

17TH ANNUAL **BELL COUNTY WATER SYMPOSIUM**



Every drop counts!



***Special Thanks To
Our Event Sponsors!***

Today's Goals

- Improve Understanding of Water Resources in Central Texas from “**TWDB**”.
- “**BRA**” Update on Surface Water in Central Texas.
- Introduction to “**TAGD**” and “**TWCA**”.
- Groundwater Management by “**GCDs**”.
- 100th Year Historical Perspective of Texas “**1917-2017**”
- Leg Update impacting Surface and Groundwater.
- Understanding Aquifer Storage and Recovery “**ASR**”.
- Update of Real-Time Earth Observation “**TexMesonet**”
- Importance of Watershed Protection Strategies.



Every drop counts!



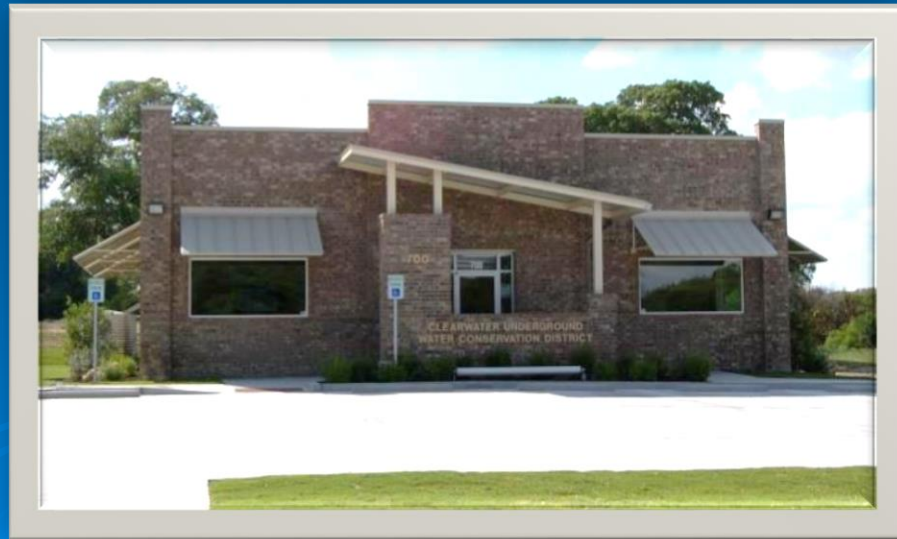
Clearwater Staff

Dirk Aaron – General Manager

Shelly Chapman – Administrative Manager

Tristin Smith– Education Coordinator

Corey Dawson – Field Technician



Elected Board of Directors

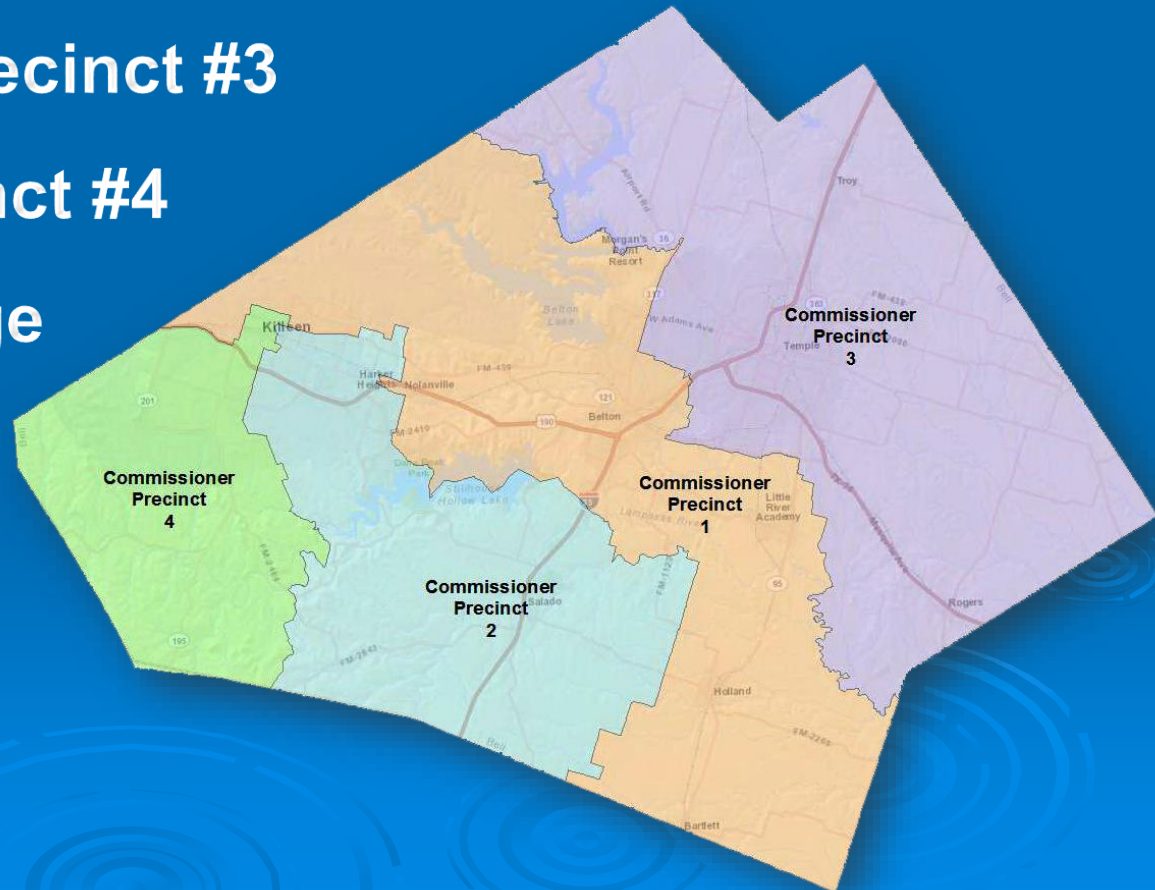
Leland Gersbach - Precinct #1

Gary Young - Precinct #2

Wallace Biskup - Precinct #3

Judy Parker - Precinct #4

David Cole - At-Large



Groundwater Conservation Districts

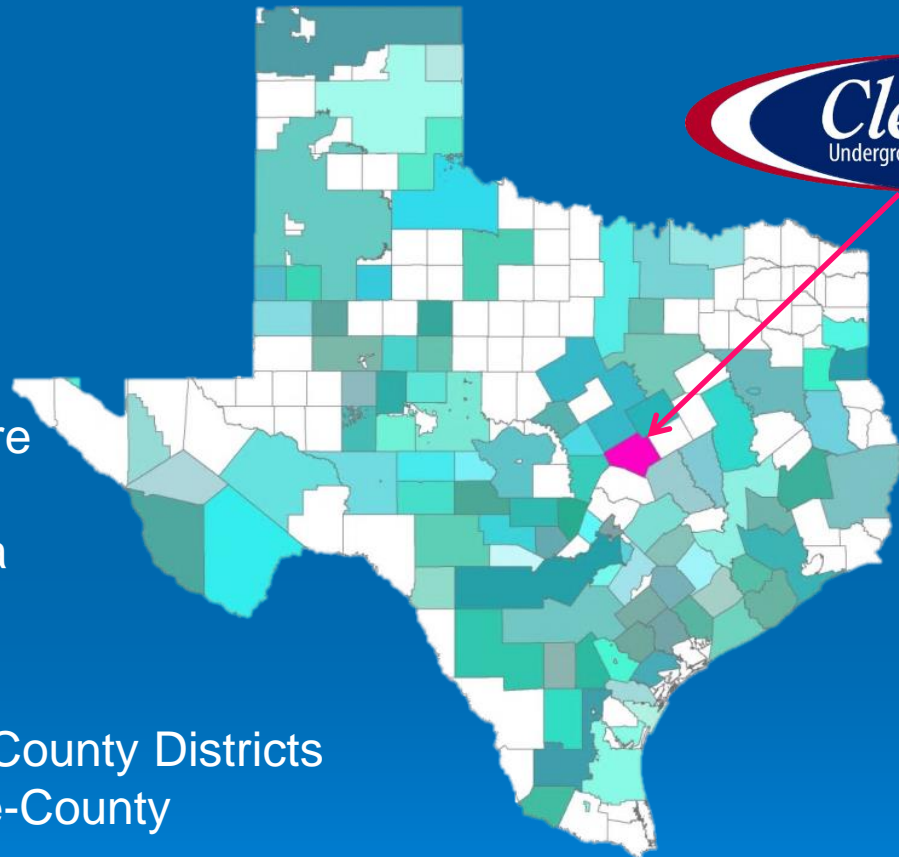
GCD's

100 GCD's in Texas

98 GCD's are Confirmed

177 Counties are either fully or partially within a GCD

61 Single-County Districts
39 Multiple-County



Source: TWDB

History of District



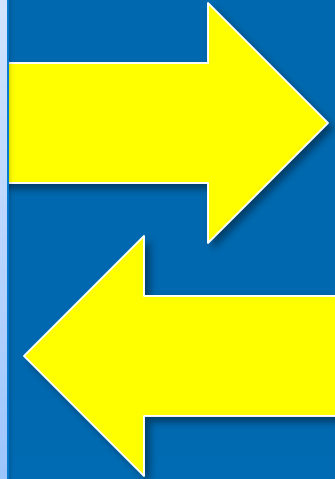
- ❖ Created by 71st Legislature in **1989** (HB 3172).
- ❖ Confirmed by Bell County voters in **1999**.
- ❖ Doors opened for business in **2002**.
- ❖ District's jurisdiction includes all of **Bell County**—approximately 1,055 square miles.
- ❖ Authority to levy ad valorem tax at rate not to exceed five cent/\$100 assessed value—FY18 tax rate **\$0.00385/\$100** assessed value.



Governance / Management Legal Authority

Guiding Principles

- ❖ Protect
- ❖ Educate
- ❖ Regulate
- ❖ Studies
- ❖ Facilitate
- ❖ Interpret
- ❖ Administer
- ❖ Transparent



- ❖ Texas Constitution (1917)
 - ❖ Conservation Amendment¹
- ❖ Chapter 36- State Water Code
- ❖ Texas Supreme Court Affirmation
- ❖ District Rules
- ❖ District Management Plan
- ❖ District Annual Report
- ❖ District Policy and Procedures

Groundwater Policy Issues: *Emerged and Continue to be Ask?*

- Are You Consistent?
- Are You Uniform?
- Are You Transparent?
- Do you provide “Regulatory Certainty”?
- What is the Groundwater Availability?
- Do you have Permitting Procedures?



GCD Challenge: Public Perception

Rights of Landowners and
the highest practicable level
of groundwater production



Conservation, preservation,
protection, recharging and
restoration of
groundwater

District Rules – Major Points

- ❖ All wells in Bell County are required to be registered.
- ❖ Wells exempt from permitting include:
 - ❖ Wells used for domestic purposes or for watering livestock or poultry
 - ❖ Wells must be incapable of producing more than **17 gpm.** (**25,000 gallons per day**)
 - ❖ Wells must be located on a tract of land consisting of at least **ten acres**; smaller tracts are acceptable if they were lawfully configured prior to March 1, 2004 as a tract less than 10 acres in size.

3,506 active exempt wells

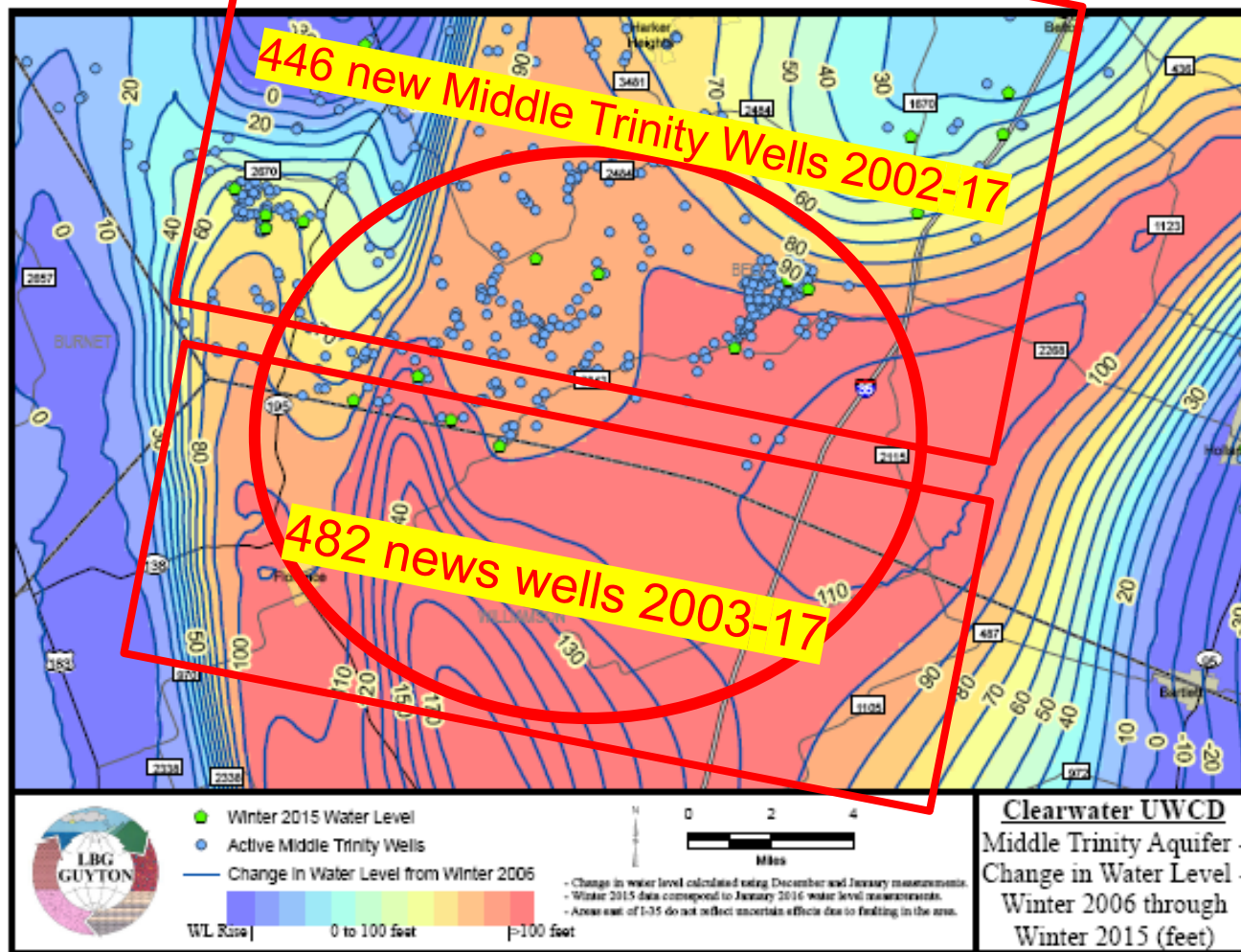
- ❖ All non-exempt wells must obtain a permit and report monthly production.

115 active permitted wells

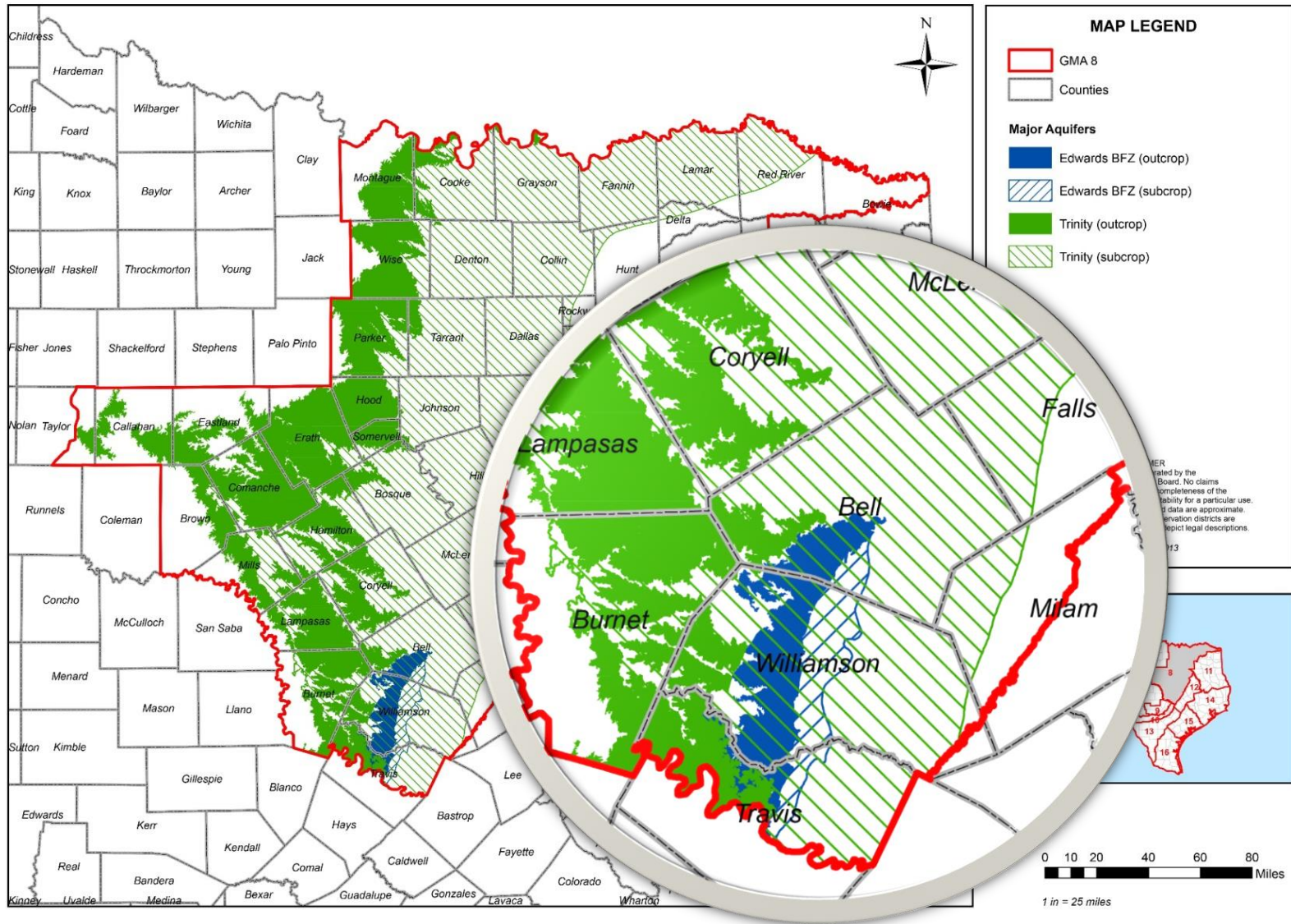
Myth Busting

- **Well Construction is more expensive because of Clearwater UWCD!**
 - *No, “TDRL” Standards are CUWCD Standards.*
- **CUWCD Rules for Construction cause costs to go up!**
 - *Maybe* because standards are enforced.
 - *Get Bids* but Well owners are protected.
- **Permit holders don’t have long-term Assurance!**
 - *No, Permits renewed indefinitely if Permittee is in compliance.*

Myth Busting

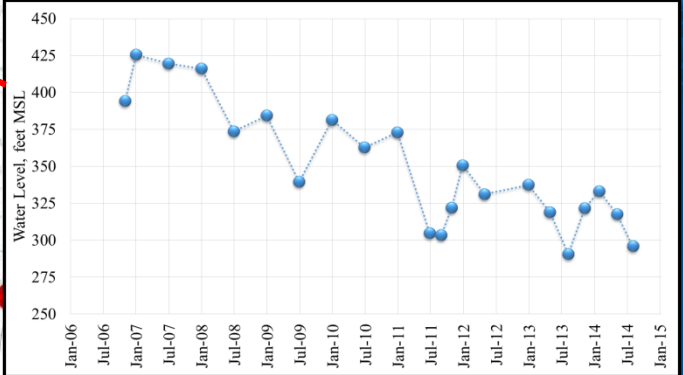
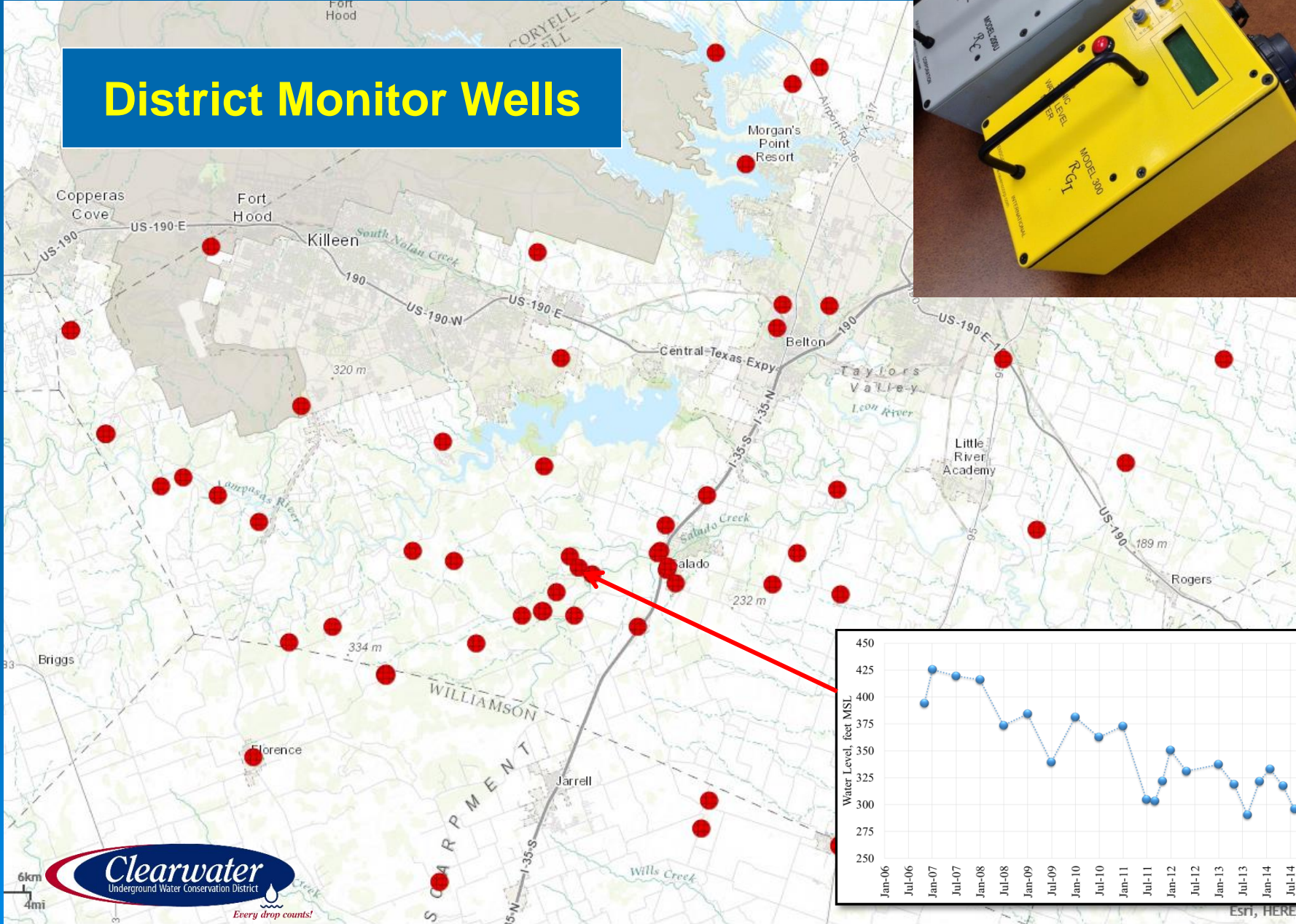


Groundwater Management Area 8

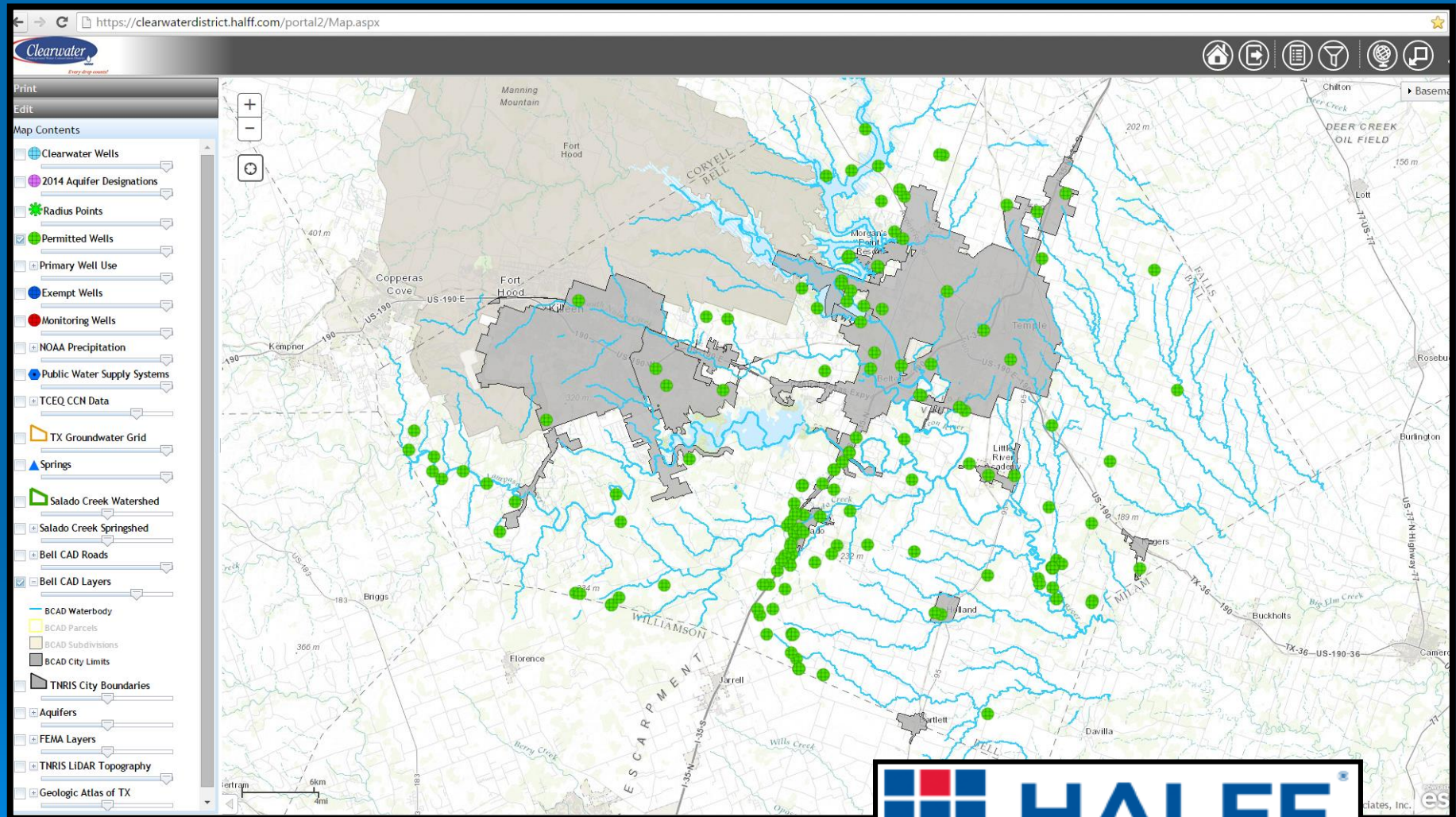


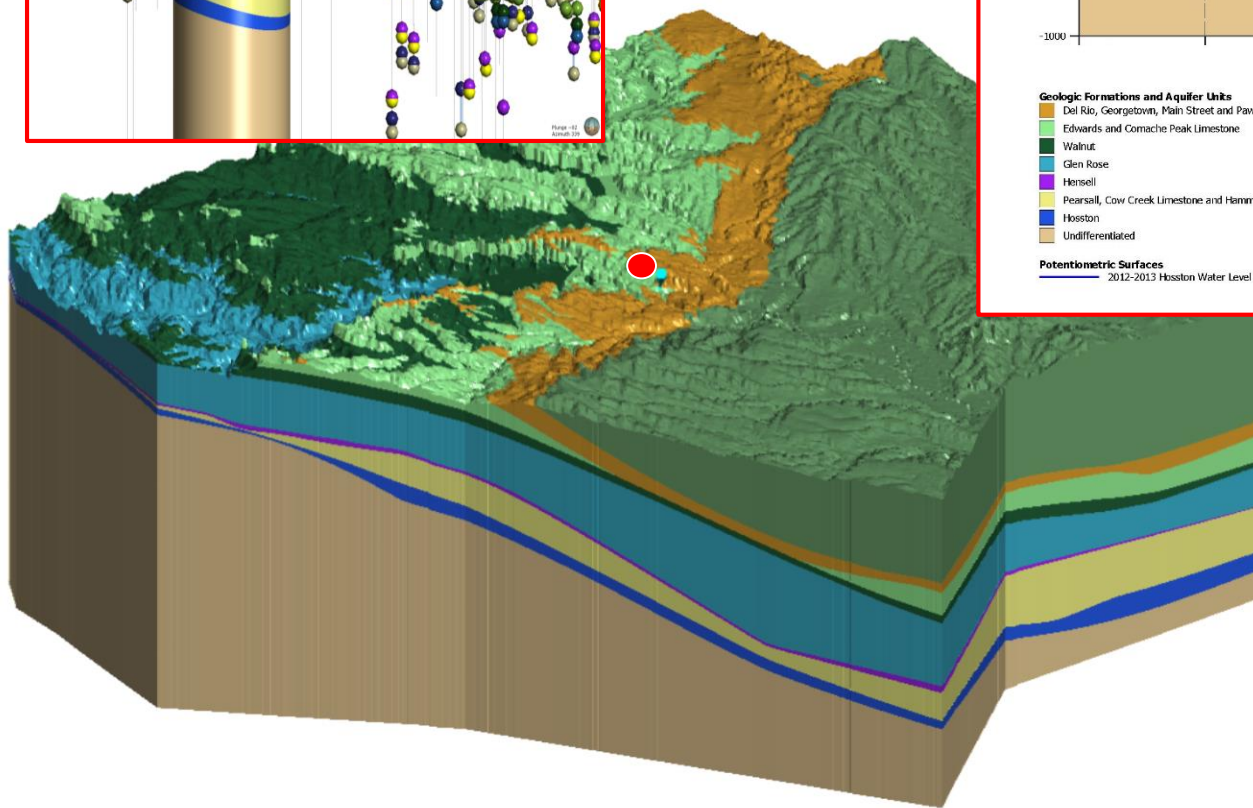
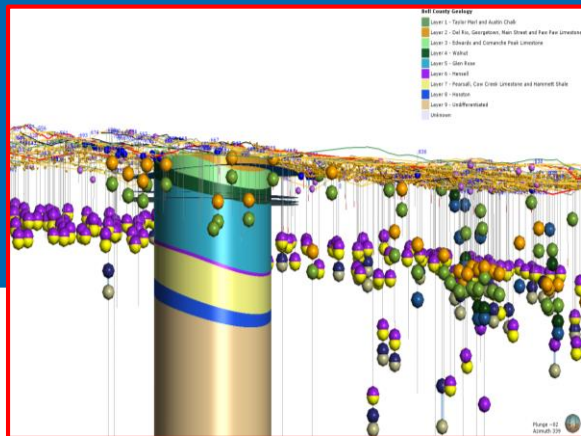
Managing What We Measure

District Monitor Wells

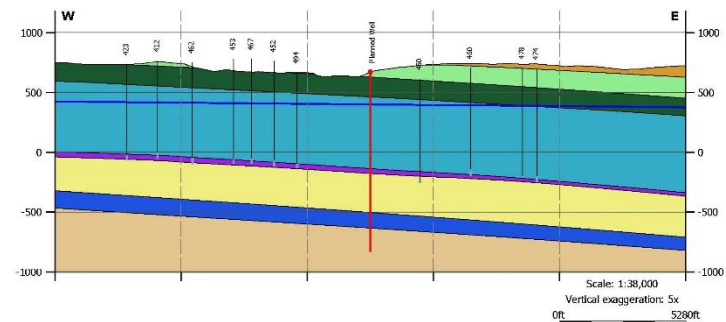


District Use of Technology





West - East Fence Diagram #2
(Lat: 30.913465, Long: -97.598082)



Geologic Formations and Aquifer Units

- Del Rio, Georgetown, Main Street and Paw Paw Limestone
- Edwards and Comanche Peak Limestone
- Walnut
- Glen Rose
- Hensell
- Pearsall, Cow Creek Limestone and Hammett Shale
- Hosston
- Undifferentiated

Location (SP 4203)
W: 3141016, 10306501
E: 3167416, 10306501

Drilling Prognosis for Planned Well

Depth (feet bgs)	Predicted Geology
0 - 43	Edwards and Comanche Peak Limestone
43 - 208	Walnut
208 - 808	Glen Rose
808 - 848	Hensell
848 - 1173	Pearsall, Cow Creek Limestone and Hammett Shale
1173 - 1302	Hosston

Potentiometric Surfaces
2012-2013 Hosston Water Level Elevation (Confined Conditions)

Why does all this groundwater management matter?



Every drop counts!

CTWSC

Hydrographs of “2 Well System” Conjunctive USE

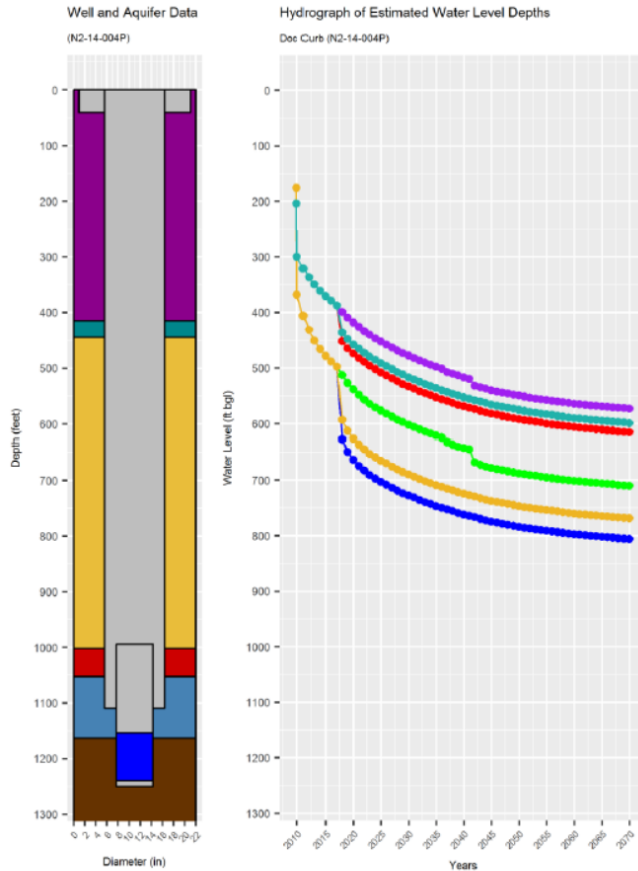


Figure 6: Hydrograph and Well Schematic of CTWSC Well No. 1.

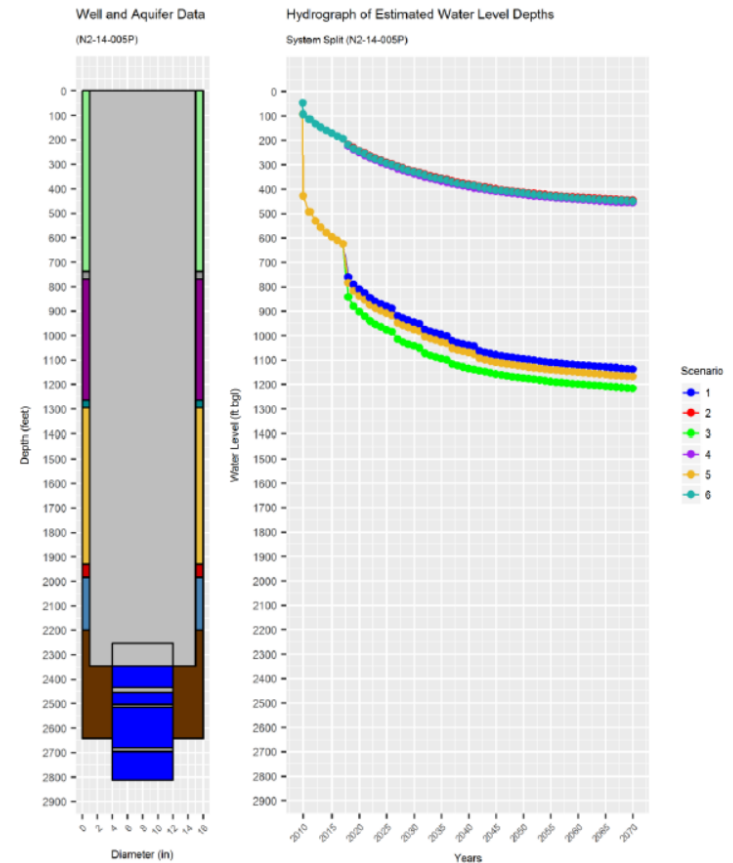
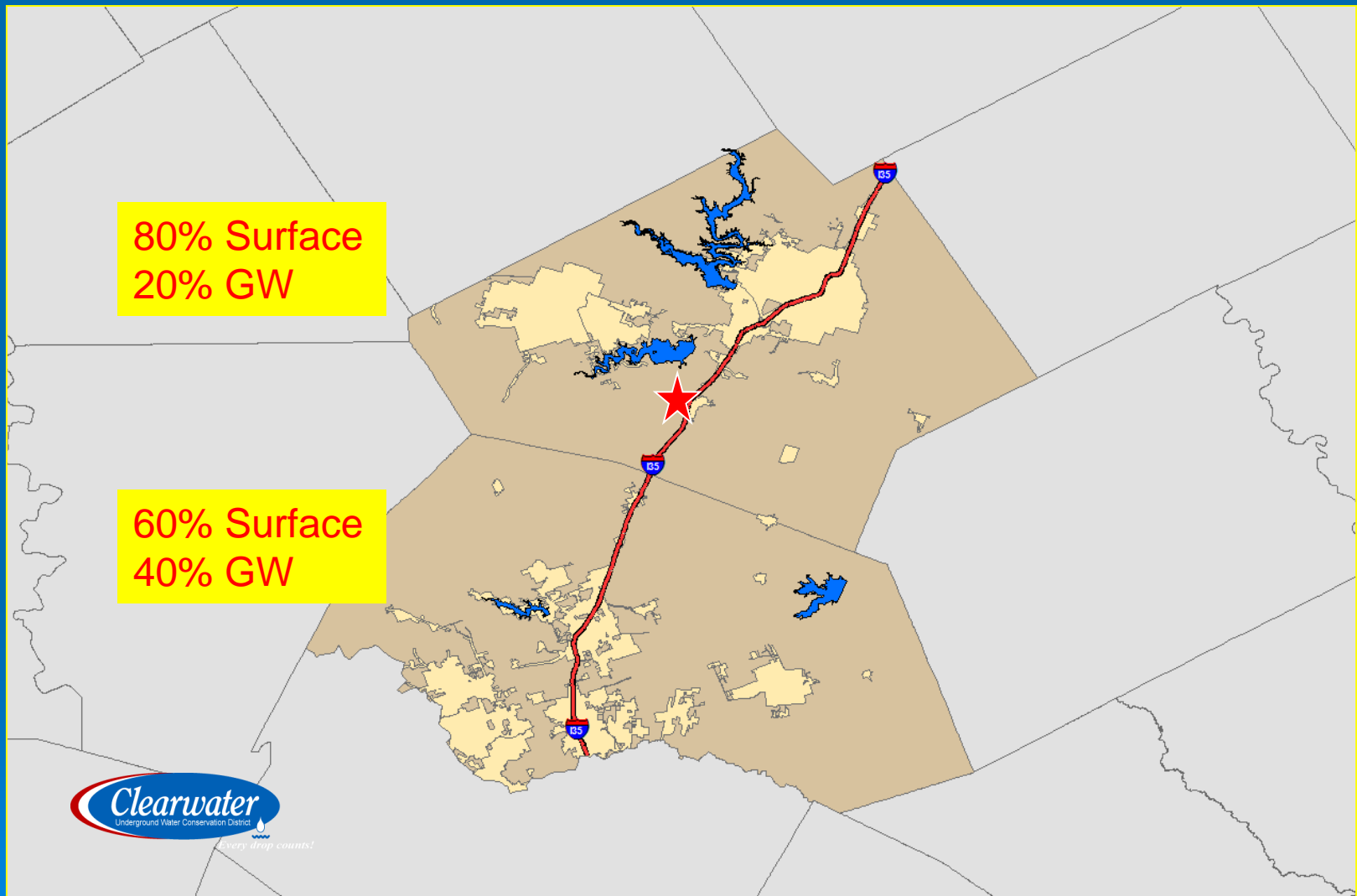
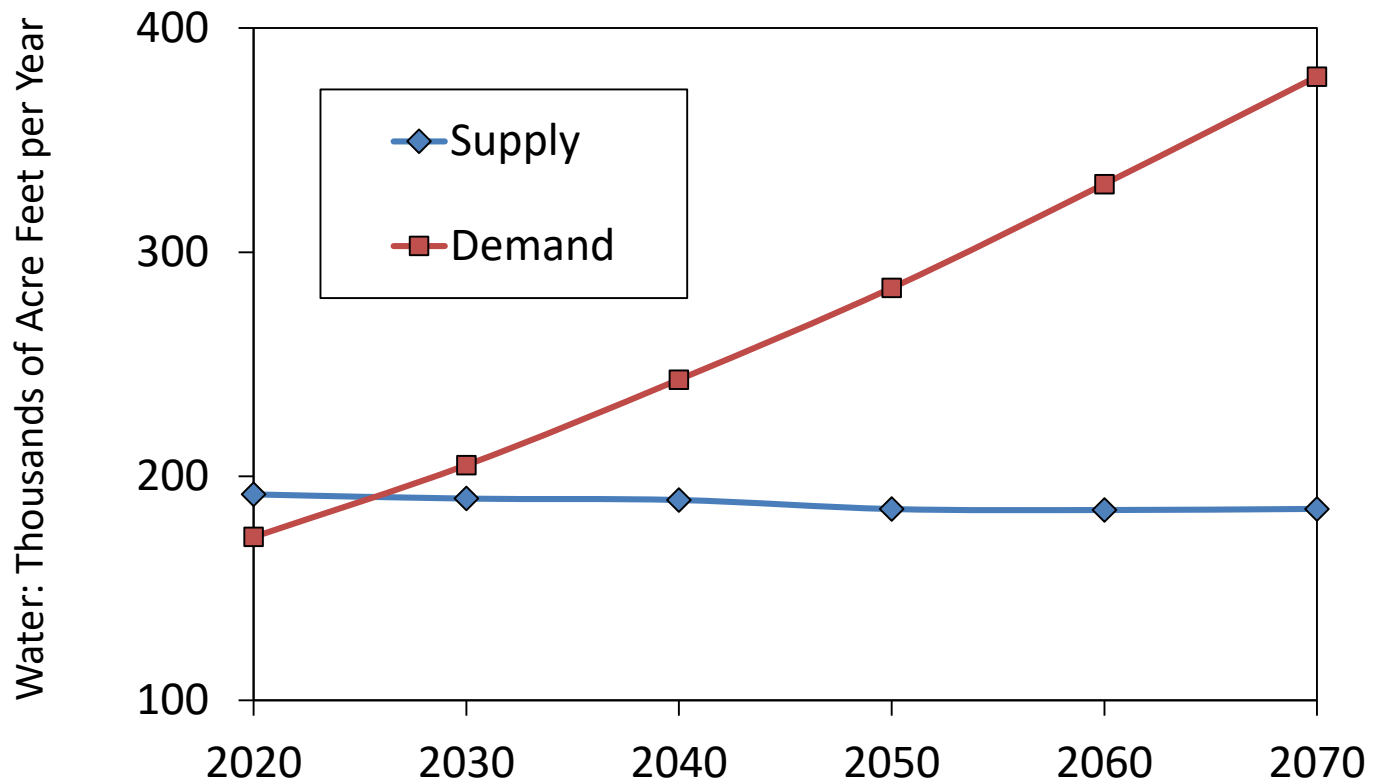


Figure 7: Hydrograph and Well Schematic of CTWSC Well No. 2.

I35 “Growth Corridor”

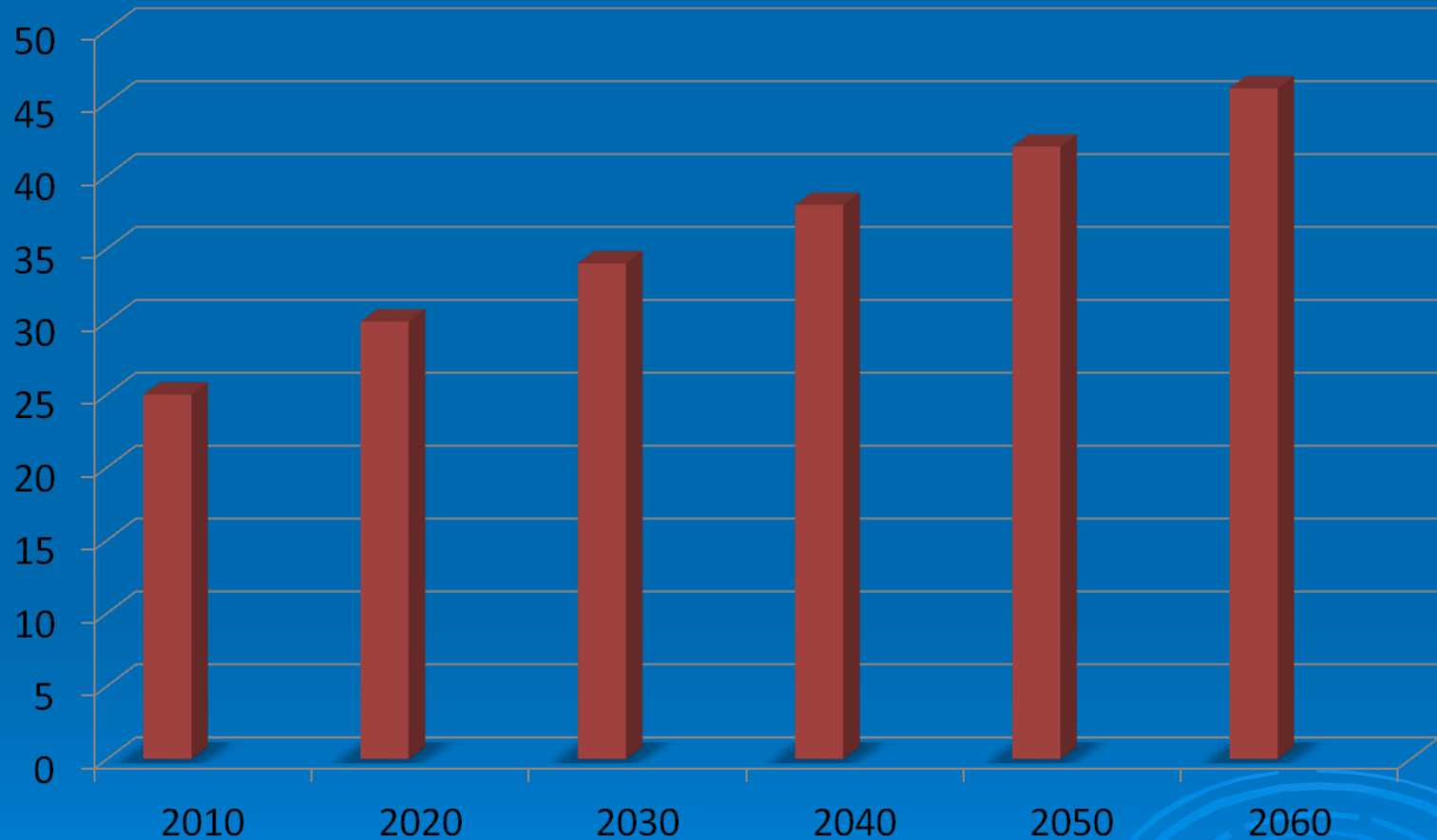


TWDB projected water supply and demands for Bell and Williamson Counties



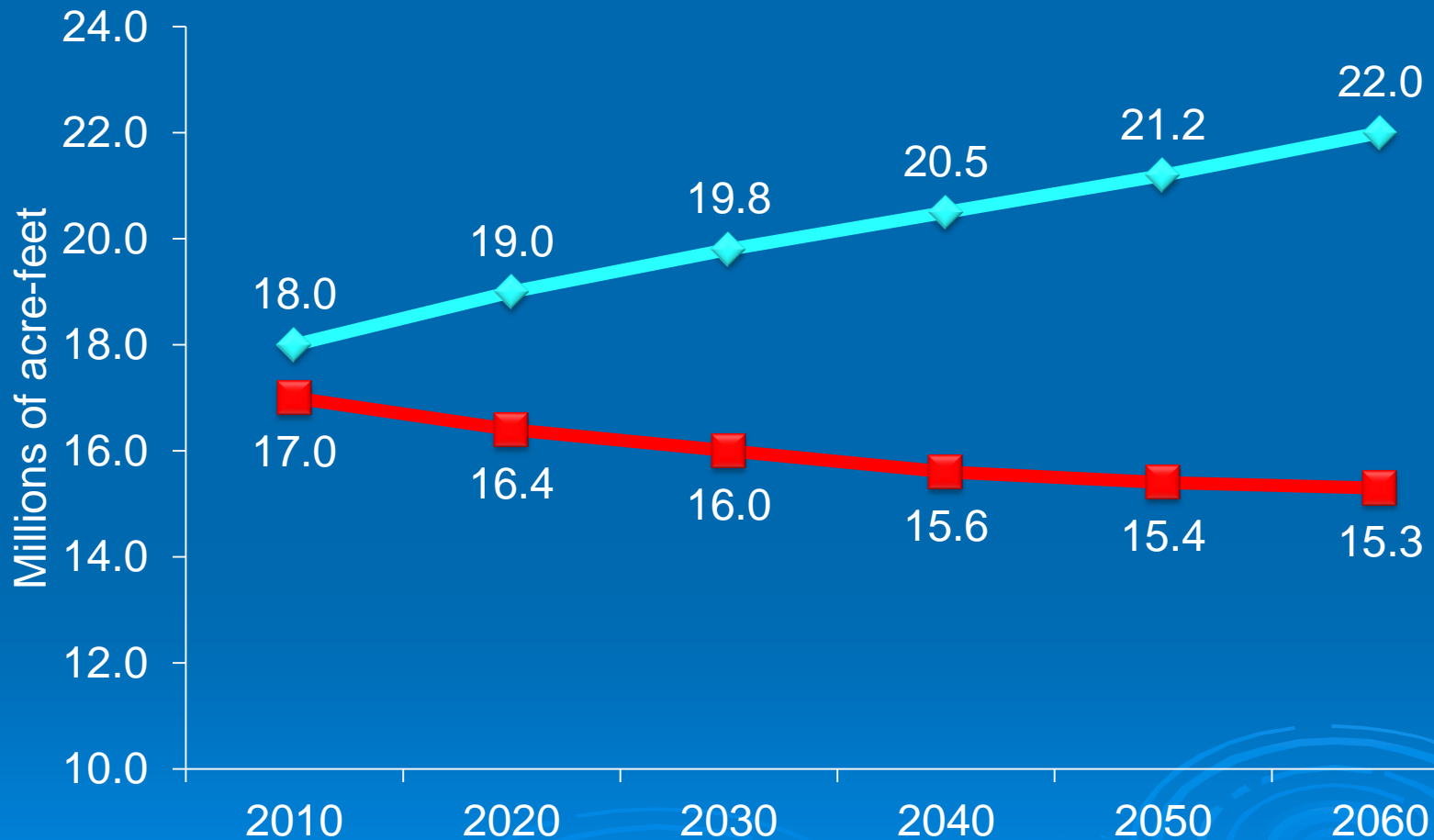
Issues of the Day

Population Growth



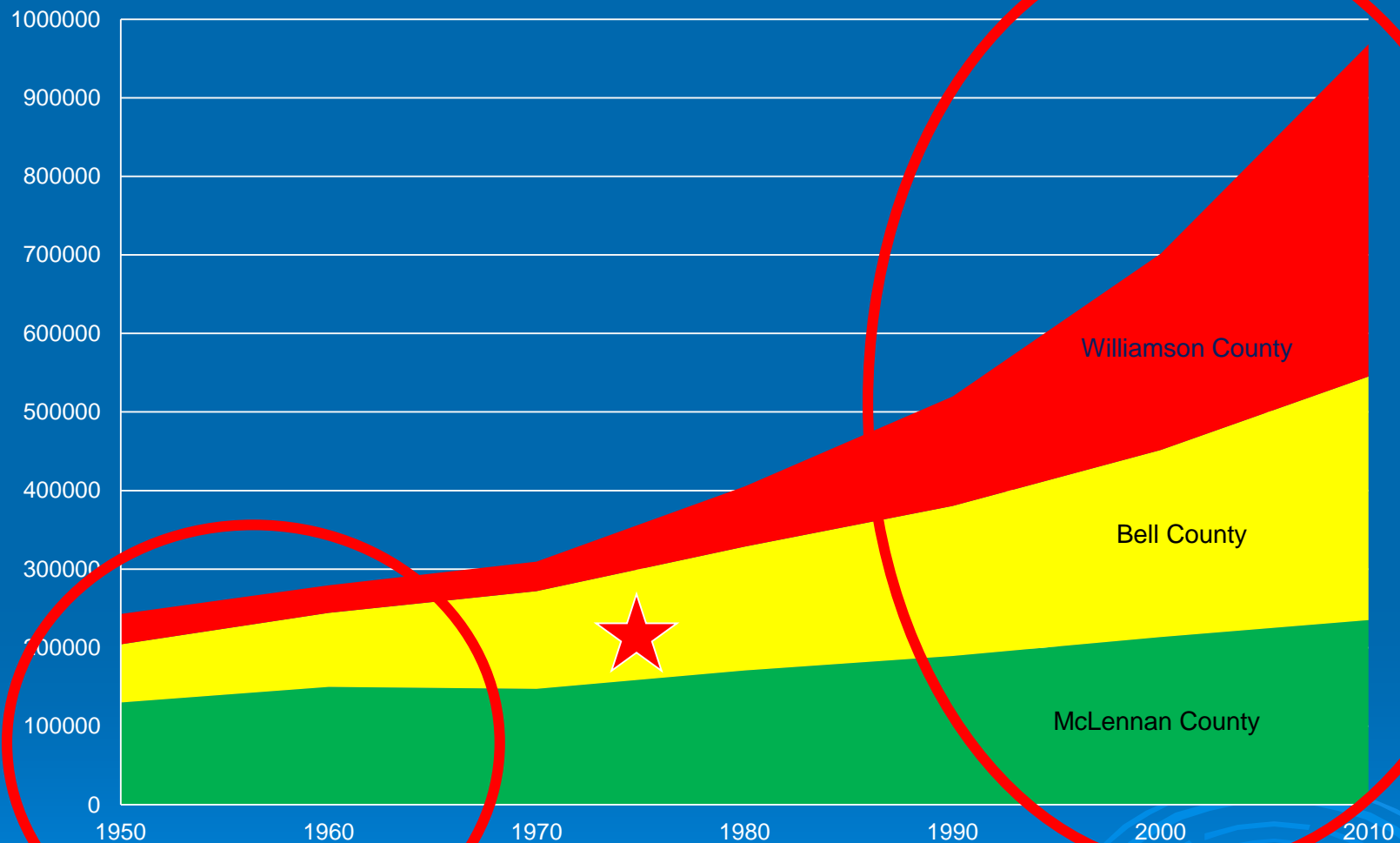
More Texans by 2070

Issues Impacting Texas



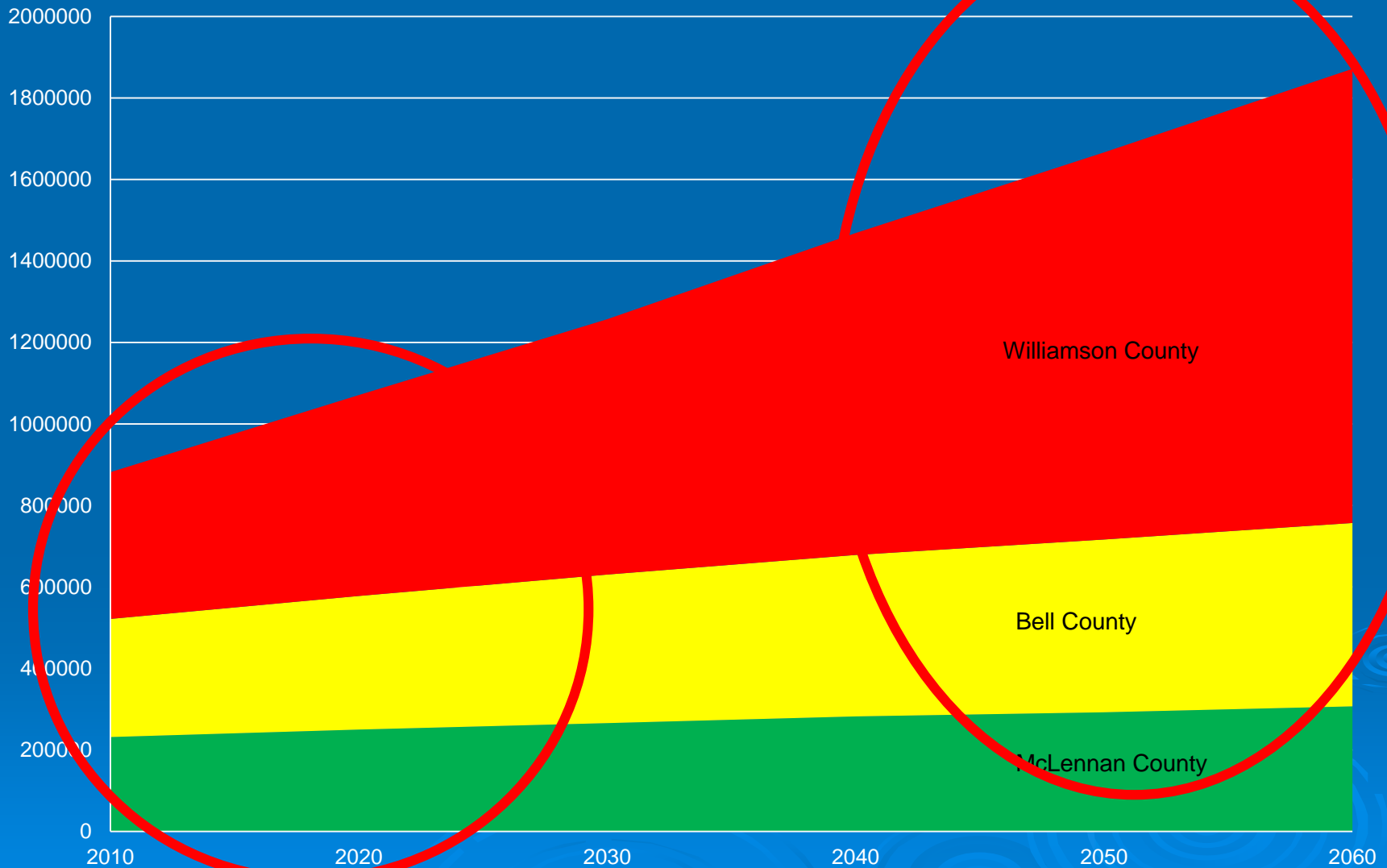
Water Deficit by 2070

Issues Impacting Bell County



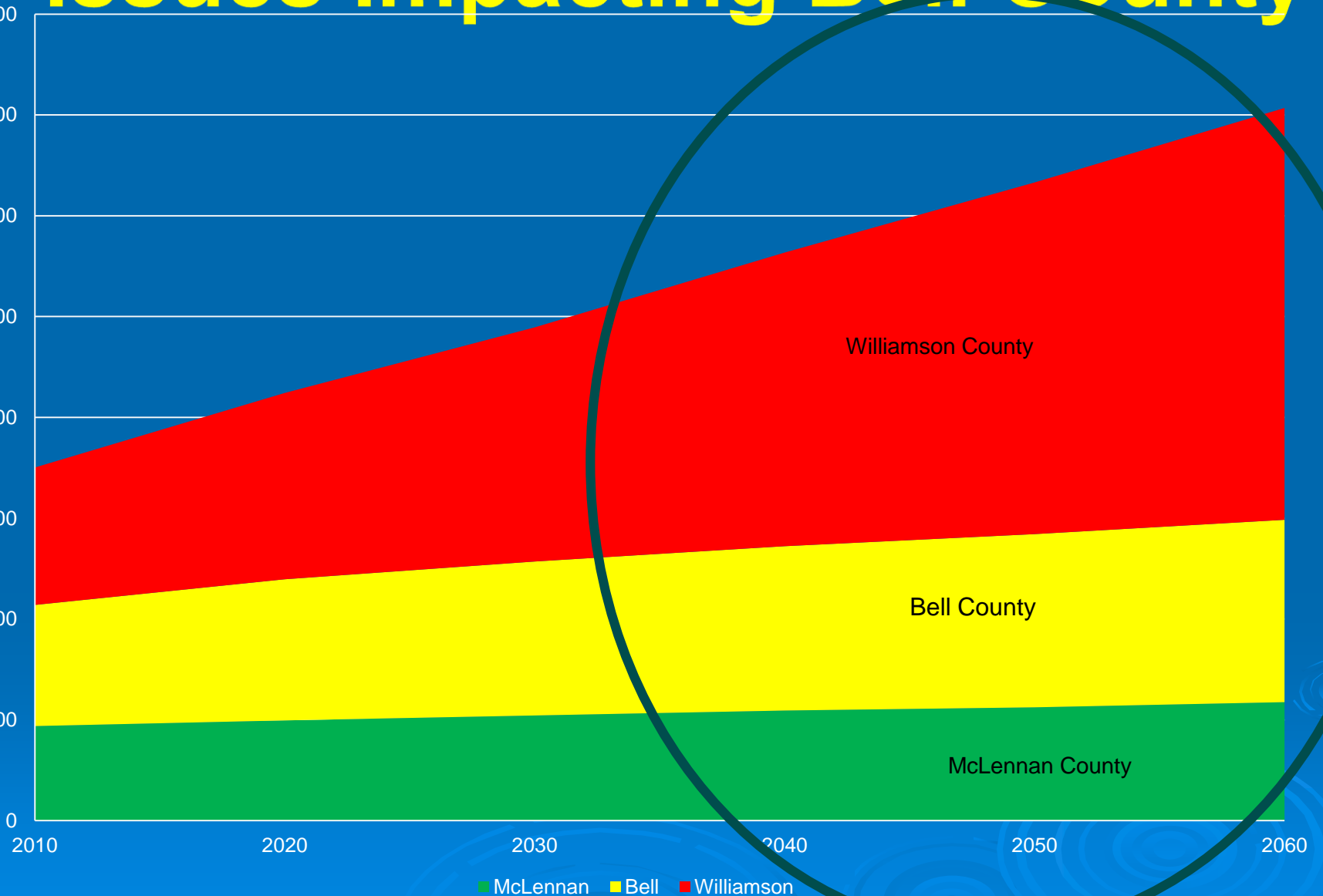
Historic Trends / Population

Issues Impacting Bell County



Projected Growth

Issues Impacting Bell County



Water Demand (Acre-Feet/Year)

Issues Impacting Policy

- Rural VS Urban Growth (Conflict)
- Conservation (Societal Change)
- Water Availability (Planners / Procrastinators)
- Un-Managed Groundwater Areas.
- Hostile Mergers “Chisholm Trail SUD”
- Legislative Pressure (Uncertainty)

Questions

