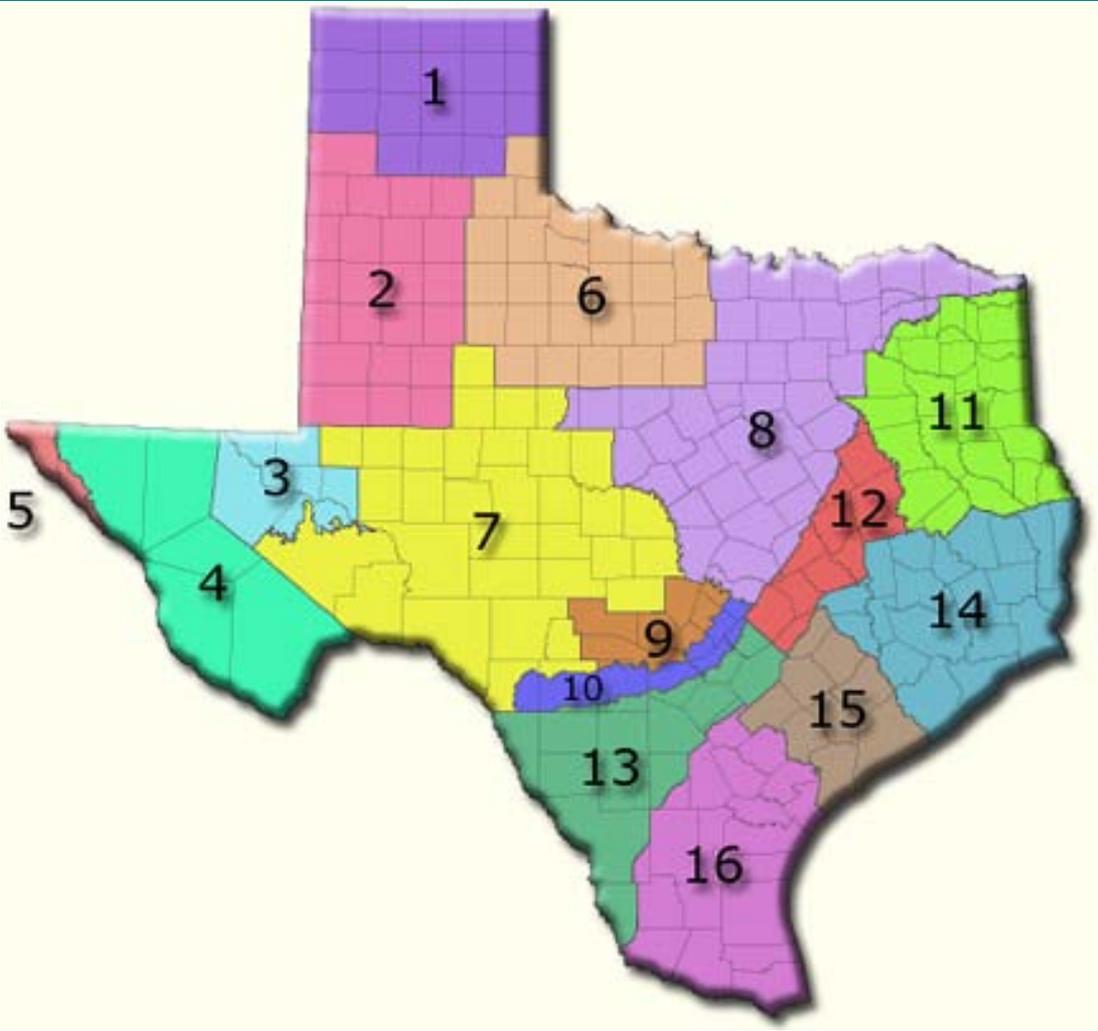




# JOINT PLANNING in GMA 7

**Caroline Runge, General Manager  
Menard County  
Underground Water District**

# GROUNDWATER MANAGEMENT AREAS



HB 1763, passed in 2005, provided that:

36.108(d) Not later than September 1, 2010, **and every five years thereafter**, the districts shall consider groundwater availability models and other data or information for the management area and **shall establish desired future conditions** of the aquifers for the relevant aquifers within the management area.

# Desired Future Conditions

- The condition in which groundwater conservation districts within a GMA desire the respective relevant aquifers to be fifty years from the start of the planning cycle

The desired condition for the aquifer may be based on:

- a) a target percentage of depletion over 50 years, or
- b) desired water quality, or
- c) maintenance of spring and surface water flows; or
- d) other relevant objective standards

# GROUNDWATER AVAILABILITY MODELS

Computer models which simulate the operation of aquifers when various inputs are changed

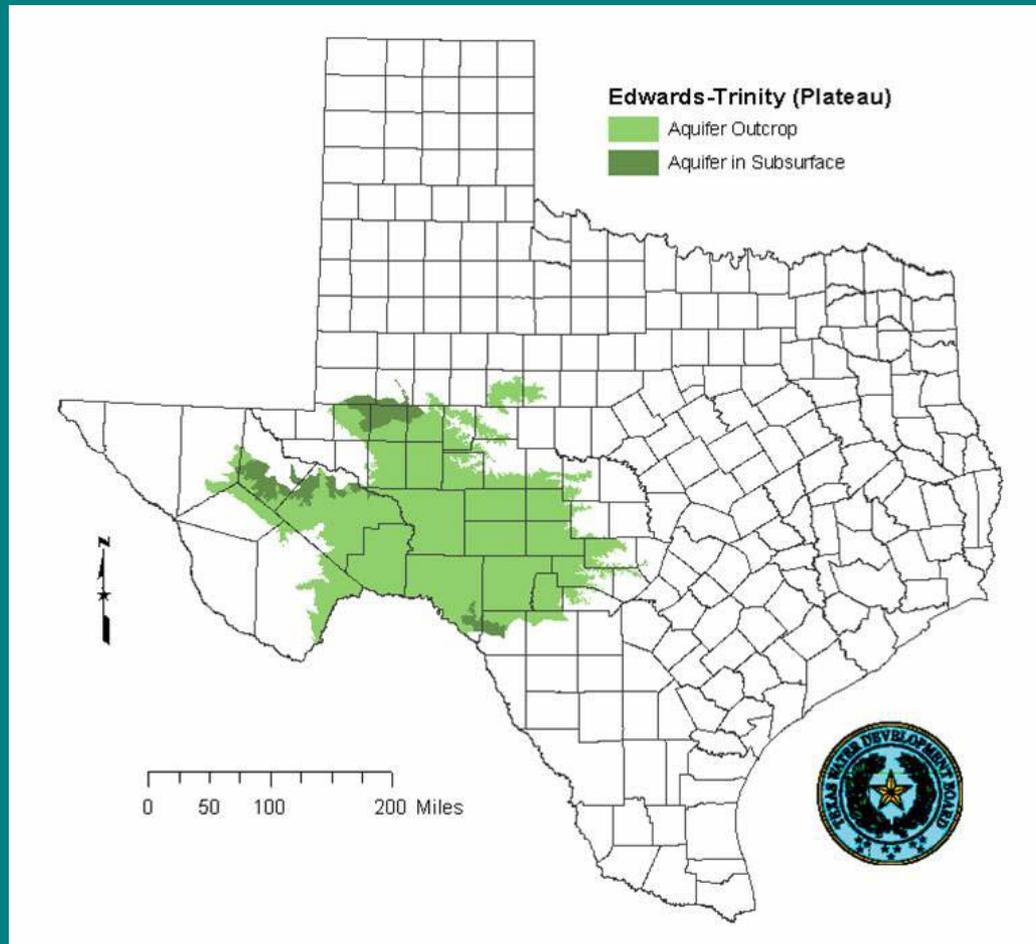
# MANAGED AVAILABLE GROUNDWATER (MAG)

- The amount of water:
- available for permitted production in an aquifer
- which will implement the attainment or maintenance of the Desired Future Condition

Section 36.108  
of the Texas Water Code

Requires **GCDs** in a **GMA**  
to submit **DFC**'s to the TWDB,  
which uses a **GAM**  
to determine **MAGs**!

# Edwards-Trinity (Plateau) Aquifer





# CHALLENGES

- Lack of sufficient data for, and studies of, the GMA aquifers
- Pressure to create uniform state-wide regulatory templates for groundwater management
- Pressure to create single aquifer-wide Desired Future Conditions

# More challenges....

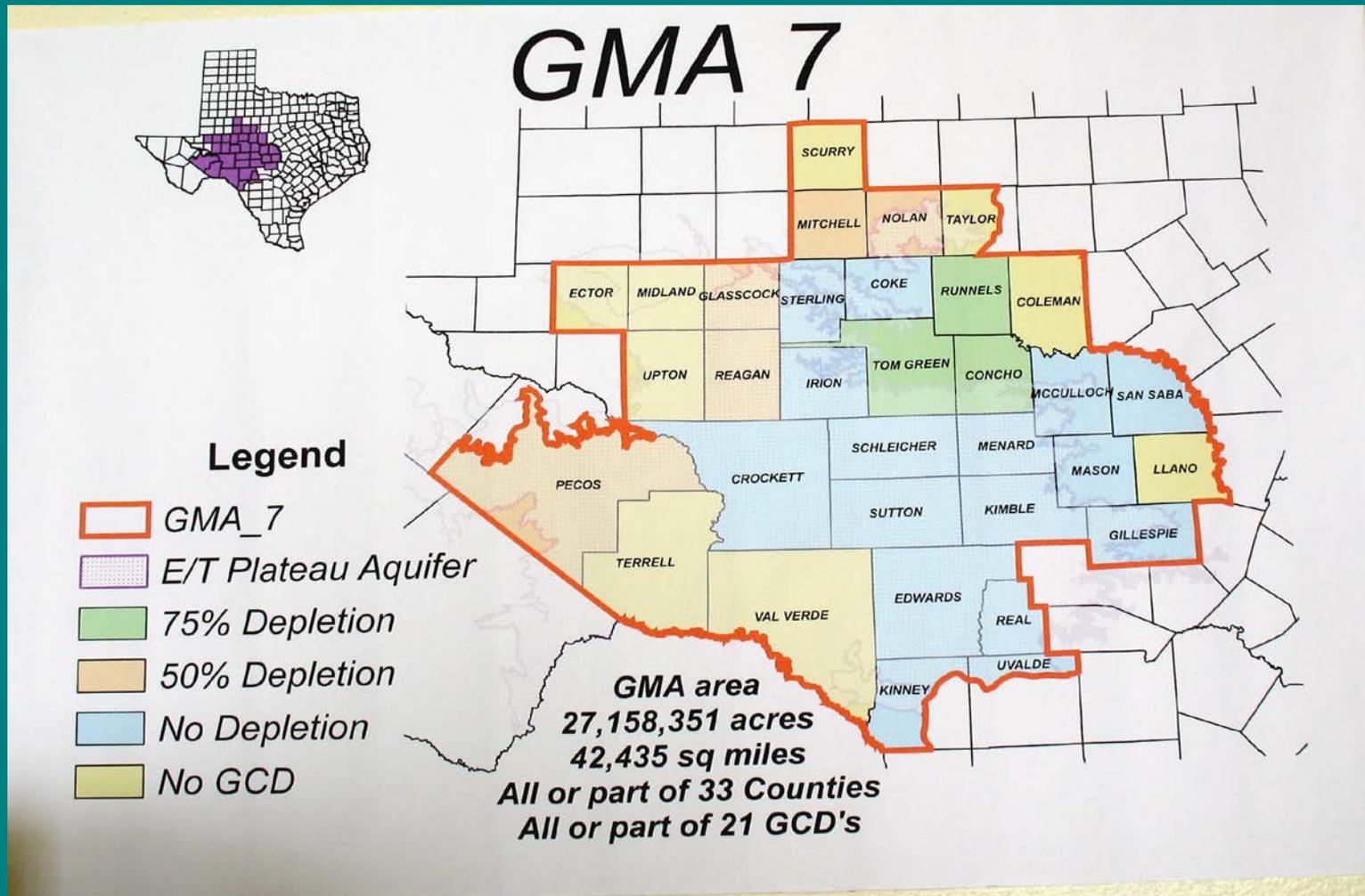
- Getting 21 groundwater conservation districts with highly variable population characteristics, types of industry and types of agricultural production to agree on DFCs across political boundaries
- Logistics of getting districts that are spread over 42,000 square miles together for meetings

