

Water Rights 101:

Unrealized and Undisclosed

*South Texas College of Law 29th Annual Real Estate
Law Conference
June 5 and 6, 2014*

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"An intelligent, elegant call to action in the defense of fresh water."—Kirkus Review

CHARLES R. PORTER

Sharing the Common Pool

WATER RIGHTS IN THE
EVERYDAY LIVES OF
TEXANS



If every individual and every entity or municipality in the state of Texas chose to exercise water rights at the same time, there would not be enough water to satisfy all claims, no matter how legitimate.

Texas water law, which contains elements of Spanish, English, and Republic heritages, originally defined water by where it sits, flows, or falls and assigned ownership accordingly. This seemingly logical line of reasoning, however, has since evolved into a tortuous amalgamation of laws, permits, and governing authorities that currently face the onslaught of population growth and competing interests—all with insatiable thirsts.

Water rights expert Charles R. Porter explains who has rights to water in Texas, who determines who has those rights, and who benefits or suffers because of it. Covering ownership, use, regulation, real estate, and policy, Porter lays out how we manage (and mismanage) water in Texas, what legal cases have guided the debate, and where the future might take us as old rivalries, new demands, and innovative technologies—such as hydraulic fracturing of oil shale formations (“fracking”)—help redefine water policy.

CHARLES R. PORTER is assistant professor of history at St. Edward's University in Austin and a licensed real estate agent and broker. He has been a presenter and panel moderator for the Texas legislature, at the Texas Groundwater Summit, and at a joint conference of the Texas Rural Water Association and Texas Water Conservation Association.

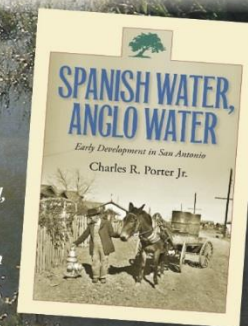
240 pp. 40 color illus. 10 maps. 5 figs. Table. 3 appendixes. Flexbound \$24.95. Publication: Spring 2014.

Also By CHARLES R. PORTER

**SPANISH WATER, ANGLO WATER:
EARLY DEVELOPMENT IN SAN ANTONIO**

*WINNER 2011 San Antonio Conservation Society Publication Award,
presented by the San Antonio Conservation Society*

*WINNER 2011 Texas Old Missions and Forts Restoration Association
Book Award, presented by the Texas Catholic Historical Society*



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CONFLUENCE

News from the leading water industry association in Texas.

2nd Quarter 2010

Edwards Aquifer Authority vs. Day and McDaniel What is the court deciding and why does it matter?

By **RUSS JOHNSON**
Partner
McGinnis, Lochridge & Kilgore

On February 17, 2010, the Texas Supreme Court heard oral argument in the most important groundwater case to come before the court in recent history. The case squarely presents the question of whether a landowner has an ownership interest in groundwater under the absolute ownership rule adopted by the Texas Supreme Court in 1904. The absolute ownership rule describes the landowner's ownership interest as part of the soil and inseparable from the real property. However, under the rule, the landowner had no liability for adverse impacts caused by the groundwater production so long as the water was beneficially used without waste.

While the courts have consistently recognized the real property groundwater ownership rights of landowners in decisions since *East*, the courts have also recognized the ability and need for the legislature to provide for regulation of groundwater use through groundwater conservation

Early water policy in Texas

By **CHARLES PORTER**
Adjunct Professor
St. Edwards University, Austin



Aqueduct carrying Espada acequia over San Pedras Creek

Texas' initial public water policy was made in 1709 when Spanish explorers officially classified the future site of San Antonio as being capable of supporting a ciudad or city due to the prolific amount of "living" water from the spring-fed San Antonio River and its conjunctive stream San Pedro Creek. In 1718, the initial acequia or irrigation canal was dug in a system that eventually stretched over 50 miles in San Antonio and became the first municipal water system in the United States. All water in the acequia system was required to return to the river

Please see *Matter*, page 14

Please see *Early*, page 5

Please see *Impacts*, page 7

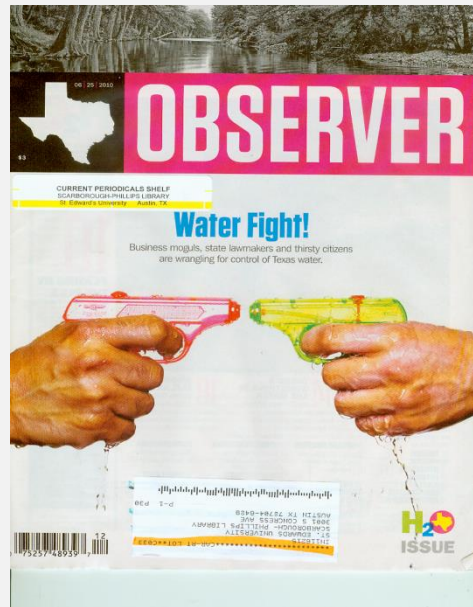
Edwards Aquifer Authority v. Day, et al poses question of when groundwater interest vests

By **GREGORY ELLIS**
Attorney and Executive Director
Texas Alliance of Groundwater Districts

The Texas Supreme Court recently heard oral arguments in what may be the most important groundwater law case of the last 100 years: Edwards Aquifer Authority v Day et al. At stake is the State's ability to prevent over pumping of aquifers to everyone's detriment.

The Supreme Court has made it clear that landowners cannot look to the courts for protection of their groundwater resources. By adopting (and later upholding) the Rule of Capture the court said two things: 1) whoever pumps the groundwater gains vested title to it, and 2) the legislature has the job of preventing harms that may be encouraged by that Rule.

Now that the legislature has acted to protect groundwater resources through locally-controlled groundwater conservation districts those who want to exploit the resource are turning to the State's constitutional protection of private property to try and control what districts may or may not do.



rock boat, a few carbide power chords, and a chorus of whistled, unaltered, unadorned, or futuristic, riffs. "I'm in love with love," Ercoredo sings. He may not be subtle, but he knows his audience.

The song is refreshing for being so free of abstraction. Maybe Ercoredo is too old to fuss with metaphors, or maybe he's seen too much of life and come too close to death to care, but on *Street Singer of Love*—with its breezy production, female backing singers, and about choruses—sufficiency is unnecessary. It would just get in the way. If you're a fan for someone's love (Peter

Clark?), you might as well up as if you believe you've got it. I don't help that the largest shareholder in the water company was a Yankee banker, George Brackebridge. For the next 50 years, Brackebridge became a focus of populist rage. Several mayors were elected after using Brackebridge as a convenient scapegoat for the city's decision to privatize water.

By 1890, rapid population growth and periodic droughts had diminished the city's water supply, and the water company had to drill deep wells into the Edwards Aquifer to replenish the city's thirst. Ironically, the drilling dried up Brackebridge's own head-of-the-river spring, and he had to sell his home for a charity. To this day, San Antonio is the only major city in the United States that depends fully on groundwater.

need to fuss about it. After all, it's only rock and roll. **D**

AUTHOR'S NOTE Water Shares by Charles Porter

IMAGINE THIS: YOU'RE A NEWBORNS INSTALL A powerful pump in their water well, and your well—your drinking water—dries up in Texas, you would have no legal recourse, because Texas is the only state that still honors the Rule of Capture. See "The Rule" (p. 8). A century ago, in Texas water law and public policy, the rule has governed water usage in Texas for more than a century. Many policymakers acknowledge the policy has to change. A model for water management in Texas exists, and it tried and proven. We just have to look back a few hundred years.

When the Spanish arrived in Texas in the 16th century, they implemented a scientific, equitable water policy. Spanish water was free for everyone, not a commodity to be bought and sold.

My book, *Spanish Water/Acqua Under*, traces the history of Spanish and Anglo water management in San Antonio, where millions of gallons of Edwards Aquifer water emerged from countless springs to create the San Antonio River and San Pedro Creek. There were so many small springs and wells then that Del Wenzler referred to the area in his 1984 book, *The Explorer's Town*, as a "springs."

Upon arrival in San Antonio in 1718, the Spanish began digging irrigation ditches known as acequias. Eventually the acequia system grew to a combined length of 50 miles and comprised the first municipal water system in the United States. Clearly, all those water through segments of this engineering marvel almost 300 years later. In 1773, Spain's Viceroy Caudate established the first water conservation and allocation policy in Texas. It required unused water from the acequia to be sent to a river or creek—the first environmental flow policy in the state.

Water was free in San Antonio until the Spanish left. Then San Antonio began to grow too large to be served by the acequia. The water, which trickled in open ditches, regularly became contaminated with cholera. And in San Antonio, as in most free hydro systems to protect downtown buildings. The City Council knew the city needed an underground water source, but could not afford to build it. So the council authorized water distribution for a private corporation, San Antonio Water Works Co., which began delivering piped water to the city in 1870.

Many San Antonians were unhappy to see water a

SPANISH WATER ANGLICAN WATER: EARLY DEVELOPMENT IN SAN ANTONIO

By Charles Porter
TEXAS ALLIANCE OF GROUNDWATER DISTRICTS
108 PAGES, \$34.95



In Texas, the rule of capture means the person who owns the land owns the groundwater below it. Surface water like rivers and lakes is controlled by the state. The Texas Supreme Court established the groundwater policy in 1904. That's the *Rule of Capture* and *Rule of Capture* in 1904. In the case, the company dug a well for water to use in its machine shop and diked up the well with a neighborhood, who sued. The court established the rule of capture based on English common law, arguing that it would be impossible to determine the amount of groundwater and how to share it, and that any attempt to limit a landowner's water use would impede development. In 1975, citizens amended the Texas Constitution to

The end of a long tradition of water service in San Antonio began last July. Groundwater is now controlled by the state's groundwater commission.

In This Issue: Texas Water Day 2010 - p. 3 • Annual Convention photos - p. 12

Three “Geological Containers”

Determine Ownership of Water and Regulations

Natural Surface Water

Diffused Surface Water

Groundwater in Aquifer and or
Pools Underground

Worldwide Uses of Water

For food, drink, and . . . jobs

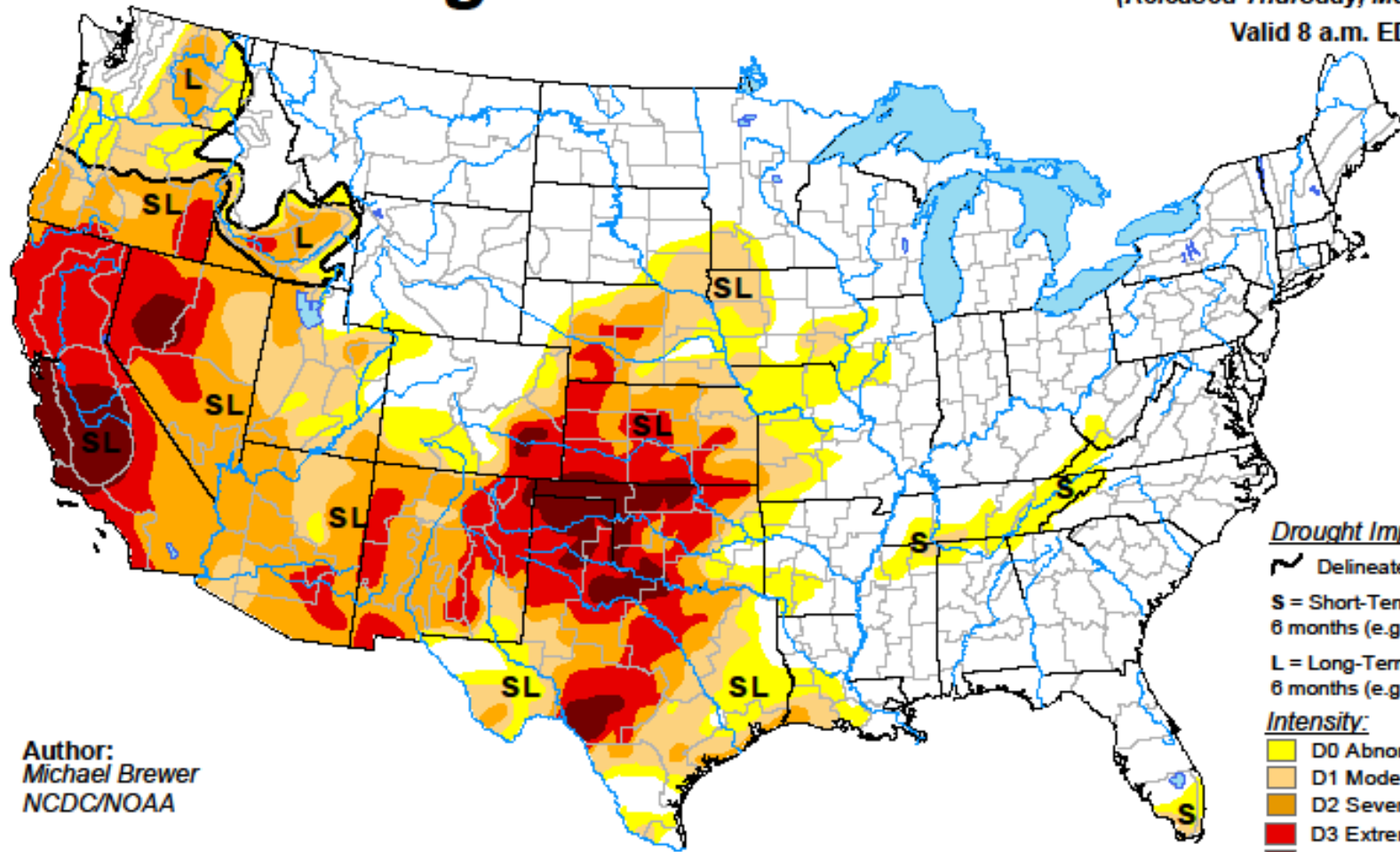
- Irrigation 60%-70% - for our vegetable and grain foods (bread for example) and our livestock feed
- Municipal/industrial 20%-30% - for our industries and city drinking water/sanitary sewage.
- Domestic/livestock 10% - for our drinking water and our animals' drinking water .

U.S. Drought Monitor

May 27, 2014

(Released Thursday, May. 29, 2014)

Valid 8 a.m. EDT



Author:
Michael Brewer
NCDC/NOAA

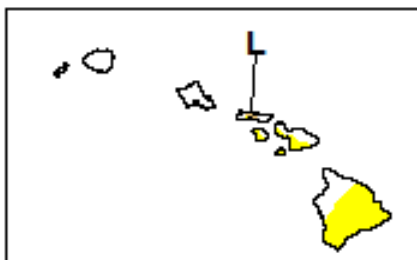
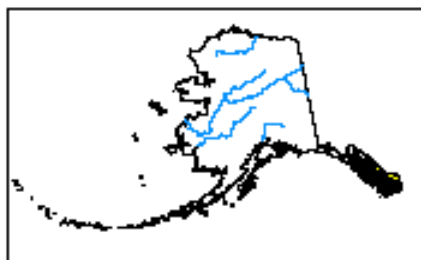
Drought Impact Types:

- Delineates dominant impacts
- S** = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L** = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

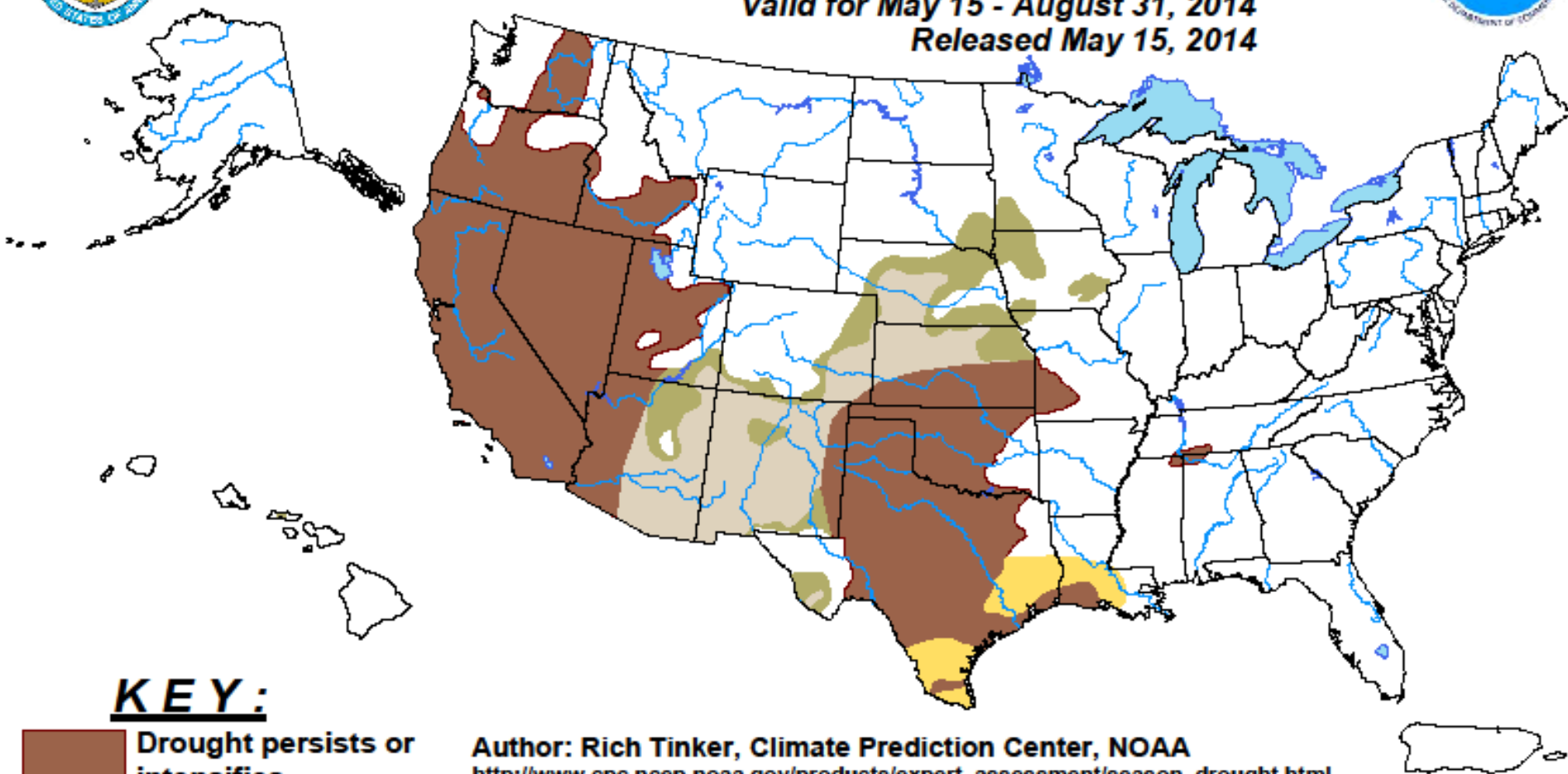


U.S. Seasonal Drought Outlook





Drought Tendency During the Valid Period

Valid for May 15 - August 31, 2014

Released May 15, 2014



KEY:

-  Drought persists or intensifies
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely

Author: Rich Tinker, Climate Prediction Center, NOAA

http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events – such as individual storms – cannot be accurately forecast more than a few days in advance. Use caution for applications – such as crops – that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity).

For weekly drought updates, see the latest U.S. Drought Monitor.

NOTE: The tan area areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain.

The Green areas imply drought removal by the end of the period (D0 or none)

U.S. Drought Monitor

Texas

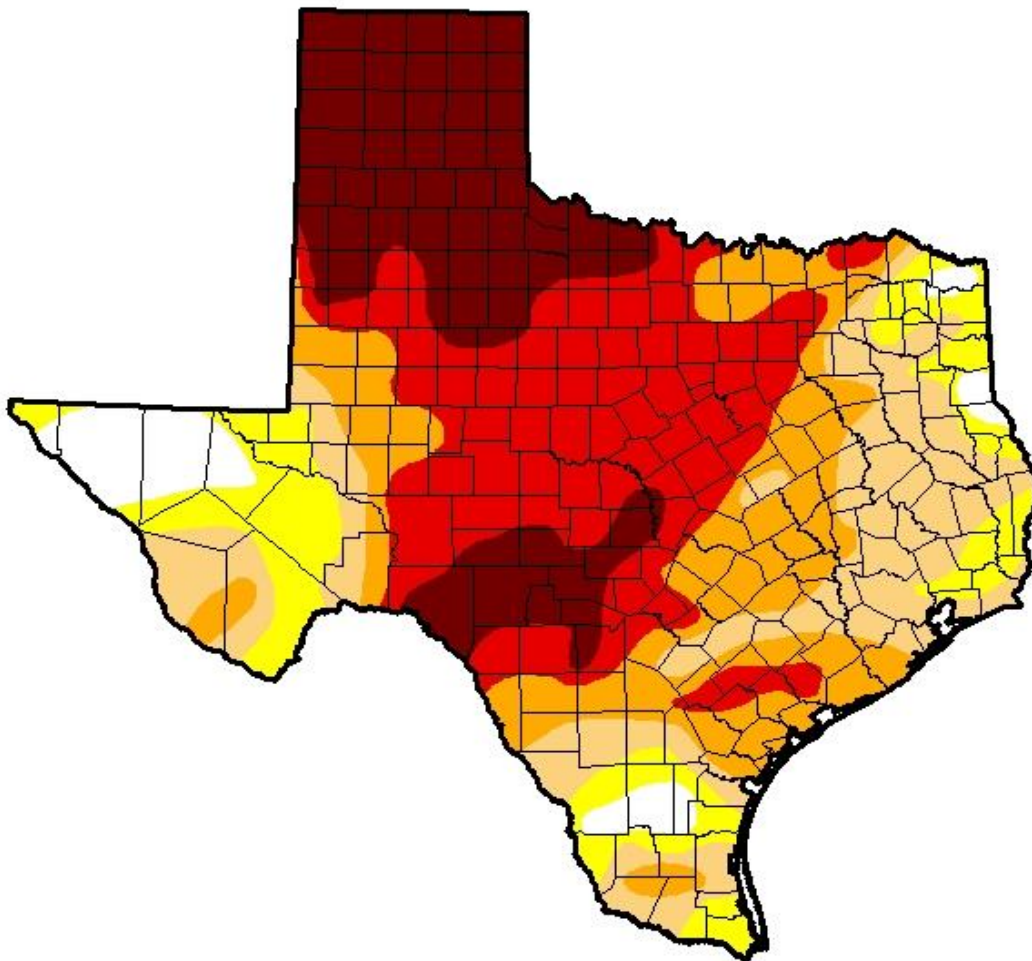
May 6, 2014

(Released Thursday, May 8, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	5.11	94.89	83.35	65.13	46.17	21.28
Last Week <i>4/29/2014</i>	9.88	90.12	74.47	52.91	37.86	17.75
3 Months Ago <i>2/4/2014</i>	14.95	85.05	51.68	22.34	7.95	0.71
Start of Calendar Year <i>12/31/2013</i>	28.48	71.52	43.84	21.15	5.82	0.79
Start of Water Year <i>10/1/2013</i>	6.62	93.38	70.95	25.08	4.01	0.12
One Year Ago <i>5/7/2013</i>	1.45	98.55	92.13	72.82	40.58	12.88



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Mark Svoboda

National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor

South

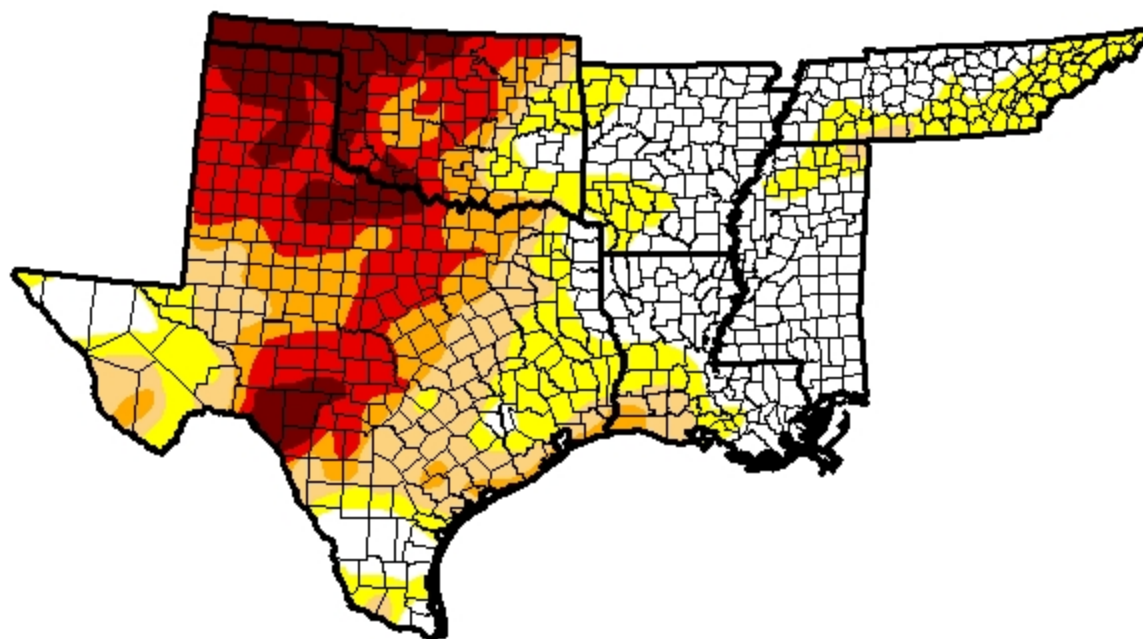
May 27, 2014

(Released Thursday, May. 29, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent)

	None	D0-D4	D1-D4	D2-D4	D3
Current	32.26	67.74	48.10	34.85	23.05
Last Week <i>5/20/2014</i>	31.81	68.19	48.83	38.35	28.05
3 Months Ago <i>2/25/2014</i>	30.23	69.77	43.10	20.79	6.05
Start of Calendar Year <i>12/31/2013</i>	55.85	44.15	27.23	13.21	3.05
Start of Water Year <i>10/1/2013</i>	26.20	73.80	50.11	17.90	3.05
One Year Ago <i>5/28/2013</i>	40.25	59.75	52.84	36.91	19.05



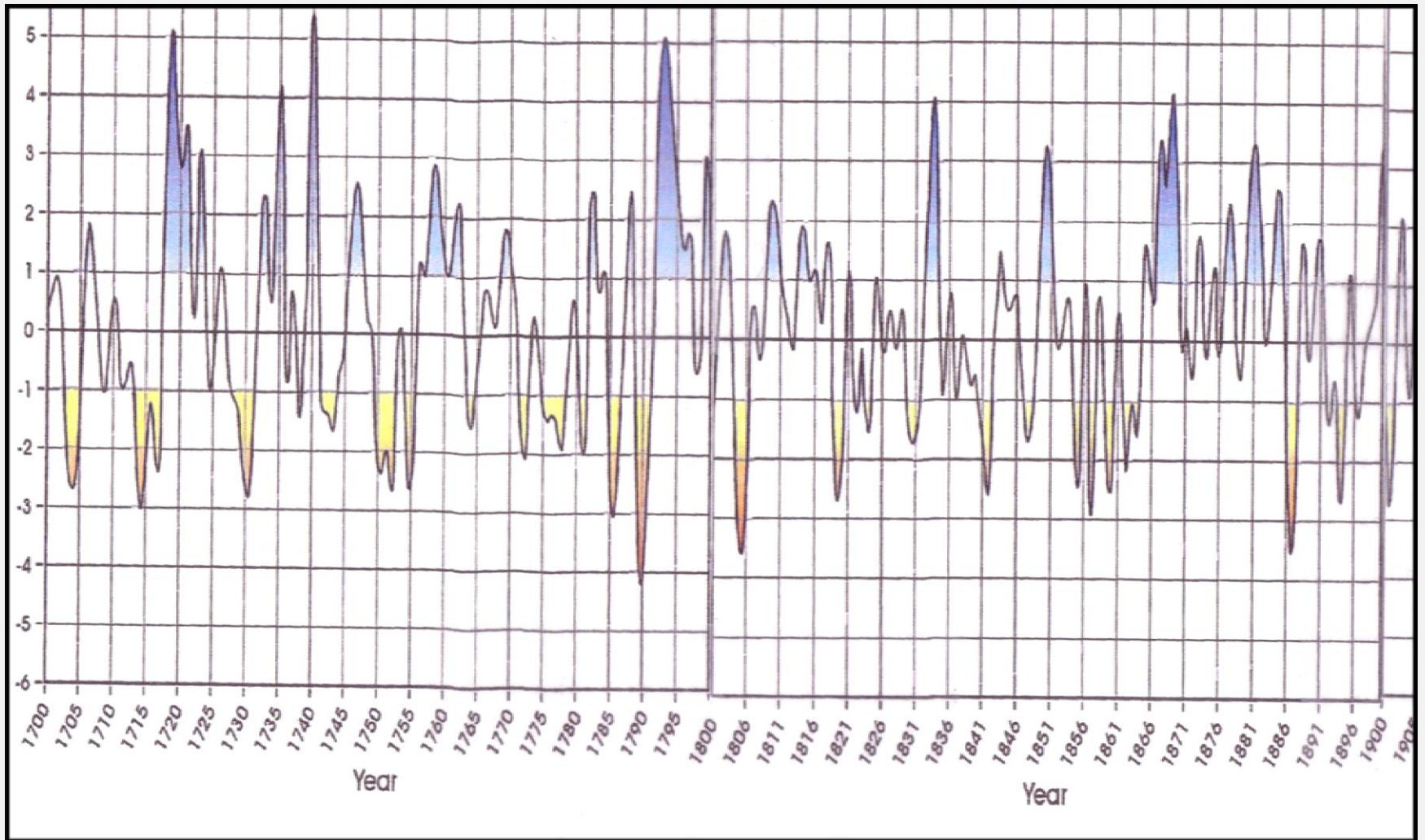
Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text for forecast statements.

Author:

Michael Brewer
NCDC/NOAA



**Droughts and Deluges in San Antonio
1700 - 1900**

Prelude to Community
Development of Water Rights Over
the Past 300 Years

Two Early Examples: Surface Water and
Groundwater Communities in Spanish
Colonial Texas



San Antonio Missions

Texas, United States of America

Nomination to the World Heritage List by the United States of America

JANUARY 2014



Spanish Law Roots – Surface Water

Spain:

Surface water is held in trust by the King for the people.

Texas:

Surface water is held in trust for the people.

Texas Water Code Sec. 11.0235. POLICY REGARDING WATERS OF THE STATE. (a) The waters of the state are held in trust for the public, and the right to use state water may be appropriated only as expressly authorized by law.

Spanish Law Roots – Groundwater

Spain:

Groundwater was owned by the surface owner.

Texas:

Groundwater is owned by the surface owner. (SB 332, 82nd
Texas Legislature, 2011)

Who owns water?

Whose rights should prevail?



Ownership of Water and Regulatory Oversight Today

Natural Surface Water – State-owned water/TCEQ

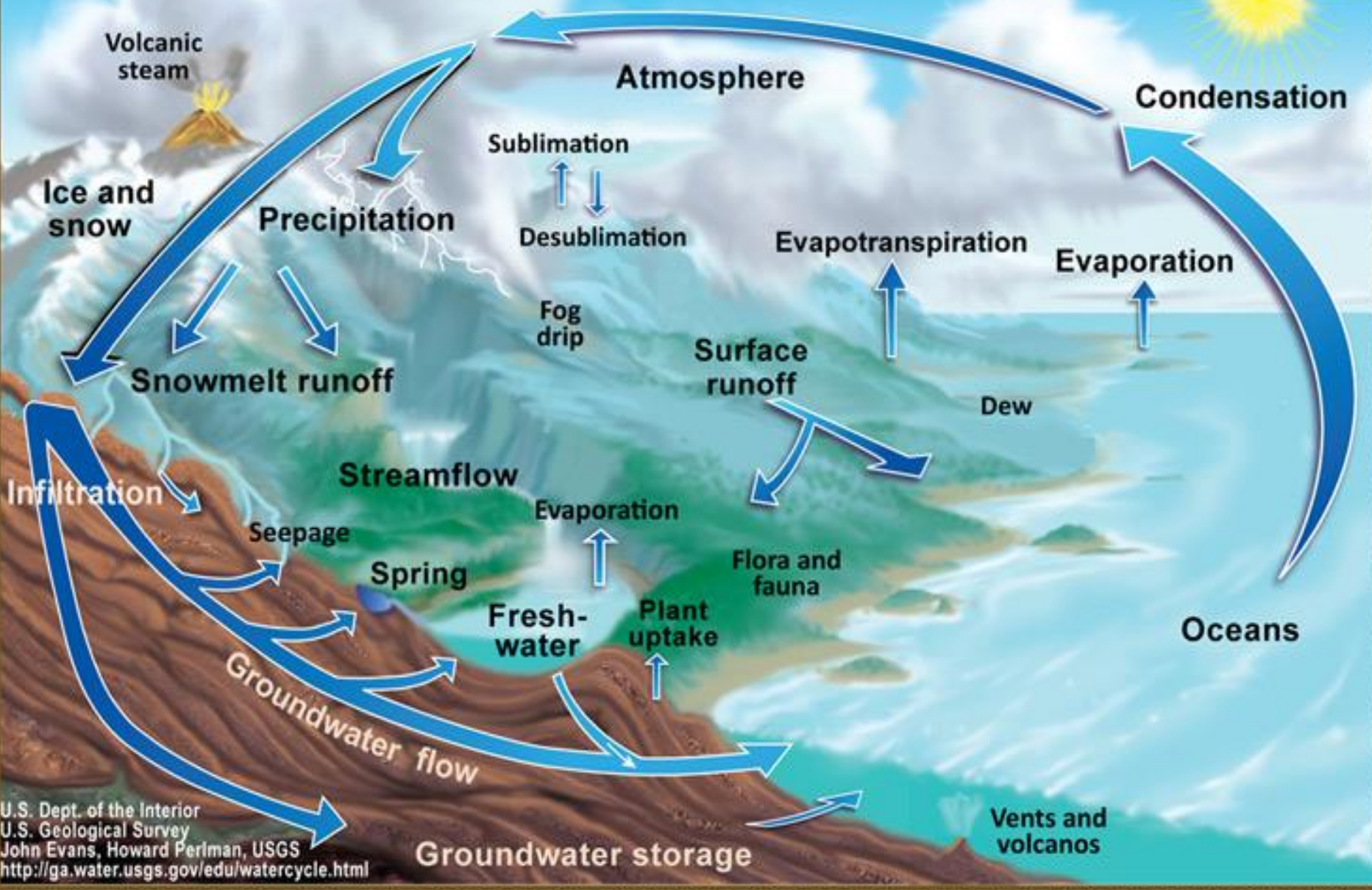
Diffused Surface Water – Landowner-owned water/TCEQ

Groundwater – Landowner-owned water/GCDs (where they exist) and Special Districts

Key Glossary Terms

- *Acre-foot* – volume of water needed to cover 1 acre to a depth of 1 foot = **325,851 gallons**.
- *Acre of land receives one inch of rain* = **27,154 gallons**.
- *Appropriative right* – the right to impound, divert, store, take, or use a specific amount of state water acquired by law. *Appropriator* – person making beneficial lawful use under the statutes.
- *Certificate of Adjudication* – evidence of water right.
- *Correlative right* – rights that are co-equal, relate to one another, so that one owner cannot take more than their share.
- *Conjunctive* – joined together; combined (*like all three geologic containers of water*).

The Water Cycle



Surface Water

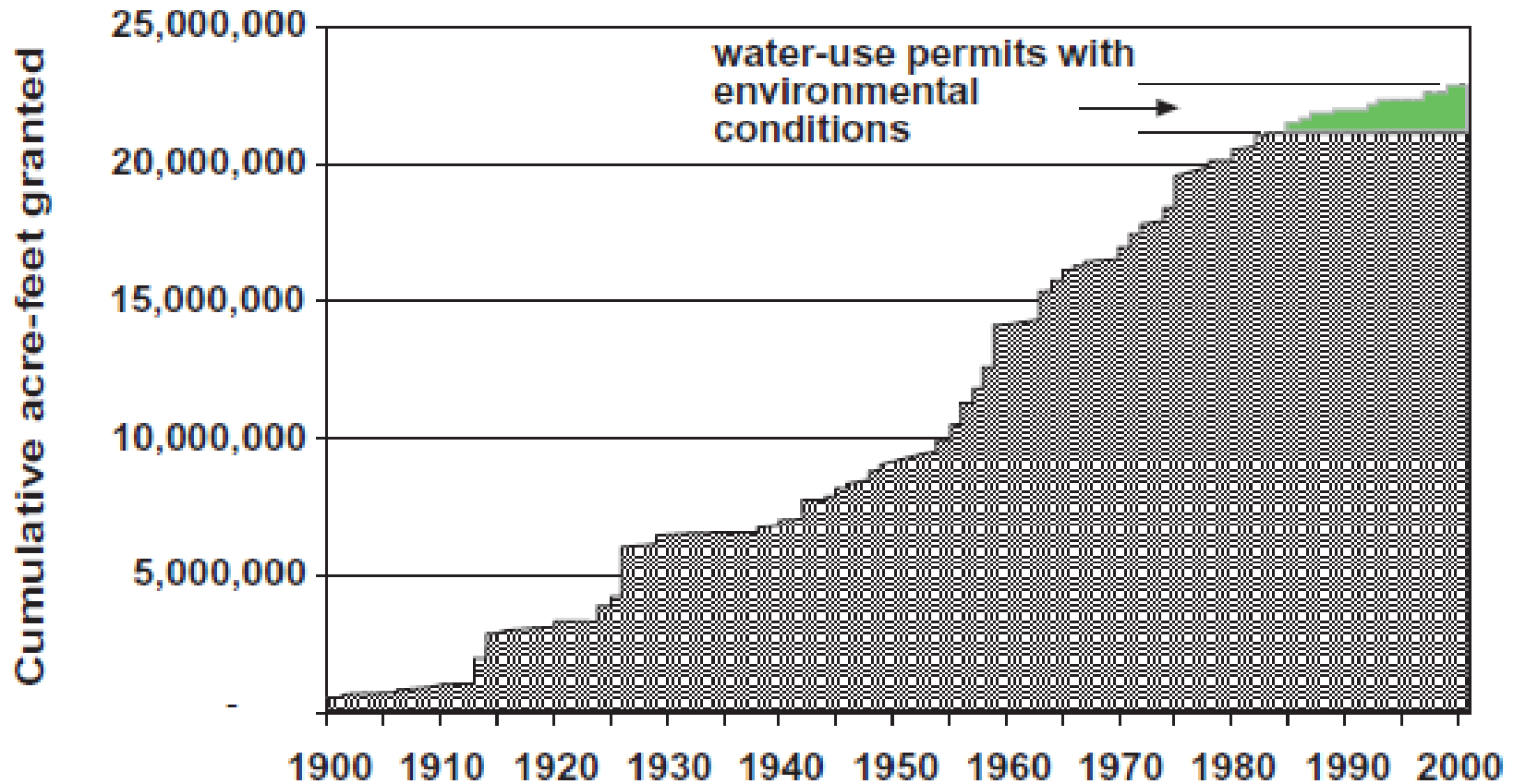
TCEQ including
Watermasters and 17 River
Authorities

Water Rights Adjudication Act of 1967

- To, for once and for all, establish valid surface water rights in Texas. After 1969, any claims not adjudicated were barred and extinguished.
- Authorization to use or to appropriate state water requires that one obtain a permit, or hold a certificate of adjudication authorizing the diversion and use of the water.
- Certificates of adjudication are historic evidences of the right to appropriate state water. They, together with permits, are current evidence of authority to divert and use State water. Riparian rights are dead, except for domestic and livestock uses.

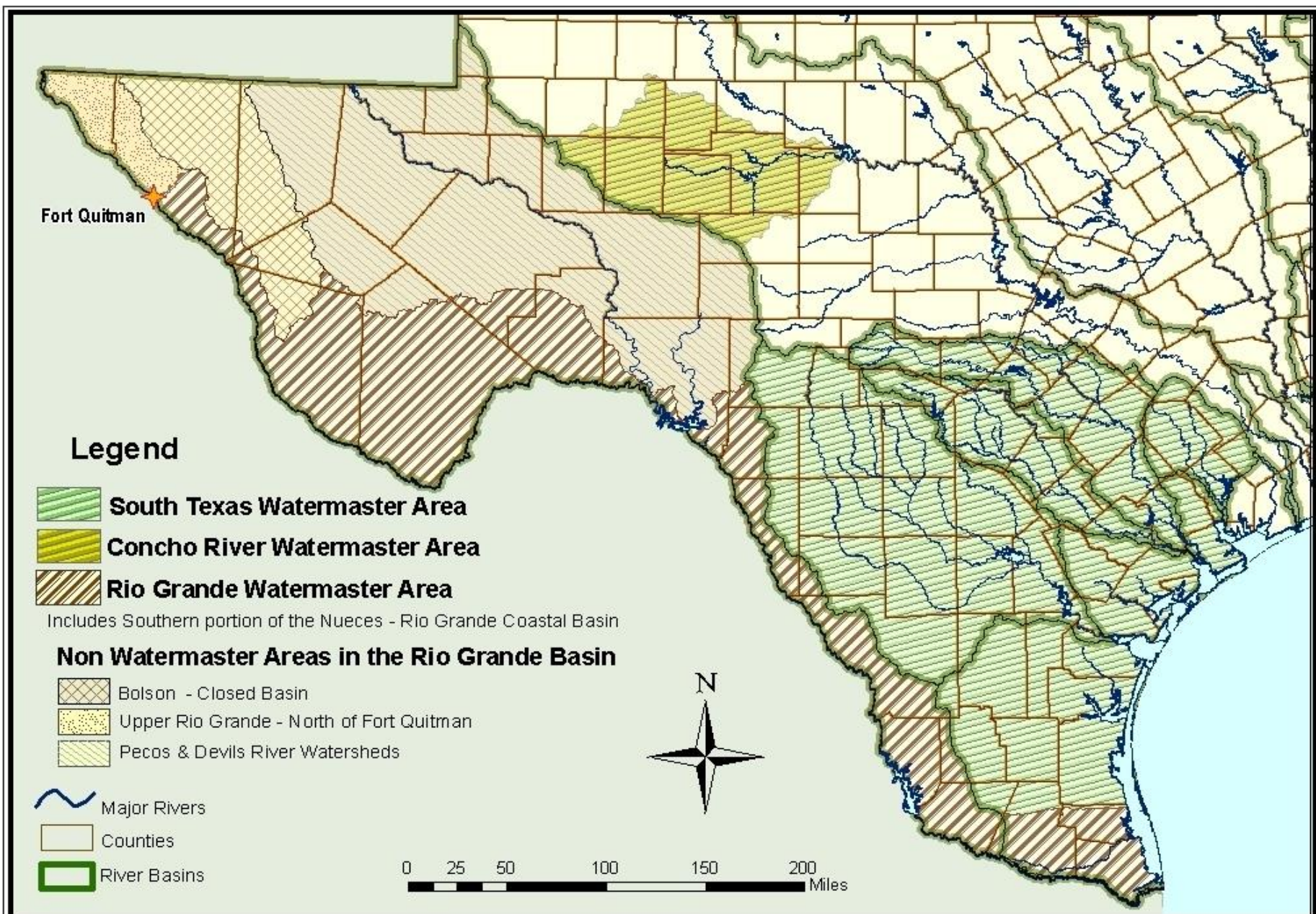
Surface Water is Fully Appropriated Today

Figure I1 - Timeline of all consumptive water-use permits granted by state of Texas.












Source: data from Texas Commission on Environmental Quality.

From the National Wildlife Federation - "Bays in Peril" October, 2004



Fort Quitman

Legend

-  **South Texas Watermaster Area**
-  **Concho River Watermaster Area**
-  **Rio Grande Watermaster Area**
Includes Southern portion of the Nueces - Rio Grande Coastal Basin
- Non Watermaster Areas in the Rio Grande Basin**
-  Bolson - Closed Basin
-  Upper Rio Grande - North of Fort Quitman
-  Pecos & Devils River Watersheds
-  Major Rivers
-  Counties
-  River Basins



TEXAS WATERMASTER AREAS

Groundwater

Local Groundwater Conservation
Districts

Groundwater Conservation Districts

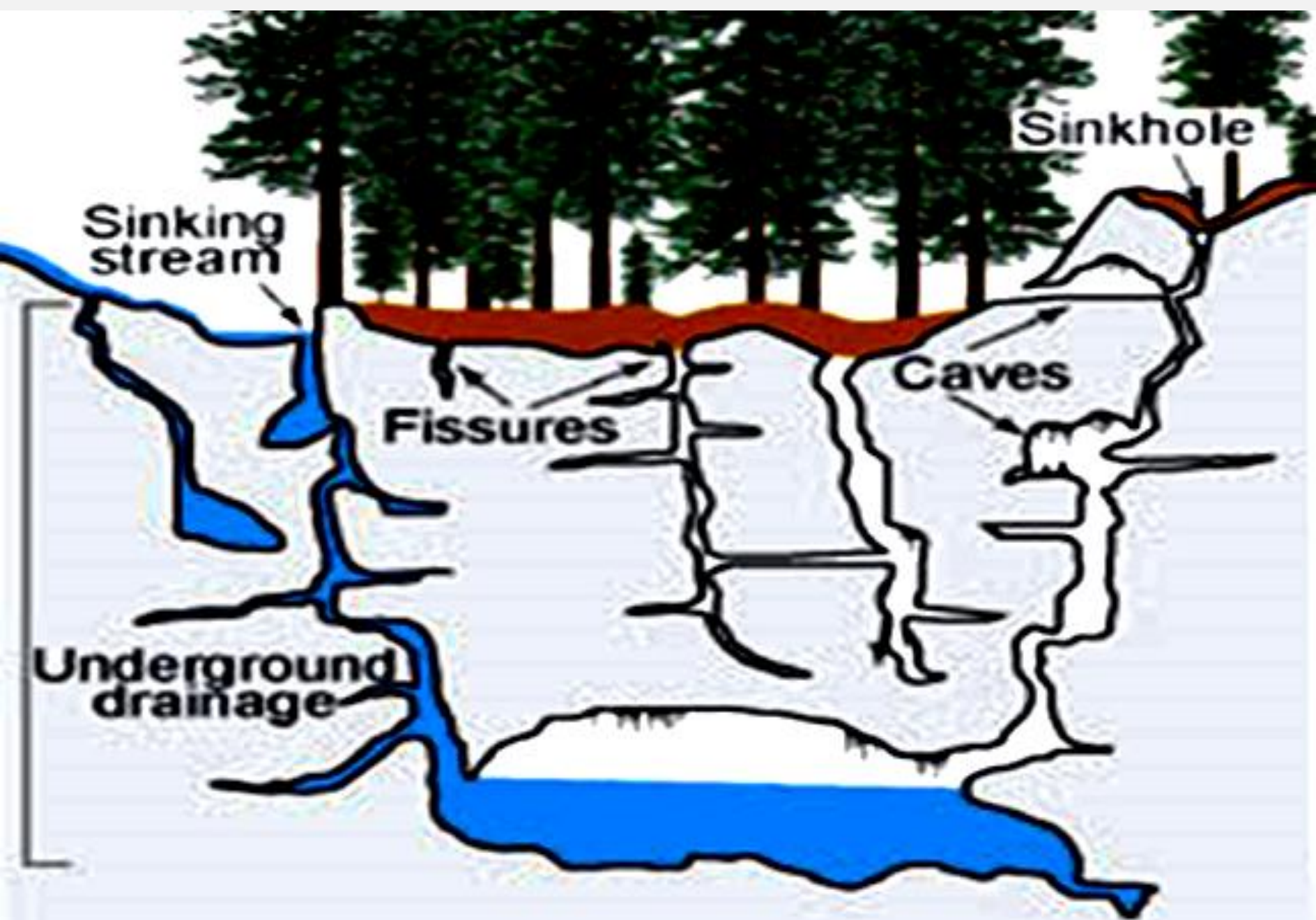
The preferred method of groundwater management per Texas Legislature.

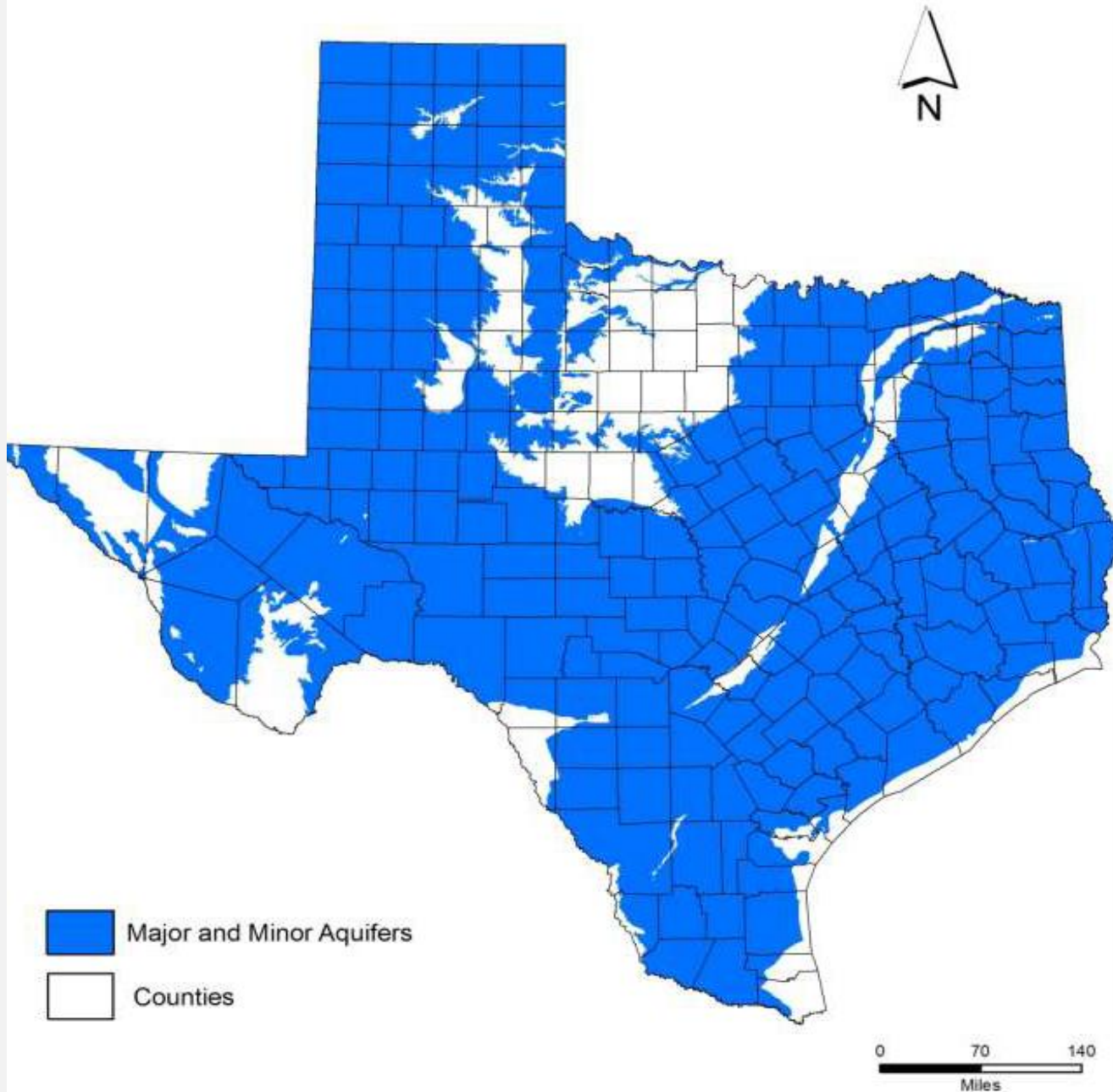
1949 Legislature - 1951 first formed - High Plains
Underground Water Conservation District No. 1.

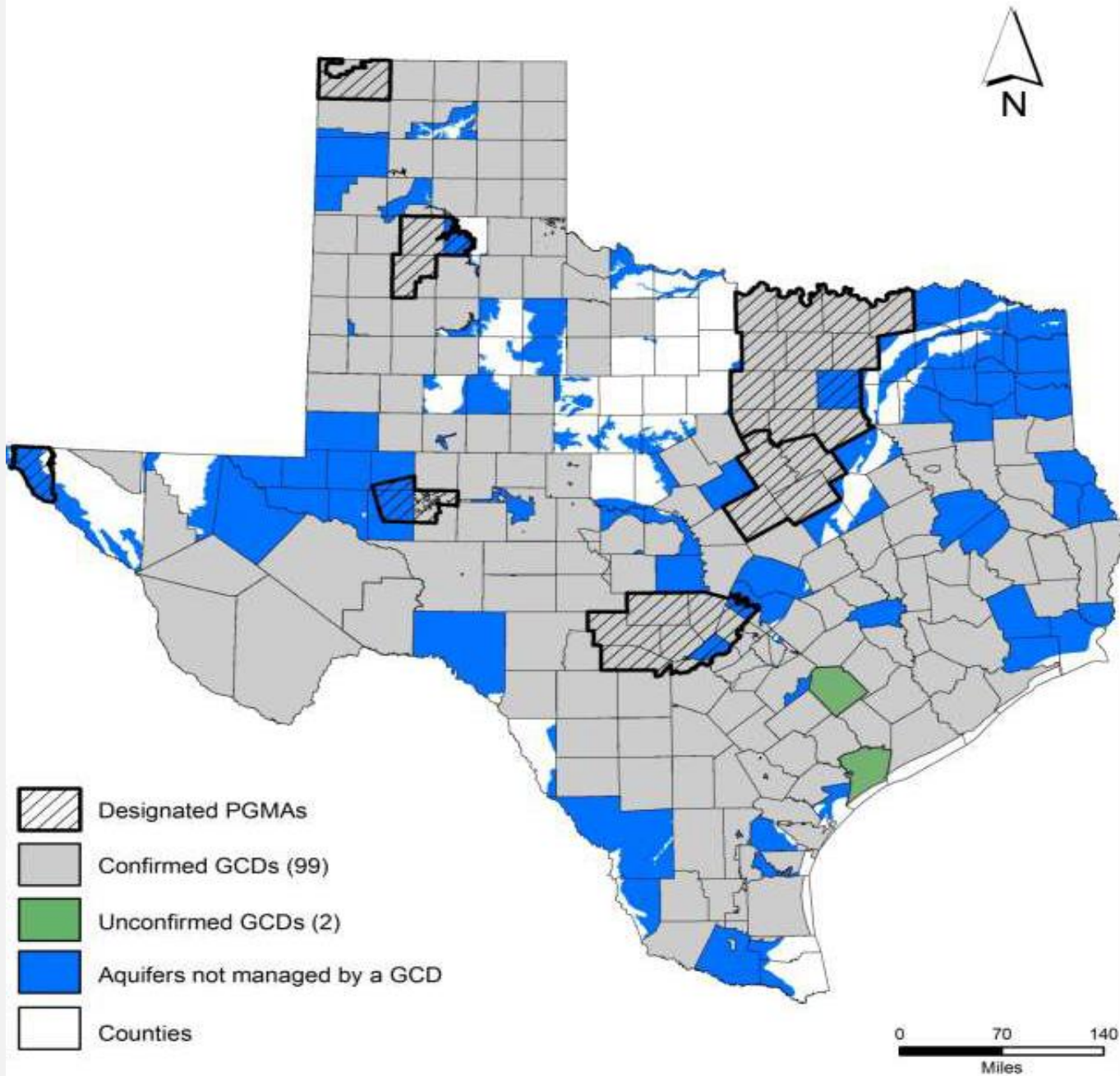
99 GCD's cover 173 counties - of 254 counties -
68%.

Areas without GCDs face a problem - the rule of
capture. Many GCDs are woefully underfunded
- can barely operate - see TWJ Vol. 4, Porter.

PGMAs - Counties in the water policy game.





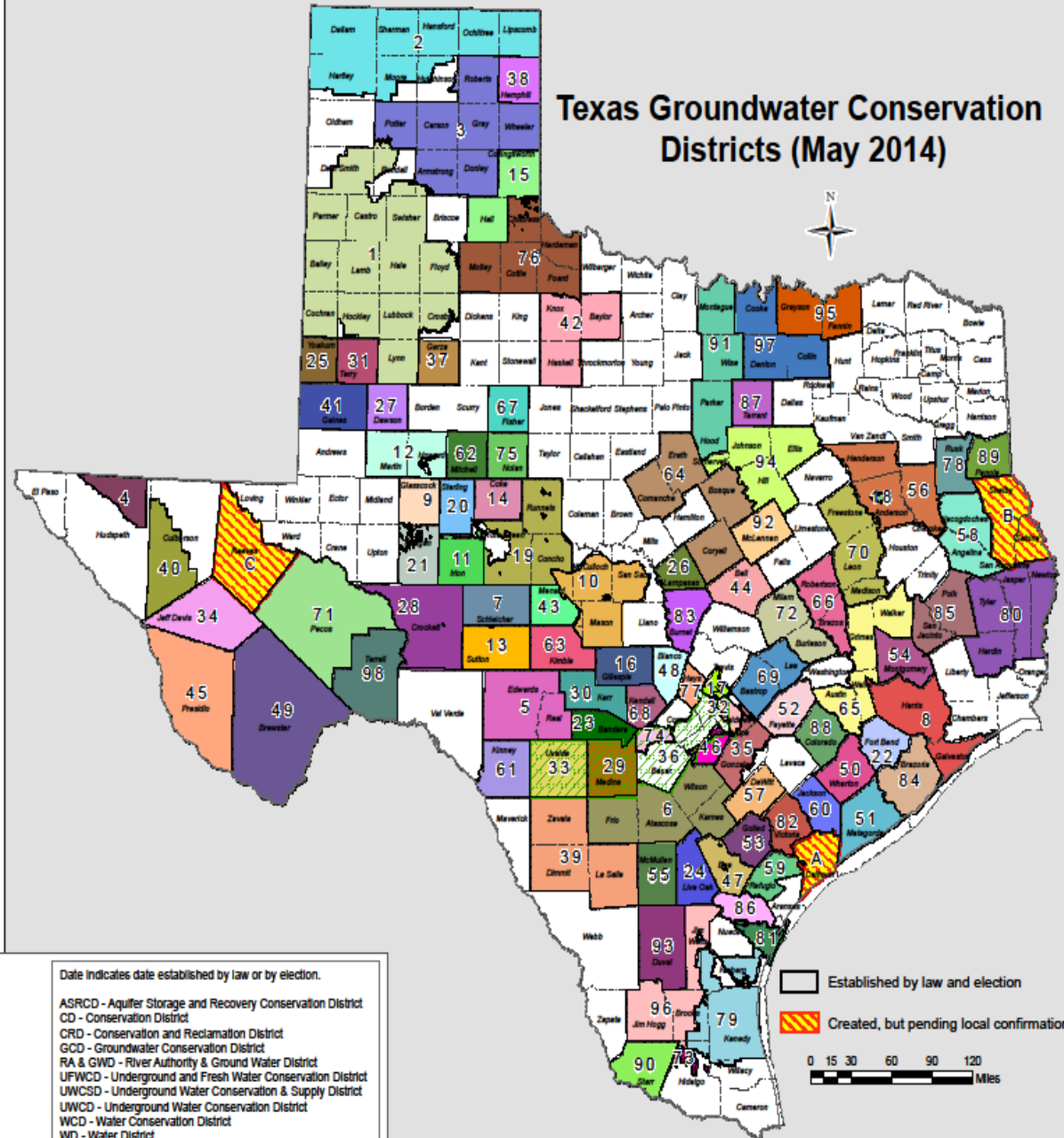


Groundwater Conservation Districts

- | | |
|---|--|
| 1 High Plains UWCD No.1 - 9/29/1951 | 52 Fayette County GCD - 11/6/2001 |
| 2 North Plains GCD - 1/2/1955 | 53 Goliad County GCD - 11/6/2001 |
| 3 Panhandle GCD - 1/2/1956 | 54 Lone Star GCD - 11/6/2001 |
| 4 Hudspeith County UWCD No. 1 - 10/5/1957 | 55 McMullen GCD - 11/6/2001 |
| 5 Real-Edwards C and R District - 5/30/1959 | 56 Neches & Trinity Valleys GCD -11/6/2001 |
| 6 Evergreen UWCD -8/30/1965 | 57 Pecan Valley GCD - 11/6/2001 |
| 7 Plateau UWC and Supply District - 3/4/1974 | 58 Pineywoods GCD - 11/6/2001 |
| 8 Harris-Galveston Subsidence District- 4/23/1975 | 59 Refugio GCD - 11/6/2001 |
| 9 Glasscock GCD - 8/22/1981 | 60 Texana GCD - 11/6/2001 |
| 10 Hickory UWCD No. 1 - 8/14/1982 | 61 Kinney County GCD - 1/12/2002 |
| 11 Iron County WCD - 8/2/1985 | 62 Lone Wolf GCD - 2/2/2002 |
| 12 Permian Basin UWCD - 9/21/1985 | 63 Kimble County GCD - 5/3/2002 |
| 13 Sutton County UWCD - 4/5/1986 | 64 Middle Trinity GCD - 5/4/2002 |
| 14 Coke County UWCD - 11/4/1986 | 65 Bluebonnet GCD - 11/5/2002 |
| 15 Mesquite GCD - 11/4/1986 | 66 Brazos Valley GCD - 11/5/2002 |
| 16 Hill Country UWCD - 8/8/1987 | 67 Clear Fork GCD - 11/5/2002 |
| 17 Barton Springs/Edwards Aquifer CD - 8/13/1987 | 68 Cow Creek GCD - 11/5/2002 |
| 18 Anderson County UWCD - 10/17/1987 | 69 Lost Pines GCD - 11/5/2002 |
| 19 Lipan-Kickapoo WCD - 11/3/1987 | 70 Mid-East Texas GCD - 11/5/2002 |
| 20 Sterling County UWCD - 11/3/1987 | 71 Middle Pecos GCD - 11/5/2002 |
| 21 Santa Rita UWCD - 8/19/1989 | 72 Post Oak Savannah GCD - 11/5/2002 |
| 22 Fort Bend Subsidence District - 8/28/1989 | 73 Red Sands GCD - 11/5/2002 |
| 23 Bandera County RA & GWD - 11/7/1989 | 74 Trinity Glen Rose GCD - 11/5/2002 |
| 24 Live Oak UWCD - 11/7/1989 | 75 Wes-Tex GCD - 11/5/2002 |
| 25 Sandy Land UWCD - 11/7/1989 | 76 Gateway GCD - 5/3/2003 |
| 26 Saratoga UWCD - 11/7/1989 | 77 Hays Trinity GCD - 5/3/2003 |
| 27 Mesa UWCD - 1/20/1990 | 78 Rusk County GCD - 6/5/2004 |
| 28 Crockett County GCD - 1/26/1991 | 79 Kennedy County GCD - 11/2/2004 |
| 29 Medina County GCD - 8/26/1991 | 80 Southeast Texas GCD - 11/2/2004 |
| 30 Headwaters UWCD - 11/5/1991 | 81 Corpus Christi ASRCD - 8/17/2005 |
| 31 South Plains UWCD - 2/8/1992 | 82 Victoria County GCD - 8/5/2005 |
| 32 Plum Creek CD - 5/1/1993 | 83 Central Texas GCD - 9/24/2005 |
| 33 Uvalde County UWCD - 9/1/1993 | 84 Brazoria County GCD - 11/8/2005 |
| 34 Jeff Davis County UWCD - 11/2/1993 | 85 Lower Trinity GCD - 11/7/2006 |
| 35 Gonzales County UWCD - 11/2/1994 | 86 San Patricio County GCD - 5/12/2007 |
| 36 Edwards Aquifer Authority - 7/28/1996 | 87 Northern Trinity GCD - 5/15/2007 |
| 37 Garza County UWCD - 11/5/1996 | 88 Colorado County GCD - 11/6/2007 |
| 38 Hemphill County UWCD - 11/4/1997 | 89 Panola County GCD - 11/6/2007 |
| 39 Wintergarden GCD - 1/17/1998 | 90 Starr County GCD - 11/6/2007 |
| 40 Culberson County GCD - 5/2/1998 | 91 Upper Trinity GCD - 11/6/2007 |
| 41 Llano Estacado UWCD - 11/3/1998 | 92 Southern Trinity GCD - 8/19/2009 |
| 42 Rolling Plains GCD - 1/26/1999 | 93 Duval County GCD - 7/25/2009 |
| 43 Menard County UWCD - 8/14/1999 | 94 Prairielands GCD - 8/1/2009 |
| 44 Clearwater UWCD - 8/21/1999 | 95 Red River GCD - 9/1/2009 |
| 45 Presidio County UWCD - 8/31/1999 | 96 Brush Country GCD - 11/3/2009 |
| 46 Guadalupe County GCD - 11/14/1999 | 97 North Texas GCD - 12/1/2009 |
| 47 Bee GCD - 1/20/2001 | 98 Terrell County GCD - 11/6/2012 |
| 48 Blanco-Pedernales GCD - 1/23/2001 | |
| 49 Brewster County GCD - 11/6/2001 | |
| 50 Coastal Bend GCD - 11/6/2001 | |
| 51 Coastal Plains GCD - 11/6/2001 | |

- A - Calhoun County GCD
- B - Deep East Texas GCD
- C - Reeves County GCD

Texas Groundwater Conservation Districts (May 2014)



Date Indicates date established by law or by election.

- ASRCD - Aquifer Storage and Recovery Conservation District
- CD - Conservation District
- CRD - Conservation and Reclamation District
- GCD - Groundwater Conservation District
- RA & GWD - River Authority & Ground Water District
- UFWCD - Underground and Fresh Water Conservation District
- UWCD - Underground Water Conservation & Supply District
- UWCD - Underground Water Conservation District
- WCD - Water Conservation District
- WD - Water District

Texas Commission on Environmental Quality



This map was prepared by the TCEQ for display purposes only. No claims are made to the accuracy or completeness of the information shown herein nor is this map suitable for any other use. The scale and location of mapped data are approximate. The groundwater conservation district boundaries are not land survey data and may not accurately depict legal descriptions. For more information about this map, please contact TCEQ's Water Supply Division, Groundwater Planning & Assessment Team at (512) 239-4691.

Not all of Texas has a GCD

Lone Star Water Forum,
Brenham, Saturday, October 5

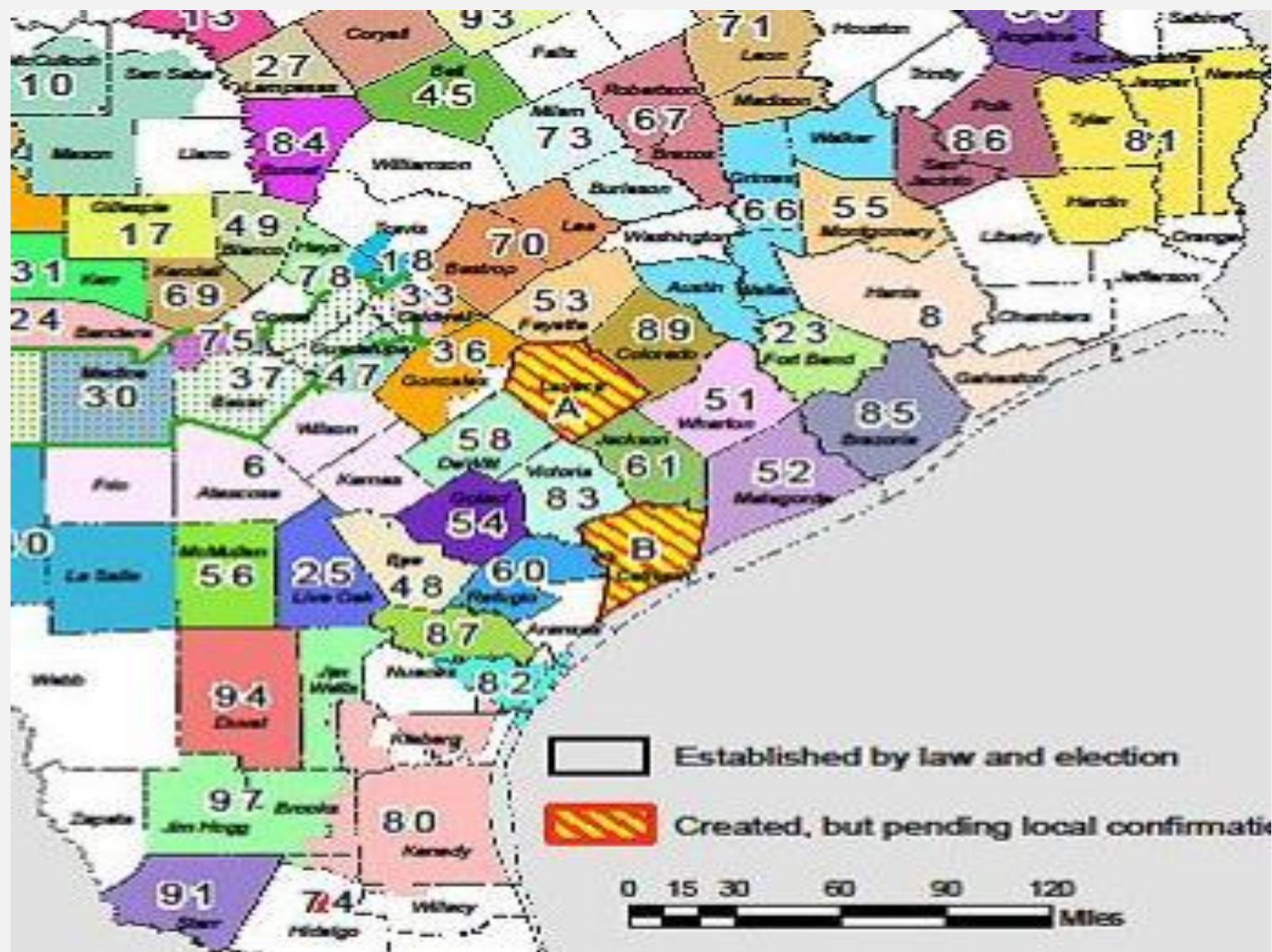
“Should Washington County have a groundwater conservation district?”

Lone Star Water Forum



Water for the Future: Is a Groundwater Conservation District Right for Us?

October 5, 2013 Brenham, Texas



District Funding is a Problem?

Texas Water Journal

May, 2013, Vol. 4, No. 1

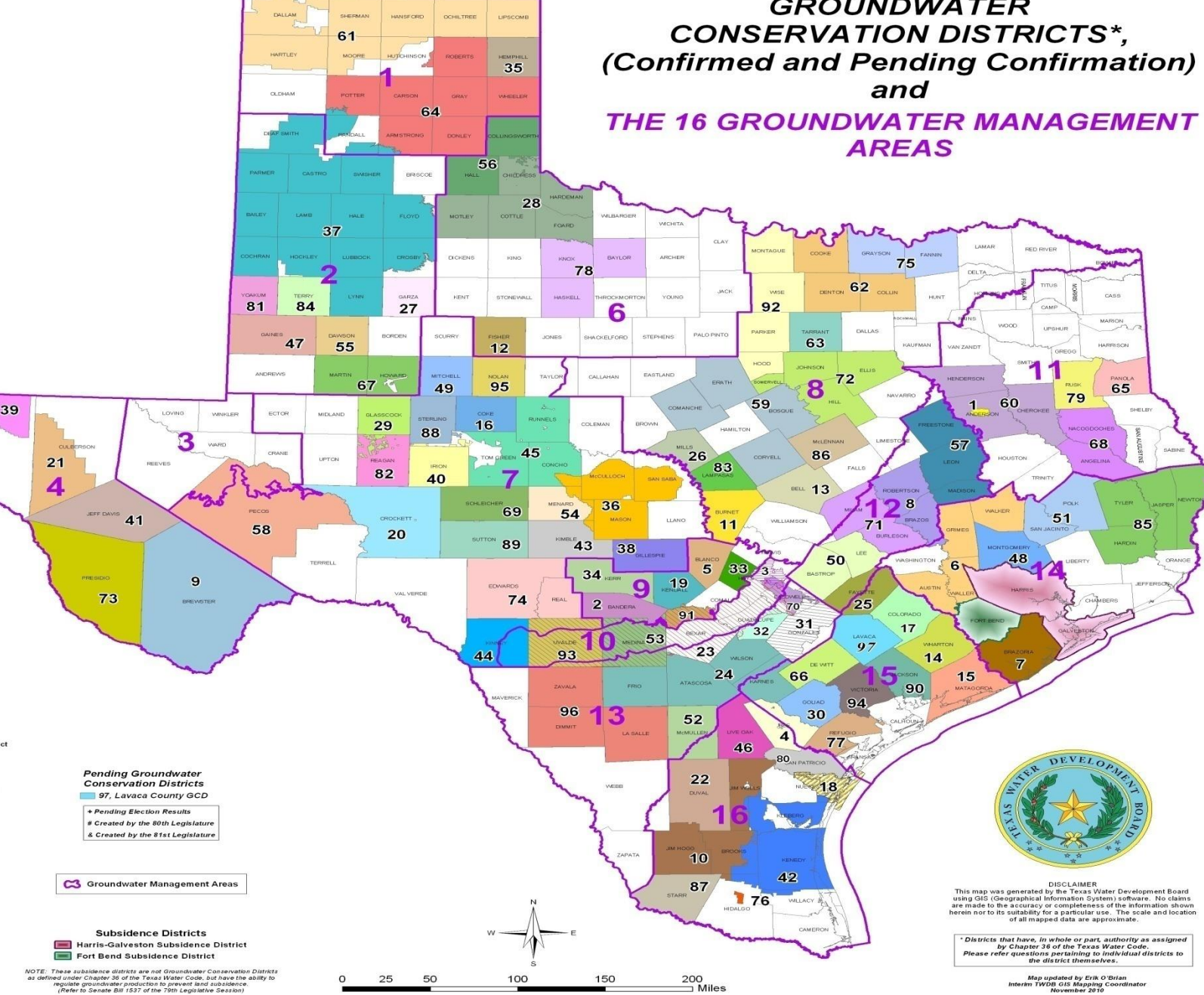
[“Groundwater Conservation
District Finance in Texas:
Results of a Preliminary Study”](#)

Charles R Porter, Jr.

<http://journals.tdl.org/twj/index.php/twj/issue/archive>



GROUNDWATER CONSERVATION DISTRICTS*, (Confirmed and Pending Confirmation) and THE 16 GROUNDWATER MANAGEMENT AREAS



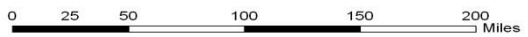
Pending Groundwater Conservation Districts
■ 97, Lavaca County GCD

★ Pending Election Results
 ■ Created by the 80th Legislature
 ■ Created by the 81st Legislature

 Groundwater Management Areas

Subsidence Districts
■ Harris-Galveston Subsidence District
■ Fort Bend Subsidence District

NOTE: These subsidence districts are not Groundwater Conservation Districts as defined under Chapter 36 of the Texas Water Code, but have the ability to regulate groundwater production to prevent land subsidence. (Refer to Senate Bill 1537 of the 79th Legislative Session)



DISCLAIMER
 This map was generated by the Texas Water Development Board using GIS (Geographical Information System) software. 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.

* Districts that have, in whole or part, authority as assigned by Chapter 36 of the Texas Water Code. Please refer questions pertaining to individual districts to the district themselves.

Map updated by Erik O'Brian
 Interim TWDB GIS Mapping Coordinator
 November 2010

Texans manage Surface Water and
Groundwater differently.

What about the *conjunctive*
relationship of water?

Confirmed Groundwater Conservation Districts

- 1. Anderson County UWCD
- 2. Bandera County River Authority & Ground Water District
- 3. Barton Springs/Edwards Aquifer CD
- 4. Bee GCD
- 5. Blanco-Pedernales GCD
- 6. Bluebonnet GCD
- 7. Brazoria County GCD
- 8. Brazos Valley GCD
- 9. Brewster County GCD
- 10. Brush Country GCD
- 11. Central Texas GCD
- 12. Clear Fork GCD
- 13. Clearwater UWCD
- 14. Coastal Bend GCD
- 15. Coastal Plains GCD
- 16. Coke County UWCD
- 17. Colorado County GCD
- 18. Corpus Christi ASBCD
- 19. Cow Creek GCD
- 20. Crockett County GCD
- 21. Culberson County GCD
- 22. Duval County GCD
- 23. Edwards Aquifer Authority
- 24. Evergreen UWCD
- 25. Fayette County GCD
- 26. Fox Crossing Water District
- 27. Garza County UWCD
- 28. Gateway GCD
- 29. Glasscock GCD
- 30. Goliad County GCD
- 31. Gonzales County UWCD
- 32. Guadalupe County GCD
- 33. Hays Trinity GCD
- 34. Headwaters GCD
- 35. Hemphill County UWCD
- 36. Hickory UWCD No. 1
- 37. High Plains UWCD No. 1
- 38. Hill Country UWCD
- 39. Hudspeth County UWCD No. 1
- 40. Irion County WCD
- 41. Jeff Davis County UWCD
- 42. Kenedy County GCD
- 43. Kimble County GCD
- 44. Kinney County GCD
- 45. Lipan-Kickapoo WCD

Confirmed Groundwater Conservation Districts (continued)

- 46. Live Oak UWCD
- 47. Llano Estacado UWCD
- 48. Lone Star GCD
- 49. Lone Wolf GCD
- 50. Lost Pines GCD
- 51. Lower Trinity GCD
- 52. McMullen GCD
- 53. Medina County GCD
- 54. Menard County UWCD
- 55. Mesa UWCD
- 56. Mesquite GCD
- 57. Mid-East Texas GCD
- 58. Middle Pecos GCD
- 59. Middle Trinity GCD
- 60. Neches & Trinity Valleys GCD
- 61. North Plains GCD
- 62. North Texas GCD
- 63. Northern Trinity GCD
- 64. Panhandle GCD
- 65. Panola County GCD
- 66. Pecan Valley GCD
- 67. Permian Basin UWCD
- 68. Pecoswoods GCD
- 69. Plateau UWC and Supply District
- 70. Plum Creek CD
- 71. Post Oak Savannah GCD
- 72. Prairielands GCD
- 73. Presidio County UWCD
- 74. Real-Edwards C and R District
- 75. Red River GCD
- 76. Red Sands GCD
- 77. Refugio GCD
- 78. Rolling Plains GCD
- 79. Rusk County GCD
- 80. San Patricio County GCD
- 81. Sandy Land UWCD
- 82. Santa Rita UWCD
- 83. Saratoga UWCD
- 84. South Plains UWCD
- 85. Southeast Texas GCD
- 86. Southern Trinity GCD
- 87. Starr County GCD
- 88. Sterling County UWCD
- 89. Sutton County UWCD
- 90. Texana GCD
- 91. Trinity Glen Rose GCD
- 92. Upper Trinity GCD
- 93. Uvalde County UWCD
- 94. Victoria County GCD
- 95. Wes-Tex GCD
- 96. Wintergarten GCD

NOTE: These subsidence districts are not Groundwater Conservation Districts as defined under Chapter 36 of the Texas Water Code, but have the ability to regulate groundwater production to prevent land subsidence. (Refer to Senate Bill 1537 of the 79th Legislative Session)

Pending Confirmation Groundwater Conservation Districts
 97. Lavaca County GCD + #

Pending Election Results
 # Created by the 80th Legislature
 * Created by the 81st Legislature

Regional Water Planning Areas
 Ground Water Management Areas

Subsidence Districts
 Harris-Galveston Subsidence District
 Fort Bend Subsidence District

Regional Water Planning Areas
 A - Panhandle
 B - Region B
 C - Region C
 D - North East Texas
 E - Far West Texas
 F - Region F
 G - Brazos G
 H - Region H
 I - East Texas
 J - Plateau
 K - Lower Colorado
 L - South Central Texas
 M - Rio Grande
 N - Coastal Bend
 O - Llano Estacado
 P - Lavaca

GROUNDWATER CONSERVATION DISTRICTS*, (Confirmed and Pending Confirmation), REGIONAL WATER PLANNING AREAS, GROUNDWATER MANAGEMENT AREAS AND MAJOR AQUIFERS



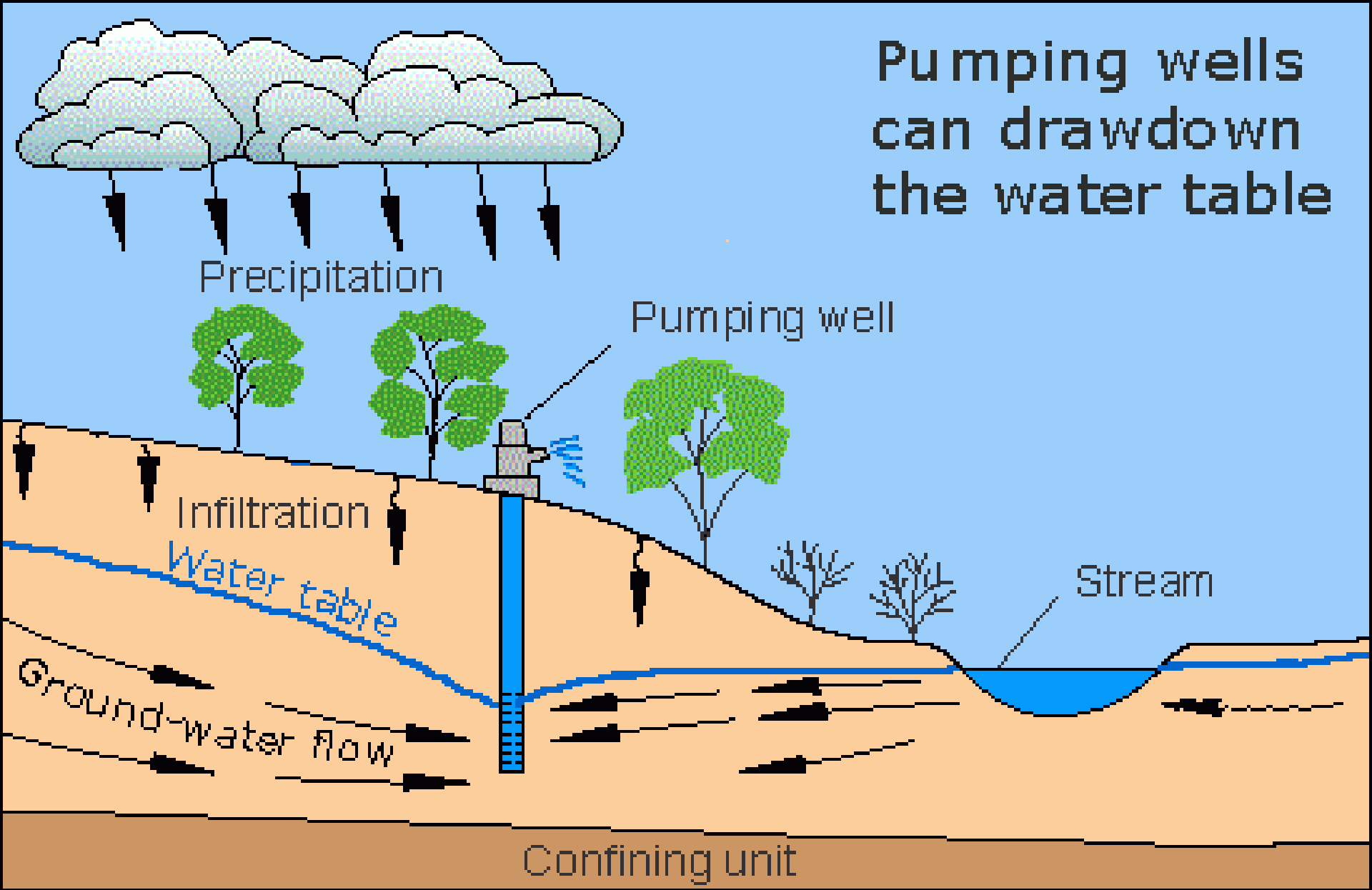
Major Aquifer Legend

- Pecos Valley
- Seymour
- Gulf Coast
- Carrizo-Wilcox
- Hueco-Mesilla Bolson
- Ogallala
- Edwards-Trinity
- Edwards (BFZ)
- Trinity



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An example of the *conjunctive* relationship of water.

Modeled available groundwater:

the amount of water that may be permitted by a district for beneficial use in accordance with the desired future condition of the aquifer

Total Pumping – *Estimated Exempt* Use

Exempt Uses

- Exempt uses of the aquifers include:
 - domestic
 - livestock
 - oil and gas exploration
 - any other uses specified in the rules or enabling legislation of a district
- TWDB estimates include only domestic and livestock exempt use through 2060
 - Total exempt use for these categories based on current exempt estimates and projected rural population changes
 - Exempt use divided into individual aquifers based on the percent of domestic and livestock wells completed into each aquifer in each county
- Districts may submit alternative estimates of exempt use for consideration

The Federal Government

Supra-legal authority over Texas water law?

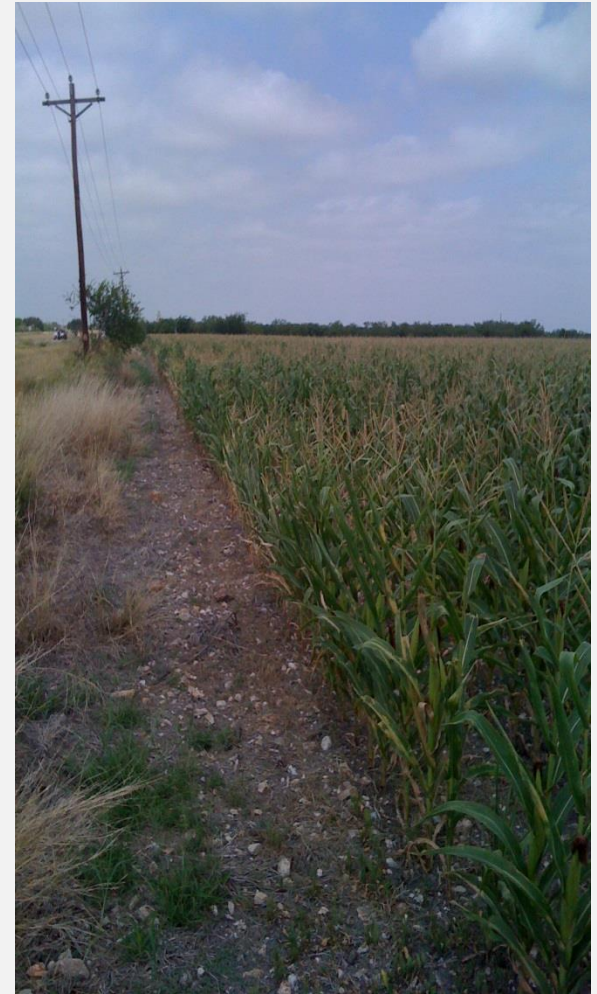
See the whooping crane lawsuit

Possible fresh water mollusk lawsuit

Other endangered aquatic species lawsuits

Increased flow mandates from Comal and San Marcos Springs? Consequences to the 7th largest city in the US?

Urban vs. Rural: How do we choose?



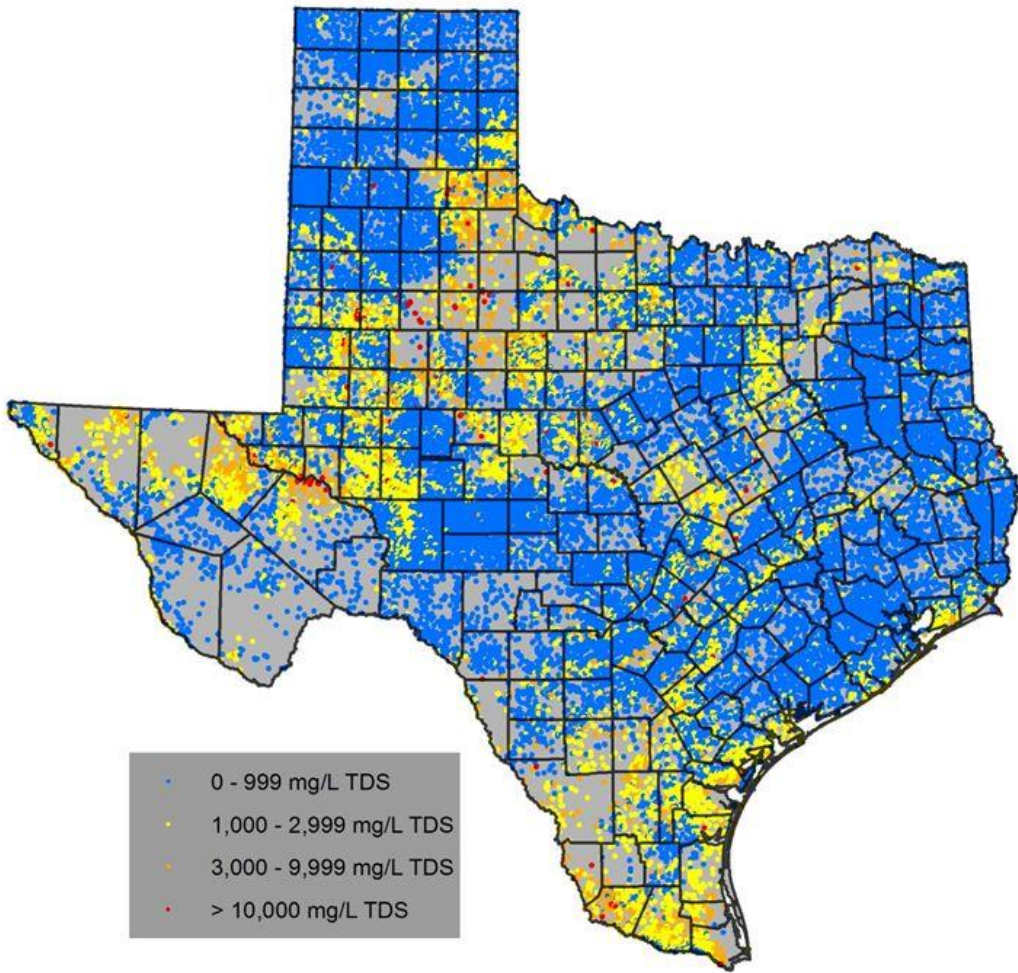
Hope for the Future: Any Good News, Professor Porter?



Desalination plant in
El Paso is successful –
27.5 millions/day

Texas has vast
brackish groundwater
resources *plus* the
Gulf of Mexico

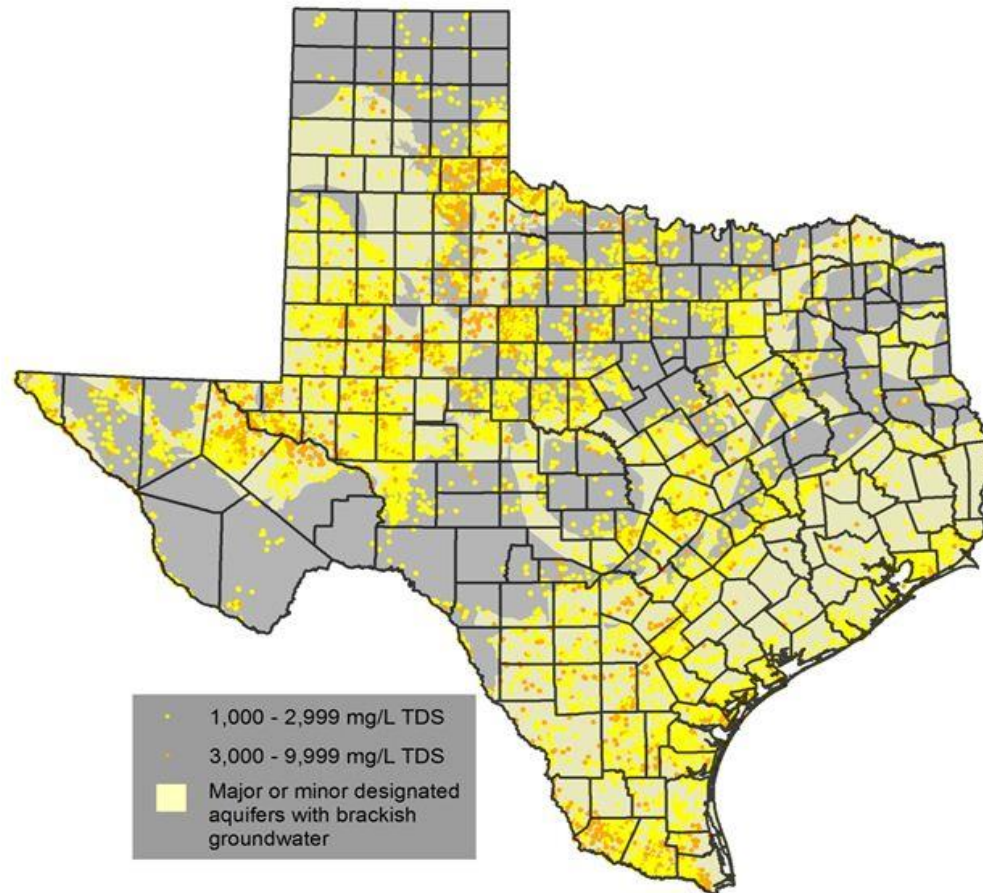
Wells in the Groundwater Database



Source: Texas Water Development Board Groundwater Database. Each well has a TDS measurement. If a well had more than one TDS measurement, the most recent measurement was used.

This map was generated by the Texas Water Development Board using geographic information system software. No claims are made to the accuracy or completeness of the information shown herein or to its suitability for a particular use.

Brackish wells in the Groundwater Database



Source: Texas Water Development Board Groundwater Database. Each well has a TDS measurement within the range of brackish groundwater (1,000 to 10,000 milligrams per liter). If a well had more than one TDS measurement, the most recent measurement was used. The major or minor designated aquifers with brackish groundwater were estimated by comparing maps prepared by LBG-Guyton Associates (2003) with the brackish wells.

This map was generated by the Texas Water Development Board using geographic information system software. No claims are made to the accuracy or completeness of the information shown herein or to its suitability for a particular use.













The Next Significant Cases/Issues?

- *Forestar (USA) Real Estate Group v. Lost Pines Groundwater Conservation District [and the Board of Directors as a group and individually]* in the 335th Judicial District Court of Lee County, Texas. Filed March 14, 2014.
- *Texas v. New Mexico and Colorado*, No. 220141 Original In The Supreme Court of the United States. Docketed January 10, 2013.

Potential lawsuits and issues looking through the crystal ball:

- Environmental group(s) v. the LCRA/TCEQ.
- Environmental group(s) v. the EAA.
- A move to centralize the GCDs under one agency.
- A move to better disclose GCDs via the real property records and Sellers Disclosure Notices (my work).

Water Rights Disclosure Duties in Everyday Real Estate Transactions – 65 + Years Late

- Only one Texas Seller's Disclosure Notice mentions GCDs, *our preferred method of groundwater management*, the Austin Board of Realtors' SDN.
- Even when we change all the SDNs including the Texas Property Code 5.008, only residential properties are affected.
- We have to inform all purchasers about the regulations and agencies affecting any type of real property in Texas *while purchasers are making their decision to purchase.*
- The best way is to include GCDs and other regulatory agencies and their certified filings in Schedule B/C of the Title Commitment!

ABOR's Sellers Disclosure Notice

Seller's Disclosure Notice Concerning Property At: _____

7. **MISCELLANEOUS CONDITIONS:**

Are you (SELLER) aware of any of the following? Mark Yes [Y] if you are aware, mark No [N] if you are not aware.

- [Y] [N] Room additions, structural modifications, or other alterations or repairs made without necessary permits or not in compliance with building code in effect at the time of construction?
- [Y] [N] Any "common area" facilities, i.e., pools, tennis courts, walkways, or other areas, co-owned in undivided interest with others?
- [Y] [N] Are there any optional charges or user fees for "common area" facilities? If yes, describe: _____
- [Y] [N] Any notices of violations of deed restrictions or governmental ordinances, zoning, use, or impervious cover limitations affecting the condition or use of the Property?
- [Y] [N] Any lawsuits or other legal proceedings directly affecting the Property or Seller's ability to convey property, e.g., bankruptcy, probate, guardianship, etc.?
- [Y] [N] Any condition of the Property which materially affects the physical health or safety of an individual?
- [Y] [N] Features of the Property shared in common with adjoining landowners, e.g., walls, fences, and driveways, whose use of responsibility for maintenance may have an effect on the Property?
- [Y] [N] Any encroachments of improvements on the subject Property onto another property or of improvements on another property onto the subject Property, easements, (recorded or unrecorded), or similar matters that may affect your interest in the Property?
- [Y] [N] Landfill – compacted or otherwise – on the Property or any portion thereof?
- [Y] [N] Any settling from any cause or slippage, sliding or other soil problems?
- [Y] [N] Damage to the Property or any of the structures from fire, earthquake, floods or landslides?
- [Y] [N] Any future highway, freeway, or air traffic patterns which affects the Property?
- [Y] [N] Any future annexation plans which affect the Property?
- [Y] [N] Within the previous 12 months, has there been an equity loan on the Property?
If Yes, date ____/____/____
- [Y] [N] Any pending flood plain changes known?
- [Y] [N] Any ordinances that restrict flood coverage or rebuilding any portion of the structure to its previous use?
- [Y] [N] Previous FEMA claim paid?
- [Y] [N] Death on the Property other than death caused by: natural causes, suicide, or accident unrelated to the Property's condition?
- [Y] [N] Was the dwelling built before 1978? Unknown []
- [Y] [N] Any repairs or treatment, other than routine maintenance, made to the Property to eliminate environmental hazards such as asbestos, radon, lead-based paint, urea formaldehyde, or mold?
- [Y] [N] Any historic preservation restriction or ordinance or archeological designation associated with the Property?
- [Y] [N] Any IRS or tax redemption periods which will affect the sale of the Property?
- [Y] [N] Any rainwater harvesting system connected to the property's public water supply?
- [Y] [N] Any portion of the property in a groundwater conservation district as defined by Texas Water Code, Chapter 362. Please see tceq.texas.gov. Go to Water. Click on Groundwater Planning and Assessment, then Groundwater Conservation Districts and look for the Map of Texas GCDs.

Initialed for Identification by Seller _____, _____ and Buyer _____, _____
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Page 5 of 8

Change includes Groundwater
Conservation Districts

Sample Schedule B

Commitment for Title Insurance

Continuation of Schedule B

- c. *Rules, regulations and orders governing residential subdivision, sanitation and waste disposal and the construction and use of septic tanks as passed by the Commissioner's Court of Wilson County, Texas, and the Texas Water Quality Board. (Applies to Owner Policy only.)*
- d. *Rules, requirements, and regulations of the National Flood administration as promulgated by the Commissioner's Court of Wilson County, Texas, providing, inter alia, for obtaining of building permits for construction of any improvements on the above described property.*

Proposed Legislation Changing Property Code 5.008

- ___ Any "common area" (facilities such as pools, tennis courts, walkways, or other areas) co-owned in undivided interest with others.
- ___ Any notices of violations of deed restrictions or governmental ordinances affecting the condition or use of the Property.
- ___ Any lawsuits directly or indirectly affecting the Property.
- ___ Any condition on the Property which materially affects the physical health or safety of an individual.
- ___ Any rainwater harvesting system located on the property that is larger than 500 gallons and that uses a public water supply as an auxiliary water source.
- ___ Any portion of the Property in a Groundwater Conservation District or other district which has authority to regulate groundwater under Chapter 36 of the Texas Water Code?

If the answer to any of the above is yes, explain. (Attach additional sheets if necessary): _____

Change includes Groundwater Conservation Districts

7. If the property is located in a coastal area that is seaward of the Gulf Intracoastal Waterway or within 1,000 feet of the mean high tide bordering the Gulf of Mexico, the property may be subject to the Open Beaches Act or the Dune Protection Act (Chapter 61 or 63, Natural Resources Code, respectively) and a beachfront construction certificate or dune protection permit may be required for repairs or improvements. Contact the local government with ordinance authority over construction adjacent to public beaches for more information.

Date

Signature of Seller

The undersigned purchaser hereby acknowledges receipt of the foregoing notice.

Date

Signature of Purchaser

Section 4. This Act takes effect September 1, 2015.

Other Ideas and Suggestions

“When surrounded, charge in all directions at once.”

Aquifer Storage and Recovery

Conservation in All Our Daily Lives

Reuse of Water with Environmental Flow in Mind

Rainwater Harvesting and Storage

Interbasin Transfers/Groundwater Transfers

Pipeline Right of Way Corridors - NOW

Above all else, water must become precious to us all.

Key Links

- www.tceq.state.tx.us/

Texas Commission on Environmental Quality - surface water regulator; information on groundwater

- www.twdb.state.tx.us/

Texas Water Development Board - information on groundwater; 2012 State Water Plan

- www.texasgroundwater.org/

Texas Alliance of Groundwater Districts - trade association of GCD's - information on member districts

Recent Publications - Porter

Sharing the Common Pool: Water Rights in the Everyday Lives of Texans
Texas A & M University Press, May 2014.

“The History of W. A. East v. Houston and Texas Central Railway Company, 1904: Establishment of the Rule of Capture in Texas Water Law or ‘He Who Has the Biggest Pump Gets the Water’” *East Texas Historical Journal 50th Anniversary Edition, Vol. 2, 2012* – Winner of the Chamberlain Award 2013.

Contributing author to the World Heritage Designation Nomination, National Parks Service San Antonio, Texas 2013.

“From Spanish Wells to Windmills: Taming the Wild Horse Desert”
Contribution to the National Historic Registry Nomination for the Jones Ranches.



Thank You

charlp@stedwards.edu

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