

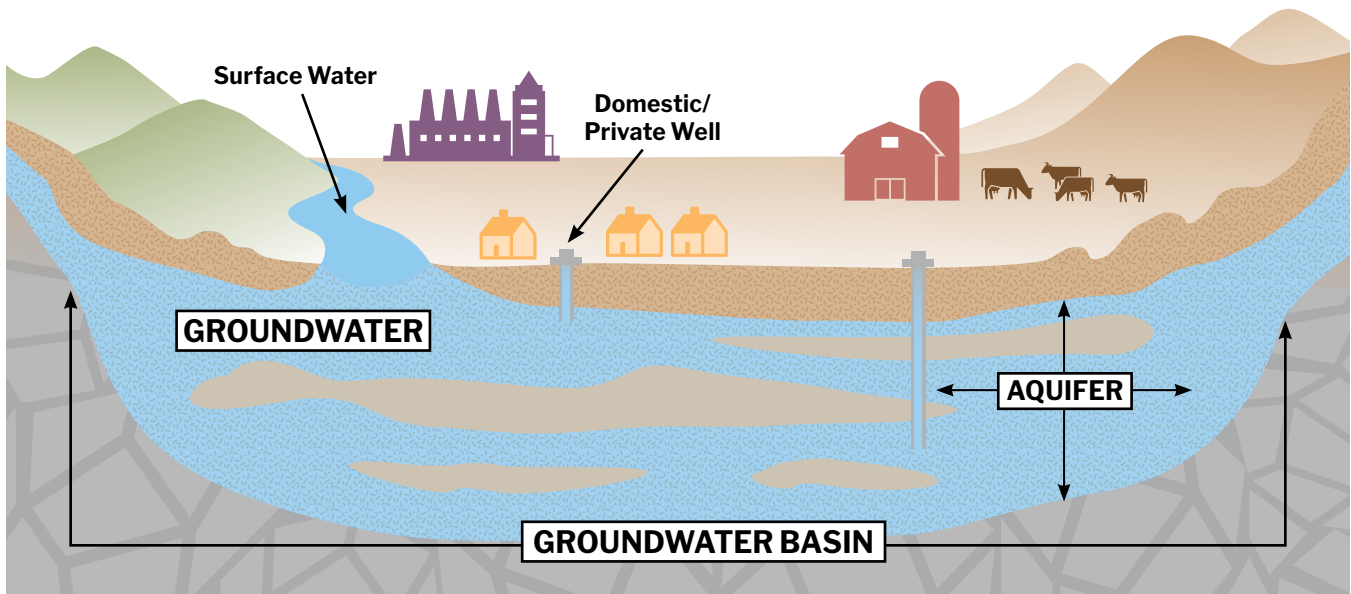
Sustainable Groundwater Management Act (SGMA)

GLOSSARY

This glossary was developed to make groundwater management terms easier to understand, helping to build the capacity of community members to participate in the Sustainable Groundwater Management Act (SGMA) implementation process.

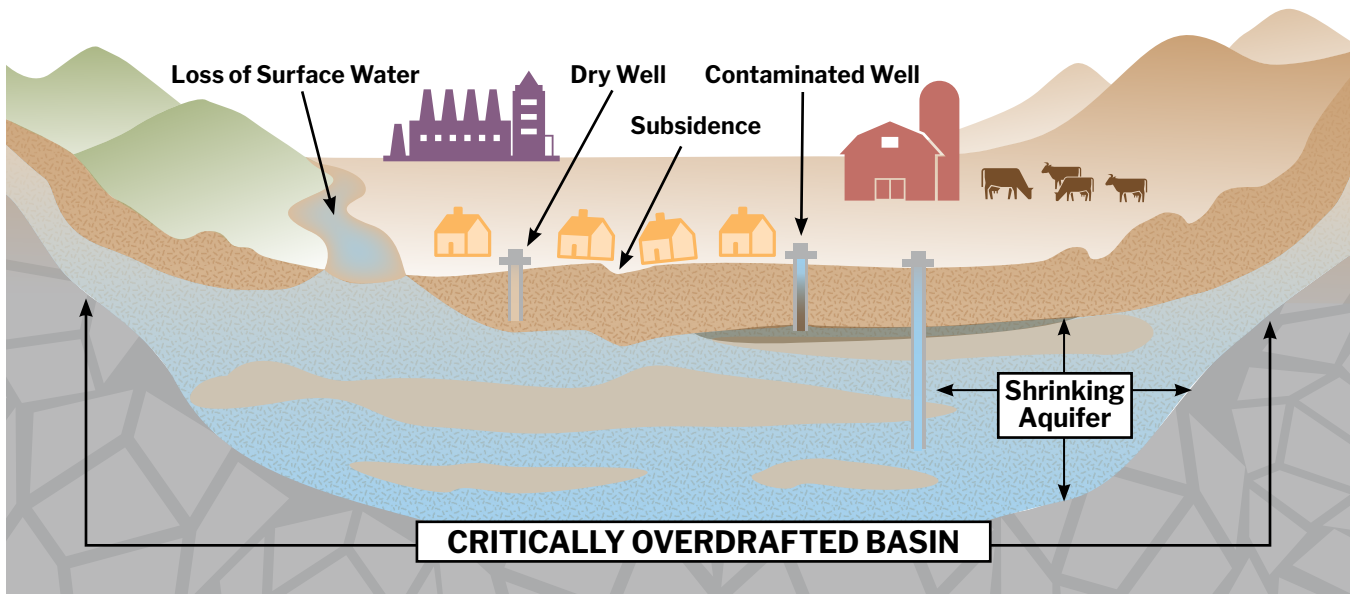
Water Equity Terms:

