

Produced water: Unsafe for discharge or off-oilfield reuse

THE MISCONCEPTIONS, THE FACTS, AND NEXT STEPS

BACKGROUND

What is produced water? Produced water is a wastewater byproduct from the drilling and production of oil and gas. It's a combination of the water and chemicals that go down the well, and the formation water and chemicals that come with the oil or gas that is extracted. Produced water contains known and unknown pollutants. Produced water is significantly different from brackish water.

What is in produced water? Produced water can contain oil, grease, suspended solids, dissolved solids, heavy metals, organics, naturally occurring radioactive materials, dissolved gases, and other known and unknown chemicals. Many are known hazards, including arsenic, barium, bromide, mercury, benzene, toluene, ethylbenzene, and xylene. These chemicals have the potential to cause cancer, adverse developmental and reproductive outcomes, and other harmful effects to humans and the environment.

Can produced water be treated so it's safe for humans and the environment? According to the New Mexico Water Quality Control Commission (Commission) in its [2025 produced water rule](#), there is insufficient data on the characterization and treatment of produced water to discharge it into the environment in a way that complies with state water quality standards and protects human health and the environment.

What about emerging science? Have there been studies since 2025 showing it's safe to discharge to water sources or reuse outside the oilfield? While the science has progressed, the peer-reviewed literature does not demonstrate that produced water can be treated for safe discharge or off-oilfield reuse. Contrary to industry assertions, new studies are narrow in scope, add disclaimers to the conclusions, and identify the need for additional study.

Is New Mexico in compliance with the 2019 Produced Water Act? Yes. In 2025, the Commission passed a produced water rule proposed by the New Mexico Environment Department (NMED) regulating discharge and reuse of treated and untreated produced water, satisfying the requirements of the act.

What does the Commission's produced water rule do?

- Allows science and the development of treatment technologies to move forward by authorizing nondischarging "pilot projects" of any size or scale.
- Based on scientific evidence, the rule protects human health and the environment by prohibiting reuse outside the oilfield and discharge of treated and untreated produced water to surface and ground water.
- The rule "sunsets" in 2030 to give the state the opportunity to revise the rule in response to scientific progress.

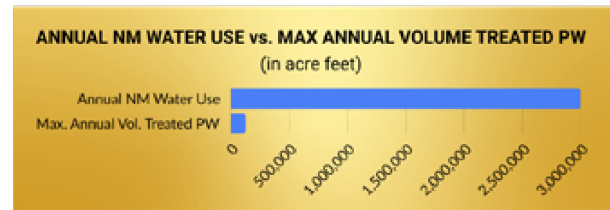
What about discharge and reuse on the oilfield? The New Mexico Oil Conservation Commission (OCC) exercises rulemaking authority over discharge and reuse of produced water in the oilfield. The OCC prohibits discharge and allows recycling of produced water for oil and gas drilling and production.

GETTING THE FACTS STRAIGHT

Misconception 1: Economically and technologically viable treatment technologies for produced water exist and are ready for implementation at scale. No. Studies to treat produced water involve long "treatment trains" that include pre-treatment, distillation, reverse osmosis, and polishing. Each step is energy intensive and the process produces highly concentrated waste requiring special disposal. The New Mexico Produced Water Research Consortium has not published estimates based on actual treatment operations of per-barrel treatment costs, total energy consumption, or fossil fuel emissions. The cost, however, is [significant](#). There are [examples](#) of produced water treatment plants failing, closing, and leaving legacy environmental sites for the local community and state to wrestle with. These include [three Eureka Resources](#)

[facilities](#) in Pennsylvania, the [Fairmont Brine](#) and [Antero Resources-Veolia Clearwater](#) facilities in West Virginia, and the [Austin Master Services](#) facility in Ohio.

Misconception 2: Reuse of treated produced water will solve New Mexico's water crisis. No. Industry generates roughly [2 billion](#) barrels of produced water annually. This volume comes nowhere close to meeting New Mexico's water needs, and the rate of production will decline over time. [Roughly half](#) of treated produced water ends up as waste. One billion barrels is approximately 128,893 acre feet. New Mexico uses about [3 million acre feet](#) per year. Even a generous estimate of the volume of water that could be treated demonstrates that treating produced water is not the answer to New Mexico's water shortage. The state must look elsewhere, to solutions that don't threaten the scarce water supplies we have.



Misconception 3: Discharge of treated produced water is already occurring in Texas, and New Mexico is falling behind. No. Texas has not permitted discharge of treated produced water in the Permian Basin. The Texas Commission on Environmental Quality, in fact, has not issued draft permits for public review although applications are pending, including one submitted over two years ago.

Misconception 4: Texas is taking New Mexico's produced water, and New Mexico is losing out. No. New Mexico pays Texas companies to **dispose** of produced water in disposal wells. Texas is not discharging or reusing New Mexico's produced water or otherwise using New Mexico's produced water for beneficial use.

It's important to know that:

The oil and gas industry does not publicly disclose [10-25% of fracking chemicals](#), which are present in produced water. Without disclosure, it's more difficult to test for and detect contaminants.

- New Mexico lacks water quality standards for many contaminants in produced water. Water quality standards should be established prior to discharge to protect human health and the environment.
- The oil and gas industry is aggressively pursuing discharge and reuse of produced water for economic reasons: the industry is awash in produced water while deep well disposal is expensive, pore space is becoming limited, and deep injection can cause seismic activity.
- New Mexico faces a water scarcity crisis. We should not risk this scarce resource without certainty that we can keep our waters clean.

NEXT STEPS

- Science to characterize and treat produced water should move forward as allowed under New Mexico's current produced water rules.
- Recycling of produced water in the oilfield should be maximized to reduce use of fresh water and to make use of produced water.
- NMED should lead any new rule proposals for treated produced water reuse. NMED is charged with protecting human health and the environment—industry is not. New rules must include water quality standards for all contaminants in produced water prior to authorizing discharge.
- To address New Mexico's water scarcity, New Mexico should focus resources on conservation of domestic, municipal, and agricultural consumption of water; infrastructure repair; aquifer mapping; water rights management; and regional planning, measures that do not jeopardize public health and the environment.



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