

FINAL
January 23, 2024

City of Santa Barbara
Water Supply Management Report
2022-2023 Water Year

Prepared by Water Resources Division, Public Works Department





City of Santa Barbara

Water Supply Management Report

2023 Water Year (October 1, 2022 – September 30, 2023)

Water Resources Division, Public Works Department
January 23, 2024

INTRODUCTION

The City of Santa Barbara operates the water utility to provide water for its citizens, certain out-of-City areas, and visitors. Santa Barbara has an arid climate, so providing an adequate water supply requires careful management of water resources. The City has a diverse water supply portfolio, including local reservoirs (Lake Cachuma and Gibraltar Reservoir), groundwater, State Water Project water, desalination, and recycled water. The City also considers water conservation an important tool for balancing water supply and demand. The City's Enhanced Urban Water Management Plan (EUWMP) was adopted by City Council on June 29, 2021. The EUWMP details the City's water supply and management strategy for the next 30 years.

This annual report summarizes the following information:

- The status of water supplies at the end of the water year (WY) (September 30, 2023)
- Water supply outlook
- Water conservation and demand
- Major capital projects that affect the City's ability to provide safe clean water
- Significant issues that affect the security and reliability of the City's water supplies

Appendix A provides supplemental detail. Additional information about the City's water supply can be found on-line at: www.SantaBarbaraCA.gov/Water.

WATER SUPPLIES

The City has one of the most diverse water supply portfolios in the state, including local surface water; local groundwater (which includes water that seeps into Mission Tunnel); State Water Project water; desalinated seawater; and recycled water. Typically, most of the City's demand is met by local surface water reservoirs, desalination, and recycled water, and is augmented as necessary by local groundwater and State Water Project water.

The City's local surface water comes from Gibraltar Reservoir and Lake Cachuma, both located in the upper Santa Ynez River watershed. The inflow to these reservoirs is rainwater, so rainfall data for Gibraltar Reservoir has important water supply management implications. Figure 1 shows rainfall for the past ten years as compared to the 50-year average. Figure 2 provides additional historic rainfall information by showing 50 years of rainfall data, 50-year average rainfall, and 10-year average rainfall. Rainfall in the Santa Ynez River watershed during WY 2023, as measured at Gibraltar, was 232% of the 50-year rainfall average, with most of the rain falling during large storms in January, February, and March.

Runoff generated by average rainfall is generally enough to fill Gibraltar; however, it typically takes above-average rainfall to produce any significant inflow to Cachuma.

Figure 1. 10-Year Rainfall History at Gibraltar Reservoir

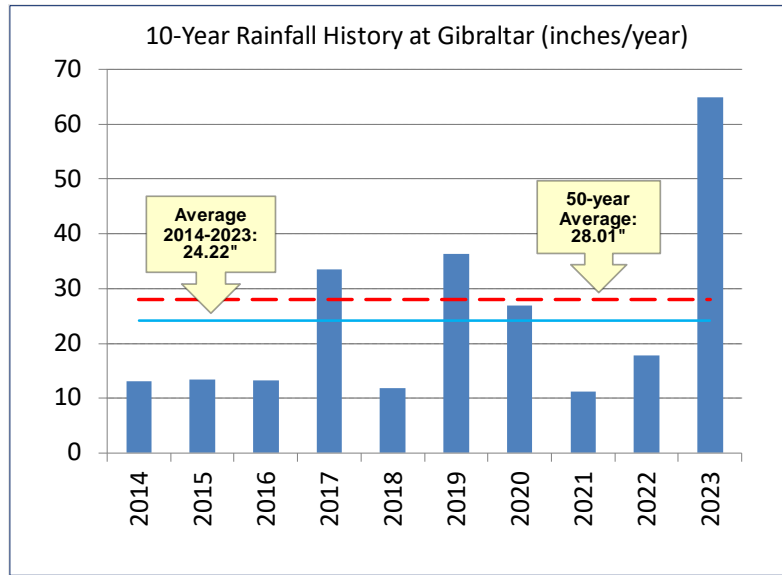
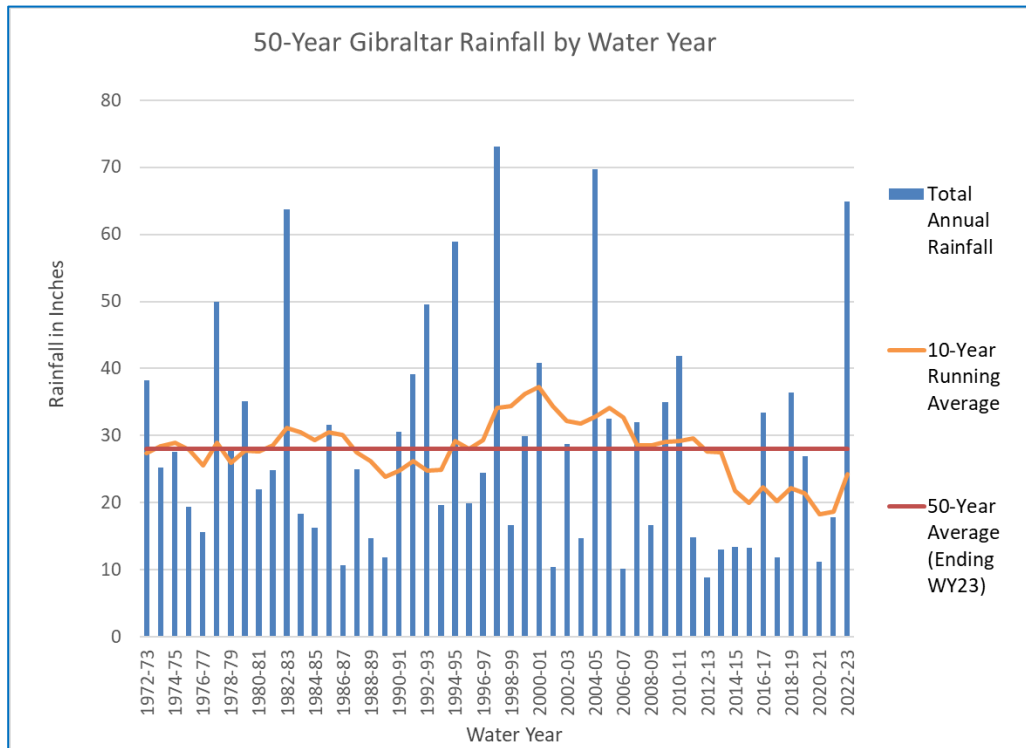


Figure 2. 50-Year Gibraltar Rainfall by Water Year



At the end of WY 2023, Lake Cachuma and Gibraltar were at approximately 93% and 54%, respectively, of their total capacities.

To enhance rainfall, the City has historically participated in the cloud-seeding program administered by the County of Santa Barbara. Minimal seeding was needed in fiscal year 2023 due to winter rains. The City does not plan to participate in cloud seeding during fiscal year 2024 because enhanced rainfall could result in Cachuma spilling again and the loss of Member Units' stored carryover water.

Table 1. summarizes the status of the City's water supplies at year-end.

Table 1. End of Year Status of City Water Supplies	
The Water Year runs from October 1 through September 30. All data is as of September 30, 2023.	
Lake Cachuma	Total Capacity: 192,978 AF (2021 capacity revision surcharged to 753 feet spill elevation for fish release water) End of Year Storage: 179,436 AF (93% of total capacity) The City's share of the Cachuma Project's normal annual entitlement is 8,277 AF. The City's final WY 2023 allocation was 100%. Bradbury dam spilled February 26, 2023, and spill conditions remained through June 30, 2023. The City lost approximately 16,500 AF of stored carryover water. Cachuma supply in WY 2023 was 4,322 AF, including 2,226 AF of "free" water used during surplus conditions. Water used during surplus conditions does not count against the City's Cachuma allocation. Total carryover water for the City as of October 1, 2023 was 7,933 AF, and the City has over 16,000 AF of water in Cachuma, inclusive of the City's WY 2024 allocation.
Gibraltar Reservoir /Devil's Canyon	Total Capacity: 4,693 AF (August 2021 survey) End of Year Storage: 2,548 AF (54% of Total Capacity) Gibraltar Reservoir spilled January 5, 2023 and spill conditions remained until July 6, 2023. Total deliveries from Gibraltar and Devil's Canyon Creek in 2023 were 2,060 AF. The projected long-term average supply from Gibraltar is 4,330 AF under Pass Through Operations ¹ .
Mission Tunnel	Groundwater that seeps into Mission Tunnel is an important part of the City's water supply. Mission Tunnel provided 1,418 AF in WY 2023, about 126% of the long-term average of 1,125 AFY ² .
Ground-water	The City conjunctively manages its groundwater with its surface water supplies, providing for groundwater replenishment during wet years. Groundwater was pumped beginning in October 2022 and stopped after the January 2023 rains. Total groundwater use was 375 AF. The City continues to monitor water levels and seawater intrusion. The groundwater levels in the Foothill Basin are showing signs of recovery and are back to early 1990s levels.
State Water Project	The City has a 3,300 AF "Table A" allotment (with drought buffer), subject to availability. In 2023, the State Water Project (SWP) allocation was 100%, or 3,300 AF for the City. The Coastal Branch and Santa Ynez Extension of the SWP are in place to deliver the City's water into Lake Cachuma. The City did not deliver any SWP for City usage in WY 2023, but did use 2,000 AF of its SWP water to pay off existing water debt. The City exchanged 147 AF with Santa Ynez River Water Conservation District, Improvement District No. 1 (ID#1) pursuant to the Exchange Agreement.
Desal	The desalination plant was reactivated in May 2017 and serves as a drought preparedness, response, and recovery supply for the City. It produced and delivered 1,396 AF of water to the City's distribution system in WY 2023, allowing the City to use less water from Lake Cachuma and store it as carryover water in preparation for the next dry period.
Recycled Water	The City's recycled water system serves parks, schools, golf courses, other large landscaped areas, and some public restrooms. Demand from the system was 731 AF, or 7% of the total customer water demand, plus 269 AF of process water at El Estero Water Resource Center (El Estero). In WY 2023, the recycled system demands were supplemented with 15 AF of potable blend water.

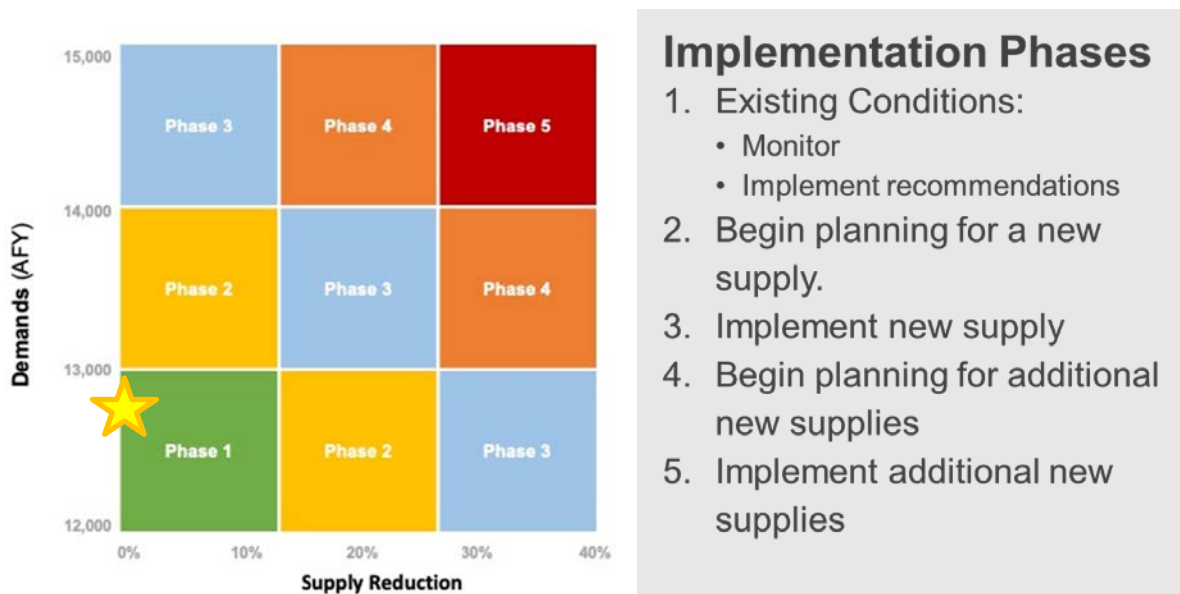
¹ Stetson, 2013. *Hydrologic Analysis of the Pass Through Operations at Gibraltar Reservoir*. Prepared for the City of Santa Barbara. July 2013.

² SWRCB et al., 2011. *Final Environmental Impact Report for the Cachuma Project Water Rights Hearings*. Prepared for the State Water Resources Control Board. December 2011.

MONITORING WATER SUPPLY AND DEMAND

In June 2021, City Council adopted the 2020 Enhanced Urban Water Management Plan (EUWMP). The EUWMP evaluates the City’s water supplies for adequacy and reliability and provides a long-term view of the City’s water supply management strategy for the next 30 years. Analysis of the City’s current water supply portfolio suggests the City currently has adequate supplies to meet demands, even under reduced supply scenarios, except during extended periods of drought when supplementary supplies or extraordinary conservation are needed. A triple-bottom line analysis was performed to measure the performance of a diverse range of possible future water supply portfolios against social, environmental, and financial criteria. Results of this analysis indicate that expanding the City’s Charles E. Meyer Desalination facility from a production capacity of 3,125 acre-feet per year (AFY) to 5,000 AFY is the City’s best performing new supply when balancing social, environmental, and financial criteria as part of an adaptive water management approach. The timing for expanding the desalination plant will depend on the pace of demand growth and the ongoing availability and reliability of existing supplies. The EUWMP outlines an Adaptive Implementation Plan (Figure 3) that prioritizes water conservation, leverages the City’s current supplies, and identifies supply and demand triggers and corresponding next steps to guide the City in adapting to future changes in water supply and demand conditions. The yellow star in Figure 3 represents the City’s supply and demand for WY 2024. Currently in Phase 1, staff is monitoring supplies and demands, and will notify Water Commission and City Council when it is time to move into Phase 2 and start planning for a new supply (expansion of the desalination facility).

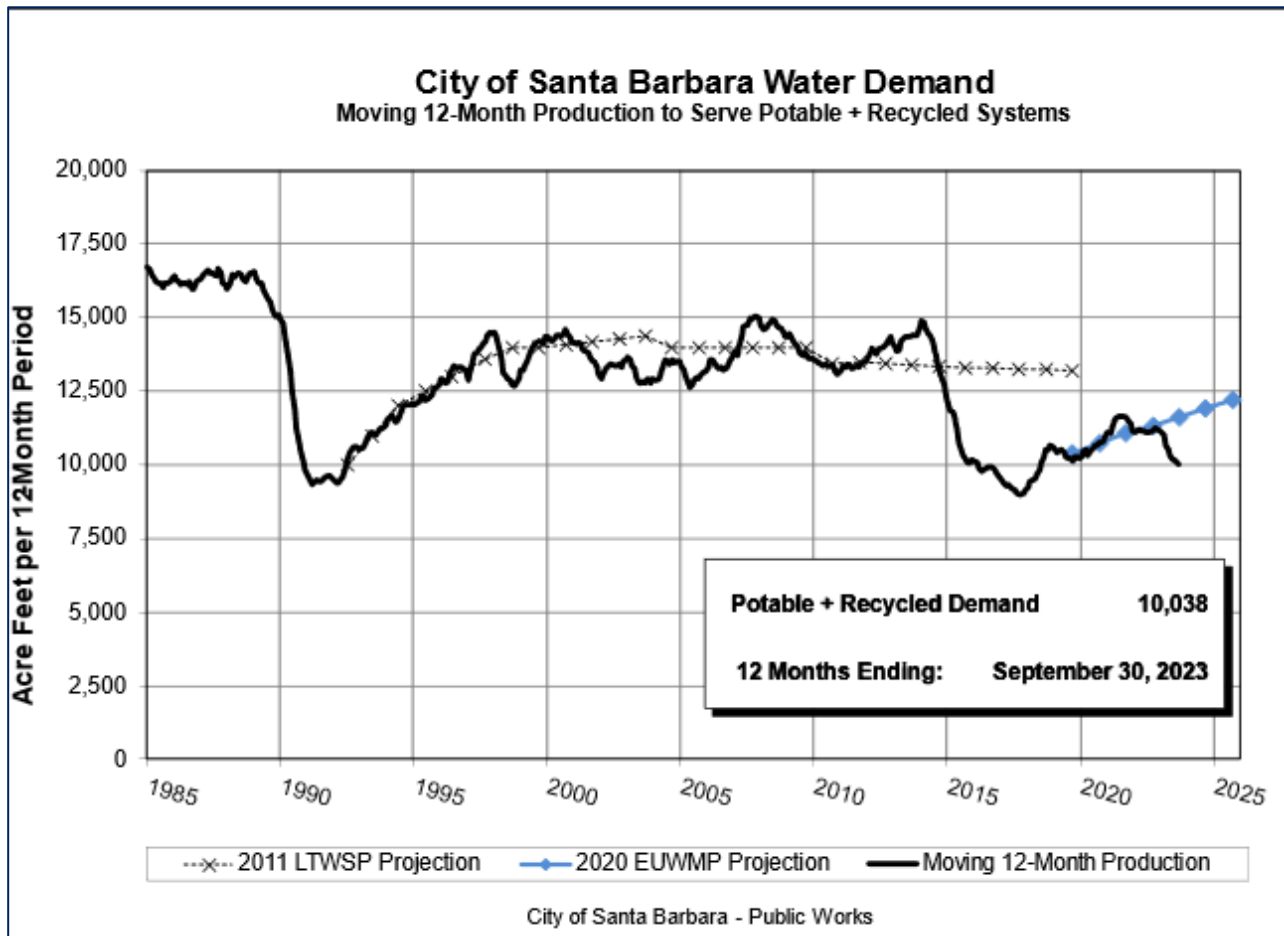
Figure 3. Adaptive Management Plan



Water demand has historically been measured by total water production, which is the total amount of supply from all sources needed to serve demands on the potable and recycled distribution systems. Figure 4 illustrates historical demands based on total water supply produced, including recycled water. Future demand projections from the EUWMP are shown in blue. Total water production was 10,038 AF for 2023 (excluding 269 AF of water produced for El Estero’s process demands). Past State requirements for water conservation established a “20% by 2020” target based on gallons used per capita per day (GPCD) for potable water use.

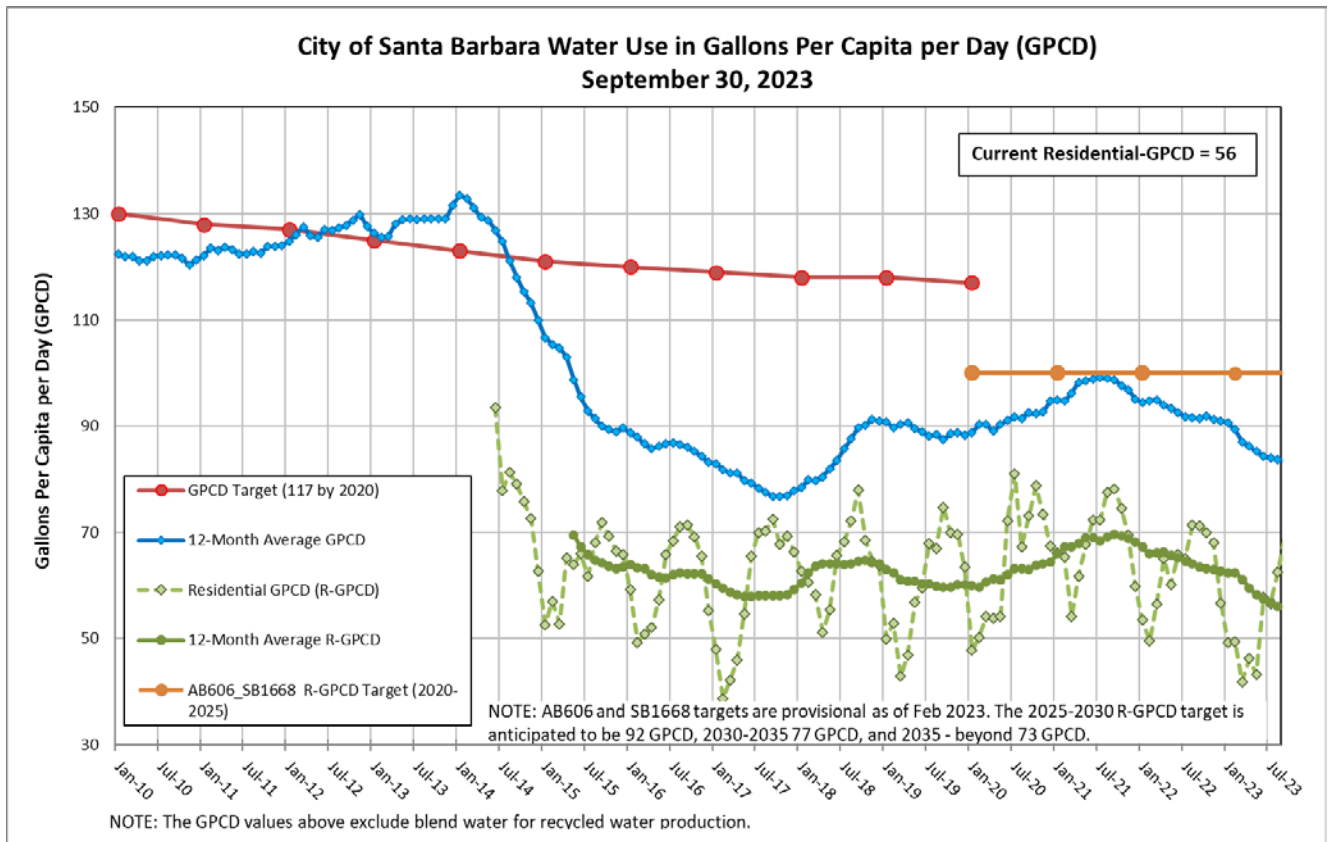
Figure 5 shows monthly potable water GPCD water use values, as well as a moving 12-month GPCD average. Average usage for 2023 was 83 GPCD - significantly lower than the City’s 2020 target of 117 GPCD. The State is currently in the final rule making process of developing new water use budgets for water suppliers that will include residential GPCD (R-GPCD), as part of the state’s 2018 “Making Water Conservation a California Way of Life” legislation³. The City’s R-GPCD has been added to the chart in green. The City’s 12-month average R-GPCD for 2023 was 56-GPCD. In both Figure 4 and Figure 5, demands show a decline beginning in 2014 in response to the Stage 2 and 3 drought conditions that instituted mandatory reductions of water use. GPCD and system production decreased over the course of WY 2023 compared to WY 2020 as heavy winter rains reduced irrigation demand for all customers.

Figure 4.



³ 2018 Legislation on Water Conservation and Drought Planning Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman)

Figure 5.



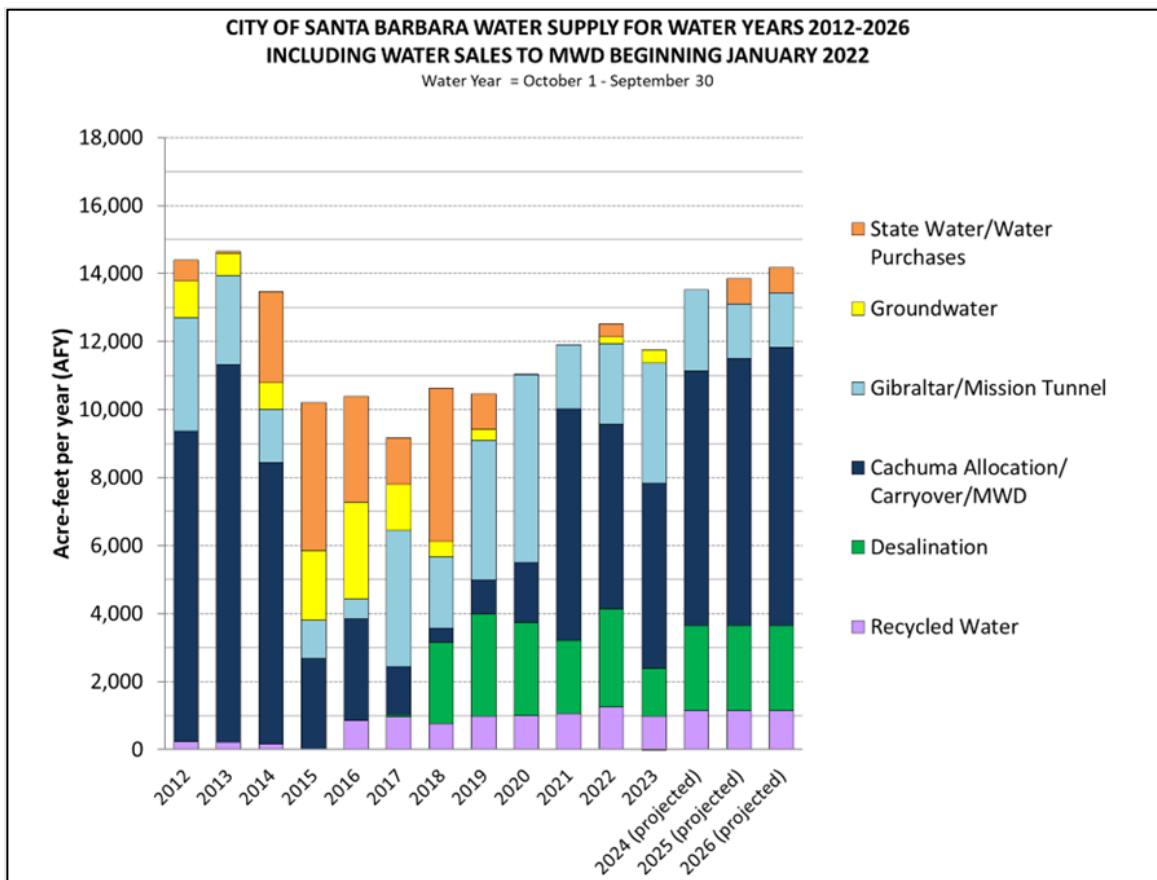
WATER SUPPLY OUTLOOK

Water year 2023 included an extremely wet winter with total rainfall at Gibraltar Reservoir of 61.8 inches, 237% of an average wet year. The City’s local surface water supplies, Lake Cachuma and Gibraltar Reservoir, both filled this winter. Heavy January and February rains in 2023 replenished Lake Cachuma to its maximum storage capacity of over 193,000 AF, with Bradbury dam spilling on February 26, 2023. The City lost approximately 16,500 AF of stored carryover water when the dam spilled but did enter surplus conditions through June 30, 2023. In surplus conditions, all Cachuma water used by Cachuma Member Units is not counted against their current year allocation, and the City utilized 2,226 AF of “free” surplus water. Cachuma storage was at 93% of capacity at the end of WY 2023. The U.S. Bureau of Reclamation (Reclamation) determines the Member Unit’s allocation for the upcoming water year. Reclamation granted the City a 100% allocation for WY 2024. The 2023 winter rains also filled Gibraltar reservoir and a spill began January 5, 2023 and ended July 6, 2023. In July 2023, water quality at Gibraltar improved following the winter storms, and the City began diversions from the reservoir. Utilizing Gibraltar water allowed for other water supply sources to receive needed maintenance (desal) or be saved in storage (Cachuma, groundwater). Gibraltar ended WY 2023 at 54% of capacity. Gibraltar Reservoir (excluding Devil’s Canyon Creek) supplied approximately 17%, or 1,700 AF, of the City’s water supply in WY 2023.

Figure 6 shows the current water supply strategy over a 15-year period. The first twelve years reflect actual water supply, and the last three years reflect projected water supply assuming drought conditions. Updates to the City’s water supply planning strategy are conservative. Under the planning scenario, there is little to no rainfall assumed for three

years, resulting in no inflows into Lake Cachuma. As a result, a 100 percent Cachuma allocation is assumed for Water Year 2024 and 80 percent allocation is assumed for Water Years 2025 and 2026. A minimal amount of inflow – resulting in 1,000 AF of water supply in Water Years 2025 and 2026 – is assumed for Gibraltar Reservoir, since even below average rainfall can result in available Gibraltar supplies. The planning scenario also assumes that there are drought conditions statewide, which reduce the SWP water allocation to 35 percent in Water Years 2024 through 2026. The analysis also assumes the desalination plant is operated continuously through Water Year 2026 at an 80 percent production rate (2,500 AF). This conservative planning approach allows staff to evaluate if the City has sufficient water to meet demands under three additional years of extreme drought. The supply strategy reflects the management policies adopted in the 2020 EUWMP. The 2020 EUWMP addresses a new “historical drought of record” based on hydrological conditions from the most recent drought (2012-2019), with three additional drought years added to create a 10-year record drought.

Figure 6. Current Drought Water Supply Strategy



On June 21, 2022, the City Council implemented water conservation actions associated with a Stage Two Water Shortage Alert in response to California Governor Newsom’s executive order declaring a statewide drought emergency and mandating that urban water suppliers move to a higher level of drought response. In response to the wet 2023 winter statewide, Governor Newsom rescinded the statewide emergency drought declaration per Executive Order N-5-2023, dated March 24, 2023. Santa Barbara rescinded its Stage Two Water Shortage Alert on June 13, 2023.

CITY WATER CONSERVATION PROGRAM

In accordance with the EUWMP and the Water Conservation Strategic Plan, the Water Conservation Program is operated to minimize the use of potable water supplies, implement the best management practices of the U.S. Bureau of Reclamation, and achieve compliance with State-mandated water conservation targets. Water conservation measures are evaluated for cost effectiveness based on the avoided cost of additional water supplies. Highlights of the City's Water Conservation Program include the following activities:

- **Conservation Hotline and Water Checkups:** Customer service is provided to customers to analyze water use patterns, investigate high water use, troubleshoot leaks, provide recommendations for water efficiency, explain rate structure, and enroll in rebate programs. In WY 2023, 435 over-the-phone water consultations and 23 in-person Water Checkups were conducted.
- **Landscape Training:** Lectures and workshops geared toward homeowners and landscape professionals, many are offered in conjunction with horticultural organizations and local irrigation stores. Trainings include Green Gardener classes, UCCE Master Gardener training, and Firewise Landscaping 101 with 151 participants in WY 2023.
- **Marketing and Outreach:** Continued implementation of regional outreach through the Countywide Regional Water Efficiency Program. Highlights from WY 2023 include: the 2023 WaterWise Garden Contest, countywide advertising about landscape transformations and irrigation repairs, Landscaper Survey, and new Garden Wise TV show episodes.
- **Water Education Program:** Free take-home water efficiency kits and musical assemblies to highlight where the City's water comes from and how to conserve it. 1,488 students were reached in WY 2023.
- **Rebate Program Participation:** There were 28 high efficiency washing machine rebates, 71 mulch delivery rebates, 14 irrigation efficiency rebates (launched in January 2023), 10 Sustainable Lawn Replacement rebates (launched in January 2023), and 171 Flume water system device rebates in WY 2023.

CAPITAL PROJECTS

Staff continues work on a number of projects to improve the reliability and maintain quality of City water supplies:

- **Conveyance Pipeline (Desal Link):** This new pipeline is part of a series of projects that will convey desalinated water from the City's desalination plant to the City's Cater Water Treatment Plant. Design of this project began in FY2019, and construction began 2021. Construction was completed in spring 2023 and the City is currently in the process of closing out the construction contract. The project will improve overall water system quality and provide the opportunity to convey desalinated water to the City's entire service area, as well as other South Coast agencies.

- **Desal Product Water Pump Station:** This pump station is being upgraded so desalinated water can be pumped to the Cater Water Treatment Plant via the newly constructed Conveyance Pipeline and repurposed existing transmission mains. Onsite construction has commenced, and the pump station is scheduled to start up in the summer of 2024. Piping modifications at Cater will also be needed as the final step to convey desalinated water into Cater's finished water reservoir. These modifications are in the design phase. The project will improve the overall water system quality and provide the opportunity to convey desalinated water City-wide and to other South Coast water agencies.
- **Alameda Well Water Line:** The Alameda Well Waterline Project will construct a new waterline to convey groundwater from the Alameda Groundwater Well to the Ortega Groundwater Treatment Plant for treatment, which will improve water quality and supply reliability for the City of Santa Barbara. This project is expected to be completed in the spring of 2024.
- **Aquifer Storage and Recovery Project:** In August 2021 the State Water Resources Control Board approved pilot testing of the City's Aquifer Storage and Recovery (ASR) Project. The ASR project consists of injecting potable drinking water into the Foothill Groundwater Basin through San Roque well to replenish the aquifer and store water in wet years and recover the water from the basin in drier years. After completing needed well repairs in 2022, the first two of three pilot injection phases were conducted in spring and summer 2023. The pilot to date has successfully injected and recovered 10 AF of water with no observed changes to groundwater quality. The final pilot phase will be conducted in 2024 followed by a 9-month period of continuous injection. Staff will seek long-term injection permitting of the well, which could inject up to 500 AF per year.
- **AMI:** The City is working to enhance customer service offerings by implementing Automated Metering Infrastructure (AMI). AMI is a system of meters, communication networks, and software that transfers water usage information and service alerts over a secure, wireless network to a central database. This information will be used to prepare water bills, analyze water usage trends, provide customers with hourly water usage information, and notify customers of potential leaks. Set up of the AMI network and installation of AMI radios on customer meters is complete as of July 2023. The final phase of AMI implementation is launching the customer portal, WaterSmart. Through WaterSmart, customers can receive leak alert emails, view their hourly water usage information, and view and pay their City utility bill online. WaterSmart will become available to all City utility customers in early 2024.

WATER SUPPLY ISSUES

There are a number of significant issues related to the City's water supplies, which are discussed briefly below.

Cachuma Project State Water Rights Order. The U.S. Bureau of Reclamation (Reclamation) operates the Cachuma Project pursuant to a water rights permit issued by the State Water Resources Control Board (SWRCB). The project provides water to the City of Santa Barbara, Carpinteria Valley Water District, Goleta Water District, Montecito Water District, and Santa Ynez River Water Conservation District, Improvement District No. 1 (often referred to collectively as the Cachuma Member Units). The first water right permit for the Cachuma Project was issued in 1958. On September 17, 2019, the SWRCB adopted an order for a new water rights permit for the Cachuma Project. The current

permit is the culmination of nearly 20 years of legal proceedings to protect water rights holders and address long-term declines in native Southern California steelhead populations in the Lower Santa Ynez River (downstream of Lake Cachuma's Bradbury Dam). The new order requires higher downstream flows during wet years, which will reduce available storage in Lake Cachuma going into normal and dry years and a reduction in supplies available to Cachuma Member Units, including the City. The order also requires multiple operating plans from Reclamation. The Cachuma Conservation Release Board (CCRB), of which the City is a member, is providing technical (e.g., biological, hydrological) assistance to Reclamation in the development of these plans. In WY 2023, CCRB's efforts focused on the Term 18 and Term 19 plans, which, respectively, identify how Reclamation will comply with multiple flow targets imposed in the water rights permit, and require Reclamation to study the effectiveness of the newly imposed higher wet-year flows on enhancing steelhead and its habitat downstream of Bradbury dam.

Cachuma Project Biological Opinion: In 2000, a Biological Opinion (BO) was issued by the National Marine Fisheries Service (NMFS) for Reclamation's operation and maintenance of Bradbury Dam (the Cachuma Project). NMFS is the federal agency that oversees protection of Southern California steelhead, which was federally listed as endangered in 1997. The BO addresses the effects of the Cachuma Project's operations on steelhead and its designated critical habitat in accordance with Section 7 of the Endangered Species Act of 1973. Reclamation, in cooperation with the Cachuma Project Member Units, submitted a new Biological Assessment (BA) in 2013, which included proposed revisions to the Project operations to improve habitat conditions for steelhead while still maintaining water supplies. In 2016, NMFS issued a draft BO, for which the BA served as a basis document. Reclamation could not accept aspects of NMFS's draft BO and submitted a new proposed operating plan and supporting BA in 2019. After additional exchange between the two federal agencies, Reclamation submitted a revised BA in December 2020 that incorporates the operating requirements of the 2019 Water Rights Order. CCRB is currently assisting Reclamation in responding to NMFS's input and requests for additional information regarding the revised BA. When this revised BA is finalized, NMFS will use it to produce a new Biological Opinion that governs Cachuma Project operations. The desired outcome of this BO process is a non-jeopardy determination for steelhead by NMFS. Similar to the State water rights decision, the new BO is important because it could affect Cachuma Project operations and the amount of water supply available to the City and other Cachuma members.

Cachuma Contract 2020: Since the construction of the Cachuma Project, the Santa Barbara County Water Agency (SBCWA) has been the nominal contractor with Reclamation. The SBCWA was formed in 1945 by the State Legislature to facilitate development of the Cachuma Project and to provide a water supply to the City of Santa Barbara, Carpinteria Valley Water District, Goleta Water District, Montecito Water District, Summerland Water District⁴, and Santa Ynez Water Conservation District Improvement District No. 1. The City and these districts are collectively known as the "Cachuma Member Units." The SBCWA Act (Act), which created the SBCWA and specifies its powers, designates the County Board of Supervisors as the legislative body of the agency. The SBCWA's authority is limited by the Act to supplying water to the Cachuma Member Units.

⁴ Summerland Water District was subsequently merged into the Montecito Water District.

In 1949, the SBCWA entered into a long-term agreement with Reclamation for the development of the Cachuma Project and supplying water to the Cachuma Member Units (the Original Master Contract). Concurrently with the execution of the Original Master Contract, the SBCWA executed essentially identical water supply agreements with each of the Cachuma Member Units.

In the mid-1990s, the SBCWA, on behalf of the Cachuma Member Units, requested renewal of the Original Master Contract. The renewed Master Contract was entered into by the SBCWA “acting as agent of the Cachuma Member Units” in 1996 and was set to expire on September 30, 2020. The Cachuma Member Units are the beneficiaries of the water supplied by the Cachuma Project. They are responsible for paying for all Project costs and paid off the capital component of the Cachuma Project in 2015.

On May 2, 2017, the Santa Barbara County Board of Supervisors authorized its staff to initiate renewal of the Cachuma Contract with Reclamation. Reclamation has stated that they generally conduct the contract renewal process only with the direct contractor, SBCWA. However, given the unique connection that the Master Contract has with the Cachuma Member Units (e.g. Member Units are water recipients and are responsible for the associated payments to Reclamation), Reclamation determined it was appropriate for Cachuma Member Units to participate alongside the SBCWA in the technical and negotiation sessions for the contract renewal process.

After completing negotiations on a three-year extension and necessary environmental review, Reclamation signed an amendment to the contract with the SBCWA for water service from the Cachuma Project on September 28, 2020, extending the contract through September 30, 2023. Concurrently, on September 24, 2020, the Santa Barbara County Public Works Director signed the First Amendment to the City’s Cachuma Member Unit Agreement with the SBCWA to provide for continued delivery of water from the Cachuma Project to the City. The City’s contract with the County incorporates the same terms and conditions as the Master Contract three-year extension. In 2023, another short-term contract extension was created and the effort to develop a long-term Master Contract was once again postponed. The Second Amendment extends the contract through September 30, 2026. Reclamation has yet to schedule negotiations of another short-term contract extension.

A significant element of the long-term Master Contract negotiations will be carryover water. Carryover water is annually allocated Cachuma water that has not been used by a Cachuma Member Unit in the year it was allocated. Historically, Member Units have been allowed to bank carryover water in Lake Cachuma until it is either used, or Lake Cachuma’s Bradbury Dam spills. During a spill event, banked carryover water spills first, and that spilled carryover water is lost. In WY 2023 the City lost approximately 16,500 AF of stored carryover water when Bradbury Dam spilled. Carryover water is an important water supply for the Cachuma Member Units, as it allows these water agencies to build up a drought buffer and also provides them the opportunity to better manage their various other water supplies. At the end of WY 2023 the City once again had just under 8,000 AF of carryover water, or approximately 80 percent of the City’s annual demand, stored in Lake Cachuma.

During the 2020 Master Contract extension discussions, Reclamation expressed a strong desire to limit, or cap, the amount of carryover water Cachuma Member Units can bank in Lake Cachuma. Such a substantial change would cause the Cachuma Member Units to

reconsider how they manage their water supplies and would impact their ability to prepare for a drought. SBCWA staff has verbally stated that SBCWA supports the Cachuma Member Units desire to not limit carry over water. However, carryover water is likely to remain a point of concern for Reclamation and be a major component of long-term Master Contract negotiation.

Another significant element of the Master Contract negotiations will be the safe yield of Lake Cachuma. In June 2020 the SBCWA shared a draft study prepared by Stetson Engineers, *Safe and Operational Yields of the Cachuma Project*, with the Cachuma Member Units. Prior to completion of the draft study, SBCWA did not consult or confer with the Cachuma Member Units, and, upon review of the draft study, the Cachuma Member Units found it to be flawed in its approach, methodology and conclusions. The Cachuma Member Units sent a letter to the SBCWA stating their objections to the draft study in August 2020 and contracted with Woodard and Curran to develop their own safe yield study for Lake Cachuma. Results of the Cachuma Member Units' study are being finalized. The goal of this study is to analyze operating scenarios for effective management of the Cachuma Project under the current operational yield of the Project, 25,714 AFY, while meeting other beneficial uses of the Project, including downstream water rights obligations and environmental release requirements. Conclusions from this study are likely to be another important point of discussion in the long-term Master Contract negotiations.

Gibraltar Pass Through Operations: The 2007 Zaca Fire burned approximately 60% of the Gibraltar Reservoir watershed, which normally contributes up to 40% of the City's water supply. On top of historical siltation, the additional sediment load resulting from the Zaca Fire reduced the reservoir's storage capacity by 1,535 AF. The Rey Fire in Fall 2016 also burned within the Gibraltar watershed, which resulted in an additional loss of 303 AF. The full extent of change in reservoir capacity from the 2017 Thomas Fire is still unknown, as sediment will continue to make its way through the watershed and into the reservoir for several years. A bathymetric survey conducted in August of 2021 demonstrated an overall reduction of 275 AF since August of 2017, while the survey performed in November 2022 showed an increase in capacity from 2021 of 112 AF, for a maximum storage volume of 4,719 AF, demonstrating that years with high precipitation may serve to flush some of the sediment out of the reservoir.

In 1989, the City entered into the Upper Santa Ynez River Operations Agreement (the "Pass Through Agreement") with other Santa Ynez River water agencies. The City agreed to defer its planned enlargement of Gibraltar Reservoir in exchange for provisions that would allow the City to "pass through" a portion of its Gibraltar water to Lake Cachuma for storage and delivery through Cachuma Project facilities. As a result of the Zaca Fire impacts to Gibraltar Reservoir, the City elected to commence the "pass through" phase of operations and is working with the Reclamation to negotiate a Warren Act Contract as the preferred approach for accounting for the City's Pass Through water. To execute a Warren Act Contract, Reclamation must prepare an environmental assessment under the National Environmental Policy Act (NEPA). Reclamation released a draft environmental assessment (EA) that has gone through public review. The final EA has yet to be released by Reclamation. Staff worked with Reclamation in 2019 to review and negotiate draft Warren Act Contract language. Staff continues to wait for a response from Reclamation regarding outstanding EA issues. Reclamation has indicated that they are unlikely to finalize the Warren Act Contract until a new Biological Opinion is issued by NMFS. The Pass Through operations will allow the City to maximize its Gibraltar water rights, while the reservoir continues to lose capacity from sediment settling in the reservoir.

State Water Project/Delta Issues: Significant issues include:

- **Delta Conveyance:** The Sacramento-San Joaquin Delta is a critical conveyance link for all water moved from northern California to southern California by the SWP. However, the reliability of State Water supply is at risk due to drought, environmental restrictions, and seismic events. The Bay Delta Conservation Plan (BDCP) proposed a solution to balance coequal goals of water supply and environmental benefits. A Draft Environmental Impact Report (EIR) and Draft Environmental Impact Statement (EIS) for the BDCP were made available for public review from December 2013 to July 2014.

In April 2015, State and Federal agencies announced a new alternative which would replace the BDCP as the State's proposed project. The new alternative reflected proposals by Governor Jerry Brown and the California Department of Water Resources to separate the conveyance facility and habitat restoration measures into two separate efforts: California WaterFix and California EcoRestore. These two efforts are a direct reflection of public comments on the BDCP EIR/EIS and fulfill the requirement of the 2009 Delta Reform Act to meet co-equal goals.

On July 21, 2017, the DWR certified the Final EIR/EIS for the project, approved the California WaterFix (Alternative 4a), and filed a Notice of Determination with the Governor's office. The California WaterFix included two large, four-story tall tunnels to carry fresh water from the Sacramento River under the Sacramento-San Joaquin Delta toward the intake stations for the SWP. The certification was a major milestone that came after more than a decade of analysis, review, and public comment.

In May 2019 the DWR began taking formal steps to withdraw proposed permits for the WaterFix project and begin a renewed environmental review and planning process for a smaller, single tunnel conveyance project, known as the Delta Conveyance Project. This action followed Governor Gavin Newsom's executive order directing state agencies to develop a comprehensive statewide strategy to build a climate-resilient water system. Governor Newsom envisions a smaller, single tunnel through the Sacramento-San Joaquin Delta that would protect water supplies from sea-level rise and saltwater intrusion into the Delta, as well as earthquake risk. It will be designed to protect water supply reliability while limiting impacts on local Delta communities and fish. The Draft Environmental Impact Report was released in July 2022. Project approval will be considered after the conclusion of the environmental review process, which is not expected to conclude until 2024.

The Central Coast Water Authority (CCWA) is one of the 29 SWP contractors. CCWA represents the Member Agencies on SWP matters. CCWA Member Agencies include the City, Santa Ynez River Water Conservation District Improvement District No. 1, City of Buellton, City of Santa Maria, Montecito Water District, Goleta Water District, City of Guadalupe, and Carpinteria Valley Water District. CCWA and its members have chosen not to participate in the new Delta Conveyance facility at this time. This does not preclude individual agencies from possibly purchasing SWP water from a participating SWP agency in the future.

However, there are concerns that by not participating in the new Delta conveyance project, CCWA members will have less secure water banking opportunities in the state's San Luis Reservoir. This is a result of the new Delta Conveyance project, which is anticipated to cause the San Luis Reservoir to spill more frequently (every other year versus every ten years, historically), resulting in a loss of available storage to CCWA. For this reason, CCWA undertook a Water Management Strategies Study to identify and evaluate cost-effective strategies to optimize the yield from the SWP. The report included recommendations for water management alternatives that CCWA is now investigating further, including groundwater banking and water exchanges and transfers that involve SWP water and other supplies. One interesting recommendation involves exploring a program to transfer excess Table A water between San Luis Obispo Flood Control and Water Conservation District (SLOFCWCD) and CCWA, since SLOFCWCD often has excess Table A water, but is limited in conveyance capacity, and CCWA has available conveyance capacity, but is often short in available Table A water in dry years. (Table A water is the amount of SWP water an agency has available, via contract, annually, subject to allocation percentages determined by DWR. The City's Table A amount is 3,300 AFY). The City is actively engaged in evaluating the water management projects along with CCWA and focused on groundwater banking opportunities in WY 2023. This work is ongoing.

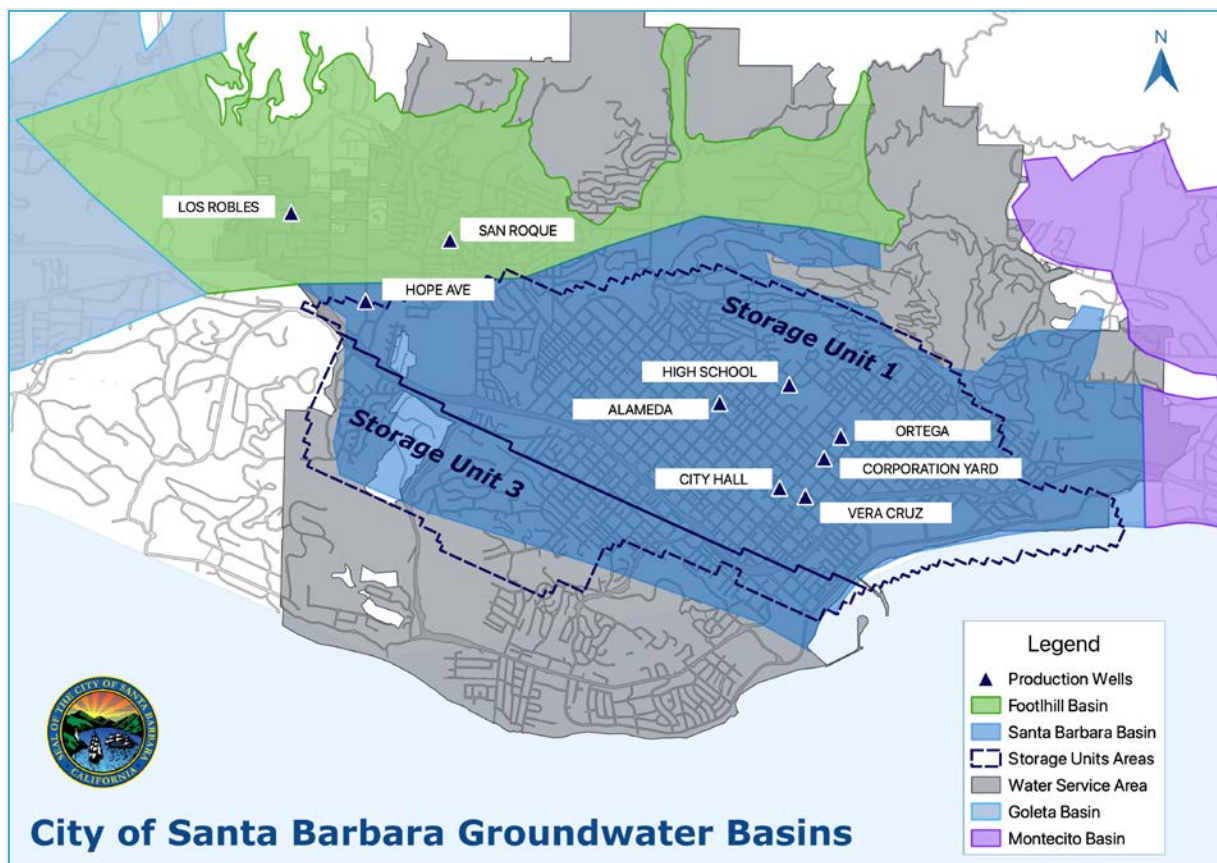
- **State Water Contract Assignment:** The City of Santa Barbara receives imported water from the SWP through the CCWA. The CCWA is a JPA formed in 1991 to finance, construct, manage and operate regional treatment and conveyance facilities that deliver State Water to its member agencies, including the City of Santa Barbara. While the CCWA is responsible for financial and operational management of regional SWP facilities, the CCWA does not hold the current State Water Contract with DWR. The State Water Contract with DWR was first executed in 1963 and is currently held by the SBCWA. On October 31, 2017, the Santa Barbara City Council authorized amending existing agreements with CCWA to effectuate the assignment of the State Water Contract from the County to CCWA. All of the CCWA member agencies have also provided such authorization. CCWA has also received written confirmation of DWR's willingness to accept assignment of the contract to CCWA. CCWA has been trying to work with Santa Barbara County for the remaining approval to assign the contract to CCWA; however, the County Board of Supervisors has not taken any action to work toward contract reassignment.
- **Legal Action Against the County of Santa Barbara:** In early 2021, the Department of Water Resources and many of the 29 individual State Water Project Contractors (including the Central Coast Water Authority through the Santa Barbara County Flood Control and Water Conservation District) executed an amendment to the State Water Project Contract, commonly referred to as the "Water Management Amendments." These new contract amendments were designed to improve the flexibility and efficiency of buying and selling water across the SWP, allowing Member Agencies to better manage supplies during drought and climate challenges. They also provide significant financial benefits to CCWA and its Member Agencies by creating opportunities to either offset the expense of State Water for the benefit of their customers or help offset the cost of developing local supplies.

While the County did execute the Water Management Amendments, they imposed significant and unreasonable conditions on sales and exchanges of state water, depriving the CCWA Member Agencies of the benefits of the new contract amendments. In June 2021, CCWA and each of its Member Agencies, including the City, filed a lawsuit against the County of Santa Barbara regarding management of the SWP. The lawsuit is ongoing.

Groundwater Management Plan: The City’s groundwater basins are relatively small, but groundwater plays an important role in meeting demand during drought and emergency periods. Located on the southern side of the Santa Ynez Mountains, groundwater and desalination are the City’s only existing potable water supplies that are truly local. This is important in case of a potential catastrophic interruption of one or both tunnels (Tecolote Tunnel and Mission Tunnel) that convey water supplies to the City through the Santa Ynez Mountains, such as in a seismic event.

The City relies on two groundwater basins for water supply, see Figure 7: the Foothill Basin and the Santa Barbara Basin, which is comprised of Storage Units I and III. The City maintains nine groundwater wells – seven in Storage Unit I, and two in Foothill.

Figure 7. Map of City Groundwater Basins



For decades, the City has been working with the United States Geological Survey (USGS) to monitor water levels and water quality of the groundwater basins and develop a detailed model to estimate the sustainable groundwater yield for use in the City’s water supply planning. The City has also adopted local ordinances regarding groundwater wells to protect the groundwater resource.

In 2014, the State of California adopted the Sustainable Groundwater Management Act (SGMA). In addition, the State developed rankings of recognized groundwater basins based on their condition. For State-ranked “high” or “medium” priority basins, SGMA requires the formation of a local groundwater sustainability agency (GSA) and adoption of locally-based management plans. SGMA provides local GSAs with tools and authority to 1) require registration of groundwater wells, 2) measure and manage extractions, 3) require reports and assess fees, and 4) request revisions of basin boundaries.

The City’s groundwater basins are currently ranked by the State as “very low” priority. As a result, there is no current requirement to form a GSA or develop a groundwater management plan in order to be in compliance with SGMA. However, the EUWMP made several recommendations regarding groundwater management in the City:

1. The City should work with the USGS to update the City’s sustainable yield estimate and drought storage estimate for the Foothill Basin and Storage Unit I.
2. The City should prepare an annual report on the current basin conditions to inform annual water supply planning efforts. The City could consider creating a Groundwater Sustainability Plan (GSP) in accordance with SGMA, or an equivalent GSP that meets the City’s needs, but is outside of SGMA compliance and reporting requirements.

The City entered into a contract with USGS in 2022 to better define sustainable yield and drought storage for the City. This project is ongoing with an expected completion in 2024.

Appendix A – Supplemental Water Supply Information

Groundwater Balance

Project conditions of the SWP require the City to use SWP water to offset any demonstrated groundwater basin overdraft. Under the EUWMP, the City uses groundwater conjunctively with surface supplies, such that significant groundwater use only occurs when surface supplies are reduced. In response to the unprecedented drought, groundwater pumping increased in Water Years 2015 through 2018, providing a critical water supply. In WY 2019, the City pumped two groundwater wells to help meet peak summer demand from May through August, producing 318 AF. In WY 2020 the City only pumped 22 AF of groundwater, and in WY 2021 the wells were exercised to maintain function, but no groundwater was produced in order to rest the groundwater basins. In WY 2022, in response to continued dry conditions, City wells were turned on July through September, producing 203 AF. Before the 2023 winter rains, the wells were used from October 2022 to January 2023, producing a total of 375 AF in WY 2023.

The estimated groundwater yield available to the City over a 5-year drought period, assuming no seawater intrusion, was originally based on numerical groundwater modeling performed by the United States Geological Survey (USGS) in 1998. In 2018, USGS updated their modeling efforts of the Santa Barbara (Storage Unit I) and Foothill Basins using a 10-year drought period and assuming some level of acceptable seawater intrusion. Groundwater yield estimates in this report have been updated based on that more recent effort. As summarized in Table A-1, the estimated 10-year yield for City use is 16,090 AF in Storage Unit I and 8,130 AF in the Foothill Basin.

The City's groundwater pumping over the last 12 years is shown in Table A-1. In addition, any significant City pumping from storage that occurred prior to the drought is also shown. In normal conditions, the City limits pumping of Storage Unit I and the Foothill Basin to be equal or less than the City's share of the perennial yield of the basins (assumed to be 800 AFY and 450 AFY, respectively). However, in 2005-2011, some additional pumping from Foothill Basin storage reserves was necessary to meet drinking water quality regulations prior to completion of the Cater Ozone project. To estimate the remaining groundwater storage available, the City's actual pumping over the last twelve years was accounted for, as well as previous City pumping from storage (or pumping that exceeded its estimated share of the perennial yield). Based on the remaining yield, the City's primary groundwater basins are in long-term balance with no overdraft projected in the next year. The City has factored this into its water supply planning such that the City does not plan to use groundwater beyond the estimated remaining storage yield to prevent overdraft conditions. The City will continue to rest its groundwater basins and does not plan to use any groundwater in WY 2024.

Table A-1 Groundwater Balance

Storage Unit 1 Basin	
Estimated 10-Year Drought Storage Yield for City Use ¹ :	16,090 AF
City Groundwater Production last 12 years (October 2011 – September 2023):	6,410 AF
Previous City Use of Groundwater Storage (October 2005 – September 2011) ² :	0 AF
Remaining Drought Storage Yield for City Use:	9,680AF
Projected City Groundwater Production for 2023:	0 AF
Foothill Basin	
Estimated 10-Year Drought Storage Yield for City Use ¹ :	8,130 AF
City Groundwater Production last 12 years (October 2011 – September 2023):	3,574 AF
Previous City Use of Groundwater Storage (October 2005-September 2011) ² :	740 AF
Remaining Drought Storage Yield for City Use:	3,816 AF
Projected City Groundwater Production for 2024:	0 AF
¹ Nishikawa, Tracy, ed., 2018, Santa Barbara and Foothill groundwater basins geohydrology and optimal water resources management - developed using density dependent solute transport and optimization models: U.S. Geological Survey Scientific Investigations Report 2018-5059, 4 chap. (A-D), variously paged, https://doi.org/10.3133/sir20185059 ² This represents City pumping exceeding the assumed perennial yield available to the City, thereby drawing from stored groundwater reserves. The assumed perennial yield available to the City is 450 AFY from Foothill and 800 AFY from Storage Unit I (source: City of Santa Barbara 2015 Urban Water Management Plan). Note that in WYs 2008-2010, the City increased pumping from Foothill Basin to meet water quality regulations as required prior to completion of the Cater Ozone project.	

The City uses non-potable groundwater from Valle Verde Well located in Storage Unit III to augment supply to the recycled water system as needed. The historical maximum annual pumping by the City from Storage Unit III is 216 AF, which occurred in 1990. The estimated average annual Storage Unit III yield available for use by the City is approximately 200 AFY. The City did not extract any water from Storage Unit III in WY 2023. Although the City does not plan on using any water from Valle Verde Well in WY 2024, the City may use the well as needed during short periods should the recycled water plant go offline for repair or maintenance.

Projection of Supply Availability

Table A-2 summarizes the City's water supply sources and fulfills a requirement of the project conditions for the SWP. The Water Year 2023-2024 Supply Plan reflects a projected total demand of 12,012 AF including ~180 AF for El Estero process water.

Table A-2 Sources of Supply (AF)

Source of Supply	WY 2023 Original Supply Plan	WY 2023 Actual	WY 2024 Supply Plan (Projected)
Gibraltar Reservoir	0	1,704	1,800
Cachuma Project	4,821	4,322	6,060
Mission Tunnel	528	1,481	600
Devil's Canyon	0	356	0
Juncal Res. (300 AF from MWD)	(w/ Cachuma)	(w/ Cachuma)	(w/ Cachuma)
State Water/Water Purchases	0	0	0
Groundwater (potable) ^A	1,965	375	0
Desalination	2,323	1,396	2,496
Recycled Water ^C	1,092	1,001	1,092
Groundwater (non-potable) ^A	0	0	0
Net Other Supplies ^B	-36	-328	-36
Total Production:	10,693	10,307	12,012
Total Demand^D:	10,693	10,307 ^E	12,012

^A The City uses potable groundwater supply from Storage Unit I and Foothill, and non-potable groundwater supply from Storage Unit III.

^B Represents miscellaneous production sources (positive values) and water used from the distribution system for purposes such as transfers to adjacent water purveyors, potable water transfers to the recycled water system for blending, or groundwater recharge (negative values). WY 2023 actuals included 302 AF in transfers to a neighboring agency, 15 AF of blend water, and 11 AF in groundwater recharge.

^C Planned and actual recycled water demands include El Estero process water and blend water.

^D Actual 2023 demand includes 9,306 AFY potable demand, 731 AFY recycled demand, and 269 AFY El Estero process demand.

^E Total demands do not include the 1,430 AFY sold to Montecito Water District as part of the Water Sales Agreement. The demands in this table represent City demands only. WY 2024 projected demands assume no mandatory conservation.