

Proactive Conservation Measures



By Neda Simeonova

California's East Bay Municipal Utility District copes with severe drought

The East Bay Municipal Utility District (EBMUD) provides high-quality drinking water for 1.3 million customers in Alameda and Contra Costa counties in California. The district also receives and treats wastewater from seven satellite communities, including Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont and the Stege Sanitary District and services approximately 650,000 customers on the eastern side of San Francisco Bay.

EBMUD's water supply travels 90 miles via a large steel pipe aqueduct from the Pardee Reservoir on the Mokelumne River watershed in the Sierra Nevada to the East Bay region. Because the district is located in a region prone to reoccurring drought, its Urban Water Management Plan is designed to ensure reliable water supply through water conservation and recycling, and development of long-term projects.

In August 2014, EBMUD announced mandatory water rationing in an effort to deal with California's latest severe drought.

Some of the district's 2014 water conservation recommendations to customers included:

- Limit watering of outdoor landscapes to two times per week and prevent excess runoff;
- Use only hoses with shutoff nozzles to wash vehicles; and
- Report incidents of water being wasted.

"EBMUD customers traditionally have been very water conscious and responsive in times of drought," said Nelsy Rodriguez, public affairs representative for EBMUD. "We finished 2014 with a 13% reduction in water use across the service area."

Conservation in Action

EBMUD has invested in increasing available water supplies and making conservation a way of life in the East Bay. According to Rodriguez, after four decades of planning and legal negotiations, the district turned on the Freeport Regional Water Project for the first time in April 2014 to bring supplementary water supplies to the East Bay. The supplementary water supply, in addition to strong efforts by customers to conserve water in times of drought, have helped EBMUD maintain a relatively healthy level of water during the current drought.

"Since the California drought of the 1970s, EBMUD has worked diligently to cope with prolonged droughts, which are paying off in a big way today," Rodriguez said. "EBMUD invested roughly \$500 million into the construction of the Freeport Regional Water Project.

"Looking to the future, EBMUD continues to research regional approaches to diversifying its water supply portfolio, including methods such as recycling water, banking water underground and desalinating water."

These measures ensure that the district is better prepared to cope with a severe drought.

Unfortunately, reduced runoff from last year's winter storms did not refill the district's reservoirs; as of Nov. 1, 2014, it had 396,220 acre-ft of water stored in all its reservoirs combined—52% full, or 73% of average. To address this issue, statewide mandatory limits on outdoor water use and waste are currently in effect. Furthermore, to ensure sufficient water supplies during the upcoming summer and fall, in December 2014, EBMUD adopted new emergency measures, effective January 2015.

"Currently, EBMUD is asking customers to reduce their water use by 15% compared with the amount they used this time last year," Rodriguez said.

To accomplish these ambitious plans, EBMUD customers have been asked to turn irrigation off during cool weather, short days and rain events, and to only water trees and shrubs by hand once every two weeks or as needed.

They also have been encouraged to spot-water their plants with free drought emergency recycled water from one of the district's partner agencies.

Additional indoor and outdoor water-smart tips encouraged by the district include:

- Turn on the tap only when you need to rinse;
- Use dye tabs to find toilet leaks. Leaks are usually caused by worn-out flapper valves, easily replaced with a trip to the hardware store; and
- Replace worn-out washers in faucets to stop drips and leaks.

"The most proactive way that members of the public can help us stretch every last drop is by finding and fixing leaks in and outside of their homes. Toilet leaks are among the most common and, if left unrepaired, continually drain drinking water supplies. Irrigation leaks, too, are all too common and a big source of water waste," Rodriguez said. "The third week of March is the [U.S.] Environmental Protection Agency's National Fix a Leak Week. EBMUD will again be commemorating the week by providing loads of outreach and information on how to find and fix leaks in and around [customers' homes]."

According to Rodriguez, EBMUD's customers continue to seek new ways to conserve water. Currently, district rebates for replacing lawns with more drought-tolerant landscapes are high, and EBMUD expects to see that same dedication to water conservation as this drought continues.

Climate Change

Despite these tremendous efforts, EBMUD expects that global climate change will create greater uncertainty on available water resources in the future. The district has developed mitigation and adaptation strategies to deal with the changing climate and its effects on water resources.

In 2008, for example, EBMUD incorporated climate change into its strategic plan, and has developed and implemented a climate change monitoring and response plan to inform future water supply, water quality and infrastructure planning, according to district reports.

"EBMUD perpetually is researching issues related to the climate and its effects on our water supply and infrastructure to determine the best way to continue delivering drinking water to 1.3 million East Bay residents, and clean wastewater for 650,000 customers in our wastewater treatment district," Rodriguez said. "To that end, EBMUD is working with other regional agencies to research the

feasibility of various types of efforts to mitigate the effects of climate change. While those regional approaches are ongoing, EBMUD internally has taken steps to reduce our energy consumption across the board. We are currently in the midst of a project to use recycled water for cooling purposes atop our downtown Oakland administration building where some 800 employees report to work each day. We also currently are generating more energy through our award-winning wastewater treatment plant than it takes to power the entire plant itself, and we sell excess energy to the Port of Oakland."

Lessons learned after the 1970s drought and proactive water resource management approaches

have ensured EBMUD's current success; however, what ultimately sets EBMUD's conservation efforts apart from other districts is its customer base.

"We have a very knowledgeable, conscientious public who is highly interested in protecting the environment and stretching resources as far as they will go," Rodriguez said. "Their enthusiasm has given EBMUD the support we need to try new technologies and approaches to respond to the myriad issues we face in this highly diverse, urban area." **w&wd**

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