

CreekLands Conservation for People, Ag and Wildlife

Habitat Enhancement in Agricultural Land Use Areas

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Watershed Projects Manager



Healthy Fish, Healthy Watersheds, Healthy Communities

- * Founded in 1983 to help strengthen our local ocean salmon fishery
- * 1983-2007: More than 2 million King Salmon released
- * Watershed Education and Restoration Programs



Healthy Fish, Healthy Watersheds, Healthy Communities

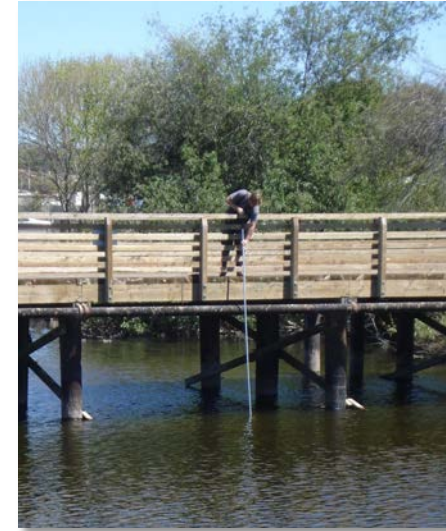


- * Invasive species removal and habitat improvement projects



- * Volunteer water quality monitoring project

- * Barrier modification projects in Arroyo Grande and Pismo Creeks



Healthy Fish, Healthy Watersheds, Healthy Communities

- * Watershed Forums
- * Technical Trainings
- * Information Hub
- * Reaching out to Youth



Highlights of Riparian Projects

- ▶ Connecting instream habitat for all life–stages of Steelhead trout

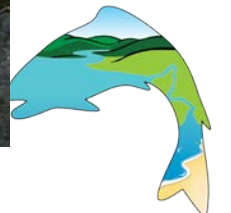
Pismo Creek

Fish passage improvement project at UPRR crossing



Arroyo Grande Creek

Stream gage replacement



Highlights of Riparian Projects

- ▶ Increase instream low flows

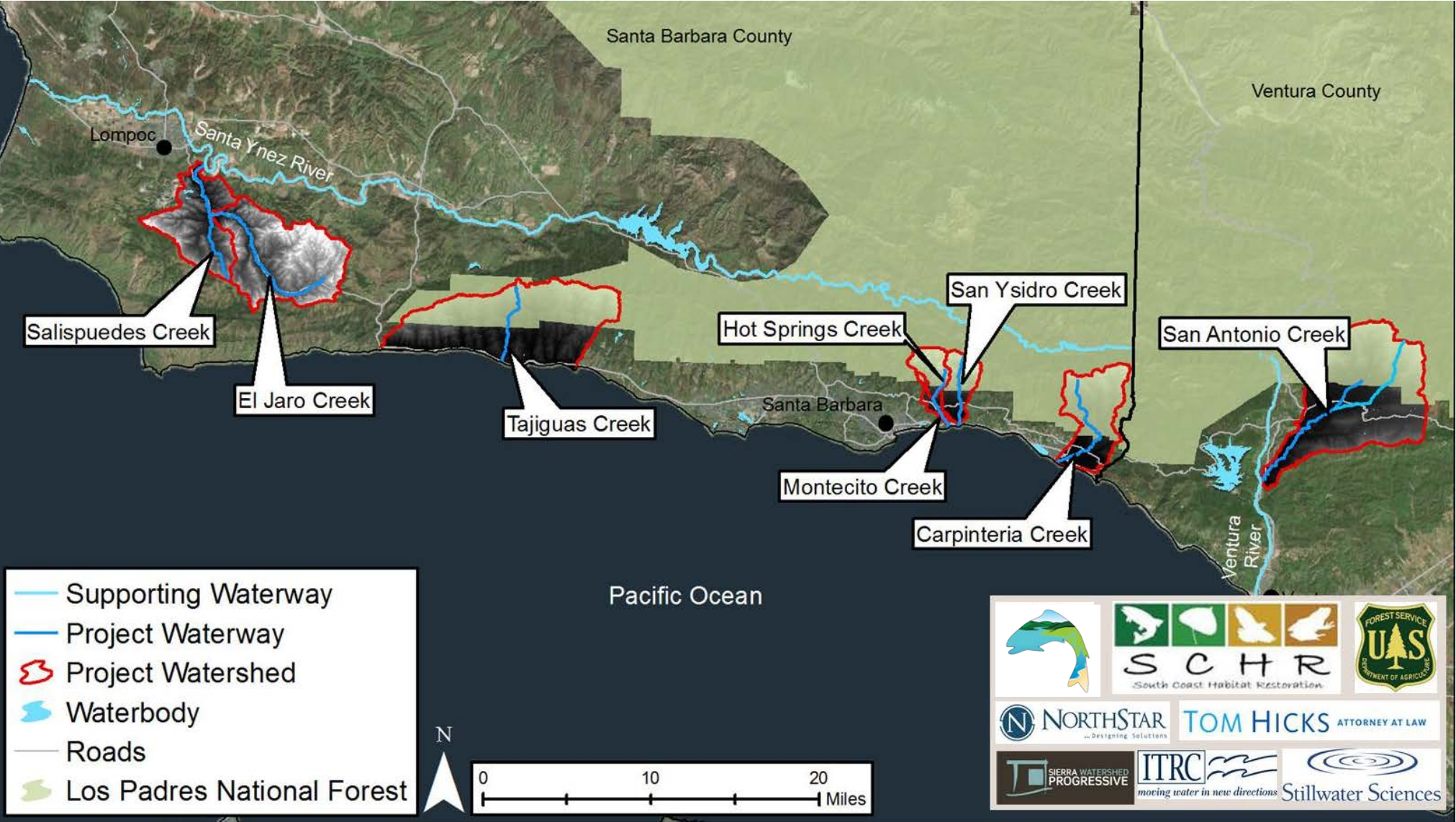


SLO Creek: Rainwater and Peak Flow Storage Reservoir at Fox Hollow Road

- ▶ Pre-project data collection
- ▶ Design and Feasibility
- ▶ Ultimately for Release into low flow site at Cuesta Park



