

Proposal Reviews

#97: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

Natural Heritage Institute

Initial Selection Panel Review

Research and Restoration Technical Panel Review

Delta Regional Review

San Joaquin Regional Review

Sacramento Regional Review

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External Scientific Review

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Environmental Compliance

Budget

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

Proposal Number: 97

Applicant Organization: Natural Heritage Institute

Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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

Amount: **\$0**

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

None

Provide a brief explanation of your rating:

Although this proposal has a well documented approach and includes some leading riparian ecologists who have studied instream flow requirements for riparian recovery, the Selection Panel recommends not to fund this proposal primarily because the proposal does not show linkages to other large scale programs of this type (e.g., San Joaquin and Sacramento Rivers) that are already funded by CALFED. In some cases, some of the same researchers linked to this proposal are connected to those projects, and thus this proposal should not only have demonstrated the linkages but possible lessons being learned from the similar projects. Consequently, concern was expressed that there is insufficient evidence of success from those projects to warrant funding a similar effort on a larger scale (i.e., Central Valley). If the authors of this proposal decide to rewrite it, they should consider the above concerns as well as consider bringing the expert team together to review information being developed on other projects while guiding a new proposal.

Research and Restoration Technical Panel Review:

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

Proposal Number: 97

Applicant Organization: Natural Heritage Institute

Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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	Technical reviewers rated this proposal as good to excellent. The three regional reviews rated as medium.
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?

The goal is to develop modeling tools calibrated to Central Valley conditions which would help understand riparian dynamics and assist with riparian restoration. All reviewers felt that the goals and objectives were clear and well documented. Seven working hypotheses were well stated, concepts were well presented and internally linked.

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?

Although there are some limitations in the approach, the hypotheses to be tested are clear and the tasks well defined. Particular concern was raised relating to task 3a (using climatic variables to predict seed release timing) about the likelihood for the three year study period to include sufficient climatic conditions to adequately address this. Strong point is the use of

a technical advisory committee and peer review to monitor progress. Technical reviewers felt strongly that peer review should include outside scientists with no connection with the proposed work. Information produced should be valuable and involves novel approaches that should contribute to better scientific understanding.

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 products would include peer-reviewed manuscripts. The technical review panel felt that the synthesis component was critical and that technology transfer should be stronger with particular attention to recommendations specifically developed for water managers.

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

Two of the reviewers felt that the budget was a little high, particularly for task 3 (baseline data collection) but all agreed that budget was adequate.

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 three regional reviews all gave the proposal a medium rating. They felt the benefits were good but did express some concern of how local involvement would occur.

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?

Progress on prior performance has been satisfactory. No concerns were expressed with the budget or environmental compliance unless there is a need to install monitoring equipment into the streambed. If so they may need to file CEQA documentation

Miscellaneous comments:

None

Delta Regional Review:

Proposal Number: 97

Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

Overall Ranking: -Low Medium -High

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

This is a good project, but is not essential.

1. Is the project feasible based on local constraints?

Yes -No

How?

o No CEQA or NEPA documents will be required to complete the proposal.

o Performance measures will be developed to track the progress of the tasks. Progress reports will be prepared regularly.

o Products include a technical memorandum or publication manuscript and model(s) to predict the composition, distribution and succession of riparian vegetation on various substrate habitat.

o Considerable overlap in the data needs amongst the tasks enhances program efficiency.

o A potential constraint is that the timing of the project depends on the seasonality of flows and on seed release by the plant species involved in the project.

o A technical advisory committee composed of scientists in fields of expertise relevant to the program, will be formed to guide the program development.

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

Yes -No

How?

o This proposal is consistent with ERP Draft Stage 1 Delta and Eastside Tributaries restoration priorities #1, 4, 5 and 8 and Multi-Region restoration priorities #1,2, 4 and 6 (plus San Joaquin River Region restoration priorities # 1, 2, 4 and 6, and Sacramento River Region restoration priorities # 1-5 and 7.)

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

Yes -No

How?

The proposal proponents are involved in other CALFED work, specifically under CALFED grant EPR /#99-B152: A Mechanistic Approach to Riparian Restoration in the San Joaquin Basin.

The project will develop parameters to guide both corridor and site-specific riparian restoration efforts in the entire CALFED area, including both expansion of desirable species and control of undesirable species.

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

Yes -No

How?

