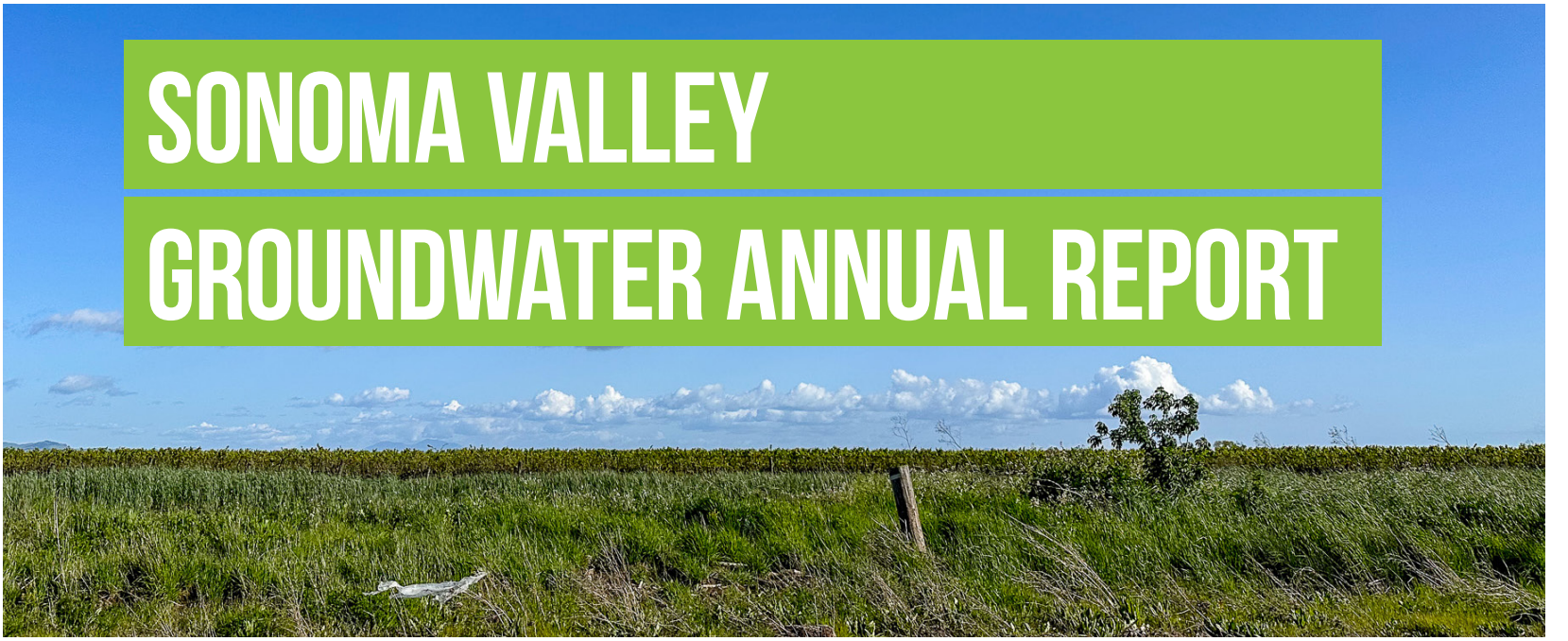
SONOMA VALLEY GROUNDWATER SUSTAINABILITY AGENCY

water year 2024 fact sheet

SONOMA VALLEY GROUNDWATER ANNUAL REPORT



IN TWO AREAS OF SONOMA VALLEY, WELLS ARE PUMPING GROUNDWATER FASTER THAN IT CAN RECOVER

The Sonoma Valley subbasin is characterized by two aquifer systems: A shallow system (less than 200 feet deep) and a deep system (greater than 200 feet deep).

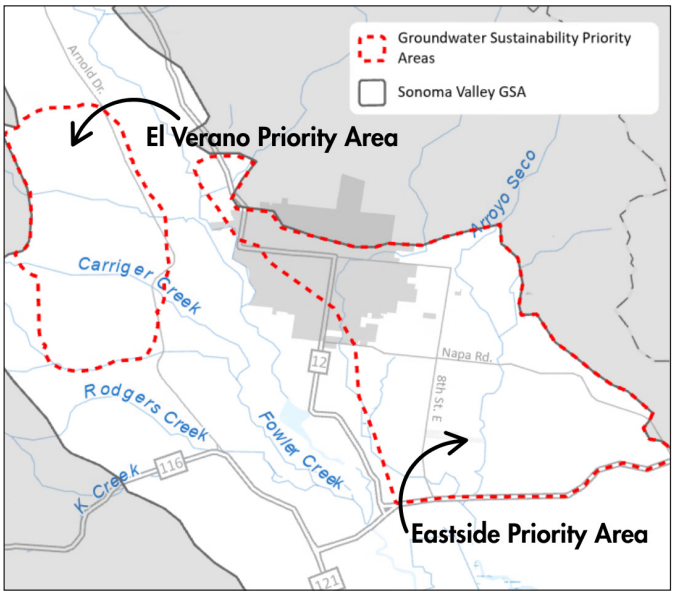
In two areas of Sonoma Valley, wells in the deep aquifer are pumping groundwater faster than it can recover. Despite voluntary efforts over the past 20 years, water problems are getting worse. Without actions to reverse these trends, people and businesses that rely on wells in some areas of Sonoma Valley may struggle to access sufficient water in the future.

