Proposal Reviews

#147: Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project

Shasta Land Trust

Research and Restoration Technical Panel Review	
Land Acquisition	
Sacramento Regional Review	
External Scientific Review	#1 #2 #3 #4 #5
Environmental Compliance	
Budget	

Research and Restoration Technical Panel Review:

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

Proposal Number: 147

Applicant Organization: Shasta Land Trust

Proposal Title: Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project

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	**The goal of purchasing these large tracts of land to prevent further development is laudable. The PIs are certainly well qualified to carry this out. Unfortunately, the proposal offers no convincing evidence that ecological improvements on the land (e.g., restoration) will actually take place. Further, the surveys and inventories are not adequately explained (the methods and details of how the data will be evaluated and used).**
-Above average	
-Adequate	
XNot 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 purchase conservation easements on two privately owned properties totaling 13,855 acres and 10 miles of creek footage; replace two culvert head cuts to reduce erosion; and conduct resource inventories to assess restoration needs. The panel agrees that protecting land in this area is important; however, there were other goals listed that arent really explained (or covered with funding) in this proposal. For example, the BMP work may be more valuable than the culvert replacements and the decision to do the latter is not adequately justified compared to other options. Also there are concerns that the landowners may not follow suggested guidelines (e.g., fencing out cattle from the creek) that will protect riparian habitats.

NO real hypothesis is posed but probably is not appropriate for this proposal anyway.

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?

   If funded, the lands will be kept in agricultural use (not further developed) but we have no assurance that the ecological integrity of the land and riparian zone will be enhanced. Thus benefits for steelhead and Chinook are unknown (will depend on future actions which require more funds). Since one stated objective is to improve spawning habitat, the lack of a specific focus on performance measures in this area was considered a short-coming. Indeed, in general, specific and detailed information on what data will be collected in the surveys and inventories is lacking.

   The participants do have the capabilities to be successful in acquisition of the land. It is not clear given the lack of details on the inventories and surveys if the science has been adequately considered.

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 are largely land set aside in easements. Few contributions are expected in terms of adding to the larger scientific base --- particularly given the shortcomings expressed above. The impacts are most likely at the local level.

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

   The panel considered this high because little direct restoration will be assured on the acquired properties.

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

   The regional review panel ranked this a medium priority. There is local support for protection of this large acreage; however, there is no clear plan for outreach.

   Budget for matching acquisition is confusing.

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?

   Not significant; however, a 404 permit will be required.

Miscellaneous comments:

None

Land Acquisition:

Proposal Number: 147

Applicant Organization: Shasta Land Trust

Proposal Title: Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project

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

   XYes **-**No

   If yes, please import relevant text and citations here:

   The Cow Creek watershed ... is the most northerly un-dammed tributary to the Sacramento River. Its principal tributaries include Old Cow Creek, Little Cow Creek, Oak Run Creek, Clover Creek, and South Cow Creek, all which flow in a southwesterly direction and form the main stem of Cow Creek in Millville. The lower reaches, characterized by flat valley areas to rolling foothills with oaks and gray pines, face increasing urbanization and conversion of grazing lands to higher intensity uses. Biologically sensitive wetlands and riparian corridors, water quality, fisheries, wildlife habitat and agriculture are all threatened.

   Among the special status species that rely on the Sacramento River and its tributaries are the fallrun Chinook salmon, currently considered by the National Marine Fisheries Service (NMFS) as a candidate for listing under the Federal Endangered Species Act (ESA) and steelhead trout, currently listed as threatened under the California Endangered Species Act and the ESA. Cow Creek is recognized and documented by the U.S. Fish & Wildlife Service (USFWS) as important spawning and rearing grounds for fall-run Chinook and steelhead.

