

CALFED Science Program PSP Grant

Supplement Proposal

Technical Selection Panel Review

Grant Supplement Identification: *Brandes, 1*

Applicant Organization: U. S. Fish and Wildlife Service

Grant Supplement Title: Publication of Two Salmon Smolt Survival Models in the Delta with Application to Specific Management Questions

Original Grant (Year): Review of Four Juvenile Salmon Coded Wire Tag Experiments Conducted in the Delta (2004)

Review

The following review form has been broken down into three subsections: (1) technical review criteria, (2) value added review criteria, and (3) funding recommendation. It includes a review and summary rating for each of these subsections using all review criteria. Technical criteria is separated from the value added criteria because these issues will be weighed separately, but with equal importance. No supplement proposals will be funded that are rated inadequate in either criteria.

Subsection 1: Technical Review

Review about the technical merit of the supplement proposal. Criteria for consideration are:

Technical Review Criteria

- **Purpose:** *Are the goals, objectives and hypotheses of the supplement proposal clearly stated and internally consistent?*
- **Background:** *Is the underlying basis for the supplemental work clearly explained and well documented?*
- **Approach:** *Is the approach to the supplemental work well designed and appropriate for meeting the objectives of the supplemental project? Is it clear who will be performing supplemental tasks including management and administration of the project and are resources set aside to do so?*
- **Feasibility:** *Is the approach for the supplemental work fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives and within the grasp of authors?*
- **Budget:** *Is it clear how much each aspect of the supplemental work will cost including each task, salaries, equipment, etc.? Is the budget reasonable and adequate for the work proposed?*
- **Qualifications:** *Is the project staff qualified to efficiently and effectively implement the supplemental project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?*

- **Past Performance:** *Unless informed otherwise by CALFED staff, reviewers should assume that the applicants have met the commitments indicated on their existing CALFED grant/contract.*

Purpose: The goals of the project are clearly stated. These goals are to publish two papers resulting from modeling work conducted during the previous CALFED funded project to Brandes (2004). The first paper (Delta Action 8) summarizes results of an evaluation of juvenile Chinook salmon survival rates through the Delta based upon releases of coded-wire tagged (CWT) fish upstream and downstream of the Delta Cross Canal. The other paper (Vernalis Adaptive Management Plan) is an evaluation of an adaptive management experiment to determine survival of Chinook smolts through the delta at various combinations of San Joaquin River flow, water project exports and presence of a canal barrier. This evaluation requires more modeling work, analysis and writing, with time for review.

Background: The basis for the work is fairly well explained, but poorly documented. The proposal would have benefited by inclusion of figures and tables available in the original proposal. Some acronyms were used and never explained – the original proposal had to be referenced. Other acronyms were used early in the proposal and then explained later.

The investigator proposes to subcontract the modeler who conducted the original evaluation (Ken Newman) to address comment from reviewers, and to conduct some additional tests (not well defined) to determine differences in survival rates of tagged smolts leaving the watershed.

Feasibility: The approach for the supplemental work is fairly well documented and technically feasible. The likelihood of success is high. The first paper is nearly done, and only requires time to address reviewer comments. The second paper shouldn't take long as apparently most of the work is done. The scale of the project is consistent with objectives.

Budget: Generally speaking, the budget is clear. But, there are no funds requested for page charges. Perhaps the US Fish and Wildlife Service covers this, but given that the proposal seeks money to publish, it seems that this point should have been made clear.

Qualifications: Brandes and Newman have previously published studies of juvenile Chinook survival in the Sacramento – San Joaquin Delta area.

Technical Review Summary

The technical review of this supplement proposal is provided in the space below and addresses each of the technical review criteria (above), including strengths, weaknesses, and specific reasons supporting the evaluation.

Strengths: The subject area of this proposal is extremely timely as the adult

returns of the Chinook salmon populations have recently crashed, raising questions concerning the role of habitat degradation, water use and diversion, and hatchery supplementation. The topic of this proposal also meets CALFED's objectives. In their original CALFED proposal, Brandes and Newman conducted an evaluation of juvenile survival estimates in the Delta area. For the supplemental proposal, Brandes seeks additional funds to publish their work in peer-reviewed journals. Peer review and publication of results are important for several reasons: First, it will finish an analysis of adaptive management experiment to determine relative effects of several water management actions on juvenile survival. Second, it will validate the use of the juvenile survival estimates in population models that can evaluate potential actions to restore the population. Third, publication will guide future management actions to increase juvenile survival by stocking at more favorable locations.

The budget requested (\$42,000) is quite moderate and represents six weeks of Newman's time.

Weaknesses: The proposal was somewhat hard to read because no figures were included to illustrate places mentioned in text, and acronyms were loosely documented, and sometimes not at all. Reviewers had to refer back to the original proposal many times to identify most of the places mentioned in the supplement. The panel felt that the investigators assumed an unreasonable level of familiarity with the plumbing of the system. The proposal would have been improved by actual inclusion of data on juvenile survival estimates (with confidence levels) in the sections on background and progress to date.

Another weakness was lack of clarity on the content of the second publication. The panel thought it was to combine material from a previous report on results of the adaptive management experiment, with more analysis of juvenile survival in the Delta with and without a barrier. The nature of this analysis was not explained, making it impossible to determine how complicated it is, or how long it really should take.

Funding is requested to prepare for publication, to address reviewer comments, and do some additional analysis—the nature of which is not identified. It is unclear why funding is being requested.

It appears that the work would be best in technical literature, instead of peer-reviewed literature.

Technical Rating Criteria

Rating of the technical merit of the supplement proposal based on the following scale:

- ***Superior:*** *Outstanding in all respects with no technical concerns. Complete confidence proponents will accomplish the project goals.*

- **Above Average:** A very good proposal with no significant technical concerns. Very confident proponents will accomplish the project goals.
- **Sufficient:** A reasonable proposal with some technical deficiencies but nothing critical. Fairly confident proponents will accomplish most of their project goals.
- **Inadequate:** A technically deficient proposal with serious impediments or concerns. Little confidence proponents will accomplish many project goals.

Please **X** the appropriate technical rating:

- Superior
 Above Average
 Sufficient
 Inadequate

Explanation of rating and additional comments:

We are reasonably confident that the investigators will meet the objectives of this supplemental proposal. The objectives are quite modest, address review comments and finish publishing one paper, then conducting a bit more analysis and write up a second paper for review. Due to the unpredictable nature of the review process, it is a bit uncertain whether the publication of the second paper will occur within the time limit requested, or whether additional work will be required to address review comments that could exceed time budgeted.

Subsection 2: Value Added Review

Review about the value added of the supplement proposal. Criteria for consideration are:

Value Added Review Criteria

- **Purpose:** *Is the new study justified relative to existing knowledge? Are new results likely to add to the base of knowledge? Is the supplemental project likely to generate novel information, methodology, or approaches? Is it clear how the purpose of the supplemental work differs from the work in the existing grant/contract?*
- **Relevancy:** *Is it clear how the supplement proposal evolved from and relates to the existing grant/contract? Does the supplement proposal clearly and directly address one or more of the objectives/priorities in the existing grant/contract? Does the supplement proposal identify new relevancies to CALFED priorities not identified in the existing grant/contract?*
- **Timeliness:** *Does the supplement proposal clearly illustrate the need for immediate funding before the next Science Program PSP cycle (1 to 2 years)?*
- **Approach:** *Is it clear how the approach of the supplemental work differs from and adds to the work in the existing grant/contract?*
- **Products:** *Are products of value likely from the supplemental project that differ from those proposed in the existing grant/contract? Is there a plan for widespread and effective dissemination of information gained from the supplemental project?*
- **Budget:** *Is it clear that supplemental funds are going to new or revised tasks or equipment relative to those proposed in the existing grant/contract? Considering the amount of funding requested in the proposed budget, is*

there a high value in terms of knowledge gained for the CALFED Program relative to other proposals you are familiar with (i.e. “bang for the buck”)?

Purpose: The new study will add little to existing knowledge. This is not to say that the publications proposed for this effort will not be useful; only that much of the information is already reported in white papers or project reports resulting from the first CALFED grant to Brandes. Since the main objective and value of this supplemental proposal is to publish existing results, and conduct a bit more analysis, there will be little novel information. The methods used in the work that is proposed are not well described, so it is difficult to judge how novel the methodology is.

The purpose of the project is basically to publish results from the first CALFED grant in peer-reviewed journals. The Panel is surprised that this was not an objective of the first grant.

Relevancy: It is quite clear how the supplemental proposal evolved from and relates to the existing CALFED contract. The proposal does clearly address the objectives of the first contract. The new relevance to CALFED priorities that wasn't identified in the existing contract is publishing recently developed scientific products.

Timeliness: It is not clear how immediate the priority is for immediate funding. This information is already available to modelers and water managers through white papers and project reports. However, publication of this information in peer reviewed journals would enhance its use in modeling and water management efforts to restore salmon.

Approach: It is clear that publishing the model results in peer-reviewed journals would add to work completed for the existing contract. The funding actually requested is to combine work already completed with some additional work to test differences in juvenile Chinook survival with a canal barrier closed or open.

Products: As far as the Panel can tell, there were no peer-reviewed publications planned in the existing contract. Publication will enhance dissemination of information largely obtained during the existing contract.

Budget: Given the small amount of funds requested, and given that research products are completed, or nearly completed, funding this project is picking “low-hanging fruit.” Thus, there is high value in publishing two papers from work largely conducted during the existing contract. However, there will be little new knowledge gained from funding this supplemental proposal.

Value Added Review Summary

The value added review of this supplement proposal is provided in the space below and addresses each of the value added criteria (above), including

strengths, weaknesses, and specific reasons supporting the evaluation.

Value added is very low. It would seem that USFWS should be doing this work as part of their job.

Overall summary: The Panel has to say that they are not favorably disposed to funding this Supplemental proposal. The investigators are employees of the U. S. Fish and Wildlife Service, who we assume are paid by the government to conduct their work. The chief argument for funding this proposal is to get the results into the peer-reviewed literature that will enhance the profile of CALFED science, and possibly enhance the use of information for managers and scientists concerned with restoring the population. The information produced from the existing contract has great value for management of water and fishery resources. Although the investigators propose publishing two papers, really they are asking for funds to publish one paper, since the first paper is nearly finished and the Fish and Wildlife Service should fund them to address reviewer concerns and move it toward publication. We also would expect that since much of the work for paper two has already been completed and written up in agency reports, and what is proposed are a few (not well described) additional analyses, that the investigators could find the time to publish this work too. If the Fish and Wildlife Service did not fund their employees to conduct work, then this supplemental request would be more justified, but not much more.

There are several other supplemental requests that would add much more “bang for the buck” both in knowledge gained and in novelty of the science being conducted.

Value Added Review Rating

Rating of the value added merit of the supplement proposal based on the following scale:

- ***Superior:*** Outstanding scientific value with a pressing need for immediate funding and expected to add substantial new thinking/concepts to our knowledge/understanding on one or more highly relevant CALFED topics for a very reasonable supplemental cost.
- ***Above Average:*** At least high scientific value and a clear need for rapid funding. Expected to add solid basic new thinking/concepts to our knowledge/understanding on one or more highly relevant CALFED priority research topics for a very reasonable supplemental cost.
- ***Sufficient:*** A supplement proposal with a fair amount of scientific value and need for timely funding and expected to add some basic new thinking/concepts to our knowledge/understanding on one or more adequately relevant CALFED topics for a reasonable supplemental cost.
- ***Inadequate:*** A supplement proposal that has little scientific value or need for timely funding. Not expected to add significant new thinking/concepts to our knowledge/understanding on relevant CALFED topics or the supplemental cost is unreasonable for the knowledge gained.

Please select the appropriate rating with an **X**:

- Superior
 Above Average
 Sufficient
 Inadequate

Explanation of rating and additional comments:

This supplemental proposal adds little scientific value beyond what the investigators accomplished for their existing contract, which was significant. Most of the information they propose for journal publication is already available in the “grey” literature, i.e. existing contract reports or white papers. There will be no new concepts or understanding resulting from publication.

Certainly there is value in moving information from the existing contract to publication, but is this not something that should have been planned for in the first proposal? Does the U. S. Fish and Wildlife Service not pay its employees to publish?

The supplemental cost of publishing this work is quite low, however, the benefits are that the results of their current contract are important to management and should be published.

Subsection 3: Funding Recommendation and Justification

Funding recommendation for this supplement proposal and a justification of this recommendation.

Select one of the following three funding recommendations with an **X**:

- Fund in Full
 Fund with modifications
Suggested Funding Amount \$ _____
 Do not fund

Justification to recommendation. If the recommendation is to fund with modifications, modifications the applicants must make in order to receive funds are listed.

The Panel recommended that this proposal not be funded due to its low value added rating.

Additional Remarks

The applicants should have explained the statistical analysis proposed for further analysis for the second publication. They also should have included a good figure showing locations mentioned in the text, include estimates of survival referred to in the “what’s new” section, and be sure to explain all acronyms.