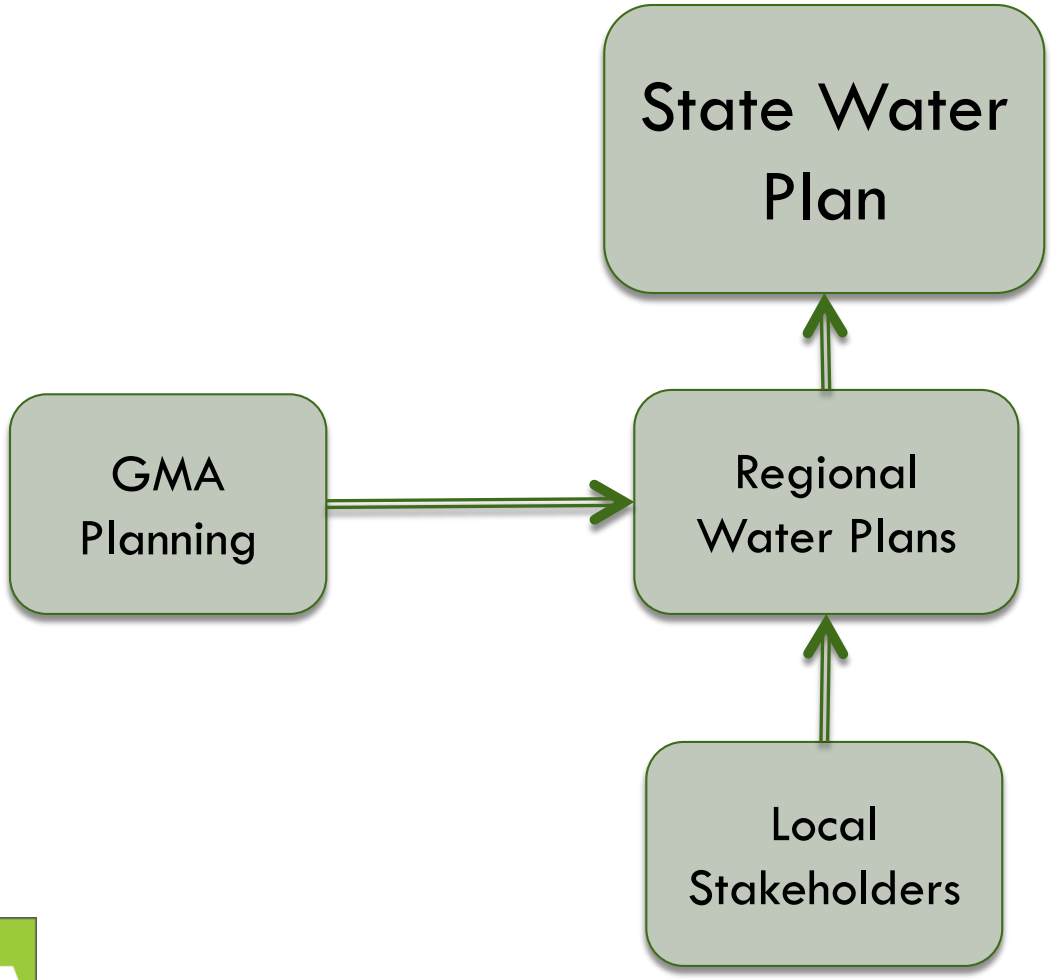
Desired Future Conditions: GMA Joint Planning, Round Two

Texas Water Law Institute 2013

December 4, 5-6, 2013

Presented by Mary K. Sahs

State Planning: "Bottom Up" OR



“Bottoms Up”

The Context

- State water planning - "bottom-up" process
  - Texas Water Code Chapter 16, Subchapter C
- 16 Regional Water Planning Areas ("RWPAs").
- Update every five years.
- Current cycle ends January 2016
  - Tex. Water Code § 16.053(i).
- Groundwater availability numbers needed prior to that.

The Context: GMA Joint Planning

- 16 GMAs develop DFCs
- TWDB calculates MAG based on DFCs
- RWPGs use MAGs as groundwater availability numbers [TWC 16.053(e)(3)(A)]

GMA Joint Planning Cycles

Statute says:

"Not later than September 1, 2010, and every five years thereafter, the districts . . . shall propose for adoption desired future conditions for the relevant aquifers within the management area."

TWC 36.108(d)

GMA Joint Planning Cycles

TWDB Rule says:

"Not later than five years after the date on which the districts in a groundwater management area last collectively adopted a desired future condition, the districts shall propose a desired future condition for adoption . . ."

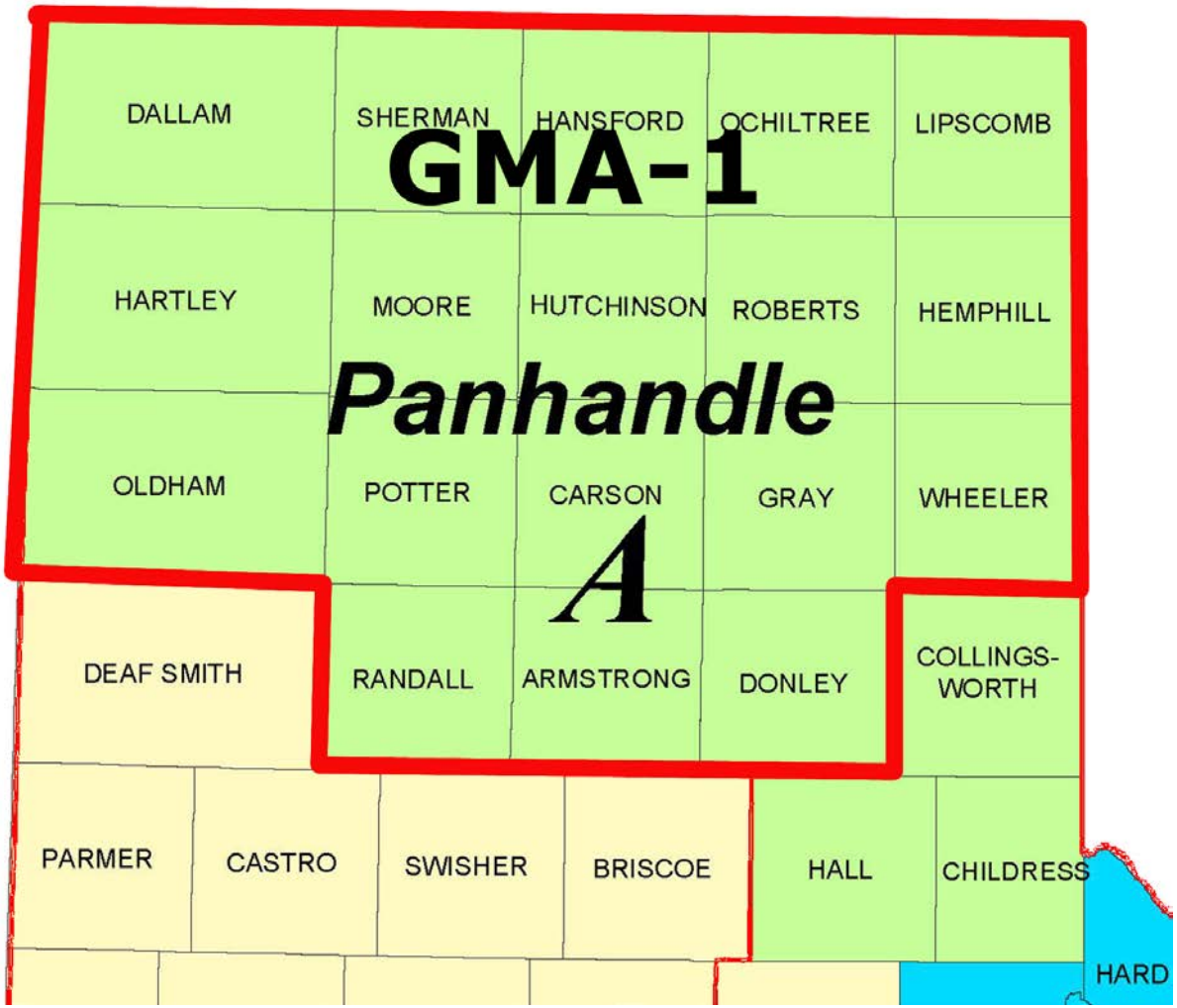
30 TAC 356.31(a)

GMA Joint Planning Cycles

TEMPORARY MEASURE:

- Texas Water Code 36.108(d-5)
- Default deadline
- Proposals for DFCs due before May 1, 2016
- Section expires January 1, 2018

Groundwater Management Area 1



GMA-1

- Four GCDs
  - Hemphill
  - High Plains
  - North Plains
  - Panhandle

GMA-1

- DFCs
  - Ogallala/Rita Blanca aquifers
  - Blaine
  - Dockum aquifers
- Petition re Ogallala DFC