- **Human Right to Water:** Everyone has a right to safe, clean, accessible, and affordable water. The Human Right to Water is protected by law in California and prioritizes water for personal and domestic uses, such as drinking, cooking and basic hygiene, over industry and agricultural uses. State agencies such as the Department of Water Resources (DWR) and the State Water Resources Control Board (SWRCB) must consider the Human Right to Water when revising, adopting or establishing policies and regulations. For more information: <https://bit.ly/3bvdJxc>.
- **Water equity:** meeting everyone's water needs, and sharing benefits and risks equally. Water equity is achieved when policies and practices make sure that clean, safe, and affordable drinking water is available, especially for historically underrepresented communities. Under the Sustainable Groundwater Management Act (SGMA), water equity is protecting community and environmental needs threatened by industrial pollution and overpumping.
- **Water rights:** legal permits that allow the permit holder to use water from a specific source. For example, people or companies with water rights can use a specific amount of water from nearby rivers and reservoirs as long as it doesn't harm another user's water rights. Historically, people were allowed to pump as much groundwater from underneath their property as they wanted, but now the Sustainable Groundwater Management Act (SGMA) can regulate that use.
- **Resiliency:** the ability to recover quickly from difficulties. Water resilience is the ability for water systems and communities to function so that nature and people can handle stresses like the current drought in California and still have their basic needs met.
- **Sustainability** means meeting current needs without compromising the needs of future generations. For example, current overpumping of groundwater in the San Joaquin Valley for short-term profits is causing land to sink and wells to go dry, and is therefore not sustainable.



Water Terms:

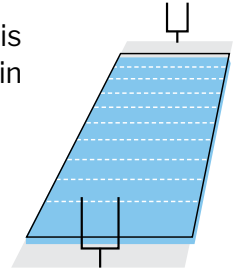
- **Groundwater:** water from rain and melting snow that collects underground, where it can be pumped out for drinking or irrigation, or to supply water to the environment. For example: when we drink water from a well, we are drinking groundwater.
- **Surface water:** any body of water above ground, including streams, rivers, lakes, wetlands, reservoirs, and creeks. Surface water is used for many purposes, including drinking and agricultural use, and can be restocked faster than groundwater, depending on the weather. As drought worsens, California has less melting snow to feed rivers in the spring and summer, so less water makes it downstream to reservoirs and canals, which leads to increases in groundwater pumping.
- **Aquifer:** an aquifer is the rocky structure underground that holds groundwater. Aquifers are filled when rain and melting snow sinks into the earth. They provide California with about a third of its fresh water, including drinking water from wells and irrigation for farmlands. Growing demands for water are draining many aquifers because too much water is being pumped out before rain and melting snow can refill them.
- **Groundwater basin:** a specific area of land that sits over at least one aquifer where the groundwater is being used for many purposes, including but not limited to, drinking water, irrigation, and the environment. California has defined 515 groundwater basins and subbasins that are protected under the Sustainable Groundwater Management Act (SGMA) and managed locally.
- **Domestic/private well:** a well on private property that serves no more than three households. Many of these private wells have gone dry during droughts, as groundwater levels drop from increased pumping. The Sustainable Groundwater Management Act (SGMA) is intended to ensure ongoing drinking water access for domestic/private well users.