   Historic actions, mainly water diversions and impacts to water quality, have limited the use of Cow Creek by anadromous fish. Prior to settlement by Euro-Americans, Cow Creek produced all runs of Chinook salmon (Oncorhynchus tshawytscha) and steelhead (Oncorhynchus mykiss). {Now]...Cow Creek and its tributaries within the project proposal area, (i.e. Little CowCreek, Clover Creek and Old Cow Creek) still maintain populations of Chinook, steelhead and resident native fish species. The predominant use is by fall run Chinook. However, these tributary streams and, perhaps, Oak Run Creek have the potential to support increased numbers of late fall, winter and spring runs of Chinook as well as steelhead. Historically, the Cow Creek Watershed most likely supported increased runs of Chinook and steelhead. The Cow Creek Watershed Assessment (p. 2 - 18) notes that Native Americans were able to ...catch enough salmon for the entire winter....This statement is underscored by the presence of permanent villages of the Central Yana along Clover Creek in ethnographic studies (Johnson, 1978: 361; Sapir and Spier, 1943: 240, et.seq.).

   The vegetation matrix in the Cow Creek Watershed has changed significantly in the last 100 years. Changes have resulted primarily from: Exclusion of fire; Non-native plant substitution; Land management (development and timber harvest); and The current vegetative matrix from the valley to the highest elevation is denser both vertically and horizontally.

Many non-native plants have been introduced to the watershed. These include many annual grasses, forbs and brush species. Star thistle, medusahead and other non-native weeds have increased over time. Additionally, impacts to plant communities increases as residential construction replaces the oak woodland community. Impacts to the blue oak community has been discussed for several years and has drawn attention from several state and local agencies to minimize the loss of California native oaks.

Wildlife populations in the Cow Creek Watershed have been modified by changes in vegetation management and diversity. The Cow Creek deer herd is in decline due to reduction in early successional habitat.

Water quality in Cow Creek has been significantly affected by siltation and erosion in the upper watershed. Streambanks have been eroded by excessive livestock grazing along Cow Creek and its principal tributaries. The resulting soil erosion and stream channel siltation have degraded salmon and steelhead spawning substrate in Cow Creek and its tributaries. Elevated water temperature in the summer, resulting from low stream flows and the lack of riparian cover resulting from livestock grazing, frequently reach levels that are detrimental or even lethal to salmon and steelhead.

By protecting a threatened, critical resource in perpetuity, these easements will directly ensure permanent protection and assist recovery efforts for winter-run and fall-run Chinook salmon, steelhead trout, and a number of other threatened and endangered species. The project lands provide key migratory habitat, as well as terrestrial species habitat for raptors, deer, elk, and a myriad of other bird and mammal species. Natural resource interpretation and habitat restoration opportunities will be created for Shasta Land Trust. Wildlife friendly agricultural practices currently in place and those planned by SLT and the landowners will go far to protect the resources.

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

   XYes **-**No

   If no, please explain:

   x

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

   -Yes **X**No

   If yes, please explain:

   x

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

   XYes **-**No

If no, please explain:

x

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

   XYes **-**No

   If yes, please explain the classification:

   JS Ranch includes 200 acres of prime farmland + 300 acres of Farmland of Statewide Importance.

   Is the site under a Williamson Act contract?

   XYes **-**No

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

   -Yes **X**No **-**Not Currently in Agriculture

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

   XYes **-**No

   If yes, please import relevant text here:

   As Shasta County and Redding grow, they look to this watershed to provide open, developable land. The Cow Creek Watershed, depicted on Attachment #1 is under pressure for conversion to rural residential uses. As can be seen from Attachment #2, rural residential designation encircles these properties. While today the majority of the agricultural land in the Cow Creek Watershed is designated Grazing Land (as defined by the General Plan), even those lands in the Williamson Act can be converted to rural residential. In Shasta County, it is possible for landowners to pull their property out of Williamson before their 10-year contract has expired. ... Rural residential designation nearly encircles these properties.

   The Cow Creek watershed is an important agricultural area of habitat and scenic diversity. The area is facing increasing pressure for residential development and it is important to protect these values with willing private landowners. The cost of the easements is relatively low compared with other private land in California.

Other Comments:

x

Sacramento Regional Review:

Proposal Number: 147

Applicant Organization: Shasta Land Trust

Proposal Title: Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project

Overall Ranking: **-**Low **X**Medium **-**High

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

The project has CVRWQCB and WSRCD support, but is not directly linked to Sac Valley PSP priorities.