The proposal has been coordinated with local government and /or local landowners, stakeholders and environmental groups in each of the six regions in which work will be performed.

No public outreach program is identified in the proposal.

Concurrence by local interests is inferred but not specifically identified in the proposal.

Other Comments:

San Joaquin Regional Review:

Proposal Number: 97

Applicant Organization: Natural Heritage Institute

Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

Overall Ranking: -Low Medium -High

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

This proposal has the potential to provide expanded information relevant to current riparian restoration projects being implemented in the region, but is not as closely connected with project implementors to optimize the results. It is not clear that current restoration projects will have been completed long enough to develop data sets needed for this evaluation.

1. Is the project feasible based on local constraints?

Yes -No

How?

Project team has good representation and connection with a diverse cross-section of Central Valley rivers and streams. Should have no problem establishing study sites thru local contacts. Task 5 is more vague on how the expansion for site specific to river-wide model will be achieved. The approach seems to ignore upstream/downstream vegetation changes.

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

Yes -No

How?

Table 8.2 of the proposal lays out the relevant regional objectives addressed by this proposal, which were generally on target, but sometimes liberally interpreted as to how they identified that this work supported regional priorities.

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

Yes -No

How?

Builds on recent studies and data sets from earlier projects, especially restoration plans developed for Merced, Tuolumne rivers and studies on mainstem of the San Joaquin River. This research project has good linkages with practical needs associated with operations of a regulated river; potentially useful for design riparian recruitment models.

Should have described other work Stillwater Sciences and Natural Heritage Institute are already funded for and note linkage to this proposal.

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

Yes -No

How?

The answer to the question of involvement is actually both yes and no: The project applicants have existing relationships with local groups listed but have not discussed their intentions to develop this proposal with these local groups in all cases. The proposal indicates intent to coordinate with these groups and presumes a favorable reception. However, in the case of the Merced River, potential applicants for the 2002 PSP process were invited to address the Merced River Stakeholder Group, but this proposal was not presented.

Of the seven personnel identified to staff this project, six received training at U.C. Berkeley. Of the Project TAC, four of the eight current members are from that same institution. It would seem that a more effective peer review would be obtained by involving expertise from other institutions.

There is not a clear statement of if or how local groups or individuals will be involved in this project, or whether local input may influence the study. A feedback mechanism for local input would be appropriate in Task 1.

Other Comments:

Timing of this research is behind restoration planning. How will results be incorporated in to projects already funded or in planning? CALFED needs integration mechanism that enables or requires this integration.

Sacramento Regional Review:

Proposal Number: 97

Applicant Organization: Natural Heritage Institute

Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

Overall Ranking: -Low Medium -High

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

The panel felt this model, which focuses on vegetative responses, may be less likely to conflict with other modeling efforts, such as the Integrated Storage Investigation, or the Sacramento River or San Joaquin River comprehensive flood control studies. The panel also felt this study was potentially more applicable because it is broader in scope and not limited to the Sacramento River.

1. Is the project feasible based on local constraints?

Yes -No

How?

The collection of data and development of this model is feasible.

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

Yes -No

How?

The project addresses regional PSP priority 4, to conduct riparian vegetation research projects.

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

-Yes No

How?

Although the proposed project is linked to restoration efforts being conducted by the applicants, it is not directly linked to any other restoration activity in the region.

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

-Yes No

How?

The proposal indicates the project will involve stakeholder meetings. However, the involvement of local people and institutions in proposal development is not described, and the proposal does not mention any local cost share partners or local reviewers.

Other Comments:

Seed dispersal timing may not be relevant when seeds remain viable for long periods after dispersal events, and therefore timing of dispersal is not correlated with establishment.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **97**

Applicant Organization: **Natural Heritage Institute**

Proposal Title: **Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation**

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 an excellent reserch proposal. The proponents seems to have command of the current knowledge and have developed a solid, multidisciplinary approach to fill in key gaps relevant to riparian restoration.
<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?

Objectives, hypotheses, and information gaps to be addressed by the proposed work are clearly explained and logically linked. Moreover, the study design allows considerable overlap in data collection among objectives, thereby enhancing cost-effectiveness. The proposed work is timely and could provide immediate applications to high-priority restoration needs. The work is well-connected to ERP goals.

