



Madera County Groundwater Sustainability Agencies (County GSAs) Allocation Approach

Overview: The Madera County GSAs implemented an allocation approach, through advisory group input, creating water budgets that decrease over time and are tracked through remote sensing.

Challenge: Following the adoption of the Sustainable Groundwater Management Act (SGMA) in 2014, the County GSAs became responsible for achieving groundwater sustainability across 225,000 acres in three subbasins: the Madera Subbasin, Chowchilla Subbasin, and Delta-Mendota Subbasin. In an already skeptical landscape, the County GSAs were further challenged by most landowners within the County GSAs being solely dependent on groundwater for irrigation. Because the lands in the County GSAs are not in existing irrigation districts and the County GSAs do not hold any existing surface water rights, reducing the consumption of groundwater or the number of irrigated acres would be a critical strategy in the Groundwater Sustainability Plans (GSPs) adopted by the County GSAs. Given the agricultural heritage of Madera County, the County GSAs recognized the importance of achieving groundwater sustainability while also remaining sensitive and responsible to the agricultural interests of the County.

Solution: With input from multiple advisory committees, the County GSAs developed a demand management strategy, which is unique among the GSAs in the three subbasins. A key element in demand management is water budgets for landowners that decrease over time and that are tracked with satellite data.

Innovation: The Madera County GSAs embraced SGMA's intended incorporation of "local control" by seeking input from multiple advisory groups. Following the adoption by the Board, the County GSAs held eight additional meetings and public workshops to address questions and concerns about the allocation approach. The County GSAs Allocation Approach bases allocations on the Evapotranspiration of Applied





Water (ETAW) which measures the amount of water consumed by plants or evaporated from the soil, from water applied to the system, rather than precipitation. A panel of local growers was established to interview and evaluate the proposed third-party service providers. The ultimate selection provides near-real-time data to both growers and the GSA staff, which allows for both parties to keep track of allocations in a timely manner.

Results: The County GSAs gave growers access to the groundwater measurement dashboard in 2021, with an allocation for their farm units. The 2021 calendar year was a “dry run” where growers were able to establish familiarity with the dashboard and the allocation structure and allowed GSA staff to correct data gaps. Now, in 2022, growers are being held to their allocations as calculated and presented through the dashboard. Currently, 76 percent of the irrigated acreage is enrolled in the water tracking dashboard in 2022. At the end of August, only 13 percent of the farm units in the County GSAs had exceeded their allocation.

Replicability: The allocation approach developed by the County GSAs can be replicated by other Counties that need to decrease water use. The allocation tracking dashboard, developed by the third-party vendor with County GSA guidance, can likely be replicated by other third-party ET measurement service providers, to fit the specific needs of each GSA or County.

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