This project has upgraded and expanded the New Mexico Produced Water Quality database (NM PWQD) and has reinstated online availability of the database through both the GO-TECH website and WRRI’s web mapping interface.

Water produced as a byproduct of oil and gas production represents a large potential water resource in New Mexico. This significant volume of water is a very dispersed, largely uncharacterized, and extremely variable water source. Almost all this water is reinjected; some for pressure maintenance and improved oil recovery, but mostly as a means of disposal. A significant amount of produced water could potentially be diverted to other uses if economic, regulatory, and technological hurdles can be overcome.

In order for produced water to be considered for anything other than disposal, we must first know more about the waters. Some of the questions that must be considered include:

- Where is it being produced?
  - Is production localized or dispersed?
- What amount is being produced?
  - Is the volume in a local area enough to warrant reuse in some other process?
- What is in the water?
  - Most produced water has large amounts of salt or other dissolved minerals that must be removed or are acceptable for the alternative use.

![New Mexico Produced Water Graph](image-url)

One barrel of oil equals 42 gallons, so almost 37 billion gallons of water (115,000 acre feet) was produced in 2015. Only a small fraction of this water is recycled or used for other purposes.
Water volume can be analyzed to find areas where there is more water available. South-eastern New Mexico oil and gas fields produce significantly more water as compared with the northwestern part of the state (left). Areas with high water production might be ideal places to site an industrial process that needed large volumes of water but that were not as concerned with water quality.

Water quality can be a critical factor for any potential use. Some processes can use water with very high total dissolved solids (TDS). For example, many oil service companies can now use high salinity water for their hydraulic fracturing jobs. Agriculture, on the other hand, must have relatively low TDS water. While almost any water can be cleaned to any desired quality, the expense can be too great. The northwestern part of New Mexico clearly has the advantage of lower salinity.

The New Mexico Produced Water Quality Database can be searched from the GOTECH web site or using the web mapping service at WRRI.

GOTECH:
http://octane.nmt.edu/gotech/Water/producedwater.aspx
WRRI:
http://nmwrri.nmsu.edu/?page_id=4864