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 proponents do a nice job of summarizing existing knowledge and showing how their work will fill in gaps. The conceptual model is simple but reasonable, and adequately explained relative to the proposed work. The choice of research vs demonstration was not well justified. Although it is likely premature to launch a demonstration (of restoration) project, some planned manipulations of flow might be needed to clearly characterize the relations being studied (eg, relations between surface- and groundwater levels, relations between groundwater level and post-seedling survival). That is, it's not clear that the existing ranges of conditions are sufficient to encompass key thresholds (or other patterns) in physical and biotic responses.

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 proposed work is well designed and includes periodic review by independent scientists, which will help ensure that the approach and products retain relevance. The findings will add substantially to knowledge of riparian vegetation dynamics, especially as related to restoration needs in the Central Valley. The generated information will certainly be new and potentially useful. Whether it's actually used by water managers is hard to predict. It's not clear that they are anxious/willing to act (ie, alter water release schedules) on the basis of studies such as those proposed.

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 work seems generally feasible and very likely to produce many valuable findings. The portion that seems least likely to generate definitive findings is the modeling exercise that attempts to scale-up local vegetation patterns to corridor-scale patterns. Although this exercise will be instructive, it's not clear that it will be very prescriptive. Larger-scale follow-up studies will likely be needed to help plan effective large-scale restoration. However, the mechanistic studies proposed here are probably needed to guide the direction of such larger-scale studies.

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, which include reports, manuscripts, and review by the advisory committee, seem adequate and appropriate.

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?

Products such as reports and journal articles are likely to emerge from the proposed work. However, given the ultimate goal of CALFED, more attention to recommendations specifically developed for water managers seems desirable.

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 seems highly capable and competent.

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

The budget seems reasonable for such an ambitious project.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **97**

Applicant Organization: **Natural Heritage Institute**

Proposal Title: **Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation**

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	Although there are some limitations in the proposal's approach, the hypotheses to be tested are clear, and the tasks are well defined. The shortcomings could easily be addressed through review by a Technical Advisory Committee.
<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 this project is to develop modeling tools that are calibrated to Central Valley conditions which would help understand riparian dynamics and assist with riparian restoration. Goals are clearly written, and timely for the restoration efforts under Calfed's purvey. Several specific hypotheses are presented and linked directly to the proposed tasks.

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 justification for the study is that hydrogeomorphic controls on riparian vegetation must be understood in order to advance riparian restoration efforts. Based on the results, the authors hope their models will help to optimize flow release schedules to provide the necessary conditions for regeneration of riparian vegetation. The project supports the Calfed priority of estimating environmental flows needed to achieve restoration objectives. A simple conceptual model is presented that in the basis for the proposed work. It does not include an explanation of how risk areas for invasion by non-native species would be identified, however, which may play a large role in riparian regeneration dynamics.

Table 8 presents a useful list of Calfed priorities addressed by each task.

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 authors list specific tasks to test a series of hypotheses. Most tasks are likely to produce useful information to guide the management of riparian areas. Several questions arise, however. The authors state that the relationship between stream stage and groundwater level is not uniform, and depends in part on local floodplain stratigraphy. If there are perched water tables, will nested piezometers at different elevations be used? It is unclear how the authors would then generalize their results from site-specific studies to a reach scale due to the variability of floodplain composition. The proposal assumes seed dispersal is a function of flow magnitude, and no analysis of location of seed source is included. A landscape perspective would be useful in this respect, as opposed to just a corridor' approach. Seed germination will be tied to stage heights. How stable are the stage/discharge relationships, and where will discharge be measured? Seed germination is not the only way floodplains become revegetated. For example, willows damaged in a flood frequently resprout. How will the authors incorporate the effects of recent flood deposits on riparian dynamics? How is the disturbance history of a reach factored into the analysis?

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 tasks are clearly outlined, and each seems feasible. Permission for access to field sites would be needed, and because of the owners involved, I'm assuming that will not be a problem. The integration of a stochastic approach in expanding the scale of the model to corridors is both feasible and desirable.

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 idea of a Technical Advisory Committee reviewing the work is valid, but I am concerned that the review will be inbred. Many of the scientists who have agreed to serve on the TAC have already advised the project team members. For example, Dr. Dietrich, listed on the TAC team, is also involved in Stillwater Sciences, the project team. Many of the citations in the proposal were written by team members. Peer review should also include scientists who are not involved in this work.

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 products would include peer-reviewed manuscripts. It would be useful to include specific recommendations and summaries of research results to distribute to Calfed managers. The technology transfer aspect of the project should be stronger.

