

# River Water Use Allows Aquifer to Recharge

## But Change Slower Than Utility Had Envisioned

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By John Fleck, Journal Staff Writer

If you could look straight down 538 feet beneath the La Cueva High School neighborhood in Albuquerque's far Northeast Heights, you would see water returning to the metro area's depleted aquifer.

The water table in the area had dropped more than 60 feet after decades of pumping to meet the city's drinking water needs. But, in the past three years, as the metro area's largest water utility reduced its groundwater pumping and shifted to using river water instead, the water table beneath the La Cueva neighborhood has risen 8 feet.

The same thing is happening across town at Del Sol Park, a mile northeast of the University of New Mexico. The water table there had dropped 80 feet because of groundwater pumping and was continuing to decline at 6 inches to a foot per year. In the three years since the shift to river water began, it has rebounded 5 feet.

The numbers are preliminary, officials say, but they tell a consistent story. Of 18 sites in the Albuquerque metro area where the U.S. Geological Survey has installed monitoring wells, 15 show rising water levels after years of decline, according to a Journal review of federal data. One is flat, and only two — in the Rio Rancho area, where pumping continues unabated — show continued groundwater declines.

"It's obvious that it's working," said John Stomp, chief operations officer for the Albuquerque Bernalillo County Water Utility Authority.

Standing in the back lot at the Water Utility's new treatment plant in Renaissance Center, you can see why.

Water is flowing through the three-year-old plant's intake ponds at the rate of about 46 million gallons a day, explained plant supervisor Scott Schnepfer. After being cleaned up, the water is pumped through a spiderweb of pipes around the city, mixed with pumped groundwater and distributed to Albuquerque-area homes, businesses and parks. About half the total water is then cleaned up at the Water Utility's sewage treatment plant and returned to the Rio Grande.

The incoming water has the muddy look of river water, and every gallon flowing through Schnepfer's plant is a gallon no longer being pumped from the aquifer.

"It's satisfying to see it work," Schnepfer said.

It will take more study to determine where the water is coming from that is increasing the aquifer depth, said Doug McAda, a U.S. Geological Survey hydrologist overseeing the groundwater level monitoring program.

Some comes from natural groundwater recharge at the foot of the Sandias, McAda said, while much of it is likely the result of "river leakage" — water that would otherwise flow down the Rio Grande, but that instead seeps through the river's bed to fill the void left by past Albuquerque pumping.

The aquifer recovery is consistent with a USGS study done before the switch to river water began. The study concluded the water table would rise 25 feet or more across Albuquerque's Northeast Heights as holes left by past pumping fill in.

The new drinking water project uses water imported into the Rio Grande Basin via dams and a pipeline from the headwaters of the San Juan River in the mountains of southern Colorado. Albuquerque diverts its share of the water at a dam near Alameda on the metro area's north side and treats it at the Renaissance Center plant before distributing it around the city.

In addition to the use of river water, the Water Utility is investigating pumping water back into the aquifer, but that project is not aimed at recharging the groundwater. Rather, it would allow water to be stored underground in the winter, when there is excess supply, and pumped out in the summer, when demand is high. A small test was done in Bear Canyon Arroyo in 2008-09, in which water was allowed to soak into the ground, and the utility is looking at doing more similar storage in 2012, according to Stomp. The shift to river water has had some problems. The Water Utility lost a Court of Appeals decision last month over the project's water rights, though it appears the diversions can continue while the case is appealed.

The Water Utility has also been slower in making the transition to river water than was expected when the project was started. In

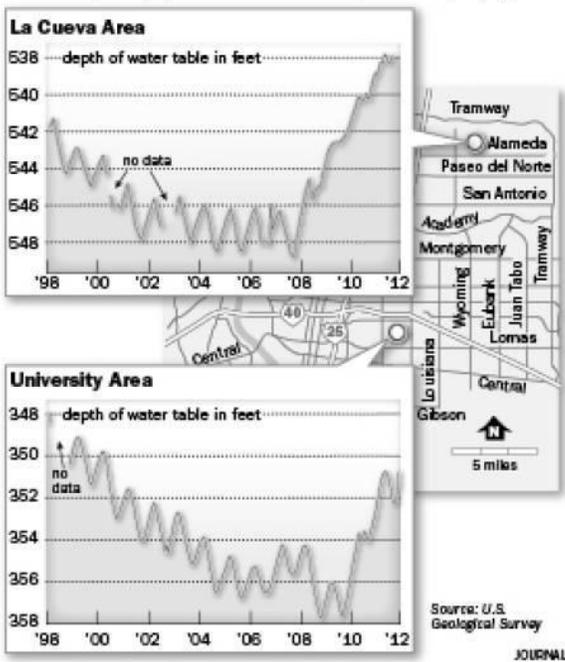
2010, the second full year of operation, river water made up 41 percent of Albuquerque supply. Through the end of October, the most recent period for which full data is available, that dropped to 36 percent, in part because the Water Utility shut down the plant in September and October because of the cost of treating river water contaminated with ash from the Las Conchas wildfire. The Water Utility plans for the river water to eventually provide 70 to 75 percent of its water supply, but the project has been slow in increasing to that level.

Stomp attributed the shortfall to technical concerns the utility has had to overcome as it increases production at its new, one-of-a-kind water system. Among them were changes to the Alameda Diversion Dam to allow heavy equipment to get into the intake structures to remove unexpectedly large loads of silt.

Despite the reduced pumping, groundwater studies done by the Water Utility and federal scientists suggest the effects of past pumping will linger for decades as river leakage continues to replace water pumped in the past.

**ALBUQUERQUE AQUIFER RECOVERING**

Of 18 monitoring wells in the Albuquerque metro area, including two examples shown here, 15 show rising water tables three years after Albuquerque began its shift to the use of river water instead of groundwater to supply the city. One shows little change and the other two, which show declining water tables, are located in an area influenced primarily by Rio Rancho's continued groundwater pumping.



Scott Schnepfer scoops a water sample from the treatment system of the Albuquerque Bernalillo County Water Utility Authority. The system cleans up river water for municipal use, allowing reduced dependence on Albuquerque's aquifer. Data from test wells show that, after three years of reduced pumping, the aquifer is starting to bounce back.

**ADOLPHE PIERRE-LOUIS/JOURNAL**



River water, seen here flowing through Albuquerque's new treatment plant, has reduced the metro area's reliance on groundwater, and new data show the water table is beginning to rise in response.

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Wastewater stained red from iron used in the treatment process drains into a settling pond at Albuquerque's water treatment plant.