There is concern the Trust will not be able to raise the additional $3 million to complete the acquisition.

1. Is the project feasible based on local constraints?

   XYes **-**No

   How?

   Local support form landowners & other groups. Previous successful purchase of Fenwood ranch with TPL. Willing sellers. Both ranches highly visible and owners are well-respected in the community, which could lead others to pursue easements.

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

   XYes **-**No

   How?

   CVPIA: various - Boil., Implementation, Economic Other Stage 1 Actions-#6: Reducing stressors - sediment from ag lands. Cow Creek not directly linked or mentioned in 2002 PSP. Calls upon ERP-Goal 4: Habitats-Chinook & Steelhead. Erosion & sediment reduction through demonstration project. Protection of property, riparian and upland species habitat. ERP Goal 5: Non-native invasive species. Easement requires landowner to control NIS. Future projects will include NIS eradication

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?

Previous easement on another property, other CALFED proposals show interest by landowners in pursuing easements. Is linked or supported by Cow Creek Watershed Assessment, which will guide (in-part) future restoration priorities.

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

   XYes **-**No

   How?

   Cow Creek Watershed Assessment is out for public review. Support from local membership in Trust & several groups & agencies. Long-term plan calls for a local advisory team to oversee restoration projects. Project has CVRWQCB and WSRCD support.

Other Comments:

Positives: large acreage & riparian frontage. Local land trust. Watershed assessment in place. Chinook/steelhead species protection. Upland oak habitat. Local support. Potential block for spread of Redding. Negatives: Budget for matching acquisition funding is confusing. C-5 for second half of acquisition is for $15K+. No clear plan for outreach on demo project. 1 year +/- monitoring may not be enough for that as these erosion fixes can be difficult.

Principal benefit is to wildlife, not to fish, as the creek would need a lot of work to be viable Chinook habitat. There was concern about the need for strong legal support for these small land trusts to carry out multiple future easements. The small trusts are needed, as larger ones are becoming reluctant to hold easements due to the many they already have.

Grant writer who is to acquire matching funds (150 hrs @ $30/hr.) not listed as a task, just included in budget under consultants.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **147**

Applicant Organization: **Shasta Land Trust**

Proposal Title: **Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project**

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:

<u>Excellent:</u> outstanding in all respects;
<u>Good:</u> quality but some deficiencies;
<u>Poor:</u> serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**The approach is somewhat unclear, with the particular activities, goals, and objectives scattered throughout the proposal. It was hard to tell exactly what the applicants proposed to do, and certain activities were not brought up until near the end of the proposal. The culvert restoration project was inadequately described. The project is justified and feasible provided the matching funds are secured.**
XGood	
-Poor	

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

   The problem statement on pp. 1-4 of the proposal is extensive, but goals and objectives are not explicitly set forth in their own section. However, in the first two paragraphs of the Justification section the proposed actions are described, which could be considered goals:

   1. Purchase conservation easements on two privately owned properties totaling 13,855 acres and 10 miles of creek frontage (this would stop development, allow grazing to continue, protect habitat, prevent sale of water rights, and restrict oak harvest);

2. Replace two culvert head cuts to reduce erosion as a demonstration project; and

3. Conduct resource inventories to determine future needs for restoration, erosion control, and reducing grazing impacts.

Additionally, objectives are stated on p. 7 in the Justification section as: achieving an acceptable level of increase in the number of spawning anadromous salmonids, conserving riparian or vernal pool dependent species, or stabilizing upland native species. However, these seem to be more like desired outcomes than specific objectives to be achieved by the project. No hypotheses are stated, which is not a problem for the three goals listed above because they do not involve descriptive or experimental scientific studies. For the objectives listed on p. 7, hypotheses may be appropriate, but the proposal does not include any detailed monitoring plan for evaluating if the objectives have been met.

The concept is timely and important, given the strong emphasis on restoration of habitat in the Sacramento River watershed for Chinook salmon and steelhead, both of which still occur, albeit at reduced numbers, in Cow Creek and its tributaries within the project area.

