

2022 ANNUAL REPORT



MIDDLE TRINITY

GROUNDWATER CONSERVATION DISTRICT



Contents

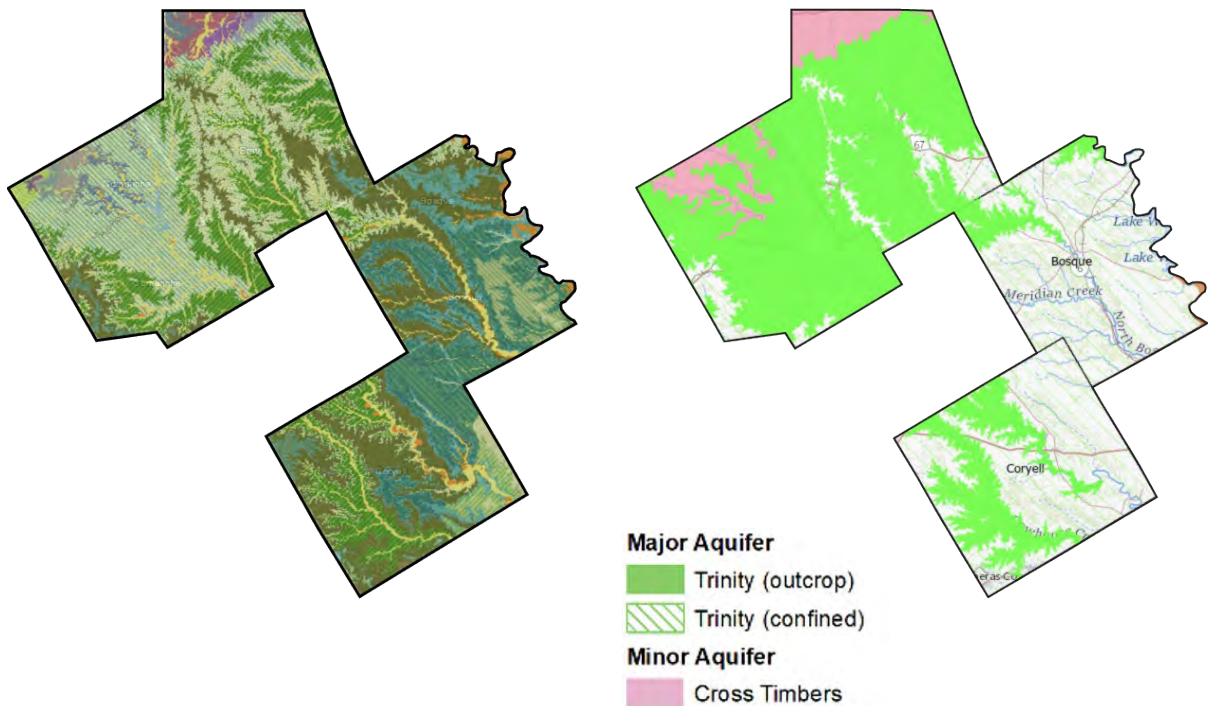
1. Introduction.....	3
2. Administrative Tasks	4
A. Contracts/Agreements.....	4
1. Technical Consulting Services	4
2. Legal Services	5
3. Other Services	5
B. Financial Items.....	5
1. Budget and Tax Rate	5
2. Financial Audit	7
C. District Rule Amendments	7
D. Board of Directors.....	8
1. District Officers	8
2. Meetings – FY 22 (Jan – Dec 2022)	8
E. Groundwater Management Plan	8
3. Groundwater Management Plan Requirements	9
A. Providing the Most Efficient Use of Groundwater	9
1. Well Registrations	9
2. Permitted Well Applications	9
3. Regulate Production of Groundwater by System of Permitting	10
4. Public Awareness	10
B. Controlling and Preventing Waste of Groundwater.....	11
1. Evaluation of District Rules	11
2. Information on Groundwater Waster Reduction	12
3. Well Plugging	12
4. Injection/Disposal Wells	12
5. Injection/Disposal Well Integrity Test	13
C. Addressing Conjunctive Surface Water Management Issues	13
D. Addressing Natural Resource Issues.....	14
E. Addressing Drought Conditions	15

1. Monitor Drought Conditions of the Trinity Aquifer.....	15
2. Palmer Drought Severity Index and Crop Moisture Index	16
F. Conservation, Recharge, Rainwater Harvesting, and Brush Control.....	20
1. Conservation	20
2. School Education Program	20
3. Informational Flier	20
4. Recharge Enhancement.....	21
5. Rainwater Harvesting.....	21
6. Brush Control.....	21
G. Addressing the Desired Future Conditions	21
1. Static Water Level – DFC Target	21
2. Total Wells – DFC Target.....	24
4. Summary	25

1. Introduction

The Middle Trinity Groundwater Conservation District (MTGCD) was created in 2001 pursuant to the authorization provided by the 77th Texas Legislature in House Bill 3665. 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. The District received a petition requesting the annexation of Bosque County to the territory on June 30, 2008, and the District Board of Directors 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. MTGCD fiscal year runs from January 1st through December 31st, while the tax year runs October 1st through September 30th. This report summarizes the accomplishments and activities of the District during FY22.

The District manages the groundwater resources from one major and one minor aquifer: the Trinity and the Cross Timber. 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. The Cross Timbers minor aquifer is located in the northern sections of both Comanche and Erath Counties.



The Trinity Aquifer is composed of 3 water bearing layers within the boundaries of the District. These layers are the Upper Trinity (Antlers/Paluxy/Glen Rose), Middle Trinity (Hensell, Pearsall), and Lower Trinity (Hosston). Other water bearing formations in the District are Alluvium, and Strawn Group (Cross Timbers).

2. Administrative Tasks

Administrative tasks include internal administrative activities necessary for a groundwater district to function effectively. Groundwater Management Plan requirements include the required tasks and activities identified in the District’s Groundwater Management Plan. Miscellaneous activities include other activities and programs that have been an integral part of the District but are not required by the Groundwater Management Plan.

A. Contracts/Agreements

1. Technical Consulting Services

Advanced Groundwater Solutions, LLC

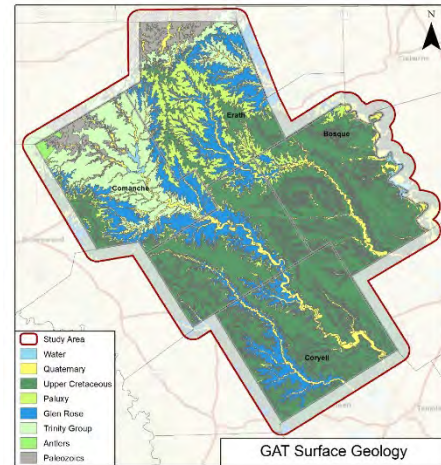
MTGCD has continued with a professional services contract for general consulting with Advanced Groundwater Solutions (AGS) that began in March 2021. General consulting includes review of: hydrogeologic reports and studies, District Rules, Management Plan, and assisting the District with GMA8.

LRE Water, LLC (3D Hydrostratigraphic Model)

MTGCD and LRE Water, LLC entered into a Master Service Agreement (MSA) on November 23, 2022, to perform services under Task Order #1. LRE Water, LLC has commenced in the development of a 3D stratigraphic model. In addition to the model, the District will receive a Technical Memorandum on the model, electronic copies of the model for viewing and analysis, and electronic copies of all data used to develop the 3D hydrostratigraphic model

Half Associates, Inc

Half Associates, Inc created and continues to manage the District’s online GIS website. This GIS platform allows the District web-based access to the entire database of wells that been complied through the years. All well information is available online to staff as well as the public. Some of the information available includes well latitude and longitude along with ground level elevation of the well head and total depth of the well. Half Associates has continued technical support and hosting of the District’s online GIS website through the end of 2022.



2. Legal Services

The District requests legal consulting services on an as-needed basis and utilizes Llyod Gosselink Rochelle & Townsend, P.C. (LGRT) for consultation. LGRT was the District’s sole advisor during FY22 which included the following issues:

- Research and guidance on permitting issues, spacing issues, rule interpretation, public hearing notices, meeting cancellation notices, conservation easements and topics allowed for discussion in closed session.
- Representation of groundwater districts at the Texas Water Conservation Association Groundwater Sub-Committee on Desired Future Conditions.

3. Other Services

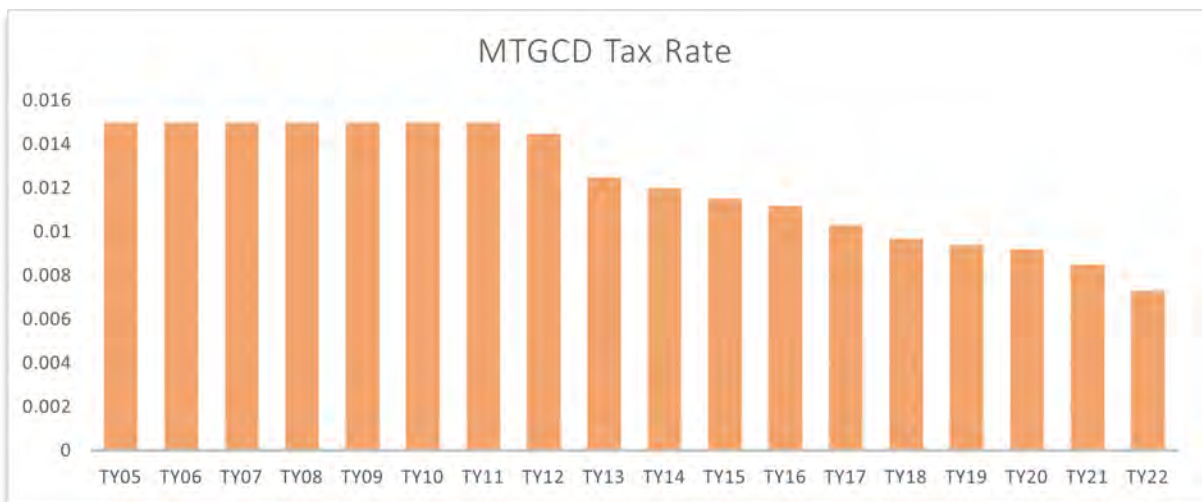
Boucher, Morgan, and Young, a P.C.

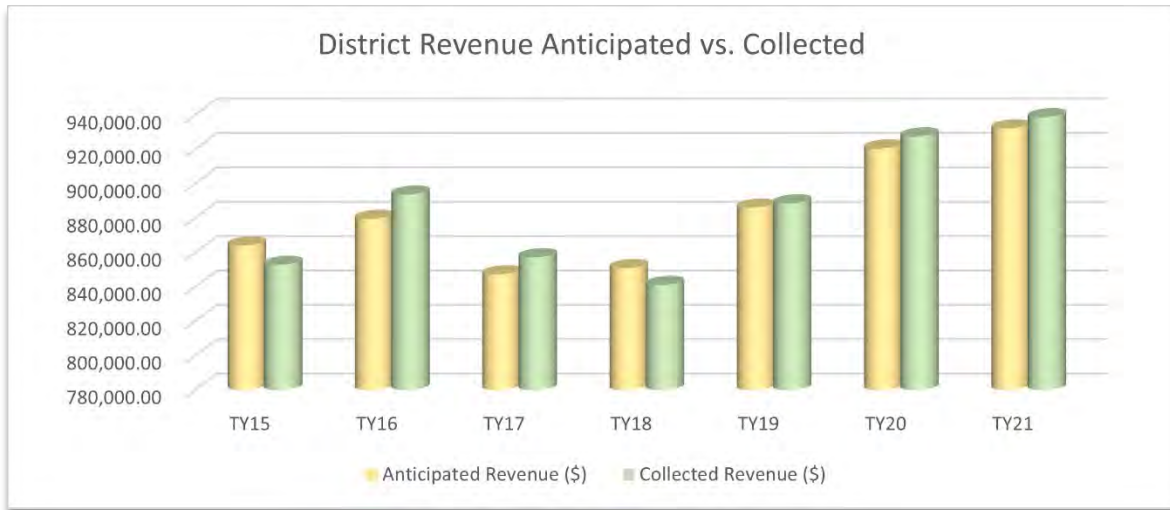
An annual audit of the District’s finances is required by Chapter 36.153 of the Texas Water Code to determine the financial condition of the district. Boucher, Morgan, and Young, P.C., Certified Public Accountants located in Stephenville, Texas provides the annual financial audit for the District. For more information, see section “B.2 Financial Audit” later in this report.

B. Financial Items

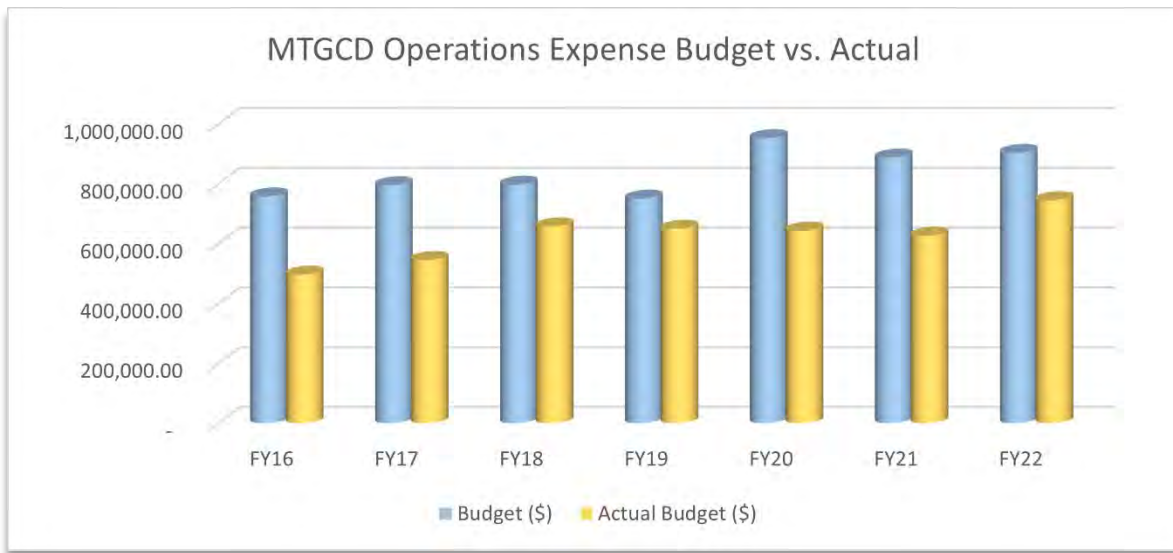
1. Budget and Tax Rate

The adopted tax rate for TY21 was \$0.0085/\$100 valuation. The adopted tax rate for TY22 is \$0.0073/\$100. The Board voted to lower the tax rate for the 11th consecutive year. Since the inception of the District, the Board has consistently lowered or kept the same tax rate since it began assessing taxes.

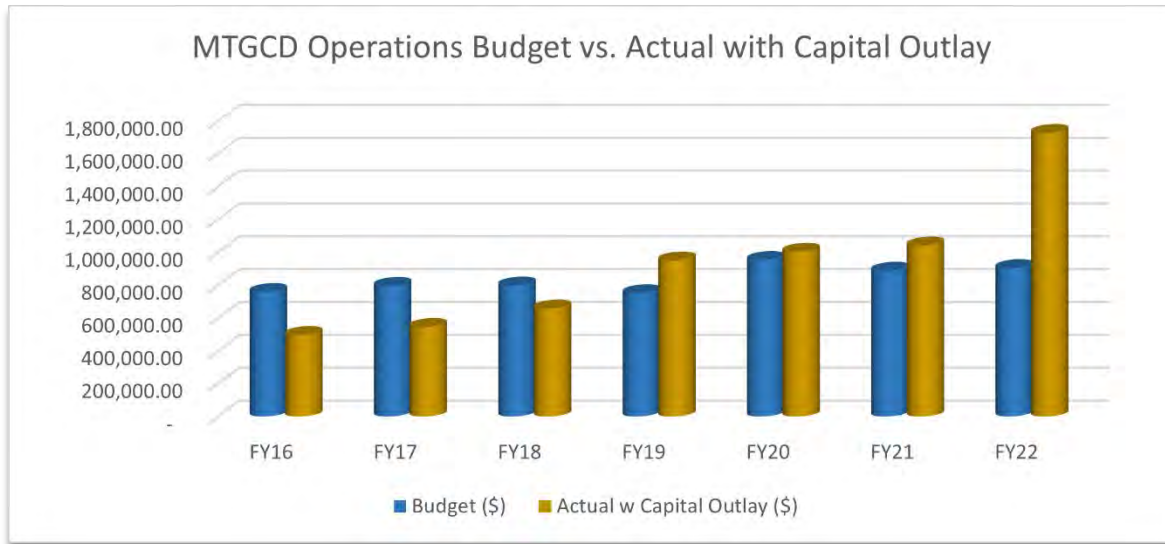




The budget for FY22 was \$903,742.20, actual income collected was \$938,633.02. Operation expenditures for FY22 were \$745,117.21.



Total expenditures with capital outlay included for FY22 were \$1,726,448.32. Capital outlay includes all monies going towards the construction of the Ditch Water Discovery Center, which totaled in FY22 at \$981,331.11.



The approved budget for FY22, along with the schedule of revenues and expenditures is attached as Appendix A.

Online: <https://www.middletrinitygcd.org/district-financials>

2. Financial Audit

An annual audit of the District’s finances is required by Chapter 36.153 of the Texas Water Code to determine the financial condition of the District. Boucher, Morgan, and Young, P.C. (BMY), Certified Public Accountant located in Stephenville, Texas provided the 2021 annual financial audit for the District. The audit began April 4th, and BMY concluded their audit and submitted their findings to the District in June 2022.

See Appendix B for FY21 Financial Audit.

Online: <https://www.middletrinitygcd.org/s/Audit-Report-2021.pdf>

C. District Rule Amendments

The Board of Directors last amended the District Rules in November 2021. The District has not addressed rules in the preceding years at this time, but does annually review the current rules for potential changes should legislative mandates occur and/or until scientific evidence validates a need for such changes in management, policy and application.

See our website for complete rules: <https://www.middletrinitygcd.org/s/MTGCD-Rules-Adopted-11042021-FINAL.pdf>

D. Board of Directors

1. District Officers

The Board of Directors, per District bylaws, elect officers annually at the first board meeting of the calendar year. The FY 2022 Officers are identified below, along with the office they held and the County they represent.

Rodney Stephens, President - Comanche
Barbara Domel, Vice President - Bosque
Fred Parker, Secretary - Erath

Charles Ferguson, Director - Bosque

Robert Payne, Director - Bosque

Shane Tucker, Director - Comanche

Frank Volleman, Director - Comanche

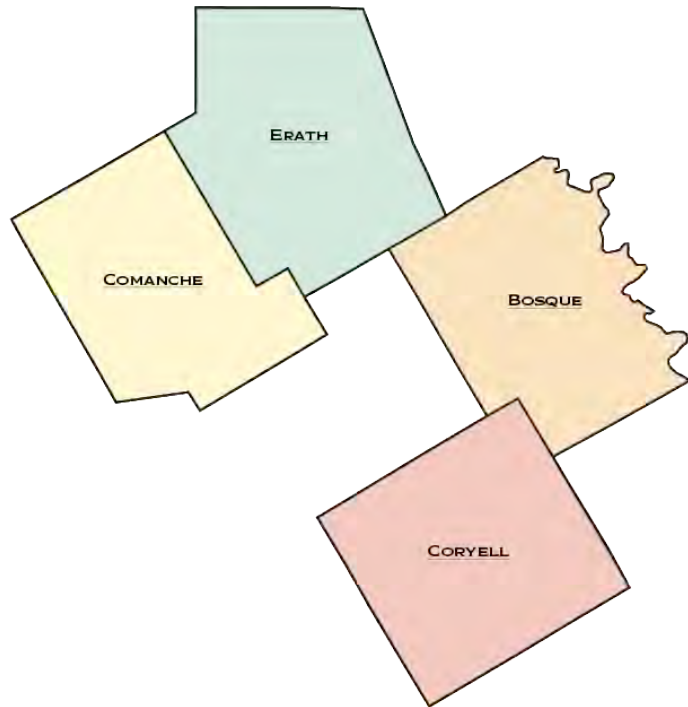
Gary Kafer, Director - Coryell

Kenneth Bullington, Director - Coryell

W.B. Maples, Director - Coryell

Joe Altebaumer, Director - Erath

Jerry Hinshaw, Director - Erath



2. Meetings – FY22 (Jan – Dec 2022)

The Board of Directors held 12 regular Board meetings and 1 Tax Hearing in FY 22. The regular Board meeting agendas included discussion and presentations on the topics listed below:

- Presentations on 3D Hydrostratigraphic Model by LRE Water, LLC
- Presentations by James Beach and AGS on well spacing/drawdown
- Conduct hearings on drilling and operating permits
- Updates on construction of education center

All board meeting agendas, minutes, and financial reports can be viewed online by visiting:
<https://www.middletrinitygcd.org/>

E. Groundwater Management Plan

Texas Water Code, Chapter 36.1071—36.1073, states the Groundwater Management Plan (GMP) must be reviewed and readopted every 5 years by all GCDs in Texas. The plan is then subject to approval by the Texas Water Development Board (TWDB). Middle Trinity’s initial

Management Plan was adopted by the District's Board of Directors on April 29, 2004 and was formally certified by TWDB on July 1, 2004.

Revisions are required every 5-years, even if simply updated with the new DFC's. During each revision, the proposed GMP must go through staff evaluation and minimum of one preliminary review by the TWDB. The previous GMP was amended to include the DFC/MAG revisions and was formally adopted by the Board of Directors on October 4, 2018, after the prescribed public hearing on the revised version and was approved by the TWDB on February 8, 2019.

The District was still required to review and update the current plan in 2022 and have it readopted by the TWDB prior to April 20, 2022. The District completed a full review and formally adopted the revised plan on June 2, 2022. Receiving final approval from TWDB July 27, 2022.

The District Groundwater Management Plan can be found on MTGCD's website at: <https://www.middletrinitygcd.org/s/2022-MTGCD-Management-Plan-Final-With-Appendix.pdf>

3. Groundwater Management Plan Requirements

A. Providing the Most Efficient Use of Groundwater

1. Well Registrations

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 District rules.

Objective Satisfied

During the calendar year 2022, 615 wells were registered with the District. Beginning this year, the District Staff has been conducting a robust search of all TWDB and TCEQ databases to identify wells that not been properly registered.

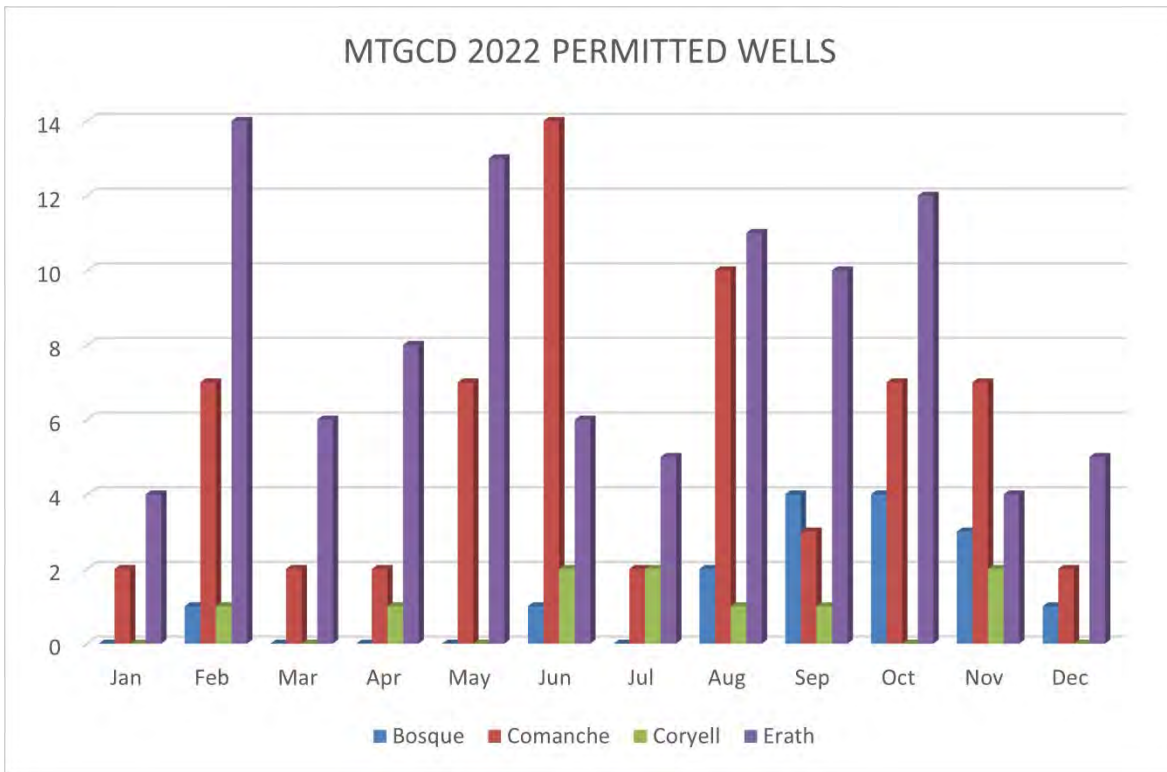
See Appendix C for Master Registration Table

2. Permitted Well Applications

Objective: The District will annually require all water wells subject to the District's permitting requirements to be permitted pursuant to the District Rules.

Objective Satisfied

Of the 615 wells registered in the District during 2022, 189 required Operating Permits. The table below shows how many Operating Permits were approved by County each month.



See Appendix D for Master Permitted Wells

3. Regulate Production of Groundwater by System of Permitting

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.

Objective Satisfied

A total of 189 permit applications have been processed by the District since January 1, 2022. All were for operating permits and permit applications received pursuant to the rules of the District. **See Appendix D.**

4. Public Awareness

Objective: The District will annually attempt to increase the public awareness regarding the purpose, objectives and mission of the District.

Objective Satisfied

During the reporting period, the District has provided presentations for:

- | | | |
|--------------------------------|------|-----------|
| - Stephenville Optimist Club | Talk | 1/19/2022 |
| - Tarleton State University | Talk | 1/31/2022 |
| - Dublin Women’s Thursday Club | Talk | 3/03/2022 |
| - Stephenville Leadership | Host | 3/17/2022 |

- Neils Creek WMA – Bosque	Talk	4/02/2022
- Meridian Water Talk	Talk	5/06/2022
- Keller Williams Realtor Workshop	Talk	5/26/2022
- Bosque Rotary Club	Talk	5/26/2022
- Stephenville Lions Club	Talk	8/19/2022
- Central Texas Early Childhood Conference	Booth	9/10/2022
- Coryell County Water Workshop	Talk	9/16/2022
- Heartland Realtors	Talk	9/20/2022
- Master Naturalist Nature Fest	Booth	10/8/2022
- New Educator Breakfast – Stephenville ISD	Attend	10/11/2022
- Vista Mountain WMA – Coryell	Talk	10/15/2022
- Tarleton State University Water Use Speaker	Talk	11/01/2022
- TAMU Agrilife Extension – Irrigators Summit	Talk	12/13/2002
- Coryell County Water Workshop	Talk	12/19/2022

See Appendix E for Outreach Events

B. Controlling and Preventing Waste of Groundwater

1. Evolution of District Rules

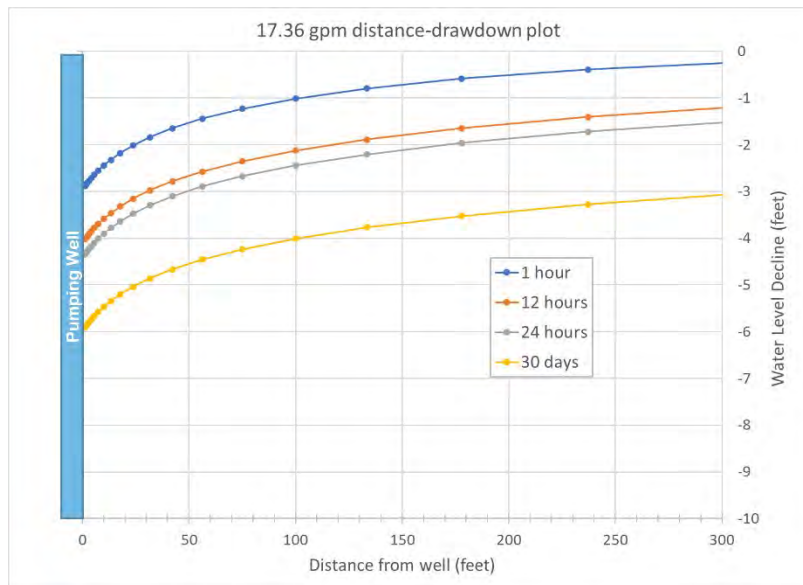
Objective: At least once each year, the District will evaluate the District rules to identify whether any amendments are needed to reduce the amount of waste of groundwater within boundaries of the District.

Objective satisfied

MTGCD established a Rules Committee on March 4th, 2021, consisting of 1 Board member from each county to review any possible rule change. MTGCD Rules Committee met 3 times during 2022:

- January 19th
- February 28th
- June 20th

Discussion was focused Rule 7.4 (spacing and location of permitted wells). MTGCD considered the reduction in spacing on wells cased 4” inches or less. MTGCD has consulted with AGS to complete a study to understand drawdown impact differences between outcrop and subcrop wells.



See Appendix F for Rules Committee Meeting Notes.

2. Information on Groundwater Waste Reduction

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.

Objective Satisfied

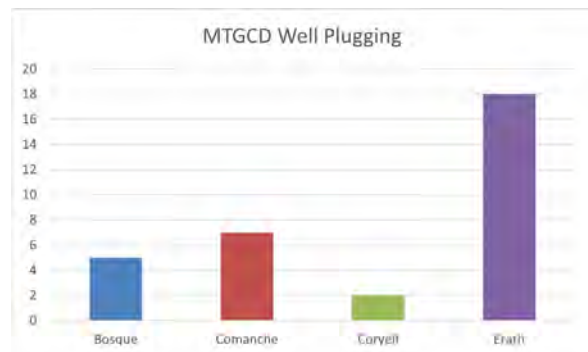
A copy is included under Appendix G.

3. Well Plugging

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).

Objective Satisfied

During the reporting period, MTGCD identified and plugged (32) thirty-two wells under the supervision of well owners. Copies of the Well Plugging Report (TDLR Form a004WWD) were provided to the well owners and copies sent to the Texas Department of Licensing and Regulation as required by Texas Administration Code, Chapter 76.



Copies of plugging reports is included under Appendix H.

4. Injection/Disposal Wells

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

Objective Satisfied

A copy of the letter that was submitted to the Texas Railroad Commission along with Certified Mail Return Receipt is included with Appendix I.

Currently in MTGCD, there are a total of 14 Active/Temporarily Abandoned injection/disposals wells. Total injection volume of Salt Water in Comanche County in 2022 is 426 BBLS. Total injection volume of Salt Water in Erath County in 2022 is 15,788 BBLS.

A copy of the list of injection/disposal wells is included with Appendix I.

5. Injection/Disposal Well Integrity Test

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.

Objective Satisfied

A copy of the letter was submitted to the Texas Railroad Commission along with a Certified Mail Return Receipt.

Of the 14 Active/Temporarily Abandoned injection/disposal wells in the District, 5 wells completed required Mechanical Integrity Test in 2022. Four wells passed, one had a test result that came back as inconclusive (Comanche County).

A copy of the list of injection/disposal wells is included with Appendix I.

C. Addressing Conjunctive Surface Water Management Issues

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.

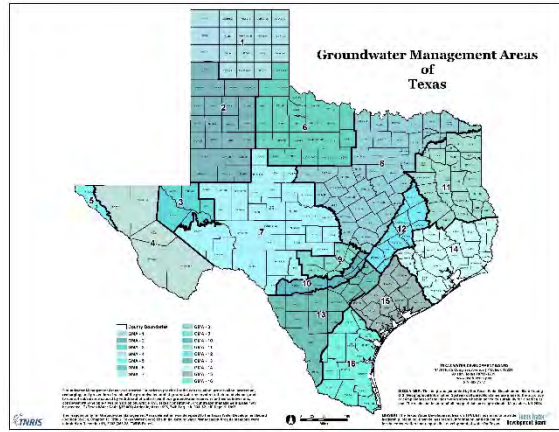
Objective Satisfied

During 2022, District General Manager Patrick Wagner attended the scheduled meetings listed below. In 2022 was voted in by the Region G Water Planning Group to join Brazos G to fill a Water District vacancy. Patrick also serves on the Brazos G Groundwater Committee.

March 23, 2022	Attended
July 13, 2022	Attended
November 2, 2022	Attended



In addition to the regional planning group, District General Manager Patrick Wagner attended the meetings for Groundwater Management Area 8. Groundwater Management Areas were created in order to provide for the conservation, preservation, protection, recharging, and prevention of groundwater waste, and of groundwater reservoirs of their subdivisions, and to control subsidence caused by withdrawal of water from those groundwater reservoirs or their subdivisions, consistent with the objectives of Section 59, Article XVI, Texas Constitution.



July 26, 2022

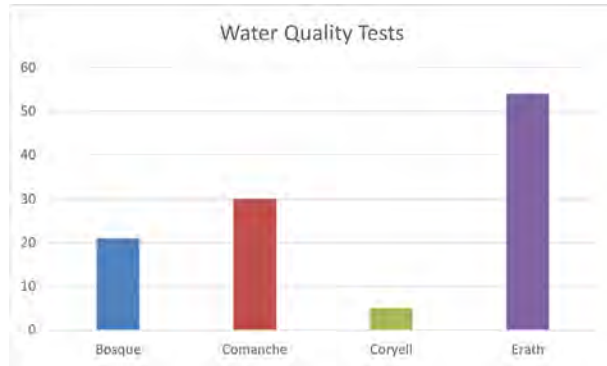
Attended

Online: <http://www.gma8.org/>

D. Addressing Natural Resource Issues

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.

Objective Satisfied



MTGCD during 2022 conducted 110 water quality tests for residents of the District.

High TDS/Salinity – 1 Coryell

Bacteria – 1 Comanche, 1 Erath

Nitrates – 4 Comanche

PH – 3 Bosque

A copy of all water quality reports is included in Appendix J.

E. Addressing Drought Conditions

1. Monitor Drought Conditions of the Trinity Aquifer

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/>.

DROUGHT STAGE	PRECIPITATION DEFICIT INDEX (PDI) DROUGHT STAGE TRIGGER PERCENT OF AVERAGE RAINFALL	PERCENT OF VOLUNTARY REDUCTION IN WATER USE
STAGE 1 - Mild Drought Status	70-79%	10%
STAGE 2 - Moderate Drought Status	60-69%	20%
STAGE 3 - Severe Drought Status	50-59%	30%
STAGE 4 - Emergency Drought Status	< 50%	40%

Objective Satisfied

MTGCD updated and re-adopted the Drought Contingency Plan (DCP), a drought stage is only to be triggered when the Precipitation Deficit Index (PDI) is less than a drought state trigger condition exceeding for a period of 30 consecutive days and shall be reduced or terminated when the PDI is greater than the trigger condition exceeding for a period of 42 consecutive days.

Online: <https://www.middletrinitygcd.org/drought-contingency-plan>

Below are the declared stages during the fiscal year.

Date	County	Declared Drought Stage	PDI Total	PDI % Total
Jan 06 2022	Bosque	No Drought	33.113	93.99
	Comanche	No Drought	32.142	101.011
	Coryell	No Drought	28.41	88.92
	Erath	No Drought	33.384	105.426
Feb 10 2022	Bosque	No Drought	33.357	94.683
	Comanche	No Drought	32.677	102.693
	Coryell	No Drought	28.622	89.55
	Erath	No Drought	33.728	106.531
Mar 03 2022	Bosque	No Drought	32.341	91.799
	Comanche	No Drought	32.137	100.996
	Coryell	No Drought	27.73	86.764
	Erath	No Drought	32.823	103.673

Apr 07 2022	Bosque	No Drought	32.04	90.945
	Comanche	No Drought	31.228	98.139
	Coryell	No Drought	27.559	86.229
	Erath	No Drought	35.519	102.713
May 05 2022	Bosque	No Drought	28.907	82.053
	Comanche	No Drought	26.364	82.853
	Coryell	No Drought	25.84	80.853
	Erath	No Drought	28.564	90.222
Jun 15th	Bosque	Stage 2	22.776	64.649
	Comanche	Stage 2	19.4	60.967
	Coryell	Stage 2	21.257	66.51
	Erath	Stage 2	20.465	64.639
Jul 07 2022	Bosque	Stage 3	19.793	56.182
	Comanche	Stage 3	17.901	56.257
	Coryell	Stage 2	19.504	61.026
	Erath	Stage 3	18.659	58.935
Aug 04 2022	Bosque	Stage 3	18.135	51.467
	Comanche	Stage 3	17.605	55.326
	Coryell	Stage 3	16.38	51.251
	Erath	Stage 3	17.985	56.807
Sep 08 2022	Bosque	Stage 3	20.11	57.083
	Comanche	Stage 2	19.215	60.386
	Coryell	Stage 3	18.577	58.127
	Erath	Stage 2	19.6	61.907
Oct 06 2022	Bosque	Stage 3	17.671	50.158
	Comanche	Stage 3	16.882	53.054
	Coryell	Stage 3	16.84	52.69
	Erath	Stage 3	17.106	54.03
Nov 03 2022	Bosque	Stage 3	18.992	53.908
	Comanche	Stage 3	17.754	55.795
	Coryell	Stage 3	16.735	52.362
	Erath	Stage 3	18.219	57.545
Dec 08 2022	Bosque	Stage 2	23.337	63.405
	Comanche	Stage 2	20.235	63.592
	Coryell	Stage 2	20.379	63.765
	Erath	Stage 2	20.681	65.323

2. Palmer Drought Severity Index, and Crop Moisture Index

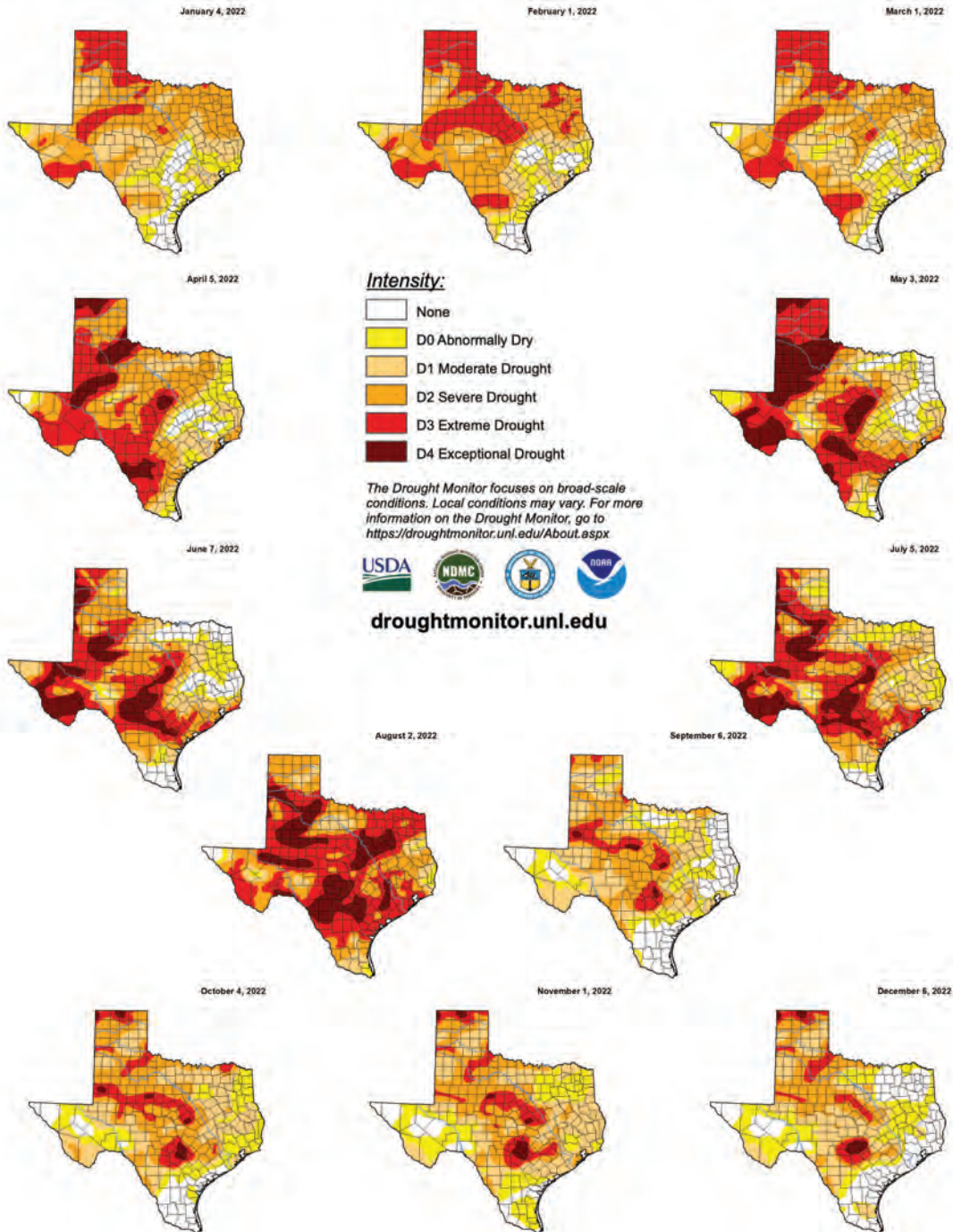
Objective: The District will download the updated Palmer Drought Severity Index (PDSI) maps and review soil moisture index readings for the area within the District's boundaries on a quarterly basis

Objective Satisfied

Four Quarterly Drought Reports were provided the MTGCD Board of Directors in addition to Monthly Drought Reports during 2022. Reports included information on the Palmer Drought Severity Index (PDSI), and Crop Moisture Index (CMI).

Copies of the Quarterly and Monthly Drought Reports are Included in Appendix K

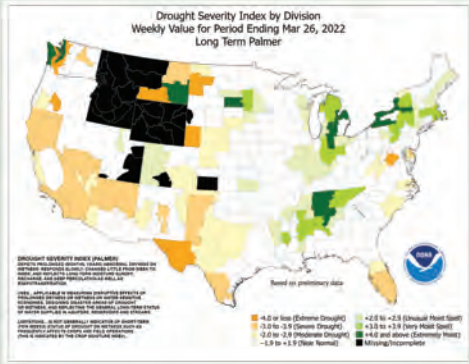
US DROUGHT MONITOR 2022



QUARTER DROUGHT REPORT

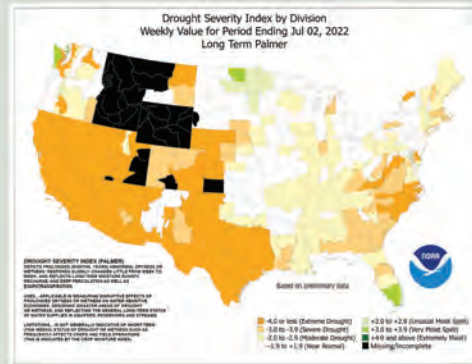
Palmer Drought Severity Index (PDSI)

1st Quarter (Jan - Mar)



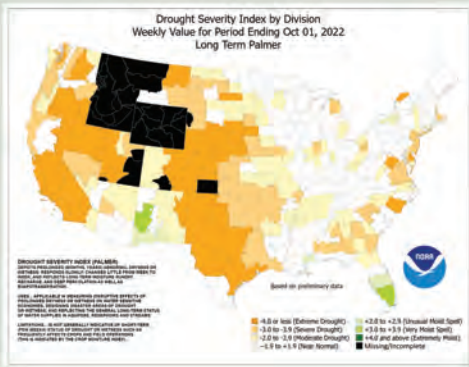
The PDSI as of March 26, 2022, for the North Central Texas region is -2.74 which translates that North Central Texas is currently in a moderate drought.

2nd Quarter (Apr - Jun)



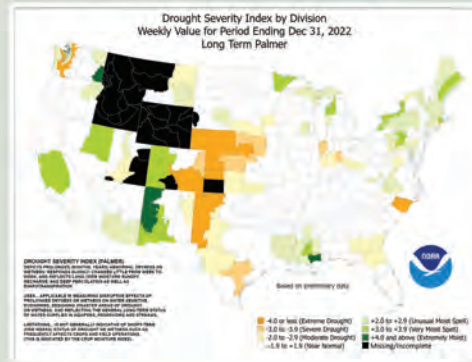
The PDSI as of July 2nd, 2022, for the North Central Texas region is -5.77 which translates that North Central Texas is currently in a extreme drought.

3rd Quarter (Jul - Sep)



The PDSI as of October 1st, 2022, for the North Central Texas region is -4.98 which translates as extreme drought. Last month's value: -4.56.

4th Quarter (Oct - Dec)

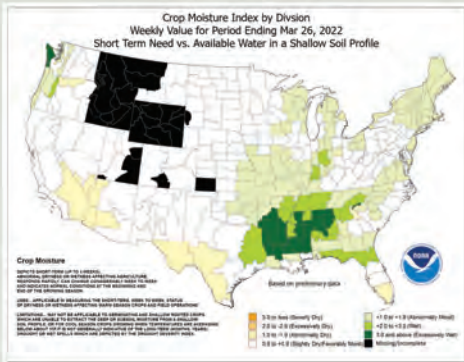


The PDSI as of December 31st, 2022, for the North Central Texas region is -1.84 which translates as near normal. Last month's value: -2.13

QUARTER DROUGHT REPORT

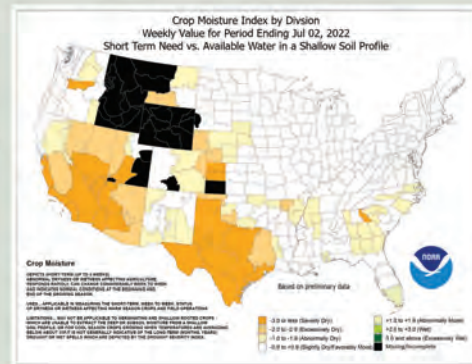
Crop Moisture Index (CMI)

1st Quarter (Jan - Mar)



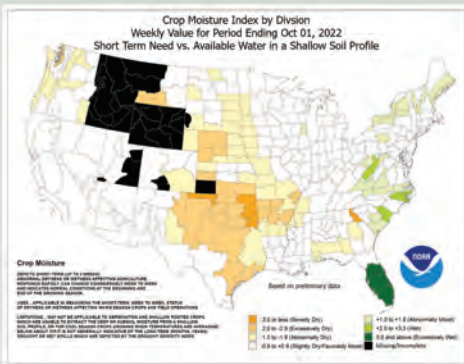
The CMI, as of January 1, 2021, for the North Central Texas region is -0.01, indicating that soil moisture is slightly dry.

2nd Quarter (Apr - Jun)



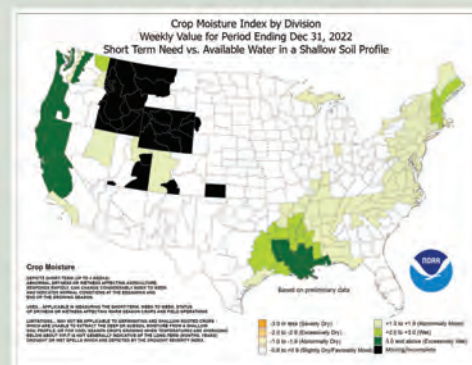
The CMI, as of July 1st, 2022, for the North Central Texas region is -5.49, indicating that soil moisture is severely dry.

3rd Quarter (Jul - Sep)



The CMI, as of October 1st, 2022, for the North Central Texas region is -2.11, indicating that soil moisture is excessively dry, approaching excessively dry. Last month's value: 0.21.

4th Quarter (Oct - Dec)



The CMI, as of December 31st, 2022, for the North Central Texas region is -0.01, indicating that soil moisture is slightly dry. Last month's value: 0.59.

F. Conservation, Recharge Enhancement, Rainwater Harvesting, and Brush Control

1. Conservation

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.

Objective Satisfied

The District submitted articles on conservation to the following newspapers:

- Gatesville Messenger
- Meridian Tribune
- Clifton Record
- Comanche Chief
- Dublin Citizen

Copies of the articles included in Appendix L

2. School Education Program

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.

Objective Satisfied

MTGCD offered several pre-existing educational programs to all 25 of ISDs within the District, including Project WET and Getting Little Feet Wet. A description of the Programs and documentation of MTGCD's sponsorship in the form of email lists of offers, receipts for materials, and District website postings of the offer for educational programs is included.

Copies of items included in Appendix M

3. Informational Flier

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.

Objective Satisfied

The informational was provided to the public at educational events and numerous public schools by the District's Education Coordinator.

A copy of the flier is included in Appendix N

4. Recharge Enhancement

Objective: The District will provide information relating to recharge enhancement on the District web site at least once each year.

Objective Satisfied

A copy of recharge enhancement information is included in Appendix O

5. Rainwater Harvesting

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.

Objective Satisfied

A copy of rainwater harvesting information is included in Appendix P

6. Brush Control

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.

Objective Satisfied

A copy of the brush control information is included in Appendix Q

G. Addressing the Desired Future Conditions

1. Static Water Level – DFC Target

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.

Objective Satisfied

MTGCD is collecting water level measurements on a quarterly basis in 136 monitoring wells in the District. 36 in Erath County, 41 in Comanche County, 37 in Bosque County, and 22 in Coryell County. Additionally, MTGCD is monitoring 4 wells in Hamilton County. MTGCD has 15 years of data in Comanche and Erath Counties, 12 years of data in Bosque County, and 11 years of data in Coryell County. Water level samples collected by the District are maintained in a database and are available for viewing on the District's website. Water samples taken in 2022 follow, along with a discussion of the District's comparison of five year water level averages to five year increment of its Desired Future Conditions (DFC) in order to track its progress in achieving its DFCs

MTGCD Water Levels 2022

Counties:	Avg Water Level Drop/Gain in Wells				
	2022	2021	2020	2019	2018
Bosque	-7.93	-1.20	2.27	-1.31	0.58
Comanche	-3.41	1.7	-0.38	-0.3	1.39
Coryell	-7.51	-0.74	0.1	-0.39	0.44
Erath	-5.05	0.005	1.34	-3.8	3.76

* 5 YR DFC Increment (Avg of Layers)

1. Add up DFC/Layer and divide by number of layers
2. Multiply result by (0.1) to get 5 YR increment

Counties:	5 YR - Avg.	5 YR - DFC*
Bosque	-1.5180	-11.04
Comanche	-0.2003	-0.34
Coryell	-1.6208	-6.32
Erath	-0.5355	-1.21

Counties:	5 YR - Avg 2022	5 YR - Avg 2021	5 YR - Avg 2020	5 YR - Avg 2019
Bosque	-1.5180	-0.45	-0.954	
Comanche	-0.2003	0.14	0.726	
Coryell	-1.6208	-0.89	0.22	
Erath	-0.5355	0.105	0.53	

Comparison of an average of the District's last five years of water level measurements with five-year increments of the GMA8 Desired Future Conditions for Bosque, Comanche, Coryell, and Erath Counties indicates that MTGCD is on target to achieve it's DFCs.

Please refer to the following tables to see DFCs for each County.

Refer to Appendix R for water level measurements for each County.

DESIRED FUTURE CONDITIONS SUBMITTED TO TEXAS WATER DEVELOPMENT BOARD MIDDLE TRINITY GROUNDWATER CONSERVATION DISTRICT

BOSQUE COUNTY

Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Paluxy	6
Glen Rose	49
Travis Peak	167
Hensell	129
Hosston	201

COMANCHE COUNTY	
Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Glen Rose	1
Travis Peak	2
Hensell	2
Hosston	11
Antlers	9
CORYELL COUNTY	
Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Paluxy	7
Glen Rose	14
Travis Peak	99
Hensell	66
Hosston	130
ERATH COUNTY	
Aquifer (Trinity subdivisions)	Amount average draw down should not exceed after 50 years (feet)
Paluxy	1
Glen Rose	5
Twin Mountains	6
Travis Peak	19
Hensell	11
Hosston	31
Antlers	12

2. Total Wells – DFC Target

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.

Objective Satisfied

The Number of wells registered in 2022 increased from the number registered in 2021. In 2021, 479 wells were registered with the District, 133 of them required permits. By comparison, in 2022, 615 well were registered, with 189 requiring permits.

District Totals:

Total # of exempt wells		22,686
Total # of grandfather permits	5,021	
Total # of operating permits	1,395	
Total # of permits		<u>6,416</u>
Total # of wells registered in MTGCD		29,102

County Data:

Bosque County

Total # of wells registered – 4,039 Exempt – 3,621 GP – 336 OP – 82

Comanche County

Total # of wells registered – 11,814 Exempt – 8,055 GP – 3,239 OP – 520

Coryell County

Total # of wells registered – 2,828 Exempt – 2,676 GP – 119 OP – 33

Erath County

Total # of wells registered – 10,421 Exempt – 8,334 GP – 1,327 OP - 760

4. Summary

Based on the leadership of the Board of Directors and management under the executive direction of the General Manager, District staff continued expanding their efforts in developing in-depth aquifer science, enhancing educational outreach to public schools and civic organizations, and refining database management for the District records.

The District staff has expanded the educational effort in a partnership with Texas A&M AgriLife Extension, Master Naturalist, and Master Gardner programs. Strategies include: the investment in The Ditch Water Discovery Center, classroom curriculum, science day events, field days, Earth Day events, and informative presentations for civic organizations.

MTGCD has established relationships through Interlocal Agreements with Bosque, Comanche and Coryell Counties, while working towards an agreement with Erath County. MTGCD has added LRE Water, LLC in conjunction with AGS to understand the Trinity Aquifer in terms of groundwater physics, flow, and recharge.

The District is also committed to continuing our efforts to enhance the network of monitor wells in the three layers of the Trinity Aquifer with the addition of ~ 60 new wells to measure drawdown related to pumping. This allows the Board of Directors to manage the aquifers to the DFC rather than simply the MAG. The District continues to monitor over 136 wells in both the Trinity and Cross Timbers Aquifers.