

# A sinkhole tells the story of the Edwards Aquifer recovery

Sinkhole just 1 place where water supply is recharged

By Brendan Gibbons

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The white Ford Explorer turned right onto the farm road and headed north, as sunlight broke through heavy storm clouds and illuminated the green knobs of the Hill Country on the horizon.

In the driver's seat sat Jon Cradit, a geologist with the Edwards Aquifer Authority. Jim Boenig, an engineer who serves as director of aquifer protection, rode shotgun.

Their destination Thursday morning was a private ranch two hours west of San Antonio where a torrent of water cascades into a cavern during heavy rains, helping to recharge the Edwards Aquifer.

Thanks to months of above-average rainfall, the Edwards is fuller than it has been since 2010. That's good news for the 2 million people who rely on the aquifer as their primary drinking water source.

It was a stark change from three years ago, when the lack of rain dropped the aquifer level low enough for San Antonio Express-News journalists to rappel deep into the chasm. The sinkhole actually was formed by water upwelling through an ancient spring hundreds of thousands of years ago, Cradit said.

Up close, the sinkhole looks like a deadly whirlpool out of a Greek epic poem. Muddy water rushes down a rocky chute and swirls into the abyss.

Boenig estimated at least 500 cubic feet of water per second was disappearing into the earth. The sinkhole was draining the equivalent of an Olympic-sized swimming pool every three minutes.

For as much water reaches the aquifer at this spot, far more infiltrates through porous rock in a band where the Edwards touches the earth's surface. The recharge zone stretches from the middle of Kinney County in a northeast curve to the middle of Travis County.

Boenig said the sinkhole only accounts for 0.1 percent of the aquifer's total recharge.

"You take all this recharge, that's just a little bitty fraction of what's going into the aquifer," Cradit said.

Near the sinkhole, signs of abundant water were everywhere, from sunlight reflecting off of soggy fields of corn, cotton and wheat, to streams that spilled over their edges and across the road. Cradit had to keep steady on the gas to cross carefully.

The EAA and the landowner want to keep the location under wraps to deter would-be trespassers. The land around the sinkhole is protected from future development under a conservation easement.

The official aquifer reading for Thursday, taken during the morning, was 675.5 feet.

Later in the day, it reached 676 feet above mean sea level for the San Antonio Pool, its highest point since just before the start of the last drought, one that became severe and long-lasting. Now the aquifer is about 10 feet above its historical May average, but far from its all-time high of 703 feet in June 1992.

A slightly below-average January and February for rainfall turned into a much wetter March, April and May. The official amount of 6.2 inches in April was nearly three times the average.

Rainfall so far this month rose to about 4.6 inches Thursday, compared to a little more than the 4-inch average.

“It’s kind of our make-or-break month,” said Jim Winterle, an EAA modeling and data expert who gave EAA board members his prediction at their May 10 meeting on how the aquifer likely would fare this summer.

If recharge to the aquifer falls at a median level compared to past years, the aquifer is projected to only drop to below 660 feet above mean sea level from early August to early September, Winterle said. That would trigger the EAA’s stage 1 restrictions, which would reduce pumping by 20 percent.

Even in a drier scenario, enough water remains in the aquifer to avoid the most severe pumping restrictions. If recharge turns out to be only 10 percent of normal, the aquifer likely only will drop below 650 feet from mid-July through early September. That would trigger stage 2 restrictions, a 30 percent cutback.

Though the region is feasting on water now, another famine could be around the corner. About half of the aquifer's water flows out through springs, like those in New Braunfels, San Marcos and elsewhere. Boenig called the aquifer a "leaky bucket."

"Two years in a row with no rain and we would be in trouble," Winterle said.