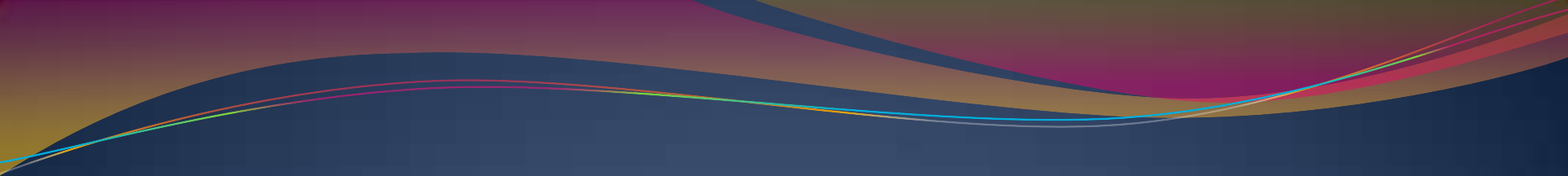


Western Placer County Groundwater Management Program

Austin Peterson, P.E.
Senior Project Manager
California American Water

Cathy Lee , P.E.
Senior Engineer
City of Roseville



Presentation Outline

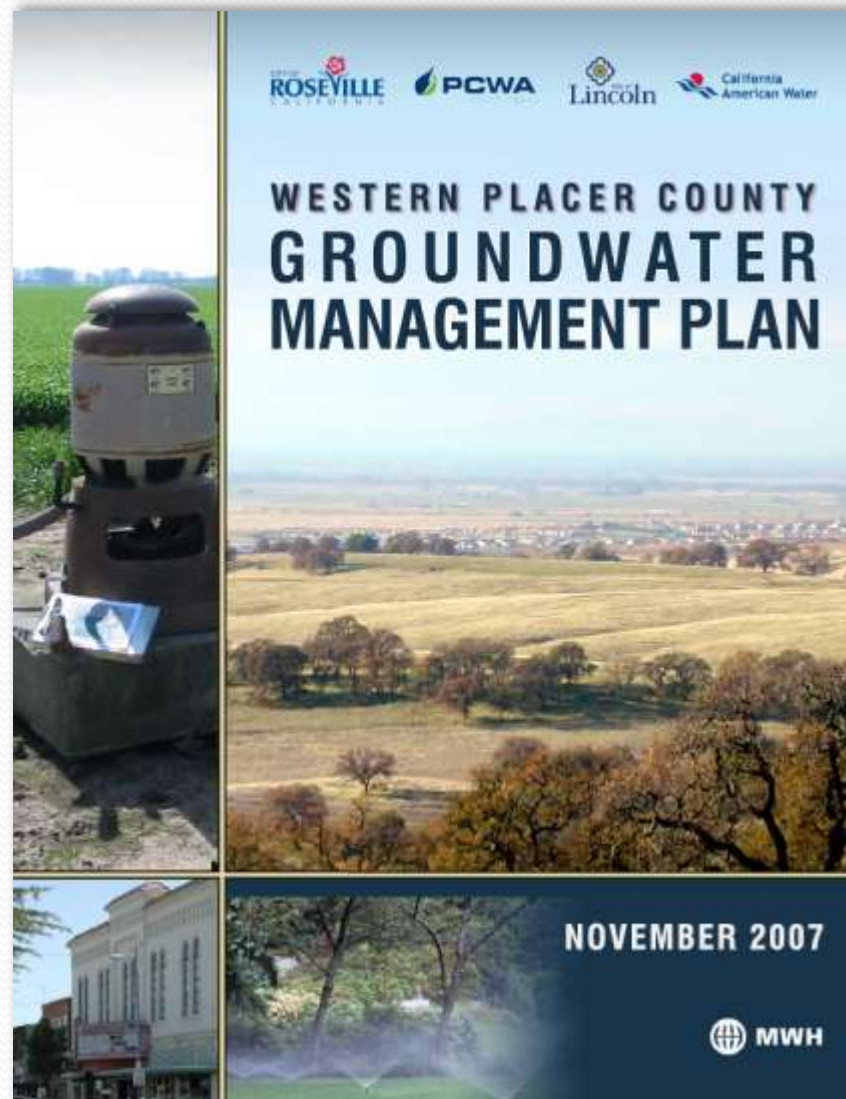
Background and GMP Status

Recent Activities

Challenges

BACKGROUND

Launched in late 2007, the Western Placer County Groundwater Management Plan (WPCGMP) is a multi-agency partnership committed to protect, preserve and enhance the health and long-term sustainability of the region's groundwater supplies



