WATER MANAGEMENT IN SANTA BARBARA COUNTY

Keep Up the Good Work

SUMMARY

Water availability has been a concern in the region of Santa Barbara County since the earliest settlements of the Chumash. The most recent drought, ending in 2023, refocused attention on the need to both conserve water and to seek new sources. Water scarcity is an ongoing fact of life in the County. The unique geography of the South Coast makes it particularly susceptible to drought; however, the entire County faces a scarcity of both ground and surface water.

Historically, groundwater resources have been depleted by both agricultural and urban uses, without regard for sustainability. Seawater intrusion into our aquifers due to overuse of the groundwater is a real threat.

The last three winters have seen heavy precipitation across Santa Barbara County leading to full reservoirs and somewhat replenished aquifers. Nevertheless, complacency is not a luxury County residents can afford. As another drought is inevitable, the 2024-25 Santa Barbara County Grand Jury (Jury) undertook an investigation to determine whether Santa Barbara County as a whole is adequately prepared.

The Jury reviewed ongoing concerns about water availability, particularly in light of state-mandated increases in housing in the County. The Jury considered the recommendations of past Grand Juries regarding the water management situation in the County and found that circumstances have substantially improved since the issuance of these previous reports. The professionalism and commitment of all individuals interviewed as well as the high degree of constructive coordination among the County Water Agency, local water districts, and local groundwater sustainability agencies impressed the Jury.

BACKGROUND

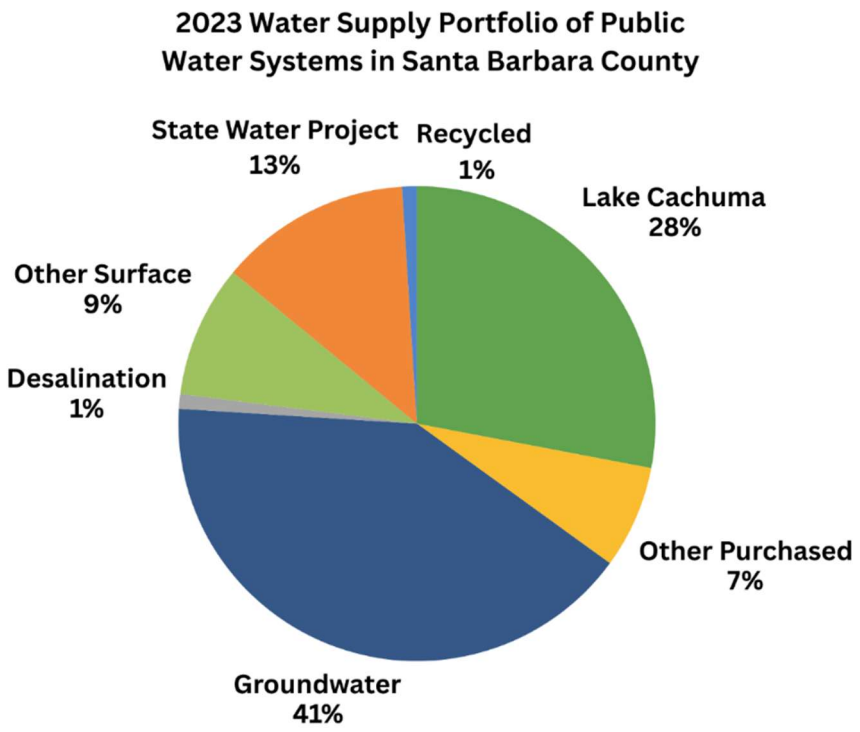
Santa Barbara County is not small. Although all of the County must contend with water supply issues, the conditions in different parts of the County can vary greatly. For example, the weather station at Gibraltar Dam records an annual average rainfall of 26.5 inches, Santa Barbara City has an average of 18.5 inches, and Santa Maria records an average of only 13.4 inches. In addition, those averages don't show the extreme variability from year to year in the County's rainfall: of the last 10 years, six have had below average rainfall (only 48 percent of average in 2021) and four have had above average rainfall (203 percent in 2023).

Water Sources

Because of our mountainous topography, there are several watersheds in the County, each independent of the other. The Cuyama River follows the northern boundary of the County for much of its path and feeds a largely agricultural area until it flows into the reservoir created by Twitchell Dam. Water is released from the dam as needed for the Santa Maria River and to replenish the groundwater used by Santa Maria and other communities in the North County.

