supports high breeding densities of California black rail, San Pablo song sparrow and salt marsh common yellowthroat. In addition, the Bahia channel was part of the territories of at least 2 pairs of California clapper rails in 2000 and 2001 (PRBO, unpublished data). A restored marsh will also provide habitat for anadromous and estuarine fish, migratory birds, and contribute to the recovery of the Bay-Delta estuary as a whole.

Restoration activities will also improve the important upland-wetland ecotone and provide high-tide refugia habitat along the upland-wetland interface and remnant levees that will remain as islands. Bahias oak woodland is dominated by Blue Oaks, a species common to the warmer climates of interior California. This is the only known occurrence of Blue Oak dominated woodland connecting with salt marsh in the State of California. The acquisition will preserve for future generations this unique component of California's heritage and restore the grassland ecotone.

The Bahia site is strategically located to protect and restore habitat because it is virtually surrounded by publicly owned marshes. The site is bordered on the east by tidal marshes of the Petaluma River that are owned by the State Lands Commission, on the north by tidal marshes and Black John Slough, and on the west and southwest by Cemetery Marsh (a managed, muted tidal marsh) and oak woodlands owned by the Marin County Open Space District. Other marshes in the vicinity include muted tidal marshes of Rush Creek and Cemetery Marsh, which contribute to the biological diversity of the region. Restoration of the Bahia wetlands will contribute to the restoration of the Petaluma Marsh, the largest undiked tidal marsh in the San Francisco Bay. Connectivity of the restored marsh with nearby Cemetery Marsh and Rush Creek Marshes will be protected thereby providing a

wildlife movement corridor between the habitats.

2. Is the owner's willingness to sell the site documented in the proposal?

Yes -No

If no, please explain:

3. Is evidence of local government support for the purchase included in the proposal?

Yes -No

If yes, please explain:

Protection of the property was endorsed in a May 2001 referendum in which 70 percent of voters endorsed imposition of a development moratorium on the site to allow its purchase for conservation purposes. A letter of endorsement from the county supervisor is enclosed. The position of the city of Novato, whose approval of a large housing development on the site sparked the referendum on its protection, is unclear.

4. Is the use proposed for the site after its purchase clearly consistent with the site's general plan designation and zoning?

-Yes No

If no, please explain:

Because the application indicates (incorrectly, I believe) that land will not be physically changed (how will they accomplish the restoration they propose + spend the construction \$ they seek without physically changing the land?) information about the site's land use plan and zoning designations isn't provided. The applicant states that the city plan "has strong policies for the protection of wetlands". A specific plan must be approved to carry out the project, indicating a complex process to determine compliance with applicable planning policies + zoning standards.

5. Is the land mapped as prime farmland, farmland of statewide significance, unique farmland, or farmland of local importance?

-Yes No

If yes, please explain the classification:

Is the site under a Williamson Act contract?

-Yes No

Will use of the site change from agriculture after its purchase?

-Yes -No Not Currently in Agriculture

6. Is this a time-sensitive acquisition opportunity, according to the proposal?

Yes -No

If yes, please import relevant text here:

The potential to lose Bahia to development remains imminent. In December 2000, a 424-unit residential development was approved for the Bahia site by the City of Novato. The May 2001 referendum imposed a 1 year moratorium on its development. The developer has stated he will return with another project or sell the property if its purchase is not completed this year.

Other Comments:

Bay Regional Review:

Proposal Number: 90

Applicant Organization: Marin Audubon Society

Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

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

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

Project will result in habitat acquisition and restoration of tidal wetlands in a key area of the estuary, particularly for support and recovery of endangered clapper rails. Project is time sensitive, as willing landowner could change price or sell to a developer. Site is one of the few locations where blue oak habitat abuts tidal wetlands.

1. Is the project feasible based on local constraints?

XYes -No

How?

Yes, there is extensive support in the area for this project. Other sources of funding are coming forward to help fund the acquisition and restoration. Adjacent restoration projects have been successful.

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

XYes -No

How?

Yes, tidal wetlands habitat restoration is a CALFED goal (BR-1). So is habitat for recovery of endangered and special status species(BR-5), as well as for migrating waterfowl and shorebirds.

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?

Yes the project is completely consistent w/ and helps implement the regional habitat goals project. It is also consistent with other regional habitat planning. It will link up w/ other restoration projects in the region, such as the Petaluma Marsh expansion project, Sonoma Baylands, Carl's marsh, and the Hamilton wetlands project.

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

Yes -No

How?

Yes, Marin County is providing funds for restoration and the sponsor is working with the Marin Baylands Advocates. Support is broad as many local and regional environmental groups are supporting the project.

Other Comments:

This is one of the highest priority projects identified by the Bay review team.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **90**

Applicant Organization: **Marin Audubon Society**

Proposal Title: **Bahia Acquisition and Tidal Wetland Restoration**

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
<input checked="" type="checkbox"/> Excellent	This proposal presents a good plan with carefully laid out, feasible tasks to preserve a large tract of land threatened by development. A major activity will be tidal restoration of 333 acres and information about marsh development may be gained by the monitoring (hydrology, sediment dynamics, vegetation and bird use).
<input type="checkbox"/> -Good	
<input type="checkbox"/> -Poor	

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

The goal of the project is to acquire and preserve 654 acres of historic tidal wetlands and significant "uplands and to restore the former wetlands to tidal marsh." Objectives follow from a straightforward plan with eight tasks. The applicant suggests physical and biological changes may occur (are expected) due to tidal restoration, but no hypotheses are presented. The project fulfills several of CALFEDs ERP goals and is consistent with priorities for acquisition and restoration. The land is under imminent threat of development and urbanization.

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 very simple and justified as a full-scale project. Uncertainties regarding design choices that are based on soil conditions will be resolved through initial data collection, including the baseline monitoring. Other information from adjacent or nearby restoration project will also inform design alternatives and choices. The conceptual model is based on natural ecosystem development and use by at risk species following tidal restoration. This is described succinctly without documentation or figures, though this model is becoming more widely accepted.

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 practical and straightforward, with eight tasks. Each task is subdivided into sub tasks that are well thought out and lend confidence to the project. The project is not approached as an experiment, so even well planned data collections may not have far-reaching impacts on the CALFED program. Without knowing monitoring details, it is difficult to judge the value of the information produced by restoration and monitoring.

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?

Like the conceptual model, the approach is clearly written and widely accepted, but poorly documented. The feasibility is high because the collaborators have much experience with the scope and size of the project.

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?

No performance measures are presented, but the monitoring plan will be produced as part of the project, and the plan will include performance measures. The plan will include reference wetlands and will be consistent with procedures of the Regional Wetlands Monitoring Plan (San Francisco Estuary Institute). The issue that confronts this reviewer is that the development of the monitoring plan is the final task (Task 8) for the project, well after all baseline data have been collected. However, the same methods have to be used before (as well as following) restoration to make sense of any changes. Hence, once the baseline monitoring begins, the monitoring plan is 'locked in' to certain methods and sample design without proper review and revision.

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 will be over 600 acres of preserved open space on the Petaluma River with extensive tidal marshes as part of a mosaic of habitats that support at-risk species. One of the unique and interesting landscape features will be blue oak woodland adjacent to tidal marsh. A web site will be created for the project to inform the public of progress.

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 applicant has extensive experience in shifting private lands into the public/private domain for preservation, and working with engineers to plan, design and implement restoration. The engineering firm has a great record of achievement in tidal wetland restoration. Point Reyes Bird Observatory is well known and respected.

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

Although not fully funded, the cost share for this project is significant, with CALFED contributing only 15% of the acquisition costs. Cost share for project management comes from MAS, but is not shown. The costs associated with the engineering design, data collection and construction are only about \$1.3 million, which includes tidal restoration for 330 acres.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **90**

Applicant Organization: **Marin Audubon Society**

Proposal Title: **Bahia Acquisition and Tidal Wetland Restoration**

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
XExcellent	This is an extremely well written proposal that makes a compelling argument to acquire and permanently protect a 654-acre property on the lower Petaluma River. The outlined approach for tidal restoration demonstrates that the applicant and subcontractors have experience with similar projects. This experience includes several projects in the San Francisco Estuary , including the Petaluma River area.
-Good	As a result, the likelihood of success for the proposed tidal restoration is extremely high. The project cost is reasonable given the location of the site, proposed site development, and need to carefully plan the tidal restoration project. The widespread government, conservation group and public support for the project make further argument for funding. In addition, CALFED is being asked to fund approximately 17 percent of the estimated total project cost (acquisition plus tidal wetland restoration). The majority of the funding will come from other agencies, organizations and public donations. Once again this demonstrates the widespread support for the project.
-Poor	

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

The goals, objectives and hypotheses are clearly stated and consistent throughout the proposal. This is a very well written proposal. The authors present a compelling argument for funding to: 1) purchase the property within the next 2 to 5 months to avoid development of the site, 2) to restore tidal action to the diked wetlands on the site, 3) to conduct necessary, extensive, site-specific assessments to obtain baseline data to support hydrodynamic modeling, restoration design and permitting, and 4) to monitor the restored site and apply an adaptive management approach to manage the site. This will ensure that the proposed tidal marsh restoration is protective of sensitive species that presently utilize the site, that the restoration has the best possible chance to be successful, and that adjacent open waters and tidal marsh habitat will not be impacted by the final restoration design. In addition, as stated in the proposal, the project is consistent with Federal, state, CALFED, regional and local goals and objectives to preserve undeveloped land, restore tidal marsh habitat, and protect and enhance habitat for numerous sensitive wildlife species.

