

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

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# What is a PGMA?

## (Priority Groundwater Management Area)

An area of the state:

- designated and delineated by the TCEQ
- experiencing, or expected to experience within the next 25 years
- critical groundwater problems



# Critical Groundwater Problems?

- a shortage of surface water or groundwater
- land subsidence resulting from withdrawal of groundwater
- contamination of groundwater supplies

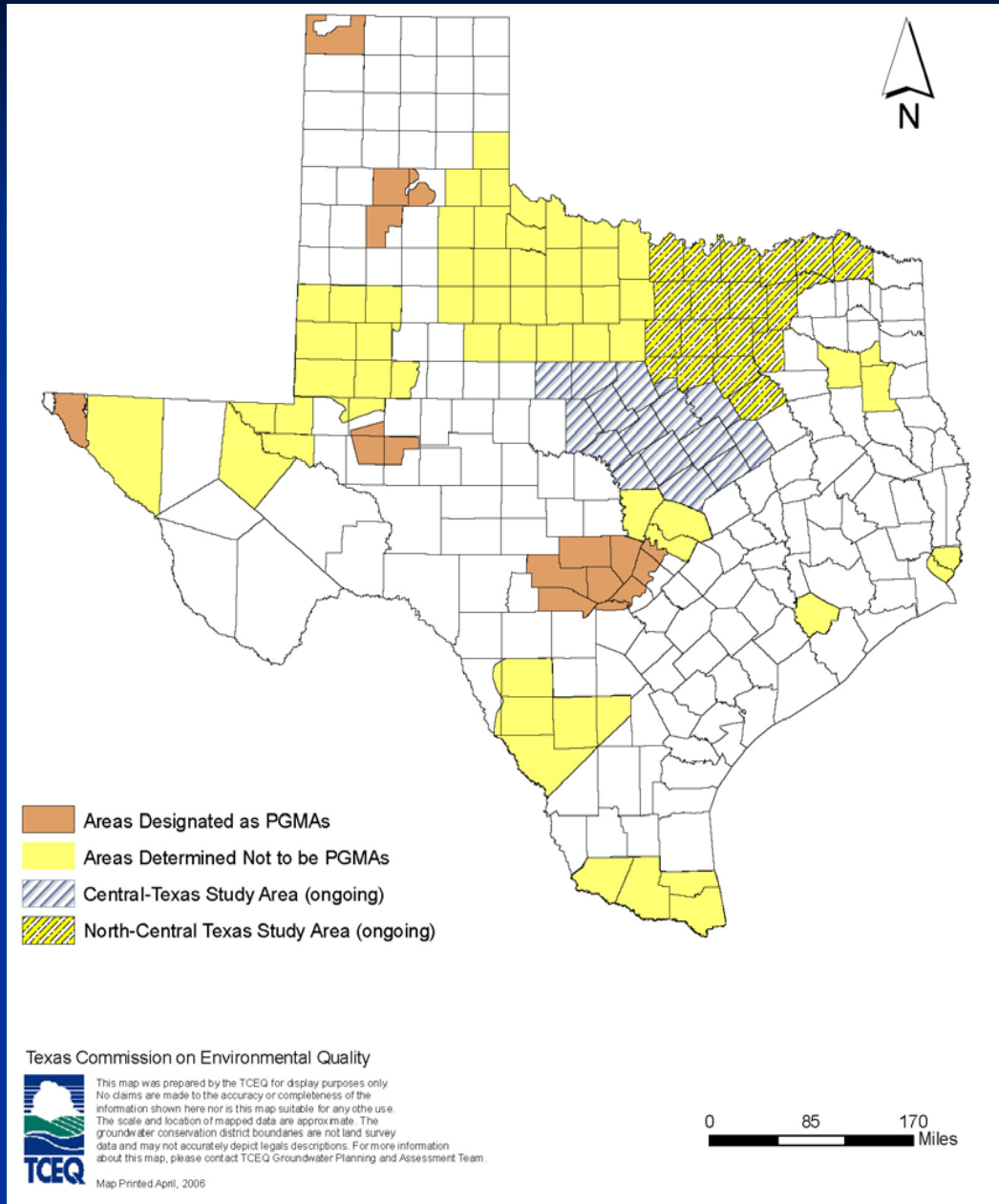


# PGMA Process

- Stakeholder notice
- TWDB and Texas Parks & Wildlife Dept. studies
- TCEQ report & recommendations
- Evidentiary hearing > Proposal for decision >TCEQ order
- Public Education
- GCD creation



# Priority Groundwater Management Area (PGMA)



# 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

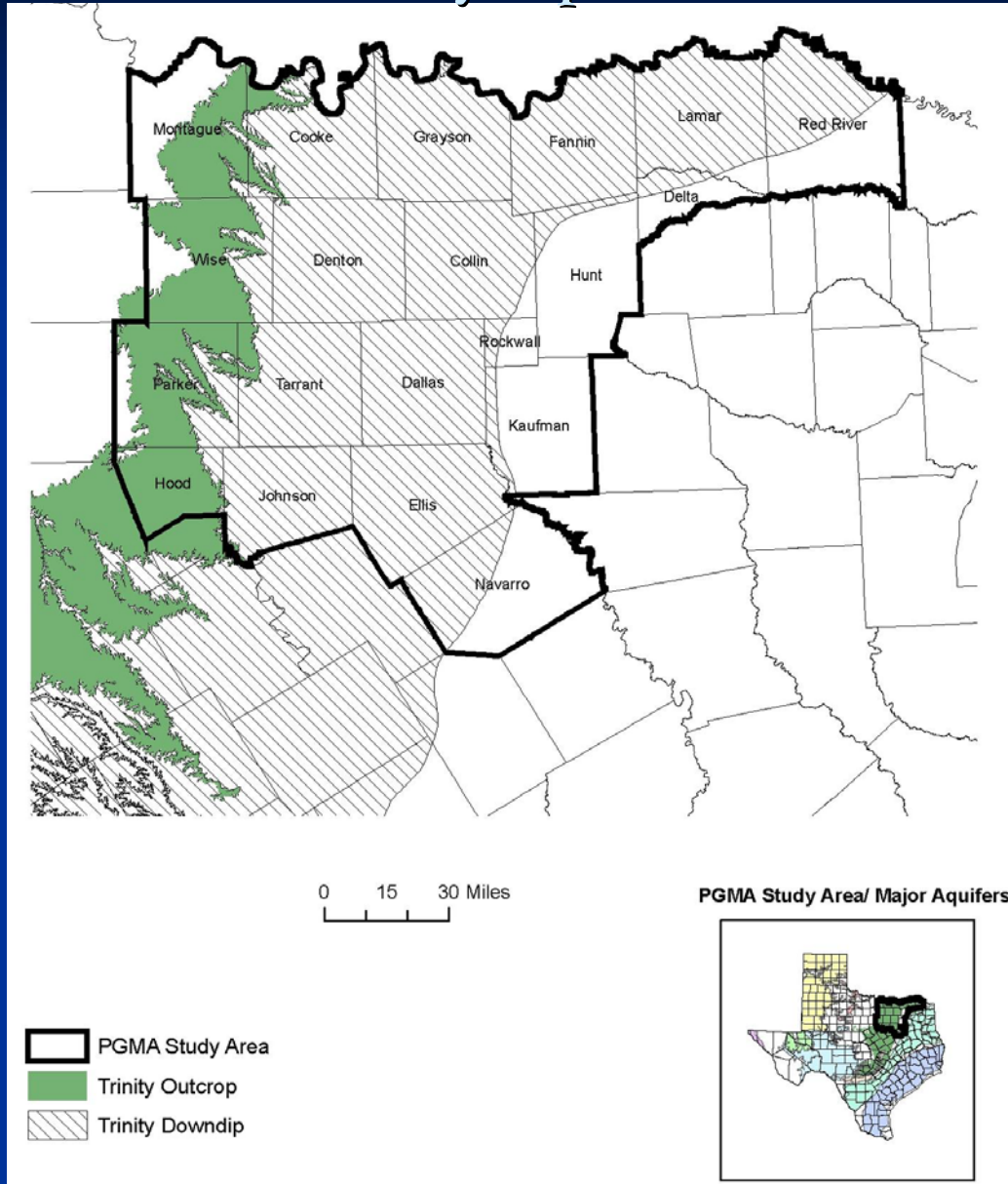


# North-Central Texas Area Study and Area Overview

- 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 acft/yr to ~1.85 million acft/yr
- Supply: 62% in-area reservoirs; 26% out-of-area reservoirs; 5% groundwater; 5% reuse; 2% local irrigation & privately owned surface water

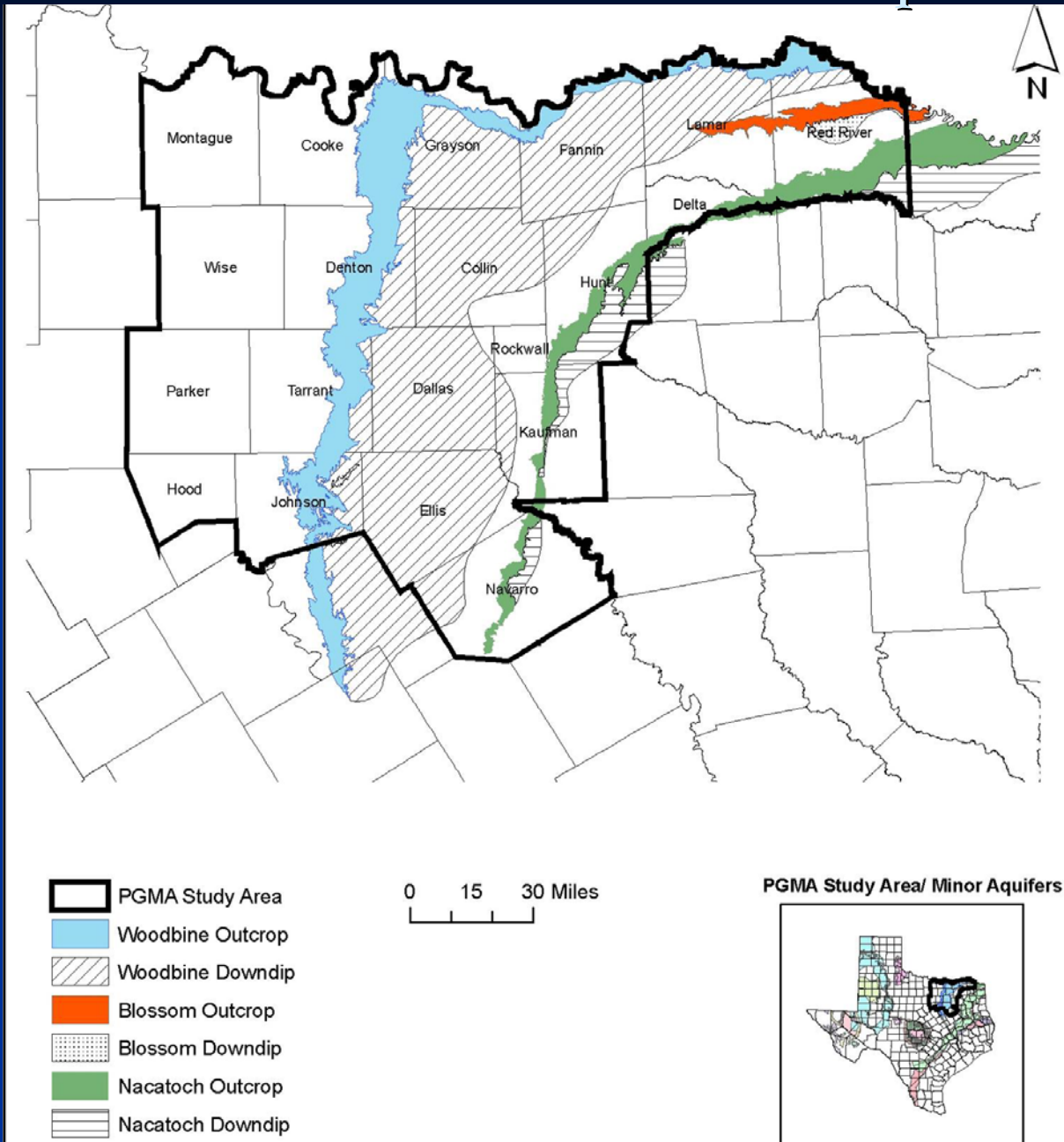


# North-Central Texas Trinity Aquifer





# North-Central Texas 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



# Select Conclusions

- 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



# Recommendations

- 13 of 20 counties should be designated as a priority groundwater management area
- GCD programs would benefit groundwater users

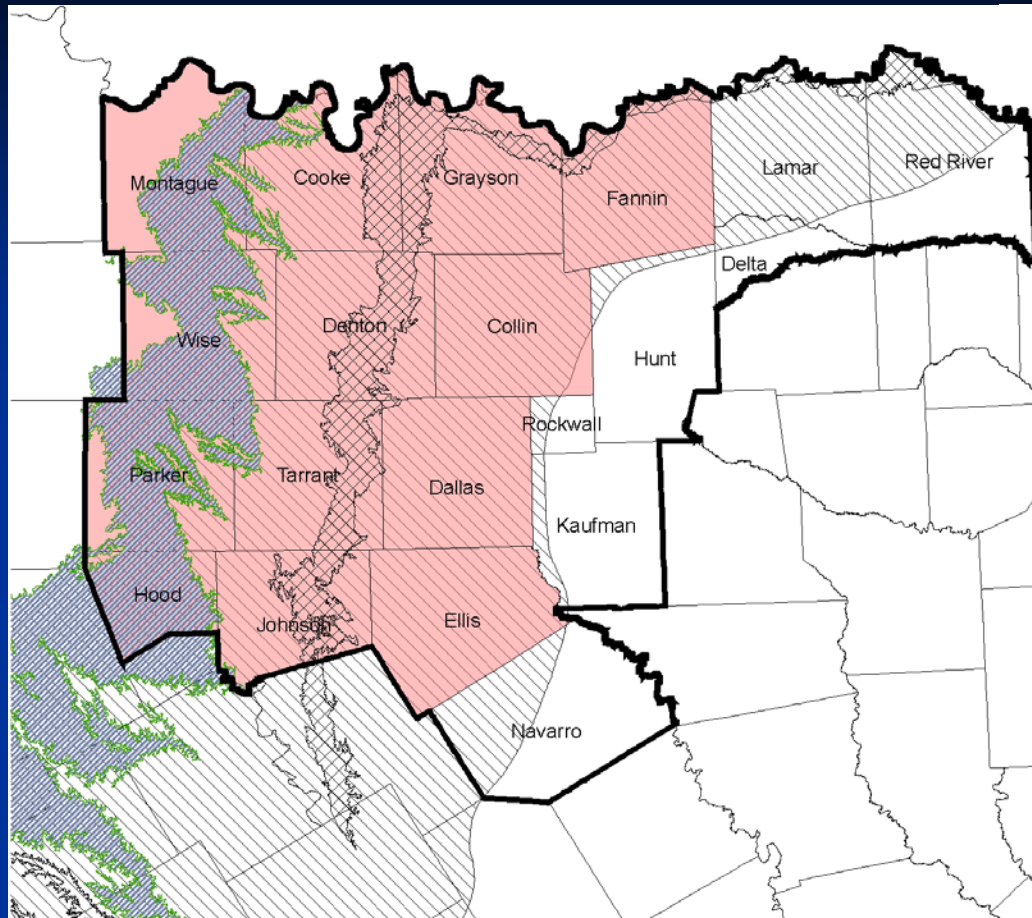


# Recommendations

- 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

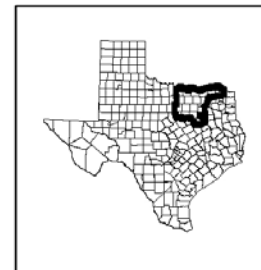


# Recommended PGMA



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

PGMA Study Area



# Status

- December 14, 2006 – notice of draft report sent to ~1,350 stakeholders
  - April 30, 2007 –comment period on draft report ended
  - July 17, 2007 – notice of report completion
  - July 20, 2007 – notice of report availability
- August 17, 2007 – Request for hearing – State Office of Administrative Hearings (SOAH) to Chief Clerk
- October 23, 2007 – SOAH preliminary hearing
  - SOAH will name parties and conduct contested case hearing in Fort Worth, Texas
  - SOAH administrative law judge will send recommendations to the three-member TCEQ for decision
  - SOAH not subject to any set timeframe



# Next Steps

- 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



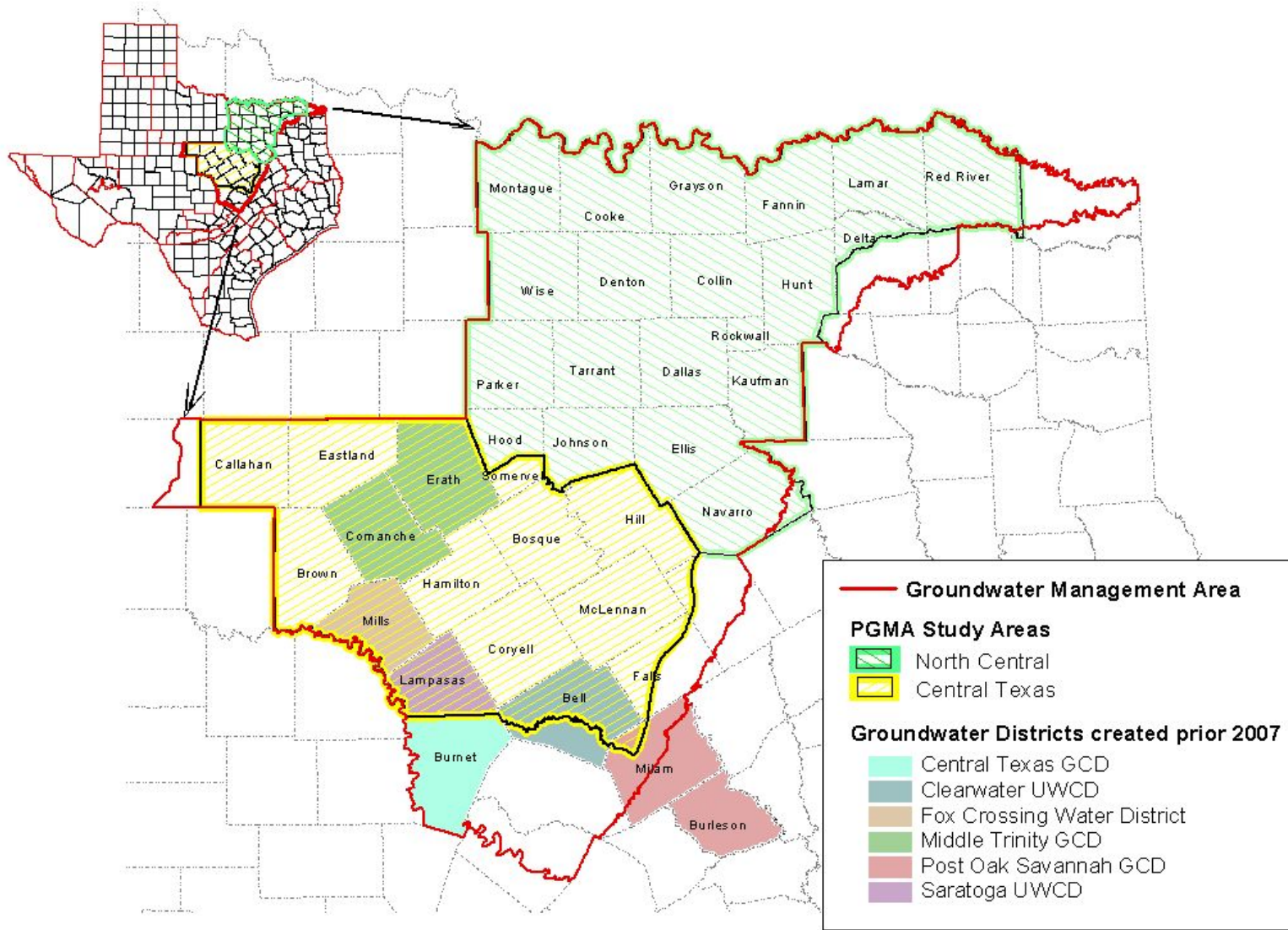


# Central Texas Area Study and Area Overview

- 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 & Erath counties)
  - Saratoga UWCD (Lampasas County)



# GMA 8 & GCDs

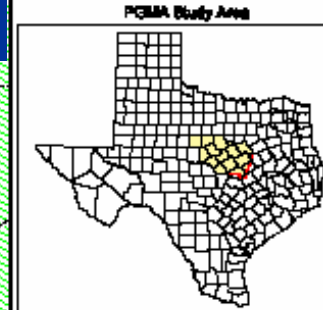
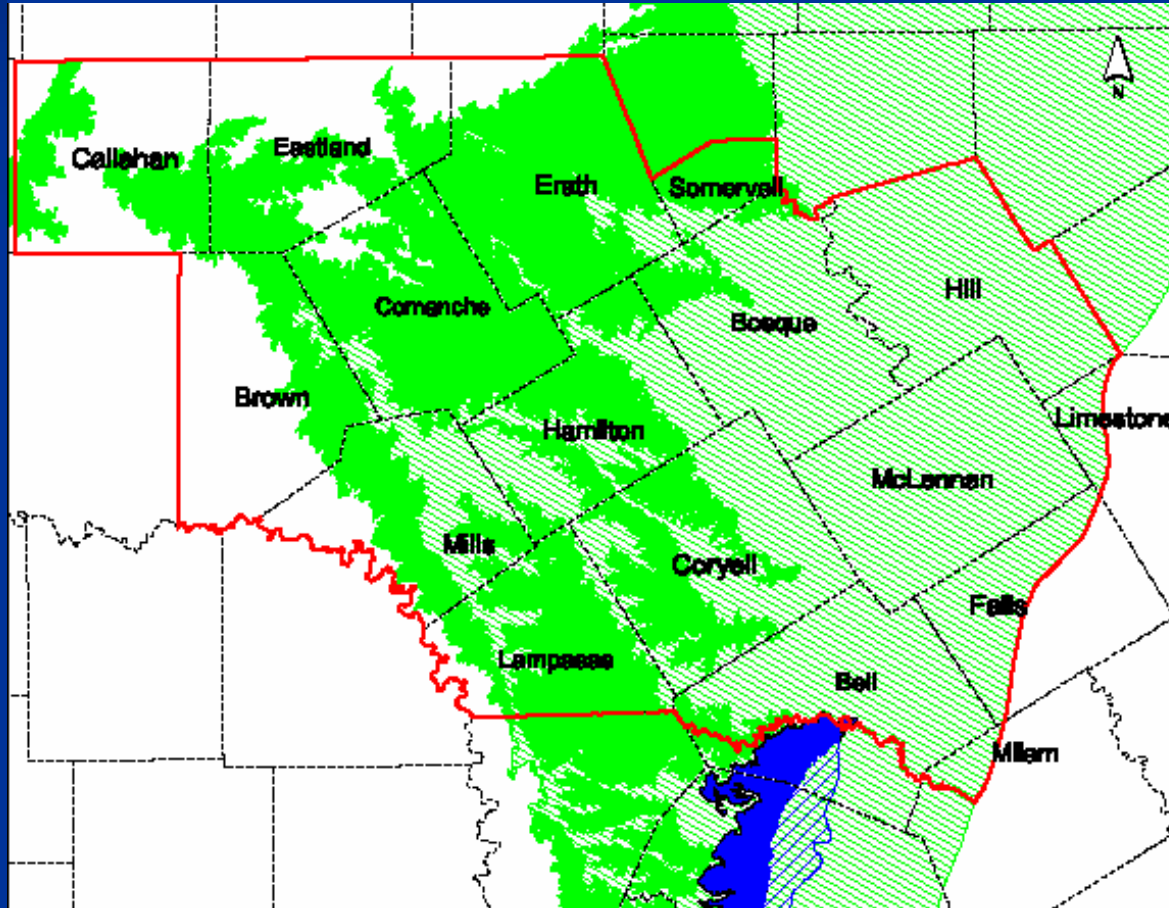


# Central Texas Area Study and Area Overview

- Notice mailed to ~530 stakeholders in October, 2004
- 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



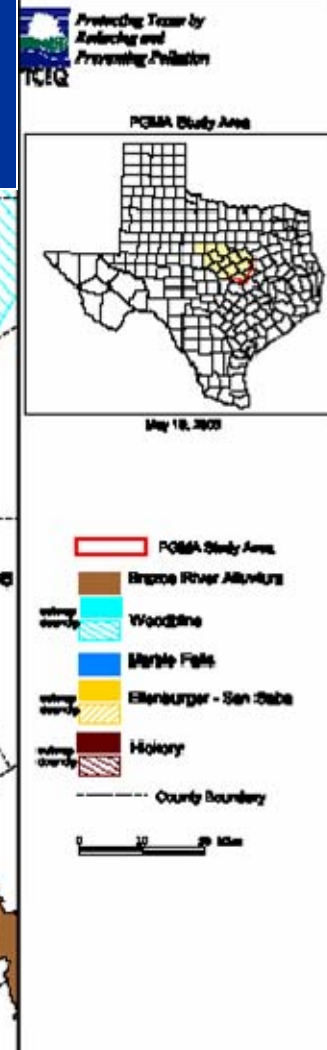
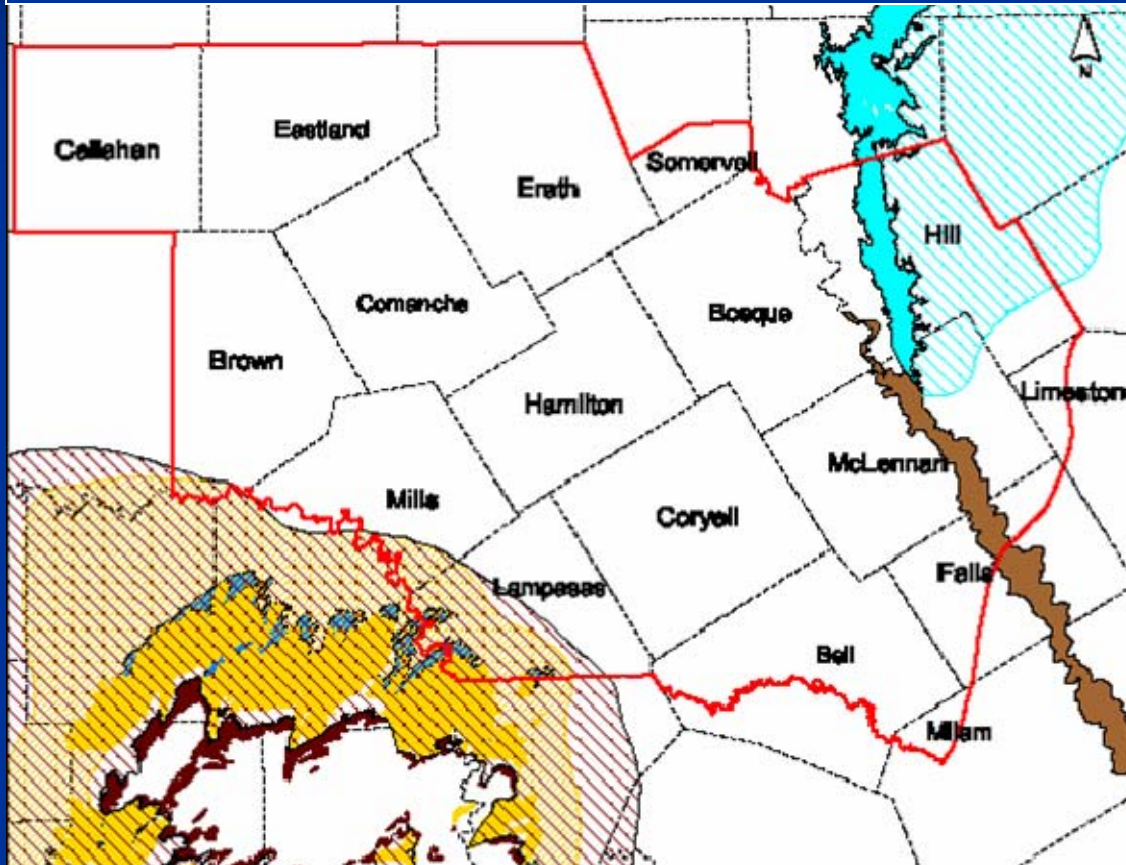
# Central Texas PGMA—Major Aquifers



- PGMA Study Area
  - Edwards BFZ (outcrop)
  - Edwards BFZ (downdip)
  - Trinity (outcrop)
  - Trinity (downdip)
  - County Boundary
- 0 10 20 Miles



# Central Texas PGMA– Minor Aquifers



# 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



# Select Conclusions

- 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

- 5 of 16 counties should be designated as a priority groundwater management area
- GCD programs would benefit groundwater users



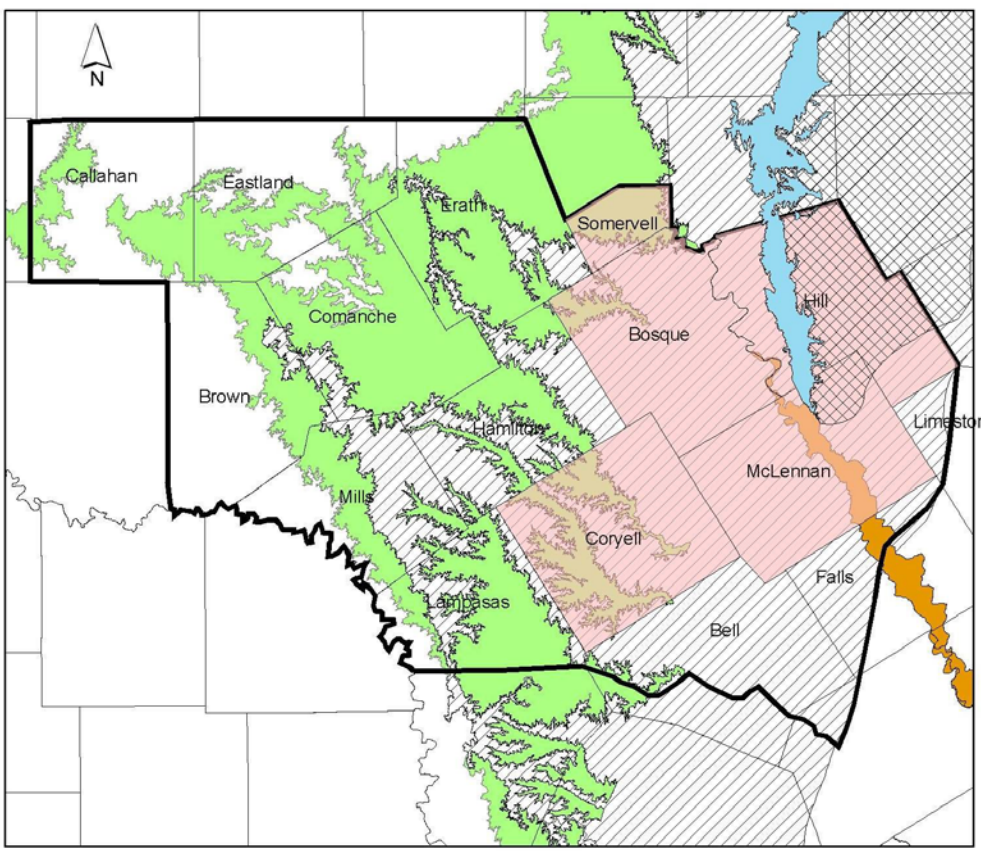


# Draft Recommendations

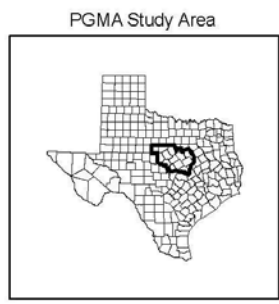
- A regional GCD to include the 5 counties
  - Includes greatest areal extent of the aquifer
  - Allows adequate funding through well production fees and ad valorem taxes
  - Most cost-effective by allowing for single groundwater management program
  - Simplifies regional groundwater management planning 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
- Trinity Aquifer - Downdip
- Woodbine Aquifer - Outcrop
- Woodbine Aquifer - Downdip
- Brazos River Alluvium

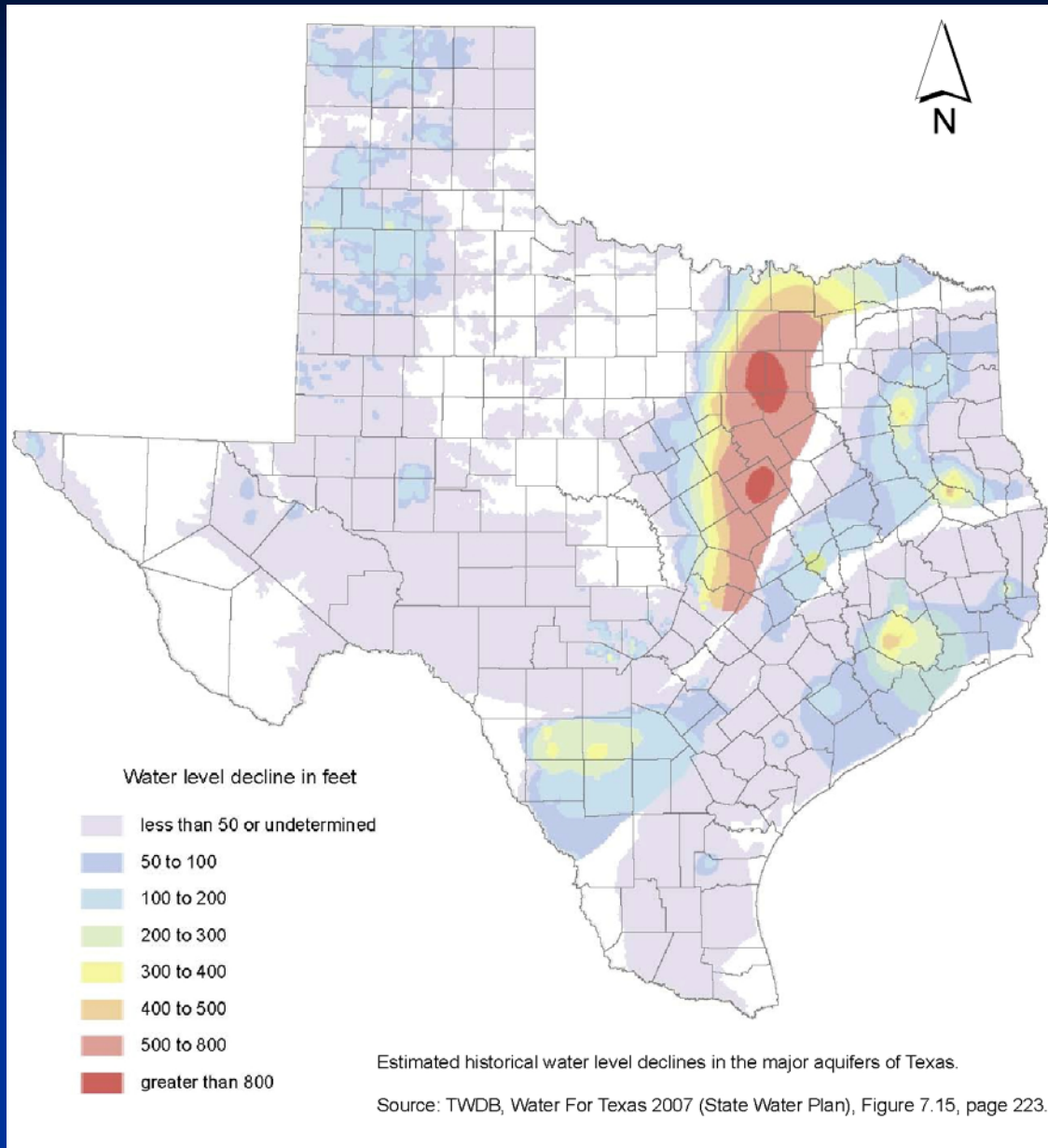


# Status

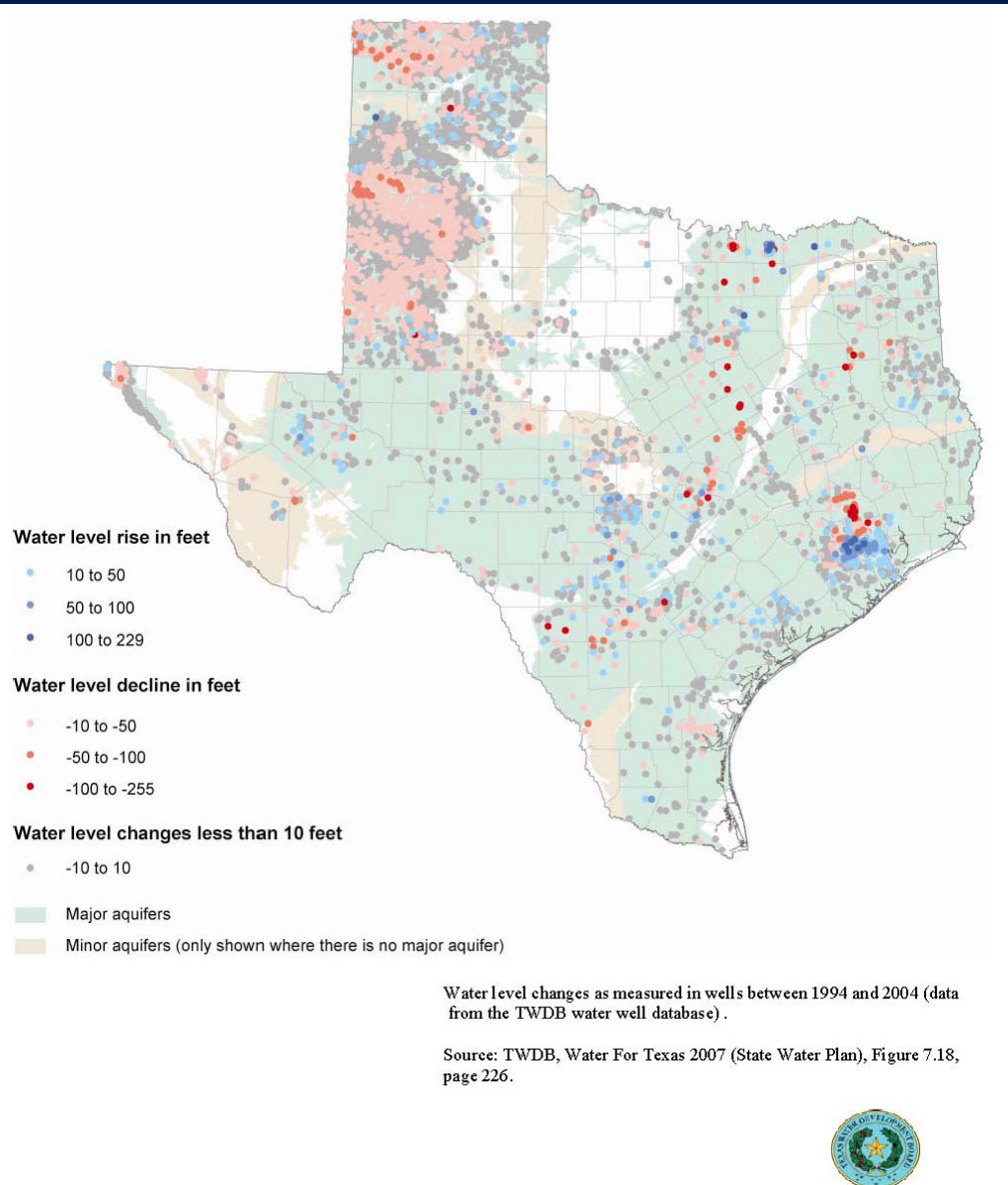
- April 18, 2007 – notice of draft report sent to ~560 stakeholders
- July 31, 2007 – comment period on draft report ended
- Will be referred to State Office of Administrative Hearings (SOAH)
- TCEQ order – public agenda hearing in Austin
- Date of order starts two-year, local-action, GCD creation clock



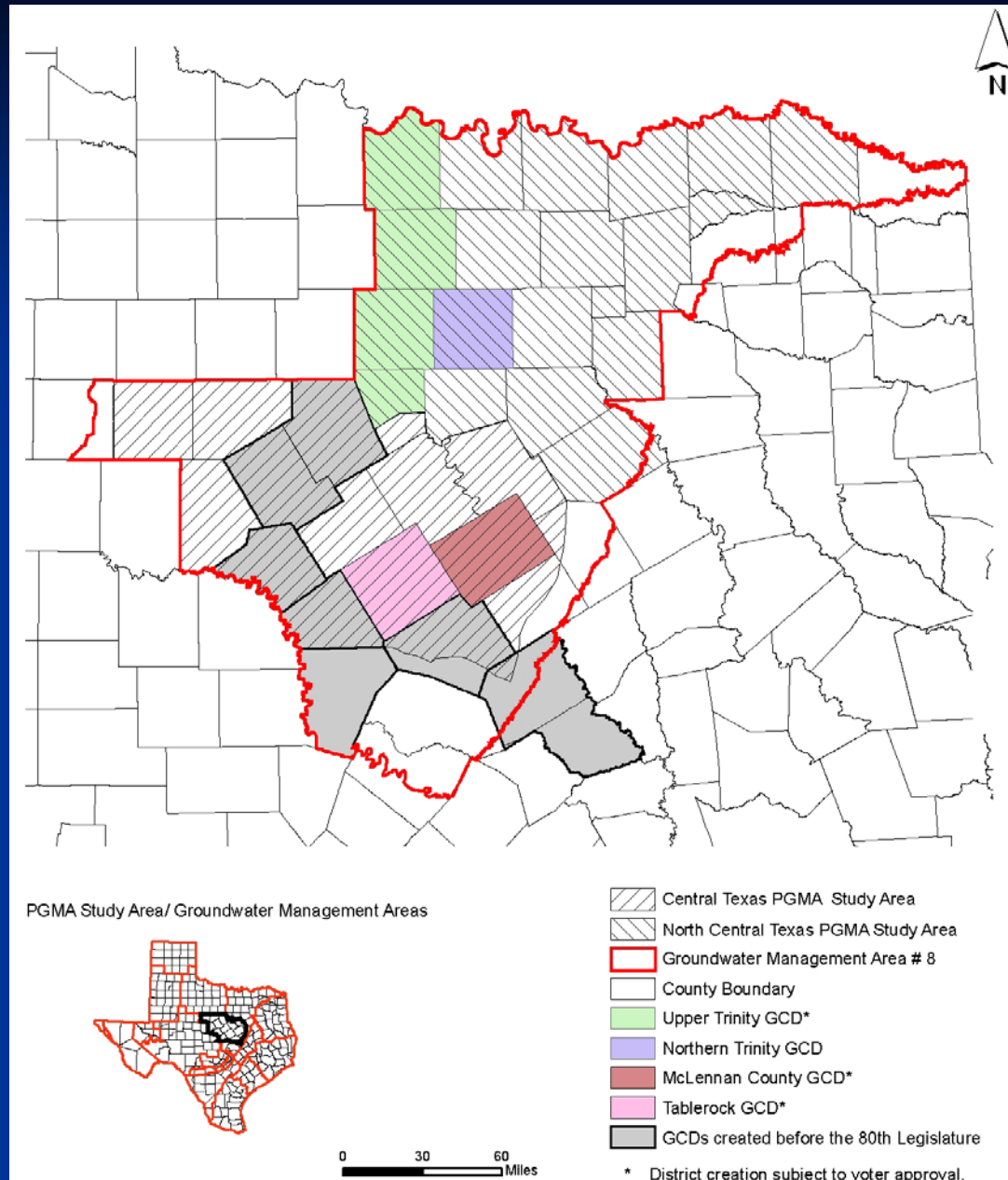
# Historical Water Level Declines



# Water Level Change



# GCDs Created by the 80th Legislature



# Thank you!



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