



Water Issues Facing Texas

**The University of Texas System
16th Annual Legal Conference
September 30, 2016**

Presented by:

Ty Embrey

tembrey@lglawfirm.com

(512) 322-5829

*816 Congress Avenue
Suite 1900*

Austin, Texas 78701

(512) 322-5800

(512) 472-0532 Fax

www.lglawfirm.com

Types of Water

- **Surface Water** – all of the water under ordinary flow, underflow and tides of every flowing river, natural stream, lake, bay, arm of the Gulf of Mexico, and stormwater, floodwater, or rain water of every river, natural stream, canyon, ravine, depression and watershed in the state. (Texas Water Code §11.021)
- **Groundwater** – water percolating below the surface of the earth. For example – aquifers.

Surface Water

- Regulated and permitted by the Texas Commission on Environmental Quality (TCEQ)
- Texas and TCEQ use the prior appropriation doctrine – first in time is the first in right.

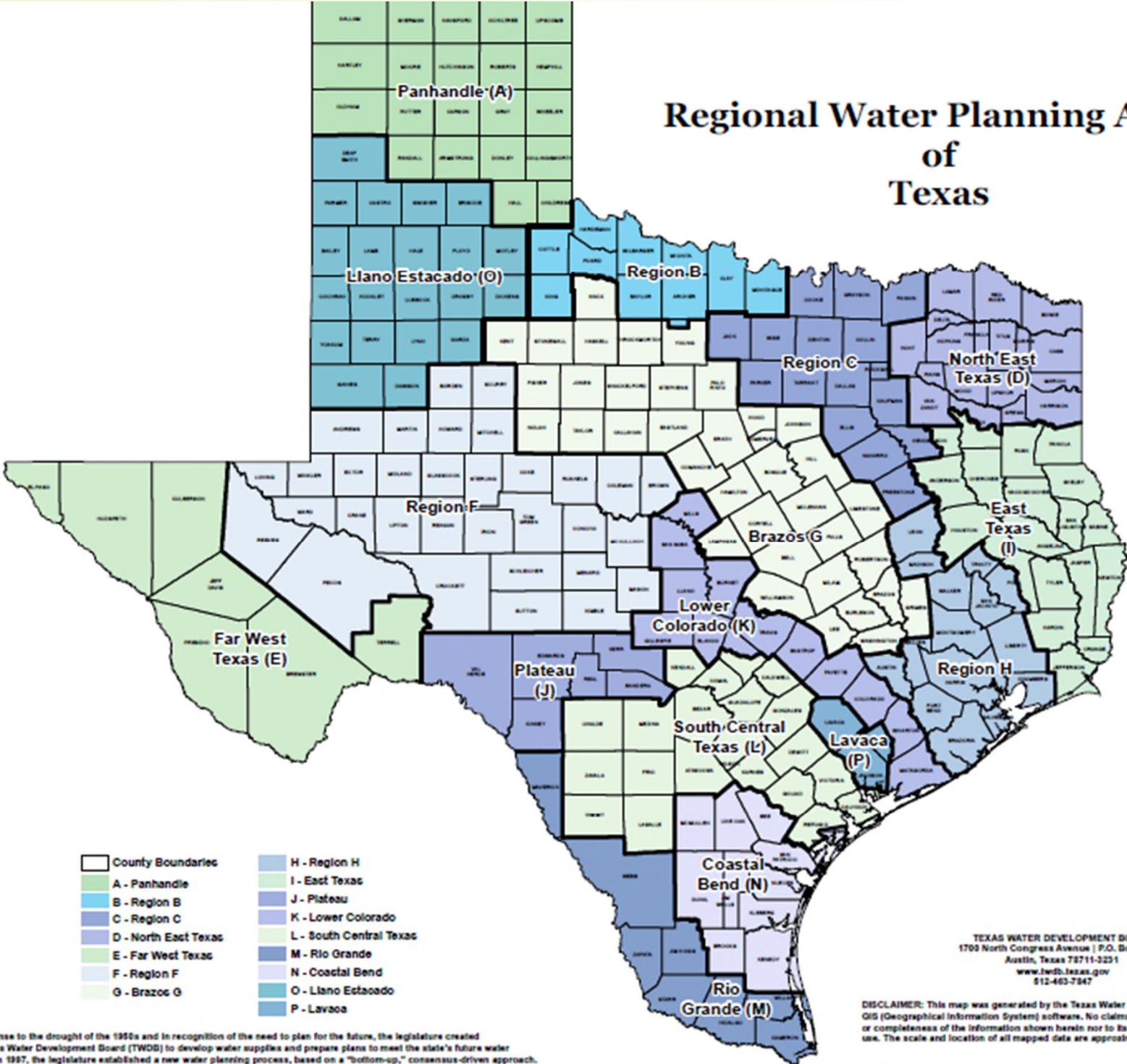
Groundwater

- Subject to Regulation by GCDs
- Senate Bill 332 - 2011
 - Established in Section 36.002 of the Texas Water Code that a landowner owns the groundwater below the surface of the landowner's land as real property.
- Edwards Aquifer Authority v. Day
 - Confirmed the Legislature's statement of Texas groundwater law and stated that a landowner's right to produce groundwater is subject to the regulation of groundwater conservation districts (GCDs).

Recent Texas Water Legislation

- Senate Bill 1 – 1997
- Senate Bill 2 – 2001
- Senate Bill 3 – 2007
- House Bill 4, HB 1025, and SJR 1 – 2013

Regional Water Planning Area of Texas



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

TEXAS WATER DEVELOPMENT BOARD
 1700 North Congress Avenue | P.O. Box 13231
 Austin, Texas 78711-3231
 www.twdb.texas.gov
 512-463-7547

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. Map date: 10/2013

In response to the drought of the 1950s and in recognition of the need to plan for the future, the legislature created the Texas Water Development Board (TWDB) to develop water supplies and prepare plans to meet the state's future water needs. In 1997, the legislature established a new water planning process, based on a "bottom-up," consensus-driven approach. Coordinating this water planning process are 16 planning groups, one for each regional water planning area (see map). The planning groups, each made up of about 20 members, represent a variety of interests including agriculture, industry,



MISSION: The Texas Water Development Board's (TWDB) mission is to provide leadership, planning, financial assistance, information, and education

State Water Implementation Fund for Texas (SWIFT) Legislative Package

- HB 4 - provides the framework and administration of the SWIFT and State Water Implementation Revenue Fund (SWIRFT) and the re-organization of the Texas Water Development Board (TWDB).
- Senate Joint Resolution (SJR)1 – proposes an amendment to Texas Constitution to create the SWIFT and SWIRFT to assist in the financing of water projects.
- HB 1025 - authorizes a one-time \$2 billion placement of funds from the Economic Stabilization Fund (Rainy Day Fund) into the SWIFT if the voters

Prop 6 – Approval of SWIFT by Texas Voters on November 5, 2013

- Voters of Texas approved Proposition 6 to amend the Texas Constitution to create the SWIFT.
- Proposition 6 approved by 73.37% of the voters.
- 836,424 voters voted in favor of Prop. 6
- 303,547 voters voted against Prop. 6

Groundwater - Rule of Capture

- **1904** – Adopted in Houston Texas C. Railroad vs. East
 - All states follow except New Hampshire
- **1939** – 11 States follow Rule of Capture
- **1960** – 3 States follow Rule of Capture
- **1998** – Texas Supreme Court criticizes ROC in Sipriano vs. Ozarka
- **1999** – Rule of Capture only exists in Texas
- **2012** – Texas Supreme Court qualified ROC in Day/McDaniel vs. Edwards Aquifer Authority – GCD management

Governor Abbott Comment on GCD Regulation

- “Groundwater management should be based on sound science and public input at the local level, not on one-size-fits-all state mandates.”
 - Governor Abbott’s Veto Statement for HB 2647 in 2015

Texas Groundwater Management / Law

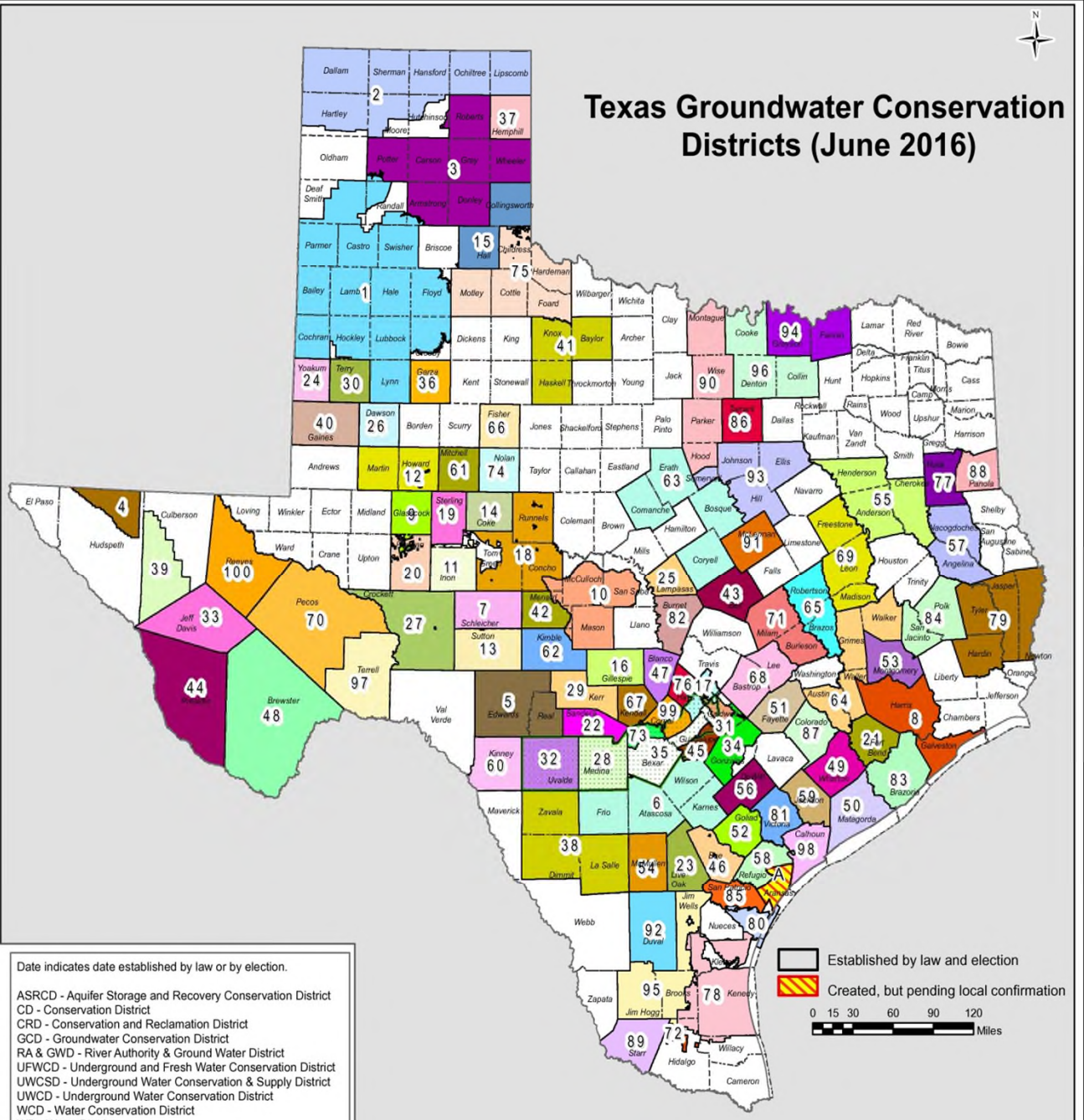
- Exciting time to be involved with water issues in Texas
- Water management and Texas law governing water is evolving and organic
- 1997 – 38 GCDs in existence
- 2016 – 100 GCDs

Groundwater Conservation Districts

- | | |
|---|--|
| 1 High Plains UWCD No.1 - 9/29/1951 | 52 Goliad County GCD - 11/6/2001 |
| 2 North Plains GCD - 1/2/1955 | 53 Lone Star GCD - 11/6/2001 |
| 3 Panhandle GCD - 1/21/1956 | 54 McMullen GCD - 11/6/2001 |
| 4 Hudspeth County UWCD No. 1 - 10/5/1957 | 55 Neches & Trinity Valleys GCD -11/6/2001 |
| 5 Real-Edwards C and R District - 5/30/1959 | 56 Pecan Valley GCD - 11/6/2001 |
| 6 Evergreen UWCD -8/30/1965 | 57 Pineywoods GCD - 11/6/2001 |
| 7 Plateau UWC and Supply District - 3/4/1974 | 58 Refugio GCD - 11/6/2001 |
| 8 Harris-Galveston Subsidence District- 4/23/1975 | 59 Texana GCD - 11/6/2001 |
| 9 Glasscock GCD - 8/22/1981 | 60 Kinney County GCD - 1/12/2002 |
| 10 Hickory UWCD No. 1 - 8/14/1982 | 61 Lone Wolf GCD - 2/2/2002 |
| 11 Irion County WCD - 8/2/1985 | 62 Kimble County GCD - 5/3/2002 |
| 12 Permian Basin UWCD - 9/21/1985 | 63 Middle Trinity GCD - 5/4/2002 |
| 13 Sutton County UWCD - 4/5/1986 | 64 Bluebonnet GCD - 11/5/2002 |
| 14 Coke County UWCD - 11/4/1986 | 65 Brazos Valley GCD - 11/5/2002 |
| 15 Mesquite GCD - 11/4/1986 | 66 Clear Fork GCD - 11/5/2002 |
| 16 Hill Country UWCD - 8/8/1987 | 67 Cow Creek GCD - 11/5/2002 |
| 17 Barton Springs/Edwards Aquifer CD - 8/13/1987 | 68 Lost Pines GCD - 11/5/2002 |
| 18 Lipan-Kickapoo WCD - 11/3/1987 | 69 Mid-East Texas GCD - 11/5/2002 |
| 19 Sterling County UWCD - 11/3/1987 | 70 Middle Pecos GCD - 11/5/2002 |
| 20 Santa Rita UWCD - 8/19/1989 | 71 Post Oak Savannah GCD - 11/5/2002 |
| 21 Fort Bend Subsidence District - 8/28/1989 | 72 Red Sands GCD - 11/5/2002 |
| 22 Bandera County RA & GWD - 11/7/1989 | 73 Trinity Glen Rose GCD - 11/5/2002 |
| 23 Live Oak UWCD - 11/7/1989 | 74 Wes-Tex GCD - 11/5/2002 |
| 24 Sandy Land UWCD - 11/7/1989 | 75 Gateway GCD - 5/3/2003 |
| 25 Saratoga UWCD - 11/7/1989 | 76 Hays Trinity GCD - 5/3/2003 |
| 26 Mesa UWCD - 1/20/1990 | 77 Rusk County GCD - 6/5/2004 |
| 27 Crockett County GCD - 1/26/1991 | 78 Kenedy County GCD - 11/2/2004 |
| 28 Medina County GCD - 8/26/1991 | 79 Southeast Texas GCD - 11/2/2004 |
| 29 Headwaters UWCD - 11/5/1991 | 80 Corpus Christi ASRCD - 6/17/2005 |
| 30 South Plains UWCD - 2/8/1992 | 81 Victoria County GCD - 8/5/2005 |
| 31 Plum Creek CD - 5/1/1993 | 82 Central Texas GCD - 9/24/2005 |
| 32 Uvalde County UWCD - 9/1/1993 | 83 Brazoria County GCD - 11/8/2005 |
| 33 Jeff Davis County UWCD - 11/2/1993 | 84 Lower Trinity GCD - 11/7/2006 |
| 34 Gonzales County UWCD - 11/2/1994 | 85 San Patricio County GCD - 5/12/2007 |
| 35 Edwards Aquifer Authority - 7/28/1996 | 86 Northern Trinity GCD - 5/15/2007 |
| 36 Garza County UWCD - 11/5/1996 | 87 Colorado County GCD - 11/6/2007 |
| 37 Hemphill County UWCD - 11/4/1997 | 88 Panola County GCD - 11/6/2007 |
| 38 Wintergarden GCD - 1/17/1998 | 89 Starr County GCD - 11/6/2007 |
| 39 Culberson County GCD - 5/2/1998 | 90 Upper Trinity GCD - 11/6/2007 |
| 40 Llano Estacado UWCD - 11/3/1998 | 91 Southern Trinity GCD - 6/19/2009 |
| 41 Rolling Plains GCD - 1/26/1999 | 92 Duval County GCD - 7/25/2009 |
| 42 Menard County UWCD - 8/14/1999 | 93 Prairielands GCD - 9/1/2009 |
| 43 Clearwater UWCD - 8/21/1999 | 94 Red River GCD - 9/1/2009 |
| 44 Presidio County UWCD - 8/31/1999 | 95 Brush Country GCD - 11/3/2009 |
| 45 Guadalupe County GCD - 11/14/1999 | 96 North Texas GCD - 12/1/2009 |
| 46 Bee GCD - 1/20/2001 | 97 Terrell County GCD - 11/6/2012 |
| 47 Blanco-Pedernales GCD - 1/23/2001 | 98 Calhoun County GCD - 11/4/2014 |
| 48 Brewster County GCD - 11/6/2001 | 99 Comal Trinity GCD - 6/17/2015 |
| 49 Coastal Bend GCD - 11/6/2001 | 100 Reeves County GCD - 11/3/2015 |
| 50 Coastal Plains GCD - 11/6/2001 | |
| 51 Fayette County GCD - 11/6/2001 | |

Pending Confirmation

A - Aransas County GCD



Date indicates date established by law or by election.

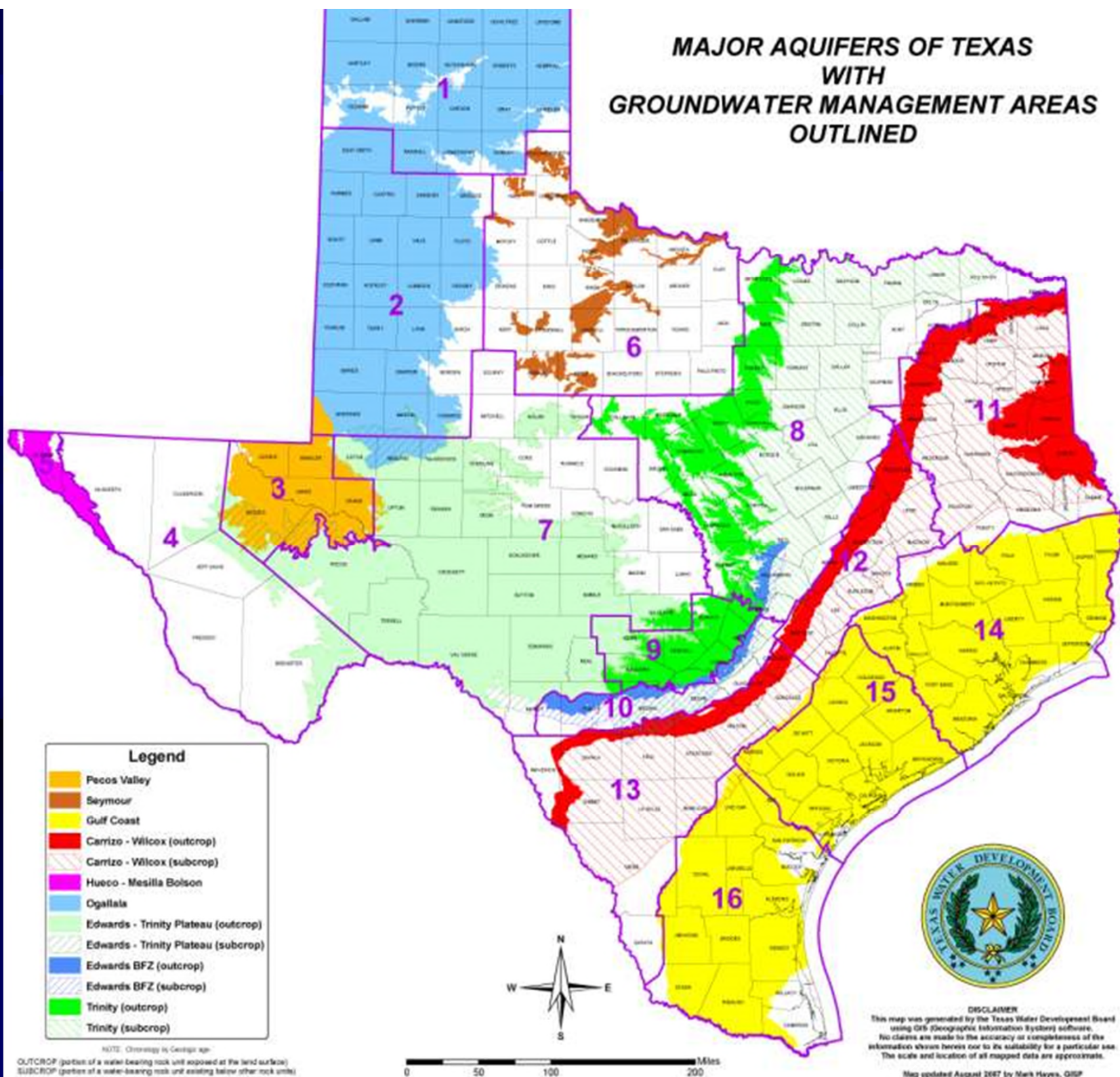
ASRCD - Aquifer Storage and Recovery Conservation District
 CD - Conservation District
 CRD - Conservation and Reclamation District
 GCD - Groundwater Conservation District
 RA & GWD - River Authority & Ground Water District
 UFWCD - Underground and Fresh Water Conservation District
 UWCD - Underground 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 - Water Availability Division, Groundwater Planning & Assessment Team at (512) 239-4691.

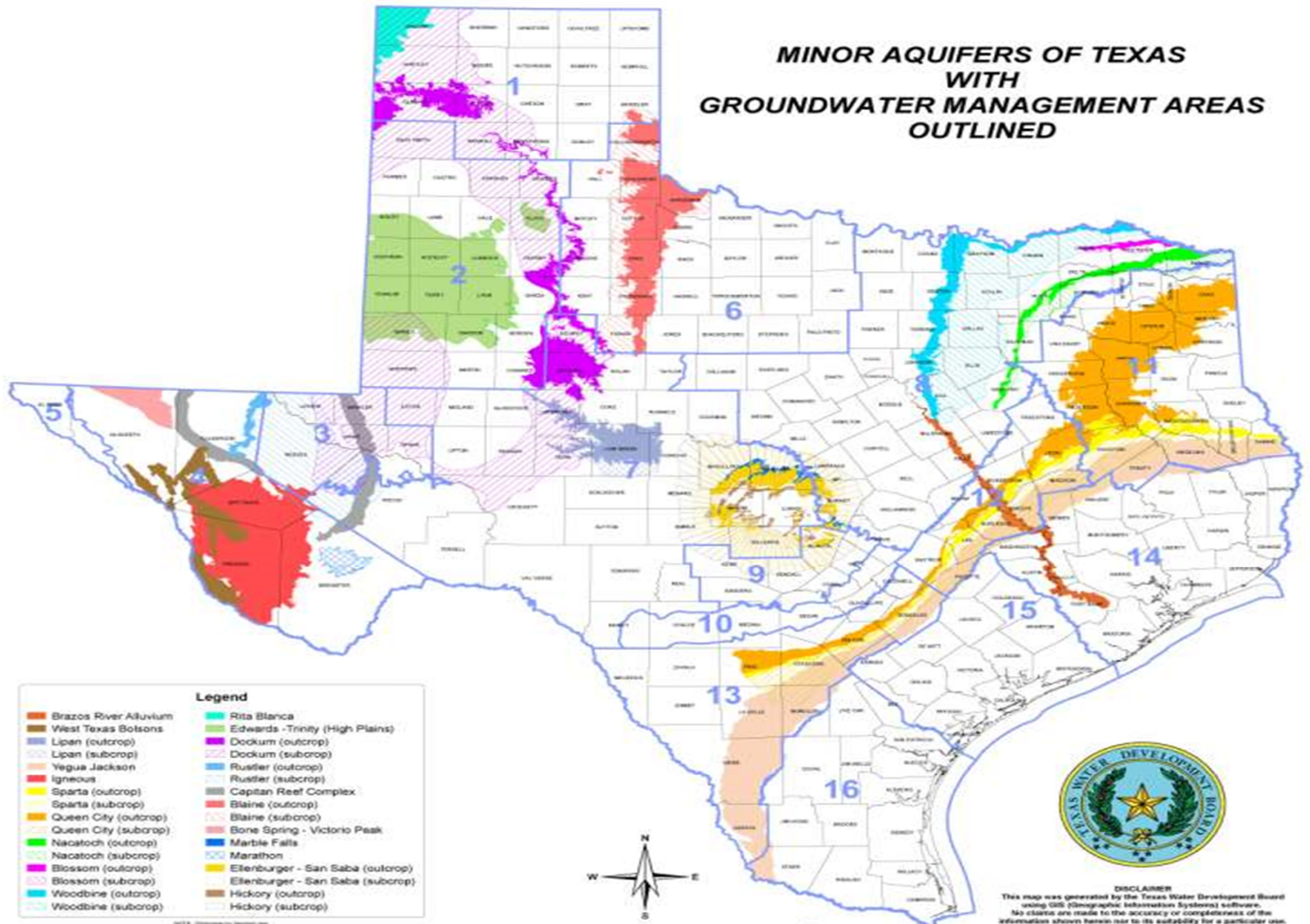
MAJOR AQUIFERS OF TEXAS WITH GROUNDWATER MANAGEMENT AREAS OUTLINED



DISCLAIMER
This map was generated by the Texas Water Development Board using GIS (Geographic 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.
Map updated August 2007 by Mark Hayes, GISP

NOTE: Chronology is Geologic age.
OUTCROP (portion of a water-bearing rock unit exposed at the land surface)
SUBCROP (portion of a water-bearing rock unit existing below other rock units)

MINOR AQUIFERS OF TEXAS WITH GROUNDWATER MANAGEMENT AREAS OUTLINED

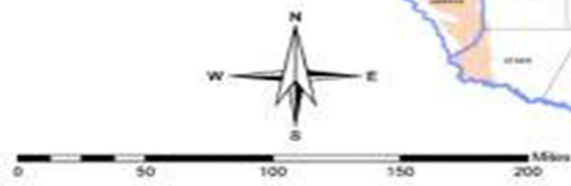


- Legend**
- Brazos River Alluvium
 - West Texas Bolsons
 - Lipan (outcrop)
 - Lipan (subcrop)
 - Yegua Jackson
 - Igneous
 - Sparta (outcrop)
 - Sparta (subcrop)
 - Queen City (outcrop)
 - Queen City (subcrop)
 - Nacatoch (outcrop)
 - Nacatoch (subcrop)
 - Blossom (outcrop)
 - Blossom (subcrop)
 - Woodbine (outcrop)
 - Woodbine (subcrop)
 - Rita Blanca
 - Edwards-Trinity (High Plains)
 - Dockum (outcrop)
 - Dockum (subcrop)
 - Rustler (outcrop)
 - Rustler (subcrop)
 - Capitan Reef Complex
 - Blaine (outcrop)
 - Blaine (subcrop)
 - Bone Spring - Victoria Peak
 - Marble Falls
 - Marathon
 - Ellenburger - San Saba (outcrop)
 - Ellenburger - San Saba (subcrop)
 - Hickory (outcrop)
 - Hickory (subcrop)



DISCLAIMER
 This map was generated by the Texas Water Development Board using GIS (Geographic 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.
 Map updated August 2007 by Mark Hayes, GISP

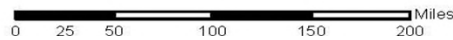
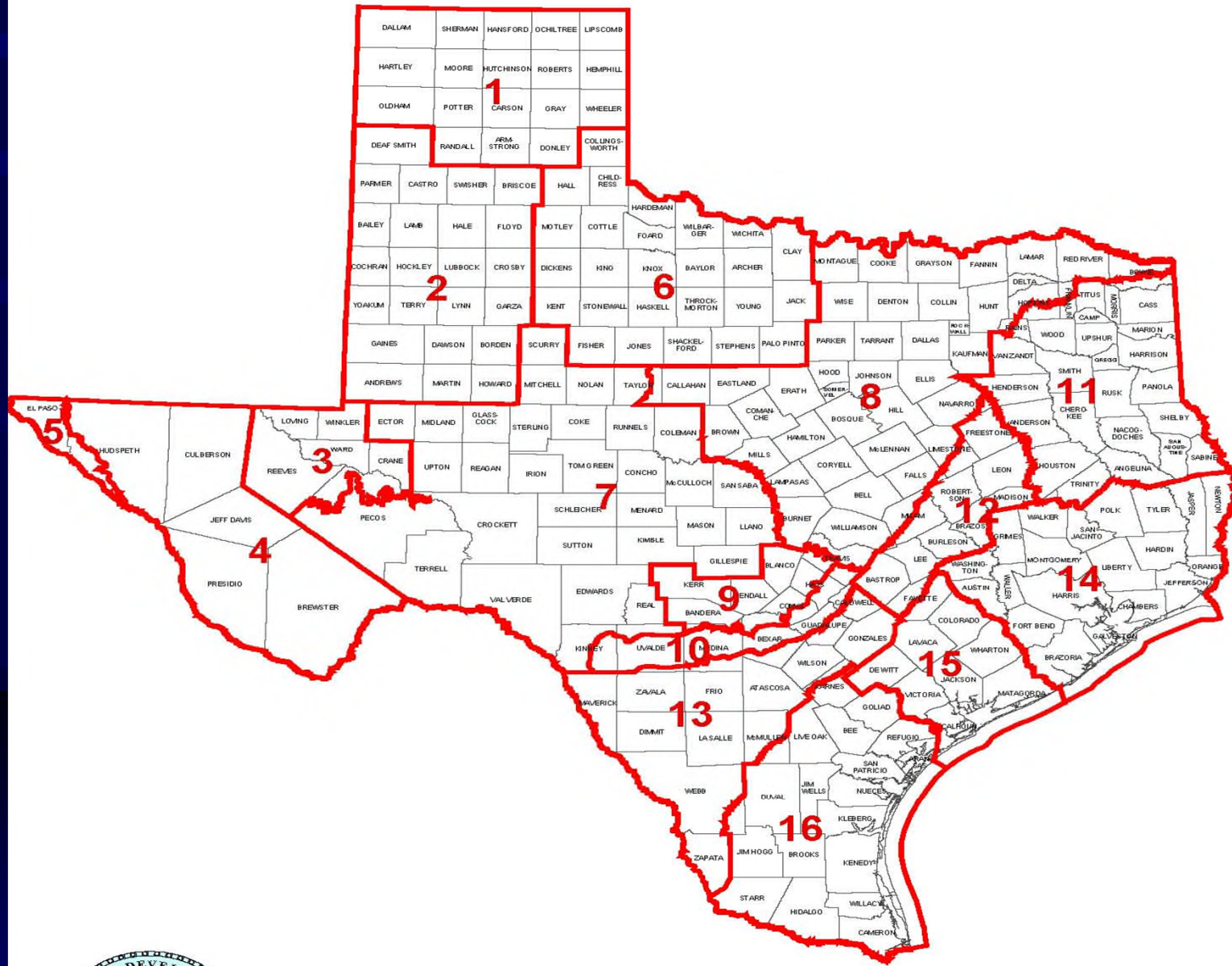
OUTCROP (portion of a water-bearing rock unit exposed at the land surface)
 SUBCROP (portion of a water-bearing rock unit existing below other rock units)



Texas Groundwater Management / Law

- Increased level of knowledge about groundwater resources and management but much more is needed
 - Ex. Middle Trinity GCD (Erath, Comanche, Bosque, and Coryell Counties)
- Science, science, science

Groundwater Management Areas in Texas



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.

November 2002 - by Mark Hayes, GIS section

Desired Future Conditions – GMA Decisions

- Round 1 – GMAs had to adopt DFCs by September 1, 2010.
- SB 660 (TWDB Sunset Bill) made significant revisions to GMA process
- Round 2 – GMAs had to adopt proposed DFCs by May, 1, 2016.

Groundwater Management Area (GMA) Process for GCDs

- Based on legislative changes made in 2011, the DFC Process was substantially revised.
- GCDs in each of the 16 GMAs must consider a list of 9 factors and propose DFCs for the aquifers within the GMA
- A 90 day public comment period begins after DFCs are provided to the GCDs

Groundwater Management Area (GMA) Process for GCDs

- GCDs hold public hearings during 90 day comment period and prepare summary reports
- GMA meets to consider summary reports and to adopt DFCs
- GMA prepares an explanatory report and submits DFC info to TWDB
- GMA provides DFC info to GCDs and GCDs adopt DFCs after receiving info

Texas Groundwater Management / Law

- Brackish groundwater / water quality
- Estimated that Texas has 2.7 billion acre-feet of brackish groundwater according to 2003 LBG-Guyton and Assoc. study.

GCD Management of Brackish Groundwater

- No statutory definition of “brackish groundwater” in Texas law.
- Some want to define as groundwater that contains a total dissolved solids (TDS) concentration of more than 1,000 milligrams per liter.
- Some want to define as groundwater that contains a total TDS concentration of more than 10,000 milligrams per liter.

GCD Management of Brackish Groundwater

- Production of brackish groundwater is being permitted by GCDs today
- No differentiation in most GCDs' rules between potable groundwater and brackish groundwater
- Vast majority of Desired Future Conditions (DFCs) and Modeled Available Groundwater (MAG) don't differentiate between potable groundwater and brackish groundwater

GCD Management of Brackish Groundwater

- Do GCDs want to encourage the production and use of brackish groundwater?
- Yes. GCDs understand that growing communities and businesses need more water supplies but not at the expense of the groundwater resources within GCDs' boundaries and, particularly, potable groundwater resources

Groundwater Issues – Texas Legislature

- 2015 Legislation
 - Brackish Groundwater – HB 30
 - Aquifer Storage and Recovery – HB 655
 - Long Term Permitting by GCDs – SB 854
 - DFC Appeals – HB 200
 - GCD Board Member Immunity – HB 3163
 - Exemptions from GCD Permitting – HB 2647
 - Future groundwater issues – correlative rights, takings

TWCA Surface Water Committee

- Preparing for Regular Session of Texas Legislature to begin in January 2017
- Subcommittees:
 - Environmental Flows
 - Federal Permitting
 - TCEQ Permitting Process
 - Water Planning – State Water Planning and Regional Planning
 - Water Availability Modeling
 - Rio Grande

Surface Water Issues

- Addressing Drought Issues
- Reuse – Indirect and Direct (Toilet to Tap)
- Colorado River – Highland Lakes vs. Rice Farmers
- Conservation Efforts by Municipalities
- TCEQ Regulation of Surface Water Impoundments / Dam Safety

Questions?

- Any questions?
- Thank you.