

Proposal Reviews

#195: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

University of California, Davis

Initial Selection Panel Review

Research and Restoration Technical Panel Review

Delta Regional Review

External Scientific Review

#1

#2

#3

Prior Performance/Next Phase Funding

#1

#2

Environmental Compliance

Budget

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

Proposal Number: 195

Applicant Organization: University of California, Davis

Proposal Title: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

Please provide an overall evaluation rating.

Explanation of Recommendation Categories: Fund

- **As Is** (a proposal recommended for funding as proposed)
- **In Part** (a proposal for which partial funding is recommended for selected project phases or components)
- **With Conditions** (a proposal for which funds are recommended if the applicant contractually agrees to meet the specified conditions)

Consider as Directed Action in Annual Workplan (a proposal addressing a high priority action that requires some revision followed by additional review prior to being recommended for funding)

Not Recommended (a proposal not currently recommended for funding-after revision may be considered in the future)

Note on "Amount":

For proposals recommended as Fund As Is, Fund In Part or Fund With Conditions, the dollar amount is the amount recommended by the Selection Panel.

For proposals recommended as Consider as Directed Action in Annual Workplan, the dollar amount is the amount requested by the applicant(s).

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

Amount: **\$254,720**

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

None

Provide a brief explanation of your rating:

An above average proposal to further develop a design and monitoring approach to rehabilitating salmon spawning habitat. Spawning habitat rehabilitation is widely practiced throughout the Central Valley, so this approach could have wide application. The Selection Panel recommends that this work be funded, and encourages the applicant to continue to work closely with biologists monitoring chinook salmon in the Mokelumne River. The technical reviews made several recommendations to improve the project, and these should be considered as the project moves toward implementation. For example, efforts to establish a long-term monitoring program to evaluate performance of implemented designs should include monitoring of actual spawner use and egg survival rates. To achieve wider consideration of the developing approach, the Selection Panel encourages the applicant to present the results of the efforts in regional forums, such as the CALFED Science Conference, and sub-regional forums, including local watershed technical groups where gravel rehabilitation projects are often discussed.

Research and Restoration Technical Panel Review:

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

Proposal Number: 195

Applicant Organization: University of California, Davis

Proposal Title: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

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	Rankings: External/Panel Reviews: Excellent 3, Good 1 Regional Panel Medium Administrative- Serious concerns Although some deficiencies in the proposed work were identified, the panel thought the approach holds considerable promise, especially given the extensive implementation of gravel replenishment projects by CALFED. The panel was confident that the proponent could address some of the concerns within the scope of the proposed budget, and that the model will be a very useful tool for future CALFED restoration projects. The administrative rating did not affect the panels ranking as they felt this could be worked out.
XAbove average	
-Adequate	
-Not recommended	

1. **Goals and Justification.** Does the proposal present a clear statement of goals, objectives and hypotheses? Does the proposal present a clear justification and conceptual model for the project?

Goals and objectives are clearly stated and internally consistent. The project is well justified considering the large number of gravel supplementation projects being funded by CALFED.

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 panel considered the approach of using a 2D model to optimize the design of spawning riffles an excellent idea. A rigorous validation of depth and velocity predictions will be undertaken. However, the proposal was a bit weak on the details of how the habitat suitability curves would be derived or obtained from the literature. The applicant did not cite any literature discussing the challenges/weaknesses of developing and applying HSI curves.

Two reviewers were unclear why the proposed model will only predict gravel movement at flows at or below bankfull discharge. If one of the intents of the model is to predict the longevity of restoration sites (the panel considered this an important issue), the model should be able to predict gravel response at the complete range of discharges that are possible at the modeled sites.

The project will collect data to evaluate the predictive ability of the hydrodynamic model but makes no attempt to determine whether restoration sites designed using the model attract more spawners and/or result have higher egg survival rates. The true test of the models utility would be to apply it to sites with a range of predicted values and to compare results against actual spawner use and egg survival rates.

Reviewers agreed that the applicant was well qualified to perform the proposed work although the panel recommended that a biologist be included on the project team.

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?

In general the reviewers were positive about the products in terms of its potential benefits to the Mokelumne River as well as for other systems where riffle enhancements are being considered. Further model validation (on the biological end, as described above) will be required if optimal designs are found to be more expensive than ones based on professional judgment. In these cases, decision-makers will look at the model validation results to assess whether the additional benefits to fish associated with the optimal designs are worth the extra cost. Unfortunately, this study does not document those benefits however they could be addressed in subsequent phases.

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

There was disagreement among reviewers on the cost/benefits of this project. Most reviewers felt the budget was very reasonable and cost-effective. One reviewer felt the budget was high given that no restoration activities or biological sampling would be conducted

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?

Given a "Medium" Ranking - a useful project but not essential.

Regional review panel points out the same deficiency as some of the external reviewers there is no evaluation about whether a restoration site designed using the proposed integrated approach results in greater spawner use or higher egg survival.

Reviewers took exception to the proponents comment that "limited success of gravel replenishment projects in California to date".

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?

Serious difficulties between UC Davis and CALFED administrators regarding contract negotiation/financial issues. Resulted in 2 yr. delay of implementation of previous contract.

Some question of whether EBMUD permits will cover field work and gauge installation.

Large discrepancy between budget in 17a (\$199,546) vs. Budget Summary (\$235,921)

Miscellaneous comments:

None

Delta Regional Review:

Proposal Number: 195

Proposal Title: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

Overall Ranking: -Low Medium -High

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

This is a useful project, but isn't essential. If it is recommended, a more careful approach to evaluating results is needed.

1. Is the project feasible based on local constraints?

Yes -No

How?

(1) Project team has already applied this approach to one site in this reach (2000-2001 study). Applying this approach at three more sites presents no insurmountable methodological or logistical problems. Principal partner (EBMUD) owns adjacent property and would be implementing the designs and conducting most of the post-project effectiveness monitoring. (2) There's a bit of a study design problem with the proposal as written, however. The proposal states that the goal of the project is to show via three applications that gravel augmentation for enhancing spawning habitat and fluvial complexity is greatly improved when aided by the new integrated design approach (p.2). Yet, the study design makes no provision for comparing the actual performance (e.g., use by salmon for spawning) of enhancement sites where the new design approach will be used to sites where it will not have been used. (3) According to the proposal, the University of California is apparently still taking exception to the Rights in Data and other standard clauses in Calfed contracts; if this is still an issue, it could threaten project feasibility.

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

Yes -No

How?

Project furthers pursuit of Draft Stage I goals 2 and 3 by contributing to rehabilitation of natural channel processes, enhancing harvestable (fall run Chinook) and at-risk species (steelhead) and restoring functional habitat types.

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

Yes -No

How?

Project has direct relevance to CVPIA b(13) program and large scale channel restoration projects in this and other California watersheds. Applicants should be aware that 2-dimensional fish habitat modeling (PHABSIM,2-d) is already being undertaken by US Fish and Wildlife Service (Mark Gard) in the Merced and perhaps other rivers.

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

XYes -No

How?

Partnership with EBMUD (\$123,000 in-kind contribution). Participation in Mokelumne-Cosumnes Watershed Alliance and Calfed North Delta Improvement Project Group.

Other Comments:

(1) Applicant states that there has been limited success of gravel replenishment projects in California to date (p.8). This statement implies that some kind of evaluation of previous projects was performed in preparing this project proposal. Perhaps a report detailing the methods and results of this evaluation should be included as part of this projects deliverables, should it be funded. (2) Applicant should be reminded that funding for his 2000-2001 studies came from the CVPIAs Anadromous Fish Restoration Program (cf. Questions 19 and 20 in PSP application form).

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **195**

Applicant Organization: **University of California, Davis**

Proposal Title: **Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

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

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
X Excellent	The primary shortcoming in this proposal is the lack of follow-up to investigate whether fish actually use the gravel augmentation sites and to use the empirical habitat selection data to feedback on the design of future gravel augmentation programs.
-Good	
-Poor	

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

The goals and objective for this project are clearly stated in the proposal.

The concept is both timely and important to the CALFED ERP program as well as river specific habitat management goals for the Mokelumne River.

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 justified on the basis that there has been limited success in developing useful salmon spawning habitat improvements and considerable uncertainty about optimal design and approach for adopting designs to site specific conditions.

The conceptual model is reviewed in the proposal. The stated conceptual model is closer associated to the use of gravel augmentation to restore spawning habitat than the stated reason for doing the project (combined use of empirical geomorphology and 2-d hydraulic modelling to improve design).

This project is correctly established as a demonstration project.

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 to this project is methodical and competent and is likely to meet the goals and objectives of the project as well as the overall ERP. The results will be not necessarily generate novel information/approach for implementation of gravel augmentation projects but will be useful to decision makers because it will provide information on success of detailed planning approaches against less expensive more 'ad hoc' (i.e. just dump the gravel into the river) approaches such as that currently used in some rivers. If the detailed design approach demonstrates that there is longer useable life or better biological utilization then the extra expense associated with design can be justified.

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 project is based on the combination of two known technologies: empirical geomorphology and 2-d hydraulic modelling. Both of these technologies are well established and there is certainty that they are feasible and compatible. It is therefore likely that these technologies will be successful in developing the design of the spawning habitat improvements. However, the question whether fish will use the gravel augmentation sites for spawning is not adequately addressed.

The scale of the projects is appropriate and consistent with the objectives.

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 recommended by the proponent relate to physical characteristics of the gravel augmentation sites. One could argue that the benefit of detailed design is 1) the conformity of the physical characteristics of the habitat to that deemed desirable for salmon spawning, and 2) the overall useful life of the gravel augmentation sites. The performance measures suggested by the proponent deal mostly with calibration (apparently) of the 2-d model (depth, velocity). There is enough detail to evaluate this in the proposal but little is given to allow the reviewer to determine how other important aspects of habitat will be evaluated (i.e. instream cover, turbulence, overhead cover, upwelling, gravel permeability etc) nor whether fish actually spawned there. Also, the long term functioning of the gravel augmentation sites is not considered. Possibly this is outside of the scope of the program but the long term performance

(i.e. gravel permeability or gravel export) issues should also be addressed.

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

The product from this project will be of utility as they will provide 1) increased understanding of how to design and implement gravel augmentation projects, and 2) provide incremental improvements in salmon spawning habitat in the Mokelumne River.

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 proposal provide adequate information to suggest that the proponents are full capable to successfully complete the work and are embedded in an appropriate infrastructure to support the proposed work.

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

The requested budget for this project is reasonable and adequate to complete the proposed project. It appears to be highly cost-effective.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **195**

Applicant Organization: **University of California, Davis**

Proposal Title: **Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley**

Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

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

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	I have confidence in the proponent for completing the physical modeling and validation, and the product will be useful given the prevalence of gravel restoration efforts in California Rivers. The test of model predictions (in terms of benefits for fish) is weak (non-existent), and the budget seems high and there is no detail to evaluate it. Given these weaknesses, I feel the 'Good' rating I have provided is generous but hope that my suggestions could be implemented in this or future studies to ultimately make the work more useful.
<input checked="" type="checkbox"/> Good	
-Poor	

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

The goals, objectives and hypotheses are clearly stated and internally consistent. Given the large number of riffle restoration efforts in Central Valley rivers, the proposed work is likely to be useful.

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 proponent reviews the rationale that spawning gravel availability is possibly limiting the chinook population in the Mokelumne River. Hence, this effort, which attempts to develop a tool to optimize the value of restoring spawning riffles is well 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 overall approach to the physical modeling outlined in the proposal is sound, however the proponent overstates the utility of habitat suitability curves and the IFIM approach. While IFIM is the most frequently used conceptual model in North America for examining the effect of stream-flow regulation, its validity has been repeatedly questioned. (Mathur et al. 1985; Studley et al. 1996). Fish preference for depth, velocity, and substrate changes with a variety of factors including time of day, season, physical conditions (turbidity, temperature, discharge), and biological factors (food availability, predation risk). Transferability of preference curves among rivers has been shown to be weak (Williams et al. 1999). The proponent does not discuss any of these issues even though they are relevant to the proposed work as the habitat suitability curves translate predictions of depth and velocity in the rating system used to evaluate alternate designs.

It is unclear whether the proponent plans on developing spawning/rearing habitat suitability curves for the Mokelumne River as part of this proposed work or will be using preference curves from the literature. Collection of fish habitat preference data is mentioned in passing on p. 10 but no details are given. What techniques will be used (snorkeling, electrofishing) to determine the depths, velocities, substrate, and other cover types preferred by fish? And what type of habitats will be assessed (spawning, fry rearing, holding)? If curves from other studies are to be used the author should provide references.

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?

Overall, the approach is well documented given the space constraints of the proposal. The model has already been applied in the Mokelumne River in 1999-2001. This is good. However, the proponent states that the model "yielded better habitat and sediment stability outcomes in alternate gravel placement designs than that achieved in the implemented ad hoc design". Unfortunately, no definition of 'better' is provided. Is 'better' based on simulation results alone (depth-velocity predictions coupled with habitat suitability criteria) or is 'better' based on field observations? Assuming it is the former (the proponent would surely provide data on observed improvements in terms of fish use or spawning success), one has no idea whether the predicted optimal gravel configurations are really better for spawning chinook until we compare their relative use and egg-to-alevin survival rates from a range of gravel bar configurations. The confusion (or oversell) by the proponent on this issue is a concern.

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?

There are two types of performance measures relevant to the proposed work. The physical measures (depth, velocity, topography, bed material) will be well characterized by the proponent. However there is no mention of the biological performance measures. The overall goal of the work is to design a better spawning riffle (or habitat in general, this is not clearly identified). To test whether the model worked, it should be applied to a range of situations (e.g. rehabilitation sites 1-2) where predictions vary from poor to excellent. The model predictions could then be tested in the field by collecting data on spawner use, and in the optimal test, on the survival of eggs and alevins from these sites. Since none of these observations will be collected, the project does not really include appropriate performance measures to evaluate its success.

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 provide highly valuable output, predictions of optimal riffle design. This will be of considerable benefit for the 3 rehabilitation sites mentioned in the proposal, but also to many other riffle restoration projects in Central Valley rivers. The monitoring component will determine whether the model provides a good characterization of depth-velocity conditions and gravel movement. It is unfortunate that the latter measure will only be assessed under 'normal' flows. If a bar withstands normal flows but then blows out in the annual flood event, it still ceases to be functioning spawning habitat the following year. I was uncertain why the modeling would not address high flow events. My suspicion is that a reasonable characterization of turbulence is beyond the limits of the existing 2D model that will be employed.

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 is well qualified to perform the physical components of this study and has already demonstrated this in past projects. It is unfortunate that a salmon biologist was not included in the work to strengthen the habitat component of the study.

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

The budget is high considering it does not include any restoration activities or biological sampling, simply collection of physical measurements to run and validate the physical model. Apparently, over one-man year is required to model each rehabilitation site. This brings into question the potential utility of this work for other applications. Will it cost \$60,000 to \$100,000 to develop defensible bar design alternatives at other restoration sites? If so, in many cases, these design costs will be greater than the cost of doing the actual restoration. The budget provided no detail on the relative effort among tasks and simply provides a unit cost per rehabilitation site, thus it is difficult to determine whether the high cost is justified.

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **195**

Applicant Organization: **University of California, Davis**

Proposal Title: **Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

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

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
X Excellent	I rank this somewhere between very good and excellent. I really like the approach and am quite impressed with the technical detail included the geomorphic measurements are absolutely necessary to do such work and the PI outlines with care how they and 2D hydraulic models will be coupled with habitat suitability data to help predict the best in-stream rehabilitation configuration.
-Good	
-Poor	

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

This is an extremely well written proposal. The PIs are clear about what they propose. Their goal is to combine field geomorphic measurements with a 2D hydraulic model to determine the best way to rehabilitate (using gravel fill) salmon spawning habitat. The link their overall objective to hypotheses and outline plans that are quite consistent with the goals. This is timely and important not only at local scales but regional ones.

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?

Others have proposed projects that are similar in terms of adding gravel to previously mined reaches in order to improve spawning habitat for salmonids but what differentiates this one is the well developed conceptual model that is well grounded in state of the art geomorphology, hydrology and ecology. This is demonstration project that is well justified. If they can show that the 2D model can help guide specific restoration plans that result in greater retention of gravel within reaches, this will be valuable. It will allow restorationists to use scientific criteria to plan the in-stream restoration designs and not just rely on intuition or past experience.

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

The approach is extremely well designed. They have provided details of how they will use data collected from the specific restoration sites to parameterize their model and then how they will test the validity of the model after the restoration is complete. (presumably they will withhold some of the data they collected to calibrate the model for use in validation or more likely will use newly collected field data). This work is quite likely to add to the base of knowledge and may generate an improved (not necessarily totally new) methodology.