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

   The conceptual model is presented in a flow-chart diagram on p. 7 that highlights various activities dealing with the proposed project. However, the flow pattern is not clear. For example, the flow chart seems to suggest that if the first item Inventory Properties for Necessary Rehabilitation was Successful, the process stops and none of the other items are performed (which seems wrong). If the first item is Unsuccessful, why go on to the next item, Implement Phase I Erosion Control Measures? I would say that the inventory of properties should be redone if it was unsuccessful. I dont think the problems with the flow chart are a significant flaw. The proposed project is straightforward and seems to be unnecessarily complicated in the way the flow diagram is set up and described in the text. The selection of the culvert replacement as a demonstration project seems justified. And acquisition of the property can only be done as a full-scale implementation project, and so is also 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 outlined in the proposal and summarized above under Goals is straightforward. The conservation easement acquisition is a legal and economic transaction, and so comments on its scientific merit are not applicable. The culvert replacement sounds as if it will be a relatively simple construction project, although specific details of construction methods are not included in the proposal. Surprisingly, the culvert replacement is not mentioned in the Approach section and it is unclear who will do the work. The inventories of erosion and irrigation problems are more involved, but the methods described sound scientifically valid. Also, these inventories will be conducted by the Western Shasta Resource Conservation District (WSRCD) and the consulting firm Streamside, who presumably have expertise in conducting these types of assessments. A potentially major hindrance to the success of this project is not a scientific issue, but rather a financial one. Purchasing the conservation easements will require $6.22 million, with CALFED being asked to contribute $3.08 million. The source of matching funds for the remaining $3.14 million has not been identified, and the applicants have budgeted

for 150 hours of a grant writers time to secure additional funds. I am not an expert in these sorts of transactions, but I ask the question: What happens if CALFED funds the project but the applicants cannot come up with the remaining millions necessary to complete the project? The project may provide information useful for setting up future conservation easement projects, and the erosion control demonstration site will likely increase implementation of similar projects by other landowners. However, it is critical that the details of project activities be disseminated to other landowners, natural resource managers, and conservation groups.

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?

   From a scientific perspective, the project is relatively straightforward and technically feasible. The culvert restoration and the inventories have a high probability being successfully completed. As noted above, the legal and financial aspects of purchasing the conservation easement may ultimately determine whether or not the project is successful. The members of the project team are currently involved in another conservation easement, which likely gives them some experience with working out the legal and economic details of such projects.

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 project performance measures are well documented on p. 10 of the proposal. The purchase of the conservation easements and implementation of the demonstration project are simple performance measures. The monitoring and enforcement activities and the inventory reporting and database are worthwhile measures of continuing compliance with easement restriction and improvement in water quality.

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 of the project will include the protected land, the demonstration project, and inventory reports. These are valuable outcomes that should help to expand and improve restoration activities in the Sacramento River watershed. Specifically, if the project is a success, it may serve as a model that could increase the willingness of other landowners to set up conservation easements on their ranches.

   Interpretative activities are not described in the proposal.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

   Much of this project requires capabilities in setting up legal and financial arrangements to establish the conservation easements. Members of the project team have experience in setting up land protection programs, creating public/private partnerships, land acquisition, and conservation easement establishment. The inventory and monitoring components require scientific knowledge, which is adequately provided by the person responsible for overseeing these components and who has an undergraduate degree in biology and an M.S. in biological conservation. As mentioned previously, WSRCD and the consulting firm Streamside will also be

involved in monitoring and assessment, providing additional expertise. The project team does not seem to have the capability to implement the proposed culvert head-cut replacement, which I imagine would involve heavy equipment for earth moving and other construction and engineering activities. Insufficient details are included to evaluate the culvert project and whether or not the team has the capability to do it.

