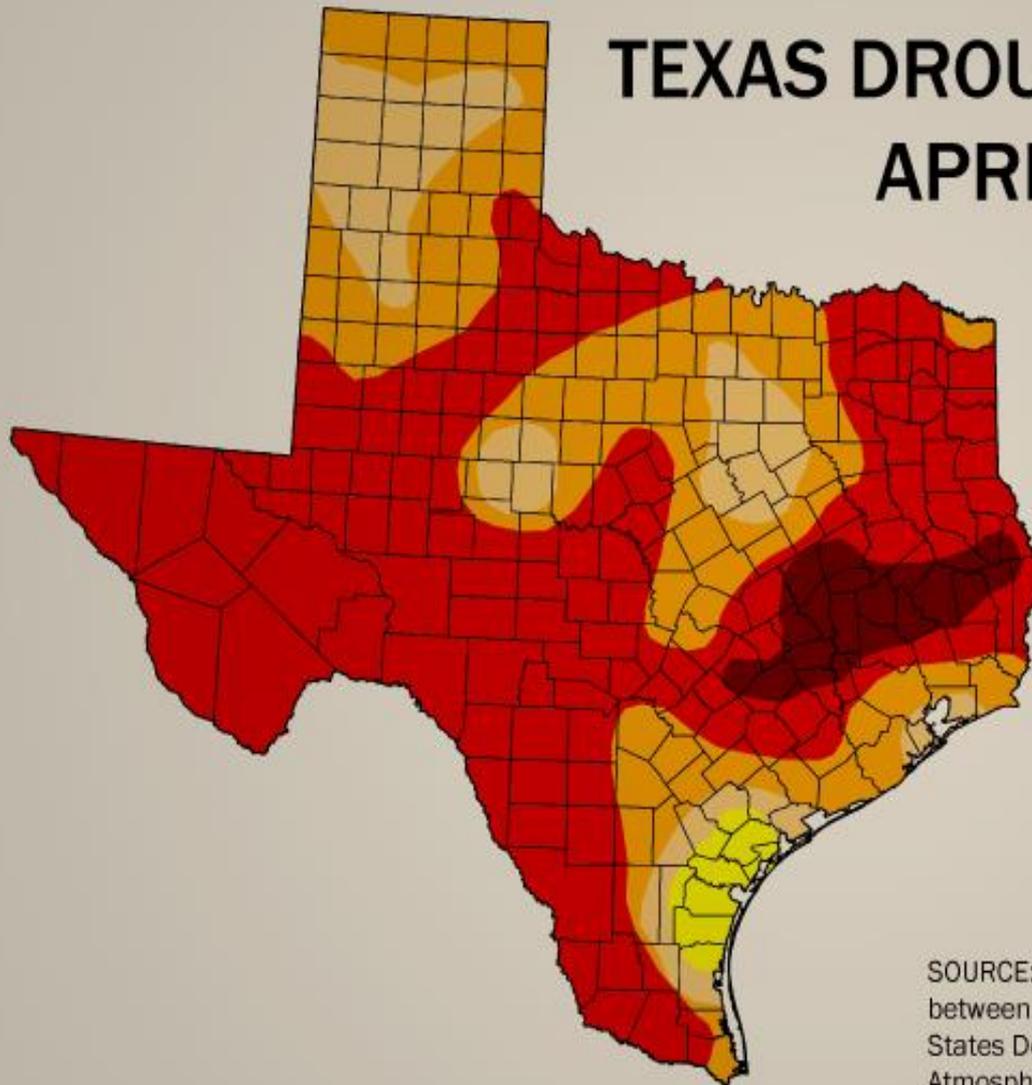


Railroad Commission of Texas

Recycling of Oil and Gas Produced Fluids in Texas

**IOGCC Annual Conference
Legal & Regulatory Affairs Committee
October 4, 2016**

TEXAS DROUGHT CONDITIONS APRIL 5, 2011



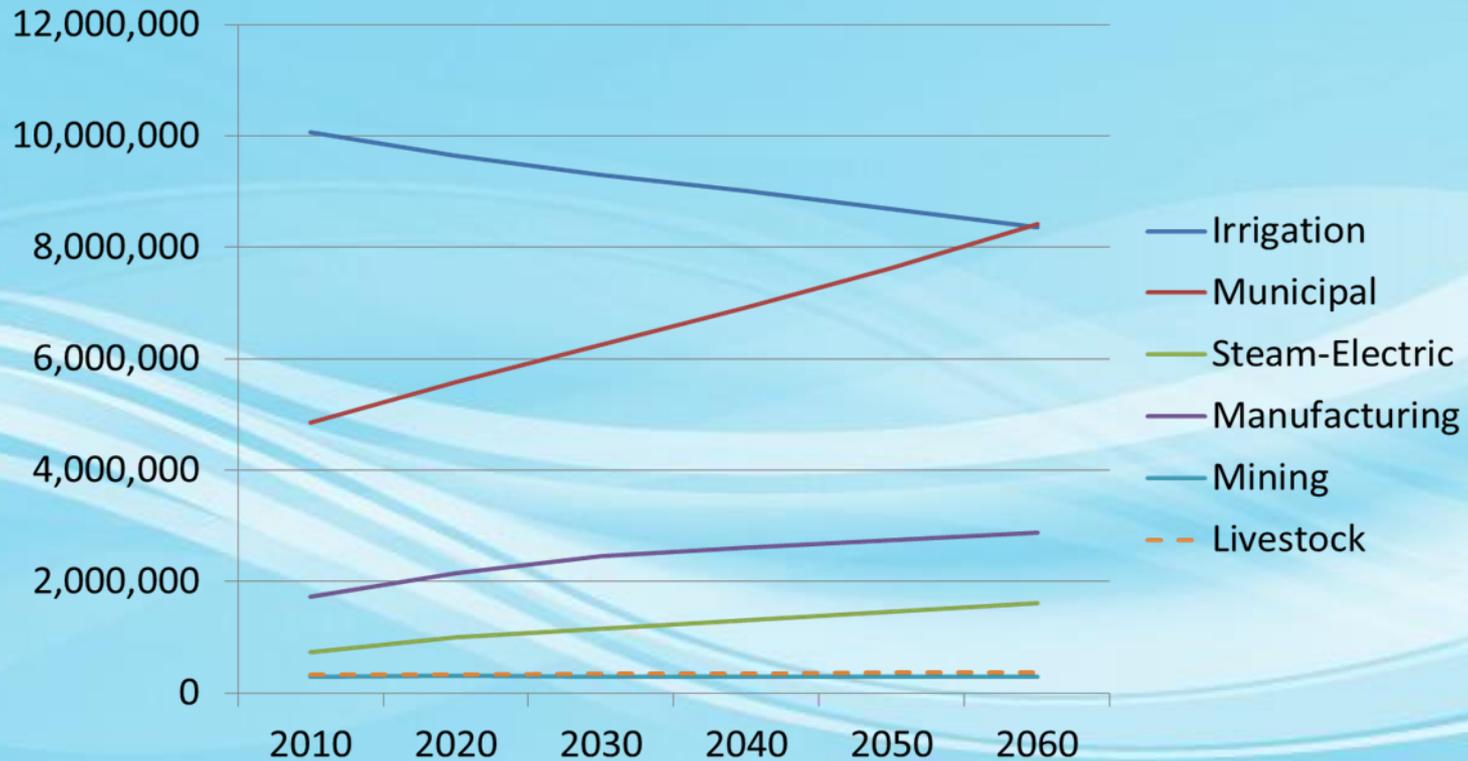
DROUGHT INTENSITY:

-  ABNORMALLY DRY
-  MODERATE
-  SEVERE
-  EXTREME
-  EXCEPTIONAL

SOURCE: The U.S. Drought Monitor is a partnership between the National Drought Mitigation Center, United States Department of Agriculture, and National Oceanic and Atmospheric Administration. Map courtesy of NDMC-UNL.

TEXAS STATEWIDE WATER DEMAND

Water Demand Projections by Use Category (Acre Feet per Year) (TWDB State Water Plan, 2012)



RRC RECYCLING REGULATIONS

- **Prior regulations**
 - Focused on solids recycling
 - Mobile and stationary
 - Specific uses
- **Amendments adopted April 15, 2013**
 - More specific to fluids recycling

RRC RECYCLING REGULATIONS

- **Authorize certain on-lease, non-commercial recycling of produced fluids, with conditions**
- **Clarify permitting requirements for centralized and commercial recycling of produced fluids**



RRC RECYCLING REGULATIONS

- **Authorization-by-Rule**
 - **Non-Commercial Fluid Recycling**
 - **On-lease**
 - **Specific conditions for storage in impoundment**
 - **Uses restricted:**
 - **Down-hole use**
 - **Pursuant to other state/federal permit**
 - **Any reuse if distilled water, except discharge to surface water**



RRC RECYCLING REGULATIONS

- **Individual Permit Required**
 - Centralized recycling (“off-lease,” multiple sources)
 - Commercial recycling
 - Reuses not specifically authorized by rule
 - Discharge to surface water

PRODUCED FLUIDS RECYCLING

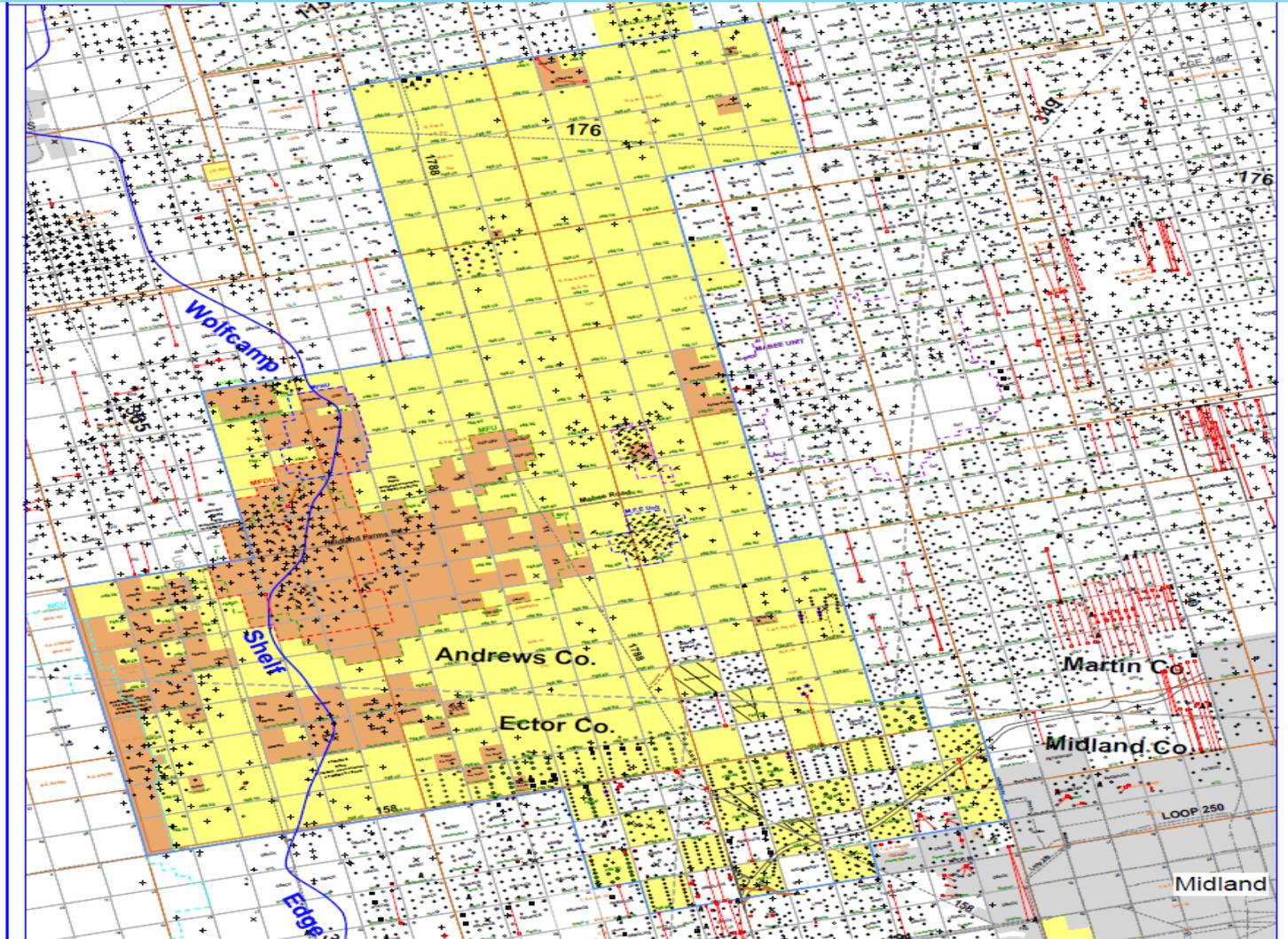
- **Current uses**
 - EOR
 - Hydraulic fracturing
 - Other down-hole uses
- **Treatment depends on character and use**
 - Passive separation
 - Filtration
 - Thermal and chemical enhancement

AGRICULTURAL REUSE OF TREATED PRODUCED WATER

- **Pecos Research Station**
- **Delaware Basin produced water**
- **Coalition:**
 - **Railroad Commission of Texas**
 - **Texas A&M AgriLife Research**
 - **Anadarko Petroleum Corporation**
 - **Gibson Energy**
 - **Energy Water Solutions**

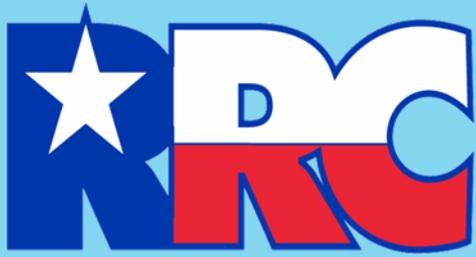


FASKEN OIL AND RANCH



TEXAS LEGISLATION

- **Natural Resources Code**
 - **Chapter 122. Treatment and Recycling for Beneficial Use of Fluid Oil and Gas Waste (2013)**
 - § 122.002. Ownership of Fluid Oil and Gas Waste Transferred for Treatment and Subsequent Beneficial Use
 - **Chapter 123. Treatment and Recycling for Beneficial Use of Drill Cuttings (2015)**
 - § 123.002. Ownership of Drill Cuttings Transferred for Treatment and Subsequent Beneficial Use



Railroad Commission of Texas

Questions?