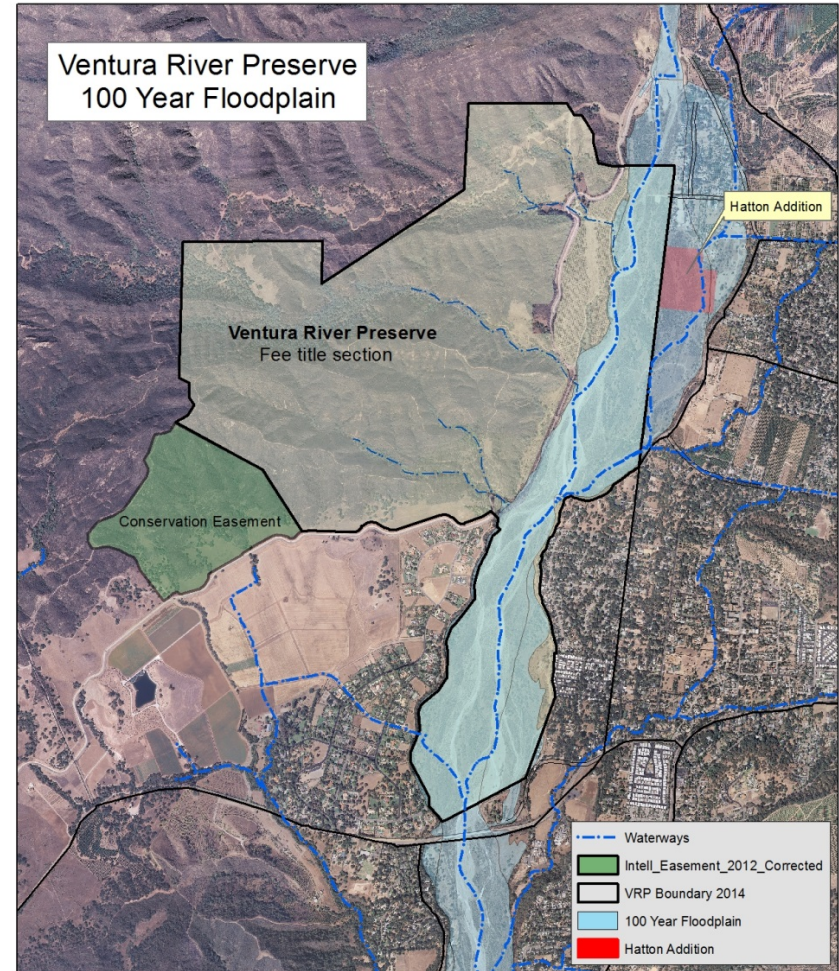


Land Conservation, Habitat Restoration, and Steelhead Recovery



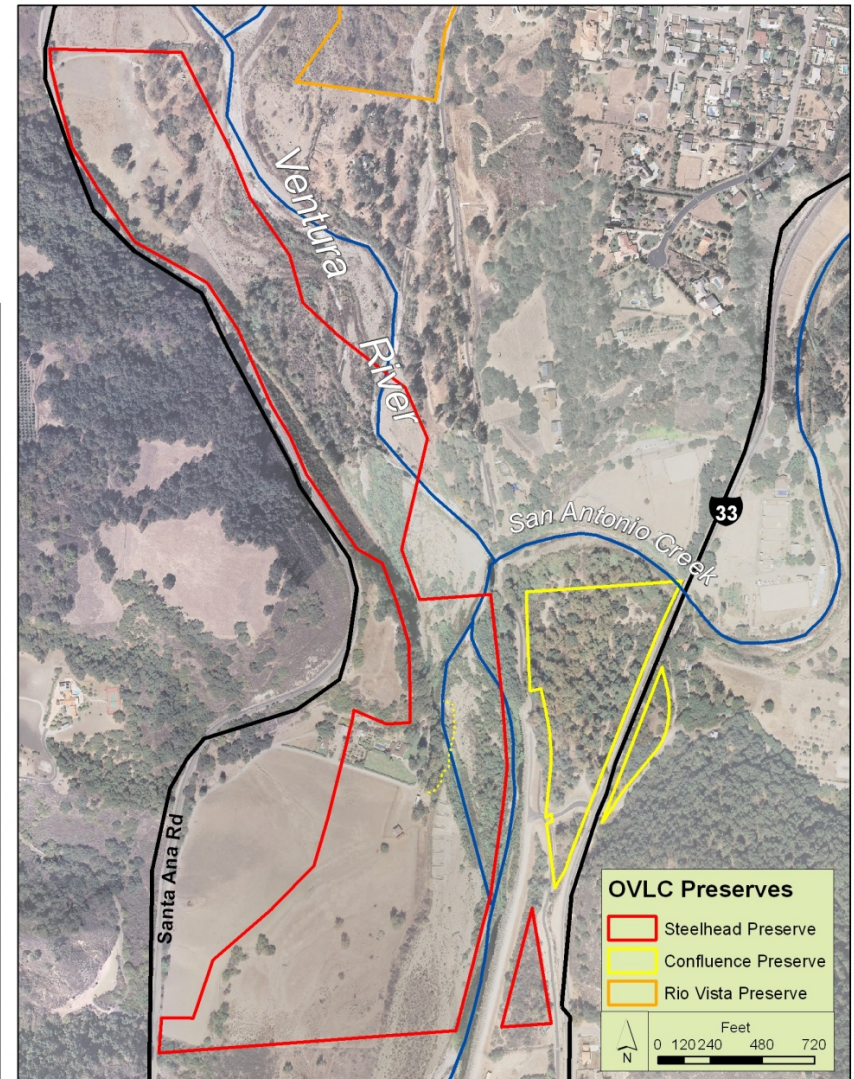
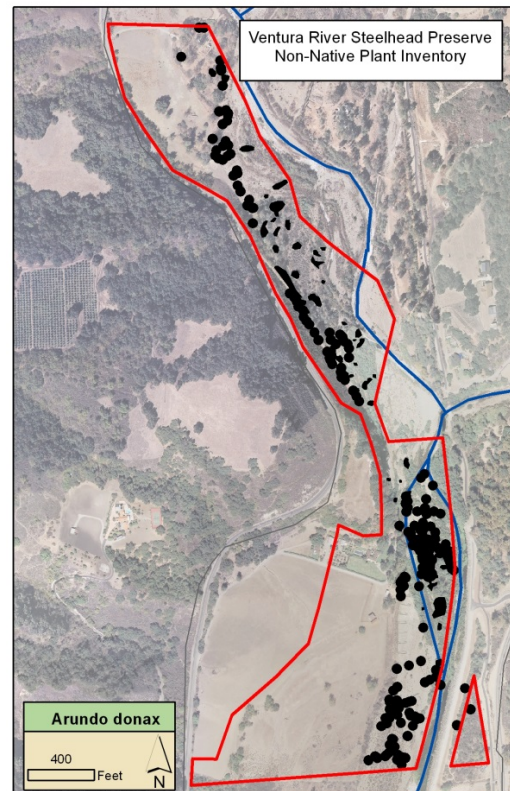
Ventura River Preserve

- 1,600 acres that include several seasonal waterways
- 2.5 miles of the main stem of the Ventura River
- Orange orchard removed from irrigation
- Steelhead migration route to upstream spawning areas.
- Several deep pools, but impacted by external water stresses
- Restoration focused on tributaries – Rice Creek & invasive plant management



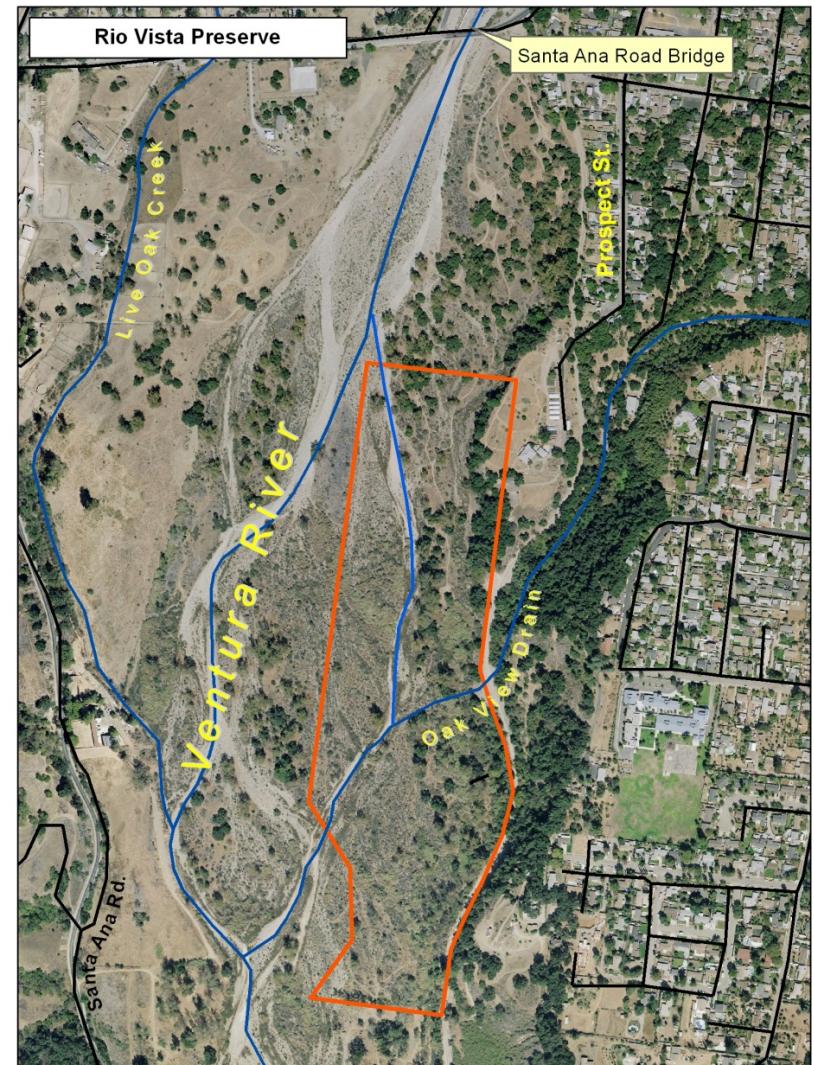
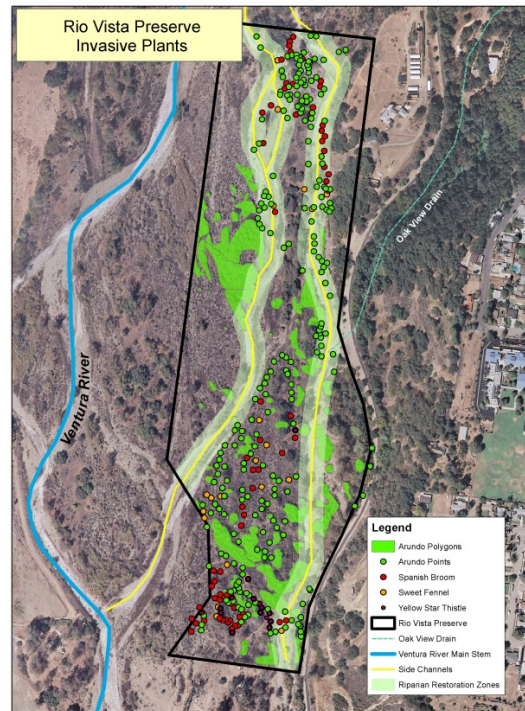
Ventura River Steelhead Preserve

- .9 miles of the main stem of the Ventura River
- Steelhead migration route to upstream spawning areas.
- Perennial water
- Several deep pools
- Restoration focused on invasive plant management



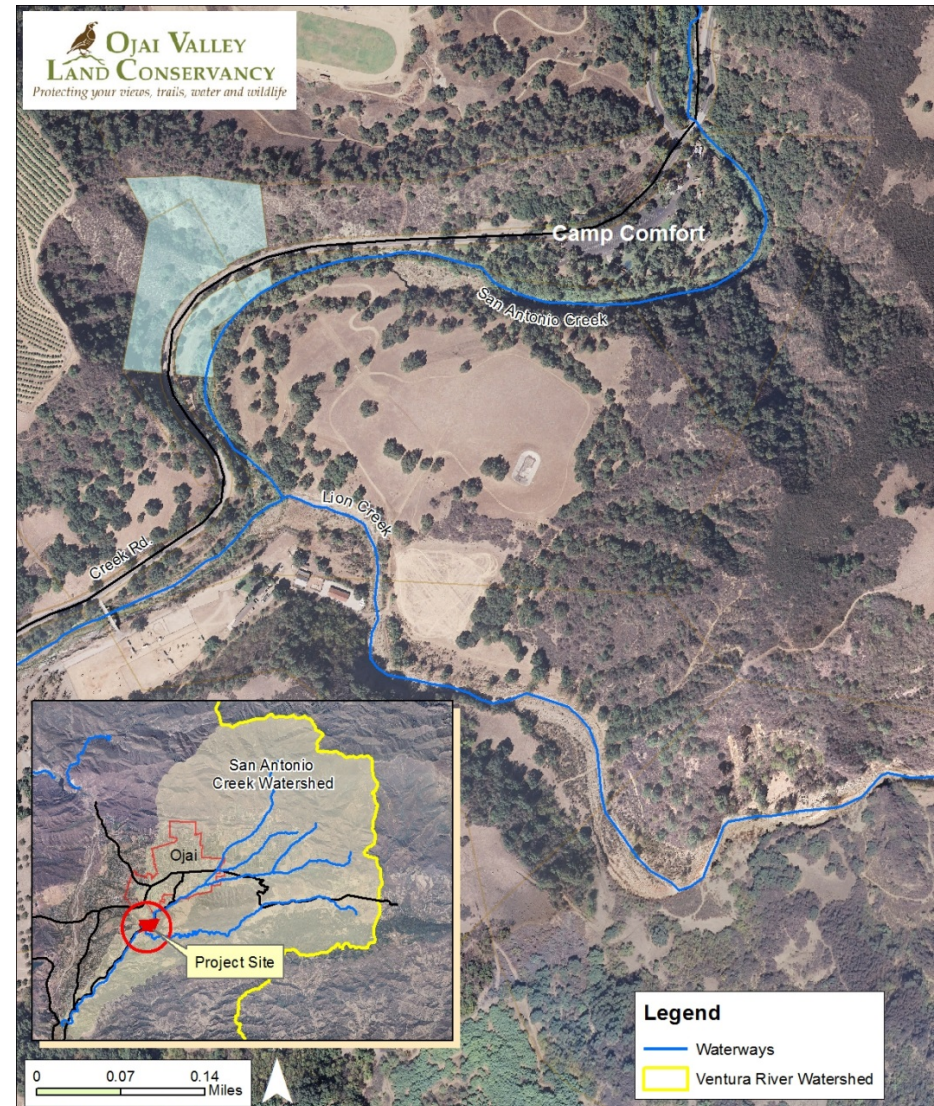
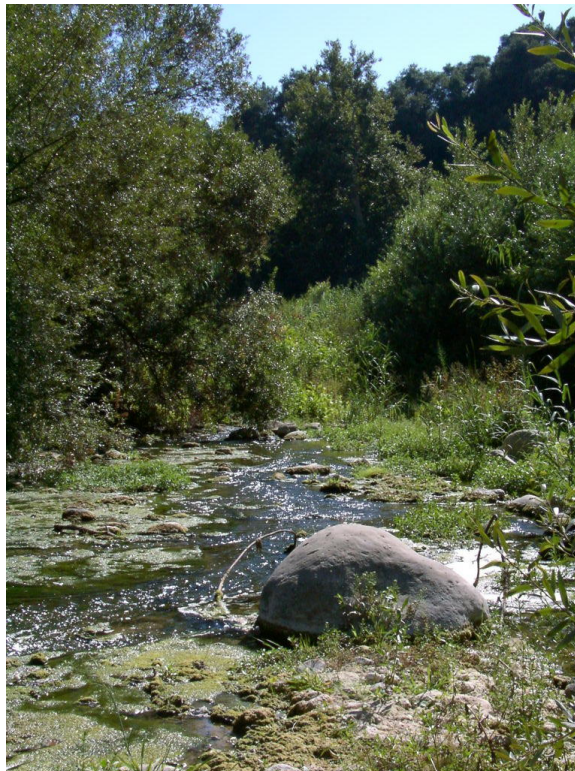
Rio Vista Preserve

- .5 miles of the Ventura River floodplain
- Steelhead migration route to upstream spawning areas.
- Contains side-channels of the Ventura River and the Oak View Drain
- Habitat distributions can be transient
- Restoration focused on invasive plant management



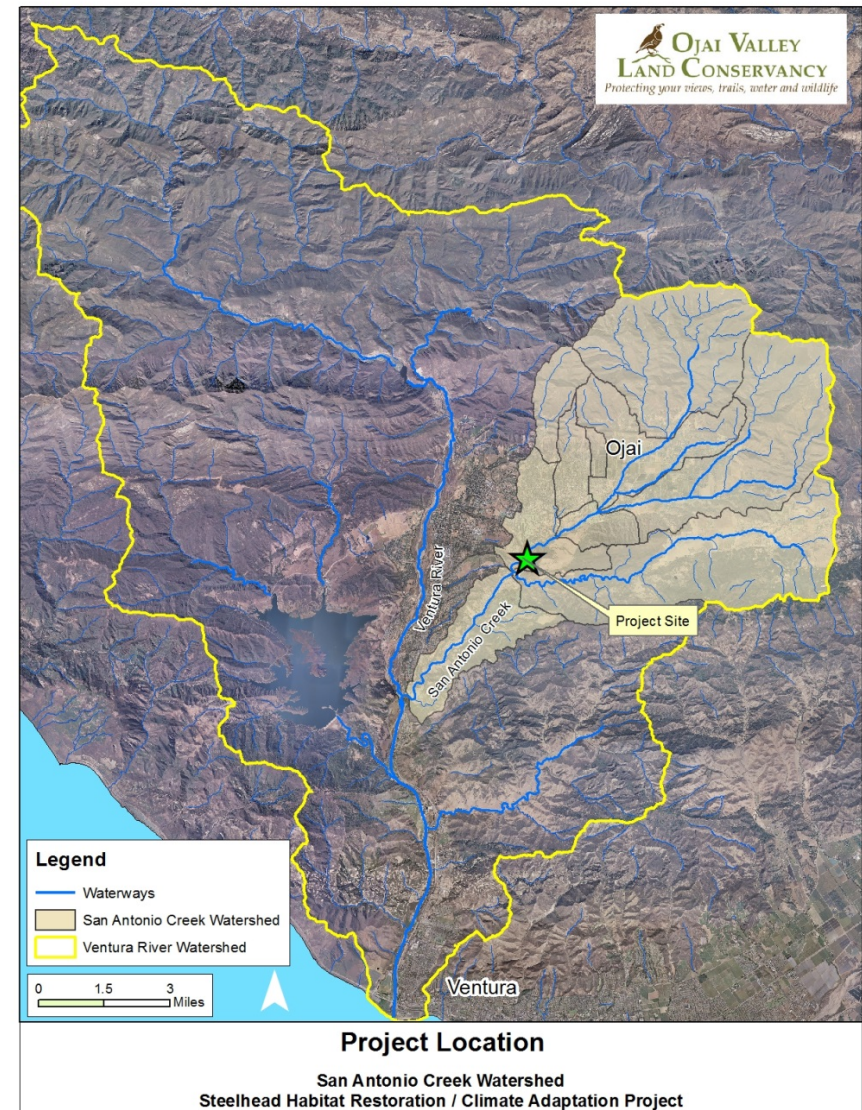
San Antonio Creek Preserve

- Short length of San Antonio Creek
- Steelhead migration route to upstream spawning areas. Spawning habitat possible, but poor.
- Perennial water
- Habitat distributions can be transient
- Restoration focused on invasive plant management, and potentially in-stream habitats and bank stabilization.



San Antonio Creek Initiative

- San Antonio Creek as a refuge for steelhead
- Habitat limitations and opportunities
- Perennial water
- Types of Projects
 - Public Education / Urban Impacts
 - Invasive Plant Management – Multiple Grants Awarded
 - Migration Barrier Removal
 - In-Stream Structures
 - Stream Bank Stabilization
 - Revegetation



Removing Passage Barriers



Using weirs to manipulate channel gradient and water elevations to overcome impediments.



Root Wads

Create pools by causing scour



This structure could be improved by having more rock to rock contact and shortening cable ties.

Choosing a Project Approach Natural vs. Hard Structures

- Site and Watershed Hydraulics.
- Should the bank be stabilized?
- Upstream and downstream bank stability.
- Combination techniques.
- Toe protection.

Toe Materials

- Boulders.
- Coir biologs.
- Willow fascines.



Stream Bank Stabilization



Soil Wraps with Rock Toe Protection



Revegetation



- New Watershed Management Plan creates a framework for successful efforts
- No single organization can do everything it will take to grow steelhead populations
- Private organizations and government agencies are already collaborating
- Landowner support will be crucial
- Project benefits are cumulative
- Physical work has already begun, and can be successful

