**Reach 2A Channel Response**

**2012 Final ATR Summary**

## Introduction

The California Department of Water Resources (DWR), with assistance from Tetra Tech and Provost & Prichard, performed field surveys at 27 cross sections spaced at approximately 500-foot intervals in the downstream approximately 2.7 miles of the Reach 2A on June 14-15, 2012 (**See link for map**).

## Survey Methods

The surveys were conducted using RTK GPS. Survey data can be found in the Microsoft Excel file linked in the website, and coordinates are California Coordinate System Zone 3 (US Survey Feet). They are based on California Geodetic Coordinates of 1983, Epoch 2007.0, according to control values established by RBF Consulting by a survey conducted March 2008 through January2009 along with RTK observations.  Orthometric heights (US Survey Feet) were derived from RTK observations and application of GEIOD03 to the RTK values. The resulting cross section profiles were compared with cross sections cut from the 2008 LiDAR data and cross sections that were surveyed along the same lines in November 2010 and November 2011 to provide a basis for quantifying changes in bed elevation in response to the Interim Flow and flood releases that occurred during the period.

## Aggradation/Degradation Trends At Surveyed Cross Sections

Comparison of the 2008, 2010 and 2011 data indicated that the upstream mile of the reach was approximately in sediment balance (insignificant net aggradation or degradation) and the downstream 2.5 miles was mildly degradational between 2008 and November 2010, and the entire reach was degradational between November 2010 and November 2011. The June 2012 data indicated that the upstream approximately one mile of the reach aggraded by a small amount between the November 2011 and June 2012, and more significant aggradation occurred in the downstream portion of the reach. Overall, about 6.3 AF of sediment accumulated in the reach between the two surveys, with the bulk of the deposition occurring in locations where significant scour occurred along the toe of the bank during the 2011 high flows. In spite of the general degradational tendency within the overall reach, about 2.1 AF of sediment accumulated in the approximately 600-foot reach upstream from the CBBS between 2008 and 2010. The deposited material plus an additional 1.3 AF of material (total of 3.4 AF) appears to have been removed from this area between the 2010 and 2011 surveys, and this area backfilled by about 2.7 AF between November 2011 and June 2012.

Detailed analysis and results will be published in a Technical Memorandum in early 2013.