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 certainly has the experience and expertise to carry out this project. Table 9 shows that the project team is involved in many other Calfed projects, but since most of them are in progress' it is difficult to evaluate how well they have performed.

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

The costs for equipment and supplies are realistic. The cost for Task 2 (baseline data collection) of \$347,000 seems high (for example, 1200 labor hours for topographic surveys seems a bit much).

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **97**

Applicant Organization: **Natural Heritage Institute**

Proposal Title: **Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation**

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):

I have worked in the past with co-applicant McBain and Trush by participating in a workshop for defining research needs and questions in the Trinity River basin. That work was unrelated to the proposed work and I do not anticipate working with them on the research currently proposed.

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	The proposed work builds on prior research in the study streams. The applicability of final products is not clearly outlined. Budget seems large for the work conducted.
XGood	
-Poor	

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

Both project goals and objectives are clearly stated. The concept proposed is timely and relevant in terms of other projects that the investigators are working on.

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 applicants place the study in context with research that has been conducted in other locations and they outline why knowledge of riparian regeneration and restoration is important.

The selection of "research project" is justified in that the project proposes to contribute to baseline understanding of the hydrological connections to riparian stand development and regeneration. Application of the results into a large scale model is also proposed.

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 appears well-founded and the results should contribute to the base of knowledge regarding riparian system ecology. The applicants propose to describe the approaches used in a technical bulletin. While the last part of the project is to develop a model for application, it is my opinion that the product will be several steps removed from being useful to decision-makers. However, the proposal does suggest that it will contribute to the understanding the riparian processes, but perhaps not directly contribute (in the short term) to decisions regarding resource 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 approach appears feasible based on the methods provided by the applicants. This is a large scale project and the objectives all directly lead to the final phase of integration of the data collected. As with any large-scale project and interdisciplinary groups, their success will be determined on the ability of the co-applicants to coordinate and move at a pace that will allow results to be generated in a relatively short time period (3 years). The success of the project also hinges on successful integration of each objective.

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?

Some general performance measures are listed, but specific performance measures are deferred to an advisory committee. It would have been desirable for the co-applicants to list some anticipatory performance measures however on specific outcomes related to the research.

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?

Several products are listed as technical bulletins or manuscripts. For a project this large that is requesting such a significant amount of financial resources, it would be appropriate to produce technical bulletins AND manuscripts.

Applied outcomes are possible and outlined in the proposal, but I'm fairly skeptical of their success in the given timeline. The synthesis component is critical for producing an interpretive outcome.

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 diverse group of investigators appears to be capable of accomplishing the work. However, given the large number of other ongoing projects that relate to the proposed work, I'm a bit concerned by the lack of linkages, reports, results, etc. that refer specifically to the foundations that the proposed work would be building on.

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

While the budget is justified by billable hours and equipment, I found inconsistencies- for instance, one subcontractor includes overhead, the other does not. The contributions of each of the coapplicants listed is not clear to this reviewer. For instance, \$1,055,566 would go to the subcontractors (coapplicants) and \$353,963 to the principal applicant. There appears to be overlap in tasks and labor between the groups and the responsible parties for reporting results and measurable milestones isn't clear.

Miscellaneous comments:

In the proposal, I could not find sufficient information to assess the investigators' approach to providing the linkage between the goals of assessing effectiveness of environmental flow releases and prioritizing restoration actions.

The proposed work is very novel, but I would suggest breaking the questions down into a) defining the effect of a range of flow variability in different basins on riparian regeneration and hydrology, and b) use one basin as a demonstration of the model development rather than try to initially develop models for all basins.

External Scientific: #4

Research and Restoration External Scientific Review Form

Proposal Number: **97**

Applicant Organization: **Natural Heritage Institute**

Proposal Title: **Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation**

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 is an example of a well documented research proposal involving an interdisciplinary group of scientists. It is built on ongoing efforts throughout the Central Valley with CalFed clients and should be readily useable.
-Good	
-Poor	

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

The goal is to develop modeling tools that are calibrated to the Central Valley for optimizing water use and assessing the effectiveness of environmental flow releases for prioritizing restoration actions. Seven working hypotheses assert that hydrogeomorphic forces act on vegetation by constraining conditions for certain plant life stages such as seed release and dispersal, germination, establishment and adult growth. Objectives and hypotheses are well stated and 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?

