

Proposal Reviews

#194: Delta Smelt Culture and Research Program

University of California, Davis

Final Selection Panel Review

Initial Selection Panel Review

Research and Restoration Technical Panel Review

Delta Regional Review

#1

External Scientific Review #2

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Environmental Compliance

Budget

Final Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Final Selection Panel Review

Proposal Number: 194

Applicant Organization: University of California, Davis

Proposal Title: Delta Smelt Culture and Research Program

Please provide an overall evaluation rating.

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

Amount: **\$400,000**

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

The Panel recommends partial funding (2 years) of the currently proposed project to continue culture development, and expects that the expanded production (30,000 per year) and the nutritional studies should be included at the \$200,000 per year level.

Provide a brief explanation of your rating:

Letters from the applicant, federal and state water agencies, DFG's Pesticide Investigations Unit, and other fishery scientists encouraged multi-year funding for the project at a level higher than the Selection Panel initially recommended. Some letters expressed concern that providing only a single year's funding would destabilize the smelt culture program's staffing, undermining the program's reliability to produce smelt used in fish screen and pesticide research. The review panels and the Selection Panel recognize the value of culturing delta smelt, which these letters also point out. Sustaining this culture is a reason the Panel recommended the proposal for partial funding.

The Panel cannot, however, determine the continued need to support the culture of delta smelt as a distinct research project. The proposal's research tasks were poorly rated because, in the reviewers' opinions, they were inadequately designed and not likely to lead to significantly better smelt production rates. They do not merit funding as a separate research project.

Some comment letters that addressed their programs' current needs for a supply of cultured delta smelt identified the level of funding necessary to continue smelt culture over the next two years. However, after another review of the budget, it continues to be the Selection Panel's opinion that the project's costs to continue supplying these smelt are excessive when compared to

the work to be accomplished, and that at least the nutrition studies can also be accomplished within the base support described in the table of tasks with associated costs. The panel also questions the project management budget (\$75,000) and the staff allocated to culture 30,000 smelt annually (1.5 post doctoral fellows, 3 full time technicians, plus part time lab assistants).

Finally, given that the culture techniques have been fairly well established, the panel suggests that future support for smelt culture may need to come from the research and other projects the culture effort serves. It recommends, therefore, that its concerns, especially with regard to how to support smelt production in the future, should be addressed during a CALFED-sponsored delta smelt workshop to develop a comprehensive smelt research strategy. The workshop should include discussions to determine the role and need for delta smelt culture in the future, and should identify a strategy for continuing smelt culture for future research.

After considering all these issues, the Panel is changing its recommendation. It now recommends two years of partial funding for the currently proposed project to continue culture development, and expects that the expanded production (30,000 per year) and the nutritional studies should be carried out at the \$200,000 per year level.

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

Proposal Number: 194

Applicant Organization: University of California, Davis

Proposal Title: Delta Smelt Culture and Research Program

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

Amount: **\$200,000**

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

The Panel recommends partial funding (1 year) of the currently proposed project to continue culture development and production that should include the proposed nutritional studies.

Provide a brief explanation of your rating:

The review Panels, including the Selection Panel, recognize the value of culturing delta smelt but could not determine the continued need to support the culture of delta smelt as a distinct research project. Given that the culture techniques have been fairly well established, future support may need to be considered as part of the research activities the culture effort intends to support. The research proposed here was inadequately designed and not likely to be successful.

The Panel decided that this question should be answered during the upcoming CALFED-sponsored delta smelt workshop. The Panel recommends partial funding (1 year) of the currently proposed project to continue culture development and production that should include the proposed nutritional studies.

Research and Restoration Technical Panel Review:

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

Proposal Number: 194

Applicant Organization: University of California, Davis

Proposal Title: Delta Smelt Culture and Research Program

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 project contributes significantly to several other projects that are seeking to meet ERP goals for this species and seems to be a key project. The proposal could have been written better and the budget better justified. The scientific merits of the proposal were ranked by a single regional and only a few external reviewers. Based on those reviews and those of the panel we ranked the proposal as adequate. However the panel recognizes this project could be pivotal to other science projects and to CalFed goals. We suggest that the nutritional studies have scientific merit, but that the substrate studies are expensive for potentially limited usefulness to managers and should probably be cut. We also suggest that the management costs be reduced and that the nutritional studies be conducted as part of the base culture project. This work should eventually be moved outside the realm of a research project since it is fundamentally support work for other projects.
-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 consensus of reviewers was that the goals and objectives were clearly stated. They are: To continue culturing delta smelt in support of ongoing research with this endangered species and improve upon established culture methods so hatchery production rates can be enhanced.

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 consensus among one regional and one external reviewer was that the project team is capable and qualified to conduct this research project as proposed. Since they are already doing it at some level (15K produced in 2001), success seems very likely. It was suggested that an appropriate performance measure for this project would be their ability to culture more delta smelt (30K per annum) more efficiently and hence at lower cost. It was also suggested that at some point in the near future production of smelt for research projects should no longer be a research project itself but a production program with specific objectives for production.

3. **Outcomes and Products.** Will the project advance the state of scientific knowledge in general and/or make an important contribution to the state of knowledge of the Bay-Delta Watershed? For restoration proposals, is the project likely to contribute to ecosystem restoration or species recoveries in a significant way? Will the project produce products useful to decision-makers and scientists?

The project will improve upon the culture methods and basic nutritional needs of delta smelt. The science behind this project will not provide decisions-makers with much that can be applied in the field beyond what has already been offered. It will allow several other projects to understand how various factors affect delta smelt survival, growth and reproduction and those projects should provide valuable insights for delta smelt management or recovery plans. The proposed science projects within this culture project were poorly justified.

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

There were no significant budget issues raised with regard to accuracy. Only one external review was available as a basis to judge Cost//Benefit. The budget was described as poorly justified, so a sound basis for judging cost/benefit was difficult based upon reviews. The panel felt that the budget was not well justified in some areas. \$400K+ seemed a large budget for producing 30K smelt. The budget was also heavy in terms of management (\$75K).

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?

Only one regional review of this project listed it as a high priority for ERP. The rationale is that it is an ongoing successful project and that it supports other investigative projects related to delta smelt recovery.

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?

No administrative issues were raised for this proposal.

Miscellaneous comments:

None

Delta Regional Review:

Proposal Number: 194

Proposal Title: Delta Smelt Culture and Research Program

Overall Ranking: -Low -Medium **XHigh**

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

The regional panel feels that considerable investment has been made in this program, and that support should be continued.

1. Is the project feasible based on local constraints?

XYes -No

How?

Project is ongoing, and has successfully cultured delta smelt in the past. The culture facility is located at the State Water Project (SWP) near Byron, which provides natural delta water for rearing and spawning. Fish obtained for use as broodstock are collected from nearby in the delta, which presumably minimizes transport time and increases fish survival rate and project efficiency.

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

XYes -No

How?

From the Restoration Priorities for the Delta and Eastside Tributaries Region:

"4. Restore habitat that would specifically benefit one or more at-risk species; improve knowledge of optimal restoration strategies for these species

· Restoration of Sacramento splittail and delta smelt. Restoration projects or investigations designed around the priorities defined by the Sacramento Splittail Workshop for restoring this species will receive priority. Adaptive restoration experiments designed to increase Delta smelt abundance (including monitoring that evaluates changes in abundance) are also needed as well as projects to restore delta smelt habitat. Studies are encouraged that would contribute to understanding the life history of these species, factors controlling its migrations through and distribution (space and time) in the Delta, and development of population models (Strategic Goal 1, at-risk species assessments; Strategic Goal 4, habitats)."

The applicant argues that this project supports other restoration priorities because it can supply a "unique stock of native fish with known rearing history" for contaminant studies and fish screen/diversion studies.

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?

Described by the applicant as "a successful research and development program currently funded by the CALFED Bay-Delta Program." Also has been funded in the past by the DWR and IEP. Although the applicant does not list other studies for which this program supplies experimental fish, it may be a critical support program for other studies testing the effects of contaminants, fish screen design, etc. on delta smelt.

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

Yes -No

How?

The applicant and associates are researchers at UC-Davis; the culture facility itself is located at the SWP near Byron.

Other Comments:

N/A

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **194**

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

Proposal Title: **Delta Smelt Culture and Research Program**

Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

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

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
<input type="checkbox"/> -Excellent	Good plus-proposal subject has merit and interest to CALFED goals. The proposal could have been better written and cost justified a little better.
<input checked="" type="checkbox"/> Good	
<input type="checkbox"/> -Poor	

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

The goals are clearly stated. To continue culturing delta smelt in support of ongoing research with this endangered species and improve upon established culture methods so hatchery production rates can be enhanced.

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?

A conceptual model is outlined in the text.

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 methods as described lack details such as current survival rates, where the losses are occurring, why the culture, feeding and stocking protocols that are used now appear to be less than perfect.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The approach could have been documented more carefully. Some aspect, such as the nutrition, are thorough while the culture details are lacking.

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 proposers list products (supply of smelt, publications) rather than performance measures under the performance measure section. I suppose a good performance measure for this project is whether they are successful at increasing production to twice the number they are producing now while reducing costs of production. That would mean more efficient production with the facilities and money available.

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

Several products are listed in the performance measures. Valuable and tangible products are likely from this project.

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

This team has been successful in bringing delta smelt culture to where it is now. If CALFED wishes to continue producing smelt for research then this project needs to be funded and these investigators are the only logical choice to continue this work. I think they are capable researchers. This project is integral to many other studies and should eventually become routine and funded by hard rather than soft money if supplying larvae is to continue. If not during this project then in the next project that should become one of the goals and a performance measure.

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

As a research proposal the costs are probably reasonable for this research, although they could have been better justified. Ultimately I think it will be difficult to justify any sort of stock enhancement for a species such as a smelt so ultimately the value of this research is as a research tool to improve the production of smelt in the wild and to understand factors that limit natural production. It should be a priority to see that the fish produced by this project primarily be used

to further those goals.

Miscellaneous comments:

I believe this project and its goals could benefit by bringing outside culture and perhaps stock enhancement (one or two) experts in to evaluate their methods, progress to date and future directions. This could include a consideration of the technical feasibility and desirability of stock enhancement for this species as well as a fundamental review of the bottlenecks they face in mass producing smelt juveniles.

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **194**

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

Proposal Title: **Delta Smelt Culture and Research Program**

Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

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

I am a former student of UC Davis and attend the same IEP Project Workteam as the co-applicants.

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
<input checked="" type="checkbox"/> Excellent	Investigators listed obtainable goals, objectives, and hypotheses that were supported by sound methods of research. The experience of each investigator and major infrastructure necessary to carry out the tasks has been well documented. The ultimate goal of doubling delta smelt production is likely to be achieved by the end of this project. The proposed work addresses several priorities listed in the CALFED Ecosystem Restoration Program.
<input type="checkbox"/> Good	
<input type="checkbox"/> Poor	

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

Yes, the goals, objectives, and hypotheses were clearly stated and support each other throughout the proposal. The proposal will continue important and ongoing research with the aquaculture of delta smelt. While working off previous CALFED funds the researchers have increased productivity and knowledge of this species and now propose sound methods in refining current techniques and exploring areas with little or no knowledge. The information gained from the proposed work is very valuable, as it provides a supply of fish for additional research and acts as a refuge if the wild population becomes unsustainable.

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 existing knowledge of delta smelt culture has improved vastly over the past several years, although not to its potential. The researchers propose to focus on two areas of study (larval nutrition and spawning) that they believe are areas that limit the production of delta smelt. This is a continuing research project that has taken years to develop the information they have now. While the program has had recent success in the spawning and subsequent raising of delta smelt, the production is not at its potential. The overall conceptual model seeks to increase production from 10,000 to 20,000 individuals within the proposed two-year project. To meet this goal the researchers will refine current rearing methods, adjusting diet requirements, and spawning preferences which are well thought out and explained in detail within the proposal. With the experience and knowledge of all researchers this goal is likely to be met.

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?

To meet the objectives of the proposed project, the research effort will be divided into four tasks (improving efficiency, larval food enrichment, spawning behavior, and project management). While the first task is to approve upon current culture techniques, the second and third tasks are investigative. The separation of tasks allows investigators to independently focus on each task (objective) while not diluting the results of the others. The third task, which involves the spawning behavior of delta smelt, provides an important link during the culturing effort and baseline information of spawning preference, but its value may be limited when applying results to natural or wild conditions. The ability of the Delta Smelt Culture and Research Program laboratory, as well as most laboratories, to mimic natural conditions is near impossible. There are too many uncontrollable variables (environmental and physical) that can alter behavior. Precautions have been described to minimize these variables, but only generalizations can be drawn upon until wild collected eggs can verify laboratory results. Information gained from the three tasks will be used to refine current culturing techniques and ultimately increase production. Also the supply of cultured fish, which will be made available to other research programs, can test other CALFED areas of concern (delta contaminant studies, impacts of water diversions, etc).

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 investigators are very familiar with the proposed work and have an extensive background directly related to the tasks at hand. The culturing facility has been running for years now and has made great strides towards producing a reliable source of delta smelt. The laboratory is well suited for the proposed work, descriptions of the culturing facility and proposed modifications to maintain operations and conduct new research were described and will provide the tools needed to successfully complete all tasks. In addition, each researcher has their own specific qualifications, which complement each other to conduct this research and produce quality data in a timely manner.

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 applicants have listed realistic performance measures for each investigative task and are likely to be met within the proposed two-year time span. Each investigated task follows performance checks that include: design, procedures, management, results, and project outputs. Each investigative task will be quantified through physical or volumetric counts of eggs and/or surviving fish at various periods of testing. Null hypotheses will be analyzed statistically following transformations of the data, tests for normality, and homogeneity of the data (where applicable). To provide information pertaining to the status of the project, investigators will generate quarterly reports and present results at scientific and technical meetings. With these performance measures in place, the projects ultimate goal to double production by the end of this program is likely.

While the performance measures are discussed in some form throughout the proposal, a single section covering these details would help.

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?

Upon completion, investigators will distribute results to the scientific community through scientific and technical meetings and submit manuscripts to peer reviewed journals. Working off previous CALFED funds the investigators are expected to compile a Manual of Delta Smelt Culture this year. The results from this proposal will be used to refine protocols and amend the manual. Since the project had developed techniques ensuring a reliable supply of fish, other research programs will have the opportunity to use these fish as long as a culturing facility is in place. These products are very valuable, not only for delta smelt, but also developing an overall system that can be applied to the needs of other highly sensitive species.

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 investigators are well qualified (education and experience) and have created the infrastructure (culturing facility) in place to conduct the proposed research. Each investigator has previously conducted research on the culture of delta smelt and in areas related to the development and early life history of fishes. Also, the investigators have proven they are capable to continue this work, while exploring new areas of interest with a high level of experience through past submissions to CALFED and related publications.

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

An itemized breakdown of costs and hours allotted for each task is listed within the proposal. Personnel salaries seem reasonable in respect to the level of expertise and University standards (including benefits and overhead). Additional costs for equipment, supplies, and travel are well documented and justified. This proposal lists an approximate increase of 7.6% over the previous CALFED funded proposal (Agreement #00FC200113).

Miscellaneous comments:

A related proposal (Two Reproductive Concerns Tested in Captive Delta Smelt, *Hypomesus transpacificus*: I. Effect of varied substrate on spawning behavior, and II. Effect of temperature on egg and early larval survival) was submitted by the primary and co-investigators to the IEP Resident Fish PWT (6/01). This proposal has been funded for work in 2002 (Jan.1 May 31).

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **194**

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

Proposal Title: **Delta Smelt Culture and Research Program**

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	
<input checked="" type="checkbox"/> Good	Too expensive but appears important and substantial progress appears to have been made in previous research.
-Poor	

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

Goals and objectives are easily understood and seem worthy. This is essentially an aquaculture proposal devoted to developing a capability to produce substantial numbers of delta smelt for research studies. Working hypothesis for choice of spawning substrate is not worded so as to be understandable.

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?

Seems fine.

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

Approach seems adequate.

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?

In prior research, substantial success has been achieved. This proposal has a very modest objective of only doubling the number of smelt that can be produced each year (from 10k to 30k).

Design of spawning substrate studies baffles me. How large are the flat trays compared to the surface areas of tank bottoms?

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?

Long and strange list at p. 9, but it seems to me that performance should be judged by whether or not the project actually produces the products listed below and achieves its 30,000 fish production target.

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?

Reports, manual of smelt culture, delta smelt eggs, larvae, juveniles, subadults for research.

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?

Doroshov can certainly do this kind of stuff and his cooperators seem to have appropriate expertise for the project.

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

\$600k/2 yr. seems like an awful lot of money to raise 30,000 delta smelt. Project management costs seem excessive (about \$40k/yr), but it is the smelt culture operation that costs the real bucks (about \$200k/yr). For how many years will CALFED be funding operation of the delta smelt hatchery?

Miscellaneous comments:

Prior Performance/Next Phase Funding: #1

New Proposal Number: 194

New Proposal Title: Delta Smelt Culture and Research Program

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

CALFED # 00-B03, USBR # 00-FC-20-0113, Culture of Delta Smelt, Phase II and III

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

None

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

XYes -No -N/A

If no, please explain any difficulties:

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

XYes -No -N/A

If no, please explain any inaccuracies:

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

XYes -No -N/A

If no, please explain deficiencies:

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

XYes -No -N/A

If no, please explain deficiencies:

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

XYes -No -N/A

If no, please explain:

Completion date of 00-B03 is October 31, 2002.

Other Comments:

Prior Performance/Next Phase Funding: #2

New Proposal Number: 194

New Proposal Title: Delta Smelt Culture and Research Program

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

ERP-98-C02 Culture of Delta Smelt, Phase I

ERP-98-C12 Biological Assessment of Green Sturgeon in the Sacramento-San Joaquin Watershed (Phase I)

ERP-98-C15 Biological Assessment of Green Sturgeon in the Sacramento-San Joaquin Watershed (Phase I)

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?

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 N/A

If no, please explain:

Other Comments:

Reporting and project coordination could be improved but not considered a significant issue.

Environmental Compliance:

Proposal Number: 194

Applicant Organization: University of California, Davis

Proposal Title: Delta Smelt Culture and Research Program

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

-Yes No

If no, please explain:

Need to state clearly that they have existing permits to raise state and federally listed species.

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:

Need to indicate that there is some time budgeted for filing CEQA documents (there are no fees associated with Categorical Exclusions).

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

-Yes No

If yes, please explain:

As long as proper permits are obtained and CEQA documents are filed, this project is feasible.

Other Comments:

Budget:

Proposal Number: 194

Applicant Organization: University of California, Davis

Proposal Title: Delta Smelt Culture and Research Program

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

Yes -No

If no, please explain:

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

Yes -No

If no, please explain:

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

Yes -No

If no, please explain:

4. Are appropriate project management costs clearly identified?

Yes -No

If no, please explain:

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

Yes -No

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

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: