

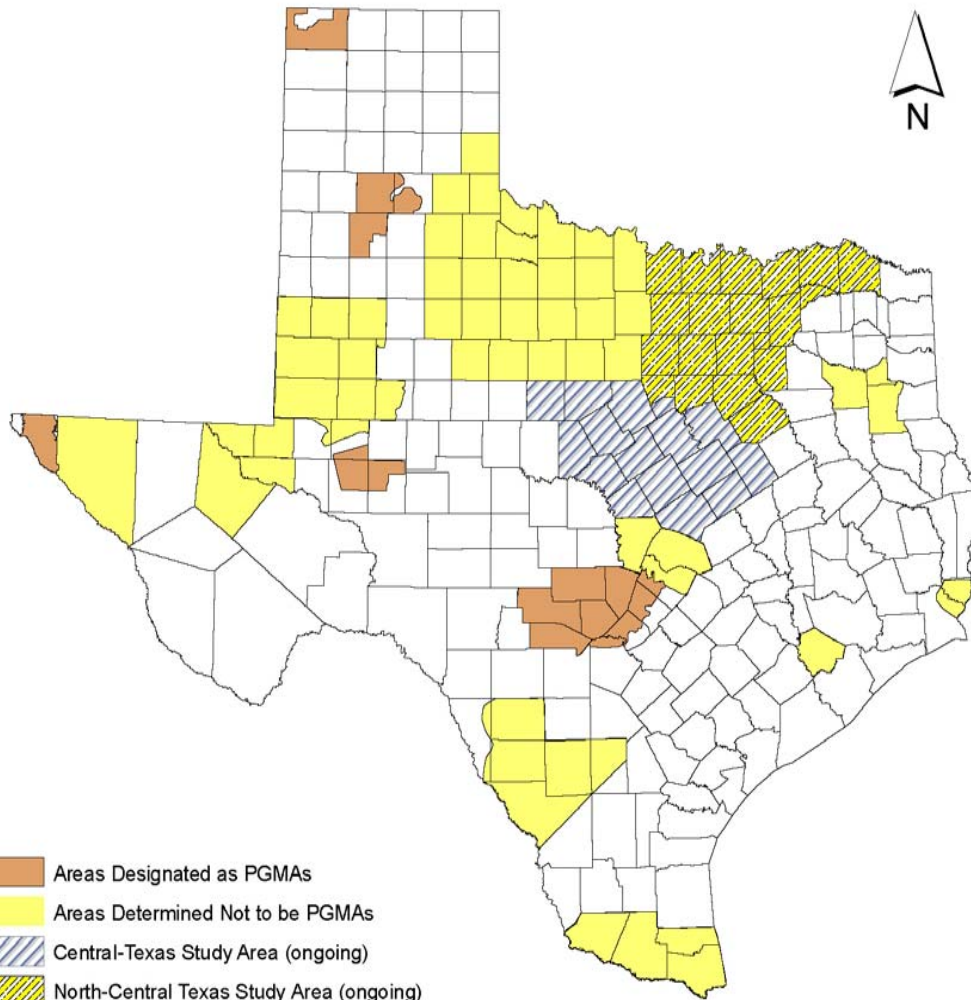
North-Central and Central Texas Update PGMA Studies for the Trinity Aquifer

Water Supply Division

Steve Musick, Kelly Mills, Leon Byrd



Priority Groundwater Management Areas (PGMA)



- Areas Designated as PGMA
- Areas Determined Not to be PGMA
- Central-Texas Study Area (ongoing)
- North-Central Texas Study Area (ongoing)

Texas Commission on Environmental Quality



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Map Printed April, 2006

0 85 170 Miles

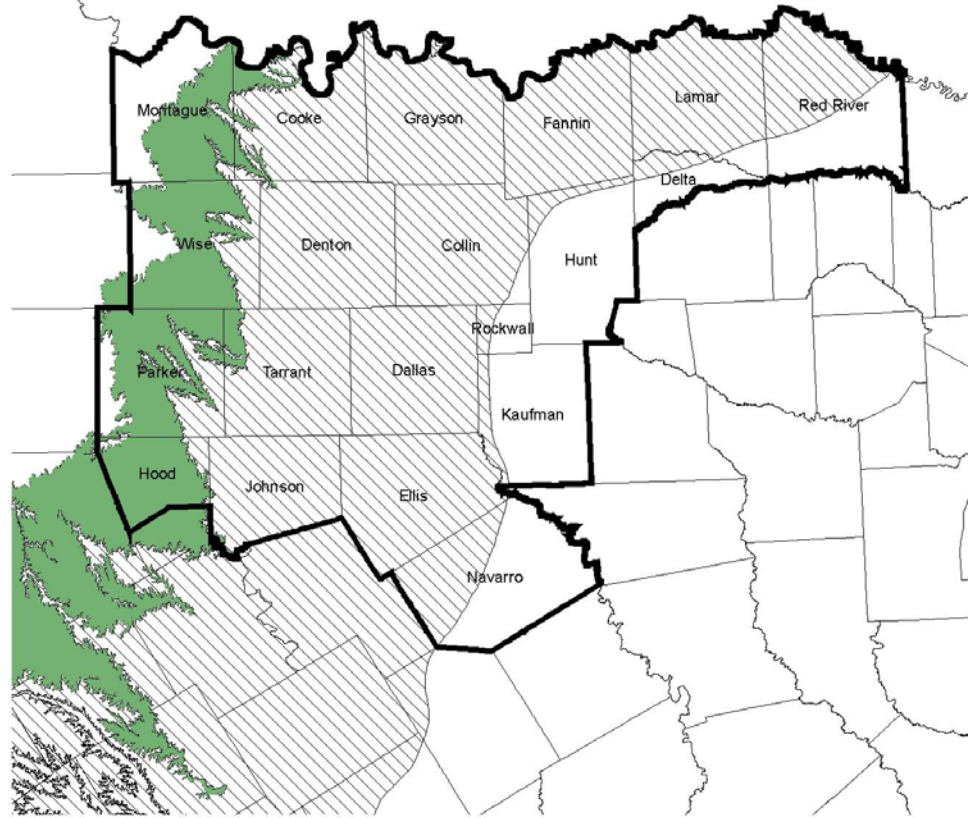


North-Central Texas Area Study and Area Overview

- Update of study and report done in 1990
- 20-county study area for northern Trinity and Woodbine aquifers
- Notice to ~1,200 stakeholders in July 2005; fewer than 30 responses
- Population projected to increase from ~5.5 million in 2000 to ~9.5 million by 2030
- Total water use projected to increase from ~1.36 million ac.ft/yr to ~1.85 million ac.ft/yr
- Supply: 62% in-area reservoirs; 26% out-of-area reservoirs; 5% groundwater; 5% reuse; 2% local irrigation & privately owned surface water






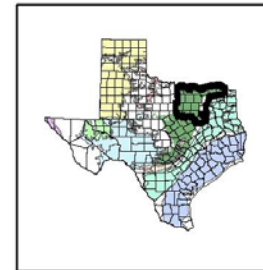
North-Central Texas Trinity Aquifer



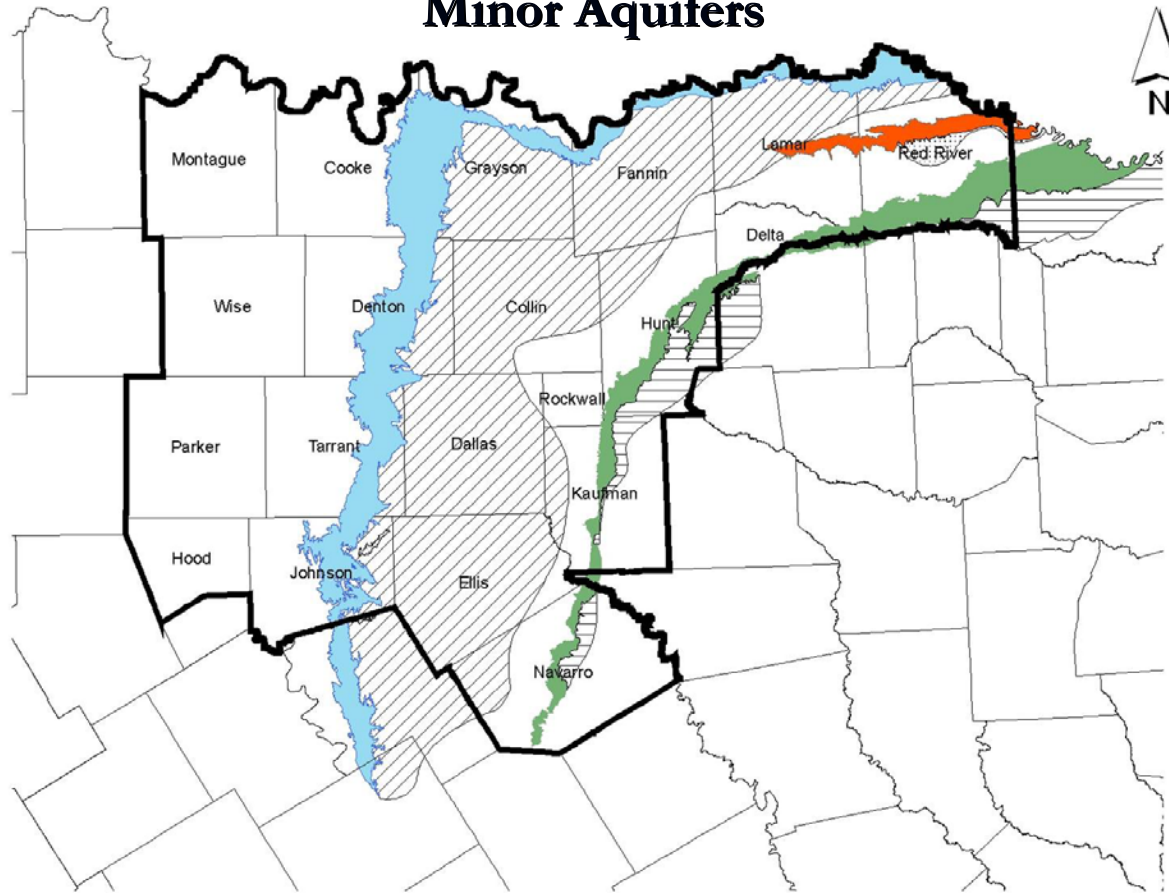
0 15 30 Miles








PGMA Study Area/ Major Aquifers

-  PGMA Study Area
-  Trinity Outcrop
-  Trinity Downdip




North-Central Texas Area Minor Aquifers

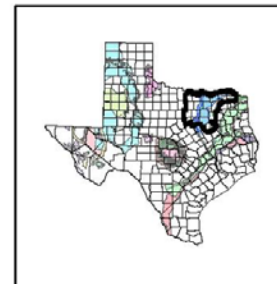


-  PGMA Study Area
-  Woodbine Outcrop
-  Woodbine Downdip
-  Blossom Outcrop
-  Blossom Downdip
-  Nacatoch Outcrop
-  Nacatoch Downdip

0 15 30 Miles



PGMA Study Area/ Minor Aquifers



Select Conclusions

- Primary natural resource concerns are the inundation of valued habitat by new reservoirs
- Water level declines/reduction of artesian pressure caused by continued removal of water from aquifer storage is a regional groundwater problem
- Increased reliance on Trinity and Woodbine aquifers adopted by over 60 water user groups; decreased reliance on aquifers by 33 water user groups – cumulative effect is increase reliance and higher groundwater pumpage through 2030
- Water demands for natural gas exploration should be considered additional/new demands
- Continued use of groundwater is critical for rural water suppliers, individual businesses, industries, homeowners, and small municipalities

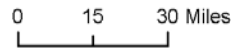
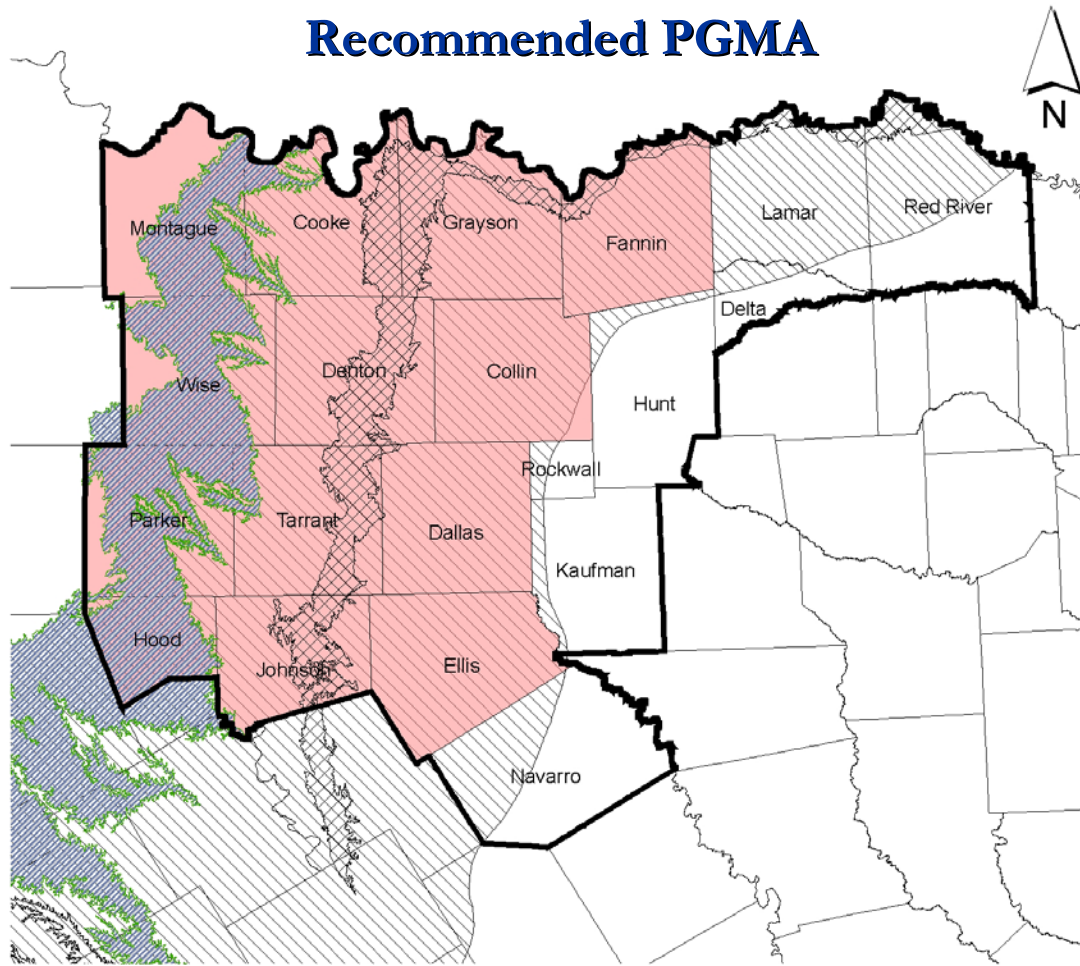


Draft Recommendations

- 13 of 20 counties should be designated as a priority groundwater management area
- GCD programs would benefit groundwater users
- A regional GCD to include the 13 counties
 - Includes greatest areal extent of the aquifers
 - Allows adequate funding through well production fees
 - Most cost-effective by allowing for single groundwater management program
 - Simplifies regional groundwater management planning responsibilities
- Local governments consider using Local Gov. Code authority to help address rapidly developing areas

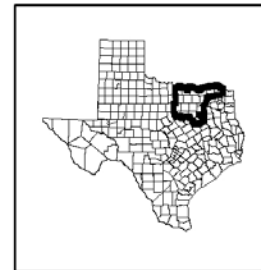


Recommended PGMA



- PGMA Study Area
- County Boundary
- Recommended PGMA
- Trinity Aquifer - Outcrop
- Woodbine Aquifer - Outcrop
- Trinity and Woodbine Aquifers - Downdip

PGMA Study Area



Next Steps

- December 14, 2006 – notice of draft report sent to ~1,350 stakeholders
 - April 30, 2007 – end of comment period on draft report
 - Notice will go out again when report finalized

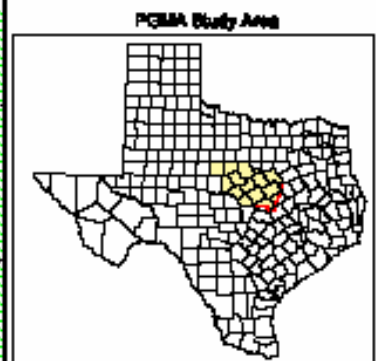
- Will be referred to State Office of Administrative Hearing (SOAH)
 - SOAH will name parties and conduct contested case hearing in area
 - SOAH administrative law judge will send recommendations to the three-member TCEQ for decision
 - SOAH not subject to any set timeframe

- TCEQ order – public agenda hearing in Austin
 - To designate all, part, or none of area and recommend GCD creation
 - Sent to each commissioners court and others
 - Educational steering committees appointed by commissioners courts
 - Educational program by Texas Cooperative Extension

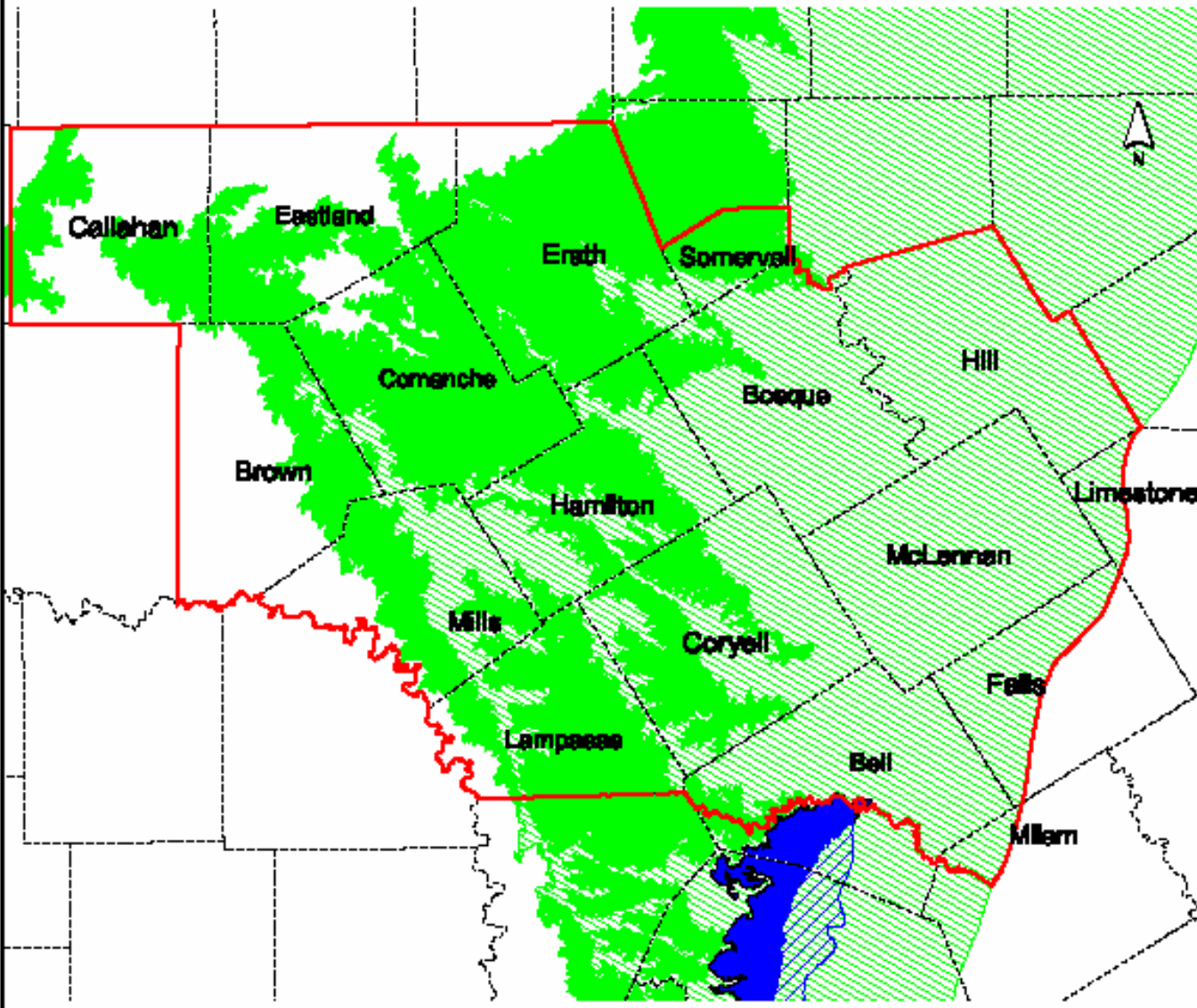
- Date of order starts two-year, local-action GCD creation clock



Major Aquifers in the Central Texas PGMA Study Area



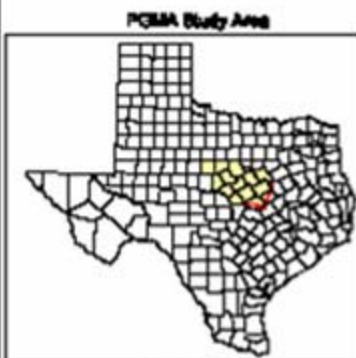
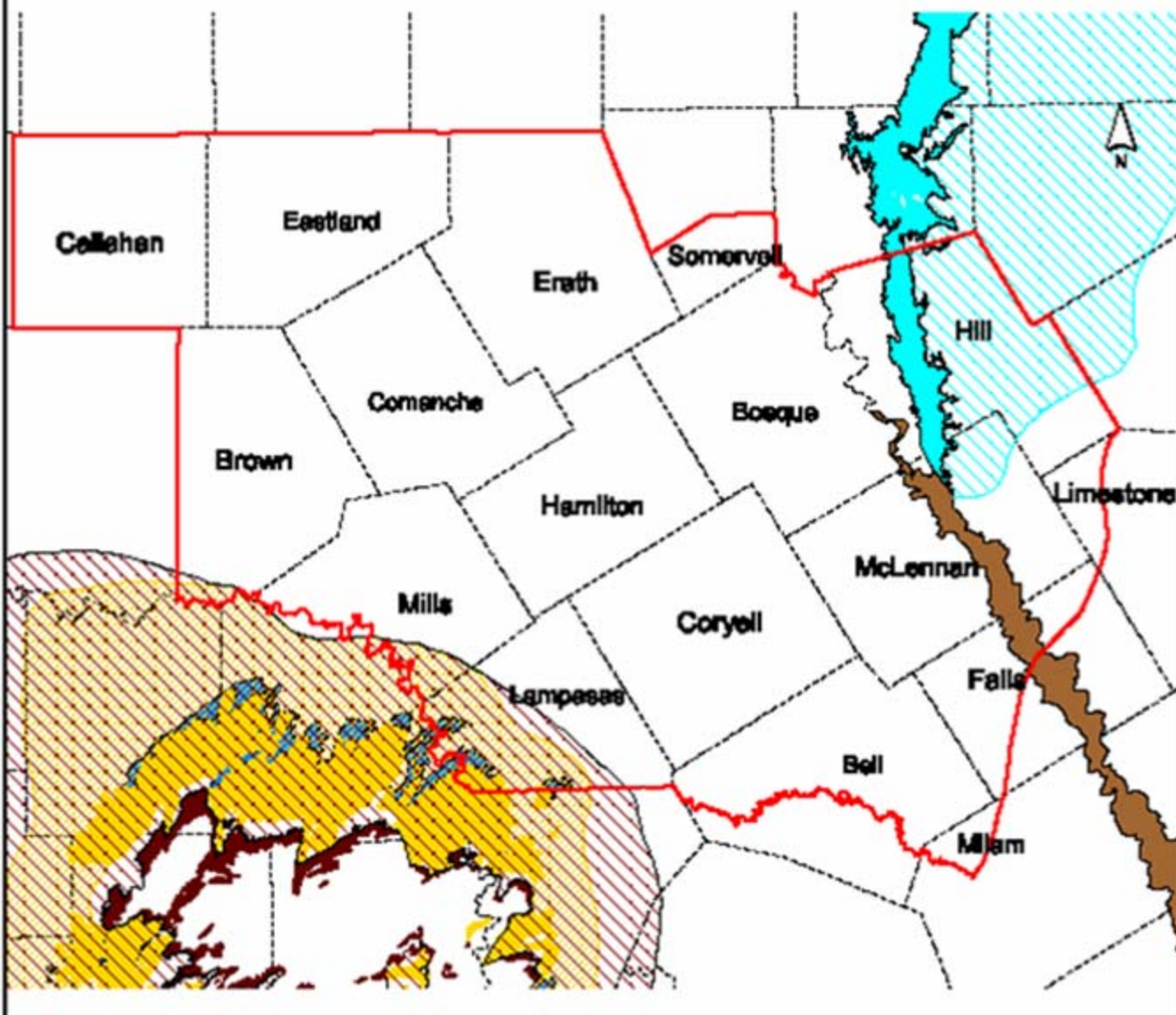
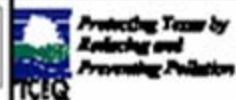
May 18, 2007



- PGMA Study Area
- Edwards BFZ (subrop)
- Edwards BFZ (downlp)
- Trinity (subrop)
- Trinity (downlp)
- County Boundary



Minor Aquifers in the Central Texas PGMA Study Area



May 18, 2005

- PGMA Study Area
 - Brazos River Alluvium
 - Woodbine
 - Marble Falls
 - Ellensburger - San Saba
 - Hockley
 - County Boundary
- 0 10 20 Miles

Central Texas Area Study and Area Overview

- Also – Update of study and report done in 1990
- 16-county study area primarily for Trinity aquifer
- Four groundwater conservation districts exist within the study area
 - Clearwater UWCD (Bell County)
 - Fox Crossing WD (Mills County)
 - Middle Trinity GCD (Comanche and Erath counties)
 - Saratoga UWCD (Lampasas County)
- Notice mailed to ~532 stakeholders in October, 2004; five responses
- Population projected to increase from ~ 771,000 in 2000 to ~ 1.02 million by 2030
- Total water use projected to increase from ~ 337,000 acft/yr to ~ 417,000 acft/yr
- Supply: 85% surface water; 15% groundwater



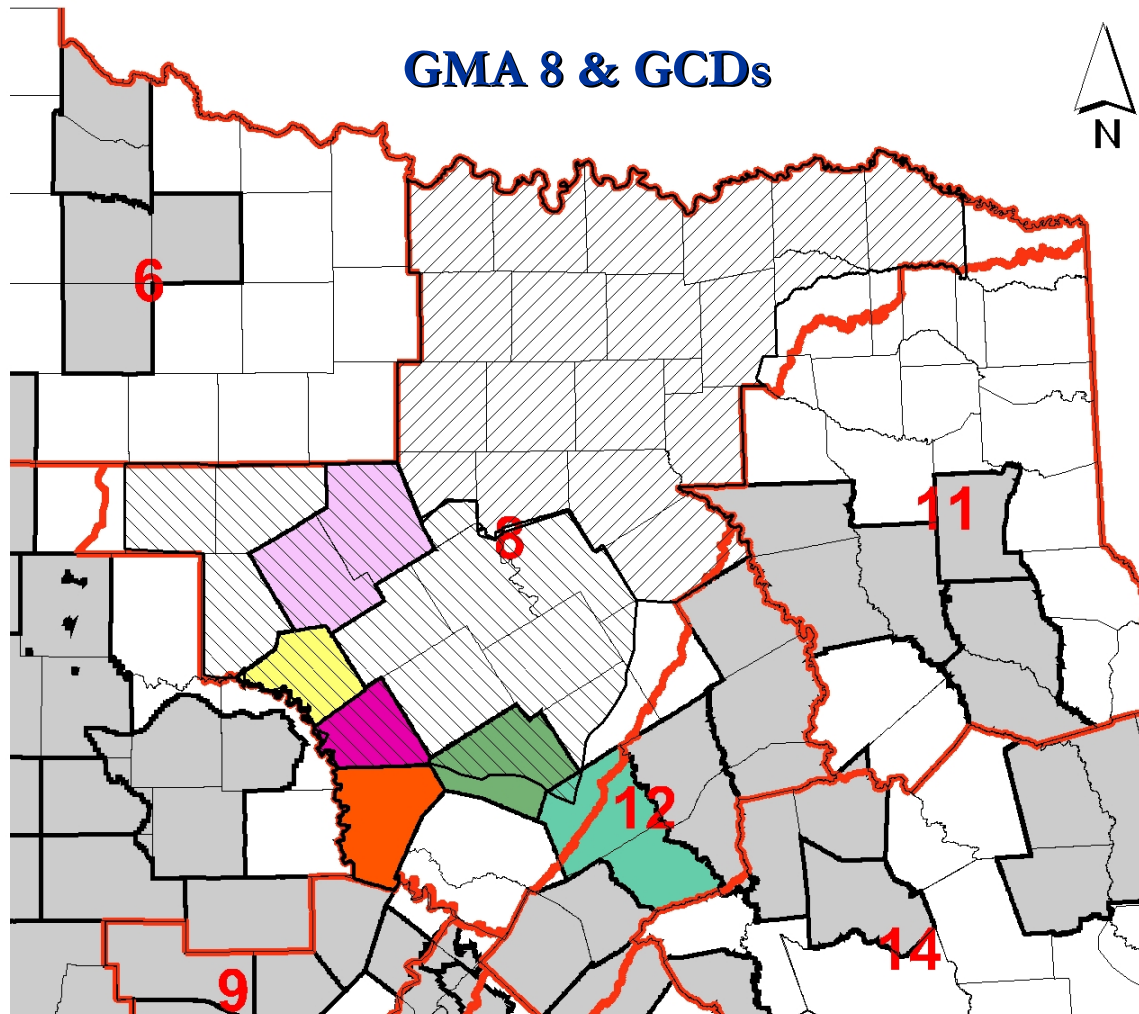
Select Conclusions

- Primary natural resource concern is the decline of water level and its affect on various habitats
- Water level declines/reduction of artesian pressure caused by continued removal of water from aquifer storage is a regional groundwater problem
- Strategies to increase reliance on Trinity aquifer adopted for six water user groups
- Water demands for natural gas exploration should be considered additional/new demands
- Continued use of groundwater is critical for rural water suppliers, individual businesses, industries, and homeowners, and, small municipalities

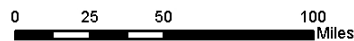
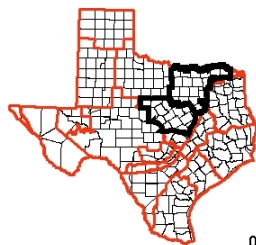
The report and recommendations will be completed this year













GMA 8 & GCDs



PGMA Study Area/ Groundwater Management Areas



-  Central Texas PGMA Study Area
-  North-Central PGMA Study Area
-  Groundwater Management Area Boundaries
-  Central Texas GCD
-  Clearwater UWCD
-  Fox Crossing Water District
-  Middle Trinity GCD
-  Post Oak Savannah GCD
-  Saratoga UWCD
-  GCDs outside of GMA # 8



Thank You



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