This proposal represents a rigorous research effort with excellent scientific documentation clearly explaining the concepts and basis for the studies.

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 is a well designed research project involving peer review and a technical review committee to evaluate study plans, data analyses etc. The information should be most valuable and involves novel approaches that should contribute to basic scientific understanding.

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?

Integration of fine scale and coarse scale efforts across tasks and sharing of data as described in the detailed proposal make the project technically feasible and suggests a high level of 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?

In addition to the data sets, annual reports and journal manuscripts appropriate performance measures for each task will be finalized in conjunction with the technical advisory team.

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?

Data sets site-specific topographic and hydrodynamic models and GIS maps with reach vegetation analyses will be made available via publicly accessible data clearinghouse.

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 interdisciplinary group of experienced investigators have excellent credentials.

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

The budget should be adequate for the work proposed. At first examination the costs appear high but considering the number of scientists and numerous tasks it may be realistic.

Miscellaneous comments:

None

Prior Performance/Next Phase Funding: #1

New Proposal Number: 97

New Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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

CALFED #00-B04, USBR #01-FC-20-0001 - Natural Heritage Institute - Focused Action to Develop Ecologically-Based Hydrologic Models and Water Management Strategies in the San Joaquin Basin (Open Agreement scheduled to expire July 31, 2002)

CALFED #98-B23, USBR99-0031 - Natural Heritage Institute - Steelhead and Chinook Salmon Fish passage Barrier Remediation on the Guadalupe River (Complete)

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 N/A

If no, please explain any difficulties:

Unknown?

NOTE - I was not the person actually involved in either of the original agreements, so I am not personally aware of how this part of the process went. The following comments are in reference to 00-B04 which I am currently administering.

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:

Applicants quarterly reports give very little detail as to progress, no invoices submitted to date, recipient has mentioned requesting an extension. Agreement was executed February 15, 2001 and is scheduled to expire July 31, 2002.

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:

Applicants quarterly reports give very little detail as to progress, no invoices submitted to date, recipient has mentioned requesting an extension.

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

-Yes -No **X**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:

None

Other Comments:

Prior Performance/Next Phase Funding: #2

New Proposal Number: 97

New Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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

01-N32, Marsh Creek Watershed Stewardship Program: A Project to Protect Water Quality in the Western Delta, 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:

Prior Performance/Next Phase Funding: #3

New Proposal Number: 97

New Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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

Inundation of a Section of the Yolo Bypass to Restore Sacramento Splittail & Other Native Species

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

x

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:

Prior Performance/Next Phase Funding: #4

New Proposal Number: 97

New Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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

00-F04, A Mechanistic Approach to Riparian to Riparian Restoration in the San Joaquin Basin this project was listed in table provided to me but was not identified in the applicants proposal. I have not administered any projects with this applicant

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 **XN/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 **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 **XN/A**

If no, please explain:

Other Comments:

Applicant was not primary contractor in previous project listed.

Prior Performance/Next Phase Funding: #5

New Proposal Number: 97

New Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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)*

11332-99-G020 Calaveras River Spawning Habitat Evaluation Program: AFRP

11332-01-G006 Calaveras Salmonid limiting factor analysis Program: AFRP

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:

Yes, but see comments.

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?

XYes -No -N/A

If no, please explain:

Other Comments:

The evaluation of performance is based on my knowledge of project performance by Stillwater Sciences as a contracting company. However, I have not been directly involved with any of the applicants in the previously evaluated CVPIA projects.

Environmental Compliance:

Proposal Number: 97

Applicant Organization: Natural Heritage Institute

Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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

-Yes No

If no, please explain:

If the project is implemented on federal land, NEPA documentation would be required.

If not on federal land, a DFG 1603 agreement would be required and a State Lands Commission land use lease may be required if the monitoring equipment is installed into the streambed, and/or if backhoe excavations will be done within the streambed. Then, it would be necessary to file CEQA documentation.

Limited destructive sampling of vegetation may require a scientific collection permit.

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:

Unless: Research activities involve any regulatory issues described above.

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

-Yes No

If yes, please explain:

Implementation would be delayed

Other Comments:

Budget:

Proposal Number: 97

Applicant Organization: Natural Heritage Institute

Proposal Title: Making the best use of a scarce resource: Developing tools to optimize flows for restoration of Central Valley riparian vegetation

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).

There is no cost share indicated, yet there is a \$1,380 difference between the budget summary and Question 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: