

Sonoma Valley Groundwater Sustainability Agency

Community Meeting

Tuesday, October 12, 2021

Opening and Closing Remarks:

- Susan Gorin, Chair of the Sonoma Valley Groundwater Sustainability Agency, and 1st District Supervisor, Sonoma County

Presenters:

- Jay Jasperse, Sonoma Water's Chief Engineer and Director of Groundwater Programs, and Plan Manager for the Sonoma Valley GSA
- Marcus Trotta, Principal Hydrologist, Sonoma Water, and technical staff for the Sonoma Valley GSA
- Ann DuBay, Community & Government Affairs Manager, Sonoma Water, and Administrator for the Sonoma Valley GSA

Facilitator:

- Tim Parker, Parker Groundwater

40-45 Attendees

Drought Update

The most current drought monitor map shows that most of the state, including Sonoma County, is in the highest category: exceptional drought. The Groundwater Sustainability Plan is not intended to address short-term issues and emergencies, like the current drought or future floods; this information was provided as it is forefront on peoples' minds.

In Sonoma Valley, the two biggest sources of water are groundwater and water imported from the Russian River (which is the primary source of water for the City of Sonoma and Valley of the Moon Water District). So, the conditions of the Russian River and its two reservoirs, Lake Mendocino, and Lake Sonoma, are critical to this area.

Lake Mendocino provides water supply to communities, and agriculture on upper Russian River and provides critical water flows during the fall for the Chinook salmon run. Lake Mendocino is at critically low levels, around 14,500 acre-feet of water in the reservoir.

Lake Sonoma is the major source of water supply for urban communities from Windsor all the way south into Marin County, and for Sonoma Valley. It is a much larger reservoir, but levels are lower than any time since it was constructed, at about 109,000 acre-feet.

Sonoma Water, the City of Sonoma, Valley of the Moon Water District and other cities and water districts, are proactively working to preserve the water we have and to activate new sources.

- Preserving water in the lakes by reducing the releases into the Russian River – we received approval from the state to do this.
- Drought messaging, and drought drop-bys, resulted in 24% water savings throughout the region.
- Refurbishing groundwater wells in the Santa Rosa Plain.

- Planning to operate one of these wells in reverse, and when we get rain in the winter, put clean Russian River drinking water back into the aquifer.
- Measuring groundwater levels. On average, in Sonoma basin, we're seeing levels similar to what we saw in 2015, at the end of the last drought. Those groundwater levels recovered after a couple of years of rain.
- GSA website has a drought page with information for well owners, including a link to a site where they can report water waste.

Groundwater Sustainability Plan

SGMA requires local management of groundwater basins, starting with basins that the state determines are critically over-drafted or high- or medium-priority. In Sonoma County, Petaluma Valley and Santa Rosa Plain are medium-priority basins. Sonoma Valley is a high-priority basin. All three basins are on the same time schedule and have the same requirements to comply with SGMA.

The groundwater basin is defined by the state by its geology. In Sonoma Valley, the basin is basically the valley floor from south of Kenwood to San Pablo Bay.

SGMA has three basic steps. Creating the GSA was the first step. In compliance with SGMA, the Sonoma Valley Groundwater Sustainability Agency was created in 2017. In addition, the basin has an advisory committee that provides stakeholder feedback and input to staff. Together, the Board and advisory committee represent a broad swath of interests, including rural residential well owners, agriculture, business, environmental interests, and water suppliers.

The Sonoma Valley is now in the final phases of Step 2: Developing a groundwater sustainability plan. Groundwater Sustainability Plans are REQUIRED, they are not optional. Focused on managing groundwater for the long-term. Local communities are responsible for developing and implementing the plans. GSPs are not intended to address short term, emergency issues. GSPs are complicated, technical documents. But at the heart, they are answering three questions.

- 1. What are the groundwater conditions in the basin?**
- 2. Are these conditions sustainable?**
- 3. And how can sustainability be maintained or achieved by 2042?**

The City of Sonoma and Valley of the Moon Water District use some groundwater but rely primarily on surface water imported into the basin from the Russian River. The SVCSD provides tertiary treated recycled water, to farmers for crops and to businesses and parks for landscape irrigation. This helps offset their use of groundwater or imported water.

Question 1: What are the basin conditions?

