Proposal Reviews

#137: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

San Francisco State University

Initial Selection Panel Review	
Research and Restoration Technical Panel Review	
Bay Regional Review	
External Scientific Review	#1 #2 #3
Prior Performance/Next Phase Funding	#1 #2
Environmental Compliance	
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Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP
Initial Selection Panel Review

Proposal Number: 137

Applicant Organization: San Francisco State University

Proposal Title: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

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:

Technical and external reviews rate at low-medium levels. Reviewers had concerns about design and approach and the linkage to supporting the ERP. Also, the proposal articulates few strategic benefits for CALFED. There is priority linkage regarding new information about ecosystem elements, but of questionable value to future ERP actions. Regional support was modest.

Research and Restoration Technical Panel Review:

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

Proposal Number: 137

Applicant Organization: San Francisco State University

Proposal Title: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

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 proposed research addresses important unknowns (or at least uncertainties) in regards to the northern SF-Bay and Delta's food web. The authors have excellent track-records in examining the secondary production and food web connections of planktonic invertebrates. The authors have written a thoughtful and detailed research proposal, and CALFED stands to gain new and important knowledge. However, the panel and reviewers had concerns about aspects of the experimental design and approach. In addition, the panel was concerned about the absence of explicit connections to the CALFED Restoration Program and other CALFED funded food web-related proposals. The proposed work is important, and the researchers have excellent qualifications; thus, they should seek to remedy the panels concerns in a future proposal submission.**
-Above average	
XAdequate	
-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 broad general goal to "assess the conditions under which fish production may be highest" and to "provide insights into the structure, function and limits on productivity of the lower planktonic food web" are definitely timely and important to the CALFED Bay-Delta Restoration Program. Clear and testable hypotheses are presented and interfaced with our current knowledge of the SF-Bay-Delta Ecosystem.

The proposed work is definitely justified relative to existing knowledge from both the global and Bay-Delta regional perspective. Declines in fish forage food are well documented in the SF-Bay ecosystem, hence identification of energetic pathways essential to fish forage food is important information for restoring the ecosystem.

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

   The general approach is well designed and results are likely to add to our base of knowledge. The authors have an excellent record of generating novel information and approaches. Value to decision makers is possible, but not certain.

   The literature review is excellent, and the proposed research is thoughtful. In general, the approach is well documented and technically feasible. However, reviewers had several concerns about some of the details of the proposal: 1) Why were bacterioplankton not included?, 2) What role does dissolved organic matter play in the metazoan food web, 3) Is detrital particulate organic matter important in the Suisun Bay Region, 4) Why is the proposal so copepod-centric in terms of the macro-zooplankton?

   More serious concerns were raised about the absence of an adequate hydrodynamics component since the proposal deals with the role of turbidity in Suisun Bay.

   CAPABILITIES: Excellent. Highly qualified.

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?

   Success is highly likely in terms of the science proposed, and direct benefits to the CALFED program are possible. However, the proposed work is not carefully integrated with other food web related research.

   Interpretive outcomes in terms of the CALFED Restoration Program are possible, but not certain. The proposal lacks explicit connections to the CALFED Restoration Program.

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

   The proposal was expensive for the proposed work. The connection with UC Santa Cruz was vague considering that all of the work will be conducted at SFSU-Tiburon

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?

   MEDIUM- Concerns were raised about the lack of explicit CALFED connections.

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?

OK

Miscellaneous comments:

None

Bay Regional Review:

Proposal Number: 137

Applicant Organization: San Francisco State University

Proposal Title: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

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

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

The panel supports research, like this, that delivers scientific information which improves understanding about key ecosystem processes in the Bay + Suisun Marsh or about species and habitats which are insufficiently understood. It's a good project. buut not essential to progress in the Bay now.

1. Is the project feasible based on local constraints?

   XYes **-**No

   How?

   .

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

   XYes **-**No

   How?

   .

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?

   Would be nice to see stronger/direct linkages how outcomes/products will be incorporated into exisiting models.

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

   XYes **-**No

How?

Could have stronger connectivity to Bay/Delta modeling efforts.

Other Comments:

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **137**

Applicant Organization: **San Francisco State University**

Proposal Title: **Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?**

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	**I gave this proposal a good rating, but only if year 3 is omitted. I believe that the experimental design does not address the central question of what is causing declines in fish populations. However, it is a very well designed project which should result in a publishable body work on a little-studied, but very important, component of the ecosystem. .**
XGood	
-Poor	

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

   The goals and hypotheses are clearly stated and testable.

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 justification is tied to the decline in fish stocks as being due to reduced zooplankton production as a result of increased benthic grazing of phytoplankton by Potamocorbula.

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

   The approach is broken down into tasks: Task 1 Monitor the abundance and taxonomic composition of microzooplankton at 6 sites in North Bay over 2 years. Task 2 Measure microzooplankton growth and grazing rates at 6 sites every quarter. Task 3 Measure microzooplankton predation rates by copepods at 6 sites every quarter. Task 4 Work up data.

   To me there seems to be a disconnect between the JUSTIFICATION and APPROACH. They are not testing the effects of benthic grazing on the system at all. They seem to be more interested in revisiting the Murrell and Hollibaugh (1998) study because of perceived deficiencies in its design (only sampled in high turbidity environments). This may be valid but I still think they do not do a sufficient job in relating their conceptual model of high turbidity/low turbidity shift in grazing to the actual environment. Just picking sites that are shallow vs deep does not seem a valid test of the hypothesis. We know there are many other inherent differences between water columns over a shoal and channel; to say turbidity is tantamount in not justified. They would need to do the experiments wherein they manipulated the level of turbidity and try to generate a functional response curve. This might then be applied to areas of the Bay having such turbidity levels.

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?

   This study will provide a picture of microzooplankton grazing and predation in the shallows and channels of San Pablo and Suisun Bays. The feasibility of this project in addressing the central question of the impact of increased benthic grazing on the pelagic food web is not addressed. Above comments in APPROACH also apply.

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 should be better defined. Saying only that this is research and will be reported in the literature is not enough. However, none of the other scientific proposals I read had much to say about this topic.

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 described are not likely to be realized with the current experimental design.

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 PIs are all highly qualified and have put together an impressive field and research team.

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

   The final year of the project is set aside for working up the data. Wouldnt it be nice if all grants allowed us that pleasure? However, aside from large modeling efforts, it is rarely justified to do this. I do not believe this is one of those cases.

Miscellaneous comments:

None

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **137**

Applicant Organization: **San Francisco State University**

Proposal Title: **Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?**

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 is solid scientific research on a topic of interest. What is lacking is a carefully considered linkage between the proposed research and how its findings could be used to contribute to restoration of the Bay/Delta.**
XGood	
-Poor	

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

   The goal of the proposed research is to determine the role of protistan microzooplankton as a food resource for copepods in North San Francisco Bay and thereby to determine if changes in microzooplankton (at the base of the planktonic food web) could be responsible for observed declines in at-risk and harvestable fish species. The goals are clear and the data generated will be of scientific interest. What is less clear is how essential to restoration of the ecosystem is understanding trophic interactions in pelagic microzooplankton. The authors did not convince me that "the success of future restoration efforts depends in large part on a quantitative understanding of the trophic relationships at the base of the food web in the Bay/Delta, and how energy is transferred upward to fish."

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 model structuring their experiments is clearly stated. What is not clear is how this information would be used to develop restoration strategies for fishes in the Bay/Delta. If the proposed research were extremely successful and resulted in a dozen publications, how would this information be used to propose management alternatives that would help restore the Bay/Delta? If all the hypotheses listed on p. 3 were supported by the data collected, how would a manager use that information to alter decisions?

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

   The approach is well-designed and appropriate. The project will clearly add to the base of knowledge. The authors do not seem to have given much thought to how this information would be useful to a decision-maker. Sampling is timed to coincide with a critical period of fish recruitment, but nothing is said of what fish species are of interest, what their habitat and food requirements are. How do the sampling sites relate to where larval/juvenile fishes are found. The linkages to the rest of the food web are poorly developed.

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?

   It is clearly feasible, although previous work by Hollibaugh suggests that microzooplankton are unimportant in turbid parts of the Bay. This proposal suggests that they will be more important in clearer parts of the Bay.

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 performance measures appear to be primarily getting papers accepted in peer-reviewed journals.

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 scientific value will come from the project. It is difficult to assess whether products of value to a decision-maker will come from the project. The researchers appear to have given inadequate thought to how the findings from the research would be used.

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

The team appears quite competent to carry out the proposed research.

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

   The budget appears appropriate.

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **137**

Applicant Organization: **San Francisco State University**

Proposal Title: **Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?**

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 proposed research addresses important unknowns (or at least uncertainties) in regards to the northern SF-Bay and Delta's food web. The authors have excellent track-records in examining the secondary production and food web connections of planktonic invertebrates. The authors have written a thoughtful and detailed research proposal, and CALFED stands to gain new and important knowledge. I do have some concerns about aspects of the experimental design and approach (see Miscellaneous comments). I also have concerns in terms of full-funding since the lead author is involved in other CALFED proposals and the budget seems high for the proposed work. Overall the proposed research is Excellent/Very Good, but I must rate GOOD in terms of CALFED finding for the following reasons: 1) detail regarding detrital and bacterioplankton resources to the metazoan food web, 2) direct connections to the CALFED Restoration Program and other CALFED funded food web- related proposals are not explicit, and 3) the budget seems high for the proposed work and lack of explicit CALFED connections. The proposed work is important, and the researchers have excellent qualifications; thus, CALFED should seek remedies to the criticisms above.**
XGood	
-Poor	

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

   The broad general goal to "assess the conditions under which fish production may be highest" and to "provide insights into the structure, function and limits on productivity of the lower planktonic food web" are definitely timely and important to the CALFED Bay-Delta Restoration Program. Clear and testable hypotheses are presented and interfaced with our current knowledge of the SF-Bay-Delta Ecosystem.

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

   Yes, the proposed work is definitely justified relative to existing knowledge from both the global and Bay-Delta regional perspective. The authors present a thorough and thoughtful conceptual model in terms of both food web dynamics and Bay-Delta interests. Declines in fish forage food are well documented in the SF-Bay ecosystem, hence identification of energetic pathways essential to fish forage food is important information for restoring the ecosystem.

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 general approach is well designed and results are highly likely to add to our base of knowledge. The authors have an excellent record of generating novel information and approaches. Value to decision makers is possible, but not certain.

   The global and regional literature review is excellent, and the proposed research is thoughtful in both experimental detail and broader connections.

   I have some concerns concerning the details of the proposed research (stated below).

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?

   Yes, the approach is fully documented and technically feasibvle. Success is highly likely in terms of the science proposed,and direct benefits to the CALFED program are possible (assuming careful integration with other food web related research).

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?

   Project-specific performance measures are not explicit in the proposal, but the authors (most importantly the lead author who is directly in charge of the vast majority of the proposed work) have excellent track-records.

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?

   Yes, the authors have excellent publication records and seek connections with the work of others involved in the CALFED Restoration Program. Interpretive outcomes in terms of the CALFED Restoration Program are possible, but not certain.

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

   Excellent. Highly qualified.

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

   seems somewhat expensive for the proposed work

   Full-time technician, graduate student, and post-doc for 3 years is exceesive in terms of research proposed

Miscellaneous comments:

THESE COMMENTS ARE INTENDED TO HELP THE AUTHORS:

The approach and experimental design are generally sound and clearly presented, but the authors have excluded the role of bacterioplankton. Dissolved organic matter dominates the system's organic mass balance, hence even refractory DOM must play an important role in the metazoan food web. In addition, detrital particulate organic matter is certainly a component of the OM mass balance in the Suisun Bay Region.

The research seems very copepod-centric in terms of the macro-zooplankton.

The role of turbidity in terms of the proposed research is very interesting, but the authors have not considered the complex hydrodynamics of the proposed research in adequate detail. Variable re-suspension and complex inputs result in SPM with an extremely wide range in organic SPM relative to inorganic SPM, further the role of phytoplankton (or new OM) vs. old detritus is likely variable throughout the Suisun Bay region.

Murrell and Hollibaugh's study (1998) was remarkably thorough for this area of aquatic ecology, and a deep-channel bias was possible; but, the current work must advance (not reconcile) the findings of this past work. Are there practical alternatives to the the dilution approach?

The "electivity" Figures and explaination are not crystal-clear. I found them to be confusing.

Prior Performance/Next Phase Funding: #1

New Proposal Number: 137

New Proposal Title: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

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

   CALFED #99-B13, USBR #00-FC-20-0021 - University of Washington - Understanding Tidal Marsh Restoration Processes and Patterns

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 contact amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

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

   If no, please explain deficiencies:

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:

Other Comments:

While I administer CALFED Agreement 99-B13 with the University of Washington, I have no direct knowledge of SFSUs performance on that project.

Prior Performance/Next Phase Funding: #2

New Proposal Number: 137

New Proposal Title: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

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

   99-N09, Effects of Zooplankton and Clams on the Bay-Delta Food Web, 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 contact 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?

   XYes -No -N/A

   If no, please explain:

Other Comments:

Environmental Compliance:

Proposal Number: 137

Applicant Organization: San Francisco State University

Proposal Title: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

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

   XYes **-**No

   If no, please explain:

   Scientific Collecting Permit will be obtained for zooplankton collection. No other permits or other environmental documentation is necessary.

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

   XYes **-**No

   If no, please explain:

   N/A

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

   -Yes **X**No

   If yes, please explain:

Other Comments:

Budget:

Proposal Number: 137

Applicant Organization: San Francisco State University

Proposal Title: Protistan Microzooplankton in the North San Francisco Bay Food Web: Source or Sink?

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: