

RECLAMATION

Managing Water in the West

U.S. Department of the Interior
Bureau of Reclamation

NOTICE OF INTENT TO AWARD

This Funding Announcement is not a request for applications. This announcement is to provide public notice of the Bureau of Reclamation's intention to fund the following project activities without full and open competition.

ABSTRACT	
Funding Announcement	BOR-MP-18-N025
Project Title	Life-Cycle Modeling Project
Recipient	University of California, Santa Cruz
Principal Investigator / Program Manager	Dr. Eric Danner
Anticipated Federal Amount	\$2,776,406.00 FY18 \$1,000,000.00
Anticipated Non-Federal Amount	\$0.00
New Award or Continuation?	New Award
Anticipated Period of Performance	October 1, 2018 through June 30, 2022
Award Instrument	Cooperative Agreement
Statutory Authority	Public Law 102-575, Central Valley Project Improvement Act, Section 3406(b)(1), and 3407(e)
CFDA # and Title	15.512 Central Valley Project Improvement Act (CVPIA)
Single Source Justification Criteria Cited	(4) Unique Qualifications
Reclamation Point of Contact	Katrina Harrison/Thelma Mosley

OVERVIEW

To meet the goals of improving the reliability of water supply and improving the ecosystem health in California's Central Valley. The project is to continue the development of simulation models to evaluate the potential effects of water project operations and habitat restoration on the dynamics of winter-run Chinook salmon populations in the Central Valley. The winter-run life cycle model (WRLCM) couples water planning models (CALSIM II), physical models (HEC-

RAS, DSM2, DSM2-PTM, USBR river temperature model, etc.) and a stage structured Chinook salmon life cycle model to predict how the salmon populations will respond to suites of management actions, including changes to flow and export regimes, modification of water extraction facilities, and habitat restoration. The WRLCM is of substantial benefit to the public as a tool to evaluate the impacts of a critical water projects (the State Water Project and the Central Valley Project) on an endangered resource (Sacramento River winter-run Chinook salmon).

The WRLCM was initially developed to evaluate alternative hydrologic management scenarios. These scenarios could be evaluations of alternative operations using the existing physical infrastructure of the Central Valley, or operations combined with modifications to the physical structure. The WRLCM has been used to evaluate the relative impacts of alternative actions with the goal of not adversely impacting the winter-run population relative to a baseline. Thus far, the generation and running of scenarios has proceeded in the following steps: 1) develop a set of operational and restoration actions as a scenario; 2) convert the operations into rules that are implemented in a CALSIM run; 3) develop DSM2 and temperature model results for incorporation into the WRLCM; 4) utilize information on the restoration actions, DSM2, and temperature outputs to run the WRLCM (including the ePTM); and 5) evaluate the WRLCM outputs to see if the intended results were obtained.

RECIPIENT INVOLVEMENT

UC Santa Cruz, Principal Investigator Eric Danner and staff will continue the development of the WRLCM for each component of the deliverables.

- 1) a website,
- 2) users guide,
- 3) continuing model development
- 4) quarterly technical meetings
- 5) running scenarios
- 6) coordination with stakeholders
- 7) study planning for future research.
- 8) incorporation of habitat restoration
- 9) updated egg mortality models and
- 10) flow-survival relationships

RECLAMATION INVOLVEMENT

Substantial involvement on the part Reclamation is anticipated for the successful completion of the objectives to be funded by this award. In particular, Reclamation will be responsible for the following:

- Providing UCSC with CalSim and DSM2 model runs for Objective 4
- Assisting in coordination of stakeholder engagement

SINGLE-SOURCE JUSTIFICATION

DEPARTMENT OF THE INTERIOR
SINGLE SOURCE POLICY REQUIREMENTS

Department of the Interior Policy (505 DM 2) requires a written justification which explains why competition is not practicable for each single-source award. The justification must address one or more of the following criteria as well as discussion of the program legislative history, unique capabilities of the proposed recipient, and cost-sharing contribution offered by the proposed recipient, as applicable.

In order for an assistance award to be made without competition, the award must satisfy one or more of the following criteria:

- (1) Unsolicited Proposal – The proposed award is the result of an unsolicited assistance application which represents a unique or innovative idea, method, or approach which is not the subject of a current or planned contract or assistance award, but which is deemed advantageous to the program objectives;
- (2) Continuation – The activity to be funded is necessary to the satisfactory completion of, or is a continuation of an activity presently being funded, and for which competition would have a significant adverse effect on the continuity or completion of the activity;
- (3) Legislative intent – The language in the applicable authorizing legislation or legislative history clearly indicates Congress' intent to restrict the award to a particular recipient of purpose;
- (4) Unique Qualifications – The applicant is uniquely qualified to perform the activity based upon a variety of demonstrable factors such as location, property ownership, voluntary support capacity, cost-sharing ability if applicable, technical expertise, or other such unique qualifications;
- (5) Emergencies – Program/award where there is insufficient time available (due to a compelling and unusual urgency, or substantial danger to health or safety) for adequate competitive procedures to be followed.

Reclamation did not solicit full and open competition for this award based the following criteria:

(4) UNIQUE QUALIFICATIONS

Unique Qualifications - The University of California – Santa Cruz, technical expertise and existing work on the WRLCM, uniquely qualifies them. In addition, this computerized model was developed at UC Santa Cruz. Changing the recipient at this point would be detrimental to the project.

Single Source Justification Description:

Eric Danner and the University of California – Santa Cruz, and the technical expertise of their project team are uniquely qualified to carry out these particular objectives of the WRLCM. This work is the continuation of existing work that UC Santa Cruz has been doing over the past

several years. Dr. Danner and the UCSC staff have pioneered acoustic telemetry studies in the Sacramento River and Bay-Delta involving ESA-listed salmonids. These efforts have included developing real-time reporting data applications, which will be further enhanced with new reporting measures as part of this proposal. In collaboration, Dr. Danner and UCSC staff will work with a Team from the National Marine Fisheries Service Southwest Fisheries Science Center to provide information on the status and trends of salmonid.

Changing the recipient at this point would be detrimental to the project. Moreover, the research from this project can be utilized in future years to train the next generation of scientists who will work to help improve scientific understanding and science-based management of public resources.

STATUTORY AUTHORITY

Public Law 102-575, Central Valley Project Improvement Act, Title 34, Sections 3406(b)(1) and 3407(e). The following section, provided in full text, authorizes Reclamation to award this financial assistance agreement:

Section 3406(b)(1) As needed to achieve the goals of this program, the Secretary is authorized and directed to modify Central Valley Project operations to provide flows of suitable quality, quantity, and timing to protect all life stages of anadromous fish, except that such flows shall be provided from the quantity of water dedicated to fish, wildlife, and habitat restoration purposes under paragraph (2) of this subsection; from the water supplies acquired pursuant to paragraph (3) of this subsection; and from other sources which do not conflict with fulfillment of the Secretary's remaining contractual obligations to provide Central Valley Project water for other authorized purposes. Instream flow needs for all Central Valley Project controlled streams and rivers shall be determined by the Secretary based on recommendations of the U.S. Fish and Wildlife Service after consultation with the California Department of Fish and Game.

and

Section 3407(e) Funding to Non-Federal Entities.--If the Secretary determines that the State of California or an agency or subdivision thereof, an Indian tribe, or a non-profit entity concerned with restoration, protection, or enhancement of fish, wildlife, habitat, or environmental values is able to assist in implementing any action authorized by this title in an efficient, timely, and cost effective manner, the Secretary is authorized to provide funding to such entity on such terms and conditions as he deems necessary to assist in implementing the identified action.