PARTNERS



In Consultation with –

- California Department of Water Resources
- Placer County
- South Sutter Water District

WPCGMP

GOAL AND PURPOSE

- 193 square-mile area in western Placer County.
- Identify and implement a range of collaborative groundwater management actions.
- Focused on management activities that continue to provide the region's businesses and communities with backup, emergency and peak water demands
- Ensure that actions have no adverse impacts to other groundwater users in the area

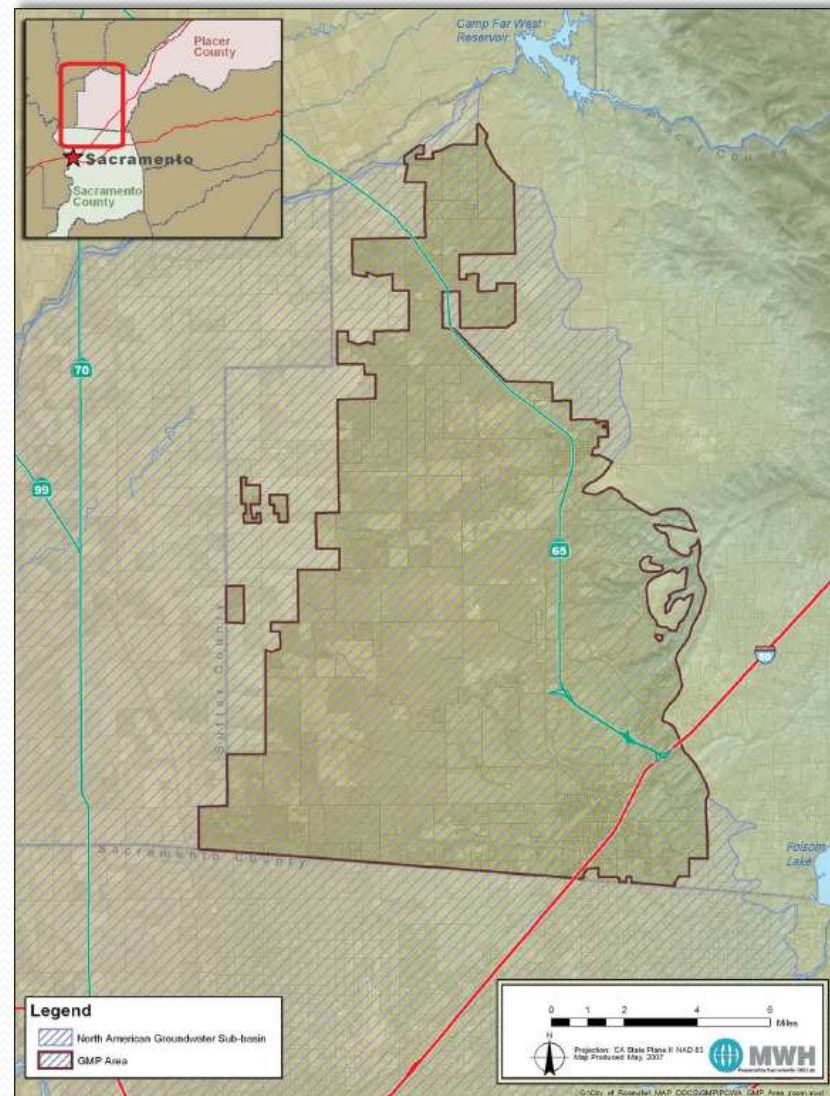
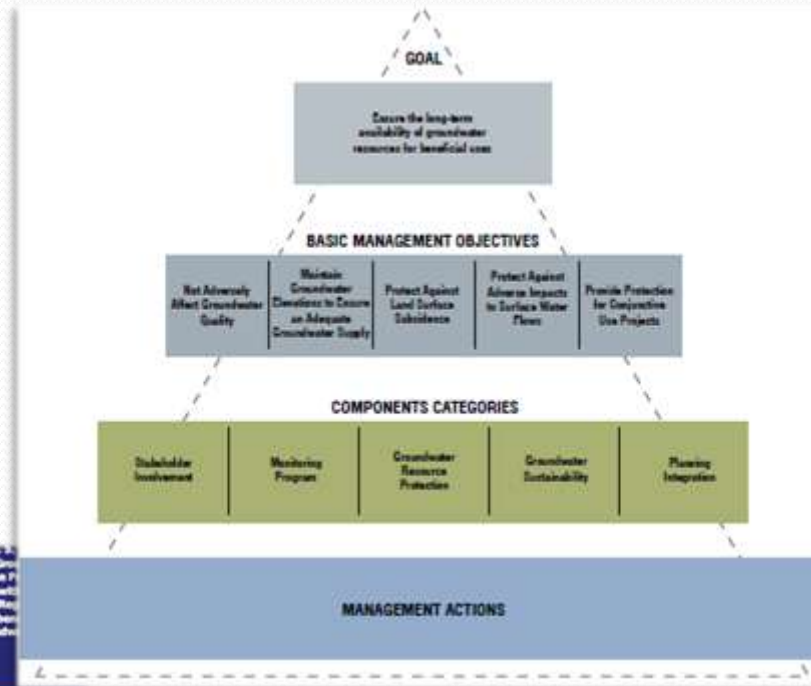


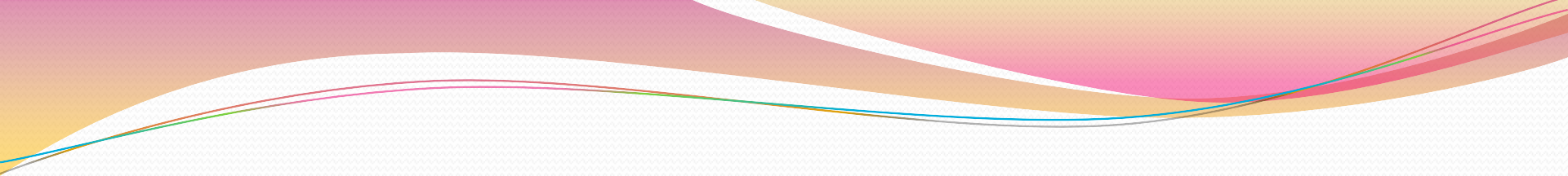
Figure 1-1 – WPCGMP Area

- Basin management objectives (BMOs)
- Series of plan components that discuss and identify the actions necessary for meeting the goal and objectives.



Basin Management Objectives to BMO	BMO No. 1:	BMO No. 2:	BMO No. 3:	BMO No. 4:	BMO No. 5:
	Management of the groundwater basin shall not have a significant adverse effect on groundwater quality.	Manage Groundwater Elevations to ensure an adequate groundwater supply for backup, emergency, and peak demands without adversely impacting adjacent areas.	Participate in State and Federal Land Surface Subsidence Monitoring Programs.	Protect Against Adverse Impacts to Surface Water Flows in Creeks and Rivers due to groundwater pumping.	Ensure Groundwater Recharge Programs Comply with Federal Regulations to protect base of groundwater.
Component No. 1 Stakeholder Involvement					
Involving the Public	✓	✓			
Involving Other Agencies Within & Adjacent to the WPCOMP area	✓	✓	✓	✓	✓
Using Advisory Committees	✓	✓		✓	✓
Developing Relationships with State and Federal Agencies	✓	✓	✓	✓	✓
Pursuing Partnership Opportunities			✓		✓
Component No. 2 Monitoring Program					
Groundwater Elevation Monitoring		✓			✓
Groundwater Quality Monitoring	✓				✓
Land Surface Elevation Monitoring			✓		
Surface Water Groundwater Interaction Monitoring				✓	
Protocols for Collection of Groundwater Data	✓	✓			
Groundwater Data Management System	✓	✓	✓	✓	✓
Component No. 3 Groundwater Resource Protection					
Well Construction Policies	✓				
Well Abandonment and Destruction Policies	✓				
Overhead Protection Measures	✓				

- The BMOs address water quality, sustainable yield, subsidence, surface water protection, and protection of conjunctive use projects.

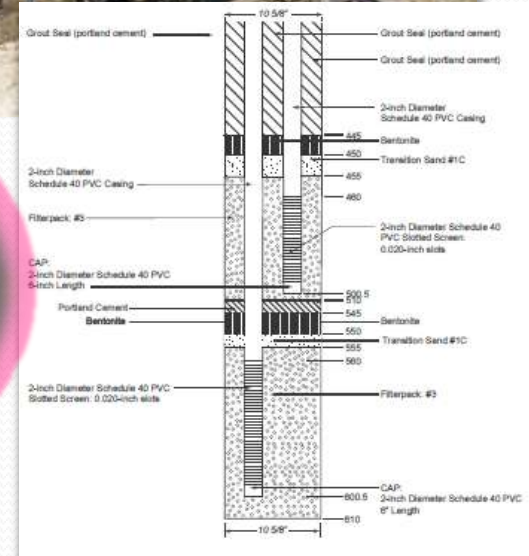


WPCGMP Status

- Development of the Western Placer County Monitoring Program
- Preparation of the first Biennial State of the Basin Report (pending)
- Expecting updated plan
 - New development in the area
 - Smart development
 - Evolution of partners activities
 - Bigger delta issues to incorporate local issues

Grant Funding Opportunities

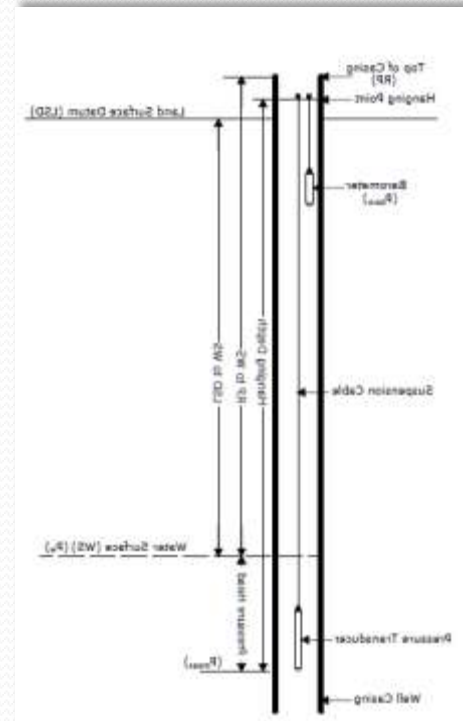
- AB303 Local Groundwater Assistance Program
- Proposition 84
- 2008 – Constructed 9 multi-level nested monitoring wells
- 2012 – Will construct 6 multi-level nested monitoring wells



CASGEM MONITORING



Electric water-level sander used to measure the depth-to-static-groundwater in a monitoring well



City of Roseville is the Designated Monitoring Entity and handles administration

Recent Activities

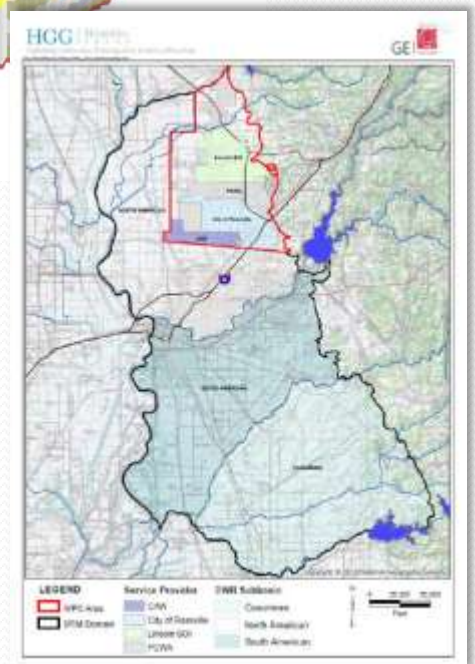
Sacramento Regional (groundwater) Model Update

