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## Why 2 oil states are slow to embrace wastewater recycling

By [MIKE LEE \(HTTPS://WWW.EENEWS.NET/MEET-THE-TEAM/MIKE-LEE/\)](https://www.eenews.net/meet-the-team/mike-lee/) | 04/27/2026 06:44 AM EDT

**Texas and New Mexico are reviewing plans that could send cleaned water into rivers and fields, but some regulators want more assurances.**



**A jar holds wastewater from hydraulic fracturing at a recycling site in Midland, Texas. The drilling technique has increased U.S. production of oil, gas and wastewater. Pat Sullivan/AP**

The two biggest oil-producing states are at a crossroads as they try to solve one of the industry's thorniest problems — getting rid of billions of gallons of salty, oily wastewater that's produced alongside crude.

Academic researchers in Texas and New Mexico say technology developed in recent years allows companies to clean up the waste, known as produced water, so it can be released into surface water like rivers or diverted for uses such as crop irrigation.

But state regulators are still cautious about the idea.

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The Texas Commission on Environmental Quality, which regulates water in the state, said it wants to address “knowledge gaps” before it issues disposal permits for oil field waste, and it will take more than a year for companies to reach full capacity once they receive a permit. New Mexico's Water Quality Control Commission is considering an application from the oil industry and a group of oil states, though the commission has already turned down the idea twice.

A lack of new state regulations is slowing down development at a time when Texas and New Mexico are fighting a drought and looking for long-term sources of water, said Zach Stoll, assistant director of the New Mexico Produced Water Research Consortium at New Mexico State University.

“Without that, it’s tough to kind of scale up and go up and go out and invest however many hundreds of millions of dollars to build a facility,” he said.

The Texas environmental commission is reviewing three active permit applications to dispose of treated produced water in the Pecos River and other surface water. The commission also is preparing to release regulations for surface use of treated water.

In New Mexico, the Water Quality Control Commission could decide in May whether to advance rules that would allow produced water to be reused in 13 of the state’s 33 counties.

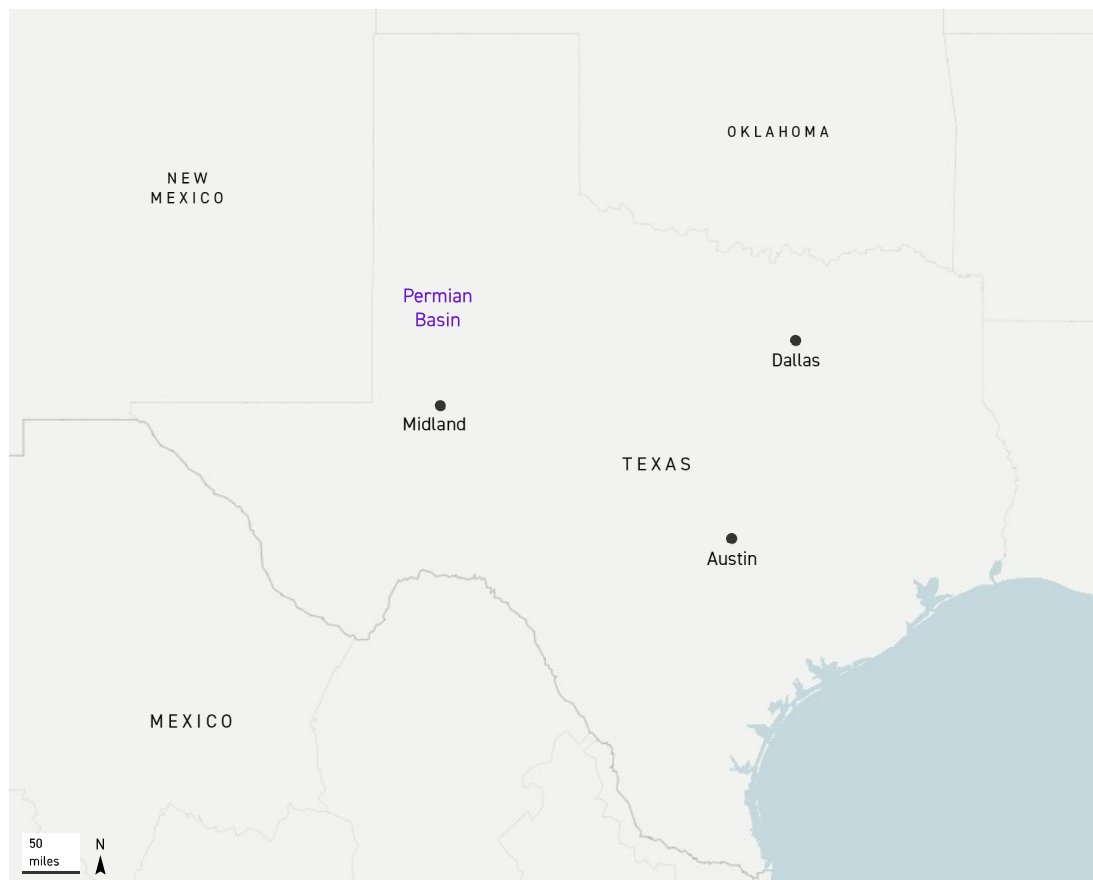
“Building a science-based regulatory framework for produced water reuse is critical to safeguarding our state’s freshwater reserves for generations of New Mexicans,” Drew Goretzka, a spokesperson for the New Mexico Environment Department, said in an email. “NMED is committed to ensuring the petition reflects those priorities and can advance successfully before the Water Quality Control Commission.”

The Texas commission known as TCEQ provided slides from Chair Brooke Paup’s recent presentation on produced water showing the timeline for the proposed regulations. But the agency declined an interview request and didn’t answer detailed questions from POLITICO’s E&E News.

Environmentalists are urging oil states to move slowly, arguing that oil field wastewater is both a huge problem and a complicated one. Produced water totals have surged in recent years amid a drilling boom tied to the use of hydraulic fracturing, or fracking, that uses a mix of water, sand, chemicals and high pressure to get more oil and gas out of places such as the Permian Basin.

## Finding ways to handle wastewater from fracking is a focus in the Permian Basin

Permian Basin boundary



Source: Bureau of Economic Geology  
Claudine Hellmuth/POLITICO

The Permian, which lies under parts of Texas and New Mexico, produces more than 6 million barrels of oil a day, [according to federal data \(https://www.eia.gov/todayinenergy/detail.php?id=67364\)](https://www.eia.gov/todayinenergy/detail.php?id=67364). But it produces even more wastewater — three to five times as much, according to TCEQ, and some experts say the figure is much higher.

That’s billions of gallons of waste a day. The fluid can hold more salt than ocean water, and it’s often contaminated with drilling chemicals, oil and other

hydrocarbons, heavy metals and sometimes [radioactive material \(https://pubs.usgs.gov/fs/fs-0142-99/fs-0142-99.pdf\)](https://pubs.usgs.gov/fs/fs-0142-99/fs-0142-99.pdf).

The salinity and the levels of pollutants often vary from place to place and can change over the lifetime of a well, making them harder to treat. And researchers don't always know the safe levels for some of the chemicals found in the wastewater.

"It's a highly, highly variable waste stream, and so it's basically impossible to have a one-size-fits-all treatment," said Colin Cox, an attorney with the Center for Biological Diversity.

It's also not clear if the results from the industry's pilot programs can be recreated at scale, said Ted Auch, a researcher for the Fieldnotes watchdog group.

The salt in produced water wreaks havoc on treatment equipment. And even if big companies are able to operate safely on a large scale, the oil industry tends to attract small operators who look to compete by cutting costs. So instead of overseeing a handful of big operations, state regulators would have to keep an eye on dozens of small treatment plants.

"Then all of a sudden the whole thing starts to break down, because now, instead of one or two large discharge permits ... we have this very diffuse network of these things all over the place. And good luck with that," Auch said.

## 'Benefit a lot of people'

Historically, the industry has injected produced water into deep disposal wells. That technique, though, is getting more expensive as the Permian Basin and other oil fields get older. Disposal wells also have been linked to a string of earthquakes. As operators shift to different geological layers, they've had to cope with [produced water escaping from shallow formations \(https://subscriber.politicopro.com/article/eenews/2025/12/11/fracking-waste-threatens-permian-basin-water-supplies-imperils-oil-industry-plans-00668007\)](https://subscriber.politicopro.com/article/eenews/2025/12/11/fracking-waste-threatens-permian-basin-water-supplies-imperils-oil-industry-plans-00668007) — in some cases causing geysers of salty water that spread across rangeland.

The Railroad Commission of Texas, which regulates oil production, is considering new procedures to handle a rash of aging, often plugged wells that begin leaking produced water due to shallow injection.

The state agency was managing an average of 19 wells leaking produced water to the surface every day in fiscal 2025. That figure has grown to 29 a day this fiscal year, according to a Railroad Commission presentation posted online by Sarah Stogner, who is district attorney for the 143rd Judicial District in West Texas.

"The increasing pace, complexity, and cost of emergency events is outpacing our ability and resources to respond," the commission said in the presentation.

In a statement to E&E News, the commission said it "anticipates future dialogue with affected stakeholders as we continue to pursue improvements."

The Texas Oil & Gas Association didn't provide a comment for this story. But it has touted efforts to find ways to use the industry's wastewater.

"Today's oil and natural gas companies are technology companies, and treating, reusing and recycling produced water for beneficial use in the oil patch and beyond is becoming more common thanks to this industry's commitment to innovation," Todd Staples, the association's president, [said in a statement \(https://www.txoga.org/txoga-applauds-law-creating-texas-produced-water-consortium/\)](https://www.txoga.org/txoga-applauds-law-creating-texas-produced-water-consortium/) in 2021 that praised the state's move to establish the Texas Produced Water Consortium at Texas Tech University.

Both Texas and New Mexico have set up state-funded research operations to look for cost-effective ways to clean up the wastewater and recycle it, rather than dispose of it. The researchers at both New Mexico State and Texas Tech have worked closely with private companies that are running pilot programs in the Permian Basin.

The pilots typically use a combination of technology — pretreatment with chemicals, evaporation and filtration through active carbon, for instance. The results have been promising, and they've shown that the plants can deal with variations in water quality, according to Pei Xu, research director of the produced water consortium at New Mexico State.

Xu said treated produced water could be another way to supplement water supplies in arid regions, similar to desalination or other recycled water from municipal sewage plants.

"Fresh water can be used for communities, but this water can be used for industrial applications, data centers, power plants or other industrial applications," she said.

For now, the treatment cost is higher than other disposal methods — as much as \$1.50 per barrel compared to 80 cents for injection, said Shane Walker, who leads the Texas Produced Water Consortium at Texas Tech. But the cost of injection is rising, and the cost of treatment could fall once companies are able to do it on a large scale, he said.

"It's a significant volume of water," he said. "The treatment technologies have demonstrated that you can achieve clean water as a product. And so it could really benefit a lot of people."

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