



Protecting Orange County's Water Supply from Seawater Intrusion

Beneath our feet lies a vast groundwater basin that serves as the primary drinking water supply for the city of Fullerton and 18 other local water providers. Managed by the Orange County Water District (OCWD), the basin serves as a safe and reliable water source. Given our proximity to the Pacific Ocean, however, the District faces challenges with seawater intrusion – salty ocean water that could infiltrate into the basin and contaminate our precious drinking water supply.

For more than 50 years, OCWD has combated seawater intrusion in a proactive manner, from monitoring basin elevation levels as water is pumped daily, to injecting water into the basin to create a hydraulic barrier between salt water and fresh water. Beginning in the 1970s, water produced from Water Factory 21, a water recycling facility that purified wastewater to drinking water standards, was injected into the seawater barrier for the first time.

With the expansion of our Groundwater Replenishment System (GWRS) in early 2023, we are even more prepared to address seawater intrusion issues. The GWRS, online since 2008, builds off the success of Water Factory 21, and is the region's premier and globally recognized water recycling facility located at OCWD's administrative headquarters in Fountain Valley.



The system takes treated wastewater from the Orange County Sanitation District, water that would have otherwise been discharged to the ocean, where it undergoes an advanced water purification process to produce 130 million gallons of high-quality drinking water every day.

From this, about 30 million gallons per day of GWRS water can be pumped into a series of injection wells located along the coast to prevent saltwater from infiltrating the basin's fresh water. The remaining supply, about 100 million gallons per day, is pumped to OCWD's recharge basins in Anaheim where the water percolates into the groundwater basin to increase the local drinking water supply.

OCWD currently operates two seawater intrusion barriers, known as the Talbert Barrier (located in the cities of Huntington Beach and Fountain Valley) and the Alamitos Barrier (located in Seal Beach and Long Beach along the Los Angeles-Orange County border). The District has been investigating the nature and extent of seawater intrusion in the Sunset Gap area beneath the Naval Weapons Station in Seal Beach to determine the need for a potential future barrier.

These barriers provide enormous value to local water utilities, even inland agencies like the city of Fullerton. Without them, seawater could contaminate groundwater production wells, reduce the freshwater capacity of the basin, and limit the amount of water that could be pumped each year.

If you have any questions about seawater intrusion or how we manage the Orange County Groundwater Basin, please contact OCWD or visit our website at www.ocwd.com.

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