In 2024, the GSA identified two Groundwater Sustainability Priority Areas. Groundwater in these areas has been declining for more than a decade:

o El Verano Priority Area: An oval area centered in El Verano, from approximately Boyes Blvd to Leveroni Road, mostly west of Arnold Drive.

o Eastside Priority Area: A diamond-shaped area centered around the intersection of Napa Rd. and 8th St. East, from approximately Highway 121 north to Boyes Hot Springs.

In early 2025, the GSA Board of Directors officially adopted these areas as priorities. This designation allows for increased oversight in the Priority Areas for the implementation of programs and projects to monitor, reduce and offset groundwater use, supported by state grant funding.



THE FULL SONOMA VALLEY GROUNDWATER SUSTAINABILITY AGENCY ANNUAL REPORT FOR WATER YEAR 2024, WITH DETAILED INFORMATION, DATA, GRAPHS, MAPS AND MORE CAN BE FOUND ON OUR WEBSITE:

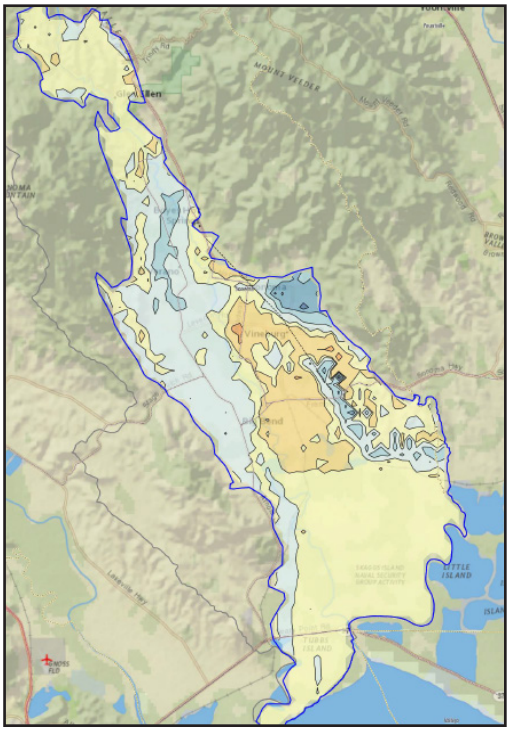
SONOMAVALLEYGROUNDWATER.ORG/ANNUAL-REPORTS

The 2024 Annual Report of the Sonoma Valley Groundwater Sustainability Agency (GSA) provides a snapshot of groundwater conditions from the previous Water Year (October 1, 2023 through September 30, 2024). The Annual Report measures the basin's progress towards meeting the goals defined in the Sonoma Valley Groundwater Sustainability Plan, including the projects and programs the GSA and its partners are implementing.

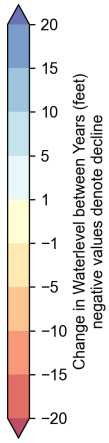
GROUNDWATER LEVELS

The Sonoma Valley subbasin is characterized by two aquifer systems: A shallow system (less than 200 feet deep) and a deep system (greater than 200 feet deep).

While groundwater levels in the shallow aquifer system were stable in 2024, groundwater levels continued to decline or did not recover sufficiently in portions of the deep aquifer system. This marks the fourth consecutive year of groundwater level declines beyond established minimum thresholds in 40 percent of the deep-aquifer wells used by the GSA to monitor progress. As defined by the sustainability criteria in the Groundwater Sustainability Plan, the subbasin is experiencing an undesirable result for chronic lowering of groundwater levels.