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

   It seems strange to include funds for a grant writer to get matching funds in the proposal. I feel it is the responsibility of the applicants to procure the matching funds. The majority of the project cost is going toward setting aside land. I am not familiar with land costs in the project area, and so am unable to comment on whether or not the proposed land costs are reasonable.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **147**

Applicant Organization: **Shasta Land Trust**

Proposal Title: **Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project**

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:

<u>Excellent:</u> outstanding in all respects;
<u>Good:</u> quality but some deficiencies;
<u>Poor:</u> serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**This proposed restoration would positively influence streams and floodplains in this area. It does not have a strong monitoring design and would not greatly expand our understanding of restoration or ecosystem responses. But it does directly address restoration of critical ecosystem components.**
XGood	
-Poor	

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

   The proposal clearly states the goal of acquiring easements and implementing riparian restoration. Objectives are identified, though many of the procedural steps are not described in detail. Hypotheses are not rigorous testable scientific hypotheses.

2. **<u>Justification.</u>** 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 project is adequately justified based on regional assessment and priorities. The conceptual framework is procedural and not ecological.

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?

   Likelihood of success will be determined by the negotiation process with landowners. The proposed restoration efforts would provide riparian protection for several miles of streams that influence chinook salmon and steelhead.

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?

   no comment

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?

   Biological measures of performance are very simple and provide only minimal understanding of responses.

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

   The project will add little to the understanding of the Bay Delta Watershed. It is focused on protecting habitat in private land ownership. As such, it will contribute locally to the restoration of stream habitat in the Cow Creek watershed. It will provide better aquatic habitat for chinook salmon and steelhead. Ecologists and environmental scientists will gain relatively few new insights from this project.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

   no comment

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

   The budget is based almost entirely on acquisition of easements. It appears consistent with that use of funds.

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **147**

Applicant Organization: **Shasta Land Trust**

Proposal Title: **Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project**

Conflict of Interest Statements:
I have no financial interest in this proposal.
XCorrect
-Incorrect

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

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;
Good: quality but some deficiencies;
Poor: serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**This project proposes to purchase easements for two properties in the Cow Creek watershed. The aquisition of these easements is probably valuable but very costly. The remainder of is proposed is not well justified based on scientific merit.**
-Good	
XPoor	

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

   The goal of purchasing easements for two properties in the Cow Creek watershed is very clear and is an important goal. Protecting land around Sacramento River tributaries from development is obviously a very worthwhile venture. They also propose some survey/inventory work and culvert replacements. The hypothesis is trivial with respect to the easement hypotheses are not really appropriate. There are no testable hypotheses associated with the other portion of the proposal or at least they do not outline a way to test the success of the other work.

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

justified?

The conceptual model (page 7) is really just a diagram of the broad objectives of the proposal and is not explanatory of the underlying basis. The selection of the demonstration project (culvert replacement) is probably worthwhile but it is not clear why the particular site was chosen over others nor how the success will be evaluated.

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?

   approach is not well designed. The proposal is very broad and vague on scientific portions (the field survey of channel and bank conditions and the culvert replacements). We are told they will do this but not details on how or why are included. For example, what measures will be made to evaluate channel and bank conditions will they do geomorphic surveys (transects, slope, etc.), pebble counts? Will they estimate bankfull discharge or degree of incision rate using accepted (gemorphic/hydrologic) scientific methods? There is no evidence that the work will add to the general knowledge base or new methods developed. The information may be useful for making future decisions about the next phase of conservation work on these properties but we really cant assess the likelihood of this.

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 easement purchase seems likely to be successful. The landowners are prepared to sell the development rights. The likelihood of success of the demonstration project is not at all clear. (see 3 above)

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 are to complete the purchase and do the inventory and culvert replacement. But how the information that is collected (from the surveys/inventories) will be analyzed is not described. Of most concern it that no information is provided on assessing the impacts of the culvert replacements. W e are told they should reduce water quality, channel conditions, channel and floodplain function. But no measurements of any of these parameters are discussed.

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 are land set aside in easements. Contributions to large data management systems include storing the information from the inventories on CDs in a fireproof sate. Minimal contributions except to these tracks of land are expected.

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?

This is difficult to assess. They are certainly well respected individuals with solid credentials. The issue is are the credentials adequate for the proposed demonstration project? Given the way the proposal is written, it is not clear they have thought through the science adequately.