Technical Terms:

- **Overpumping:** the practice of pulling out more groundwater than can be refilled by rain, runoff, and melting snow. For example: as the drought worsens, farmers have been pulling more water for their crops, which has led to drying wells and water contamination for nearby communities that depend on that groundwater. Overpumping pulls water from around a well which moves contaminants like arsenic from clay underground or nitrates and fertilizers from nearby farmland.
- **Overdraft:** a consequence of overpumping, overdraft occurs when groundwater is pumped out of a basin faster than rain, runoff, and melting snow can refill it in a given year. For example, groundwater levels often drop during a drought year since there is less rain or melting snow sinking into the ground. If well drilling continues at normal or higher pace, that can cause some wells to go dry altogether. The effects of a basin overdraft can include sinking land, contaminated water and more (also known as undesirable results).
- **Critically overdrafted basins:** specific areas where groundwater levels are extremely low due to overpumping year after year, resulting in sinking land, loss of underground storage, saltwater seeping into the aquifer, and more. The water levels in these basins are so low because groundwater is removed faster than rain, run-off, or melting snow can refill it.
- **Subsidence:** sinking of land that occurs after too much groundwater is pumped out, allowing the dirt and rocks that previously held water to collapse in on themselves, like a sponge that has been dried out. Subsidence can be sudden or gradual and can damage buildings and infrastructure, increase flood risk in some areas, and reduce the amount of space underground where water can collect. The Sustainable Groundwater Management Act (SGMA) requires groundwater plans be designed to prevent subsidence.
- **Monitoring network:** a group of wells that are tested regularly, at least twice a year, to check on the state of groundwater, measure progress toward the goal of the basin's Groundwater Sustainability Plan (GSP), and to see if any undesirable results are developing. Monitoring is crucial for improving groundwater management and should be done in a way that represents all wells, especially shallow domestic wells as these are more vulnerable to overpumping and climate impacts.

- **Acre foot (AF):** the amount of water required to cover an acre of land (an area that is about the size of a football field), one foot deep. Water yields are usually expressed in acre-feet per year (AFY). An acre foot of water is a common way to measure water volume and use. In California, an acre foot can typically meet the needs of one to two households for a year. According to the Department of Water Resources (DWR), in an average year, approximately 9.6 million acres are irrigated with roughly 34 million acre-feet of water in the state.



- **Native yield:** the amount of water that collects in an aquifer naturally as rain and melting snow sink into the ground, rather than being pumped in by human actions. Sustainable yield is different and refers to the amount of available groundwater that can be pumped for human use without causing water levels to drop too low, or allowing contamination to lower the quality of water.

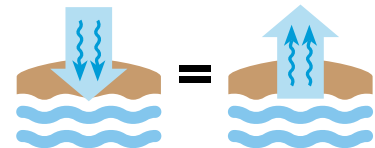
- **Evapotranspiration:** part of water's natural cycle. It happens when water vapor is released from the land and plants and goes back into the air. As California gets hotter, rising temperatures are causing more water to evaporate rather than soaking into the ground, which can increase the amount of water needed for farms, and reduce the amount sinking into aquifers.



- **Recharge:** the replenishment or return of groundwater; it can happen naturally in the ground when it rains or artificially by pumping water into the ground. Recharge is currently not happening quick enough to keep up with overpumping.



- **Water budget:** the water supply and demand in a basin including any amount that is pumped out or refilled in a given time frame. Water managers use water budgets to figure out how much surface water (rivers, lakes) and groundwater (aquifers) is available to meet local needs, including for communities, the environment, and farming. Water budgets must also account for climate change.



Policy Terms:

- **Sustainable Groundwater Management Act (SGMA):** a California law intended to prevent too much water from being pumped out of underground water reserves. Before the Sustainable Groundwater Management Act (SGMA), there were no limits on groundwater use, and cities and farms have been pumping more as drought reduces the amount of water available from rivers and reservoirs. As a result, groundwater levels have dropped across the state. The law was designed to ensure ongoing access to groundwater for drinking, farming, and the environment. For more information: <https://bit.ly/3Nrh2Tr>.
- **Community water system:** a public or private water system that distributes drinking water to a specific group of local residents. An entire system can include wells, pipelines, treatment facilities, staff and more to distribute the drinking water. Many community water systems in the San Joaquin Valley rely on shallow groundwater wells that could go dry or become contaminated. For more information: <https://bit.ly/3ICjv21>.

- **De Minimis Extractor:** someone that uses a relatively small amount of groundwater for household use. It's officially defined as a person or household who uses no more than two acre feet per year for domestic use. These users tend to have shallow wells, which puts them at risk of losing their drinking water if larger water users cause groundwater levels to drop or contamination to worsen.
- **Groundwater Sustainability Agency (GSA):** a locally formed group of people responsible for implementing Sustainable Groundwater Management Act (SGMA) rules for each groundwater basin. Each Groundwater Sustainability Agency (GSA) works together to come up with a Groundwater Sustainability Plan (GSP) that will stabilize local groundwater within 20 years by limiting pumping and helping to flow water back into the ground. For more information: <https://bit.ly/3Adi1Ut>.
- **Groundwater Sustainability Plan (GSP):** a detailed roadmap for how groundwater basins will reach long-term groundwater sustainability. Locally formed groups called Groundwater Sustainability Agencies (GSAs) prepare and submit the Groundwater Sustainability Plans (GSPs) to the California Department of Water Resources (DWR) for approval. The Department of Water Resources (DWR) tracks their performance over time, and will formally evaluate updated plans submitted by Groundwater Sustainability Agencies (GSAs) every five years.
- **Undesirable results:** six consequences of overpumping that must be addressed by a Groundwater Sustainability Agency (GSA) in a Groundwater Sustainability Plan (GSP). They include: chronic lowering of water levels, storage reduction, contaminated water or degraded water quality, sinking land or subsidence, seawater intrusion, and surface water depletion. In other words, groundwater plans should be designed to prevent sinking land, protect the aquifer, and ensure an adequate supply of safe groundwater for all users.
- **Sustainability goal:** each basin's plan to protect their groundwater supply from undesirable results (see definition) for 20 years and beyond. The Groundwater Sustainability Agency (GSA) in each basin must put together a sustainability goal to explain how their basin will track the state of its groundwater, how the plan will restore groundwater levels, and how their plan will address problems their basin is facing and avoid the undesirable results.
- **Mitigation plans:** a strategy outline for how to protect drinking water wells and also include actions to be taken if the wells people depend on for drinking water go dry. For example, if overpumping happens in a basin, the mitigation plan would lay out alternatives for providing people with safe drinking water, including connecting households to nearby water systems, drilling deeper wells, or delivering bottled and tanked water until a permanent water source can be provided.
- **Groundwater trading:** the creation of a "water market" to sell the rights to use groundwater from one part of a basin to another. Buying and selling water in this way makes some people nervous because it could favor wealthy users like corporate farms and oil fields over households and small or community water systems. For more information: <https://bit.ly/3y1xDay>.
- **Land retirement:** permanently stopping farming in dry areas where there is not enough water from rivers, reservoirs or underground aquifers to irrigate the trees or crops on an ongoing basis. Implementation of the Sustainable Groundwater Management Act (SGMA) will require some retirement of existing agricultural lands, since the current amount of water used for irrigation is draining groundwater faster than it can be recharged. In the San Joaquin Valley, there is a lot of potential to repurpose farmland for purposes that are good for nearby communities and the environment, including parks, solar farms, wildlife refuges, and groundwater recharge basins. For more information: <https://bit.ly/3aqPi3G>.

How to Participate:

1. Visit the “Drinking Water Tool” website to learn more about groundwater issues in your area and across California: <https://bit.ly/3zQJHxD>.
2. Find your local subbasin and Groundwater Sustainability Agency (GSA) by entering your address in the Groundwater Sustainability Agency (GSA) Map Viewer: <https://bit.ly/3Ab8WLc>.
3. Once you have found the name of your Groundwater Sustainability Agency (GSA), search on the internet to find its main website. There, you can sign up for updates by joining the Groundwater Sustainability Agency’s (GSA’s) interested party list.
4. Apply to be a member of your local Groundwater Sustainability Agency (GSA) Advisory Committee.
5. Work with Leadership Counsel, Self-Help Enterprises, or Community Water Center to ensure that Groundwater Sustainability Agencies (GSAs) include policies and projects that benefit your community in their Groundwater Sustainability Plan (GSP).
6. Attend a Groundwater Sustainability Agency (GSA) or Advisory Committee meeting to present public comments and ask questions about the work they are doing.

Developed by:

