West Walker River Restoration Planning Study

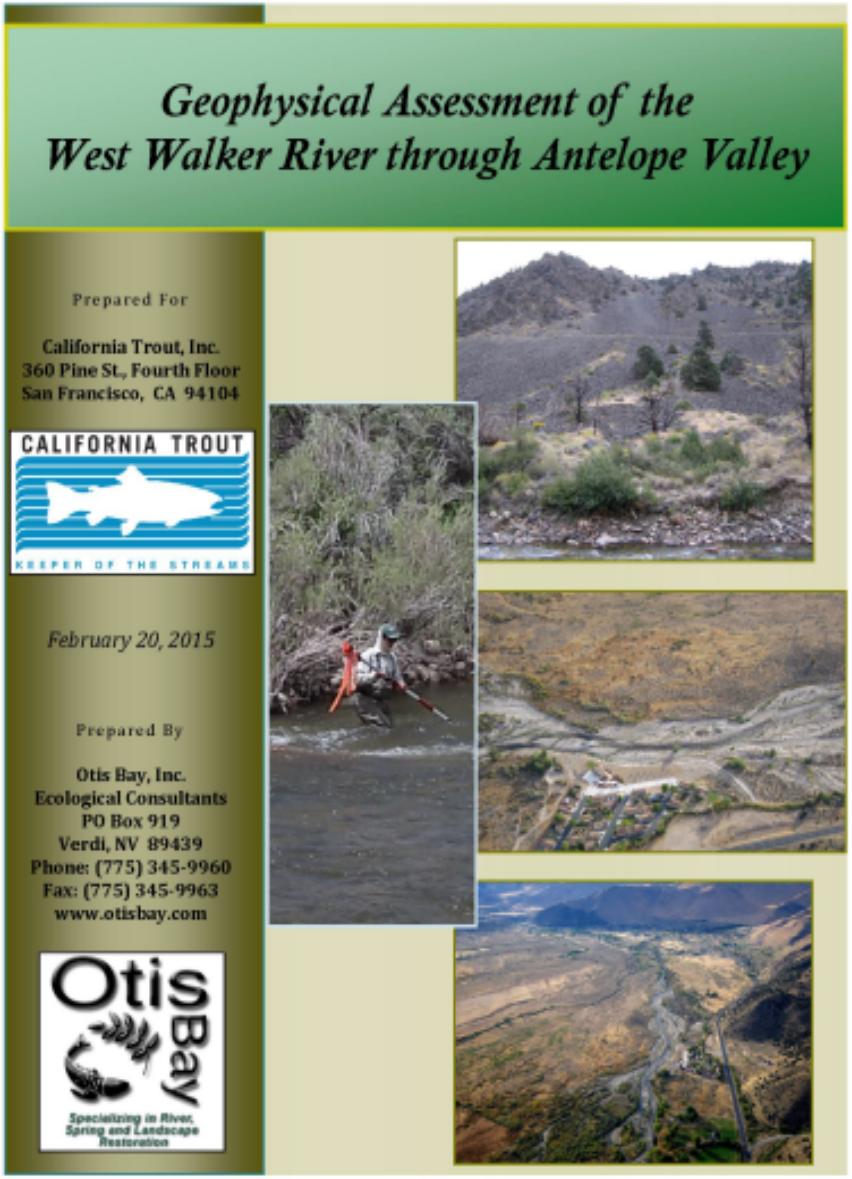
- CalTrout as sub-grantee
- Project budget: Originally $67,500; Final ~$60,000
- Project duration: ~ one year; Completed in February 2015

Project Objectives

- Examine hydrologic condition and drivers of change in the Antelope Valley
- Identify preliminary strategies to address degradation of Antelope Valley
  - Sedimentation & deposition in the valley
  - Erosion of Walker River streambanks/loss of economically important lands
  - Degradation of fishery

Process

- Stakeholder engagement
  - Local landowners
  - State and Federal agencies
  - Consultant
- Developed SOW/established contract with Otis Bay Inc.
- Draft report presented to stakeholders
- Report finalized & preliminary recommendations provided



- Hypothesis:
  - Post 1997 flood actions worsened situation
- Examined
  - Historical hydrology
  - Current hydrology
  - Current infrastructure and diversions
  - Geomorphology
  - Sediment transport

Some analysis

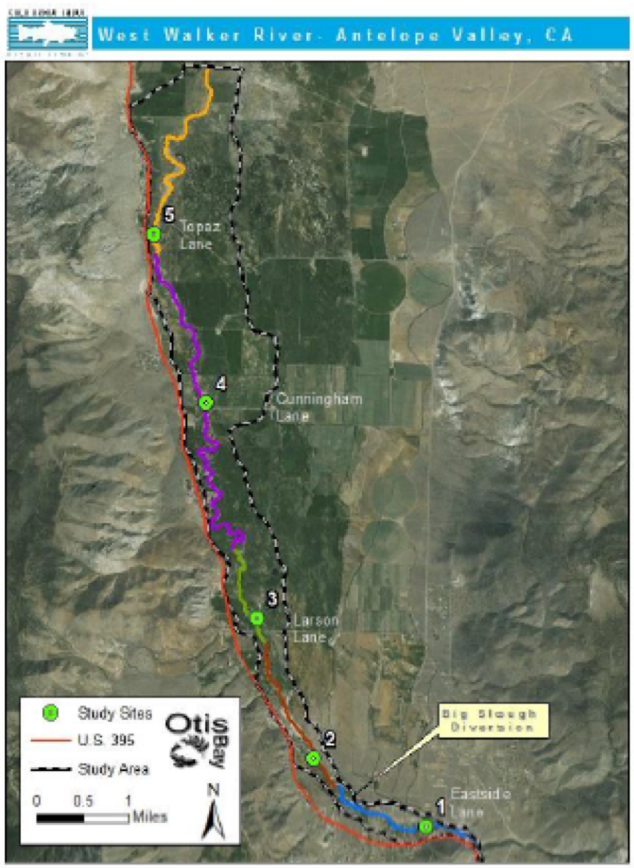


Figure 2-2. Site locations, channel reaches, local roads, and the primary diversion within the overall study area.

Infrastructure, diversions etc.

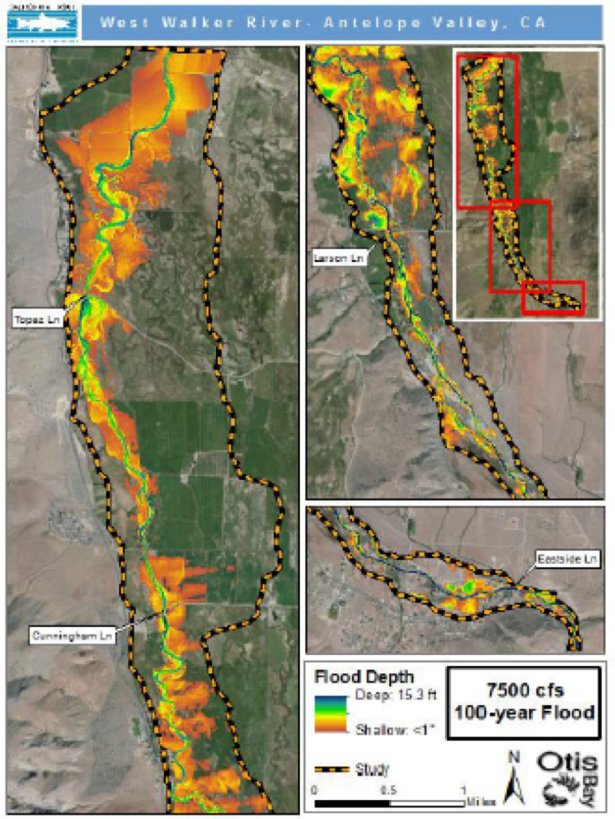


Figure 4-4. Modeled flood depths for a 100-year flood event (7,500 cfs) showing extensive floodplain inundation throughout the entire valley.

Flood events

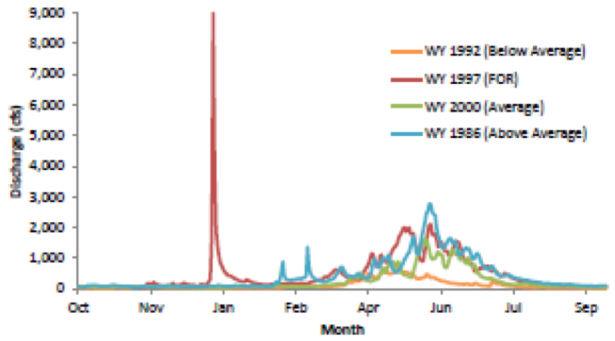


Figure 3-4. Hydrographs at the Coleville gage for average, wet, and dry years, along with the water year (WY) in which the '97 flood occurred (data obtained from USGS).

Historical hydrograph

Preliminary Recommendations

- **Restoration/infrastructure**
  - Redesign the Big Slough Diversion to function similar to the Main Canal Diversion.
  - Design and construct a sediment collection basin.
  - Develop a managed river corridor to allow dynamic riverine processes that would naturally regenerate a healthy riparian forest.

- **Planning and further research:**
  - Emphasis of existing analysis was on Antelope Valley proper
  - Design and plan enhancement projects and activities for the river channel, floodplain and watershed upstream of Antelope Valley.
  - Perform a detailed assessment of the river and watershed above Antelope Valley

- *Next steps:*
  - *Re-engagement of local stakeholders and agency representatives.*
  - *Identify priority needs/actions*