

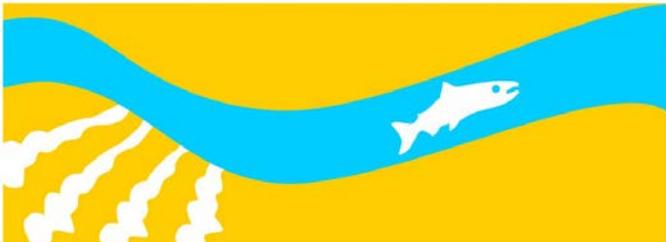
**Study 25**

# **Monitoring Cross-Section Resurveys**

**Public Draft**

**2013 Monitoring and Analysis Plan**

**SAN JOAQUIN RIVER**  
RESTORATION PROGRAM





# 1 **25.0 Monitoring Cross-Section Resurveys**

## 2 **25.1 Statement of Need**

3 This study specifically addresses needs related to the San Joaquin River Channel  
4 Capacity Management Problem Statement by providing data that can be used to assess  
5 mid- and long-term changes in channel geometry and substrate characteristics in the  
6 sand-bed portions of the reach in response to the Restoration releases. The information  
7 gained from this study will be used to determine whether Restoration releases are causing  
8 systematic changes in channel geometry that could lead to a reduction in channel capacity  
9 and stability.

## 10 **25.2 Background**

11 Under both Interim Flow and full Restoration Flow conditions, the duration and  
12 magnitude of intermediate to high flows will increase substantially, compared to  
13 historical, post-Friant Dam conditions. In the sand-bed portions of a reach (particularly  
14 Reaches 2, 3, and 4), the channel may respond to these higher flows by aggrading,  
15 degrading, or showing an increase in bank erosion. Detailed data on the resulting changes  
16 in channel geometry and substrate characteristics will help identify potential channel  
17 capacity and stability problems, and will be useful in calibrating sediment transport  
18 modeling being done to predict long-term channel response.

## 19 **25.3 Anticipated Outcomes**

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

## 22 **25.4 Methods**

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

1 **25.5 Schedule**

2 Surveys will only be conducted in 2013 if accumulative or peak flows reach a range  
3 expected to result in significant changes in bed topography. Analytical methods,  
4 parameters for significant change, and corresponding flows will be identified from  
5 analysis of the data collected since 2009.

6 **25.6 Deliverables**

7 Any data collected during 2012 will be presented in the 2013 ATR which will include  
8 figures showing new topography and observed changes. Text will include a discussion of  
9 results.

10 **25.7 Point of Contact/Agency**

11 Dave Encinas/DWR

12 **25.8 References**

13 Spring 2010 SJRRP Annual Technical Report