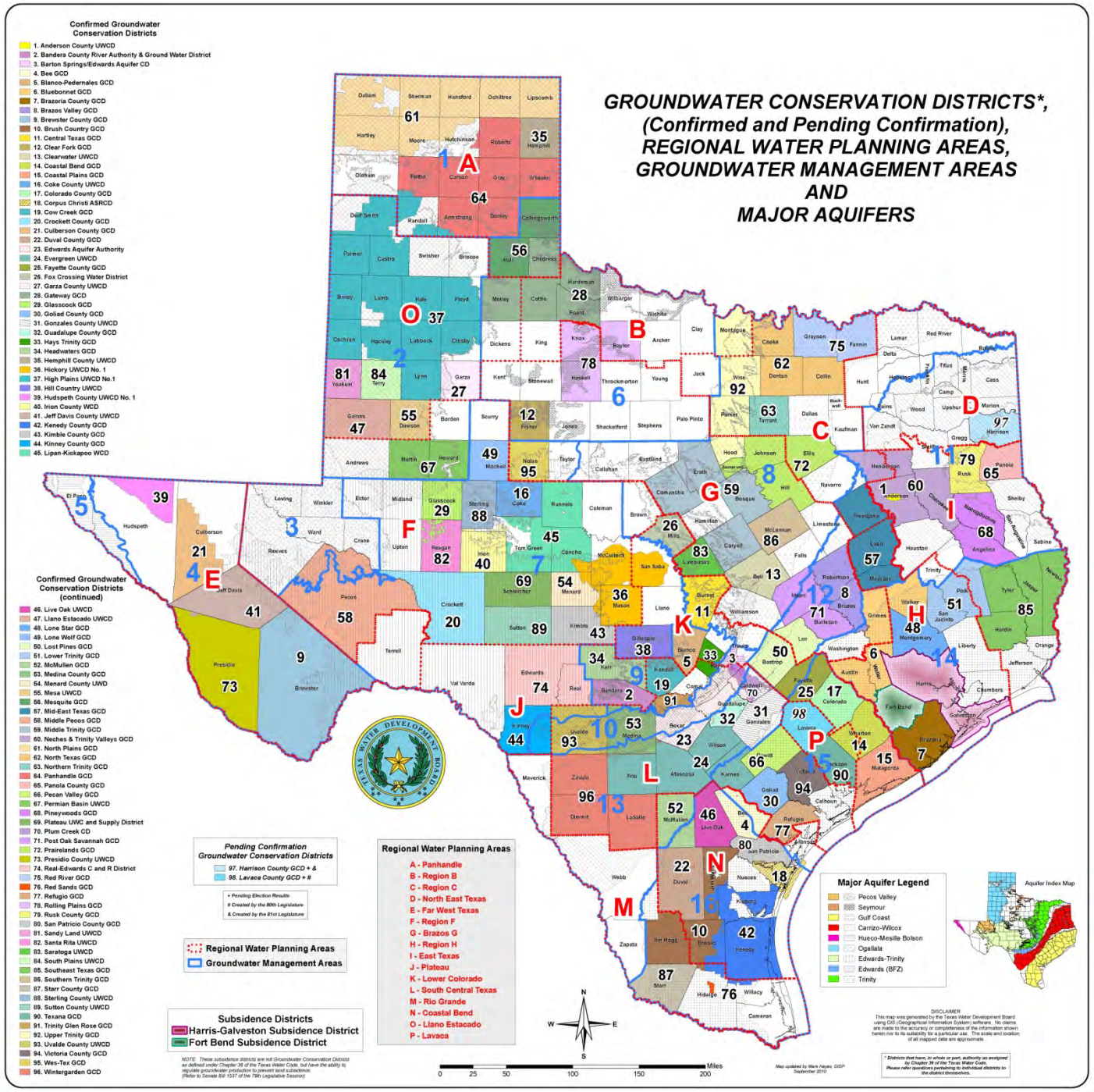
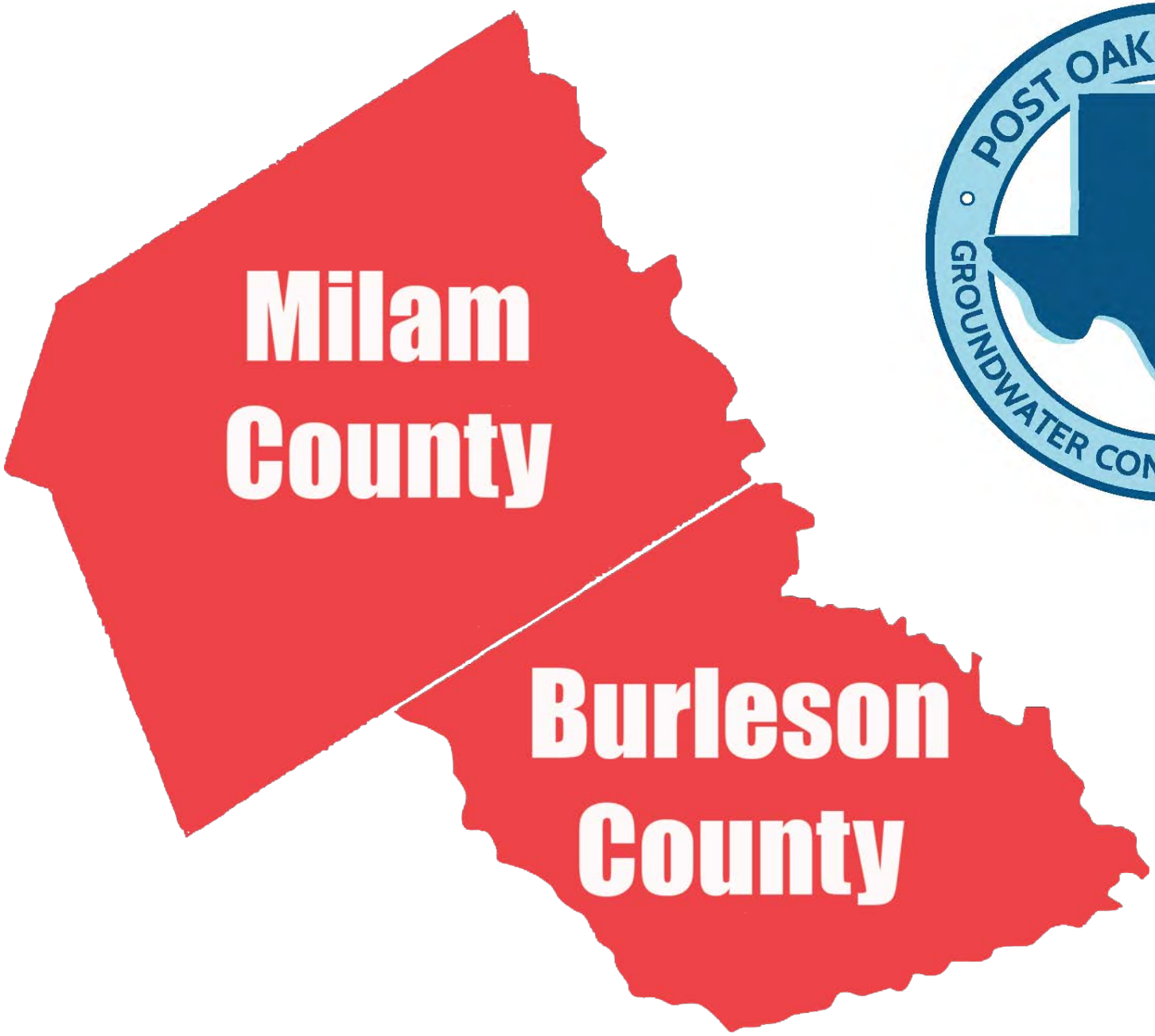
How the Post Oak Savannah Groundwater Conservation District Works for You!