DEEP AQUIFER GROUNDWATER LEVEL CHANGE FALL 2023 - FALL 2024



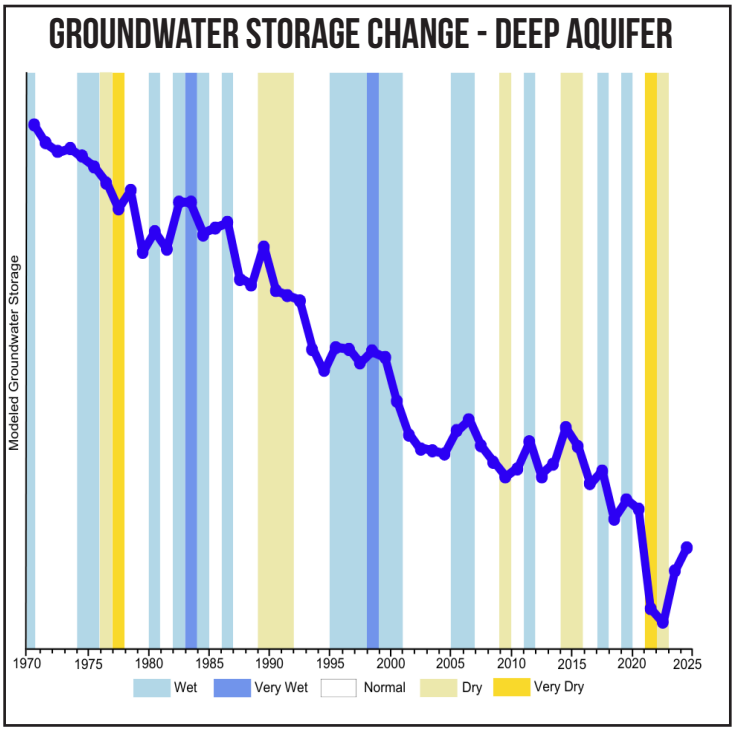
GROUNDWATER STORAGE

In Water Year 2024, the amount of groundwater in storage in the shallow aquifer increased by an estimated 290 acre feet (AF) and by 10 AF in the deep aquifer system.

The deep aquifer has experienced a steady decline in groundwater storage since Water Year 1970. While there was a slight reversal in the downward trend in water years 2023 and 2024, the long-term trend of overall decline appears likely to continue.

In the Groundwater Sustainability Plan, the minimum threshold for groundwater in storage is evaluated using groundwater levels as a proxy. Therefore, similar to the chronic lowering of groundwater levels, undesirable results are now occurring for the reduction of groundwater in storage sustainability indicator.

GROUNDWATER STORAGE CHANGE - DEEP AQUIFER



WHAT THE GSA IS DOING ABOUT GROUNDWATER LEVELS AND STORAGE

In addition to establishing the two Groundwater Sustainability Priority Areas to help reverse both declining groundwater levels and a reduction of groundwater in storage, in Water Year 2024 the GSA:

- Continued planning and design to expand recycled water availability to offset groundwater pumping in the Eastside Priority Area;
- Worked with the Valley of the Moon Water District in its ongoing aquifer storage and recovery pilot study;
- Considered options for limiting or mitigating permitting of new groundwater uses within the Priority Areas through potential well permitting changes;
- Planned for two new monitoring wells to provide better information about the deep aquifer. Wells will be constructed in late spring/early summer of 2025;
- Engaged directly with representatives of larger groundwater users (including the golf course and vineyard growers), to discuss potential solutions and solicit input on outreach approaches to other groundwater users in the Priority Areas;
- Began evaluating the feasibility, costs and benefits of several projects and management actions. In 2025, the evaluation will be completed and presented to the GSA Board; and
- Kicked off several grant-funded programs to reduce groundwater use.

DEPLETION FROM CREEKS, STREAMS AND OTHER SURFACE WATER

When developing the Groundwater Sustainability Plan, the GSA worked with a group of scientists to determine if, when and where groundwater pumping is depleting creeks, streams and other surface water. In Water Year 2024, surface water depletion was within the sustainability range.

WHAT THE GSA IS DOING ABOUT SURFACE WATER DEPLETION

To more accurately assess the impact of groundwater pumping on surface water, in September 2024, the GSA reestablished the scientific practitioner work group. The group will guide GSA efforts to update and refine the mapping of interconnected surface water and groundwater-dependent ecosystems and will consider revisions to sustainable management criteria.

SEAWATER INTRUSION

Groundwater pumping near the coast or bays has the potential to lower groundwater levels below sea level allowing seawater to migrate inland. Seawater intrusion can contaminate groundwater wells and is difficult and expensive to reverse. As indicated in the Groundwater Sustainability Plan, the limited data we have does not indicate that seawater intrusion has occurred -- although it has the potential to occur due to declining groundwater levels, which have dropped below sea level in areas of the southern part of the subbasin. Monitoring results for Water Year 2024 show that chloride concentrations are less than the minimum threshold and didn't reveal a cause for concern for seawater intrusion.

WHAT THE GSA IS DOING ABOUT SEAWATER INTRUSION

To help fill significant data gaps in the southern portions of the subbasin that prevent adequate mapping and characterization of salinity in groundwater, in fall of 2024 the GSA worked with landowners to voluntarily monitor 19 wells. In addition, the GSA tracks data from three dedicated monitoring wells in the portion of the basin near San Pablo Bay. In 2024, the GSA began planning for the construction of one additional well near the bay.

LAND SUBSIDENCE

Excessive groundwater pumping has the potential to drop the land surface (known as subsidence), which can damage roads, bridges, and other infrastructure. The Groundwater Sustainability Plan found that there is no evidence of subsidence in the subbasin, and Water Year 2024 monitoring also found no evidence of subsidence.

CONNECTING WITH COMMUNITY

- In Water Year 2024, the GSA's Board and Advisory Committee met seven times in meetings that are open to the public. Meeting information is posted on the GSA website, which was updated regularly with news and activities. Another great source of information is the GSA quarterly newsletter which was distributed four times in Water Year 2024.

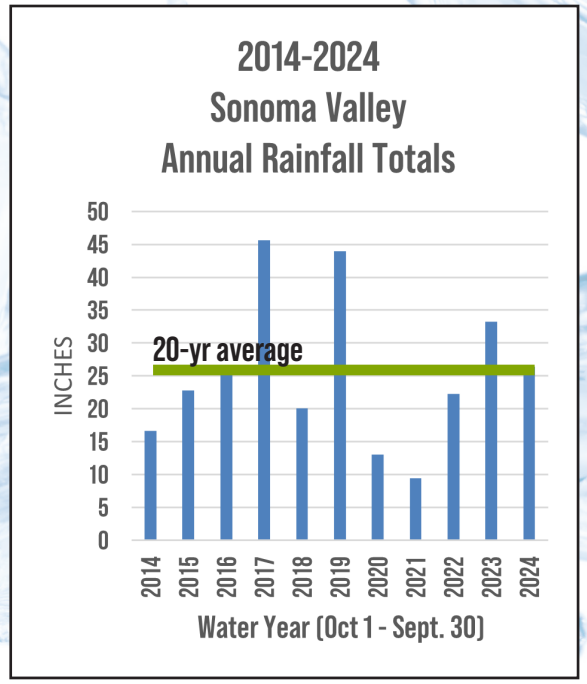
- In Water Year 2024, the GSA partnered with local organizations including the Community Alliance with Family Farmers, Sonoma Resource Conservation District, Daily Acts and others to engage with groundwater users on several grant-funded programs, including voluntary monitoring and metering programs, voluntary water-use efficiency conservation measures, and groundwater recharge initiatives.

- Outreach activities for programs included direct mailings to groundwater users, email campaigns, social media postings, presentations at stakeholder specific forums, and one-on-one conversations with groundwater users.

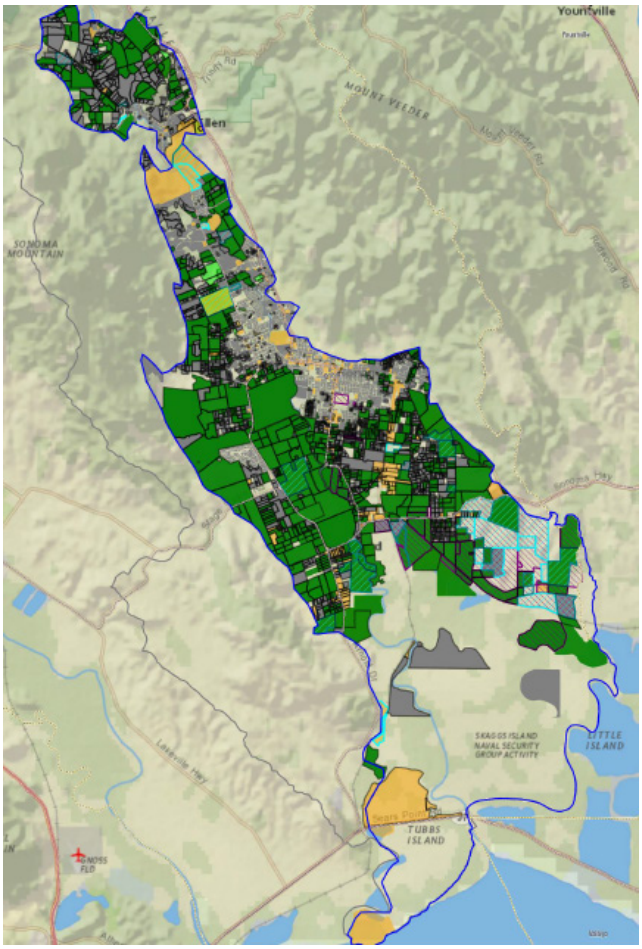
- In fall 2024, the GSA conducted a survey of groundwater users on policies and programs. The findings from this survey will inform actions in Water Year 2025 (along with any new information, changing groundwater conditions, other stakeholder input, and GSA Board priorities).

GROUNDWATER QUALITY

The GSA monitors the basin for arsenic, nitrates and total dissolved solids to determine if GSA projects or groundwater pumping is degrading water quality. In Water Year 2024, the concentration levels for these substances didn't reveal a cause for concern.



GROUNDWATER USE AND SOURCES WY 2024



GROUNDWATER USE TYPES AND SOURCES

- Agriculture
- Rural Residential
- Commercial
- Turf
- Urban/Municipal
- Recycled Water
- Surface Water
- Parcels with Groundwater Use

TOTAL WATER-USE IN SUBBASIN FROM ALL SOURCES (ACRE-FEET) COMPARED OVER THREE WATER YEARS

Total water use within the basin is based on the estimated and metered uses of groundwater, surface water and recycled water. The majority of water use is estimated using our best available information. The Groundwater Sustainability Plan outlines strategies to fill this data gap.

WATER-USE SECTOR	Total water use from groundwater extraction			Total water use from **all sources** (groundwater, imported and local surface water, recycled water)		
Color corresponds to areas shaded on map	WY 2022	WY 2023	WY 2024	WY 2022	WY 2023	WY 2024
Agriculture	4,120 (62%)	3,796 (59%)	3,888 (59%)	5,639 (49%)	4,858 (45%)	5,422 (46%)
Rural Residential	930 (14%)	969 (15%)	1,000 (15%)	930 (8%)	969 9%)	1,000 (9%)
Non-municipal public water system: industrial and commercial	810 (12%)	818 (13%)	849 (13%)	810 (7%)	818 (8%)	849 (7%)
Turf-golf courses and schools	672 (10%)	665 (10%)	656 (10%)	708 (6%)	696 (6%)	686 (6%)
Urban: municipal public water systems and urban private wells	147 (2%)	194 (3%)	179 (3%)	3,359 (29%)	3,543 (33%)	3,750 (32%)
Total	6,679*	6,442*	6,572*	11,446	10,883	11,707

*Total for groundwater extraction exceeds the estimated sustainable yield for the subbasin of 5,400 acre-feet.

TOTAL SUBBASIN WATER-USE BY SOURCE (ACRE-FEET) COMPARED OVER FIVE WATER YEARS

	2020	2021	2022	2023	2024
Groundwater Extraction	6,518 (52%)	6,475 (56%)	6,768 (58%)	6,433 (59%)	6,572 (56%)
Surface Water	4,648 (37%)	3,592 (31%)	3,409 (30%)	3,566 (33%)	3,968 (34%)
Recycled Water	1,400 (11%)	1,416 (12%)	1,358 (12%)	875 (8%)	1,167 (10%)
TOTAL	12,566	11,483	11,446	10,833	11,707

BE PART OF THE SOLUTION

LEVEL UP! Voluntary Well Monitoring Program

- Join the Level Up! voluntary monitoring program to measure groundwater levels in the fall and spring. Landowners can track well levels and the GSA benefits by receiving important data about water levels in your area of the subbasin.

FLOW SMART Voluntary Flow-Metering Program

Know Your Water. Secure Your Future

- Sign-up for the Flow Smart program and receive a professionally installed flow-meter at no cost (a $4,500 – $6,000 value). Water meters are one of the most useful tools for using water efficiently. They not only help you understand your water use, but also identify leaks quickly and easily. As of April 2025, 18 people signed up, 14 inspections were completed and meter installation is targeted for early summer 2025.

WELL AWARE Tools for building local groundwater sustainability

- Through the Well Aware program, the Sonoma County GSAs are connecting well users with practical water conservation tools, strategies and resources to help with groundwater management and sustainability. Using trusted partners, the GSA will be offering water saving tools available to all well users, rural residents, small and large farms, vineyards, wineries, and businesses.

Funding for the above community programs has been provided the Budget Acts of 2021 and 2022 and through an agreement with the State Department of Water Resources

DEPARTMENT OF WATER RESOURCES · STATE OF CALIFORNIA ·