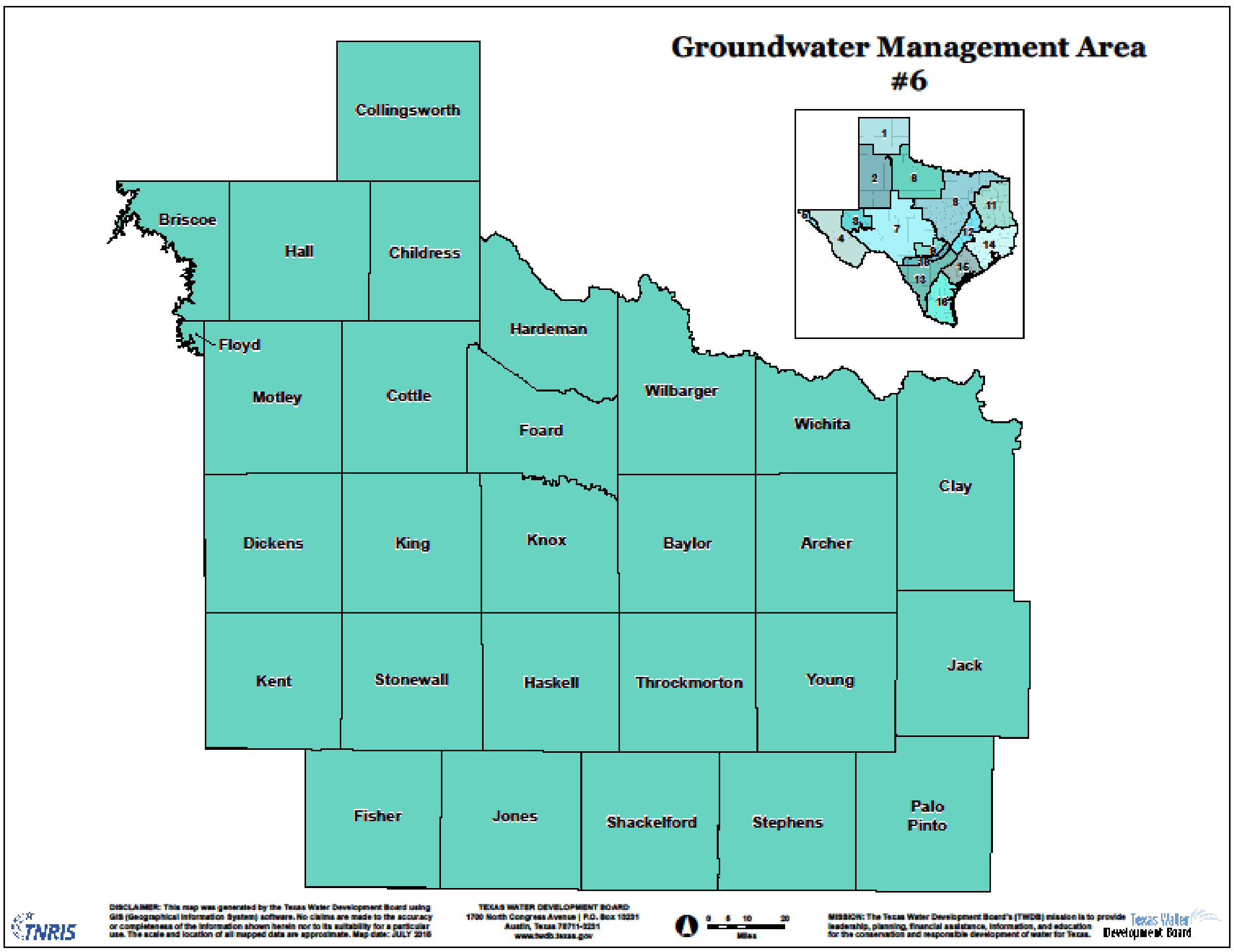
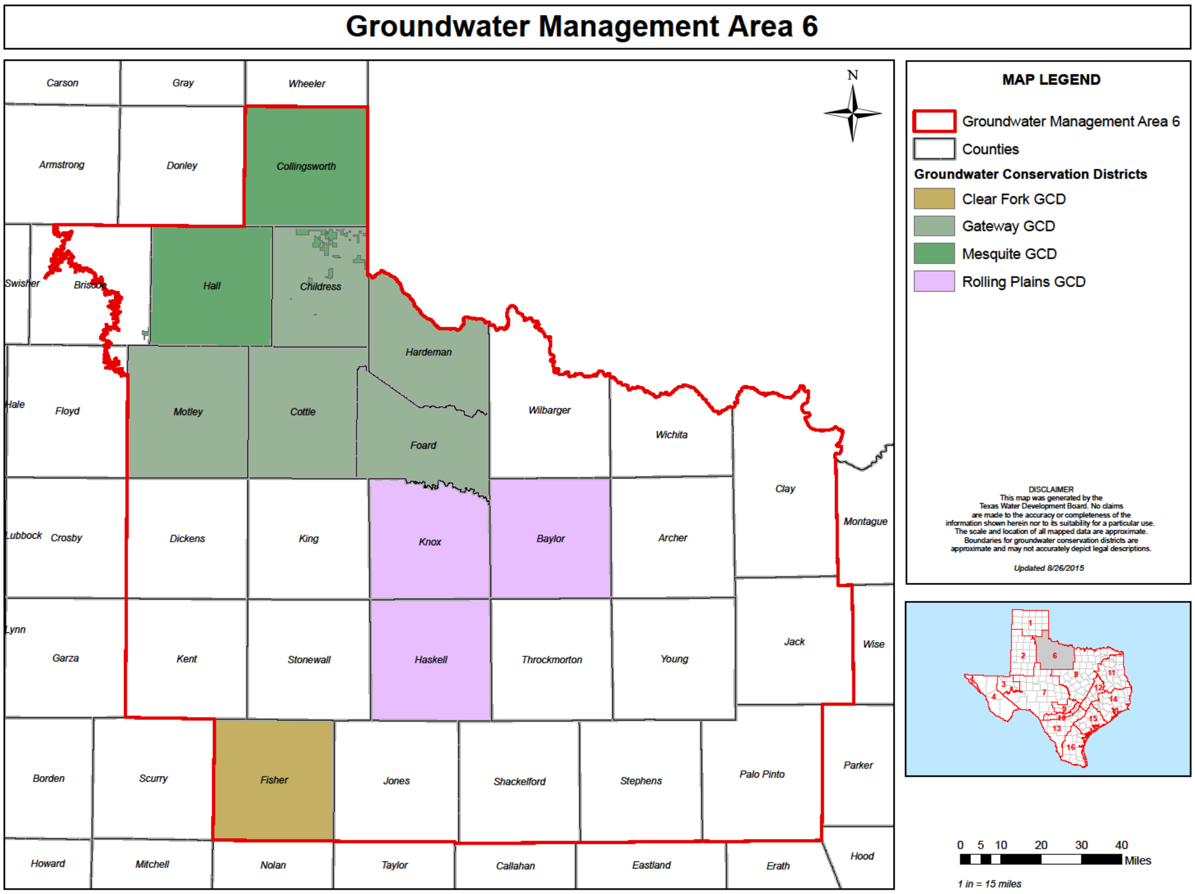
Explanatory Report

Groundwater Management Area 6

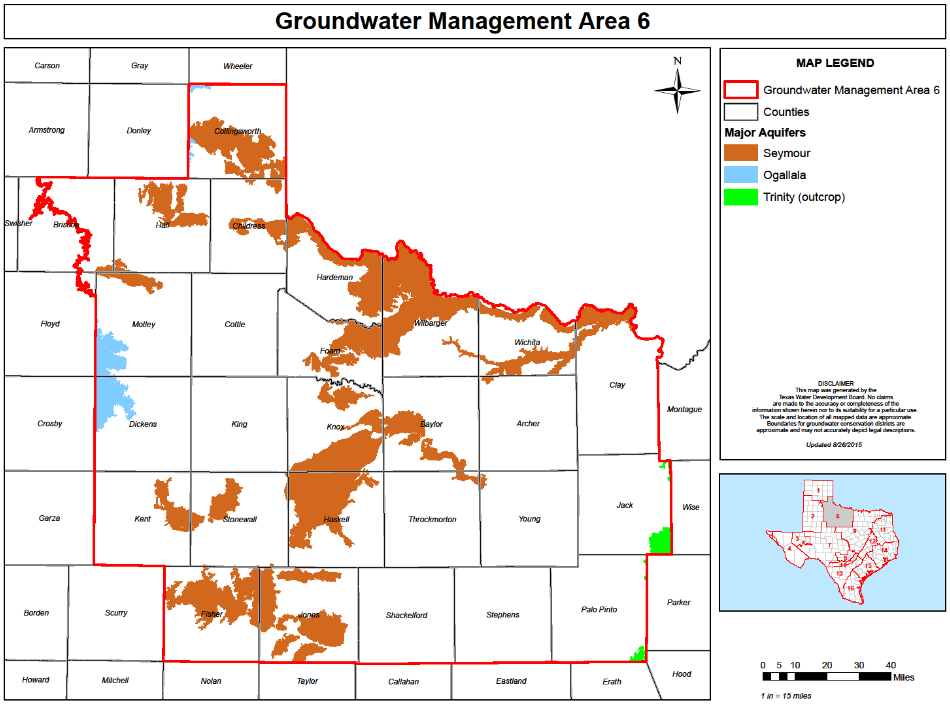
January 17, 2017



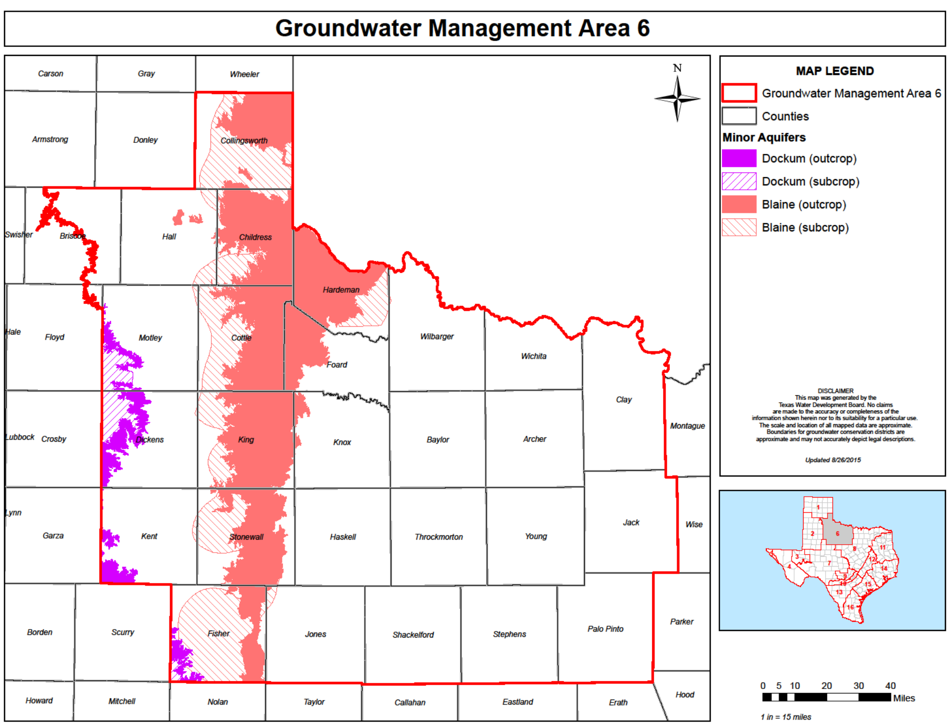


Groundwater Management Area 6

GMA 6 covers all or parts of 27 counties in north central Texas as shown in the map on the cover page. There are 4 groundwater conservation districts in this GMA, as shown above. This area varies widely from east to west. The eastern parts of the area are mainly served by surface water, are more urban, and have very little groundwater supplies. The western parts of the area are mainly served by groundwater, are more rural, and depend on groundwater for their water supplies. One unique factor in GMA 6 is that two of the aquifers, the Blaine and Seymour, are discontinuous. The Blaine has discontinuous solution cavities and channels, and the Seymour has isolated pods of sand and gravel. This allows smaller areas of each aquifer to be produced and managed independently without effect on the neighboring producers.



GMA 6 Major Aquifers (From TWDB)



GMA 6 Minor Aquifers (From TWDB)

Aquifer Descriptions

Blaine Aquifer

The Blaine Aquifer is a minor aquifer located at the east end of the High Plains in North Texas. The aquifer is part of the Permian Blaine Formation, which is composed of red silty shale, gypsum, anhydrite, salt, and dolomite. The formation consists of cycles of marine and nonmarine sediments deposited in a broad, shallow sea that once covered the southwestern United States. Saturated thickness reaches 300 feet in the aquifer, but freshwater saturated thickness averages 137 feet. Groundwater occurs primarily in solution channels and caverns within the beds of anhydrite and gypsum that contribute to the overall poor quality of the water. Although some wells contain slightly saline water, with total dissolved solids between 1,000 and 3,000 milligrams per liter, most contain moderately saline water, with total dissolved solids between 3,000 and 10,000 milligrams per liter, exceeding secondary drinking water standards for Texas. Sulfate values are also well in excess of the secondary drinking water standard of 300 milligrams per liter. Water from the Blaine Aquifer is used for livestock and for irrigation of crops that are highly tolerant of salt. – Taken from TWDB Report R380 “Aquifers of Texas”.

Dockum Aquifer

The Dockum Aquifer is a minor aquifer found in the northwest part of the state. It is defined stratigraphically by the Dockum Group and includes, from oldest to youngest, the Santa Rosa Formation, the Tecovas Formation, the Trujillo Sandstone, and the Cooper Canyon Formation. The Dockum Group consists of gravel, sandstone, siltstone, mudstone, shale, and conglomerate. Groundwater located in the sandstone and conglomerate units is recoverable, the highest yields coming from the coarsest grained deposits located at the middle and base of the group. Typically, the water-bearing sandstones are locally referred to as the Santa Rosa Aquifer. The water quality in the aquifer is generally poor—with freshwater in outcrop areas in the east and brine in the western subsurface portions of the aquifer—and the water is very hard. Naturally occurring radioactivity from uranium present within the aquifer has resulted in gross alpha radiation in excess of the state’s primary drinking water standard. Radium-226 and -228 also occur in amounts above acceptable standards. Groundwater from the aquifer is used for irrigation, municipal water supply, and oil field waterflooding operations, particularly in the southern High Plains. – Taken from TWDB Report R380 “Aquifers of Texas”.

Ogallala Aquifer

The Ogallala Aquifer is the largest aquifer in the United States and is a major aquifer of Texas underlying much of the High Plains region. The aquifer consists of sand, gravel, clay, and silt and has a maximum thickness of 800 feet. Freshwater saturated thickness averages 95 feet. Water to the north of the Canadian River is generally fresh, with total dissolved solids typically less than 400 milligrams per liter; however, water quality diminishes to the south, where large areas contain total dissolved solids in excess of 1,000 milligrams per liter. High levels of naturally occurring arsenic, radionuclides, and fluoride in excess of the primary drinking water standards are also present. The Ogallala Aquifer provides significantly more water for users than any other aquifer in the state. The availability of this water is critical to the economy of the region, as approximately 95 percent of groundwater pumped is used for irrigated agriculture. – Taken from TWDB Report R380 “Aquifers of Texas”.

Seymour Aquifer

The Seymour Aquifer is a major aquifer extending across northcentral Texas. The aquifer consists of Quaternary-age, alluvial sediments unconformably overlying Permian-age rocks. Water is contained in isolated patches of alluvium as much as 360 feet thick composed of discontinuous beds of poorly sorted gravel, conglomerate, sand, and silty clay. Water ranges from fresh to slightly saline, containing from approximately 100 to 3,000 milligrams per liter of total dissolved solids; however, moderately to very saline water, containing 3,000 to more than 10,000 milligrams per liter of total dissolved solids, exists in localized areas. Throughout its extent, the aquifer is affected by nitrate in excess of primary drinking water standards. Excess chloride also occurs throughout the aquifer. Almost all of the groundwater pumped from the aquifer—90 percent—is used for irrigation, with the remainder used primarily for municipal supply. – Taken from TWDB Report R380 “Aquifers of Texas”.

Trinity Aquifer

The Trinity Aquifer, a major aquifer, extends across much of the central and northeastern part of the state. It is composed of several smaller aquifers contained within the Trinity Group. Although referred to differently in different parts of the state, they include the Antlers, Glen Rose, Paluxy, Twin Mountains, Travis Peak, Hensell, and Hosston aquifers. These aquifers consist of limestones, sands, clays, gravels, and conglomerates. Their combined freshwater saturated thickness averages about 600 feet in North Texas and about 1,900 feet in Central Texas. In general, groundwater is fresh but very hard in the outcrop of the aquifer. Total dissolved solids increase from less than 1,000 milligrams per liter in the east and southeast to between 1,000 and 5,000 milligrams per liter, or slightly to moderately saline, as the depth to the aquifer increases. Sulfate and chloride concentrations also tend to increase with depth. The Trinity Aquifer discharges to a large number of springs, with most discharging less than 10 cubic feet per second. The aquifer is one of the most extensive and highly used groundwater resources in Texas. Although its primary use is for municipalities, it is also used for irrigation, livestock, and other domestic purposes. – Taken from TWDB Report R380 “Aquifers of Texas”.

Section 1 – Desired Future Conditions

GMA 6 used several methods to set the DFC. The Blaine and Seymour Aquifers DFC were set using the modeled values and the previous DFC with the exception of Collingsworth and Hall Counties. These counties were set using their actual average drawdown as calculated from water level measurements because of the age of the model and the irrigation development since the model was created. This is addressed more fully in the technical justifications section. The Dockum Aquifer DFC was set using the information modeled in GMA 2 and GMA 7 that hold the majority of the Dockum Aquifer that connects to GMA 6. The Ogallala Aquifer DFC was set using the information modeled in GMA 2 which holds the majority of the Ogallala Aquifer that connects to GMA 6. The chart below shows the Desired Future Conditions. The attached map named “Seymour Pod Numbers” shows the location of the Seymour Aquifer Pods.

AQUIFER	POD	COUNTY / COUNTIES	Adopted DFC
BLAINE		Childress - N of Red River	9 ft decline from 2020 - 2070
		Childress - S of Red River	2 ft decline from 2020 - 2070
		Collingsworth	9 ft decline from 2020 - 2070
		Cottle	2 ft decline from 2020 - 2070
		Fisher	4 ft decline from 2020 - 2070
		Foard	2 ft decline from 2020 - 2070
		Hall	9 ft decline from 2020 - 2070
		Hardeman	2 ft decline from 2020 - 2070
		King	Not Relevant
		Stonewall	Not Relevant
DOCKUM		Dickens	Not Relevant
		Fisher	27 ft decline from 2020 - 2070 (GMA 2 & 7)
		Kent	Not Relevant
		Motley	27 ft decline from 2020 - 2070 (GMA 2)
OGALLALA		Collingsworth	Not Relevant
		Dickens	Not Relevant
		Motley	23 - 27 ft decline from 2020 - 2070 (GMA 2)
SEYMOUR	1	Childress, Collingsworth	33 ft decline from 2020 - 2070
	2	Hall	15 ft decline from 2020 - 2070
	3	Briscoe, Hall, Motley	15 ft decline from 2020 - 2070
	4	Childress, Foard, Hardeman	1 ft decline from 2020 - 2070
	4	Wichita, Wilbarger	Not Relevant
	5	Archer, Clay Wichita, Wilbarger	Not Relevant
	6 (new GR)	Knox	18 ft decline from 2020 - 2070
	7 (new GR)	Baylor, Haskell, Knox	18 ft decline from 2020 - 2070
	7	Stonewall	Not Relevant
	8 (new GR)	Baylor	18 ft decline from 2020 - 2070
	8	Throckmorton, Young	Not Relevant
	9	Kent, Stonewall	Not Relevant
	10	Kent, Stonewall	Not Relevant
	11	Fisher	1 ft decline from 2020 - 2070
	11	Jones, Stonewall	Not Relevant
	12	Jones	Not Relevant
	13	Jones	Not Relevant
	14	Jones	Not Relevant
	15	Jones	Not Relevant
TRINITY		Jack	Not Relevant
		Palo Pinto	Not Relevant

Section 2 – Policy and Technical Justifications

Policy Justifications

Texas Water Code Chapter 36.108(d) states: 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 propose for adoption desired future conditions for the relevant aquifers within the management area. Before voting on the proposed desired future conditions of the aquifers under Subsection (d-2), the districts shall consider:
(1) aquifer uses or conditions within the management area, including conditions that differ substantially from one geographic area to another;
(2) the water supply needs and water management strategies included in the state water plan;
(3) hydrological conditions, including for each aquifer in the management area the total estimated recoverable storage as provided by the executive administrator, and the average annual recharge, inflows, and discharge;
(4) other environmental impacts, including impacts on spring flow and other interactions between groundwater and surface water;
(5) the impact on subsidence;
(6) socioeconomic impacts reasonably expected to occur;
(7) the impact on the interests and rights in private property, including ownership and the rights of management area landowners and their lessees and assigns in groundwater as recognized under Section 36.002;
(8) the feasibility of achieving the desired future condition; and
(9) any other information relevant to the specific desired future conditions.

The desired future condition provides a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging, and prevention of waste of groundwater in GMA 6.

The policy in GMA 6 is to set the DFC for the slivers of aquifers to align with the DFC set in the GMA that contains the majority of the aquifers, or to declare the slivers non-relevant in areas with very little groundwater supply. In GMA 6, this includes the Ogallala and Dockum Aquifers in Motley County, which has an adopted DFC to match the rest of those aquifers in GMA 2; and the Ogallala Aquifer in Collingsworth County, which the Mesquite GCD does not believe is saturated, and is a very small area, which GMA 6 is declaring non-relevant for the purposes of joint planning.

In areas where there is an aquifer but no groundwater district, the policy in GMA 6 is to declare the aquifer non-relevant for the purposes of joint planning. GMA 6 recognizes that there is no groundwater conservation district with authority or funding to measure, monitor, or manage the aquifer to meet the DFC. GMA 6 also recognizes that Wilbarger County has previously failed to confirm a groundwater conservation district in an election and an existing groundwater conservation district in Kent County disbanded. In GMA 6 only all or parts of 12 of 27 counties have groundwater conservation districts. Also, large portions of GMA 6 have neither major nor minor aquifers present, and no representative from any area with an aquifer declared non-relevant ever attended a GMA 6 meeting. If a GCD were created in any of these areas, GMA 6 would recommend that District consider the values in the attached “GAM Run Values” excel file as their proposed DFC.

The other policy considerations in GMA 6 are regarding Mesquite GCD, where the DFC is changing from a percent decline to a feet of decline type of management strategy. The change is proposed because of several policy and technical reasons. The policy reasons include changing to a management strategy that more closely aligns with the rest of GMA 6, and realizing that the feet of decline type management is easier and more cost effective to implement because of several technical factors which will be more fully explored in the next section.

Technical Justifications

The models used to develop and check feasibility of the DFC in GMA 6 include GR 08-044 for the Seymour and Blaine Aquifers and the updated Seymour and Blaine model in Baylor, Haskell, and Knox Counties GR 14-009. The original model that covers most of GMA 6 is old, developed in 2008, and the pumping data in this model is even older, ending in 1999. GMA 6 wanted to stick as closely to the approved model as possible, but because of the age of the model data also took the member districts water level measurement data into consideration when proposing and adopting a DFC. This was especially the case in Collingsworth and Hall Counties because of increased irrigation development since 1999. The increase in pumping in Collingsworth and Hall Counties described in Aquifer Uses and Conditions led to more drawdown than predicted by the model in those counties according to an analysis of water level measurements. Because of this discrepancy between the modeled drawdown and actual measured drawdown, the GMA chose to use an analysis of actual measured drawdowns when setting the DFC values in those counties.

These two counties also switched from a percent decline to a feet of decline management strategy. One of the main reasons for this change was because of the inherent variability of water presence and quantity in the Blaine and Seymour Aquifers. The Blaine Aquifer is formed from solution channels, which means in some areas the Blaine Aquifer covers, there is no water (where there are no channels) and in some areas there are cavities full of water. Those cavities can completely dewater and fill up depending on rainfall and usage. Determining what 100% of this aquifer might be would be very costly and difficult. Also, the Seymour Aquifer receives recharge due to its shallow water table and sandy soil, and has fluctuating water levels, which makes calculating 100% somewhat difficult. The long-term existing data in these counties is water levels, so switching to a management strategy that utilized the existing data only made sense. The other counties in GMA 6 already based their DFC on the water level decline in the GAM, and the model the GMA ran to check for feasibility bore out those DFC’s.

The Ogallala and Dockum Aquifers in Motley County are following the technical recommendations of GMA 2 as reported in Technical Memorandum 16-01 (Hutchison).

Section 3 - Factors Considered

GMA 6 considered the 9 factors listed in Chapter 36.108(d) before proposing a DFC. The DFC was evaluated for the effect it would have on each factor. Following is a description of the individual considerations:

Aquifer Uses and Conditions

GMA 6 aquifer uses and conditions were considered at several meetings during the last planning period. The aquifers in GMA 6 are used almost exclusively for agriculture and municipalities according to the five Regional Water Plans. In most areas in GMA 6, the pumping in the Blaine and Seymour aquifers has not increased since the development of the original model GR 08-044, nor since the refined model GR 14-009 in Baylor, Haskell, and Knox Counties in 2014. The exception to this in Collingsworth and Hall Counties. Both of these counties have had some increase in irrigation since the model was developed. This was referenced in Table 2-1 of the 2011 Region A water plan, which showed an increase of 14,793 irrigated acres in Collingsworth County, and 2,211 irrigated acres in Hall County. The older Region A Water Plan was used in this instance to show the increase in irrigated acres since the 1999 pumping information used in the model.

Other aquifers in this GMA, including the Dockum, Ogallala, and Trinity are very localized, and used mostly for domestic and livestock, if at all. The exceptions to this are a small amount of irrigation in the Dockum Aquifer in Fisher County, and the City of Perrin Water system in the Trinity Aquifer in Jack County, which has 3 wells with a total production of 57 GPM according to public water supply records as shown in the attached excel file "Jack County Use in Trinity Sliver".

Water Supply Needs and Water Management Strategies

Water supply needs and management strategies were considered by the 5 regional planning groups with counties in GMA 6, which include Regions A, B, C, G, and O. Region C only covers Jack County, which concerns GMA 6 only because of a sliver of Trinity aquifer. The member districts of GMA 6 have a representative on the board of all other associated Regional Planning Groups. These districts have been very active and involved in developing the water supply needs and water management strategies for these plans. Many discussions of the water needs and strategies have taken place at GMA 6 meetings with the informed representatives on those Regional Planning Groups bringing information to the GMA meetings. Each of the Regional Water Plans is attached, and a brief summary of the needs and strategies from the counties in each of those plans is below.

Region A – Collingsworth and Hall Counties. Collingsworth County is showing an unmet municipal need for the City of Wellington, and Hall County is showing an unmet County-Other need for the city of Lakeview in Table 11-7 of Region A's plan. The strategies for addressing these needs are in Table 11-8, and include municipal conservation, expanded use of RO treatment of brackish groundwater, and developing new Seymour Aquifer wells.

Region B – Archer, Baylor, Clay, Cottle, Foard, Hardeman, King, Wichita, Wilbarger, and the City of Olney in Young County. This Region is primarily surface water based, although there is some irrigation using the Blaine or Seymour Aquifers in Baylor, Clay, Foard, Hardeman, Wichita and Wilbarger Counties. Wilbarger has the most groundwater availability at 4,600 acre-feet per year according to Table 3-5 in Region B's plan. Baylor, Hardeman, and Wilbarger Counties are projected to have unmet groundwater supplied irrigation needs for at least part of the plan's timeframe, and Wilbarger County shows an unmet groundwater supplied municipal need by 2040. The primary strategy to address these shortages is water conservation.

Region C – Jack County. This county is primarily supplied by surface water, and all their needs and strategies deal with surface water. The only aquifer GMA 6 must consider is the silver of Trinity Aquifer which is addressed in TWDB's slivers report. Because of the very small use and extent of this aquifer in GMA 6, they have chosen to declare this sliver to be non-relevant for the purposes of joint planning. In addition, there is no groundwater conservation district to monitor, evaluate, or manage the groundwater supplies in this county.

Region G – Fisher, Haskell, Jones, Kent, Knox, Palo Pinto, Shackelford, Stephens, Stonewall, Throckmorton, and Young (except the City of Olney) Counties. This Region is primarily surface water dependent, and shows many surface water needs. The groundwater supplied needs are as follows: Fisher County manufacturing, Haskell, Knox, Jones and Stephens Counties irrigation, and Kent County municipal. The strategies to meet these needs are conservation, and developing new supplies, whether they be groundwater or surface water. The City of Jayton in Kent County also has a strategy of developing a new water treatment facility, as their current facility has a low daily load limit and so is the bottleneck to their supply. There are also some needs that do not currently have groundwater supply, but one of the strategies for meeting these needs is to develop groundwater supply. The needs and strategies for all of these counties can be found in Chapter 5 of the Region G water plan.

Region O – Briscoe off of the caprock, Dickens, Floyd off of the caprock, and Motley Counties. Dickens and Motley Counties are showing unmet Ogallala or Dockum Aquifer supplied needs in Table 4-2 of the Region O plan. Table 5-2 contains the strategies to meet those needs. The strategies include conservation for irrigation and municipal shortages, and in addition, recommends a strategy of developing a new groundwater supply for the City of Dickens.

Hydrologic Conditions

GMA 6 considered the total estimated recoverable storage, average annual recharge, inflows, outflows, and discharge prior to proposing a DFC. This information is available from a variety of sources, including the TERS report 13-029 for GMA 6, GAM run 14-007 for the development of Clear Fork GCD's management plan, GAM run 13-017 for the development of Mesquite GCD's management plan, GAM run 10-21 for the development of Rolling Plains GCD's management plan, and GAM run 10-07 for the development of Gateway GCD's management plan. The information used is attached and compiled in the excel file named "Hydro Condition Chart."

Other Environmental Impacts

GMA 6 considered how spring flow might be affected by the DFC. Spring flow in Dickens and Motley Counties comes from the contact at the base of the Ogallala and Dockum Aquifers. The discharge in these springs will only be influenced by pumping outside of GMA 6, as the majority of the rest of those aquifers is in GMA 2. The springs that are fed by the Seymour and Blaine Aquifers tend to be seasonal and are affected by recharge and transpiration at least as much as they are by pumping. USGS springs database does not show any springs in the Trinity Aquifer in Jack or Palo Pinto Counties.

Subsidence

Subsidence in GMA 6 only occurs in the form of dissolved gypsum, salt and limestone formations that can cause localized sinkholes, depressions, and subsurface cavities. Since the only way to control these sinkholes is to dewater that portion of the aquifer where the minerals are being dissolved, subsidence was not considered to be a relevant factor when proposing the DFC.

Socioeconomic Impacts

The GMA considered the five socioeconomic impact reports prepared by those regions located in the GMA. These include Regions A, B, C, G and O. A summary survey of socio-economic factors was prepared by the GMA and is attached in the file called "Socio-Economic Table". Factors considered included population, population density and population change, municipal water sources, wage and income data, property values, retail sales, agricultural value and economy base type. The survey indicated a declining population. Over half the GMA population is located in Wichita County. There is a low wage agricultural based economy in the west, and a mixed wage economy in the east. Municipal areas rely on groundwater in the west and surface water in the east. There is generally limited groundwater in the eastern part of the GMA.

Private Property Rights

GMA 6 considered private property rights repeatedly throughout the process of proposing a DFC. GMA 6 received several emails from Mr. James Adams (attached) expressing his concerns about private property right in the state of Texas, and they reviewed a presentation (attached) developed by Lawyer Keith Good addressing the same. GMA 6 also followed the Bragg v. EAA case closely and the member districts discussed at length the effect this might have on groundwater districts and private property rights. After much discussion the members of GMA 6 believe they have adopted a DFC that preserves private property rights while also allowing the Districts to conserve, preserve, and protect the natural groundwater supplies.

Feasibility

Both of the Seymour/Blaine models were used to evaluate feasibility of the proposed DFC. Results of GAM runs prepared by GMA 2 were considered when evaluating the limited Ogallala and Dockum areas. In all cases, the models predict achieving the DFC is feasible. The Districts and the TWDB measure water levels in all Districts in the GMA. Analysis of these water levels have also been evaluated to confirm the adopted DFC is feasible, and will be used to monitor the aquifers to ensure they meet the DFC through time.

Other

No other factors have been considered during the proposal of the DFC.

Aquifers Declared Non-Relevant for Purposes of Joint Planning

The purpose of joint planning is for Districts to come together to consider DFC's for their districts. Therefore, in areas where there are no districts, GMA 6 is declaring the aquifers non-relevant because there is no groundwater conservation district with authority or funding to measure, monitor, or manage the aquifer to meet the DFC.

The Seymour Aquifer in Clay, Kent, Jones, Stonewall, Throckmorton, Wichita, Wilbarger, and Young Counties (including all of pods 5, 9, 10, 12, 13, 14, and 15, and parts of pods 4, 7, 8, and 11, as shown in the attached pdf file named "Seymour Pod Numbers") is totally excluded from any GCD. The aquifer characteristics have been discussed in this report in the prior aquifer characteristics section, and the demands, uses, and TERS volumes are included in the attached Excel file named “Hydro Conditions Chart.” Because there is no GCD to measure, monitor, or manage the aquifers in these counties, GMA 6 is declaring this aquifer in these counties non-relevant for the purposes of joint planning.

The Blaine Aquifer in King and Stonewall Counties is totally excluded from any GCD. The aquifer characteristics have been discussed in this report in the prior aquifer characteristics section, and the demands, uses, and TERS volumes are included in the attached Excel file named “Hydro Conditions Chart.” Because there is no GCD to measure, monitor, or manage the aquifers in these counties, GMA 6 is declaring this aquifer in these counties non-relevant for the purposes of joint planning.

The Trinity Aquifer in Jack and Palo Pinto Counties is totally excluded from any GCD. The aquifer characteristics have been discussed in this report in the prior aquifer characteristics section, and the demands, uses, and TERS volumes are included in the attached Excel file named “Hydro Conditions Chart.” Because there is no GCD to measure, monitor, or manage the aquifers in these counties, GMA 6 is declaring this aquifer in these counties non-relevant for the purposes of joint planning.

The Dockum Aquifer in Kent and Dickens Counties is totally excluded from any GCD. The aquifer characteristics have been discussed in this report in the prior aquifer characteristics section, and the demands, uses, and TERS volumes are included in the attached Excel file named “Hydro Conditions Chart.” Because there is no GCD to measure, monitor, or manage the aquifers in these counties, GMA 6 is declaring this aquifer in these counties non-relevant for the purposes of joint planning.

The Ogallala Aquifer in Dickens County is totally excluded from any GCD. The aquifer characteristics have been discussed in this report in the prior aquifer characteristics section, and the demands, uses, and TERS volumes are included in the attached Excel file named “Hydro Conditions Chart.” Also, GMA 6 examined pumping scenarios modeled in GMA 2 for this aquifer as attached in the file named “Ogallala Pumping Drawdown Motley and Dickens”. Because there is no GCD to measure, monitor, or manage the aquifers in these counties, GMA 6 is declaring this aquifer in these counties non-relevant for the purposes of joint planning.

The Ogallala Aquifer in Collingsworth County is in Mesquite Groundwater Conservation District. The aquifer characteristics have been discussed in this report in the prior aquifer characteristics section, and the demands, uses, and TERS volumes are included in the attached Excel file named “Hydro Conditions Chart.” MGCD is in the process of collecting information to verify whether any of the Ogallala Formation is saturated in their District. High Plains Aquifer System GAM numerical report August 2015 shows Ogallala pumping in Collingsworth County to be 1 acre-foot per year from 1998 to 2008. The rest of the years are 0 acre-feet. As you can see on the Major Aquifers map, there is such a small area of Ogallala formation mapped in Collingsworth County that it is not of consequence to regional-scale planning. Therefore, GMA 6 is declaring this aquifer in this county non-relevant for the purposes of joint planning.

Section 4 – Other DFC Options Considered

GMA 6 considered many other DFC options, including percent decline, feet decline, springflow maintenance, and production based scenarios. The attached powerpoint titled “DFC options – revised” outlines all of these possible DFC options. These DFC options were not adopted because of the lack of data to evaluate them. All GCD's in GMA 6 have historic and continuing water level measurements. These measurements will allow the GCD's to evaluate feasibility of and compliance with the DFC.

Section 5 – Comments Considered

No GCD received any comment on the proposed DFC during the 90 day comment period from any stakeholder or TWDB. There was also no comment at any GMA 6 meeting, or received by the GMA 6 coordinator. (Letters from each GCD attached.)