Doug Box – Education Coordinator

Caldwell Rotary Club
February 12, 2019

Groundwater in Texas aquifers is privately owned & regulated by 100 Groundwater Conservation Districts (GCDs)





POST OAK SAVANNAH
GROUNDWATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

POST OAK SAVANNAH GROUNDWATER CONSERVATION DISTRICT

Sidney Youngblood
Board President
Milam Co Industrial

Steven Wise
Board Vice President
Milam Co At Large

Tommy Tietjen
Board Secretary
Burleson Co Municipal

Lee Alford
Director
Burleson Co Industrial

Becky Goetsch
Director
Burleson Co At Large

Durwood Tucker
Director
Milam Co Agriculture

Chris Whittaker
Director
Milam Co Municipal

Jay Wilder
Director
Burleson Co Agriculture

Bob Wilson
Director
Milam Co Rural Water

Robert Ware
Director
Burleson Co Rural Water

STAFF

POST OAK SAVANNAH GROUNDWATER CONSERVATION DISTRICT

Gary Westbrook
General Manager

Bobby Bazan
Water Resources Specialist

Elaine Gerren
Administrative Assistant

Ralph Sifuentes
Field Technician

Doug Box
Education Coordinator

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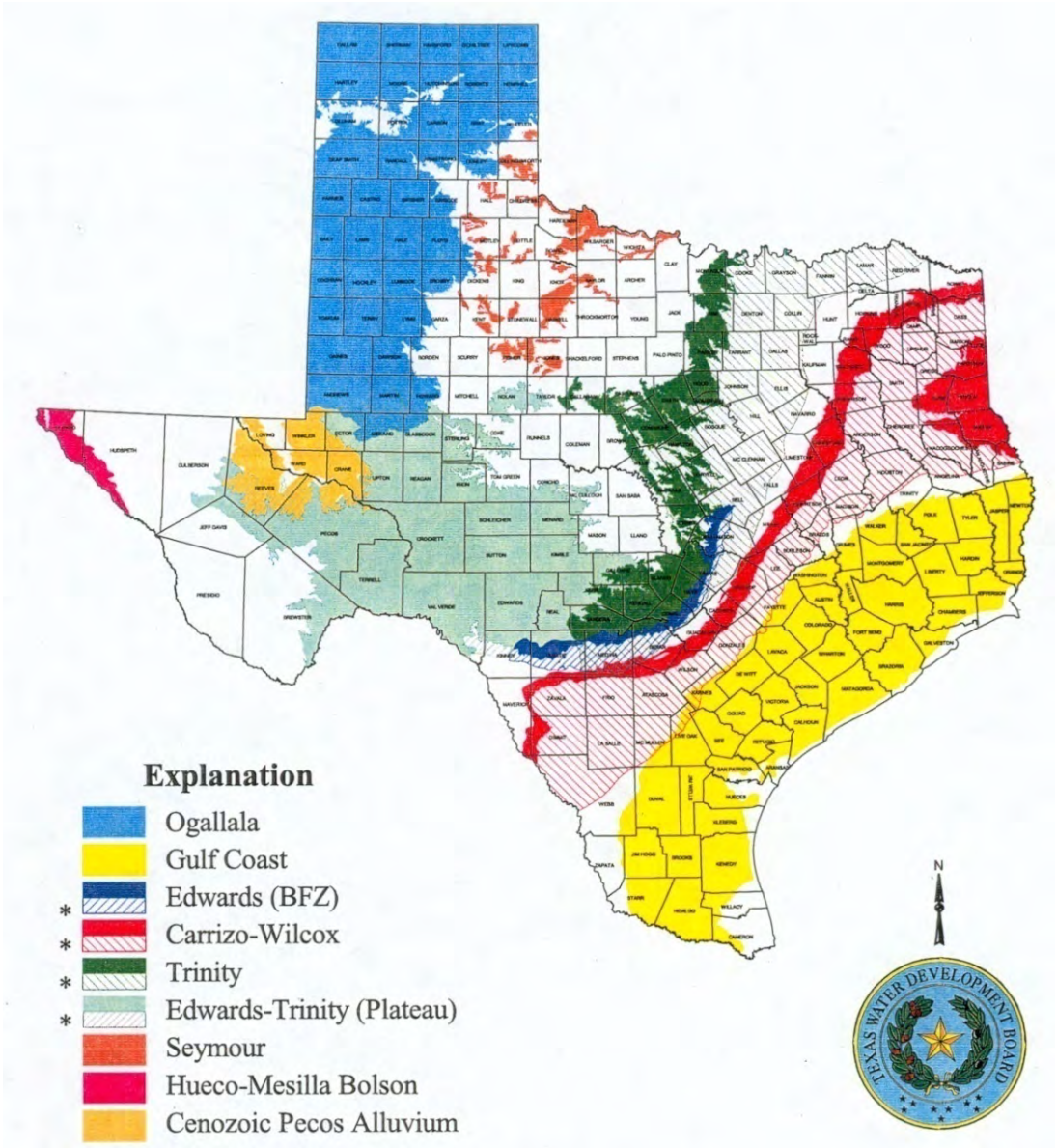
PURPOSE

Chapter 36.0015

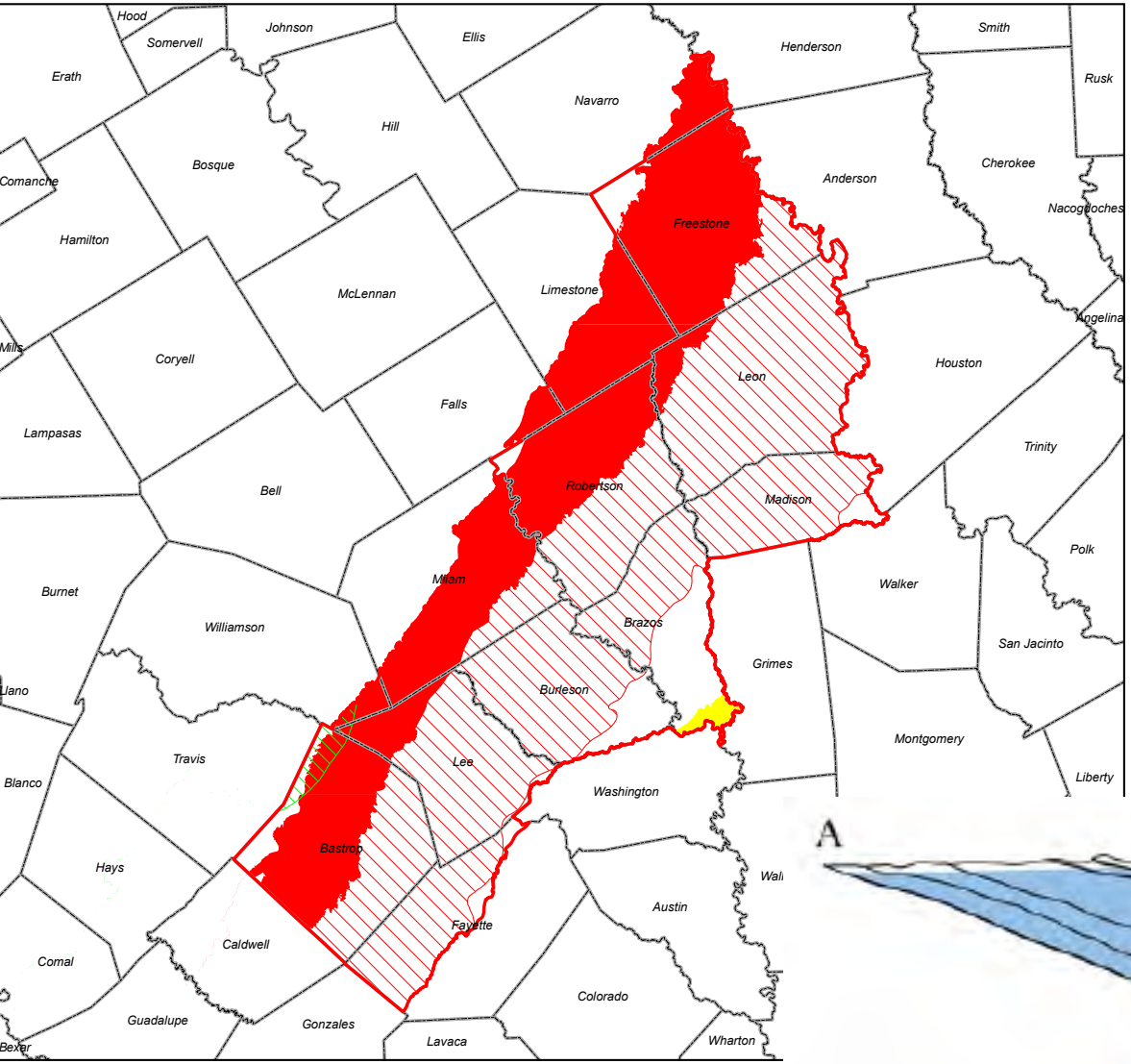
- **Provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater** (Also must provide for most efficient use of the groundwater resources)
- **Groundwater Conservation Districts are the state's preferred method of groundwater management through rules developed, adopted, and promulgated by a district**

Major Aquifers of Texas

POSGCD
Carrizo-Wilcox



Groundwater Management Area 12



MAP LEGEND

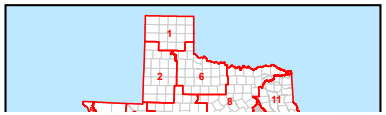
- Groundwater Management Area 12
- Counties

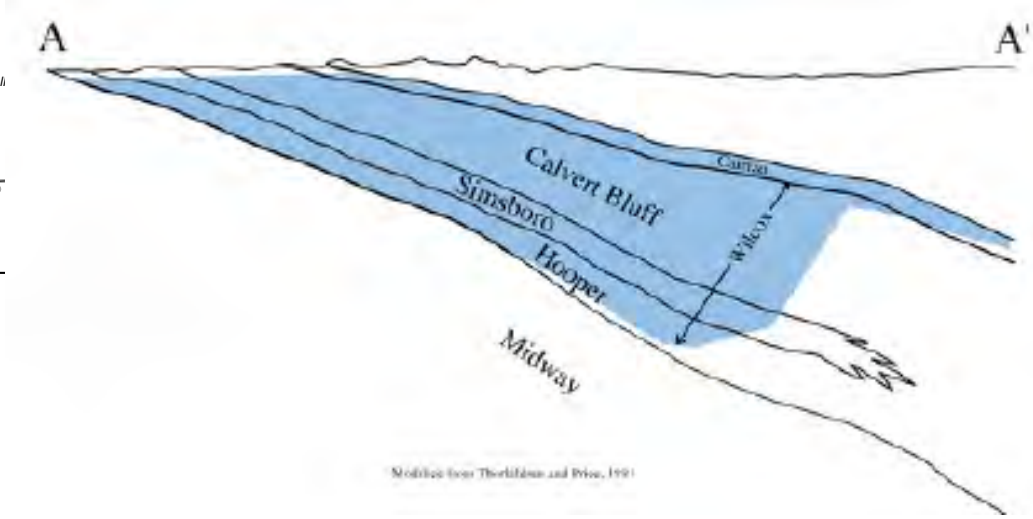
Major Aquifers

- Gulf Coast
- Carrizo - Wilcox (outcrop)
- Carrizo - Wilcox (subcrop)
- Trinity (subcrop)

DISCLAIMER
This map was generated by the Texas Water Development Board. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate. Boundaries for groundwater conservation districts are approximate and may not accurately depict legal descriptions.

Updated 8/26/2015

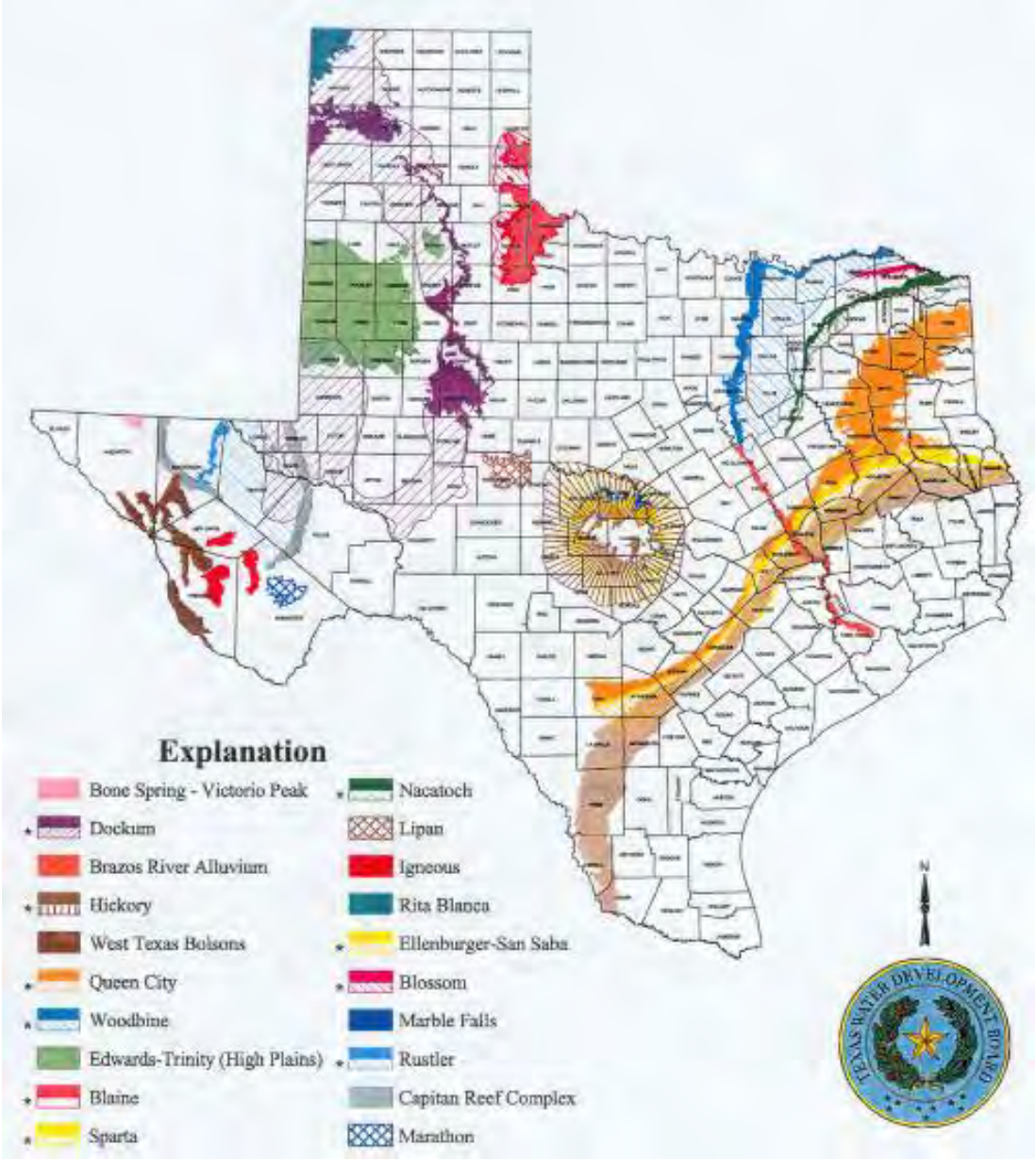




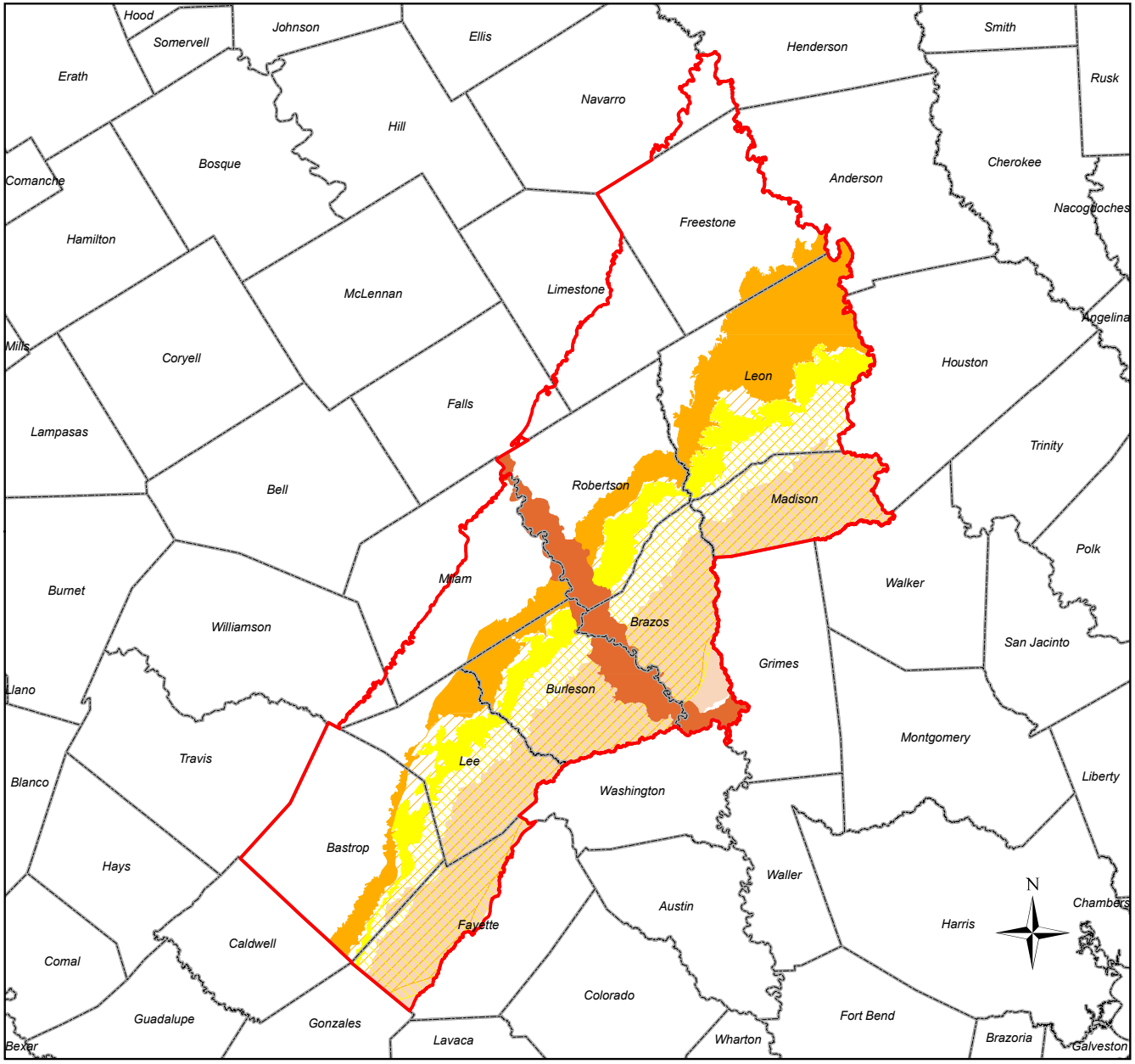
Minor Aquifers of Texas

POSGCD

Queen City
Sparta
Yegua-Jackson
Brazos Alluvium



Groundwater Management Area 12



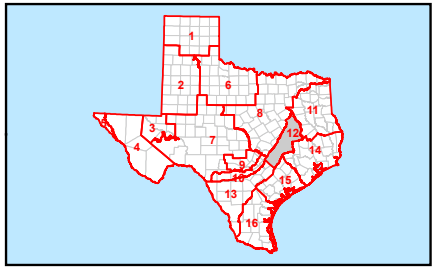
MAP LEGEND

- Groundwater Management Area 12
- Counties

Minor Aquifers

- Brazos River Alluvium
- Yegua Jackson
- Sparta (outcrop)
- Sparta (subcrop)
- Queen City (outcrop)
- Queen City (subcrop)

Updated 8/26/2015



0 5 10 20 30 40 Miles

1 in = 14 miles

The Good News

You own the water under your property

Texas -Common Law/ Rule of Capture State

- Common Law- Historically developed
- Rule of Capture- Old English Rule
- Under Rule of Capture Landowners have the right to pump unlimited groundwater from the land they own, as long as not malicious or wasteful, without liability to neighbors

POSGCD Background
and Reasons for creation (2001)

I. Resources + Location + Growth =

>35,000 acres water rights leased by 2000

II. Local Concerns

a. Existing Area Users (100% Burl. Co., 90% Milam Co.- use groundwater)

Municipal, Industrial, Agricultural

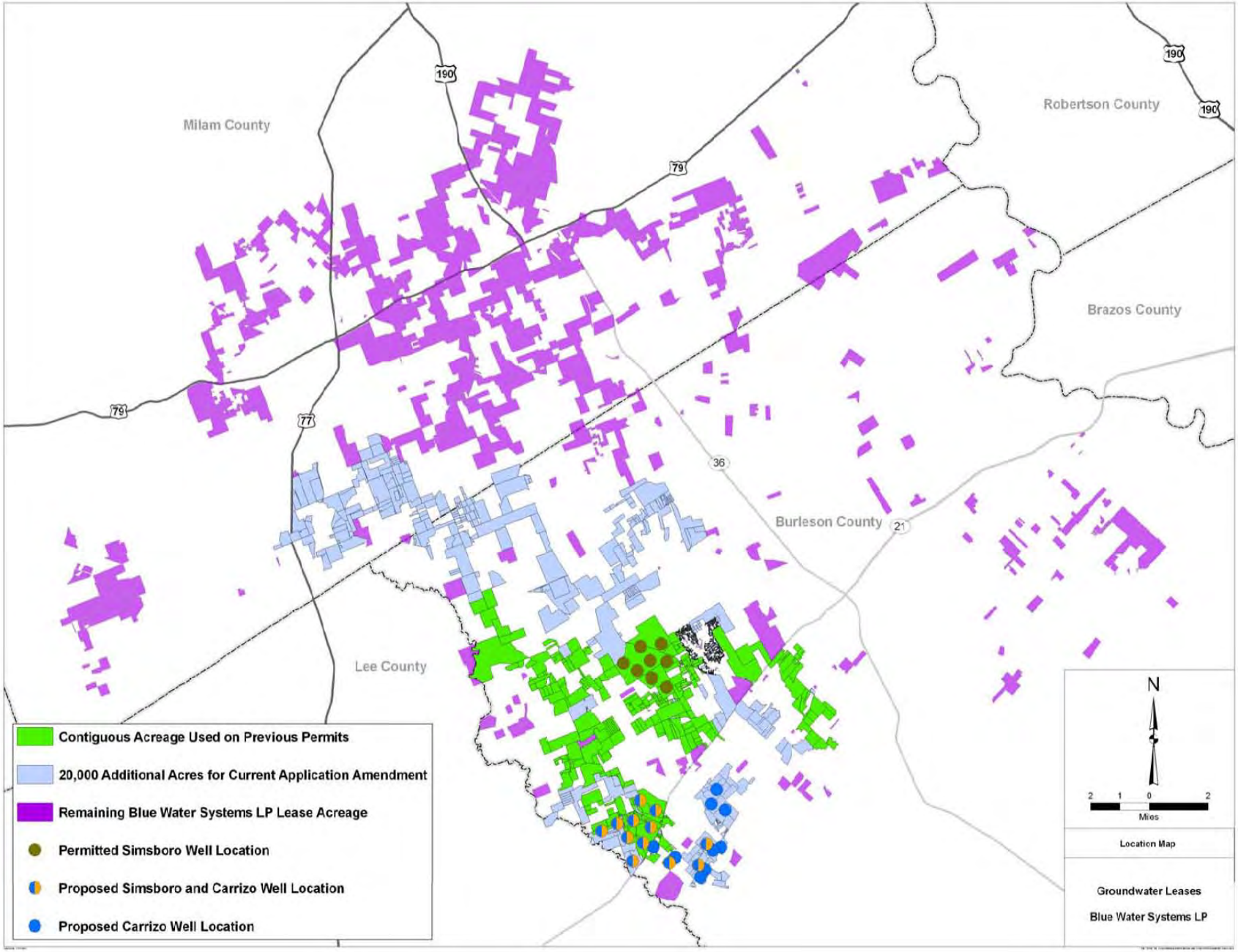
b. Future Growth

c. Reasonableness of Management Strategies

d. Insufficient Science

e. Unknown area future projects (in and out of District)

f. Property Rights


Milam County
Robertson County
Brazos County
Burleson County
Lee County
190
79
77
36
21
Contiguous Acreage Used on Previous Permits
20,000 Additional Acres for Current Application Amendment
Remaining Blue Water Systems LP Lease Acreage
Permitted Simsboro Well Location
Proposed Simsboro and Carrizo Well Location
Proposed Carrizo Well Location
N
2 1 0 2
Miles
Location Map
Groundwater Leases
Blue Water Systems LP

Management Strategies of POSGCD

Groundwater Management

- Protection of water levels
  - Overall Desired Future Conditions
  - Shallow zones restrictions
  - District Monitor well network
- Respect for Property Rights
  - To produce
  - When not producing**

POSGCD Toolbox for Conservation

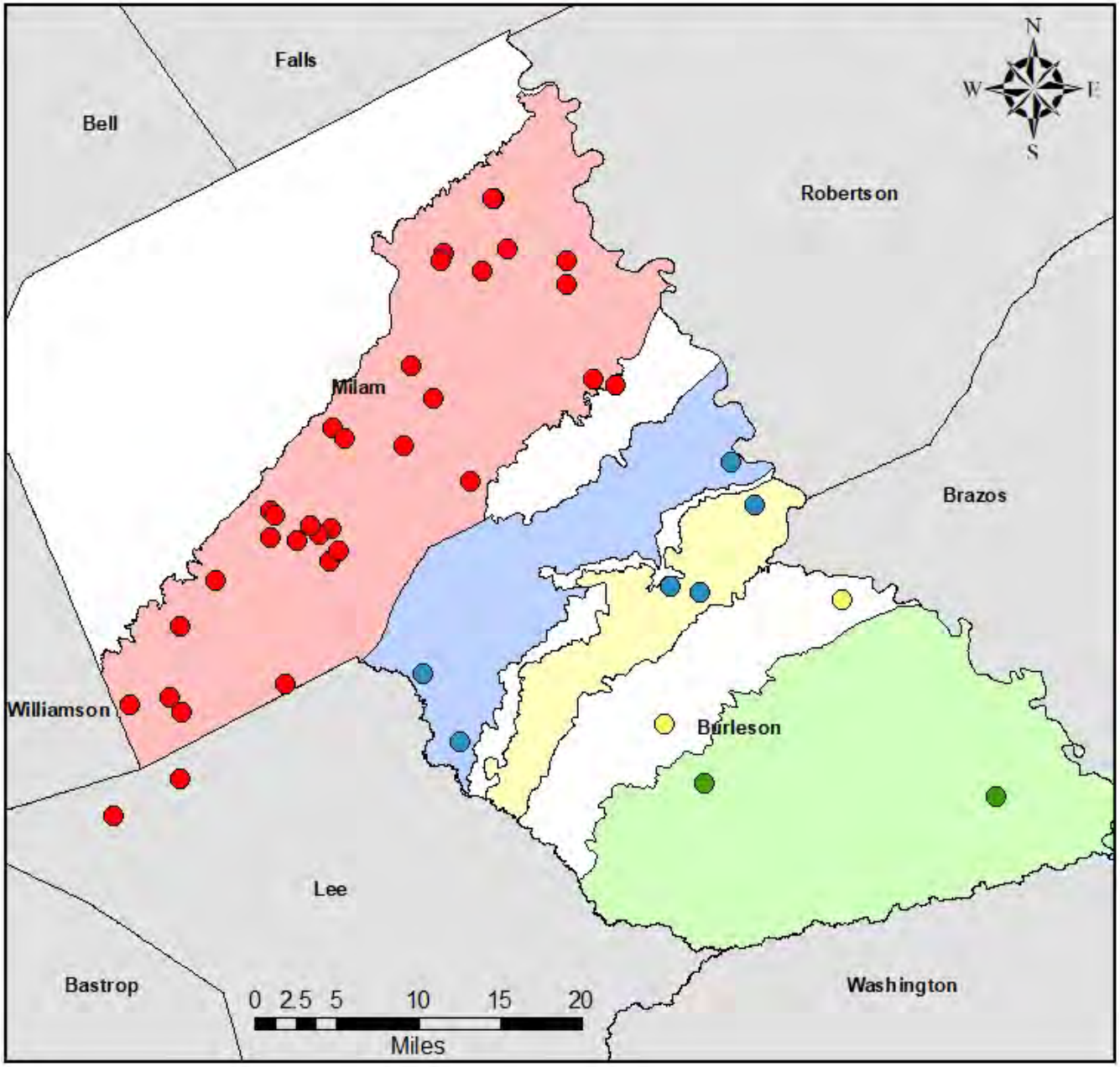
Post Oak Savannah GCD Toolbox are the strategies and practices used by the District to manage groundwater.

- Spacing requirements
- Contiguous acreage requirements
- Maximum Production limits
- Ability To Adjust Permit terms
- Monitoring water levels
- Desired Future Conditions
- Protective drawdown limits

-NEW tool-

- **Aquifer conservancy program (ACP)**

District Monitoring Wells - Shallow (<400) Management Zone



This map illustrates the wells in the District's Monitoring Network that are identified to be in the shallow management zone set for 400 feet. The District makes an effort to make management decisions that are supported through best available science, In an effort to improve this science, more wells are needed to increase the quantity and quality of data. While the Carrizo-Wilcox has been prioritized, there is a strong need for some shift towards the minor aquifers in regards to number of shallow monitoring wells. This document is for DRAFT ONLY.

Legend

Monitor Wells <400

- Carrizo-Wilcox
- Queen City
- Sparta
- Yegua - Jackson

- Carrizo-Wilcox Outcrop
- Queen City Outcrop
- Sparta Outcrop
- Yegua-Jackson Outcrop

POST OAK SAVANNAH GROUNDWATER CONSERVATION DISTRICT

MONITORING WELLS
35% Increase
for 2018

NEW NEXT GENERATION MONITORING ACOUSTIC MEASUREMENT TECHNOLOGY

Well Monitoring is one of the most important tools Post Oak Savannah Groundwater Conservation District has to track the health of the Aquifers. At the present time the District has over 200 Monitor Wells across the two counties which include Rural Water Suppliers, landowner exempt wells, and wells the District has drilled for the sole purpose of monitoring.

Monitor wells give us a snapshot of the water levels in the aquifers. They also give us a tool for making better decisions on installation of new wells and the amounts of water available for pumping.

Ralph Sifuentes, POSGCD Field Technician, measures most monitor wells at least once a year. We take the date and water level he records and enter everything into our database. We are then able to use our hydrological models to make better decisions about managing these aquifers. **The more monitoring wells we have help us better understand the Aquifers and how pumping impacts water levels in specific areas.**

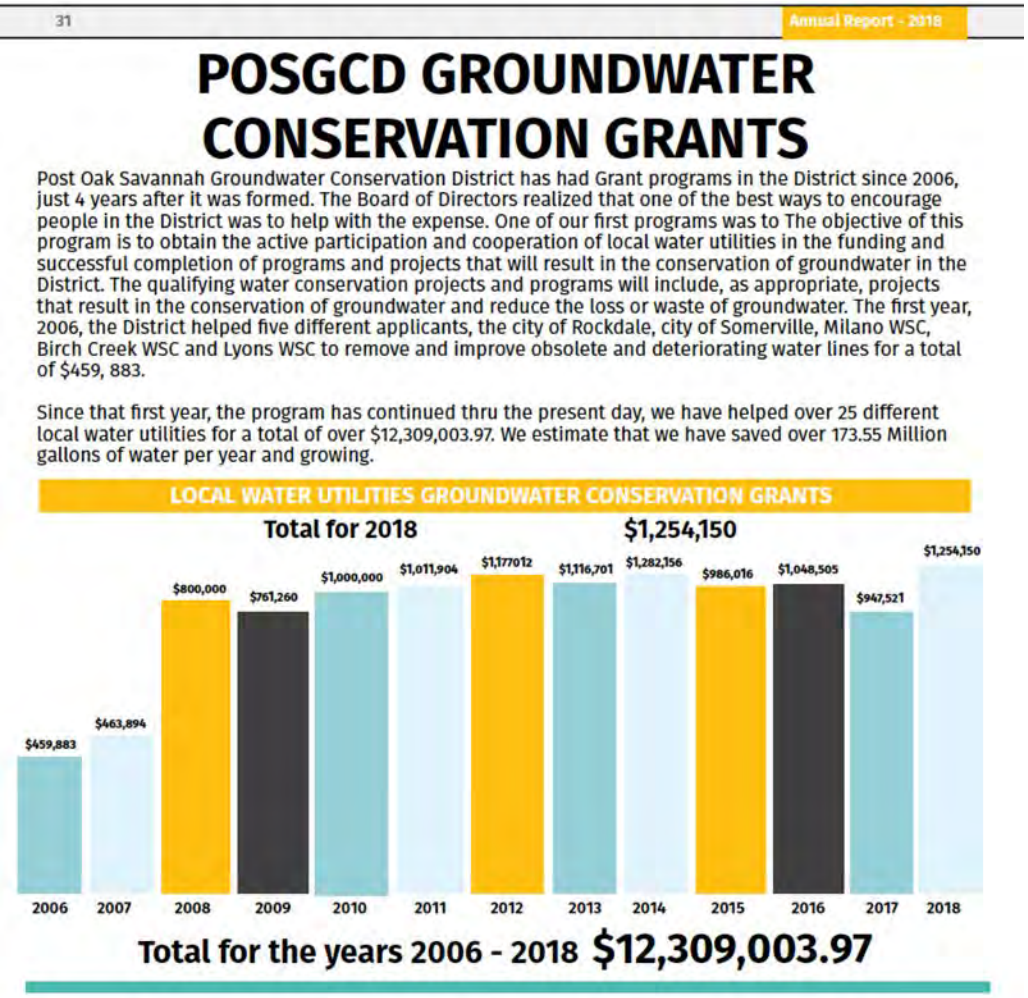
New for this year, we are implementing a patented, next-generation, acoustic measurement technology, These include remote telemetry, and a cloud platform to collect accurate and reliable groundwater level measurements.

POSGCD Programs

District Education Program

- Public presentations (Master Gardeners, groups, service clubs, Co. Extension events, Big Spring Clean, etc.)
- Milam and Burleson Counties Groundwater Summit
- Commissioners Court Annual Updates
- Website- *www.posgcd.org*
- Newspapers
- Newsletters
  - Quarterly Paper
  - Monthly Email
- Schools- Public and private
  - Water Wise- 4th and 5th grades
  - In person presentations- 6th & 7th grade science
  - Additional resources- Water IQ for all levels
  - Extension Service

District Groundwater Conservation Grants



31 Annual Report - 2018

POSGCD GROUNDWATER CONSERVATION GRANTS

Post Oak Savannah Groundwater Conservation District has had Grant programs in the District since 2006, just 4 years after it was formed. The Board of Directors realized that one of the best ways to encourage people in the District was to help with the expense. One of our first programs was to The objective of this program is to obtain the active participation and cooperation of local water utilities in the funding and successful completion of programs and projects that will result in the conservation of groundwater in the District. The qualifying water conservation projects and programs will include, as appropriate, projects that result in the conservation of groundwater and reduce the loss or waste of groundwater. The first year, 2006, the District helped five different applicants, the city of Rockdale, city of Somerville, Milano WSC, Birch Creek WSC and Lyons WSC to remove and improve obsolete and deteriorating water lines for a total of $459, 883.

Since that first year, the program has continued thru the present day, we have helped over 25 different local water utilities for a total of over $12,309,003.97. We estimate that we have saved over 173.55 Million gallons of water per year and growing.

>>Local Water Utilities in District

Must be used for conservation of groundwater or recharge of aquifer(s)

History (since 2006)

- Awarded 85 grants
- 23 different Local Water Utilities (All in District)
- Approximately $12.3 Million
- 2018 Four Recipients totaling $1,254,150
- 2019 Budgeted amount of $1 Million

FIRE DEPARTMENT REIMBURSEMENT GRANT

14 ProPaks

ProPaks aid the Fire Fighters in reducing the amount of water need to extinguish the fire by delivering foam to the fire. These units are refillable.

FOAM Replacement

The foam deprives the fire of oxygen, thereby reducing heat. By Suppressing combustion, the foam reduces the use of water by making the equivaalent 15,000 gallons of water from only 250.

9 VFD's Milam County

Rockdale VFD, Thorndale VFD, Milano VFD, Minerva VFD Bartlett-Davilla FD, Cameron VFD, Burlington VFD, Buckholts VFD, Gause VFD

9 VFD's Burleson County

Caldwell Fire &Rescue Somerville VFD Snook VFD Black Jack Volunteer FD Beaver Creek VFD Birch Creek Area VFD Cooks Point VFD Deanville VFD Cade Lake VFD

Post Oak Savannah GCD Board of Directors continued its support of local Fire Departments and efforts in water conservation in the District by providing a check for $6, 975 to the Milam County and $13,486 to Burleson County Fire Chiefs Association for the purchase of nine new ProPaks that use foam to suppress fires instead of water. This fire fighting system is portable and self-contained to better combat both Class A (combustibles) and Class B (flammable liquids) fires. The replaceable ProPaks attach to the end of a fire hose to coat the fire in foam which deprives the fire of oxygen, thereby reducing heat. By suppressing combustion, the foam reduces the use of water by making the equivalent 15,000 gallons of water from only 250 gallons.

Additional benefits for using foam include:

- Reduction of water necessary to suppress fires
- Reduction of man-hours and equipment needed
- Reduction of number of trips needed to deliver suppressant
- Reduced air pollution
- Lessens firefighter risk of exposure to airborne carcinogens
- Lowers amount of runoff & water pollution
- Less water damage to property

Post Oak Savannah Groundwater Conservation District is thankful for the service of our fire departments and proud to support safer, more environmentally friendly alternatives for fighting fires by these local heroes.

District Groundwater Conservation Grants (continued)

>> Fire Departments in the District ($25,000 per year)

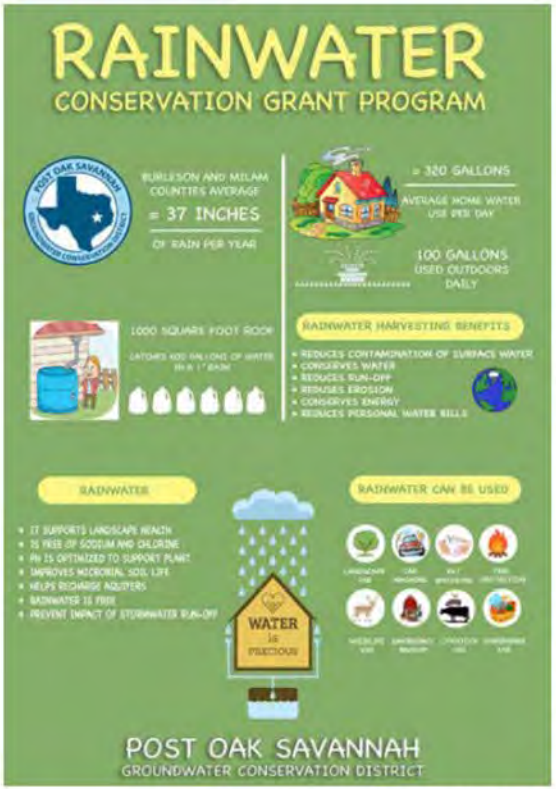
Available for water conservation materials and equipment

-Absorbent materials

-Foam

-Foam dispersing nozzles

-ProPaks



RAINWATER HARVESTING

In September of 2017, Post Oak Savannah Groundwater Conservation District (POSGCD) and Texas A&M AgriLife Extension Service (AgriLife) collaborated to offer a Water Conservation Program through the District. The program includes: a rainwater harvesting system, rainwater harvesting rebate program, drought-tolerant garden and irrigation demonstration sites, and series of educational workshops.

13 SYSTEMS INSTALLED

Through education workshops and the POSGCD rebate program, to date thirteen, rainwater harvesting systems have been constructed throughout the District.

51,550 TOTAL STORAGE

Gallons of storage. The rebate program is based on $1/gallon of tank capacity up to $3,000 per household. Despite the maximum of 3,000 gallon cistern or $3,000 reimbursement, participants have installed an average about 4,000 gallon cisterns per system.

23 TOTAL CISTERNS

The 13 installed systems consist of 23 total cisterns. Rainwater harvesting system has benefited the environment by reducing erosion around the office and by providing an outlet for heavy rains to be diverted into storage tanks then applied slowly through drip emit-

658,323 GALLONS

The potential to collect 658,323 gallons* of water per year. (*based off collection surface and average rainfall). These systems will reduce erosion, divert and slow down flood water, promote groundwater recharge, and lessen the burden on groundwater and surface water.

District Groundwater Conservation Grants (continued)

Rainwater Harvesting Grants

- $1.00 per gallon capacity rebate

- amount includes: tank, gutter, tank foundation, overflow, and miscellaneous materials which make up the system. For example, you purchase a 550 gallon tank; install gutter, overflow and miscellaneous fittings. You would receive a $550 rebate that covers the complete system including the tank, gutter, miscellaneous fittings etc.

- 1) Applicant must be a resident or landowner in the District.
- 2) The system must be installed within the District.
- 3) Applicants must complete an approved Rainwater Harvesting 101 Workshop to qualify for the reimbursement.

District Groundwater Conservation Grants
(continued)

<u>Groundwater Well Assistance Program (GWAP)</u>

Purposes-

-Increase # of monitoring wells

-Predict and correct issues with water supply

<u>>>Well Plugging ($25,000 per year)</u>

District reimburses 100% of expense up to $2500

To Protect the Water Quality in the Aquifers

GROUNDWATER SUMMIT

5th Annual Milam & Burleson Co Summit

The 2018 Milam and Burleson Counties Groundwater Summit

Central Texas residents gathered on August 15, 2018 for the fifth annual Groundwater Summit at the Caldwell Civic Center for information and education on groundwater topics relevant to our local communities. We had a great attendance with over 220 people registered from Burleson, Milam, Brazos, Travis, Robertson, and Lee counties!

Topics presented at the Summit included:

- Overview of the Carrizo-Wilcox Aquifer
- Groundwater Availability Models (GAMs)
- Groundwater Property Rights & Rule of Capture
- POSGCD/AgriLife Programs
- POSGCD Monitoring Update
- Oil & Gas Fracking and Disposal Wells
- The NEW Aquifer Conservancy Program

This years Groundwater Summit was a big success

Everyone enjoyed the great venue, food, door prizes, and the speaker presentations about the aquifers and water law. It was a great opportunity for the District to contribute and connect with the public about groundwater conservation and the legacy of stewardship. We hope to see YOU at the Groundwater Summit next year!

Groundwater Summit Aug ??

FREE Well Water Testing

AQUIFER CONSERVANCY PROGRAM

I SUPPORT
POST OAK SAVANNAH GROUNDWATER CONSERVATION DISTRICT
AQUIFER CONSERVANCY PROGRAM
WWW.POSGCD.ORG

AQUIFER CONSERVANCY PROGRAM

THE PURPOSE OF THE ACP

- Empower landowners through stewardship
- Conserve groundwater for future generations
- Establish a legacy of conservation
- Compliment current sustainable practices
- Add a long-term tool to POSGCD toolbox of management strategies provided by state law.

WHY THE AQUIFER CONSERVANCY PROGRAM

As Texas continues to grow, demands on groundwater resources increase. In response to these concerns, together with local landowners we have developed this proactive solution. (The legislative purpose of the District is to provide balance between production and

HOW DOES THE ACP HELP CONSERVE THE AQUIFERS

Do I lose my property or water rights? No!
Do I have to commit ALL my land? No!
Can I still have my personal well? Yes!
The program survives the current Board and management. This is a longterm commitment by citizens toward the sustainability of the aquifers and water for future generations.

The Post Oak Savannah Aquifer Conservancy Program (ACP) continues to pave the way for future of water conservation as program outreach and interest increase!

The program was founded to support local landowner legacies through long-term, sustainable stewardship of groundwater resources. The Board of Directors hold landowner interests and concerns with high regard and have made recent changes in response to local concerns:

- First, an enrollment incentive of $10/ acre for 2019 will be available for the first annually recurring 90-day enrollment period (dates to be announced).

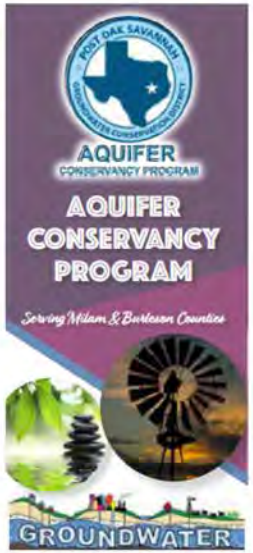
- Second, after receiving input from the public, the Board modified the program to address concerns. Now, any change in ownership of property enrolled in the program will end the commitment, with the option to continue available to the new owner.

- Third, the Board has implemented Flexible Commitment Options.

The following terms of commitment will receive the identified annual payment:
(A) Five years- $5/acre/year
(B) Ten years- $8/acre/year
(C) Twenty years- $10/acre/year.

The Directors continue to work diligently on this program to conserve the local legacies of the communities it represents, and plan to publish the formal draft for public comment again October 2.

For the most current updates, review of the program details, and answers to frequently asked questions, refer to https://posgcd.org/pacp main page.



POSGCD Aquifer Conservancy Program (ACP)

Would you like to conserve your water for future generations?

Would be willing to place all or part of your water rights into a conservancy stewardship?

Your Land must be over the Carrizo-Wilcox Aquifer And in the District

If in Milam County look at map or www.posgcd.org/public-interface/

Many Benefits of Aquifer Conservancy Program

No one takes possession of Your water rights!

You simply agree not to lease or permit that water during the term of commitment.

You will receive payment for not leasing or pumping your water.

Of course, you can still have an Exempt Well for Domestic and Livestock use.

Personal Well is: Exempt from Permit (must be registered),
Exempt from Fees
Exempt from Reporting

You Choose Flexible Commitment Options

Enrollment Incentive - $10/acre for 2019

A. Five years- $5 per acre per year
B. Ten years- $8 per acre per year
C. Twenty years- $10 per acre per year
D. there is an option with no payment

You can reserve part of your water rights:

- for row crops,
- pecan grove,
- irrigate a hay patch,
- etc.

Example:

If you own 100 acres

You want to plant a
10 acre Pecan Grove

You can commit 90 acres

You will be able to end the agreement:

- at the end of the term,
- if you sell your property,
- transfer it to your heirs,
- at the time of death of the landowner.

The Purpose of ACP

- Empower landowners through stewardship
- Establish a legacy of conservation
- Compliment current sustainable practices of the District
- Conserve groundwater
- Add a long-term tool to the current Toolbox of management strategies

Would You Like To Help?

Become an ACP Ambassador!

Next Meeting - Thurs Night

Elizabeth Lutheran

6:30pm

Post Oak Savannah
Groundwater Conservation District

Aquifer Conservancy Program
For more info see our website
www.POSGCD.org
or call our office
512-455-9900