

**ERP DIRECTED ACTION
DATA COLLECTION FOR THE SAN
JOAQUIN RIVER BASIN-WIDE WATER
TEMPERATURE MODEL**

**Reference
Ecosystem Restoration Program
Prop 50 Bond Funded
Project No. DFG-04- 01**

**Prepared by:
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Region 4**

ERP DIRECT ACTION DATA COLLECTION FOR THE SAN JOAQUIN RIVER BASIN-WIDE WATER TEMPERATURE MODEL

Project Lead

Name: Tim Heyne
Department of Fish and Game
Region 4

Cost of Project:
\$781,000

Cost Share Partners: Not applicable

List of Subcontractors: DFG is assigned field data collection for the overall Basin-wide temperature modeling project in collaboration with Tri-Dam. DFG may utilize its contract with the Fresno State Foundation to secure field data collection staff.

Other Technical Experts:
Technical experts such as AD Consultants are retained through Tri-Dam sub-contracts.

Proposal Outline

1. Executive Summary

This directed action provides funding to DFG to collect, store and manage water temperature and meteorological data to be used by Tri-Dam and its consultants for the development of a San Joaquin Basin-wide Water Temperature Model.

2. Project Background and Information

The Tri-Dam Project was awarded \$661,902 by the Resources Agency on May 1, 2003 for the purposes of determining the flow-temperature relationships critical to anadromous fish management and restoration on the Stanislaus River through modeling. The term of the contract was three years (May 2003 to May 2006). The prime consultant for the project was retained immediately thereafter and so were the second tier sub consultants. The Project has been on-schedule, on-task and within budget thus far. DFG has had a described role associated with collecting, storing, and managing water temperature and meteorological data in support of developing that model.

A Level 3 Amendment for a change in scope and budget revision for Recipient Agreement No. ERP-02-P28; Lower San Joaquin River Water Temperature Modeling and Analysis was approved in December 2004. It modified the existing agreement to allow water temperature modeling to continue uninterrupted on the Stanislaus and the Lower San Joaquin rivers and begin extending that work to the Tuolumne and Merced rivers to ultimately result in a San Joaquin River Basin-Wide Water Temperature Model.

DFG related costs of \$158,443 were redirected from task 8 of the original recipient agreement and \$216,925 added to allow Tri-Dam to complete seven modified tasks in FY 04-05 and 05-06.

This directed action provides the funding needed by DFG to carry out the support activities related to collecting, storing, and managing water temperature and meteorological data in support of developing the San Joaquin River Basin-Wide Water Temperature Model.

3. Project Goals and Objectives

This directed action will contribute to completing a basin-wide water temperature model that addresses MSCS Milestone 84 related to ecological processes by developing and implementing temperature management programs within major tributaries in the San Joaquin River Basin, and MSCS Milestone 85 which will provide insight in terms of the thermal impacts of irrigation return flow by helping to develop and implement a program to address the thermal impacts of irrigation return flows in the San Joaquin River Basin.

4. Approach/Methodology

DFG staff will use various approved methods and equipment to measure water temperature data at selected sites in the Stanislaus, Tuolumne, and Merced rivers and in the mainstem San Joaquin River and record meteorological data in the basin. These data will be used to calibrate the basin-wide model and to test the capability of the beta version and later versions of the model.

5. Subcontractors (include description of tasks and qualifications)

DFG may utilize its contract with the Fresno State Foundation, or Pacific States Marine Fish Commission to secure field staff assigned to data collection.

6. Tasks and Deliverables (Description)

The only task associated with this directed action is that DFG will collect, store and manage, water temperature and meteorological data and provide that data to Tri-Dam and its consultants for the development of a San Joaquin Basin-wide Water Temperature Model.

7. Special Equipment and Supplies required

Water temperature and meteorological measuring equipment are provided by Tri-Dam or its sub contractors.

8. Environmental Permitting Requirements

None required

9. Species Impacted/Affected

Anadromous fish; San Joaquin fall-run Chinook salmon and steelhead.

10. Stakeholders and Interested Parties

Tri-Dam, Modesto Irrigation District, Turlock Irrigation District, Stockton East Irrigation District, Merced Irrigation District, other local irrigation districts, U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Bureau of Reclamation.

11. Exhibits

Exhibit A – Budget Detail

Exhibit B – Schedule and Deliverables

Exhibit A
Budget Summary
DATA COLLECTION FOR SAN JOAQUIN RIVER BASIN-WIDE WATER TEMPERATURE MODEL

Project- SJ Basin-wide Temp Model Data Collection

	Year 1 (FY04/05)	Year 2 (FY05/06)	Year 3 (FY06/07)	Year 4 (FY07/08)
Personnel*	<u>Subtotal</u>	<u>Subtotal</u>	<u>Subtotal</u>	<u>Subtotal</u>
Senior Fishery Biologist	\$4,400.00	\$4,400.00	\$4,400.00	\$4,400.00
Fishery Biologist	\$0.00	\$61,248.00	\$61,248.00	\$61,248.00
Office Tech	\$15,750.00	\$23,625.00	\$23,625.00	\$23,625.00
Biologist	\$12,800.00	\$0.00	\$0.00	\$0.00
Scientific Aide	\$12,750.00	\$25,500.00	\$25,500.00	\$25,500.00
Total Personnel Expenses:	\$41,300.00	\$110,373.00	\$110,373.00	\$110,373.00
Operating	<u>Subtotal</u>	<u>Subtotal</u>	<u>Subtotal</u>	<u>Subtotal</u>
Travel Expense	\$500.00	\$500.00	\$500.00	\$500.00
External Contract (Shelly)	\$52,280.00	\$79,083.00	\$83,049.00	\$87,183.00
Thermographs	\$7,500.00	\$1,875.00	\$1,875.00	\$1,875.00
Cable, Housing, Misc.	\$6,000.00	\$1,500.00	\$1,500.00	\$1,500.00
Hydrolab Maintenance	\$500.00	\$500.00	\$500.00	\$500.00
Meteorological Station	\$5,000.00	\$0.00	\$0.00	\$0.00
Boat & Vehicle Maintenance	\$14,681.00	\$10,000.00	\$10,000.00	\$10,000.00
Phone Charges	\$500.00	\$960.00	\$960.00	\$960.00
Database Maintenance	\$2,500.00	\$5,000.00	\$5,000.00	\$5,000.00
PDA	\$800.00	\$0.00	\$0.00	\$0.00
GPS unit	\$1,000.00	\$0.00	\$0.00	\$0.00
Hydrolab Cable	\$1,800.00	\$0.00	\$0.00	\$0.00
Computer Upgrade	\$4,000.00	\$0.00	\$0.00	\$0.00
Computer Software	\$1,000.00	\$0.00	\$0.00	\$0.00
Cell Phone	\$200.00	\$0.00	\$0.00	\$0.00
Total Operating Expenses:	\$98,261.00	\$99,418.00	\$103,384.00	\$107,518.00
Total Personnel and Operating Expenses:	\$139,561.00	\$209,791.00	\$213,757.00	\$217,891.00

Notes:

In-Kind funds are being provided by SFRA grant # F-51-R-47, project # 60, as this is work that the grant agreement is to support/cooperate on and is specified primarily in jobs 2, 3, 4 and 5 of this grant agreement.

Hourly rates are top salary and include benefits at 32%

Directed Action Amount

\$781,000.00

Exhibit B
Schedule and List of Deliverables

“Data Collection for the San Joaquin River Basin-wide Water Temperature Model”

<u>Task</u>	<u>Task Title</u>	<u>Deliverable</u>	<u>Estimated Completion Dates</u>
1	Project Mgmt & Adm	• Semi-Annual Progress Report • Subcontract documentation	• Semi-annual report through out the contract term. Due 10th of July, Jan. • Subcontract documents will be submitted quarterly through out the contract term. Due 10th of July, Sept, Jan, Mar.
2	Public Participation	• Pre and post meeting materials • Public Notices • Public Meetings • Meeting Summaries	• These items will all be completed as part of an associated contract with independent contractor. CDFG will ensure they are completed on schedule
3	Environmental Compliance and Permitting	• List all applicable deliverables	• No applicable permitting
4 - 5	Other Tasks depending on Project needs Report	• Database updated quarterly with thermograph, weather station and thermal profile data. • CDEC specific stations will be updated quarterly	• Data updates will be done quarterly through out the contract term. Due 10th of July, Sept, Jan, Mar. Database conveyed on same schedule to contractor with associated external contract. External contractor conveys database to CalFed. • CDEC updates due 10th of July, Sept, Jan, Mar.
6	Draft and Final Report	• Draft Report • Final Report	• 22 months after contract execution • 24 months after contract execution
7	Project Close Out	• Project Close Out Report • Final Invoice	• 30 days prior to end of the contract term • 30 to 60 days after Final Report is approved

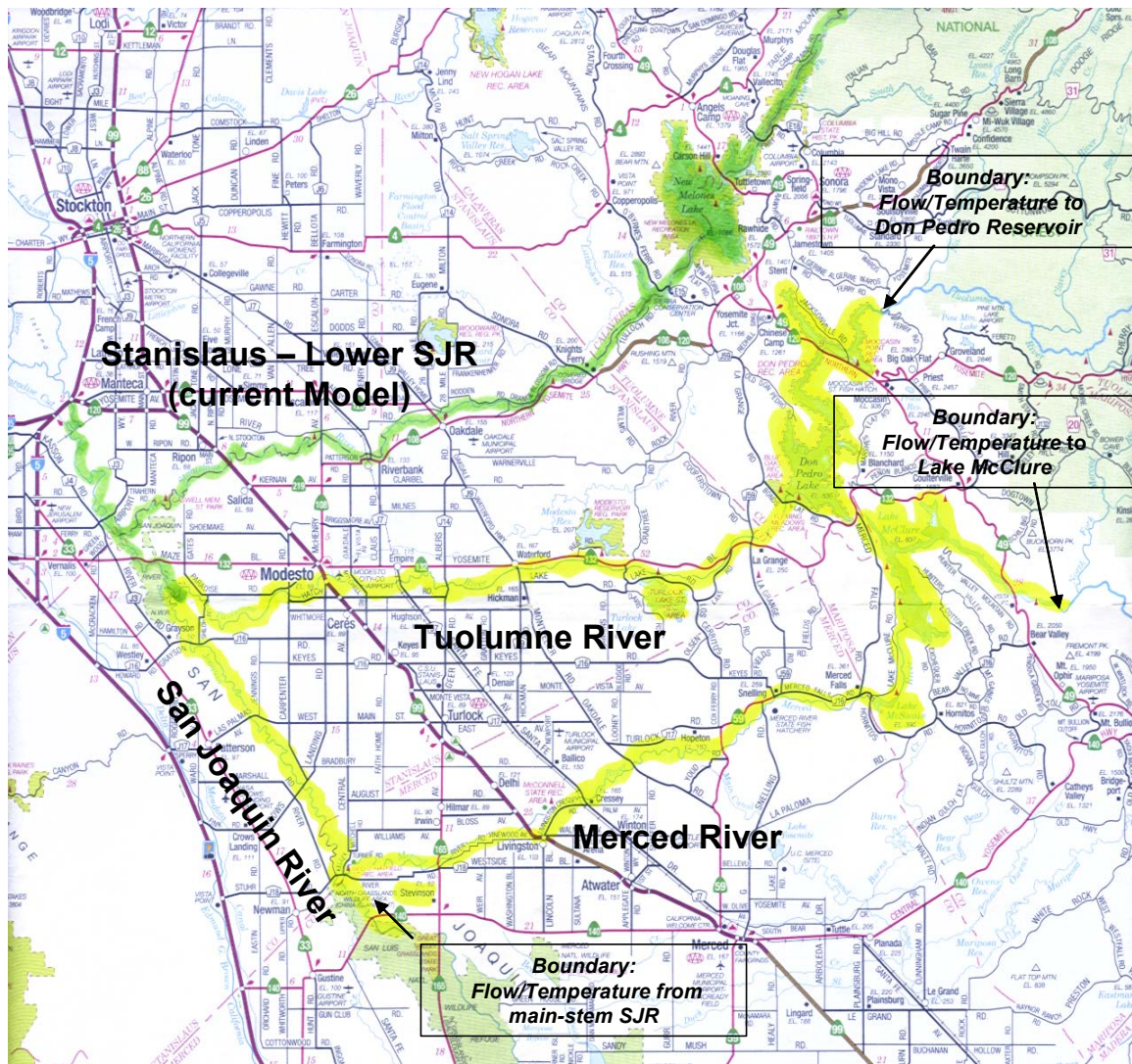
12. Other Attachments

Attachment A- Project Map; San Joaquin River Basin-wide Water Temperature Model

Attachment A

Project Map

San Joaquin River Basin-wide Water Temperature Model



Key:

Green: Area covered under the current model

Yellow: Area covered under the extended model

Note:

The proposed upstream limits of the extended model are New Don Pedro Reservoir, Lake McClure and the Stevenson gauge on the Tuolumne, Merced and San Joaquin Rivers respectively. The two reservoirs are appropriate upstream boundaries for temperature simulation since flows and temperatures can be adequately defined. This approach has been demonstrated in the application of the model to the Stanislaus River system (e.g., New Melones as the upstream boundary). Flow records at the Stevenson gauge indicate minimal summertime flows (< 25 cfs). Therefore, system operation above Stevenson has negligible impact on the thermal regime of the lower river. Furthermore, the river temperature at Stevenson can be well defined as a function of meteorology and the historical temperature record at that location.