

# MANAGING OUR LOCAL GROUNDWATER

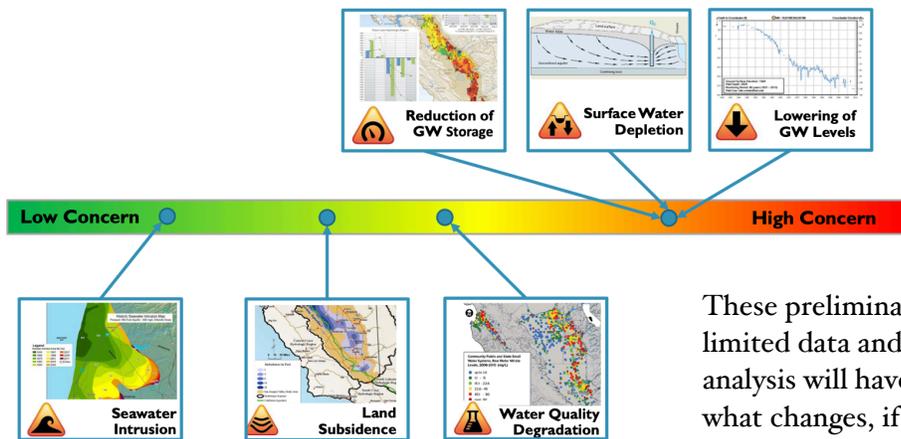
## Sustainable Groundwater Management (SGMA) in the Cosumnes Subbasin

The Groundwater Sustainability Agencies (GSAs) within the Cosumnes Basin have worked over the past year to gather all available groundwater data for the basin and begin the analysis required by the Sustainable Groundwater Management Act (SGMA). This includes developing a conceptual estimate of how water moves into and out of the basin and beginning to analyze the data collected with the numeric model developed specifically for our region. Once this analysis is complete, the information will be used to assess the status of the six sustainability indicators that were defined under SGMA.



### Groundwater Conditions in the Cosumnes Subbasin

Analysis conducted to-date reveals that more water is leaving the basin than entering, thus causing issues with the following three sustainability indicators:



These preliminary estimates were made with limited data and need refinement. Final analysis will have significant implications for what changes, if any, are needed in water use in the subbasin.

### How is Basin Analysis Performed?

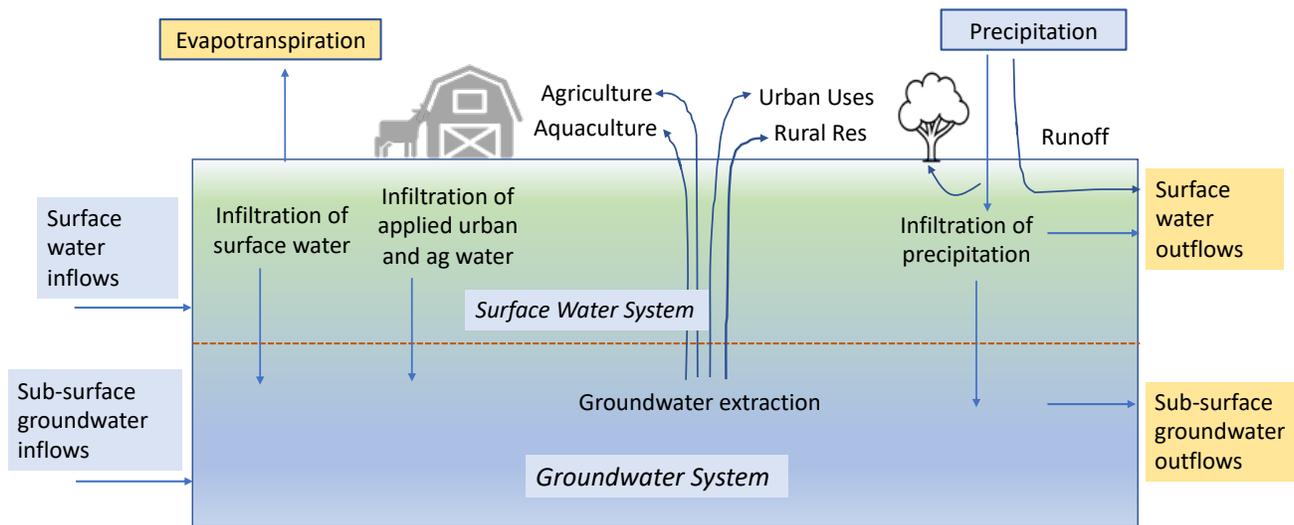
Accurate analysis of groundwater conditions depends on robust data gathered from a range of sources, including:

- Collect data on groundwater levels via wells
- Characterize sub-surface conditions from well logs
- Collect and review groundwater quality data
- Gather all available relevant information on the basin
- Establish a system to organize data
- Assess acreage of crops grown in the basin
- Collect other types of data

### How You Can Help

1. **Volunteer your well:** We need more wells for one-time or ongoing monitoring in order to characterize changes in the water table.
2. **Allow access to your land for measurements:** We need to conduct geophysical investigations in areas with moderate to high infiltration capacity in order to determine where we can apply water to land to recharge the aquifer and to better understand where and how much water enters and leaves the basin.

## Conceptual Model of Inputs & Outputs Affecting the Groundwater System in the Cosumnes Subbasin



The above conceptual groundwater model illustrates our current understanding of the movement of water within the Cosumnes Basin.

- Much of the rain infiltrates into the soil or becomes runoff in creeks and rivers. Infiltration replenishes soil moisture, which is either consumed by plants (evapotranspiration) or percolates down to the water table.
- The Cosumnes is a leaky river. A sizable amount of watershed runoff and mountain snowmelt infiltrates through the riverbed to recharge groundwater.
- Some of this surface water is pumped out of the river and applied to the land to irrigate crops. Some of this diverted water infiltrates back into the aquifer, while the remainder is lost to the atmosphere via evapotranspiration.
- Groundwater is extracted from the aquifer for a variety of purposes: agriculture, aquaculture, urban and rural residential use. In our basin, this water is applied to the land to irrigate crops, support landscaping, grow fish, and meet urban and residential water needs.
- Our groundwater system is affected by subsurface flows either entering or leaving the basin through porous sediments connecting our basin to the neighboring basins north and south of us.

We are in the process of putting numbers to all of the arrows in the above diagram. This will enable us to accurately estimate the amount of overdraft. The current rough estimate suggests we use about 10,000 acre/feet more than what is replenished annually.

**Find your GSA at [bit.ly/cosumnesmap](http://bit.ly/cosumnesmap).**

**To learn more about how you can help, contact your local GSA representative.**

- **Amador County Groundwater Authority:** Darrel Evensen, 209-257-5242
- **City of Galt:** Mark Clarkson, [mclarkson@ci.galt.ca.us](mailto:mclarkson@ci.galt.ca.us), 209-366-7260
- **Clay Water District:** Gary Silva Jr., [soilstoppers@yahoo.com](mailto:soilstoppers@yahoo.com), 209-481-4407
- **Galt Irrigation District:** Leo VanWarmerdam, [leovwi@hotmail.com](mailto:leovwi@hotmail.com), 209-914-1140
- **Omochumne-Hartnell Water District:** Mike Wackman, [info@ohwd.org](mailto:info@ohwd.org), 916-682-5958
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