

KPBS

San Diego Faces Water Supply Challenges

Climate Change, Drought and Endangered Fish Create "Perfect Storm"



Credit: [Association of California Water Agencies](#)

Above: Lake Oroville, the main reservoir for the Calif. water project system, is 25 percent below average and at 64 percent of capacity. (Photo courtesy of Association of California Water Agencies)

By [Ed Joyce](#)

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Photo by David McNew / Getty Images

Above: A sign on a farm trailer reading 'Food grows where water flows,' hangs over dry, cracked mud at the edge of a farm April 16, 2009 near Buttonwillow, California. (Photo by David McNew/Getty Images)



Photo by David McNew / Getty Images

Above: The California Aqueduct carries water from the Sierra Nevada Mountains to Southern California as urgent calls for California residents to conserve water grow. (Photo by David McNew/Getty Images)



Above: Water authorities were ordered to cutback on the use of large pumps in the Sacramento-San Joaquin River Delta water system to help preserve the endangered smelt fish. (Photo courtesy of U.S. Fish & Wildlife Services)



Photo by Ethan Miller / Getty Images

Above: The white 'bathtub ring' on the rocks along the Colorado River is from mineral deposits left by higher levels of water. A seven year drought and increased water demand spurred by explosive population growth in the Southwest has caused the water level to drop over 100 feet to its lowest level since the 1960s.

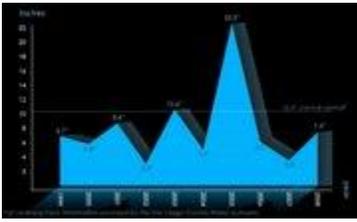


Photo by KPBS

Above: This chart shows yearly rainfall totals for San Diego County from 1999 to 2008. The average yearly rainfall is 10.4". San Diego has had below average rainfall for three consecutive years, contributing to the current water crisis.

KPBS Special Report

[H2NO: San Diego Going Dry](#)

Mandatory water restrictions could be the beginning of a new way of life in California. As we start a week-long examination of our water supply, KPBS Environment Reporter Ed Joyce tells us how we got here, and what the future may bring as we begin our series "H2NO: San Diego Going Dry."

Three key factors are reducing California's water supply:

- A third year of drought.
- Judicial restrictions on pumping from the state water project to save endangered fish in the Sacramento-San Joaquin River Delta.
- And the Colorado River Basin has been in a drought for eight of the past 10 years.

Add to the mix a growing population in the Southwestern United States and you have a water future that's uncertain at best.

"We are in a unique situation not only for the San Diego region but for California," says Maureen Stapleton, General Manager of the San Diego County Water Authority.

At a recent water conservation summit, Stapleton used the term "perfect storm" to describe the challenges facing our water supply.

"We have three major things coming into play and those three together have caused major changes in I think not only how we have to use the water but in how we plan for future water needs," says Stapleton.

Stapleton says San Diego is going through one of the driest periods in its history.

"You know eight or nine inches a year is not going to cut it for three-million people," Stapleton says. "2008 we had 3.2 inches of rain. The last time San Diego had that small of an amount of rain was when Thomas Jefferson was President."

The drought has drained the state's major reservoirs - many are at or near historic lows. After the last major drought in California (from 1987 to 1992) the state's major reservoirs did not return to normal for another two years.

In Southern California, the drought has caused agencies to tap stored reserves that had been intended to provide a buffer against more severe shortages. In the Sacramento River Delta, pumping restrictions to protect endangered fish are expected to be in place for years.

Another major source of our water, the Colorado River, can't compensate for the reduced supply from Northern California.

Tim Barnett is a research marine physicist at the Scripps Institution of Oceanography.

"Are we going to be able to deliver the water out of the Colorado as is currently promised?" Barnett asked. "And with any climate change at all or a reversion of the Colorado back to its historical flow rates, the answer to that question is no. So, for all intents and purposes the current use of the Colorado River is not sustainable into the future."

Barnett says conservation and prohibiting new development in the desert southwest where there is no water would help preserve the critical resource.

"California's water supply is going to be one of the first areas that's really impacted by climate change," says Elissa Lynn, a senior meteorologist with the California Department of Water Resources.

"And in fact we're already seeing a change in California's snowpack," Lynn says. "The snow melts a little bit earlier across the whole west and for us it's about 10-12 days earlier in the spring then it starts to melt off when the peak snowmelt occurs."

Lynn says if climate models prove correct, the weather we've had in San Diego the past three years may be the norm, rather than the exception.

"The southern part of the state is going to be more prone to these excessive droughts than perhaps the north," Lynn says. "So that will make a greater disparity regionally across the state. So water is going to continue to be a very difficult and challenging subject as we go toward the future."

San Diego County Water Authority General Manager Maureen Stapleton says the authority wants to diversify our water supply by 2020.

Water recycling, desalination and conservation are part of the plan.

Stapleton says we need to re-think how we use water.

"This could be our future next year or the year after that or what have you, we don't know," Stapleton says. "We are dependent on Mother Nature." In San Diego County, where we import 80 percent of our fresh water supply, you might expect to pay more and use less.