Update on Madera County GSA Activities (June 2019)

SGMA in a Snapshot During the last drought, surface water supplies for Central Valley agriculture dropped to nearly zero for multiple years in a row. To maintain productivity, most turned to greater groundwater extraction as a replacement. In addition to other impacts, including increased subsidence in some areas, innumerable domestic wells went dry during the drought and had to either be drilled deeper, or residents needed to have water delivered. This generated nationwide attention to fix a problem that was over a century in the making. For better or worse, the solution from the California Legislature was the Sustainable Groundwater Management Act (SGMA).

SGMA mandates sustainable groundwater use, and required groundwater sustainability agencies (GSAs) to be responsible for meeting this mandate. For areas that lacked other representation, such as areas not within existing irrigation districts, counties were presumed to become the GSAs. This is a substantial change in county responsibilities. While counties have always been concerned about the overall county economy, they now have the added responsibility to bring a subset of lands into compliance with SGMA. Reaching the SGMA sustainability mandate within 20 years, then maintaining that far into the foreseeable future, all while retaining and augmenting the economy, is an enormous responsibility.

The Picture for Madera County Under SGMA, Madera County has responsibilities as a GSA for land within three subbasins: the Madera Subbasin, the Chowchilla Subbasin, and the Delta-Mendota Subbasin. As represented in the accompanying tables, the County is responsible for over 200,000 acres in the Madera and Chowchilla subbasins alone – a large portion actively engaged in productive irrigated agriculture.

Madera Subbasin

GSA	GSA Area, Acres
Madera County GSA	177,800
Madera Irrigation District GSA	134,100
City of Madera GSA	10,100
Root Creek Water District GSA	9,300
Gravelly Ford Water District GSA	8,400
New Stone Water District GSA	4,200
Madera Water District GSA	3,700
	347,600

Chowchilla Subbasin

GSA	GSA Area, Acres
Chowchilla Water District GSA	85,200
Madera County GSA	45,100
Merced County GSA	1,300
Triangle T Water District GSA	14,700
	146,300

Delta-Mendota Subbasin

GSA	GSA Area, Acres
Everyone Else's GSAs	753,746
Madera County GSA	3,113
	756,859

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There is considerable overdraft within Madera County. Of the total historical overdraft in Madera Subbasin of approximately 160,000, over 110,000 is estimated to be attributed to the Madera County GSA within the Madera Subbasin. Of the total historical overdraft in the Chowchilla Subbasin of approximately 100,000, over 60,000 acre-feet is attributed to the Madera County GSA in the Chowchilla Subbasin. This is entirely because these are areas that have, for the most part, farmed without surface supplies of water and relied entirely on groundwater.

Madera County recognizes the importance of both sustainability and of transitioning the economy, especially in areas that are entirely groundwater dependent. For this reason, Madera County is investing considerable resources, time, and energy in the creation of groundwater sustainability plans (GSPs) in the Madera, Chowchilla and Delta Mendota Subbasins.

The Overall Madera County GSA Strategy In order to reach sustainability within 20 years, the strategy for the Madera County GSAs in the Madera and Chowchilla Subbasins is two-fold:

(1) focus on bringing in as much surface water as possible, and

(2) oversee demand reduction of 2-3% per year – reducing groundwater use by 50% or more over current conditions.

A summary of proposed programs organized by subbasin is below.

Type	Madera Subbasin		Chowchilla Subbasin	
	Max Rate and Frequency	Estimated Avg. Annual Benefit	Max Rate and Frequency	Estimated Avg. Annual Benefit
	(Values in acre-feet)			
Recharge along Bypass	30,000 - 40,000 35% of years	10,000 to 15,000	70,000 - 80,000 35% of years	20,000 to 25,000
Recharge in east area	20,000 15%-30% of years	5,000 to 7,000	8,000 15%-30% of years	1,000 to 2,000
Irrigate with surface in east area	3,000 – 10,000 60%-70% of years	3,000 to 5,000	1,500 – 4,000 60%-70% of years	1,000 to 2,000
Demand reduction	Steady-annual decrease in consumption to 2040	Increase ~5,000/yr (additive) to ~90,000/yr	Steady-annual decrease in consumption to 2040	Increase ~1,400/yr (additive) to ~28,000/yr

The Advisory Committee for the County GSAs The Board of Supervisors, which is also the Board of Directors for the three County GSAs, formed three Advisory Committees in 2017, which have been combined over time into one larger Advisory Committee with representatives from the agricultural, residential, and disadvantaged communities. This Advisory Committee gives input to the Board of Supervisors on County GSA issues as well as serves as "water ambassadors" in their own communities to communicate about important SGMA issues.

The Advisory Committee has met monthly in 2019 and made four recommendations to the Board of Supervisors:

- February 12, 2019 – The Committee recommended that as part of the GSP, native groundwater should be allocated equally across irrigated and unirrigated land within the County GSAs. The vote was 10-1.
- March 7, 2019 - The Committee recommended that as part of the initial modeling efforts, groundwater pumping in the County GSAs decrease over time decreased at approximately 2% a year from 2020 to 2040. The vote was 11-0.
- April 12, 2019 - The Committee recommended that credits be given only for activities that introduce new water into the subbasins (new water is water that would not otherwise be part of a subbasin's water supply). The vote was 8-0.
- April 12, 2019 - The Committee recommended that credits be evaluated by an outside entity to establish the quantity of water to be credited. The vote was 8-0.