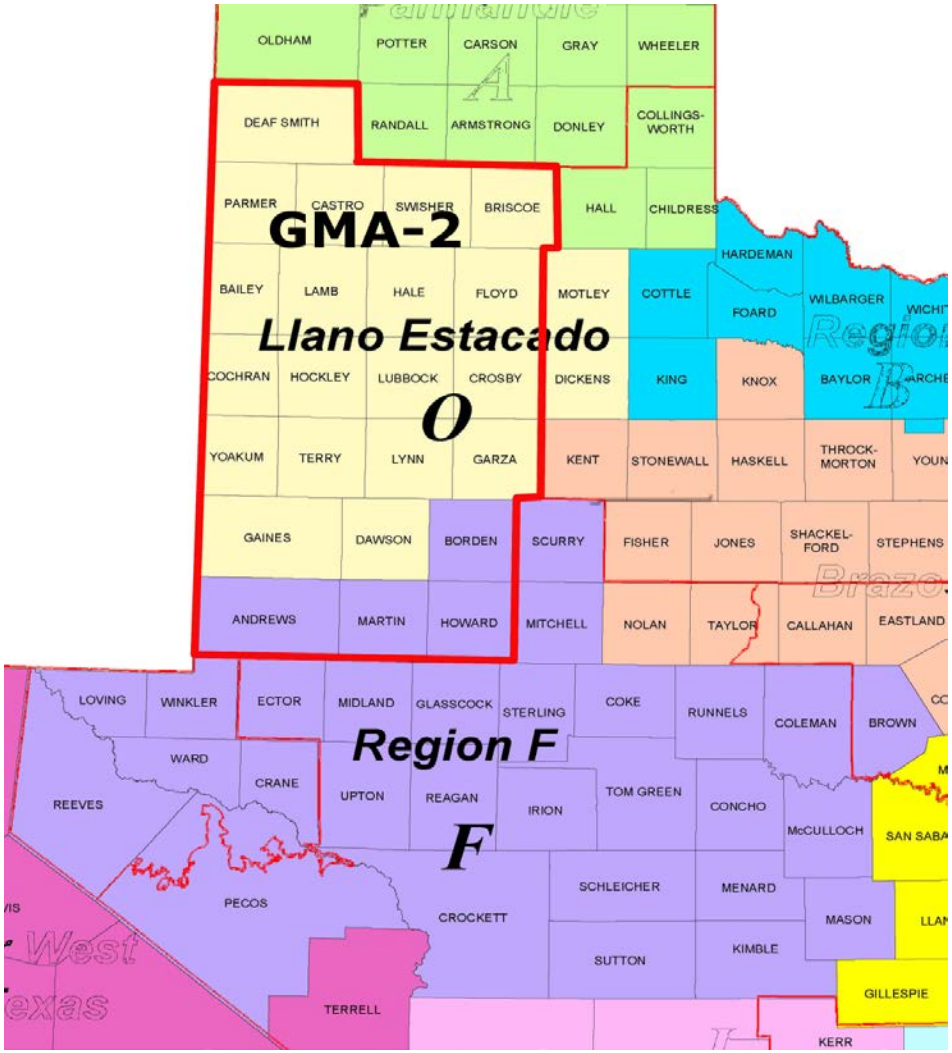
GMA-1

- Region A to use MAGS as follows:
  - Blaine (June 2011)
  - Dockum (August 2011)
  - Ogallala/Rita Blanca (August 2011)

GMA-1

- TWDB developing new GAM combining Ogallala and Dockum (INTERA)
- High Plains, North Plains, and Panhandle Districts believed additional improvements needed
- Provided $100,000 each
- $900,000 TWDB GAM improvement project

Groundwater Management Area 2



GMA-2

- Eight GCDs:
  - Garza
  - High Plains
  - Llano Estacado
  - Mesa
  - Mesquite
  - Permian Basin
  - Sandy Land
  - South Plains

GMA-2

- DFCs
  - Ogallala – 6 of 8 GCDs developed DFCs based on an average drawdown across the 6 GCDs. Garza and High Plains effectively adopted a 50/50 DFC.
  - Dockum
  - Edwards-Trinity (High Plains)

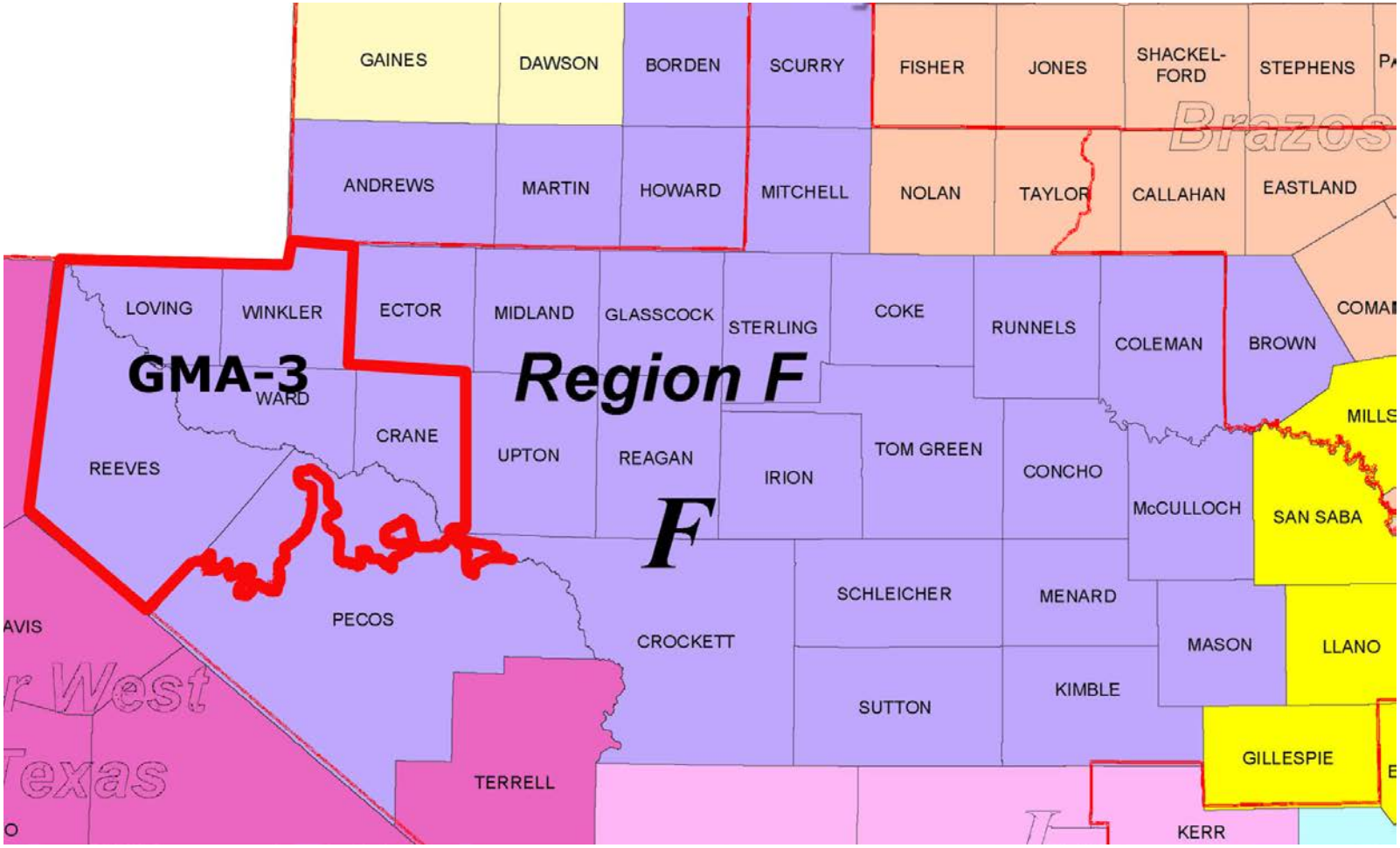
GMA-2

- Region O and F to use MAGS as follows:
  - Ogallala and Edwards-Trinity (High Plains) (August 2011)
  - Dockum (July 2012)

GMA-2

- Working with GMA-1 and TWDB on Ogallala and Dockum GAM project
- Working closely with Region O
- Water supply for Region O is mostly groundwater
- Most of State's unmet water needs are in Region O
- The 2 groups are comparing MAGs to projected user demands by category to see if future water supply needs can be more accurately determined

Groundwater Management Area 3



GMA-3

- DFCs – Average drawdown across GMA by aquifer
  - Combined Edwards-Trinity (Plateau) and Pecos Valley
  - Rustler different drawdown for confined and unconfined portions
  - Capitan Reef Complex and Dockum different DFCs
  - Igneous not relevant
  - Ogallala not present

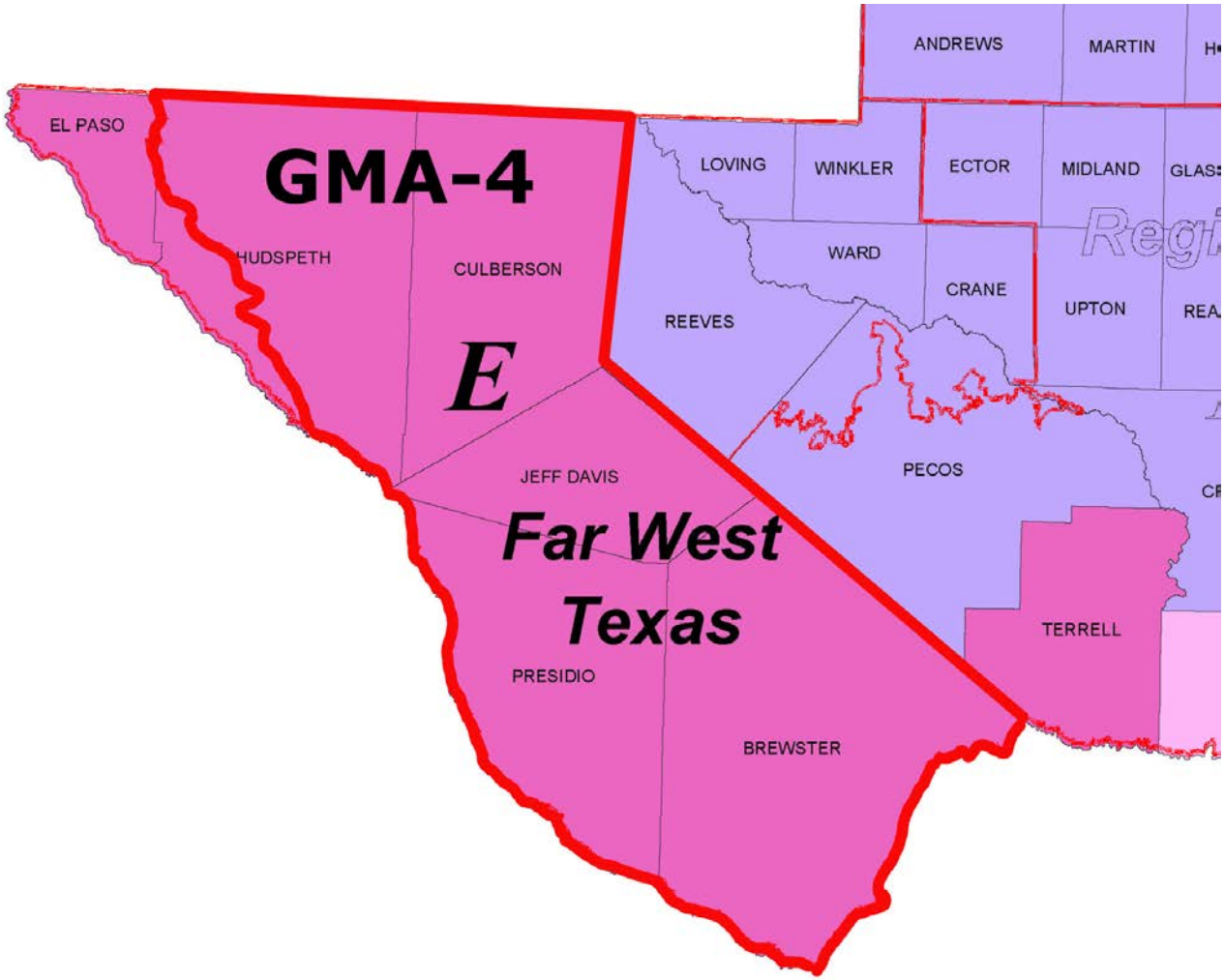
GMA-3

- Region F to use MAGS as follows:
  - Capitan and Rustler (November 2011)
  - Dockum and Edwards-Trinity (Plateau)/ Pecos Valley (November 2011)

GMA-3

- Worked closely with Region F to develop DFCs
- Didn't have good production data except in northwestern Pecos County – municipal
- Rig counts and average production used to estimate production for fracking; oil & gas industry participated
- Had no data for Capitan Reef Complex; expect it to be used heavily for future municipal

Groundwater Management Area 4



GMA-4

- 5 GCDs
  - Brewster
  - Culberson
  - Hudspeth
  - Jeff Davis
  - Presidio

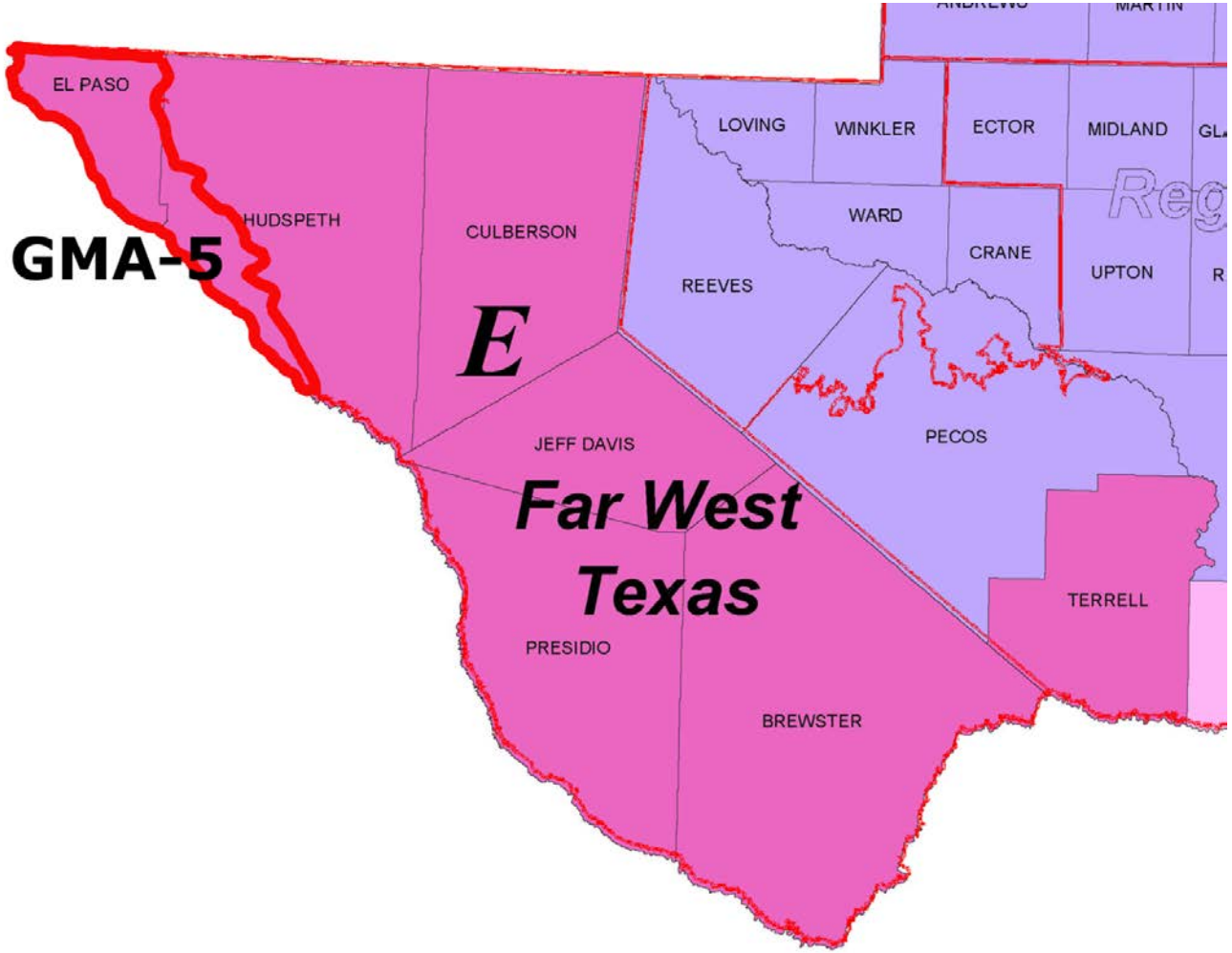
GMA-4

- CURRENT DFCs
  - Set county-by-county drawdown for Bone Spring-Victorio Peak, Texas Bolsons, Edwards-Trinity (Plateau), and Igneous
  - Edwards-Trinity (Plateau) for Brewster Co. DFC re-proposed (May 2011)

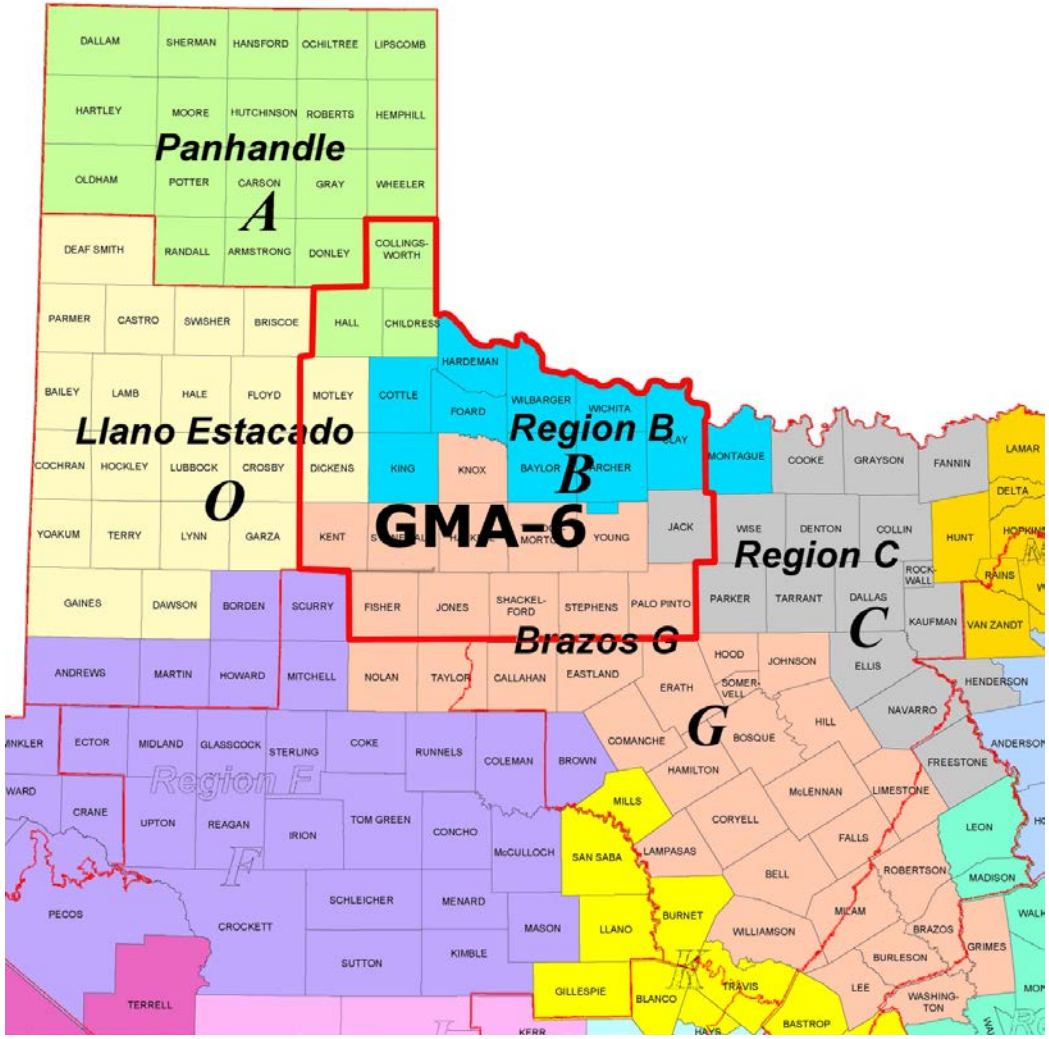
GMA-4

- Region E to use MAGS as follows:
  - Texas Bolsons; and Igneous (June 2011)
  - Bone Spring-Victorio Peak (December 2011)
  - Edwards-Trinity (Plateau) June 2012)
- No push to change DFCs
- Minimal funding

