

# **‘Strategic Water Supply’ and Produced Water Management Recommendations**

Presentation to the Water and Natural  
Resources Committee  
Socorro, New Mexico

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August 26, 2024

# Key Issues

- **The Problem is 1,000,000,000 barrels per year of Permian Basin Fluid Oil and Gas Waste**
  - Industry recycles the remainder of its fluid waste for uses such as enhanced oil recovery.
  - Current disposal of 1,000,000,000 bbls/yr through high pressure saltwater disposal wells is dangerous and unsustainable.
- **Oil & Gas says treatment for Pecos River discharge or off-oil field reuse is its next best disposal option.**
- **Scientific Evidence and Technical Testimony is Clear**
  - Fluid oil and gas waste presents extreme hazards to human health and the environment
  - Full sustained treatment at even small field scale for Permian Basin fluid O&G waste is undemonstrated
  - That treatment can produce a discharge safe for off-oil field reuse is years from a public showing.
- **Environmental and Carbon Footprints are Huge**
- **The Environment Department's proposed rule violates the Produced Water Act and short circuits Water Quality Act**





# Recommendations Overview

## Require adherence to 2019 statutory protections

- The 2019 Produced Water Act and companion additions to the Water Quality Act require a program of research and testing supporting standards, regulations, and permits for reuse and disposal for all off-oil-field handling and uses

## Legislative Actions

- Establish a true Research Consortium, with its costs fully offset by a new penny or less a barrel produced water tax, to focus on protection of the public health, safety, and welfare
- Mandate disclosure of all chemicals used in fracking.
- Require the 2023 Water Security Planning Act Section 72-14A NMSA 1978 or equivalent processes for vetting and transparency of 'strategic water supply' projects in advance of funding consideration.

# Common Characteristics → Strategic Water Supply & the Gila River Diversion Project

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## Politically initiated

- expansive vision
- no justifying scientific data

## Broad outcomes sought

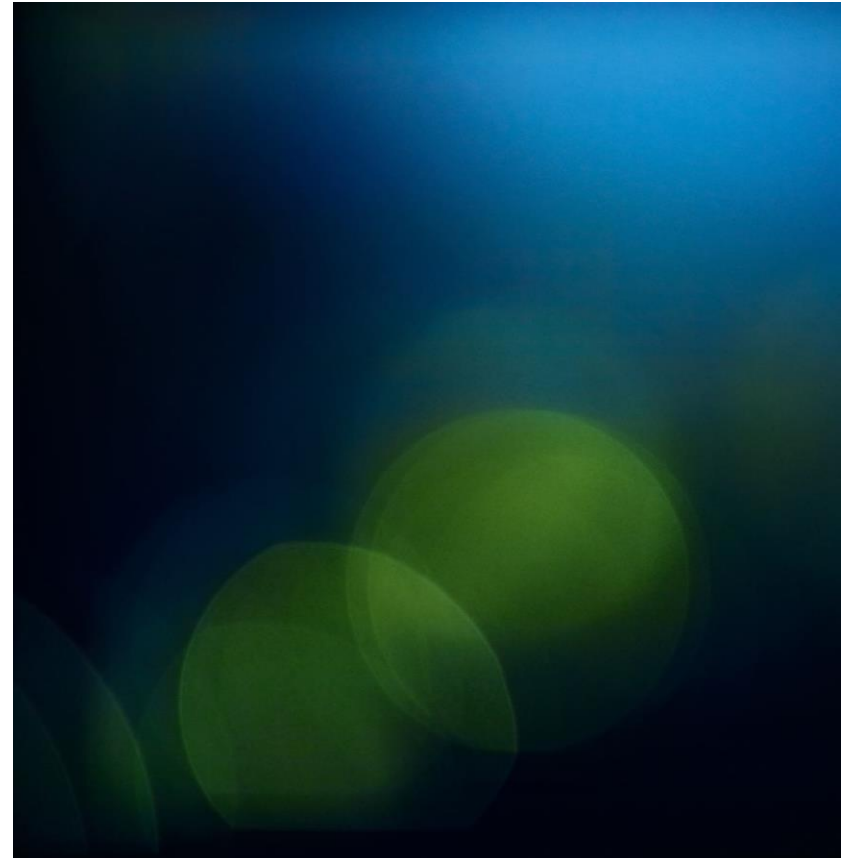
- are impossible as shown by unbiased review based on readily available facts.

## Consequences

- Ignored or covered up.

## Government officials

- refuse to conduct conceptual feasibility analysis.
- hide grossly adverse facts and analysis
- display pervasive deception, disinformation, and dishonesty



# NM Produced Water Research Consortium Uncorrected Management Failures

## Intentional Secrecy

- Essential environmental and safety data not disclosed
- Database design violates the 2019 Water Data Act and the public trust.
- 2022 Independent Review Committee Audit report kept secret

## Current Management

- Says sufficient research to serve as a scientific basis for standards and regulations will not be available in the next 18 months.
- Is marketing treated produced water as a drinking water source to the mayors of Southeast NM communities.

## Audit

- Severe management failures identified by an independent expert review committee audit at the end of 2022.
- Findings acknowledge the quality of NMSU academic research while assailing the lack of scientific rigor and data integrity in field scale testing.

## No Assessment of Feasibility

- An original and two amended NMED / NMSU agreements set expectations that the Consortium use an authoritative national peer-reviewed manual.
- It says feasibility assessments should come first to identify and analyze all the case specific issues and costly requirements.

## Lack of Transparency and Accountability

- Field tests are designed, conducted, and reported (or not) by their commercial proponents .
- Field testing is not conducted to any standards or set of standard protocols.

## Against the Law

- The Environment Department's currently proposed reuse rule would allow fracking wastewater Industrial and Demonstration projects without public notice, permits, standards, or regulations for off-oil-field transportation, handling, storage, etc., in violation of 70-13-4 D and 74-6-4 P.

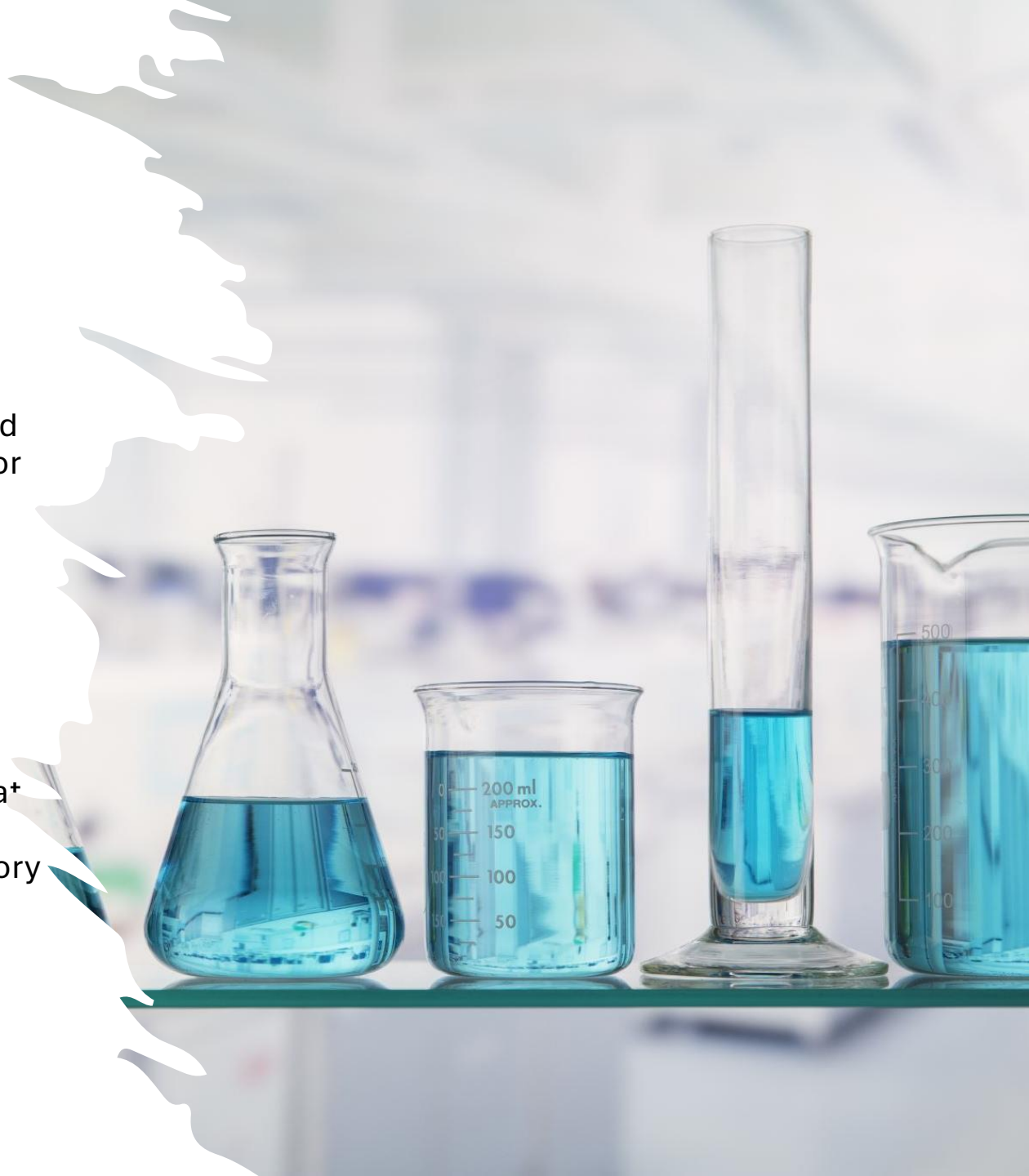
# Consortium Independent Review Findings - 2022

The audit of the New Mexico Produced Water Consortium and its ability to apply scientific methodologies and scientific rigor was nothing short of scathing:

“there are issues in reporting, accounting and operations.

Broaden research base to be a true Consortium:

- Research Structure: need more consistent operational oversight and documentation of results
- Sampling: Need process and oversight to ensure that appropriate QA/QC procedures are followed to meet public expectations for data used in support of regulatory rule-making
- Research results and sampling data should be available to NMPWRC members and ultimately to the public”



# Consortium 'External Review Report' Conclusion

## “Summary

- The NM State Legislature directed NMED to develop regulations for Produced Water, and the Consortium is an important part of that process. It is unlikely that the Consortium can accomplish its stated mission of generating the data needed to support the development of regulations if it has inadequate funding, an unclear organization structure and lack of clarity in expectations in research and outcomes. The recommendations of the Committee or some similar actions are needed if the Consortium is to continue."



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# Brackish Water Desalination

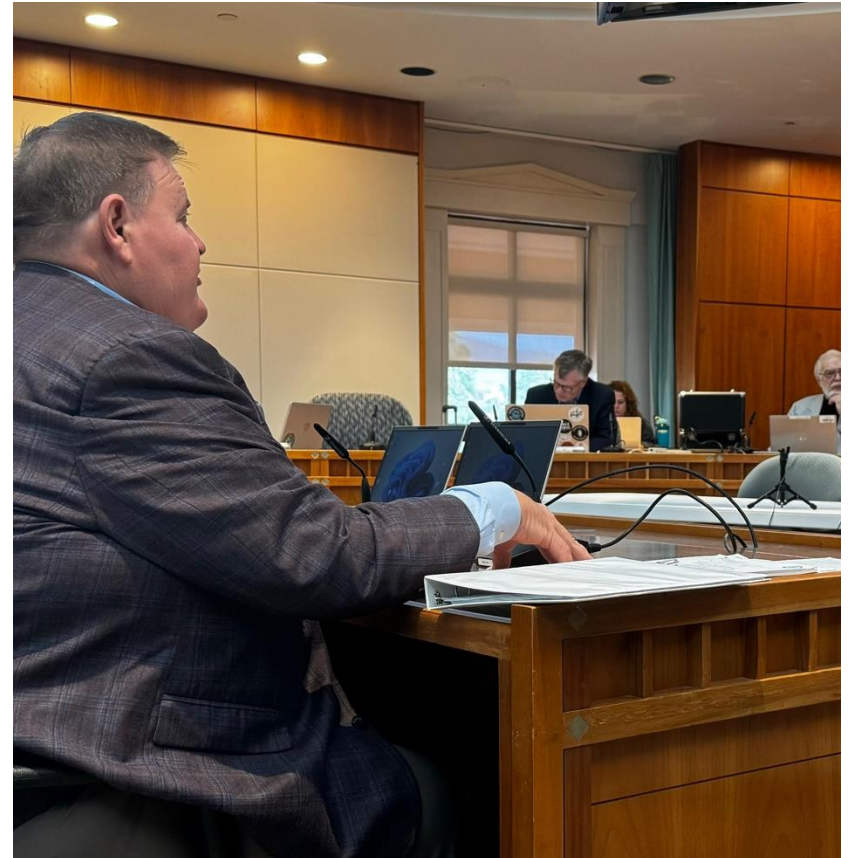
- Lawmakers must recognize that New Mexico has not done its water resources homework.
  - New Mexicans deserve to know how much good groundwater they have left, but we don't even know that in much of the State.
  - We know even less about saline and brackish water aquifers.
- Inland desalination is much more complex and expensive than ocean desalination.
- Dr. Stacy Timmons testified before the LFC Water Subcommittee in Carlsbad.
  - The farthest advanced concept for New Mexico desalination near Sunland Park needs five years of geophysical research first.
  - Its preferable to tell the experts where water is needed so they can make the highly site-specific determination of potential viability.
  - The framing should be the opposite of the SWS concept: 'Have uninformed political water solution; seek problem. Will pay half a billion dollars. Please send information.'



# A New Mexico Oil and Gas Association Witness Testified this August before the Water Quality Control Commission

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- Verified testing of a full series of pretreatment, primary treatment, desalination, and "polishing" tertiary treatment processes at field scale to produce pure water remains aspirational.
- Four sequential types and sizes of testing are needed.
  - Laboratory (bench) scale.
  - Small field pilot testing scale, garden hose sized flows.
  - Larger scale pilot testing from which cost estimates for full scale treatment can be derived. Cost \$10s of millions.
  - Demonstration scale.
- Two full size produced water treatment plants (Ohio and West Virginia) for highly saline produced water failed and were abandoned by their owners, one before start-up.



# Recommendations

- Rely on the protections of the Produced Water Act at Section 70-13-4 D NMSA 1978, requiring Environment Department permits for off-oil field uses for untreated and treated produced water and byproducts and the Water Quality Act at Section 74-6-4 P NMSA 1978 requiring regulations implemented and enforced by the Environment Department for the  
“discharge, handling, transport, storage, recycling or treatment for the disposition of treated produced water, including disposition in road construction maintenance, roadway ice or dust control or other construction, or in the application of treated produced water to land, for activities unrelated to the exploration, drilling, production, treatment or refinement of oil or gas”
- Pass legislation creating the New Mexico Fluid Oil and Gas Waste Research Consortium with a clear mission and specific responsibilities to protect the public health, safety and welfare of the state and its residents from fluid oil and gas waste discharge, treatment, reuse, direct disposal and ultimate disposal after reuse, and abandonment.
  - Require compliance with the recommendations of the Independent Review Committee’s audit report.
  - Require a true consortium.
  - Require disclosure of all fracking chemicals pursuant to oil industry claims and the Governor’s 2018 water policy platform page 7.
  - Require scientific procedures and process: integrity, reporting, independent verification, transparent, full compliance with the 2019 WDA.
- Require the executive to define and vet its proposed water projects with the scientific integrity, transparency, and rigor that the Legislature requires of water planning regions selecting their prioritized projects pursuant to the 2023 Water Security Planning Act Section 72-14A NMSA 1978.
- Require the State of New Mexico natural resource agencies that participated in the 2022 Water Policy and Infrastructure Task Force to report to the appropriate 2025 interim committees their coordinated consensus to accept, modify, or reject the Task Force consensus recommendations.

# Norm Gaume Relevant Qualifications & Experience

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Expert witness in the Water Quality Control Commission hearing on the Environment Department's fracking wastewater reuse rule for New Energy Economy. Presented direct, rebuttal, and surrebuttal sworn testimony. Witnessed the entire 11-day hearing.

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New Mexico Water Policy and Infrastructure Task Force member, 2022.

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New Mexico Produced Water Research Consortium Technical Research Steering Committee member, 2020-2021.

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Stopped the ISC Gila River Diversion Project through application of New Mexico's Open Government laws and forensic analysis of government models. Produced overwhelming technical evidence of waste, fraud, and abuse, 2014-2020.

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New Mexico Interstate Stream Commission Director, 1997-2002.