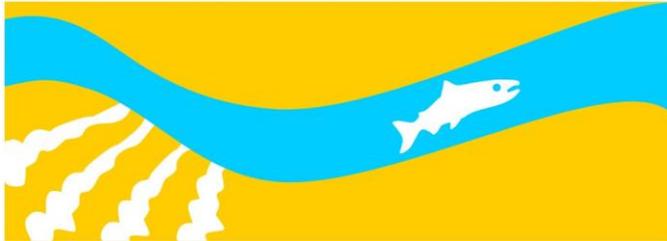


**Study 25**

# **Monitoring Cross Section Resurveys**

**Final  
2015 Monitoring and Analysis Plan**

**SAN JOAQUIN RIVER  
RESTORATION PROGRAM**





# 1.0 Monitoring Cross Section Resurveys

## **Theme(s):**

- Bed Mobility
- Conveyance
- Channel Capacity Management

## **Related Question(s):**

Questions not developed for these themes to date.

## 1.1 Statement of Need

This study specifically addresses needs related to the San Joaquin River Channel Capacity Management Problem Statement by providing data that can be used to assess and predict mid- and long-term changes in channel geometry and substrate characteristics in the sand-bed channel, and particularly in the transition reaches of Reaches 1B and 2, in response to Restoration Flow releases. The information gained from this study will be used to determine whether Restoration Flow releases are causing systematic changes in channel geometry that could lead to a reduction in channel capacity and stability.

## 1.2 Background

Under Restoration Flow conditions, the duration and magnitude of intermediate to high flows will increase substantially, compared to historical, post-Friant Dam conditions. In the sand-bed portions of the channel, the channel may respond to these higher flows by aggrading, degrading, or showing an increase in bank erosion. Detailed data on the resulting changes in channel geometry and substrate characteristics will help identify potential channel capacity and stability problems, and will be useful in calibrating sediment transport modeling being done to predict long-term channel response.

## 1.3 Anticipated Outcomes

Understanding will be improved of mid- and long-term channel response in Reach 2 to Restoration Flow releases, which will help inform future management decisions.

## 1.4 Methods

**Type of Study:** Combination of data collection and evaluation.

**Reach(es):** Portions of 1B, 2A, and 2B

Methods used by DWR to conduct cross-section surveys and collect bed samples are presented in the Annual Technical Report for spring 2010 (SJRRP, 2011). Multiple samples are collected in some cross-sections due to lateral variations in bed material size. Analysis of the data will involve processing the topography data into Computer-aided design (CAD) surfaces and comparing them to surfaces from previous surveys to identify significant changes and trends.

## 1.5 Deliverables and Schedule

Any data collected during 2015 will be available on the SJRRP Data Reporting webpage which will include figures showing new topography and observed changes. Text will include a discussion of results.

## 1.6 Budget

The total cost estimate is \$50,000 for 2015.

**Table 1-1. Proposed 2015 Budget**

<b>Task</b>	<b>Cost</b>
Resurvey of Cross Sections	\$25,000
Data Processing	\$6,000
Analysis	\$15,000
Reporting	\$4,000
<b>Total</b>	<b>\$50,000</b>

## 1.7 Point of Contact / Agency Principal Investigator

Dave Encinas, DWR, Dave.Encinas@water.ca.gov, 559-230-3355

## 1.8 References

San Joaquin River Restoration Program. 2011. Final 2010 Annual Technical Report. April.

SJRRP. *See* San Joaquin River Restoration Program.