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Meting Out Water in Arizona

Perhaps the old water wars of the US Southwest are finally over.

In an unexpected development, most environmentalists have not opposed the restarting of the Yuma Desalting Plant in Arizona. In return, the water agencies of Phoenix, Las Vegas, and Los Angeles, which have long lobbied the US Bureau of Reclamation to restart the plant, are backing a study to examine its environmental impact.

The southwestern United States and northwestern Mexico are in the midst of a decade-long drought that has cut water levels in the Colorado River and Lake Mead to half their normal volume and threatened to produce water shortages throughout the region. Water officials fear there is not enough water to supply rapidly growing cities like Phoenix and Las Vegas. The officials have looked to the Yuma Desalting Plant to help address potential water shortages in the Southwest.

Further, under a 1944 treaty, the United States must send Mexico 1.5 million acre-feet of water (about 2 billion cubic meters, or 10 percent of the Colorado River's average flow) at the US–Mexican border near Yuma. Mexican officials had often complained that the water entering Mexico was too salty for municipal or agricultural uses. Water is pumped from the Colorado River to the Wellton-Mohawk Valley in southwestern Arizona to irrigate crops, where it collects salts from rocks and soils in the area before it returns to the river. In a 1972 amendment to the treaty, the United States agreed to reduce the salinity of the water sent to Mexico.

The Yuma Desalting Plant was designed to do just that, but it soon ran into problems. Completed in 1992, the plant ran for only nine months before being shut down because of damage caused by flooding. Except for a three-month test run in 2007, the plant has not operated since 1993.

That changed on 3 May. The US Bureau of Reclamation, with financial support from the three water agencies, restarted the Yuma Desalting Plant. In what is called a pilot run, the plant is scheduled to operate at one-third capacity for 365 days over an 18-month period. The pilot run will test equipment and processes, identify needed updates, and determine costs and power consumption, says Jennifer McCloskey, the Bureau's Yuma area manager.

What worries critics is the plant's potential effect on the environment. Since 1972, some 107,000 acre-feet of salt-laden water from the Wellton-Mohawk Valley has been diverted around Yuma by a canal and dumped in a 40-hectare slough in Mexico called the Cienega de Santa Clara. That slough has since grown into a 14,000-hectare lake and marsh. As the largest wetland in the Colorado River Delta, the Cienega is one of the few remaining habitats along the Pacific flyway for migrating birds. It is also home to Yuma clapper rails and desert pupfish, both endangered species. The restarted plant will desalinize about 30,000 acre-feet of Wellton-Mohawk water and return it to the Colorado. The desalinated water will be counted as part of the United States' 1.5 million acre-feet obligation to Mexico. That will free an equivalent amount of water from Lake Mead for Phoenix, Las Vegas, and Los Angeles. The removed salt will be added to the water sent to the Cienega de Santa Clara. The Cienega will get not only less water but water with a higher salt content, says Osvel Hinojosa Huerta, director of water and wetlands programs for Pronatura Noroeste, a Mexican environmental group.

To compensate, the Mexican government, the US government, and US and Mexican environmental groups combined will divert 10,000 acre-feet of water each, for a total of 30,000 acre-feet, to the Cienega during the pilot run. The environmentalists' contribution will come mostly from Mexican farmers who have voluntarily sold or leased their water rights to the groups.

The water agencies are funding the field monitoring program at the Cienega de Santa Clara. Scientists, field technicians, and students from the United States and Mexico are using sensors at more than a dozen sites to record water quality, quantity, temperature, and other environmental data, says Karl Flessa, professor and chairman of the University of Arizona geosciences department, who heads the field study.

What happens when the pilot run ends? "We don't know," McCloskey says. "No decision has been made to continue operations" after the 18-month test. Environmentalists are encouraged by the willingness of water officials to consider the effects of the Yuma plant on the Cienega but take a cautious, "trust but verify" approach, says Kara Gillon, a Defenders of Wildlife senior attorney.

But some see trouble ahead. "Testing is not the issue," says Robin Silver, a founder and board member for the Center for Biological Diversity, "operation is." Silver charges that the pilot run is a "red herring" for full-time operations later. "There is no reason to spend millions of dollars [on a test run] unless your long-term goal is to continue operating," he says.

Maybe the water wars of the Southwest are not quite over yet.

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