Calculation of the Sustainable Yield

Identification of Recharge Areas

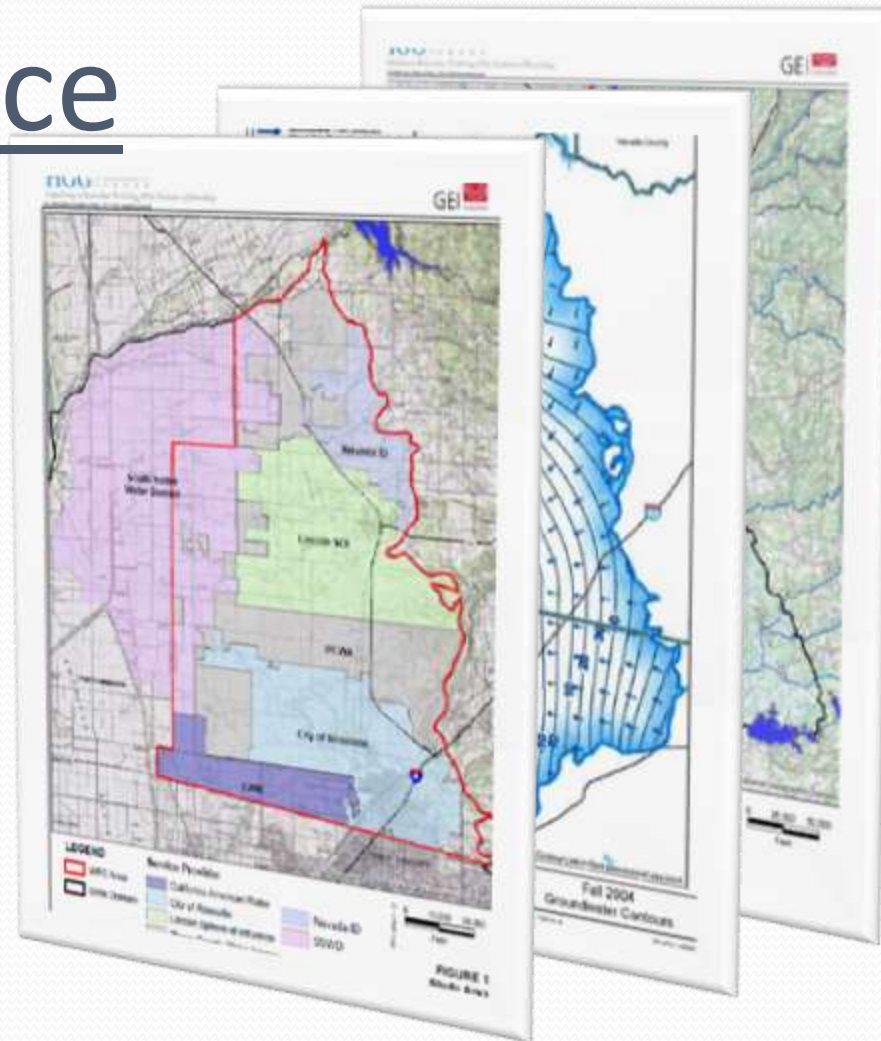
SRM Update

- USGS MODFLOW
- Developed as part of the City of Roseville's ASR program
- Encompasses 1,360 square miles
- Updated to improve water use and demand projections and to extend the simulation period



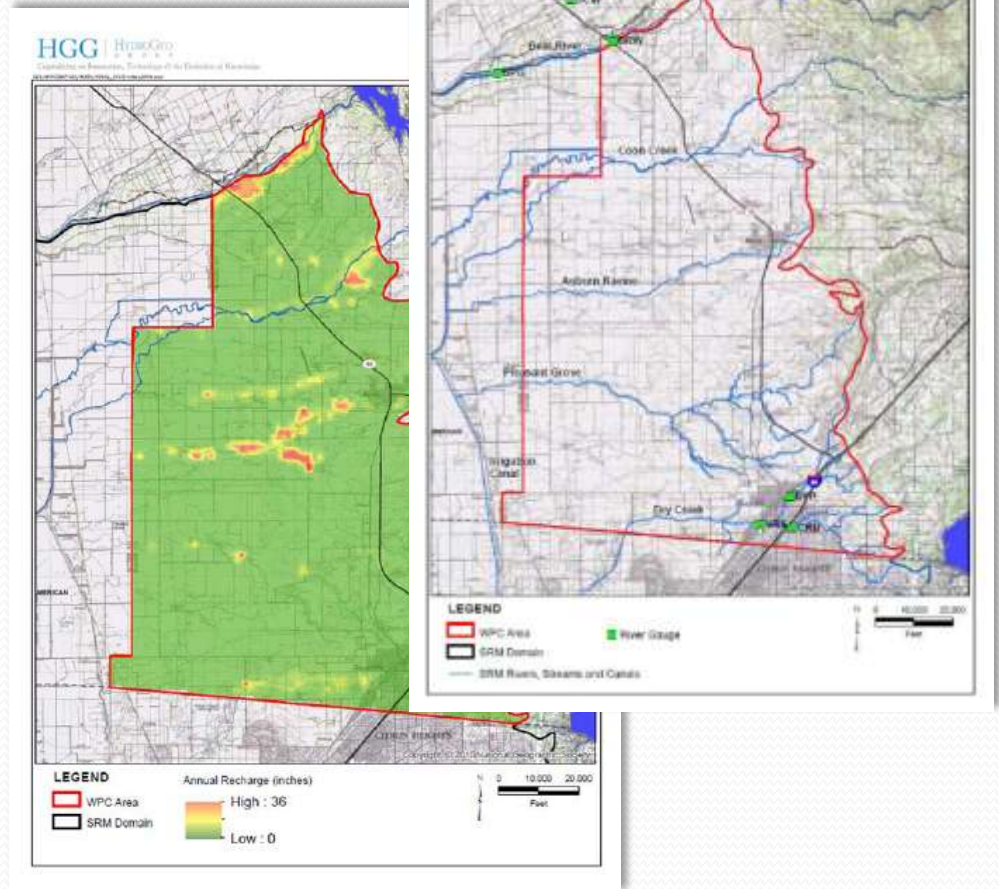
Sustainable Yield and Water Balance

- Verified the water supplies and deliveries
- Estimated the water demand
- Completed a GW body balance
- Coordinated approach with other agencies



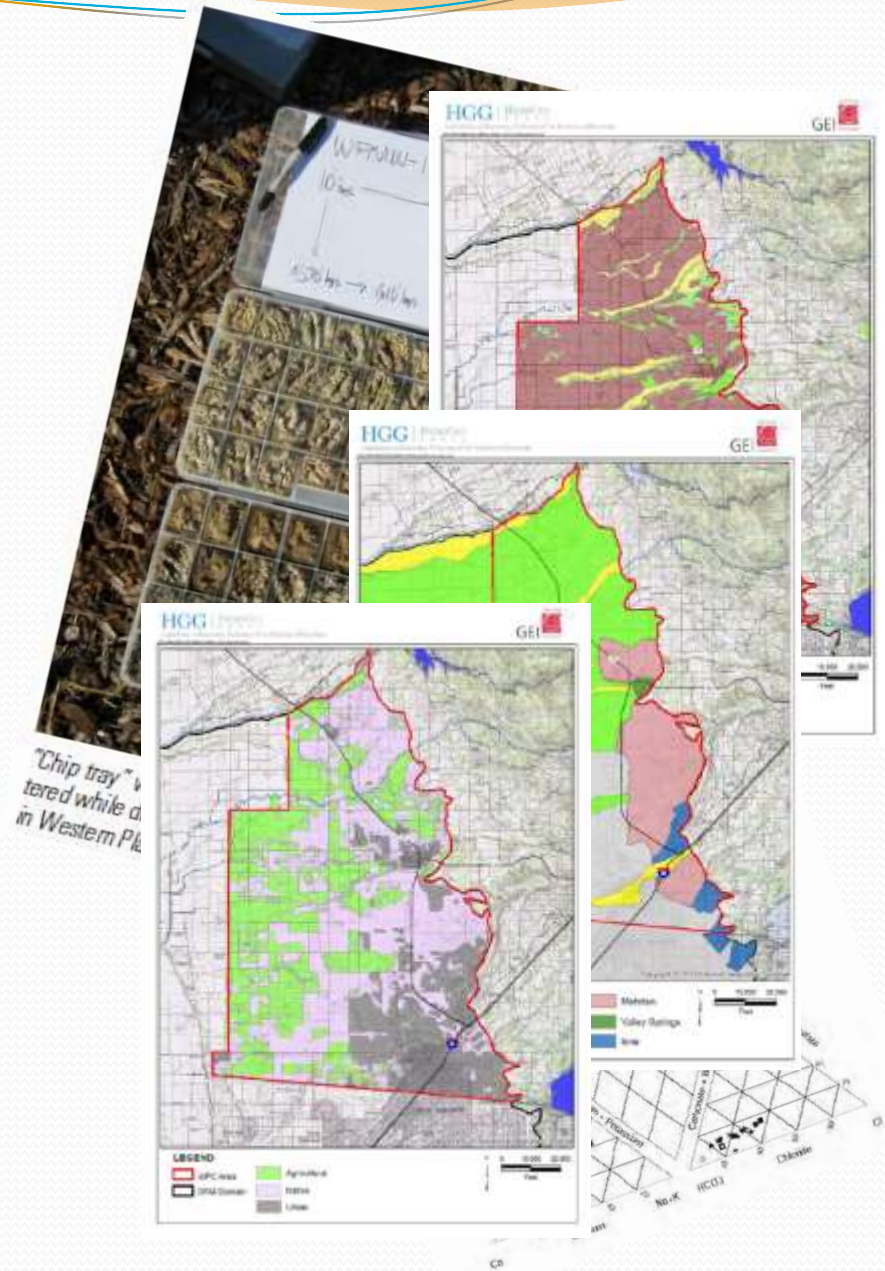
Recharge

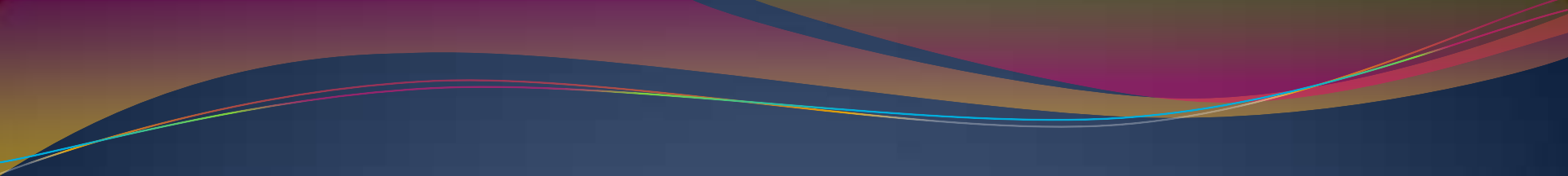
- Sources: Rain, deep percolation from ag and irrigation, and streams
- Type A (high permeability) soils around streams
- Type D (low permeability) soils for majority of area



Recharge

- Aquifers dip from east to west
- Exposed in the eastern portion
- Soils maps do not correlate to the geological occurrences
- Precipitation recharge is a small amount
- Stream inflow is a substantial amount





Management Actions/Goals

Future Management Activities

- ASR program
 - Region-wide water transfer
 - Surface to ground
 - Regional surface water storage
- Conjunctive use
 - ARBCUP – cooperative pipeline

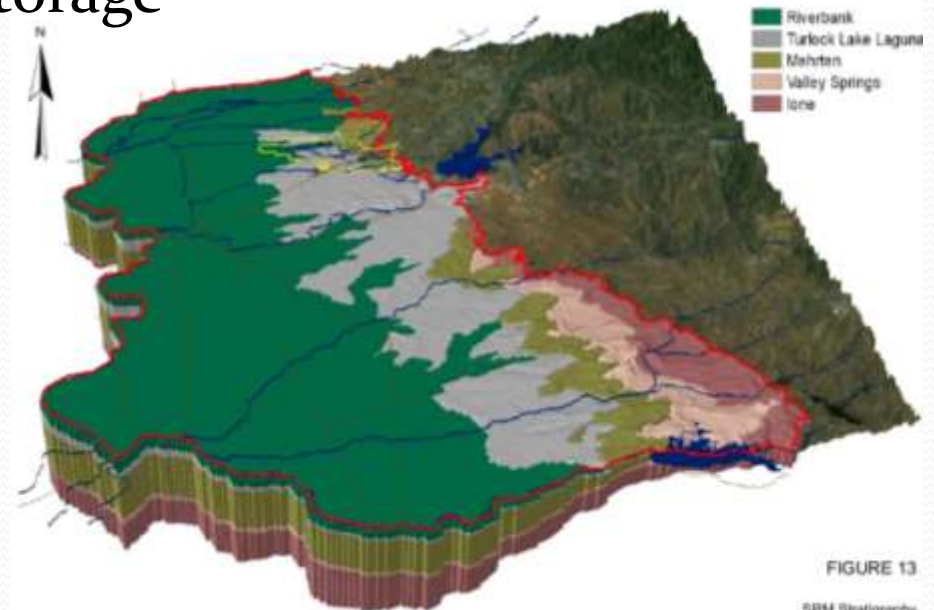
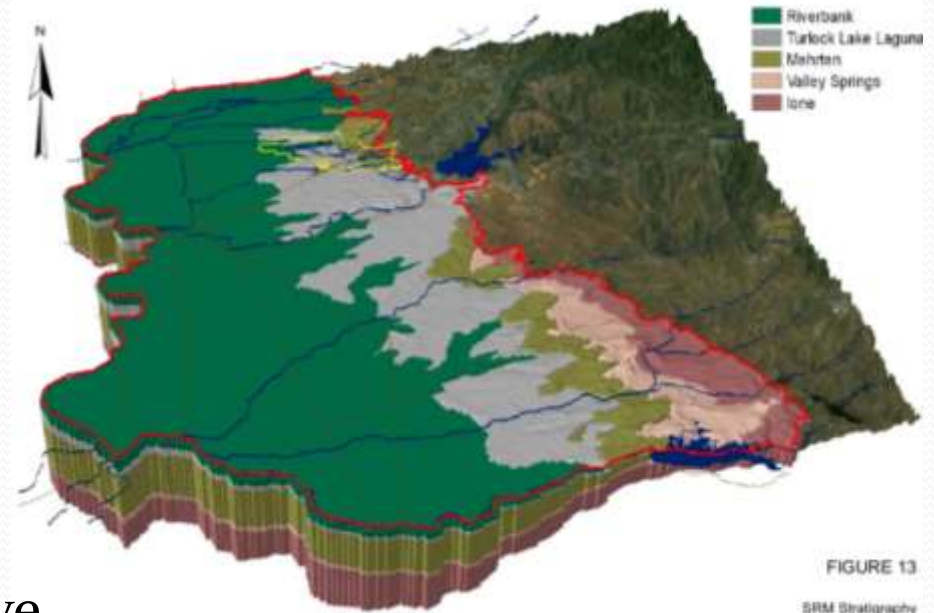


FIGURE 13

SRM Stratigraphy

Future Management Activities

- Agricultural water use
- Wastewater reuse
- Well abandonment
- Stakeholder involvement
 - Within boundary
 - Regional
- Recharge area
 - Define and protect/preserve
- Development of JPA/MOU
- No subsidence monitoring network
- Staff retirement



Conclusion

During the past few years, the partnership has come face to face with the challenging realities of managing a large multi-agency region. It has become very clear that regional collaboration is the only way to solve the difficult issues each community in the state must/will undertake.