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

   The budget is extremely high given the work proposed. The easements are certainly significant and expensive. But the demonstration project regardless of the budget is not justified based on the outlined methods.

Miscellaneous comments:

External Scientific: #4

Research and Restoration External Scientific Review Form

Proposal Number: **147**

Applicant Organization: **Shasta Land Trust**

Proposal Title: **Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project**

Conflict of Interest Statements:
I have no financial interest in this proposal.
XCorrect
-Incorrect

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

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;
Good: quality but some deficiencies;
Poor: serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**The proposal contained the necessary information, however, including the draft conservation easement would provide valuable information in terms of the restrictions being placed on the land. Also, there were many "goals" listed that did not necessarily fit into the proposed products or outcomes of the project.**
XGood	
-Poor	

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

   The goals are stated in the proposal (pg 6) and reference the "Action Items" from a previously completed "Cow Creek Watershed Assessment, Public Review Draft". Many of the items listed may be achieved with the proposed funding, such as encouraging the retention of large tracts of land as agricultural land use or open space, and obtaining easements. There are however, other items listed that may require further funding/proposals to achieve. Namely the items addressing actual Best Management Practices(BMPs)that may be implemented to improve aquatic and terrestrial habitat. The concept of setting aside land and preventing development adjacent to sensitive areas is quite timely and important, especially with the threatened status of many species, such as the Chinook Salmon and Steelhead.

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 aquisition of easements in this particular area is justified based on the information provided addressing nearby development pressures. It is feared that if tracts such as this are not preserved at this time that the development will continue in this area, unchecked, and futher degrade the habitat and condition of the Creek. The site selection appears to be appropriate for the goals listed, however to qualify as a full-scale implementation project, I would prefer to see actual BMP implentation (other than the culvert installation) as part of tis proposal. My concern is that the land may be aquired, but there are no assurances at this time that the landowners will agree to follow such guidelines as removing the cattle from the Creek and adjacent riparian areas. This is one of the most critical aspects of stabilizing this land and improving habitat.

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 in regards to easement aquisition is well designed and appropriate for meeting the objectives of preserving agricultual/open space lands. The results of that aspect of the project may not necessarily add to the base of knowledge. Other aspects of the propsal, including the inventory, may provide the most useful information, in terms of future decisions regarding this property and restoration efforts. In terms of additions to the base of knowledge regarding BMPs for habitat improvements in agricultural areas, the proposal ,as is, does not provide this.

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 of the easement aquistion is documented in that the landowners are currently in negotiations regarding the easement. Also, the Trust is currently finalizing a similar project on another tract of land with similar procedures. The approach regarding the other aspects of the project, culvert replacement and inventory, are somewhat documented. I would prefer to see more specific and techincally based information in respect to the culvert replacement and iventory and the suggested actions for future restoration. the likelihood of success on aquiring the land and the easement is based on the landowner cooperation. The scale of the project, in reference to land aquisition and protection, is consistent with the objectives. The culvert replacement, however, I feel is but one minor alteration that must be made on this land to significantly improve habitat and the condition of the land. Further improvements are most likely necessary based on the amount of land involved (+10,000 acres).

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 for the conservation easement are based on the landowner acceptance and indirectly on the interest generated by this project in the community. These are appropriate performance measures for an easement. Regarding the demonstration project (culvert replacement)the measures are not clearly defined. No specific monitoring practices are provided, other than the time frame (bi-annual). This does not provide enough information to determine if this aspect of the project is a success or not. The inventory reports may not be

monitored, rather their success is based on the completion of the reports.

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 aquistion of the easements on these large tracts of land provides a product of tremendous value in respect to preservation of open space. The culvert replacement may provide the product of an improved water crossing, and thereby improve water quality. The inventory may provide useful information for future restoration efforts, and the time and expertise involved in generating this inventory makes this a product of value. In terms of interpretive outcomes, it depends on the efforts that follow this project based on the results of the inventory.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

   The applicants for this proposal are currently executing a similar project on another tract of land. Successful completion of the ongoing project will determine the tract record of the applicants. In terms of qualifications, the applicants appear to have appropriate experience and expertise necessary to implement a project of this nature. The infrastructure appears to be appropriate for a project of this nature, and where the applicants may be lacking, consultants may be employed.

