

# NM Produced Water Research Consortium



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Produced Water Overview

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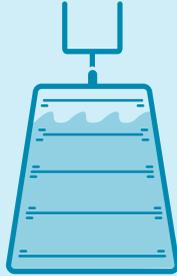
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## What is Produced Water (PW)?

Produced water is salty water that comes up during oil and gas extraction—a blend of ancient seawater, groundwater, and small amounts of process water from production activities. As New Mexico's largest oil-and-gas waste stream, it is generated mostly in the Permian Basin, producing more than **260 million gallons per day**, roughly equal to all residential water use in the state. Because of its volume, produced water is being evaluated for treatment and reuse in non-potable applications such as cooling, manufacturing, hydrogen production, irrigation, rangeland restoration, and instream-flow augmentation, with treatment needs depending on water quality and intended uses.

### Usage Impact: How much is one million gallons?

Submerges a football field with 8-feet of water



Equal to 60,000 showers



Provides water to 100 homes for one month



## Why it Matters

New Mexico's drought, low rainfall, and required water deliveries worsen scarcity, driving interest in safely treating produced water to help protect limited freshwater supplies.

## Testing Steps:

- 1** Agree on what to test  
The Consortium created an "NPDES+ List" of 400+ chemicals, with standardized sampling ensuring consistent, thorough, reproducible testing across labs.
- 2** Map the "where and when"  
A 2022 case study mapped produced water reuse timing, locations, purposes, and logistics in the Permian Basin.
- 3** Statewide survey assessed PW reuse  
In 2022-23, public survey of 657 individuals showed 61% support for PW reuse and up to 81% support for industrial uses of purified PW.
- 4** Use state-of-the-science testing and analytics  
In 2024, researchers analyzed advanced treatment, showing contaminant removal and identifying unknown organics for follow-up studies.
- 5** Confirm aquatic toxicity removal  
A 2024 pilot combined thermal distillation with GAC and zeolite; post-treatment toxicity tests showed no adverse effects.
- 6** Prioritize human health evaluation  
In 2025, human cells exposed to untreated produced water was harmful, but purified water was safe.
- 7** Assess soil and plant impacts  
In 2025, greenhouse irrigation tests found purified PW was safe for use on crops and comparable to fresh water.

## Working Example

