

# DO YOU KNOW? THE FACTS.

## Understanding Impacts of Salinity

### WHAT IS SALINITY

As part of its efforts to provide a safe and reliable water supply, Eastern Municipal Water District (EMWD) invests in programs to reduce salinity within its water supplies and in the local groundwater basins. Salinity – or the amount of salt within the water – impacts not just water quality, but also the cost of water because of the costly process to remove salt from drinking water.

Groundwater in the Perris and Menifee portions of EMWD's service area is naturally salty and unusable without extensive treatment. To make beneficial use of the the salty groundwater, EMWD has invested in a state-of-the-art desalination program that uses reverse osmosis to remove salts. The concentrated salt, also called brine, that is remaining from the desalination process is placed into a pipeline and sent to a treatment plant before entering the Pacific Ocean.

Salinity can be naturally occurring, or can be caused from agriculture and urban activities, and often includes other elements such as calcium, magnesium, sodium, sulfate, silica and chloride.



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## SALT AND THE WATER CYCLE

Salinity impacts water quality and costs in all aspects of the water cycle. Salt occurs naturally and enters EMWD's system through the imported water supply, such as the higher-salinity Colorado River, as well as in the wastewater collection process. The use of water through showers, dishwashing, laundry, and other home uses adds salt to the wastewater stream, which then increases the salinity of recycled water. Evaporation also increases salt levels, as only water molecules will evaporate.

When recycled water is used for irrigation of farms, parks and schools, the salts naturally enter the groundwater supply and ultimately must be removed. EMWD currently removes and exports 25,000 tons of salt from its groundwater annually, and has an ultimate goal of removing 50,000 tons of salt per year. By further reducing reliance on the Colorado River supply, less salt will be imported into EMWD's groundwater basins.

By working to reduce salts early in the water cycle, it benefits all future phases by reducing treatment costs, and ultimately the cost of water.

## WHAT CAN CUSTOMERS DO?

Customers may do their part to reduce salinity by eliminating use of self-regenerating water softeners, which discharge large amounts of salt into the sewer system. These water softening systems can discharge up to a pound of salt per day into the wastewater collection system.

Instead, customers may want to consider a salt-free anti-scaling device. These systems are becoming more accessible and do not add salt into the sewer system. Customers may also opt for a portable exchange tank water softening service, which provides the same service as a self-generating water softener, but the brine is removed by the water softener service provider and discharged responsibly into a permitted facility.

