What You Need to Know about Groundwater Conservation Districts In Texas

Tyler

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Today.....

- Groundwater Resources
- Water Supply and Demand Projects
- Overview of Texas Water Law
- Powers and Responsibilities of Districts
- Financing of Districts
- Questions.....

Managing Texas' Groundwater Resources

- Texas has extensive groundwater resources
- About 60% of total freshwater use is from groundwater

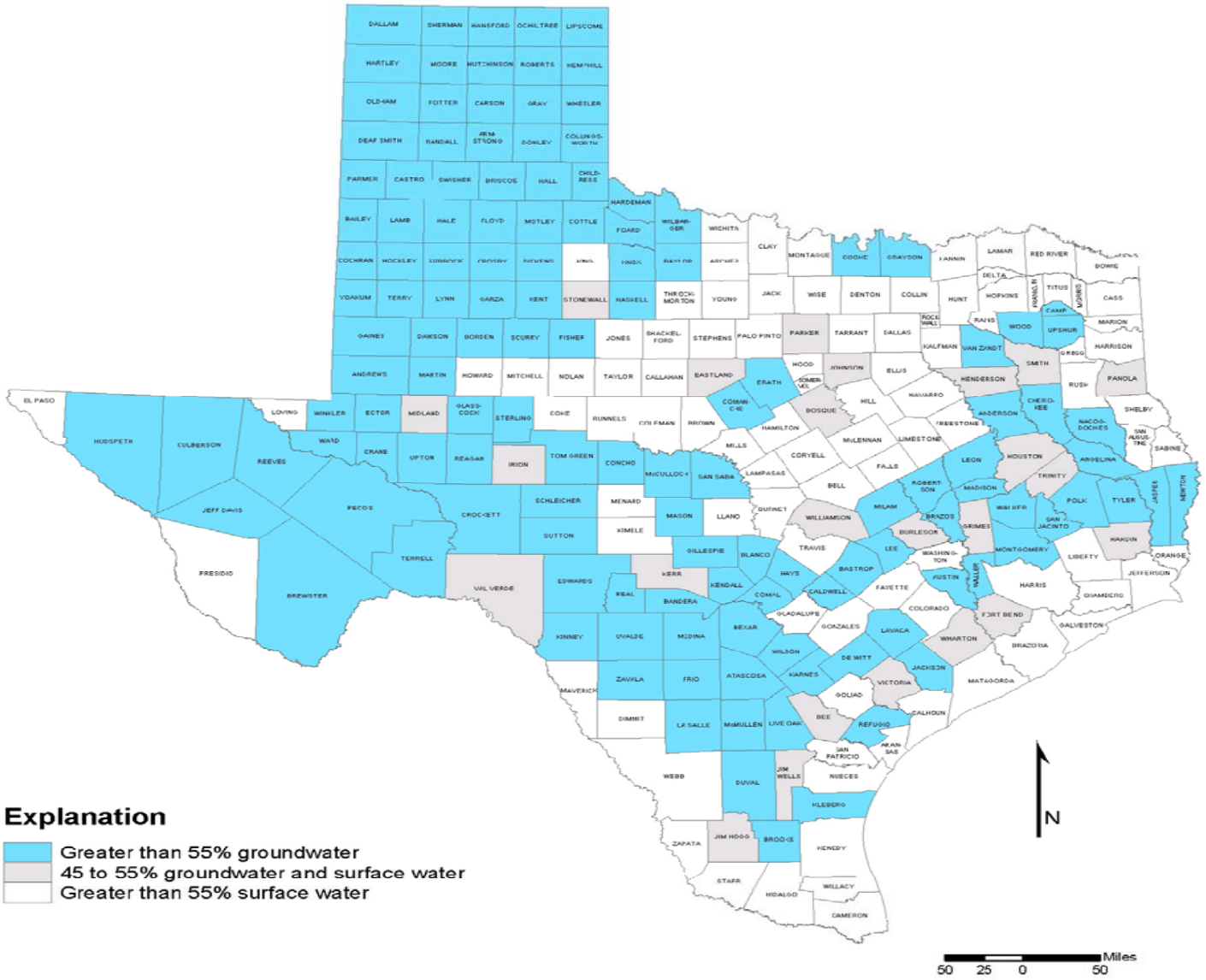


Figure 5-6 Analysis of total water use in Texas in 1999 by county illustrating dominant supply source.

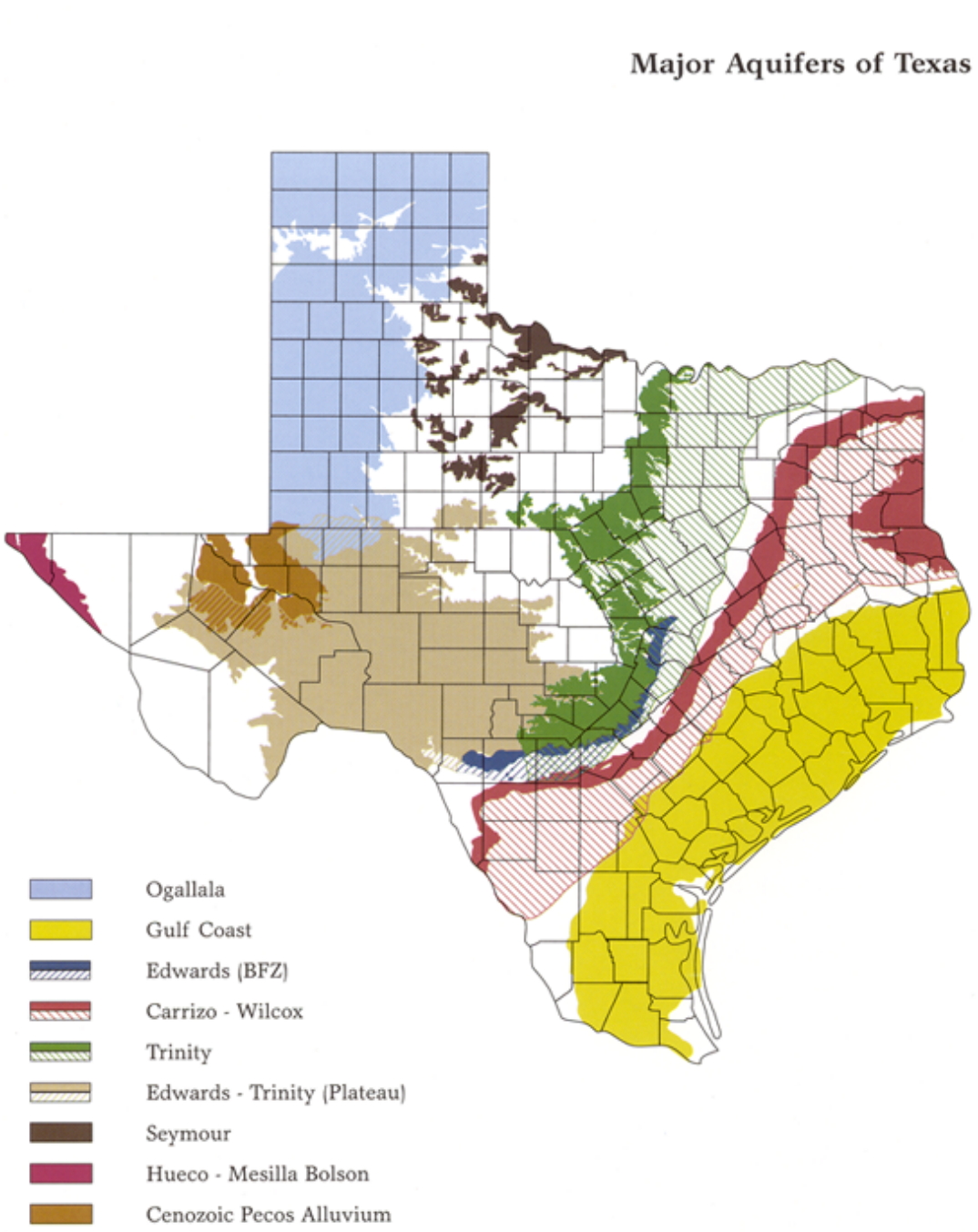


Figure 1. Nine major aquifers account for 96.3 percent of all groundwater withdrawals in Texas.

