

CALIFORNIA'S WATER SUPPLY STRATEGY

Adapting to a Hotter, Drier Future

One-Year Progress Report • October 2023

In August 2022, the Newsom Administration released [California's Water Supply Strategy – Adapting to a Hotter, Drier Future](#). It charted priority actions to offset the water supply that will be lost to a changing climate. Scientists warn that hotter, drier weather could diminish California water supplies by up to 10 percent by 2040. In a warming climate, a greater share of rain and snowfall will be absorbed by dry soils, consumed by thirsty plants, and evaporated into the air. This leaves less water to meet our needs. State agencies made significant progress implementing the strategy in the past year. Guided by this strategy, work continues to ensure California has the water it needs now and into the future.

This progress report details state agency actions taken over the last 12 months to execute key priorities of the Water Supply Strategy. These actions to bolster water supplies complement the state's broader policy roadmap to build resilient water systems, called the [Water Resilience Portfolio](#).

1. Develop new water supplies.

Reuse at least 800,000 acre-feet of water per year by 2030 with most of that additional recycling involving direct wastewater discharges that are now going to the ocean.

- In July 2023, the State Water Resources Control Board (State Water Board) kicked off the public comment period on [proposed direct potable reuse regulations](#), which would allow recycled water to be moved directly into drinking water distribution systems while protecting public health. Once in place, direct potable reuse regulations are expected to greatly facilitate local, large-scale water recycling projects.
- In January 2023, the State Water Board established a Recycled Water Strike Team composed of state, federal and industry partners. The Strike Team is refining a preliminary list of recycled water projects under development and will recommend ways to clear impediments to complete these projects and achieve the 2030 goals.
- The Legislature and Governor enacted [Senate Bill 149](#) to speed up judicial review for certain recycled water projects certified by the Governor, without reducing the environmental and government transparency benefits of the California Environmental Quality Act (CEQA).

Expand brackish groundwater desalination production by 28,000 acre-feet per year by 2030 and help guide location of seawater desalination projects where they are cost effective and environmentally appropriate.

- In January 2023, State Water Board staff established a Seawater Desalination Interagency Group composed of state and federal agencies that review environmental documents and permit or lease applications for proposed seawater desalination facilities.
- In July 2023, State Water Board staff released the [Draft Seawater Desalination Siting and Streamlining Report to Expedite Permitting](#) for public comment. This report provides a first-ever roadmap for seawater desalination proponents on how to get their projects permitted by state and federal agencies. The Seawater Desalination Interagency Group identified criteria

for siting seawater desalination projects so that they are cost-effective and environmentally appropriate, and they recommended potential changes to current requirements to streamline permitting. A final report is expected by the end of 2023.

- In March 2023, the [National Alliance for Water Innovation](#) (NAWI) announced an investment of \$9 million in 12 projects – several in California -- that will improve the energy efficiency of desalination and water reuse technologies. DWR and the Water Board have committed \$18.5 million to NAWI, a \$100 million, five-year U.S. Department of Energy research hub headquartered in Berkeley.

2. Expand water storage capacity above and below ground by four million acre-feet.

Expand average annual groundwater recharge by at least 500,000 acre-feet.

- The Department of Water Resources (DWR) estimates California recharged 3.8 million acre-feet of water from the extraordinarily wet winter and spring of 2022-23, not counting natural recharge. That volume of water is more than a full Lake Oroville can hold. Much of that recharge occurred under the State Water Board's temporary, streamlined permitting processes as directed in the Water Supply Strategy and through the Governor's [Executive Orders](#).
- Many irrigation districts and landowners diverted flood flows onto working lands and lands being prepared as recharge basins. DWR helped local districts acquire additional [temporary pumps](#) to increase the diversion of flood flows that posed an imminent flood risk. Also, DWR launched a "rip and chip" program to assist irrigation districts in obtaining equipment to remove orchards and vines to increase the percolation of floodwaters into aquifers on their land.
- This wet winter also resulted in a record number of groundwater recharge permits and requests; in under five months, the State Water Board processed 12 recharge permits and petitions that authorized more than 1.2 million acre-feet in storage.
- In January 2023, the Water Board granted its first five-year temporary recharge permit, enabling the Omochumne Hartnell Water District to divert 2,444 acre-feet from the Cosumnes River in Sacramento County. The five-year temporary permits require more review than seasonal 180-day permits but ultimately allow local agencies greater certainty and flexibility to implement their groundwater programs.
- In July 2023, the Governor and Legislature enacted [Senate Bill 122](#), which clarifies legal and regulatory requirements to maximize appropriate diversion of floodwater to underground storage while maintaining conditions protective of public health and fish and wildlife.

Work with local proponents to complete the seven Proposition 1-supported storage projects and consider funding other viable surface storage projects.

- In June 2023, the Water Commission approved \$277.5 million in funding for the [Harvest Water Project](#), the first project to receive a final funding award under the [Water Storage Investment Program](#) (WSIP) of Proposition 1. Harvest Water is expected to begin construction in late 2023.
- The Natural Resources Agency established an interagency strike team to facilitate permitting of the WSIP projects. The high-level team, which includes top regional staff of the U.S. Bureau of Reclamation, meets monthly to identify barriers and develop solutions.
- The Legislature and Governor enacted [Senate Bill 149](#) to speed up judicial review for water storage projects without reducing the environmental and government transparency benefits of CEQA.

Expand San Luis Reservoir by 135,000 acre-feet.

The San Luis Reservoir Expansion Project will create an additional 130,000 acre-feet of storage in San Luis Reservoir. As of July 2023, the federal government has committed \$85 million to the project. An addendum to a 2020 feasibility report was finished in April 2023, with design to follow. The enlargement project builds upon the \$1.1 billion seismic retrofit project already underway, partially funded by State Water Project contractors.

Rehabilitate dams to regain storage capacity.

The 2023-24 budget allocated \$100 million for grants to assist dam owners make repairs that will improve public safety. They also enabled DWR to expedite funding awards by [administering the grant program with guidelines](#) rather than regulations. DWR expects to solicit applications in mid-2024. Legislation enacted in 2023 ([Senate Bill 146](#)) gives DWR the authority to use the progressive design-build method for dam safety and certain other types of projects – a more flexible alternative to the traditional project delivery method.

Support local stormwater capture projects in cities and towns with the goal to increase annual supply capacity by at least 250,000 acre-feet by 2030.

The State Water Board is executing a contract with California State University, Sacramento to develop a method to estimate current stormwater capture using open-source tools. The State Water Board is also collaborating with Regional Water Boards and local municipalities to explore options for establishing stormwater crediting systems that could incentivize implementation of new regional stormwater retention and water supply projects through the generation and sale of stormwater credits.

3. Reduce demand.

Build upon the conservation achievements of the last two decades to reduce annual water demand in towns and cities by at least half a million acre-feet by 2030.

- As directed in the 2018 "[conservation as a way of life laws](#)," in August 2023 the State Water Board launched a rulemaking process for new efficiency standards for urban retail water suppliers. The overall estimated reduction in water use would reach eight percent in 2030, saving 414,000 acre-feet of water, and nine percent in 2035, saving 460,000 acre-feet of water.
- Since 2021, DWR has allocated [\\$143 million through grants and directed contracts](#) to communities across California, which is expected to support a reduction in annual water demand of 16,500 acre-feet per year.
- The state-managed [Save Our Water](#) public awareness campaign launched targeted multi-lingual and multi-media advertising in 2022 in response to extreme weather. The 2022-23 budget included \$75 million over two budget years for a marketing campaign to make conservation a California way of life and support the state's turf replacement goal.

Help stabilize groundwater supplies for all groundwater users, including a more drought-resilient agricultural economy.

- To date, DWR has received 119 local groundwater sustainability plans, nine five-year periodic evaluations to alternative plans, and one new alternative plan, which is being adjudicated. Each of these plans is [under review or has been reviewed](#) under the [2014 Sustainable Groundwater Management Act](#) laws and regulations. DWR in 2022 and 2023

awarded \$340 million in assistance to 51 local groundwater sustainability agencies (GSAs) for planning and projects and continues to assist local agencies with data and guidance.

- In July 2023, the LandFlex Program administered by DWR in coordination with the California Department of Food and Agriculture (CDFA) [awarded \\$17 million](#) to several San Joaquin Valley groundwater sustainability agencies so they could in turn award funding to local growers to transition to sustainable groundwater use and protect drinking water supplies in underrepresented communities. LandFlex aims to halt pumping in 2023 from irrigation wells adjacent to vulnerable drinking water wells and in the long-term will permanently eliminate groundwater overdraft pumping on each enrolled acre.
- In June 2023, the Department of Conservation [awarded \\$35 million](#) to regions that are adapting land use to improve sustainability of groundwater basins. The [Multi-benefit Land Repurposing Program](#) in May 2022 had awarded \$40 million to regional collaborations led by local GSAs to prepare and implement strategic land repurposing plans to achieve ecological, social, and economic benefits.
- The past two budgets authorized \$120 million for a grant program at CDFA to improve agricultural irrigation efficiency and \$15 million for CDFA's [Water Efficiency Technical Assistance](#) program.

4. Improve forecasting, data, and management, including water rights modernization.

Improve data collection and modernize forecasts for a changed climate.

- During the flood events of late 2022 and early 2023, [forecasting, warning, and decision-support tools](#) developed by DWR and the Center for Western Weather and Water Extremes were critical to assessing the potential for major flooding from incoming storms, coordinating with reservoir operators, preparing emergency response activities, and notifying partner agencies and the public of increased flood threats.
- DWR has made significant improvements in its water supply forecasts, including updating historical climate data averages to the most recent 30-year period to better reflect current conditions.
- During the winter and spring of 2022-23, DWR completed 65 [Airborne Snow Observatory](#) data collection flights and produced over 120 snow hydrology modeling reports from those data collections, which helped reservoir operators as the state swung from extreme drought to flood.
- DWR has developed snow hydrology models for 18 watersheds in the Sierra Nevada and Southern Cascade mountains to help improve water supply forecasts.
- The 2022-23 state budget included an additional \$23.9 million in 2023-24 and \$2.8 million in 2024-25 to support reactivation and deployment of priority stream gages consistent with the [SB 19 Stream Gaging Prioritization Plan](#), which aims to close gaps in the network that tracks stream flow.
- DWR continues to support (and co-lead in the case of Lake Oroville) [forecast-informed reservoir operations](#) (FIRO) assessments. FIRO uses improved weather and water forecasts to help reservoir operators decide when to release or hold water.

Improve the flexibility of current water systems to move water throughout the state.

- DWR expects to finalize an environmental impact report on the proposed [Delta Conveyance Project](#) at the end of 2023.

- DWR and partners are studying the feasibility and design of repairs to the California Aqueduct, Delta-Mendota Canal, and San Luis Canal, all key water delivery systems in the San Joaquin Valley that have lost carrying capacity due to subsidence damage. The 2021-22 and 2022-23 state budgets included a total of \$200 million toward costs to repair those three canal systems and the Friant-Kern Canal.
- In March 2023, DWR released \$29.8 million of the \$200 million to the Friant Water Authority to [repair segments of the Friant-Kern Canal](#), a key water conveyance facility in the San Joaquin Valley damaged by land subsidence. The Friant-Kern Canal, owned by the U.S. Bureau of Reclamation, has lost more than 60 percent of its original conveyance capacity in its middle section. It plays a role in irrigating a million acres of farmland.
- Legislation enacted in 2023 ([Senate Bill 146](#)) gives DWR the authority to use the progressive design-build method for canal repair and certain other types of projects – a more flexible alternative to the traditional project delivery method.

Modernize water rights administration for equity, access, flexibility, and transparency.

- The State Water Board is undertaking an [overhaul of the state's water rights data management system](#). Millions of existing water rights records will be digitized beginning in the fall of 2023, and the Water Board formed an advisory group in August 2023 to involve a diverse range of experts and interested parties.
- The State Water Board is developing a pilot project to bolster measurement of water use and availability in real time; a technical advisory group was formed in March 2023.
- In August 2023, the Water Board held public listening sessions to collect input on the Board's [water rights measurement and reporting regulation](#). There continues to be challenges with data quality and gaps. To help address these challenges, staff are preparing guidance and technical assistance materials that will be available before the next reporting deadline. This data plays a key role in how the state manages water when supplies are tight, especially during drought. The Water Board will use input from the listening sessions to help determine the best ways to improve compliance and data quality.