# Groundwater Sustainability Plan (GSP): Development & Process

## WHY IS GROUNDWATER SUSTAINABILITY IMPORTANT?



Sustainable groundwater management preserves groundwater quality and quantity and ensures that groundwater is available for future generations. Common groundwater uses include the provision of drinking water and household use through community water systems and domestic wells, crop irrigation, and industrial and commercial activity. Over the past decades, groundwater levels have declined due to a reduction of imported water into the area related to environmental preservation efforts, increased agricultural use, and increased municipal and industrial use, combined with less rain and snow runoff to replenish groundwater extraction causing a condition referred to as overdraft. This decline has become even more dramatic due to recent drought conditions.

#### HOW IS THE STATE REQUIRING SUSTAINABLE GROUNDWATER MANAGEMENT?

The state's most recent drought led to unprecedented increased groundwater pumping resulting in dry wells, fallowed cropland, and vulnerable environmental conditions throughout the state. Historically, groundwater management has been voluntary in California. However, unless effective groundwater management is implemented, declining groundwater levels will continue to severely impact all San Joaquin Valley residents, including unincorporated rural communities who rely on groundwater.

In 2014, Governor Jerry Brown signed the Sustainable Groundwater Management Act (SGMA) into law. This law aims to improve groundwater management to ensure groundwater is a reliable source that is available long term. SGMA applies to areas in California with known groundwater challenges. These areas are known as *critically over drafted basins* or *high- and medium-priority basins* (see yellow and orange areas in the map). Most of the San Joaquin Valley basins are in critical overdraft.

SGMA requires the formation of Groundwater Sustainability Agencies (GSAs) – a new local agency or multiple agencies formed with authority and responsibility to sustainably manage their respective groundwater basin. A GSA's key task is to prepare a Groundwater Sustainability Plan (GSP). Once the plan is developed, GSAs have a twenty-year time frame to implement that plan and achieve sustainability.

## WHAT IS A GROUNDWATER SUSTAINABILITY PLAN (GSP)?



A Groundwater Sustainability Plan (GSP) is a detailed roadmap for how groundwater basins will reach long-term groundwater sustainability. The GSP, prepared by each (or multiple) Groundwater Sustainability Agency (GSA) provides groundwater users the opportunity to document historical, current, and future groundwater pumping levels and challenges to develop a shared vision for their area that improves and preserves groundwater. The GSP will also identify projects and management actions that will correct, prevent, or mitigate the groundwater challenges and achieve the shared vision of multiple groundwater users as well as establish a monitoring plan that can measure progress over time.

The GSP must contain four main components:

- 1. <u>A description of the plan area and groundwater basin setting</u>, including an assessment of current and future groundwater conditions and budget;
- 2. <u>The sustainability goal</u>, which is defined by groundwater users, including rural community members, and avoids undesirable results such as lowering of groundwater, degraded water quality, and subsidence;
- 3. Projects and management actions that will achieve the GSA's sustainability goal; and
- 4. <u>A monitoring plan</u> that will measure progress over time.

## WHY ARE THE GSP COMPONENTS IMPORTANT TO ME AND MY COMMUNITY?

The plan area should account for your community's existing groundwater conditions and projected future conditions. This includes water quality and water supply challenges and needs in rural communities — in particular for households relying on individual private wells.

Avoiding the **lowing of groundwater levels** can be particularly important to those that rely on shallower wells, single sources of water and those that want to avoid contaminated zones (i.e. small water systems, private well owners, and small farms).

Effects due to lowering of groundwater levels:

- Dry wells
- Increased costs with pumping due to lower water levels
- Construction of deeper wells is financially infeasible for low-income families, small water systems, small farmers
- Impact on water quality

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**Degraded water quality** can result from over pumping. Over pumping can pull contaminated water from its current location towards nearby wells, putting more wells at risk of contamination. Common contaminants found in the San Joaquin Valley are nitrates, arsenic, coliform bacteria, pesticides, and uranium.



Effects due to degraded water quality:

- Contaminated water
- Increased costs with water treatment and monitoring requirements
- Implementation and maintenance of treatment technologies may not be financially feasible for low-income families and small water systems

GSPs will identify **projects and management actions** that will help GSAs achieve sustainability, including projects to correct/ prevent undesirable results such as over drafting, water quality and subsidence.

	Projects to Conserve Water	Projects to Increase Groundwater	Projects to Increase Surface Water
•	Pumping allocation: Put limits on allowed groundwater usage for individuals Fines for overuse past assigned limits	<ul> <li>Groundwater recharge projects</li> <li>Groundwater banking</li> <li>Injection wells</li> </ul>	<ul> <li>Using surface water instead of groundwater</li> <li>Cities transitioning to using more surface water for drinking water</li> </ul>

# WHAT IS THE PROCESS FOR ADOPTING A GSP?

There is a three-step process for GSP approval:

- 1. The GSA is required to hold a public hearing to present the draft GSP and obtain feedback from the public (must provide 60 days advance notice of the hearing date). Following the hearing, the plan must be approved by the GSA board at a public GSA board meeting.
- 2. Submit plan to the California Department of Water Resources (DWR) by January 31, 2020.
- 3. DWR has two years to evaluate the plan and determine if the plan is 1) adequate 2) conditionally adequate 3) inadequate. If the plan is inadequate, the state may step in and take over the responsibility of developing a GSP. This is much more expensive and leads to less local control.



## WHAT IS THE GSP PLANNING SCHEDULE?

GSPs must be submitted by January 31, 2020 (or January 31, 2022 if the basin is not critically over drafted). Most GSAs in the San Joaquin Valley will need to have theirs completed by 2020. The state requires that plans be developed in a public forum.

After submitting a GSP, a GSA has 20 years to reach sustainability. Sustainability must be reached by 2040 (or 2042 for areas not in critical overdraft).

Plans will be evaluated by the state every five years to assess progress and recommend corrective actions.

## HOW DO I GET INVOLVED IN THE GSP PLANNING PROCESS?

GSAs are currently in the process of developing their GSP. Get involved now to make sure the interests of your community are included in the development of the GSP.

There are several ways to get involved:

- Find your GSA at https://sgma.water.ca.gov/portal/#gsa. Select the "GSA Map Viewer" and enter your address in the search bar. Click on the blue pinpoint to reveal information about your GSA.
- Put your name on the "interested parties" list. Contact your GSA to be added to the list. You will receive information about meetings and the planning progress.
- Attend public meetings. Public meetings are opportunities to share your vision for sustainability and ask questions. This can help shape the planning process.
- Join an advisory committee. Advisory committees, like technical advisory committees or stakeholder outreach committees are part of most GSAs, and have



- influence on the GSP development. Ask your GSA what working groups they have to discuss details of the plan.
- Obtain technical assistance from local organizations. Support may be obtained from local organizations like Self-Help Enterprises who support community participation in groundwater sustainability planning.
- Visit your local GSA's website. Your GSA's website will house critical information and updates.
- After the GSP is submitted, stay engaged. GSAs are required to prepare annual reports. Every five years the state will evaluate the progress of a region towards the achievement of sustainability and can intervene if significant deficiencies are identified. Stay updated on the progress toward your GSA's sustainability goals.

#### WHO CAN I CONTACT FOR MORE INFORMATION?

Self-Help Enterprises **Community Engagement and Planning** 

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## **GLOSSARY OF TERMS**

Critically Overdrafted Basin: A groundwater basin in which the continuation of present practices of withdrawing water would likely results in significant negative environmental, social, or economic impacts.

Groundwater Basin: an alluvial aquifer or a stacked series of alluvial aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom.

Groundwater Sustainability Agency (GSA): A local water authority, or cooperating collection of local authorities, managing a basin's shared resources under the Sustainable Groundwater Management Act (SGMA) to develop and execute a Groundwater Sustainability Plan (GSP).

Groundwater Sustainability Plan (GSP): A detailed road map for how groundwater basins will reach long term sustainability.

Overdraft: A situation that occurs when more water is pumped from a groundwater basin than is replaced from all sources, not measured annually but rather over a period of years.

Sustainable Groundwater Management Act (SGMA): Law that aims to improve groundwater management to ensure groundwater is a reliable source that is available long term.

Sustainable Yield: The maximum quantity of water that can be withdrawn annually from a groundwater supply without causing undesirable results.

Sustainability Goal: The objective of operating a basin within its sustainable yield.

Undesirable Results: One of six groundwater conditions that must be avoided in order to comply with the Sustainable Groundwater Management Act (SGMA): 1) significant and unreasonable reduction of groundwater storage, 2) significant and unreasonable lowering of groundwater levels, 3) significant and unreasonable seawater intrusion, 4) significant and unreasonable degraded water quality, 5) significant and unreasonable land subsidence, and 6) unreasonable depletions of interconnected surface water.



**GW** Levels

Quality Subsidence of Storage Depletion

Intrusion