Impacts of NM Water Policy on Permian Basin Producers

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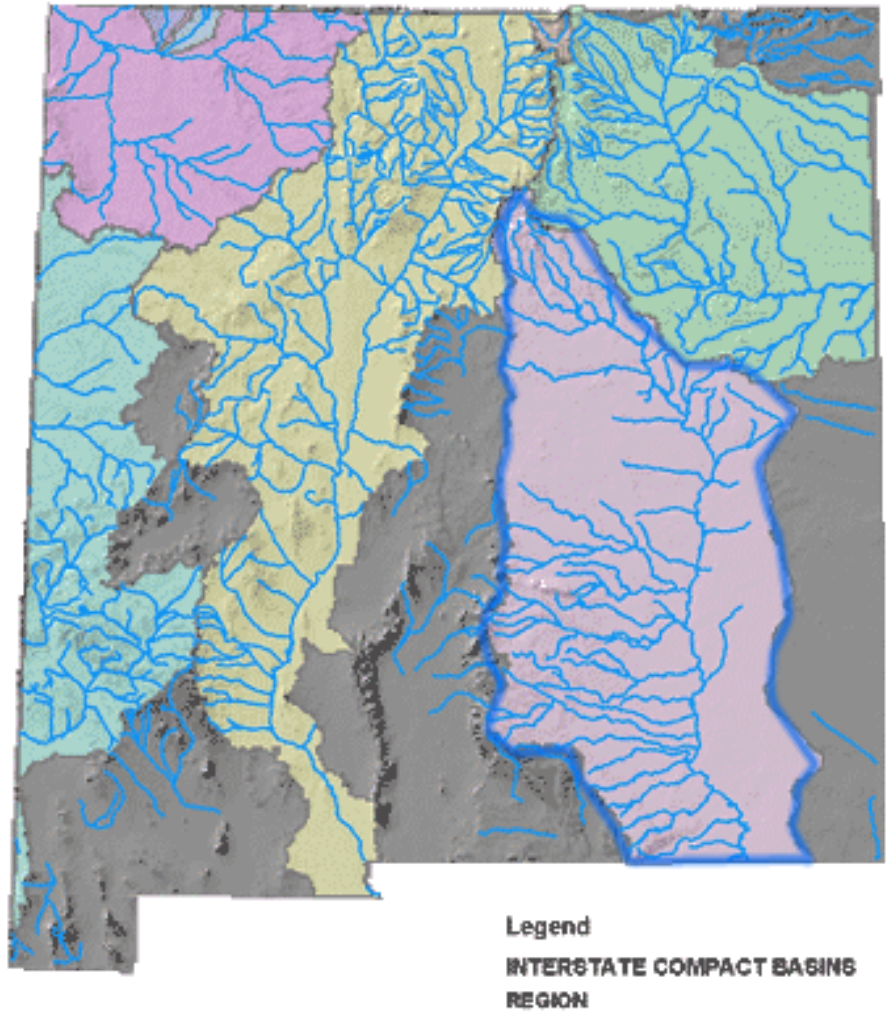
GAVILAN

Solutions

Overview

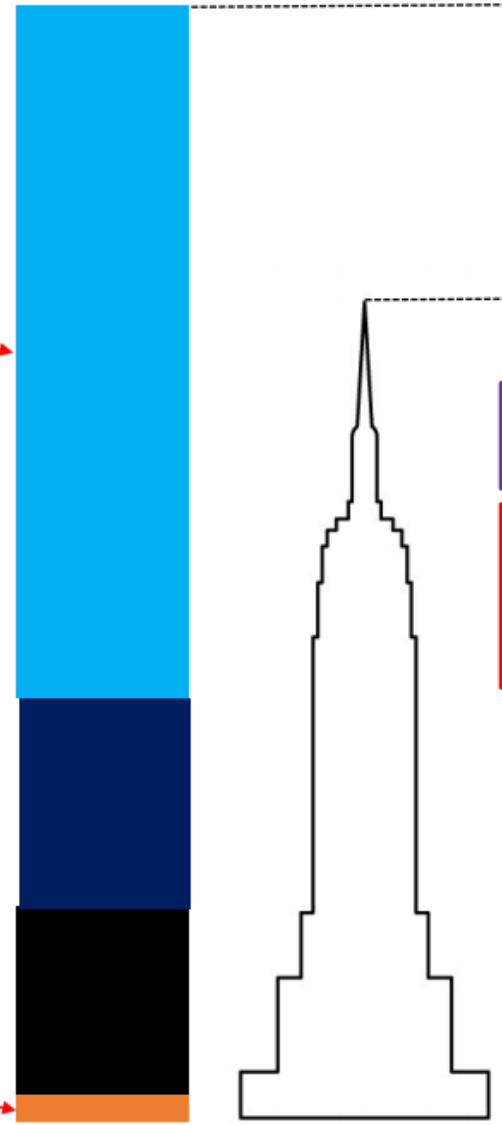
- NM Water Law
- Regionalized Water Management
- Conflicting Policy
- Unprecedented Growth



Per Well

Long-Lateral Permian Oil Well Inputs and Outputs Weigh ~405,000 metric tons

Empire State Building Weighs ~340,000 metric tons



Produced water:
Over 250,000 metric tons

Frac source water:
76,000 metric tons

Crude oil and liquids:
68,000 metric tons

Pipe, sand, misc. consumables:
Approx. 10,000 metric tons

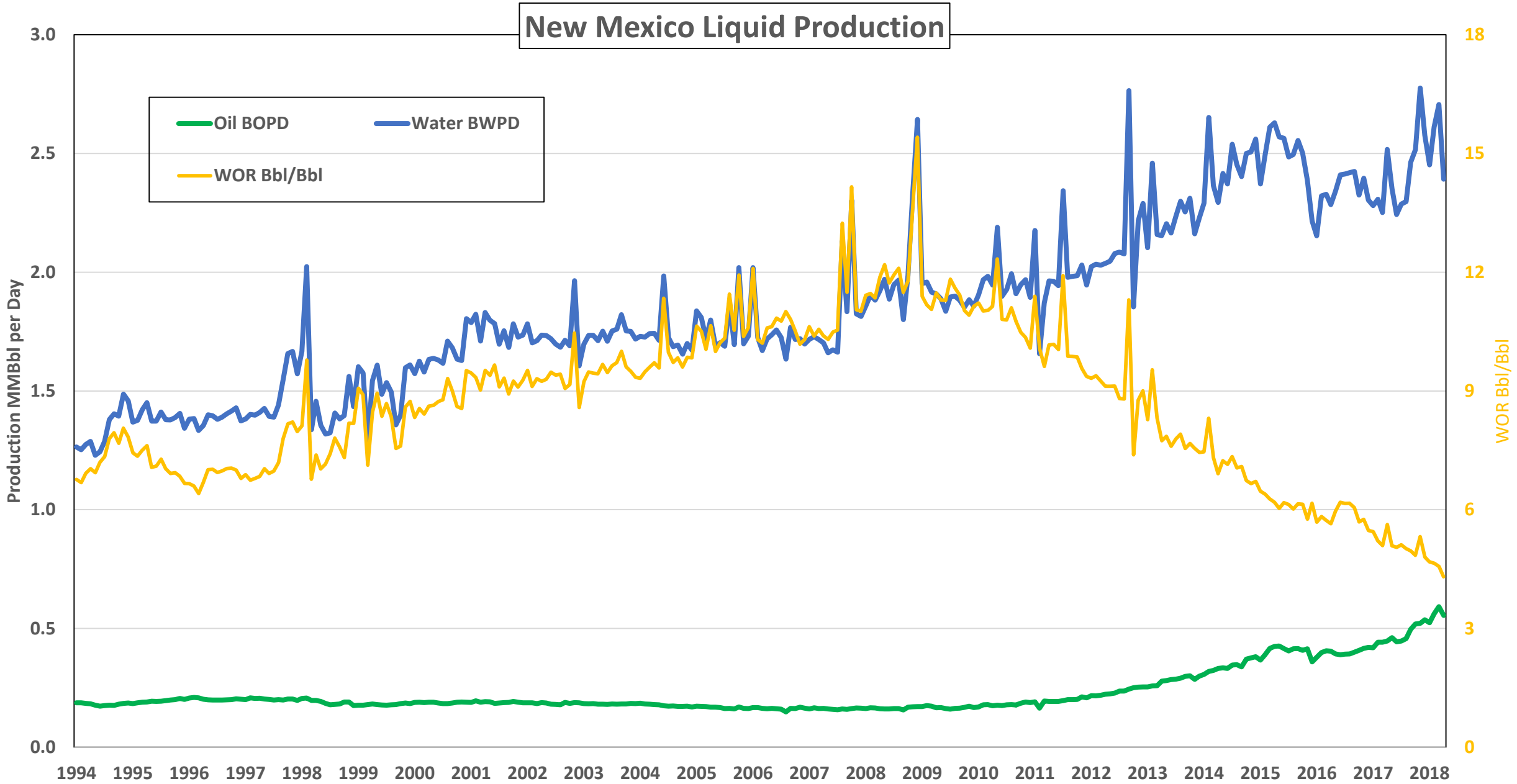
~450 wells drilled per month

Water will likely account for approximately 80% of lifetime "mass moved" for many Permian Basin wells.

Source: CME Group, Empire State Realty Trust, FracFocus, TexasBrine.com

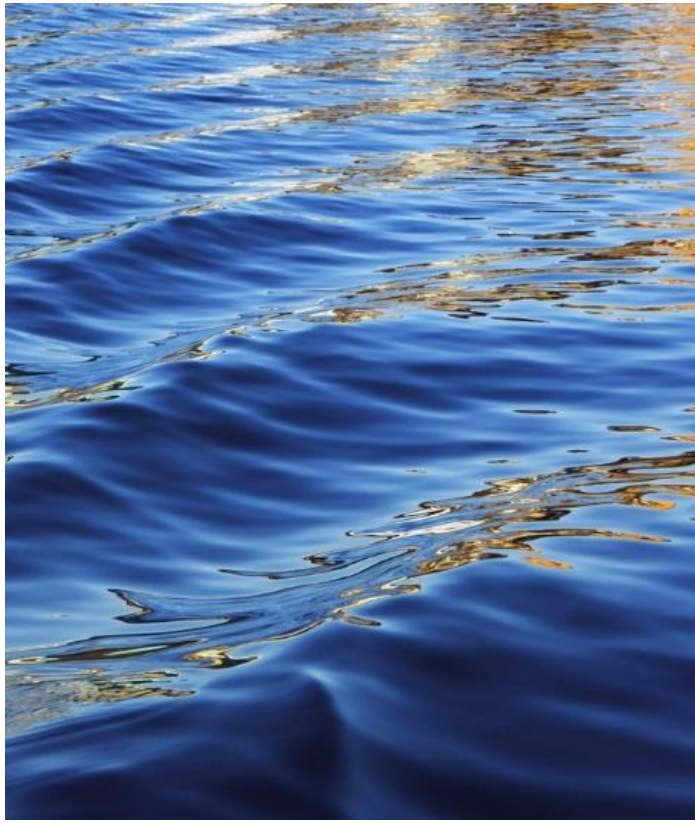
This analysis assumes 500,000 barrels of oil produced, with a water-to-oil ratio of 3:1. In many cases, wells will ultimately produce more oil and at a higher water cut.

Source: Gabriel Collins, Baker Institute for Public Policy



Source: Matthias Sayer

Regulatory Environment



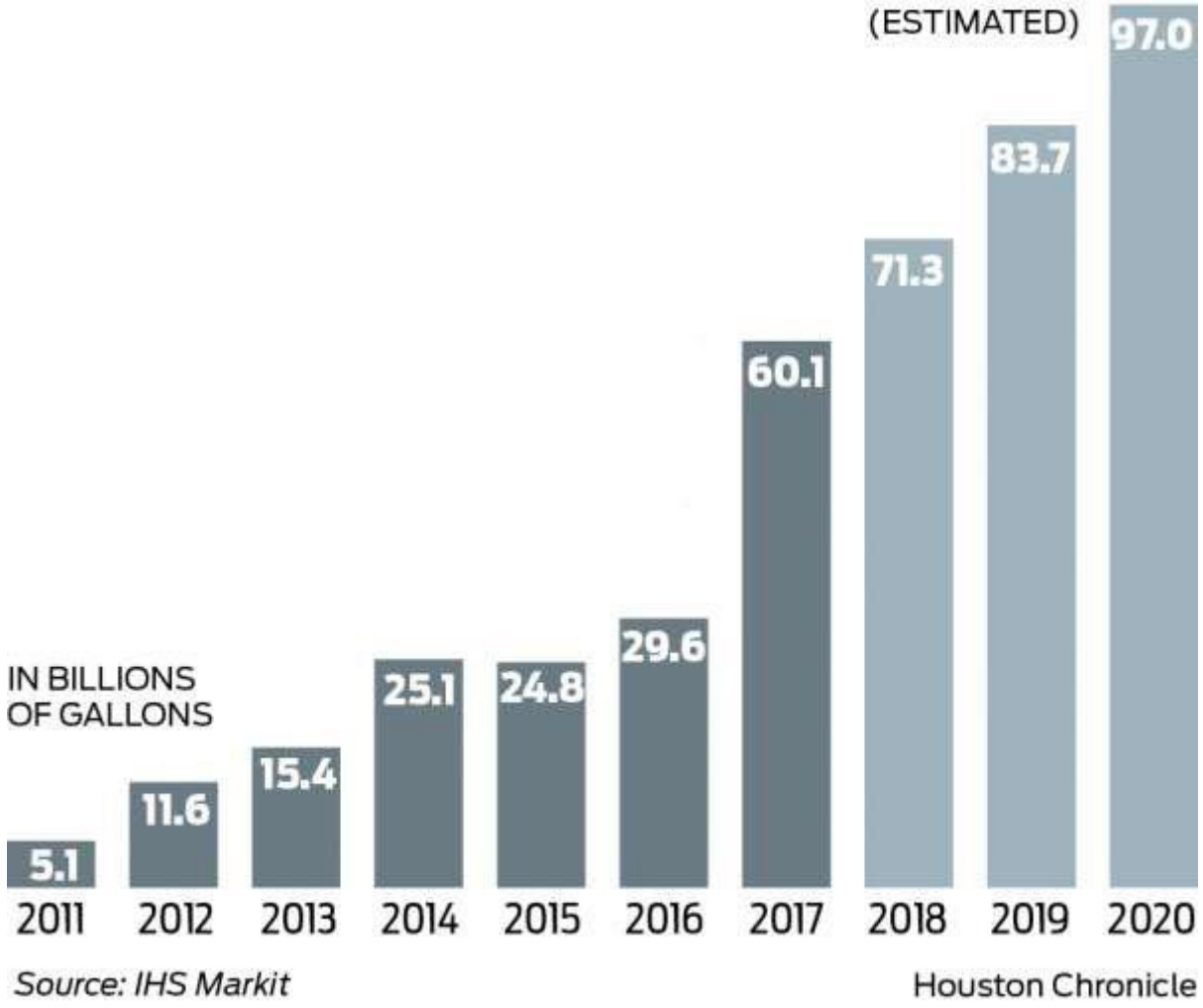
- New Mexico Office of State Engineer
- New Mexico Oil Conservation Division
- Landownership
  - Bureau of Land Management
  - New Mexico State Land Office
  - Private

New Mexico Office of State Engineer

- Surface and Groundwater
  - Carlsbad Underground Basin
  - Capitan Basin
  - Roswell Artesian
  - Lea County

Pecos River Compact

Water Usage in Permian Basin

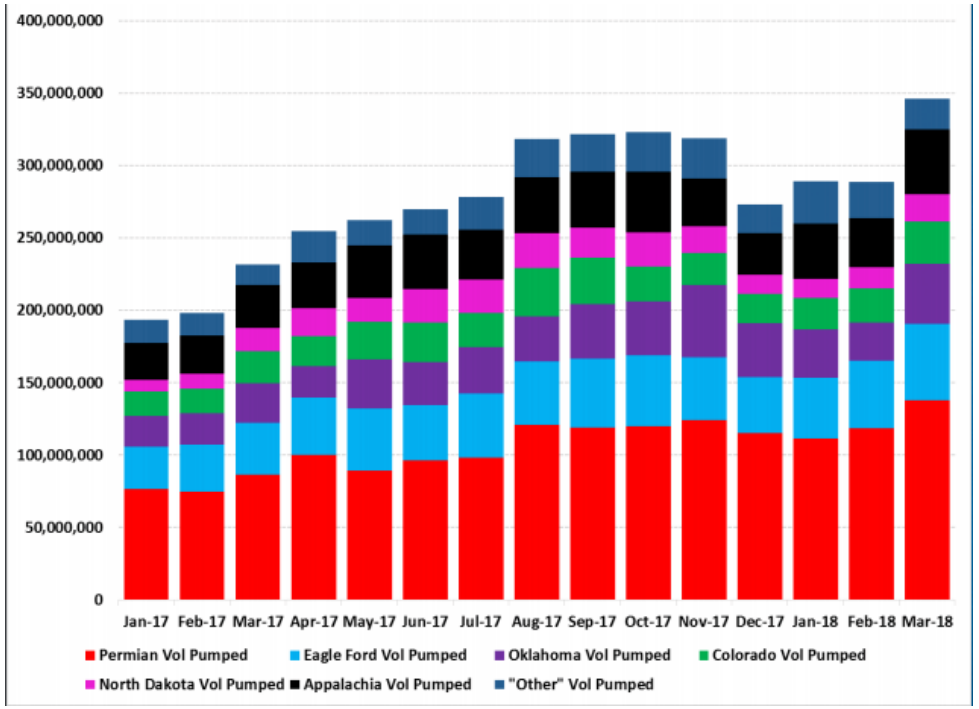


New Mexico Oil Conservation Division

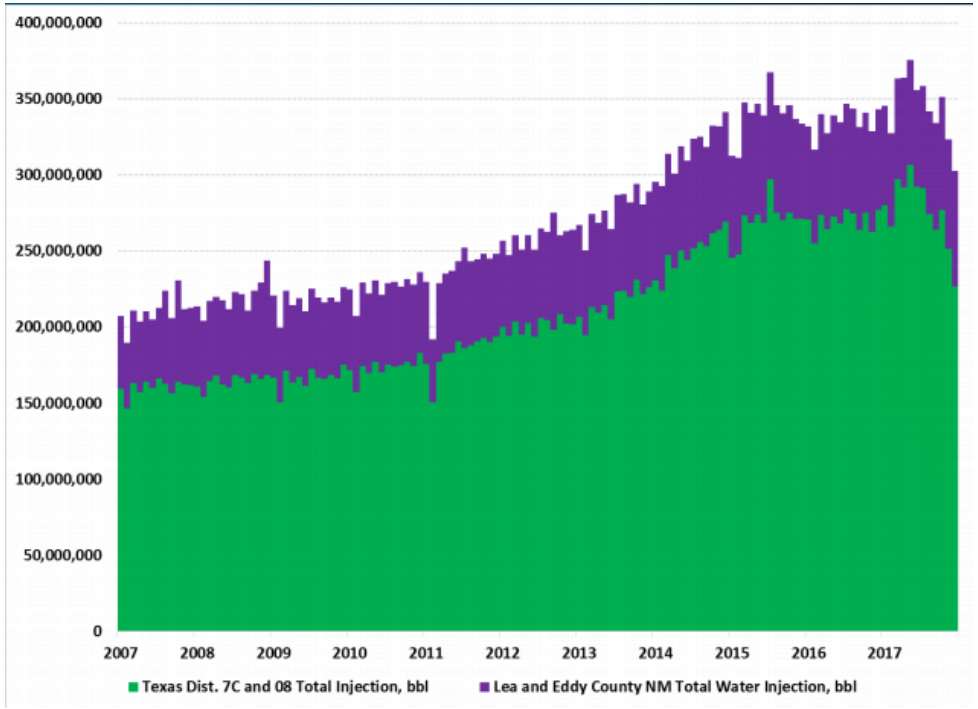
- Protection of Ground Water
- Injectable Water
- Saline Water Production
- Produced Water Recycling

Supply & Demand

Frac Water Volumes Pumped

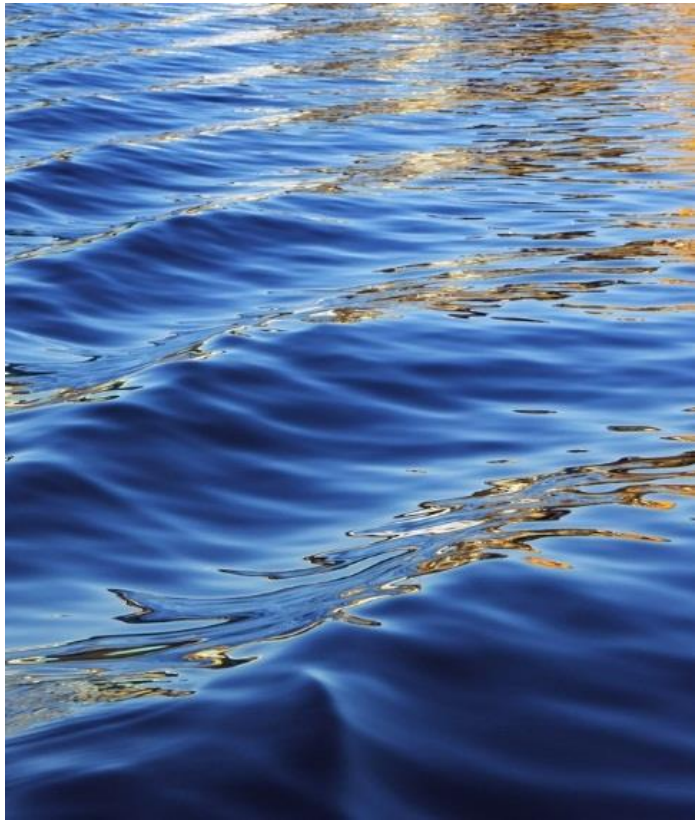


Water Injection

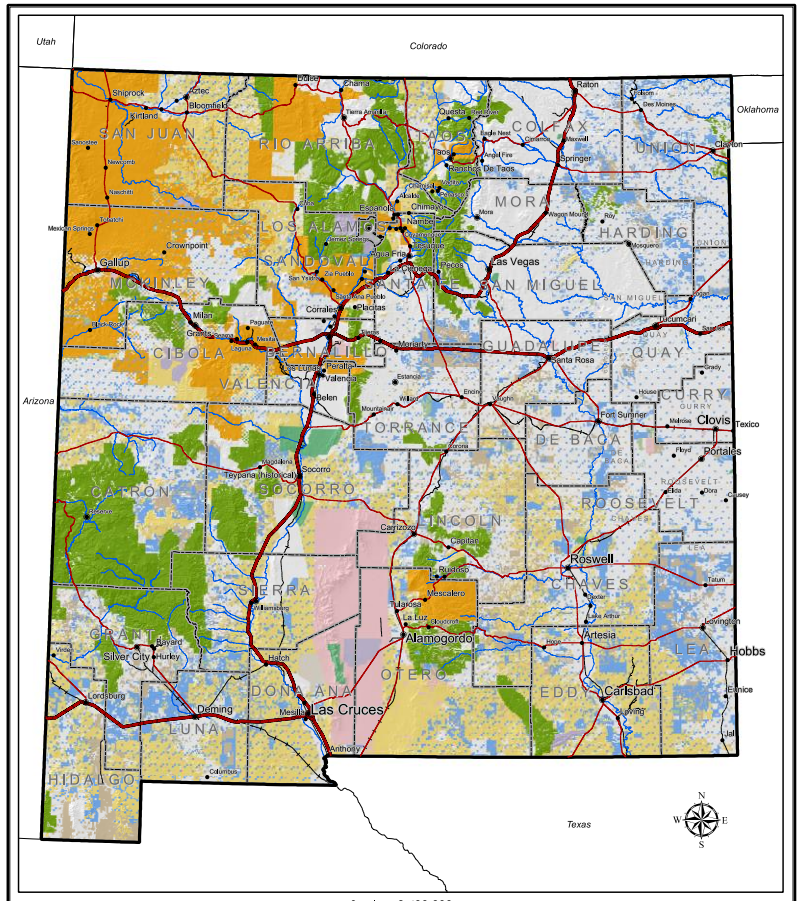


Source: Gabriel Collins, Baker Institute for Public Policy

Landownership



- Bureau of Land Management
- New Mexico State Land Office
- Private



Bureau of Land Management

- Carlsbad RMP
- NEPA
- T & E Species
- Timeframe
- Oversight

New Mexico State Land Office

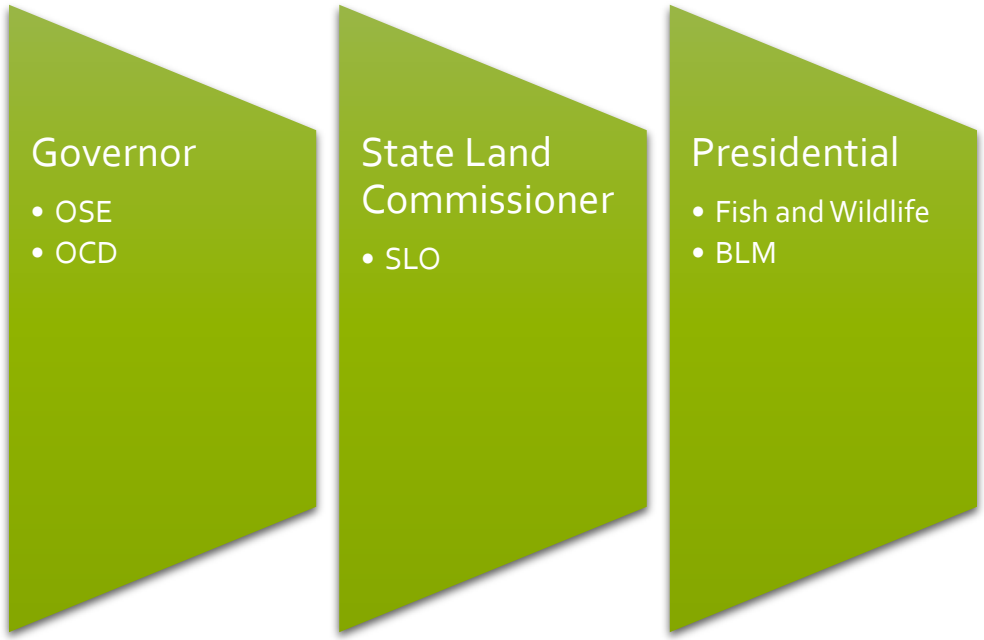
- Political Environment
- Dual Responsibility

Private Landowners

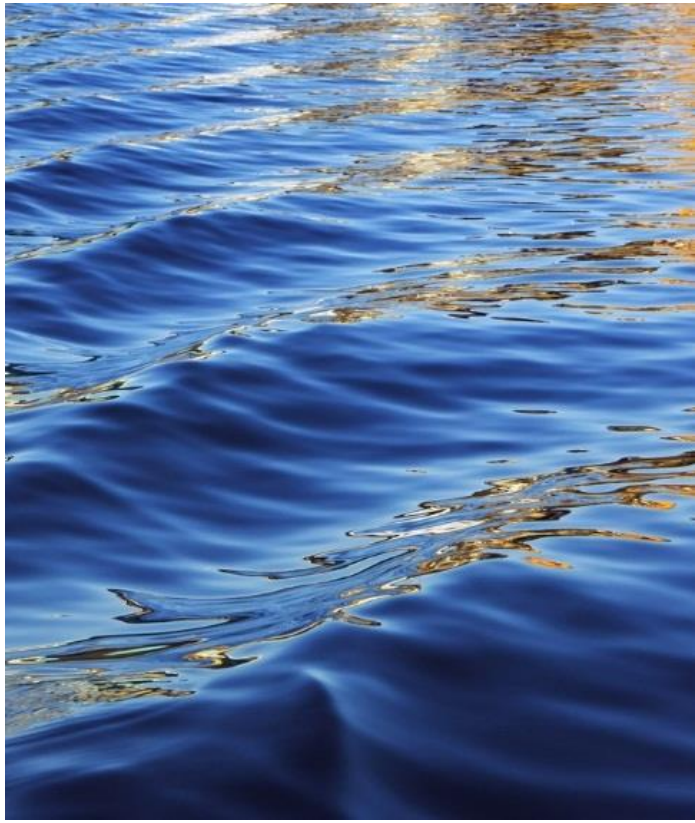
- Surface Damages
- Water Rights
- Pore Space

Anticipated Changes

- OSE – Water Plan
- OCD- Injection Rule
- SLO- Policy Changes
- BLM- Carlsbad RMP
- FWS- T & E Species



Conclusions



References

New Mexico Office of State Engineer-

Pecos River Compact- http://www.ose.state.nm.us/Compacts/Pecos/isc_pecosCompact.php

Water Map-http://www.ose.state.nm.us/WRAB/abstractMap.php

New Mexico Oil Conservation Division

Underground Injection Control-http://www.ose.state.nm.us/WRAB/abstractMap.php

New Mexico State Land Office

Forms and applications- http://www.nmstatelands.org/Forms_and_Applications.aspx

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