According to SGMA, the six key indicators of a healthy groundwater system are indicated by:

- groundwater levels, groundwater storage, land subsidence, seawater intrusion, water quality and the levels of streams/wetlands that are connected to groundwater.

The GSP addresses all six of these indicators in the Sonoma Valley.

The good news is that **groundwater quality** is generally acceptable, when evaluated based on three naturally occurring or human-caused constituents of concern: arsenic, salts, and nitrates.

Land subsidence is evaluated on whether it's occurring, the cause and whether it's permanent (or inelastic). Measurements taken using GPS technology and satellite technology don't find evidence of subsidence.

We have limited data on **seawater intrusion** due to groundwater pumping, and on the **effect of groundwater pumping on stream flows**; we will be watching them closely as part of SGMA implementation.

For purposes of SGMA, we characterize the basin as having two aquifers: Shallow, less than 200 feet, and deeper than 200 feet. **Groundwater levels** in shallow aquifer show seasonal variation and drop during droughts, but the long-term trends are stable. Deeper **groundwater levels** also show seasonal variation, but in the El Verano area and in 8th Street east, groundwater levels are declining. On average, in recent years, we're running a 900 acre-foot deficit annually, in the estimated amount of **groundwater in storage** – our groundwater checking account.

Overall, particularly when compared to many of the state's groundwater basins, conditions in Sonoma Valley appear to be in pretty good shape.

Question 2: Are these conditions sustainable?

No, some of these conditions are not sustainable.

Groundwater levels: Measured at wells located throughout the basin. We want stable wells to maintain levels. For wells that are declining, we don't want them to drop below historical low elevations, and we want to protect at least 98% of nearby water wells. Groundwater levels are a key management factor for all other sustainability indicators.

Groundwater storage: Use groundwater levels as a proxy for storage, and so we want to maintain the same conditions – stable wells, maintain levels and don't want declining wells to drop below historical low elevations. This is because groundwater level changes directly relate to storage volume changes – managing groundwater levels controls the amount of groundwater in storage

Interconnected surface water: We don't have empirical data on the potential causes and effects of surface water depletion due to groundwater pumping to adequately determine when and how it adversely impacts plants and animal species that rely on groundwater. Adaptively manage, and as start, focus on not exceeding historical levels of depletion. Groundwater levels are used as a proxy for surface water depletion. Focus will be on filling data gaps and generating better information,

Seawater intrusion: It must be caused by groundwater pumping (not related to climate change). Focus will be on filling data caps and generating better information

Land subsidence: Land can subside because of seismic activity; or it can subside temporarily due to groundwater pumping and then recover. We will be monitoring changes and will act quickly to determine if the changes are related to groundwater pumping.

Water quality: Regulated by many different agencies. The GSA will coordinate with these agencies and will use their water quality data. If we see changes, the GSA will investigate if they are due to GSA projects, or if water quality changes because there are changes in another sustainability indicator – for example, if groundwater levels drop, and we see problems, like a concentration of salts.

The computer model that accounts for all the water coming into the groundwater system and all the water leaving, was used to project what will happen in the basin in the future, taking climate change, residential growth, land use changes and changes in agriculture into account. The model projects that we could see groundwater storage start to increase, as the climate change projections show that after a few dry years, like what we're experiencing now, we see multiple wet years and then a long drought. The multiple wet years would result in more groundwater inflows from surface water, creeks and rainfall. The projection will likely be wrong – no one really knows what will happen with future weather – but the long drought at the end provides a good stress test for what might happen. And, we have a chance to update the model in 5 years, and adjust it to reflect new, better projections.

Question 3: How can we achieve and maintain sustainability?

Through Projects and programs, like:

- Purple pipe for delivering recycled water
- Water use efficiency projects
- Stormwater detention projects
- And through management actions

To achieve sustainability and to hedge our bets in case of early, extended droughts, the GSP includes projects and actions, including:

- Voluntary reduction of groundwater pumping through providing well owners the tools that have been available to urban water users for years, and which have resulted in a 37 percent drop in per capita consumption regionally, since 2009.
 - The goal is to increase indoor and outdoor efficiency for residents, businesses, and agriculture.
 - Projects could include incentives for turf removal, rainwater harvesting, and stormwater capture and reuse.
 - Rebates for high-efficiency appliances, like toilets, faucets, clothes washers.
- Increase the amount of recycled water used for irrigation by supporting the Sonoma Valley County Sanitation District's efforts to expand its recycled water system, to offset groundwater pumping by agriculture

Other projects include:

Aquifer storage and recovery: Taking Russian water in the winter, when it's available, and pumping it through Sonoma Water's collector wells near Forestville, where it is naturally filtered. This drinking water would be sent through the aqueduct to the Valley and stored in underground aquifers using five re-purposed or new wells.

- A feasibility study found that adequate wintertime water is available for diversion for a 5,000 acre-feet per year groundwater recharge program more than 90 percent of the time (even during droughts).
- A pilot project done with the City in 2018 found that the technology works in the basin and didn't impact water quality.
- Modeled five locations for SGMA purposes but would work with the City and Valley of the Moon Water District on specific locations.

Another project is capturing stormwater, and holding it in detention basins, where it can recharge an aquifer. Similar detention areas throughout the county serve as ball fields, parks, school playing fields and areas for grazing and hiking the rest of the year.

We modeled what would happen if agriculture and rural residents were able to decrease groundwater use; recycled water offset groundwater; we constructed five ASR projects and multiple stormwater projects. We found that with these projects, groundwater levels would rise, and groundwater storage would improve over the baseline scenario.

With projects, we would see more groundwater is discharged to streams and that the chances for seawater intrusion due to groundwater pumping decline.

SGMA gives the GSA other tools to address sustainability, including managing pumping, if necessary. So, in the first year of implementation, the GSA will assess actions including working more closely with the county – which issues well permits -- so that we will be prepared in the future.

There are multiple data gaps that must be addressed, so the GSA can more accurately determine what is happening under the ground. A lot of the emphasis in the next five years will be filling those gaps.

The GSP includes an implementation plan with a very high-level budget.

- The budget is based on estimates of what similar projects have cost in the past and makes assumptions about how costs could be split with the other GSAs and other agencies.
- SGMA has a lot of requirements for monitoring GW, outreach, updating plan.
- Locally, we also need to fill data gaps to better understand some questions that we had to leave unanswered.
- A very rough budget estimates costs for operating the agency and meeting all the SGMA requirements would be about \$1.2 million annually for the first five years.

We're looking at a variety of options to meeting funding needs, including:

- Grant funding: In its first four years, the GSA received more than \$2.2 million in grant funding and technical assistance from California Department of water resources
 - GSA implementation budget includes grant administration, with the goal of maximizing grant opportunities
- Some projects will benefit other agencies, like recycled water projects, aquifer storage and recovery, and stormwater detention. It is likely that partner agencies will contribute to these projects.
- Fees: A fee study is just starting to figure out how to pay for costs that aren't likely to be funded by grants and partners. A range of options will be considered, including fees paid by people who directly benefit from a specific project; fees paid by all well owners, who ultimately benefit from a healthier GW system; and fees paid by people who drill new wells or whose wells could impact groundwater resources.
 - We anticipate the fee study will be completed in late spring 2022.
 - We will keep people posted through monthly updates, the website, Board and advisory committee meetings and through community meetings in the spring.

The GSP is all about making sure we don't run out of groundwater, today or into the future. So, it's protective of groundwater, which benefits everyone who owns a well or who drinks a bottle of local wine from grapes in the basin or who enjoys our healthy economy.

- For well owners, the GSP should result in you having access to the types of conservation programs that have benefitted people who live in the city).

- For commercial well owners and agriculture, GSP implementation could mean that wells might be metered someday. This would be a separate policy decision by the GSA Board, and it's not something they are currently considering.
- SGMA, the state law, PREVENTS the GSA from requiring metering on wells that are used for homes and landscaping and that aren't use commercially and pump less than—on average – 1,785 gallons a day.
- And, if you use groundwater, you will likely pay a fee to help implement the costs of the GSP. But, again, the type of fee and the amount of fee is NOT part of the GSP.

Groundwater Sustainability Plan Document

The document is written for the Department of Water Resources, which will ultimately review and accept it or ask for changes. Because of the technical scrutiny the Plan will receive, there is a lot of terminology that is challenging. We recommend you start with the Executive Summary and if you are interested in projects and implementation, read Sections 6 and 7.