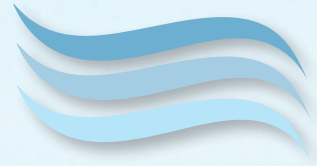


Water Features

Goleta Water District News – Winter 2020



Sustaining the Goleta Valley

A Diverse and Reliable Water Supply

Ensuring a reliable supply of quality water at the most reasonable cost to present and future customers requires a careful balancing of investment in the District's water supply and infrastructure using limited resources.

Plus: *How It Works: Where Your Water Comes From*





Balancing Competing Needs With Limited Resources

As a public agency, our mission is to provide a reliable supply of quality water at the most reasonable cost to present and future customers. Over the years the District has developed a diverse water supply that includes local sources such as surface water from Lake Cachuma, the Goleta Groundwater Basin, and recycled water reclaimed for outdoor irrigation and restroom facilities, and non-local sources such as the State Water Project. The District has protected its water rights when necessary and invested in the infrastructure needed to access and move that water through the system for delivery to customers.

Ensuring the ongoing operational and maintenance needs of an aging system is a challenge facing utilities across California and the nation. The District has taken a data driven approach to balance that task using limited resources. By using tools such as conditions assessment to detect erosion in key transmission mains, and collecting data on key assets, the District can better evaluate potential risks while maintaining current levels of service to customers.

Through maintenance and strategic investment the District has been able to extend most of its equipment well beyond its expected service life, preserving funds to address critical needs like changing water quality conditions at Lake Cachuma, and prioritizing the replacement of inoperable or failed equipment and infrastructure.

While it's impossible to completely eliminate risk, this approach has been key to fulfilling the District's mission and maintaining lifeline water service to the 87,000 residents of the Goleta Valley who depend on us when they turn on the tap. You can read more about these challenges and how the District plans to meet them in this newsletter.

John McInnes

General Manager

Goleta Water District 75th Anniversary



Founded by a vote of the people on November 17, 1944, the District was established to ensure the Cachuma Project served the interests of the Goleta Valley. Since then, the District has built a diverse and robust water supply that has sustained the community in times of drought and water scarcity. In celebrating the past the District also looks to the future to ensure continued service reliability.



Historic photographs were digitized for the 75th Anniversary outreach





Q: What is the outlook for Lake Cachuma this winter?

A: Lake Cachuma is currently at 72% of capacity. If there are significant rains this winter, Lake Cachuma may spill for the first time since 2011.

Q: Has water use returned to pre-drought levels?

A: No, even though the drought is over the community continues to use less water. In a normal pre-drought year District water use averaged 14,000 Acre Feet a Year (AFY). This year, customers are on track to use 11,000 AFY. It often takes several years after a drought for water use to return to previous usage levels, but a combination of conservation habits and permanent changes to landscaping such as the installation of water wise plants mean some reductions may be permanent. The District plans for 73% of its supply portfolio this year to come from Cachuma water.

Q: Why is the District still relying on groundwater?

A: Challenging water quality conditions at Lake Cachuma resulting from the prolonged drought and a number of fires in the watershed mean the District often needs to alternate groundwater and surface water supplies, or even blend them during certain months. While the District has been able to reduce its reliance on groundwater, it continues to play an important role in ensuring that all water delivered meets health and safety standards.

A Look Back on a Milestone Year



75th Anniversary display at the Goleta Public Library



Sustaining the Goleta Valley

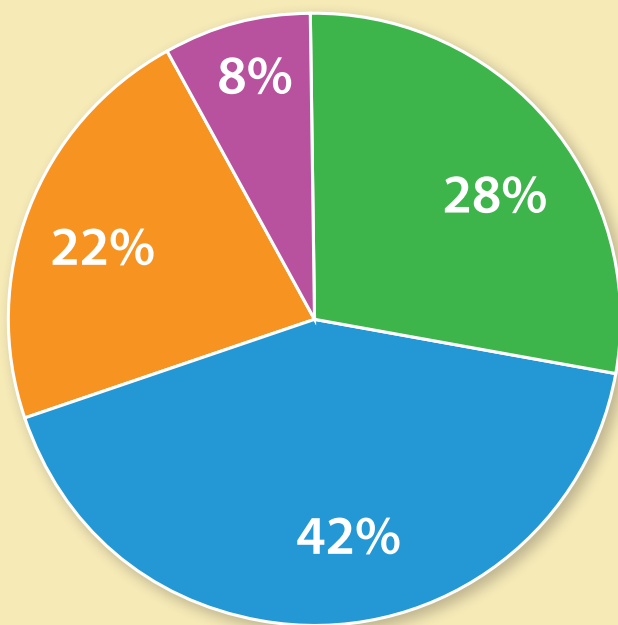
A Diverse and Reliable Water Supply and the Infrastructure Needed to Deliver it

Protecting and managing the District's water supply portfolio amidst the severe drought, changing water quality conditions at Lake Cachuma, and increasingly stringent state and federal regulations has been no small feat. Yet, the diverse mix of groundwater, surface water, state water, and recycled water has allowed the District to overcome and successfully navigate the challenges it has faced over the last decade.

Although the District can rely on a diverse water supply portfolio, building and maintaining the infrastructure needed to access it is an equally important component, especially over time as these capital investments have a limited service life. Like other utilities across the country, the District faces the challenge of maintaining and replacing aging infrastructure. The total replacement value of all of the District's infrastructure installed over the last 75 years is more than \$900 million.

To manage the risk associated with this aging infrastructure the District has compiled a comprehensive inventory of all of its capital assets, analyzing the age, estimated remaining expected service life, and estimating replacement costs to prioritize the minimum level of investment necessary to maintain current service levels.

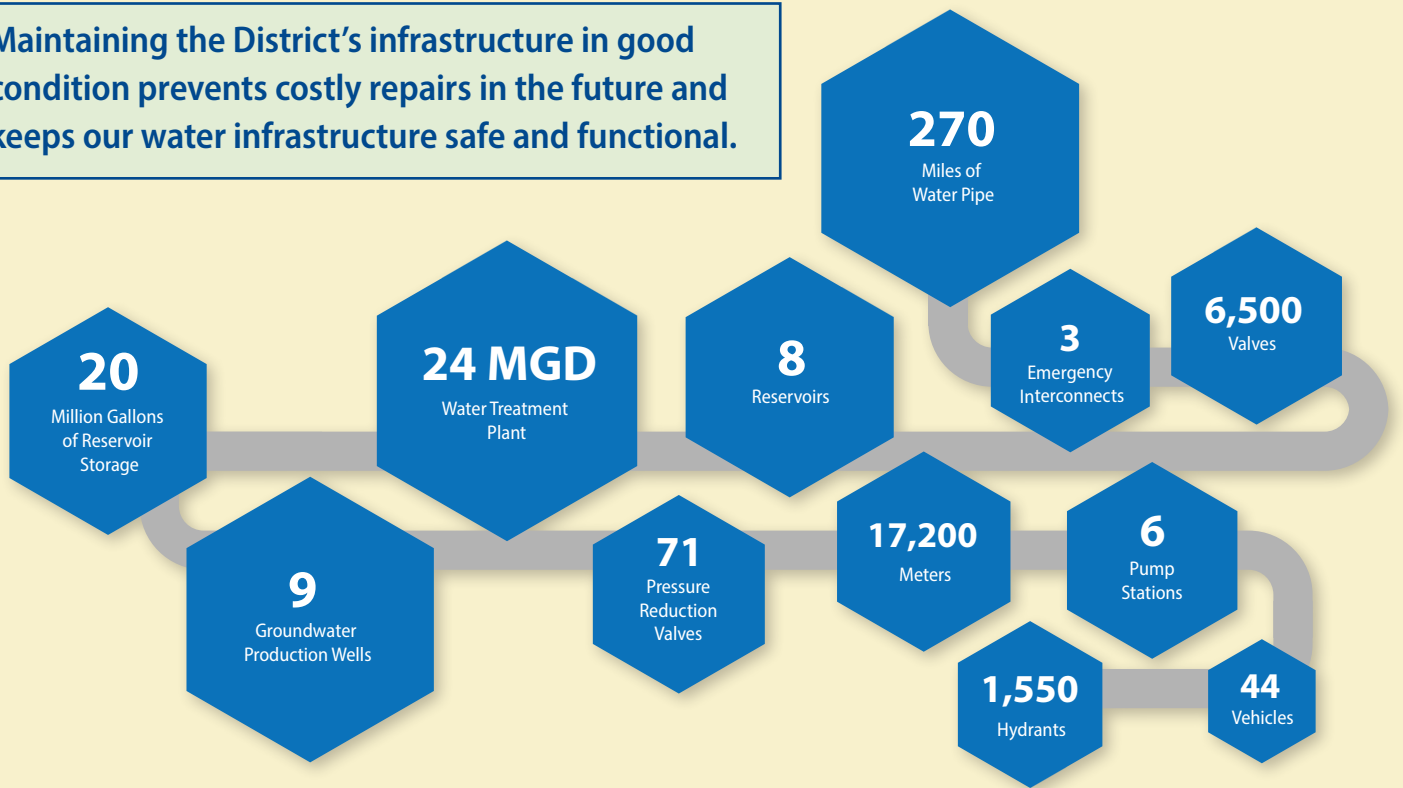
Role of Water Supply Sources in Drought Years



- State / Imported Water
- Groundwater
- Cachuma Project Water
- Recycled Water

Prudent planning is essential for cost-effective infrastructure renewal and upgrades, and requires credible, analysis-based estimates of remaining asset service life and replacement value.

Maintaining the District's infrastructure in good condition prevents costly repairs in the future and keeps our water infrastructure safe and functional.



Infrastructure

20% of the District's distribution system, or 53 miles of pipeline, were built in the 1950s. 43% of the District's valves are older than 50 years, which is the average expected service life. As infrastructure ages, simply replacing failed equipment will increase expenses over time.



District pipeline installation in the early 1950s



Replacement valves and pipes at the District Operations Yard



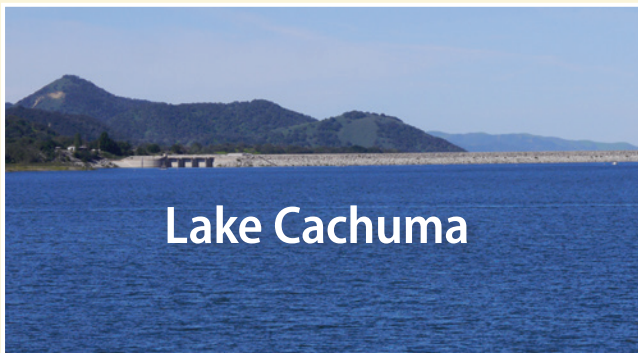
As we look to the future, our commitment to sustainability as well as our continued investment to maintain the District's system will ensure ongoing service reliability for the nearly 87,000 residents of the Goleta Valley.

How it Works

Have you ever wondered where the water that comes out of your tap comes from? Learn more about the complex processes involved in securing, treating, and delivering the diverse water supply portfolio that sustains the Goleta Valley.

Where Your Water Comes From When You Reach for the Tap

The Goleta Water District supplies water from four distinct water sources – Lake Cachuma, the Goleta Groundwater Basin, imported water from the State Water Project, and Recycled Water.



Water from Lake Cachuma typically provides the largest and cheapest source of water. Built in the 1950s, rain and runoff are captured behind Bradbury Dam and delivered through the seven mile long Tecolote Tunnel bored through the Santa Ynez Mountains using a gravity fed system that is efficient and low cost. The transmission main and distribution system that delivers water from the lake was built during the dam's construction, meaning it too is now over 60 years old. The pipes and waterlines built out in the subsequent decades include a significant amount of steel piping, with an expected service life of 70-100 years.



The Goleta Groundwater Basin serves as a critical drought buffer and important water supply for the Goleta Valley. Accessing this portion of the District's water supply portfolio requires a significant amount of equipment at considerable cost but maintaining access to the basin during severe drought periods is critical. The District's nine wells are capable of producing enough groundwater to meet the minimum health and safety needs of the community. The District's wells are 30-45 years old, and much of the equipment and components necessary to access water in the basin are highly specialized and of variable ages.



The State Water Project was approved by voters in 1991. While the District's allocation is reduced during periods of Statewide drought, it provides the only non-local source of water in the District's portfolio and is especially valuable when the Goleta Valley is experiencing localized water shortages. The annual assessment for the State Water Project varies, but contributes significantly to the overall cost of the District's water supply. State water is conveyed through Lake Cachuma using the same infrastructure as surface water.



Since 1996, the District has partnered with Goleta Sanitary District to serve recycled water for irrigation and restroom facilities. The District serves approximately 1,000 acre feet of recycled water a year, and every drop of recycled water conserves water for potable use. Recycled water is delivered through a separate purple pipe system, and the corrosive nature of recycled water means the expected service life of the pipes and equipment used is reduced. While recycled water provides a drought proof water supply, it requires significant ongoing investment as it ages.

Treating and Delivering Groundwater

How do the wells work? First, a series of pumps and motors extract water from the ground. The groundwater is then chlorinated. This process disinfects the water and also oxidizes naturally occurring minerals, like iron and manganese, which allows them to be readily removed through filtration. Treated groundwater is then fed into the distribution system for delivery and consumption by customers throughout the Goleta Valley. While this process seems simple, each well involves a complex set of mechanical equipment, and as the wells age they require significant ongoing maintenance, investment, and cleaning.



While pumping groundwater is energy intensive, so is delivering water throughout the system. Groundwater must be pumped from the ground, and then across more than 20 different pressure zones and elevations, often uphill several hundred feet to reach customer homes. This has required significant modification of the District's distribution system, which was originally designed to use a gravity fed system to deliver water from Lake Cachuma. Instead, a series of pumps and motors operate in sequence to move water throughout the system.

Maintaining Water Quality

The District constantly monitors water quality, conducting thousands of tests each year to make sure your water is safe and reliable. But eight years of drought and several significant wildfires around Lake Cachuma have made the job of treating your water more challenging and more expensive. To monitor water quality, the District samples water coming in and out of the plant.



Once water from the lake enters the water treatment plant, powdered activated carbon (PAC) is added to remove organic matter and improve taste and odor. The water is further polished as it moves through the flocculation chambers and sedimentation ponds. Water is then purified by passing through very large carbon filters, which act like a sponge to remove additional fine particles from the water. The final step is disinfection with chlorine to prevent bacterial growth in the distribution system for delivery to customers.

The District has also implemented operational modifications and treatment changes in the distribution system to mitigate water quality issues at the lake. This includes the blending of surface water with groundwater, which is naturally low in organic matter, and the addition of aeration treatment in the District's reservoir network.

No one can predict with certainty how the current water quality challenges will play out, and additional investment in new treatment technologies may be necessary, but the District is prepared to adapt to changing water quality conditions to ensure customers receive safe, reliable water.

For more information check out the *How It Works* Video Series at www.GoletaWater.com/videos



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75th Anniversary Time Capsule



District staff ready time capsule for placement at the ceremony

On November 13, 2019, the District Board of Directors and staff were joined by local dignitaries for a ceremony at the Corona Del Mar Water Treatment Plant to celebrate the placement of a 75th Anniversary Time Capsule, to be opened at the District's 100th Anniversary. Find out more at www.GoletaWater.com

Sustainability Highlights



Three new electric vehicles were added to the District's fleet in 2019

The District's 75th Anniversary provides an opportunity to reflect on the accomplishments of the past, but also anticipate and plan for a future that is sustainable, financially sensible, and forward looking. The District's Sustainability Plan will continue to guide investment while controlling operational costs, preserving the natural environment, and protecting local water supplies and ongoing service reliability for current and future customers.

For more information on District sustainability visit www.GoletaWater.com/sustainability

Contact

Call us: (805) 964-6761
 Press 1 for drought information

Visit our office: 4699 Hollister Ave.
 8 a.m. to 5 p.m., Mon. – Fri.

Send us an email:
info@GoletaWater.com

Visit our website:
www.GoletaWater.com

The District Board of Directors meets on the second Tuesday of every month at 5:30 p.m. at the District office. The public is always welcome.

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