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

   The budget is reasonable considering the cost of the easement aquisition on such large tracts of land. There also appears to be little "padding" in other categories within the budget provided. The fees of the Trust, to oversee and execute this project, are reasonable. I would, however, perfer to see more "demonstration" of BMPs on this land as the issues within this watershed include sedimentation due to livestock grazing, loss of riparian cover, and water diversions resulting in elevated water temperatures. One potential way to achieve this without increasing the cost of the project, would be to include restrictions in the easment agreement that would require cessation of any access to the riparian area by cattle or other livestock, and reestablishment of the riparian buffer with native species.

Miscellaneous comments:

Overall, I feel that this is a sound proposal that may be improved with additional information and more agressive efforts in reagrds to improving habitat for the Chinook salmon and steelhead. The additional information should include an example of the easement agreement that is being negotiated with the landowners. This would allow for the funding agency to determine if the language and restrictions were appropriate for the sensitive nature of the land being protected. Purchase of an easement with few restrictions is not nearly as valuable as one that ensures protection by clearly defining acceptable pracices on tha land included in the agreement. Simply deterring development on this land will not succeed in dramtically improving habitat for threatened species.

External Scientific: #5

Research and Restoration External Scientific Review Form

Proposal Number: **147**

Applicant Organization: **Shasta Land Trust**

Proposal Title: **Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project**

Conflict of Interest Statements:
I have no financial interest in this proposal.
XCorrect
-Incorrect

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

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;
Good: quality but some deficiencies;
Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	**The proposal wrestles with the problem that most of the land in this Country is privately owned and in order to have a successful restoration project you must often work on private land. In many cases this means that in order to obtain the cooperation of private landowners it is necessary to compensate them for the use of their land. This is especially true went the restoration involves taking land out of an economic use such as converting cropland to a riparian buffer.** **The approach that is being taken by the Shasta Land Trust is to first protect a portion of the land in the Cow Creek Watershed from residential development by purchasing conservation easement from the landowners. Once the easements are obtained the Shasta Land Trust will work with others to do more comprehensive evaluations of the land in the easements to determine what specific environmental problems are present. After specific environmental problems are identified, the Trust will work with the landowner to correct the problems. While this approach is very credible, it is also very expensive. In order for this approach to be successful it may be necessary to purchase conservation easements on most of the land in a watershed. In the Cow Creek watershed alone this could cost hundreds of million of dollars. Because of the high cost of this type of approach it is important that the main thing driving easements purchases is not just the willingness of the landowner to sell their easements, but that some overall plan for strategically purchasing specific conservation easements be developed. Other than the fact that the two ranches in question are located inside of the Cow Creek watershed, it is unclear why these specific properties have any special value.** **It is also important to note that conservation easements by themselves only prevent the land from being converted into a more intensive land use, and will not necessarily lead to improved spawning conditions for anadromous and resident fish species. While the Shasta Land Trust does appear to have the commitment to work with the landowners to improve their management of their land, it is unclear if this alone will be enough to significantly improve spawning conditions in the stream system. There is no question that what the Shasta Land Trust proposes is a positive step, unfortunately from the standpoint of restoring important aquatic and terrestrial habitat, it is a fairly small step at a very high cost.**
XGood	
-Poor	

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

   Goals and objectives are clearly stated and internally consistent in the document. The proposal does not really contain a hypothesis since the main thrust of the proposal is to obtain conservation easements on two ranches so that land will remain in agricultural land use. The proposals authors indicate that there is development pressure in the area and if the land is not preserved in conservation easements the land will eventually become residential developments. Implementation of most restoration measures will occur once the easements are obtained and a survey of the steams has been done.