# Insufficient Data and Hydrological Study

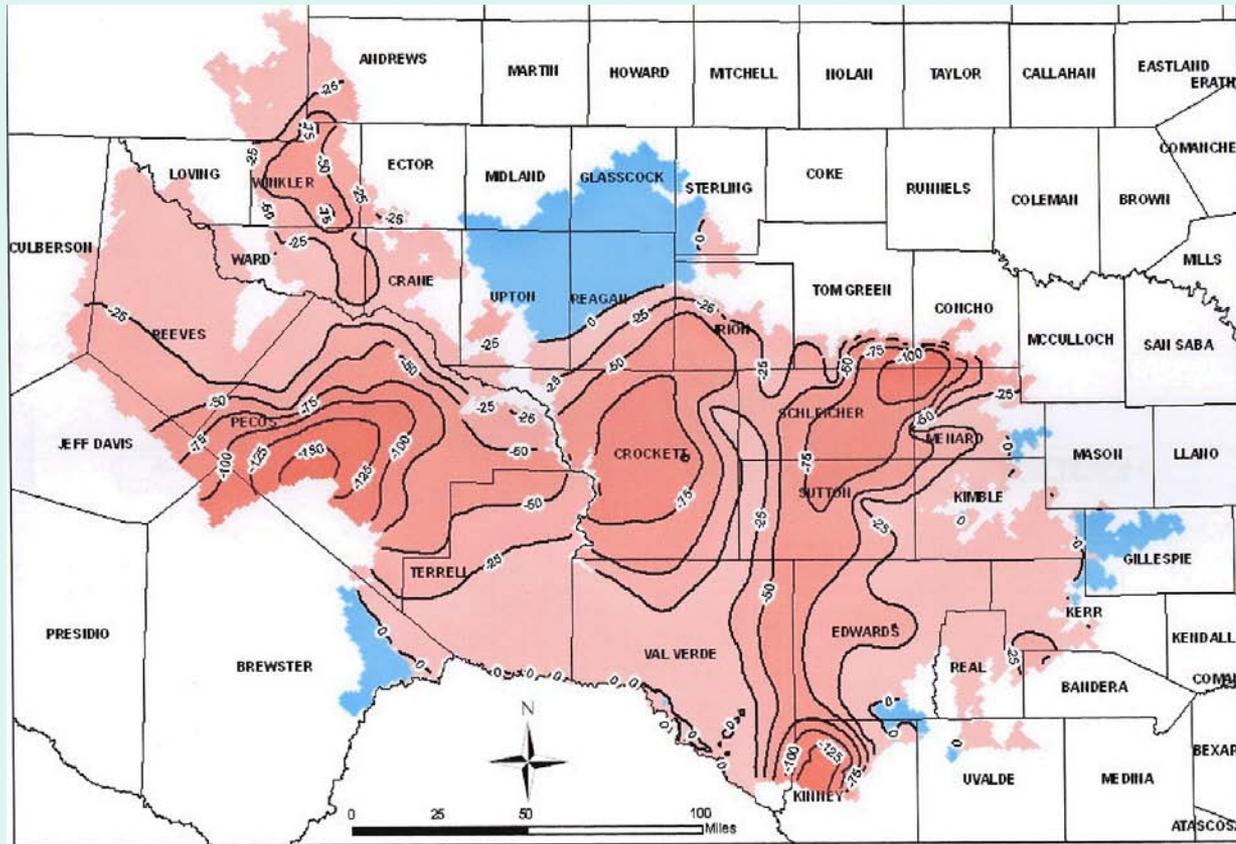
- In GMA 7
  - As soon as the first few GAM for the Edwards-Trinity model were completed, it became apparent that the model was flawed, not accurately simulating the response of the aquifer to pumping, and was “scrapped.”
  - The recalibrated Edwards-Trinity GAM will not be available for GAM runs until the beginning of 2010

- The TWDB has not yet developed GAMs for the Hickory, Ellenburger-San Saba and Marble Falls aquifers.
- Consequently, one year away from the deadline for submitting DFCs, the only completed GAM is for the minor Lipan aquifer.

# Preliminary DFC Zones in GMA 7



# GAM 7-37



- Change in water levels over 50 years in the Edwards layer of the Edwards-Trinity aquifer projecting current pumping under drought of record conditions