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?

I think the likelihood of successfully implementing the gravel fill at the 3 sites using data from the 2D model and habitat suitability data is very high. They may not necessarily rehabilitate these sites (as they acknowledge, flood flows will transport the gravel and sediment supply will be inadequate to replenish it) but they will advance our understanding of the best approach for maximizing the chance of keeping the gravel in place for bankfull and under flows. It was not clear to me that the SMI (page 13) was appropriate for use with mixed particle sizes (Shields curves assume a homogenous bed) perhaps with gravel infill it is approximately homogenous?

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?

Yes, they are measuring a number of geomorphic parameters as well as flow (using a 2D sensors) and will use the depth and velocity data to evaluate habitat and sediment transport. They do not indicate any direct measurements of spawning beds.

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?

They will know if they can maintain a small reach that is part of a larger regulated river system. They will provide an improved empirical & modeling approach to rehabilitate salmon spawning habitat.

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?

Project director well qualified. Infrastructure appears to be there.

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

An extremely reasonable budget for a project that is likely to yield results that others will be interested in and that will be useful to managers.

Miscellaneous comments:

Prior Performance/Next Phase Funding: #1

New Proposal Number: 195

New Proposal Title: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

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

ERP 99-N06 - Linked Hydrogeomorphic Ecosystem Models to Support Adaptive Management

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

N/A

3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

-Yes No -N/A

If no, please explain any difficulties:

The Office of Vice Chancellor for Research at UC Davis has requested numerous and repeated requests for revisions of the standard contract terms. Only a few of these issues were raised in the PSP process. Reconciling these issues has required extensive staff time for CALFED and other State agencies. This repeated negotiation has resulted in a delay of contract execution for up to 2 years.

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

Yes -No -N/A

If no, please explain any inaccuracies:

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

Yes -No -N/A

If no, please explain deficiencies:

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

Yes -No -N/A

If no, please explain deficiencies:

UC Davis has had consistent difficulty communicating internally and externally regarding its fiscal documentation. Reconciling financial issues with UC Davis has proved very problematic. The financial situations raised by UC Davis have proved to be the most difficult within the NFWF managed CALFED contracts.

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

Yes -No -N/A

If no, please explain:

Other Comments:

The difficulties expressed above are limited to UC Davis campus only.

Prior Performance/Next Phase Funding: #2

New Proposal Number: 195

New Proposal Title: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

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

00-F08, McCormack-Williamson Tract II Monitoring Program, CALFED ERP

2. Prior CVPIA project numbers, titles, and programs: *(list only projects for which you are the contract manager)*
3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

Yes -No -N/A

If no, please explain any difficulties:

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

Yes -No -N/A

If no, please explain any inaccuracies:

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

Yes -No -N/A

If no, please explain deficiencies:

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

Yes -No -N/A

If no, please explain deficiencies:

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

-Yes -No N/A

If no, please explain:

Other Comments:

Applicant has performed well in implementing prior contract

Environmental Compliance:

Proposal Number: 195

Applicant Organization: University of California, Davis

Proposal Title: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

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

Yes No

If no, please explain:

EBMUD holds permits for work that involves physical changes. It is unclear if these permits cover field work such as fish habitat preference, bed composition, and installation of monitoring stations. If EBMUD permits do not cover these activities, a Scientific Collection Permit and 1600 Agreement are necessary.

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

Yes No

If no, please explain:

Applicant is not listing any permits or environmental documents needed so there is no budget and timeline. If they need the above permits, allow about 2 months and approximately up to \$1000.

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

Yes No

If yes, please explain:

Other Comments:

Budget:

Proposal Number: 195

Applicant Organization: University of California, Davis

Proposal Title: Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley

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

Yes -No

If no, please explain:

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

-Yes No

If no, please explain:

Budget Summary Task is by site, and Table 4 lists 10 Tasks per site.

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

Yes -No

If no, please explain:

4. Are appropriate project management costs clearly identified?

-Yes No

If no, please explain:

None?

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

-Yes No

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

Question 17a = \$199,546.65, and the Budget Summary = \$236,921.09.

6. Does the budget justification adequately explain major expenses?

Yes No

If no, please explain:

7. Are there other budget issues that warrant consideration?

Yes No

If yes, please explain:

Other Comments: