Proposal Reviews

#99: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

Natural Resource Scientists, Inc.

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

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP
Initial Selection Panel Review

Proposal Number: 99

Applicant Organization: Natural Resource Scientists, Inc.

Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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:

This proposal is to evaluate and prioritize small, unscreened diversions for fish protection in the middle and lower Sacramento River. The proposal received an adequate rating from the technical review panel and was rated low by the regional review panel. The technical panel was concerned about design issues related to selection of diversions, indexing of fish abundance in the river, flow and fish estimates at diversions, and the statistical power of the results. The technical panel also noted that the proposal did not make adequate use of existing diversion data and regional plans in the justification. The Selection Panel does not recommend funding this proposal.

Research and Restoration Technical Panel Review:

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

Proposal Number: 99

Applicant Organization: Natural Resource Scientists, Inc.

Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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	**This proposal was ranked low in the Sacramento Regional Review. The review panel also considered the comments from three external reviewers that ranked the proposal good, good, and poor. The panel was concerned about some design issues related to selection of diversions, indexing of fish abundance in the river, flow and fish estimates at diversions, and the statistical power of the results. When the panel considered the guidance for proposal preparation and the quality of other proposals in this group, we ranked this adequate.**
-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 goals and objectives are not explicitly stated. The applicants state a hypothesis and Ho for one factor in Table 1, magnitude of water withdrawal, but not the other 15 factors listed. In the justification the applicant outlines the conceptual model and makes a good case for small diversions being largely ignored. The proposal does not make adequate use of existing diversion data and regional plans in the justification.

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 proposal does have some critical uncertainties that may have an impact on feasibility and products. The design is dependent on an adequate stratified sample size and that is dependent on the outreach activities of a subcontractor. Furthermore, the samples might be biased by diversion owners only signing up if they feel their diversion has little impact and the findings will not be used for later regulatory actions. Its not clear that adequate sampling for migrating fry and smolts will be conducted in river. The indexing of the abundance of salmonids available for diversion is very important to the study. Predation mortality may be significant in irrigation diversion canals. If diversion structures or pumps are on canals some distance from the river, then entrainment should be measured near the river. Efficient experimental designs (e.g., factorial designs) might allow assessment of effects due to locations and intake rates, but no such strategies are presented or suggested. If entrainment rates are low, then what kind of statistical power will the results have? Apparently one of the objectives is to compare the locations of riverine diversions, (i.e., see Figure 2, inside bends, outside bends, straight river reaches). If diversions are further stratified by intake rates (see Task 3, 1-5 cfs, >5-10 cfs, etc.), with a sample size of 25 diversions, will the tests have any power? The panel accepts that flow past diversions can readily be accomplished with stream gauging stations or ADCP transects. However, the diversion flow estimates are not adequately described even in the most general terms. A schedule is not provided for performance measures.

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?

   As a research project, a peer reviewed article should be expected and if that is not possible, then some other peer reviewed products should be substituted. GPS measurements for geospatial data will be collected and the panel recommends that these data be provided as a product in a GIS electronic format. No mention is made of collecting meta data, i.e., data about the geospatial data. A schedule of outcomes and products would be useful for outreach activities, contract management, and this publication.

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

   The panel found the budget poorly justified. The role of the Program Manager of Family Water Alliance is vague, but at $815/day, about twice that of the Principal Investigator, it should be clarified.

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 Sacramento Regional Review ranked the project low and an external reviewer from CDFG with a good regional perspective gave an overall rating of poor. The regional reviewer draws attention to a detailed database on diversions already completed by CDFG. The external review conducted by CDFG staff was relatively critical, pointing out that most of the work proposed has already been completed. The reviewer cites Hanson (2001) Are Juvenile salmon entrained at unscreened diversions in direct proportion to the volume of water diverted? CDFG Fish Bulletin 179.

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?

The regulatory issues were not adequately addressed. A scientific collecting permit, Incidental Take Permit for listed species, and a Section 7 Consultation for listed salmonids may be needed.

Miscellaneous comments:

None

Sacramento Regional Review:

Proposal Number: 99

Applicant Organization: Natural Resource Scientists, Inc.

Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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

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

The Panel had major concerns about experimental design and lack of coordination with other diversion studies.

1. Is the project feasible based on local constraints?

   XYes **-**No

   How?

   However, note several technical concerns relevant to local constraints.

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

   XYes **-**No

   How?

   The PSP requested projects to Continue major fish screen projects and conduct studies to improve knowledge of the implications of fish screens for fish populations. While the individual diversions in this study are not major, their combined effects could be considered as such.

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

   -Yes **X**No

   How?

   One of the major concerns about this project is the lack of coordination with existing DFG fish screening projects and regional fish screen panels. This project should be reviewed and coordinated by these groups before implementation.