Groundwater Management Area 5



Groundwater Management Area 6



GMA-6

- Four GCDs
  - Clear Fork
  - Mesquite
  - Gateway
  - Rolling Plains
- Lots of area without a GCD
- Very little groundwater overall

GMA-6

- **DFCS – SET COUNTY-BY-COUNTY AS DRAWDOWN**
  - Ogallala
  - Blaine
  - Dockum
  - Seymour

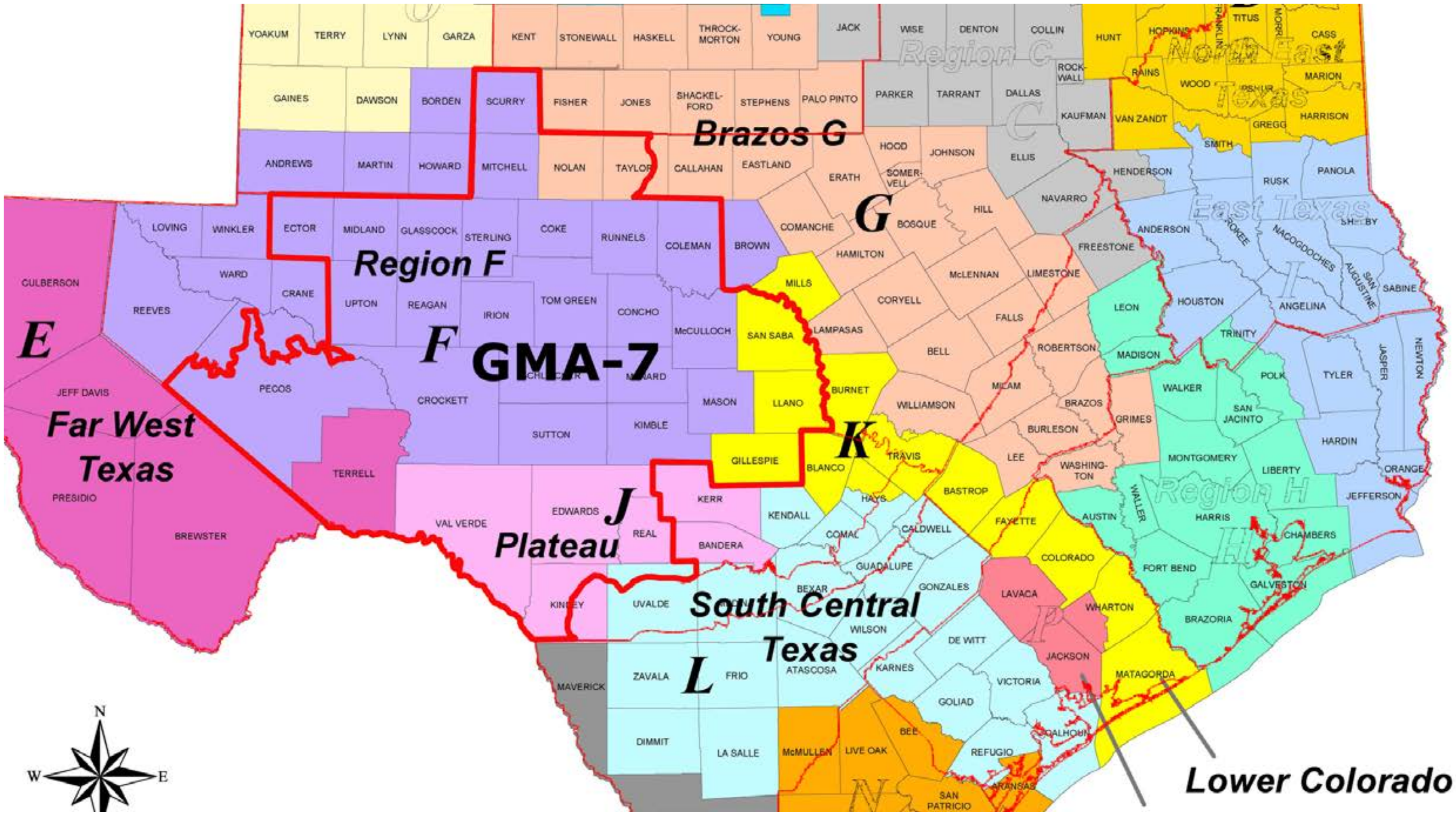
GMA-6

- Regions A, B, and O to use MAGS as follows:
  - Blaine (2/6/11
  - Dockum 12/7/11
  - Ogallala 12/7/11
  - Seymour 12/7/11

GMA-6

- Primary source of groundwater is the Seymour
- Water from Blaine and Dockum is shallow, sporadic, and high in nitrates
- Several major surface water suppliers are turning to groundwater for supply

Groundwater Management Area 7



GMA-7

- 21 GCDs
  - Coke, Crockett, Edwards Aquifer Authority, Glasscock, Hickory, Hill Country, Irion, Kimble, Kinney, Lipan-Kickapoo, Lone Wolf, Menard, Middle Pecos, Plateau, Real-Edwards, Santa Rita, Sterling County, Sutton, Terrell, Uvalde, Wes-Tex

GMA-7

- Current DFCs Adopted for:
  - Ogallala, Edwards-Trinity (Plateau), Pecos Valley, Trinity, Dockum, and Lipan

- There was a Petition filed on the Edwards-Trinity (Plateau) DFCs. TWDB found them to be not unreasonable

GMA-7

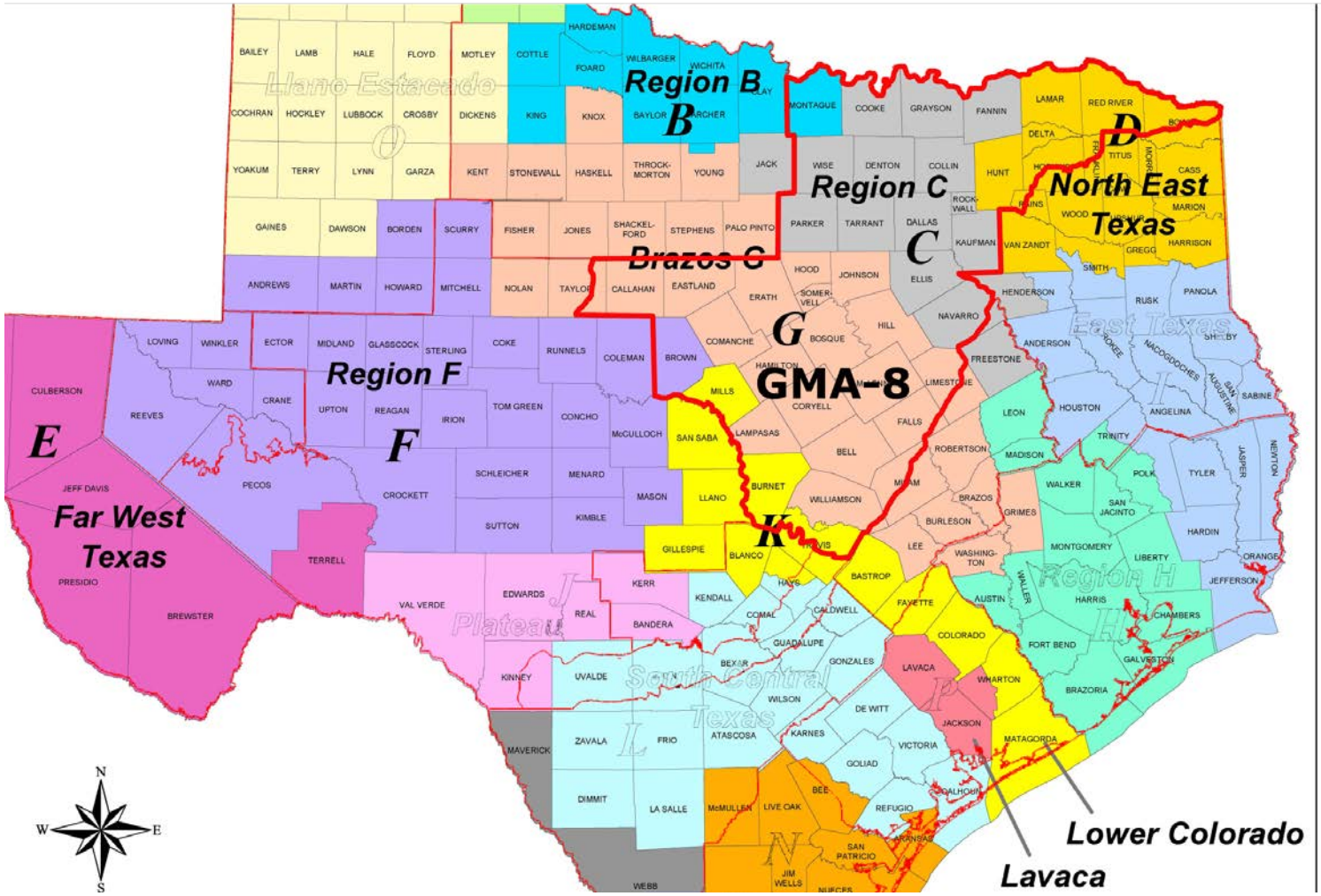
- Edwards-Trinity (Plateau) is main aquifer
- Other 8 aquifers considered minor
- DFCs – average drawdown over GMA where aquifers present
- No push to change DFCs for current Regional Planning cycle
- During GMA second cycle may try to get some of the minor aquifers designated as irrelevant

GMA-7

- Regions E, F, J, and K to use MAGS as follows:
  - Ogallala (November 2011)
  - Lipan (February 2012)
  - Dockum (February 2012)
  - Edwards-Trinity (Plateau),

Pecos Valley, and Trinity (November 2012

Groundwater Management Area 8



GMA-8

- 12 GCDs
  - Central Texas
  - Clearwater
  - Fox Crossing
  - Middle Trinity
  - North Texas
  - Northern Trinity
  - Post Oak Savannah
  - Prairielands
  - Red River
  - Saratoga
  - Southern Trinity
  - Upper Trinity

GMA-8

- DFCs
  - Trinity Aquifer
  - Woodbine Aquifer
  - Edwards (Balcones Fault Zone) Aquifer
  - Nacatoch Aquifer

GMA-8

- Regions B, C, D, F, G and K to use MAGS as follows:
  - Trinity Aquifer (December 2011)
  - Edwards (Balcones Fault Zone) Aquifer (December 2011)
  - Nacatoch Aquifer (December 2011)
  - Woodbine Aquifer (June 2012)

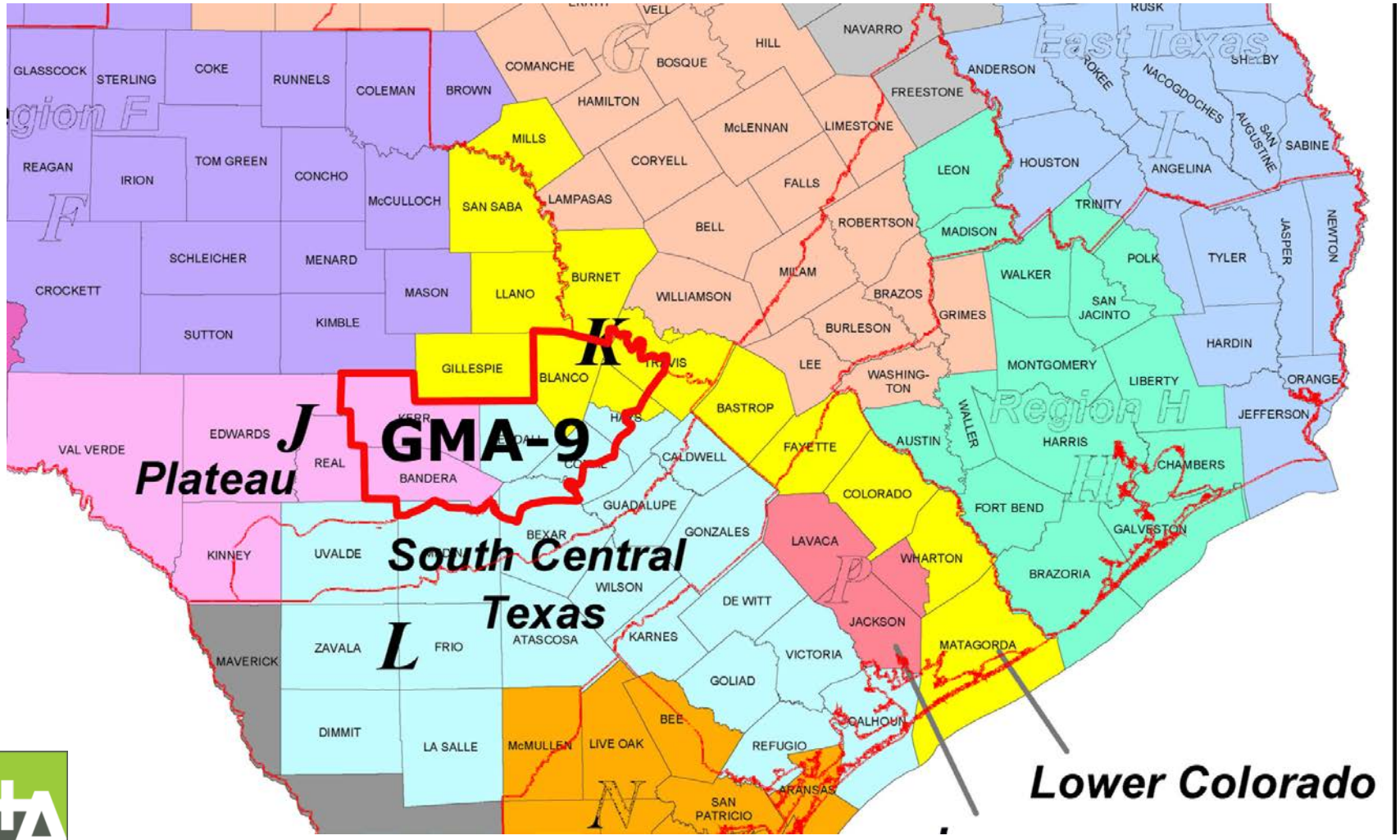
GMA-8

- Don't expect an immediate change in DFCs – set drawdown county-by-county for each aquifer
- Originally adopted in 2008 when many areas had no GCD
- Because so many DFCs were created near the end of the first GMA planning cycle, re-adopted all DFCs in 2011 to push back next due date

GMA-8

- North Texas, Northern Trinity, Prairielands, and Upper Trinity working on a new GAM combining the Trinity and Woodbine ($1.6 million project)
  - LBG Guyton Associates & BEG
- GMA-8 funded conceptual model for Trinity
  - INTERA

Groundwater Management Area 9



GMA-9

- Nine GCDs
  - Bandera
  - Barton Springs/ Edwards Aquifer
  - Blanco-Pedernales
  - Cow Creek
  - Edwards Aquifer Authority
  - Hays Trinity
  - Headwaters
  - Medina
  - Trinity-Glen Rose

GMA-9

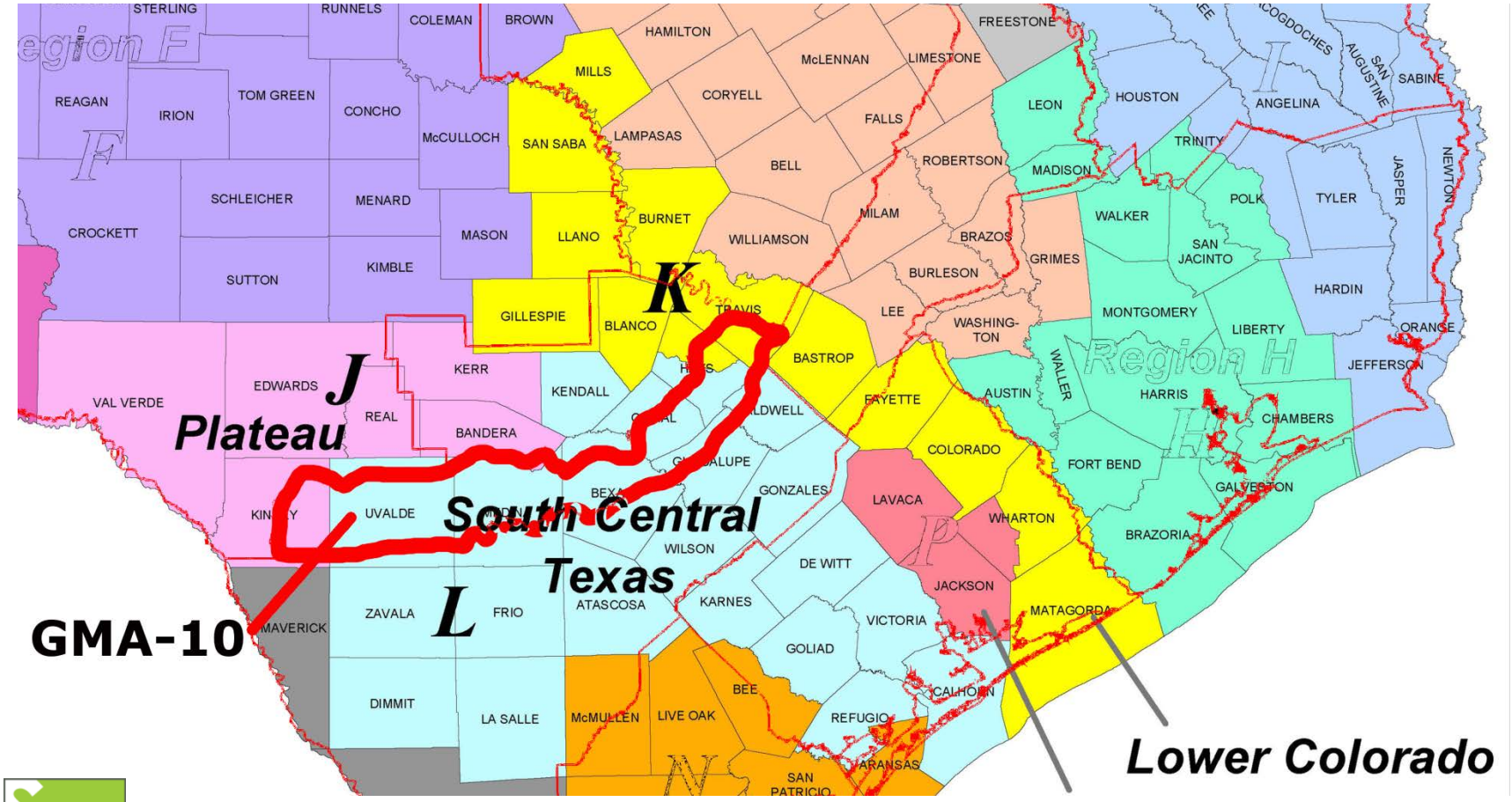
- Set DFC for Edwards Group of the Edwards-Trinity (Plateau) Aquifer
- Petition challenged Edwards DFC and TWDB said Edwards (Balcones Fault) DFC was unreasonable
- Meanwhile, TWDB revised Trinity GAM to more accurately reflect Cibolo Creek recharge
- DFC for Trinity, all layers, set at less than 30 feet increase in average drawdown (based on 2008) during next 40 years.
- Dueling petitions on Trinity DFC were rejected when TWDB found DFC not unreasonable

GMA-9

- No push to change DFCs. GMA focused on reviewing GCDs' Management Plans

- Regions J, K, and L to use MAGS as follows:
  - Edwards Group of the Edwards-Trinity(Plateau) Aquifer (March 2012)
  - Trinity Aquifer (March 2012)

Groundwater Management Area 10



GMA-10

- Seven GCDs
  - Barton Springs/ Edwards Aquifer
  - Edwards Aquifer Authority
  - Guadalupe
  - Kinney
  - Medina
  - Plum Creek
  - Uvalde

GMA-10

- DFCs
  - Fresh and Saline Edwards Aquifer (Edwards set by statute)
  - Trinity, Austin Chalk, Buda Limestone, and Leona Gravel Aquifer
- Petition filed on the DFCs for western subdivision of the Edwards (Balcones Fault Zone) Aquifer in Kinney County. TWDB found DFCs not unreasonable.

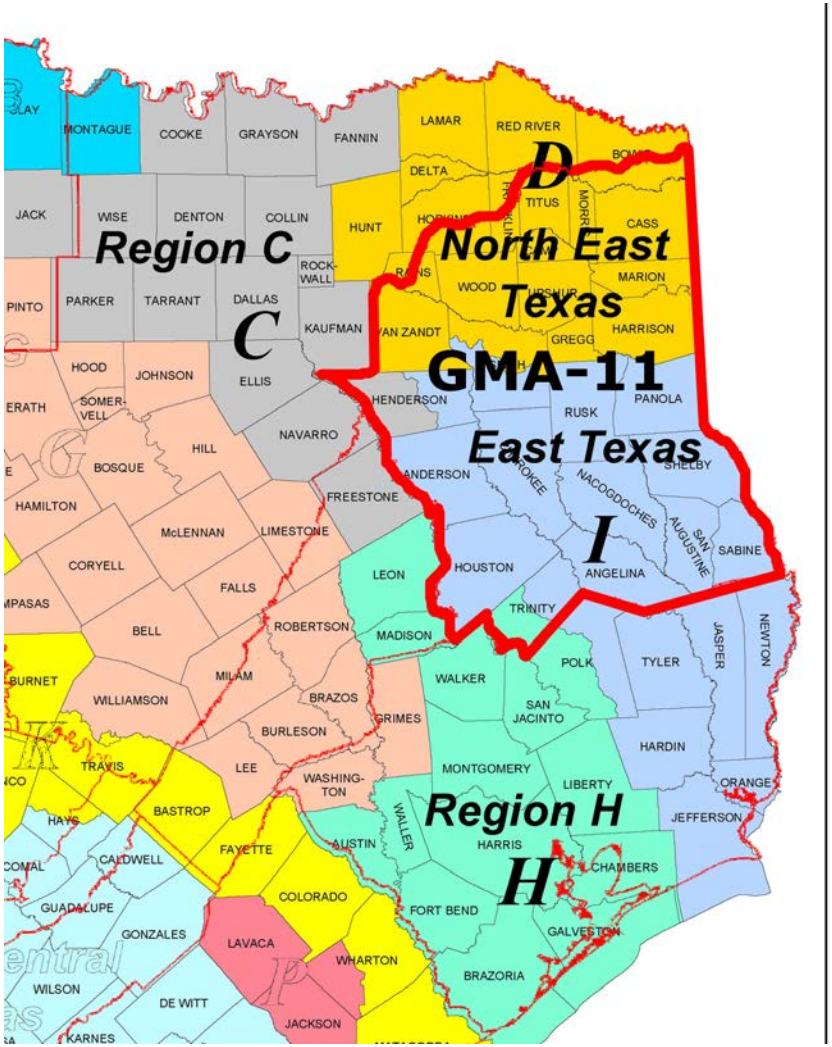
GMA-10

- Regions J, K, and L to use MAGS as follows:
  - Edwards (Balcones Fault Zone) Aquifer for Kinney County 7/24/12
  - Edwards (Balcones Fault Zone) Aquifer in the Northern Subdivision of GMA-10 12/7/2011
  - Saline Edwards 11/20/11; Trinity 11/29/11; Leona Gravel in Uvalde County 2/4/11; Buda Limestone and Austin Chalk in Uvalde County 8/19/11; and Leona Gravel in Media County 8/20/12

GMA-10

- Edwards Aquifer DFC set by statute at 572,000 acre-feet/year
- Adopted Trinity DFC as GMA-wide average drawdown
- No push to change to get new MAG into RWP
- Good communication between GMA and RWPGs

Groundwater Management Area 11



GMA-11

- Five GCDs
  - Anderson
  - Neches & Trinity Valleys
  - Panola
  - Pineywoods
  - Rusk

GMA-11

- DFCs
  - Carrizo Wilcox Aquifer
  - Queen City Aquifer
  - Sparta Aquifer
  - Yegua-Jackson Aquifer
- Petition filed by lumber companies; dropped

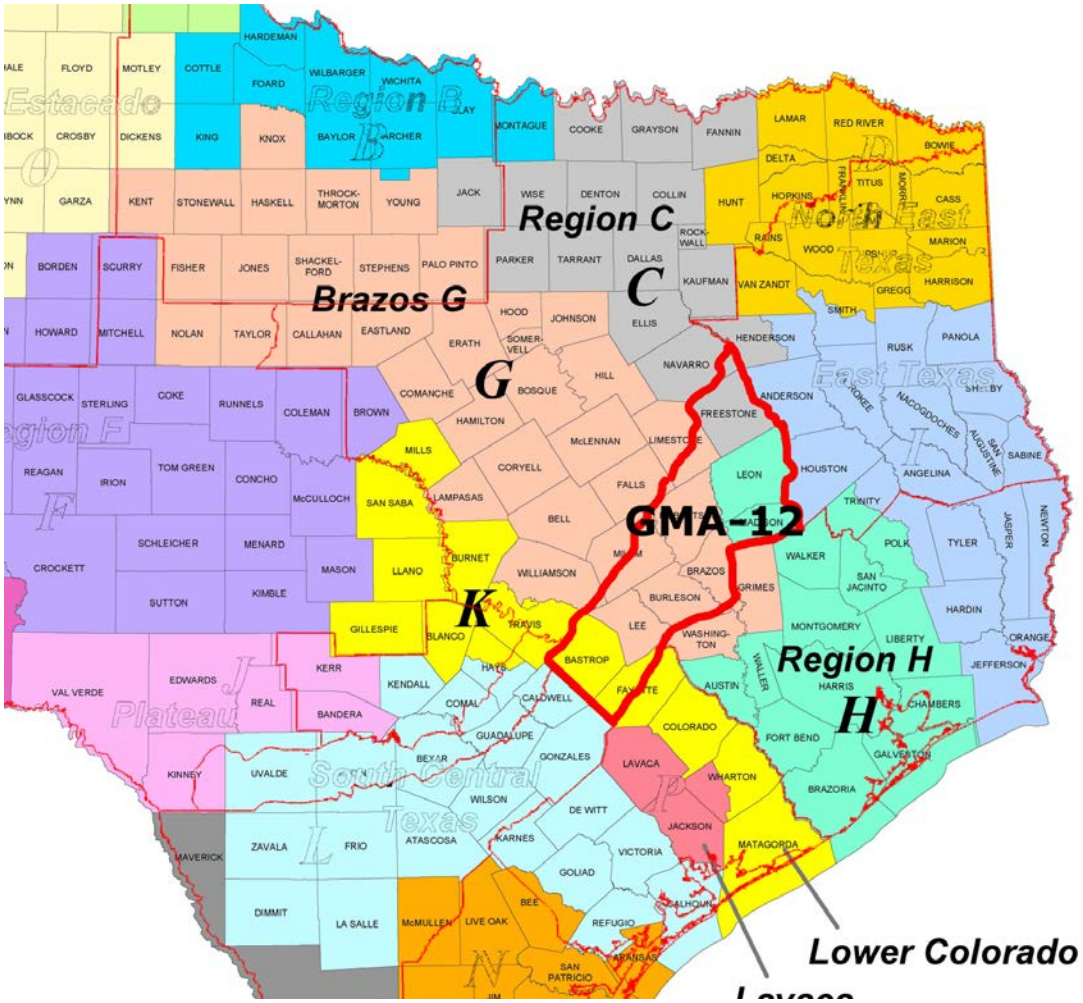
GMA-11

- Regions C, D, H, and I to use MAGS as follows:
  - Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson 6/7/2012

GMA-11

- No significant groundwater in Region C; Lots of water in GMA-11
- Set DFC at 17-foot average drawdown across all relevant aquifers and across GMA (based on 177 different county, aquifer, pumping)
- "Useless number" because current drawdown water levels as deep and 300 feet and have artesian water
- Athens & timber companies want more GW, which may lead to change in DFC in future

Groundwater Management Area 12



GMA-12

- Five GCDs
  - Brazos Valley
  - Fayette County
  - Lost Pines
  - Mid-East Texas
  - Post Oak Savannah

GMA-12

- DFCs
  - Carrizo-Wilcox Aquifer
  - Queen City Aquifer
  - Sparta Aquifer
  - Yegua-Jackson Aquifer

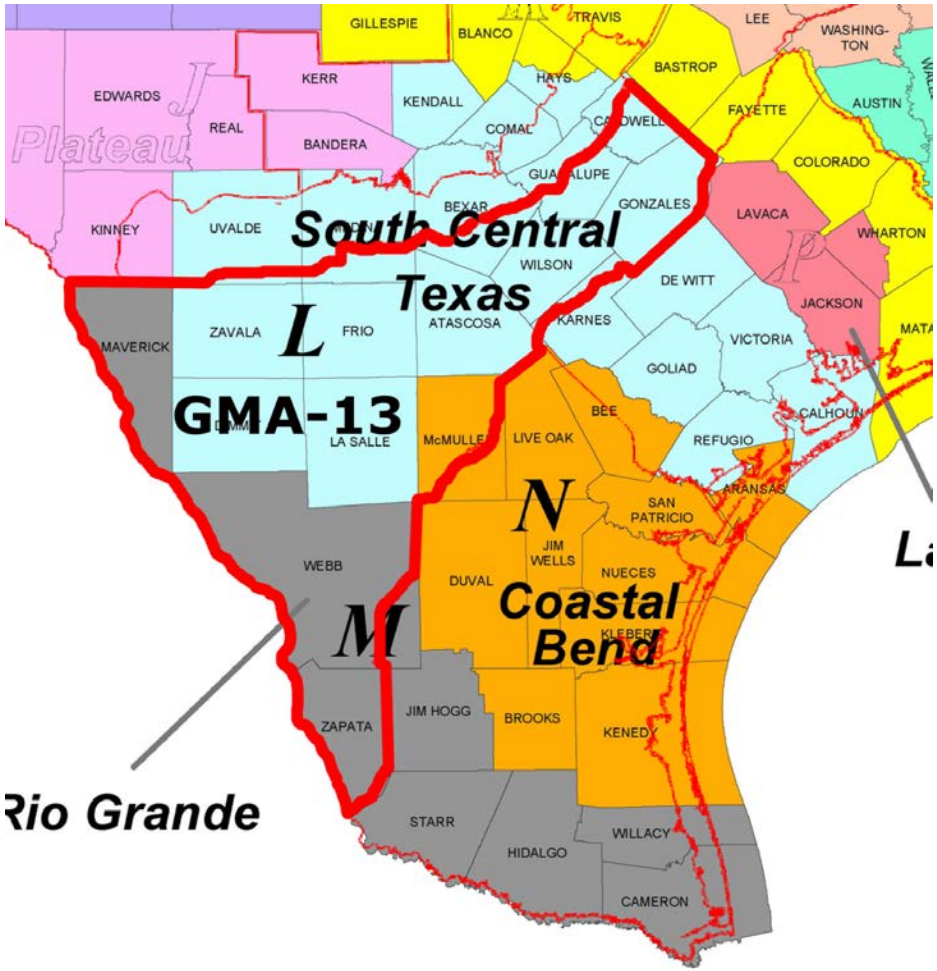
GMA-12

- Regions C, G, H, and K to use MAGS as follows:
  - Carrizo-Wilcox Aquifer 7/9/2012
  - Queen City Aquifer 7/9/2012
  - Sparta Aquifer 7/9/2012
  - Yegua-Jackson Aquifer 7/9/2012

GMA-12

- Petition side-tracked process; resolved in July 2012
- Consultants for Lost Pines, Post Oak Savannah, Mid-East Texas, and Brazos Valley are meeting to formulate inputs for GAM runs
- Goal is to address each GCD's unique issues
- Some outside entities seeking GW in GMA because of drought

Groundwater Management Area 13



GMA-13

- Nine GCDs
  - Edwards Aquifer Authority
  - Evergreen
  - Gonzales County
  - Guadalupe County
  - McMullen
  - Medina
  - Plum Creek
  - Uvalde County
  - Wintergarden

GMA-13

- DFCs
  - Yegua-Jackson Aquifer
  - Carrizo-Wilcox Aquifer
  - Queen City Aquifer
  - Sparta Aquifer
- Petition challenged Sparta, Weches, Queen City, Reklaw, Carrizo, and Wilcox DFCs; TWDB found them not unreasonable

GMA-13

- Regions L, M, and N to use MAGS as follows:
  - Yegua-Jackson 12/7/2011
  - Carrizo-Wilcox, Queen City, and Sparta 8/2/2012

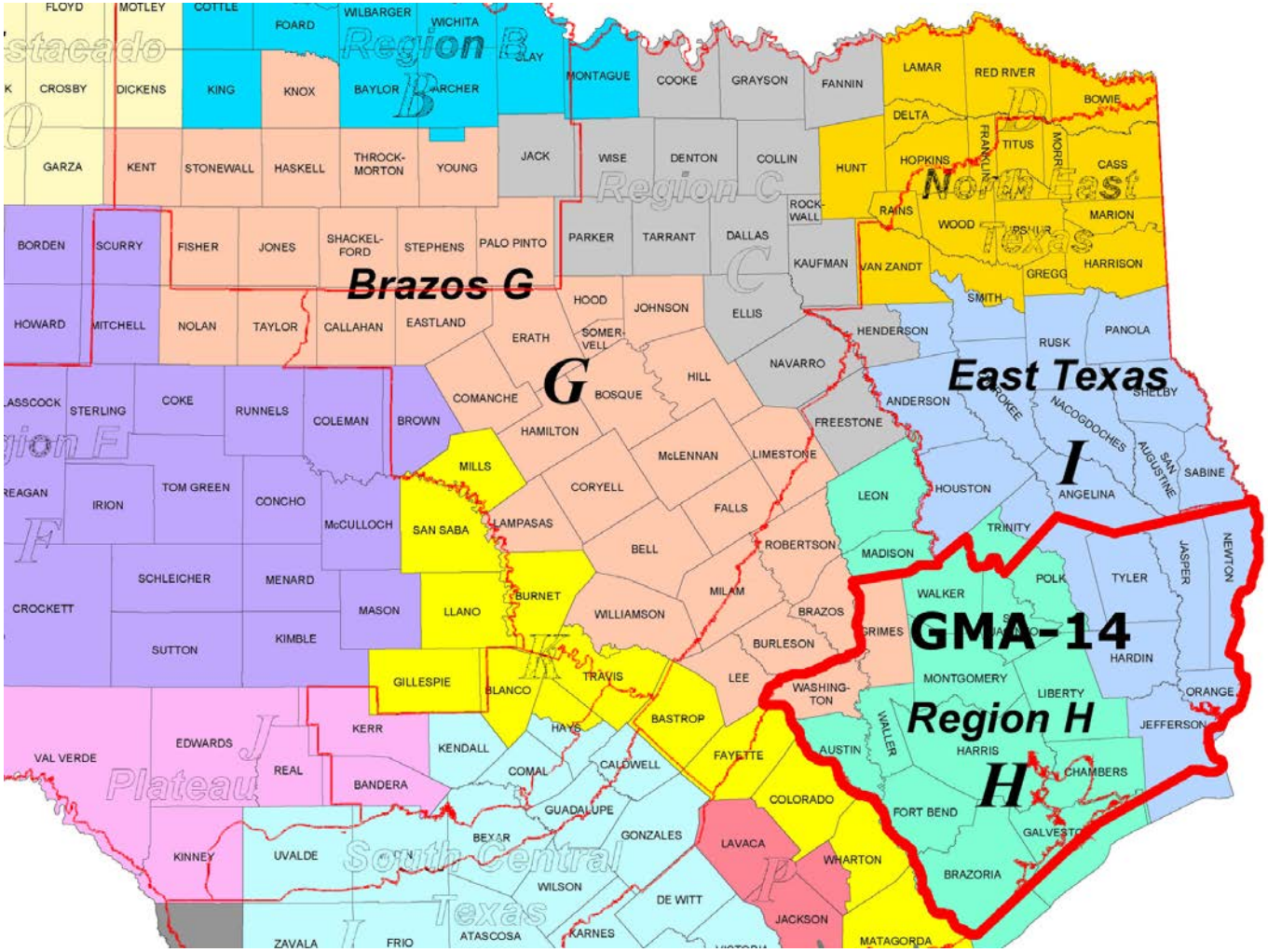
GMA-13

- Set GMA-wide average drawdown for Carrizo-Wilcox, Queen City, Sparta
- Gonzales and Plum Creek face high municipal demand for IH35 corridor
- South GMA has increased GW use for fracking
- Will need to adjust DFC for fracking water

GMA-13

- Revised Carrizo-Wilcox, Queen City, and Sparta DFCs
- Hired Dr. Bill Hutchinson for process
- Plan to vote on a proposed DFCs in January

Groundwater Management Area 14



GMA-14

- Six GCDs
  - Bluebonnet
  - Brazoria County
  - Brazos Valley
  - Lone Star
  - Lower Trinity
  - Southeast Texas

GMA-14

- DFCs
  - Gulf Coast Aquifer
  - Sparta Aquifer
  - Carrizo-Wilcox Aquifer
  - Yegua-Jackson Aquifer
  - Queen City Aquifer

GMA-14

- Regions G, H, and I to use MAGS as follows:
  - Gulf Coast Aquifer 11/18/2011
  - Sparta Aquifer 2/18/2011
  - Carrizo-Wilcox Aquifer 11/18/2012
  - Yegua-Jackson Aquifer 7/9/2012
  - Queen City Aquifer 7/9/2012

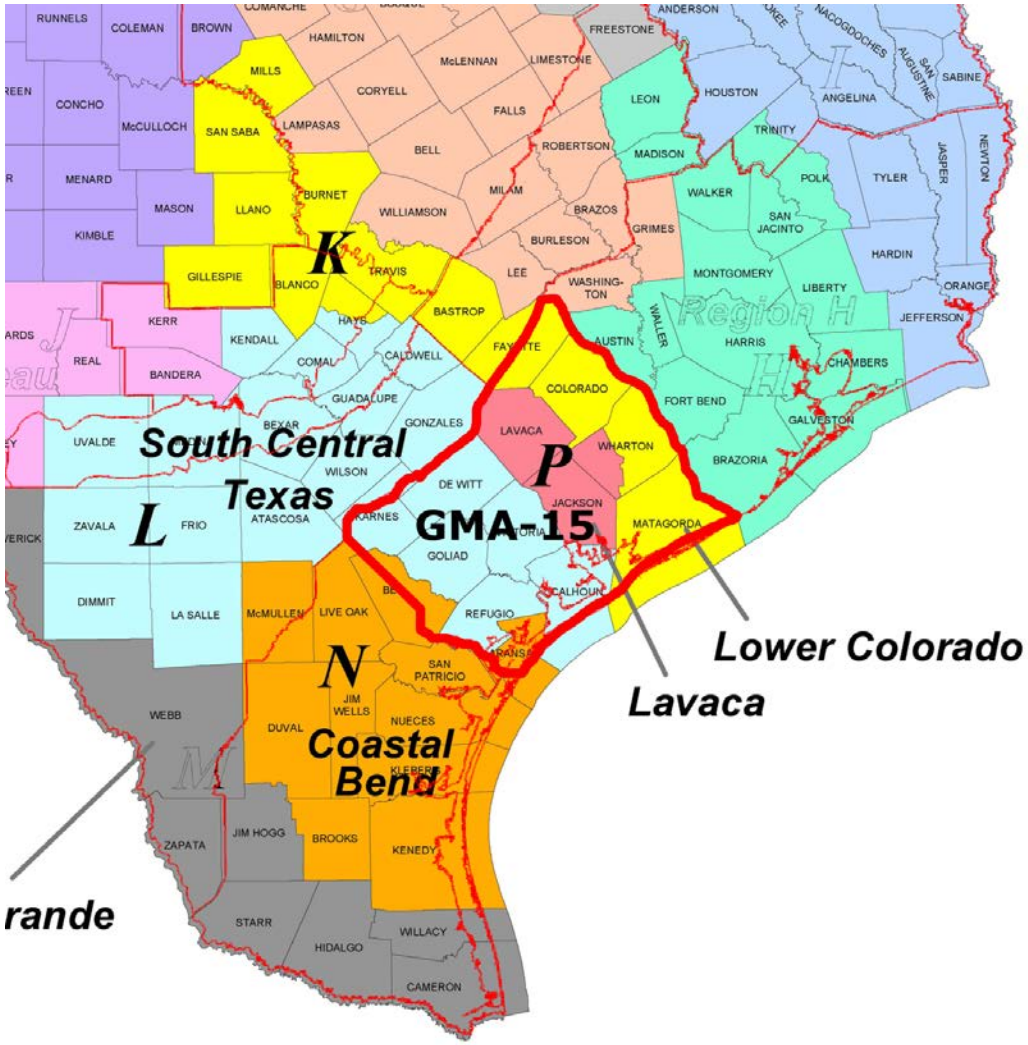
GMA-14

- Lone Star and subsidence districts participated in updating Upper Gulf Coast GAM
- TWDB reviewed the HAGM and requested revisions
- Hoping to get new MAG used in current RWP cycle
- Will need to address Catahoula being developed in Montgomery County

GMA-14

- In process of revising Gulf Coast Aquifer DFC
- Discussing factors required to be considered
- Consultants:
  - Freese and Nichols
  - Mullican & Associates

Groundwater Management Area 15



GMA-15

- 14 GCDs: Bee, Calhoun, Coastal Bend, Coastal Plains, Colorado, Corpus Christi A.S.R, Lavaca, Evergreen, Fayette, Goliad, Pecan Valley, Refugio, Texana, and Victoria

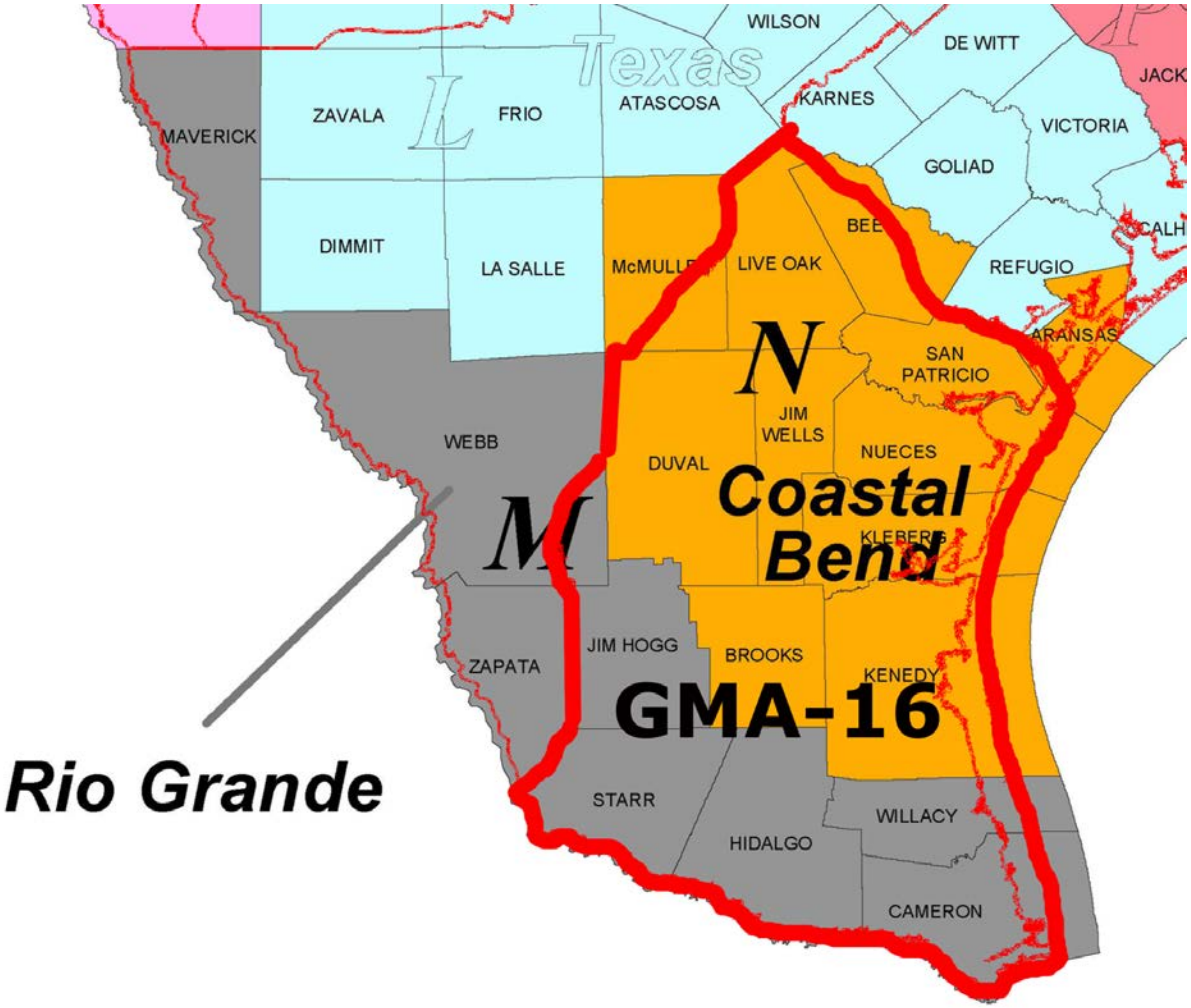
GMA-15

- DFC
  - Gulf Coast Aquifer
- MAG issued 11/18/11 must be used in RWP

GMA-15

- Set GMA-wide average drawdown based on GCD pumping input
- Used Central Gulf Coast GAM
- selected a consultant, INTERA, Incorporated, to assist with development of DFCs.

Groundwater Management Area 16



GMA-16

- Ten GCDs
  - Bee
  - Brush Country
  - Corpus Christi A.S.R.
  - Duval
  - Kenedy
  - Live Oak
  - McMullen
  - Red Sands
  - San Patricio
  - Starr

GMA-16

- DFC for Gulf Coast Aquifer set as GMA-wide average drawdown based on GCD pumping input
- MAG issued 12/8/11

GMA-16

- Started second cycle planning as soon as MAG issued
- Working with Randy Williams to develop DFCs
- At this point, no desire to set GMA-wide average drawdown
- Yegua-Jackson and Carrizo-Wilcox, Queen City, Sparta were irrelevant during 1st cycle; because of fracking, they will have DFCs this cycle

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