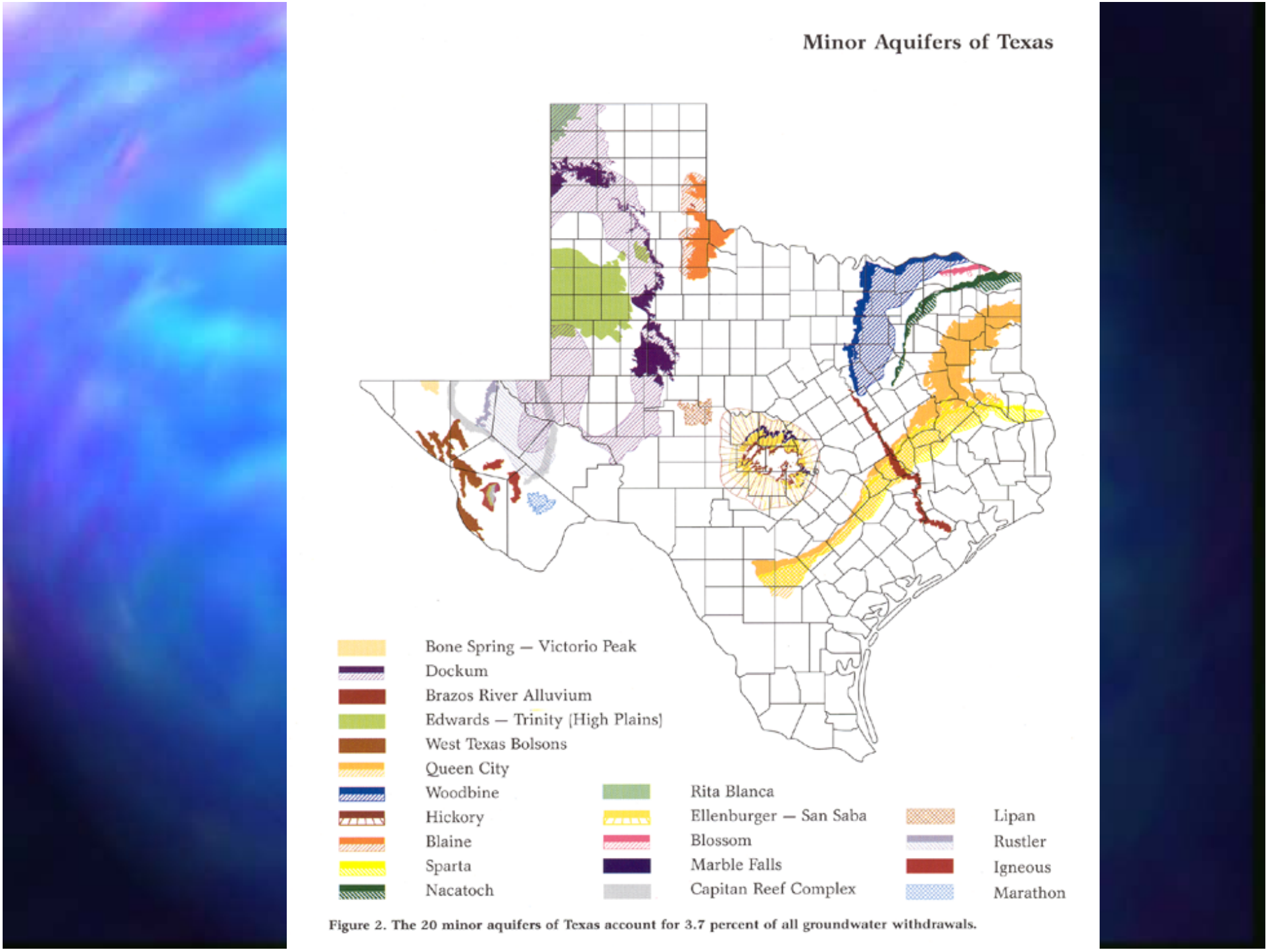
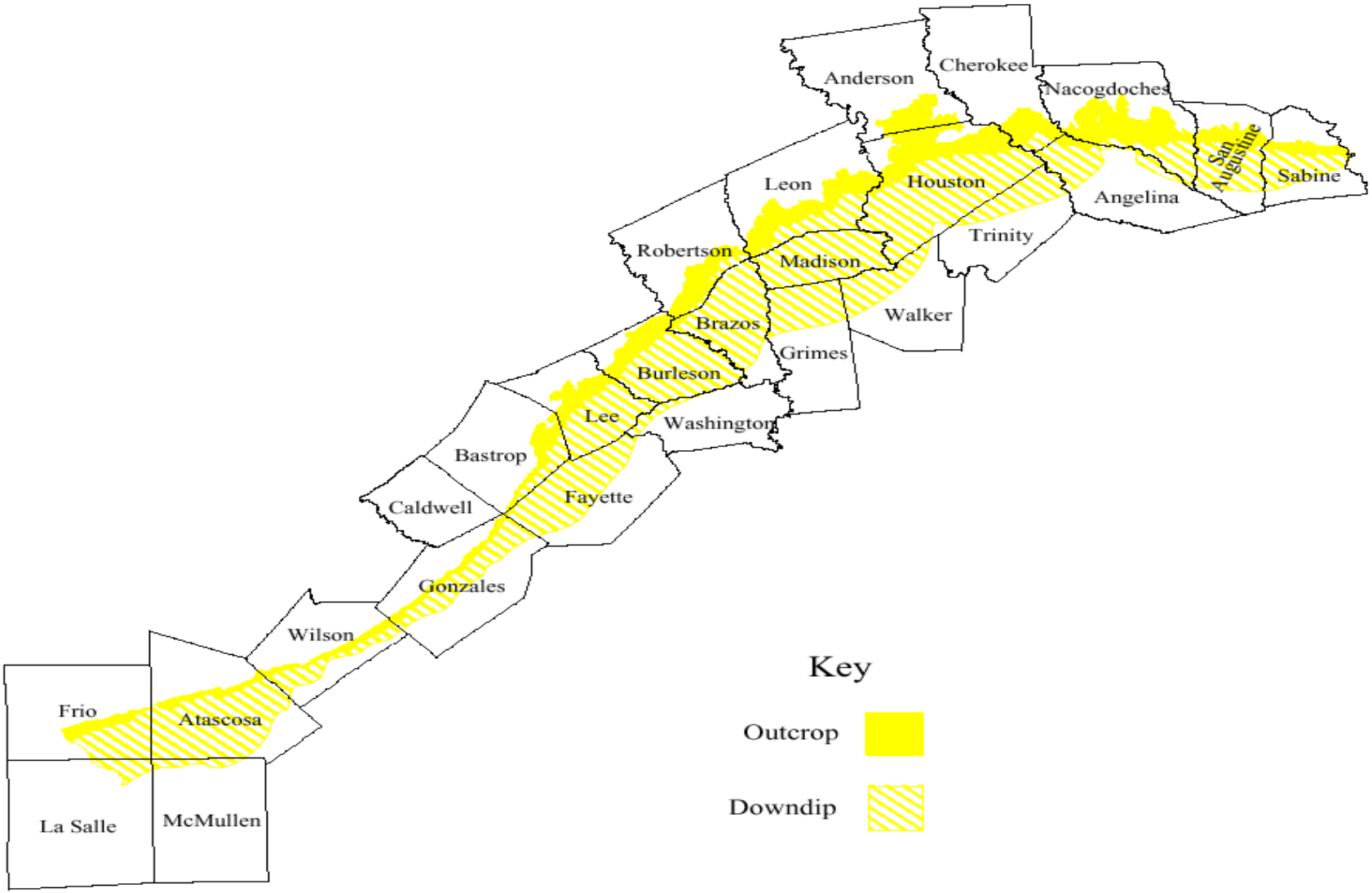


Figure 2. The 20 minor aquifers of Texas account for 3.7 percent of all groundwater withdrawals.

Sparta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Gonzales
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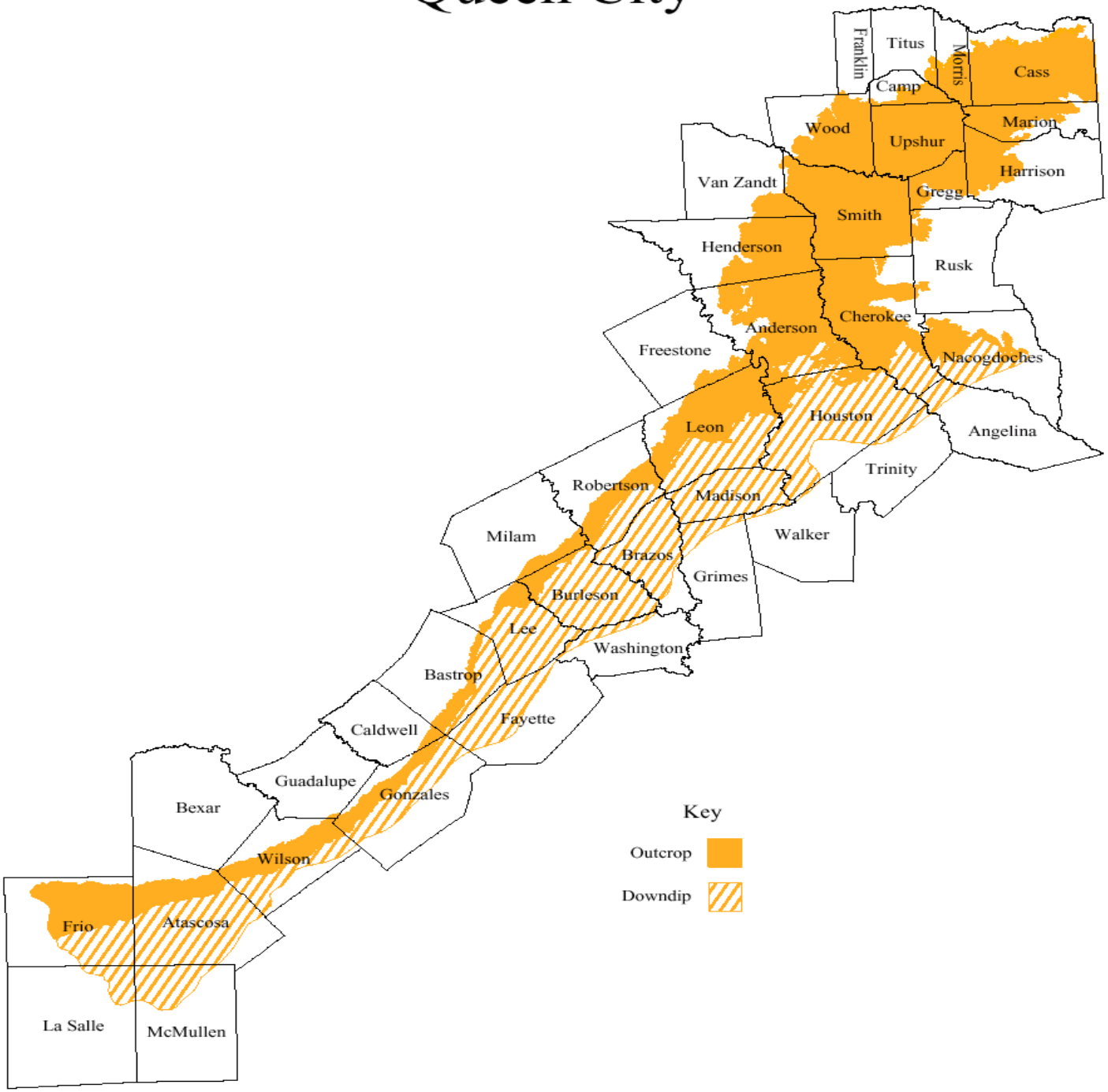
Frio
Atascosa
La Salle
McMullen
Key
Outcrop
Downdip

Queen City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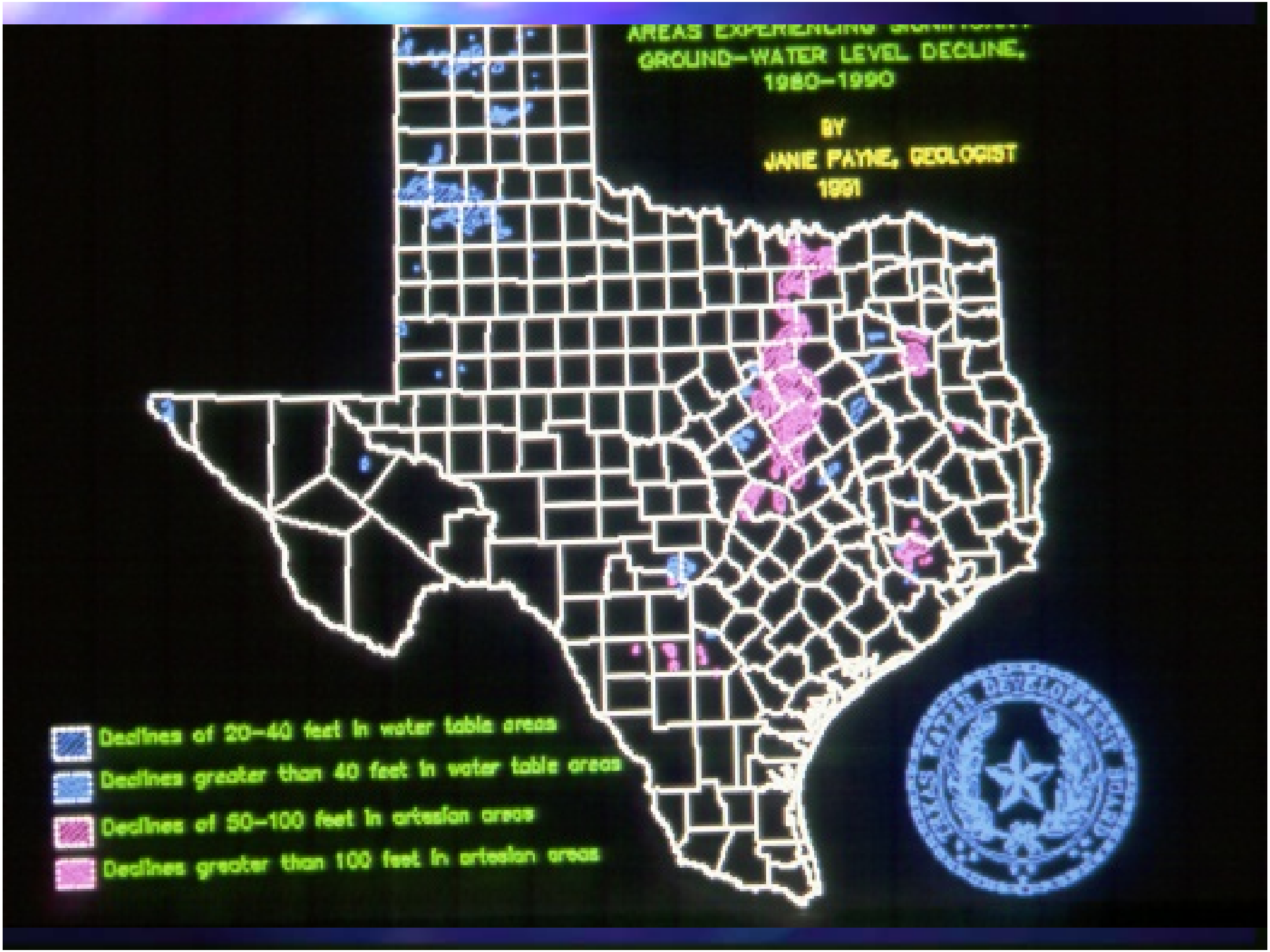
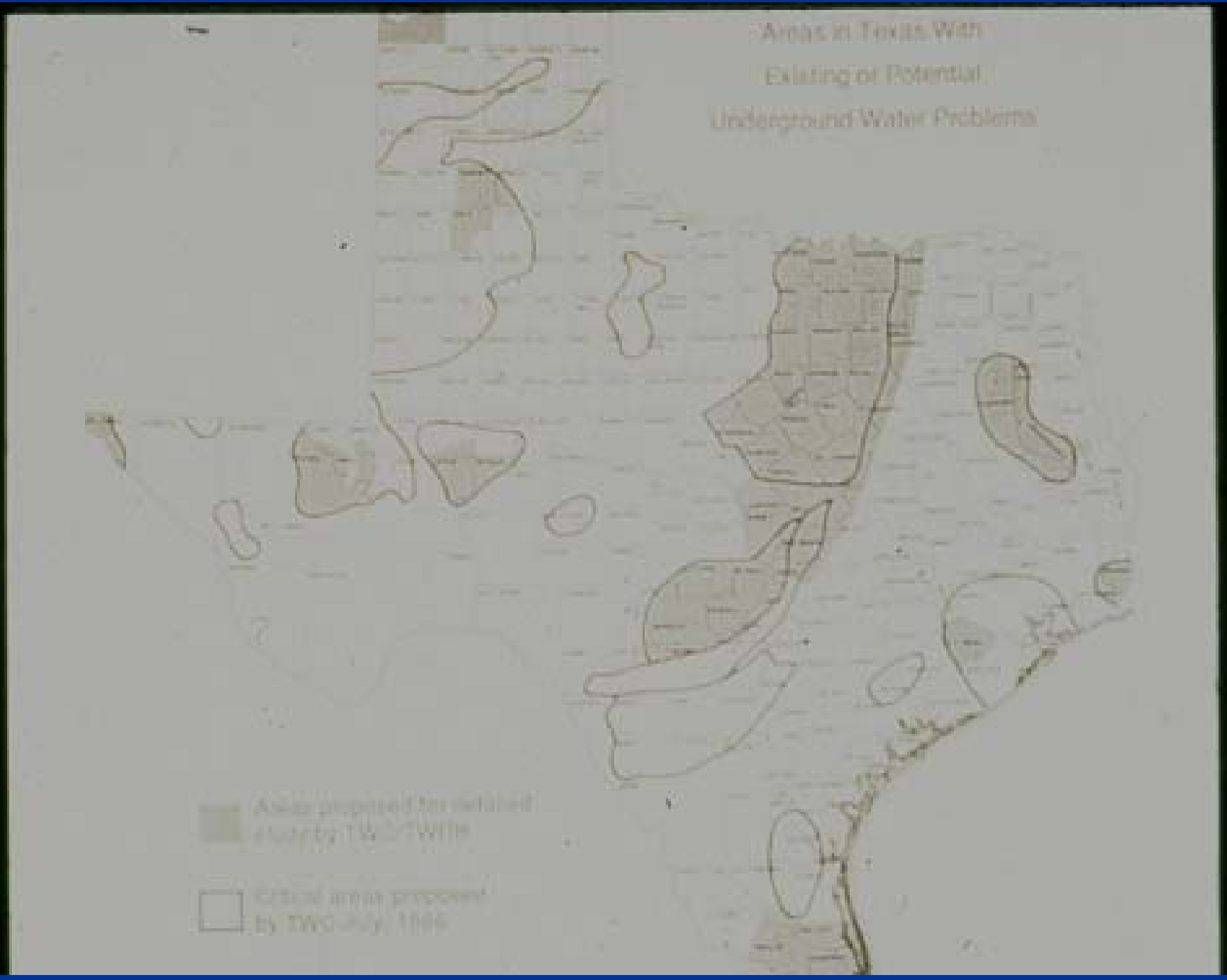
Caldwell
Guadalupe
Gonzales
Bexar
Wilson
Frio
Atascosa
La Salle
McMullen
Key
Outcrop
Downdip

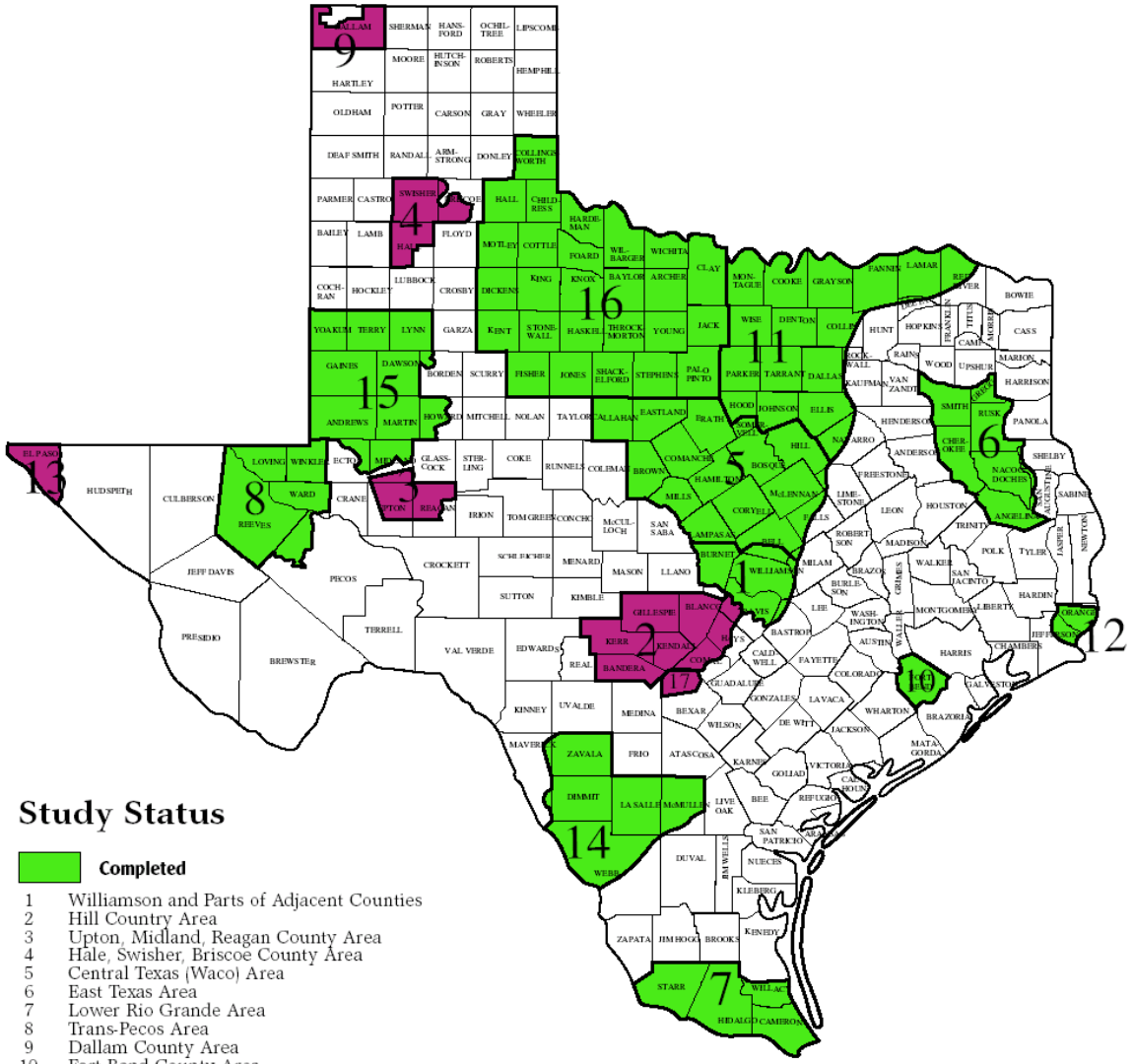
Managing Texas' Groundwater Resources

- Population and industrial growth in Texas is forecasted to outstrip available supply
- Groundwater depletion and competition is a major problem in parts of the state


AREAS EXPERIENCING SIGNIFICANT
GROUND-WATER LEVEL DECLINE,
1980-1990
BY
JANIE PAYNE, GEOLOGIST
1991
Declines of 20-40 feet in water table areas
Declines greater than 40 feet in water table areas
Declines of 50-100 feet in artesian areas
Declines greater than 100 feet in artesian areas


Areas in Texas With
Existing or Potential
Underground Water Problems

Priority Groundwater Management Area Studies



Study Status

Completed

1 Williamson and Parts of Adjacent Counties
2 Hill Country Area
3 Upton, Midland, Reagan County Area
4 Hale, Swisher, Briscoe County Area
5 Central Texas (Waco) Area
6 East Texas Area
7 Lower Rio Grande Area
8 Trans-Pecos Area
9 Dallam County Area
10 Fort Bend County Area
11 North-Central Texas Area
12 Orange-Jefferson County Area
14 Winter Garden Area
15 Southernmost High Plains Area
16 North Texas Alluvium and Paleozoic Outcrop Area

Designated PGMAs

2 Hill Country PGMA
3 Upton, Midland, Reagan County PGMA
4 Hale, Swisher, Briscoe County PGMA
9 Dallam County PGMA
13 El Paso County Area
17 Northern Bexar County (Added to the Hill Country PGMA)

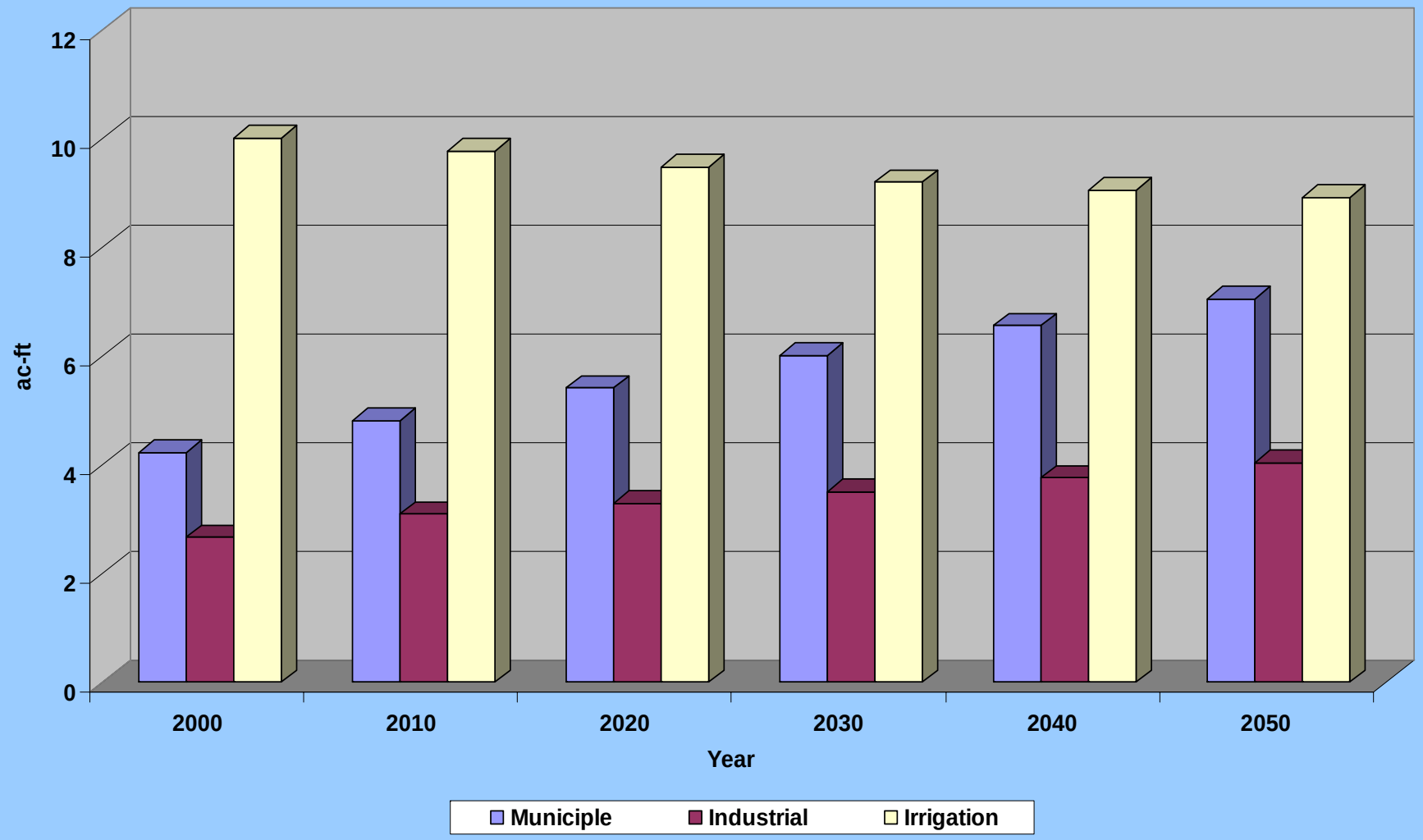
STATE WATER PLAN

Water for Texas 2002

Texas Water Development Board

(Available on the TWDB Website)

Water Use in Texas by Category



Projected Water Supply/Demand and Population for Texas

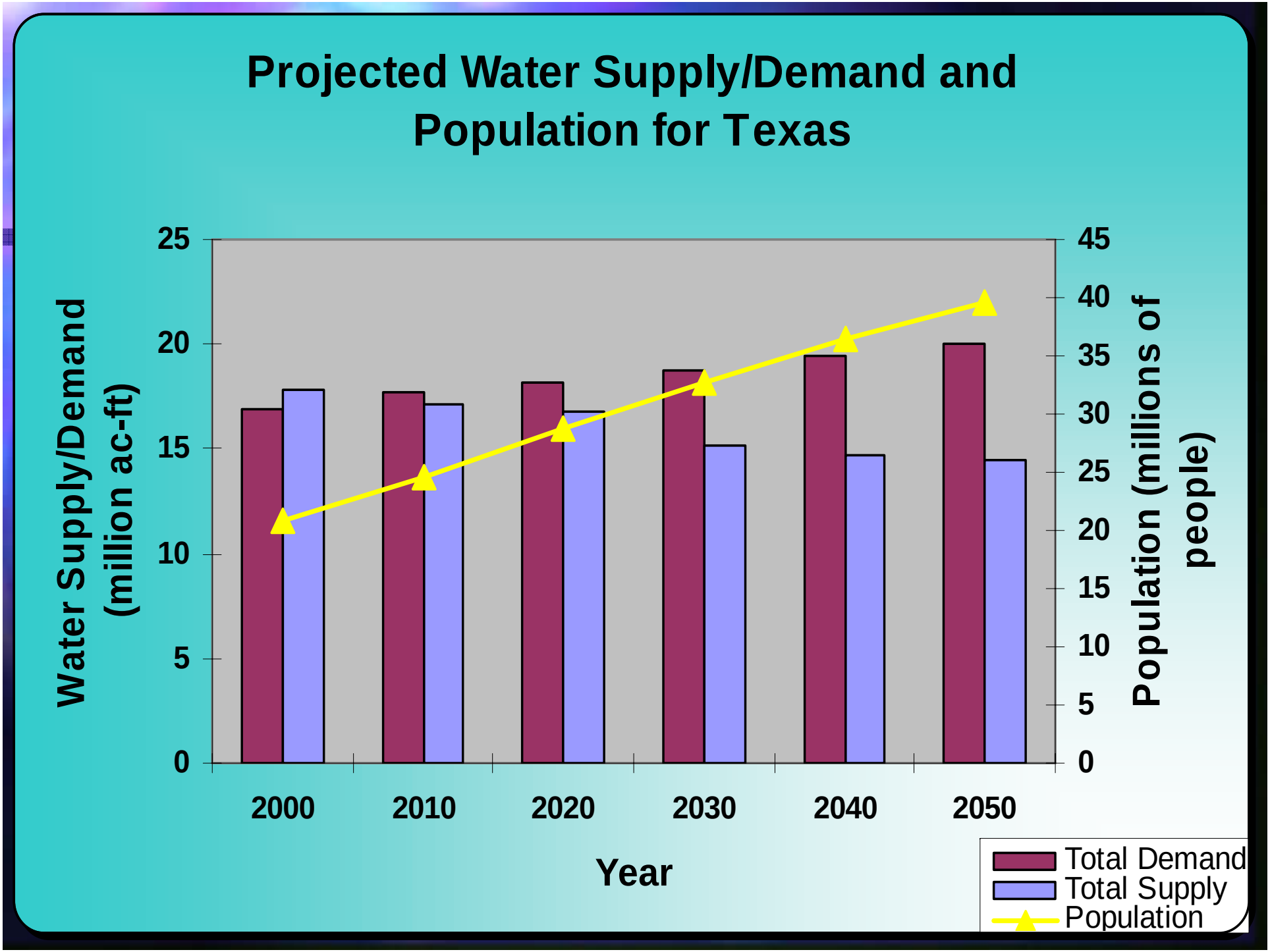
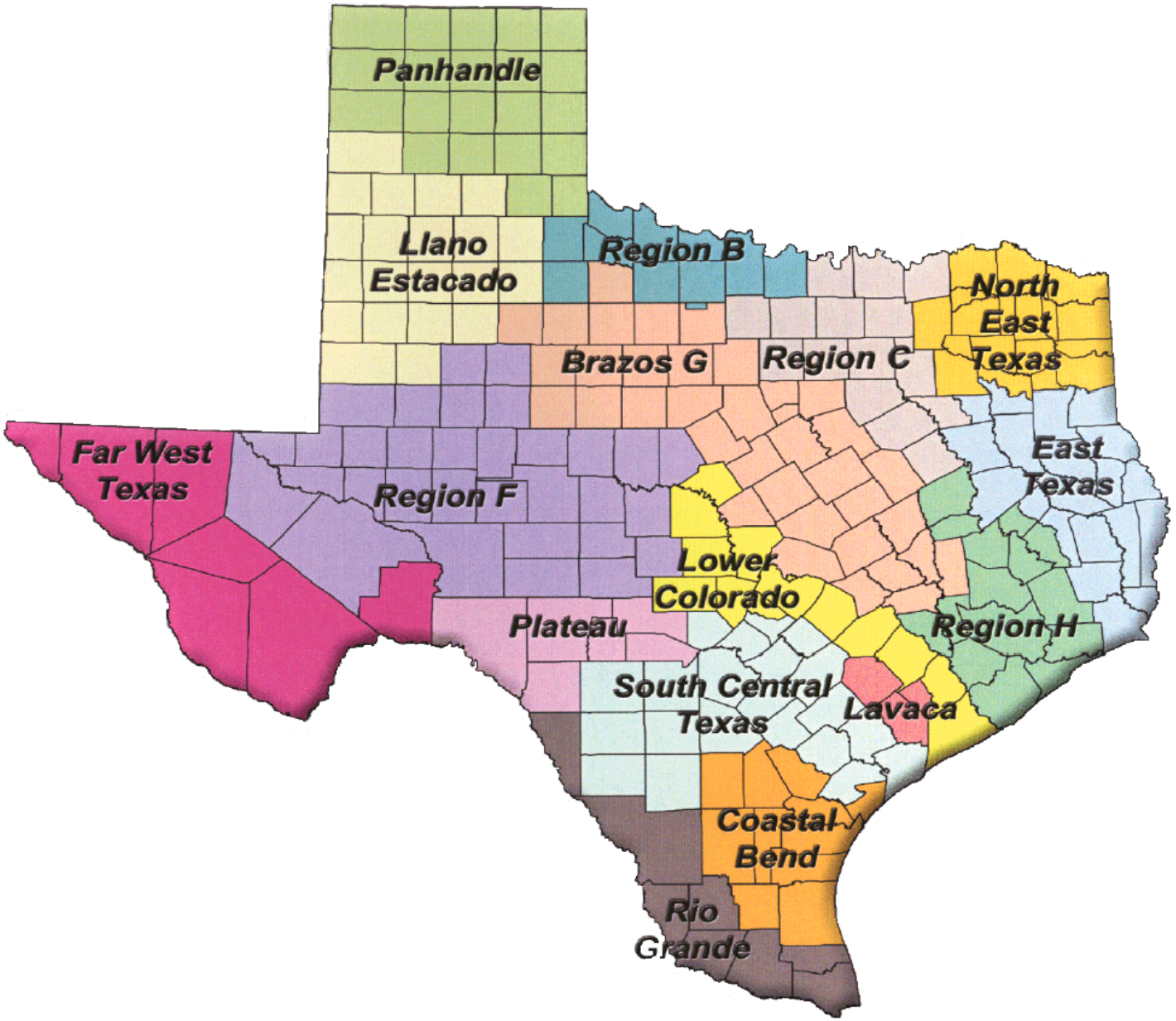
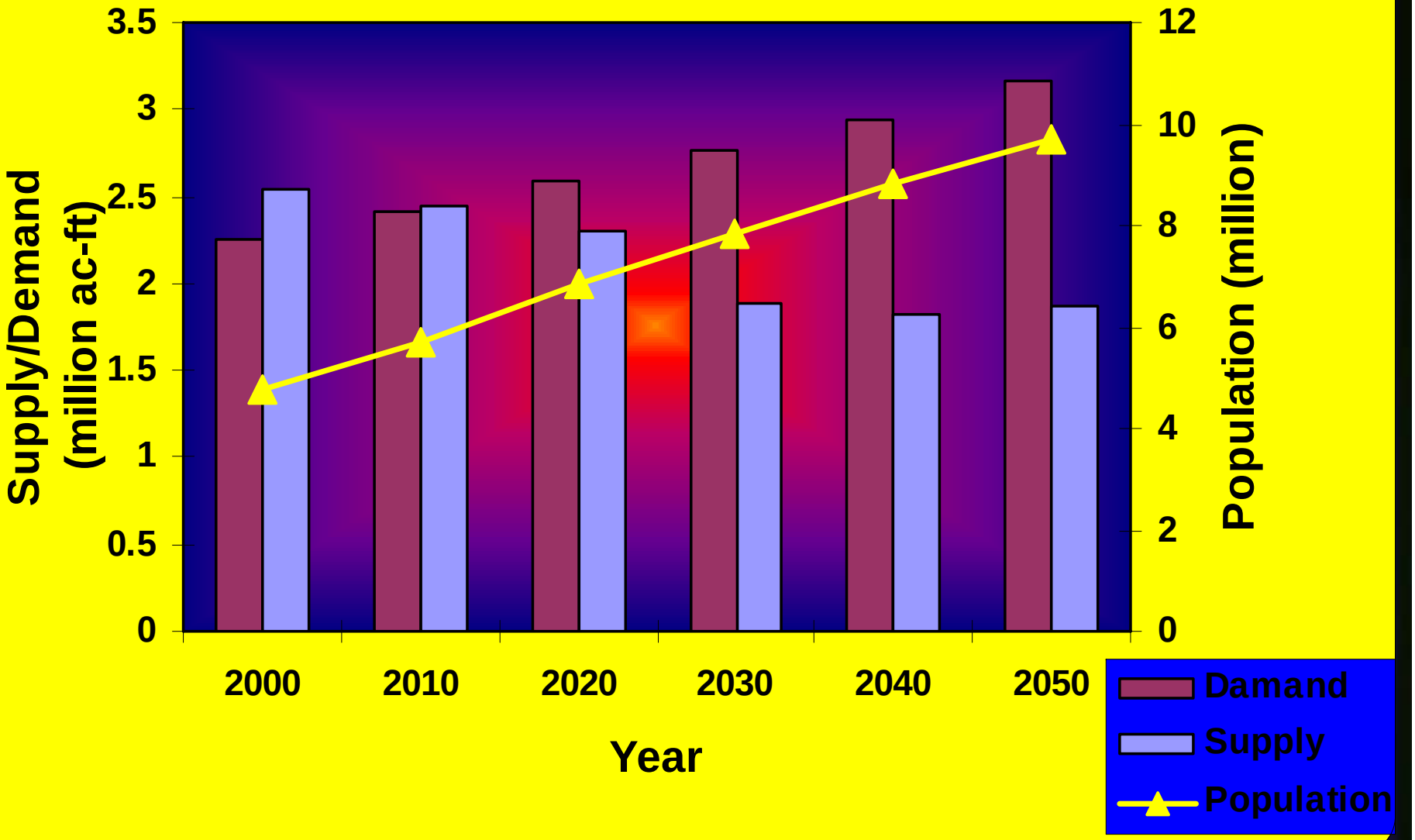


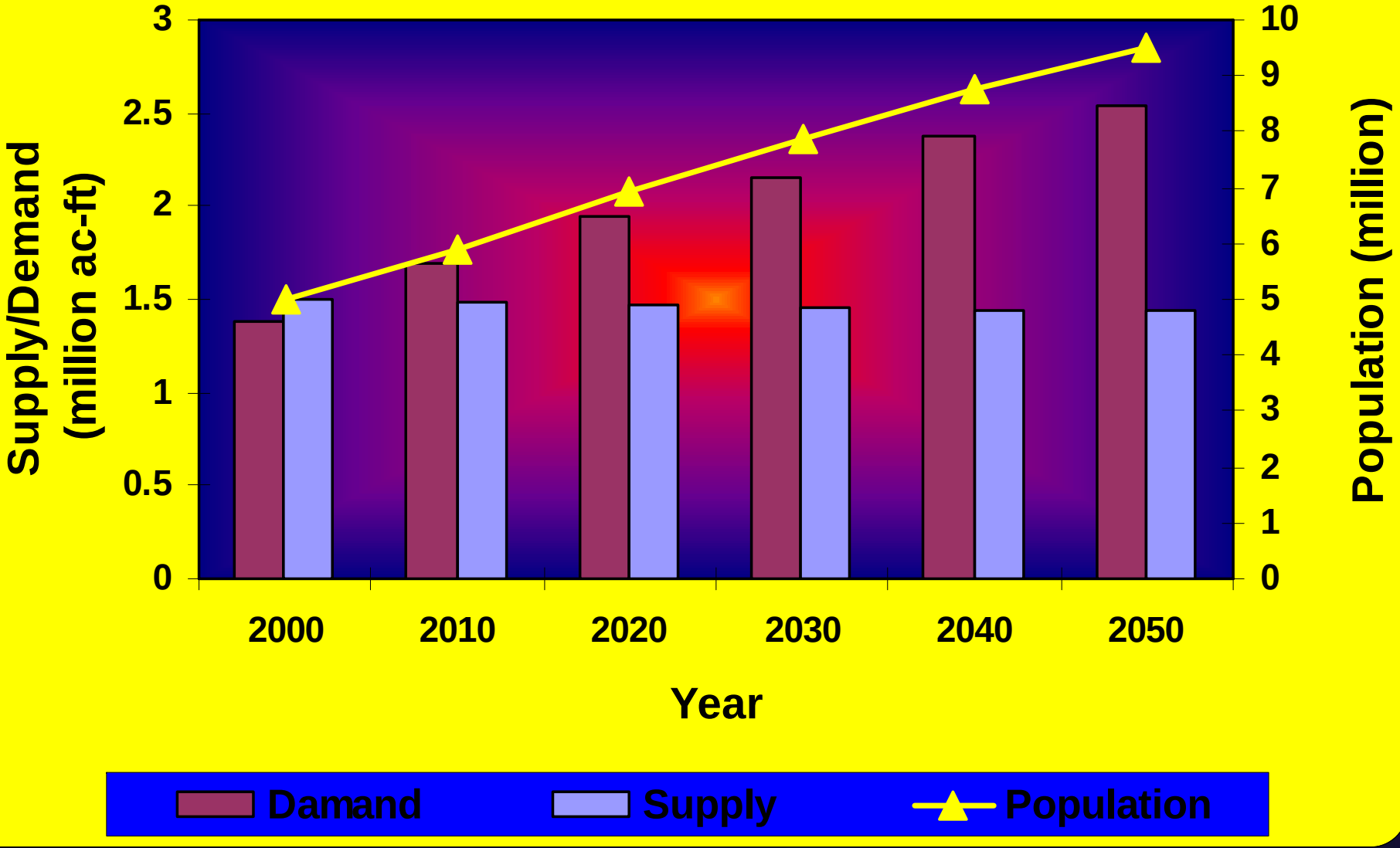
Figure 4-1: Location of the 16 regional water planning areas in Texas.



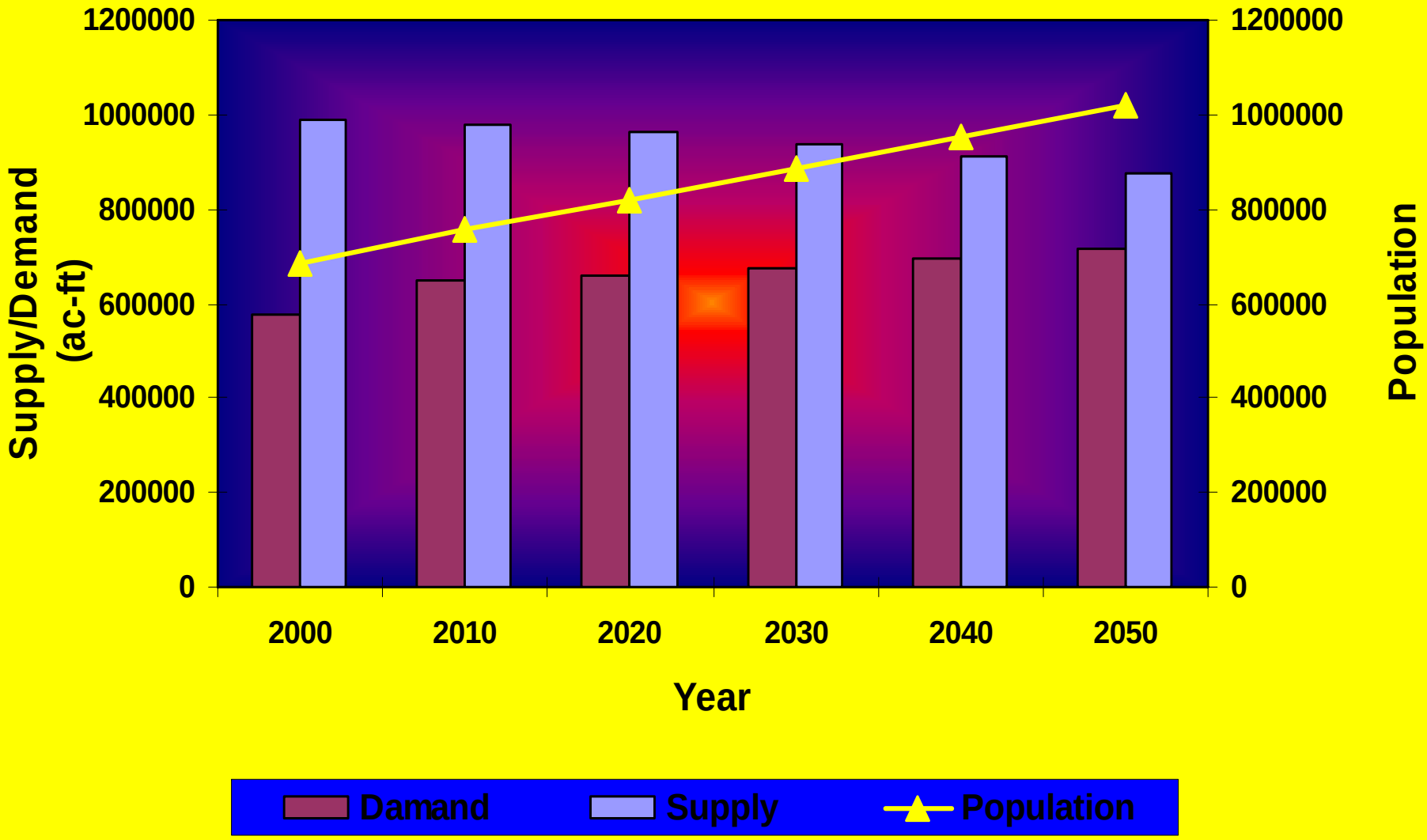
Projected Water Supply/Demand and Population for Region H



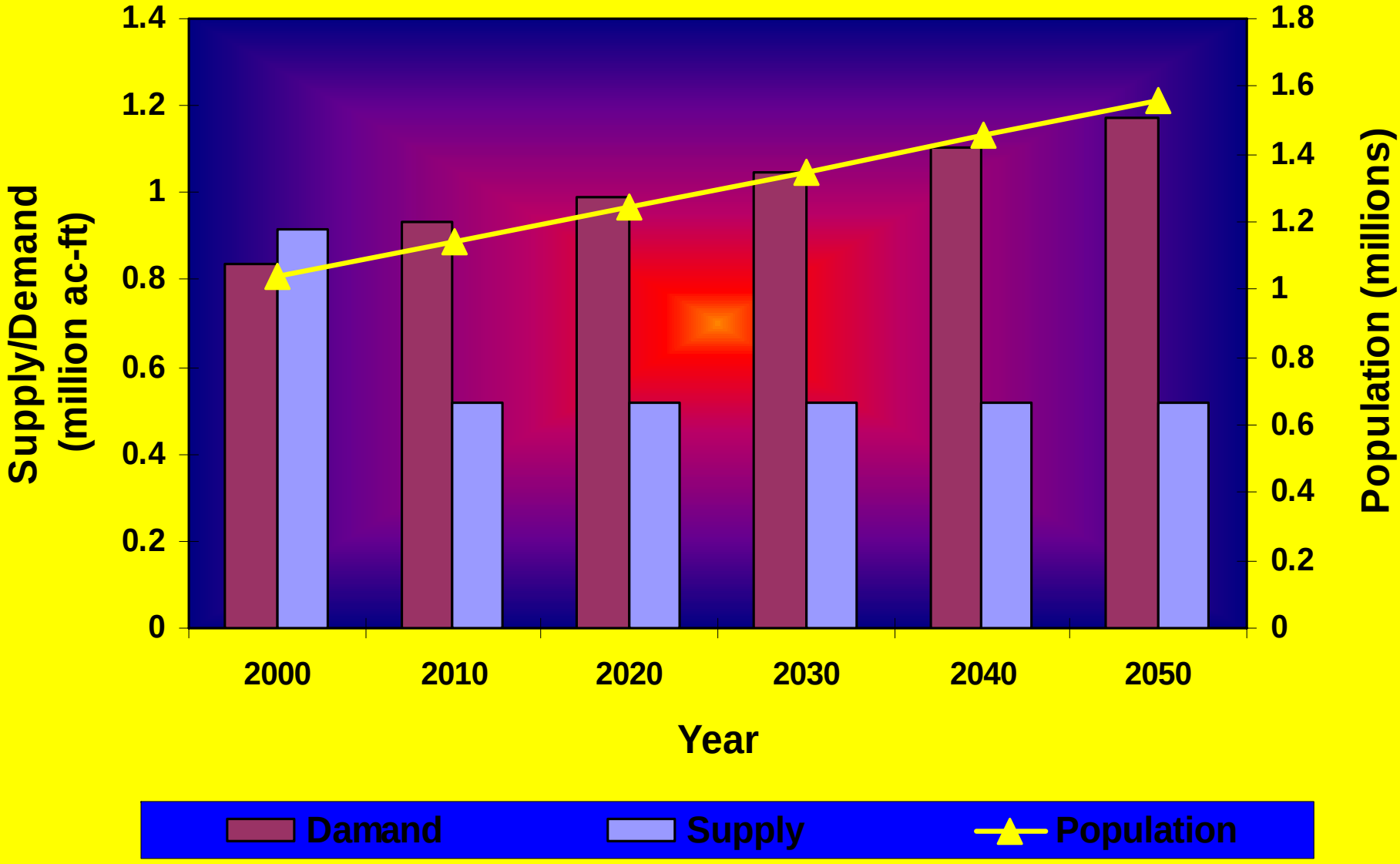
Projected Water Supply/Demand and Population for Region C



Projected Water Supply/Demand and Population for Region D (North East Texas Region)



Projected Water Supply/Demand and Population for Region I (East Texas Region)



Texas Water Law

Surface Water and Groundwater are treated differently under the Law

Texas Water Law

Surface Water

- All surface water (except "*diffused water*") belongs to the state
- It is "*held in trust*" and appropriated to users through permits or *water rights*

Texas Water Law

Groundwater

- Based on the English common law document or the "*rule of capture*"
- Landowner has unlimited right to withdraw and make "*non-wasteful*" use of groundwater

Texas Water Law

Non-beneficial use of Groundwater

- Allowing groundwater to escape from one geological formation to another that does not contain water

Texas Water Law

Non-beneficial use of Groundwater

- Polluting a groundwater reservoir by salt water or other substances
- Causing groundwater to escape into surface water without authorization

Texas Water Law

Groundwater

"Law of the biggest pump"

...the deepest well and most powerful pump get the water

GROUNDWATER CONSERVATION DISTRICTS

- First legislation enacted in 1949
- Based on the philosophy of:

  locally controlled groundwater conservation districts to manage groundwater resources
- Confirmation election required

Groundwater Districts

Conservation Districts

1	Anderson County UWCD
2	Barton Springs/edwards Aquifer CD
3	Bee GCD
4	Bexar Metropolitan Water District
5	Blanco-Pedernales GCD
6	Brewster County GCD
7	Clearwater UWCD
8	Coastal Bend GCD
9	Coastal Plains GCD
10	Coke County UWCD
11	Collingsworth County UWCD
12	Colorado Valley GCD
13	Culberson County GCD
14	Dallam County UWCD No. 1
15	Edwards Aquifer Authority
16	Emerald UWCD
17	Evergreen UWCD
18	Fort Bend Subsidence District
19	Fox Crossing Water District
20	Garza County Underground And Fresh WCD
21	Glasscock County UWCD
22	Goliad County GCD
23	Gonzales County UWCD
24	Guadalupe County GCD
25	Harris-Galveston Coastal Subsidence District
26	Headwaters UWCD
27	Hemphill County UWCD
28	Hickory UWCD No. 1
29	High Plains UWCD No.1
30	Hill Country UWCD
31	Hudspeth County UWCD No. 1
32	Irion County WCD
33	Jeff Davis County UWCD
35	Lipan-Kickapoo WCD
36	Live Oak UWCD
37	Llano Estacado UWCD
38	Lone Star GCD
39	McMullen GCD
40	Medina County GCD
41	Menard County UWCD
42	Mesa UWCD
43	Neches&Trinity Valleys GCD
44	North Plains GCD
45	Panhandle GCD
46	Pecan Valley GCD
47	Permian Basin UWCD
48	Pineywoods GCD
49	Plateau UWC And Supply District
50	Plum Creek CD
51	Presidio County UWCD
52	Real-Edwards C and R District
53	Refugio GCD
54	Rolling Plains GCD
55	Salt Fork UWCD
56	Sandy Land UWCD
57	Santa Rita UWCD
58	Saratoga UWCD
59	South Plains UWCD
60	Springhills Water Management District
61	Sterling County UWCD
62	Sutton County UWCD
63	Texana GCD
65	Wintergarden GCD

Edwards Aquifer Authority

34	Kinney County GCD
64	Uvalde County UWCD

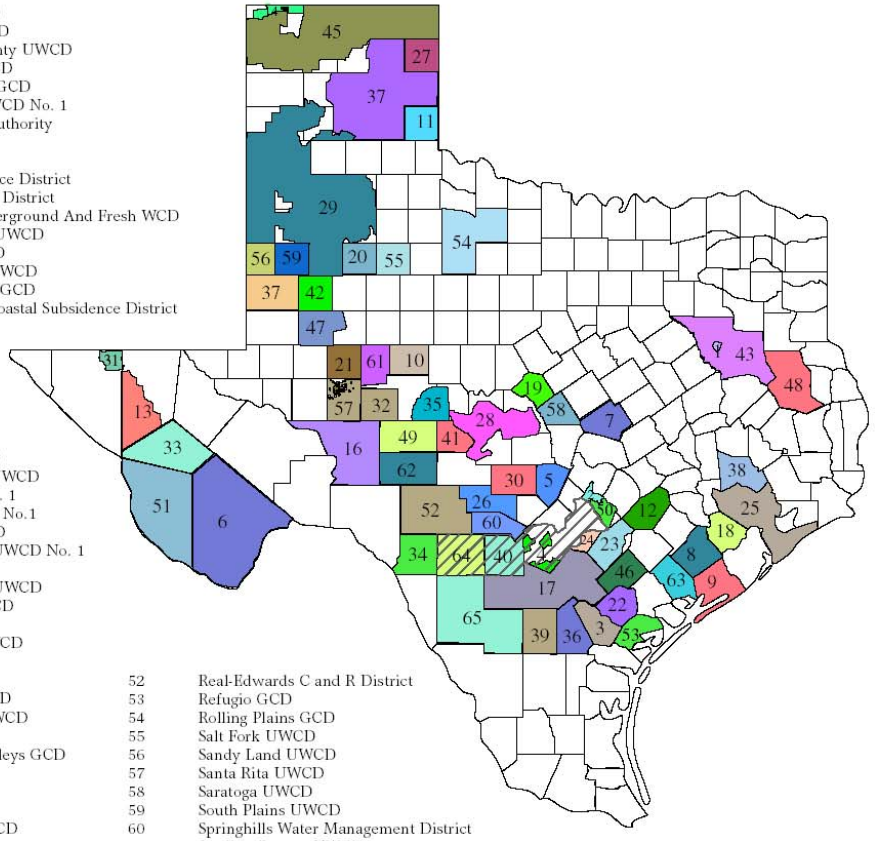
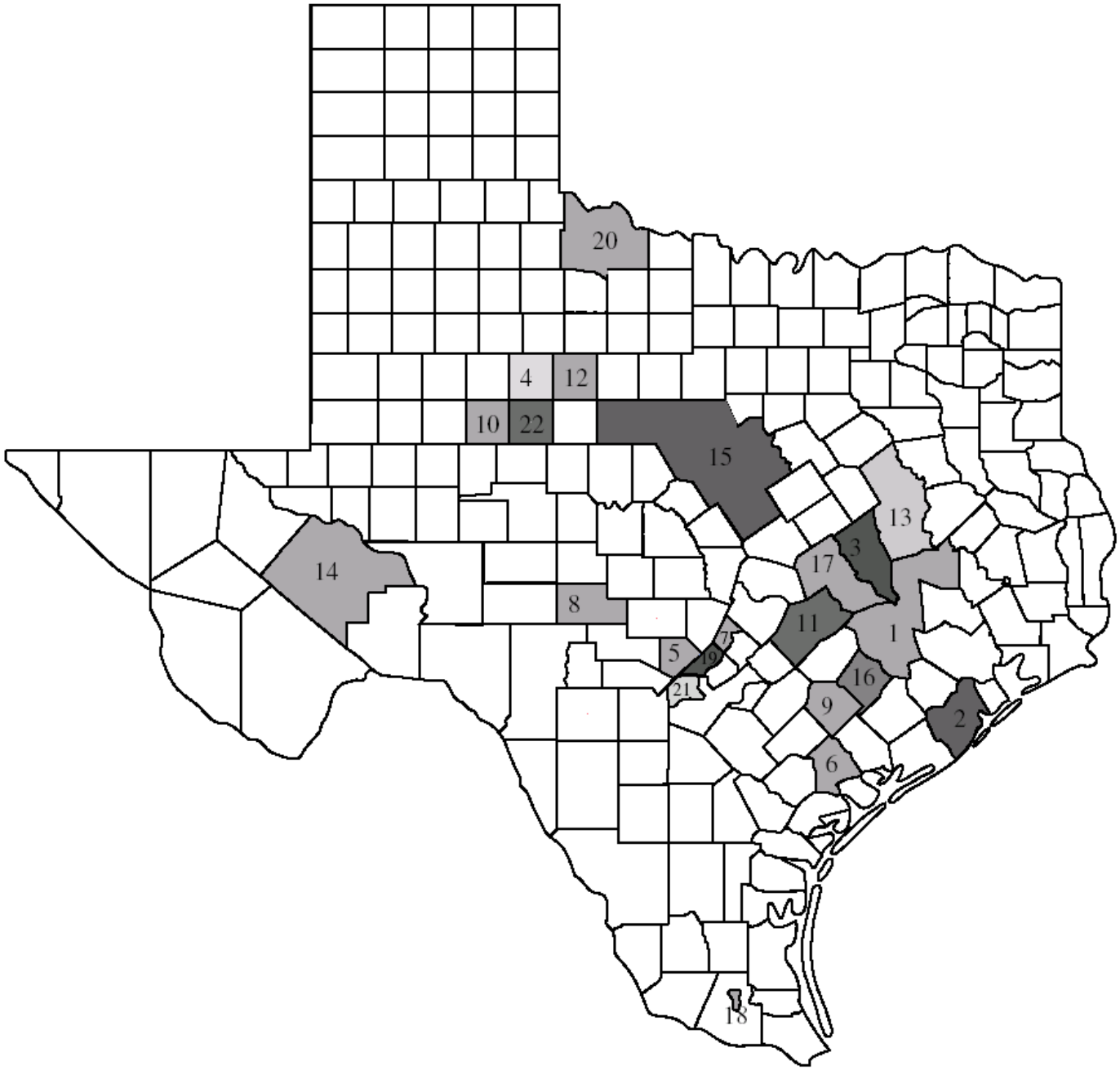


Figure 4. There are 65 confirmed groundwater conservation and special districts in Texas as of Janary 2002. The Edwards Aquifer Authority contains 3 conservation districts within its territory.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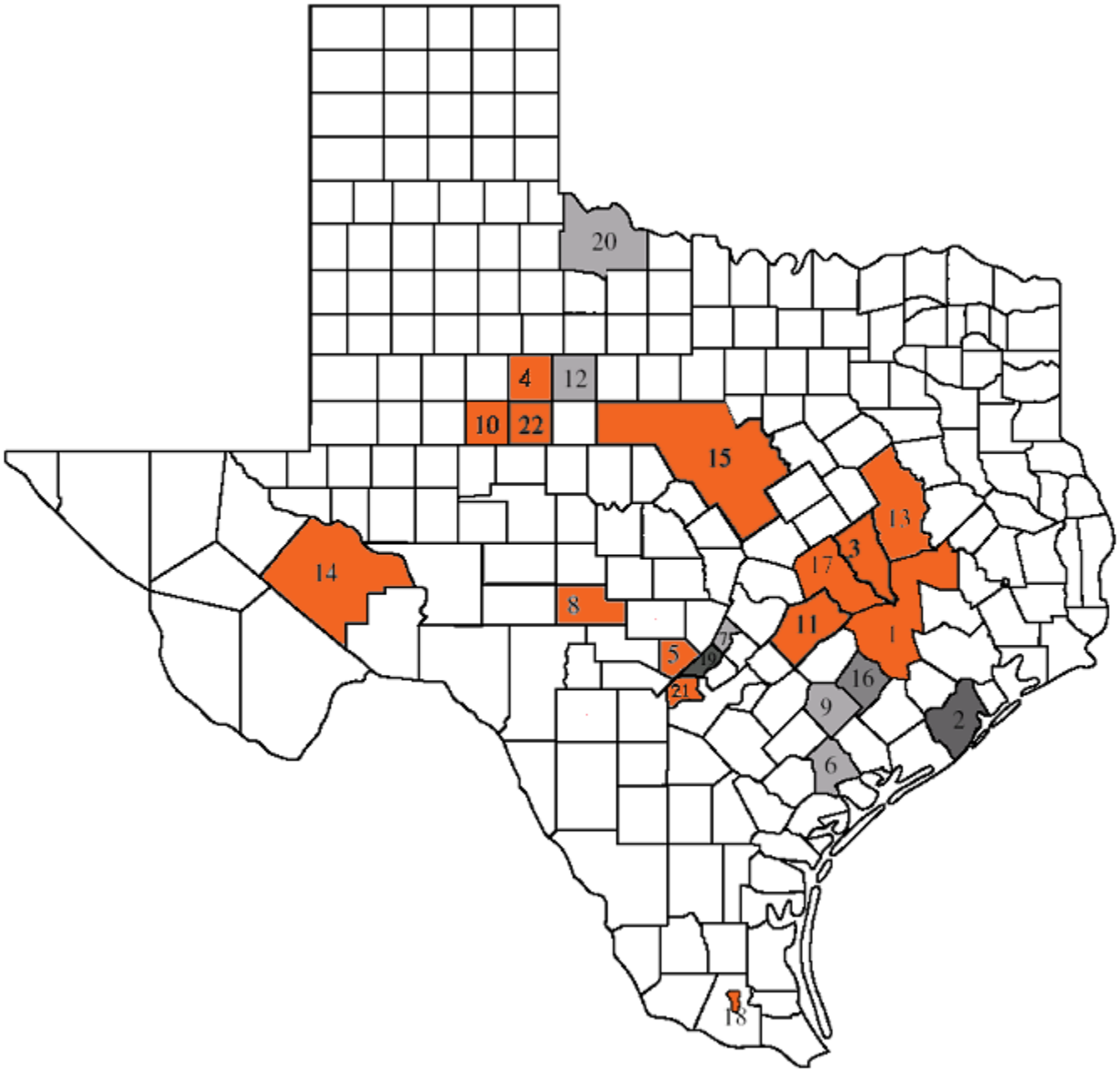
Unconfirmed Groundwater Conservation Districts Created/Ratified by 77th Legislature, 2001

Groundwater Conservation District	Counties	Expiration Date (if not confirmed)
1. Bluebonnet GCD	Walker, Grimes, Washington, Austin, Waller	09/01/03
2. Brazoria Co. GCD	Brazoria	09/01/03
3. Brazos Valley GCD	Robertson, Brazos	08/31/03
4. Clear Fork GCD	Fisher	06/17/05
5. Cow Creek GCD	Kendall	09/01/03
6. Crossroads GCD	Victoria	09/01/06
7. Hays Trinity GCD	Hays	09/01/03
8. Kimble Co. GCD	Kimble	09/01/03
9. Lavaca Co. GCD	Lavaca	09/01/06
10. Lone Wolf GCD	Mitchell	09/01/03
11. Lost Pines GCD	Bastrop, Lee	08/31/03
12. Lower Seymour GCD	Jones	06/17/05
13. Mid-East Tex GCD	Freestone, Leon, Madison	08/31/03
14. Middle Pecos GCD	Pecos	09/01/03
15. Middle Trinity GCD	Callahan, Eastland, Erath, Comanche, Hamilton, Bosque, Coryell, Somervell	09/01/03
16. Post Oak GCD	Colorado	09/01/03
17. Post Oak Savannah GCD	Milam, Burleson	08/31/03
18. Red Sand GCD	Hidalgo	09/01/03
19. Southeast Trinity GCD	Comal	09/01/05
20. Tri-County GCD	Hardeman, Foard, Wilbarger	09/01/03
21. Trinity-Glen Rose GCD	Bexar	09/01/04
22. Wes-Tex GCD	Nolan	09/01/03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Unconfirmed Groundwater Conservation Districts Created/Ratified by 77th Legislature, 2001

(Updated as of December 2002)

Map #	Groundwater Conservation District	Counties	Expiration Date (if not confirmed)
2	Brazoria County	Brazoria	9/01/03
6	Crossroads	Victoria	9/01/06
7	Hays Trinity	Hays	9/01/03
9	Lavaca County	Lavaca	9/01/06
12	Lower Seymour	Jones	6/17/05
16	Post Oak	Colorado	9/01/03
19	Southeast Trinity	Comal	9/01/05
20	Tri-County	Hardeman, Foard, Wilbarger	9/01/03

GROUNDWATER CONSERVATION DISTRICTS
Powers and Responsibilities

- Required (*districts must do.....*)
  - organizational/procedural requirements
  - duties
- Optional (*districts may do.....*)

Powers and Responsibilities

Organizational/procedural requirements

- Operate on a fiscal year with an annual budget, audit accounts
- Hold regular board meeting - at least quarterly, keep minutes of meetings, preserve records
- Register board members and confirm election results with the the TNRCC

Powers and Responsibilities

Required Duties

- Develop and adopt a management plan, coordinate with regional water planning groups and other districts
- Require permits for wells
  (except for exempt wells)
- Keep records on water wells
- Make information on groundwater resources available to the TNRCC, TWDB

Powers and Responsibilities

Optional

- Adopt rules to conserve, protect, recharge and prevent waste of groundwater
- Regulate the spacing and production of wells
- Enforce rules
- Acquire land, construct dams, install pumps and equipment for groundwater recharge
- Purchase, sell, transport and distribute surface and groundwater

Powers and Responsibilities

Optional (continued)

- Exercise eminent domain to acquire property necessary for the exercise of authorized duties
- Carry out research projects
- Levy taxes, set fees
  (as authorized in enabling legislation)
- Issue bonds
- Regulate the transfer of water out of district

Permitting of Wells

Wells exempt from permit requirements

- Domestic and/or livestock wells
  - on tracks larger than 10 acres
  - incapable of producing more than 25,000 gallons per day

Permitting of Wells

Wells exempt from permit requirements

- Wells providing water for mining, oil and gas exploration/operations
  - with permits from the Railroad Commission
  - unless well production is in excess of mining requirements

Permitting of Wells

Wells exempt from permit requirements

- Any other type of well exempted by the district

  - must apply to all similar wells in the district

Transfer of Groundwater out of the District

- May require permits for water transfers
- Districts are to consider:

  - groundwater availability

  - effects of proposed transfer on groundwater supply and existing permit holders

  - implications to the regional water plan and district's management plan

Transfer of Groundwater out of the District

- Transfer permits may not be more restrictive than requirements for in-district users
- A 50% export surcharge may be imposed in addition to the production fee

GROUNDWATER CONSERVATION DISTRICTS

Financing of Districts

- May be through a property tax and/or production fees
- Enabling legislation often specifies:
  - financing method
  - tax, production caps or rates

Financing of Districts

Unless specified in enabling legislation

- tax rate caped at $0.50 per $100 valuation

  (note: only 2 districts have rates above $0.10)

- Production rate caped at:

  - $1 per acre-foot/year for agricultural use

  - $10 per acre-foot/year for other uses

Financing of Districts

Fees for Administrative Services

Permit and other fees must not

"*reasonably exceed the cost of providing these services*"

GROUNDWATER CONSERVATION DISTRICTS
"Special Districts"

- Legislature can give special powers to districts to address specific water problems

GROUNDWATER CONSERVATION DISTRICTS
"Special Districts"

- Harris-Galveston Subsidence District (1975)
- Ft. Bend Subsidence District (1989)
- Edwards Aquifer Authority (1993)

Creation of Groundwater Conservation Districts

- Action of the Legislature
- Petition by Property Owners
- Initiation by the TNRCC priority groundwater management areas
- Adding territory to an Existing District

Groundwater Conservation Districts

Based on the philosophy of

- *local management of groundwater resources*
- *through groundwater conservation districts*

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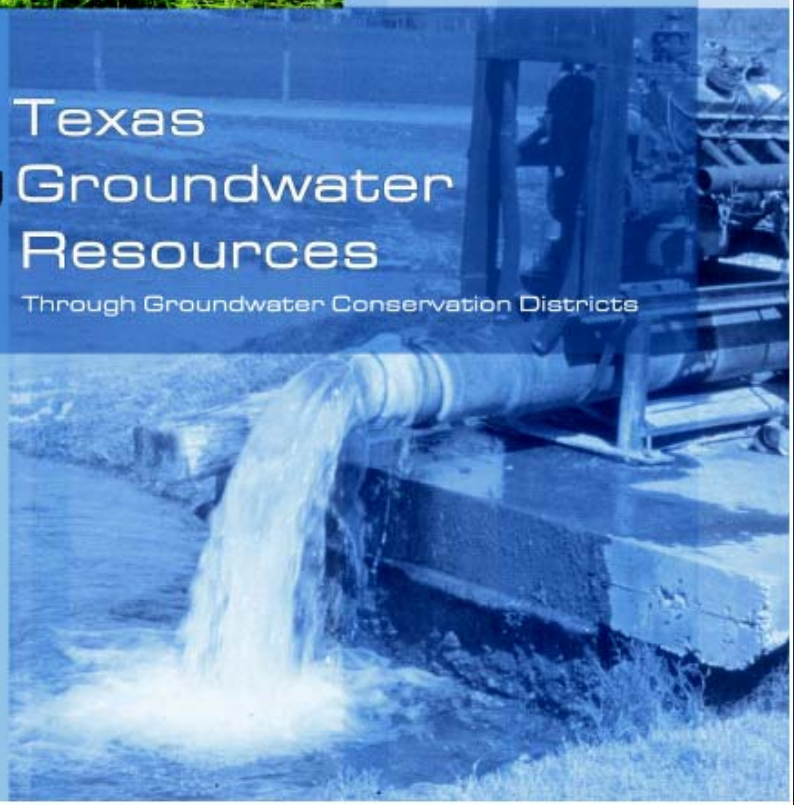
Managing Texas Groundwater Resources

Through Groundwater Conservation Districts



Texas Cooperative EXTENSION
The Texas A&M University System

Groundwater Conservation Districts

For more information:

The following publications are available from the Extension on-line bookstore: http://tcebookstore.org

- *Managing Texas' Groundwater Resources through Groundwater Conservation Districts*
  Texas Cooperative Extension Publication B-1612
  - also posted at http://gfipps.tamu.edu

- *Questions about Groundwater Conservation Districts*
  Texas Cooperative Extension Publication B-6120

Groundwater Conservation Districts

For more information:

- **Texas Water Development Board's Website**
  on state water plan, water projections, etc....
  http://www.twdb.state.tx.us/

- This presentation will be posted on my website:

  http://gfipps.tamu.edu