Historic 2023 Water Year Delivered Big Boost to California's Groundwater Supplies

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The James Irrigation District utilizing pumps from DWR's Emergency Pump Program to divert water and fill a basin for groundwater recharge in San Joaquin, Fresno County,

Sacramento, Calif. – The California Department of Water Resources (DWR) has released the latest Semi-Annual Groundwater Conditions report, and the data show that California achieved 4.1 million acre-feet of managed groundwater recharge during Water Year 2023, which is nearly the water storage capacity of Shasta Lake. The report also details an increase in groundwater storage of 8.7 million acre-feet.

Water Year 2023 is the first year since 2019 that there has been a reported increase in groundwater storage. A significant reduction in groundwater pumping in 2023 also led to favorable groundwater conditions, including a decrease in land subsidence, or sinking of the land. Some areas that had previously experienced subsidence actually saw a rebound (uplift) in ground surface elevation from reduced pumping in the deeper aquifers and refilling of groundwater storage.

The groundwater report released today includes, for the first time, groundwater sustainability plan Annual Report data reported by local groundwater sustainability agencies (GSAs) across 99 groundwater basins which make up over 90 percent of the groundwater use in the State.

Groundwater is one of California's most important natural resources and, more likely than not, groundwater is part of your life. Nearly 85 percent of Californians depend on groundwater for some portion of their water supply, and in dry years when surface water supplies are lacking, communities turn to groundwater to fulfill the needs of households, agriculture, and businesses. California's rich and abundant ecosystems also rely on groundwater to sustain the natural plant and animal communities that make California such an exceptional place to live, work and recreate.

While the last two rainy seasons have been good news for California's groundwater basins, there is still a lot of work to do. Long-term groundwater storage remains in a deficit of nearly 40 million acre-feet over the past two decades, due in part to years of pumping out more water than has been replenished. It would take nearly five consecutive above average,

not just average, water years like 2023 to fill that gap. California needs to replenish what nature provides by expanding groundwater recharge projects, upgrading water infrastructure, and modernizing our water distribution system through projects like the Delta Conveyance Project, to be able to move water during high flows to maximize storage.

"California is invested in preparing for weather extremes by maximizing the wet years to store as much water as possible in preparation for the dry years," said Paul Gosselin, DWR Deputy Director of Sustainable Water Management. "The impressive recharge numbers in 2023 are the result of hard work by the local agencies combined with dedicated efforts from the state, but we must do more to be prepared to capture and store water when the wet years come."

During the 2023 Water Year, more than 1.2 million acre-feet of groundwater recharge was permitted by state agencies, more than 400,000 acre-feet of flood water was recharged using the Governor's Executive Orders, and millions more acre-feet of managed and naturally occurring recharge was achieved. Groundwater recharge projects have proved critical during flood response, as we saw in 2023 when thousands of acre-feet of water were diverted off of streams, away from flood-prone areas, and put onto available open lands to recharge groundwater basins. Learn more about water infrastructure projects in your community at build.ca.gov.

Since groundwater is out of sight, beneath our feet, we need data and information from the underground aquifers to make informed groundwater management decisions that are backed by the most current science. DWR's Semi-Annual Groundwater Conditions report provides current data to support the comprehensive California's Groundwater (Bulletin 118) publication which is updated every five years. This suite of reports provides the latest knowledge and understanding about California's groundwater system, helping state and local agencies manage groundwater resources for long-term water supply resiliency.

Ten years ago, the Sustainable Groundwater Management Act was signed into law to address ongoing impacts of groundwater declines throughout the state. As a result of this important legislation, we are collectively learning more than ever before about California's groundwater basins from data being collected and reported by local GSAs as well as from state investments in new technologies and expanded groundwater monitoring.

The Semi-Annual Groundwater Conditions report includes the latest data and discussion on statewide groundwater levels, groundwater storage, recharge, land subsidence, well infrastructure and the status of California's groundwater basins. These reports are not just for water managers, they are also important resources for anyone who wants to gain an understanding of their local water supply.

Groundwater is essential for human well-being, ecosystems, agriculture, and economies. Each year we're learning more about how to address the challenges of a changing climate, and the data and information contained in DWR's Semi-Annual Groundwater Conditions report provides the latest and best understanding of the vital water resource that lies beneath our feet.