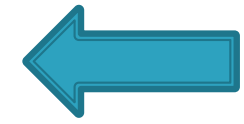
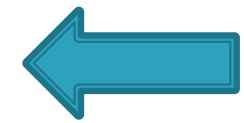
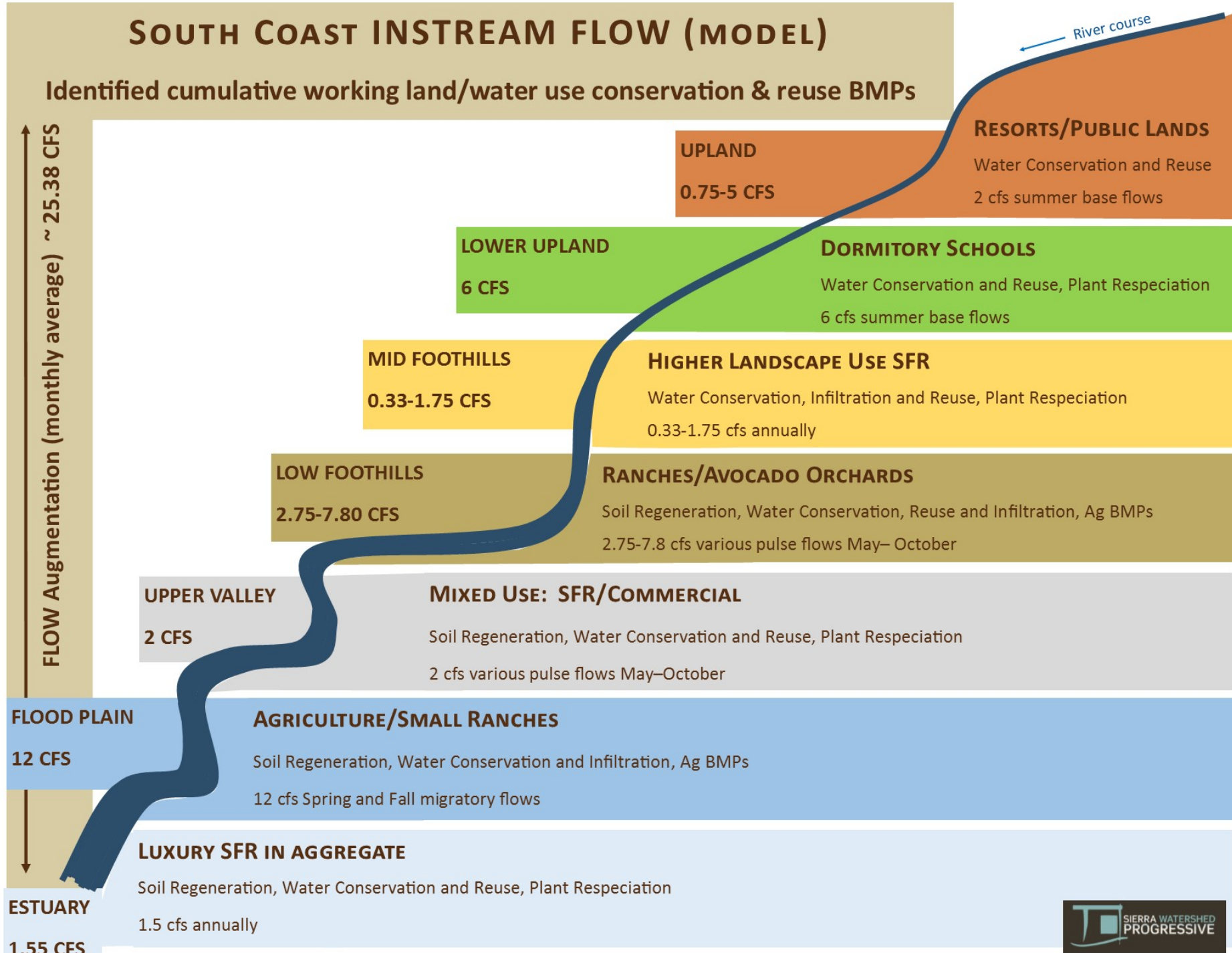
Planning And Feasibility Study For Integrated Water Conservation, Reuse, And Transactional Strategies To Enhance Streamflows In Santa Barbara And Ventura Counties



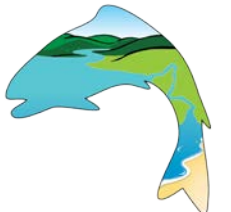
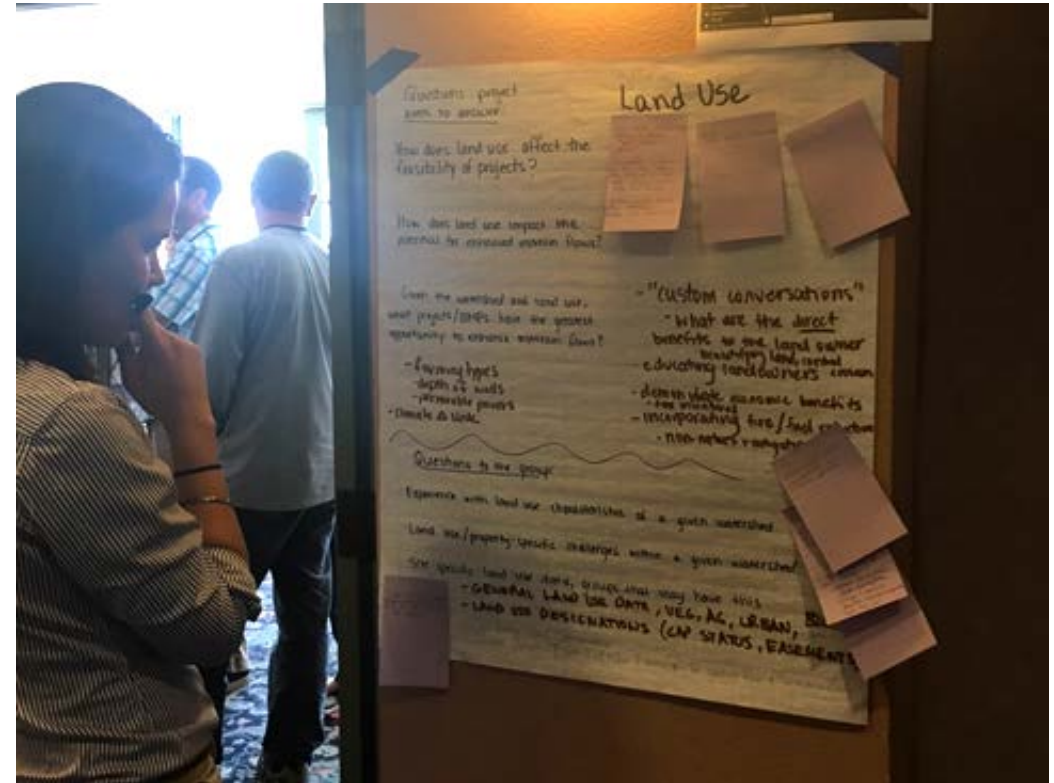
SOUTH COAST INSTREAM FLOW (MODEL)

Identified cumulative working land/water use conservation & reuse BMPs

↑ FLOW Augmentation (monthly average) ~ 25.38 CFS

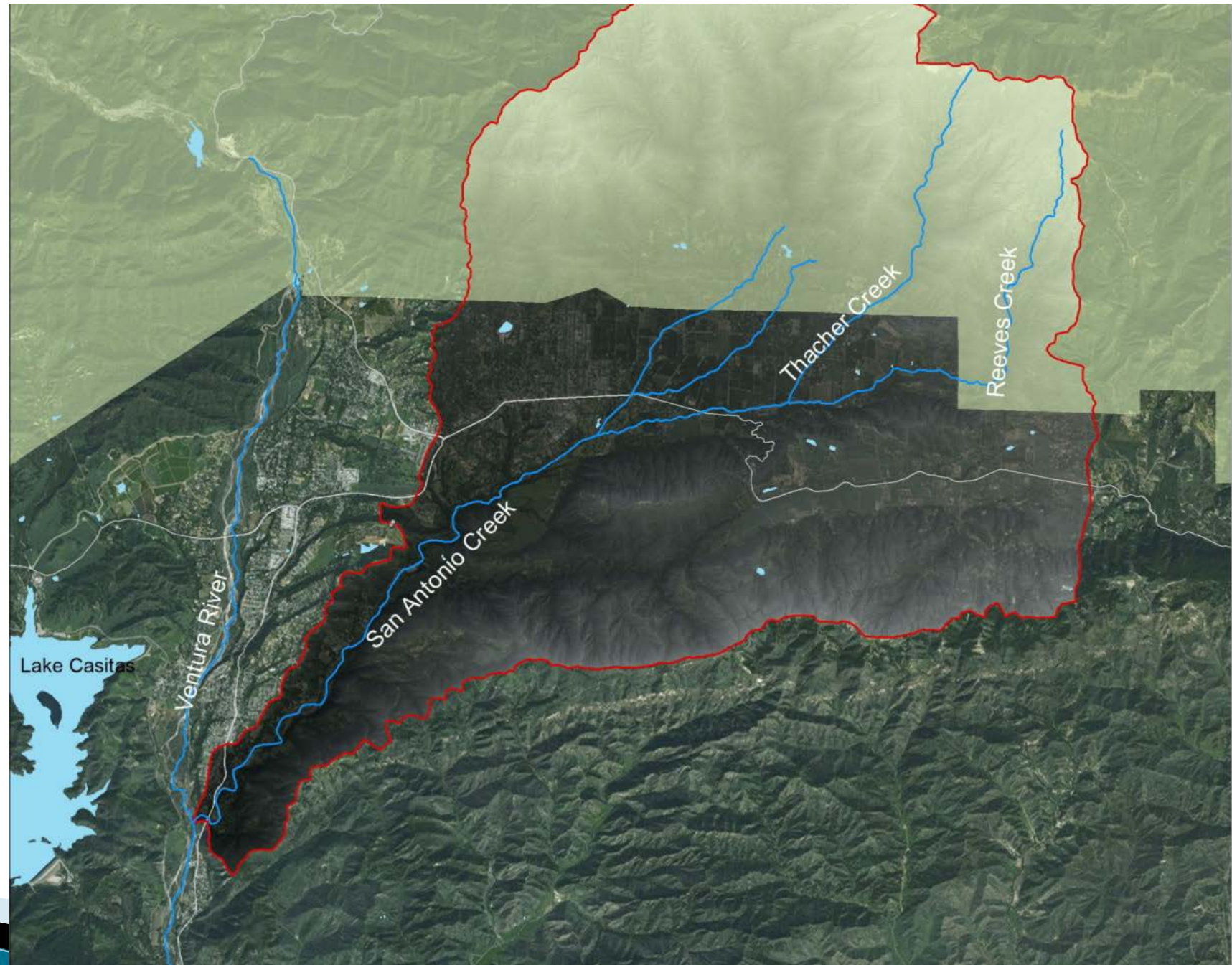


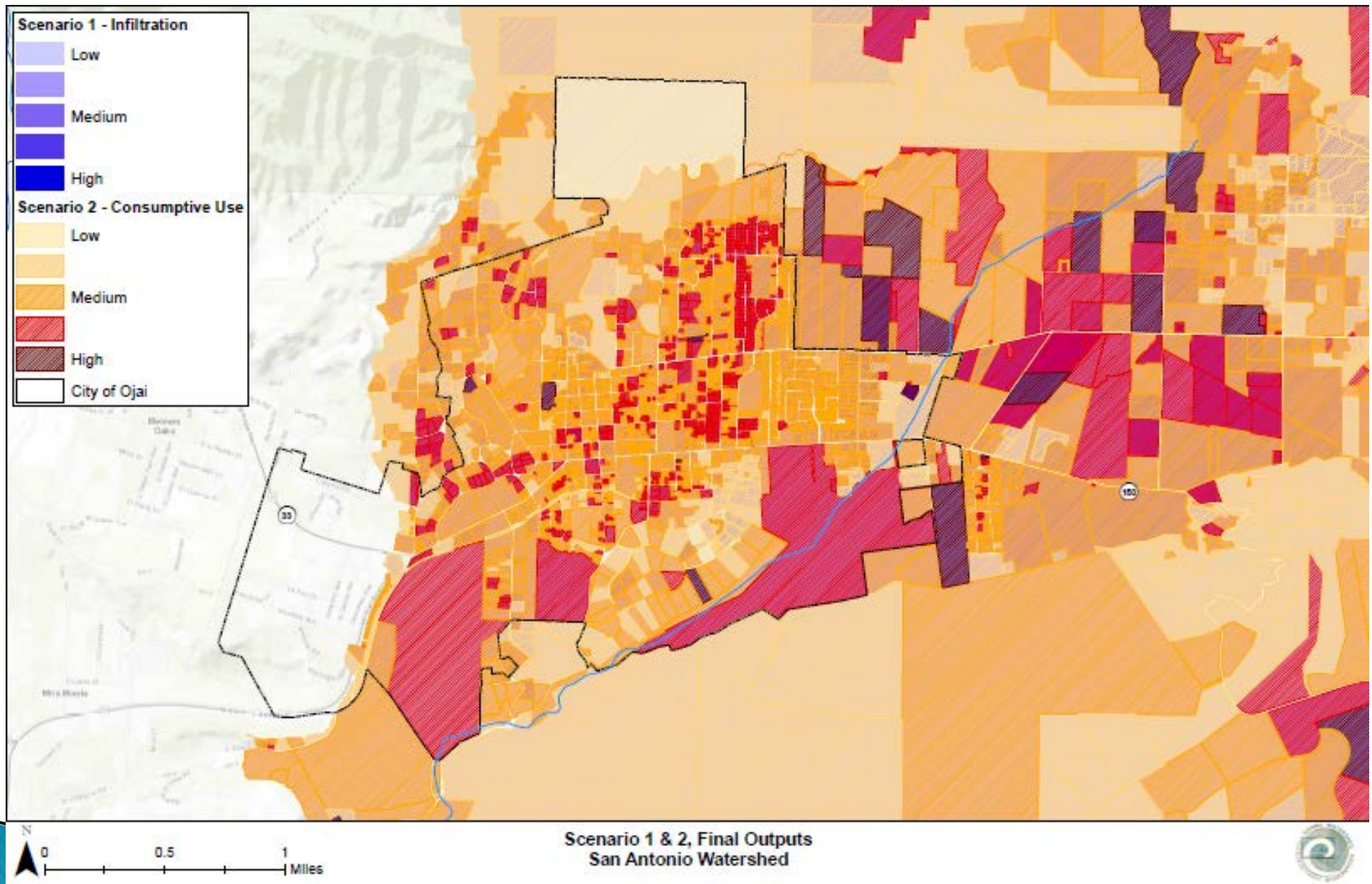
IWS TAC Meetings



IWS Goals:

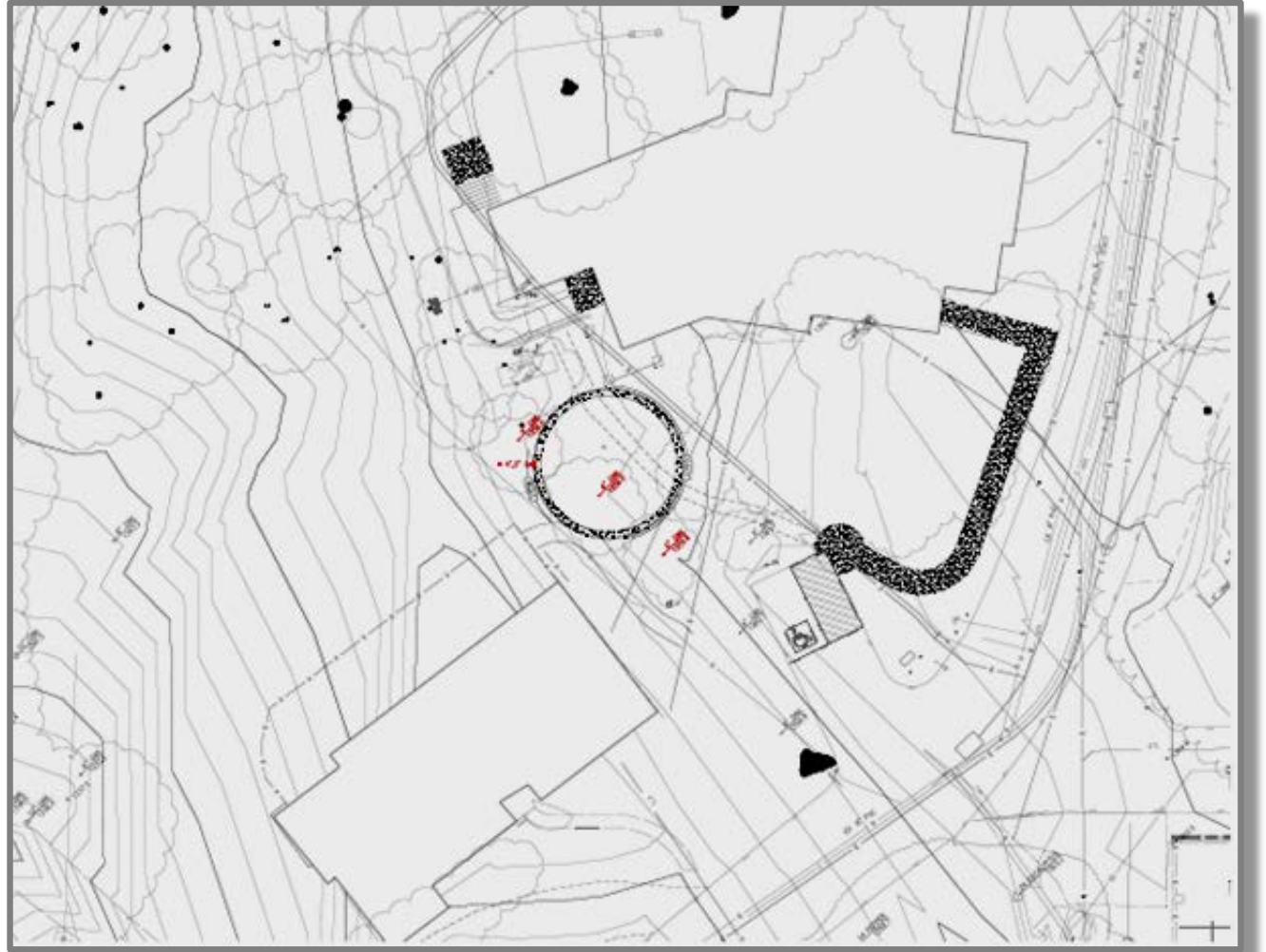
- ▶ Data Gathering
- ▶ Data Gap Identification
- ▶ Analysis and Evaluation





IWS Goals:

- ▶ 6-10 50% Project Plans



Santa Rosa Creek Watershed

- ▶ Key Percolation Zone Study: San Luis Obispo & Santa Rosa Creek
- ▶ Cal Poly Hydraulic Engineer groundwater / surface water model
- ▶ SLO County Regional Instream Flow Study
- ▶ Low Flow Monitoring
- ▶ Santa Rosa Creek Watershed Management Plan
- ▶ SLO County Watershed Management Plan

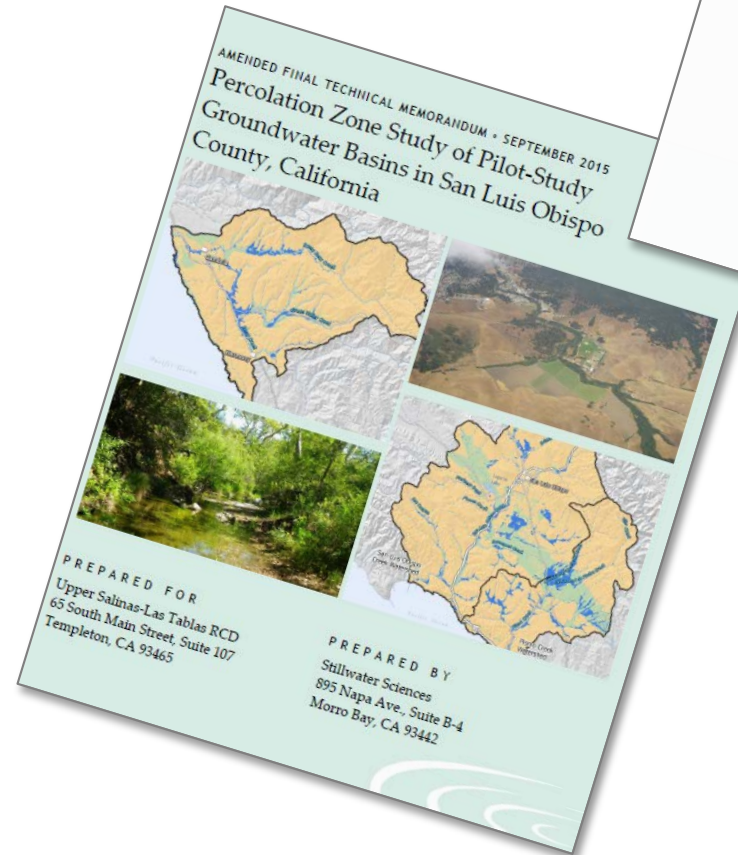


Santa Rosa Creek Pilot

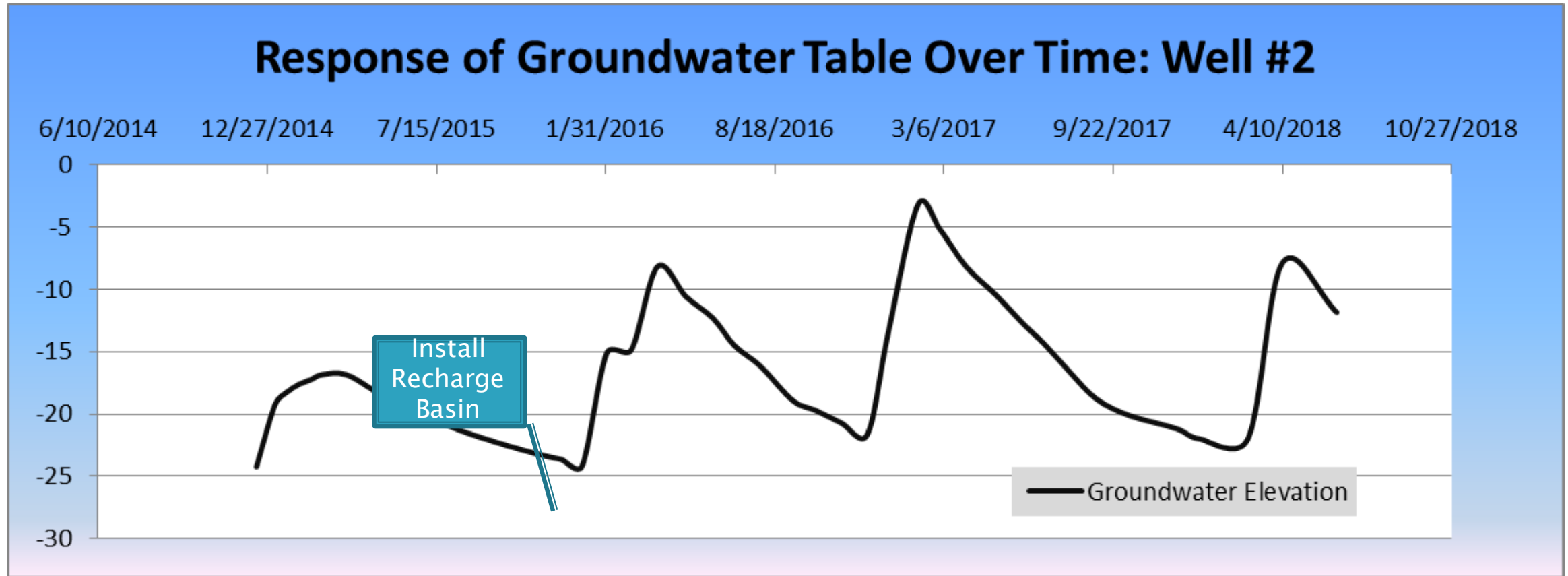
- ▶ Watershed Planning
- ▶ Managed Aquifer Recharge
- ▶ Percolation Zone Study
- ▶ Hydrologic Modeling



Santa Rosa Creek Hydrology Model



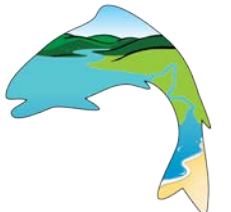
Monitoring Groundwater Elevation



Ephemeral channel diversion for covered storage or recharge ponds

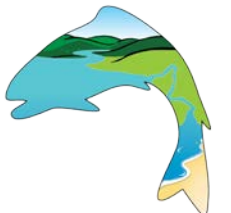


Floodplain terrace for inundation during peak flows



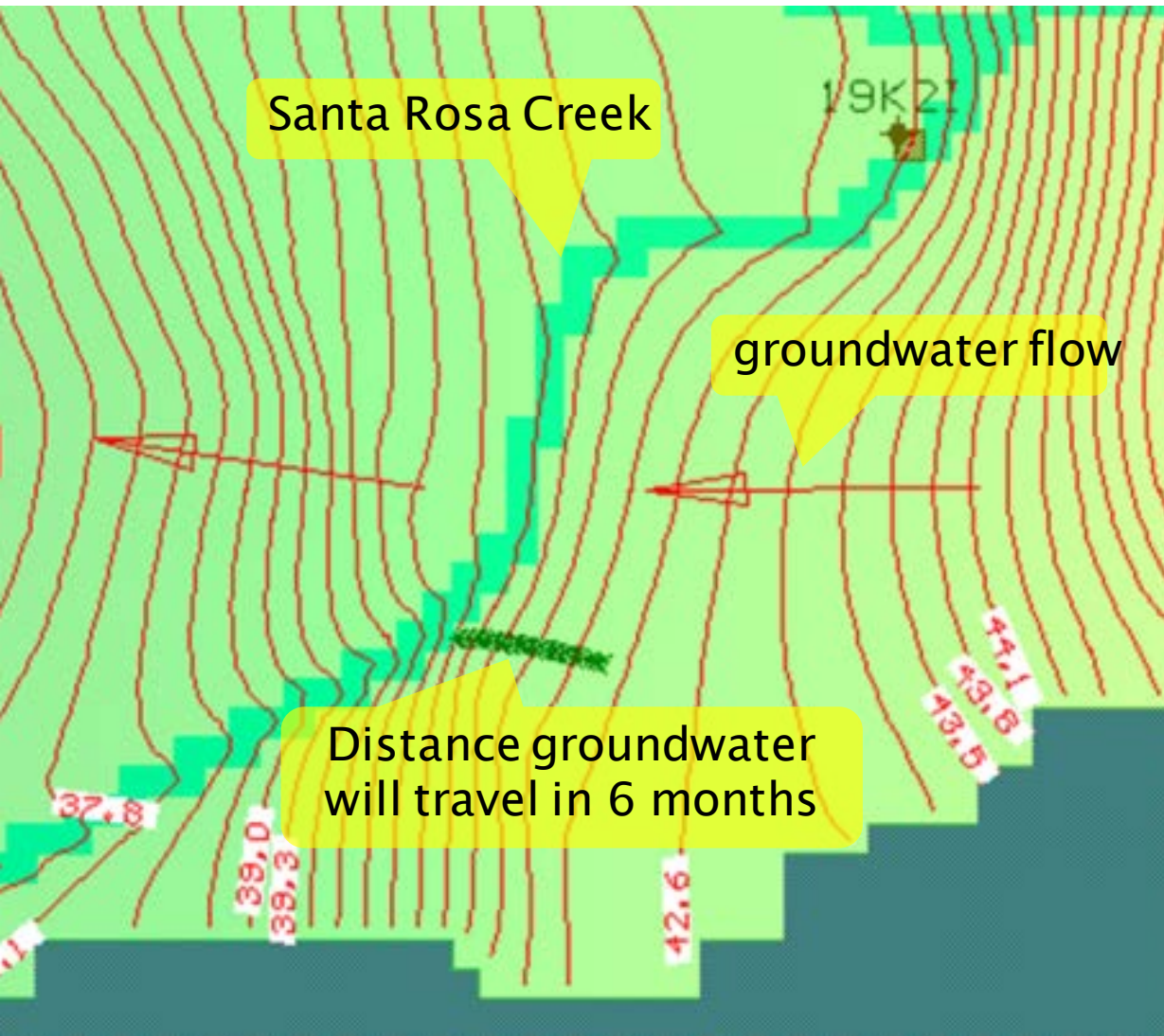
Recharge Basin

- ▶ Passive recharge
- ▶ Inflow during high storm events
- ▶ Approximately 1 AF in capacity
- ▶ Percolates for several days to weeks
- ▶ Provides multiple benefits
- ▶ NRCS Conservation Practice (No. 350)



Surface water → Groundwater Modeling

Surface-groundwater model:
sample graphical output



Utilizing these types of results, recharge basins and terrace inundation projects can be effectively situated to ensure winter-time infiltrated water results in measurable dry season instream flow enhancements



Incentives?

- ▶ **Water Conservation** – Energy efficiency, cost, improved land management opportunities (e.g. flood risk, drought)
- ▶ **Grant Funding** – Proposition 1 (\$7.5 billion), FRGP (\$3.5 million Drought Proposals), USDA State Water Efficiency and Enhancement Program (\$10 million)
- ▶ **Marketing** – Fish Friendly Farming, Sustainable Irrigation Practices (SIP)



Benefits

- ▶ Long-term solutions for groundwater management and ecosystem recovery
- ▶ Adaptable to climate change
- ▶ Instream flow for sensitive species
- ▶ Improved water quality (surface and groundwater)
- ▶ Reduced flood risk



Salinas River Watershed Coordinator

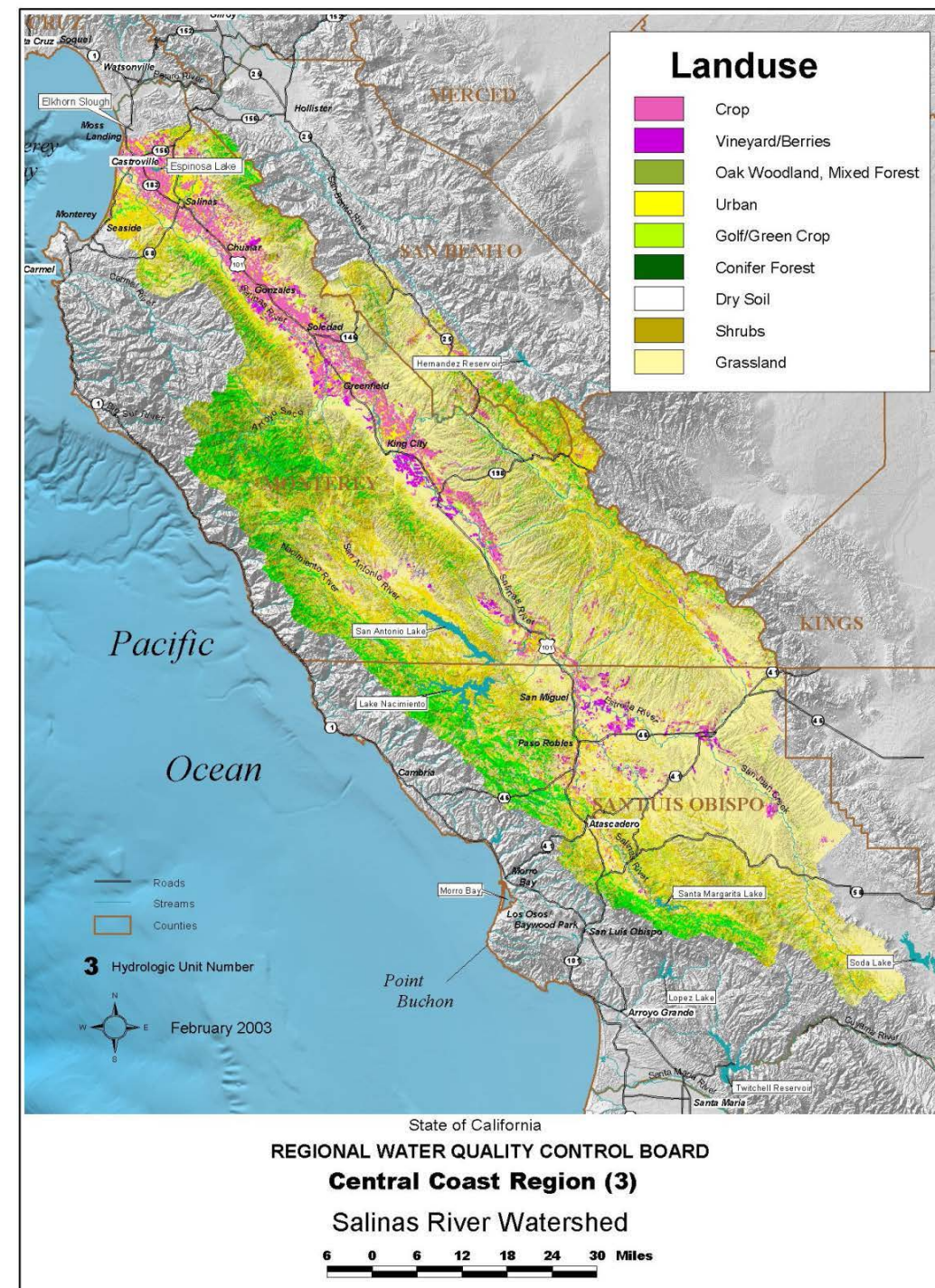
- ▶ Under contract with the Upper Salinas Las Tablas Resource Conservation District



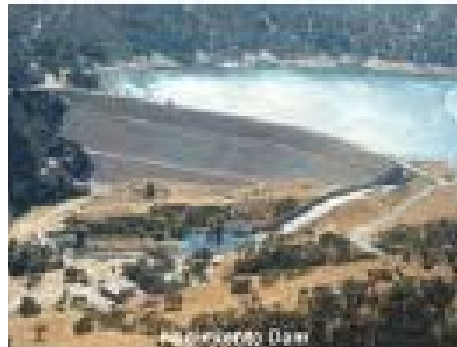
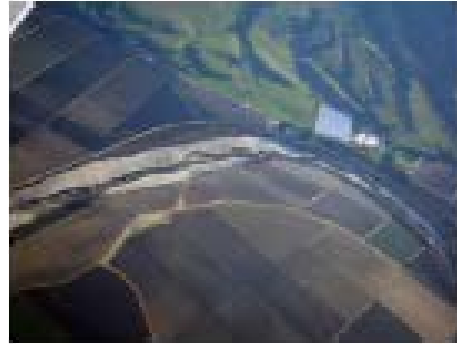
Salinas River Watershed

Estimated Percent Land Use/Land Coverage

- ▶ Grassland/Some Irrigated Land 38.5%
- ▶ Shrub 27.5%
- ▶ Oak Woodland/Mixed Forest 12.3%
- ▶ Mixed Conifer Forest/Montane 9.9%
- ▶ Irrigated Agriculture/Row Crop 5.7%
- ▶ Dryland Farming/Bare Soil 3.3%
- ▶ Vineyard 1.3%
- ▶ Urban 0.6%
- ▶ Water 0.5%
- ▶ Golf/Green Crop 0.3%



Issues in the Salinas River

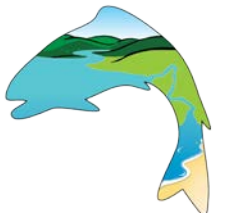


- Water Quality
 - Salinas River 303(d) listed for:
 - Pesticides
 - Metals
 - Nutrients
 - Salinity/TDS/Chlorides
- Channel complexity
 - Floodplain disconnected by levees
 - CMP activities clear vegetation in the mainstem for flood control
- Barriers
 - Additional minor barriers on tributary streams impede passage of adults and juveniles
- Water Operations
 - Reservoir operation for flood control and agriculture irrigation
 - Groundwater recharge - seawater intrusion in Lower Salinas River
 - Releases from Nacimiento and San Antonio Reservoirs modified in SVWP to improve habitat and passage conditions for steelhead
 - Groundwater recharge
- Biological
 - Non-native species introduced
 - Hatchery stocking program
 - Harvest

Historic vs. Current Steelhead Distribution in the Salinas River

Blue Line = Historic Distribution

Purple Line = Current Distribution



Looking Forward

- ❑ Further Develop Opportunities that Serve CreekLands' Connections with Agriculture
- ❑ Use Nonprofit Status to Coordinate Among Interested Parties on Voluntary Protection Projects
- ❑ Seek Nexus with Ag Community to Support Riparian Habitat Enhancements



Thank you!

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