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 project is justified in several ways:

1) The project site, surrounded by sensitive wetlands and other habitat in the lower Petaluma River, is planned for development unless purchased and preserved within the next 2 to 5 months.

2) The stated project goals and objectives are consistent with the CALFED Ecosystem Restoration Program (tidal marsh restoration) as well as other Federal, state, regional and local agencies and conservation groups.

3) CALFED is being asked to fund approximately 17 percent of the estimated total project cost (acquisition plus tidal wetland restoration). The majority of the funding will come from other agencies, organizations and public donations. This demonstrates the broad-based support for the project.

4) The subcontractors proposed to conduct/manage the collection of baseline data, hydrodynamic modeling, restoration design, permitting, implementation of a permitted restoration design, and monitoring (including and adaptive management approach) are well qualified to conduct the proposed work. These subcontractors (as well as the applicant, Marin Audubon Society) have extensive experience with tidal marsh projects in the region, including the ongoing Petaluma Marsh Expansion Project.

A full-scale implementation of this project is justified.

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 extremely well designed and appropriate for meeting the objectives of the project. The results will add to a growing base of knowledge for restoring tidal marshes and sensitive species habitat in the region, and serve as a valuable resource for use in planning and managing these kinds of projects (monitoring and adaptive management).

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 proposal clearly outlines the approach and demonstrates: 1) the value of purchasing the property, and 2) the feasibility of designing a tidal wetland restoration plan that maximizes the habitat value and meets the stated goals and objectives of CALFED and other organizations.

The project approach outlined in the proposal, and experience of the applicant and proposed subcontractors with similar tidal restoration projects clearly demonstrate that there is a high likelihood of project success.

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 primary goal of the project is to purchase the Bahia property and avoid development. If purchased and permanently protected from development this performance measure will be met. In addition, the proposal outlines a detailed approach to restore approximately 333 acres of tidal wetland system. The project approach after property acquisition includes a detailed description of baseline monitoring and data collection, preliminary restoration designs, detailed restoration design, permitting, construction and monitoring. The performance measures following implementation of the restoration design will be consistent with established performance measures for similar projects and procedures currently under development as part of the proposed San Francisco Estuary Institute Regional Wetlands Monitoring Plan. The applicant and subcontractors have experience with similar projects in the San Francisco Estuary, which includes demonstrating successful restoration using agency approved project-specific performance measures.

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 initial product of value will be the preservation of 654 acres of undeveloped land. The next product of value will be the restoration of an approximately 333 acre tidal wetland system from an existing, diked wetland complex. According to the proposal, this is the last remaining tidal marsh restoration opportunity immediately adjacent to the Petaluma River on its western side. To quote from the proposal The project will compliment and expand benefits provided by other restoration projects in the area. The Bahia project will enhance the habitat value and diversity of the region and contribute to the cumulative habitat and species benefits... In addition to the proposed tidal restoration component, the site contains a woodland dominated by Blue Oaks and upland grasslands. Preservation of these habitats (grassland and woodland) is also valuable. The proposed design approach, monitoring program and adaptive management approach will provide valuable information to managers.

The proposal indicates that the proposed monitoring will be consistent with regional and agency requirements. Because of this the monitoring data can be compared with similar tidal restoration projects and used by agencies for planning and management purposes.

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 project team is highly qualified to perform all of the elements outlined in the proposal. This includes the acquisition of the property, an approximately 333-acre tidal wetland restoration, and monitoring and managing the land following its purchase.

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

While the cost may be high, the proposed purchase of the property has been endorsed by numerous organizations and the public. The benefit to the public and environment by preventing the impending development of the site cannot be easily measured, but is very positive. To quote provisions of the CALFED Environmental Restoration Program and Implementation Plan:

Restoration of tidal wetlands will support ... recovery of at-risk native species in San Francisco Bay; rehabilitate natural processes in the Bay-Delta system to support...natural aquatic and associated terrestrial biotic communities and habitat; Restore...tidal action in the Petaluma River; and Restore functional habitats in the Bay-Delta estuary and its watershed for ecological and public values.... This is only a sample of the provisions identified in the referenced CALFED plan that will be met by the proposed Bahia project.

Miscellaneous comments:

It is always a pleasure to read a report/proposal or other document that is well written and organized. I understood what was being proposed and how the proposed project would be implemented. The justification for the project and strength of the project team was also well presented and further justified my opinion of the value that will be added to this project if funded.

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **90**

Applicant Organization: **Marin Audubon Society**

Proposal Title: **Bahia Acquisition and Tidal Wetland Restoration**

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
<input checked="" type="checkbox"/> Excellent	This is a well written and well thought out proposal and should result in a successful restoration project. Because of pending development it needs to be funded now. Most of the funds (83%) are coming from elsewhere demonstrating broad support for the project.
<input type="checkbox"/> -Good	
<input type="checkbox"/> -Poor	

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

This project would provide funds toward purchasing the 654 acre Bahia property (2 M of 18.3 M) along the lower Petaluma River. Possible residential development is an alternative to the property use. The rest of the money requested will go toward restoration design, permitting, monitoring, and restoration implementation of 333 acres of diked marsh. Tidal flow will be restored via levee removal. The goal is to benefit CALFED target species. The site has subsided several feet and has some seasonal wetlands but no fish habitat. There is the threat of development with a 424-unit housing plan on hold. A citizen-led movement resulted in a referendum postponing development (deadline = March 2002).

The goals and objectives are stated clearly in this well written proposal. The project is time-sensitive because of the development threat.

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?

Because it is surrounded by publicly owned marshes it is in an ideal location for restoration. Although it does provide some seasonal wetland habitat it is shut off from the tidal system and provides no fish habitat. Other restoration projects in the area will provide valuable information to guide the restoration plan of this site. They have provided thorough documentation as to how this project addresses the goals of CalFed. A full-scale implementation is justified. They are obtaining 83% of the funds needed for the project from other agencies and organizations.

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 project approach has been well thought out and will add to our knowledge base. They have outlined a series of eight tasks with quite good explanation of each. The only place lacking significantly is detail of the baseline monitoring plan (Task 2). For example, how will sedimentation be measured? How many sedimentation stations will there be and in what types of locations (along channels, marsh plain, etc.)? How will the vegetation be mapped - using aerial photography? What methods will be used for sampling the various animals and how many sampling locations will there be? Their design planning process looks good (Tasks 3 and 4). They have anticipated many of the questions that will have to be addressed.

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 project is certainly feasible and they have documented the value of this particular site for restoration. They are allowing 10 months to get the permits and don't anticipate problems. They point out that sedimentation will be important to the subsided areas. They mention that in Carl's Marsh on the opposite side of the Petaluma river there was up to 2.5 feet per year of deposition. I guess this is at the mouth of the river. I wonder if there are measurements there for sedimentation on the marsh plain itself. Since there is no development near this site flooding is not a concern and flood protection levees are not necessary. The tasks they have outlined are well thought out making the likelihood of success high.

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?

They give a list of parameters that will be evaluated. The quality of the measurements will depend on the monitoring plan that they design and conduct which is part of the project plan and has not been detailed yet. So how they will be quantified is unknown. They do say that the monitoring plan will be consistent with procedures currently under development in the proposed San Francisco Estuary Institute Regional Wetlands Monitoring Plan.

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?

Their products will be the outcome of each of the 8 tasks, including the purchase of the property and the consequent protection of 654 acres of undeveloped land. I suggest that they also publish a paper or two for a refereed journal so that the valuable information coming out of the project gets wide distribution.

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?

MAS has had a lot of experience in restoration. The project manager looks well qualified and a construction contractor has been identified that has a good track record for marsh restoration according to MAS. It looks like they will put a good team together.

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

The budget seems reasonable and they are getting significant funds from other organizations demonstrating broad-based support for the project.

As with many of the proposals, I never quite understand how they come up with the construction numbers for the budget before they have developed a restoration plan.

Miscellaneous comments:

Prior Performance/Next Phase Funding:

New Proposal Number: 90

New Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

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

98-F13, Petaluma Marsh Expansion Project, CALFED ERP

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:

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:

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 N/A

If no, please explain:

Other Comments:

Environmental Compliance:

Proposal Number: 90

Applicant Organization: Marin Audubon Society

Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

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

-Yes XNo

If no, please explain:

Obtaining a 2081/Incidental Take Permit also requires obtaining a Scientific Collecting Permit.

1600 Agreement required.

May need a Reclamation Board Encroachment Permit for levee removal and breaching if part of a flood control project.

The following species are FULLY Protected by the Department of Fish and Game: Salt Marsh Harvest Mouse California Clapper Rail Black Rail

DFG Take permits CANNOT be issued for these species.

Start with a section 7 consultation. The USFWS will determine if a section 10 permit is required. If a section 10 permit is required for incidental take, a Habitat Conservation Plan will also be necessary.

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

XYes -No

If no, please explain:

Budget and timelines to obtain permits adequate.

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

-Yes XNo

If yes, please explain:

Project not significantly impaired but must get the above listed permits prior to proceeding. Applicant needs to be aware of the fully protected species involved in this project, no "take" allowed.

Other Comments:

Budget:

Proposal Number: 90

Applicant Organization: Marin Audubon Society

Proposal Title: Bahia Acquisition and Tidal Wetland Restoration

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).

The three budget totals \$3,345,000 and the total in Question 17A states \$3000.

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: