

# CALFED Science Program PSP Grant

## Supplement Proposal

### Technical Selection Panel Review

**Grant Supplement Identification:** *Kimmerer, 2*

**Applicant Organization:** San Francisco State University

**Grant Supplement Title:** Modeling Delta Smelt Population in the San Francisco Estuary.

**Original Grant (Year):** Modeling The Delta Smelt Population of The San Francisco Estuary (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.*

## **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.*

The PIs represent strengths in food web, life history, and numerical modeling. They propose to continue developing a linked particle tracking model-IBM that allows the effects of managed flow to be forecast onto the likely spatial and demographic fates of early stage Delta smelt eggs and larvae. The current award has allowed development of an IBM specific to Delta smelt, which permits early forage conditions to be related to recruitment but apparently, there has been a hurdle in the development of the particle-tracking model due to difficulties in using and modifying a pre-existing hydrodynamic model – the “DWR” model. The PIs set about to substantially enhance the DWR model to permit a greater number of particles to be tracked, to improve realism due to vertical mixing and other natural processes, and to improve interactions between the PTM and IBM models and implementation of modeling scenarios. The original proposal combined a particle tracking model with an individual based model. Stanford took on the integration. Original proposal was very vague on how to do that, and it was not achievable. The existing model is inadequate.

New work includes development of a new PTM model, runs of realistic natural and management scenarios, a calibration of the PTM through a virtual tracer release (testing one hydrodynamic model against another). Despite strong justification for past need to refine and modify the PTM model, there was little evidence in the proposal for the feasibility of the linked models. Often overlaying biological models onto PTMs can be a disappointment as PTMs provide very high resolution that cannot be incorporated in IBM or life table models. Given the very heavy emphasis on the PTM, additional evidence should have been provided that this was likely to lead to biologically relevant responses in Delta smelt. The single “very preliminary” IBM simulation was far too limited to evaluate feasibility of proposed PTM-IBM new work based upon work to date.

The supplemental proposal proposes to build and calibrate a new particle tracking model. It appears that this is a way to fix a problem from the first proposal. The development of a PTM is ambitious, and it is an important step in the right direction. The budget is justified based on the work proposed. Quality of the research is good and the technical points are valid. However, the scope is not

significantly different from the original proposal, just a different mechanism to get the job done.

Because the original approach did not work, there should be some funding remaining for the development of the particle tracking model. They do not address this.

It is obvious that there have been some communication problems in the work. It appears that the original project has been somewhat of a failure and this proposal is an attempt to save it.

Proposal is not very well written.

### ***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:***

Despite strong justification for past need to refine and modify the PTM model, there was little evidence in the proposal for the feasibility of the linked models. The scope is not significantly different from the original proposal, just a different mechanism to get the job done. It appears that the original project has been somewhat of a failure and this proposal is an attempt to save it.

## **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”)?*

## ***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.*

There is very little compelling reason for a supplemental award based upon feasibility, relevancy, new elements, or timeliness. The current award may very well result in relevant and important products, but these are likely to emerge to support additional research in the next full funding cycle.

The value added is the development of a validated PTM. Having a good PTM is very important. Does this justify the additional expense? Past performance on the current award was not well exhibited in the supplemental request.

## ***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*

