

A Primer on Texas Water Law



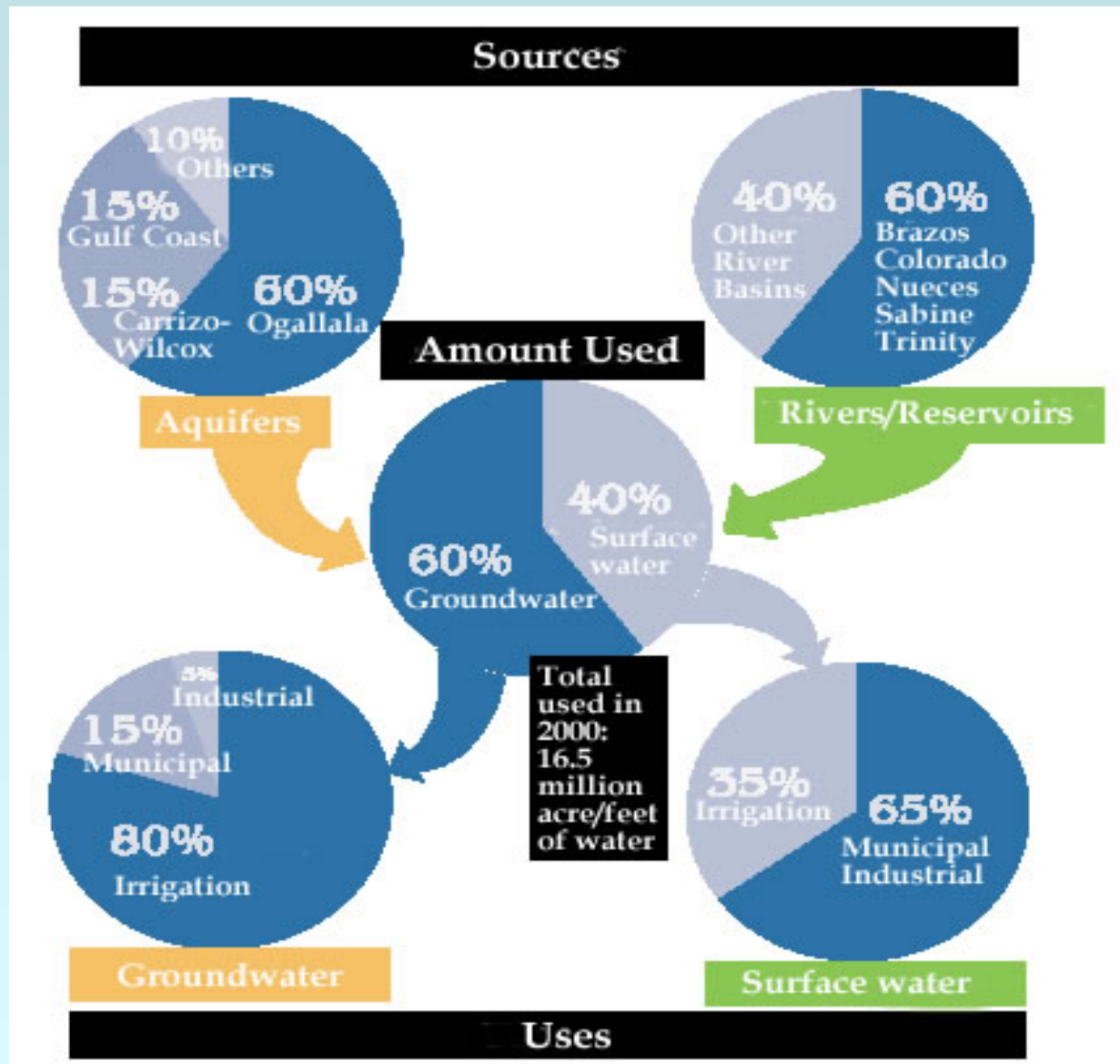
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Texas Water

- **Water Resources & Uses**
- **Specific Rules**
 - **Surface - state owned**
 - **Groundwater - private**
 - **Diffused surface water -private**



Texas Water Sources and Uses



Estimated Use by Type

- Amount Used—16.5 maf
 - Groundwater (60%) **private**
 - Surface Water (40%) **public**
- Users
 - Agriculture **60% (9.8 maf)**
 - Municipal **25% (4.0 maf)**
 - Industrial **9% (1.5 maf)**
 - Others **6% (1.1 maf)**



Surface Water Supplies

• **Factoids:**

- 191,000 river miles in Texas
- 15 major river basins & 8 coastal basins
- 11,250 named rivers, streams, creeks
- 6,700 tanks, pond and lakes
- 6,200 water rights holders
- 90% surface water rights held by 200 holders
- 7 MAF of surface water used in 2005

• **Reservoir Factoids**

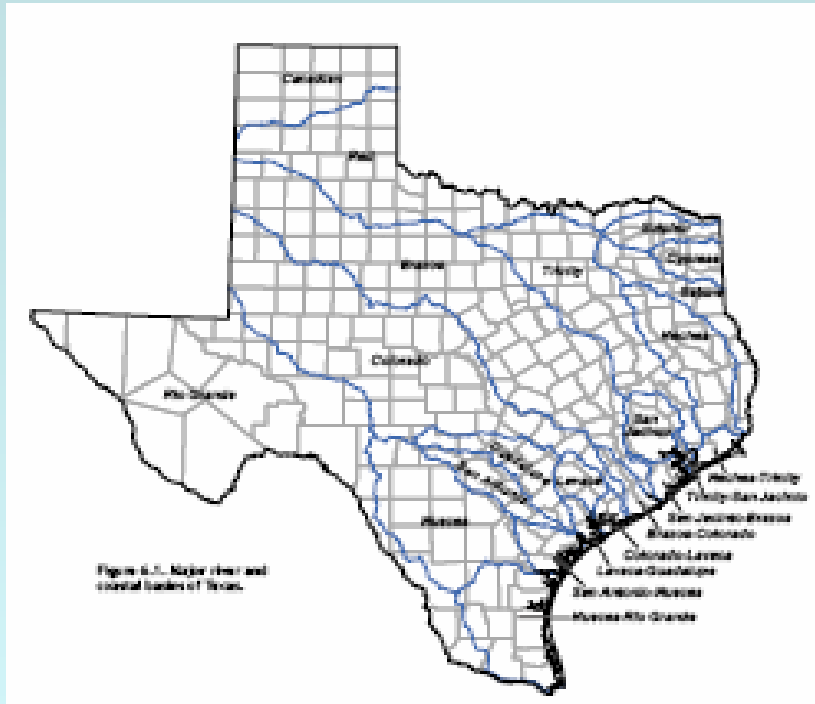
- 211 reservoirs holding more than 5,000 acre-feet
- 95% of storage is contained in just 75 reservoirs**

• **River Factoids**

- 12/15 river basins fully appropriated



Surface Water Supplies



50% of Firm Yield of all these Reservoirs is held in Sabine, Neches, Trinity rivers which are East of I-45

Major Reservoirs by River Basin

Brazos: 43

Canadian: 3

Colorado: 31

Cypress: 10

Guadalupe: 4

Lavaca: 1

Neches: 10

Nueces: 3

Red: 23

Rio Grande: 8

Sabine: 11

San Antonio: 3

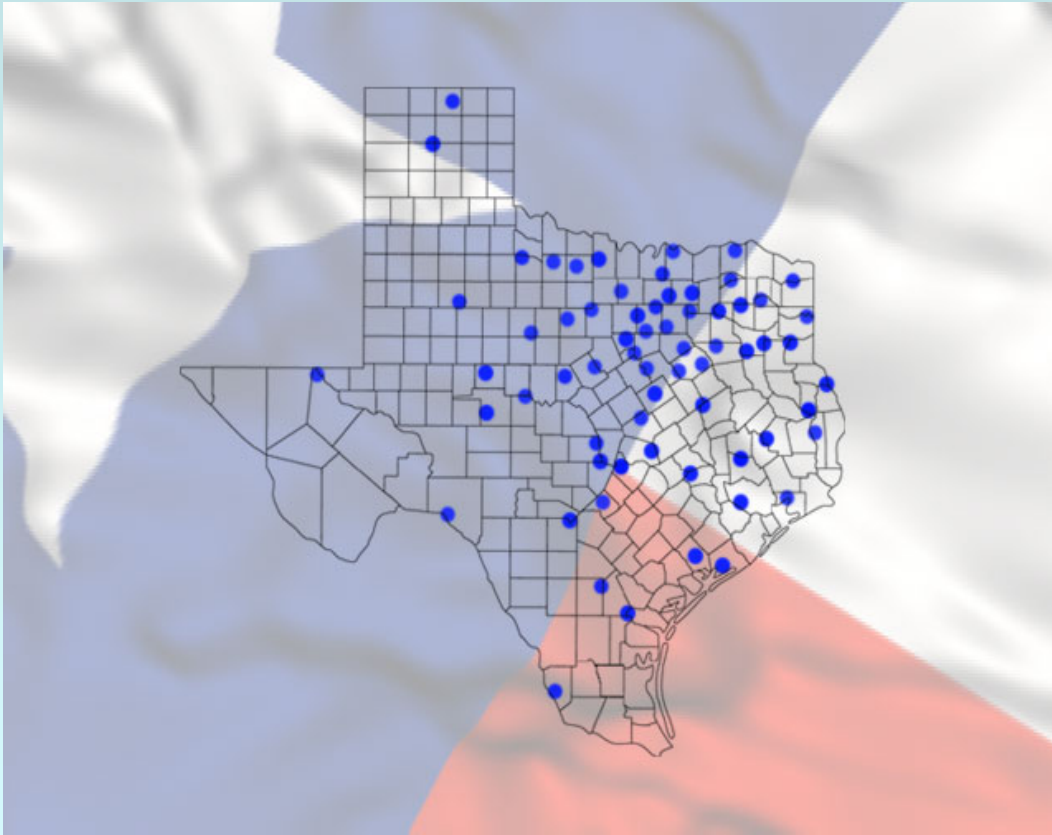
San Jacinto: 5

Sulphur: 4

Trinity: 31



75 Major Texas Reservoirs



**95% of all
Texas surface
water storage
held in these
75 Reservoirs**



Surface Water—Prior Appropriation is Law

****TCEQ Administered****

- **Water found in watercourses**
 - **Ordinary flow**
 - **Underflow**
 - **Tides of every flowing natural watercourse**
- **Storm water and flood water**
- **Spring flows forming headwaters**



Prior Approp Criteria

- **Unappropriated water is available at source**
- **Water will be beneficially used**
- **Existing water rights will not be impaired**
- **Use not detrimental to public welfare**
- **Avoid waste and achieve conservation**
- **Impact on bays, instream flows, fish, water quality**
- **First in time first in right**
- **Measured Amount**
- **Conservation Plans**



Acquiring Surface Water

- **New State Appropriation--12/15**
 - **6,500 permits**
 - **90% by 200 permit holders**
- **Purchase permit from WR holder**
 - **Intrabasin Transfers—many**
 - **Interbasin Transfers—about 100**
- **Lease water**



Water Rights Holders—Trinity River

Name of Water Right Owner		Amount (ac-Ft/Yr)	Res Cap (ac Ft)
CITY OF DALLAS		1,347,542	1,746,232
CITY OF HOUSTON		985,800	1,806,300
TARRANT REGIONAL WATER DIST		566,697	2,502,887
TRINITY RIVER AUTHORITY		470,767	295,100
CITY OF DENTON		295,723	276,561
CHAMBERS-LIBERTY COS ND		142,947	35,300
NORTH TEXAS MWD		104,000	380,000
TEXAS UTILITIES ELECTRIC CO		101,475	118,815
CITY OF WEATHERFORD		65,150	20,000
SAN JACINTO RIVER AUTHORITY		56,000	
530 Total Holders in Basin	Top 10 Total:	4,136,101	7,181,195
	Basin Total:	4,531,882	7,575,837
	% Ownership of Top 10:	91.27%	94.79%



Stock Tank Exception

- **Impound up to 200 Acre-Feet W/O Permit**
 - **Domestic, livestock, wildlife and fishing**
 - **Fish & Wildlife: qualified open space**
- **Not to commercial operations.**
- **Must apply for permit to use for non-exempt purposes**



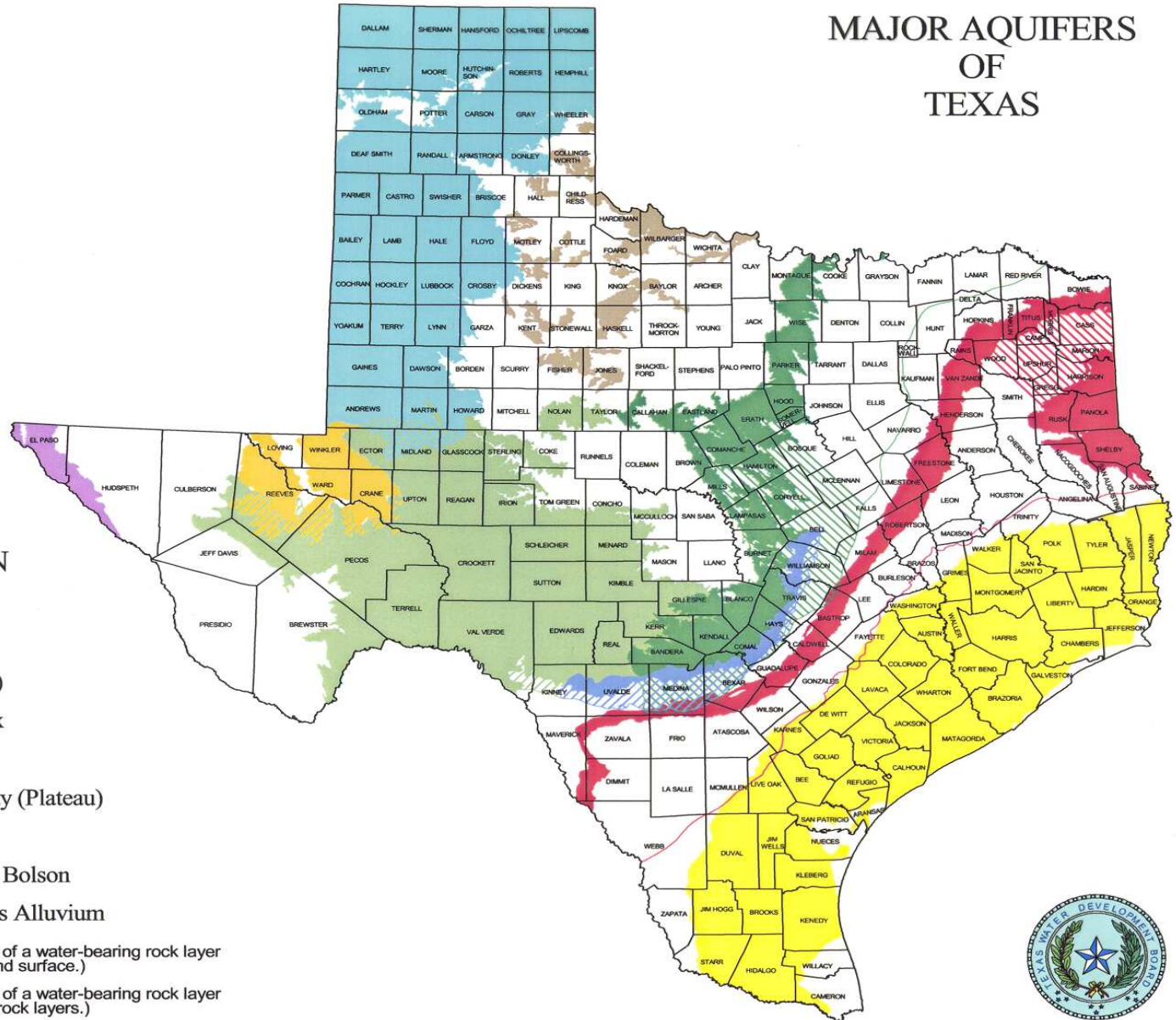
Groundwater Supplies

- **Factoids:**

- **Nearly 60% of statewide use from groundwater**
- **9 major aquifers supply 97 % of groundwater**
- **Ogallala supplies 66% of all groundwater used in Texas and 38% of all water used.**
- **80% of Texas overlies an aquifer**
- **Groundwater supplies more than 55% of water in 134 of 254 Texas Counties**
- **Agriculture uses 80% of all groundwater (statewide)**
- **Groundwater mining= extraction exceeds recharge**
- **Capture rule applies in areas with a GCD.**
- **GCD's can adopted different allocational rules: capture, reasonable use, correlative rights, historic use**
- **Groundwater transfers to cities increasing**



MAJOR AQUIFERS OF TEXAS



EXPLANATION

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

OUTCROP (That part of a water-bearing rock layer which appears at the land surface.)

* DOWNDIP (That part of a water-bearing rock layer which dips below other rock layers.)



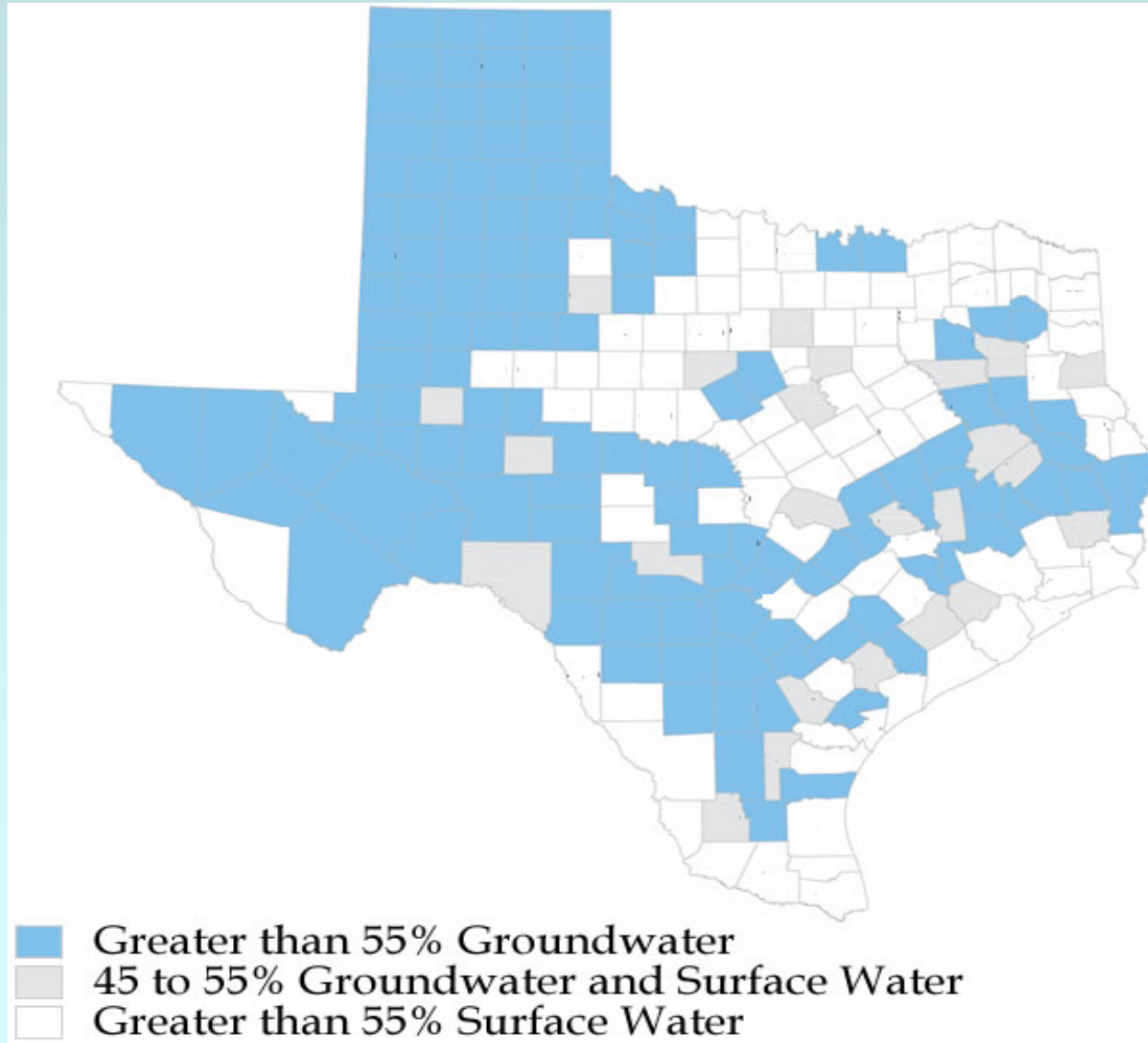
WATER USE BY AQUIFER*

AQUIFER	Estimated <u>Pumping</u>	Estimated <u>Recharge</u>
Ogallala	6,200,000 AF	1,300,000 AF
Edwards	730,000 AF	1,200,000 AF
Carrizo	500,000 AF	645,000 AF
Trinity	200,000 AF	100,000 AF
Gulf Coast	1,150,000 AF	1,230,000 AF
Bolson's	400,000 AF	430,000 AF
All Others	220,000 AF	200,000 AF
TOTAL	9,400,000 AF	4,100,000 AF

* Data from 1996



Groundwater Use by County



Texas Groundwater Law

- **Rule of Capture: 1904 East & 1999 Sipriano**
 - Texas landowners can pump unlimited quantities of water from beneath their land, without liability for harm to surrounding landowner wells. (Exceptions apply).
- **Landowner Rights**
 - Access right
 - Drilling right
 - Ownership right to captured water
 - Use right: on or off property
 - Sales right
 - Export right



Texas Groundwater Law

Judicial Exceptions

Malice & Waste

Land subsidence from negligent pumping

No slant wells

Legislative Exceptions

Underflow of a river

Groundwater Conservation Districts



Groundwater Conservation Districts—88?

& Mandated Duties

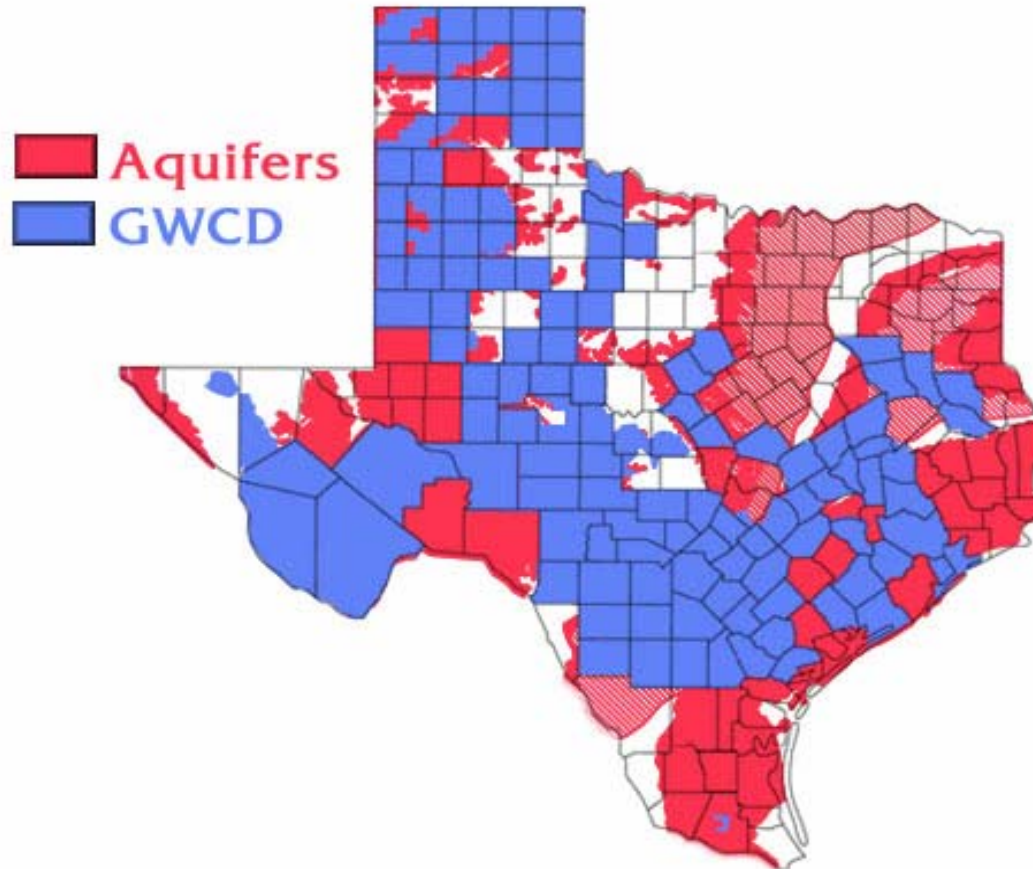
- Plan – Adopt a Management Plan
- Keep Records of Wells & Water Use
- Register certain wells (25,000gpd exempt)
- Adopt Governance Rules

& Optional Duties

- Can Exempt all Wells from Registration
- Well Spacing
- Pumping Limits
- Buy and sell water
- Require permits for transfers



Groundwater Districts Coverage of Major Aquifers



Advantages of Groundwater Conservation Districts

Local control & regulation

Can modify capture rule

Can opt for minimum regulations

Regulations vary from GCD to GCD

Local influence on decisions

Encourages citizens to work together

Minimal state agency regulation

Legislative preference

Widespread coverage in state: 88 GCD's



Disadvantages: Groundwater Conservation Districts

Management and reg. uniformity variable

Many districts over same aquifer: unified management difficult

Limited political will to make hard choices— don't regulate me, do it to others.

Can divide communities and groups

Limited funding hindering enforcement

Locals pay litigation expenses

Cannot prevent water exportation



Diffused Surface Water

- Water not in any defined watercourse
 - Rain runoff
 - Snow runoff
- Property of the landowner until the water enters a watercourse.
- **Liability Rules: flooding vs. deprivation**
 - 3 Rules: common enemy, reasonable flow, natural flow



Diffused Surface Water

- **Overflow & Flooding—Natural Flow §11.086**
 - **Upper landowner has right to send natural flow on neighbors land.**
 - **Lower landowner has no right to obstruct natural flow of water from upper landowner.**
 - **Lower landowner not obligated to accept artificial flow and may construct barriers.**
 - **Landowner may concentrate and discharge water into natural watercourse but not beyond natural capacity of watercourse.**



Concluding Observations

- **Law and science are unconnected—law usually follows the science by 10-20 years.**
 - **Surface & groundwater are interconnected**
 - **Texas law slow to recognize**
- **Surface water long accepted as public resource with uniform rules.**
- **Groundwater a private property resource with different rules—capture, reasonable use, correlative rights, pumping limits?**
- **Evolving role for GCD's especially in urbanizing areas?**
- **More GCD litigation over rules**