The Advisory Committee has also had substantial discussions over what an allocation system might look like, and has evaluated questions such as:

- Would allocations be equal across the board to the agricultural water users?
- Would allocations be based on crop type?
- Would allocations be based only on irrigated acreage?
- Are allocations the only way to manage reductions?

These questions have not been resolved, and at the most recent Advisory Committee meeting, a proposal to fund a temporary or permanent land retirement strategy was proposed as an alternative or partial alternative to an allocation-based approach to manage the necessary demand reductions.

The Advisory Committee has had less substantial discussions in terms of assessing water use and enforcement. Assessing water use would most likely be done with satellite imagery coupled with available meter data for a two-step verification. If no meter data was available, satellite imagery solely could be used. Enforcement would most likely be satellite imagery coupled with a fee.

Groundwater extraction fees were also discussed with the Advisory Committee, as a method to collect revenue to finance water supply projects, and demand reduction efforts (e.g. to help pay for land retirement). These extraction fees may include tiered rates that increase as the quantity of water extracted increases.

Domestic Wells Domestic wells in Madera County have had to be deepened for a long time. Relatively shallow domestic wells may go dry over the next 20 years as the subbasins implement the necessary actions to become sustainable. When this occurs, domestic wells could be deepened, redrilled, or the home could be connected to a nearby community water system. Addressing domestic well impacts may be part of the County GSAs' mitigation strategy as it seeks to manage the incremental demand reduction over the next 20 years. There is the potential for statewide help in next year's budget.

Financing Strategy As a public agency, the County has the ability to receive grant funds, and has been successful in securing state and federal money to help address SGMA compliance projects and activities. Many of these funds are of help to the Subbasins as well.

Program	Description	Amount Awarded	Date Awarded
State of California – Prop 1 (Stressed Basins)	Data Gap Analysis and Hydrologic Conceptual Model	$500,000	2016
State of California – Prop 1	GSP Development and GW Monitoring Wells	$5,000,000	2017
Bureau of Reclamation – WaterSMART	WaterSMART water market strategy	$400,000	2018
	Total	$5,900,000	

The Flood Control and Water Conservation Agency, which is critical to SGMA success, has actively pursued grants as well, which are detailed below.

Program	Description	Amount Awarded	Date Awarded
Proposition 84 Integrated Regional Water Management (IRWM) Grant	Arundo and Sediment Removal from Ash Slough	$2.6 million	2013
Proposition 84 Integrated Regional Water Management (IRWM) Grant	Arundo and Sediment Removal from Berenda Slough	$2.7 million	2013
Proposition 1E Flood System Repair and Rehabilitation Grant	Repair levee breaks along the Fresno River	$2.5 million	2014
Proposition 1 Storm Water Grant Program (SWGP) Planning Grant	Develop a Storm Water Resource Plan	$175,000	2015
Budget Act of 2016 – Deferred Maintenance Program	Identify culverts that need replacement along the project levees	$46,000	2016
Proposition 1 Flood Emergency Response Grant	Develop strategic plans county -wide and purchase material and equipment for flood fighting	$540,000	2017
Budget Act of 2018 – Flood Assistance Maintenance Program	Develop a SWIF. PL84-99 re-certification. Purchase Equipment	$483,000	2018
Budget Act of 2018- Flood Assistance Maintenance Program	Maintenance of Project Levees/Channels	$483,000	2019
	Total	$9,527,000	

Additionally, the strategy for addressing SGMA requires three levels of potential fees:

1. The Flood Control and Water Conservation Agency - For years, the FCWCA has been run on a budget under $200,000 and with one person. It is responsible for over 150 miles of levees that convey water from reservoirs to Madera County water purveyors. Currently, the levees and channels have failing grades from the state and are in desperate need of repair due to sedimentation, overgrowth of vegetation, including *Arundo dunox*, and rodent damage. The County has hired Larsen Wurzel to conduct a three phase rate study. Phase II, which identifies potential funding levels for the agency, is ready to present to the Board of Supervisors in July with a 218 process potentially in fall of 2019.

2. The County GSAs - Currently the County GSAs are funded by the County general fund and by a Proposition 1 grant for GSP development. A fee that is exempt from Proposition 26 is being

evaluated by Raftelis, a rate consultant hired by the County, in order to fund the recurring costs necessary to run the County GSAs. This potential fee is anticipated to go before the Board of Supervisors in the fall of 2019 for a vote.

3. The County GSAs - The County will need to have funds to purchase water, including federal ‘Section 215’ water that may periodically be available through the County’s Central Valley Project contract for Hidden Lake Estates, as well as potential water from other statewide projects, such as Sites Reservoir. The County also will need to have funds to build large scale recharge basins to own and maintain, to potentially fund demand reduction through temporary or permanent fallowing, and to implement and manage a plausible water market, if such is implemented. County counsel advises that these funds could only be raised through a Proposition 218 process, which is anticipated in 2020. This process may result in tiered rates for groundwater extraction, with small fees for native groundwater and fees that increase for each tier above native groundwater use. The applicable fee structure would be evaluated by the rate consultant.

Discussions about groundwater, sustainability and financing strategies occur regularly in a public format, such as the Advisory Committee for the County GSAs and the County GSA Meetings (at the first Tuesday of the month Board of Supervisor’s Meetings).