

Water from waste now on tap in Placentia
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Orange County's recently built system for converting sewer water into drinking water is running close to full capacity, and the water it produces is beginning to arrive in Placentia's taps — likely resulting in slightly better water quality, according to the **Orange County Water District**.

"We're pretty sure it's being consumed now," said Shivaji Deshmukh, the district's Groundwater Replenishment System program manager.

Placentia residents might even notice the difference — not in the water's taste or smell, but its effect on pipes.

"We're putting all this very low-salt, very pure water into the ground," Deshmukh said. "There will be an increase in water quality; it will just not be noticeable to people."

Less salt is the reason both for the higher quality of the water and for the district's ability to track how it moves.

The water flows into the \$480 million system from the Orange County Sanitation District plant in Fountain Valley. When it flows out, into settling ponds in Anaheim, it is so pure that, even after it has percolated into the deep aquifer, the agency can measure the drop in salinity when it reaches drinking-water wells. The ponds are called recharge basins.

"Up in Placentia, there's a well that's about six months away from where we recharge," Deshmukh said. "We're starting to see the salinity drop pretty significantly in that well indicating the GWR water reached there."

After an initial treatment using microfiltration, the sewer water is pressed through banks of tightly wound reverse osmosis filters. It's also exposed to ultraviolet radiation to kill off any leftover microbes — a process that recently won the district an award from the **International Ultraviolet Association**.

It is then pumped to settling ponds in Anaheim for one more level of treatment: percolating through sand and rock into the aquifer hundreds of feet down.

The system, which came online in January 2008, is now averaging about 65 million gallons per day of purified water, Deshmukh said. That's close to its maximum capacity of 70 million gallons per day.

"We're working to get it up to 70 million," Deshmukh said.

And since it came online, the system has injected more than 29 billion gallons into the groundwater basin — some of it not used for drinking, but injected along the coast as a barrier to seawater intrusion into the aquifer.

A recent change in the system is pushing the flow levels higher. A new lift station is allowing water from the Sanitation District's second treatment plant, in Huntington Beach, to flow into the groundwater replenishment system at night, when the flows are usually low because far fewer people are using water.

The water district is even able to estimate when the replenishment water will reach the next drinking-water well — in the city of Costa Mesa in six months to a year.

While residents who don't live far from the settling basins could notice less buildup of salts in their pipes, the judgment is a bit subjective, Deshmukh said. And the effect drops off with distance; eventually, the replenishment system water will be thoroughly mixed into the aquifer, which provides a portion of the water consumed in north and central Orange County. People who receive water from wells far from the system won't be able to detect any change.