i. Proposal number.# 2001-C212*

ii. Short proposal title .# Large-scale Spatial and Temporal Patterns of Flow and Sediment Transport in the Sacramento River and Their Influence on Channel and Floodplain Morphology*

APPLICABILITY TO CALFED ERP GOALS AND IMPLEMENTATION PLAN
1a1. Link to ERP Strategic Goals: What Strategic Goal(s) is /are addressed by this proposal? List the letter(s) of all that apply.

A. At-risk species
B. Rehabilitate natural processes
C. Maintain harvested species
D. Protect-restore functional habitats
E. Prevent non-native species and reduce impacts
F. Improve and maintain water quality#The proposed project would contribute most to Goal 2 (rehabilitate natural processes) and Goal 4 (protect/restore habitats). It would also contribute indirectly to Goal 1 (at-risk species) and Goal 3 (harvested species).*

1a2. Describe the degree to which the proposal will contribute to the relevant goal. Quantify your assessment and identify the contribution to ERP targets, when possible.# 7 pts. The greatest potential contribution of the proposed modeling project would be to better understand the relationship between restored ecological processes and resultant habitats, thereby contributing incrementally to Goals 2 and 4. If it works, the proposed model would be a valuable planning tool, helping us to better understand the effects of process-oriented restoration measures for rivers.*

1b. Objectives: What Strategic Objective(s) is/are addressed by this proposal? List Objective (from the table of 32 objectives) and describe potential contribution to ERP Goals. Quantify your assessment, when possible.# 7 pts. The proposed modeling most clearly addresses ecological process-oriented objectives (2-5, 2-6, 2-7, 2-8) by helping to assess the scale of flow and sediment restoration actions that may be needed to achieve habitat targets. Developing a better understanding of habitat responses to process restoration would make an incremental contribution toward species-oriented objectives (1-1, 1-3, 3-1,).*

1c. Restoration Actions: Does the proposal address a Restoration Action identified in Section 3.5 of the PSP? Identify the action and describe how

well the proposed action relates to the identified Restoration Action.# 7 pts. The proposed project does address a restoration action identified in the PSP--modeling to better understand resultant habitats from flow-related actions.*

1d. Stage 1 Actions: Is the proposal linked directly, indirectly or not linked to proposed
Stage 1 Actions? If linked, describe how the proposal will contribute to ERP actions during
Stage 1.# 6 pts. The model would contribute to a Stage 1 action identified in the Sacramento, San Joaquin River, Tributaries Bundle of the Implementation Plan: Action 42: Develop Sediment management plans.*

1e. MSCS: Describe how the proposal is linked to the Multi-Species Conservation Strategy and if it's consistent with the MSCS Conservation measures. Identify the species addressed and whether the proposal will "recover", "contribute to recovery" or "maintain" each species.# 5 pts. The proposed modeling will not make a direct contribution to recovering species, but it could be a valuable planning to to assist managers in refining restoration actions to improve their biological benefits.*

1f. Information Richness/Adaptive Probing related to the proposal: Describe the degree to which the proposal provides information to resolve one of the 12 scientific uncertainties (Section 3.3 of the PSP), and whether the proposal offers a prudent approach to answer these uncertainties.# 7 pts. If it works, the model would represent an important contribution to understanding how restoration of ecological processes yields habitat.*

1g. Summarize comments from section 1a through 1f related to applicability to CALFED goals and priorities. Identify the strengths and weaknesses of the proposal, highlighting the applicability of the proposed project to CALFED and CVPIA goals and priorities. Focus on aspects of the proposal that may be important to later stages in the project review and selection process.# 7 pts. The proposed model could be a very valuable planning tool to help us refine our ecosystem-based approach to restoration. It could help us get a better feel for how some of our general management strategies (flow releases, sediment augmentation) are likely to produce the habitat needed to

support native species. The main question about the project is will it work; can it deliver. The project proponent should be encouraged to convene an expert panel to provide guidance and review, including some of the experts who are conducting similar type sediment transport modeling. The main limitation of this project is the exorbitant cost--seems quite pricey for the tool being offered.*

APPLICABILITY TO CVPIA PRIORITIES

1i. Describe the expected contribution to natural production of anadromous fish. Specifically identify the species and races of anadromous fish that are expected to benefit from the project, the expected magnitude of the contribution to natural production for each species and race of anadromous fish, the certainty of the expected benefits, and the immediacy and duration of the expected contribution. Provide quantitative support where available (for example, expected increases in population indices, cohort replacement rates, or reductions in mortality rates).# This proposal will develop a mathematical model of flow and sediment routing in the channel and floodplain of the mainstem Sacramento River that could provide predictive capability applicable to analyzing management alternatives. It could predict where the river will meander and where new habitat can be expected to evolve based on a better understanding of channel modifications and sediment deposition in the river.

In practical terms it may aid TNC, the FWS refuges and others doing restoration work or constructing hard points on the Sacramento River on the survivability of their projects against the natural fluvial geomorphology processes, but that is not a major objective of conversion of agricultural lands in the meander zone to natural riverine ecosystems. However, the purpose of establishing a natural meander zone for the upper mainstem Sacramento River is to restore natural fluvial geomorphological processes and allow the river to naturally migrate and flood where it will instead in lieu of anthropogenic changes to control river processes. Although this project may provide a predictive means to understand where the river may move and where new fish habitat may be created, it does not contribute to anadromous fish production in the near-term. Current river restoration practices involve conversion of existing orchards and other agricultural properties within the meander zone of the river to native plant species that will evolve with the natural river processes. Because of the enormous amount of funding resources required to implement this conversion from agriculture to natural habitat, it is unlikely that this type of research will be of much value to the resource or resource managers in the near-term.*

1j. List the threatened or endangered species that are expected to benefit from the project. Specifically identify the status of the species and races of anadromous fish that are expected to benefit from the project, any other special-status species that are expected to benefit, and the ecological

community or multiple-species benefits that are expected to occur as a result of implementing the project.# Spring-run chinook salmon (threatened), fall-run and late-fall-run chinook salmon (candidate) and winter-run chinook salmon juveniles (endangered) and steelhead (threatened), white sturgeon, and green sturgeon (state species of concern). Splittail (threatened) and other non-anadromous fish species and habitats are also expected to benefit over the long-term. A better understanding of the fluvial geomorphological processes of the Sacramento River would be expected to benefit managers of restored and ongoing restoration of riverine ecosystems in the upper mainstem Sacramento River. This information could also benefit wildlife species.*

1k. Identify if and describe how the project protects and restores natural channel and riparian habitat values. Specifically address whether the project protects and restores natural channel and riparian habitat values, whether the project promotes natural processes, and the immediacy and duration of benefits to natural channel and riparian habitat values.# It allows policy makers to make habitat restoration decisions based on anticipated morphological changes relevant to habitat restoration and flood control strategies such as restoration of natural valley streamflow regimes, gravel feeding below dams or setback levees (author). These resulting restoration projects can then contribute to restoring natural channel and riparian habitat values if the anticipated natural results are acceptable to both the environment and society. As can be seen, direct value to restoring natural channel and riparian habitat values and promotion of natural processes is not an immediate outcome of this project. This project is a tool to make informed river habitat management and restoration decisions.*

1l. Identify if and how the project contributes to efforts to modify CVP operations. Identify the effort(s) to modify CVP operations to which the proposed project would contribute, if applicable. Efforts to modify CVP operations include modifications to provide flows of suitable quality, quantity, and timing to protect all life stages of anadromous fish as directed by Section 3406 (b)(1)(B) of the CVPIA, including flows provided through management of water dedicated under Section 3406(b)(2) and water acquired pursuant to Section 3406(b)(3).# A mathematical model of flow and sediment routing in the channel and floodplain of the mainstem Sacramento River could be used by CVP water managers and lead to modifications of existing flow regimes to manage sediment loads and other fluvial processes that are favorable to anadromous fish species.*

1m. Identify if and how the project contributes to implementation of the supporting measures in the CVPIA. Identify the supporting measure(s) to which the proposed project would contribute, if applicable. Supporting measures include the Water Acquisition Program, the Comprehensive Assessment

and Monitoring Program, the Anadromous Fish Screen Program, and others.# This proposal supports efforts to restore aquatic habitat to enhance and attain sustained populations of anadromous salmonids, a major goal of the CVPIA, Anadromous Fish Restoration Program.*

1n. Summarize comments from section 1i through 1m related to applicability to CVPIA priorities (if applicable, identify the CVPIA program appropriate to consider as the source of CVPIA funding [for example, the Anadromous Fish Restoration Program, Habitat Restoration Program, Water Acquisition Program, Tracy Pumping Plant Mitigation Program, Clear Creek Restoration Program, Comprehensive Assessment and Monitoring Program, and Anadromous Fish Screen Program]). Identify the strengths and weaknesses of the proposal, highlighting the applicability of the proposed project to CALFED and CVPIA goals and priorities. Focus on aspects of the proposal that may be important to later stages in the project review and selection process.# Developing models to attain a better understanding of natural river processes could be valuable in managing river systems and restoring natural river ecosystem processes in the longterm. However, because of the present state of the restoration effort (presently in the process of acquiring and converting agricultural lands to natural riverine habitat in the meander zone of the mainstem Sacramento River), and the limited flexibility of CVP project operations (manipulating water to minimize toxic effects of heavy metal polution from toxic mining sludges in the Spring Creek arm of Keswick Reservoir, seasonal agricultural irrigation needs, protected winter-run chinook salmon flow and temperature requirements), this tool is not particularly valuable to restoring anadromous salmonid populations in the nearterm. The dollars could be better spent in acquiring and restoring meander zone lands and restoring the river's natural processes. In the longterm, such models could be a valuable restoration and management tool for CVP water managers, fish and wildlife managers and society in general.*

RELATIONSHIP TO OTHER ECOSYSTEM RESTORATION PROJECTS

2a. Did the applicant explain how the proposed project relates to other past and future ecosystem restoration projects, as required on page 57 in the PSP? Type in yes or no.#no*

2b. Based on the information presented in the proposal and on other information on restoration projects available to CALFED and CVPIA staff, describe how the proposed project complements other ecosystem restoration projects, including CALFED and CVPIA. Identify projects or types of projects that the proposed project would complement, now or in the future. Identify source of information.#Proponent did discuss applicability of modeling geomorphic processes in the Sacramento River Watershed as information needed to eliminate stressors and rehabilitate natural processes in the Bay-Delta. This project would complement geomorphic analyses been conducted for other rivers and tributaries for CALFED.*

RESULTS AND PROGRESS ON PREVIOUSLY FUNDED CALFED AND CVPIA PROJECTS, INCLUDING REQUESTS FOR NEXT-PHASE FUNDING

3a1. Based on the information presented in the proposal and on project reports and data available to CALFED and CVPIA staff, has the applicant previously received CALFED or CVPIA funding? Type CALFED, CVPIA, both, or none .#none*

3a2. If the answer is yes, list the project number(s), project name(s) and whether CALFED or CVPIA funding. If the answer is none, move on to item 4.#

3b1. Based on the information presented in the proposal and on project reports available to CALFED and CVPIA staff, did the applicant accurately state the current status of the project(s) and the progress and accomplishments of the project(s) to date? Type yes or no.#

3b2. If the answer is no, identify the inaccuracies:#

3c1. Has the progress to date been satisfactory? Type yes or no.#

3c2. Please provide detailed comments in support of your answer, including source of information (proposal or other source):#

REQUESTS FOR NOXT-PHASE FUNDING

3d1. Is the applicant requesting next-phase funding? Type yes or no.#no.*

3d2. If the answer is yes, list previous-phase project number(s) here. If the answer is no, move on to item 4.#

3e1. Does the proposal contain a 2-page summary, as required on pages 57 and 58 of the PSP? Type yes or no.#

3e2. Based on the information presented in the summary and on project reports available to CALFED and CVPIA staff, is the project ready for next-phase funding? Type yes or no.#

3e3. Please provide detailed comments in support of your answers, including source of information (proposal or other source):#

LOCAL INVOLVEMENT

4a. Does the proposal describe a plan for public outreach, as required on page 61 of the PSP? Type yes or no.# yes*

4b. Based on the information in the proposal, highlight outstanding issues related to support or opposition for the project by local entities including watershed groups and local governments, and the expected magnitude of any potential third-party impacts.# I am not knowledgeable of any outright issues that would result from implementing this proposal.*
*

ENVIRONMENTAL COMPLIANCE

4d. List any potential environmental compliance or access issues as identified in the PSP checklists.# None*

4e. Specifically highlight and comment on any regulatory issues listed above that may prevent the project from meeting the projected timeline.#None*

COST

5a. Does the proposal include a detailed budget for each year of requested support? Type yes or no.#Yes*

5b. Does the proposal include a detailed budget for each task identified? Type yes or no.#Yes*

5c. Is the overhead clearly identified? Type yes or no.#Yes, it is at 8%*

5d. Are project management costs clearly identified? Type yes or no.#No mention of project management costs*

5e. Please provide detailed comments in support of your answers to questions 5a - 5d.#Need to clearly identify Project Management costs in budget table*

COST SHARING
6a. Does the proposal contain cost-sharing? Type yes or no.#No*

6b. Are applicants specifically requesting either state or federal cost share dollars? Type state, federal, or doesn't matter.#Doesn't matter*****

6c. List cost share given in proposal and note whether listed cost share is identified (in hand) or proposed.

6c1. In-kind:#n/a*

6c2. Matching funds:#n/a*

6c3. Show percentage that cost sharing is of total amount of funding requested along with calculation.#n/a*

6d. Please provide detailed comments in support of your answers to questions 6a - 6c3.#n/a*