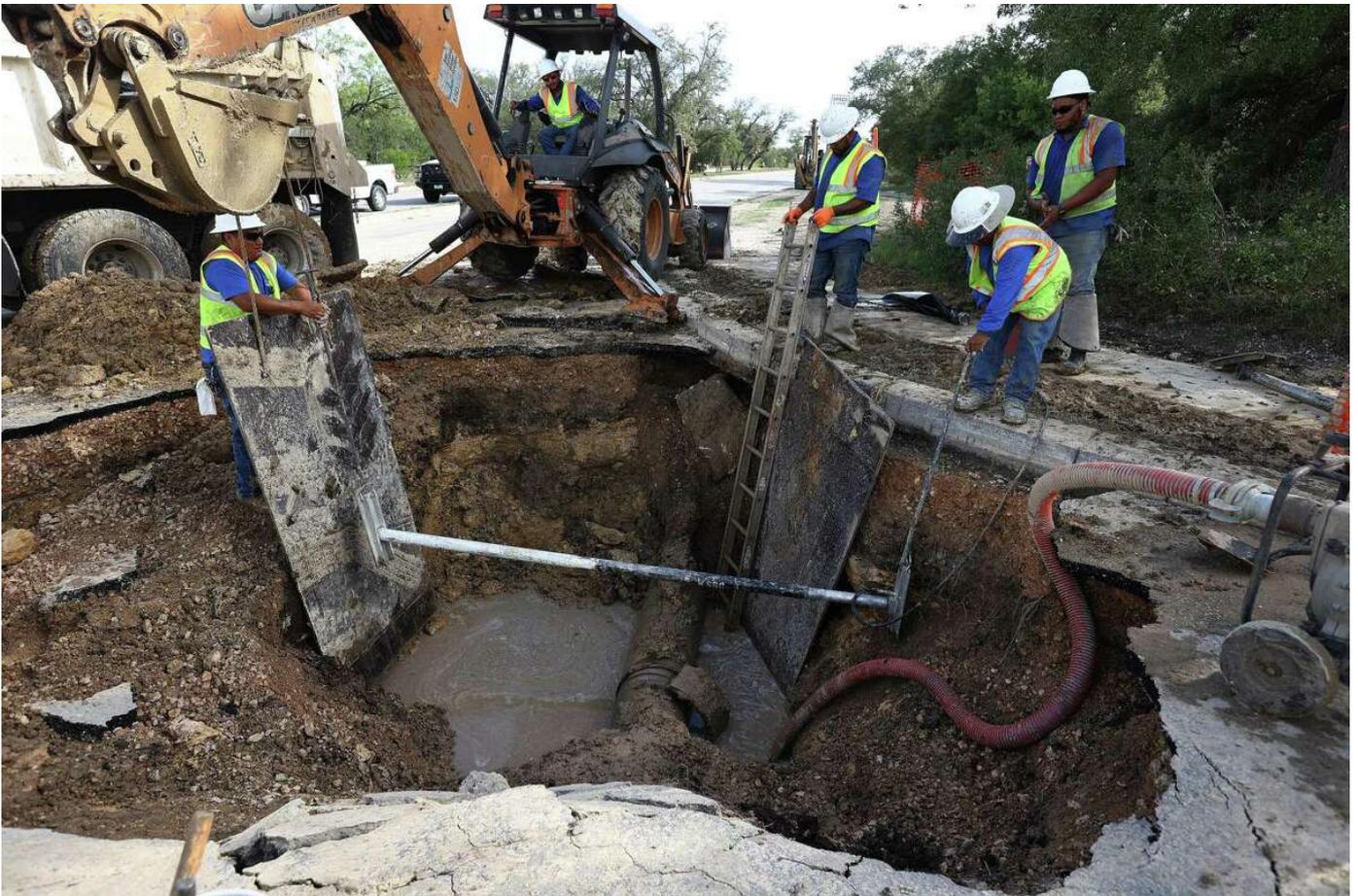


# SAWS lost over 14 billion gallons of water in 2021: Here's how to fix it

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A San Antonio Water System repair crew works on a water main break near Lambda and Omicron on the far West Side on Wednesday, Aug. 31, 2022. SAWS has worked on fixing water leaks all summer, fixing about 700 in July alone.

Kin Man Hui, San Antonio Express-News / Staff photographer

Billions of gallons of water have been lost as the pipelines that crisscross San Antonio crack and snap amid a drought that continues to plague the area.

Even after recent rainfall, the [overall lack of moisture](#) continues to cause the ground to shift and shrink, destabilizing the city's piping and causing structural tension.

There were 700 main breaks in July. Depending on the damage, a major break can disrupt the water supply for an entire neighborhood until the joint in the pipeline is fixed. Because of this, a constant stream of work crews sent by the San Antonio Water System is managing the breaks and replacing the broken pieces.

The end result is thousands of gallons of lost water.

**On ExpressNews.com:** [SAWS water restrictions, explained](#)

Water loss is not new to San Antonio, however, or any Texas water utility for that matter. Even in years without severe drought, pipelines will crack, leaks will appear, and water will be stolen. Like many of the other trials and tribulations of water agencies, water loss is just one part of the operation. Last year, SAWS lost more than 14 billion gallons of water

through main breaks, leaks, theft, inaccurate customer metering and other causes, according to its water-loss audit submitted to the Texas Water Development Board. This year, that number is expected to grow.

Still, these issues do not go unrecognized by state water experts, agencies and municipalities. During a recent Natural Resources Committee public hearing with the Texas House, water loss was a major topic of discussion. Water officials from all over the state attended, and questions over structural repair and replacement, improvements to water supply and sustainable funding sources were front and center. Some expressed the need to address water loss as a form of conservation during growing development concerns. Others saw it as a continuing battle for sustainable water management.

Either way, since Congress passed the \$1.2 trillion Infrastructure Investment and Jobs Act last year, water agencies like SAWS now may have more funding to deal with problems like water loss.

“Water loss is one of those things that can never be fully eliminated,” said Robert Puente, CEO of SAWS. “It’s a continuous, every-day effort. You never really get to zero, but you try to get as close as possible.”

## **Keeping track of numbers**

San Antonio Water System utility technicians Christian Cerda, right, and Julius Pruitt secure a repair clamp around a broken water line as a repair crew works to fix a water main break near Lambda and Omicron on the far West Side on Wednesday, Aug. 31, 2022. SAWS has worked on fixing water leaks all summer, fixing about 700 in July alone.

Kin Man Hui, San Antonio Express-News / Staff photographer

The Texas Water Development Board, the state agency in charge of water loss data, receives loss audits from all Texas water utilities. Any utilities that serve 3,300 water connections or more, such as SAWS, have to submit an audit every year. All other utilities submit one every five years.

For the board, the future of water loss in Texas comes down to the quality of the data. If a water agency doesn't have the correct data to identify what kind of water loss the utility is having or where that utility has the loss, it can be harder to target mitigation efforts.

"When these water agencies submit their audit, some people have really strong expertise on water loss and therefore more accurate numbers," said Sam Hermitte, assistant deputy executive administrator of water science and conservation for the state agency. "Others may not have been in their roles for very long, or they may, especially in more rural areas, have a lot of different roles that they play."

Water loss is an expensive endeavor for all utilities, so knowing exactly where to incorporate structural change can help.

One way is validating the numbers that are submitted by water agencies, Hermitte said. So far, the agency has validated only 10 water companies, including SAWS.

When SAWS validated its numbers, the company realized some of its calculations were not quite on point, and it fixed them, which helped it both target the water loss and save money.

While water loss is not always the highest priority for utilities, many of them can apply for state funding to focus on one way to limit immense water loss. This funding could increase after the infrastructure bill that passed through Congress last year. Puente said a lot of that would go toward hiring more workers.

The team at SAWS also could accelerate its implementation of the automated meter infrastructure, which can detect a leak before the customer even knows of it. Right now, the process will take five years to implement completely. They also partnered with an Israeli company to use satellite imagery to detect where there might be a break before it actually breaks. The system can tell the difference between natural groundwater and chlorinated water that comes from SAWS.

“That kind of technology is there for us,” Puente said. “But it is still a challenge to get it implemented.”

## **A hidden source of water**

SAWS maintenance workers Jonathan Vega and Hugo Ortiz work on a water main.

Charlie Blalock/ Contributor

In total, Texas utilities lose at least 527,000 acre-feet of water a year from the water treatment center to tap.

This is equivalent to the entire 2020 water needs for the cities of Austin, Fort Worth, Laredo, El Paso and Lubbock combined, or 51 gallons per water connection per day, according to a report by the Texas Wildlife Federation. If water utilities across Texas performed better or equal to 75 percent of the utilities, 249,000 acre-feet could be saved every year.

“Most water that we’re seeing getting lost is in the infrastructure from the water treatment plant to your house,” said Jennifer Walker, the deputy director of the Texas Coast and Water Program for the Texas Wildlife Federation. “While there are issues with metering and data handling and such, a vast majority is from breaks and leaks and our water distribution system.”

The analysis found that instead of other water-management strategies such as desalination and building new reservoirs, preventing water loss is more cost effective. Active leakage detection and repair would cost about \$50 to \$350 per acre-foot of water, while supply-side management could cost far more for the utility.

Before a community invests in any kind of big water project, such as the new desalination plant, the report suggests utilities look at the water they already have and make sure they are using it as efficiently as possible. Utilities need to fix that leaky infrastructure first, Walker said, and then they can start looking for other supplies.

In SAWS's next water management plan, which is expected to be published this year, a big section will discuss water loss, according to Puente.

Summer is normally the worst time for waterline breaks, when the soil is the driest and the pipes are the most susceptible to cracking, said Donovan Burton, vice president of water resources and governmental relations for SAWS. But with climate change, and weather changing quickly in South Central Texas, a normal year for water loss could evolve over time.

It's something that worries Walker, too. With development booming and droughts deepening, all water infrastructure issues need to be discussed and resolved soon, Walker said.

"We have a finite amount of water in Texas," Walker said. "We need to make sure we have enough for the environment, for people, for agriculture, for industry, and we need to be as efficient as possible. Let's try not to lose 50 gallons a day per connection. We can't afford that anymore."

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