



Groundwater Sustainability Plan Summary

Thank you for your interest in learning about the Groundwater Sustainability Plan for the Santa Cruz Mid-County Groundwater Basin!



Groundwater sustainability planning for our Basin brings together innovative science, community input, and careful management to protect groundwater resources and our precious environment.

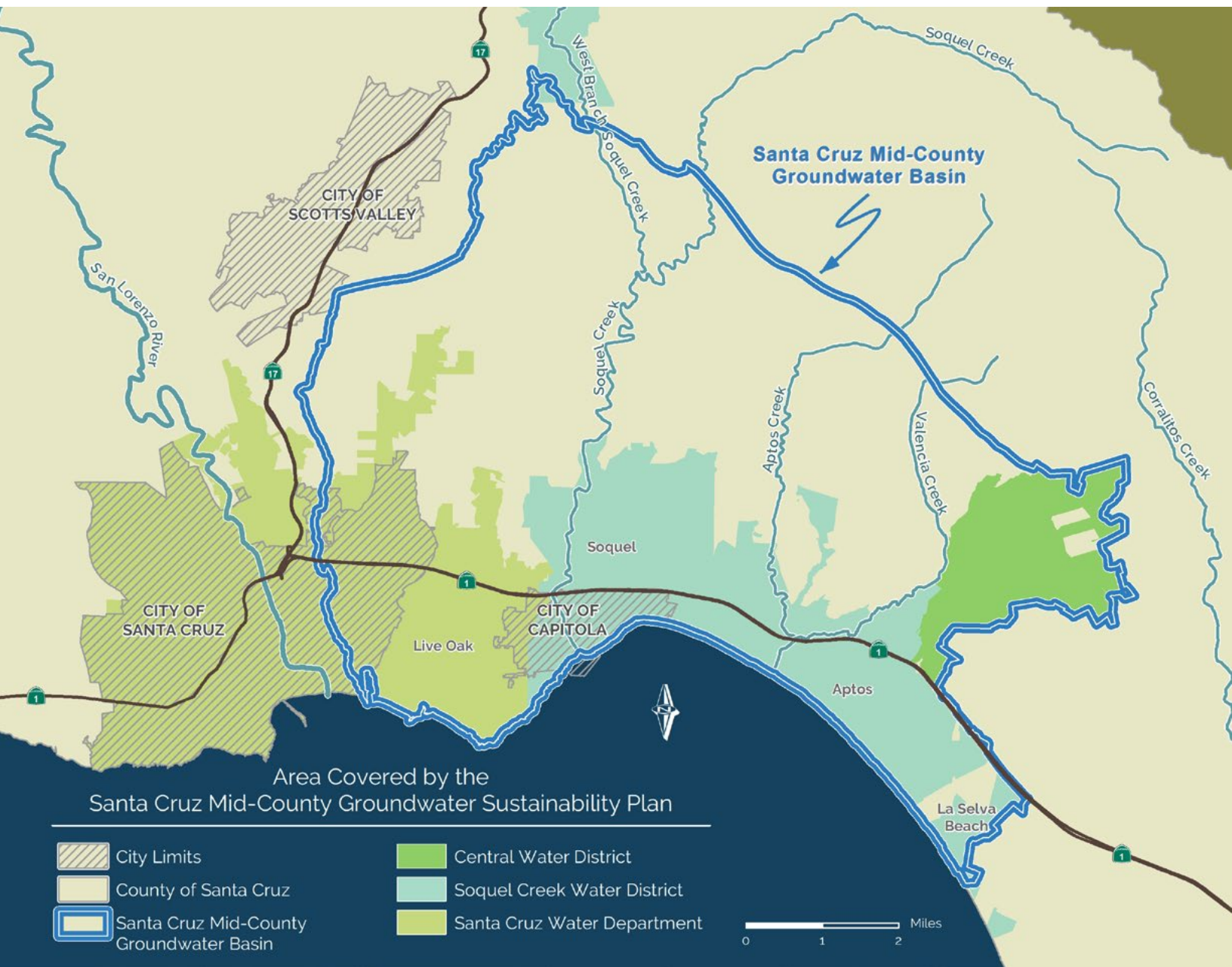
midcountygroundwater.org



What is the Santa Cruz Mid-County Groundwater Agency?

The Santa Cruz Mid-County Groundwater Agency (MGA) formed in March 2016 under California's Sustainable Groundwater Management Act (SGMA). SGMA is the first legislation in California history to make sure groundwater is sustainably managed for future generations. Emphasizing regional collaboration, the MGA is governed by an 11-member board that includes two representatives each from the Central Water District, City of Santa Cruz, County of Santa Cruz and Soquel Creek Water District, as well as three private well representatives. The board is responsible for groundwater sustainability of the Mid-County Groundwater Basin (Basin).

To make key policy decisions, the MGA board selected members of the public from various interest groups to serve as an advisory committee. The committee met each month for almost two years to develop local policy goals for sustainable groundwater management. Together with input from community members, qualified experts, and groundwater scientists the MGA developed a regional Groundwater Sustainability Plan (Plan) based on these local policy goals. The science-based Plan meets all state requirements to achieve and maintain groundwater sustainability, including protection of sensitive species that rely on groundwater.



What are the MGA's Mission and Goals for Groundwater Sustainability?

The MGA's mission is to ensure a safe and reliable groundwater supply is available for everyone who relies on water from the Basin, now and in the future.



These goals include:

- Ensure groundwater is available for all Basin water users
- Protect groundwater quality to promote public health
- Protect groundwater supply against seawater intrusion
- Protect groundwater supply from over-pumping and resolve historical over-pumping impacts
- Protect groundwater supply from climate change and sea level rise impacts
- Maintain Basin groundwater reserves for use during times of drought
- Maintain or enhance groundwater levels where groundwater dependent ecosystems exist
- Maintain or increase groundwater available to support local stream flow
- Support neighboring groundwater basins in their efforts to achieve regional groundwater sustainability

Where Does Our Water Come From?

The Mid-County Basin does not import water from outside Santa Cruz County. All Basin water supply originates as regional rainfall. Approximately 92,000 people and a diverse ecology of plants and animals live within the Basin area. About 80,500 residents receive water from local water agencies and 11,500 receive water from private wells or small water systems. Roughly 50,000 Basin residents rely on groundwater for their water supply. Groundwater is rainfall that has collected over a long period of time in cracks and spaces in soil, sand and rock below the ground surface. The remaining 42,000 receive water from the City of Santa Cruz water Department. In years with average rainfall, the City's water supply is 95% surface water from sources outside the Basin and 5% groundwater from wells inside the Basin.

What are Our Basin Groundwater Issues?

SGMA requires the Plan to consider and resolve the following issues:



Seawater Intrusion in Coastal Areas

Seawater intrusion occurs when groundwater is pumped to levels below sea level. When this happens, seawater moves inland to fill the void, making wells salty and no longer useful for water supply. Basin groundwater levels were 40 to 120 feet below sea level in the mid-1980s to early 1990s, allowing seawater intrusion in some areas. Though levels have improved dramatically since 1995, further seawater intrusion remains a threat. Because of this threat, the California Department of Water Resources (DWR) designates the Basin as "critically overdrafted."



Chronic Lowering of Groundwater Levels

Scientists determined that Basin over-pumping occurred in the mid-1980s. Huge strides have been made to increase groundwater levels through management actions and more efficient use of water by customers, but it has not been enough to fully recover Basin groundwater levels. Planning for climate change requires development of additional water supplies to achieve sustainability.



Reduction of Groundwater in Storage

Sustainable groundwater management requires groundwater storage at levels needed to support Basin water use, to preserve or enhance ecological resources, and to provide for a drought reserve when local rainfall is below normal levels.



Water Quality

The Plan requires the MGA to monitor groundwater quality to prevent impacts from management activities that could adversely affect Basin water users.



Impacts to Surface Water Flow

In parts of the Basin, streams receive some of their flow from groundwater. This is particularly important to sensitive species in summer and fall when rainfall is low. Without the addition of groundwater from the Basin, these waterways may not be able to support aquatic plants and animals.

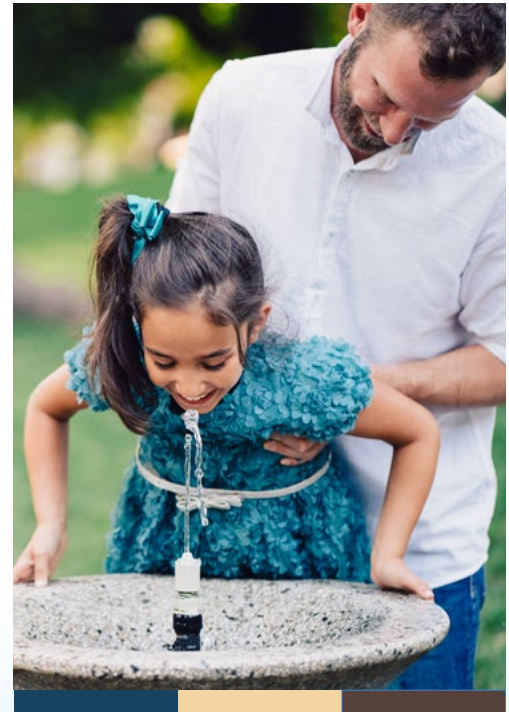
How Will the MGA Address These Issues?

To achieve Basin sustainability, Plan implementation will:

- Prevent seawater from moving farther inland than was observed in 2013 – 2017.
- Prevent groundwater levels from declining to a level that no longer support existing land uses.
- Maintain Basin groundwater pumping at sustainable levels.
- Manage Basin groundwater to prevent water quality impacts that would jeopardize the Basin's ability to meet state and federal drinking water standards.
- Ensure groundwater pumping does not reduce groundwater contribution to future stream flows below levels observed prior to 2015.

Which Projects and Management Actions are Being Pursued in the Basin?

- **Monitoring Actions** gather data on groundwater extractions, groundwater levels, water quality, and stream flow. The results of this monitoring will inform MGA strategies to support a sustainable Basin.
- **Water Demand Management** done by the MGA member agencies encourages wise water use in multiple ways: rates are structured to encourage sustainable water use; indoor and outdoor water conservation strategies are funded through rebates; water waste is prohibited; and in parts of the Basin, new development must reduce overall water demand through an offset program.
- **Pumping Redistribution Projects** shift municipal groundwater pumping away from the coast and interconnected streams to prevent seawater intrusion and to support stream flow.
- **Groundwater and Surface Water Sharing Projects** (Conjunctive Use Projects) share surface water and groundwater between water agencies within and outside the Basin to optimize regional water resources. These projects (like Water Transfers and the City of Santa Cruz Aquifer Storage and Recovery) use surface water when it is available and build a groundwater reserve for use in times of drought.
- **Recycled Water** is treated wastewater that can be used instead of drinking water for outdoor uses such as irrigation. Soquel Creek Water District's Pure Water Soquel project will purify recycled water using advanced treatment methods, and use the purified water to replenish the Basin through recharge wells, creating a seawater intrusion barrier and resting wells that are located closer to the coast.
- **Stormwater Recharge Projects** treat and percolate surface water runoff to increase the amount of stormwater that becomes groundwater. County of Santa Cruz stormwater projects are identified and installed in the Basin. Neighboring Pajaro Valley and Santa Margarita Groundwater Basins also have stormwater projects planned and in place.

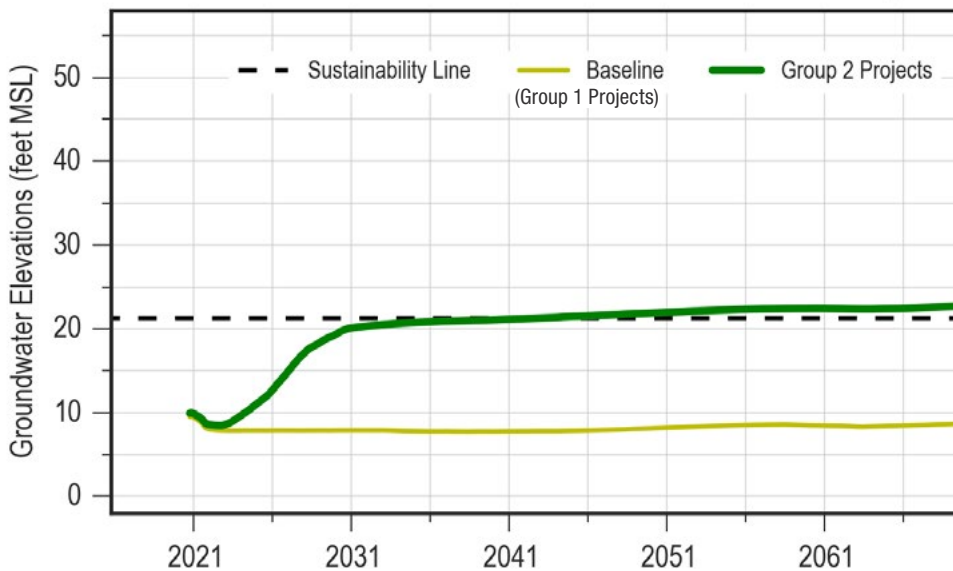
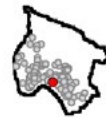


Science-Based Approach to Management

The MGA's role outlined in the Plan is to function as an umbrella agency to optimize Basin groundwater management. The MGA gathers and evaluates data, and monitors projects and management actions using a science-based approach:

- **Basin Modeling** The MGA developed an integrated groundwater and surface water model, a complex and robust tool, to assess groundwater conditions and provide a means to evaluate project and management actions. The model forecasts climate change and tracks actual climate over time to continuously compare anticipate changes in groundwater level to achieve sustainability (see chart below).
- **Innovative Technology** The MGA commissioned an aerial study to assess the Basin's vulnerability to seawater intrusion. The MGA took measurements of our aquifers just offshore, using sensors housed in a device towed below a helicopter, known as SkyTEM. The results demonstrated that there is significant risk of seawater intrusion in many parts of the Basin. SkyTEM surveys will be repeated every five years to assess the on-going threat of seawater intrusion to the Basin.
- **Data Collection** The MGA will oversee comprehensive monitoring of Basin groundwater and surface water resources and ensure coordinated data management.
- **Data Evaluation** The MGA will prepare and submit annual reports to DWR that assess progress toward Basin sustainability.
- **Adaptive Management** The MGA will evaluate Basin sustainability and adapt its management programs as needed. The MGA will report any revisions to its management strategies to DWR at least every five years.

Groundwater Model Output for a Monitoring Well
(Purisima Aquifer)



GSP Catalog Climate – Final GSP Runs for Expected Benefits in Section 4:
Baseline vs. Pure Water Soquel & ASR (Public Summary), October 28, 2019



Preliminary Schedule

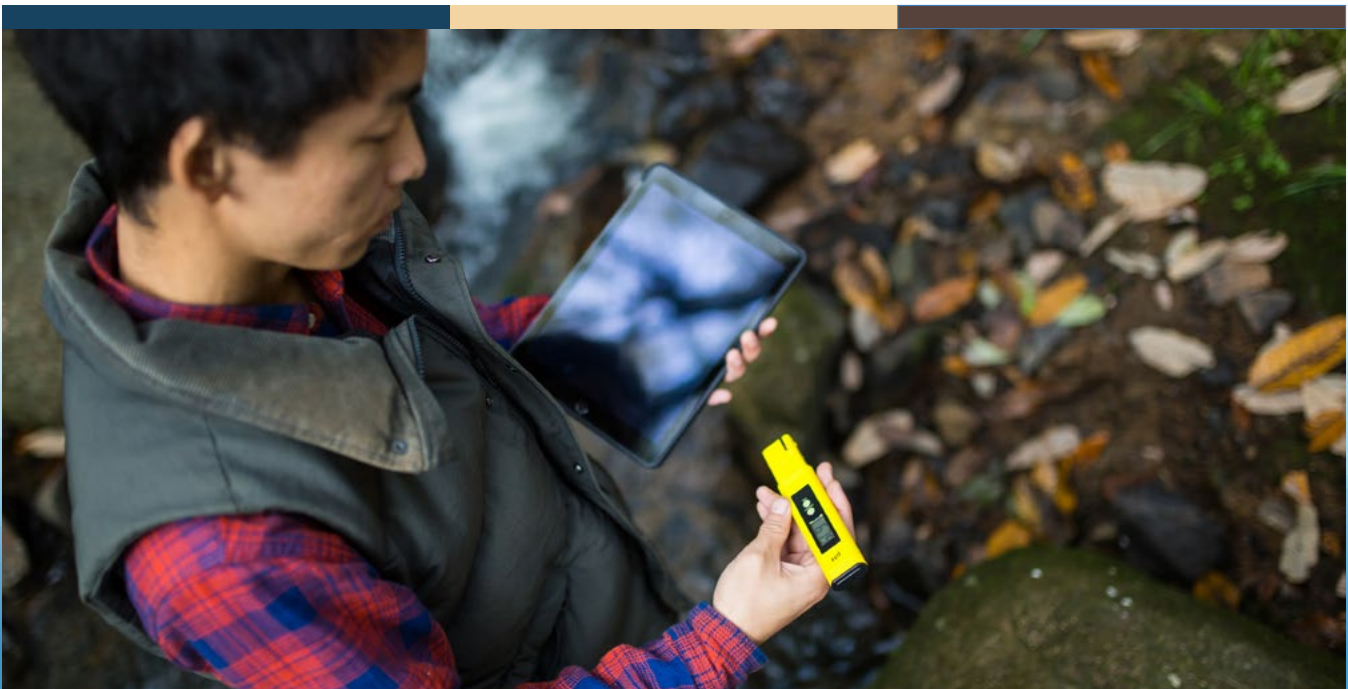
The preliminary schedule of the MGA's near-term and long-term Plan implementation spans a period through 2070. Activities include existing baseline projects (Group 1) and projects that we expect to achieve groundwater sustainability (Group 2).

BASELINE PROJECTS & MANAGEMENT ACTIONS (GROUP 1)	2020	2025	2030	2035	2040	2050	2060	2070
Water Conservation & Demand Management (Multiple Programs)	[Implementation/Operations/Adaptive Management]							
Redistribution of Municipal Groundwater Pumping	Evaluated periodically as part of ongoing adaptive management							
Well Master Planning & Municipal Production Well Development	[Implementation/Operations/Adaptive Management]							
Groundwater Pumping Redistribution	[Implementation/Operations/Adaptive Management]							
PROJECTS & MANAGEMENT ACTIONS TO REACH SUSTAINABILITY (GROUP 2)	2020	2025	2030	2035	2040	2050	2060	2070
	Evaluated periodically as part of ongoing adaptive management							
Pure Water Soquel	[Implementation/Operations/Adaptive Management]							
Aquifer Storage & Recovery (ASR)	[Implementation/Operations/Adaptive Management]							
Water Transfers / In Lieu Recharge	[Implementation/Operations/Adaptive Management]							
Distribution Storm Water Managed Aquifer Recharge (DSWMAR)	[Implementation/Operations/Adaptive Management]							

KEY: ■ Development Phase ■ Implementation/Operations/Adaptive Management
Overlapping periods on phases – some include multiple projects/sites/elements

What Happens if the Plan Fails to Produce Results?

If implementation of the Plan does not lead the Basin to sustainability, further actions described in the Plan as Group 3 projects, may be necessary. The decisions for which actions to take will depend on the scale of the shortfall, regulatory requirements, and the technology available at the time. Considerations will include community input and how fast solutions can be implemented. If we fail to make the Basin sustainable, the State will step in and likely mandate water cutbacks and fees for all parties.



What Does the California Sustainable Groundwater Management Act (SGMA) Require?

SGMA went into effect in 2015. It requires that local water agencies must work together to manage Basin groundwater sustainability by developing a Groundwater Sustainability Plan. The completed Plan must include a science-based approach and utilize a comprehensive planning process, and continuous public input. The Plan must achieve groundwater sustainability for all Basin water users and the natural environment. The MGA's Plan must achieve sustainability by 2040.

The Plan for the Mid-County Basin was adopted by the MGA in November 2019 and submitted to the State in January 2020. To review the Plan and learn about how you can become involved, visit midcountygroundwater.org.