Much of the water for the County comes from the Santa Ynez River. It flows through the center of the County and feeds the groundwater needs for the communities of Solvang, Santa Ynez, Buellton and Lompoc. It also supplies much of the water used by South Coast communities from reservoirs created by dams: the Gibraltar Reservoir was created by the Gibraltar Dam in 1920; the Jameson Reservoir was created by the Juncal Dam in 1930; and Lake Cachuma was created by the Bradbury Dam in 1953. There are tunnels through the mountains from each of these reservoirs that carry water to the South Coast.

Figure 1



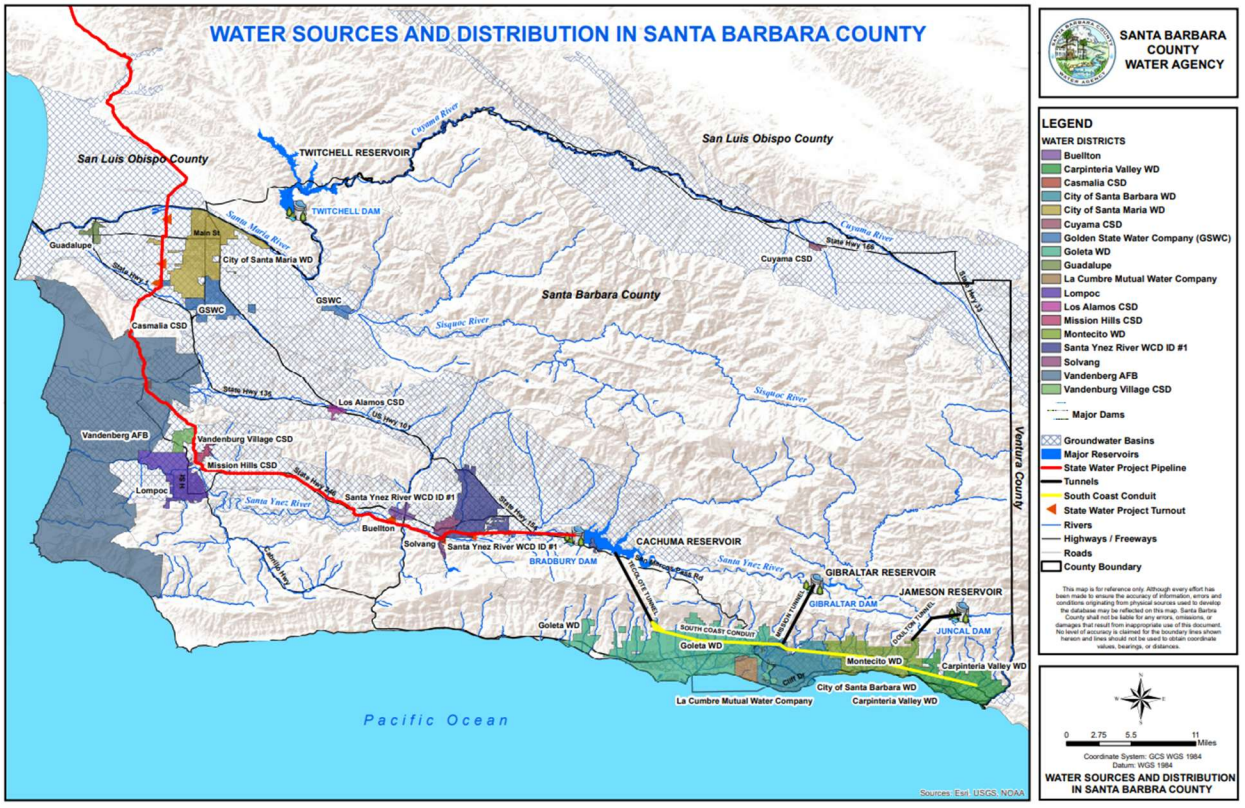
Source: WaterWise Santa Barbara

Lake Cachuma is the major water source for most of the South Coast water. Up to 65 million gallons can flow through the Tecolote tunnel each day; the Goleta Water District diverts about 5 million gallons daily to its water treatment plant, and the rest goes into a tunnel that feeds Santa Barbara, Montecito and Carpinteria.

The California State Water Project provides water to some County communities. That water flows from Northern California into Lake Cachuma as required. The City of Santa Barbara, the City of Santa Maria, the Montecito Water District, the Santa Ynez River Water Conservation District, Improvement District No. 1, the City of Buellton, the Goleta Water District, the City of Guadalupe, and the Carpinteria Valley Water District all have contracts with the State that allow access to that water. However, this source is unreliable and much more expensive than other resources; it is used only in times of severe drought.

The many sources of water used in Santa Barbara County are shown above in Figure 1. Figure 2 shows that those sources are widely distributed throughout the County.

Figure 2



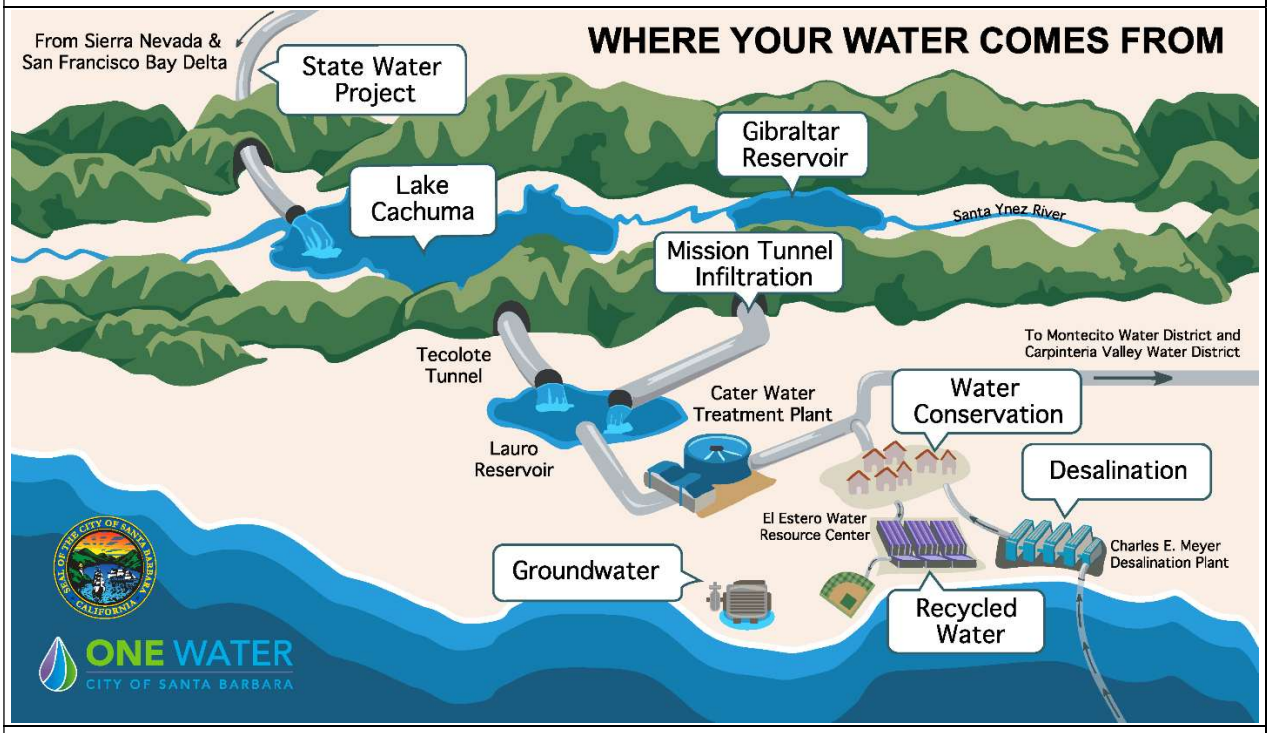
Source: County of Santa Barbara Public Works

The City of Santa Barbara was one of the first cities in California to incorporate desalinated water into its program in the 1980s. Its first plant was completed in 1992 at a cost of $34 million, shared with Montecito and Goleta. Because of the abundant rainfall in that and subsequent years, the plant was put into standby mode, and a portion of the reverse osmosis membrane equipment was sold. Not until 2015, in response to exceptional drought conditions, did the City Council vote to modernize and reactivate the plant. In May 2017, at a cost of $72 million, partially offset by a $10

million grant from the State Department of Water Resources, the plant began contributing water into the City's water system. The plant can now produce up to three million gallons of water per day, or about 30 percent of the City population's current needs. Plans are underway to expand the existing plant to meet future needs as the City's population grows. The plant's design is modular, so its expansion is cost effective and only limited by the physical space it will occupy.

Several local communities also have successful programs to recycle wastewater to meet the demand for non-potable water. The City of Santa Barbara and the Goleta Water District are particularly successful utilizing this supplemental source. Figure 3 illustrates how the City of Santa Barbara gets its water.

Figure 3



Source: City of Santa Barbara Public Works Department

Water Management

A number of different entities manage the distribution and conservation of water in the County:

- Cities have the responsibility for supplying water to their residents, although they may contract with private companies to provide that service, as Santa Maria does with the Golden State Water Company.
- Water districts are generally charged with the distribution of water to end users and are responsible for water supply, quality, and infrastructure. There are water districts in the Carpinteria Valley, Montecito, Goleta Valley, and the central portion of the Santa Ynez Valley, including the communities of Solvang, Santa Ynez, and Buellton. Similar functions

are performed by community services districts in smaller communities such as Cuyama, Los Alamos, and Vandenberg Village. These are independent special districts governed by elected boards.

- Mandated by the State's 2014 Sustainable Groundwater Management Act (SGMA), Groundwater Sustainability Agencies (GSAs) are responsible for managing groundwater resources and watershed basins identified as having over-drafted groundwater. Their mandate is to bring basins into balance between pumping and recharge. There are GSAs for the Carpinteria Valley, Montecito, the San Antonio Creek Valley, the Cuyama Valley, and the Santa Ynez Valley. Generally, these agencies have been created by the local water districts and community services districts work closely with them.

The GSAs are required to develop plans to balance extraction with recharge while considering factors like aquifer characteristics and the area's climate. Key aspects of groundwater basin management include:

- Monitoring groundwater levels and collecting data on groundwater usage.
- Creating a groundwater sustainability plan (GSP) as required by the Sustainable Groundwater Management Act. These plans provide a roadmap to sustainability by obtaining and assessing data on current water usage and groundwater resources, identifying sustainable groundwater levels, and developing policies and tools to restore groundwater resources.
- Monitoring aquifer recharge.
- Planning and coordinating water use and groundwater replenishment by managing surface and groundwater resources.
- Using data to create water basin computer models.
- Communicating issues of groundwater management and the need for replenishment with residents, farms, and businesses within the basin.
- Monitoring and enforcing compliance with groundwater regulations.

All GSAs in the County now have plans in place that have been approved by the California Department of Water Resources to ensure long-term groundwater sustainability.

The County also has its own Water Agency to monitor water resources and work with other agencies as required, creating such initiatives as "WaterWise Santa Barbara," which seeks to inform, educate, and encourage water conservation. The County Water Agency has the specific responsibility to contract with the State and the federal government for water supplies. It also conducts a cloud seeding program to increase precipitation.

Water districts in all of Santa Barbara County know and understand that the drought cycle is a fact of life. Recognizing that fact, water districts face challenges in providing water for residential, commercial, and agricultural needs as well as meeting state-mandated housing requirements.

METHODOLOGY

The Jury reviewed previous Grand Jury reports and recommendations as well as documents prepared by many of the entities that are involved in the supply and management of water in Santa Barbara County. We interviewed staff of the following:

- Santa Barbara County Water Agency
- Goleta Water District
- Carpinteria Valley Water District
- Carpinteria Groundwater Sustainability Agency
- Santa Ynez River Water Conservation District, Improvement District No. 1
- San Antonio Basin Water District
- San Antonio Basin Groundwater Sustainability Agency
- Santa Maria Valley Water Conservation District
- City of Santa Barbara Water Resources Division
- Cuyama Basin Groundwater Sustainability Agency

We also addressed water availability and management issues in interviews with elected officials and senior staff of the County and several cities, including Santa Barbara, Goleta, Carpinteria, Solvang, and Buellton.

Additionally, the Jury toured the City of Santa Barbara's desalination plant and the Goleta Water District's water treatment facility.

A planned visit to the Bradbury Dam and review of local water agency involvement in the management of the water resources in Lake Cachuma was cancelled by the United States Bureau of Reclamation, a federal agency that supervises the dam, due to personnel and policy uncertainty.

DISCUSSION

Each local city, district, and agency has its own unique approach to how it sources, processes, and delivers water to consumers due to the varied geography of North and South Santa Barbara County.

The 2016-17 Grand Jury conducted an extensive review of water management and issued a report recommending, among other things, that the Santa Barbara County Water Agency assume a coordinating role for water management. Although this recommendation of coordination through the County Water Agency was not implemented, it is apparent now that staff of the County Water Agency maintains relations with the other agencies and works collaboratively as necessary. The implementation of the State's Groundwater Management Plan and the requirement for sustainability plans are positive developments in the outlook for water in the County.

The Jury also learned that the residents of Santa Barbara County have responded to public campaigns that emphasize the need to conserve water. For example, the average daily per capita water use in the Goleta Valley Water District is now less than 50 gallons, compared with the state average of 85 gallons per person per day. Agriculture has adapted to water shortages by identifying alternative crops that are still profitable but less thirsty.

Each of the water agencies and districts that the Jury investigated has prepared plans to cover expected water use in the future, to plan for infrastructure improvements, and to develop additional water resources as required. The Jury has reviewed each of these plans and confirmed that they take into account forecasted population growth, changes in agriculture use, groundwater replenishment, climate change, and some new technologies to meet demand. Increased use of recycled water is also included in the plans.

The Jury was particularly concerned that the substantial increases in housing mandated by the State for the next six years could compromise future water supplies. To the contrary, each of the agencies and districts the Jury investigated has plans in place to provide needed water. The rural districts stated that an increase in residential use would not add significantly to future water needs, given the already heavy demand by agriculture. All of the cities the Jury investigated have made provisions to secure additional water for residential use, whether from their traditional sources or from innovative sources such as recycled water or the desalination plant in Santa Barbara.

Despite these overall positive findings, those responsible for treating and distributing water in Santa Barbara County should be aware that there are still issues to be addressed in providing water to its residents:

- Some new technologies can provide needed water, but they are very expensive. For example, water from the desalination plant in Santa Barbara is currently around 75 percent more expensive than treated water from the Tecolote tunnel.[1] Experience has shown that in our "wet" years the commitment to maintaining alternative technologies can wane with the result that communities are forced to invest large sums to recover those capabilities at the next drought.
- All of the infrastructure that serves County residents is aging, and much is in need of repair. Capital plans have been created to replace or repair infrastructure, such as upgrading water pipes, but completing the work will incur significant costs. In this time of restricted budgets and multiple needs, it is important that the commitment to these projects continue.
- It has been seen in the past that a few "wet" years lull the residents of Santa Barbara County into complacency, and water use increases again. It is essential that emphasis on water conservation remains central in agencies and districts' public discussion and outreach about water.

[1] Treated water from the Tecolote tunnel now costs $1,982 per acre/foot. Water from the desalination plant currently costs $3,400 per acre/foot.

CONCLUSION

Water continues to be a scarce resource in Santa Barbara County, one which must be managed if the needs of the County—residential, commercial, and agricultural—are to be met. The Jury investigated the current status of water management in the County and was pleased to learn that not only are the current, relatively abundant, water resources being well managed, but also that all of the agencies the Jury examined have solid plans in progress or ready for implementation for the next inevitable drought.

Water agencies and districts in Santa Barbara County know and understand that the drought cycle is a fact of life. Recognizing this, water agencies and districts face challenges in providing water for residential, commercial, and agricultural needs as well as meeting state-mandated housing requirements. Nevertheless, each entity the Jury interviewed has plans in place to both meet fluctuating drought pressures as well as future demand due to population growth and development.

Yet the people of Santa Barbara County, and the officials tasked with providing their water, should not be complacent in these good tidings. Appropriately meeting Santa Barbara County's water needs in the future requires the maintenance of existing water treatment and distribution infrastructure and a continued insistence on water conservation.

FINDINGS AND RECOMMENDATIONS

Finding 1: Despite community concerns about water scarcity, all of the public entities the Jury investigated that provide and manage water in Santa Barbara County have made proactive plans to fortify against future droughts and provide sufficient water necessary to support future housing growth and commerce.

Finding 2: Despite a 2016-17 Grand Jury finding that limitations existed in coordinating water management, the Jury finds that coordination among different water management entities in the County has improved significantly.

Finding 3: The City of Santa Barbara has gone beyond the basic management of water resources for its residents by utilizing desalination to innovatively expand local water availability.

REQUIREMENTS FOR RESPONSES

Pursuant to California Penal Code §933 and §933.05, the Grand Jury requests each entity or individual named below to respond to the findings and recommendations within the specified statutory time limit.

Responses to Findings shall be either:

- Agree
- Disagree with an explanation
- Disagree partially with an explanation

Responses to Recommendations shall be one of the following:

- Has been implemented, with a summary of the implementation actions taken
- Will be implemented, with an implementation schedule
- Requires further analysis, with an analysis completion date of fewer than 6 months after the issuance of the report
- It will not be implemented with an explanation of why

City of Santa Barbara – 90 Days

Findings 1, 2, 3

Board of Directors, Santa Barbara County Water Agency – 90 Days

Findings 1, 2

Goleta Water District – 90 Days

Findings 1, 2

Carpinteria Valley Water District – 90 Days

Findings 1, 2

Carpinteria Valley Groundwater Sustainability Agency – 90 Days

Finding 1, 2

Santa Ynez River Water Conservation District – 90 Days

Finding 1, 2

San Antonio Basin Water District – 90 Days

Finding 1, 2

San Antonio Basin Groundwater Sustainability Agency – 90 Days

Finding 1, 2

Santa Maria Valley Water Conservation District – 90 Days

Finding 1, 2

Cuyama Basin Groundwater Sustainability Agency – 90 Days

Finding 1, 2