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 present proposal is not a scientific study but mainly a request for 3 million dollars to help purchase conservation easements on two ranches. While the proposal does indicatr two culvert pipes will be replaced to help correct some stream erosion problems, no specific information on what will be done at these sites is presented in the proposal. The proposal also indicates that a survey of the erosion problems on the streams will be conducted. While conducting such a survey is a good idea, it is not really possible to evaluate if the restoration work will be successful until the survey is done and a more specific restoration plan is developed. The overall conceptual model of purchasing conservation easements and then working with landowners to improve the environmental management of their land is clear and appears to be 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 primary goal of the proposal is to purchase a conservation easement on two ranches. Once the easements are obtained the Shasta Land Trust will work with the landowners to do a detailed survey of streams on the property and work with the landowner to correct environmental problems. The proposal lists possible things that could be done on the ranches to restore the streams but implementation will depend on additional funding and landowner cooperation. Purchasing conservation easements is not a new idea and if there is no reason at this time to believe that the project will add to the base of knowledge, generate novel information, methodologies or approaches.

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 approach is sufficiently documented and technically feasible. If funded, this project will in all likelihood keep the land in question in agricultural land use. Whether the project will be successful in restoring habitat for steelhead and Chinook is unknown since the proposal does not present any specific information on what restoration work will be done in the future or on how much additional land would need to protected to make this approach feasible on a watershed basis.

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 preserving agricultural land in the Cow Creek watershed, the proposal also has the objective of increasing salmonid spawning in Cow Creek as well as preserve riparian and vernal pool habitat. Other than the statement that the Shasta Land Trust will work with the California Department of Fish and Game or other natural resource management agencies, it is unclear how success in achieving these goals will be measured. No monitoring plan was presented in the proposal.

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 main products are the purchase of conservation easements, construction of a small erosion control project and an inventory of stream erosion problems on the two ranches. For the most part these products will be primarily only of local interest. The proposal did not contain an educational or monitoring component. If funded this project will however, help sustain the Shasta Land Trusts efforts to encourage other large landowners in the area to place their lands in conservation easements and to be better stewards of their lands. The proposal indicates that Shasta Land Trust is presently working to secure a conservation easement on one ranch and finding this proposal will help sustain their efforts.

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 Shasta Land Trust does appear to have the necessary expertise to acquire conservation easements in the area. It also appears that the Shasta Land Trust working with the Western Shasta RCD and a private consultant will have the necessary expertise to evaluate erosion problems along the stream. However, without more specific information on the type of environmental problems that are present or the restoration approach that will be taken, I am not really able to comment on the capabilities of those involved this project in correct the problems.

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

   Because the proposal concentrates on obtaining conservation easements on two ranches in the watershed the cost to benefit ratio must be considered very high. Very little direct restoration work will result from the funding of this proposal. The primary benefits are protecting agricultural land from residential development. Approximately 97 % of the funds requested would be used to obtain conservation easements, 1% will be spent on an erosion inventory and 0.3 % on a single demonstration erosion control project.

Miscellaneous comments:

The electronic version of the proposal that was available from the Calfed web site did not contain several attachments. I completed my review with the assumption that their absence was do to a glitch in the process and that SLT did have the supporting documentation.

Environmental Compliance:

Proposal Number: 147

Applicant Organization: Shasta Land Trust

Proposal Title: Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project

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

   -Yes **X**No

   If no, please explain:

   A Clean Water Act 404 permit will also be required.

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

   -Yes **X**No

   If no, please explain:

   No time or money has been budgeted for permitting or filing environmental documents.

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

   -Yes **X**No

   If yes, please explain:

   If appropriate permits are obtained, this project is feasible.

Other Comments:

Budget:

Proposal Number: 147

Applicant Organization: Shasta Land Trust

Proposal Title: Cow Creek Easement Acquisition and Riparian Habitat Enhancement Project

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

   XYes **-**No

   If no, please explain:

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

   XYes **-**No

   If no, please explain:

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

   XYes **-**No

   If no, please explain:

4. Are appropriate project management costs clearly identified?

   XYes **-**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?

   XYes **-**No

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

6. Does the budget justification adequately explain major expenses?

   XYes **-**No

   If no, please explain:

7. Are there other budget issues that warrant consideration?

-Yes **X**No

If yes, please explain:

Other Comments: