

Middle Trinity Groundwater Conservation District

Groundwater Management Plan

Originally Adopted - April 29, 2004

Approved by Texas Water Development Board - July 1, 2004

Re-Adopted – April 2, 2009

Approved by Texas Water Development Board – May 5, 2009

Re-Adopted – March 5, 2012

Approved by Texas Water Development Board – May 14, 2012

Re-Adopted – October 6, 2016 and March 9, 2017

Approved by Texas Water Development Board – April 20, 2017

Amended – October 4, 2018

Approved by the Texas Water Development Board – February 8, 2019

Re-Adopted – June 2, 2022

Approved by the Texas Water Development Board – July 27, 2022

Amended – July 6, 2023

Middle Trinity Groundwater Conservation District

Groundwater Management Plan

I. District Mission

The mission of the Middle Trinity Groundwater Conservation District is to conserve, preserve and protect the quality and quantity of the groundwater resources for the citizens of Comanche, Erath, Bosque, and Coryell Counties. To accomplish its mission, the District will work to minimize the drawdown of the water table, prevent the waste of groundwater, prevent interference between wells, protect the existing and historic use of groundwater, prevent the degradation of the quality of groundwater, use public education to promote water conservation, give consideration to the service needs of municipal water utilities and the agricultural community, and carry out the powers and duties conferred under Chapter 36 of the Texas Water Code. The District believes that the economy, environment, and quality of life will all be positively impacted by the achievement of its mission.

II. Purpose of Management Plan

The 75th Texas Legislature in 1997 enacted Senate Bill 1 (“SB 1”)¹ to establish a comprehensive statewide water planning process. In particular, SB 1 contained provisions that required groundwater conservation districts to prepare management plans to identify the water supply resources and water demands that will shape the decisions of each district. SB 1 designed the management plans to include management goals for each district to manage and conserve the groundwater resources within their boundaries. In 2001, the Texas Legislature enacted Senate Bill 2 (“SB 2”)² to build on the planning requirements of SB 1 and to further clarify the actions necessary for districts to manage and conserve the groundwater resources of the state of Texas.

The Texas Legislature enacted significant changes to the management of groundwater resources in Texas with the passage of House Bill 1763 (“HB 1763”)³ in 2005 and Senate Bill 660 (“SB 660”) in 2011.⁴ Both HB 1763 and SB 660 made significant revisions to the existing long-term planning process known as the Groundwater Management Area (GMA) process. Based on the language established in Chapter 36 by HB 1763 and SB 660, groundwater conservation districts (“GCDs”) in each GMA were required to meet and determine the Desired Future Conditions (“DFCs”) for the groundwater resources within their boundaries by September 1, 2010 and to propose for re-adoption the desired future conditions for the relevant aquifers every five years.

¹ Act of June 2, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610.

² Act of May 27, 2001, 77th Leg., R.S., ch. 966, 2001 Tex. Gen. Laws 1991.

³ Act of May 30, 2005, 79th Leg., R.S. ch. 970, 2005 Tex. Gen. Laws 3247.

⁴ Act of May 29, 2011, 82nd Leg., R.S. ch. 1233, 2011 Tex. Gen. Laws 3287.

In addition, HB 1763 required GCDs, like the District, to provide each GCDs' management plans with the other GCDs in the GMA for review by the other GCDs.

The Middle Trinity Groundwater Conservation District's management plan satisfies the requirements of SB 1, SB 2, HB 1763, SB 660, and the statutory requirements of Chapter 36 of the Texas Water Code, and the administrative requirements of the Texas Water Development Board's ("TWDB") rules.

III. District Information

A. Creation of District and Annexation of Bosque and Coryell Counties

The District was created in 2001 pursuant to the authorization provided by the 77th Texas Legislature in House Bill 3665.⁵ The voters of both Comanche and Erath Counties confirmed the creation of the District on May 4, 2002. Bosque and Coryell Counties were later added to the District through the annexation process provided in Subchapter J, Chapter 36 of the Texas Water Code.⁶ The District received a petition requesting the annexation of Bosque County on June 30, 2008, and the District Board of Directors (Board) voted to add Bosque County to the territory of the District on March 5, 2009. The voters of Bosque County approved annexation into the District on May 9, 2009. The District received a petition requesting the annexation of Coryell County on June 29, 2009, and the Board voted to add Coryell County to the territory of the District on August 6, 2009. The voters of Coryell County approved annexation into the District on November 3, 2009. In compliance with Section 36.1072(e) of the Texas Water Code and 31 TAC § 356.3, this management plan was re-adopted on April 2, 2009 within five years of the original adoption of the management plan and again reviewed and re-adopted on March 5, 2012, then again on October 6, 2016 and March 9, 2017⁷, and reviewed and re-adopted on June 2, 2022. This management plan was updated within two years of the adoption of DFCs by GMA 8 pursuant to Section 36.3011(5) of the Texas Water Code.⁸

B. Location and Extent

The District is located in the North Central Texas counties of Comanche, Erath, Bosque, and Coryell Counties. The boundaries of the District are coterminous with the boundaries of Comanche, Erath, Bosque, and Coryell Counties. The District is bordered by Eastland and Palo Pinto Counties on the north, Hood, Somervell, Johnson, Hill, and McLennan Counties on the east, Bell County on the south and Brown, Hamilton, Lampasas, and Mills Counties on the west. The District covers an area of approximately 4079 square miles.⁹

⁵ Act of May 25, 2001, 77th Leg. R.S., ch. 1362, 2001 Tex. Gen. Laws 3371.

⁶ TEX. WATER CODE ANN. §§36.321-.331 (West 2008).

⁷ TEX. WATER CODE §36.1072(e); 31 TEX. ADMIN. CODE § 356.3.

⁸ TEX. WATER CODE §36.3011(5).

⁹ Texas Almanac, 2008-2009, The Dallas Morning News.

C. Background

The Board currently consists of 12 (twelve) members. The existing Board is made up of 3 (three) directors from each of the counties in the District.

D. Authority / Regulatory Framework

In the process of creating and re-adopting its management plan, the District has complied with all procedures and met all requirements established by Chapter 36 of the Texas Water Code and Chapter 356 of the TWDB rules contained in Title 31 of the Texas Administrative Code.¹⁰ The District exercises the authority and powers that it was granted by and through the special and general laws that govern it, including Chapter 8862 of the Texas Special District Local Laws Code and Chapter 36 of the Texas Water Code.

E. Groundwater Resources of the District

Comanche and Erath Counties are located primarily over the outcrop of the Trinity Aquifer while Bosque and Coryell Counties are located over both the outcrop and the subcrop of the Trinity Aquifer. A Texas Water Development Board diagram of the Trinity Aquifer can be found at Appendix A. The Texas Water Development Board describes the groundwater resources of the Trinity Aquifer as follows:

“The Trinity aquifer consists of early Cretaceous age formations of the Trinity Group where they occur in a band extending through the central part of the state in all or parts of 55 counties, from the Red River in North Texas to the Hill Country of South-Central Texas. Trinity Group deposits also occur in the Panhandle and Edwards Plateau regions where they are included as part of the Edwards-Trinity (High Plains and Plateau) aquifers.

Formations comprising the Trinity Group are (from youngest to oldest) the Paluxy, Glen Rose, and Twin Mountains-Travis Peak. Up dip, where the Glen Rose thins or is missing, the Paluxy and Twin Mountains coalesce to form the Antlers Formation. The Antlers consists of up to 900 feet of sand and gravel, with clay beds in the middle section. Water from the Antlers is mainly used for irrigation in the outcrop area of North and Central Texas.

Forming the upper unit of the Trinity Group, the Paluxy Formation consists of up to 400 feet of predominantly fine-to-coarse-grained sand interbedded with clay and shale. The formation pinches out downdip and does not occur south of the Colorado River.

Underlying the Paluxy, the Glen Rose Formation forms a gulfward-thickening wedge of marine carbonates consisting primarily of limestone. South of the Colorado River, the Glen Rose is the upper unit of the Trinity Group and is divisible into an upper and lower member. In the north, the downdip portion of the aquifer becomes highly mineralized and is a source of contamination to wells that are drilled into the underlying Twin Mountains.

¹⁰ 31 TEX. ADMIN. CODE §§ 356.

The basal unit of the Trinity Group consists of the Twin Mountains and Travis Peak formations, which are laterally separated by a facies change. To the north, the Twin Mountains formation consists mainly of medium- to coarse-grained sands, silty clays, and conglomerates. The Twin Mountains is the most prolific of the Trinity aquifers in North-Central Texas; however, the quality of the water is generally not as good as that from the Paluxy or Antlers Formations. To the south, the Travis Peak Formation contains calcareous sands and silts, conglomerates, and limestones. The formation is subdivided into the following members in descending order: Hensell, Pearsall, Cow Creek, Hammett, Sligo, Hosston, and Sycamore.

Extensive development of the Trinity aquifer has occurred in the Fort Worth-Dallas region where water levels have historically dropped as much as 550 feet. Since the mid-1970s, many public supply wells have been abandoned in favor of a surface-water supply, and water levels have responded with slight rises. Water-level declines of as much as 100 feet are still occurring in Denton and Johnson counties. The Trinity aquifer is most extensively developed from the Hensell and Hosston members in the Waco area, where the water level has declined by as much as 400 feet.”¹¹

IV. Technical District Information Required by Texas Water Development Board Rules and Chapter 36 of the Texas Water Code

A. Estimate of Modeled Available Groundwater in District Based on Desired Future Conditions– 31 TAC § 356.52(a)(5)(A) / 36.1071(e)(3)(A)

Section 36.001 of the Texas Water Code defines modeled available groundwater (“MAG”) as “the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108.” HB 1763 adopted by the 79th Legislature in 2005 provided that the DFCs of the aquifer may only be determined through the joint planning process and must be adopted prior to the statutory deadline of September 1, 2010, and every five years thereafter.

The joint planning process set forth in Texas Water Code § 36.108 must be collectively conducted by all groundwater conservation districts within the same GMA. The District is a member of GMA 8. GMA 8 adopted DFCs for the northern segment of the Trinity Aquifer on November 4, 2021 and were determined by the TWDB to be administratively complete on September 23, 2022. . The DFCs adopted for the northern segment of the Trinity Aquifer within the District are described in Table 1 below.

The DFCs adopted by the District and GMA 8 represent the quantified, measurable conditions of the groundwater resources of the District in the future. Section 36.001(30) defines desired future condition as “a quantitative description, adopted in accordance with Section 36.108, of the desired condition of the groundwater resources in a management area at one or more specified future

¹¹ Aquifers of Texas, Texas Water Development Board, Report 345, by Ashworth and Hopkins, November 1995.

times.” The District’s DFCs are comprehensive tools that indicate how the District intends to monitor and manage its groundwater resources. Overall, the District’s DFCs give the amount of water level declines that the District does not want to exceed over a 50-year planning period.

As additional technical and hydrogeological information is gathered by the District, the District will revise and update its management plan and the information contained therein to include the most up-to-date data available. Table 1 summarizes the DFCs adopted by the District and provided on the TWDB to estimate Modeled Available Groundwater (MAG) for the Trinity Aquifer in each of the four counties in the District.

**TABLE 1:
DESIRED FUTURE CONDITIONS SUBMITTED TO TEXAS WATER DEVELOPMENT BOARD
MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT¹²**

BOSQUE COUNTY

Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Paluxy	6
Glen Rose	53
Travis Peak	189
Hensell	139
Hosston	232

COMANCHE COUNTY

Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Glen Rose	2
Travis Peak	4
Hensell	2
Hosston	3
Antlers	12

¹² GAM Run 21-013 MAG, TWDB, Shi, November 1, 2022 (**Appendix K**).

CORYELL COUNTY

Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Paluxy	5
Glen Rose	15
Travis Peak	107
Hensell	70
Hosston	141

ERATH COUNTY

Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Paluxy	6
Glen Rose	6
Twin Mountains	8
Travis Peak	25
Hensell	12
Hosston	35
Antlers	14

Table 2 summarizes the MAG estimates calculated by TWDB by county and aquifer in terms of acre-feet per year. MAGs represent the amount of groundwater that is available from the aquifers located within the District's boundaries, based on the DFC estimates submitted to the Texas Water Development Board. MAGs are presented for each aquifer in the district for which a DFC has been established, including the Antlers, Paluxy, Glen Rose, Travis Peak, Hensell, Hosston, and Twin Mountains. The Travis Peak estimate is the sum of the Hensell, Pearsall, and Hosston aquifer pumping in GAM Run 21-013 MAG and is slightly larger than the sum of the Hensell and Hosston MAGs because it contains a small amount of pumping in the Pearsall. Because the Pearsall is hydraulically connected to the Hensell and Hosston, this pumping is included in the overall estimate of MAG for each County. The Antlers Aquifer is another hydrogeologic grouping of formations in the Trinity Aquifer that covers a portion of Erath and Comanche Counties, and therefore it is included in the MAG estimates calculated by the TWDB and included in the total MAG for those counties. The northern portion of Erath County also contains Twin Mountains and so it is added to the Erath County total.

**TABLE 2: MODELED AVAILABLE GROUNDWATER ESTIMATES (IN ACRE-FEET PER YEAR) BY DECADE
FOR EACH COUNTY IN THE
MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT¹³**

BOSQUE COUNTY

Aquifer (Trinity subdivisions)	2020	2030	2040	2050	2060	2070	2080
Paluxy	357	357	357	357	357	357	357
Glen Rose	729	729	729	729	729	729	729
Travis Peak	7,683	7,683	7,683	7,683	7,683	7,683	7,683
Hensell	3,837	3,837	3,837	3,837	3,837	3,837	3,837
Hosston	3,765	3,765	3,765	3,765	3,765	3,765	3,765
Total	8,769	8,769	8,769	8,769	8,769	8,769	8,769
Bosque Total = Paluxy + Glen Rose + Travis Peak							

COMANCHE COUNTY

Aquifer (Trinity subdivisions)	2020	2030	2040	2050	2060	2070	2080
Glen Rose	40	40	40	40	40	40	40
Travis Peak	6,164	6,164	6,164	6,164	6,164	6,164	6,164
Hensell	204	204	204	204	204	204	204
Hosston	5,869	5,869	5,869	5,869	5,869	5,869	5,869
Antlers	5,843	5,843	5,843	5,843	5,843	5,843	5,843
Total	12,047	12,047	12,047	12,047	12,047	12,047	12,047
Comanche Total = Glen Rose + Travis Peak + Antlers							

¹³ GAM Run 21-013 MAG, TWDB, Shi, November 1, 2022 (**Appendix K**).

CORYELL COUNTY

[illegible]**ERATH COUNTY**[illegible]

MODELED AVAILABLE GROUNDWATER TOTALS FOR ALL FOUR COUNTIES (IN ACRE-FEET PER YEAR)

Aquifer (Trinity subdivisions)	2020	2030	2040	2050	2060	2070	2080
Paluxy	418	418	418	418	418	418	418
Glen Rose	1,968	1,968	1,968	1,968	1,968	1,968	1,968
Twin Mountains	5,017	5,017	5,017	5,017	5,017	5,017	5,017
Travis Peak	30,045	30,045	30,045	30,045	30,045	30,045	30,045
Hensell	11,379	11,379	11,379	11,379	11,379	11,379	11,379
Hosston	18,184	18,184	18,184	18,184	18,184	18,184	18,184
Antlers	8,470	8,470	8,470	8,470	8,470	8,470	8,470
Total	45,918	45,918	45,918	45,918	45,918	45,918	45,918
MTGCD Total = Paluxy + Glen Rose + Travis Peak + Antlers + Twin Mountains							

B. Amount of Groundwater Being Used within the District on an Annual Basis - 31 TAC §356.52(a)(5)(B) / TWC § 36.1071(e)(3)(B)

To estimate the annual amount of groundwater being used in the District, the District relies on TWDB's Estimated Historical Water Use Survey Data. Details on the total amount of groundwater use for years 2000 through 2019 based on TWDB Water Use Survey Data are attached as Appendix B.

See Appendix B

C. Annual Amount of Recharge From Precipitation to the Groundwater Resources within the District – 31 TAC § 356.52(a)(5)(C) / TWC 36.1071(e)(3)(C)

The estimated total amount of annual recharge from precipitation within the District 74,326 acre-feet from the Trinity Aquifer and 515 acre-feet from the Brazos River Alluvium Aquifer. The estimated amount of recharge was derived from information provided in the Texas Water Development Board GAM Run 21-006. As additional technical and hydrogeological information is gathered by the District, the District will revise and update its management plan and the information contained therein to include the most up-to-date data available. Texas Water Development Board GAM Run 21-006 is attached as Appendix J.

See Appendix J

D. Water Supply Needs - TWC § 36.1071(e)(4)

The District has reviewed and considered the 2022 State Water Plan data on water supply needs within the District. TWDB defines “water supply needs” as the projected water demands that are in excess of existing water supplies for a water user group or wholesale water provider. Water supply needs for the District exist for: municipal (Clifton, Copperas Cove, County-Other (All Counties), Elm Creek WSC, Flat WSC, Fort Gates WSC, Gatesville, Gordon, Highland Park WSC, Kempner WSC, Multi County WSC, Mustang Valley WSC, Irrigation (Bosque and Comanche), Manufacturing (Erath), and Mining (Bosque, Comanche, Coryell). The 2022 State Water plan projects a total water supply need across all user groups in the District of 20,764 acre-feet by 2020, rising to 27,245 acre-feet by 2070. More detailed data from the 2022 State Water Plan on projected water supply need within the District is attached as Appendix C.

See Appendix C

E. Projected Surface Water Supply within the District – 31 TAC § 356.52(a)(5)(F) / TWC § 36.1071(e)(3)(F)

The 2022 State Water Plan indicates a projected surface water supply for the District of approximately 47,436 acre-feet per year in 2020, decreasing to approximately 42,938 acre-feet per year in 2070. Data from the TWDB on the projected amount of surface water supply in the District is attached as Appendix D.

See Appendix D

F. Projected Water Demand within the District – 31 TAC § 356.52(a)(5)(G) / TWC § 36.1071(e)(3)(G)

The 2022 State Water Plan indicates a projected total water demand for the area within the District of 95,417 acre-feet per year for year 2070. Details on the total demand for water in the District based on the 2022 State Water Plan are attached as Appendix E.

See Appendix E

G. Annual Volume of Water that Discharges from the Aquifer to Springs and Surface Water Bodies – 31 TAC § 356.52(a)(5)(D) / TWC § 36.1071(e)(3)(D)

The estimated total annual volume of water that discharges to springs and any surface water body including lakes, streams, and rivers is 98,150 acre-feet per year from the Trinity Aquifer and 800 acre-feet per year from the Brazos River Alluvium Aquifer. These amounts were derived from GAM Run 21-006 provided to the District by TWDB staff.

See Appendix J

H. Estimate of the Annual Volume of Flow into the District, out of the District, and Between Aquifers in the District – 31 TAC § 356.5(a)(5)(E) / TWC § 36.1071(e)(3)(E)

- Per GAM Run 21-006, the estimate of the Annual Volume of Flow in the District is 29,718 acre-feet from the Trinity Aquifer and 224 acre-feet from the Brazos River Alluvium Aquifer.
- Per GAM Run 21-006, the estimate of the Annual Volume of Flow out of the District is 33,951 acre-feet from the Trinity Aquifer and 242 acre-feet from the Brazos River Alluvium Aquifer.
- Per GAM Run 21-006, the estimate of the Net Annual Volume of Flow is 30,546 acre-feet from the Washita Group of the Cretaceous System to the Trinity Aquifer and 82 acre-feet from older underlying units to the Brazos River Alluvium Aquifer.

NOTE: The amounts provided in Section H reflect the most recent information available from the Texas Water Development Board. As additional technical and hydrogeological information is gathered by the District, the District will revise and update its management plan and the information contained therein to include the most up-to-date data available.

See Appendix J

I. Projected Water Management Strategies – TWC § 36.1071(e)(4)

The District reviews and considered projected water management strategies and participates in TWDB Regional Water Planning efforts by seeking to maintain a voting member position on the Brazos (Region G) Planning Group. The District works with other Groundwater Conservation Districts in Region G to assess potential water management strategies and provide local insight regarding technical groundwater data and insights to support the Modeled Available Groundwater (MAG) estimates by TWDB.

In managing its groundwater supplies, the District considers the water management strategies contained in the 2022 State Water Plan. These strategies include development of groundwater and surface water supplies, purchase of surplus surface water supplies, and demand reduction through water conservation.

There are twelve strategies from Bosque County and two depend on groundwater in the amount of 1,317 acre-feet per year from the Trinity Aquifer by 2070. There are six strategies for Comanche County and two of those require Trinity Aquifer groundwater in the amount of 766 acre-feet per year. In Coryell County, there are twenty-four strategies but only one relies on groundwater in the amount of 1,270 acre-feet per year from the Trinity Aquifer in 2070. There are three strategies relying on Trinity Aquifer groundwater in Erath County that require 839 acre-feet per year in 2070 in total.

See Appendix F for a summary of the projected water management strategies from the TWDB 2022 State Water Plan.

V. Management of Groundwater Supplies –TWC § 36.1071(e)(4)

The Texas Legislature has established that groundwater conservation districts (“GCDs”), such as the Middle Trinity Groundwater Conservation District (“District”), are the state’s preferred method of groundwater management. The Texas Legislature codified its policy decision in Section 36.0015 of the Texas Water Code, which establishes that GCDs will manage groundwater resources through rules developed and implemented in accordance with Chapter 36 of the Texas Water Code (“Chapter 36”). Chapter 36 gives directives to GCDs and the statutory authority to carry out such directives, so that GCDs are given the proper tools to protect and manage the groundwater resources within their boundaries.

The District has used and will continue to use in the future the regulatory tools it has been provided by Chapter 36 and the Texas Legislature to address the many challenges facing the District including the significant threats to the water quality of the groundwater resources of the District. The District places a major priority on prevention of the contamination of its groundwater resources through abandoned and deteriorated water wells. Wells that have been abandoned or not properly maintained provide direct conduits or pathways that allow contamination from the surface to quickly reach the groundwater resources of the District. To address the threats to the water quality of its groundwater resources, the District has taken steps to increase the number of abandoned or deteriorated water wells that are plugged and intends to take additional action to plug wells in the future. The District has created a well plugging grant program with District funds which provides funding on an as-available basis for residents of the District to plug the abandoned and deteriorated wells that are located on their property. In addition, the District requires, through the District's rules that all abandoned, deteriorated, or replaced wells be plugged in compliance with the Water Well Drillers and Pump Installers Rules of the Texas Department of Licensing and Regulation. The District has also places a priority on the capping of water wells which will be used a later date in order to eliminate waste, prevent pollution, and prevent further deterioration of the well casing.

It has also been the practice of the District to use the regulatory tools granted to GCDs by Chapter 36 to preserve and protect the existing and historic users of groundwater in the District. The legislature empowered the District to protect existing users of groundwater, which are those individuals or entities currently invested in and using groundwater or the groundwater resources within the District for a beneficial purpose, and preserve historic use by historic users, which are those individuals or entities who used groundwater beneficially in the past. The District strives to protect and preserve such use to the extent practicable under the goals and objectives of this management plan.

The District has created a permitting process for groundwater use that preserves and protects the existing and historic use of groundwater in the District. Pursuant to legislative authority, such as Section 36.113(e) of the Texas Water Code, the District protects existing use by imposing more restrictive permit conditions on new permit applications and increased use by historic users. In protecting existing users, the District has established limitations that apply to all subsequent new

permit applications and increased use by historic users, regardless of type or location of use, which bear a reasonable relationship to this management plan; and are reasonably necessary to protect existing use. In accordance with Section 36.116(b), Water Code, the District has also preserved historic use when developing and implementing rules which limit groundwater production to the maximum extent practicable consistent with this management plan. Under the District's permitting process, non-exempt groundwater users who have existing or historic use receive Grandfather Permits, while all new groundwater users and those existing and historic users who need an increased amount of groundwater production through new wells or modifications to existing wells obtain Operating Permits.

The Grandfather Permits issued by the District under the District's rules have an important role as part of the District's overall permitting process because those wells that operate under Grandfather Permits issued by the District are authorized to produce water in an amount that the well was capable of producing before May 11, 2004 for Comanche and Erath Counties, which was the date of the original adoption of the District rules, before November 19, 2009, for wells located in Bosque County, and before June 15, 2010 for wells located in Coryell County. The District's rules provide that the District can only reduce the amount of groundwater allocated to Grandfather Permits after groundwater allocated to Operating Permits has been reduced and further reduction is required to achieve the goals and objectives of the District management plan or to make water available for the issuance of new Operating Permits or to account for groundwater use from exempt wells.

The District issues Operating Permits for the water wells in the District that are considered to be non-exempt, including those non-exempt wells that have not received a Grandfather Permit. In accordance with § 36.116 of the Texas Water Code, the rules of the District regulate the production of groundwater under Operating Permits issued by the District through spacing and production limits.

The District also has the authority in its rules to establish management zones by resolution of the District Board if, using the best hydrogeologic and geographic data available, the Board determines that management zones are necessary for the administration of groundwater management and regulation in the District. Any management zones created by the District will serve as areas for which the District will determine water availability if necessary to avoid impairment of and consistency with the achievement of the applicable Desired Future Conditions established for the aquifers located in whole or in part within the boundaries of the District, authorize total production, establish proportional reduction of production amongst classes of permittees, and within which the District may allow the transfer of wells and/or the right to produce groundwater. If the District creates management zones, the District's rules provide that the management zones will be delineated along boundaries that, to the extent practicable, will promote fairness and efficiency in the management of groundwater resources, while considering hydrogeologic conditions, and the ability of the public to identify the boundaries based upon land surface features.

In managing its groundwater supplies, the District has taken into account the water management strategies contained in the 2022 State Water Plan which can be found in Appendix F. There are twelve strategies from Bosque County, six strategies for Comanche County, twenty four strategies for Coryell County, and five strategies for Erath County. These strategies include development of

groundwater and surface water supplies, purchase of surplus surface water supplies, and demand reduction through water conservation.

VI. Methodology to Track District Progress in Achieving Management Goals – 31 TAC § 356.52(a)(4)

An annual report (“Annual Report”) is created by the General Manager and staff of the District and provided to the members of the Board of the District. The Annual Report covers the activities of the District including information on the District’s performance in regards to achieving the District’s management goals and objectives. The Annual Report is delivered to the Board within ninety (90) days following the completion of the District’s fiscal year, and began with the fiscal year that started on January 1, 2005. A copy of the Annual Report is kept on file and available for public inspection at the District’s offices upon adoption.

VII. Actions, Procedures, Performance, and Avoidance for District Implementation of Management Plan – 31 TAC § 356.52(a)(2); 31 TAC § 356.52(a)(3); 31 TAC § 356.52(a)(4) / § 36.1071(e)(1) and § 36.1071(e)(2)

The District has acted on the goals and directives established in this management plan. The District has also used the objectives and provisions of the management plan as a guideline in its policy-implementation and decision-making. In both its daily operations and long term planning efforts, the District continuously strives to comply with the initiatives and standards created by the management plan for the District.

After receiving public input, the District adopted rules in accordance with Chapter 36 of the Texas Water Code and all rules must be followed and enforced. The District may amend the District rules as necessary to comply with changes to Chapter 36 of the Texas Water Code and to insure the best management of the groundwater within the District. The continued development and enforcement of the rules of the District has been and will continue to be based on the best scientific and technical evidence available to the District. A copy of the District’s rules can be found at <http://middletrinitygcd.org/rules/>.

The District has encouraged and will continue to encourage public cooperation and coordination in the implementation of the management plan for the District, as it is amended. All operations and activities of the District have been and will be performed in a manner that best encourages cooperation with the appropriate state, regional or local water entity. The meetings of the Board of the District are noticed and conducted at all times in accordance with the Texas Open Meetings Law. The District has also made available for public inspection all official documents, reports, records and minutes of the District pursuant with the Texas Public Information Act and will continue to do so in the future.

VIII. Management Goals

A. Providing the Most Efficient Use of Groundwater – 31 TAC § 356.52(a)(1)(A) / TWC § 36.1071(a)(1)

- A. 1. **Objective** – Annually, the District will require all new water wells that are constructed within the boundaries of the District to be registered with the District pursuant to the District rules.
- A. 1. **Performance Standard** – The number of water wells registered by the District for each year will be included in the Annual Report submitted to the Board of Directors of the District.
- A. 2. **Objective** – The District will annually require all water wells subject to the District’s permitting requirements to be permitted pursuant to the District rules.
- A. 2. **Performance Standard** – The number of water wells permitted by the District for each year will be included in the Annual Report submitted to the Board of Directors of the District.
- A. 3. **Objective** – The District will annually regulate the production of groundwater by maintaining a system of permitting which authorizes the use and production of groundwater within the boundaries of the District pursuant to the District rules.
- A. 3. **Performance Standard** – The District will annually accept and process applications for the permitted use of groundwater in the District in accordance with the permitting system established by the District rules. The number and type of applications made for the permitted use of groundwater in the District, and the number and type of permits issued by the District, will be included in the Annual Report given to the Board of Directors.
- A.4. **Objective** – The District will annually attempt to increase the public awareness regarding the purpose, objectives, and mission of the District.
- A.4. **Performance Standard** – The District will provide at least two of the following on annual basis: informational presentations to public service organizations or community groups; informational radio spots; or manned kiosks at public expositions.

B. Controlling and Preventing Waste of Groundwater – 31 TAC § 356.52(a)(1)(B) / TWC § 36.1071(a)(2)

- B. 1. **Objective** – At least once each year, the District will evaluate the District rules to identify whether any amendments are needed to reduce the amount of waste of groundwater within the boundaries of the District.

- B. 1. Performance Standard** – The District will include a discussion of the annual evaluation of the District rules and the determination of whether any amendments to the rules are needed to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.
- B. 2. Objective** – The District will annually provide information to the public on eliminating and reducing wasteful practices in the use of groundwater by publishing information on groundwater waste reduction on the District's website at least once a year.
- B. 2. Performance Standard** – A copy of the information on groundwater waste reduction will be provided on the District's website and the information on the published on the website will be included in the District's Annual Report to be provided to the District's Board of Directors.
- B.3. Objective** – The District will require the plugging of at least one (1) deteriorated or abandoned well identified by the District in accordance with the Texas Department of Licensing and Regulation, Water Well Drillers and Pump Installers Rules (16 Texas Administrative Code, Chapter 76).
- B.3. Performance Standard** – At least once each year, the District will produce a report that describes the activities of the District in plugging a deteriorated or abandoned water well identified by the District and the report will be included in the Annual Report given to the Board of Directors of the District. If the District is not able to identify a deteriorated or abandoned well within its boundaries in a particular year, the District will include a discussion in the Annual Report that no deteriorated or abandoned well was identified in the District for the applicable year.
- B.4. Objective** – The District will provide at least one request each year to the Texas Railroad Commission which asks whether any new salt water or waste disposal injection wells have been permitted by the Texas Railroad Commission to operate within the District within the most recent fiscal year.
- B.4. Performance Standard** – A copy of each request provided to the Texas Railroad Commission each year requesting information regarding the location of any new salt water or waste disposal wells permitted to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District.
- B.5. Objective** – The District will transmit at least one request each year to the Texas Railroad Commission which asks that the Commission provide a copy of the results of integrity tests performed on salt water or waste disposal injection wells permitted by the Texas Railroad Commission to operate within the District.

- B.5. Performance Standard** – A copy of each letter sent to the Texas Railroad Commission each year requesting the results of the integrity testing performed on salt water or waste disposal injection wells permitted by the Texas Railroad Commission to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District.

C. Addressing Conjunctive Surface Water Management Issues – 31 TAC § 356.52(a)(1)(D) / TWC § 36.1071(a)(4)

- C. 1. Objective** – Each year, the District will participate in the regional planning process by attending at least 25 percent of the Region G (Brazos G) – Regional Water Planning Group meetings to encourage the development of surface water supplies to meet the needs of water user groups in the District.
- C. 1. Performance Standard** – The attendance of a District representative at the Region G Regional Water Planning Group meeting(s) will be noted in the Annual Report presented to the District Board of Directors and will provide the total number of meetings conducted by the Region G Regional Water Planning Group for that year and will indicate how many of the meetings were attended by the District.

D. Addressing Natural Resource Issues – 31 TAC § 356.52(a)(1)(E) / TWC § 36.1071(a)(5)

- D. 1. Objective** – The District will monitor water quality on an annual basis within the District by obtaining water quality samples from at least one well in each of the counties in the District.
- D. 1. Performance Standard** – The District’s Annual Report will include a summary of the number of water quality samples obtained and the results of the water quality tests for each well sampled.

E. Addressing Drought Conditions – 31 TAC § 356.5(a)(1)(F) / TWC § 36.1071(a)(6)

- E. 1. Objective** – The District will monitor drought conditions in the Trinity Aquifer each year through the process established in the District’s Drought Contingency Plan adopted by the District Board of Directors. Additional drought information will be accessed from the TWDB Water Data for Texas <https://www.waterdatafortexas.org/drought/>.
- E. 1. Performance Standard** – The District’s Annual Report will include a summary of the District’s monitoring of drought conditions in the Trinity Aquifer and any implementation measures taken in accordance with the District’s Drought Contingency Plan. The District will make an assessment

of the status of drought and will prepare a quarterly briefing to the Board of Directors that includes a discussion of whether the District has declared any drought stages set forth in its Drought Contingency Plan for the previous quarter.

- E. 2. **Objective** – The District will download the updated Palmer Drought Severity Index (PDSI) maps and review soil moisture index readings for the area within the District’s boundaries on a quarterly basis.
- E. 2. **Performance Standard** – The District will review the PDSI maps and soil moisture index readings and will prepare a quarterly briefing to the Board of Directors that includes a discussion of the PDSI maps and soil moisture index readings. The downloaded PDSI maps and soil moisture index readings will be included with copies of the quarterly briefing in the District’s Annual Report.

F. Conservation, Recharge Enhancement, Rainwater Harvesting, and Brush Control – 31 TAC § 356.5(a)(1)(G) / TWC § 36.1071(a)(7)

- F. 1. **Objective** – The District will submit at least one article regarding water conservation for publication each year to at least one newspaper of general circulation in the District.
- F. 1. **Performance Standard** – A copy of the article submitted by the District for publication to a newspaper of general circulation in the District regarding water conservation will be included in the Annual Report given to the Board of Directors.
- F. 2. **Objective** – The District will present a pre-existing educational program for use in public or private schools in the District at least once each year to educate students on the importance of water conservation.
- F. 2. **Performance Standard** – A description of the educational program presentation(s) by the District for use in the public and private schools in the District will be included in the Annual Report to the Board of Directors each year.
- F. 3. **Objective** – On an annual basis, the District will distribute an informational flier on water conservation during at least two public events that occur within the District’s boundaries..
- F. 3. **Performance Standard** – The District’s Annual Report will include a copy of the most recent informational flier on water conservation and will also include information on the public events where the flier was distributed.
- F. 4. **Objective** – The District will provide information relating to recharge enhancement on the District web site at least once each year.

- F. 4. Performance Standard** – The District’s Annual Report will include a copy of the information provided on the District web site related to recharge enhancement.
- F. 5. Objective** – The District will provide information on rainwater harvesting each year by offering new information about rainwater harvesting on the District web site at least once each year.
- F. 5. Performance Standard** – The District’s Annual Report will provide a copy of the information on rainwater harvesting which has been posted on the District web site in the previous year.
- F. 6. Objective** – The District will evaluate the State Brush Control Plan as it is revised from time to time at least once each year to determine whether projects within the District will increase the groundwater resources of the District.
- F. 6. Performance Standard** – Upon review of a newly revised State Brush Control Plan, the District’s Annual Report will include a copy of the most recent brush control information pertaining to the District.

G. Addressing the Desired Future Conditions – 31 TAC § 356.5(a)(1)(H) / TWC § 36.1071(a)(8)

- G. 1. Objective** – The District will annually measure the water levels in at least five monitoring wells in each of the counties within the District and will determine the five-year water level averages based on the measures taken. The District will compare the five-year water level averages to the corresponding five-year increment of its Desired Future Conditions in order to track its progress in achieving the Desired Future Conditions
- G. 1. Performance Standard** – The District's Annual Report will include the water level measurements taken each year for the purpose of monitoring water levels to assess the District's progress towards achieving its Desired Future Conditions. Once the District has obtained water level measurements for five consecutive years and is able to calculate water level averages over five-year periods thereafter, the District will include a discussion of its comparison of water level averages to the corresponding five-year increment of its Desired Future Conditions in order to track its progress in achieving its Desired Future Conditions.
- G. 2. Objective** – The District will review and calculate its permit and well registration totals in light of the Desired Future Conditions of the groundwater resources within the boundaries of the District to assess whether the District is on target to meet the Desired Future Conditions estimates submitted to the TWDB.

- G. 2. Performance Standard** – The District’s Annual Report will include a discussion of the District’s permit and well registration totals and will evaluate the District’s progress in achieving the Desired Future Conditions of the groundwater resources within the boundaries of the District and whether the District is on track to maintain the Desired Future Conditions estimates over the 50 year planning period.

IX. Management Goals Not Applicable to District

- A. Controlling and Preventing Subsidence – 31 TAC § 356.5(a)(1)(C) / TWC § 36.1071(a)(3)** – The District has reviewed the TWDB Report on Identification of the Vulnerability of the Major and Minor Aquifers of Texas to Subsidence with Regard to Groundwater Pumping.¹⁴ The subsidence risk vulnerability of the Trinity Aquifer within the District is indicated as low to medium risk. The District believes that the relatively small estimates of land surface subsidence to date and the projected estimates of subsidence in the Trinity Aquifer in the District are not significant. Therefore, the District believes this management goal is not applicable. The District will continue to review the most current research on subsidence risk vulnerability and may determine this management goal to be applicable in the future.
- B. Addressing Precipitation Enhancement – 31 TAC § 356.5(a)(1)(G) / TWC § 36.1071(a)(7)** – Precipitation enhancement is not a cost effective or appropriate program for the District at this time since there are no precipitation enhancement programs in nearby counties or groundwater conservation districts that the District could participate with and allocate expenses for precipitation enhancement projects. Therefore, this management goal is not applicable.

X. Action Required for Plan Approval – 31 TAC § 356.53

- A. Certified Copy of District’s Resolution Re-Adopting Management Plan – 31 TAC § 356.53(a)(3)**

A certified copy of the District’s resolution re-adopting the plan is located in Appendix G – District Resolution.

¹⁴ *Identification of the Vulnerability of the Major and Minor Aquifers of Texas to Subsidence with Regard to Groundwater Pumping*, Texas Water Development Board Report, by Furnans, et. al., March 2017.

B. Evidence of Management Plan Adoption After Notice and Hearing – 31 TAC § 356.52(a)(3) / TWC § 36.1071(a)

Evidence, such as public notices, that the management plan was re-adopted following applicable public meetings and hearings is located in Appendix H - Notice of Meetings.

C. Coordination with Surface Water Management Entities – 31 TAC § 356.6(a)(4) / TWC § 36.1071(a)

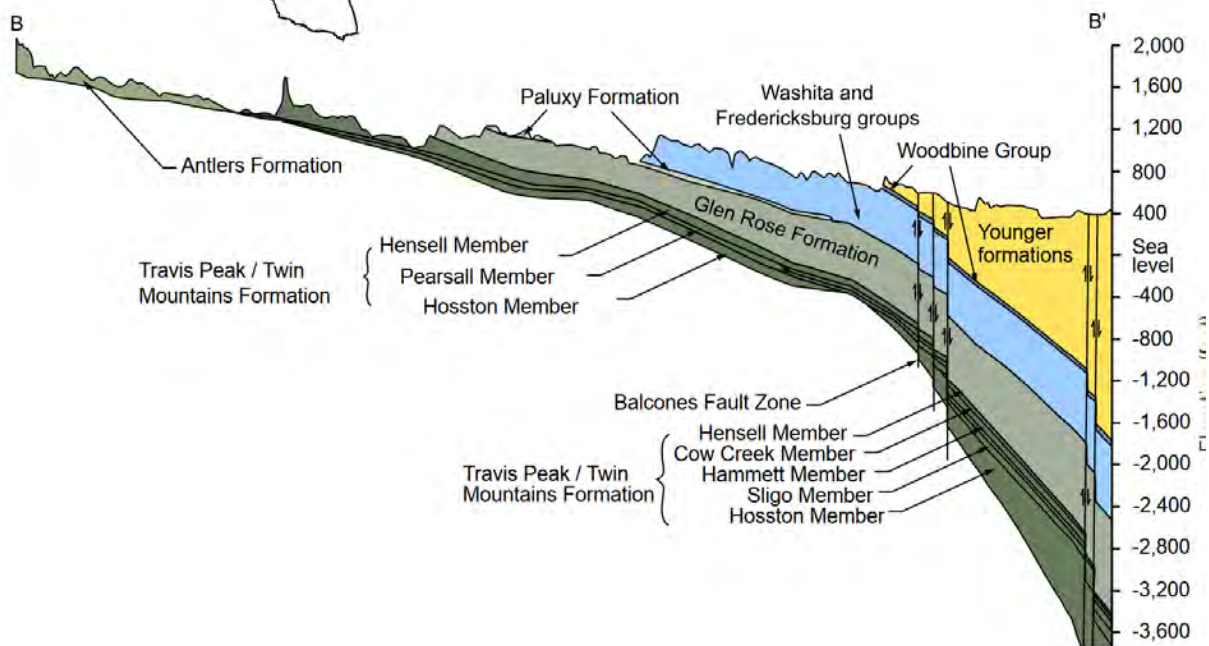
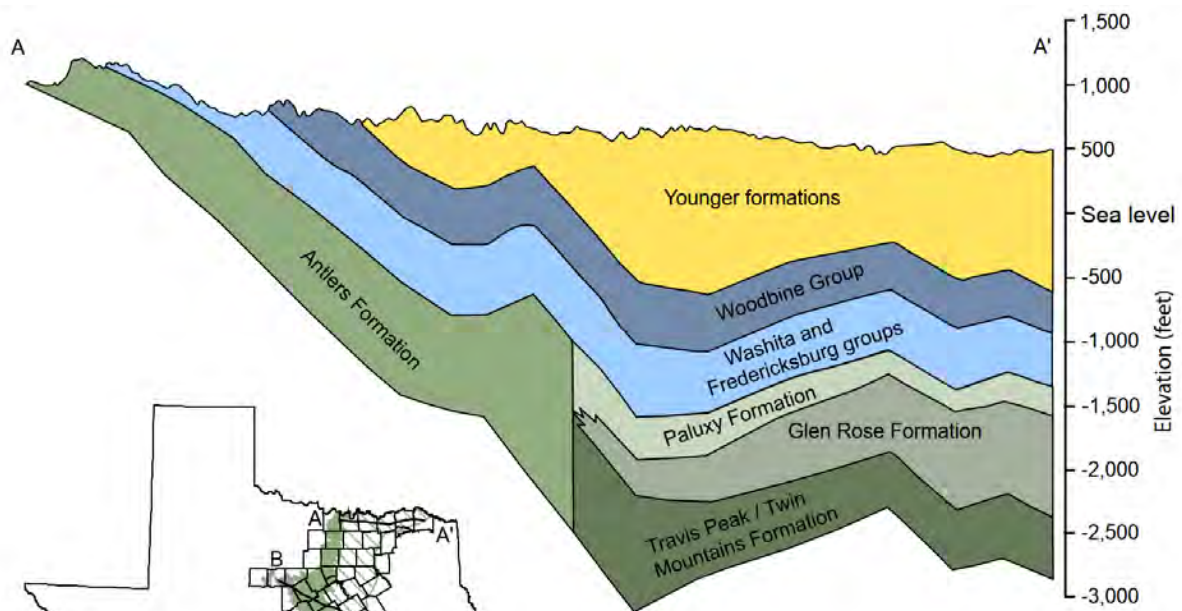
Evidence, such as correspondence with regional water planning groups and/or other surface water authorities or management entities, which demonstrates that the District coordinated with surface water management entities in regards to re-adopting the District's management plan is located in Appendix I.

References

1. 2022 State Water Planning Database. Contact Wendy Barron (wendy.barron@twdb.texas.gov or 512-936-0886).
2. *Aquifers of Texas*, Texas Water Development Board, Report 380, by George, Mace, and Petrossian, July 2011.
3. Texas Almanac 2008-2009, The Dallas Morning News.
4. *Identification of the Vulnerability of the Major and Minor Aquifers of Texas to Subsidence with Regard to Groundwater Pumping*, Texas Water Development Board Report, by Furnans, et. al., March 2017.

APPENDIX A

Trinity Aquifer Map and Cross Section



APPENDIX B

Amount of Groundwater Being Used within the District on an Annual Basis

Estimated Historical Water Use

TWDB Historical Water Use Survey (WUS) Data

Groundwater and surface water historical use estimates are currently unavailable for calendar year 2020. TWDB staff anticipates the calculation and posting of these estimates at a later date.

BOSQUE COUNTY

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2019	GW	2,218	2	0	0	1,792	296	4,308
	SW	499	1	0	2,426	729	690	4,345
2018	GW	2,706	2	0	1	2,330	296	5,335
	SW	242	1	0	2,434	647	690	4,014
2017	GW	2,568	2	0	1	2,281	287	5,139
	SW	173	1	0	2,294	338	670	3,476
2016	GW	2,517	2	0	1	1,568	229	4,317
	SW	231	1	0	2,715	136	535	3,618
2015	GW	2,445	2	0	1	2,079	223	4,750
	SW	251	1	0	2,880	158	520	3,810
2014	GW	2,546	2	0	0	1,431	219	4,198
	SW	313	1	0	0	1,934	511	2,759
2013	GW	2,887	2	0	0	650	206	3,745
	SW	284	0	1	0	2,473	479	3,237
2012	GW	3,043	2	0	0	1,937	218	5,200
	SW	314	0	0	0	2,668	509	3,491
2011	GW	3,388	1	1	0	0	418	3,808
	SW	454	0	4	0	3,500	976	4,934
2010	GW	2,735	1	1,166	0	458	407	4,767
	SW	433	0	1,221	0	2,836	950	5,440
2009	GW	2,488	250	877	0	56	285	3,956
	SW	283	704	919	1,589	2,054	665	6,214
2008	GW	2,293	251	589	0	1,334	269	4,736
	SW	295	703	617	1,589	1,151	628	4,983
2007	GW	2,391	252	0	0	321	317	3,281
	SW	244	705	0	1,589	2,362	741	5,641
2006	GW	2,626	253	0	0	687	319	3,885
	SW	473	703	0	1,589	1,500	744	5,009
2005	GW	3,436	704	0	0	625	293	5,058
	SW	365	3	0	2,106	713	683	3,870
2004	GW	2,749	704	0	0	615	499	4,567
	SW	255	3	0	1,603	1,823	499	4,183

COMANCHE COUNTY

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2019	GW	100	2	16	0	18,511	846	19,475
	SW	1,270	10	0	0	11,173	2,539	14,992
2018	GW	115	2	0	0	22,783	824	23,724
	SW	1,441	8	0	0	6,617	2,473	10,539
2017	GW	185	2	0	0	18,251	809	19,247
	SW	1,522	8	0	0	9,375	2,429	13,334
2016	GW	182	2	0	0	20,759	675	21,618
	SW	1,617	11	0	0	2,714	2,026	6,368
2015	GW	311	3	0	0	18,084	658	19,056
	SW	1,408	10	0	0	3,102	1,974	6,494
2014	GW	438	3	0	0	23,785	786	25,012
	SW	707	14	0	0	5,524	2,358	8,603
2013	GW	516	7	0	0	23,598	748	24,869
	SW	736	7	0	0	7,845	2,245	10,833
2012	GW	638	5	0	0	25,815	827	27,285
	SW	731	7	0	0	12,788	2,481	16,007
2011	GW	699	7	0	0	25,617	852	27,175
	SW	820	11	0	0	10,413	2,555	13,799
2010	GW	686	4	475	0	10,278	841	12,284
	SW	748	8	120	0	14,923	2,520	18,319
2009	GW	603	6	238	0	19,620	979	21,446
	SW	759	13	60	0	8,798	2,937	12,567
2008	GW	535	8	1	0	17,077	962	18,583
	SW	827	7	0	0	11,068	2,888	14,790
2007	GW	516	3	0	0	18,013	855	19,387
	SW	769	23	0	0	4,373	2,566	7,731
2006	GW	609	3	0	0	18,931	1,053	20,596
	SW	894	23	0	0	12,010	3,159	16,086
2005	GW	566	4	0	0	16,853	1,020	18,443
	SW	849	22	0	0	11,984	3,058	15,913
2004	GW	534	3	0	0	16,455	700	17,692
	SW	665	18	0	0	8,168	3,006	11,857

CORYELL COUNTY

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2019	GW	567	0	0	0	389	157	1,113
	SW	11,933	3	0	0	14	887	12,837
2018	GW	555	0	0	0	365	157	1,077
	SW	11,819	4	0	0	2	887	12,712
2017	GW	629	0	0	0	364	151	1,144
	SW	11,823	2	0	0	0	855	12,680
2016	GW	467	0	0	0	204	178	849
	SW	11,959	2	0	0	14	1,011	12,986
2015	GW	392	0	0	0	193	175	760
	SW	12,215	2	0	0	168	991	13,376
2014	GW	430	0	0	0	215	170	815
	SW	11,574	2	0	0	0	965	12,541
2013	GW	1,208	0	0	0	254	169	1,631
	SW	11,595	2	0	0	5	957	12,559
2012	GW	1,788	0	0	0	516	146	2,450
	SW	12,152	4	0	0	0	829	12,985
2011	GW	1,717	0	0	0	89	184	1,990
	SW	12,501	4	0	0	56	1,044	13,605
2010	GW	2,056	0	195	0	144	180	2,575
	SW	12,244	3	202	0	271	1,023	13,743
2009	GW	1,765	0	150	0	238	134	2,287
	SW	13,338	0	155	0	8	759	14,260
2008	GW	1,373	0	105	0	240	183	1,901
	SW	13,518	0	108	0	33	1,034	14,693
2007	GW	1,285	0	0	0	46	232	1,563
	SW	12,196	0	0	0	100	1,312	13,608
2006	GW	1,431	0	0	0	154	291	1,876
	SW	12,024	0	0	0	28	1,651	13,703
2005	GW	1,364	0	0	0	171	264	1,799
	SW	11,735	0	0	0	50	1,494	13,279
2004	GW	1,272	0	0	0	188	683	2,143
	SW	12,114	0	0	0	0	683	12,797

ERATH COUNTY

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2019	GW	3,671	65	0	0	7,351	1,783	12,870
	SW	429	0	4	0	153	4,159	4,745
2018	GW	3,871	67	0	0	7,218	1,742	12,898
	SW	460	0	0	0	332	4,066	4,858
2017	GW	3,854	63	0	0	7,050	1,688	12,655
	SW	400	0	0	0	82	3,938	4,420
2016	GW	4,079	60	0	0	6,334	1,270	11,743
	SW	392	0	0	0	56	2,964	3,412
2015	GW	3,981	48	0	0	6,077	1,220	11,326
	SW	487	1	0	0	61	2,846	3,395
2014	GW	4,236	54	0	0	7,245	1,507	13,042
	SW	637	0	0	0	156	3,516	4,309
2013	GW	4,305	57	0	0	6,396	1,583	12,341
	SW	665	0	0	0	396	3,695	4,756
2012	GW	4,468	74	1	0	6,881	1,791	13,215
	SW	693	0	4	0	582	4,180	5,459
2011	GW	4,952	69	0	0	7,288	1,885	14,194
	SW	629	1	0	0	750	4,397	5,777
2010	GW	4,188	60	1,007	0	4,867	1,842	11,964
	SW	447	1	1,205	0	571	4,298	6,522
2009	GW	3,998	38	579	0	4,608	2,021	11,244
	SW	439	8	693	0	406	4,717	6,263
2008	GW	3,967	69	151	0	6,177	1,981	12,345
	SW	444	9	180	0	859	4,623	6,115
2007	GW	3,583	69	0	0	4,829	1,650	10,131
	SW	427	5	0	0	276	3,849	4,557
2006	GW	4,218	40	0	0	6,923	2,267	13,448
	SW	413	30	0	0	766	5,290	6,499
2005	GW	4,048	31	0	0	6,988	2,134	13,201
	SW	417	27	0	0	559	4,978	5,981
2004	GW	3,811	31	0	0	6,395	3,604	13,841
	SW	434	19	0	0	969	3,604	5,026

APPENDIX C

Water Supply Needs

Projected Water Supply Needs

TWDB 2022 State Water Plan Data

Negative values (in red) reflect a projected water supply need, positive values a surplus.

BOSQUE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	CHILDRESS CREEK WSC	BRAZOS	169	147	139	133	128	124
G	CLIFTON	BRAZOS	214	120	59	13	-30	-70
G	COUNTY-OTHER, BOSQUE	BRAZOS	117	61	39	30	26	0
G	CROSS COUNTRY WSC	BRAZOS	55	57	57	57	55	53
G	HIGHLAND PARK WSC	BRAZOS	-58	-67	-72	-76	-79	-82
G	HILCO UNITED SERVICES	BRAZOS	50	41	34	25	15	5
G	IRRIGATION, BOSQUE	BRAZOS	-1,366	-1,366	-1,366	-1,366	-1,366	-1,366
G	LIVESTOCK, BOSQUE	BRAZOS	0	0	0	0	0	0
G	MANUFACTURING, BOSQUE	BRAZOS	237	235	235	235	235	235
G	MERIDIAN	BRAZOS	252	240	228	208	187	167
G	MINING, BOSQUE	BRAZOS	-806	-905	-726	-706	-667	-655
G	MUSTANG VALLEY WSC	BRAZOS	19	-14	-30	-39	-47	-52
G	SMITH BEND WSC	BRAZOS	116	110	108	107	105	130
G	STEAM ELECTRIC POWER, BOSQUE	BRAZOS	3,621	3,621	3,621	3,621	3,621	3,621
G	VALLEY MILLS	BRAZOS	56	36	27	20	15	11
Sum of Projected Water Supply Needs (acre-feet)			-2,230	-2,352	-2,194	-2,187	-2,189	-2,225

COMANCHE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	COMANCHE	BRAZOS	166	168	173	165	153	140
G	COUNTY-OTHER, COMANCHE	BRAZOS	-448	-443	-435	-443	-462	-482
G	COUNTY-OTHER, COMANCHE	COLORADO	-6	-6	-5	-6	-6	-6
G	DE LEON	BRAZOS	88	91	94	92	87	81
G	IRRIGATION, COMANCHE	BRAZOS	-15,078	-15,147	-15,151	-15,220	-15,224	-15,292
G	LIVESTOCK, COMANCHE	BRAZOS	0	0	0	0	0	0
G	LIVESTOCK, COMANCHE	COLORADO	0	0	0	0	0	0
G	MANUFACTURING, COMANCHE	BRAZOS	6	4	4	4	4	4
G	MINING, COMANCHE	BRAZOS	-232	-314	-151	-65	24	83
Sum of Projected Water Supply Needs (acre-feet)			-15,764	-15,910	-15,742	-15,734	-15,692	-15,780

CORYELL COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
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Estimated Historical Water Use and 2022 State Water Plan Dataset:

Middle Trinity Groundwater Conservation District

January 7, 2022

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G	CENTRAL TEXAS COLLEGE DISTRICT	BRAZOS	0	0	0	0	0	0
G	COPPERAS COVE	BRAZOS	4,263	3,838	3,343	2,870	-120	-1,723
G	CORYELL CITY WATER SUPPLY DISTRICT	BRAZOS	288	284	282	280	279	277
G	COUNTY-OTHER, CORYELL	BRAZOS	324	52	-259	-525	-815	-1,107
G	ELM CREEK WSC	BRAZOS	14	8	2	-4	-10	-16
G	FLAT WSC	BRAZOS	2	-10	-23	-35	-48	-62
G	FORT GATES WSC	BRAZOS	-260	-303	-353	-399	-449	-500
G	FORT HOOD	BRAZOS	2,226	2,248	2,278	2,282	2,287	2,287
G	GATESVILLE	BRAZOS	-1,041	-1,692	-2,455	-3,154	-3,917	-4,688
G	IRRIGATION, CORYELL	BRAZOS	736	736	736	736	736	736
G	KEMPNER WSC	BRAZOS	-106	-168	-223	-281	-338	-394
G	LIVESTOCK, CORYELL	BRAZOS	0	0	0	0	0	0
G	MANUFACTURING, CORYELL	BRAZOS	0	0	0	0	0	0
G	MINING, CORYELL	BRAZOS	-1,315	-877	-296	-168	-203	-242
G	MOUNTAIN WSC	BRAZOS	170	143	110	80	47	13
G	MULTI COUNTY WSC	BRAZOS	-38	-55	-77	-99	-125	-153
G	MUSTANG VALLEY WSC	BRAZOS	0	0	0	0	0	0
G	OGLESBY	BRAZOS	158	153	148	142	136	129
G	THE GROVE WSC	BRAZOS	0	0	0	0	0	0
Sum of Projected Water Supply Needs (acre-feet)			-2,760	-3,105	-3,686	-4,665	-6,025	-8,885

ERATH COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	COUNTY-OTHER, ERATH	BRAZOS	727	499	310	63	-148	-347
G	DUBLIN	BRAZOS	103	89	73	81	52	24
G	GORDON	BRAZOS	-7	-7	-7	-8	-8	-8
G	IRRIGATION, ERATH	BRAZOS	360	360	360	360	360	360
G	LIVESTOCK, ERATH	BRAZOS	0	0	0	0	0	0
G	MANUFACTURING, ERATH	BRAZOS	-3	-6	2	9	18	29
G	MINING, ERATH	BRAZOS	502	471	631	703	775	830
G	STEPHENVILLE	BRAZOS	2,954	2,740	2,553	2,353	2,139	1,933
Sum of Projected Water Supply Needs (acre-feet)			-10	-13	-7	-8	-156	-355

APPENDIX D

Projected Surface Water Supply within the District

Projected Surface Water Supplies

TWDB 2022 State Water Plan Data

BOSQUE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
G	CLIFTON	BRAZOS	CLIFTON LAKE/RESERVOIR	288	238	195	162	130	97
G	HILCO UNITED SERVICES	BRAZOS	BRAZOS RIVER AUTHORITY AQUILLA LAKE/RESERVOIR SYSTEM	38	38	38	38	38	37
G	IRRIGATION, BOSQUE	BRAZOS	BRAZOS RUN-OF-RIVER	132	132	132	132	132	132
G	LIVESTOCK, BOSQUE	BRAZOS	BRAZOS LIVESTOCK LOCAL SUPPLY	979	979	979	979	979	979
G	MANUFACTURING, BOSQUE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	5	5	5	5	5	5
G	MERIDIAN	BRAZOS	CLIFTON LAKE/RESERVOIR	112	112	105	88	70	53
G	STEAM ELECTRIC POWER, BOSQUE	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	6,500	6,500	6,500	6,500	6,500	6,500
Sum of Projected Surface Water Supplies (acre-feet)				8,054	8,004	7,954	7,904	7,854	7,803

COMANCHE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
G	COMANCHE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	686	686	686	686	686	686
G	COUNTY-OTHER, COMANCHE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	9	9	9	9	9	9
G	DE LEON	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	307	307	307	307	307	307
G	IRRIGATION, COMANCHE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	5,529	5,492	5,456	5,419	5,383	5,347
G	LIVESTOCK, COMANCHE	BRAZOS	BRAZOS LIVESTOCK LOCAL SUPPLY	3,142	3,142	3,142	3,142	3,142	3,142

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G	LIVESTOCK, COMANCHE	COLORADO	BRAZOS LIVESTOCK LOCAL SUPPLY	101	101	101	101	101	101
G	MANUFACTURING, COMANCHE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	20	20	20	20	20	20
Sum of Projected Surface Water Supplies (acre-feet)				9,794	9,757	9,721	9,684	9,648	9,612

CORYELL COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
G	CENTRAL TEXAS COLLEGE DISTRICT	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	120	117	115	114	114	114
G	COPPERAS COVE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	8,444	8,400	8,373	8,344	5,879	4,810
G	CORYELL CITY WATER SUPPLY DISTRICT	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	1,024	1,111	1,216	1,310	1,415	1,521
G	ELM CREEK WSC	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	56	54	54	52	52	51
G	FLAT WSC	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	102	102	102	102	102	102
G	FORT GATES WSC	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	120	120	120	120	120	120
G	FORT HOOD	BRAZOS	BRAZOS RUN-OF- RIVER	5,432	5,386	5,372	5,371	5,372	5,371
G	GATESVILLE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	3,260	3,109	2,922	2,743	2,555	2,362
G	IRRIGATION, CORYELL	BRAZOS	BRAZOS RUN-OF- RIVER	530	530	530	530	530	530
G	KEMPNER WSC	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	512	513	516	518	520	522
G	LIVESTOCK, CORYELL	BRAZOS	BRAZOS LIVESTOCK LOCAL SUPPLY	1,133	1,133	1,133	1,133	1,133	1,133
G	MANUFACTURING, CORYELL	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER	4	4	4	4	4	4

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G	MOUNTAIN WSC	BRAZOS	LAKE/RESERVOIR SYSTEM						
			BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	280	280	280	280	280	280
G	MULTI COUNTY WSC	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	198	202	206	209	212	214
G	THE GROVE WSC	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	26	27	30	34	38	42
Sum of Projected Surface Water Supplies (acre-feet)				21,241	21,088	20,973	20,864	18,326	17,176

ERATH COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
G	COUNTY-OTHER, ERATH	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	72	72	72	72	72	72
G	COUNTY-OTHER, ERATH	BRAZOS	STRAWN LAKE/RESERVOIR	49	49	49	49	48	48
G	DUBLIN	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	521	519	518	517	516	514
G	IRRIGATION, ERATH	BRAZOS	BRAZOS RUN-OF- RIVER	98	98	98	98	98	98
G	LIVESTOCK, ERATH	BRAZOS	BRAZOS LIVESTOCK LOCAL SUPPLY	5,739	5,739	5,739	5,739	5,739	5,739
G	MANUFACTURING, ERATH	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	5	7	8	9	10	12
G	MANUFACTURING, ERATH	BRAZOS	STRAWN LAKE/RESERVOIR	1	1	1	1	2	2
G	STEPHENVILLE	BRAZOS	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM	1,862	1,862	1,862	1,862	1,862	1,862
Sum of Projected Surface Water Supplies (acre-feet)				8,347	8,347	8,347	8,347	8,347	8,347

APPENDIX E

Projected Water Demand within the District

Projected Water Demands

TWDB 2022 State Water Plan Data

Please note that the demand numbers presented here include the plumbing code savings found in the Regional and State Water Plans.

BOSQUE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	CHILDRESS CREEK WSC	BRAZOS	343	365	373	379	384	388
G	CLIFTON	BRAZOS	704	748	766	779	790	797
G	COUNTY-OTHER, BOSQUE	BRAZOS	782	838	860	869	873	899
G	CROSS COUNTRY WSC	BRAZOS	127	135	138	141	143	144
G	HIGHLAND PARK WSC	BRAZOS	118	127	132	136	139	142
G	HILCO UNITED SERVICES	BRAZOS	198	207	213	222	232	244
G	IRRIGATION, BOSQUE	BRAZOS	3,577	3,577	3,577	3,577	3,577	3,577
G	LIVESTOCK, BOSQUE	BRAZOS	979	979	979	979	979	979
G	MANUFACTURING, BOSQUE	BRAZOS	9	11	11	11	11	11
G	MERIDIAN	BRAZOS	235	247	252	255	258	261
G	MINING, BOSQUE	BRAZOS	1,972	2,071	1,892	1,872	1,833	1,821
G	MUSTANG VALLEY WSC	BRAZOS	464	497	512	521	529	534
G	SMITH BEND WSC	BRAZOS	99	105	107	108	110	85
G	STEAM ELECTRIC POWER, BOSQUE	BRAZOS	2,880	2,880	2,880	2,880	2,880	2,880
G	VALLEY MILLS	BRAZOS	267	285	292	297	301	304
Sum of Projected Water Demands (acre-feet)			12,754	13,072	12,984	13,026	13,039	13,066

COMANCHE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	COMANCHE	BRAZOS	520	518	513	521	533	546
G	COUNTY-OTHER, COMANCHE	BRAZOS	799	794	785	794	813	833
G	COUNTY-OTHER, COMANCHE	COLORADO	10	10	10	10	10	10
G	DE LEON	BRAZOS	219	216	213	215	220	226
G	IRRIGATION, COMANCHE	BRAZOS	32,117	32,117	32,117	32,117	32,117	32,117
G	LIVESTOCK, COMANCHE	BRAZOS	3,142	3,142	3,142	3,142	3,142	3,142
G	LIVESTOCK, COMANCHE	COLORADO	101	101	101	101	101	101
G	MANUFACTURING, COMANCHE	BRAZOS	18	20	20	20	20	20
G	MINING, COMANCHE	BRAZOS	444	525	363	276	188	128
Sum of Projected Water Demands (acre-feet)			37,370	37,443	37,264	37,196	37,144	37,123

CORYELL COUNTY

All values are in acre-feet

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RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	CENTRAL TEXAS COLLEGE DISTRICT	BRAZOS	120	117	115	114	114	114
G	COPPERAS COVE	BRAZOS	4,181	4,562	5,030	5,474	5,999	6,533
G	CORYELL CITY WATER SUPPLY DISTRICT	BRAZOS	808	898	1,005	1,101	1,207	1,315
G	COUNTY-OTHER, CORYELL	BRAZOS	290	562	873	1,139	1,429	1,721
G	ELM CREEK WSC	BRAZOS	42	46	52	56	62	67
G	FLAT WSC	BRAZOS	100	112	125	137	150	164
G	FORT GATES WSC	BRAZOS	380	423	473	519	569	620
G	FORT HOOD	BRAZOS	3,206	3,138	3,094	3,089	3,085	3,084
G	GATESVILLE	BRAZOS	4,301	4,801	5,377	5,897	6,472	7,050
G	IRRIGATION, CORYELL	BRAZOS	310	310	310	310	310	310
G	KEMPNER WSC	BRAZOS	618	681	739	799	858	916
G	LIVESTOCK, CORYELL	BRAZOS	1,133	1,133	1,133	1,133	1,133	1,133
G	MANUFACTURING, CORYELL	BRAZOS	4	4	4	4	4	4
G	MINING, CORYELL	BRAZOS	1,510	1,072	491	363	398	437
G	MOUNTAIN WSC	BRAZOS	257	284	317	347	380	414
G	MULTI COUNTY WSC	BRAZOS	236	257	283	308	337	367
G	MUSTANG VALLEY WSC	BRAZOS	6	6	7	7	7	7
G	OGLESBY	BRAZOS	53	58	63	69	75	82
G	THE GROVE WSC	BRAZOS	26	27	30	34	38	42
Sum of Projected Water Demands (acre-feet)			17,581	18,491	19,521	20,900	22,627	24,380

ERATH COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	COUNTY-OTHER, ERATH	BRAZOS	2,605	2,833	3,022	3,269	3,479	3,678
G	DUBLIN	BRAZOS	418	430	445	436	464	490
G	GORDON	BRAZOS	7	7	7	8	8	8
G	IRRIGATION, ERATH	BRAZOS	7,026	7,026	7,026	7,026	7,026	7,026
G	LIVESTOCK, ERATH	BRAZOS	5,739	5,739	5,739	5,739	5,739	5,739
G	MANUFACTURING, ERATH	BRAZOS	74	85	85	85	85	85
G	MINING, ERATH	BRAZOS	505	536	376	304	232	177
G	STEPHENVILLE	BRAZOS	2,659	2,867	3,047	3,241	3,448	3,645
Sum of Projected Water Demands (acre-feet)			19,033	19,523	19,747	20,108	20,481	20,848

APPENDIX F

Projected Water Management Strategies

Projected Water Management Strategies

TWDB 2022 State Water Plan Data

BOSQUE COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
CHILDRESS CREEK WSC, BRAZOS (G)							
BOSQUE COUNTY REGIONAL PROJECT	CLIFTON LAKE/RESERVOIR [RESERVOIR]	0	203	203	203	203	203
		0	203	203	203	203	203
CLIFTON, BRAZOS (G)							
BOSQUE COUNTY REGIONAL PROJECT	CLIFTON LAKE/RESERVOIR [RESERVOIR]	0	397	397	397	397	397
MUNICIPAL WATER CONSERVATION - CLIFTON	DEMAND REDUCTION [BOSQUE]	0	53	76	71	71	71
		0	450	473	468	468	468
COUNTY-OTHER, BOSQUE, BRAZOS (G)							
BOSQUE COUNTY REGIONAL PROJECT	CLIFTON LAKE/RESERVOIR [RESERVOIR]	0	64	64	64	64	64
		0	64	64	64	64	64
CROSS COUNTRY WSC, BRAZOS (G)							
MUNICIPAL WATER CONSERVATION - CROSS COUNTRY WSC	DEMAND REDUCTION [BOSQUE]	0	6	4	2	2	2
		0	6	4	2	2	2
HIGHLAND PARK WSC, BRAZOS (G)							
MUNICIPAL WATER CONSERVATION - HIGHLAND PARK WSC	DEMAND REDUCTION [BOSQUE]	0	11	22	33	43	53
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [BOSQUE]	58	58	58	58	58	58
		58	69	80	91	101	111
IRRIGATION, BOSQUE, BRAZOS (G)							
IRRIGATION WATER CONSERVATION	DEMAND REDUCTION [BOSQUE]	107	179	250	250	250	250
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [BOSQUE]	1,259	1,259	1,259	1,259	1,259	1,259
		1,366	1,438	1,509	1,509	1,509	1,509
MERIDIAN, BRAZOS (G)							
BOSQUE COUNTY REGIONAL PROJECT	CLIFTON LAKE/RESERVOIR [RESERVOIR]	0	224	224	224	224	224
		0	224	224	224	224	224
MINING, BOSQUE, BRAZOS (G)							

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BRA SYSTEM OPERATION--SURPLUS	BRA SYSTEM OPERATIONS PERMIT SUPPLY [RESERVOIR]	387	387	387	387	387	387
INDUSTRIAL WATER CONSERVATION	DEMAND REDUCTION [BOSQUE]	59	104	132	131	128	127
		446	491	519	518	515	514
MUSTANG VALLEY WSC, BRAZOS (G)							
MUNICIPAL WATER CONSERVATION - MUSTANG VALLEY WSC	DEMAND REDUCTION [BOSQUE]	0	38	79	120	137	138
		0	38	79	120	137	138
VALLEY MILLS, BRAZOS (G)							
BOSQUE COUNTY REGIONAL PROJECT	CLIFTON LAKE/RESERVOIR [RESERVOIR]	0	177	177	176	175	174
MUNICIPAL WATER CONSERVATION - VALLEY MILLS	DEMAND REDUCTION [BOSQUE]	0	21	42	45	44	45
		0	198	219	221	219	219
Sum of Projected Water Management Strategies (acre-feet)		1,870	3,181	3,374	3,420	3,442	3,452

COMANCHE COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, COMANCHE, BRAZOS (G)							
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [ERATH]	482	482	482	482	482	482
		482	482	482	482	482	482
COUNTY-OTHER, COMANCHE, COLORADO (G)							
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [ERATH]	6	6	6	6	6	6
		6	6	6	6	6	6
IRRIGATION, COMANCHE, BRAZOS (G)							
IRRIGATION WATER CONSERVATION	DEMAND REDUCTION [COMANCHE]	964	1,606	2,248	2,248	2,248	2,248
LAKE GRANGER AUGMENTATION-PH 2 (GROUNDWATER)	CARRIZO-WILCOX AQUIFER [MILAM]	0	1,159	1,196	1,233	1,269	1,306
		964	2,765	3,444	3,481	3,517	3,554
MINING, COMANCHE, BRAZOS (G)							
INDUSTRIAL WATER CONSERVATION	DEMAND REDUCTION [COMANCHE]	13	26	26	19	13	9
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [ERATH]	288	288	288	288	288	288
		301	314	314	307	301	297
Sum of Projected Water Management Strategies (acre-feet)		1,753	3,567	4,246	4,276	4,306	4,339

CORYELL COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
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CENTRAL TEXAS COLLEGE DISTRICT, BRAZOS (G)

MUNICIPAL WATER CONSERVATION - CENTRAL TEXAS COLLEGE DISTRICT	DEMAND REDUCTION [CORYELL]	0	6	4	3	3	3
		0	6	4	3	3	3

COPPERAS COVE, BRAZOS (G)

LAKE GRANGER AUGMENTATION-PH 2 (GROUNDWATER)	CARRIZO-WILCOX AQUIFER [MILAM]	0	0	0	0	0	494
PURCHASE RAW WATER FROM FORT HOOD	BRAZOS RUN-OF-RIVER [BELL]	0	0	0	0	120	1,229
		0	0	0	0	120	1,723

CORYELL CITY WATER SUPPLY DISTRICT, BRAZOS (G)

LAKE GRANGER AUGMENTATION-PH 2 (GROUNDWATER)	CARRIZO-WILCOX AQUIFER [MILAM]	0	52	54	56	57	59
MUNICIPAL WATER CONSERVATION - CORYELL CITY WATER SUPPLY DISTRICT	DEMAND REDUCTION [CORYELL]	0	16	7	0	0	0
		0	68	61	56	57	59

COUNTY-OTHER, CORYELL, BRAZOS (G)

CORYELL COUNTY OCR	CORYELL COUNTY OFF- CHANNEL LAKE/RESERVOIR [RESERVOIR]	0	1,308	1,308	1,308	1,308	1,308
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [CORYELL]	0	0	259	525	815	1,107
		0	1,308	1,567	1,833	2,123	2,415

ELM CREEK WSC, BRAZOS (G)

REALLOCATION OF SUPPLY FROM MOFFAT WSC	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	1	7	13
WILLIAMSON COUNTY GROUNDWATER – SOUTH OPTION	SPARTA AQUIFER [LEE]	0	0	0	3	3	3
		0	0	0	4	10	16

FLAT WSC, BRAZOS (G)

CORYELL COUNTY OCR	CORYELL COUNTY OFF- CHANNEL LAKE/RESERVOIR [RESERVOIR]	0	1	3	3	12	22
MUNICIPAL WATER CONSERVATION - FLAT WSC	DEMAND REDUCTION [CORYELL]	0	9	20	32	36	40
		0	10	23	35	48	62

FORT GATES WSC, BRAZOS (G)

LAKE GRANGER AUGMENTATION-PH 2 (GROUNDWATER)	CARRIZO-WILCOX AQUIFER [MILAM]	0	270	280	306	348	390
MUNICIPAL WATER CONSERVATION - FORT GATES WSC	DEMAND REDUCTION [CORYELL]	0	33	73	93	101	110
		0	303	353	399	449	500

FORT HOOD, BRAZOS (G)

MUNICIPAL WATER CONSERVATION - FORT HOOD	DEMAND REDUCTION [CORYELL]	0	238	472	717	887	887
		0	238	472	717	887	887

GATESVILLE, BRAZOS (G)

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CORYELL COUNTY OCR	CORYELL COUNTY OFF-CHANNEL LAKE/RESERVOIR [RESERVOIR]	0	550	823	981	1,152	1,528
LAKE GRANGER AUGMENTATION-PH 2 (GROUNDWATER)	CARRIZO-WILCOX AQUIFER [MILAM]	0	1,028	1,060	1,093	1,125	1,158
MUNICIPAL WATER CONSERVATION - GATESVILLE	DEMAND REDUCTION [CORYELL]	0	384	852	1,386	1,988	2,392
		0	1,962	2,735	3,460	4,265	5,078
KEMPNER WSC, BRAZOS (G)							
KEMPNER WSC WTP EXPANSION	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM [RESERVOIR]	264	267	270	491	496	502
MUNICIPAL WATER CONSERVATION - KEMPNER WSC	DEMAND REDUCTION [CORYELL]	0	53	53	53	55	59
		264	320	323	544	551	561
MINING, CORYELL, BRAZOS (G)							
INDUSTRIAL WATER CONSERVATION	DEMAND REDUCTION [CORYELL]	45	54	34	25	28	31
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [CORYELL]	1,270	1,270	1,270	1,270	1,270	1,270
		1,315	1,324	1,304	1,295	1,298	1,301
MULTI COUNTY WSC, BRAZOS (G)							
CORYELL COUNTY OCR	CORYELL COUNTY OFF-CHANNEL LAKE/RESERVOIR [RESERVOIR]	0	1,051	843	721	574	243
HAMILTON REDUCTION TO MULTI WSC	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM [RESERVOIR]	81	82	0	0	0	0
PURCHASE SURPLUS WATER FROM THE CITY OF HAMILTON	BRAZOS RIVER AUTHORITY LITTLE RIVER LAKE/RESERVOIR SYSTEM [RESERVOIR]	37	55	77	98	125	152
		118	1,188	920	819	699	395
Sum of Projected Water Management Strategies (acre-feet)		1,697	6,727	7,762	9,165	10,510	13,000

ERATH COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, ERATH, BRAZOS (G)							
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [ERATH]	0	0	0	0	347	347
		0	0	0	0	347	347
GORDON, BRAZOS (G)							
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [ERATH]	7	7	7	8	8	8
		7	7	7	8	8	8
MANUFACTURING, ERATH, BRAZOS (G)							

Estimated Historical Water Use and 2022 State Water Plan Dataset:

Middle Trinity Groundwater Conservation District

January 7, 2022

Page 17 of 18

INDUSTRIAL WATER CONSERVATION	DEMAND REDUCTION [ERATH]	2	4	6	6	6	6
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [BELL]	1	2	0	0	0	0
		3	6	6	6	6	6
STEPHENVILLE, BRAZOS (G)							
TRINITY AQUIFER DEVELOPMENT	TRINITY AQUIFER [ERATH]	484	414	484	484	484	484
		484	414	484	484	484	484
Sum of Projected Water Management Strategies (acre-feet)		494	427	497	498	845	845

APPENDIX G

District Resolution of Adoption of Management Plan

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE MIDDLE TRINITY
GROUNDWATER CONSERVATION DISTRICT
ADOPTING DISTRICT GROUNDWATER MANAGEMENT PLAN**

THE STATE OF TEXAS

§
§
§

MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT

WHEREAS, the Middle Trinity Groundwater Conservation District (“District”) was created by the Texas Legislature, pursuant to the authority of Article XVI, § 59 of the Texas Constitution, through Act of May 25, 2001, 77th Leg., R.S., ch. 1362, 2001 Tex. Gen. Laws 3371, as amended (“the Act”), as a groundwater conservation district operating under Chapter 36, Texas Water Code, Section 59, Article XVI of the Texas Constitution, and the Act;

WHEREAS, the Board of Directors of the District (“Board”) originally adopted its Management Plan in accordance with Sections 36.1071 and 36.1072 of the Texas Water Code and 31 Texas Administrative Code Chapter 356, on April 29, 2004, which was approved by the Texas Water Development Board (“TWDB”) on July 1, 2004, and thereafter revised and readopted its Management Plan within five years as required by Section 36.1072(e) of the Texas Water Code on April 2, 2009, which was then approved by TWDB on June 5, 2009;

WHEREAS, as Bosque and Coryell counties were added to the District’s territory in May and November of 2009 through the annexation process provided under Subchapter J, Chapter 36 of the Texas Water Code, the District found it necessary to add technical information for Bosque and Coryell Counties into the District’s Management Plan, and thus the District added this technical information and other certain updates to the District’s Management Plan by resolution on March 5, 2012, which was then approved by TWDB on May 14, 2012.

WHEREAS, pursuant to Section 36.1072 of the Texas Water Code and 31 Texas Administrative Code Section 356.51, the District is required to re-adopt its Management Plan, with or without revisions, at least once every five years and must thereafter re-submit the revised plan for TWDB approval pursuant to 31 Texas Administrative Code Sections 356.52 and 356.53;

WHEREAS, the District made timely revisions to its Management Plan for re-adoption by the Board prior to the expiration of the five-year period and re-adopted its Management Plan on June 2, 2022, which was subsequently approved by the TWDB on July 27, 2022;

WHEREAS, the District has made revisions to its Management Plan to incorporate the latest technical data, modeled available groundwater, and Desired Future Conditions for Groundwater Management Area 8;

WHEREAS, as part of the process of readopting its Management Plan, the District requested and received technical assistance from TWDB and also worked with TWDB staff to obtain the staff’s recommendations and comments on the revisions to its Management Plan;

WHEREAS, the Board and the District's staff, legal counsel, and geoscientist have reviewed and analyzed the District's revised Management Plan and the technical information received from TWDB related to the revised Management Plan;

WHEREAS, the District issued notice in the manner required by state law and held a public hearing on July 6,, 2023, to receive public and written comments on the Management Plan at the District's office located at 930 N Wolfe Nursery Rd, Stephenville, Texas;

WHEREAS, the District will coordinate with the appropriate surface water management entities after the public hearing and readoption of its Management Plan to afford surface water management entities within the boundaries of the District the opportunity to review and provide comments to the District on its Management Plan;

WHEREAS, the Board finds that the revised Management Plan meets all of the requirements of Chapter 36, Texas Water Code, and 31 Texas Administrative Code Chapter 356;

WHEREAS, the Board of Directors met in a public meeting on July 6, 2023, properly noticed in accordance with appropriate law, after holding a public hearing on the attached revised Management Plan, considered the re-adoption of the Management Plan, and considered approval of tis resolution.

NOW, THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT THAT:

1. The above recitals are true and correct;
2. The Board of Directors hereby readopts its revised Management Plan as the Management Plan of the District, including any revisions made based on comments received from the public at the public hearing or Board meeting, or based on recommendations from the District Board, staff, legal counsel, geoscientist, or TWDB;
3. The Board of Directors, District staff, and the District's legal counsel and geoscientist are further authorized to take all steps necessary to implement this resolution and submit the revised Management Plan to the TWDB for its approval; and
4. The Board of Directors, the District staff, and the District's legal counsel and geoscientist are further authorized to take any and all action necessary to coordinate with the TWDB as may be required in furtherance of TWDB's approval pursuant to the provisions of Section 36.1072 of the Texas Water Code.

AND IT IS SO ORDERED.


PASSED AND ADOPTED on this 6 day of July, 2023.

MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT

By: 

Board President

ATTEST:



Board Secretary

APPENDIX H

Notice of Meetings

**MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT
NOTICE OF PUBLIC HEARING ON
AMENDMENTS TO DISTRICT MANAGEMENT PLAN**

The **Middle Trinity Groundwater Conservation District** (MTGCD) will hold a public hearing on proposed amendments of the MTGCD's Groundwater Management Plan on Thursday, July 6th, 2023, at 1:00 p.m. at the District office located at 930 N. Wolfe Nursery Road, Stephenville, Texas 76401. All interested parties are invited to attend.

PUBLIC HEARING AGENDA:

1. Call to Order.
2. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of the Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code.
3. Public Comment on the Groundwater Management Plan proposed for adoption.
4. Adjourn

At the conclusion of the hearing or any time or date thereafter, the proposed management plan may be adopted in the form presented or as amended based upon comments received from the public, the Texas Water Development Board, District staff, attorneys, geoscientists, or members of the Board of Directors without any additional notice.

Copies of the proposed MTGCD Management Plan will be available as of June 9th, 2023, at the MTGCD office located at 930 N. Wolfe Nursery Road, Stephenville, Texas or on the MTGCD's website at www.middletrinitygcd.org.

The MTGCD is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please call 254-965-6705 at least 24 hours in advance if accommodation is needed.

**For more information about the public hearing or the
MTGCD Contact: Patrick Wagner, General Manager at 254-965-6705**

POSTED

_____**A.M.** 2:25 **P.M.**

JUN 07 2023

GWINDA JONES, COUNTY CLERK
ERATH COUNTY, TEXAS

By _____ OW Deputy

**MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT
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MTGCD Contact: Patrick Wagner, General Manager at 254-965-6705**

AT 12:30 **FILED**
O'CLOCK **P M**

JUN 07 2023

Janifer Newton
COUNTY CLERK, CORYELL CO., TEXAS

FILED
at _____ o'clock _____ M

**MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT
NOTICE OF PUBLIC HEARING ON JUN 07 2023
AMENDMENTS TO DISTRICT MANAGEMENT PLAN**

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MTGCD Contact: Patrick Wagner, General Manager at 254-965-6705**

FILED
AT 12:00 O'CLOCK *P* **M**

JUN 7 2023

[Signature]
Clerk, County Court Comanche Co., Texas

THE DUBLIN CITIZEN
938 N. PATRICK ST
DUBLIN, TX 76446
254-445-2515

Invoice

Date	Invoice #
6/15/2023	163535

MIDDLE TRINITY GROUNDWATER
CONSERVATION DISTRICT
930 N WOLFE NURSERY ROAD
STEPHENVILLE, TX. 76401

			P.O. No.	Terms
				NET 30
Item	Description	Qty	Rate	Amount
430 LEGAL...	3 X 6.5 LEGAL NOTICE - AMENDMENTS HEARING	19.5	6.50	126.75
			Total	\$126.75

AFFIDAVIT OF PUBLICATION

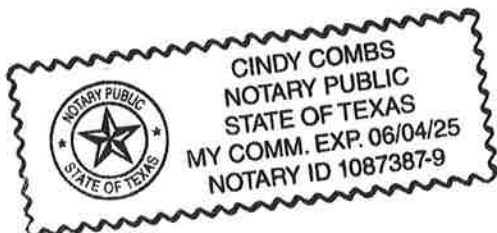
THE STATE OF TEXAS:
COUNTY OF ERATH:

BEFORE ME, a notary public in and for the above named County, on this day personally appeared the person whose name is subscribed below, who having been duly sworn, says upon oath that he or she is a duly authorized office or employee of *The Dublin Citizen*, which is a newspaper of general circulation in the above named County, devoting no less than 25% of its total column lineage to the carrying of items of general interest, published, and having been published regularly and continuously for not less than 12 months prior to the making of any publication; and that a true and correct copy of the NOTICE TO THE PUBLIC a clipping of which is attached to the affidavit, was published in said Newspaper on JUNE 15, 2023.



Paul Gaudette
Managing Editor

SUBSCRIBED AND SWORN TO BEFORE ME on the 15th
day of JUNE, 2023.


Notary Public

Sales tax down again, following state trends

Dublin sales tax collections were down in April, at -9.11% lower compared to April 2022, according to the state sales tax report released by Texas Comptroller Glenn Hegar this month. For the month of April 2023, Dublin received \$43,075.90, compared to \$47,395.43 in April 2022. (Sales tax reports generally reflect sales from two months prior as the local sales are reported to the state which processes them and disburses sales tax back to the local entities.)

Hegar recently said state sales tax revenue totaled \$3.84 billion in May, 4.1% more than in May 2022. The majority of May sales tax revenue is based on sales made in April and remitted to the agency in May.

“The rate of sales tax revenue growth continues to moderate, with the increase in May – compared with a year ago – representing the lowest annual rate of increase observed

in the 26 months since the end of pandemic restrictions,” Hegar said. “This slower growth is expected and in line with the economic outlook we detailed in our Biennial Revenue Estimate, as both the rate of inflation and growth in real economic activity slow as demand cools in the face of higher interest rate policy and reduced fiscal stimulus from the federal government.

“While receipts from the oil and gas mining sector continued their large year-over-year gains, with remittances once again nearly 50% higher than they were the same month last year, growth in receipts from other sectors driven by business spending stalled. Receipts from the construction, manufacturing and wholesale trade sectors barely exceeded year-ago levels.

“Remittances from the retail trade sector were negative in May compared with May last year, making it the second time in three months receipts from retail trade have dipped below year-ago levels. Declines were evident in most subsectors, including building materials and home improvement stores, clothing and accessories stores, electronics and appliance stores, furniture and home goods stores, general merchandisers, and sporting goods and hobby stores.

“Restaurant receipts increased at about the inflation rate for food away from home in April.”

Total sales tax revenue for the three months ending in May 2023 was up 5.6% compared with the same period a year ago. Sales tax is the largest source of state funding for the state budget, accounting for 56% of all tax col-

City	April 2023	April 2022	Rate
Dublin	\$43,075.90	\$47,395.43	-9.11%
Stephenville	\$713,882.95	\$685,862.60	4.08%
DeLeon	\$37,790.12	\$32,823.15	15.13%
Comanche	\$105,961.31	\$118,460.59	-10.55%
Hico	\$40,985.64	\$46,274.72	-11.42%
Hamilton	\$58,738.99	\$68,198.97	-13.87%

lections.

Texas collected the following revenue from other major taxes:

- motor vehicle sales and rental taxes — \$599 million, down 1% from May 2022;
- motor fuel taxes — \$340 million, up 6% from May 2022;
- oil production tax — \$497 million, down 17% from May 2022;
- natural gas production tax — \$199 million, down 52% from May 2022;
- hotel occupancy tax — \$71 million, up 4% from May 2022; and
- alcoholic beverage taxes — \$156 million, up 2% from May 2022.

Fiscal 2023 franchise tax collections totaled \$6.22 billion year-to-date through May. Compared with collections through May 2022, year-to-date franchise tax collections were up 20.7%, an extraordinary increase driven by boom conditions in 2022 following the pandemic as well as pricing dynamics in the high inflation environment driving corporate revenues up faster than costs.



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Model #305, Biloxi, \$36,825	BALANCE OWED \$14,500
Model #403, Augusta, \$42,450	BALANCE OWED \$16,500

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AUCTION

Farm/Retirement Auction, Thurs., June 22, 2023. Auction starts 9:31 a.m. Online bidding on Lots 1-60 starts 11:01 a.m. 34470 S. 4400 Rd., Big Cabin, OK 74322. Running 2 rings all day: guns, vehicles, jeeps, tractors, hay equip., trailers, boat, side by side, lawnmowers, loaders, horse tack, overhead feed bin, cattle feeders, cattle panels, fencing supplies, welders, welding supplies, air compressors, tires & rims, tire machine, hunting/fishing gear, tool boxes & more. www.chuppsauction.com.

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We buy oil, gas & mineral rights. Both non-producing and producing including Non-Participating Royalty Interest (NPRI). Provide us your desired price for an offer evaluation. Call today: 806-620-1422. Lobo Minerals, LLC, PO Box 1800, Lubbock, TX 79408-1800, LoboMineralsLLC@gmail.com.

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EVENTS

Bluegrass on Ballad, Wylie, TX, Sat., June 24, Historic Downtown Wylie on Ballard Ave. Free event. Car Show 4-9 p.m., Arts & Crafts 10 a.m.-9 p.m., Music 1-9 p.m. Pre-register for car show at DiscoverWylie.com. More info for arts and crafts vendors at WylieTexas.gov.

NARO – National Association of Royalty Owners Convention, July 26-29, San Antonio, Learn How To Better Manage Your Minerals. Over 19 sessions: ‘Mineral Law 101’, ‘How To Read Surveys & Plats’, ‘Property Transfers & Estate Planning’, ‘Operators: Friends or Enemies?’ Register online: WWW.NARO-US.ORG/EVENT-5151387. Call to register: (918) 794-1660.

Discover Secrets of Ancient Egypt, An Evening with Dr. Zahi Hawass. The time to reveal the secrets of ancient Egypt has finally come! Exciting announcements & new groundbreaking discoveries will be revealed for the very first time! Houston: June 22.; Dallas, June 24; San Antonio: June 27. Register now at ZahiLectures.com.

LOG HOMES

Estate Sale Log Homes – Log Home kits selling for balance owed, free delivery. Model #101 Carolina, bal. \$17,000; Model #203 Georgia, bal. \$19,950; Model #305 Biloxi, bal. \$14,500; Model #403 Augusta, bal. \$16,500. View plans at www.americanloghomesandcabins.com, 704-368-4528.

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Police Log

May 29
A caller reported loud music and as soon as the officer left the music was turned back up. The officer went to speak with the residence’s owner and they turned the music off.

A reporting person advised there was a man, possibly drunk, trying to open her door in the 200 block of Bryan. A criminal trespass was issued for the male subject.

A neighbor’s two donkeys were on the neighbor’s property and the neighbors were not home. An officer contacted them and they came to secure the animals.

A reporting person stated there were four kids that looked like they were fighting in the 200 block of Elm Street.

May 30
A reporting person wanted to speak with an officer about a welfare check.

May 31
A person from Atmos was trying to check a meter but a dog on the property was guarding it. An officer went to assist with the dog.

A Dublin officer went with Comanche County to serve a warrant. Shannon Calhoun was located, arrested and transported to jail.

June 1
A caller is having problems with the neighbor’s dogs, can’t keep them out of their yard. Animal Control was contacted and the dogs were picked up.

June 2
A reporting person can see smoke coming from someone’s back yard in the 400 block of Hoffman Drive. Possibly a controlled burn.

June 3
A man was near dumpsters in the 800 block of Courtney, approached the caller and

acted like he was going to do something. Officers responded but did not locate anyone or anything suspicious.

A reporting person stated he was assaulted at Big’s Gas Station the night before. Officer spoke with the caller and the subject advised he wanted the officer to come by and look at his face. Officer was going to follow up with viewing the camera footage from the gas station.

A reporting person stated someone stole his bike overnight.

June 4
Glueck’s transported a vehicle that did not belong to the home owner.

New counselor starting in Stephenville



Megan Guidry

The business describes Megan Guidry as a dedicated and passionate professional with over 12 years of experience in counseling. She believes in personalized, client-centered care that honors individual needs and empowers clients to reach their full potential. Megan offers trainings, individual therapy, and group therapy sessions, while also engaging in public speaking and educational initiatives to promote awareness and understanding of mental health topics.

With a strong belief in integrating mental health best practices into everyday life, Megan strives to help individuals cultivate balanced and fulfilling lives. To schedule an appointment with Megan call (254) 965-2810.

—Citizen staff report

Public Notice

**MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT
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Statement



GATESVILLE

116 S. 6th :- PO Box 799
Gatesville, TX 76528-0799
Phone (254) 865-5212
Fax (254) 865-2361
www.gatesvillemessenger.com

Date: 06/24/2023

Account #: 00003534

Sales Rep:

Middle Trinity GCD

930 N. Wolfe Nursery Rd.
Stephenville, TX 76401-

Advertiser: Middle Trinity GCD

Date	Document	Publication	Description	Amount	Balance
5/31/2023			Balance Forward	183.60	183.60
6/8/2023	Payment #00280929	Gatesville Messeng	12337	-183.60	-183.60
6/17/2023	Invoice #00139574	Gatesville Messeng	06/17/2023, Public Notices, 274 Words, MIDDLE TRINITY GROUNDWATER CON	109.60	109.60
<hr/>					
Current:	109.60	Over 60:	0.00	Interest Charges	0.00
Over 30:	0.00	Over 90:	0.00	Balance Due:	109.60

THE STATE OF TEXAS

COUNTY OF CORYELL

Before me, the undersigned authority, on this date, personally appeared Jaci Velasquez, known to me, being by me duly sworn, on her oath deposes and says that she is the circulation manager of THE GATESVILLE MESSENGER & STAR FORUM, a newspaper in said county; and that a copy of the hereunto attached notice was printed in said newspaper on the following dates:

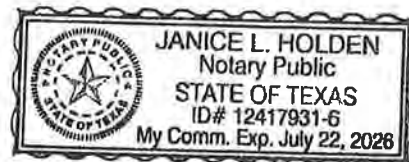
June 17, 2023

Jaci Velasquez

Sworn to and subscribed before me, this 30 day of June, A.D., 20 23

Janice L. Holden

Janice LeeAnn Holden
Gatesville, Coryell County, Texas



The Comanche Chief, Inc.
P.O. Box 927
Comanche, TX 76442 US
(325) 356-2636
editor@thecomanchechief.com
www.thecomanchechief.com

BILL TO

Middle Trinity Grnd Conservation
Dist
930 N. Wolfe Nursery Rd
Stephenville, TX 76401

INVOICE 16532

DATE 05/31/2023 **TERMS** Net 30

DUE DATE 06/30/2023

ACTIVITY	QTY	RATE	AMOUNT
Notice Notice Public Meeting June 1, 2023, 1PM, 3 columns x 8 inches	1	156.00	156.00

TOTAL DUE

\$156.00

City of Comanche held a Town Hall Meeting on June 8, 2023

By Bradley Wilkerson

Jim Winkelmann, City of Comanche Administrator hosted a town hall meeting at the Comanche ISD Special Event Center Dome on June 8 at 6:00 p.m. Around 30 people attended the town hall meeting.

Mr. Winkelmann made an introduction and then started the town hall with a diagram about how the City of Comanche is organized and governed.

At the top of the chart are the City of Comanche citizens. Then below them are the City of Comanche Mayor and the City of Comanche Councilmember, together they make up the City Council. These positions are elected officials and are voted on by the citizens of Comanche. This chart can be seen in this article.

Below the Comanche City Council are the City Attorney, City Prosecutor, Municipal Court Judge, Economic Development Corporation and Planning and Zoning Commission. All of these boards and positions are chosen by the Comanche City Council and work together.

Below these positions is the City Administrator who is also chosen by the Comanche City Council. The City Administrator works with the following departments: Public Works, Public Safety, Finance and Operations. Jim Winkelmann added the Finance Department and Operations Department after being selected as City of Comanche Administrator. He added these departments to help the workflow of the City of Comanche and become more organized.

The Public Works Department includes water distribution, wastewater, sewer plant, streets, and park/pool. The Public Safety Department includes police, forensics, investigations, emergency management, city dispatch and animal control. The Finance Department includes budget, AR/AP, reconciliation, audit and airport. The Operations Department includes utility billing, permits/work orders, municipal court, cemetery, special events.

Every Monday these city head departments get together and talk about plans and problems with the city.

Next on the agenda in the town hall meeting was infrastructure projects. These projects add up to millions of dollars and are a necessity for any city or town to function. The infrastructure projects include roadways and streets, water distribution, sewer and wastewater and parks and recreation.

The City of Comanche recently received a \$2.3 million grant to help with the distribution of drinking water in the City of Comanche. Engineers would like for the City of Comanche to change how the water tower off of Hwy 36 is filled. Currently the water tower is filled from the bottom and the water rises to the top then goes through the outflow pipes. Engineers said that if the water tower was filled from the top, that it would help the drinking water outflow pipes from the bottom. Also updated water meters would help the city with costs. The grant that was recently received would be used to help fund projects like the ones listed above.

Sewer plants are one of the biggest investments for a city or town and Comanche is no different. The Comanche sewer plant is outdated and the city struggles to keep it maintained and functioning. The grid separator costs \$700,000 to maintain and is very important in the sewer plant. The grid separator filters out lots of trash and big items that can damage the sewer plant's end process.

In May alone there were 37 water pipe breaks and a few of these were main water pipe breaks. The water line system in Comanche is very outdated and hard to maintain. The city public works department sometimes works day and night to fix these problems because they are a necessity for a city and its citizens.

Sometimes the major water main breaks are to severe for the city to handle and outsource companies are called to fix the problem.

Mr. Winkelmann reiterated that the water pipes and the sewer plant are a main priority for the City of Comanche.

One problem the City of Comanche faces when there are main water pipe breaks, is that there is no way to shut off the water flow system easily. One way is to flush out all the water in the water tower and then shut it off and then fix the main water pipe break. Another way is to shut off the main water pipe from Lake Proctor.

An easier way to fix this problem is to install four or more big valves on these main water pipes in the city so the public works department can shut off the flow of water in certain areas only, allowing water flow to other areas while the main water pipe break is fixed. This is a costly process and funds are low for a project like this.

There is a \$5 million cash reserve that the City of Comanche can use. And this is used

when there are emergency water pipe breaks and when the sewer plant goes down. The city sewer plant did cease operation for a little bit, but the public works department scrambled together and were able to get it going again. This is where these cash reserves come into play and are useful for emergencies like this.

The public works department works very hard to solve these problems with water pipe breaks and sewer operations and sometimes are seen being lowered down into caves and crevasses to fix these problems day or night.

Another part of the infrastructure include the city park and swimming pool. Last year is cost \$300,000 worth of repairs to get the city swimming pool back up and running.

Mr. Winkelmann toured Comanche City Park with a maintenance worker that installed some of the playground equipment several years ago. He said that some of the equipment needs to be updated and repaired and that the ground cover underneath some of the equipment need to be updated as well.

Both the Comanche City Park and Comanche Swimming Pool with its high dive are great assets for the city.

The last part of the infrastructure that was discussed was the streets and roadways. The City of Comanche, like most other towns its size, are inundated with complaints about potholes. There were 67 potholes filled in May this year.

Mr. Winkelmann stated that the city has an inventory of every street in the city. And he toured the streets with an engineer, Caleb Miller, E.I.T. with SKG Engineering, LLC. Mr. Miller categorized the streets in different levels with level 4 being the most severe. To fix these level 4 roads would cost \$2.50 per square foot and for most of the other roads in general would cost \$1 million per 1 mile of roadway.

Marvin McKinnon jokingly made a comment that when he was driving down one of the side streets with a out of town friend, his friend asked Marvin if he had been drinking. Marvin said no and he was just navigating the uneven roads. Mr. McKinnon added that he knows fixing roads are tough and thanked the city for doing what they can.

Another audience member asked what small towns like Comanche do to fix roads and how do they come up with the funds. There is no real answer to this question and the cities and towns just do what they can to get by. And use grants when they are available.

Mr. Winkelmann recently toured Mineral Wells, Texas with their city administrator and found out that many of their streets are in very bad shape as well. The Mineral Wells city administrator was trying to come up with a plan to help fix their roads. And he asked the Texas Department of Transportation to give them the excess material they excavate when they repair the highways. Mr. Winkelmann drove down some of these roads in Mineral Wells and said they were not paved but were like nice gravel roads.

The last agenda item was about the budget. The current General Fund budget is balanced with total revenue at \$4,233,162 and total expenses at \$4,233,162. The water/ sewer budget is separate from the General Fund Budget. It is important to have a balanced budget, so its application helps protect the economy, safeguard future generations, maintain low-interest rates, and reduce debt liabilities.

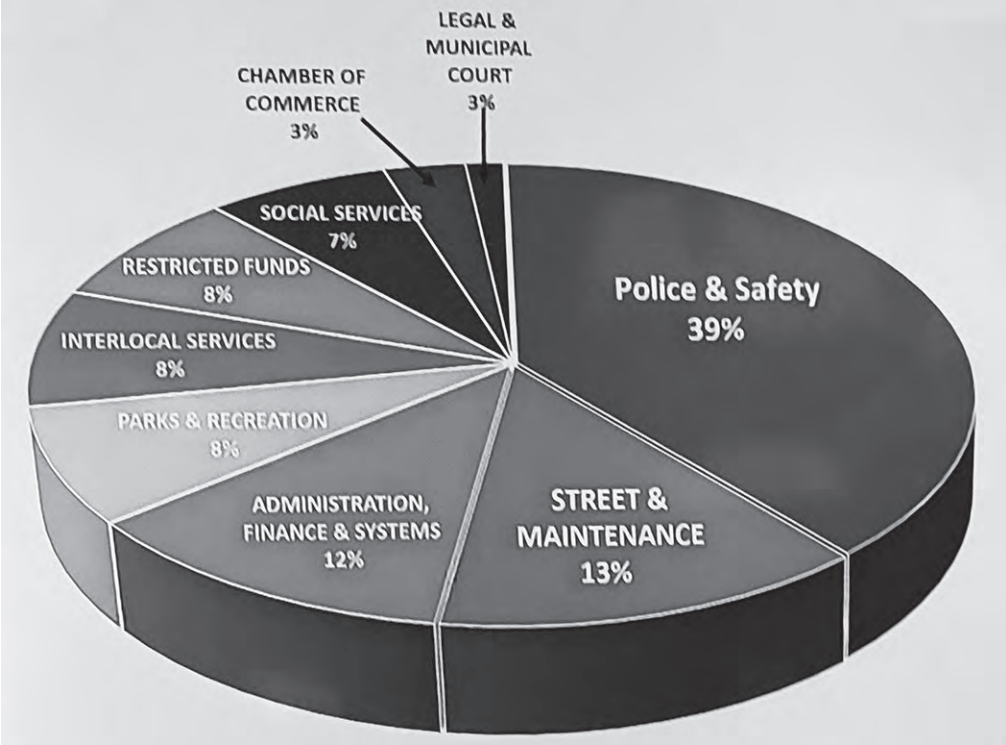
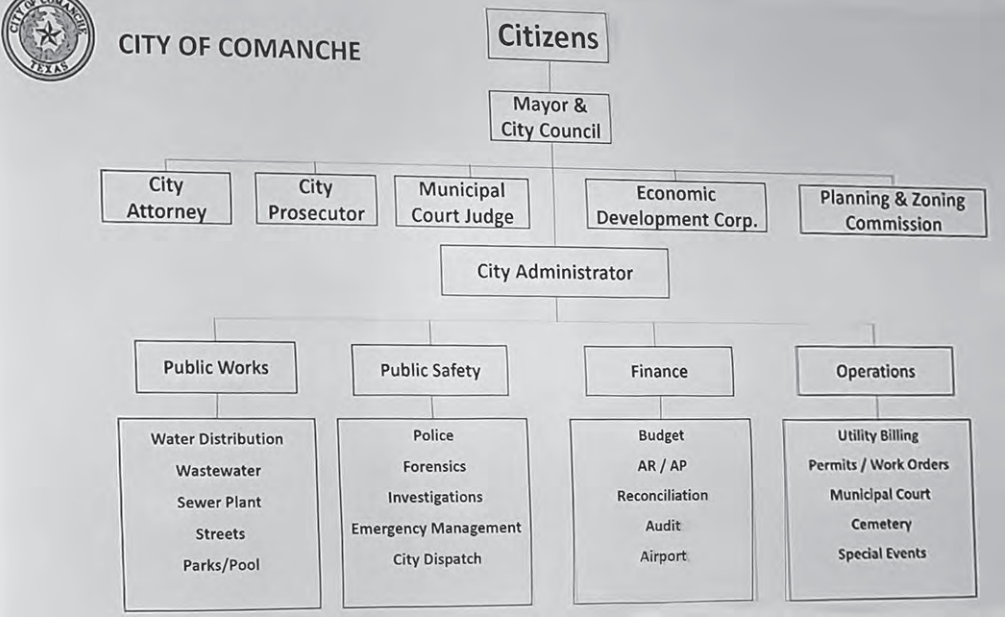
Mr. Winkelmann said that the City of Comanche's General Fund Budget matches very closely to other cities the size of Comanche. And that any single expenditure over \$500,000 is passed by the Comanche City Council and two signatures are required for a payment over \$500,000

One question from the crowd was about the pie chart that was provided and attached with this article. Mr. Winkelmann said that the expenditures change dramatically year to year. See the current General Fund Balance pie chart for the City of Comanche in this article. Mr. Winkelmann said that one of the biggest increases was in healthcare coverage for the city's employees. This increased by 18% this year. He also added that the police department and safety always take up a big part of the general fund as they are vital for a city.

Comanche Police Department's Chief, Kelly Davis said that the equipment we use is very important and very helpful to protect the community. And that the Comanche Police Department is using grants to help fund these purchases and that the 39% use of the general fund is about average for Comanche size for a police department.

Davis also said that he is proud of the police department. And Mr. McKinnon added that he has seen a vast improvement since former Comanche Police Chief, Bruce Bradshaw took over and that Kelly Davis has kept that hard work going. He also added that he is proud of the county sheriff's department as well.

In closing Mr. Winkelmann stated that he loves his job and thanked everyone for attending the June 8 Comanche Town Hall Meeting.



COMANCHE COUNTY, TEXAS AND CITY OF COMANCHE, TEXAS RFP BID SOLICITATION FOR INSTALLING A NEW ROOF AT THE COMANCHE PUBLIC LIBRARY

Comanche County, Texas and the City of Comanche, Texas are requesting bid proposals for the installation of a new roof at the Comanche Public Library located at 311 N. Austin Street, Comanche, Texas 76442. The requested bid proposal is limited to the library roof only (approximately 7,600 square feet.) and excludes all other roofs.

The full Request for Proposal is available on Comanche County's website, at www.co.comanche.tx.us. Hard copies will be provided in the Comanche County Judge's office at 101 W. Central Ave., Comanche, Texas, upon request.

Interested parties should submit their proposal no later than Friday, June 30, 2023 at 5:00 p.m. Bids received at 5:01 p.m. or later will be rejected. The bids will be publicly opened and recorded at a joint Commissioners Court and City Council meeting on July 6, 2023 at noon at the Comanche County Courthouse, 101 W. Central Ave., Comanche, Texas 76442. An onsite pre-proposal inspection of the roof may be scheduled upon request.

MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT NOTICE OF PUBLIC HEARING ON AMENDMENTS TO DISTRICT MANAGEMENT PLAN

The Middle Trinity Groundwater Conservation District (MTGCD) will hold a public hearing on proposed amendments of the MTGCD's Groundwater Management Plan on Thursday, July 6th, 2023, at 1:00 p.m. at the District office located at 930 N. Wolfe Nursery Road, Stephenville, Texas 76401. All interested parties are invited to attend. PUBLIC HEARING AGENDA:

1. Call to Order.
2. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of the Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code.
3. Public Comment on the Groundwater Management Plan proposed for adoption.
4. Adjourn

At the conclusion of the hearing or any time or date thereafter, the proposed management plan may be adopted in the form presented or as amended based upon comments received from the public, the Texas Water Development Board, District staff, attorneys, geoscientists, or members of the Board of Directors without any additional notice.

Copies of the proposed MTGCD Management Plan will be available as of June 9th, 2023, at the MTGCD office located at 930 N. Wolfe Nursery Road, Stephenville, Texas or on the MTGCD's website at www.middletrinitygcd.org.

The MTGCD is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please call 254-965-6705 at least 24 hours in advance if accommodation is needed.

For more information about the public hearing or the MTGCD Contact: Patrick Wagner, General Manager at 254-965-6705

NOTICE TO CREDITORS

Notice is hereby given that original Letters Testamentary for the Estate of La Rue Prater, Deceased, were issued on the 12th day of June, 2023, under Docket No. PR23-7795, pending in the County Court of Comanche County, Texas, to Connie Lee Prater Reed. Claims may be presented in care of the attorney for the Estate addressed as follows:

Connie Lee Prater Reed, Representative Estate of La Rue Prater, Deceased
% James H. Dudley, Attorney Woodley & Dudley Law Office
P. O. Box 99, Comanche, Texas 76442

All persons having claims against this Estate which is currently being administered are required to present them within the time and in the manner prescribed by law.

DATED this 12th day of June, 2023. WOODLEY & DUDLEY LAW OFFICE

BY JAMES H. DUDLEY, ATTORNEY FOR THE ESTATE OF LA RUE PRATER, DECEASED

NOTICE OF SALE OF REAL PROPERTY CITY BLOCK (SIX PROPERTIES)

The Board of Trustees of the Comanche Independent School District (CISD) hereby serves notice that it will accept sealed bids real property located at:

209 E. Walcott, Comanche, Texas 76442
207 E. Walcott, Comanche, Texas 76442
205 E. Walcott, Comanche, Texas 76442
604 N. Pearl Street, Comanche, Texas 76442
700 N. Pearl Street, Comanche, Texas 76442
Vacant lot bordered by Highland, Bryan, Cole, and Walcott Streets in Comanche, Texas 76442

Please also refer to Comanche Appraisal District Property ID #s: 3641, 3643, 3644, 3645, 3646, and 3650 (the "Property"). Interested parties may contact the CISD Superintendent, Ms. Leanne Ingram at 200 E. Highland, Comanche, Texas 76442, by phone at 325-356-2727, or by email at lingram@comancheisd.net to receive Bid Packages and arrange for inspection of the premises. The property will be conveyed subject to the exceptions and reservations contained in the Bid Package. CISD reserves the right to reject any and all bids and to waive any informality in bids received. Bids received after the deadline or faxed bids will not be considered. Sealed bids must be received until at the above address by no later than 12:00 pm (noon) on June 16, 2023.

GASOLINE/ DIESEL BID NOTICE

The Comanche Independent School District Transportation Center is accepting sealed bids to supply motor fuel (gasoline and diesel) to the district for the 2023-2024 school year. Deadline to submit a bid is June 29, 2023, at 2:00 p.m. Bids will be opened and reviewed at the Administration Office at 2:10 p.m., June 29, 2023. Bids will then be submitted to the Board of Trustees at their next regular meeting in July 2023.

Interested parties may contact Todd Schoen, Director of Operations, at 325- 356- 2727 ext. 1301 or by e-mail at tschoen@comancheisd.net to receive bid packets. The district reserves the right to accept or reject any or all bids and to accept the bid most advantageous to the district. Bids shall be submitted in sealed envelopes, on forms provided, with no changes or alterations. Faxed and/or e-mailed bids will not be accepted.

Bosque County Publishing, LP

The Clifton Record (254) 675-3336, Meridian Tribune (254) 435-6333
P.O.Box 531, Clifton, TX 76634
Phone: (254) 675-3336

Account Number	Statement Date	Due Date	Account Balance Aging				
			CURRENT	31-60	61-90	91-120	OVER 120
RA0679	06/30/23	07/30/23	\$288.00	\$0.00	\$0.00	\$0.00	\$0.00
JOE COOPER MIDDLE TRINITY GROUND WATER CONSERVATION DISTRICT 930 N. WOLFE NURSERY RD. STEPHENVILLE, TX 76401							
Date	Type / No.	Description	Size	Total	Amount	Due	
New Charges							
06/14/23	Inv. 100762	Classified Inv. Management Plan	3 X 8=24ci	\$288.00			
		Meridian Tribune			\$144.00	\$144.00	
		Clifton Record			\$144.00	\$144.00	
		Total New Charges				\$288.00	
Payments and Applications							
06/07/23	Pmt. 41322	Check 12343		-\$324.00		-\$0.00	
		Total Payments				\$0.00	
				Total Due:	\$288.00		

Bosque County Publishing, LP

Payment Remittance - Detach and Send This Stub With Your Payment

Advertiser Information		Account No.	Total Due:
JOE COOPER MIDDLE TRINITY GROUND WATER CONSERVATION DISTRICT 930 N. WOLFE NURSERY RD. STEPHENVILLE, TX 76401		RA0679	\$288.00
		Date	Amount Paid:
		06/30/2023	
		Remit To: Bosque County Publishing, LP The Clifton Record (254) 675-3336 Meridian Tribune (254) 435-6333 P.O.Box 531, Clifton, TX 76634	

PUBLISHER'S AFFIDAVIT

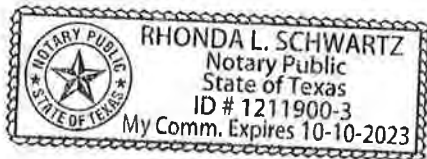
I solemnly swear that the attached notice was published once in ***The Clifton Record and/or the Meridian Tribune***, a newspaper printed in Bosque County, Texas, and of general circulation in said county, as provided in the Texas Estate Code for the service of citation or notice by publication, and the date that the issue of said newspaper bore in which said notice was published on 6-14-23. A copy of the notice published, clipped from the newspaper, is attached hereto.

MIDDLE TRINITY COUNDMAN - DISTRICT MGT PLAN

Rita Haldeman
Publisher

SUBSCRIBED AND SWORN TO BEFORE ME BY

Rita Haldeman THIS 14th DAY OF June, 2023



Rhonda L. Schwartz
Notary Public / State of Texas
My Commission Expires:

10-10-2023

Bosque County - Wide Classifieds

254-675-3336 or 254-435-6333

Classified Word Ads

are non bordered, text only ads that are categorized on the classified page/s by: For Sale, For Rent, Garage Sales, Miscellaneous, Notices, Employment, Services, Cards of Thanks, and Real Estate.

All Rates \$12.00 minimum for 15 words or less, then \$5.25 per word thereafter.

DEADLINE: 5:00PM FRIDAY

WE ACCEPT



REAL ESTATE



Meridian Location Clifton Location
385 E Morgan • Meridian, TX 76665 601 N Ave G • Clifton, TX 76604
254-435-3001 254-675-2505

FOR RENT

10 +/- ACRES near Meridian - Beautiful tract with big oaks, pecans, season creek, elevation change, views. Couple of nice home sites. **SOLD**

111 +/- ACRES near Meridian - wooded, hunting, wildlife, 2 ponds with water, old house, water meter.

82 +/- ACRES near Hico - pretty acreage with 1 big pond, 2 small ponds, live oaks, post oaks, elevation change, views, wildlife.

13 +/- ACRES near Clifton - Small recreational tract on the Bosque River. Pretty, wooded, good access to river.

HOUSES ON ACREAGE

4 Lots in the Canyons

RESIDENTIAL

135 CR 1630 - Clifton - 2/2/2 with large living area at Lake Whitney. Sunroom, office, big deck, fenced yard, WB fireplace. Appliances convey. **PENDING**

113 CR 1275 - Morgan - Nice furnished home at Lake Whitney near boat launch. Wrought iron fencing, big shop with enclosed RV barn. **PENDING**

509 N Erath - Meridian - 3/3/2 brick on 1/2 acre. Combo living and dining, big kitchen, split bedrooms, nice view to the West.

COMMERCIAL

1000 W 5TH - Clifton - 1.72 AC corner lot with nice trees. Zoned commercial. **SOLD**

www.carlisleatexas.com

Sidney Carlisle, Broker ★ 254-978-0373

CALL US FOR ALL YOUR REAL ESTATE NEEDS

TIMMY SHEFFIELD ★ 254-253-0862
ROGER DUSHEE ★ 254-640-3490
GARY WATSON ★ 254-485-4045
RICHARD TIER ★ 817-980-1506

SERVICES

Triple C Tree Service

Tree Trimming & Removal
Call Chris
254-694-7935 or
254-337-1055

EMPLOYMENT

Help Wanted

Experienced Mechanic for
farm equipment and semi's

Hillbren, TX

www.kaddatzequipment.com

254-582-3000

GARAGE SALE

Four-Family Garage Sale

June 15th to June 17th
400 W Morgan Street
Meridian, TX 76665

Across the Bosque River
Bridge

Furniture, Tools, Clothes and
Miscellaneous

Phil Murphy
254-978-9115



NOTICE

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For more information about the public hearing or the
MTGCD Contact: Patrick Wagner, General Manager
at 254-965-6705

BOSQUE COUNTY, TEXAS REQUEST FOR PROPOSALS

GROUP MEDICAL, DENTAL, VISION, BASE LIFE & AD&D, VOLUNTARY LIFE & AD&D, VOLUNTARY DEPENDENT LIFE & AD&D, DISABILITY, ACCIDENT, CANCER, CRITICAL ILLNESS and COBRA PROGRAM

From:
Bosque County Commissioners Court and Human Resources
110 S. Main St.
PO Box 647
Meridian, TX 76665

SECTION I: Request for Proposal

Proposals are solicited for furnishing Bosque County with a Group Medical Insurance, Dental, Vision, Accident, Cancer, Critical Illness, Short Term and Long Term Disability, Hospital Indemnity, and Base Life & AD&D for employees, officials, and dependents as set forth in this proposal request for a period of October 1, 2023 through September 30, 2024, in accordance with the following conditions. Proposals are also solicited to include a Cobra Administration program. Please bid each coverage separately. You may request additional copies of this packet from the Human Resources office or make copies for each product for which you are sending a proposal.

Proposals must be submitted to the County Clerk's Office, 110 S. Main St., PO Box 617, Meridian, TX 76665, no later than 3:00 P.M., Thursday June 29th, 2023. Proposals must be sealed and clearly marked "Group Medical Insurance Proposal" a total of 8 paper copies are required. Electronic transmission proposals will not be accepted. Proposals will be publicly opened in the Commissioner's Courtroom of the Bosque County Courthouse on Monday, July 3rd, 2023 at 9:00 am. Proposals are scheduled to be awarded no later than Monday, July 24th, 2023. ANCO Insurance Managers LTD will be negotiating the premiums with all bidders. If you have any questions regarding the RFP, you may contact ANCO Insurance Managers LTD, Life & Health Department, 979-776-2626.

NOTICE

NOTICE TO ALL PERSONS HAVING CLAIMS AGAINST THE ESTATE OF MARVIN RICHARD MARCK, DECEASED

Notice is hereby given that original Letters Testamentary for the Estate of Marvin Richard Marck, Deceased, were issued on April 18, 2023, in Cause No. 198346, pending in the County Court at Law of Bosque County, Texas, to:

MICHELLE MARCK HOPSON

Claims may be presented in care of the Independent Executor for the Estate addressed as follows:

Estate of Marvin R. Marck, Deceased
c/o Pakis, Giottes, Page & Burleson
Post Office Box 58
Waco, Texas 76703-0058

All persons having claims against this Estate which is currently being administered are required to present them within the time and in the manner prescribed by law.

DATED the 18th day of April, 2023

PAKIS, GIOTTES, PAGE & BURLESON, P.C.
Post Office Box 58
Waco, Texas 76703-0058
(254) 297-7300
(254) 297-7301 (FAX)

By: CARLIE C. GAUSE

Attorneys for the Executor



List your service in the Bosque County
Classifieds and see the results!

View the Bosque County Classifieds
online for **FREE**
at www.BosqueCountyToday.com

Bosque County - Wide Classifieds

254-675-3336 or 254-435-6333

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are non bordered, text only ads that are categorized on the classified pages by: For Sale, For Rent, Garage Sales, Miscellaneous, Notices, Employment, Services, Cards of Thanks, and Real Estate.

Ad Rates \$12.50 minimum for 15 words or less, then \$.35 per word thereafter.
DEADLINE 5:00PM FRIDAY



REAL ESTATE



Meridian Location 305 E Morgan • Meridian, TX 76665
Clifton Location 403 N Ave G • Clifton, TX 76634
254-435-3001 254-475-2505

FARM AND RANCH

10 +/- ACRES near Meridian - Beautiful tract with big oaks, pecans, season creek, elevation change, views. Couple of nice home sites. **SOLD**

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1000 W 5TH - Clifton - 1.72 AC corner lot with nice trees. Zoned commercial. **SOLD**

www.carlisletexas.com

Sidney Carlisle, Broker ★ 254.076.0373

CALL US FOR ALL YOUR REAL ESTATE NEEDS

TIMOTHY SHEFFIELD ★ 254-293-0062
ROGER BOSHER ★ 254-640-3400
GARY WATSON ★ 254-485-4845
RICHARD TINES ★ 817-980-1506

SERVICES

Triple C Tree Service

Tree Trimming & Removal
Call Chris
254-694-7935 or
254-337-1055

EMPLOYMENT

Help Wanted

Experienced Mechanic (for farm equipment) and semi's.

Hillboro, TX

www.kardstreeequipment.com

254-582-3000

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Four-Family Garage Sale

June 15th to June 17th
400 W. Morgan Street
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Across the Bosque River
Bridge

Furniture, Tools, Clothes and Miscellaneous

Phil Murphy
254-978-9115



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Proposals must be submitted to the County Clerk's Office, 110 S. Main St., PO Box 617, Meridian, TX 76665, no later than 3:00 P.M., Thursday June 29th, 2023. Proposals must be sealed and clearly marked "Group Medical Insurance Proposal" a total of 8 paper copies are required. Electronic transmission proposals will not be accepted. Proposals will be publicly opened in the Commissioner's Courtroom of the Bosque County Courthouse on Monday, July 3rd, 2023 at 9:00 am. Proposals are scheduled to be awarded no later than Monday, July 24th, 2023. ANCO Insurance Managers LTD will be negotiating the premiums with all bidders. If you have any questions regarding the RFP, you may contact ANCO Insurance Managers LTD, Life & Health Department, 979-776-2626.

CLERK OF THE COURT
TABATHA FERGUSON
P O BOX 617
MERIDIAN, TX 76665

ATTORNEY FILING
JEREMY SORELLE
837 WEST PEARL STREET
GRANDPURY, TEXAS 76048

CITATION BY PUBLICATION

THE STATE OF TEXAS

TO The Unknown Heirs of DARRELL WAYNE LANFORD, Deceased Cause No P08474

On the 9th day of June, 2023, DEBRA LYNN MCQUILL filed a FIRST AMENDED APPLICATION TO DETERMINE HEIRSHIP in a proceeding styled in the ESTATE OF DARRELL WAYNE LANFORD, DECEASED, and bearing the number P08474 in the County Court at Law of Bosque County, Texas.

The aforesaid Application seeks the court's determination of the names of the Heirs of the Decedent.

The court will hear the aforesaid FIRST AMENDED APPLICATION TO DETERMINE HEIRSHIP in a proceeding styled in the estate of DARRELL WAYNE LANFORD after the first Monday after the expiration of 10 days, exclusive of the day of publication, from the date this citation is published, in the court of the County Court at Law Judge of Bosque County, at 401 S. 1st Street.

All persons interested in the aforesaid estate are commanded to appear at or before the time set for said hearing by filing a written contest to or answer to said FIRST AMENDED APPLICATION TO DETERMINE HEIRSHIP in a proceeding styled in the Estate of DARRELL WAYNE LANFORD should they desire to oppose or contest it.

Said written contest or answer shall be filed in the office of the County Clerk of Bosque County, Meridian, Texas.

The officer serving this citation shall, in compliance with the law, serve it by publication once in a newspaper of general circulation in this county in which such proceeding is pending, for not less than ten days before the return day thereof, exclusive of the day of publication, and the date of publication said newspaper shall be the date of publication.

THE OFFICER EXECUTING THIS WRIT SHALL PROMPTLY SERVE AND MAKE DUE RETURN.

ISSUED AND GIVEN under my hand and seal of office on the 7th day of June, 2023, at Meridian, Bosque County, Texas.

TABATHA FERGUSON
Bosque County Clerk

NOTICE

MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT NOTICE OF PUBLIC HEARING ON AMENDMENTS TO DISTRICT MANAGEMENT PLAN

The Middle Trinity Groundwater Conservation District (MTGCD) will hold a public hearing on proposed amendments of the MTGCD's Groundwater Management Plan on Thursday, July 6th, 2023, at 1:00 p.m. at the District office located at 930 N. Wolfe Nursery Road, Stephenville, Texas 76401. All interested parties are invited to attend.

PUBLIC HEARING AGENDA:

1. Call to Order.
2. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of the Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code.
3. Public Comment on the Groundwater Management Plan proposed for adoption.
4. Adjourn

At the conclusion of the hearing or any time or date thereafter, the proposed management plan may be adopted in the form presented or as amended based upon comments received from the public, the Texas Water Development Board, District staff, attorneys, geoscientists, or members of the Board of Directors without any additional notice.

Copies of the proposed MTGCD Management Plan will be available as of June 9th, 2023, at the MTGCD office located at 930 N. Wolfe Nursery Road, Stephenville, Texas or on the MTGCD's website at www.middletrinitygcd.org.

The MTGCD is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please call 254-965-6705 at least 24 hours in advance if accommodation is needed.

For more information about the public hearing or the MTGCD Contact: Patrick Wagner, General Manager at 254-965-6705

TABC Notice

"Application has been made to the Texas Alcoholic Beverage Commission for a Private Club Registration Permit and Food & Beverage Certificate by Tower Pizza Lake Whitney Private Club dba Tower Pizza Lake Whitney Private Club located at 235 CR 1768, Clifton, Bosque County, Texas. Directors of said Non-profit are Jim Messenger, President, Celeste Messenger, Secretary, Shawn Messenger, Treasurer."

Debbie Montgomery

From: TexReg@sos.texas.gov
Sent: Wednesday, June 7, 2023 1:32 PM
To: Debbie Montgomery
Subject: S.O.S. Acknowledgment of Receipt

Acknowledgment of Receipt

Agency: Middle Trinity Groundwater Conservation District

Liaison: Debbie Montgomery

The Office of the Secretary of State has posted

notice of the following meeting:

Board: Board of Directors

Committee:

Date: 07/06/2023 01:00 PM "TRD# 2023003208"

Notice posted: 06/07/23 01:32 PM

Proofread your current open meeting notice at:

[http://texreg.sos.state.tx.us/public/pub_om_lookup\\$.startup?Z_TRD=2023003208](http://texreg.sos.state.tx.us/public/pub_om_lookup$.startup?Z_TRD=2023003208)



Debbie Montgomery

[Log Off](#)

Open Meeting Submission

TRD: 2023003208
Date Posted: 06/07/2023
Status: Accepted
Agency Id: 0365
Date of Submission: 06/07/2023
Agency Name: Middle Trinity Groundwater Conservation District
Board: Board of Directors
Date of Meeting: 07/06/2023
Time of Meeting: 01:00 PM (##:## AM Local Time)
Street Location: 930 Wolfe Nursery Rd
City: Stephenville
State: TX
Liaison Name: Debbie Montgomery
Liaison Id: 2
Additional Information Obtained From: 254-965-6705
Agenda: MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT
NOTICE OF PUBLIC HEARING ON
AMENDMENTS TO DISTRICT MANAGEMENT PLAN

The Middle Trinity Groundwater Conservation District (MTGCD) will hold a public hearing on proposed amendments of the MTGCD's Groundwater Management Plan on Thursday, July 6th, 2023, at 1:00 p.m. at the District office located at 930 N. Wolfe Nursery Road, Stephenville, Texas 76401. All interested parties are invited to attend.

PUBLIC HEARING AGENDA:

1. Call to Order.
2. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of the Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code.
3. Public Comment on the Groundwater Management Plan proposed for adoption.

4. Adjourn

At the conclusion of the hearing or any time or date thereafter, the proposed management plan may be adopted in the form presented or as amended based upon comments received from the public, the Texas Water Development Board, District staff, attorneys, geoscientists, or members of the Board of Directors without any additional notice.

Copies of the proposed MTGCD Management Plan will be available as of June 9th, 2023, at the MTGCD office located at 930 N. Wolfe Nursery Road, Stephenville, Texas or on the MTGCD's website at www.middletrinitygcd.org.

The MTGCD is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please call 254-965-6705 at least 24 hours in advance if accommodation is needed.

For more information about the public hearing or the
MTGCD Contact: Patrick Wagner, General Manager at 254-965-6705

New Submission

HOME

TEXAS REGISTER

TEXAS ADMINISTRATIVE CODE

OPEN MEETINGS

← PAGES

Groundwater Conser... +

Q

ALL DRAFTS REVIEW SCHEDULED

Notice of Public Hearing on Amendments to Distr
Today 1:00pm

Notice of Permit Hearing and Board Meeti...
May 22

NOTICE OF PUBLIC MEETING TO ADOPT DESIRE
May 17

Notice of Permit Hearing and Board Meeti...
Apr 24

Notice of Permit Hearing and Board Meeti...
May 23

Notice of Joint Planning Meeting
Feb 23

Middle Trinity Groundwater Conservation District

Notice of Public Hearing Amendments to District Management Plan

Post

Edit

MTGCD will hold a public hearing on proposed amendments to the MTGCD Groundwater Management Plan on Thursday, July 6, 2023 at 1:00 PM at 930 Wolfe Nursery Rd, Stephenville. View a copy of the agenda [here](#).

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Older Post
Notice of Permit Hearing and Board Meeting

NOTICE OF PUBLIC HEARING ON AMENDMENTS TO DISTRICT MANAGEMENT PLAN, PERMIT HEARING and DISTRICT BOARD MEETING

The **Middle Trinity Groundwater Conservation District** Board of Directors will hold a public hearing on **AMENDMENTS TO THE DISTRICT MANAGEMENT PLAN, PERMIT HEARING** and **BOARD MEETING** on Thursday, July 6, 2023 at 1:00 p.m. at 930 Wolfe Nursery Rd, Stephenville, Texas. The Board Meeting will begin immediately upon adjournment of the Permit Hearing. All interested parties are invited to attend.

PUBLIC HEARING AGENDA:

1. Call to Order
2. Roll Call
3. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code
4. Public Comment on the Groundwater Management Plan proposed for adoption
5. Adjourn

PERMIT HEARING AGENDA:

1. Call to Order
2. Roll Call
3. Operating Permit Applications to Be Heard:

POSTED
10:03 A.M. _____ P.M.
JUN 26 2023
GWINDA JONES, COUNTY CLERK
ERATH COUNTY, TEXAS
By CW Deputy

Andrea Walters

190 Crenshaw Court
Stephenville, TX 76401

Well Site:	GPM: 10	Acres: 3.73	Use: Domestic
605 Collier Ranch Rd Diamond C Ranch Estates Phase I, Lot 8 Stephenville, TX 76401			

Confidential

Well Site:	GPM: 10	Acres: 5.0	Use: Domestic
446 Ava Grace Lane Ranches at Deer Crossing Lot 27 Dublin, TX 76446			

Rajesh Devineni – 4 proposed wells

5808 Rosewood Ct
Plano, TX 75093

Well Site:	GPM: 10 (each)	Acres: 40.34	Use: Irrigation
CR 446 DeLeon, TX 76444			

Jeffrey and Jodi VanDerbeck

17011 FM 56
Kopperl, TX 76652

Well Site:	GPM: 12	Acres: 5.369	Use: Domestic
17033 FM 56 Kopperl, TX 76652			

Dennis Tyler

PO Box 1282
Stephenville, TX 76401

Well Site:	GPM: 14	Acres: 6.16	Use: Domestic
Collier Ranch Rd Diamond C Ranch Estates Phase IV, Lot 48 Stephenville, TX 76401			

Kirk Bretches

1290 CR 170
Gorman, TX 76454

Well Site:	GPM: 17	Acres: 9.7	Use: Domestic
274 CR 448 DeLeon, TX 76444			

Shawn Felton (previously approved, change in location over 30 feet)
5457 CR 275

Dublin, TX 76446

Well Site:

CR 304

Yarborough Farms Lot 5

Dublin, TX 76446

GPM: 17

Acres: 10.0

Use: Domestic /
Livestock Watering

Carl and Donna Schelhaas

1205 H FM 219

Dublin, TX 76446

Well Site:

295 Tatanka Trail

Twisted Creek Ranch Lot 50

Gustine, TX 76455

GPM: 19

Acres: 10.01

Use: Domestic

Dodd Legacy Trust (Justin Dodd) – 3 proposed wells

6191 State Hwy 161, Suite 430

Irving, TX 75038

Well Site:

2549 CR 124

Stephenville, TX 76401

GPM: 19 (each)

Acres: 231.056

Use: To Maintain 5-
Acre Pond /
Irrigation /
Livestock Watering

Lynda Laduque

2439 CR 407

Stephenville, TX 76401

Well Site:

2425 CR 407

Stephenville, TX 76401

GPM: 33

Acres: 273.59

Use: Domestic /
Irrigation /
Livestock Watering

9. Discussion on Operating Permit Applications

10. Adjourn Permit Hearing

BOARD MEETING AGENDA:

The following agenda items will be discussed:

1. Call to Order

2. Roll Call of Members

3. Invocation
4. Pledge of Allegiance
5. Recognize Guests
6. Public Comments
7. Take Action on Operating Permit Applications
8. Approve / Ratify Minutes
9. Approve / Ratify Payment of Bills
10. Income / Expense Comparison
11. Review of Current Tax Rate and Percent of Revenue Collected
12. Discussion / Consider / Possible Action of District Adoption of the Amended Middle Trinity GCD Management Plan
13. Discussion / Consider / Possible Action on Appointment of Butch Ronne to Fulfill Gary Kafer's Remaining Term as Director of Coryell County
14. Administer Oath of Office for Appointed Director
15. Presentation by LRE Water, LLC on MTGCD Stratigraphic Model Update
16. Legislative Update and Potential Rule Change Considerations by Ty Embrey of Lloyd Gosselink
17. Discussion on First Draft of the 2023/2024 Budget
18. General Manager's Report
19. Receive Monthly Staff Report
 - a. Quarterly Drought Status Report
 - b. Quarterly Investment Report
 - c. Well Registration Update
 - d. Field Tech Report
 - e. Education/Public Relations Report
 - f. The Ditch Water Discovery Center Update
20. Executive Session pursuant to Sections 551.071 and/or 551.074 of Texas Government Code to discuss Legal Matters and/or Personnel Matters

- a. Consultation Concerning Attorney Client Matters
- b. Personnel Matters, Including Salary Considerations

21. Discussion / Possible Action on any Matter discussed in Executive Session

22. Discuss Agenda Items for August Board Meeting

23. Adjourn

CERTIFICATION

I, the undersigned authority, do hereby certify that on June 26, 2023 before 1:00 PM, I posted and filed the above notice of meeting on the MTGCD website, Texas Secretary of State website, and on the door of the MTGCD office in Erath County in a place convenient and readily accessible to the general public at all times and that it will remain so posted continuously for at least 72 hours preceding the scheduled time of said board meeting, and 10 business days prior to aid time of permit hearing in accordance with the Texas Government Code, Chapter 551.

By: Tat 8. De
MTGCD General Manager

The Middle Trinity Groundwater Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the President of the District at 254-965-6705 at least 24 hours in advance if accommodation is needed.

At any time during the meeting and in compliance with the Texas Open Meetings Act, Chapter 551, Government Code, Vernon's Texas Codes, Annotated, the Middle Trinity Groundwater Conservation District Board may meet in executive session on any of the above agenda items for consultation concerning attorney-client matters (§551.071); deliberation regarding real property (§551.072); deliberation regarding prospective gift (§551.073); personnel matters (§551.074); and deliberation regarding security devises (§551.076). Any subject discussed in executive session may be subject to action during an open meeting.

**For more information about the Permit Hearing, Board Meeting or the
Middle Trinity Groundwater Conservation District contact:
GENERAL MANAGER
254-965-6705**

**NOTICE OF PUBLIC HEARING ON
AMENDMENTS TO DISTRICT
MANAGEMENT PLAN,
PERMIT HEARING
and
DISTRICT BOARD MEETING**

The **Middle Trinity Groundwater Conservation District** Board of Directors will hold a public hearing on **AMENDMENTS TO THE DISTRICT MANAGEMENT PLAN, PERMIT HEARING** and **BOARD MEETING** on Thursday, July 6, 2023 at 1:00 p.m. at 930 Wolfe Nursery Rd, Stephenville, Texas. The Board Meeting will begin immediately upon adjournment of the Permit Hearing. All interested parties are invited to attend.

PUBLIC HEARING AGENDA:

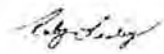
1. Call to Order
2. Roll Call
3. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code
4. Public Comment on the Groundwater Management Plan proposed for adoption
5. Adjourn

PERMIT HEARING AGENDA:

1. Call to Order
2. Roll Call
3. Operating Permit Applications to Be Heard:

FILED
AT _____ O'CLOCK _____ M

JUN 21 2023


Clerk County Court, Comanche Co., Texas

**NOTICE OF PUBLIC HEARING ON
AMENDMENTS TO DISTRICT
MANAGEMENT PLAN,
PERMIT HEARING
and
DISTRICT BOARD MEETING**

FILED
AT 9:50 O'CLOCK a.m.

JUN 26 2023

Janice T. Newton
COUNTY CLERK, CORYELL CO., TEXAS

The Middle Trinity Groundwater Conservation District Board of Directors will hold a public hearing on **AMENDMENTS TO THE DISTRICT MANAGEMENT PLAN, PERMIT HEARING and BOARD MEETING** on Thursday, July 6, 2023 at 1:00 p.m. at 930 Wolfe Nursery Rd, Stephenville, Texas. The Board Meeting will begin immediately upon adjournment of the Permit Hearing. All interested parties are invited to attend.

PUBLIC HEARING AGENDA:

1. Call to Order
2. Roll Call
3. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code
4. Public Comment on the Groundwater Management Plan proposed for adoption
5. Adjourn

PERMIT HEARING AGENDA:

1. Call to Order
2. Roll Call
3. Operating Permit Applications to Be Heard:



Debbie Montgomery

[Log Off](#)

Open Meeting Submission

TRD: 2023003661
Date Posted: 06/26/2023
Status: Accepted
Agency Id: 0365
Date of Submission: 06/26/2023
Agency Name: Middle Trinity Groundwater Conservation District
Board: Board of Directors
Date of Meeting: 07/06/2023
Time of Meeting: 01:00 PM (##:## AM Local Time)
Street Location: 930 Wolfe Nursery Rd
City: Stephenville
State: TX
Liaison Name: Debbie Montgomery
Liaison Id: 2
Additional Information Obtained From: 254-965-6705
Agenda: NOTICE OF PUBLIC HEARING ON
AMENDMENTS TO DISTRICT MANAGEMENT PLAN,
PERMIT HEARING
and
DISTRICT BOARD MEETING

The Middle Trinity Groundwater Conservation District Board of Directors will hold a public hearing on AMENDMENTS TO THE DISTRICT MANAGEMENT PLAN, PERMIT HEARING and BOARD MEETING on Thursday, July 6, 2023 at 1:00 p.m. at 930 Wolfe Nursery Rd, Stephenville, Texas. The Board Meeting will begin immediately upon adjournment of the Permit Hearing. All interested parties are invited to attend.

PUBLIC HEARING AGENDA:

1. Call to Order

2. Roll Call

3. Summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code

4. Public Comment on the Groundwater Management Plan proposed for adoption

5. Adjourn

PERMIT HEARING AGENDA:

1. Call to Order

2. Roll Call

3. Operating Permit Applications to Be Heard:

Andrea Walters
190 Crenshaw Court
Stephenville, TX 76401
Well Site: GPM: 10 Acres: 3.73 Use: Domestic
605 Collier Ranch Rd
Diamond C Ranch Estates Phase I, Lot 8
Stephenville, TX 76401

Confidential
Well Site: GPM: 10 Acres: 5.0 Use: Domestic
446 Ava Grace Lane
Ranches at Deer Crossing Lot 27
Dublin, TX 76446

Rajesh Devineni - 4 proposed wells
5808 Rosewood Ct
Plano, TX 75093
Well Site: GPM: 10 (each) Acres: 40.34 Use: Irrigation
CR 446
DeLeon, TX 76444

Jeffrey and Jodi VanDerbeck
17011 FM 56
Kopperl, TX 76652
Well Site: GPM: 12 Acres: 5.369 Use: Domestic
17033 FM 56
Kopperl, TX 76652

Dennis Tyler
PO Box 1282

Stephenville, TX 76401
Well Site: GPM: 14 Acres: 6.16 Use: Domestic
Collier Ranch Rd
Diamond C Ranch Estates Phase IV, Lot 48
Stephenville, TX 76401

Kirk Bretches
1290 CR 170
Gorman, TX 76454
Well Site: GPM: 17 Acres: 9.7 Use: Domestic
274 CR 448
DeLeon, TX 76444

Shawn Felton (previously approved, change in location over 30 feet)
5457 CR 275
Dublin, TX 76446
Well Site: GPM: 17 Acres: 10.0 Use: Domestic /
CR 304 Livestock Watering
Yarborough Farms Lot 5
Dublin, TX 76446

Carl and Donna Schelhaas
1205 H FM 219
Dublin, TX 76446
Well Site: GPM: 19 Acres: 10.01 Use: Domestic
295 Tatanka Trail
Twisted Creek Ranch Lot 50
Gustine, TX 76455

Dodd Legacy Trust (Justin Dodd) - 3 proposed wells
6191 State Hwy 161, Suite 430
Irving, TX 75038
Well Site: GPM: 19 (each) Acres: 231.056 Use: To Maintain 5-
2549 CR 124 Acre Pond /
Stephenville, TX 76401 Irrigation /
Livestock Watering

Lynda Laduque
2439 CR 407
Stephenville, TX 76401
Well Site: GPM: 33 Acres: 273.59 Use: Domestic /
2425 CR 407 Irrigation /
Stephenville, TX 76401 Livestock Watering

4. Discussion on Operating Permit Applications

5. Adjourn Permit Hearing

BOARD MEETING AGENDA:

The following agenda items will be discussed:

1. Call to Order
2. Roll Call of Members
3. Invocation
4. Pledge of Allegiance
5. Recognize Guests
6. Public Comments
7. Take Action on Operating Permit Applications
8. Approve / Ratify Minutes
9. Approve / Ratify Payment of Bills
10. Income / Expense Comparison
11. Review of Current Tax Rate and Percent of Revenue Collected
12. Discussion / Consider / Possible Action of District Adoption of the Amended Middle Trinity GCD Management Plan
13. Discussion / Consider / Possible Action on Appointment of Butch Ronne to Fulfill Gary Kafer's Remaining Term as Director of Coryell County
14. Administer Oath of Office for Appointed Director
15. Presentation by LRE Water, LLC on MTGCD Stratigraphic Model Update
16. Legislative Update and Potential Rule Change Considerations by Ty Embrey of Lloyd Gosselink
17. Discussion on First Draft of the 2023/2024 Budget
18. General Manager's Report
19. Receive Monthly Staff Report
 - a. Quarterly Drought Status Report
 - b. Quarterly Investment Report
 - c. Well Registration Update
 - d. Field Tech Report
 - e. Education/Public Relations Report
 - f. The Ditch Water Discovery Center Update
20. Executive Session pursuant to Sections 551.071 and/or 551.074 of Texas Government Code to discuss Legal Matters and/or Personnel Matters

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Groundwater Conser...

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ALL

DRAFTS

REVIEW

SCHEDULED

Notice of Public Hearing on Amendments to Distr...

Today 9:52am

Notice of Public Hearing on Amendments to Distr...

Jun 7

Notice of Permit Hearing and Board Meeti...

May 22

NOTICE OF PUBLIC MEETING TO ADOPT DESIRE...

May 17

Notice of Permit Hearing and Board Meeti...

Apr 26

Middle Trinity Groundwater Conservation District

Notice of Public Hearing Amendments to District Management Plan, Permit Hearing, and District Board Meeting

Post

EDIT

San Antonio Municipality - June 26, 2023

MTGCD will hold a public hearing on Amendments to the District Management Plan, Permit Hearing, and Board Meeting on Thursday, July 6, 2023 at 1:00 PM at 930 Wolfe Nursery Rd, Stephenville, Texas. You may view a copy of the agenda [here](#).



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- a. Consultation Concerning Attorney Client Matters
- b. Personnel Matters, Including Salary Considerations

21. Discussion / Possible Action on any Matter discussed in Executive Session

22. Discuss Agenda Items for August Board Meeting

23. Adjourn

CERTIFICATION

I, the undersigned authority, do hereby certify that on June 26, 2023 before 1:00 PM, I posted and filed the above notice of meeting on the MTGCD website, Texas Secretary of State website, and on the door of the MTGCD office in Erath County in a place convenient and readily accessible to the general public at all times and that it will remain so posted continuously for at least 72 hours preceding the scheduled time of said board meeting, and 10 business days prior to aid time of permit hearing in accordance with the Texas Government Code, Chapter 551.

By: _____
MTGCD General Manager

The Middle Trinity Groundwater Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the President of the District at 254-965-6705 at least 24 hours in advance if accommodation is needed.

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For more information about the Permit Hearing, Board Meeting or the Middle Trinity Groundwater Conservation District contact:
GENERAL MANAGER
254-965-6705

New Submission

HOME

TEXAS REGISTER

TEXAS ADMINISTRATIVE CODE

OPEN MEETINGS

MINUTES OF THE PUBLIC HEARING ON AMENDMENTS
TO DISTRICT MANAGEMENT PLAN, PERMIT HEARING,
AND MEETING OF THE BOARD OF DIRECTORS OF THE
MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT
HELD: July 6, 2023

THE STATE OF TEXAS
COUNTY OF ERATH

On this 6th day of July 2023, the Board of Directors of the Middle Trinity Groundwater Conservation District convened in a PUBLIC HEARING ON AMENDMENTS TO DISTRICT MANAGEMENT PLAN at 930 Wolfe Nursery Rd, Stephenville, Texas at 1:00 PM with the following members present:

Rodney Stephens – President	Barbara Domel – Vice-President
Fred Parker - Secretary	Jerry Hinshaw - Director
Shane Tucker - Director	Kenneth Bullington – Director
Charles Ferguson – Director	Frank Volleman – Director
Joe Altebaumer – Director	W.B. Maples – Director
Robert Payne - Director	

No Board Members were absent. Also present were Patrick Wagner, Johnny Wells, Stephanie Keith, Debbie Montgomery, and Rachael Phillips.

President Rodney Stephens called the meeting to order, declared a quorum present and that the meeting was duly convened and ready to transact business.

Notice of the hearing was given, stating the time, place and purpose, all as required by Chapter 551 of the Government Code.

1. Meeting called to order by Rodney Stephens.
2. Roll Call of Members was given by Debbie Montgomery.
3. Patrick Wagner gave a summary presentation of the proposed amendments to the MTGCD Management Plan as required by Chapter 36 of the Texas Water Code and Chapter 356 of the Texas Water Development Board's (TWDB) rules contained in Title 30 of the Texas Administrative Code.
4. There were no public comments.
5. Fred Parker moved to adjourn the meeting, second by Charles Ferguson. All members present voted yes to adjourn. Meeting adjourned by Rodney Stephens.

THE STATE OF TEXAS
COUNTY OF ERATH

On this 6th day of July 2023 the Board of Directors of the Middle Trinity Groundwater Conservation District convened in a PERMIT HEARING at 930 Wolfe Nursery Rd, Stephenville, Texas at 1:00 PM with the following members present:

Rodney Stephens – President	Barbara Domel – Vice-President
Fred Parker - Secretary	Jerry Hinshaw - Director
Shane Tucker - Director	Kenneth Bullington – Director
Charles Ferguson – Director	Frank Volleman – Director
Joe Altebaumer – Director	W.B. Maples – Director
Robert Payne - Director	

No Board Members were absent. Also present were Patrick Wagner, Johnny Wells, Stephanie Keith, Debbie Montgomery, and Rachael Phillips.

President Rodney Stephens called the hearing to order, declared a quorum present and that the hearing was duly convened and ready to transact business.

Notice of the hearing was given, stating the time, place and purpose, all as required by Chapter 551 of the Government Code.

1. Hearing called to order by Rodney Stephens.

2. Roll Call of members was given by Debbie Montgomery.
3. All operating permit applications were presented as administratively complete.
4. Motion to adjourn permit hearing made by Fred Parker. Second by Charles Ferguson. All members voted yes to adjourn.
5. Rodney Stephens adjourned the permit hearing.

THE STATE OF TEXAS
COUNTY OF ERATH

On this 6th day of July 2023, the Board of Directors of the Middle Trinity Groundwater Conservation District convened in a STATED SESSION at 930 Wolfe Nursery Rd, Stephenville, Texas at 1:00 PM with the following members present:

Rodney Stephens – President	Barbara Domel – Vice-President
Fred Parker - Secretary	Jerry Hinshaw - Director
Shane Tucker - Director	Kenneth Bullington – Director
Charles Ferguson – Director	Frank Volleman – Director
Joe Altebaumer – Director	W.B. Maples – Director
Robert Payne - Director	

No Board Members were absent. Also present were Patrick Wagner, Johnny Wells, Stephanie Keith, Debbie Montgomery, and Rachael Phillips.

President Rodney Stephens called the meeting to order, declared a quorum present and that the meeting was duly convened and ready to transact business.

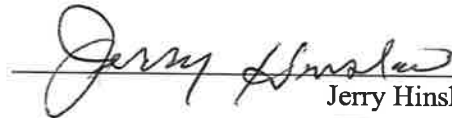
Notice of the hearing was given, stating the time, place and purpose, all as required by Chapter 551 of the Government Code.


1. Meeting called to order by Rodney Stephens.
2. Roll Call of Members was given by Debbie Montgomery.
3. Invocation was given by Joe Altebaumer.
4. Pledge of Allegiance was conducted
5. Guests present were Vince Clause, Allan Standen, and Jordan Furnans of LRE Water, LLC, Ty Embrey of Lloyd Gosselink, and Paul Gaudette of the Dublin Citizen.
6. There were no public comments.
7. Kenneth Bullington made a motion to approve all operating permit applications on the permit hearing agenda. Second by Jerry Hinshaw. All members present voted yes to approve the permit applications. Permit applications approved.
8. There was a review of the Minutes of the June 1st, 2023 monthly Board Meeting. Kenneth Bullington moved to approve the minutes, second by Joe Altebaumer. All members present voted yes to approve the minutes.
9. Check Detail Report reviewed for dates 6/1/2023 through 6/30/2023, for check numbers 12323 through 12384 (12347 voided), and including electronic checks 6152023 and 6302023. Motion was made by Barbara Domel, second by Robert Payne, to approve and ratify the payment of the bills. All members present voted yes.
10. Income/Expense Comparison was presented by Patrick Wagner.
11. Patrick Wagner went over the current tax rate and percent of revenue collected.
12. Jerry Hinshaw made a motion to adopt the Amended Middle Trinity GCD Management Plan. Second by Joe Altebaumer. All members present voted yes. Amended Management Plan adopted.
13. Patrick Wagner introduced Butch Ronne and recommended him to fulfill Gary Kafer's remaining term as a Director for Coryell County, which ends in November. Kenneth Bullington made a motion to appoint Butch Ronne to fulfill Gary Kafer's remaining term. Second by Joe Altebaumer. All members present voted yes. Butch Ronne appointed as Director for Coryell County.
14. Butch Ronne was administered Oath of Office.
15. Vince Clause of LRE Water, LLC presented the MTGCD Stratigraphic Model Update.

16. Ty Embrey of Lloyd Gosselink gave a legislative update and went over potential rule change considerations.
17. Patrick Wagner went over the first draft of the 2023/2024 Budget.
18. General Manager's Report given by Patrick Wagner.
19. Quarterly Drought Status Report given by Patrick Wagner.
20. Quarterly Investment Report given by Patrick Wagner.
21. Well Registration Update given by Debbe Montgomery. In addition to the 15 permit applications on the permit hearing agenda, there were 25 exempt registrations, which included 21 new wells and 4 replacement wells.
22. Field Tech report was given by Johnny Wells. One well was plugged in June, in Coryell County. One well was capped, in Comanche County. Six water quality tests were completed, 5 in Erath County and 1 in Comanche County. All wells tested good. Comanche County wells were monitored in June and Coryell County wells will be monitored in July.
23. Education/Public Relations Report was given by Stephanie Keith.
24. The Ditch Water Discovery Center Update was given by Stephanie Keith.
25. The Board retired into Executive Session at 2:40 PM.
26. The Board reconvened at 3:25 PM. Charles Ferguson moved for General Manager to go forward with legal counsel on taking action on driller. Second by Shane Tucker. All members present voted yes to proceed.
27. There was discussion on agenda items for the August Board Meeting. It was decided to move the August meeting from August 3rd to August 10th to allow time to receive certified totals from counties.
28. Fred Parker moved to adjourn the meeting, second by Charles Ferguson. Meeting adjourned by Rodney Stephens.

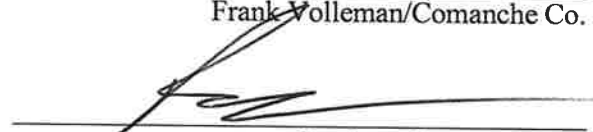

Joe Altebaumer/Erath Co.



Fred Parker/Erath Co.


Jerry Hinshaw/ Erath Co.


Shane Tucker /Comanche Co.


Frank Volleman/Comanche Co.


Rodney Stephens/Comanche Co.



Charles E. Ferguson/ Bosque Co.


Barbara Domel/Bosque Co.


Robert Payne/Bosque Co.


W.B Maples/Coryell Co.


Kenneth Bullington/Coryell Co.


Butch Ronne/ Coryell Co.

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE MIDDLE TRINITY
GROUNDWATER CONSERVATION DISTRICT
ADOPTING DISTRICT GROUNDWATER MANAGEMENT PLAN**

THE STATE OF TEXAS

§
§
§

MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT

WHEREAS, the Middle Trinity Groundwater Conservation District (“District”) was created by the Texas Legislature, pursuant to the authority of Article XVI, § 59 of the Texas Constitution, through Act of May 25, 2001, 77th Leg., R.S., ch. 1362, 2001 Tex. Gen. Laws 3371, as amended (“the Act”), as a groundwater conservation district operating under Chapter 36, Texas Water Code, Section 59, Article XVI of the Texas Constitution, and the Act;

WHEREAS, the Board of Directors of the District (“Board”) originally adopted its Management Plan in accordance with Sections 36.1071 and 36.1072 of the Texas Water Code and 31 Texas Administrative Code Chapter 356, on April 29, 2004, which was approved by the Texas Water Development Board (“TWDB”) on July 1, 2004, and thereafter revised and readopted its Management Plan within five years as required by Section 36.1072(e) of the Texas Water Code on April 2, 2009, which was then approved by TWDB on June 5, 2009;

WHEREAS, as Bosque and Coryell counties were added to the District’s territory in May and November of 2009 through the annexation process provided under Subchapter J, Chapter 36 of the Texas Water Code, the District found it necessary to add technical information for Bosque and Coryell Counties into the District’s Management Plan, and thus the District added this technical information and other certain updates to the District’s Management Plan by resolution on March 5, 2012, which was then approved by TWDB on May 14, 2012.

WHEREAS, pursuant to Section 36.1072 of the Texas Water Code and 31 Texas Administrative Code Section 356.51, the District is required to re-adopt its Management Plan, with or without revisions, at least once every five years and must thereafter re-submit the revised plan for TWDB approval pursuant to 31 Texas Administrative Code Sections 356.52 and 356.53;

WHEREAS, the District made timely revisions to its Management Plan for re-adoption by the Board prior to the expiration of the five-year period and re-adopted its Management Plan on June 2, 2022, which was subsequently approved by the TWDB on July 27, 2022;

WHEREAS, the District has made revisions to its Management Plan to incorporate the latest technical data, modeled available groundwater, and Desired Future Conditions for Groundwater Management Area 8;

WHEREAS, as part of the process of readopting its Management Plan, the District requested and received technical assistance from TWDB and also worked with TWDB staff to obtain the staff’s recommendations and comments on the revisions to its Management Plan;

WHEREAS, the Board and the District's staff, legal counsel, and geoscientist have reviewed and analyzed the District's revised Management Plan and the technical information received from TWDB related to the revised Management Plan;

WHEREAS, the District issued notice in the manner required by state law and held a public hearing on July 6,, 2023, to receive public and written comments on the Management Plan at the District's office located at 930 N Wolfe Nursery Rd, Stephenville, Texas;

WHEREAS, the District will coordinate with the appropriate surface water management entities after the public hearing and readoption of its Management Plan to afford surface water management entities within the boundaries of the District the opportunity to review and provide comments to the District on its Management Plan;

WHEREAS, the Board finds that the revised Management Plan meets all of the requirements of Chapter 36, Texas Water Code, and 31 Texas Administrative Code Chapter 356;

WHEREAS, the Board of Directors met in a public meeting on July 6, 2023, properly noticed in accordance with appropriate law, after holding a public hearing on the attached revised Management Plan, considered the re-adoption of the Management Plan, and considered approval of tis resolution.

NOW, THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT THAT:

1. The above recitals are true and correct;
2. The Board of Directors hereby readopts its revised Management Plan as the Management Plan of the District, including any revisions made based on comments received from the public at the public hearing or Board meeting, or based on recommendations from the District Board, staff, legal counsel, geoscientist, or TWDB;
3. The Board of Directors, District staff, and the District's legal counsel and geoscientist are further authorized to take all steps necessary to implement this resolution and submit the revised Management Plan to the TWDB for its approval; and
4. The Board of Directors, the District staff, and the District's legal counsel and geoscientist are further authorized to take any and all action necessary to coordinate with the TWDB as may be required in furtherance of TWDB's approval pursuant to the provisions of Section 36.1072 of the Texas Water Code.

AND IT IS SO ORDERED.

PASSED AND ADOPTED on this 6 day of July, 2023.

MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT

By: 

Board President

ATTEST:



Board Secretary

APPENDIX I

Evidence of Coordination with Surface Water Management Entities

Barton Water Supply Corporation

From: [Rachael Phillips](#)
To: bartonws@sbcglobal.net
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:11:10 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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The District is committed to working with you to manage the groundwater resources within its boundaries. Please contact the District's General Manager Patrick Wagner at (254) 965-6705 if you have any questions.

Thank you.

Rachael Phillips

OFFICE ADMINISTRATOR

930 Wolfe Nursery Road,
Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Comanche County
Water Supply
Corporation

From: [Rachael Phillips](#)
To: ccwsc@cctc.net
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:12:08 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Thank you.

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930 Wolfe Nursery Road,
Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



City of Clifton

From: [Rachael Phillips](#)
To: cliftoncity@clifontexas.us
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:27:59 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Rachael Phillips

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930 Wolfe Nursery Road,
Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



City of Comanche

From: [Rachael Phillips](#)
To: cityhall@ci.comanche.tx.us
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:28:52 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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930 Wolfe Nursery Road,

Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



City of Copperas Cove

From: [Rachael Phillips](#)
To: lwilson@copperascovetx.gov
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:30:22 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: mkharbour@cityofdeleon.org
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:32:17 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: coevant@centex.net
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:33:22 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: wcole@gatesvilletx.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:34:20 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: cityofgordon@yahoo.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:35:22 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: cityofiredell@windstream.net
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:37:29 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: marie.garland@meridiantexas.us
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:38:31 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: cityofmorgan@valornet.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:39:24 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

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rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: citysecretary@stephenvilletx.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 12:10:58 PM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Thank you.

Rachael Phillips

OFFICE ADMINISTRATOR

930 Wolfe Nursery Road,

Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: citysec@vmtx.us
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:42:18 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

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From: [Rachael Phillips](#)
To: cityofws@windstream.net
Cc: [Patrick Wagner](#)
Subject: FINAL - MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:43:07 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Coryell City Water Supply District

From: [Rachael Phillips](#)
To: joe@coryellcitywater.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:06:25 AM
Attachments: [image001.png](#)
[FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)

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OFFICE ADMINISTRATOR

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O (254)965-6705
F (254)965-6745
rachael@middletrinitygcd.org
middletrinitygcd.org



City of Cranfills
Gap

From: [Rachael Phillips](#)
To: cranfillsgap@amaonline.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:31:22 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Flat Water Supply Corporation

From: [Rachael Phillips](#)
To: flatwsc@yahoo.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:14:19 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Stephenville, TX 76401

O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Fort Gates Water Supply Corporation

From: [Rachael Phillips](#)
To: webmaster@fortgateswsc.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:15:39 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Highland Park
Water Supply
Corporation

From: [Rachael Phillips](#)
To: Billing@HighlandParkWSC.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:19:09 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Kempner Water Supply Corporation

From: [Rachael Phillips](#)
To: info@kempnerwsc.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:21:22 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Morgan Mill Water Supply Corporation

From: [Rachael Phillips](#)
To: mmwsc2015@gmail.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:22:25 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Mountain Water Supply Corporation

From: [Rachael Phillips](#)
To: officemanager@mountainwatersupplycorp.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:23:56 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Multi-County
Water Supply
Corporation

From: [Rachael Phillips](#)
To: customerservice@multicountywater.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:25:02 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705
F (254)965-6745
rachael@middletrinitygcd.org
middletrinitygcd.org



Mustang Valley
Water Supply
Corporation

From: [Rachael Phillips](#)
To: karen@mustangvalleywater.org
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:26:17 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



From: [Rachael Phillips](#)
To: jthompson@oglesby-texas.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:40:27 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Green Creek
Water Supply
Corporation

From: [Rachael Phillips](#)
To: srpw01@gmail.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:20:13 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



The Grove Water Supply Corporation

From: [Rachael Phillips](#)
To: thegrovewsc@icloud.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:27:10 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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O (254)965-6705

F (254)965-6745

rachael@middletrinitygcd.org

middletrinitygcd.org



Upper Leon River
Municipal Water
District

From: [Rachael Phillips](#)
To: office@ulrmwd.com
Cc: [Patrick Wagner](#)
Subject: FINAL - 2023 MTGCD Management Plan Amended - Complete
Date: Wednesday, July 19, 2023 11:09:53 AM
Attachments: [FINAL - 2023 MTGCD Management Plan Amended - Complete.pdf](#)
[image001.png](#)

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Certified Fee	\$0.00
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$5.00

Postmark
Here

Sent To

Street, Apt. No.,
or PO Box No.
City, State, ZIP+4

City of Gustine
PO Box 145
Gustine, Texas 76455-0145

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

City of Gustine
PO Box 145
Gustine, Texas 76455-0145



9590 9402 1881 6104 2160 42

2. Article Number (Transfer from service label)

7006 0810 0001 4518 1833

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

Nancy McKinney

☐ Agent

☒ Addressee

B. Received by (Printed Name)

Nancy McKinney

C. Date of Delivery

7/25/2007

- D. Is delivery address different from item 1?** ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Mail Restricted Delivery

7006 0810 0001 4518 1758

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

Clifton TX 76634

OFFICIAL USE

Postage	\$4.35
Certified Fee	\$3.55
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$9.35
	\$17.45

0523
7

Postmark
Here

07/19/2023

Sent To

Street, Apt. No.,
or PO Box No.
City, State, ZIP+4

**KING CREEK WSC
PO BOX 60
CLIFTON TX 76634-0060**

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**KING CREEK WSC
PO BOX 60
CLIFTON TX 76634-0060**



9590 9402 1881 6104 2158 92

2. Article Number (Transfer from service label)

7006 0810 0001 4518 1758

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Don Ketter* CLIFTON, TX

- ☐ Agent
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

USPS 76634-9998

3. Service Type

- ☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail

- ☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Restricted Delivery

U.S. Postal Service™
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OFFICIAL USE

Postage	\$4.35
Certified Fee	\$3.55
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$7.90

0523
7

Postmark
Here

07/19/2023

Sent To

CITY OF DUBLIN
213 E BLACKJACK ST
DUBLIN TX 76446-2397

Street, Apt. No.,
or PO Box No.
City, State, ZIP+4

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

CITY OF DUBLIN
213 E BLACKJACK ST
DUBLIN TX 76446-2397



9590 9402 1881 6104 2159 22

2. **7006 0810 0001 4518 1789**

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

B. Received by (Printed Name)

Gaby Mendez

C. Date of Delivery

7/20/23

D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

(over \$500) Restricted Delivery

7006 0810 0001 4518 1765

U.S. Postal Service™

CERTIFIED MAIL™ RECEIPT

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Gatesville, TX 76528

OFFICIAL USE

Postage

Certified Fee

Return Receipt Fee
(Endorsement Required)Restricted Delivery Fee
(Endorsement Required)

Total Postage & Fees

\$4.35

\$3.55

\$0.00

\$0.00

\$0.00

\$0.00

\$9.35

\$17.45

0523

7

Postmark
Here

07/19/2023

Sent To

Street, Apt. No.,
or PO Box No.

City, State, ZIP+4

LEON JUNCTION WSC

2545 E FM 931

GATESVILLE TX 76528-4247

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

LEON JUNCTION WSC
2545 E FM 931
GATESVILLE TX 76528-4247



9590 9402 1881 6104 2159 08

2. Article Number (Transfer from service label)

7006 0810 0001 4518

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

1765

Restricted Delivery

7006 0810 0001 4518 1734

U.S. Postal Service™

CERTIFIED MAIL™ RECEIPT*(Domestic Mail Only; No Insurance Coverage Provided)*For delivery information visit our website at www.usps.com

CLIFTON TX 76634

OFFICIAL USE

Postage	\$4.25
Certified Fee	\$3.55
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$9.55
	\$17.45

0523

7

Postmark
Here

07/19/2023

Sent To

Street, Apt. No.,
or PO Box No.

City, State, ZIP+4

CHILDRESS CREEK WSC
255 COUNTY ROAD 3405
CLIFTON TX 76634-3423

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
CHILDRESS CREEK WSC
255 COUNTY ROAD 3405
CLIFTON TX 76634-3423


9590 9402 1881 6104 2159 77

2. Article Number (Transfer from service label)

7006 0810 0001 4518 1734

COMPLETE THIS SECTION ON DELIVERY**A. Signature****X**☐ Agent☐ Addressee**B. Received by (Printed Name)****C. Date of Delivery**

- D. Is delivery address different from item 1?** ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Restricted Delivery

(over \$500)

7006 0810 0001 4518 1703

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For delivery information visit our website at www.usps.com

Waco 76714

Postage	\$4.25
Certified Fee	\$3.55
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$9.85
	\$17.45

0523
7

Postmark
Here

07/19/2023

Sent To

BRAZOS RIVER AUTHORITY
P.O. BOX 7555
WACO TX 76714-7555

Street, Apt. No.,
or PO Box No.

City, State, ZIP+4

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BRAZOS RIVER AUTHORITY
P.O. BOX 7555
WACO TX 76714-7555



9590 9402 1881 6104 2158 47

2. Article Number (Transfer from front)

7006 0810 0001 4518 1703

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Steven Smith*

- ☐ Agent
☐ Addressee

B. Received by (Printed Name)

Steven Smith

C. Date of Delivery

7-21-23

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery

- ☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Delivery Restricted Delivery

(over \$500) Restricted Delivery

7006 0810 0001 4518 1796

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
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Valley Mills TX 76689

OFFICIAL USE

Postage	\$4.25
Certified Fee	\$3.55
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$9.35
	\$17.45

0523
7

Postmark
Here

07/19/2023

Sent To

SMITH BEND WSC

PO BOX 207

VALLEY MILLS TX 76689-0207

Street, Apt. No.,
or PO Box No.
City, State, ZIP+4

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

SMITH BEND WSC
PO BOX 207
VALLEY MILLS TX 76689-0207



9590 9402 1881 6104 2159 53

2. Article Number (Transfer from service label)

7006 0810 0001 4518 1796

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- ☐ Agent
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
 if YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Restricted Delivery



U.S. Postal Service™

CERTIFIED MAIL™ RECEIPT

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For delivery information visit our website at www.usps.com

Morgan TX 76671

OFFICIAL USE

Postage \$

Certified Fee

Return Receipt Fee
(Endorsement Required)Restricted Delivery Fee
(Endorsement Required)

Total Postage & Fees \$

\$3.55

\$0.00

\$0.00

\$0.00

\$0.00

\$9.55

\$

\$17.45

0523

7

Postmark
Here

07/19/2023

Sent To

Street, Apt. No.,
or PO Box No.

City, State, ZIP+4

LAKESIDE WATER SUPPLY DISTRICT

128 COUNTY ROAD 1275

MORGAN TX 76671-3029

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

LAKESIDE WATER SUPPLY DISTRICT
128 COUNTY ROAD 1275
MORGAN TX 76671-3029



9590 9402 1881 6104 2159 91

2. Article Number (Transit)

7006 0810 0001 4518 1727

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

Brenda Markert

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below:

☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Insured Mail Restricted Delivery (over \$500)

☐ Priority Mail Express®☐ Registered Mail™☐ Registered Mail Restricted Delivery☐ Return Receipt for Merchandise☐ Signature Confirmation™☐ Signature Confirmation Restricted Delivery

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Moody, TX 76557

OFFICIAL USE

Postage	\$4.55
Certified Fee	\$3.55
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
	\$0.00
	\$9.55
Total Postage & Fees	\$17.45

0523
7

Postmark
Here

07/19/2023

Sent To	ELM CREEK WSC
Street, Apt. No., or PO Box No.	603 AVENUE E
City, State, ZIP+4	MOODY TX 76557-3772

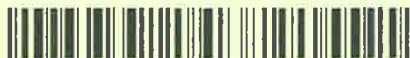
PS Form 3800, June 2002 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

ELM CREEK WSC
603 AVENUE E
MOODY TX 76557-3772



9590 9402 1881 6104 2159 84

2. Article Number (Transfer from certified mail receipt)

7006 0810 0001 4518 1741

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Signature]* ☐ Agent ☐ Addressee

B. Received by (Printed Name)

Lori Henderson 7-24-23

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

☐ Insured Mail Restricted Delivery (over \$500)

2006 0810 0001 4518 1802

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For delivery information visit our website at www.usps.com

Copperas Cove, TX 76522

OFFICIAL USE

Postage	\$4.35
Certified Fee	\$3.55
Return Receipt Fee (Endorsement Required)	\$0.00
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$9.35
	\$17.40

0523
7

Postmark
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07/19/2023

Sent To

Street, Apt. No.,
or PO Box No.
City, State, ZIP+4

TOPSEY WSC
4371 FM 1113
COPPERAS COVE TX 76522-7421

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

TOPSEY WSC
4371 FM 1113
COPPERAS COVE TX 76522-7421



9590 9402 1881 6104 2159 60

2. Article Number (Transfer from service label)

2006 0810 0001 4518 1802

COMPLETE THIS SECTION ON DELIVERY

A. Signature

x *Sandi Wiley* ☒ Agent
☐ Addressee

B. Received by (Printed Name)

Sandi Wiley C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Restricted Delivery

U.S. Postal Service™

CERTIFIED MAIL™ RECEIPT

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St. Louis, MO 63101

OFFICIAL USE

Postage

Certified Fee

Return Receipt Fee
(Endorsement Required)Restricted Delivery Fee
(Endorsement Required)

Total Postage & Fees

0523

7

Postmark
Here

07/19/2023

Sent To

Street, Apt. No.,
or PO Box No.

City, State, ZIP+4

LAKE PROCTOR
IRRIGATION AUTHORITY
PO BOX 203

STEPHENVILLE TX 76401-0024

PS Form 3800, June 2002

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.

- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

LAKE PROCTOR
IRRIGATION AUTHORITY
PO BOX 203
STEPHENVILLE TX 76401-0024



9590 9402 1881 6104 2160 04

2. Article Number (Transfer from service label)

7006 0810 0001 4518 1710

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

B. Received by (Printed Name)

BRIDGET MAZUREK

C. Date of Delivery

D. Is delivery address different from item 1?
If YES, enter delivery address below:

- ☐ Agent
☐ Addressee
- ☐ Yes
☐ No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery

- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Mail
Mail Restricted Delivery
(0)

APPENDIX J

Groundwater Availability Model Run 21-006

GAM RUN 21-006: MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

Grayson Dowlearn
Texas Water Development Board
Groundwater Division
Groundwater Modeling Department
(512) 475-1552
October 21, 2021



Cynthia K. Ridgeway
10/21/2021

Cynthia K. Ridgeway is the manager of the Groundwater Availability Modeling Department and is responsible for the oversight of work performed by Robert Grayson Dowlearn under her direct supervision. The seal appearing on this document was authorized by Cynthia K. Ridgeway, P.G. 471 on October 21, 2021.

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GAM RUN 21-006: MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

Grayson Dowlearn
Texas Water Development Board
Groundwater Division
Groundwater Modeling Department
(512) 475-1552
October 21, 2021

EXECUTIVE SUMMARY:

Texas State Water Code, Section 36.1071, Subsection (h) (Texas Water Code, 2011), states that, in developing its groundwater management plan, a groundwater conservation district shall use groundwater availability modeling information provided by the Executive Administrator of the Texas Water Development Board (TWDB) in conjunction with any available site-specific information provided by the district for review and comment to the Executive Administrator.

The TWDB provides data and information to the Middle Trinity Groundwater Conservation District in two parts. Part 1 is the Estimated Historical Water Use/State Water Plan dataset report, which will be provided to you separately by the TWDB Groundwater Technical Assistance Department. Please direct questions about the water data report to Mr. Stephen Allen at 512-463-7317 or stephen.allen@twdb.texas.gov. Part 2 is the required groundwater availability modeling information and this information includes:

1. the annual amount of recharge from precipitation, if any, to the groundwater resources within the district;
2. for each aquifer within the district, the annual volume of water that discharges from the aquifer to springs and any surface-water bodies, including lakes, streams, and rivers; and
3. the annual volume of flow into and out of the district within each aquifer and between aquifers in the district.

The groundwater management plan for the Middle Trinity Groundwater Conservation District should be adopted by the district on or before January 20, 2022 and submitted to the executive administrator of the TWDB on or before February 19, 2022. The current management plan for the Middle Trinity Groundwater Conservation District expires on April 20, 2022.

We used two groundwater availability models to estimate the management plan information for the aquifers within the Middle Trinity Groundwater Conservation District. Information for the Trinity Aquifer is from version 2.01 of the groundwater availability model for the northern portion of the Trinity Aquifer and the Woodbine Aquifer (Kelley and others, 2014). Information for the Brazos River Alluvium Aquifer is from version 1.01 of the groundwater availability model for the Brazos River Alluvium Aquifer (Ewing and Jigmond, 2016).

This report replaces the results of GAM Run 17-026 (Shi and Wade, 2017), as the approach used for analyzing model results has been since refined to more accurately delineate flows between hydraulically connected units and because of updates to the spatial grid file used to define county, groundwater conservation district, and aquifer boundaries. Tables 1 and 2 summarize the groundwater availability model data required by statute. Figures 1, and 3 show the area of the models from which the values in the tables were extracted. Figures 2 and 4 provide generalized diagrams of the groundwater flow components provided in Tables 1 and 2. If, after review of the figures, the Middle Trinity Groundwater Conservation District determines that the district boundaries used in the assessment do not reflect current conditions, please notify the TWDB at your earliest convenience.

METHODS:

In accordance with the provisions of the Texas State Water Code, Section 36.1071, Subsection (h), the groundwater availability models mentioned above were used to estimate information for the Middle Trinity Groundwater Conservation District management plan. Water budgets were extracted for the historical model period for the Trinity Aquifer (1980-2012) using ZONEBUDGET Version 3.01 (Harbaugh, 2009). Water budgets were extracted for the historical model period for the Brazos River Alluvium Aquifer (1980-2012) using ZONEBUDGET USG Version 1.00 (Panday and others, 2013). The average annual water budget values for recharge, surface-water outflow, inflow to the district, outflow from the district, and the flow between aquifers within the district are summarized in this report.

PARAMETERS AND ASSUMPTIONS:

Trinity Aquifer

- We used version 2.01 of the groundwater availability model for the northern portion of the Trinity Aquifer and the Woodbine Aquifer. See Kelley and others (2014) for assumptions and limitations of the model.
- The groundwater availability model for the northern portion of the Trinity Aquifer and Woodbine Aquifer contains eight layers that generally represent the following: Layer 1 (the surficial outcrop area of the units in layers 2 through 8 and units younger than Woodbine Aquifer), Layer 2 (Woodbine Aquifer), Layer 3 (Washita and Fredericksburg Groups, and the Edwards (Balcones Fault Zone) Aquifer), and Layers 4 through 8 (Trinity Aquifer). Layers 2 through 7 also include pass-through cells. The Woodbine Aquifer does not occur within the Middle Trinity Groundwater Conservation District and therefore no groundwater budget values are included for it in this report.
- Perennial rivers and reservoirs were simulated using the MODFLOW River package. Ephemeral streams, flowing wells, springs, and evapotranspiration in riparian zones along perennial rivers were simulated using the MODFLOW Drain package.
- The model was run using MODFLOW-NWT (Niswonger and others, 2011).

Brazos River Alluvium Aquifer

- We used version 1.01 of the groundwater availability model for the Brazos River Alluvium Aquifer released on December 16, 2016. See Ewing and Jigmond (2016) for assumptions and limitations of the model.
- The groundwater availability model for the Brazos River Alluvium Aquifer contains three layers. Layers 1 and 2 represent the Brazos River Alluvium Aquifer and Layer 3 represents the surficial portions of the Carrizo-Wilcox, Queen City, Sparta, Yegua-Jackson, and Gulf Coast aquifers as well as various geologic units of the Cretaceous System, including the Edwards and Trinity.
- Perennial rivers and streams were simulated using the MODFLOW Streamflow-Routing package and ephemeral streams, were simulated using the MODFLOW River package. Springs were simulated using the MODFLOW Drain package.

- The model was run with MODFLOW-USG (unstructured grid; Panday and others, 2013).

RESULTS:

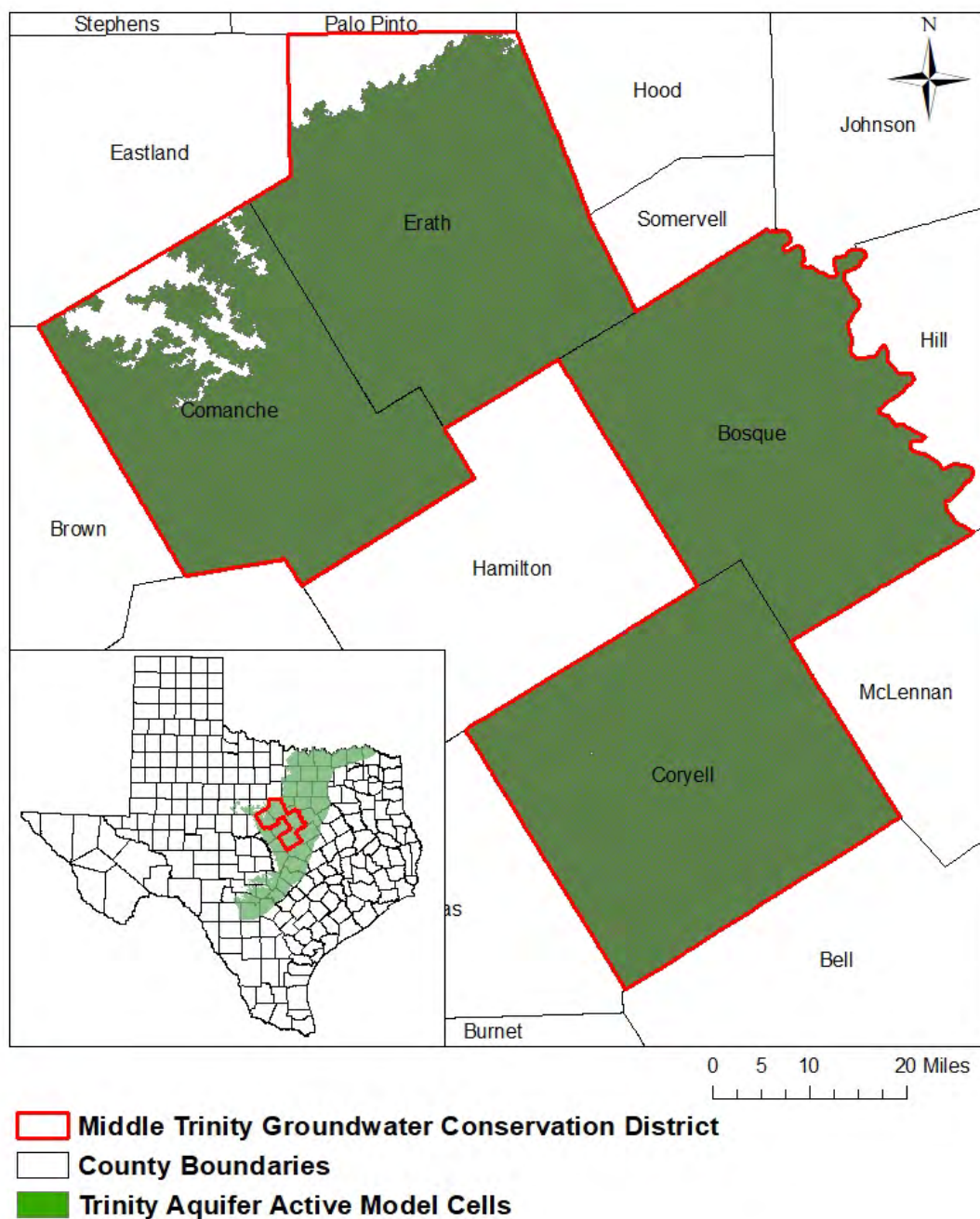
A groundwater budget summarizes the amount of water entering and leaving the aquifer according to the groundwater availability model. Selected groundwater budget components listed below were extracted from the groundwater availability model results for the Trinity and the Brazos River Alluvium aquifers located within the Middle Trinity Groundwater Conservation District and averaged over the historical calibration periods, as shown in Tables 1 and 2.

1. Precipitation recharge—the areally distributed recharge sourced from precipitation falling on the outcrop areas of the aquifers (where the aquifer is exposed at land surface) within the district.
2. Surface-water outflow—the total water discharging from the aquifer (outflow) to surface-water features such as streams, reservoirs, and springs.
3. Flow into and out of district—the lateral flow within the aquifer between the district and adjacent counties.
4. Flow between aquifers—the net vertical flow between the aquifer and adjacent aquifers or confining units. This flow is controlled by the relative water levels in each aquifer and aquifer properties of each aquifer or confining unit that define the amount of leakage that occurs.

The information needed for the district's management plan is summarized in Tables 1 and 2. It is important to note that sub-regional water budgets are not exact. This is due to the size of the model cells and the approach used to extract data from the model. To avoid double accounting, a model cell that straddles a political boundary, such as a district or county boundary, is assigned to one side of the boundary based on the location of the centroid of the model cell. For example, if a cell contains two counties, the cell is assigned to the county where the centroid of the cell is located.

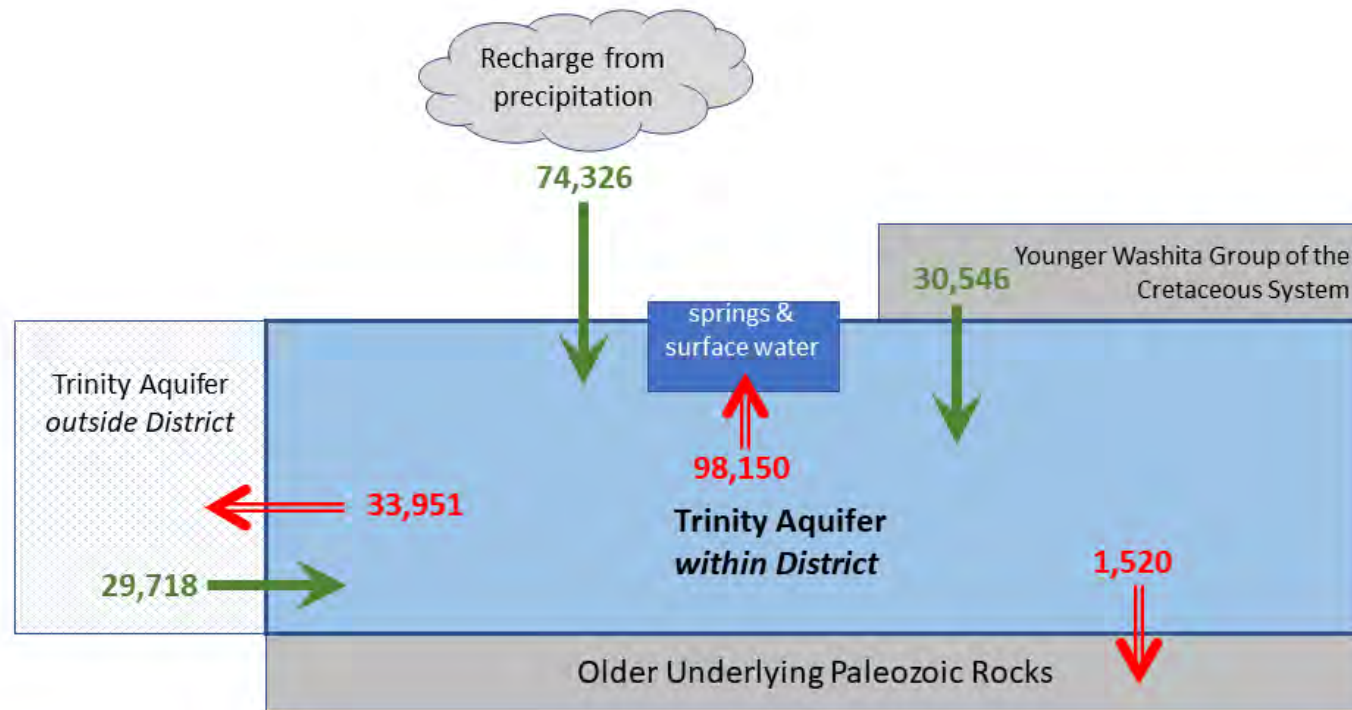
TABLE 1: SUMMARIZED INFORMATION FOR THE TRINITY AQUIFER THAT IS NEEDED FOR THE MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Trinity Aquifer	74,326
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Trinity Aquifer	98,150
Estimated annual volume of flow into the district within each aquifer in the district	Trinity Aquifer	29,718
Estimated annual volume of flow out of the district within each aquifer in the district	Trinity Aquifer	33,951
Estimated net annual volume of flow between each aquifer in the district	To the Trinity Aquifer from the Washita Group of the Cretaceous System	30,546
	From Trinity to older underlying Paleozoic Rocks	1,520



trnt_n grid date = 01.06.2020, gcd boundaries date = 06.26.2020, county boundaries date = 07.03.2019

FIGURE 1: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF THE TRINITY AQUIFER AND THE WOODBINE AQUIFER FROM WHICH THE INFORMATION IN TABLE 1 WAS EXTRACTED (THE TRINITY AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).



Caveat: This diagram only includes the water budget items provided in Table 1. A complete water budget would include additional inflows and outflows. If the District requires values for additional water budget items, please contact TWDB.

FIGURE 2: GENERALIZED DIAGRAM OF THE SUMMARIZED BUDGET INFORMATION FROM TABLE 1, REPRESENTING DIRECTIONS OF FLOW FOR THE TRINITY AQUIFER WITHIN MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT. FLOW VALUES EXPRESSED IN ACRE-FEET PER YEAR (AFY).

TABLE 2: SUMMARIZED INFORMATION FOR THE BRAZOS RIVER ALLUVIUM AQUIFER THAT IS NEEDED FOR THE MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Brazos River Alluvium Aquifer	515
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Brazos River Alluvium Aquifer	800
Estimated annual volume of flow into the district within each aquifer in the district	Brazos River Alluvium Aquifer	224
Estimated annual volume of flow out of the district within each aquifer in the district	Brazos River Alluvium Aquifer	242
Estimated net annual volume of flow between each aquifer in the district	To the Brazos River Alluvium Aquifer from older underlying confining units	82

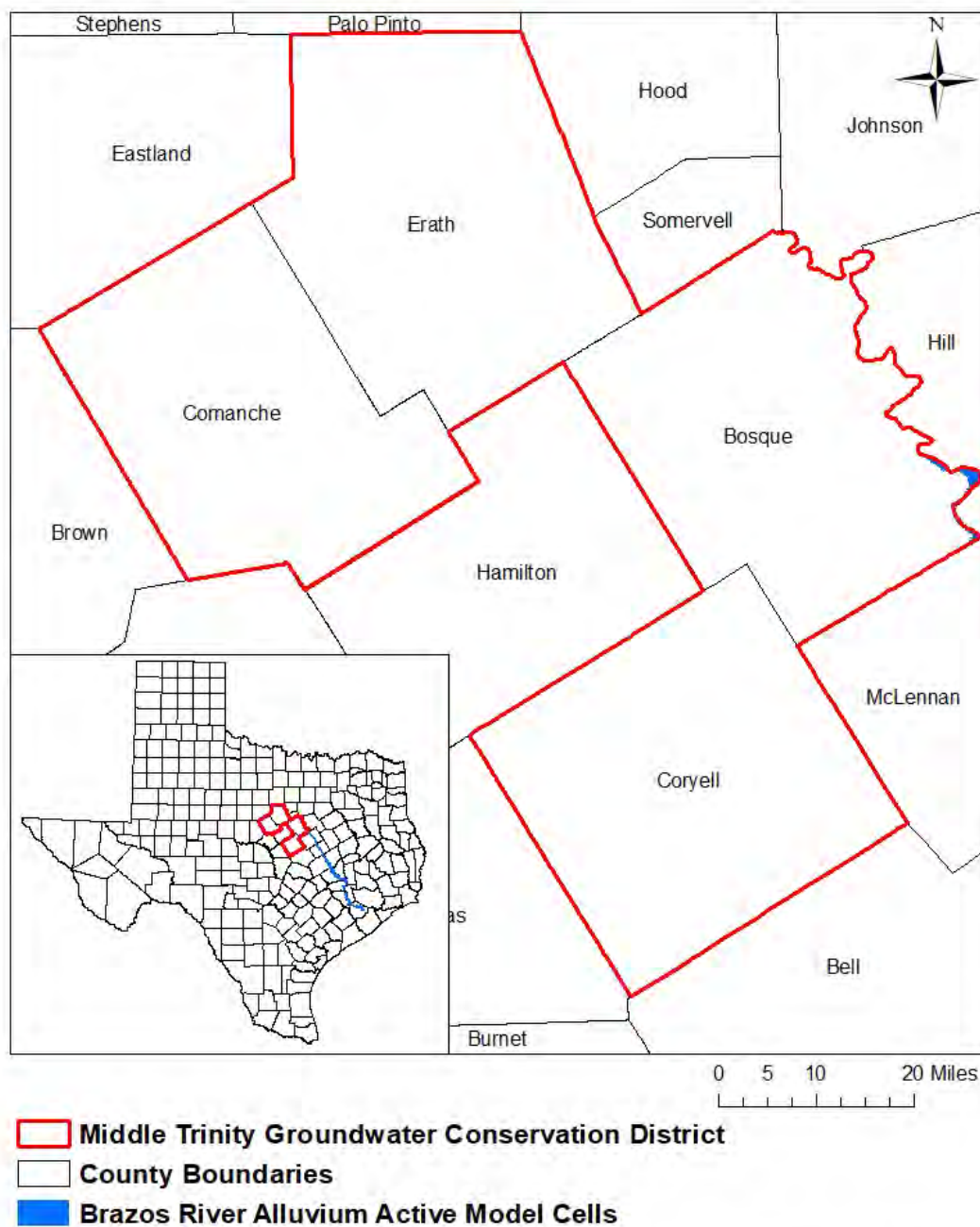
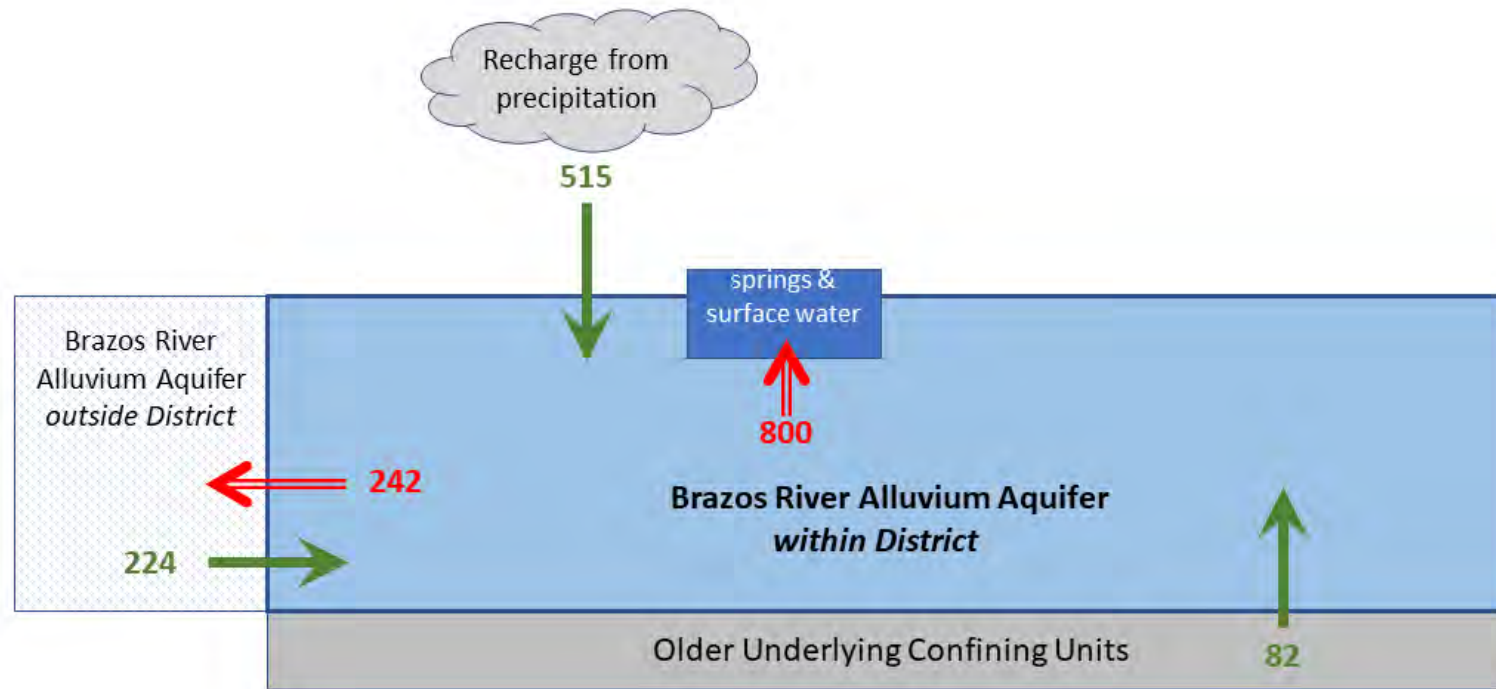


FIGURE 3: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE BRAZOS RIVER ALLUVIUM AQUIFER FROM WHICH THE INFORMATION IN TABLE 2 WAS EXTRACTED (THE BRAZOS RIVER ALLUVIUM AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).



Caveat: This diagram only includes the water budget items provided in Table 2. A complete water budget would include additional inflows and outflows. If the District requires values for additional water budget items, please contact TWDB.

FIGURE 4: GENERALIZED DIAGRAM OF THE SUMMARIZED BUDGET INFORMATION FROM TABLE 2, REPRESENTING DIRECTIONS OF FLOW FOR THE BRAZOS RIVER ALLUVIUM AQUIFER WITHIN MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT. FLOW VALUES EXPRESSED IN ACRE-FEET PER YEAR (AFY).

LIMITATIONS:

The groundwater models used in completing this analysis are the best available scientific tools that can be used to meet the stated objectives. To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

“Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results.”

A key aspect of using the groundwater model to evaluate historic groundwater flow conditions includes the assumptions about the location in the aquifer where historic pumping was placed. Understanding the amount and location of historical pumping is as important as evaluating the volume of groundwater flow into and out of the district, between aquifers within the district (as applicable), interactions with surface water (as applicable), recharge to the aquifer system (as applicable), and other metrics that describe the impacts of that pumping. In addition, assumptions regarding precipitation, recharge, and interaction with streams are specific to particular historic time periods.

Because the application of the groundwater models was designed to address regional scale questions, the results are most effective on a regional scale. The TWDB makes no warranties or representations related to the actual conditions of any aquifer at a particular location or at a particular time.

It is important for groundwater conservation districts to monitor groundwater pumping and overall conditions of the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future. Historic precipitation patterns also need to be placed in context as future climatic conditions, such as dry and wet year precipitation patterns, may differ and affect groundwater flow conditions.

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APPENDIX K

Groundwater Availability Model Run 21-013 MAG

GAM RUN 21-013 MAG: MODELED AVAILABLE GROUNDWATER FOR THE AQUIFERS IN GROUNDWATER MANAGEMENT AREA 8

Jerry Shi, Ph.D., P.G. and Jevon Harding, P.G.

Texas Water Development Board

Groundwater Division

Groundwater Modeling Department

512-463-5076

November 1, 2022

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Geoscientist Seals

The following professional geoscientists contributed to this conceptual model report and associated data compilation and analyses:

Jianyou (Jerry) Shi, Ph.D., P.G.

Dr. Shi was responsible for the calculations to verify the attainability of desired future conditions and the calculations of modeled available groundwater values. He was the primary author of the report.

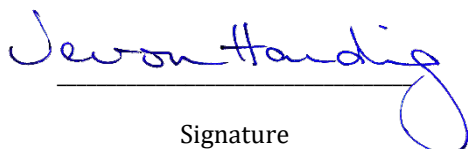

Signature



11/16/2022
Date

Jevon Harding, P.G.

Ms. Harding was responsible for editing the report and adding additional documentation as necessary to meet TWDB standards after Dr. Shi had left the agency.


Signature

11/3/2022
Date



GAM RUN 21-013 MAG: MODELED AVAILABLE GROUNDWATER FOR THE AQUIFERS IN GROUNDWATER MANAGEMENT AREA 8

Jerry Shi, Ph.D., P.G. and Jevon Harding, P.G.
Texas Water Development Board
Groundwater Division
Groundwater Modeling Department
512-463-5076
November 1, 2022

EXECUTIVE SUMMARY:

The Texas Water Development Board (TWDB) has prepared estimates of the modeled available groundwater for the Trinity, Woodbine, Edwards (Balcones Fault Zone), Marble Falls, Ellenburger-San Saba, and Hickory aquifers in Groundwater Management Area 8. The modeled available groundwater estimates are based on the revised desired future conditions for these aquifers adopted by groundwater conservation districts in Groundwater Management Area 8 on July 26, 2022. The district representatives declared the Nacatoch, Blossom, Brazos River Alluvium, and Cross Timbers aquifers to be non-relevant for purposes of joint planning. After review, the TWDB determined that the explanatory report and other materials submitted by the district representatives were administratively complete on September 23, 2022.

The modeled available groundwater values are summarized by decade by groundwater conservation district and county (Tables 1 through 12) and by county, regional water planning area, and river basin for use in the regional water planning process (Tables 13 through 24). The modeled available groundwater in Groundwater Management Area 8 is described below:

- Trinity Aquifer (Paluxy aquifer) – The modeled available groundwater is approximately 24,520 acre-feet per year during the period from 2020 to 2080.
- Trinity Aquifer (Glen Rose Formation) – The modeled available groundwater is approximately 12,410 acre-feet per year during the period from 2020 to 2080.

- Trinity Aquifer (Twin Mountains Formation) – The modeled available groundwater is approximately 45,510 acre-feet per year during the period from 2020 to 2080.
- Trinity Aquifer (Travis Peak Formation) – The modeled available groundwater is approximately 98,230 acre-feet per year during the period from 2020 to 2080.
- Trinity Aquifer (Hensell aquifer) – The modeled available groundwater is approximately 27,120 acre-feet per year during the period from 2020 to 2080.
- Trinity Aquifer (Hosston aquifer) – The modeled available groundwater is approximately 67,730 acre-feet per year during the period from 2020 to 2080.
- Trinity Aquifer (Antlers Formation) – The modeled available groundwater is approximately 78,440 acre-feet per year during the period from 2020 to 2080.
- Woodbine Aquifer – The modeled available groundwater is approximately 30,570 acre-feet per year during the period from 2020 to 2080.
- Edwards (Balcones Fault Zone) Aquifer – The modeled available groundwater is approximately 15,170 acre-feet per year during the period from 2020 to 2080.
- Marble Falls Aquifer – The modeled available groundwater is approximately 5,630 acre-feet per year during the period from 2020 to 2080.
- Ellenburger-San Saba Aquifer – The modeled available groundwater is approximately 14,060 acre-feet per year during the period from 2020 to 2080.
- Hickory Aquifer – The modeled available groundwater is approximately 3,580 acre-feet per year during the period from 2020 to 2080.

Modeled available groundwater estimates are also provided by outcrop and downdip areas for the counties within Upper Trinity Groundwater Conservation District to be consistent with that district's desired future conditions statements.

The modeled available groundwater values estimated for counties may be slightly different from those estimated for groundwater conservation districts because of the process for rounding the values.

REQUESTOR:

Mr. Drew Satterwhite, General Manager of North Texas Groundwater Conservation District and Groundwater Management Area 8 Coordinator at the time of request.

DESCRIPTION OF REQUEST:

In a letter dated January 4, 2022, Mr. Drew Satterwhite provided the TWDB with the desired future conditions of the Trinity Aquifer subunits (Paluxy, Glen Rose, Twin Mountains, Travis Peak, Hensell, Hosston, and Antlers formations), and the Woodbine, Edwards (Balcones Fault Zone), Marble Falls, Ellenburger-San Saba, and Hickory aquifers. After review of the submittal, the TWDB identified missing or corrupted model files and received updated versions from Groundwater Management Area 8 on March 3, 2022. Following the TWDB analysis to verify the achievability of the adopted desired future conditions, the TWDB identified desired future conditions that were unachievable. Groundwater Management Area 8 confirmed that these were typos and adopted a revised version of the desired future conditions resolution on July 26, 2022. The following sections present the final adopted desired future conditions:

Trinity and Woodbine aquifers

The desired future conditions for the Trinity and Woodbine aquifers are expressed as water level decline, or drawdown, in feet from January 1, 2010, to December 31, 2080 (Groundwater Management Area 8, 2021).

The county-based desired future conditions for the Trinity Aquifer subunits, excluding counties in the Upper Trinity Groundwater Conservation District, are listed in Table 1 (dashes indicate areas where the subunits do not exist):

TABLE 1. DESIRED FUTURE CONDITIONS IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY COUNTY FOR THE NORTHERN TRINITY AND WOODBINE AQUIFERS. VALUES REPRESENT AVERAGE DRAWDOWN IN FEET BETWEEN JANUARY 1, 2010, AND DECEMBER 31, 1980.

County	Woodbine	Paluxy	Glen Rose	Twin Mountains	Travis Peak	Hensell	Hosston	Antlers
Bell	—	17	83	—	333	145	375	—
Bosque	—	6	53	—	189	139	232	—
Bowie	—	—	—	—	—	—	—	—
Brown	—	—	1	—	2	1	1	2
Burnet	—	—	2	—	19	7	21	—
Callahan	—	—	—	—	—	—	—	1
Collin	482	729	366	560	—	—	—	596
Comanche	—	—	2	—	4	2	3	12

TABLE 2 (CONT). DESIRED FUTURE CONDITIONS IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY COUNTY FOR THE NORTHERN TRINITY AND WOODBINE AQUIFERS. VALUES REPRESENT AVERAGE DRAWDOWN IN FEET BETWEEN JANUARY 1, 2010, AND DECEMBER 31, 1980.

County	Woodbine	Paluxy	Glen Rose	Twin Mountains	Travis Peak	Hensell	Hosston	Antlers
Cooke	2	—	—	—	—	—	—	191
Coryell	—	5	15	—	107	70	141	—
Dallas	137	346	288	515	415	362	419	—
Delta	—	279	198	—	202	—	—	—
Denton	22	558	367	752	—	—	—	416
Eastland	—	—	—	—	—	—	—	4
Ellis	76	128	220	413	380	290	390	—
Erath	—	6	6	8	25	12	35	14
Falls	—	159	238	—	505	296	511	—
Fannin	259	709	305	400	291	—	—	269
Franklin	—	—	—	—	—	—	—	—
Grayson	163	943	364	445	—	—	—	364
Hamilton	—	2	4	—	26	14	38	—
Hill	20	45	149	—	365	211	413	—
Hopkins	—	—	—	—	—	—	—	—
Hunt	631	610	326	399	350	—	—	—
Johnson	4	-57	66	184	235	120	329	—
Kaufman	242	311	305	427	372	349	345	—
Lamar	42	100	107	—	125	—	—	132
Lampasas	—	—	1	—	6	1	11	—
Limestone	—	199	301	—	433	214	445	—
McLennan	6	41	148	—	504	242	582	—
Milam	—	—	241	—	412	261	412	—
Mills	—	1	1	—	9	2	13	—
Navarro	110	139	266	—	343	295	343	—
Rains	—	—	—	—	—	—	—	—
Red River	2	24	40	—	57	—	—	15
Rockwall	275	433	343	466	—	—	—	—
Somervell	—	4	4	50	64	17	120	—
Tarrant	6	105	163	348	—	—	—	177
Taylor	—	—	—	—	—	—	—	0
Travis	—	—	90	—	219	68	226	—
Williamson	—	—	78	—	220	89	225	—

The desired future conditions for the counties in the Upper Trinity Groundwater Conservation District are further divided into outcrop and downdip areas, and are listed in Table 2 (dashes indicate areas where the subunits do not exist):

TABLE 2. THE DESIRED FUTURE CONDITIONS FOR THE UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY AQUIFER. VALUES REPRESENT AVERAGE DRAWDOWN IN FEET BETWEEN JANUARY 1, 2010, AND DECEMBER 31, 1980.

County	Antlers	Paluxy	Glen Rose	Twin Mountains
Hood -Outcrop	—	6	9	13
Hood-Downdip	—	—	39	72
Montague-Outcrop	40	—	—	—
Montague-Downdip	—	—	—	—
Parker-Outcrop	42	6	20	7
Parker-Downdip	—	2	50	68
Wise-Outcrop	60	—	—	—
Wise-Downdip	154	—	—	—

Edwards (Balcones Fault Zone) Aquifer

The desired future conditions adopted by Groundwater Management Area 8 for the Edwards (Balcones Fault Zone) Aquifer are to maintain minimum streamflow and springflow under a repeat of the drought of record in Bell, Travis, and Williamson counties from January 1, 2010, to December 31, 2080 (Groundwater Management Area 8, 2021). The desired future conditions are listed in Table 3:

TABLE 3. THE DESIRED FUTURE CONDITIONS IN GROUNDWATER MANAGEMENT AREA (GMA) 8 BASED ON SPRING/STREAM FLOW FOR SELECTED COUNTIES. THESE CONDITIONS ARE TO BE MAINTAINED BETWEEN JANUARY 1, 2010, AND DECEMBER 31, 1980.

County	Adopted Desired Future Condition
Bell	Maintain at least 100 acre-feet per month of stream/spring flow in Salado Creek during a repeat of the drought of record
Travis	Maintain at least 42 acre-feet per month of aggregated stream/spring flow during a repeat of the drought of record
Williamson	Maintain at least 60 acre-feet per month of aggregated stream/spring flow during a repeat of the drought of record

Marble Falls, Ellenburger-San Saba, and Hickory aquifers

The desired future conditions for the Marble Falls, Ellenburger-San Saba, and Hickory aquifers in Brown, Burnet, Lampasas, and Mills counties are defined as water level decline, or drawdown, in feet from January 1, 2010, to December 31, 2080 (Groundwater Management Area 8, 2021). The desired future conditions are listed in Table 4:

TABLE 4. DESIRED FUTURE CONDITIONS IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY COUNTY FOR THE LLANO UPLIFT AQUIFERS. VALUES REPRESENT AVERAGE DRAWDOWN IN FEET BETWEEN JANUARY 1, 2010, AND DECEMBER 31, 1980.

County	Ellenburger-San Saba	Hickory	Marble Falls
Brown	3	3	3
Burnet	12	11	11
Lampasas	16	16	16
Mills	9	9	9

METHODS:

The desired future conditions for Groundwater Management Area 8 are based on multiple criteria. The methods to calculate the desired future conditions are discussed below.

Trinity and Woodbine aquifers

The desired future conditions for the Trinity and Woodbine aquifers in Groundwater Management Area 8 are based on the predictive simulation “Run 11” (Groundwater Management area 8, 2021), which was constructed as an extension of the groundwater availability model for the northern portion of the Trinity and Woodbine aquifers (Kelley and others, 2014).

The average drawdowns between January 1, 2010 (initial water levels) and December 31, 2080 (stress period 71) were calculated using a composite water levels methodology, described in Appendix A. Appendix A also presents the calculated average drawdown results for the Trinity and Woodbine aquifers that the TWDB used to verify that the pumping scenario in the submitted model files achieved the desired future conditions. The modeled available groundwater values were determined by extracting pumping rates by decade from the MODFLOW cell-by-cell budget files using custom Fortran scripts developed by the TWDB.

Edwards (Balcones Fault Zone) Aquifer

Groundwater Management Area 8 requested that the results from the previous GAM Run 08-010 MAG (Anaya, 2008) be used, unchanged, for the current round of joint planning. That model run includes a ten-year predictive period that represents a simulated repeat of the drought of record in the 1950s. The modeled available groundwater values were determined using the monthly stress period within that predictive period with the lowest monthly springflow volume, which was assumed to represent the worst-case scenario for Salado Springs during a potential repeat of the 1950s drought of record.

Marble Falls, Ellenburger-San Saba, and Hickory aquifers

The desired future conditions for the Marble Falls, Ellenburger-San Saba, and Hickory aquifers in Brown, Burnet, Lampasas, and Mills counties within Groundwater Management Area 8 are based on a predictive simulation constructed by Groundwater Management Area 8 for planning purposes (Groundwater Management Area 8, 2021). This simulation is an extension of the groundwater availability model for the minor aquifers in the Llano Uplift region by Shi and others (2016). Modeled water levels were extracted for January 1, 2010 (initial water levels) and December 31, 2080 (stress period 71) and drawdown calculated as the difference in water level between those two endpoints. Drawdown averages were calculated by aquifer for each area specified in the desired future conditions. Additional details on the predictive simulation and methods to calculate the drawdowns are described in Appendix B. Appendix B also presents the calculated average drawdown results for the Marble Falls, Ellenburger-San Saba, and Hickory aquifers that the TWDB used to verify that the pumping scenario in the submitted model files achieved the desired future conditions. The modeled available groundwater values were determined by extracting pumping rates by decade from the MODFLOW cell-by-cell budget files using custom Fortran scripts developed by the TWDB.

Modeled Available Groundwater and Permitting

As defined in Chapter 36 of the Texas Water Code (2011), “modeled available groundwater” is the estimated average amount of water that may be produced annually to achieve a desired future condition. Groundwater conservation districts are required to consider modeled available groundwater, along with several other factors, when issuing permits in order to manage groundwater production to achieve the desired future condition(s). The other factors districts must consider include annual precipitation and production patterns, the estimated amount of pumping exempt from permitting, existing permits, and a reasonable estimate of actual groundwater production under existing permits.

PARAMETERS AND ASSUMPTIONS:

The parameters and assumptions for the groundwater availability simulations are described below:

Trinity and Woodbine Aquifers

- Version 2.01 of the updated groundwater availability model for the northern Trinity and Woodbine aquifers was the base model for this analysis. See Kelley and others (2014) for the assumptions and limitations of the historical calibrated model. Groundwater Management Area 8 constructed a predictive model simulation to

extend the base model to 2080 for planning purposes. See Appendix E of Groundwater Management Area 8 (2021) for the assumptions of this predictive model simulation.

- The predictive model was run with MODFLOW-NWT (Niswonger and others, 2011).
- The model has eight layers that represent units younger than the Woodbine Aquifer and the shallow outcrop of all aquifers (Layer 1), the Woodbine Aquifer (Layer 2), the Fredericksburg and Washita units (Layer 3), and various combinations of the subunits that comprise the Trinity Aquifer (Layers 4 to 8).
- To be consistent with Groundwater Management Area 8, the TWDB model grid files dated August 26, 2015 (*trnt_n_grid_poly082615.csv* and *wdbn_grid_poly082615.csv* for the Trinity and Woodbine aquifers, respectively) were used to assign model cells to counties, groundwater management areas, groundwater conservation districts, river basins, and regional water planning areas.
- Drawdown was calculated as the difference in modeled water levels between the baseline date of January 1, 2010 (initial water levels) and the final date of December 31, 2080 (stress period 71) using a composite water level methodology described in Appendix A.
- During the predictive simulation model run, some model cells went dry, meaning the modeled water level fell below the bottom of the cell. The dry cell count at the baseline date of January 1, 2010 (initial water levels) and final date of December 31, 2080 (stress period 71) is presented in Table C1 of Appendix C. Appendix A describes how dry cells were handled in the drawdown calculations using the composite water level methodology. Pumping in dry cells was excluded from the modeled available groundwater calculations.
- The drawdown averages and modeled available groundwater values were calculated using the official TWDB boundaries for the Trinity and Woodbine aquifers.
- Estimates of modeled drawdown and available groundwater from the model simulation were rounded to whole numbers.

Edwards (Balcones Fault Zone) Aquifer

- Version 1.01 of the groundwater availability model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer was the base model for this analysis. See Jones (2003) for the assumptions and limitations of the historical calibrated model. During the previous planning cycle, a predictive model simulation was constructed

to extend the base model and include a simulated repeat of the 1950s drought of record for planning purposes. See the previous GAM Run 08-010 MAG (Anaya, 2008) for the assumptions of this predictive model simulation.

- The model has one layer that represents the Edwards (Balcones Fault Zone) Aquifer.
- The model was run with MODFLOW-96 (Harbaugh and McDonald, 1996).
- The modeled available groundwater values were determined using the monthly stress period within the predictive drought period with the lowest monthly springflow volume, which was assumed to represent the worst-case scenario for Salado Springs during a potential repeat of the 1950s drought of record.
- The modeled available groundwater values were calculated using the official TWDB Edwards (Balcones Fault Zone) Aquifer boundary.
- To be consistent with Groundwater Management Area 8, the TWDB model grid file dated August 26, 2015 (*ebfz_n_grid_poly082615.csv*) was used to assign model cells to counties, groundwater management areas, groundwater conservation districts, river basins, and regional water planning areas.
- Estimates of modeled streamflow and springflow from the model simulation were rounded to whole numbers.

Marble Falls, Ellenburger-San Saba, and Hickory Aquifers

- Version 1.01 of the groundwater availability model for the minor aquifers in the Llano Uplift region was the base model for this analysis. See Shi and others (2016) for the assumptions and limitations of the historical calibrated model. Groundwater Management Area 8 constructed a predictive model simulation to extend the base model to 2080 for planning purposes. See Groundwater Management Area 8 (2021) for the assumptions of this predictive model simulation.
- The model has eight layers: Layer 1 (the Trinity Aquifer, Edwards-Trinity (Plateau) Aquifer, and younger alluvium deposits), Layer 2 (confining units), Layer 3 (the Marble Falls Aquifer and equivalent unit), Layer 4 (confining units), Layer 5 (Ellenburger-San Saba Aquifer and equivalent unit), Layer 6 (confining units), Layer 7 (the Hickory Aquifer and equivalent unit), and Layer 8 (Precambrian units).
- The model was run with MODFLOW-USG beta (development) version (Panday and others, 2013).
- To be consistent with Groundwater Management Area 8, the TWDB model grid file dated January 7, 2016 (*lnup_grid_poly010716.csv*) was used to assign model cells to

counties, groundwater management areas, groundwater conservation districts, river basins, and regional water planning areas.

- Drawdown was calculated as the difference in modeled water level between the baseline date of January 1, 2010 (initial water levels) and the final date of December 31, 2080 (stress period 71), using the methodology described in Appendix B.
- During the predictive model run, some active model cells went dry, meaning the modeled water level fell below the bottom of the cell. The dry cell count at the baseline date of January 1, 2010 (initial water levels) and final date of December 31, 2080 (stress period 71) is presented in Table C2 of Appendix C). Appendix B describes how dry cells were handled in the drawdown calculations. Pumping in dry cells was excluded from the modeled available groundwater.
- To be consistent with the desired future conditions defined by Groundwater Management Area 8, the drawdown averages and modeled available groundwater values were calculated using the active model extent of Layers 3, 5, and 7 (Figures 10 through 12) for the Marble Falls, Ellenburger-San Saba, and Hickory aquifers, respectively, rather than the official TWDB boundaries for these aquifers.
- Estimates of modeled drawdown and available groundwater from the model simulation were rounded to whole numbers.

RESULTS:

The modeled available groundwater for the Trinity, Woodbine, Edwards (Balcones Fault Zone), Marble Falls, Ellenburger-San Saba, and Hickory aquifers are listed below:

- Trinity Aquifer (Paluxy aquifer) – The modeled available groundwater is approximately 24,520 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 5) and by county, regional water planning group, and river basin (Table 17).
- Trinity Aquifer (Glen Rose Formation) – The modeled available groundwater is approximately 12,410 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 6) and by county, regional water planning group, and river basin (Table 18).
- Trinity Aquifer (Twin Mountains Formation) – The modeled available groundwater is approximately 45,510 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 7) and by county, regional water planning group, and river basin (Table 19).

- Trinity Aquifer (Travis Peak Formation) – The modeled available groundwater is approximately 98,230 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 8) and by county, regional water planning group, and river basin (Table 20).
- Trinity Aquifer (Hensell aquifer) – The modeled available groundwater is approximately 27,120 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 9) and by county, regional water planning group, and river basin (Table 21).
- Trinity Aquifer (Hosston aquifer) – The modeled available groundwater is approximately 67,730 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 10) and by county, regional water planning group, and river basin (Table 22).
- Trinity Aquifer (Antlers Formation) – The modeled available groundwater is approximately 78,440 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 11) and by county, regional water planning group, and river basin (Table 23).
- Woodbine Aquifer – The modeled available groundwater is approximately 30,570 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 12) and by county, regional water planning group, and river basin (Table 24).
- Edwards (Balcones Fault Zone) Aquifer – The modeled available groundwater is approximately 15,170 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 13) and by county, regional water planning group, and river basin (Table 25).
- Marble Falls Aquifer – The modeled available groundwater is approximately 5,630 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 14) and by county, regional water planning group, and river basin (Table 26).
- Ellenburger-San Saba Aquifer – The modeled available groundwater is approximately 14,060 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 15) and by county, regional water planning group, and river basin (Table 27).
- Hickory Aquifer – The modeled available groundwater is approximately 3,580 acre-feet per year during the period from 2020 to 2080. Values are summarized by groundwater conservation district and county (Table 16) and by county, regional water planning group, and river basin (Table 28).

Figures 1 through 7 show the extent of the Trinity Aquifer subunits (Paluxy, Glen Rose, Twin Mountains, Travis Peak, Hensell, Hosston, and Antlers formations, respectively). Figures 8 through 12 show the extent of the Woodbine, Edwards (Balcones Fault Zone), Marble Falls, Ellenburger-San Saba, and Hickory aquifers, respectively. Figure 13 shows the county, groundwater conservation district, regional water planning area, and river basin boundaries represented by the divisions in Tables 5 to 28.

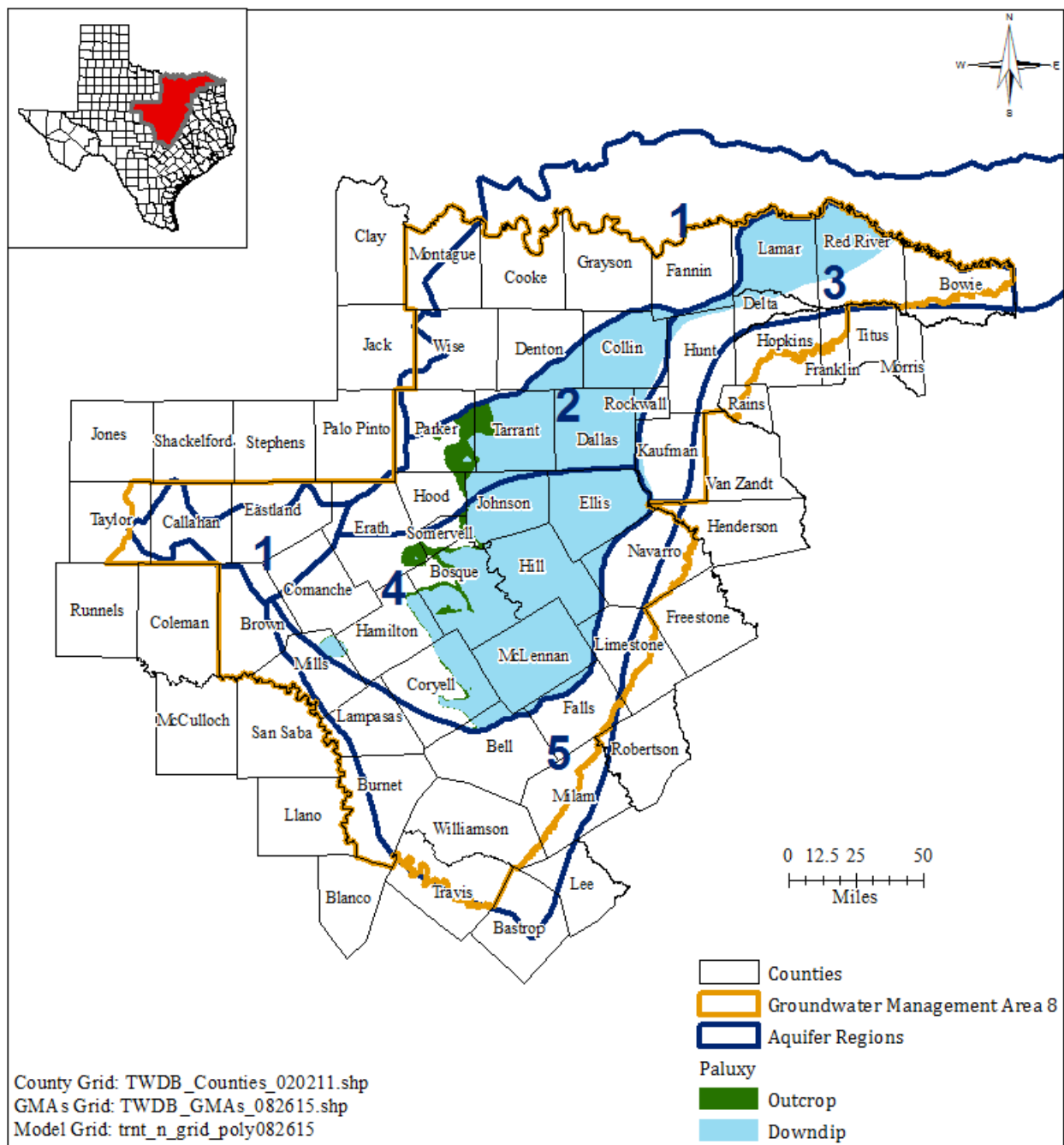


FIGURE 1. MAP SHOWING THE TRINITY AQUIFER (PALUXY) WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR NORTHERN PORTION OF TRINITY AND WOODBINE AQUIFERS. SEE APPENDIX A FOR AQUIFER REGION DETAILS.

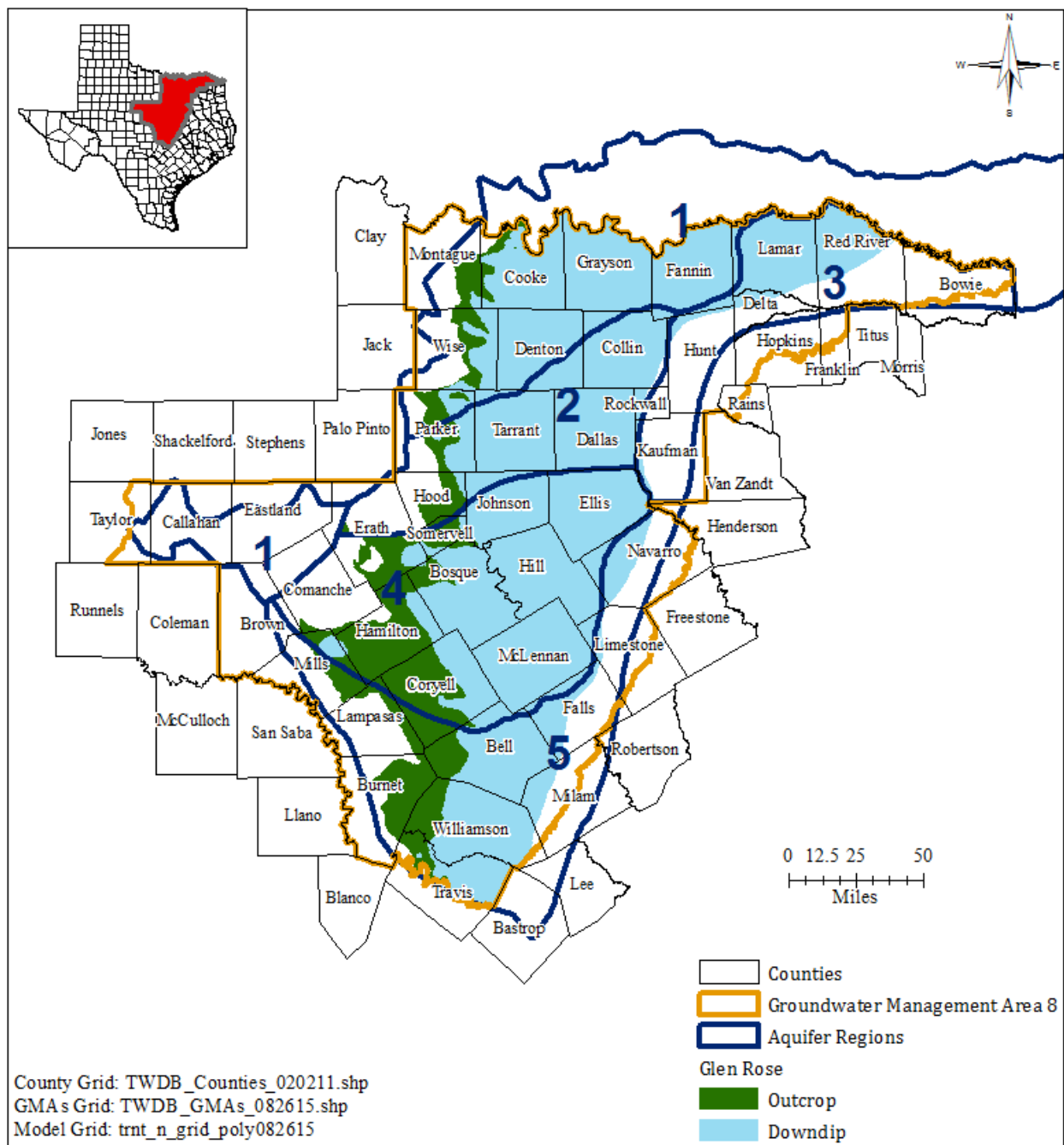


FIGURE 2. MAP SHOWING THE TRINITY AQUIFER (GLEN ROSE) WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF TRINITY AND WOODBINE AQUIFERS. SEE APPENDIX A FOR AQUIFER REGION DETAILS.

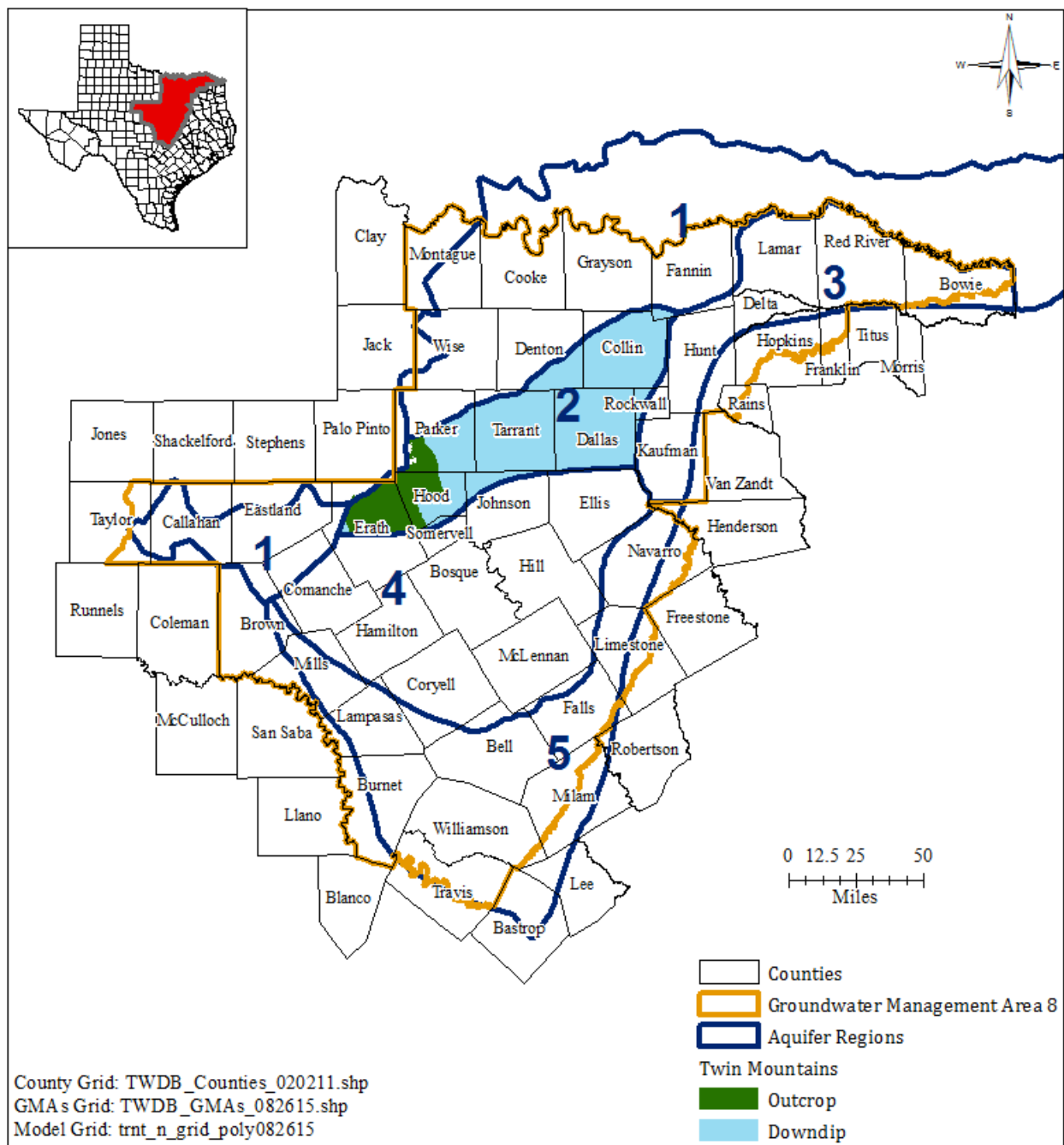


FIGURE 3. MAP SHOWING THE TRINITY AQUIFER (TWIN MOUNTAINS) WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF TRINITY AND WOODBINE AQUIFERS. SEE APPENDIX A FOR AQUIFER REGION DETAILS.

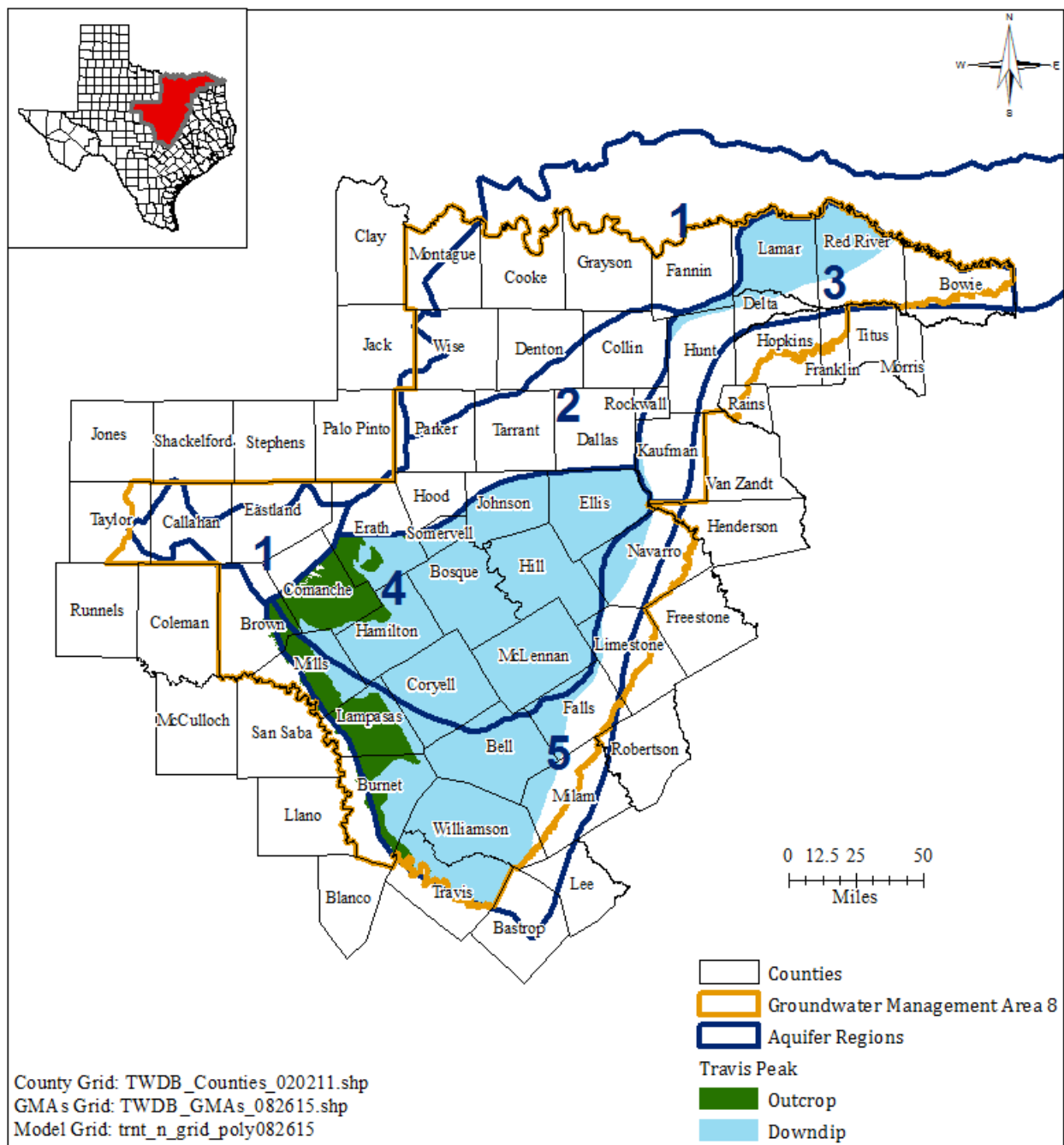


FIGURE 4. MAP SHOWING THE TRINITY AQUIFER (TRAVIS PEAK) WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF TRINITY AND WOODBINE AQUIFERS. SEE APPENDIX A FOR AQUIFER REGION DETAILS.

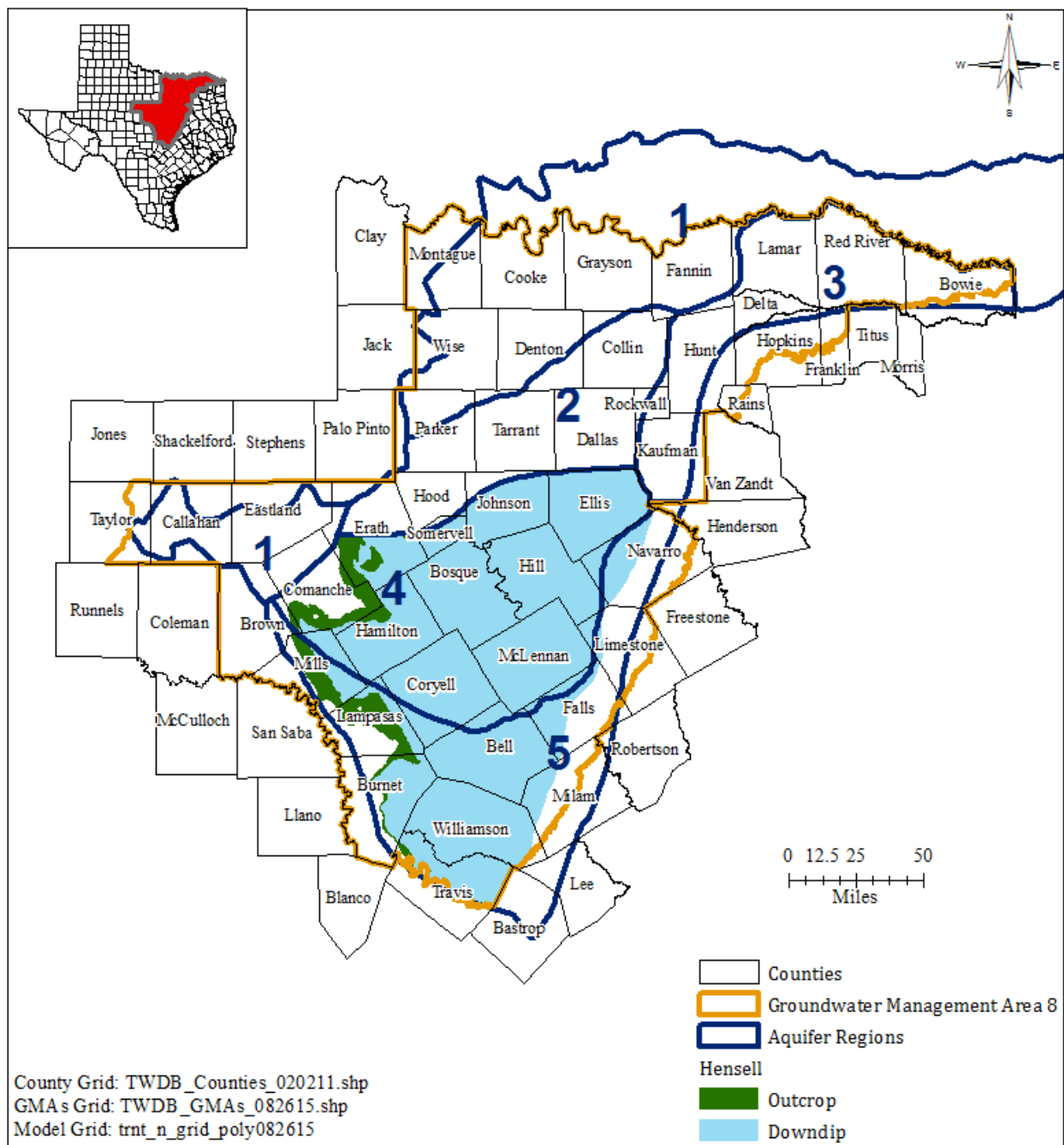


FIGURE 5. MAP SHOWING THE TRINITY AQUIFER (HENSELL) WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF TRINITY AND WOODBINE AQUIFERS. SEE APPENDIX A FOR AQUIFER REGION DETAILS.

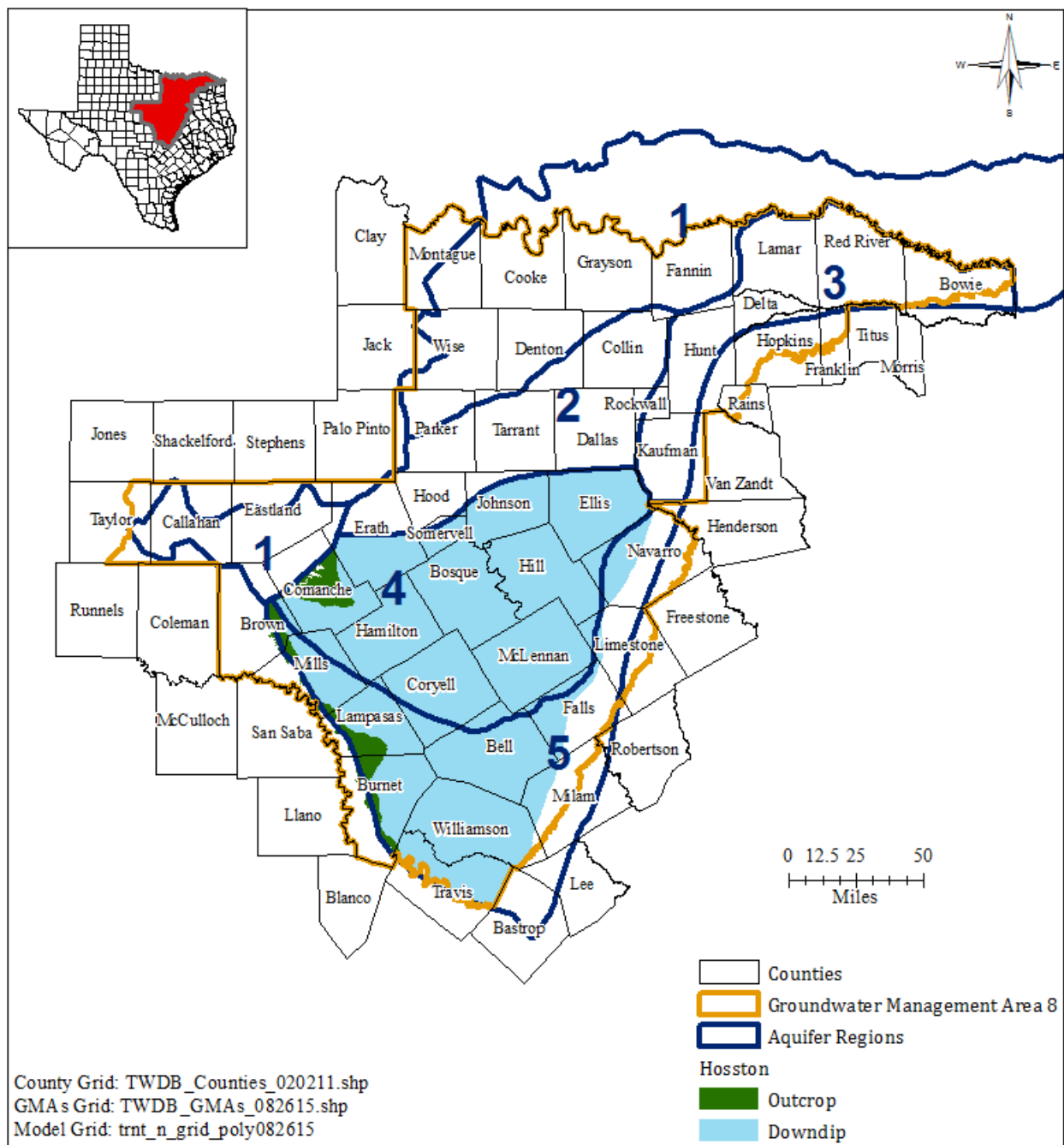


FIGURE 6. MAP SHOWING THE TRINITY AQUIFER (HOSSTON) WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR NORTHERN PORTION OF THE TRINITY AND WOODBINE AQUIFERS. SEE APPENDIX A FOR AQUIFER REGION DETAILS.

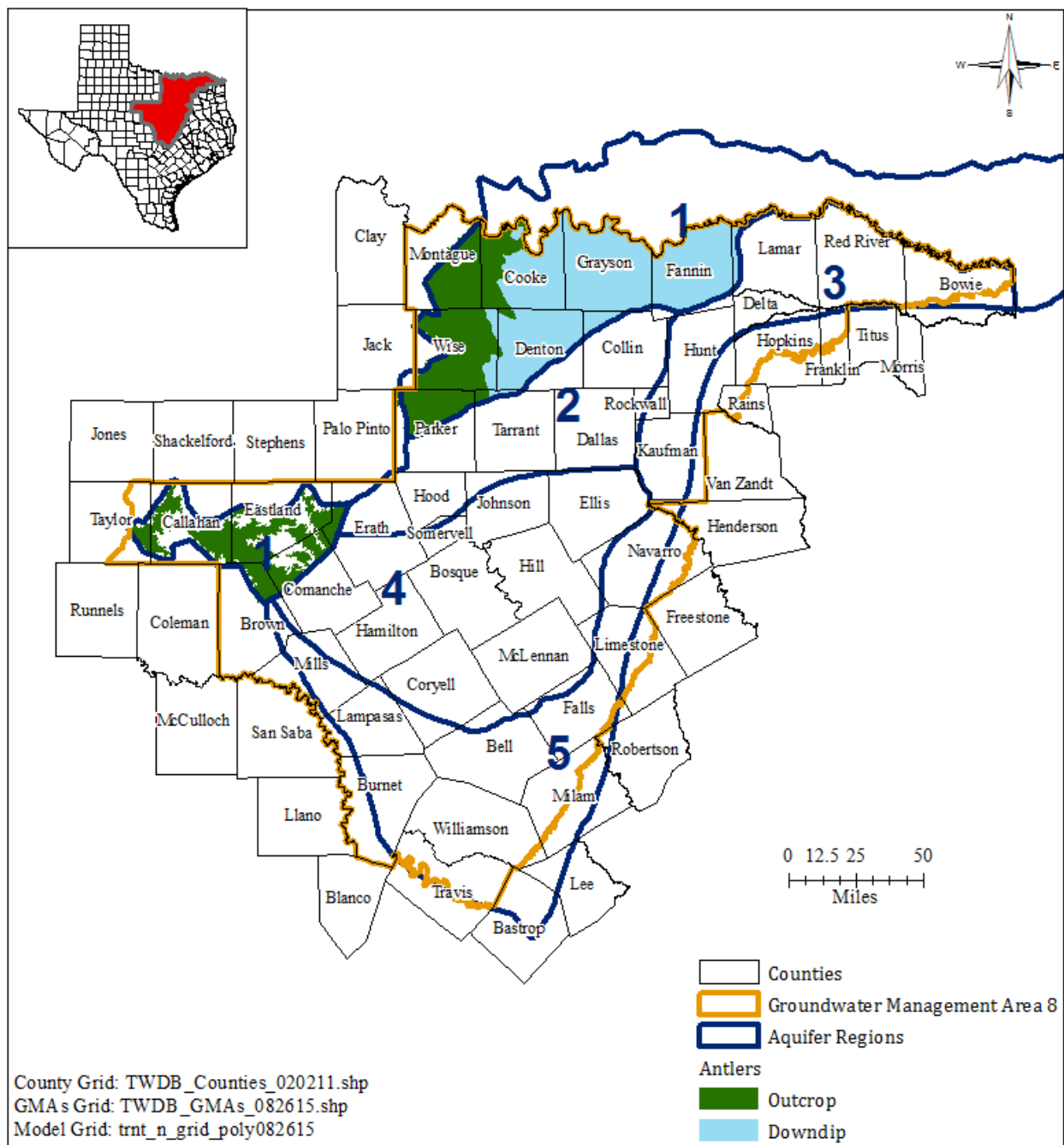


FIGURE 7. MAP SHOWING THE TRINITY AQUIFER (ANTLERS) WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF TRINITY AND WOODBINE AQUIFERS. SEE APPENDIX A FOR AQUIFER REGION DETAILS.

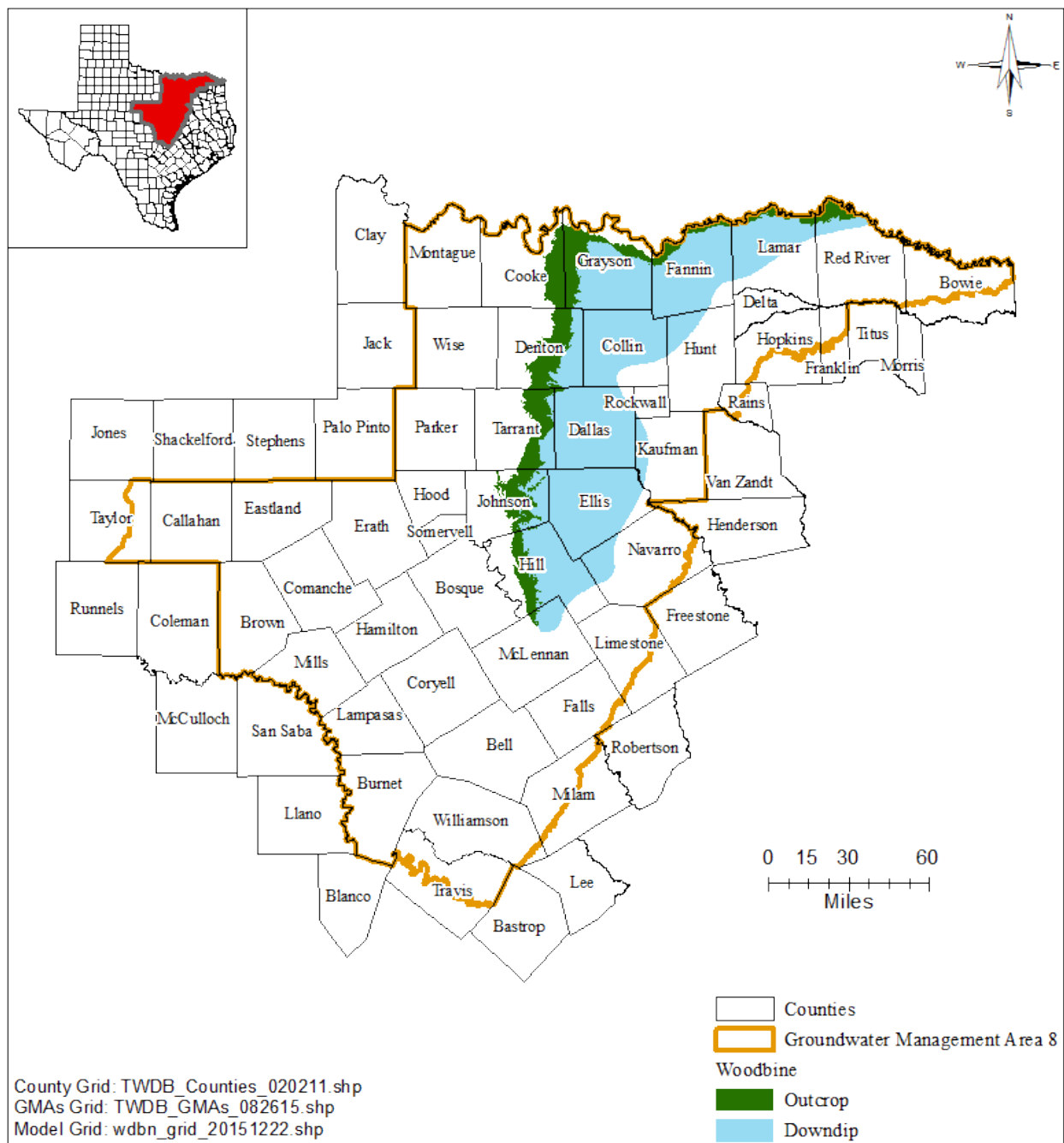


FIGURE 8. MAP SHOWING THE WOODBINE AQUIFER WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF TRINITY AND WOODBINE AQUIFERS.

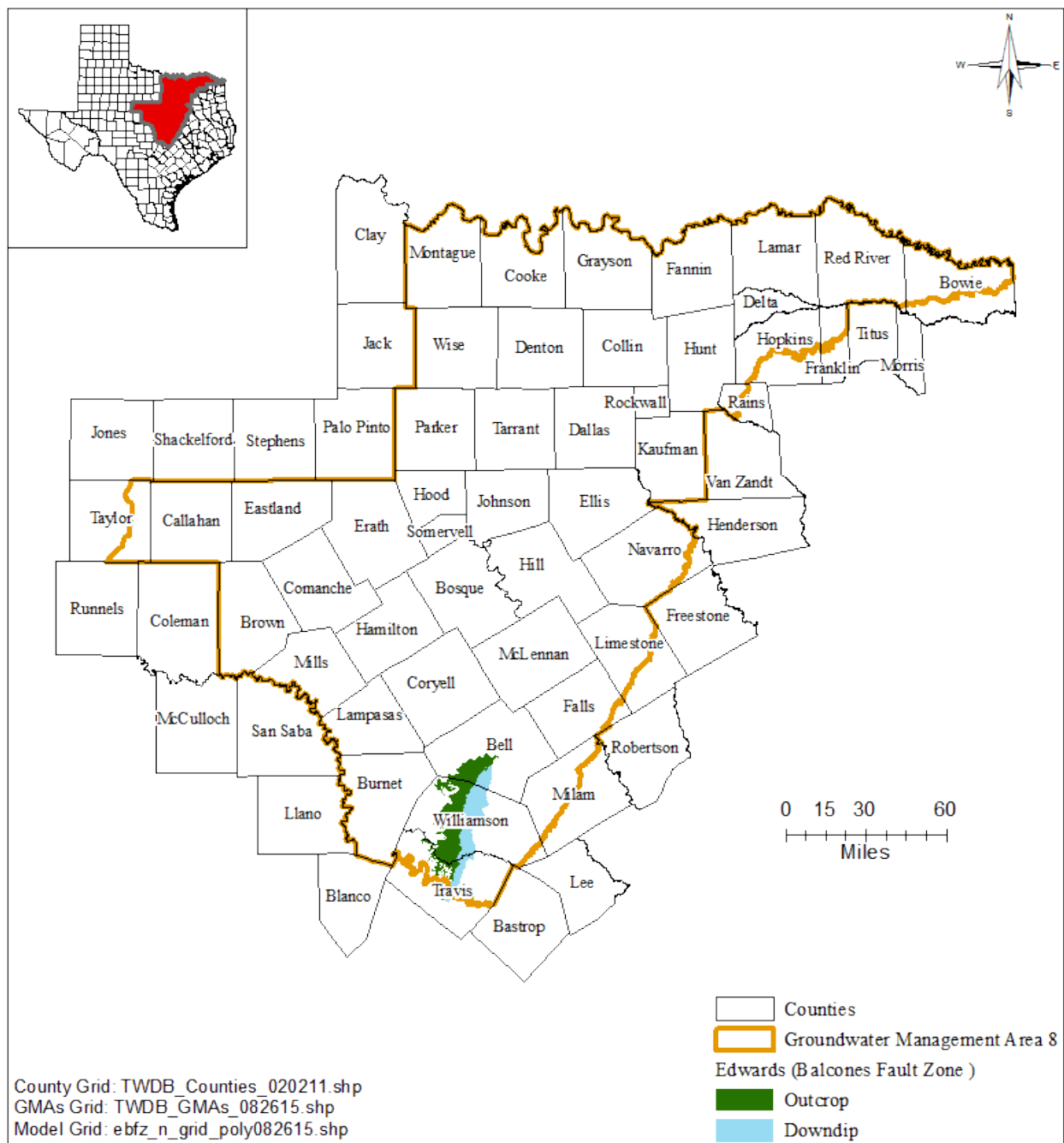


FIGURE 9. MAP SHOWING THE EDWARDS (BALCONES FAULT ZONE) AQUIFER WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN SEGMENT OF EDWARDS (BALCONES FAULT ZONE) AQUIFER.

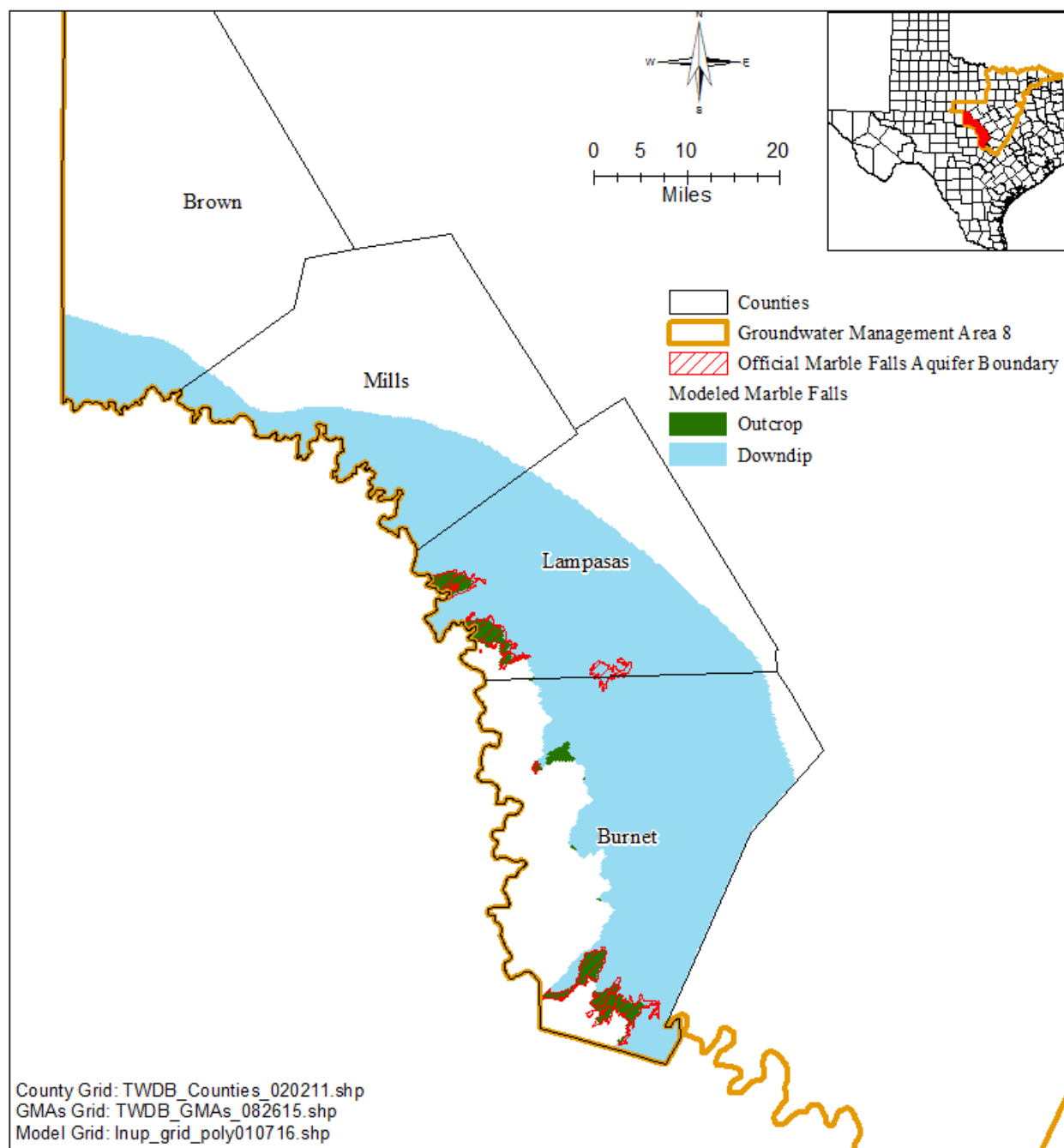


FIGURE 10. MAP SHOWING THE MARBLE FALLS AQUIFER WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE MINOR AQUIFERS IN THE LLANO UPLIFT REGION.

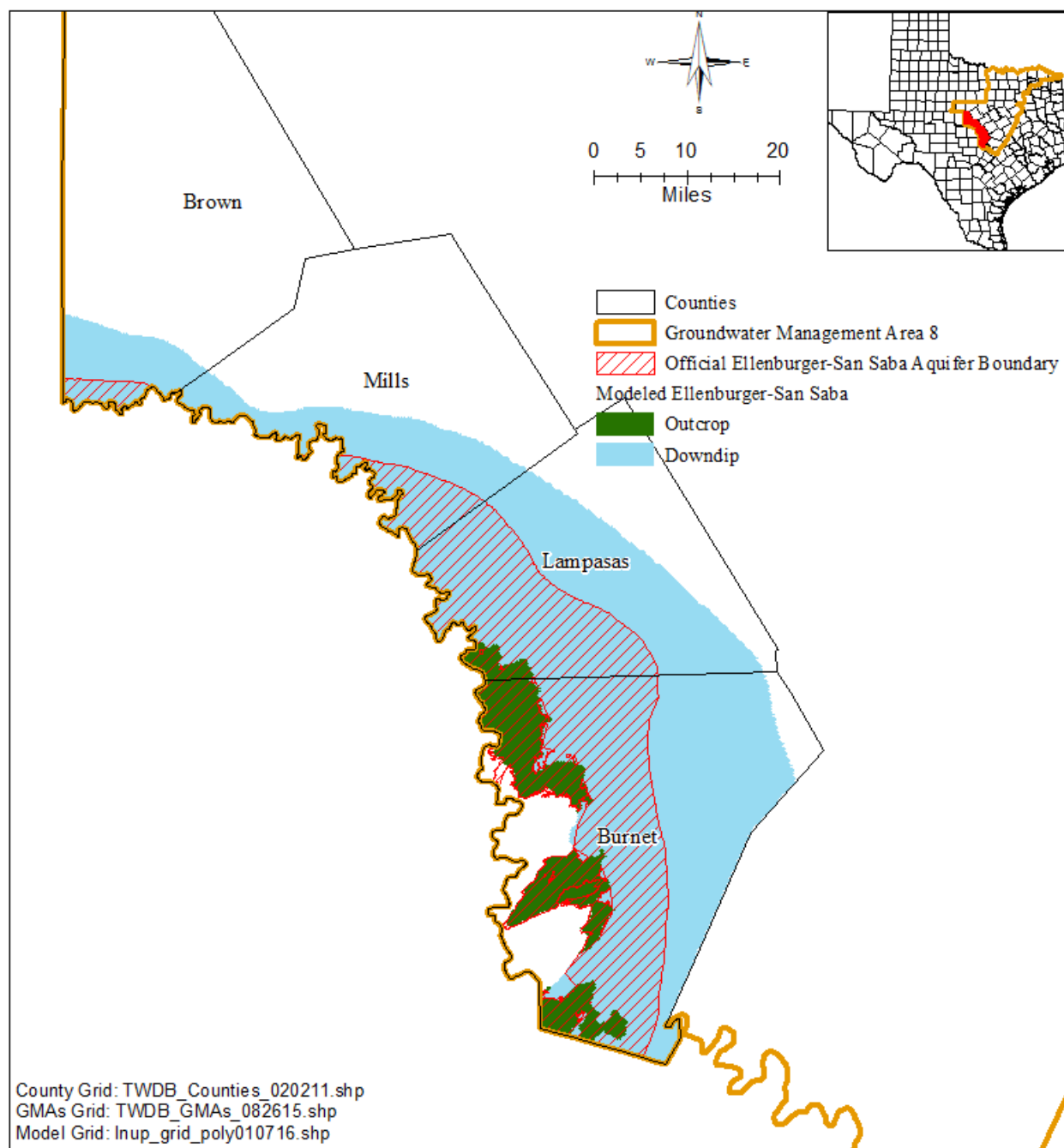


FIGURE 11. MAP SHOWING THE ELLENBURGER-SAN SABA AQUIFER WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE MINOR AQUIFERS IN THE LLANO UPLIFT REGION.

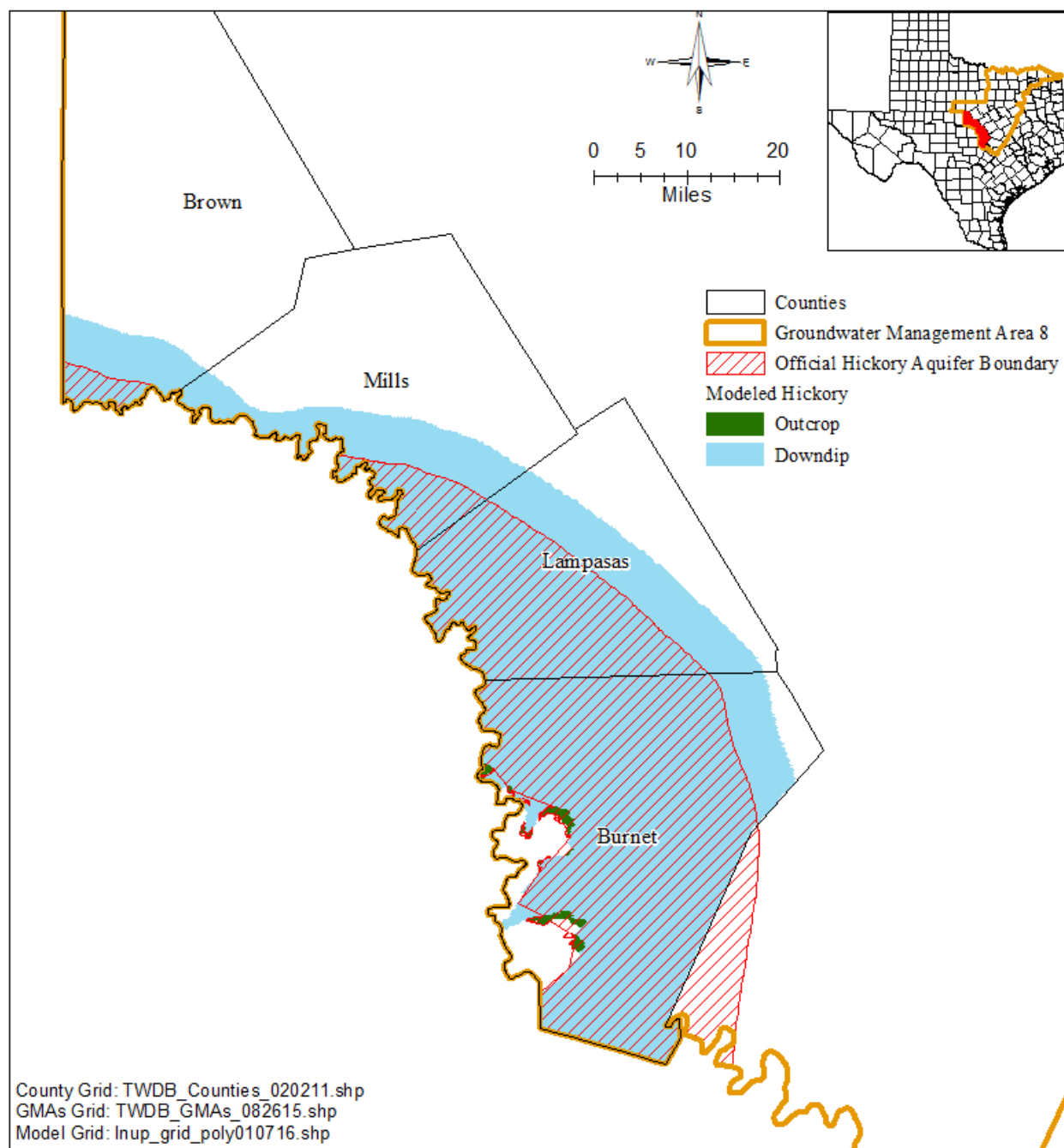


FIGURE 12. MAP SHOWING THE HICKORY AQUIFER WITHIN GROUNDWATER MANAGEMENT AREA 8 FROM THE GROUNDWATER AVAILABILITY MODEL FOR THE MINOR AQUIFERS IN THE LLANO UPLIFT REGION.

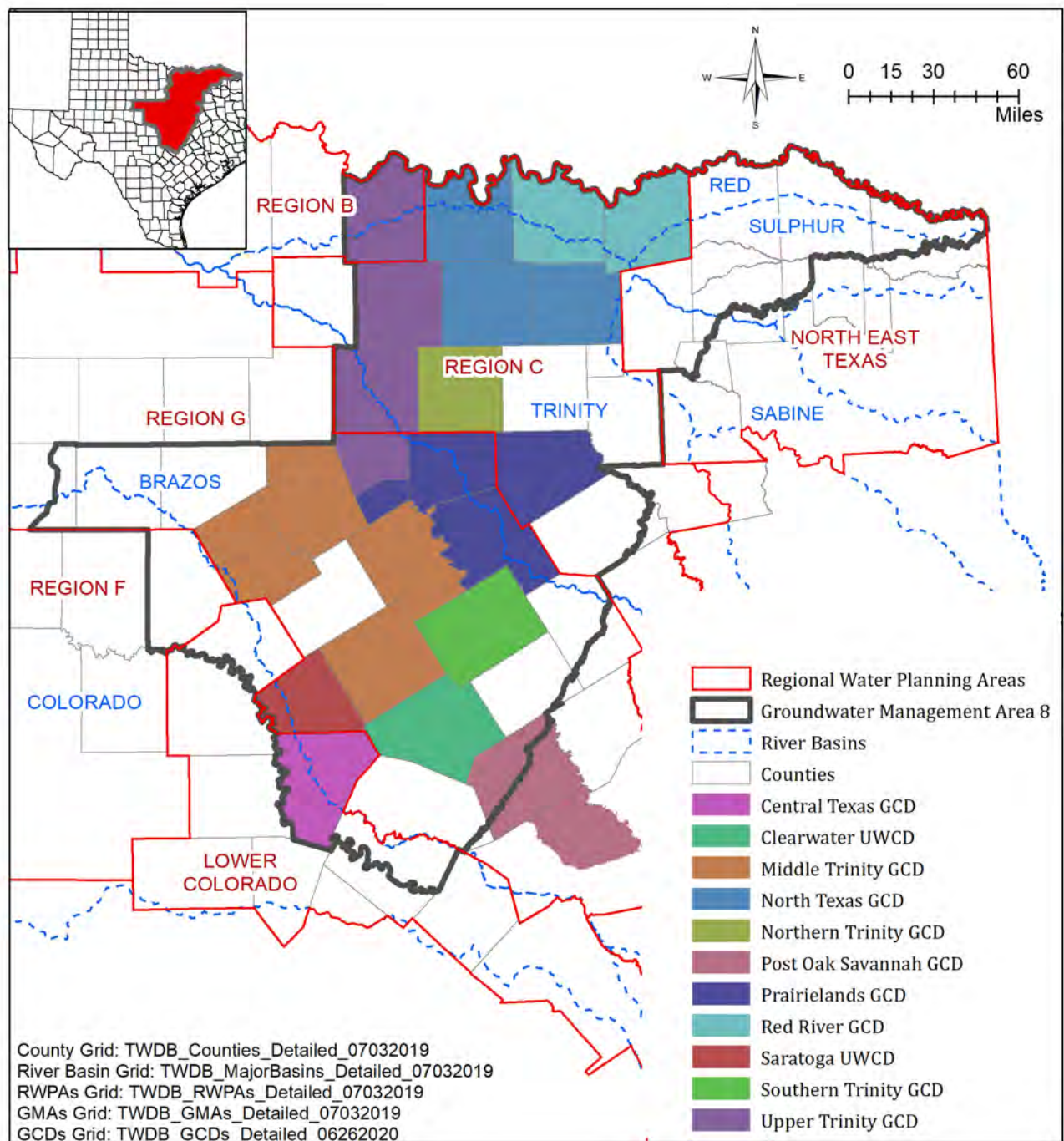


FIGURE 13. MAP SHOWING REGIONAL WATER PLANNING AREAS (RWPAs), GROUNDWATER CONSERVATION DISTRICTS (GCDs), AND RIVER BASINS ASSOCIATED WITH GROUNDWATER MANAGEMENT AREA 8.

TABLE 5. MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (PALUXY) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Clearwater UWCD*	Bell	Paluxy	0	0	0	0	0	0	0
Clearwater UWCD Total		Paluxy	0	0	0	0	0	0	0
Middle Trinity GCD	Bosque	Paluxy	357	357	357	357	357	357	357
Middle Trinity GCD	Coryell	Paluxy	0	0	0	0	0	0	0
Middle Trinity GCD	Erath	Paluxy	61	61	61	61	61	61	61
Middle Trinity GCD Total		Paluxy	418	418	418	418	418	418	418
North Texas GCD	Collin	Paluxy	1,548	1,548	1,548	1,548	1,548	1,548	1,548
North Texas GCD	Denton	Paluxy	4,823	4,823	4,823	4,823	4,823	4,823	4,823
North Texas GCD Total		Paluxy	6,371	6,371	6,371	6,371	6,371	6,371	6,371
Northern Trinity GCD	Tarrant	Paluxy	8,963	8,963	8,963	8,963	8,963	8,963	8,963
Northern Trinity GCD Total		Paluxy	8,963	8,963	8,963	8,963	8,963	8,963	8,963
Prairielands GCD	Ellis	Paluxy	442	442	442	442	442	442	442
Prairielands GCD	Hill	Paluxy	352	352	352	352	352	352	352
Prairielands GCD	Johnson	Paluxy	2,442	2,442	2,442	2,442	2,442	2,442	2,442
Prairielands GCD	Somervell	Paluxy	14	14	14	14	14	14	14
Prairielands GCD Total		Paluxy	3,250	3,250	3,250	3,250	3,250	3,250	3,250
Red River GCD	Fannin	Paluxy	2,088	2,088	2,088	2,088	2,088	2,088	2,088
Red River GCD	Grayson	Paluxy	0	0	0	0	0	0	0
Red River GCD Total		Paluxy	2,088	2,088	2,088	2,088	2,088	2,088	2,088
Southern Trinity GCD	McLennan	Paluxy	0	0	0	0	0	0	0
Southern Trinity GCD Total		Paluxy	0	0	0	0	0	0	0

TABLE 5 (CONT). MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (PALUXY) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Upper Trinity GCD	Hood	Paluxy (outcrop)	159	159	159	159	159	159	159
Upper Trinity GCD	Parker	Paluxy (outcrop)	2,609	2,609	2,609	2,609	2,609	2,609	2,609
Upper Trinity GCD	Parker	Paluxy (downdip)	50	50	50	50	50	50	50
Upper Trinity GCD Total		Paluxy	2,818	2,818	2,818	2,818	2,818	2,818	2,818
No District	Dallas	Paluxy	359	359	359	359	359	359	359
No District	Delta	Paluxy	56	56	56	56	56	56	56
No District	Falls	Paluxy	0	0	0	0	0	0	0
No District	Hamilton	Paluxy	0	0	0	0	0	0	0
No District	Hunt	Paluxy	3	3	3	3	3	3	3
No District	Kaufman	Paluxy	0	0	0	0	0	0	0
No District	Lamar	Paluxy	8	8	8	8	8	8	8
No District	Limestone	Paluxy	0	0	0	0	0	0	0
No District	Mills	Paluxy	6	6	6	6	6	6	6
No District	Navarro	Paluxy	0	0	0	0	0	0	0
No District	Red River	Paluxy	177	177	177	177	177	177	177
No District	Rockwall	Paluxy	0	0	0	0	0	0	0
No District Total		Paluxy	609	609	609	609	609	609	609
GMA 8 Total		Paluxy	24,517	24,517	24,517	24,517	24,517	24,517	24,517

*UWCD: Underground Water Conservation District.

TABLE 6 (CONT). MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (GLEN ROSE) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Saratoga UWCD	Lampasas	Glen Rose	68	68	68	68	68	68	68
Saratoga UWCD Total		Glen Rose	68	68	68	68	68	68	68
Southern Trinity GCD	McLennan	Glen Rose	0	0	0	0	0	0	0
Southern Trinity GCD Total		Glen Rose	0	0	0	0	0	0	0
Upper Trinity GCD	Hood	Glen Rose (outcrop)	790	790	790	790	790	790	790
Upper Trinity GCD	Hood	Glen Rose (downdip)	124	124	124	124	124	124	124
Upper Trinity GCD	Parker	Glen Rose (outcrop)	3,685	3,685	3,685	3,685	3,685	3,685	3,685
Upper Trinity GCD	Parker	Glen Rose (downdip)	1,406	1,406	1,406	1,406	1,406	1,406	1,406
Upper Trinity GCD Total			6,005	6,005	6,005	6,005	6,005	6,005	6,005
No District	Brown	Glen Rose	0	0	0	0	0	0	0
No District	Dallas	Glen Rose	131	131	131	131	131	131	131
No District	Delta	Glen Rose	0	0	0	0	0	0	0
No District	Falls	Glen Rose	0	0	0	0	0	0	0
No District	Hamilton	Glen Rose	218	218	218	218	218	218	218
No District	Hunt	Glen Rose	0	0	0	0	0	0	0
No District	Kaufman	Glen Rose	0	0	0	0	0	0	0
No District	Lamar	Glen Rose	0	0	0	0	0	0	0
No District	Limestone	Glen Rose	0	0	0	0	0	0	0
No District	Mills	Glen Rose	189	189	189	189	189	189	189
No District	Navarro	Glen Rose	0	0	0	0	0	0	0
No District	Red River	Glen Rose	0	0	0	0	0	0	0
No District	Rockwall	Glen Rose	0	0	0	0	0	0	0
No District	Travis	Glen Rose	100	100	100	100	100	100	100
No District	Williamson	Glen Rose	149	149	149	149	149	149	149
No District Total		Glen Rose	787	787	787	787	787	787	787
GMA 8 Total		Glen Rose	12,410	12,410	12,410	12,410	12,410	12,410	12,410

*UWCD: Underground Water Conservation District.

TABLE 7 (CONT).

[illegible]

TABLE 8. MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (TRAVIS PEAK) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

AND 2000. VOLUMES ARE IN ACRE FEET PER YEAR.									
GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Central Texas GCD	Burnet	Travis Peak	3,742	3,742	3,742	3,742	3,742	3,742	3,742
Central Texas GCD Total		Travis Peak	3,742	3,742	3,742	3,742	3,742	3,742	3,742
Clearwater UWCD ¹	Bell	Travis Peak	9,000	9,000	9,000	9,000	9,000	9,000	9,000
Clearwater UWCD Total		Travis Peak	9,000	9,000	9,000	9,000	9,000	9,000	9,000
Middle Trinity GCD	Bosque	Travis Peak	7,683	7,683	7,683	7,683	7,683	7,683	7,683
Middle Trinity GCD	Comanche	Travis Peak	6,164	6,164	6,164	6,164	6,164	6,164	6,164
Middle Trinity GCD	Coryell	Travis Peak	4,374	4,374	4,374	4,374	4,374	4,374	4,374
Middle Trinity GCD	Erath	Travis Peak	11,824	11,824	11,824	11,824	11,824	11,824	11,824
Middle Trinity GCD Total		Travis Peak	30,045	30,045	30,045	30,045	30,045	30,045	30,045
Post Oak Savannah GCD	Milam	Travis Peak	0	0	0	0	0	0	0
Post Oak Savannah GCD Total		Travis Peak	0	0	0	0	0	0	0
Prairielands GCD	Ellis	Travis Peak	5,676	5,676	5,676	5,676	5,676	5,676	5,676
Prairielands GCD	Hill	Travis Peak	4,685	4,685	4,685	4,685	4,685	4,685	4,685
Prairielands GCD	Johnson	Travis Peak	4,472	4,472	4,472	4,472	4,472	4,472	4,472
Prairielands GCD	Somervell	Travis Peak	1,763	1,763	1,763	1,763	1,763	1,763	1,763
Prairielands GCD Total		Travis Peak	16,596	16,596	16,596	16,596	16,596	16,596	16,596
Red River GCD	Fannin	Travis Peak	0	0	0	0	0	0	0
Red River GCD Total		Travis Peak	0	0	0	0	0	0	0
Saratoga UWCD	Lampasas	Travis Peak	1,593	1,593	1,593	1,593	1,593	1,593	1,593
Saratoga UWCD Total		Travis Peak	1,593	1,593	1,593	1,593	1,593	1,593	1,593
Southern Trinity GCD	McLennan	Travis Peak	20,649	20,649	20,649	20,649	20,649	20,649	20,649
Southern Trinity GCD Total		Travis Peak	20,649	20,649	20,649	20,649	20,649	20,649	20,649
Upper Trinity GCD ²	Hood	Travis Peak	122	122	122	122	122	122	122
Upper Trinity GCD Total ²		Travis Peak	122	122	122	122	122	122	122

TABLE 8 (CONT). MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (TRAVIS PEAK) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
No District	Brown	Travis Peak	384	384	384	384	384	384	384
No District	Dallas	Travis Peak	0	0	0	0	0	0	0
No District	Delta	Travis Peak	0	0	0	0	0	0	0
No District	Falls	Travis Peak	1,435	1,435	1,435	1,435	1,435	1,435	1,435
No District	Hamilton	Travis Peak	2,209	2,209	2,209	2,209	2,209	2,209	2,209
No District	Hunt	Travis Peak	0	0	0	0	0	0	0
No District	Kaufman	Travis Peak	0	0	0	0	0	0	0
No District	Lamar	Travis Peak	0	0	0	0	0	0	0
No District	Limestone	Travis Peak	0	0	0	0	0	0	0
No District	Mills	Travis Peak	2,264	2,264	2,264	2,264	2,264	2,264	2,264
No District	Navarro	Travis Peak	0	0	0	0	0	0	0
No District	Red River	Travis Peak	0	0	0	0	0	0	0
No District	Travis	Travis Peak	6,644	6,644	6,644	6,644	6,644	6,644	6,644
No District	Williamson	Travis Peak	3,548	3,548	3,548	3,548	3,548	3,548	3,548
No District Total		Travis Peak	16,484	16,484	16,484	16,484	16,484	16,484	16,484
GMA 8 Total		Travis Peak	98,231	98,231	98,231	98,231	98,231	98,231	98,231

¹UWCD: Underground Water Conservation District.

²Splits for Upper Trinity GCD are presented since they are included in the GMA 8-wide desired future conditions.

TABLE 9. MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (HENSELL) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

[illegible]

TABLE 9 (CONT). MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (HENSELL) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
No District	Brown	Hensell	4	4	4	4	4	4	4
No District	Dallas	Hensell	0	0	0	0	0	0	0
No District	Falls	Hensell	0	0	0	0	0	0	0
No District	Hamilton	Hensell	1,672	1,672	1,672	1,672	1,672	1,672	1,672
No District	Kaufman	Hensell	0	0	0	0	0	0	0
No District	Limestone	Hensell	0	0	0	0	0	0	0
No District	Mills	Hensell	607	607	607	607	607	607	607
No District	Navarro	Hensell	0	0	0	0	0	0	0
No District	Travis	Hensell	2,269	2,269	2,269	2,269	2,269	2,269	2,269
No District	Williamson	Hensell	1,599	1,599	1,599	1,599	1,599	1,599	1,599
No District Total		Hensell	6,151	6,151	6,151	6,151	6,151	6,151	6,151
GMA 8 Total		Hensell	27,117	27,117	27,117	27,117	27,117	27,117	27,117

¹UWCD: Underground Water Conservation District.

²Splits for Upper Trinity GCD are presented since they are included in the GMA 8-wide desired future conditions.

*Note that the Hensell values in this table represent a portion of the total Travis Peak values already provided in Table 8 and do not represent an additional source of water.

TABLE 10. MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (HOSSTON) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Central Texas GCD	Burnet	Hosston	883	883	883	883	883	883	883
Central Texas GCD Total		Hosston	883	883	883	883	883	883	883
Clearwater UWCD ¹	Bell	Hosston	7,900	7,900	7,900	7,900	7,900	7,900	7,900
Clearwater UWCD Total		Hosston	7,900	7,900	7,900	7,900	7,900	7,900	7,900
Middle Trinity GCD	Bosque	Hosston	3,765	3,765	3,765	3,765	3,765	3,765	3,765
Middle Trinity GCD	Comanche	Hosston	5,869	5,869	5,869	5,869	5,869	5,869	5,869
Middle Trinity GCD	Coryell	Hosston	2,163	2,163	2,163	2,163	2,163	2,163	2,163
Middle Trinity GCD	Erath	Hosston	6,387	6,387	6,387	6,387	6,387	6,387	6,387
Middle Trinity GCD Total		Hosston	18,184	18,184	18,184	18,184	18,184	18,184	18,184
Post Oak Savannah GCD	Milam	Hosston	0	0	0	0	0	0	0
Post Oak Savannah GCD Total		Hosston	0	0	0	0	0	0	0
Prairielands GCD	Ellis	Hosston	5,545	5,545	5,545	5,545	5,545	5,545	5,545
Prairielands GCD	Hill	Hosston	3,610	3,610	3,610	3,610	3,610	3,610	3,610
Prairielands GCD	Johnson	Hosston	4,251	4,251	4,251	4,251	4,251	4,251	4,251
Prairielands GCD	Somervell	Hosston	930	930	930	930	930	930	930
Prairielands GCD Total		Hosston	14,336	14,336	14,336	14,336	14,336	14,336	14,336
Saratoga UWCD	Lampasas	Hosston	849	849	849	849	849	849	849
Saratoga UWCD Total		Hosston	849	849	849	849	849	849	849
Southern Trinity GCD	McLennan	Hosston	15,948	15,948	15,948	15,948	15,948	15,948	15,948
Southern Trinity GCD Total		Hosston	15,948	15,948	15,948	15,948	15,948	15,948	15,948
Upper Trinity GCD ²	Hood	Hosston	72	72	72	72	72	72	72
Upper Trinity GCD Total ²		Hosston	72	72	72	72	72	72	72

TABLE 10 (CONT). MODELED AVAILABLE GROUNDWATER FOR THE TRINITY AQUIFER (HOSSTON) IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
No District	Brown	Hosston	346	346	346	346	346	346	346
No District	Dallas	Hosston	0	0	0	0	0	0	0
No District	Falls	Hosston	1,435	1,435	1,435	1,435	1,435	1,435	1,435
No District	Hamilton	Hosston	385	385	385	385	385	385	385
No District	Kaufman	Hosston	0	0	0	0	0	0	0
No District	Limestone	Hosston	0	0	0	0	0	0	0
No District	Mills	Hosston	1,455	1,455	1,455	1,455	1,455	1,455	1,455
No District	Navarro	Hosston	0	0	0	0	0	0	0
No District	Travis	Hosston	4,185	4,185	4,185	4,185	4,185	4,185	4,185
No District	Williamson	Hosston	1,750	1,750	1,750	1,750	1,750	1,750	1,750
No District Total		Hosston	9,556	9,556	9,556	9,556	9,556	9,556	9,556
GMA 8 Total		Hosston	67,728	67,728	67,728	67,728	67,728	67,728	67,728

¹UWCD: Underground Water Conservation District.

²Splits for Upper Trinity GCD are presented since they are included in the GMA 8-wide desired future conditions.

*Note that the Hosston values in this table represent a portion of the total Travis Peak values already provided in Table 8 and do not represent an additional source of water.

TABLE 13. MODELED AVAILABLE GROUNDWATER FOR THE EDWARDS (BALCONES FAULT ZONE) AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Clearwater UWCD*	Bell	Edwards (Balcones Fault Zone)	6,469	6,469	6,469	6,469	6,469	6,469	6,469
Clearwater UWCD Total		Edwards (Balcones Fault Zone)	6,469	6,469	6,469	6,469	6,469	6,469	6,469
No District	Travis	Edwards (Balcones Fault Zone)	5,237	5,237	5,237	5,237	5,237	5,237	5,237
No District	Williamson	Edwards (Balcones Fault Zone)	3,462	3,462	3,462	3,462	3,462	3,462	3,462
No District Total		Edwards (Balcones Fault Zone)	8,699	8,699	8,699	8,699	8,699	8,699	8,699
GMA 8 Total		Edwards (Balcones Fault Zone)	15,168	15,168	15,168	15,168	15,168	15,168	15,168

*UWCD: Underground Water Conservation District.

TABLE 14. MODELED AVAILABLE GROUNDWATER FOR THE MARBLE FALLS AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Central Texas GCD	Burnet	Marble Falls	2,738	2,738	2,738	2,738	2,738	2,738	2,738
Central Texas GCD Total		Marble Falls	2,738	2,738	2,738	2,738	2,738	2,738	2,738
Saratoga UWCD*	Lampasas	Marble Falls	2,839	2,839	2,839	2,839	2,839	2,839	2,839
Saratoga UWCD Total		Marble Falls	2,839	2,839	2,839	2,839	2,839	2,839	2,839
No District	Brown	Marble Falls	25	25	25	25	25	25	25
No District	Mills	Marble Falls	25	25	25	25	25	25	25
No District Total		Marble Falls	50	50	50	50	50	50	50
GMA 8 Total		Marble Falls	5,627	5,627	5,627	5,627	5,627	5,627	5,627

*UWCD: Underground Water Conservation District.

TABLE 15. MODELED AVAILABLE GROUNDWATER FOR ELLENBURGER-SAN SABA AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Central Texas GCD	Burnet	Ellenburger-San Saba	10,835	10,835	10,835	10,835	10,835	10,835	10,835
Central Texas GCD Total		Ellenburger-San Saba	10,835	10,835	10,835	10,835	10,835	10,835	10,835
Saratoga UWCD*	Lampasas	Ellenburger-San Saba	2,595	2,595	2,595	2,595	2,595	2,595	2,595
Saratoga UWCD Total		Ellenburger-San Saba	2,595	2,595	2,595	2,595	2,595	2,595	2,595
No District	Brown	Ellenburger-San Saba	131	131	131	131	131	131	131
No District	Mills	Ellenburger-San Saba	499	499	499	499	499	499	499
No District Total		Ellenburger-San Saba	630	630	630	630	630	630	630
GMA 8 Total		Ellenburger-San Saba	14,060	14,060	14,060	14,060	14,060	14,060	14,060

*UWCD: Underground Water Conservation District.

TABLE 16. MODELED AVAILABLE GROUNDWATER FOR THE HICKORY AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

GCD	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Central Texas GCD	Burnet	Hickory	3,415	3,415	3,415	3,415	3,415	3,415	3,415
Central Texas GCD Total		Hickory	3,415	3,415	3,415	3,415	3,415	3,415	3,415
Saratoga UWCD*	Lampasas	Hickory	113	113	113	113	113	113	113
Saratoga UWCD Total		Hickory	113	113	113	113	113	113	113
No District	Brown	Hickory	12	12	12	12	12	12	12
No District	Mills	Hickory	36	36	36	36	36	36	36
No District Total		Hickory	48	48	48	48	48	48	48
GMA 8 Total		Hickory	3,576	3,576	3,576	3,576	3,576	3,576	3,576

*UWCD: Underground Water Conservation District.

TABLE 17. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (PALUXY) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE- FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Counties Not in Upper Trinity GCD									
Bell	G	Brazos	Paluxy	0	0	0	0	0	0
Bosque	G	Brazos	Paluxy	357	357	357	357	357	357
Collin	C	Sabine	Paluxy	0	0	0	0	0	0
Collin	C	Trinity	Paluxy	1,548	1,548	1,548	1,548	1,548	1,548
Coryell	G	Brazos	Paluxy	0	0	0	0	0	0
Dallas	C	Trinity	Paluxy	359	359	359	359	359	359
Delta	D	Sulphur	Paluxy	56	56	56	56	56	56
Denton	C	Trinity	Paluxy	4,823	4,823	4,823	4,823	4,823	4,823
Ellis	C	Trinity	Paluxy	442	442	442	442	442	442
Erath	G	Brazos	Paluxy	61	61	61	61	61	61
Falls	G	Brazos	Paluxy	0	0	0	0	0	0
Fannin	C	Sulphur	Paluxy	2,088	2,088	2,088	2,088	2,088	2,088
Fannin	C	Trinity	Paluxy	0	0	0	0	0	0
Grayson	C	Trinity	Paluxy	0	0	0	0	0	0
Hamilton	G	Brazos	Paluxy	0	0	0	0	0	0
Hill	G	Brazos	Paluxy	347	347	347	347	347	347
Hill	G	Trinity	Paluxy	5	5	5	5	5	5
Hunt	D	Sabine	Paluxy	0	0	0	0	0	0
Hunt	D	Sulphur	Paluxy	3	3	3	3	3	3
Hunt	D	Trinity	Paluxy	0	0	0	0	0	0
Johnson	G	Brazos	Paluxy	878	878	878	878	878	878
Johnson	G	Trinity	Paluxy	1,563	1,563	1,563	1,563	1,563	1,563
Kaufman	C	Trinity	Paluxy	0	0	0	0	0	0
Lamar	D	Red	Paluxy	0	0	0	0	0	0
Lamar	D	Sulphur	Paluxy	8	8	8	8	8	8
Limestone	G	Brazos	Paluxy	0	0	0	0	0	0
Limestone	G	Trinity	Paluxy	0	0	0	0	0	0
McLennan	G	Brazos	Paluxy	0	0	0	0	0	0
Mills	K	Brazos	Paluxy	6	6	6	6	6	6
Mills	K	Colorado	Paluxy	0	0	0	0	0	0
Navarro	C	Trinity	Paluxy	0	0	0	0	0	0
Red River	D	Red	Paluxy	52	52	52	52	52	52
Red River	D	Sulphur	Paluxy	125	125	125	125	125	125
Rockwall	C	Trinity	Paluxy	0	0	0	0	0	0
Somervell	G	Brazos	Paluxy	14	14	14	14	14	14
Tarrant	C	Trinity	Paluxy	8,963	8,963	8,963	8,963	8,963	8,963
Subtotal			Paluxy	21,698	21,698	21,698	21,698	21,698	21,698

TABLE 17 (CONT).[illegible]

TABLE 18. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (GLEN ROSE) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Counties Not in Upper Trinity GCD									
Bell	G	Brazos	Glen Rose	275	275	275	275	275	275
Bosque	G	Brazos	Glen Rose	729	729	729	729	729	729
Brown	F	Colorado	Glen Rose	0	0	0	0	0	0
Burnet	K	Brazos	Glen Rose	66	66	66	66	66	66
Burnet	K	Colorado	Glen Rose	82	82	82	82	82	82
Collin	C	Sabine	Glen Rose	0	0	0	0	0	0
Collin	C	Trinity	Glen Rose	83	83	83	83	83	83
Comanche	G	Brazos	Glen Rose	22	22	22	22	22	22
Comanche	G	Colorado	Glen Rose	18	18	18	18	18	18
Coryell	G	Brazos	Glen Rose	120	120	120	120	120	120
Dallas	C	Trinity	Glen Rose	131	131	131	131	131	131
Delta	D	Sulphur	Glen Rose	0	0	0	0	0	0
Denton	C	Trinity	Glen Rose	339	339	339	339	339	339
Ellis	C	Trinity	Glen Rose	50	50	50	50	50	50
Erath	G	Brazos	Glen Rose	1,078	1,078	1,078	1,078	1,078	1,078
Falls	G	Brazos	Glen Rose	0	0	0	0	0	0
Fannin	C	Sulphur	Glen Rose	0	0	0	0	0	0
Fannin	C	Trinity	Glen Rose	0	0	0	0	0	0
Grayson	C	Trinity	Glen Rose	0	0	0	0	0	0
Hamilton	G	Brazos	Glen Rose	218	218	218	218	218	218
Hill	G	Brazos	Glen Rose	114	114	114	114	114	114
Hill	G	Trinity	Glen Rose	1	1	1	1	1	1
Hunt	D	Sabine	Glen Rose	0	0	0	0	0	0
Hunt	D	Sulphur	Glen Rose	0	0	0	0	0	0
Hunt	D	Trinity	Glen Rose	0	0	0	0	0	0
Johnson	G	Brazos	Glen Rose	951	951	951	951	951	951
Johnson	G	Trinity	Glen Rose	682	682	682	682	682	682
Kaufman	C	Trinity	Glen Rose	0	0	0	0	0	0
Lamar	D	Red	Glen Rose	0	0	0	0	0	0
Lamar	D	Sulphur	Glen Rose	0	0	0	0	0	0
Lampasas	G	Brazos	Glen Rose	68	68	68	68	68	68
Limestone	G	Brazos	Glen Rose	0	0	0	0	0	0
Limestone	G	Trinity	Glen Rose	0	0	0	0	0	0
McLennan	G	Brazos	Glen Rose	0	0	0	0	0	0
Milam	G	Brazos	Glen Rose	0	0	0	0	0	0
Mills	K	Brazos	Glen Rose	96	96	96	96	96	96
Mills	K	Colorado	Glen Rose	93	93	93	93	93	93
Navarro	C	Trinity	Glen Rose	0	0	0	0	0	0
Red River	D	Red	Glen Rose	0	0	0	0	0	0

MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (GLEN ROSE) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

[illegible]

TABLE 19. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (TWIN MOUNTAINS) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060	2070
Counties Not in Upper Trinity GCD									
Collin	C	Sabine	Twin Mountains	0	0	0	0	0	0
Collin	C	Trinity	Twin Mountains	2,202	2,202	2,202	2,202	2,202	2,202
Dallas	C	Trinity	Twin Mountains	3,201	3,201	3,201	3,201	3,201	3,201
Denton	C	Trinity	Twin Mountains	8,372	8,372	8,372	8,372	8,372	8,372
Ellis	C	Trinity	Twin Mountains	0	0	0	0	0	0
Erath	G	Brazos	Twin Mountains	5,017	5,017	5,017	5,017	5,017	5,017
Fannin	C	Sulphur	Twin Mountains	0	0	0	0	0	0
Fannin	C	Trinity	Twin Mountains	0	0	0	0	0	0
Grayson	C	Trinity	Twin Mountains	0	0	0	0	0	0
Hunt	D	Sabine	Twin Mountains	0	0	0	0	0	0
Hunt	D	Trinity	Twin Mountains	0	0	0	0	0	0
Johnson	G	Brazos	Twin Mountains	127	127	127	127	127	127
Johnson	G	Trinity	Twin Mountains	152	152	152	152	152	152
Kaufman	C	Trinity	Twin Mountains	0	0	0	0	0	0
Rockwall	C	Trinity	Twin Mountains	0	0	0	0	0	0
Somervell	G	Brazos	Twin Mountains	65	65	65	65	65	65
Tarrant	C	Trinity	Twin Mountains	6,922	6,922	6,922	6,922	6,922	6,922
Subtotal			Twin Mountains	26,058	26,058	26,058	26,058	26,058	26,058

TABLE 19 (CONT).[illegible]

TABLE 20. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (TRAVIS PEAK) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Counties Not in Upper Trinity GCD									
Bell	G	Brazos	Travis Peak	9,000	9,000	9,000	9,000	9,000	9,000
Bosque	G	Brazos	Travis Peak	7,683	7,683	7,683	7,683	7,683	7,683
Brown	F	Brazos	Travis Peak	3	3	3	3	3	3
Brown	F	Colorado	Travis Peak	381	381	381	381	381	381
Burnet	K	Brazos	Travis Peak	3,297	3,297	3,297	3,297	3,297	3,297
Burnet	K	Colorado	Travis Peak	445	445	445	445	445	445
Comanche	G	Brazos	Travis Peak	6,115	6,115	6,115	6,115	6,115	6,115
Comanche	G	Colorado	Travis Peak	49	49	49	49	49	49
Coryell	G	Brazos	Travis Peak	4,374	4,374	4,374	4,374	4,374	4,374
Dallas	C	Trinity	Travis Peak	0	0	0	0	0	0
Delta	D	Sulphur	Travis Peak	0	0	0	0	0	0
Ellis	C	Trinity	Travis Peak	5,676	5,676	5,676	5,676	5,676	5,676
Erath	G	Brazos	Travis Peak	11,824	11,824	11,824	11,824	11,824	11,824
Falls	G	Brazos	Travis Peak	1,435	1,435	1,435	1,435	1,435	1,435
Fannin	C	Sulphur	Travis Peak	0	0	0	0	0	0
Fannin	C	Trinity	Travis Peak	0	0	0	0	0	0
Hamilton	G	Brazos	Travis Peak	2,209	2,209	2,209	2,209	2,209	2,209
Hill	G	Brazos	Travis Peak	4,404	4,404	4,404	4,404	4,404	4,404
Hill	G	Trinity	Travis Peak	281	281	281	281	281	281
Hunt	D	Sabine	Travis Peak	0	0	0	0	0	0
Hunt	D	Sulphur	Travis Peak	0	0	0	0	0	0
Hunt	D	Trinity	Travis Peak	0	0	0	0	0	0

TABLE 20 (CONT). MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (TRAVIS PEAK) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Johnson	G	Brazos	Travis Peak	1,581	1,581	1,581	1,581	1,581	1,581
Johnson	G	Trinity	Travis Peak	2,891	2,891	2,891	2,891	2,891	2,891
Kaufman	C	Trinity	Travis Peak	0	0	0	0	0	0
Lamar	D	Red	Travis Peak	0	0	0	0	0	0
Lamar	D	Sulphur	Travis Peak	0	0	0	0	0	0
Lampasas	G	Brazos	Travis Peak	1,525	1,525	1,525	1,525	1,525	1,525
Lampasas	G	Colorado	Travis Peak	68	68	68	68	68	68
Limestone	G	Brazos	Travis Peak	0	0	0	0	0	0
Limestone	G	Trinity	Travis Peak	0	0	0	0	0	0
McLennan	G	Brazos	Travis Peak	20,649	20,649	20,649	20,649	20,649	20,649
Milam	G	Brazos	Travis Peak	0	0	0	0	0	0
Mills	K	Brazos	Travis Peak	704	704	704	704	704	704
Mills	K	Colorado	Travis Peak	1,560	1,560	1,560	1,560	1,560	1,560
Navarro	C	Trinity	Travis Peak	0	0	0	0	0	0
Red River	D	Red	Travis Peak	0	0	0	0	0	0
Red River	D	Sulphur	Travis Peak	0	0	0	0	0	0
Somervell	G	Brazos	Travis Peak	1,763	1,763	1,763	1,763	1,763	1,763
Travis	K	Brazos	Travis Peak	1	1	1	1	1	1
Travis	K	Colorado	Travis Peak	6,642	6,642	6,642	6,642	6,642	6,642
Williamson	G	Brazos	Travis Peak	3,543	3,543	3,543	3,543	3,543	3,543
Williamson	G	Colorado	Travis Peak	5	5	5	5	5	5
Williamson	K	Brazos	Travis Peak	0	0	0	0	0	0

**TABLE 20 (CONT). MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY
AQUIFER (TRAVIS PEAK) IN GROUNDWATER MANAGEMENT AREA (GMA) 8.
RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY,
REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.**

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Williamson	K	Colorado	Travis Peak	0	0	0	0	0	0
Subtotal			Travis Peak	98,108	98,108	98,108	98,108	98,108	98,108
Counties in Upper Trinity GCD¹									
Hood	G	Brazos	Travis Peak	122	122	122	122	122	122
Subtotal			Travis Peak	122	122	122	122	122	122
GMA 8 Total			Travis Peak	98,230	98,230	98,230	98,230	98,230	98,230

¹Splits for Upper Trinity GCD are presented since they are included in the GMA 8-wide desired future conditions.

TABLE 21 (CONT). MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (HENSELL) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Counties in Upper Trinity GCD¹									
Hood	G	Brazos	Hensell	50	50	50	50	50	50
Subtotal			Hensell	50	50	50	50	50	50
GMA 8 Total			Hensell	27,118	27,118	27,118	27,118	27,118	27,118

¹Splits for Upper Trinity GCD are presented since they are included in the GMA 8-wide desired future conditions.

*Note that the Hensell values in this table represent a portion of the total Travis Peak values already provided in Table 20 and do not represent an additional source of water.

TABLE 22. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY AQUIFER (HOSSTON) IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE- FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Counties Not in Upper Trinity GCD¹									
Bell	G	Brazos	Hosston	7,900	7,900	7,900	7,900	7,900	7,900
Bosque	G	Brazos	Hosston	3,765	3,765	3,765	3,765	3,765	3,765
Brown	F	Brazos	Hosston	3	3	3	3	3	3
Brown	F	Colorado	Hosston	343	343	343	343	343	343
Burnet	K	Brazos	Hosston	659	659	659	659	659	659
Burnet	K	Colorado	Hosston	224	224	224	224	224	224
Comanche	G	Brazos	Hosston	5,863	5,863	5,863	5,863	5,863	5,863
Comanche	G	Colorado	Hosston	6	6	6	6	6	6
Coryell	G	Brazos	Hosston	2,163	2,163	2,163	2,163	2,163	2,163
Dallas	C	Trinity	Hosston	0	0	0	0	0	0
Ellis	C	Trinity	Hosston	5,545	5,545	5,545	5,545	5,545	5,545
Erath	G	Brazos	Hosston	6,387	6,387	6,387	6,387	6,387	6,387
Falls	G	Brazos	Hosston	1,435	1,435	1,435	1,435	1,435	1,435
Hamilton	G	Brazos	Hosston	385	385	385	385	385	385
Hill	G	Brazos	Hosston	3,330	3,330	3,330	3,330	3,330	3,330
Hill	G	Trinity	Hosston	280	280	280	280	280	280
Johnson	G	Brazos	Hosston	1,442	1,442	1,442	1,442	1,442	1,442
Johnson	G	Trinity	Hosston	2,809	2,809	2,809	2,809	2,809	2,809
Kaufman	C	Trinity	Hosston	0	0	0	0	0	0
Lampasas	G	Brazos	Hosston	785	785	785	785	785	785
Lampasas	G	Colorado	Hosston	65	65	65	65	65	65
Limestone	G	Brazos	Hosston	0	0	0	0	0	0
Limestone	G	Trinity	Hosston	0	0	0	0	0	0
McLennan	G	Brazos	Hosston	15,948	15,948	15,948	15,948	15,948	15,948
Milam	G	Brazos	Hosston	0	0	0	0	0	0
Mills	K	Brazos	Hosston	375	375	375	375	375	375
Mills	K	Colorado	Hosston	1,081	1,081	1,081	1,081	1,081	1,081

**TABLE 22 (CONT). MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE TRINITY
AQUIFER (HOSSTON) IN GROUNDWATER MANAGEMENT AREA (GMA) 8.
RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY,
REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.**

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Navarro	C	Trinity	Hosston	0	0	0	0	0	0
Somervell	G	Brazos	Hosston	930	930	930	930	930	930
Travis	K	Brazos	Hosston	0	0	0	0	0	0
Travis	K	Colorado	Hosston	4,185	4,185	4,185	4,185	4,185	4,185
Williamson	G	Brazos	Hosston	1,746	1,746	1,746	1,746	1,746	1,746
Williamson	G	Colorado	Hosston	5	5	5	5	5	5
Williamson	K	Brazos	Hosston	0	0	0	0	0	0
Williamson	K	Colorado	Hosston	0	0	0	0	0	0
Subtotal			Hosston	67,659	67,659	67,659	67,659	67,659	67,659
Counties in Upper Trinity GCD¹									
Hood	G	Brazos	Hosston	72	72	72	72	72	72
Subtotal			Hosston	72	72	72	72	72	72
GMA 8 Total			Hosston	67,731	67,731	67,731	67,731	67,731	67,731

¹Splits for Upper Trinity GCD are presented since they are included in the GMA 8-wide desired future conditions.

*Note that the Hosston values in this table represent a portion of the total Travis Peak values already provided in Table 20 and do not represent an additional source of water.

TABLE 24. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE WOODBINE AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

County	RWPA	River Basin	Aquifer	2030	2040	2050	2060	2070	2080
Collin	C	Sabine	Woodbine	0	0	0	0	0	0
Collin	C	Trinity	Woodbine	4,254	4,254	4,254	4,254	4,254	4,254
Cooke	C	Red	Woodbine	262	262	262	262	262	262
Cooke	C	Trinity	Woodbine	539	539	539	539	539	539
Dallas	C	Trinity	Woodbine	2,798	2,798	2,798	2,798	2,798	2,798
Denton	C	Trinity	Woodbine	3,609	3,609	3,609	3,609	3,609	3,609
Ellis	C	Trinity	Woodbine	2,074	2,074	2,074	2,074	2,074	2,074
Fannin	C	Red	Woodbine	3,547	3,547	3,547	3,547	3,547	3,547
Fannin	C	Sulphur	Woodbine	550	550	550	550	550	550
Fannin	C	Trinity	Woodbine	827	827	827	827	827	827
Grayson	C	Red	Woodbine	5,603	5,603	5,603	5,603	5,603	5,603
Grayson	C	Trinity	Woodbine	1,923	1,923	1,923	1,923	1,923	1,923
Hill	G	Brazos	Woodbine	284	284	284	284	284	284
Hill	G	Trinity	Woodbine	302	302	302	302	302	302
Hunt	D	Sabine	Woodbine	268	268	268	268	268	268
Hunt	D	Sulphur	Woodbine	165	165	165	165	165	165
Hunt	D	Trinity	Woodbine	330	330	330	330	330	330
Johnson	G	Brazos	Woodbine	24	24	24	24	24	24
Johnson	G	Trinity	Woodbine	1,957	1,957	1,957	1,957	1,957	1,957
Kaufman	C	Trinity	Woodbine	0	0	0	0	0	0
Lamar	D	Red	Woodbine	0	0	0	0	0	0
Lamar	D	Sulphur	Woodbine	49	49	49	49	49	49
McLennan	G	Brazos	Woodbine	0	0	0	0	0	0
Navarro	C	Trinity	Woodbine	68	68	68	68	68	68
Red River	D	Red	Woodbine	2	2	2	2	2	2
Rockwall	C	Trinity	Woodbine	0	0	0	0	0	0
Tarrant	C	Trinity	Woodbine	1,139	1,139	1,139	1,139	1,139	1,139
GMA 8 Total			Woodbine	30,574	30,574	30,574	30,574	30,574	30,574

TABLE 25. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE EDWARDS (BALCONES FAULT ZONE) AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN. MODELED AVAILABLE GROUNDWATER VALUES ARE FROM GAM RUN 08-010MAG BY ANAYA (2008).

[illegible]

**TABLE 26. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE MARBLE FALLS AQUIFER
IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER
YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA
(RWPA), AND RIVER BASIN.**

[illegible]

TABLE 27. MODELED AVAILABLE GROUNDWATER BY DECADE FOR ELLENBURGER-SAN SABA AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE- FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

[illegible]

TABLE 28. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE HICKORY AQUIFER IN GROUNDWATER MANAGEMENT AREA (GMA) 8. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), AND RIVER BASIN.

[illegible]

LIMITATIONS:

The groundwater model used in completing this analysis is the best available scientific tool that can be used to meet the stated objectives. To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

“Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results.”

A key aspect of using the groundwater model to evaluate historic groundwater flow conditions includes the assumptions about the location in the aquifer where historic pumping was placed. Understanding the amount and location of historic pumping is as important as evaluating the volume of groundwater flow into and out of the district, between aquifers within the district (as applicable), interactions with surface water (as applicable), recharge to the aquifer system (as applicable), and other metrics that describe the impacts of that pumping. In addition, assumptions regarding precipitation, recharge, and streamflow are specific to a particular historic time period.

Because the application of the groundwater model was designed to address regional scale questions, the results are most effective on a regional scale. The TWDB makes no warranties or representations relating to the actual conditions of any aquifer at a particular location or at a particular time.

It is important for groundwater conservation districts to monitor groundwater pumping and groundwater levels in the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future. Historic precipitation patterns also need to be placed in context as future climatic conditions, such as dry and wet year precipitation patterns, may differ and affect groundwater flow conditions.

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Appendix A

Comparison between Desired Future Conditions and Simulated Drawdowns for the Trinity and Woodbine Aquifers

Drawdown values for the Trinity and Woodbine aquifers between 2009 and 2080 were based on the simulated water level values at individual model cells extracted from predictive simulation water level file submitted by Groundwater Management Area 8.

The Paluxy, Glen Rose, Twin Mountains, Travis Peak, Hensell, Hosston, and Antlers are subunits of the Trinity Aquifer. These subunits and Woodbine Aquifer exist in both outcrop and downdip areas (Figures 1 through 8). Kelley and others (2014) further divided these aquifers into five (5) regions, each with unique aquifer combinations and properties (table below and Figures 1 through 8).

Model Layer	Region 1	Region 2	Region 3	Region 4	Region 5	
2	Woodbine			Woodbine (no sand)		
3	Washita/Fredericksburg					
4	Antlers	Paluxy			Paluxy (no sand)	
5		Glen Rose				
6		Twin Mountains	Travis Peak	Hensell	Travis Peak	Hensell
7				Pearsall/Sligo		Pearsall/Sligo
8				Hosston		Hosston

Vertically, the Trinity and Woodbine aquifers could contain multiple model layers and some of the model cells are pass-through cells with a thickness of one foot. To account for variable model cells from multiple model layers for the same aquifer, Groundwater Management Area 8 (2021) adopted a method presented by Van Kelley of INTERA, Inc., which calculated a single composite water level from multiple model cells with each adjusted by transmissivity. This composite water level took both the water level and hydraulic transmissivity at each cell into calculation, as shown in the following equation:

$$H_c = \frac{\sum_{i=UL}^{LL} T_i H_i}{\sum_{i=UL}^{LL} T_i}$$

Where:

H_c = Composite Water Level (feet above mean sea level)

T_i = Transmissivity of model layer i (square feet per day)

H_i = Water Level of model layer i (feet above mean sea level)

LL = Lowest model layer representing the regional aquifer

UL = Uppermost model layer representing the regional aquifer.

Note that multiple model layers can represent a single aquifer or subunit, so the aquifer or subunit designation should be determined by the IBOUND value of a model cell rather than the model layer. When a model cell goes dry, the water level was set to the cell bottom. However, if an aquifer completely goes dry, TWDB assigns the bottom elevation from the lowest model cell of the aquifer to the composite water level.

The average water level for the same aquifer in a county (*Hc_County*) was then calculated using the following equation:

$$Hc_County = \frac{\sum_{i=1}^n Hc_i}{n}$$

Where:

Hc_County = Average composite water level for a county (feet above mean sea level)

Hc_i = Composite Water Level at a lateral location as defined in last step (feet above mean sea level)

n = Total lateral (row, column) locations of an aquifer in a county.

Drawdown of the aquifer in a county (*DD_County*) was calculated using the following equation:

$$DD_County = Hc_County_{2009} - Hc_County_{2080}$$

Where:

Hc_County₂₀₀₉ = Average water level of an aquifer in a county in 2009 as defined above (feet above mean sea level)

Hc_County₂₀₈₀ = Average water level of an aquifer in a county in 2080 as defined above (feet above mean sea level).

If an aquifer went dry in 2009, that lateral location was excluded from the calculation.

In comparison with a simple average calculation based on total model cell count, use of composite water level gives less weight to cells with lower transmissivity values (such as pass-through cells, cells with low saturation in outcrop area, or cells with lower hydraulic conductivity) in water level and drawdown calculation.

Per Groundwater Management Area 8, a desired future condition was met if the simulated drawdown was within five percent or five feet of the desired future condition. Using the water level output file submitted by Groundwater Management Area 8 and the method described above, the TWDB calculated the drawdowns and then compared with the correlated desired future conditions. The comparisons are presented in Tables A1, A2, A3, and A4. The comparison indicates that the predictive simulation meets the desired future conditions of the Trinity and Woodbine aquifers in Groundwater Management Area 8.

TABLE A1. COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY GROUNDWATER CONSERVATION DISTRICT (GCD), EXCLUDING UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

GCD	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Central Texas GCD	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	2	2	No
	Twin Mountains	—	—	—
	Travis Peak	19	11	No
	Hensell	7	9	No
	Hosston	21	21	No
	Antlers	—	—	—
Clearwater UWCD	Woodbine	—	—	—
	Paluxy	17	18	No
	Glen Rose	83	83	No
	Twin Mountains	—	—	—
	Travis Peak	333	333	No
	Hensell	145	145	No
	Hosston	375	375	No
	Antlers	—	—	—
Middle Trinity GCD	Woodbine	—	—	—
	Paluxy	5	7	No
	Glen Rose	29	29	No
	Twin Mountains	8	6	No
	Travis Peak	98	98	No
	Hensell	77	77	No
	Hosston	124	124	No
	Antlers	12	12	No
North Texas GCD	Woodbine	263	263	No
	Paluxy	690	690	No
	Glen Rose	366	366	No
	Twin Mountains	601	601	No
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	305	296	No

TABLE A1 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY GROUNDWATER CONSERVATION DISTRICT (GCD), EXCLUDING UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

GCD	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Northern Trinity GCD	Woodbine	6	6	No
	Paluxy	105	105	No
	Glen Rose	163	163	No
	Twin Mountains	348	232	No
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	177	83	No
Post Oak Savannah GCD	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	241	241	No
	Twin Mountains	—	—	—
	Travis Peak	412	412	No
	Hensell	261	261	No
	Hosston	412	412	No
	Antlers	—	—	—
Prairielands GCD	Woodbine	44	44	No
	Paluxy	44	46	No
	Glen Rose	142	142	No
	Twin Mountains	170	46	No
	Travis Peak	323	311	No
	Hensell	201	207	No
	Hosston	364	369	No
	Antlers	—	—	—
Red River GCD	Woodbine	209	211	No
	Paluxy	830	720	No
	Glen Rose	335	308	No
	Twin Mountains	405	405	No
	Travis Peak	291	291	No
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	321	321	No
Saratoga UWCD	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	1	1	No
	Twin Mountains	—	—	—
	Travis Peak	6	6	No
	Hensell	1	2	No
	Hosston	11	12	No
	Antlers	—	—	—

TABLE A1 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY GROUNDWATER CONSERVATION DISTRICT (GCD), EXCLUDING UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

GCD	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Southern Trinity GCD	Woodbine	6	6	No
	Paluxy	41	41	No
	Glen Rose	148	148	No
	Twin Mountains	—	—	—
	Travis Peak	504	499	No
	Hensell	242	242	No
	Hosston	582	582	No
	Antlers	—	—	—

TABLE A2. COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS FOR UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

GCD	Portion	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Upper Trinity GCD	outcrop	Woodbine	—	—	—
		Paluxy	6	6	No
		Glen Rose	15	14	No
		Twin Mountains	10	6	No
		Travis Peak	—	—	—
		Hensell	—	—	—
		Hosston	—	—	—
		Antlers	47	16	No
Upper Trinity GCD	subcrop	Woodbine	—	—	—
		Paluxy	2	2	No
		Glen Rose	45	49	No
		Twin Mountains	70	46	No
		Travis Peak	—	—	—
		Hensell	—	—	—
		Hosston	—	—	—
		Antlers	154	92	No

TABLE A3. COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Bell	Woodbine	—	—	—
	Paluxy	17	18.46	No
	Glen Rose	83	82.74	No
	Twin Mountains	—	—	—
	Travis Peak	333	332.79	No
	Hensell	145	144.73	No
	Hosston	375	374.76	No
Bosque	Antlers	—	—	—
	Woodbine	—	—	—
	Paluxy	6	6.78	No
	Glen Rose	53	53.38	No
	Twin Mountains	—	—	—
	Travis Peak	189	188.88	No
	Hensell	139	139.01	No
Brown	Hosston	232	232.23	No
	Antlers	—	—	—
	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	1	1.9	No
	Twin Mountains	—	—	—
	Travis Peak	2	1.23	No
Burnet	Hensell	1	1.14	No
	Hosston	1	1.3	No
	Antlers	2	2.56	No
	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	2	2.39	No
	Twin Mountains	—	—	—
Callahan	Travis Peak	19	10.76	No
	Hensell	7	8.89	No
	Hosston	21	21.2	No
	Antlers	—	—	—
	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	—	—	—
	Twin Mountains	—	—	—
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	1	1.38	No

TABLE A3 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Collin	Woodbine	482	481.88	No
	Paluxy	729	728.64	No
	Glen Rose	366	365.79	No
	Twin Mountains	560	559.87	No
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	596	583.45	No
Comanche	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	2	1.44	No
	Twin Mountains	—	—	—
	Travis Peak	4	2.4	No
	Hensell	2	1.76	No
	Hosston	3	2.86	No
	Antlers	12	12.08	No
Cooke	Woodbine	2	2.41	No
	Paluxy	—	—	—
	Glen Rose	—	—	—
	Twin Mountains	—	—	—
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	191	178.36	No
Coryell	Woodbine	—	—	—
	Paluxy	5	7.5	No
	Glen Rose	15	15.37	No
	Twin Mountains	—	—	—
	Travis Peak	107	107.32	No
	Hensell	70	70.02	No
	Hosston	141	140.6	No
	Antlers	—	—	—
Dallas	Woodbine	137	137.41	No
	Paluxy	346	345.58	No
	Glen Rose	288	288.24	No
	Twin Mountains	515	515.09	No
	Travis Peak	415	414.61	No
	Hensell	362	361.55	No
	Hosston	419	418.84	No
	Antlers	—	—	—

TABLE A3 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Delta	Woodbine	—	—	—
	Paluxy	279	278.97	No
	Glen Rose	198	197.8	No
	Twin Mountains	—	—	—
	Travis Peak	202	202.1	No
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	—	—	—
Denton	Woodbine	22	20.37	No
	Paluxy	558	557.89	No
	Glen Rose	367	367.03	No
	Twin Mountains	752	742.97	No
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	416	404.5	No
Eastland	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	—	—	—
	Twin Mountains	—	—	—
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	4	4.11	No
Ellis	Woodbine	76	76.07	No
	Paluxy	128	127.51	No
	Glen Rose	220	220.03	No
	Twin Mountains	413	413.29	No
	Travis Peak	380	380.25	No
	Hensell	290	290.49	No
	Hosston	390	390.34	No
	Antlers	—	—	—
Erath	Woodbine	—	—	—
	Paluxy	6	1.01	No
	Glen Rose	6	5.07	No
	Twin Mountains	8	6.4	No
	Travis Peak	25	20.18	No
	Hensell	12	11.45	No
	Hosston	35	35	No
	Antlers	14	13.56	No

TABLE A3 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Falls	Woodbine	—	—	—
	Paluxy	159	159.35	No
	Glen Rose	238	238.09	No
	Twin Mountains	—	—	—
	Travis Peak	505	504.77	No
	Hensell	296	296.31	No
	Hosston	511	511.14	No
	Antlers	—	—	—
Fannin	Woodbine	259	259.23	No
	Paluxy	709	708.85	No
	Glen Rose	305	305.1	No
	Twin Mountains	400	400.17	No
	Travis Peak	291	291.45	No
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	269	268.98	No
Grayson	Woodbine	163	162.86	No
	Paluxy	943	942.74	No
	Glen Rose	364	363.85	No
	Twin Mountains	445	445.2	No
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	364	363	No
Hamilton	Woodbine	—	—	—
	Paluxy	2	2.77	No
	Glen Rose	4	4.25	No
	Twin Mountains	—	—	—
	Travis Peak	26	25.93	No
	Hensell	14	13.99	No
	Hosston	38	38.2	No
	Antlers	—	—	—
Hill	Woodbine	20	19.71	No
	Paluxy	45	44.9	No
	Glen Rose	149	148.93	No
	Twin Mountains	—	—	—
	Travis Peak	365	364.39	No
	Hensell	211	211.07	No
	Hosston	413	412.6	No
	Antlers	—	—	—

TABLE A3 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Hunt	Woodbine	631	630.96	No
	Paluxy	610	610.15	No
	Glen Rose	326	326.15	No
	Twin Mountains	399	398.85	No
	Travis Peak	350	349.84	No
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	—	—	—
Johnson	Woodbine	4	3.55	No
	Paluxy	-57	-57.56	No
	Glen Rose	66	65.87	No
	Twin Mountains	184	33.24	No
	Travis Peak	235	178.04	No
	Hensell	120	120.41	No
	Hosston	329	329.41	No
	Antlers	—	—	—
Kaufman	Woodbine	242	241.7	No
	Paluxy	311	311.43	No
	Glen Rose	305	304.98	No
	Twin Mountains	427	427	No
	Travis Peak	372	371.84	No
	Hensell	349	348.53	No
	Hosston	345	344.74	No
	Antlers	—	—	—
Lamar	Woodbine	42	42.07	No
	Paluxy	100	100.09	No
	Glen Rose	107	106.9	No
	Twin Mountains	—	—	—
	Travis Peak	125	124.5	No
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	132	132.31	No
Lampasas	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	1	1.22	No
	Twin Mountains	—	—	—
	Travis Peak	6	6.31	No
	Hensell	1	1.56	No
	Hosston	11	11.64	No
	Antlers	—	—	—

TABLE A3 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Limestone	Woodbine	—	—	—
	Paluxy	199	198.7	No
	Glen Rose	301	300.8	No
	Twin Mountains	—	—	—
	Travis Peak	433	433.11	No
	Hensell	214	214.2	No
	Hosston	445	444.63	No
	Antlers	—	—	—
McLennan	Woodbine	6	6.49	No
	Paluxy	41	41.02	No
	Glen Rose	148	147.65	No
	Twin Mountains	—	—	—
	Travis Peak	504	498.88	No
	Hensell	242	242.36	No
	Hosston	582	581.81	No
	Antlers	—	—	—
Milam	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	241	240.72	No
	Twin Mountains	—	—	—
	Travis Peak	412	411.52	No
	Hensell	261	260.7	No
	Hosston	412	412.3	No
	Antlers	—	—	—
Mills	Woodbine	—	—	—
	Paluxy	1	0.64	No
	Glen Rose	1	1.2	No
	Twin Mountains	—	—	—
	Travis Peak	9	7.36	No
	Hensell	2	2.16	No
	Hosston	13	13.67	No
	Antlers	—	—	—
Navarro	Woodbine	110	110.34	No
	Paluxy	139	139.22	No
	Glen Rose	266	265.96	No
	Twin Mountains	—	—	—
	Travis Peak	343	343.14	No
	Hensell	295	295.18	No
	Hosston	343	343.41	No
	Antlers	—	—	—

TABLE A3 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Red River	Woodbine	2	2.28	No
	Paluxy	24	23.74	No
	Glen Rose	40	39.58	No
	Twin Mountains	—	—	—
	Travis Peak	57	56.88	No
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	15	14.51	No
Rockwall	Woodbine	275	274.86	No
	Paluxy	433	432.69	No
	Glen Rose	343	342.57	No
	Twin Mountains	466	466.49	No
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	—	—	—
Somervell	Woodbine	—	—	—
	Paluxy	4	1.62	No
	Glen Rose	4	4.45	No
	Twin Mountains	50	50.27	No
	Travis Peak	64	64.26	No
	Hensell	17	16.57	No
	Hosston	120	120.22	No
	Antlers	—	—	—
Tarrant	Woodbine	6	6.41	No
	Paluxy	105	105.14	No
	Glen Rose	163	163.16	No
	Twin Mountains	348	231.93	No
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	177	83.43	No
Taylor	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	—	—	—
	Twin Mountains	—	—	—
	Travis Peak	—	—	—
	Hensell	—	—	—
	Hosston	—	—	—
	Antlers	0	0.26	No

TABLE A3 (CONT). COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY, EXCLUDING COUNTIES IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Travis	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	90	89.73	No
	Twin Mountains	—	—	—
	Travis Peak	219	215.69	No
	Hensell	68	69.19	No
	Hosston	226	224.15	No
	Antlers	—	—	—
Williamson	Woodbine	—	—	—
	Paluxy	—	—	—
	Glen Rose	78	79.23	No
	Twin Mountains	—	—	—
	Travis Peak	220	220.43	No
	Hensell	89	90.6	No
	Hosston	225	225.78	No
	Antlers	—	—	—

TABLE A4. COMPARISON BETWEEN DRAWDOWN AND DESIRED FUTURE CONDITIONS BY COUNTY IN UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT.

County	Portion	Aquifer	Desired Future Condition (feet of drawdown between January 1, 2010 and December 31, 2080)	Simulated Drawdown between Initial Water Levels and Stress Period 71 (feet)	Is Desired Future Condition Violated (Exceeded by 5 feet and 5%)?
Hood	outcrop	Antlers	—	—	—
		Paluxy	6	5.68	No
		Glen Rose	9	9.41	No
		Twin Mountains	13	8.14	No
	subcrop	Antlers	—	—	—
		Paluxy	—	—	—
		Glen Rose	39	39.41	No
		Twin Mountains	72	20.57	No
Montague	outcrop	Antlers	40	20.37	No
		Paluxy	—	—	—
		Glen Rose	—	—	—
		Twin Mountains	—	—	—
	subcrop	Antlers	—	—	—
		Paluxy	—	—	—
		Glen Rose	—	—	—
		Twin Mountains	—	—	—
Parker	outcrop	Antlers	42	8.76	No
		Paluxy	6	5.69	No
		Glen Rose	20	20.06	No
		Twin Mountains	7	2.42	No
	subcrop	Antlers	—	—	—
		Paluxy	2	1.81	No
		Glen Rose	50	50.41	No
		Twin Mountains	68	61.87	No
Wise	outcrop	Antlers	60	16.44	No
		Paluxy	—	—	—
		Glen Rose	—	—	—
		Twin Mountains	—	—	—
	subcrop	Antlers	154	92.38	No
		Paluxy	—	—	—
		Glen Rose	—	—	—
		Twin Mountains	—	—	—

Appendix B

Comparison between Desired Future Conditions and Drawdowns for the Marble Falls, Ellenburger-San Saba, and Hickory Aquifers in Brown, Burnet, Lampasas, and Mills Counties

The water level file from the predictive model output was used to calculate the drawdown (D) within the modeled extent for each aquifer between 2009 and 2080 using the following equation:

$$D = \frac{\sum_{i=1}^n (h_{2009_i} - h_{2080_i})}{n}$$

Where:

n = Total model cells in a county

h_{2009_i} = Water level of 2009 at model cell i (feet)

h_{2080_i} = Water level of 2080 at model cell i (feet)

Model cells with water level values below the cell bottom in 2009 were excluded from the calculation. Also, water level was set at the cell bottom if it fell below the cell bottom in 2080.

The comparison between the simulated drawdowns and the desired future conditions is presented in Table B1. The comparison indicates that the predictive simulation meets the desired future conditions of the Marble Falls, Ellenburger-San Saba, and Hickory aquifers in Brown, Burnet, Lampasas, and Mills counties.

TABLE B1. COMPARISON BETWEEN SIMULATED REMAINING AQUIFER SATURATED THICKNESS AND DESIRED FUTURE CONDITIONS OF MARBLE FALLS, ELLENBURGER-SAN SABA, AND HICKORY AQUIFERS IN BROWN, BURNET, LAMPASAS, AND MILLS COUNTIES.

County	Aquifer	Desired Future Condition (feet of drawdown between 2009 and 2080)	Simulated Drawdown between 2009 and 2080 (feet)	Is Desired Future Condition Violated?
Brown	Marble Falls	3	3	no
	Ellenburger-San Saba	3	3	no
	Hickory	3	3	no
Burnet	Marble Falls	11	11	no
	Ellenburger-San Saba	12	9	no
	Hickory	11	11	no
Lampasas	Marble Falls	16	16	no
	Ellenburger-San Saba	16	16	no
	Hickory	16	16	no
Mills	Marble Falls	9	9	no
	Ellenburger-San Saba	9	9	no
	Hickory	9	9	no

Appendix C

Summary of Dry Model Cell Count for the Trinity, Woodbine, Marble Falls, Ellenburger-San Saba, and Hickory Aquifers

TABLE C1. SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Bell	Paluxy	2009	1,767	0
		2080	1,767	0
	Glen Rose	2009	23,737	0
		2080	23,737	8
	Hensell	2009	17,390	0
		2080	17,390	0
	Hosston	2009	17,390	0
		2080	17,390	0
Bosque	Travis Peak	2009	52,170	0
		2080	52,170	0
	Paluxy	2009	13,818	0
		2080	13,818	0
	Glen Rose	2009	22,360	0
		2080	22,360	0
	Hensell	2009	16,034	0
		2080	16,034	0
Brown	Hosston	2009	16,034	0
		2080	16,034	0
	Travis Peak	2009	48,102	0
		2080	48,102	0
	Glen Rose	2009	36	0
		2080	36	0
	Hensell	2009	1,608	0
		2080	1,608	0
	Hosston	2009	10,258	0
		2080	10,258	0
	Travis Peak	2009	15,847	0
		2080	15,847	0
	Antlers	2009	12,354	0
		2080	12,354	0

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Burnet	Glen Rose	2009	22,534	0
		2080	22,534	0
	Hensell	2009	12,332	0
		2080	12,332	0
	Hosston	2009	22,320	217
		2080	22,320	765
	Travis Peak	2009	44,433	217
		2080	44,433	828
Callahan	Antlers	2009	34,576	0
		2080	34,576	0
Collin	Woodbine	2009	11,762	0
		2080	11,762	2
	Paluxy	2009	12,062	0
		2080	12,062	319
	Glen Rose	2009	12,062	0
		2080	12,062	0
	Twin Mountains	2009	36,186	0
		2080	36,186	0
	Antlers	2009	7,055	0
		2080	7,055	172
Comanche	Glen Rose	2009	1,440	0
		2080	1,440	0
	Hensell	2009	22,362	0
		2080	22,362	0
	Hosston	2009	41,062	0
		2080	41,062	353
	Travis Peak	2009	78,137	0
		2080	78,137	353
	Antlers	2009	23,711	123
		2080	23,711	3,149
Cooke	Woodbine	2009	5,700	0
		2080	5,700	26
	Antlers	2009	77,047	0
		2080	77,047	839

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Coryell	Paluxy	2009	6,512	0
		2080	6,512	0
	Glen Rose	2009	41,647	11
		2080	41,647	25
	Hensell	2009	16,914	0
		2080	16,914	0
	Hosston	2009	16,914	0
		2080	16,914	0
Dallas	Travis Peak	2009	50,742	0
		2080	50,742	0
	Woodbine	2009	14,152	0
		2080	14,152	0
	Paluxy	2009	14,532	0
		2080	14,532	10
	Glen Rose	2009	14,532	0
		2080	14,532	0
	Hensell	2009	80	0
		2080	80	0
	Hosston	2009	80	0
		2080	80	0
	Twin Mountains	2009	43,353	0
		2080	43,353	0
	Travis Peak	2009	243	0
		2080	243	0
Delta	Paluxy	2009	1,217	0
		2080	1,217	0
	Glen Rose	2009	1,217	0
		2080	1,217	0
	Travis Peak	2009	3,651	0
		2080	3,651	0

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Denton	Woodbine	2009	11,991	3
		2080	11,991	10
	Paluxy	2009	3,520	0
		2080	3,520	2,115
	Glen Rose	2009	3,520	0
		2080	3,520	0
	Twin Mountains	2009	10,560	0
		2080	10,560	84
	Antlers	2009	59,107	0
		2080	59,107	5,738
Eastland	Antlers	2009	44,009	74
		2080	44,009	1,116
Ellis	Woodbine	2009	14,207	0
		2080	14,207	0
	Paluxy	2009	15,173	0
		2080	15,173	0
	Glen Rose	2009	15,209	0
		2080	15,209	0
	Hensell	2009	15,120	0
		2080	15,120	0
	Hosston	2009	15,120	0
		2080	15,120	0
	Twin Mountains	2009	225	0
		2080	225	0
	Travis Peak	2009	45,402	0
		2080	45,402	0

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Erath	Paluxy	2009	1,443	0
		2080	1,443	0
	Glen Rose	2009	20,905	0
		2080	20,905	32
	Hensell	2009	21,880	0
		2080	21,880	83
	Hosston	2009	8,464	0
		2080	8,464	372
	Twin Mountains	2009	46,114	20
		2080	46,114	286
	Travis Peak	2009	39,220	0
		2080	39,220	1,006
Falls	Paluxy	2009	8,983	0
		2080	8,983	962
	Paluxy	2009	1,439	0
		2080	1,439	0
	Glen Rose	2009	5,840	0
		2080	5,840	0
	Hensell	2009	5,840	0
		2080	5,840	0
	Hosston	2009	5,840	0
		2080	5,840	0
	Travis Peak	2009	17,520	0
		2080	17,520	0
Fannin	Woodbine	2009	15,443	3
		2080	15,443	60
	Paluxy	2009	1,582	0
		2080	1,582	0
	Glen Rose	2009	1,582	0
		2080	1,582	0
	Twin Mountains	2009	1,758	0
		2080	1,758	0
	Travis Peak	2009	2,988	0
		2080	2,988	0
	Antlers	2009	63,730	0
		2080	63,730	0

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Grayson	Woodbine	2009	17,911	2
		2080	17,911	58
	Paluxy	2009	77	0
		2080	77	0
	Glen Rose	2009	77	0
		2080	77	0
	Twin Mountains	2009	231	0
		2080	231	0
	Antlers	2009	77,954	0
		2080	77,954	327
Hamilton	Paluxy	2009	1,897	0
		2080	1,897	0
	Glen Rose	2009	36,944	0
		2080	36,944	13
	Hensell	2009	16,890	0
		2080	16,890	0
	Hosston	2009	13,373	0
		2080	13,373	0
	Travis Peak	2009	43,636	0
		2080	43,636	0
Hill	Woodbine	2009	12,602	0
		2080	12,602	0
	Paluxy	2009	15,648	0
		2080	15,648	0
	Glen Rose	2009	15,766	0
		2080	15,766	0
	Hensell	2009	15,766	0
		2080	15,766	0
	Hosston	2009	15,766	0
		2080	15,766	0
	Travis Peak	2009	47,298	0
		2080	47,298	157

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Hood	Paluxy	2009	434	0
		2080	434	0
	Glen Rose	2009	14,461	0
		2080	14,461	74
	Hensell	2009	117	0
		2080	117	0
	Hosston	2009	117	0
		2080	117	5
	Twin Mountains	2009	37,444	0
		2080	37,444	1,710
Hunt	Travis Peak	2009	351	0
		2080	351	5
	Woodbine	2009	2,193	0
		2080	2,193	0
	Paluxy	2009	1,362	0
		2080	1,362	0
	Glen Rose	2009	1,362	0
		2080	1,362	0
	Twin Mountains	2009	492	0
		2080	492	0
Johnson	Travis Peak	2009	3,594	0
		2080	3,594	0
	Woodbine	2009	8,407	14
		2080	8,407	68
	Paluxy	2009	11,627	17
		2080	11,627	0
	Glen Rose	2009	12,342	15
		2080	12,342	37
	Hensell	2009	9,462	0
		2080	9,462	0
	Hosston	2009	9,462	0
		2080	9,462	1,278
	Twin Mountains	2009	6,816	0
		2080	6,816	1,836
	Travis Peak	2009	28,386	0
		2080	28,386	1,278

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Kaufman	Woodbine	2009	1,616	0
		2080	1,616	0
	Paluxy	2009	1,321	0
		2080	1,321	0
	Glen Rose	2009	1,331	0
		2080	1,331	0
	Hensell	2009	82	0
		2080	82	0
	Hosston	2009	82	0
		2080	82	0
	Twin Mountains	2009	960	0
		2080	960	0
Lamar	Travis Peak	2009	3,033	0
		2080	3,033	0
	Woodbine	2009	9,839	0
		2080	9,839	0
	Paluxy	2009	12,260	0
		2080	12,260	0
	Glen Rose	2009	12,260	0
		2080	12,260	0
	Travis Peak	2009	36,780	0
		2080	36,780	0
Lampasas	Antlers	2009	7,995	0
		2080	7,995	0
	Glen Rose	2009	8,692	0
		2080	8,692	0
	Hensell	2009	25,364	1
		2080	25,364	1
	Hosston	2009	23,100	0
		2080	23,100	0
	Travis Peak	2009	62,529	1
		2080	62,529	1

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Limestone	Paluxy	2009	962	0
		2080	962	0
	Glen Rose	2009	1,760	0
		2080	1,760	0
	Hensell	2009	1,760	0
		2080	1,760	0
	Hosston	2009	1,760	0
		2080	1,760	0
McLennan	Travis Peak	2009	5,280	0
		2080	5,280	0
	Woodbine	2009	1,909	0
		2080	1,909	0
	Paluxy	2009	16,952	0
		2080	16,952	0
	Glen Rose	2009	16,991	0
		2080	16,991	0
	Hensell	2009	16,991	0
		2080	16,991	0
	Hosston	2009	16,991	0
		2080	16,991	16
Milam	Travis Peak	2009	50,973	0
		2080	50,973	16
	Glen Rose	2009	2,579	0
		2080	2,579	0
	Hensell	2009	2,579	0
		2080	2,579	0
	Hosston	2009	2,579	0
		2080	2,579	0
	Travis Peak	2009	7,737	0
		2080	7,737	0

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Mills	Paluxy	2009	936	0
		2080	936	0
	Glen Rose	2009	10,615	0
		2080	10,615	2
	Hensell	2009	18,539	0
		2080	18,539	0
	Hosston	2009	14,226	0
		2080	14,226	0
	Travis Peak	2009	42,934	0
		2080	42,934	0
Montague	Antlers	2009	52,693	0
		2080	52,693	417
Navarro	Woodbine	2009	1,578	0
		2080	1,578	0
	Paluxy	2009	1,755	0
		2080	1,755	0
	Glen Rose	2009	6,326	0
		2080	6,326	0
	Hensell	2009	6,326	0
		2080	6,326	0
	Hosston	2009	6,326	0
		2080	6,326	0
	Travis Peak	2009	18,978	0
		2080	18,978	0
Parker	Paluxy	2009	5,637	0
		2080	5,637	0
	Glen Rose	2009	11,389	8
		2080	11,389	753
	Twin Mountains	2009	30,326	0
		2080	30,326	223
	Antlers	2009	40,600	0
		2080	40,600	435

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Red River	Woodbine	2009	4,222	0
		2080	4,222	0
	Paluxy	2009	8,494	0
		2080	8,494	0
	Glen Rose	2009	8,494	0
		2080	8,494	0
	Travis Peak	2009	25,482	0
		2080	25,482	0
	Antlers	2009	1,065	0
		2080	1,065	0
Rockwall	Woodbine	2009	33	0
		2080	33	0
	Paluxy	2009	711	0
		2080	711	0
	Glen Rose	2009	711	0
		2080	711	0
	Twin Mountains	2009	2,133	0
		2080	2,133	0
Somervell	Paluxy	2009	851	0
		2080	851	0
	Glen Rose	2009	11,274	0
		2080	11,274	0
	Hensell	2009	3,045	0
		2080	3,045	0
	Hosston	2009	2,640	0
		2080	2,640	0
	Twin Mountains	2009	1,660	0
		2080	1,660	0
	Travis Peak	2009	8,325	0
		2080	8,325	0

TABLE C1 (CONT). SUMMARY OF DRY MODEL CELLS FOR TRINITY AND WOODBINE AQUIFERS FROM PREDICTIVE SIMULATION.

County	Aquifer	Year	Total Aquifer Cells	Dry Cells
Tarrant	Woodbine	2009	8,901	2
		2080	8,901	3
	Paluxy	2009	15,389	3
		2080	15,389	1,926
	Glen Rose	2009	13,571	0
		2080	13,571	0
	Twin Mountains	2009	40,713	0
		2080	40,713	6,065
	Antlers	2009	5,009	0
		2080	5,009	1,033
Taylor	Antlers	2009	6,176	0
		2080	6,176	0
Travis	Glen Rose	2009	14,314	25
		2080	14,314	0
	Hensell	2009	11,310	0
		2080	11,310	0
	Hosston	2009	9,400	57
		2080	9,400	123
	Travis Peak	2009	30,124	57
		2080	30,124	124
Williamson	Glen Rose	2009	24,271	0
		2080	24,271	0
	Hensell	2009	17,454	0
		2080	17,454	0
	Hosston	2009	17,454	0
		2080	17,454	0
	Travis Peak	2009	52,362	0
		2080	52,362	0
Wise	Antlers	2009	90,469	0
		2080	90,469	3,563

TABLE C2. SUMMARY OF DRY MODEL CELLS FOR MARBLE FALLS, ELLENBURGER-SAN SABA, AND HICKORY AQUIFERS IN BROWN, BURNET, LAMPASAS, AND MILLS COUNTIES FROM PREDICTIVE SIMULATION.

County	Aquifer	Active Cells	Dry Cells (2009)	Dry Cells (2080)
Brown	Marble Falls	1,635	0	0
	Ellenburger-San Saba	1,635	0	0
	Hickory	1,635	0	0
Burnet	Marble Falls	10,810	2,298	2,450
	Ellenburger-San Saba	13,618	709	851
	Hickory	14,334	111	131
Lampasas	Marble Falls	7,614	611	683
	Ellenburger-San Saba	7,895	0	0
	Hickory	7,895	0	0
Mills	Marble Falls	3,540	0	0
	Ellenburger-San Saba	3,540	0	0
	Hickory	3,540	0	0