

CalDesal Overview

CalDesal is the unified voice for water desalination and salinity management in California.

- CalDesal is a statewide association comprised of water industry leaders, representing public and private sector entities as well as nonprofit organizations, championing the increased use of desalination as part of the solution to ensure a sustainable water future for communities throughout California.
- CalDesal is a leader in educating and advocating for policies and funding that promote the use of desalination in California.
- CalDesal members benefit from focused public communications and outreach, as well as legislative and regulatory advocacy to advance water desalination and salinity management.

Desalination Overview

Desalination provides a local, reliable, and sustainable water supply that communities can rely on now and for decades to come, enabling California to continue meeting its growing water needs and support the fifth largest economy in the world.

Desal is...

- ...local. Desal enables local production of high-quality, pure drinking water, as part of a portfolio of diversified supplies to responsibly address demands.
- ...reliable. Desal is drought-resilient and does not rely on variable snowpack and rainfall, making it a dependable source of drinking water.
- ...sustainable. Desal provides a critical safeguard for local water supplies against unpredictable water shortages resulting from droughts, sea level rise, and earthquakes.
- ...secure. Continued development of local, climate- and drought-resilient water supplies like water desalination is necessary to ensure a secure water future for residents, agriculture, and businesses in California.

Key Focus Areas

1. Water supply challenges

- Developing a diverse water portfolio is the strategy Governor Newsom is seeking through his Water Resilience Portfolio Initiative to address California's water supply challenges, including droughts, floods, rising temperatures, declining fish populations, and aging infrastructure. Desalination is an important component of the State's proposed portfolio.
- Despite California's excellent water management, continuing to reliably meet the state's growing demand for water is an ever-increasing challenge without the addition of new local water supplies like desalination.
- While California's population growth rate has declined in recent years, the state's population is still projected to increase by about 10% in the next decade, driving the need for new, local water sources including seawater and brackish groundwater desalination.
- California's primary water supply from Northern California faces challenges including variable rain and snow, earthquakes, climate change, and reduced exports due to environmental protections in the California Delta. Development of new local supplies reduces reliance on imported water to meet future growth and supports a more diversified portfolio, strengthening water supply reliability for residents across the state.

- There is no one-size-fits-all approach for desalination. Consideration of a project is based on factors such as location, resources and the needs of a community. Consumers can be assured that desalination is a proven and safe technology that can provide increased water reliability.
 - As important as conservation is and will continue to be, it is not a singular solution to California's water supply reliability challenges and does not provide any water supply safeguards for California families, businesses, the environment, and farmlands in the event of a drought, earthquake or other natural disaster.
2. Seawater desalination: Seawater desalination transforms ocean water into drinking water.
- With its 800+ miles of coastline, many communities in California are uniquely positioned to benefit from seawater desalination to enhance local water reliability and augment imported supplies.
 - Recent technological advances have made turning seawater into drinking water more sustainable, energy-efficient, and less impactful on the environment than ever before.
 - The rising cost of treating and conveying water from other sources has made seawater desalination more economically feasible compared to other new supply alternatives.
 - Examples of successful large-scale projects include:
 - *(completed)* The Claude "Bud" Lewis Carlsbad Desalination Plant in San Diego County produces 50 million gallons of high-quality drinking water daily, providing about 10% of the region's total water supply.
 - *(in process)* There are several desalination projects working their way through the permitting process, including the CalAmerica Desalination Project in Marina, the Doheny Ocean Desalination Project in Dana Point, the Huntington Beach Desalination Project, and the West Basin Ocean Water Desalination Project in El Segundo.
3. Brackish groundwater desalination: Brackish groundwater desalination transforms previously unusable brackish groundwater supplies into high-quality drinking water.
- Brackish groundwater desalination produces drinking water by removing not only salts, but also other contaminants such as nitrate and Per- and Polyfluoroalkyl substances (PFAS).
 - Improved technology to remove salt from brackish groundwater has made desalination an increasingly important tool for both augmenting water supplies and improving water quality.
 - Examples of successful large-scale projects include:
 - The Alameda County Water District treats brackish water at the Newark Desalination Facility as part of its Aquifer Reclamation Program, producing 10 million gallons of drinking water per day.
 - The Chino Basin Desalter Authority produces 14 million gallons a day of fresh water from brackish water pumped from wells throughout the Chino area.
 - The Eastern Municipal Water District is currently constructing its third Desalter as part of its Groundwater Reliability Plus Program, which cumulatively will produce 14 million gallons a day of fresh water from brackish groundwater.
 - The South Coast Water District operates the Groundwater Recovery Facility (GRF), which adds a local water supply component into the District's water distribution system. Currently, 85 % of SCWD's drinking water is imported from northern California and the Colorado River. Through reverse osmosis, the GRF provides an additional 15% by removing brine from the local water source.

- The Water Replenishment District's Robert W. Goldsworthy Groundwater Desalter in Torrance creates 5 million gallons a day of fresh water from brackish groundwater.
 - The West Basin Municipal Water District operates the C. Marvin Brewer Desalter Treatment Facility, which purifies a million gallons of brackish groundwater for potable use every day.
- 4. Salinity management: Rising levels of salt in California's surface and groundwater supplies require careful management to maintain water quality and protect the environment.
 - It is critical to California's water future that efforts are made to manage salt problems that could degrade water quality, increase treatment costs, jeopardize food production, and render some water supplies unfit for use.
 - Rising salt levels in surface and groundwater present a growing challenge to the state's long-term water future.
 - Salt buildup in agricultural soils and water sources can be detrimental if not effectively managed.