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

   XYes **-**No

How?

The participation of the Family Water Alliance would provide reasonable coordination.

Other Comments:

In addition to concerns about the lack of coordination with other fish screening studies, the review team was concerned about the experimental design. The basic assumption is that measured entrainment rates will be comparable between study diversions. The study covers an impressively long geographic area (~100 miles), making it very likely that there will be substantial heterogeneity in fish abundance along the study reach. In other words, it is highly likely that they will disprove their null hypothesis that entrainment rate is proportional diversion rate. One diversion may be in a barren reach, while another equal sized diversion would be near a patch of fishthe measured entrainment rates would likely be very different. This problem could be addressed at least a couple ways: 1) do sampling in the Sacramento River channel to correct the entrainment levels for abundance; or 2) test the hypothesis on a shorter study reach (eg 5-10 miles or less) with a lower probability of major population variability.

Task 3 repeats work already completed by DFG, who have a detailed database of diversions. The Panel believed that this task (and budget) could be scaled down if they rely largely on DFG data.

Another question is sampling frequency. The Panel was not confident that checking nets once each day would be sufficient to address possible debris problems.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **99**

Applicant Organization: **Natural Resource Scientists, Inc.**

Proposal Title: **An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River**

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 project has a solid goal and reasonable methods. I found that some improvements in the narrative would be useful. For example linking the goals and tasks with objectives would help understanding the projects anticipated outcomes. It would also be advantageous to add the in river fish sampling (salmonids and thier predators and competitors). I summarized some of the multiple factores from Table 1 that need to be included in the final experimental design. I believe all the issues I have raised can be addressed through negotiation with the contractor and finalized in a Statement of Work/Contract.**
XGood	
-Poor	

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

   The overall goal is to develop apply field-based criteria for rating or ranking fish hazards at small agricultural diversions. Objectives are not indicated but could be developed from the factors described in the conceptual model. For example an objective could be to measure the magnitude of water withdrawal typical of the range of water flow and fish migration conditions. The hypothesis serve to direct the study and analysis. The project proposers arguments strongly suggest that they do not expect the Ho to be validated: that uncscreened

water diversion entrain juvenile salmonids in direct proportion to flow diverted. Thus, the alternative, they suggest, of multiple causal factors may be valid. Given they believe the alternative is more likely, it would be advisable to revise the order of the hypothesis and elaborate on the multifactor experimental design. The research design would benefit by identifying the other factors (listed in Table 1) as prime treatment conditions.

The hypothesis generally covers the range of information needs to achieve the goal. However, the proposal would benefit by having objectives clearly stated and the hypothesis reworked to link these components together in a way to facilitate the collection and analysis of field data.

The concept of understanding the relationships among factors related to small diversions and salmonid migrations is very important. The timing is critical as important recovery decisions, including screening of diversions, are being made without the kind of information this project can provide. This project could lead to improved appropriation of recovery funds.

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 project is well justified leading to little doubt that understanding how small diversions affect salmonid survival is important. The conceptual model provides a framework and identifies those factors deemed a high priority for measurement and analysis. Table 1 provides a reasonable list of factors to be considered in the experimental design. Some factors listed in Table 1 as important were not included in the final selection of factors to be measured. No justification was given for their removal. Those missing factors included determining the concentrations of the downstream migrants at various locations in the water column, diel changes in fish distribution and behavior, and presence or absence and concentration of predatory fish at the diversion site. Other than the factors omitted without discussion the proposed research survey is justified.

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

   The approach of an initial survey for general features, defining strata, and selection of replicates (Task 1 & 2 then conducting field measurements (Tasks 3 & 4) is good. Specific comments by task follow.

   Task 1 The general characteristic features of each diversion should be the same factors indicated in the conceptual model (see my comments for additional factors). It was not clear to the reviewer that all the factors would be assessed in a general way for this first step. It is important that to the fullest extent possible the range of values for each target factor be sampled.

   Task 2 The effects of this step may be to reduce and/or prevent a full randomized design if some key landowners are not cooperative. The project sponsors and CALFED must be assured that each factor in the experimental design will be well represented in the final project design. Also, no formal sub-contract agreement or letter of intent with Family Water Alliance was provided. So, it is uncertain of the sub-contractors commitment to this project.

Task 3 This is the most critical task in the project. The details of this task are dependent upon the findings of taks 1 and 2 therefore a through review was not possible. The comments of task 1 and 2 apply. The propped sample matrix and factors to be measured should be reviewed and accepted by CALFED prior to initiating this task.

Task 4 The comments of Task 3 apply. Also, Table 1 lists important factors as determining the concentrations of the downstream migrants at various locations in the water column, diel changes in fish distribution and behavior, and presence or absence and concentration of predatory fish at the diversion site. This task should include measuring these important fish distribution and abundance factors.

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?

   Assuming the project sponsors obtain access to selected diversions there does not appear to be any major obstacles to completing the project on time. The scale (measuring 25 diversions) cannot be fully evaluated until tasks 1& 2 are completed. The scope of the problem needs to be described prior to an assessment of the required sampling level. Corollary to this is a discussion of power or how representative of the full scale will the sampling cover. If much more than 25 samples are required the feasibility of the project may jeopardized.

   What happens to the project if regulatory assurance to private participants cannot be made?

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 final experimental design (tasks 3& 4) is dependent upon the findings of tasks 1 & 2. CALFED should require a report following task 1 & 2 and approval of final experimental design prior to conduction the final tasks. This may appear to add work and time to the process but the quality control will insure CALFED obtains a good product and project sponsors are conducting an approved final experimental design.

   Data handling and storage quality assurance and methods are very good.

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 final experimental design should be added to interm products. The following questions need to be addressed. How will the peer review for the draft be conducted? How will peer review comments be incorporated into the final report? The final report should be of value to managers as they prioritize future projects designed to reduce or eliminate migratory salmonids entry into water diversion systems. Also, the project should have value to other regions (Pacific Northwest) involved in the same salmon habitat restoration issues. If the results are substantial I would encourage the results to be published in a peer reviewed journal.

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?

Natural Resources Scientist, Inc and staff appear to have sufficient knowledge, skills, and abilities to complete the project on time and within budget.

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

   The costs and benefits for Natural Resource Scientist, Inc appear reasonable and consistent with prevailing rates.

   The Family Water Alliance sub-contract billing rates appear to be high. Family Water Alliance would be involved in Task 2 - Develop an Outreach Program with Landowners to Participate in the Project. In Year 1 they would provide a Community Liason for 64 days at $294.20/day and a Program Manager for 28 days at $821.03/day. In Year 2 they would provide a Community Liaison for 52 days at $311.22/day and a Program Manager for 28 days at $815.67/day.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **99**

Applicant Organization: **Natural Resource Scientists, Inc.**

Proposal Title: **An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River**

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	**Good-proposal subject has merit and interest to CALFED goals. Could have done better job justifying additional research on monitoring small diversion effects given the long history of these kinds of studies.**
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 are clearly stated and internally consistent. The proposal is well written and addresses an important problem with in the Delta, entrainment from diversions.

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?

A conceptual model is outlined in the text that clearly explains the basis for the project. Given the long history of diversion activities in this system one would think that this topic should have been thoroughly worked over long ago. The proposer makes a strong argument that the small diversion and their effects on fishes has largely been ignored and that their impacts are poorly understood.

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 a fairly simple and should add practical knowledge related to small diversions that will be useful to decision makers. The cooperation between the Family Water Alliance, farmers and the research group will be a key to whether this project succeeds or not. There is one major weakness of this project that could be resolved to some degree by coordinating this effort with other monitoring efforts. That is the lack of information on the actual numbers or some index of abundance of target species within the river. Surely some monitoring is taking place that could be used to index abundance of the at risk species captured at the small diversions. I suggest that this would take very little extra effort on the part of this project to index abundance if the appropriate monitoring data were available for the spring. With all the monitoring in this system there should be data that could be used either for the River or at one of the larger diversions that is required to monitor rates of fish diversion. If nothing else this would be another way to compare the relative importance of small vs. large diversions.

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 research is technically feasible and adequately documented. The team would appear to have the expertise to complete the project. The scale of the project is reasonable. The only component that could cause the project to fail is lack of is cooperation by the farmers.

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 listed in the proposal, but as with most of the research proposal offer products rather than performance measures.

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

   Some products for this research project are listed. Reports to CALFED and a reluctant offer to make a presentation to CALFED if requested.

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 team appears to have the background and expertise to conduct this research. The also appear to have the necessary infrastructure.

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

   The budget is poorly justified. Especially with regard to travel, supplies and the costs associated with the role of the Family Alliance. If this project is considered for funding I would request that the budget be properly justified.

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **99**

Applicant Organization: **Natural Resource Scientists, Inc.**

Proposal Title: **An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River**

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 project data would be biased by willing landowner participation. Also, the project will have difficulty in implementation since assurances cannot necessarily be made by regulators that data collected from this study won't be used to penalize the landowner/water diverter. Most of the work proposed has already been completed, and the means to prioritize screening small water diversions is already addressed in the Central Valley Fish Screen Action Plan (March 2000).**
-Good	
XPoor	

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

   Yes and No. The goals, objectives and hypothesis are clearly stated, but not specific to number of diversions that would be monitored to acheieve the stated goal of forming an assessment of the types of small diversions that entrain the most fish. The concept is not timely because most of the work stated in the goals and objectives has been completed or addressed. Water diversion inventory has been completed for the subject reach of the Sacramento River by the Department of Fish and Game (DFG) and prioritization of screening small water diversions has been addressed in the DFG Central Valley Fish Passage Action Plan(March 2000).

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?

   No. The inventory of water diversion has already been completed and the full database is available through the DFG Fish Screen and Fish Passage Program. Therefore, the project is not justified. The underlying basis for the project was that the work has not been done, and data is necessary, but the published reports and database are available. The basis for the proposed work, that data can be generated to extrapolate for fish screen prioritization is unreasonable because the numbers of fish entrained will be small and the priorizaition is better based on numbers of fish entrained in larger diversions. Hanson (2001) found that the percentage of juvenile chinook salmon entrained was more than 10 times lower than the corresponding percentage of Sacramento River flow diverted ("Are Juvenile Salmon Entrained at Unscreened Diversions in Direct Proportion to the Volume of Water Diverted?, DFG Fish Bulletin 179, 2001)", implying that the numbers of fish entrained by small diversions, while cummulatively significant, probably cannot be prioritized based on entrainment monitoring studies. The outreach component is difficult to justify since screening of all diversions is mandated.

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?

   No. There is an unfounded underlying assumption for project implementation that regulatory assurances will be granted to prevent penalization of water divertors based on data collected. This first step is necessary to gain cooperation from landowners/water diverters in the study. However, these assurances have not been provided in the past. The willingness of landowners/water diverters to participate is questionable and may bias the study.

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. The proposal lacks information of statistical validity of collecting entrainment data from 25 diversions, and is not clear that 25 is the total number that will be sampled. The project assumes that flow can be calculated at each diversion prior to monitoring, but there are many variablies involved including horsepower, efficiency, and type of pump, distance to outfall, head pressure, and depth of intake, that make the calculation of flow infeasible.

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

   No. The proposal does not state the minimum number of diversions that must be monitored to make a prioritization. It does give the river reach that will be inventoried, but again, this is redundant information. The product will be data reported to CALFED, but a performance quantification measure is not provided.

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?

No. The entrainment monitoring of small water divesion is not likely to yield sufficient data to make statistically useful evaluations of numbers of fish entrained by diversion flow and type. The selection of diversions for the study will be extremely biased by landowner cooperation. Too many variables exist, such as location, currents, fish and predator behavior, diversion type, to form an opinion on any specific feature. A controlled laboratory setting may form a better evaluation for entrainment by small water diversions.

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

   The applicant has a good track record and is qualified to work on the project. The proposal indicates that the infrastructure is available, but support of landowner participants is not a controllable aspect and cannot be assured. The infrastructure for Family Water Alliance is already in place.

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

   The cost of the project exceeds the benefit since much of the work has already been completed. A streamlining effort to assist small water diverters to install fish screens, which could be a component of the outreach task in this proposal, could have some merit, but at a lower cost and in a redefined proposal.

Miscellaneous comments:

Prior Performance/Next Phase Funding: #1

New Proposal Number: 99

New Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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

   01-N48, Juvenile Salmon Migratory Behavior Study in North, Central, and South Delta, ERP.

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?

   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?

   -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:

According to the agreed timeline, Natural Resource Scientists, Inc., only recently commenced work on CALFED project #01-N48. N/A on questions 6 & 7 because invoices have not yet been generated. There are no reasons to anticipate there will be any difficulties.

Prior Performance/Next Phase Funding: #2

New Proposal Number: 99

New Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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

   01-N48 Juvenile Salmon Migratory Behavior Study.

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?

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

   If no, please explain:

Contract for this project was executed in August of 2001, no deliverables completed.

Other Comments:

Prior Performance/Next Phase Funding: #3

New Proposal Number: 99

New Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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*)

   Temperature Feasibility Study on the Merced River Contract # 10181-1-Y144

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?

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

   If no, please explain:

Other Comments:

Dave Vogel has been a responsible contractor for the FWs.

Environmental Compliance:

Proposal Number: 99

Applicant Organization: Natural Resource Scientists, Inc.

Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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

   -Yes **X**No

   If no, please explain:

   There is nothing checked off on the Compliance Checklist, but in the feasibility section, the applicant states that permission may be needed from the regulatory agencies. The applicant needs a Scientific Collecting Permit and an Incidental Take Permit for listed species and a Section 7 Consultation for listed salmonids.

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 money or time were allocated for completing environmental documents or acquiring the proper permits.

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

   XYes **-**No

   If yes, please explain:

   If they can obtain the proper permits and have funding to do so, the project is feasible.

Other Comments:

Budget:

Proposal Number: 99

Applicant Organization: Natural Resource Scientists, Inc.

Proposal Title: An Evaluation and Prioritization of Small Unscreened Diversions for Fish Protection in the Middle and Lower Sacramento River

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: