



**NECHES & TRINITY VALLEYS
GROUNDWATER
CONSERVATION DISTRICT**



GROUNDWATER MANAGEMENT PLAN

ADOPTED June 11, 2003

Amended & Adopted August 20, 2009

Amended & Adopted June 19, 2014

Amended & Adopted April 26, 2018

Amended & Adopted August 15, 2019

Amended & Adopted September 19, 2024

Amended & Adopted November 21, 2024

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**Anderson, Cherokee, and Henderson Counties
In the State of Texas**

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NECHES AND TRINITY VALLEYS GROUNDWATER CONSERVATION DISTRICT MISSION STATEMENT

The Neches and Trinity Valleys Groundwater Conservation District (District) will strive for the conservation, preservation, and the prevention of the waste of groundwater reservoirs over which the District has jurisdiction. The District will implement water conservation and management strategies to prevent the extreme decline of water levels for the benefit of all water users, water rights owners, the economy, or citizens, and the environment of the territory inside the District.

TIME PERIOD FOR THIS PLAN

This District Management Plan became effective June 11, 2003, following adoption by the District Board of Directors and approved by the Texas Water Development Board (TWDB) affirming the plan as administratively complete. It was re-adopted by Board Resolution on August 20, 2009, June 19, 2014, April 26, 2018 and August 15, 2019. This revised and amended plan adopted on September 19, 2024 will remain in effect for a period of five (5) years as a minimum planning period, or until a revised or amended plan may be approved, whichever comes first.

This document has been developed in accordance with the requirements of Chapter 36 of the Texas Water Code and the provisions of Texas Administrative Code Title 31, Chapter 356, Groundwater Management Plan Certification.

STATEMENT OF GUIDING PRINCIPLES

The District recognizes that the groundwater resources of the region are of vital importance to the continued vitality of the citizens, economy, and environment within the District. The preservation of the groundwater resources can be managed and protected in the most prudent and cost effective manner through the local regulation of production as effected by the District's well permitting and well spacing rules. This management plan is intended as a tool to direct the efforts of those individuals charged with the responsibility for the managing and execution of District activities.

GENERAL DESCRIPTION

In 2001 the Texas Legislature passed Senate Bill 1821 which authorized the creation of the Neches and Trinity Valleys Groundwater Conservation District (referred to as the "District") as a governmental agency to regulate groundwater in order to protect it from overuse and wasteful use. This was approved by the voters in a general election in November 2001. The District includes all of Cherokee, Anderson and Henderson counties.

The District has an unpaid Board of Directors. The Commissioners' Court of Anderson, Henderson, and Cherokee counties have each appointed two directors, one to represent rural water, utilities, and small municipal water supply interests; and one to represent agricultural, industrial, and landowner interests. The cities of Athens, Palestine, and Jacksonville share a seventh Director on a rotating basis.

The District is prohibited by legislation from levying taxes. It also may not exercise the power of eminent domain. It also may not issue or sell bonds in the name of the District.

It is the goal of the District that its activities be consistent with sound business practices; that the interest of the public shall always be considered in conducting District business; that impropriety or the appearance of impropriety

shall be avoided to ensure and maintain public confidence in the District; and that the Board and staff shall control and manage the affairs of the District lawfully, fairly, impartially, and in accordance with the stated purposes of the District.

The District employs a General Manager to manage the administrative affairs of the District and provides for additional staff as needed to assist in those duties. The General Manager is responsible for ensuring that the rules, regulations, policies, and procedures adopted by the Board are followed. The General Manager is held responsible by the Board and is required to provide timely reports about the administrative affairs of the District.

GROUNDWATER RESOURCES

The desired future conditions (DFC) for the aquifers located within the District boundaries and within Groundwater Management Area 11 (GMA-11) were established in accordance with Chapter 36.108 of the Texas Water Code at a meeting of the GMA-11 representatives on August 11, 2021.

The Carrizo-Wilcox Aquifer is the primary source of groundwater within the District. The Queen City and Sparta are other minor aquifers with pumping for use within the District. Groundwater in the aquifers are under water table or unconfined conditions and the depths of the aquifer sands are highly variable within the District. Groundwater represents 32 percent of the water source within the District with surface water being the major remaining source. The estimated water pumping during 1999 by aquifer was 90.4% from Carrizo-Wilcox; 4% from Queen City; 5.4% from Sparta; and the balance from undifferentiated aquifers. Maps of the District and the aquifers are shown for reference in **Appendix A.9**.

A. THE AMOUNT OF WATER BEING USED WITHIN THE DISTRICT ON AN ANNUAL BASIS

There are slivers of the Nacatoch Aquifer in westernmost Henderson County. However, water from the Nacatoch Aquifer within the District is statistically insufficient and is not considered available or used within the District. Data from GMA-8 establishing a desired future condition will be considered to account for the Nacatoch Aquifer water use and availability.

The charts in **Appendix A.1** present the annual water usage within the District from 2004 to 2019 and include both ground water (GW) and surface water (SW) use. They show a total annual usage of 40,261 acre feet including 25,009 acre feet of groundwater and 15,252 acre feet of surface water in 2019.

B. PROJECTED TOTAL WATER DEMANDS

The tables in **Appendix A.2** show the projected water demand for Anderson, Cherokee, and Henderson counties through the year 2070. This is the combined surface water and groundwater use for the District. The projections are from the 2022 State Water Plan and include agriculture, municipal and industrial use.

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

C. PROJECTED SURFACE WATER SUPPLIES

The charts in **Appendix A.3** show the surface water supplies for the District for 2020 and the projected surface water supplies through the year 2070. All data is from the 2022 State Water Plan.

The percentage of surface water supply not in the District is not material to the presentation of data as a whole because there is no major surface water supply in the area not in the District.

D. GROUNDWATER AVAILABILITY

The Wilcox group and the overlaying Carrizo Formation of the Claiborne Group form a hydrologically connected system known as the Carrizo-Wilcox Aquifer. This aquifer extends from the Rio Grande in South Texas northeastward into Arkansas and Louisiana, providing all or part of the water in 60 counties in Texas. Municipal and irrigation pumpage account for about 35 and 51 percent, respectively, of pumping from the Carrizo-Wilcox Aquifer.

The Queen City Aquifer extends across Texas from the Frio River in South Texas northeastward into Louisiana. The aquifer provides water for domestic and livestock purposes throughout most of its extent and significant amounts for municipal and industrial supplies in Northeast Texas. The water may be acidic in much of Northeast Texas and relatively high in iron concentrations in some locations.

The Sparta Aquifer extends in a narrow band from the Frio River in South Texas northeastward to the Louisiana border in Sabine County. The aquifer provides water for domestic and livestock purposes throughout most of its extent and water for municipal, industrial, and irrigation in much of the region. Water may contain iron concentrations in excess of drinking water standards.

There are slivers of the Nacatoch Aquifer in westernmost Henderson County. However, water from the Nacatoch Aquifer within the District are statistically insufficient and are not considered available or used within the District.

A very small portion of the northern section of the Trinity Aquifer is located in western Henderson County. The water budget values for this aquifer are very small or zero (TWBD GAM 24-002).

The modeled available groundwater is the amount of groundwater production per year, on an average basis, that will achieve a desired future condition. Total estimated recoverable storage values may include a mixture of water quality types, including fresh, brackish, and saline groundwater.

E. WATER SUPPLY NEEDS

The water need estimates in this plan have been extracted from 2022 State Water Plan and other GAM runs based on existing data and will be used until alternatives may be generated. With normal rainfall and the advent of expected conservation practices, total water demands within the District projected to be used within the District on an annual basis 2020 to 2070 in acre feet is shown in **Appendix A.5**. As shown in **Appendix A.5**, there are several water user groups that have a projected water supply need. These groups by category are as follows: Municipal – Alto Rural WSC, City of Athens, City of Chandler, Dogwood Estates WSC, R P M WSC, City of Rusk, West Cedar Creek Mud, and Wright City WSC; Irrigation – Henderson County; Livestock – Henderson County; and Mining – Cherokee and Henderson counties. From 2020 to 2070, the total needs for Anderson County are not projected in

the 2022 State Water Plan. During the same time period, total needs for Cherokee County are projected to increase from 238 acre feet to 476 acre feet and for Henderson County, total needs are projected to increase from 880 acre feet to 8,890 acre feet.

F. WATER MANAGEMENT STRATEGIES

Water management strategies are specific plans to increase water supply or maximize existing water supply to meet a specific need. The projected water management strategies from the 2022 State Water Plan to supply the needs of the District are presented in **Appendix A.6**. Projected water management strategies listed in the TWDB Estimated Historical Water Use/2022 State Water Plan data packet are: Anderson County Municipal – City of Elkhart, City of Frankston, Norwood WSC, Pleasant Springs WSC, TDCJ; Cherokee County Municipal - City of Alto, Alto Rural WSC, Blackjack WSC, City of Jacksonville, City of Rusk, Southern Utilities, City of Wells; and Henderson County Municipal – AMWA, Bethel Ash WSC, Crescent Heights WSC, Dogwood Estates WSC, City of Eustace, City of Mabank, City of Malakoff, Virginia Hill WSC, and the City of Chandler. From 2020 to 2070, the total water management strategies in Anderson County are projected to increase from 153 acre feet to 324 acre feet. During this same time period, the total water management strategies for Cherokee County are projected to increase from 135 acre feet to 8,490 acre feet and for Henderson County, the total is projected to increase from 937 acre feet to 10,038 acre feet.

G. ANNUAL WATER BUDGET VALUES

A groundwater budget summarizes the water entering and leaving the aquifer according to a groundwater availability model. Selected components were extracted from the groundwater budget for the aquifers located within the District and were averaged over the duration of the calibrated portion of the model runs. The projected water into and out of the aquifers within the District is taken from Groundwater Availability Model Run 24-002 prepared by TWDB, February 29, 2024.

In accordance with the provisions of the Texas State Water Code, Section 36.1071, Subsection (h), the groundwater availability models for the Trinity, Nacatoch, Carrizo -Wilcox, Queen City, and Sparta aquifers were run for this analysis. The average annual water budget values for recharge, surface water outflow, inflow to the district, outflow from the district, net inter-aquifer flow (upper), and net inter-aquifer flow (lower) for the portions of the aquifers located within the district are summarized in **Appendix A.7**.

H. MODELED AVAILABLE GROUNDWATER IN THE DISTRICT BASED ON THE DFC

As defined in Chapter 36 of the Texas Water Code, “modeled available groundwater” is the estimated average amount of water that may be produced annually to achieve a DFC. 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. The estimated amount of pumping exempt from permitting, which the TWDB is now required to develop after soliciting input from applicable groundwater conservation districts, will be provided in a separate report. **Appendix A.8** shows the available groundwater based on the model run, GAM 21-016 MAG on February 17, 2022.

MANAGEMENT OF GROUNDWATER SUPPLIES

The District will manage the supply of groundwater within the District in order to conserve the resource while seeking to maintain the economic viability of all resource user groups, public and private. In consideration of the economic and cultural activities occurring within the District, the District will identify and engage in such activities and practices that, if implemented, would result in a reduction of groundwater use. A monitor well observation network may be established and maintained in order to evaluate changing conditions of groundwater supplies (aquifer water table levels) within the District. The District will make a regular assessment of water supply and groundwater storage conditions and will report those conditions to the Board and to the public. The District will undertake as necessary and cooperate with investigations of the groundwater resources within the District and will make the results of investigations available to the public upon adoption by the Board.

The District will consider the water supply needs and water management strategies from Regional Water Planning Group I and other sources included in the adopted state water plan. This plan shows that the largest projected increase in water demand will be for steam-electric use which is expected to require about half of the total water demand in 2070. The region as a whole appears to have enough water supplies to meet demands through 2070. In the District the major water supply project is the development of Lake Columbia in Cherokee County and the District supports this effort.

The District will enforce the terms and conditions of permits and rules of the District. The District will adopt rules, and amend rules as necessary, to regulate groundwater withdrawals by means of well spacing, well permits, and production limits. The District may deny a well permit or limit groundwater withdrawals in accordance with the guidelines stated in the rules of the District and drought contingency plan. In making a determination to deny a permit or limit groundwater withdrawals, the District will consider the public benefit against individual hardship after considering all appropriate testimony.

In pursuit of the District's mission of protecting the groundwater resources, the District may require reduction of groundwater withdrawals to amounts which will not cause harm to the aquifer. To achieve this purpose, the District may, at the Board's discretion, amend or revoke any permits after notice and hearing. The determination to seek the amendment or revocation of a permit by the District will be based on aquifer conditions observed by the District. The District will enforce the terms and conditions of permits and the rules of the District by enjoining the permit holder in a court of competent jurisdiction as provided for in Texas Water Code (TWC) 36.102.

The relevant factors to be considered in making a determination to deny a permit or limit groundwater withdrawals will include:

- 1) The proposed use of the water and effect of existing groundwater and surface water resources or existing permits under the rules and management plan of the District.
- 2) The beneficial use of the water resource to protect groundwater quality, avoid waste, and achieve water conservation.
- 3) The economic hardship resulting from grant or denial of a permit or the terms prescribed by the permit.
- 4) The application conforms to the requirements of the District and TWC Chapter 36 and is accompanied by the prescribed fees.
- 5) Other factors that may be specific to the application.

DROUGHT CONTINGENCY PLAN

A contingency plan to cope with the effects of water supply shortages due to climatic or other conditions was developed by the District and adopted by the Board after notice and hearing. In developing the contingency plan, the District considered the economic effects of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro-geologic conditions of the aquifer and the appropriate conditions under which to implement the contingency plan. The plan is reviewed annually and revised as necessary.

During drought conditions within the District, all efforts will be made to see that all municipalities and public water supply companies follow their Drought Contingency Plans as they have been presented to the District. During severe drought conditions, the District staff will closely monitor the aquifer levels to ensure that adequate quantities of water are available to the District and coordinate with the Region I Water Planning Area.

ACTIONS, PROCEDURES, PERFORMANCE, AND AVOIDANCE NECESSARY TO EFFECTUATE THE MANAGEMENT PLAN

The District will implement the provisions of this plan and will utilize the provisions of the plan as a guidepost for determining the direction of priority for District activities. Operations, agreements, and planning efforts of the District will be consistent with this plan. The District will seek the cooperation of all interested parties in the implementation of this plan. The plan is for a five-year planning period; however, the Board may review the plan annually or as desired and re-adopt the plan with or without revisions at least every five years.

DISTRICT RULES

The District will enforce District rules requiring the permitting of all new non-exempt wells to prevent the waste of groundwater. District rules are available upon request from the District or may be viewed at the District's website at www.ntvgcd.org.

REGIONAL WATER PLAN

This management plan has been adopted after the development of the regional management plan for Region I RWP Group and Region C RWP Group. After the time a regional water plan has been adopted, the District shall address water supply needs in a manner that is not in conflict with the appropriate approved regional water plan which must be approved under Section 16.053. Senate Bill 1 intended for water management to be a bottom up approach. Therefore, the regional planning groups must consider this local approved NTVGCD Management Plan in the development of their regional water plan to meet the intent of Senate Bill 1 and Senate Bill 1763 and, consequently, result in a regional management plan which is consistent with this local management plan, resulting in the protection of the local control of groundwater management by the local citizens.

**GOALS, MANAGEMENT OBJECTIVES,
PERFORMANCE STANDARDS AND METHODOLOGY
TO EVALUATE PROGRESS FOR IMPLEMENTATION OF
THE DISTRICT MANAGEMENT PLAN
AND FUTURE BOARD REVIEW**

GOAL 1.0 PROVIDING FOR THE MOST EFFICIENT USE OF GROUNDWATER WITHIN THE DISTRICT

It is the intent of the District to provide for the most efficient use of groundwater by regulating the drilling of wells within the District and by enforcing District Rules.

Management Objective

Each year the District will require the registration of all new wells drilled within the District's jurisdiction and the District will require a permit for drilling all non-exempt wells.

Performance Standard

At all regularly scheduled Board meetings, the General Manager reports to the Board of Directors on the number of new wells registered with the District and the number of permit applications received and approved for new wells within the District.

Management Objective

Each year the District will provide informative speakers to schools, civic groups, social clubs, and other organizations for presentations to inform a minimum of 50 citizens on the activities and programs, the geology and hydrology of groundwater, and the principles of water conservation relating to the best management practices for the efficient use of groundwater.

Performance Standard

Report annually, the number of citizens in attendance at District presentations concerning the principals of water conservation relating to the best practices for the efficient use of groundwater.

Management Objective

Each year, on four or more occasions, the District will disseminate educational information relating to the conservation practices for the efficient use of water resources.

Performance Standard

Report annually, the number of occasions the District disseminated educational information relating to the conservation practices for the efficient use of water resources.

Methodology

Annually, the District will prepare and present a report to the Board on presentations in regards to achieving Goal 1. The report will include the number of instances each activity was engaged in during the year. The report will be maintained on file in the District Office.

GOAL 2.0 CONTROLLING AND PREVENTING WASTE OF GROUNDWATER**Management Objective**

One hundred percent of complete permit applications will be reviewed by the District within 90 days to ensure all procedures are followed to control and prevent the waste of groundwater. The District will report annually to the Board the number of permit application requests that met the District's rules and requirements for approval within 90 days of the receipt of the completed application.

Performance Standard

1. Number of permits issued each year by the District for new non-exempt wells in compliance with District rules and procedures.
2. Percent of completed applications reviewed within 90 days of receipt of application.

Management Objective

The District will maintain procedures for the receipt of well permit applications. Annual reports will be made to the Board on the number and type of well permits approved. If no applications are received by the District during a reporting period, this will annually be reported to the Board.

Performance Standard

The procedures for the receipt of well permit applications will be maintained in District files. An annual report will be made by the District to the Board on the number and type of well permits approved. If no well permit applications are filed and completed during the year, this will be reported to the Board.

Methodology

Annually, the District will prepare and present a report to the Board on the number of permit applications in compliance with District rules and procedures and the percent of completed applications reported to the Board within 90 days. The report will be maintained on file in the District office.

Management objective

The District will investigate instances of potential waste of groundwater within 72 hours of receiving complaints.

Performance Standard

District staff will report to the Board of Directors as needed regarding potential waste of groundwater and include the number of investigations in its annual report.

GOAL 3.0 CONTROLLING AND PREVENTING SUBSIDENCE

Management Objective

In the desired future conditions explanatory report, Carrizo-Wilcox/Queen City/Sparta Aquifers for Groundwater Management 11, the following statements are made: "Subsidence has not been an issue historically in these aquifers. The Texas Water Development Board Subsidence Prediction Tool was used to assess the risk of subsidence in the future. This tool provides an overall risk score (0 is low risk and 10 is high risk). The application of this tool assumed the highest drawdown listed in Table 2 for each of the aquifers covered in this explanatory report. For the Sparta Aquifer, it was assumed that the drawdown from 2010 to 2080 was 30 feet from Table 2 (Anderson County). The risk score was 3.91 and the predicted subsidence was 0.00 feet in 2080.

For the Queen City Aquifer, it was assumed that the drawdown from 2010 to 2080 was 132 feet from Table 2 (Smith County). The risk score was 4.22 and the predicted subsidence was 4.22 and the predicted subsidence in 2080 is 0.00 feet. For the Carrizo-Wilcox Aquifer, it was assumed that the drawdown from 2010 to 2080 was 176 feet from Table 2 (Cherokee County). The risk score was 4.53 and the predicted subsidence was 0.16 feet in 2080." <https://www.twdb.texas.gov/groundwater/dfc/2021jointplanning.asp>

This goal is not applicable to the District because it is not appropriate or cost-effective. The TWDB subsidence report (*Identification of the Vulnerability of the Major and Minor Aquifers of Texas to Subsidence with Regard to Groundwater Pumping - TWDB Contract Number 1648302062*, by LRE Water:

<http://www.twdb.texas.gov/groundwater/models/research/subsidence/subsidence.asp>)

has been reviewed for applicability to the district. This report represents the best available science, and has been reviewed for applicability to the District. The District will continue to monitor for signs of subsidence and will respond to any reports of substantial subsidence.

The geologic framework and abundance of groundwater in the region precludes significant subsidence from occurring. The District will review the TWDB subsidence risk report annually as part of the permitting process.

Please find TWDB subsidence risk report at:

<http://www.twdb.texas.gov/groundwater/models/research/subsidence/subsidence.asp>

Performance Standard

The District will review the TWDB subsidence risk report annually as part of the permitting process.

Methodology

The District will stay informed on subsidence risk by attending Regional Water Planning Group meetings, obtaining reports at the GMA-11 meetings, and reviewing the TWDB subsidence risk report and will respond to any reports of substantial subsidence.

GOAL 4.0 ADDRESSING CONJUNCTIVE SURFACE WATER MANAGEMENT ISSUES

Management Objective

The water demands increase each year with a growing population and industrial needs. The District will work with the River Authorities in the District and with the Regional Planning Groups to assist with studies and coordinate to plan to meet the needs of the area for water.

Performance Standard

Each year, the District will participate in the regional planning process by attending at least 25 percent of the Regional Water Planning Group meetings to encourage the development of surface water supplies to meet the needs of water user groups in the District.

Methodology

The District will stay informed on surface water issues by attending Regional Water Planning Group meetings and obtaining reports at the GMA-11 meetings.

GOAL 5.0 ADDRESSING NATURAL RESOURCE ISSUES**Management Objective**

The District will investigate, or refer to the proper agency, any citizen's or district initiated complaint related to surface water, groundwater, or any natural resource with the district.

Performance Standard

The District will record any citizen's or district initiated complaint related to surface water, groundwater, or any natural resource with the district and report these to the Board in the District's Annual Report.

Methodology

Annually, the District will prepare and present a report to the Board of any citizen's or district initiated complaint related to surface water, groundwater, or any natural resource with the district.

Management Objective

The District will encourage the plugging of abandoned and nuisance groundwater wells. The District will conduct inspections of groundwater wells with the District's boundaries to encourage proper maintenance of groundwater wells and to document abandoned and nuisance groundwater wells that pose a risk to the District's groundwater resources.

Performance Standard

A description of the number of wells inspected, the number of wells in violation, and the number of wells brought into compliance or plugged will be included in the District's annual report.

Methodology

Annually, the District will prepare and present a report to the Board on District performance in meeting this goal. The report will include a description of the number of wells inspected, the number of wells in violation, and the number of wells brought into compliance or plugged.

GOAL 6.0 ADDRESSING DROUGHT CONDITIONS**Management Objective**

The Board has adopted a contingency plan to cope with the effects of water supply shortages due to climatic or other conditions. The plan is reviewed at least annually by the Board. In developing the contingency plan, the District considered the economic effects of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro-geologic conditions of the aquifer and the appropriate conditions under which to implement the contingency plan. Please find a copy of the contingency plan at: <https://ntvgcd.org/rules%2Fdocuments>

During drought conditions within the District, all efforts will be made to see that all municipalities and public water supply companies follow their drought contingency plans. During severe drought conditions that materially affects the aquifer levels, the District staff will closely monitor the aquifer levels through establishment of a District monitoring plan of static levels in selected monitoring wells or by obtaining well water levels from selected water supply companies who have such data available to ensure that adequate quantities of water are available to the District and will coordinate with the Region C and I Water Planning Groups. Additional information can be found and utilized on drought at: <http://waterdatafortexas.org/drought/>

Performance Standard

A drought contingency plan developed by the District and approved by the Board will be reviewed by the Board every year and revised as necessary.

Methodology

When a drought occurs that requires implementing drought contingency plans by municipalities and public water supply companies, the District will prepare and present a report to the Board on the number of water users contacted and the number of plans implemented with the results of water use reduction when such data is available.

GOAL 7.0 ADDRESSING CONSERVATION, RECHARGE ENHANCEMENT, RAINWATER HARVESTING, PRECIPITATION ENHANCEMENT, OR BRUSH CONTROL**Management Objective: Conservation**

Each year, on one or more occasions, the District will disseminate educational information relating to the conservation practices for the efficient use of water resources.

Performance Standard

Report annually the number of occasions the District disseminated educational information relating to the conservation practices for the efficient use of water resources.

Methodology

Annually, the District will prepare and present a report to the Board on District performance in meeting this goal. The report will include the number of instances each activity was engaged in during the year. The report will be maintained on file in the District Office.

Recharge Enhancement

This goal is presently not applicable or cost effective and is therefore, not applicable to the District at this time.

Rainwater Harvesting

This goal is presently not applicable or cost effective and is therefore, not applicable to the District at this time.

Precipitation Enhancement

This goal is presently not applicable or cost effective and is therefore, not applicable to the District at this time.

Brush Control

This goal is presently not applicable or cost effective and is therefore, not applicable to the District at this time.

GOAL 8.0 ADDRESSING THE DESIRED FUTURE CONDITIONS OF THE GROUNDWATER RESOURCES

The DFC of the groundwater within the District have been established in accordance with Chapter 36.108 of the Texas Water Code at a meeting of the GMA-11 representatives on August 11, 2021. The DFC drawdowns are established as shown in **Appendix A.4**.

Management Goal

To conserve and manage groundwater resources in order to provide sufficient water resources for domestic, industrial and public water supply use to meet the needs of the future and achieve the desired future conditions of the District.

Management Objective

The District will manage and maintain its existing water level monitoring program. The District will monitor water levels within the District boundaries at least annually and will be recorded in the District's database. The District will evaluate water level trends and compare to the DFCs adopted by the Districts.

Performance Standard

A description of the number of wells measured and the monitoring results of the year will be included in the District's Annual Report. An annual comparison of water level changes to the District's DFC will be evaluated and included in the District's Annual Report.

Methodology

Annually, the District will prepare and present a report to the Board on District performance in meeting this goal. The report will include the number of wells measured, the monitoring results of the year, and an evaluation of the water level changes to the District's DFC. The report will be maintained on file in the District Office.

Management Objective

The District will issue permits with annual pumping limits and will maintain a database to limit the total annual withdrawal by permit to be representative of the Modeled Available Groundwater volume without restricting industrial

or domestic growth.

Performance Standard

The District will frequently monitor the total permitted allowances to determine if the permitted volume is within or representative of the Modeled Available Groundwater allowable.

Methodology

Annually, the District will prepare and present a report to the Board on District performance in meeting this goal. The report will include the total permitted water and the allowable available water based on the Modeled Available Groundwater. The report will be maintained on file in the District Office.

APPENDIX

A.1 WATER BEING USED WITHIN THE DISTRICT

....

ANDERSON COUNTY

100% (multiplier)

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2019	GW	8,038	1,307	0	0	582	66	9,993
	SW	2,717	121	0	0	330	1,255	4,423
2018	GW	8,270	1,300	0	0	591	66	10,227
	SW	2,791	0	0	0	825	1,252	4,868
2017	GW	8,219	1,405	0	0	431	64	10,119
	SW	2,913	0	0	0	369	1,218	4,500
2016	GW	8,580	1,537	2	0	368	59	10,546
	SW	2,979	0	1	0	352	1,120	4,452
2015	GW	8,631	724	1	0	355	58	9,769
	SW	3,120	0	0	0	320	1,103	4,543
2014	GW	8,923	0	27	0	625	52	9,627
	SW	4,858	0	6	0	352	989	6,205
2013	GW	9,757	0	1	0	452	50	10,260
	SW	5,886	0	0	0	347	951	7,184
2012	GW	9,979	0	0	0	414	47	10,440
	SW	4,784	0	0	0	108	888	5,780
2011	GW	10,057	0	0	0	458	54	10,569
	SW	4,908	0	0	0	122	1,017	6,047
2010	GW	9,559	0	50	0	259	54	9,922
	SW	3,698	0	12	0	150	1,028	4,888
2009	GW	9,345	0	30	0	425	64	9,864
	SW	3,027	0	7	0	10	1,206	4,250
2008	GW	9,113	0	11	0	180	62	9,366
	SW	3,248	0	2	0	284	1,177	4,711
2007	GW	8,926	0	0	0	284	77	9,287
	SW	2,819	0	0	0	161	1,459	4,439
2006	GW	9,788	0	0	0	0	77	9,865
	SW	3,397	0	0	0	305	1,461	5,163
2005	GW	9,364	0	0	0	56	73	9,493
	SW	3,818	0	0	0	312	1,393	5,523
2004	GW	9,025	15	0	0	30	304	9,374
	SW	3,340	0	0	0	224	1,210	4,774

CHEROKEE COUNTY*100% (multiplier)*

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2019	GW	7,410	73	42	58	270	185	8,038
	SW	816	20	18	251	39	1,046	2,190
2018	GW	7,346	71	129	113	236	183	8,078
	SW	724	21	55	105	150	1,036	2,091
2017	GW	7,236	39	135	79	249	179	7,917
	SW	471	22	58	77	150	1,013	1,791
2016	GW	7,787	36	108	156	231	162	8,480
	SW	479	21	46	141	172	915	1,774
2015	GW	7,138	35	61	119	314	157	7,824
	SW	937	25	26	171	184	890	2,233
2014	GW	7,168	34	103	144	303	267	8,019
	SW	995	22	44	183	197	1,512	2,953
2013	GW	7,510	61	41	118	284	267	8,281
	SW	1,013	34	17	190	236	1,515	3,005
2012	GW	7,549	68	2	170	285	275	8,349
	SW	1,225	9	1	981	207	1,557	3,980
2011	GW	7,693	78	0	181	9	298	8,259
	SW	2,274	19	0	968	263	1,687	5,211
2010	GW	7,055	74	53	121	204	299	7,806
	SW	1,897	36	27	91	267	1,694	4,012
2009	GW	6,732	84	77	167	147	180	7,387
	SW	1,796	11	39	585	153	1,023	3,607
2008	GW	7,043	81	101	127	131	207	7,690
	SW	1,248	11	51	756	179	1,172	3,417
2007	GW	6,792	78	0	155	245	211	7,481
	SW	1,102	36	0	776	111	1,194	3,219
2006	GW	7,454	98	0	136	43	216	7,947
	SW	1,365	43	0	606	211	1,223	3,448
2005	GW	7,051	91	0	124	54	207	7,527
	SW	1,788	197	0	482	197	1,172	3,836
2004	GW	7,178	108	0	115	23	557	7,981
	SW	1,451	44	0	515	163	836	3,009

HENDERSON COUNTY*100% (multiplier)*

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2019	GW	5,134	115	17	0	1,262	450	6,978
	SW	4,668	697	131	70	158	2,915	8,639
2018	GW	5,850	129	26	0	1,351	449	7,805
	SW	4,596	622	0	57	49	2,948	8,272
2017	GW	5,483	136	63	0	1,131	436	7,249
	SW	4,400	665	0	19	100	2,982	8,166
2016	GW	4,768	146	160	0	770	466	6,310
	SW	5,333	667	9	53	135	3,280	9,477
2015	GW	5,343	431	0	0	945	457	7,176
	SW	5,792	722	0	53	109	3,424	10,100
2014	GW	5,584	456	1	0	1,408	476	7,925
	SW	5,512	739	0	66	181	3,386	9,884
2013	GW	5,924	696	10	0	1,348	455	8,433
	SW	5,484	28	2	85	221	3,398	9,218
2012	GW	6,233	722	2	0	181	424	7,562
	SW	5,691	84	0	101	66	4,750	10,692
2011	GW	6,973	643	2	0	50	514	8,182
	SW	6,284	62	0	132	210	770	7,458
2010	GW	6,105	409	68	0	133	511	7,226
	SW	5,920	75	141	65	149	768	7,118
2009	GW	5,156	1,106	58	0	150	456	6,926
	SW	5,463	65	120	103	20	684	6,455
2008	GW	4,912	834	47	0	155	502	6,450
	SW	5,280	172	98	43	127	753	6,473
2007	GW	4,428	736	2	0	139	507	5,812
	SW	4,925	239	0	30	105	761	6,060
2006	GW	5,177	723	2	0	119	504	6,525
	SW	5,787	218	0	25	265	756	7,051
2005	GW	5,018	809	2	0	41	531	6,401
	SW	5,878	231	0	23	302	796	7,230
2004	GW	4,696	842	2	0	39	431	6,010
	SW	5,101	211	0	15	41	956	6,324

A.2 PROJECTED TOTAL WATER DEMANDS

ANDERSON COUNTY

100% (multiplier)

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
I	Anderson County Cedar Creek WSC	Trinity	101	100	98	96	96	96
I	B B S WSC	Trinity	131	130	127	124	124	124
I	B C Y WSC	Trinity	220	212	206	202	202	202
I	Brushy Creek WSC	Neches	181	177	171	167	166	166
I	Brushy Creek WSC	Trinity	107	104	101	98	98	98
I	County-Other, Anderson	Neches	87	88	87	86	86	86
I	County-Other, Anderson	Trinity	820	832	825	814	811	811
I	Elkhart	Trinity	249	251	249	246	246	246
I	Four Pines WSC	Trinity	336	335	331	326	325	325
I	Frankston	Neches	238	240	238	235	235	235
I	Frankston Rural WSC	Neches	171	171	168	166	166	166
I	Irrigation, Anderson	Neches	288	288	288	288	288	288
I	Irrigation, Anderson	Trinity	369	369	369	369	369	369
I	Livestock, Anderson	Neches	474	474	474	474	474	474
I	Livestock, Anderson	Trinity	552	552	552	552	552	552
I	Mining, Anderson	Neches	64	81	85	67	48	34
I	Mining, Anderson	Trinity	76	96	100	80	57	41
I	Neches WSC	Neches	199	199	196	193	192	192
I	Norwood WSC	Neches	129	126	124	123	123	123
I	Norwood WSC	Trinity	9	9	9	9	9	9
I	Palestine	Neches	2,512	2,548	2,542	2,522	2,519	2,519
I	Palestine	Trinity	2,384	2,418	2,411	2,393	2,390	2,390
I	Pleasant Springs WSC	Trinity	169	171	169	167	167	167
I	Slocum WSC	Neches	258	257	252	249	248	248
I	Slocum WSC	Trinity	27	27	27	26	26	26
I	Steam-Electric Power, Anderson	Neches	1,408	1,408	1,408	1,408	1,408	1,408
I	TDCJ Beto Gurney & Powledge Units	Trinity	1,129	1,150	1,152	1,145	1,144	1,144
I	TDCJ Coffield Michael	Trinity	3,116	3,195	3,214	3,205	3,203	3,203
I	The Consolidated WSC	Trinity	129	129	126	124	124	123
I	Tucker WSC	Trinity	127	126	124	122	121	121
I	Walston Springs WSC	Neches	263	260	255	250	249	249
I	Walston Springs WSC	Trinity	105	104	102	100	100	100
Sum of Projected Water Demands (acre-feet)			16,428	16,627	16,580	16,426	16,366	16,335

CHEROKEE COUNTY*100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
I	Afton Grove WSC	Neches	189	202	215	234	254	277
I	Alto	Neches	236	253	270	293	319	347
I	Alto Rural WSC	Neches	637	677	734	801	873	951
I	Blackjack WSC	Neches	138	147	158	171	186	203
I	Bullard	Neches	11	12	13	15	16	17
I	County-Other, Cherokee	Neches	238	260	281	311	344	380
I	Craft Turney WSC	Neches	485	503	524	562	610	665
I	Gum Creek WSC	Neches	129	134	142	153	167	181
I	Irrigation, Cherokee	Neches	451	451	451	451	451	451
I	Jacksonville	Neches	3,045	3,247	3,457	3,745	4,076	4,440
I	Livestock, Cherokee	Neches	1,874	1,874	1,874	1,874	1,874	1,874
I	Manufacturing, Cherokee	Neches	115	129	129	129	129	129
I	Mining, Cherokee	Neches	295	304	267	204	141	97
I	New Summerfield	Neches	158	169	180	195	212	231
I	North Cherokee WSC	Neches	601	640	680	736	801	872
I	Pollok-Redtown WSC	Neches	14	14	15	15	16	17
I	Rusk	Neches	1,041	1,112	1,186	1,286	1,400	1,525
I	Rusk Rural WSC	Neches	301	316	332	358	388	423
I	South Rusk County WSC	Neches	6	7	7	8	8	9
I	Southern Utilities	Neches	712	749	791	847	914	991
I	Steam-Electric Power, Cherokee	Neches	3,211	3,211	3,211	3,211	3,211	3,211
I	Troup	Neches	15	16	17	19	20	22
I	Wells	Neches	141	150	159	172	187	204
I	West Jacksonville WSC	Neches	165	175	187	203	221	241
I	Wright City WSC	Neches	69	73	77	83	91	99
Sum of Projected Water Demands (acre-feet)			14,277	14,825	15,357	16,076	16,909	17,857

HENDERSON COUNTY*100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
C	Athens	Trinity	2,906	3,174	3,400	3,730	6,394	9,484
C	B B S WSC	Trinity	3	3	3	3	3	3
C	Bethel Ash WSC	Trinity	215	234	251	276	300	323
C	County-Other, Henderson	Trinity	304	220	226	139	53	113
C	Crescent Heights WSC	Trinity	163	166	174	186	233	296
C	Dogwood Estates Water	Trinity	183	190	202	217	273	346
C	East Cedar Creek FWSD	Trinity	1,351	1,500	1,669	1,853	2,059	2,288
C	Eustace	Trinity	126	132	140	203	263	315
C	Irrigation, Henderson	Trinity	582	582	582	582	582	582
C	Livestock, Henderson	Trinity	1,261	1,261	1,261	1,261	1,261	1,261

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C	Mabank	Trinity	736	806	880	1,144	1,593	2,218
C	Malakoff	Trinity	274	272	270	274	289	309
C	Manufacturing, Henderson	Trinity	806	985	985	985	985	985
C	Mining, Henderson	Trinity	434	506	481	484	479	469
C	Steam-Electric Power, Henderson	Trinity	3,709	3,709	3,709	3,709	3,709	3,709
C	Trinidad	Trinity	105	99	96	96	107	128
C	Virginia Hill WSC	Trinity	230	251	270	300	330	371
C	West Cedar Creek MUD	Trinity	938	968	996	1,046	1,311	1,647
I	Athens	Neches	56	59	61	65	68	72
I	Berryville	Neches	118	124	129	138	147	157
I	Bethel Ash WSC	Neches	321	350	376	414	450	486
I	Brownsboro	Neches	218	259	295	343	386	428
I	Brushy Creek WSC	Neches	79	80	81	84	89	93
I	Chandler	Neches	627	746	846	984	1,107	1,226
I	County-Other, Henderson	Neches	700	613	538	482	367	226
I	Edom WSC	Neches	22	23	24	26	27	30
I	Frankston	Neches	8	12	16	20	24	27
I	Irrigation, Henderson	Neches	303	303	303	303	303	303
I	Leagueville WSC	Neches	215	221	233	250	313	397
I	Livestock, Henderson	Neches	1,006	1,006	1,006	1,006	1,006	1,006
I	Mining, Henderson	Neches	77	86	77	59	40	28
I	Moore Station WSC	Neches	183	189	200	215	269	342
I	Murchison	Neches	94	91	89	88	88	89
I	R P M WSC	Neches	69	79	88	101	112	123
I	Virginia Hill WSC	Neches	166	182	195	217	237	257
Sum of Projected Water Demands (acre-feet)			18,588	19,481	20,152	21,283	25,257	30,137

A.3 PROJECTED SURFACE WATER SUPPLIES**ANDERSON COUNTY***100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
I	County-Other, Anderson	Neches	Palestine Lake/Reservoir	5	4	4	4	5	5
I	County-Other, Anderson	Trinity	Palestine Lake/Reservoir	42	43	43	43	42	42
I	Irrigation, Anderson	Neches	Neches Run-of-River	162	162	162	162	162	162
I	Irrigation, Anderson	Trinity	Trinity Run-of-River	1,060	1,060	1,060	1,060	1,060	1,060
I	Livestock, Anderson	Neches	Neches Livestock Local Supply	333	333	333	333	333	333
I	Livestock, Anderson	Trinity	Trinity Livestock Local Supply	684	684	684	684	684	684
I	Palestine	Neches	Palestine Lake/Reservoir	2,222	2,222	2,223	2,223	2,223	2,223
I	Palestine	Trinity	Palestine Lake/Reservoir	2,109	2,109	2,108	2,108	2,108	2,108
I	The Consolidated WSC	Trinity	Houston County Lake/Reservoir	59	60	61	61	61	61
Sum of Projected Surface Water Supplies (acre-feet)				6,676	6,677	6,678	6,678	6,678	6,678

CHEROKEE COUNTY*100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
I	Afton Grove WSC	Neches	Jacksonville Lake/Reservoir	132	141	150	164	178	194
I	County-Other, Cherokee	Neches	Jacksonville Lake/Reservoir	42	45	49	54	60	66
I	Craft Turney WSC	Neches	Jacksonville Lake/Reservoir	339	352	367	393	427	465
I	Gum Creek WSC	Neches	Jacksonville Lake/Reservoir	90	94	99	107	117	127
I	Irrigation, Cherokee	Neches	Neches Run-of-River	108	108	108	108	108	108
I	Irrigation, Cherokee	Neches	Palestine Lake/Reservoir	41	36	32	28	25	25
I	Jacksonville	Neches	Jacksonville Lake/Reservoir	2,131	2,273	2,420	2,621	2,853	3,108
I	Livestock, Cherokee	Neches	Neches Livestock Local Supply	1,555	1,555	1,555	1,555	1,555	1,555
I	Manufacturing, Cherokee	Neches	Jacksonville Lake/Reservoir	80	90	90	90	90	90
I	Mining, Cherokee	Neches	Neches Other Local Supply	19	19	19	19	19	19
I	North Cherokee WSC	Neches	Jacksonville Lake/Reservoir	417	444	473	512	557	607
I	Rusk	Neches	Rusk City Lake/Reservoir	40	40	40	40	40	40
I	Steam-Electric Power, Cherokee	Neches	Striker Lake/Reservoir	5,000	5,000	5,000	5,000	5,000	5,000
Sum of Projected Surface Water Supplies (acre-feet)				9,994	10,197	10,402	10,691	11,029	11,404

HENDERSON COUNTY*100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
C	Athens	Trinity	Athens Lake/Reservoir	897	1,170	1,377	1,685	2,837	3,373
C	County-Other, Henderson	Trinity	TRWD Lake/Reservoir System	251	147	135	61	0	36
C	East Cedar Creek FWSD	Trinity	TRWD Lake/Reservoir System	1,155	1,155	1,155	1,155	1,155	1,155
C	Irrigation, Henderson	Trinity	Trinity Run-of-River	415	415	415	415	415	415
C	Livestock, Henderson	Trinity	Trinity Livestock Local Supply	345	345	345	345	345	345
C	Mabank	Trinity	TRWD Lake/Reservoir System	474	477	483	474	471	471
C	Malakoff	Trinity	TRWD Lake/Reservoir System	28	25	20	21	30	39
C	Manufacturing, Henderson	Trinity	Athens Lake/Reservoir	278	378	396	418	499	531
C	Mining, Henderson	Trinity	TRWD Lake/Reservoir System	130	133	113	102	93	85
C	Steam-Electric Power, Henderson	Trinity	Trinidad Lake/Reservoir	3,050	3,050	3,050	3,050	3,050	3,050
C	Steam-Electric Power, Henderson	Trinity	TRWD Lake/Reservoir System	659	581	516	464	428	396
C	Trinidad	Trinity	Trinidad City Lake/Reservoir	450	450	450	450	450	450
C	West Cedar Creek MUD	Trinity	TRWD Lake/Reservoir System	938	853	779	737	851	989
I	Athens	Neches	Athens Lake/Reservoir	17	22	25	29	30	26
I	Irrigation, Henderson	Neches	Athens Lake/Reservoir	170	170	170	170	119	85
I	Irrigation, Henderson	Neches	Palestine Lake/Reservoir	82	73	64	57	51	51
I	Livestock, Henderson	Neches	Athens Lake/Reservoir	3,023	3,023	3,023	3,023	2,120	1,505
I	Livestock, Henderson	Neches	Neches Livestock Local Supply	770	770	770	770	770	770
Sum of Projected Surface Water Supplies (acre-feet)				13,132	13,237	13,286	13,426	13,714	13,772

A.4 THE DESIRED FUTURE CONDITIONS**Desired Future Conditions for Each County-Aquifer Unit in GMA 11
Expressed at Average Drawdown from 2013 to 2080 (ft)**

County	2013-2080 Average Drawdown (ft) Scenario 33, TM 21-01		
	Sparta Aquifer	Queen City Aquifer	Carrizo-Wilcox Aquifer
Anderson	30	44	155
Angelina	6	28	67
Bowie			12
Camp		11	85
Cass	66	34	79
Cherokee	7	31	176
Franklin			102
Gregg		49	109
Harrison		41	26
Henderson		33	106
Hopkins			61
Houston	3	12	86
Marion	123	32	32
Morris		39	78
Nacogdoches	7	22	73
Panola			21
Rains			17
Rusk	26	17	86
Sabine	1	3	9
San Augustine	2	7	22
Shelby	18	12	17
Smith	121	132	265
Titus		9	66
Trinity	5	18	56
Upshur	10	30	149
Van Zandt		73	55
Wood	9	16	122

A.5 PROJECTED WATER NEEDS WITHIN THE DISTRICT**ANDERSON COUNTY***100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
I	Anderson County Cedar Creek WSC	Trinity	101	100	98	96	96	96
I	B B S WSC	Trinity	131	130	127	124	124	124
I	B C Y WSC	Trinity	220	212	206	202	202	202
I	Brushy Creek WSC	Neches	181	177	171	167	166	166
I	Brushy Creek WSC	Trinity	107	104	101	98	98	98
I	County-Other, Anderson	Neches	87	88	87	86	86	86
I	County-Other, Anderson	Trinity	820	832	825	814	811	811
I	Elkhart	Trinity	249	251	249	246	246	246
I	Four Pines WSC	Trinity	336	335	331	326	325	325
I	Frankston	Neches	238	240	238	235	235	235
I	Frankston Rural WSC	Neches	171	171	168	166	166	166
I	Irrigation, Anderson	Neches	288	288	288	288	288	288
I	Irrigation, Anderson	Trinity	369	369	369	369	369	369
I	Livestock, Anderson	Neches	474	474	474	474	474	474
I	Livestock, Anderson	Trinity	552	552	552	552	552	552
I	Mining, Anderson	Neches	64	81	85	67	48	34
I	Mining, Anderson	Trinity	76	96	100	80	57	41
I	Neches WSC	Neches	199	199	196	193	192	192
I	Norwood WSC	Neches	129	126	124	123	123	123
I	Norwood WSC	Trinity	9	9	9	9	9	9
I	Palestine	Neches	2,512	2,548	2,542	2,522	2,519	2,519
I	Palestine	Trinity	2,384	2,418	2,411	2,393	2,390	2,390
I	Pleasant Springs WSC	Trinity	169	171	169	167	167	167
I	Slocum WSC	Neches	258	257	252	249	248	248
I	Slocum WSC	Trinity	27	27	27	26	26	26
I	Steam-Electric Power, Anderson	Neches	1,408	1,408	1,408	1,408	1,408	1,408
I	TDCJ Beto Gurney & Powledge Units	Trinity	1,129	1,150	1,152	1,145	1,144	1,144
I	TDCJ Coffield Michael	Trinity	3,116	3,195	3,214	3,205	3,203	3,203
I	The Consolidated WSC	Trinity	129	129	126	124	124	123
I	Tucker WSC	Trinity	127	126	124	122	121	121
I	Walston Springs WSC	Neches	263	260	255	250	249	249
I	Walston Springs WSC	Trinity	105	104	102	100	100	100
Sum of Projected Water Demands (acre-feet)			16,428	16,627	16,580	16,426	16,366	16,335

CHEROKEE COUNTY*100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
I	Afton Grove WSC	Neches	189	202	215	234	254	277
I	Alto	Neches	236	253	270	293	319	347
I	Alto Rural WSC	Neches	637	677	734	801	873	951
I	Blackjack WSC	Neches	138	147	158	171	186	203
I	Bullard	Neches	11	12	13	15	16	17
I	County-Other, Cherokee	Neches	238	260	281	311	344	380
I	Craft Turney WSC	Neches	485	503	524	562	610	665
I	Gum Creek WSC	Neches	129	134	142	153	167	181
I	Irrigation, Cherokee	Neches	451	451	451	451	451	451
I	Jacksonville	Neches	3,045	3,247	3,457	3,745	4,076	4,440
I	Livestock, Cherokee	Neches	1,874	1,874	1,874	1,874	1,874	1,874
I	Manufacturing, Cherokee	Neches	115	129	129	129	129	129
I	Mining, Cherokee	Neches	295	304	267	204	141	97
I	New Summerfield	Neches	158	169	180	195	212	231
I	North Cherokee WSC	Neches	601	640	680	736	801	872
I	Pollok-Redtown WSC	Neches	14	14	15	15	16	17
I	Rusk	Neches	1,041	1,112	1,186	1,286	1,400	1,525
I	Rusk Rural WSC	Neches	301	316	332	358	388	423
I	South Rusk County WSC	Neches	6	7	7	8	8	9
I	Southern Utilities	Neches	712	749	791	847	914	991
I	Steam-Electric Power, Cherokee	Neches	3,211	3,211	3,211	3,211	3,211	3,211
I	Troup	Neches	15	16	17	19	20	22
I	Wells	Neches	141	150	159	172	187	204
I	West Jacksonville WSC	Neches	165	175	187	203	221	241
I	Wright City WSC	Neches	69	73	77	83	91	99
Sum of Projected Water Demands (acre-feet)			14,277	14,825	15,357	16,076	16,909	17,857

HENDERSON COUNTY*100% (multiplier)*

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
C	Athens	Trinity	2,906	3,174	3,400	3,730	6,394	9,484
C	B B S WSC	Trinity	3	3	3	3	3	3
C	Bethel Ash WSC	Trinity	215	234	251	276	300	323
C	County-Other, Henderson	Trinity	304	220	226	139	53	113
C	Crescent Heights WSC	Trinity	163	166	174	186	233	296
C	Dogwood Estates Water	Trinity	183	190	202	217	273	346
C	East Cedar Creek FWSD	Trinity	1,351	1,500	1,669	1,853	2,059	2,288
C	Eustace	Trinity	126	132	140	203	263	315
C	Irrigation, Henderson	Trinity	582	582	582	582	582	582
C	Livestock, Henderson	Trinity	1,261	1,261	1,261	1,261	1,261	1,261

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C	Mabank	Trinity	736	806	880	1,144	1,593	2,218
C	Malakoff	Trinity	274	272	270	274	289	309
C	Manufacturing, Henderson	Trinity	806	985	985	985	985	985
C	Mining, Henderson	Trinity	434	506	481	484	479	469
C	Steam-Electric Power, Henderson	Trinity	3,709	3,709	3,709	3,709	3,709	3,709
C	Trinidad	Trinity	105	99	96	96	107	128
C	Virginia Hill WSC	Trinity	230	251	270	300	330	371
C	West Cedar Creek MUD	Trinity	938	968	996	1,046	1,311	1,647
I	Athens	Neches	56	59	61	65	68	72
I	Berryville	Neches	118	124	129	138	147	157
I	Bethel Ash WSC	Neches	321	350	376	414	450	486
I	Brownsboro	Neches	218	259	295	343	386	428
I	Brushy Creek WSC	Neches	79	80	81	84	89	93
I	Chandler	Neches	627	746	846	984	1,107	1,226
I	County-Other, Henderson	Neches	700	613	538	482	367	226
I	Edom WSC	Neches	22	23	24	26	27	30
I	Frankston	Neches	8	12	16	20	24	27
I	Irrigation, Henderson	Neches	303	303	303	303	303	303
I	Leagueville WSC	Neches	215	221	233	250	313	397
I	Livestock, Henderson	Neches	1,006	1,006	1,006	1,006	1,006	1,006
I	Mining, Henderson	Neches	77	86	77	59	40	28
I	Moore Station WSC	Neches	183	189	200	215	269	342
I	Murchison	Neches	94	91	89	88	88	89
I	R P M WSC	Neches	69	79	88	101	112	123
I	Virginia Hill WSC	Neches	166	182	195	217	237	257
Sum of Projected Water Demands (acre-feet)			18,588	19,481	20,152	21,283	25,257	30,137

A.6 PROJECTED WATER MANAGEMENT STRATEGIES

ANDERSON COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
Elkhart, Trinity (I)							
Elkhart - Municipal Conservation	DEMAND REDUCTION [Anderson]	4	6	6	7	7	8
		4	6	6	7	7	8
Frankston, Neches (I)							
Frankston - Municipal Conservation	DEMAND REDUCTION [Anderson]	4	6	7	7	7	8
		4	6	7	7	7	8
Norwood WSC, Neches (I)							
Norwood WSC - Municipal Conservation	DEMAND REDUCTION [Anderson]	2	0	0	0	0	0
		2	0	0	0	0	0
Palestine, Neches (I)							
Palestine - Municipal Conservation	DEMAND REDUCTION [Anderson]	42	66	72	77	83	88
		42	66	72	77	83	88
Palestine, Trinity (I)							
Palestine - Municipal Conservation	DEMAND REDUCTION [Anderson]	39	63	68	73	78	84
		39	63	68	73	78	84
Pleasant Springs WSC, Trinity (I)							
Pleasant Springs WSC - Municipal Conservation	DEMAND REDUCTION [Anderson]	2	4	5	5	5	6
		2	4	5	5	5	6
TDCJ Beto Gurney & Powledge Units, Trinity (I)							
TDCJ Beto Gurney & Powledge Units - Municipal Conservation	DEMAND REDUCTION [Anderson]	16	27	29	30	32	34
		16	27	29	30	32	34
TDCJ Coffield Michael, Trinity (I)							
TDCJ Coffield Michael - Municipal Conservation	DEMAND REDUCTION [Anderson]	44	75	80	85	91	96
		44	75	80	85	91	96
Sum of Projected Water Management Strategies (acre-feet)		153	247	267	284	303	324

CHEROKEE COUNTY

WUG, Basin (RWP6)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
Alto, Neches (I)							
Alto - Municipal Conservation	DEMAND REDUCTION [Cherokee]	4	6	7	7	9	10
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	428	428	428	428	86
		4	434	435	435	437	96
Alto Rural WSC, Neches (I)							
Alto Rural WSC - Municipal Conservation	DEMAND REDUCTION [Cherokee]	9	16	18	21	25	28
CHER-ALT-New Wells in Carrizo-Wilcox Aquifer	Carrizo-Wilcox Aquifer [Cherokee]	0	0	0	191	191	191
		9	16	18	212	216	219
Blackjack WSC, Neches (I)							
Blackjack WSC - Municipal Conservation	DEMAND REDUCTION [Cherokee]	2	3	4	5	5	6
		2	3	4	5	5	6
County-Other, Cherokee, Neches (I)							
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	3,848	3,848	3,848	3,848	773
		0	3,848	3,848	3,848	3,848	773
Jacksonville, Neches (I)							
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	4,275	4,275	4,275	4,275	4,275
Jacksonville - Municipal Conservation	DEMAND REDUCTION [Cherokee]	50	85	110	129	152	178
		50	4,360	4,385	4,404	4,427	4,453
Mining, Cherokee, Neches (I)							
CHER-MIN-Purchase from Angelina Neches River Authority (Angelina River)	Neches Run-of-River [Cherokee]	0	247	210	147	84	40
		0	247	210	147	84	40
New Summerfield, Neches (I)							
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	2,565	2,565	2,565	2,565	515
		0	2,565	2,565	2,565	2,565	515
North Cherokee WSC, Neches (I)							
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	4,275	4,275	4,275	4,275	858
		0	4,275	4,275	4,275	4,275	858
Rusk, Neches (I)							
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	4,275	4,275	4,275	4,275	858
CHER-RUS New Wells in Carrizo-Wilcox Aquifer	Carrizo-Wilcox Aquifer [Cherokee]	0	0	0	0	0	122
Rusk - Municipal Conservation	DEMAND REDUCTION [Cherokee]	15	26	30	34	40	46
		15	4,301	4,305	4,309	4,315	1,026
Rusk Rural WSC, Neches (I)							
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	855	855	855	855	172
		0	855	855	855	855	172

Southern Utilities, Neches (I)

WUG-CONS-Municipal Conservation-Southern Utilities	DEMAND REDUCTION [Cherokee]	53	91	H3	139	170	205
		53	91	U3	B9	170	205
Wright City WSC, Neches (I)							
ANRA-COL - Lake Columbia	Columbia Lake/Reservoir [Reservoir]	0	145	144	141	138	28
		0	145	144	H1	138	28
Wells, Neches (I)							
Wells - Municipal Conservation	DEMAND REDUCTION [Cherokee]	2	0	0	0	0	0
		2	0	0	0	0	0
Wright City WSC, Neches (I)							
G-ER-WCW-Ne1+1 Wells in cantm-Wilcox Aquifer	C. mizo-n/lnx Aquifer [Cherokee]	0	0	0	25	71	99
		0	0	0	25	71	99
5111111 of Projected Water Management Strategies (acre-feet)		135	21,140	21,157	21,360		8,490

HENDERSON COUNTY

WIUG, Ilasin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
Athens, Trinity (C)							
AMWA Athens Fish Hatchery Reuse	Indirect Reuse [Henderson]	0	0	0	0	532	1,803
Athens MWA - New Well(s) in cantm-Wilcox Aquifer	C. mizo-Wilcox Aquifer [Henderson]	0	0	0	0	408	1,383
Conservation - Athens	DEMAND REDUCTION [Henderson]	14	77	111	134	251	404
Conservation - Waste Prohibition, Athens	DEMAND REDUCTION [Henderson]	0	10	12	15	31	50
Conservation, Inigation Restrictions - Athens	DEMAND REDUCTION [Henderson]	0	89	ms	116	201	299
Conservation, Water Loss Control - Athens	DEMAND REDUCTION [Henderson]	15	16	0	0	0	0
		29	192	228	265	11,423	3,939
Bethel Ash WSC, Trinity (C)							
Conservation - Bethel-Ash WSC	DEMAND REDUCTION [Henderson]	2	3	3	4	5	6
Conservation, Water Loss Control - Bethel-Ash WSC	DEMAND REDUCTION [Henderson]	1		0	0	0	0
		3		3	4	5	6
County-Water, Henderson, Trinity (C)							
Conservation - Henderson County	DEMAND REDUCTION [Henderson]	1		2	2	1	2
Conservation, Water Loss Control - Henderson County	DEMAND REDUCTION [Henderson]	2		0	0	0	0
Marvin Nichols (328) Strategy for NTMWD, TRWD, and LJTRWD	Marvin Nichols Lake/Reservoir [Reservoir]	0	0	0		0	8
TRWD- Additional Cedar Creek and	Indirect Reuse [Nava, rn]	0	9	9	4	0	2

Richland-Chambers

TRWD - Aquifer Storage and Recovery Pilot	Trinity Aquifer ASR [Tarrant]	0	0	1	0	0	0
TRWD - Cimizo-Wilcox Groundwater	Cimizo-Wilcox Aquifer [Anderson]	0	0	3	1	0	1
TRWD - Cimizo-Wilcox Groundwater	Cimizo-Wilcox Aquifer [Freestone]	0	0	39	27	0	25
TRWD - Cimizo-Wilcox Groundwater	Queen City Aquifer [Anderson]	0	0	3	1	0	0
TRWD - Cedar Creek Wetlands	Indirect Reuse [Henderson]	0	6	10	4	0	4
TRWD - Release from TRA Central WWTP	Indirect Reuse [Dallas]	0	3	5	2	0	3
TRWD - Tehuacana, Lake/Reservoir	Tehuacana Lake/Reservoir [Reservoir]	0	0	4	1	0	0
TRWD - Unallocated Supply Utilization	TRWD Lake/Reservoir System [Reservoir]	0	0	1	0	0	0
Wright Patman Reallocation for NTMWD, TRWD, and UTRWD	Wright Patman Lake/Reservoir [Reservoir]	0	0	0	0	0	3
		3	20	77	52	1	49
Crescent Heights WSC, Trinity (C)							
Conservation - Crescent Heights WSC	DEMAND REDUCTION [Henderson]	1	1	2	2	4	6
Conservation, Water Loss Control - Crescent Heights WSC	DEMAND REDUCTION [Henderson]	1	1	0	0	0	0
		2	2	2	2	4	6
Dogwood Estates Water, Trinity (C)							
Conservation - Dogwood Estates Water	DEMAND REDUCTION [Henderson]			2	3	5	7
Conservation, Water Loss Control - Dogwood Estates Water	DEMAND REDUCTION [Henderson]			0	0	0	0
Dogwood Estates Water - New Well(s) in Cimizo-Wilcox Aquifer	Cimizo-Wilcox Aquifer [Henderson]	0	0	5	19	73	144
		2	2	7	22	78	151
East Cedar Creek FWSD, Trinity (C)							
Conservation - East Cedar Creek FWSD	DEMAND REDUCTION	7	14	21	30	39	52
Conservation, Water Loss Control - East Cedar Creek FWSD	DEMAND REDUCTION [Henderson]	7	8	0	0	0	0
Marvin Nichols (328) Strategy for NTMWD, TRWD, and UTRWD	Marvin Nichols Lake/Reservoir [Reservoir]	0	0	0	286	352	377
TRWD - Additional Cedar Creek and Richland-Chambers	Indirect Reuse [Naita]	0	158	16	86	99	93
TRWD - Aquifer Storage and Recovery Pilot	Trinity Aquifer ASR [Tarrant]	0	6	12	9	11	11
TRWD - Cimizo-Wilcox Groundwater	Cimizo-Wilcox Aquifer [Anderson]	0	0	45	32	39	42
TRWD - Cimizo-Wilcox Groundwater	Cimizo-Wilcox Aquifer [Freestone]	0	0	6	5	6	6
TRWD - Cimizo-Wilcox Groundwater	Queen City Aquifer [Anderson]	0	0	27	18	22	24
TRWD - Cedar Creek Wetlands	Indirect Reuse [Henderson]	0	99	18	121	176	198
TRWD - Release from TRA Central WWTP	Indirect Reuse [Dallas]	0	52	73	68	105	135

TRWD - Tehuacana Lake/Reservoir	Tehuacana Lake/Reservoir [Reservoir]	0	0	51	36	44	47
TRWD - Unallocated Supply Utilization	TRWD Lake/Reservoir System [Reservoir]	182	8	8	7	10	20
Wright Patman Reallocation for NIIMWD, TRWD, and UTRWD	Wright Patman Lake/Reservoir [Reservoir]	0	0	0	0	0	128
		196	345	514	698	904	1,133
Eustace, Trinity (C)							
Conservation - Eustace	DEMAND REDUCTION [Henderson]	0	1	1	3	4	6
Conservation, Water Loss Control - Eustace	DEMAND REDUCTION [Henderson]	1		0	0	0	0
Eustace - New Well(s) in Canizo-Wilcox Aquifer	Canizo-Wilcox Aquifer [Henderson]	0	0	0	41	100	150
		1	2	1	44	104	156
Irrigation, Henderson, Trinity (C)							
AMWA Athens Fish Hatchery Reuse	Indirect: Reuse [Henderson]	0	0	0	0	19	32
Athens MWA - New Well(s) in Canizo-Wilcox Aquifer	Canizo-Wilcox Aquifer [Henderson]	0	0	0	0	0	0
		0	0	0	0	19	32
Livestock, Henderson, Trinity (C)							
AMWA Athens Fish Hatchery Reuse	Indirect: Reuse [Henderson]	0	0	0	0	0	0
Athens MWA - New Well(s) in Canizo-Wilcox Aquifer	Canizo-Wilcox Aquifer [Henderson]	0	0	0	0	0	0
Livestock, Henderson - New Well(s) in Canizo-Wilcox Aquifer	Canizo-Wilcox Aquifer [Henderson]	403	403	403	403	403	403
		4,03	403	403	403	403	403
Mabank, Trinity (C)							
Conservation - Mabank	DEMAND REDUCTION [Henderson]	12	21	27	38	61	92
Conservation - Waste Prohibition, Mabank	DEMAND REDUCTION [Henderson]	4	4	5	7	10	14
Conservation, Irrigation Restrictions - Mabank	DEMAND REDUCTION [Henderson]	20	25	27	35	49	69
Conservation, Water Loss Control - Mabank	DEMAND REDUCTION [Henderson]	4	4	0	0	0	0
Major Needs (328) - Subtotal for NIIMWD, TRWD, and UTRWD	Major Needs [Reservoir]	0	0	0	252	408	549
TRWD - Additional Cedar Creek and Richland Wetlands	Indirect: Reuse [Nacogdoches]	0	134	93	78	114	133
TRWD - Aquifer Storage and Recovery Pilot	Trinity Aquifer ASR [Tarrant]	0	6	8	8	12	16
TRWD - Canizo-Wilcox Groundwater	Canizo-Wilcox Aquifer [Anderson]	0	0	31	28	45	62
TRWD - Canizo-Wilcox Groundwater	Canizo-Wilcox Aquifer [Freestone]	0	0	5	4	6	9
TRWD - Canizo-Wilcox Groundwater	Queen City Aquifer [Anderson]	0	0	17	16	26	34
TRWD - Cedar Creek Wetlands	Indirect: Reuse [Henderson]	0	84	93	106	205	288
TRWD - Reuse from Trinity Centrifugal WWT	Indirect: Reuse [Dallas]	0	44	50	60	122	197

TRWD - Tehuacana	i;ehuacana Lake/Reservoir [Reservoir]	0	0	35	32	52	69
TRWD - Umalloated Supply UtilitZation	TRWD Lake/Reservoir System [Reservoir]	222	7	6	6	12	29
Wright PatmamReallocation for NTMWD, TRWD, and UTRWD	Wright Patman Lake/Reservoir [Reservoir]	0	0	0	0	0	186
		262	329	397	670	111,12.2	1,747
Malakoff, 7T1ri11ity (C)							
Conseivalion - Malakoff	DEMA D REDUCTION [Hendeison]	1	2	3	4	5	6
Conseivalion, Weter Loss Gontrol - Mclakoff	DEMA D REDUCTION [Hendeison]	1		0	0	0	0
Marvin Nfchols ,(328) Strategy for NTMWD, TRWD, and UTRWD	Marvin Nichols Lake/Reservoir [Reservoir]	0	0	0	2	4	7
TRWD - Additional Cedar O'eeek and Richland"Chambers	mdirect: Reuse [Navarro]	0	0	2	1		2
TRWD - Aquifer Storage and Recovery Pilot	Trinity Aquifer-ASR [Tarrant]	0	0	0	0	0	0
TRWD - cm-iw-Wilcox Gmundwater	Ginizo-Wilcox Aquifer [Amderson]	0	0	0	0		
TRWD - carrico-Wilcox Gmundwater	Ginizo-Wilcox Aquifer [Freestone]	0	0	0	0	0	0
TRWD - cari-iw-Wilcox Gmundwater	Queen City Aquifer- [Amderson]	0	0	0	0	0	0
TRWD - Cedar Creek Wetlands	mdirect Reuse [Hendeison]	0	0		1	2	4
TRWD - Reuse from TRA Central WWTP	mdirect Reuse [Dallas]	0	0	0	1	1	3
TRWD - Tehuccana	i;ehuacanil Lake/Reservoir [Reservoir]	0	0	0	0		
TRWD - Umalloated Supply UtilitZation	TRWD Lake/Reservoir System [Reservoir]	0	0	0	0	0	0
Wright PatmamReallocation for NTMWD, TRWD, and UTRWD	Wright Patman Lake/Reservoir [Reservoir]	0	0	0	0	0	2
		2	3	6	9	15	26
Mining, Henderson, 7T1ri11ity (C)							
Milrvin Nfchols ,(328) Strategy for NTMWD, TRWD, and UTRWD	Marvin Nfchols Lake/Reservoir [Reservoir]	0	0	0	19	21	20
TRWD - Additional Cedar O'eeek and Richland"Chambers	mdirect Reuse [Navarro]	0	8	8	5	5	4
TRWD - Aquifer Storage and Recovery Pilot	Trinity Aquifer ASR [Tarrant]	0	0		1		
TRWD - cari-iw-Wilcox Gmundwater	Ginizo-Wilcox Aquifer [Amderson]	0	0	3	2	2	2
TRWD - can-iw-Wilcox Gmundwater	Ginizo-Wilcox Aquifer [Freestone]	0	0	0	0	0	0
TRWD - cari-iw-Wilcox Gmundwater	Queen City Aquifer- [Amderson]	0	0	2	2	2	2
TRWD - Cedar Creek Wetlands	mdirect: Reuse [Hendeison]	0	6	9	8	10	11
TRWD - Reuse from TRA Central WWTP	mdirect: Reuse [Dallas]	0	3	5	4	6	7
TRWD - Tehuacana	i;ehuacana Lake/Reservoir [Reservoir]	0	0	3	2	3	2
TRWD - Umalloated Supply UtilitZation	TRWD Lake/Reservoir System [Reservoir]	0	0	0	0		

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Wright Patman Reallocation for NTMWD, TRWD, and UTRWD	Wright Patman Lake/Reservoir [Reservoir]	0	0	0	0	0	7
		0	17	31	43	51	56
Steam-Electric Power, Henderson, Trinity (C)							
Marvin Nichols (328) Strategy for NTMWD, TRWD, and UTRWD	Marvin Nichols Lake/Reservoir [Reservoir]	0	0	0	83	94	92.
TRWD- Additional Cedar Creek and Richland-Chambers	Indirect Reuse [Navarro]	0	38	39	2.7	26	21
TRWD- Aquifer Storage and Recovery Pilot	Trinity Aquifer ASR [Tarrant]	0	2	4	2	3	3
TRWD- Gifford-Wilcox Groundwater	Gifford-Wilcox Aquifer [Anderson]	0	0	14		11	11
TRWD - Gifford-Wilcox Groundwater	Gifford-Wilcox Aquifer [Freestone]	0	0	2	1	1	1
TRWD - Gifford-Wilcox Groundwater	Queen City Aquifer [Anderson]	0	0	7	5	6	6
TRWD- Cedar Creek Wetlands	Indirect Reuse [Henderson]	0	24	39	35	47	48
TRWD- Reuse from TRA Gentilly WWTP	Indirect Reuse [Dallas]	0	12	21	20	28	33
TRWD- Tehuacana	Tehuacana Lake/Reservoir [Reservoir]	0	0	15		12	12.
TRWD- Unallocated supply utilization	TRWD Lake/Reservoir System [Reservoir]	0	2	2	2	3	5
Wright Patman Reallocation for NTMWD, TRWD, and UTRWD	Wright Patman Lake/Reservoir [Reservoir]	0	0	0	0	0	31
		0	78	141	195	231	263
Trinidad, Trinity (C)							
Conservation - Trinidad	DEMAND REDUCTION [Henderson]	0			1	2	3
Conservation, Water Loss Control - Trinidad	DEMAND REDUCTION [Henderson]		0	0	0	0	0
		1	1	1	1	2	3
Virginia Hill WSC, Trinity (C)							
Conservation - Virginia Hill WSC	DEMAND REDUCTION [Henderson]	1	2	3	4	6	7
Conservation, Water Loss Control - Virginia Hill WSC	DEMAND REDUCTION [Henderson]	1		0	0	0	0
		2	3	3	4		7
West Cedar Creek MUD, Trinity (C)							
Conservation - West Cedar Creek MUD	DEMAND REDUCTION [Henderson]	5	8	12	16	25	37
Conservation, Water Loss Control - West Cedar Creek MUD	DEMAND REDUCTION [Henderson]	5	5	0	0	0	0
Marvin Nichols (328) Strategy for NTMWD, TRWD, and UTRWD	Marvin Nichols Lake/Reservoir [Reservoir]	0	0	0	12.5	177	217
TRWD- Additional Cedar Creek and Richland-Chambers	Indirect Reuse [Navarro]	0	49	56	38	50	53
TRWD- Aquifer Storage and Recovery Pilot	Trinity Aquifer ASR [Tarrant]	0	2	5	4	5	6
TRWD - Gifford-Wilcox Groundwater	Gifford-Wilcox Aquifer [Anderson]	0	0	18	14	20	24
TRWD- Gifford-Wilcox Groundwater	Gifford-Wilcox Aquifer [Freestone]	0	0	3	2	3	3

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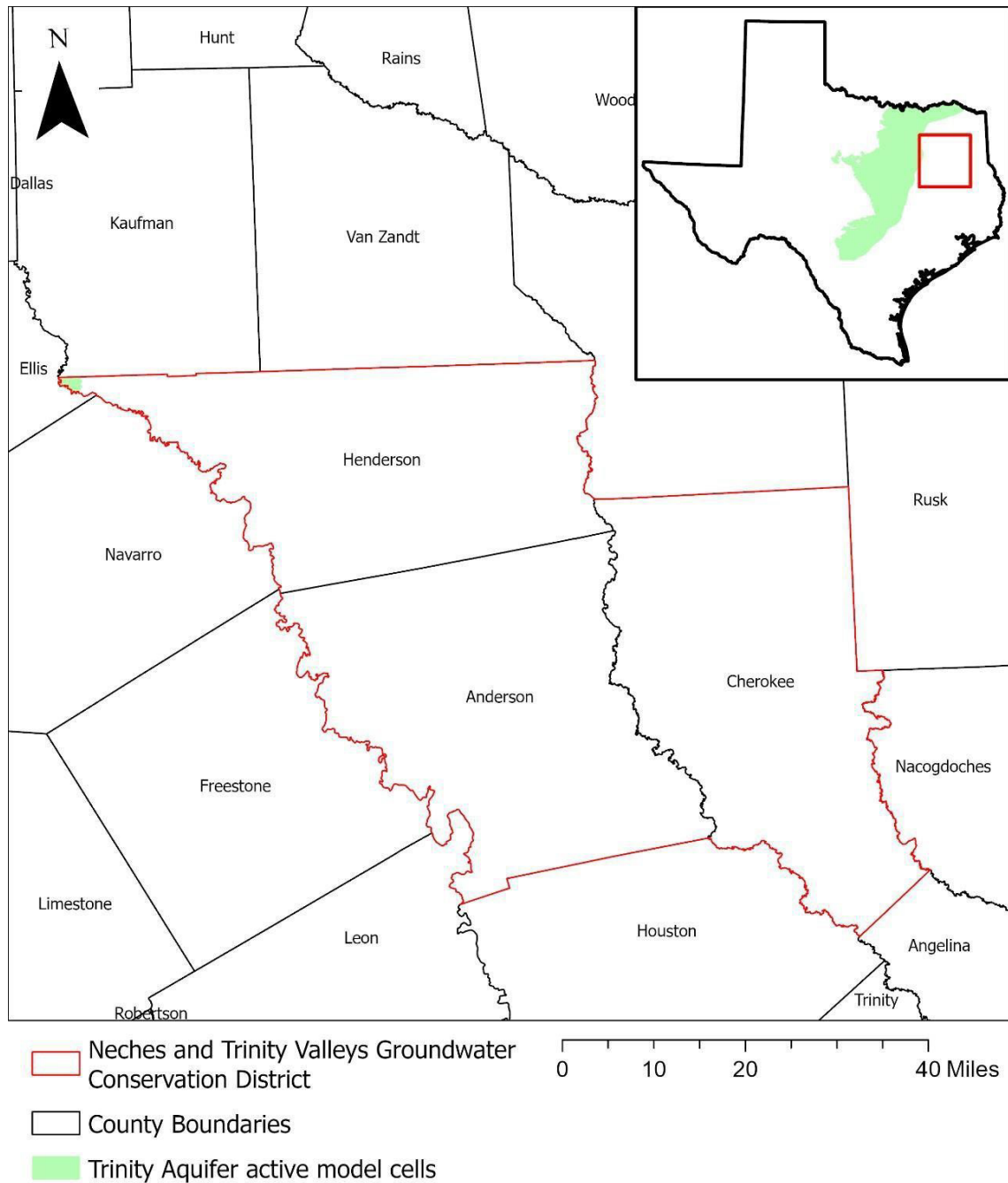
TRWD - cant o--Wikox Gmund1,ater	Queen City Aquife1-[Andei-son]	0	0	10	8	H	15
TRWD - Cedar Creek Wel:lands	mdirect Reuse [Henderson]	0	32	57	53	89	114
TRWD - Reuse from TRA Central WWTP	mdirect: Reuse [Dallas]	0	17	31	30	53	78
TRWD - Tehuacana	i;ehuacana Lake/Reseivoir [Reservoir]	0	0	2.2.	16	22	27
TRWD - IJm.allocated Supply Utilization	TRWD Lake/Resa1voir System [Resarvoir]	0	2	3	3	5	11
Wright Patman Reallocation for NTIMWD, TRWD, and LJTRWD	Wlight Patman Lake/Reservoir [Reseivoir]	0	0	0	0	0	73
		10	115	21L7	309	460	,658
Athens, Neches (I)							
/JlcMWA Athens Fish Hatchey Reuse	mdirect: Reus-e [Hendeison]	0	0	0	0	6	14
Athens MINA - New Well(s) in ca11iz o-- W/cox Aquifer	Clrm.o-Wilcox Aquifer [Hendeison]	0	0	0	0	4	W
HDS -ATN-Advan(Jed Cornselvation	DEMA D REDUmON [Hendeison]	7	13	16	20	23	27
		7		16	20	33	51
BrownsImm, Neche-S (0)							
Brownsboro - Municipal Cornselvation	DEMA D REDUmON [Hendeison]	3	0	0	0	0	0
		3	0	0	0	0	0
Chandler, Neches (E)							
Chandler - M!!ncipal Gonselvation	DEMA D REDUmON [Hendeison]	9	17	21	26	32	36
HDS --CHN- ew Wells in canilZo-Wilcox Aquifer	carm.o-Wilcox Aquifer (H e n d e i s o n)	0	0	0	0	0	101
IY L- JPAL-Existing Surplus for Tylei-	Palestine LalkefReseivoir [Reservoir]	0	0	0	35()	350	350
		9	i7	21	376	382	487
Eidom WSC, INeche-S (I)							
Drill N w Wells (Edom WSC, Van Zandt, caniw, eches)	carlizo-Wilcox Aquifer [Van Zandt]	2	3	4	5	7	9
		2	3	4	5	7	9
Irrigation, Henderson, INedhes (I)							
AlMWA Athens Rsh Hatchey Reuse	mdirect:Reus-e [Hendeison]	0	0	0	0	10	16
Alhms MWA - New Well(s) in canizo-- W/cox Aquifer	carlizo-Wilcox Aquifer [Hendeison]	0	0	0	0	20	34
		0	0	0	0	30	50
Live-Stodlc, Henderson, N'eches (I)							
AlMWA Athens Rsh Hatchey Reuse	mdirect:Reus-e [Hendeison]	0	0	0	0	2.27	381
Alhms MWA - New Well(s) in canizo-- W/cox Aquifer	Dmizo-Wilcox Aquifer [Hendeison]	0	0	0	0	158	266
		0	0	0	0	385	,647
Mining, Henderson, Neches (I)							
HDS -MI -New Wells in canizo-Wilcox Aquifer	canizo-Wilcox Aquifer [Hendeison]	0	19	10	0	0	0

TRWD - Additional Cedar Creek and Richland-Chambers	Indirect Reuse [Navarro]	0	2	0	0	0	0
TRWD - Carrizo-Wilcox Groundwater	Carrizo-Wilcox Aquifer [Anderson]	0	0	0	0	0	0
TRWD - Carrizo-Wilcox Groundwater	Carrizo-Wilcox Aquifer [Freestone]	0	0	0	0	0	0
TRWD - Carrizo-Wilcox Groundwater	Queen City Aquifer [Anderson]	0	0	0	0	0	0
TRWD - Tehuacana	Tehuacana Lake/Reservoir [Reservoir]	0	0	0	0	0	0
TRWD - Unallocated Supply Utilization	TRWD Lake/Reservoir System [Reservoir]	0	0	0	0	0	0
Wright Patman Reallocation for NTMWD, TRWD, and UTRWD	Wright Patman Lake/Reservoir [Reservoir]	0	0	0	0	0	0
		0	21	10	0	0	0
Moore Station WSC, Neches (I)							
HDSN-MSW-New Wells in Carrizo-Wilcox Aquifer	Carrizo-Wilcox Aquifer [Henderson]	0	0	0	0	38	111
		0	0	0	0	38	111
R P M WSC, Neches (I)							
Drill New Wells (R-P-M WSC, Carrizo-Wilcox, Neches)	Carrizo-Wilcox Aquifer [Van Zandt]	0	7	16	27	38	48
		0	7	16	27	38	48
Sum of Projected Water Management Strategies (acre-feet)		937	1,577	2,100	3,149	5,741	10,038

A.7 ANNUAL WATER BUDGET VALUES

Table 1: Summarized information for the Trinity Aquifer that is needed for the Neches & Trinity Valleys Groundwater Conservation District 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	0
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Trinity Aquifer	0
Estimated annual volume of flow into the district within each aquifer in the district	Trinity Aquifer	98
Estimated annual volume of flow out of the district within each aquifer in the district	Trinity Aquifer	167
Estimated net annual volume of flow between each aquifer in the district	To Trinity Aquifer from Trinity equivalent units	68



County boundaries date = 11.07.2023
 Groundwater Conservation District boundaries date = 11.07.2023
 Northern Trinity and Woodbine Aquifers grid date = 01.29.2024

Figure 1: Area of the groundwater availability model for the Northern Trinity and Woodbine aquifers from which the information in Table 1 was extracted (the Trinity Aquifer extent within the district boundary).

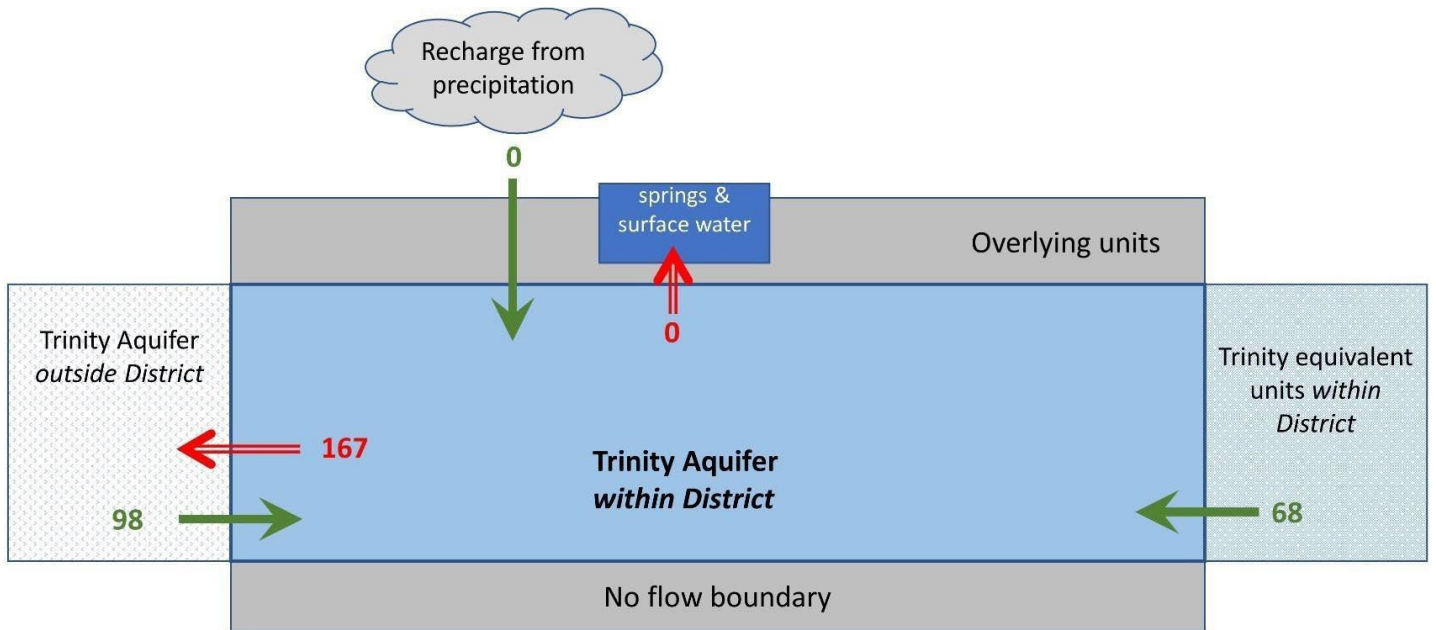
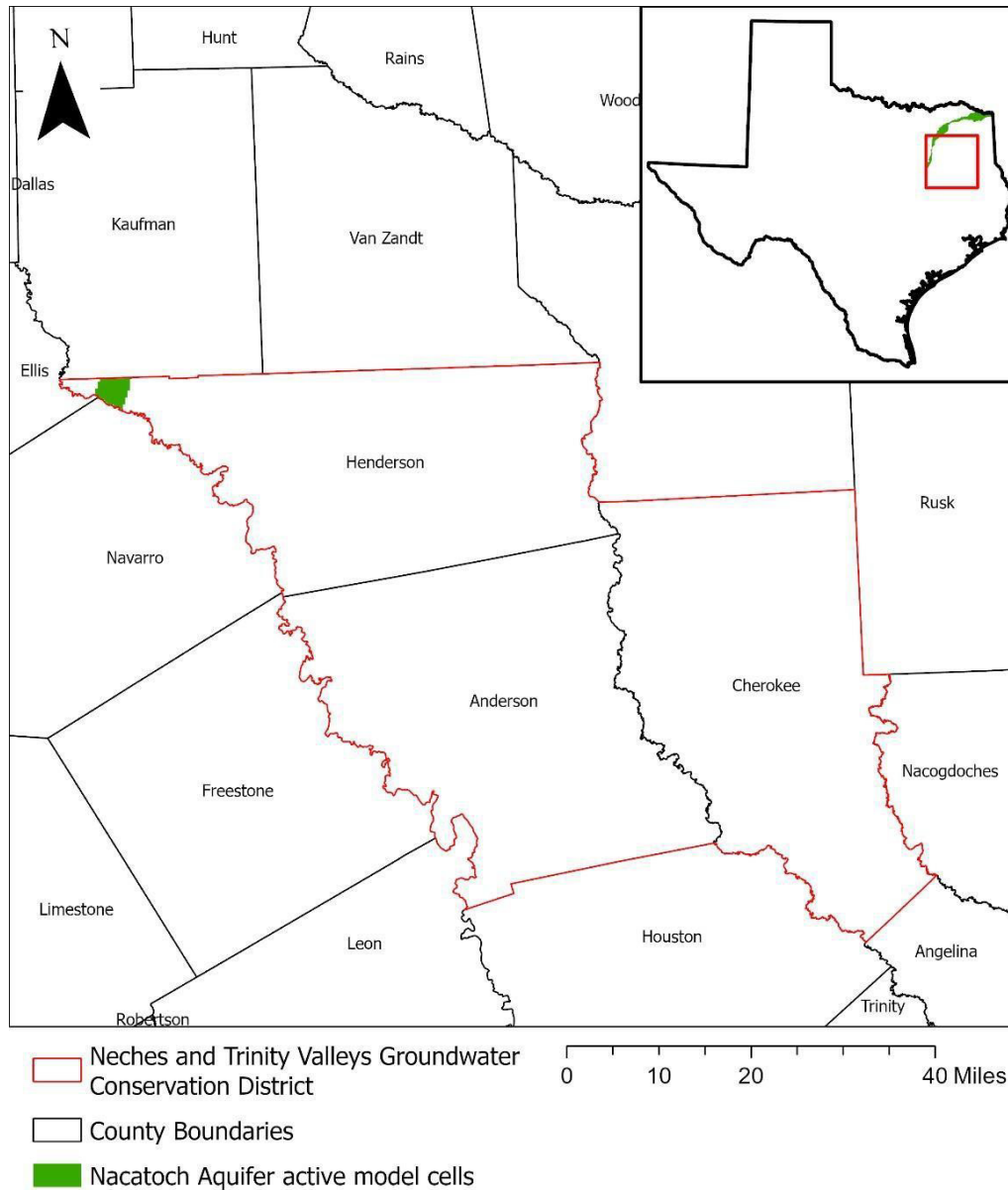


Figure 2: Generalized diagram of the summarized budget information from Table 1, representing directions of flow for the Trinity Aquifer within the Neches & Trinity Valleys Groundwater Conservation District. Flow values are expressed in acre-feet per year.

Table 2: Summarized information for the Nacatoch Aquifer that is needed for the Neches & Trinity Valleys Groundwater Conservation District 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	Nacatoch Aquifer	56
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Nacatoch Aquifer	357
Estimated annual volume of flow into the district within each aquifer in the district	Nacatoch Aquifer	428
Estimated annual volume of flow out of the district within each aquifer in the district	Nacatoch Aquifer	101
Estimated net annual volume of flow between each aquifer in the district	To Nacatoch Aquifer from Nacatoch equivalent units	518
	To Nacatoch Aquifer from overlying units	211



County boundaries date = 11.07.2023
 Groundwater Conservation District boundaries date = 11.07.2023
 Nacatoch Aquifer grid date = 10.12.2023

Figure 3: Area of the groundwater availability model for the Nacatoch Aquifer from which the information in Table 2 was extracted (the Nacatoch Aquifer extent within the district boundary).

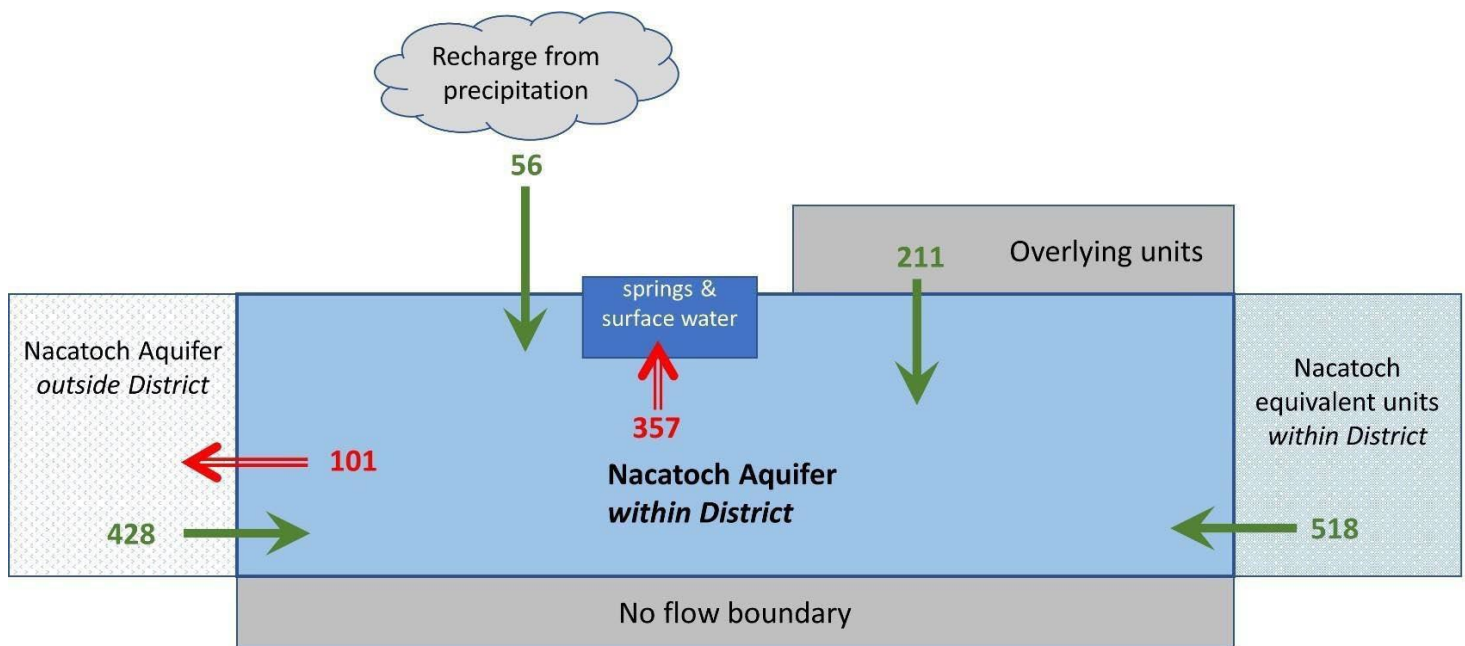


Figure 4: Generalized diagram of the summarized budget information from Table 2, representing directions of flow for the Nacatoch Aquifer within the Neches & Trinity Valleys Groundwater Conservation District. Flow values are expressed in acre-feet per year.

Table 3: Summarized information for the Carrizo-Wilcox Aquifer that is needed for the Neches & Trinity Valleys Groundwater Conservation District 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	Carrizo-Wilcox Aquifer	14,528
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Carrizo-Wilcox Aquifer	5,884
Estimated annual volume of flow into the district within each aquifer in the district	Carrizo-Wilcox Aquifer	15,233
Estimated annual volume of flow out of the district within each aquifer in the district	Carrizo-Wilcox Aquifer	16,353
Estimated net annual volume of flow between each aquifer in the district	To Carrizo-Wilcox Aquifer from Carrizo-Wilcox equivalent units	30
	To Carrizo-Wilcox Aquifer from Alluvium	3,376
	To Carrizo-Wilcox Aquifer from Queen City Aquifer	4,506
	To Carrizo-Wilcox Aquifer from Reklaw Formation	7,174

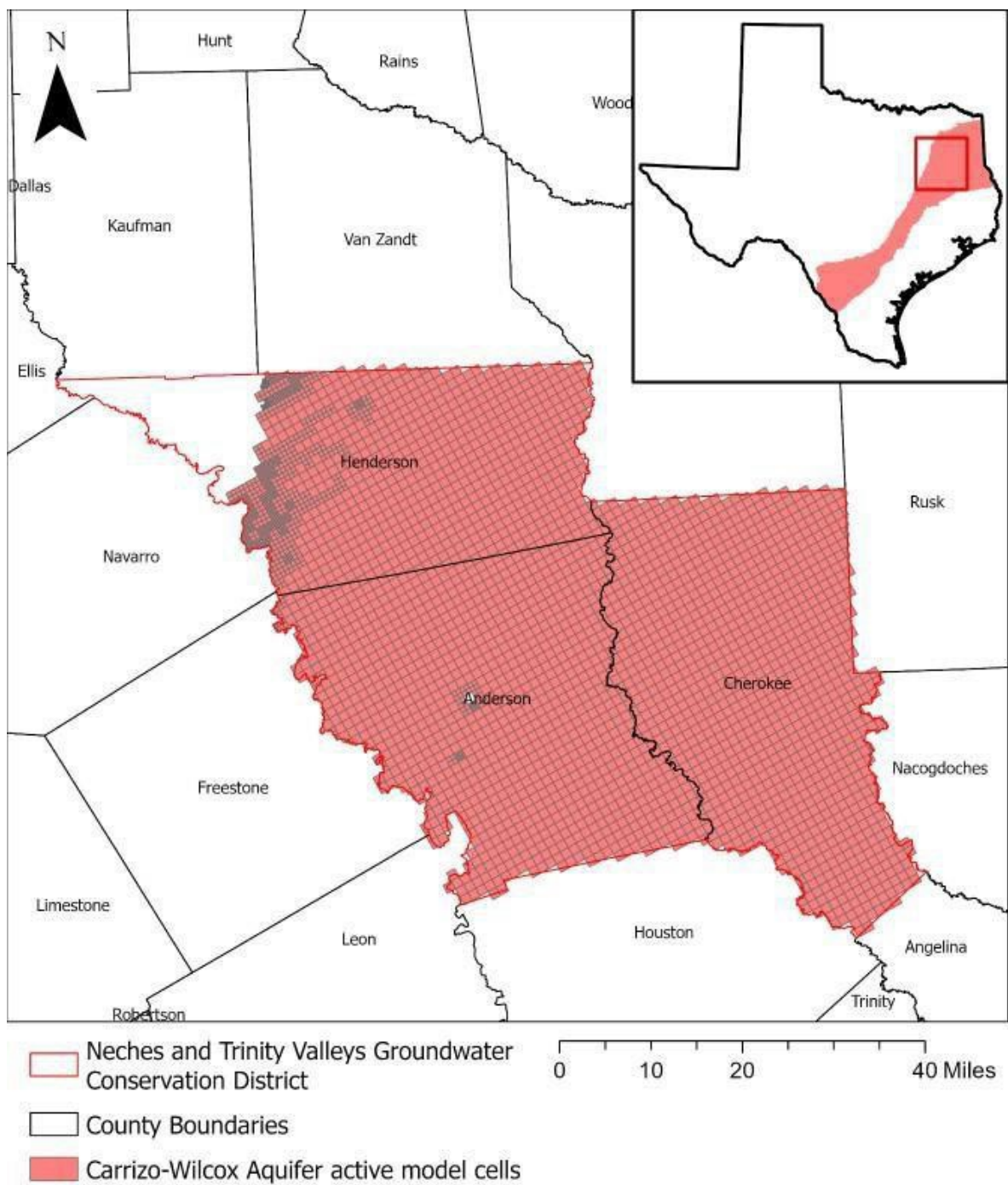
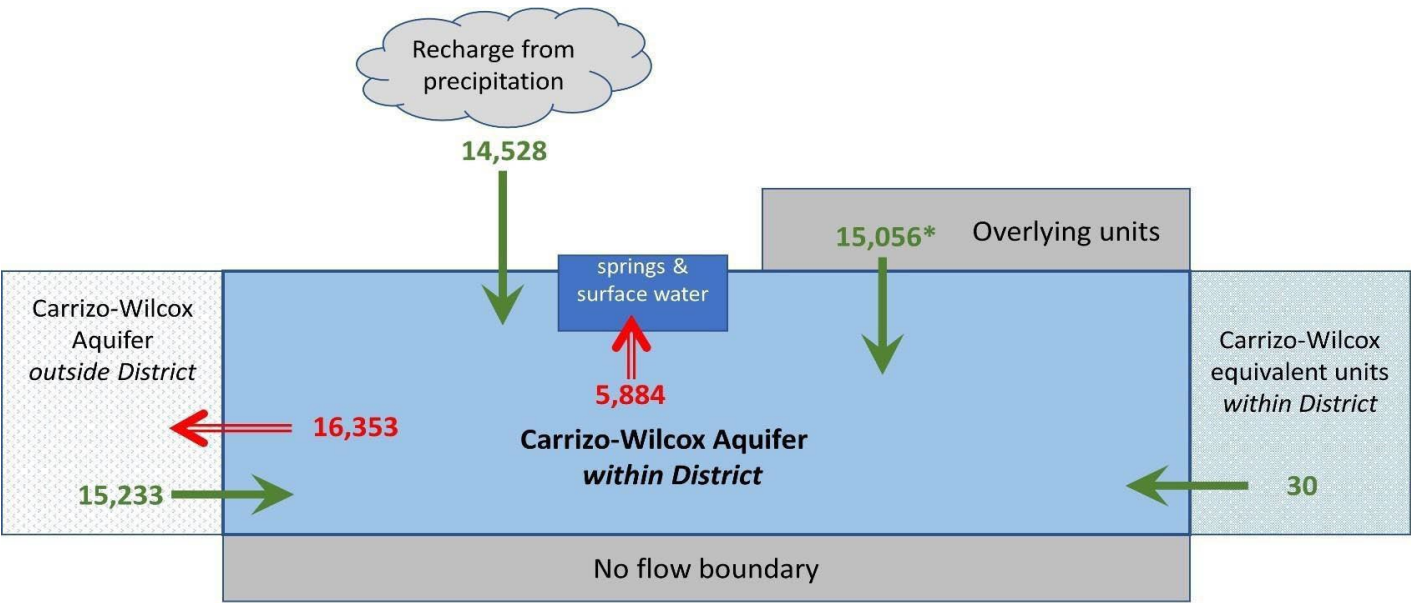


Figure 5: Area of the groundwater availability model for the northern portion of the Queen City, Sparta, and Carrizo-Wilcox aquifers from which the information in Table 3 was extracted (the Carrizo-Wilcox Aquifer extent within the district boundary).



* Flow from overlying units includes net inflow of 3,376 acre-feet per year from Alluvium, a net inflow of 4,506 acre-feet per year from the Queen City Aquifer, and 7,174 acre-feet per year from the Reklaw Formation.

Figure 6: Generalized diagram of the summarized budget information from Table 3, representing directions of flow for the Carrizo-Wilcox Aquifer within the Neches & Trinity Valleys Groundwater Conservation District. Flow values are expressed in acre-feet per year.

Table 4: Summarized information for the Queen City Aquifer that is needed for the Neches & Trinity Valleys Groundwater Conservation District 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	Queen City Aquifer	51,142
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Queen City Aquifer	32,674
Estimated annual volume of flow into the district within each aquifer in the district	Queen City Aquifer	5,600
Estimated annual volume of flow out of the district within each aquifer in the district	Queen City Aquifer	3,407
Estimated net annual volume of flow between each aquifer in the district	To Queen City Aquifer from Queen City equivalent units	41
	From Queen City Aquifer to Alluvium	280
	To Queen City Aquifer from Sparta Aquifer	321
	To Queen City Aquifer from Weches Formation	5,266
	From Queen City Aquifer to Reklaw Formation	4,334
	From Queen City Aquifer to Carrizo-Wilcox Aquifer	4,506

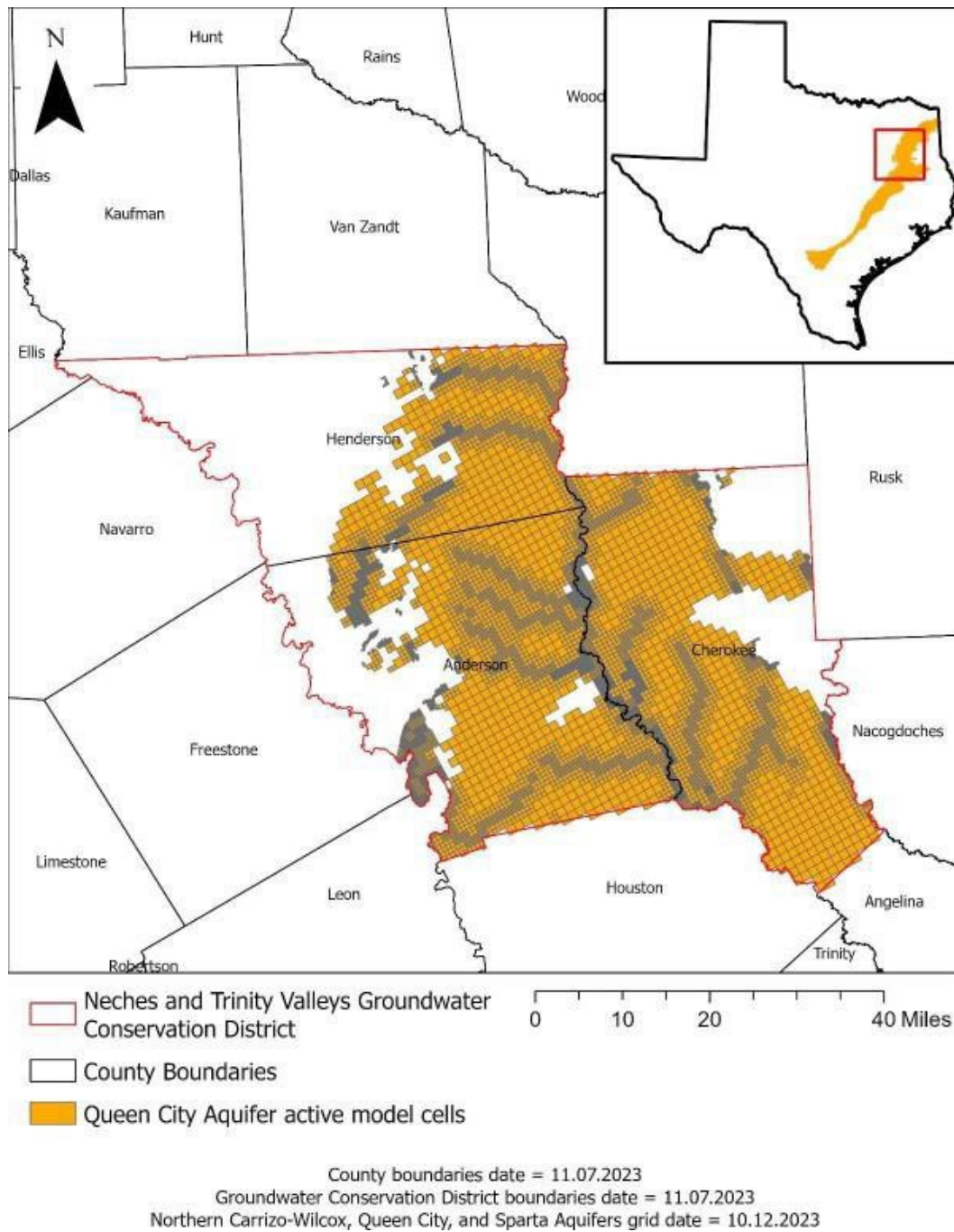
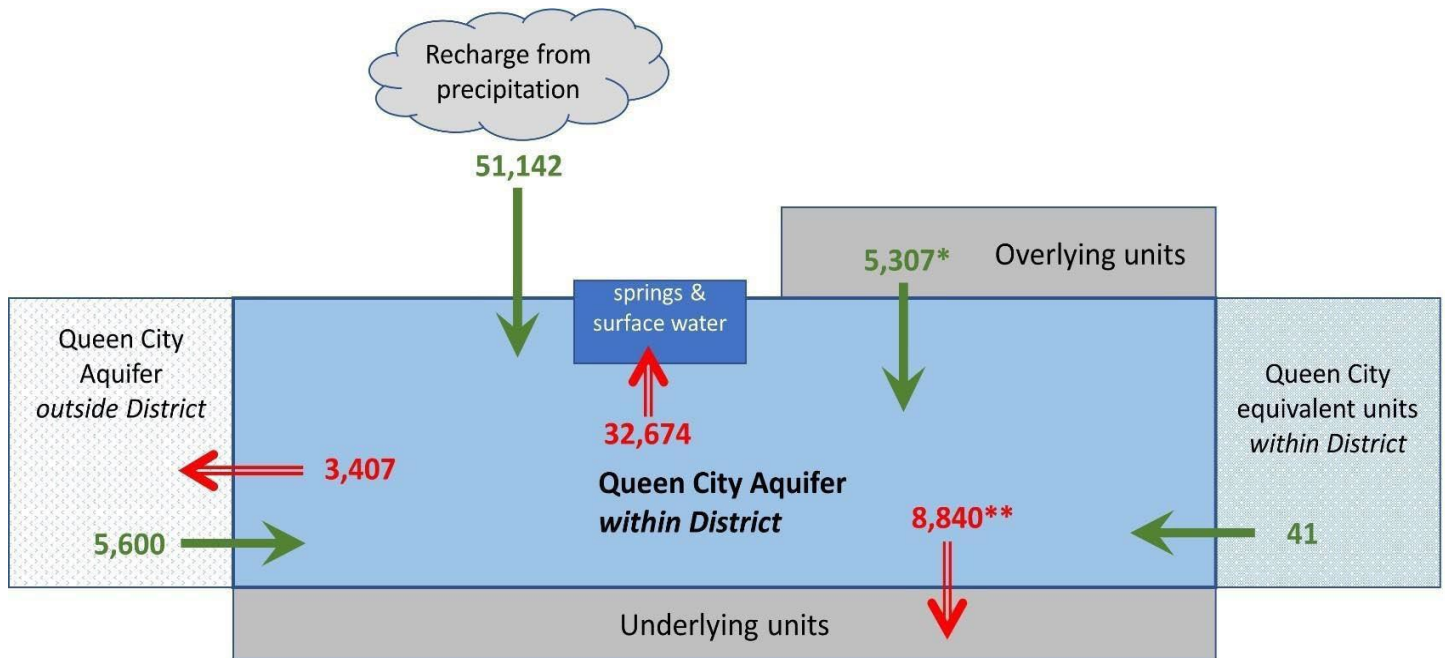


Figure 7: Area of the groundwater availability model for the northern portion of the Queen City, Sparta, and Carrizo-Wilcox aquifers from which the information in Table 4 was extracted (the Queen City Aquifer extent within the district boundary).



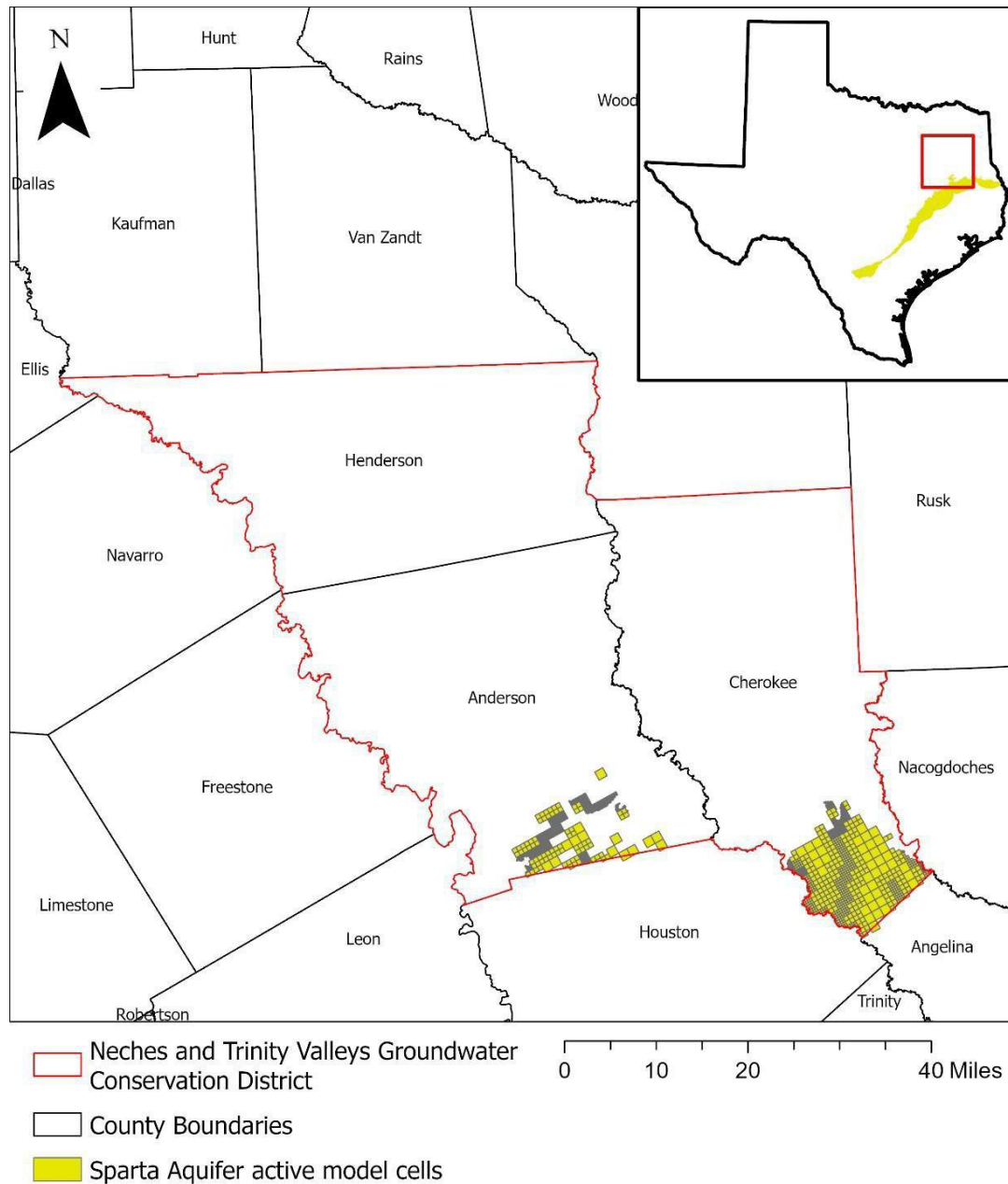
* Flow from overlying units includes net outflow of 280 acre-feet per year to Alluvium, a net inflow of 321 acre-feet per year from the Sparta Aquifer, and a net inflow of 5,266 acre-feet per year from the Weches Formation.

** Flow to underlying units includes net outflow of 4,334 acre-feet per year to the Reklaw Formation and a net outflow of 4,506 acre-feet per year to the Carrizo-Wilcox Aquifer.

Figure 8: Generalized diagram of the summarized budget information from Table 4, representing directions of flow for the Queen City Aquifer within the Neches & Trinity Valleys Groundwater Conservation District. Flow values are expressed in acre-feet per year.

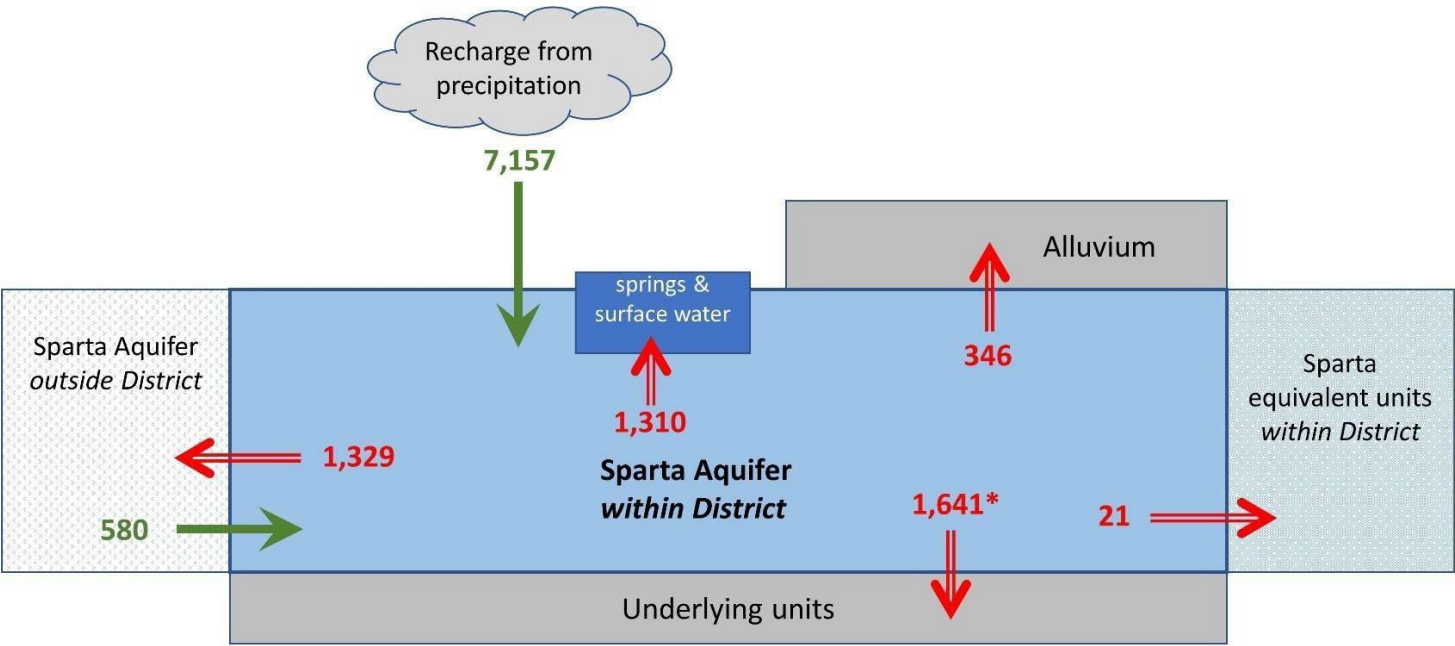
Table 5: Summarized information for the Sparta Aquifer that is needed for the Neches & Trinity Valleys Groundwater Conservation District groundwater management plan. All values are reported in acre-feet per year and rounded to the nearest 1 acre-foot.

Management plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Sparta Aquifer	7,157
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Sparta Aquifer	1,310
Estimated annual volume of flow into the district within each aquifer in the district	Sparta Aquifer	580
Estimated annual volume of flow out of the district within each aquifer in the district	Sparta Aquifer	1,329
Estimated net annual volume of flow between each aquifer in the district	From Sparta Aquifer to Sparta equivalent units	21
	From Sparta Aquifer to Alluvium	346
	From Sparta Aquifer to Weches Formation	1,320
	From Sparta Aquifer to Queen City Aquifer	321



County boundaries date = 11.07.2023
 Groundwater Conservation District boundaries date = 11.07.2023
 Northern Carrizo-Wilcox, Queen City, and Sparta Aquifers grid date = 10.12.2023

Figure 9: Area of the groundwater availability model for the northern portion of the Queen City, Sparta, and Carrizo-Wilcox aquifers from which the information in Table 5 was extracted (the Sparta Aquifer extent within the district boundary).



* Flow to underlying units includes net outflow of 1,320 acre-feet per year to the Weches Formation and a net outflow of 321 acre-feet per year to the Queen City Aquifer.

A.8 MODELED AVAILABLE GROUNDWATER BASED ON THE DFCs OF GMA-11

MODELED AVAILABLE GROUNDWATER FOR THE CARRIZO-WILCOX AQUIFER IN GROUNDWATER MANAGEMENT AREA 11 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

Groundwater Conservation District	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Neches & Trinity Valleys GCD	Anderson	Carrizo-Wilcox	27,024	27,024	27,024	27,024	27,024	27,024	27,024
Neches & Trinity Valleys GCD	Cherokee	Carrizo-Wilcox	15,241	15,241	15,241	15,241	15,241	15,241	15,241
Neches & Trinity Valleys GCD	Henderson	Carrizo-Wilcox	7,222	7,222	7,222	7,222	7,222	7,222	7,222
Neches & Trinity Valleys GCD Total		Carrizo-Wilcox	49,488	49,488	49,488	49,488	49,488	49,488	49,488
Panola County GCD	Panola	Carrizo-Wilcox	4,999	4,999	4,999	4,999	4,999	4,999	4,999
Pineywoods GCD	Angelina	Carrizo-Wilcox	27,611	27,611	27,611	27,611	27,611	27,611	27,611
Pineywoods GCD	Nacogdoches	Carrizo-Wilcox	20,859	20,859	20,859	20,859	20,859	20,859	20,859
Pineywoods GCD Total		Carrizo-Wilcox	48,470	48,470	48,470	48,470	48,470	48,470	48,480
Rusk County GCD Total	Rusk	Carrizo-Wilcox	14,019	14,019	14,019	14,019	14,019	14,019	14,019
Total (GCDs)		Carrizo-Wilcox	116,975	116,975	116,975	116,975	116,975	116,975	116,975
No District-County	Bowie	Carrizo-Wilcox	9,645	9,645	9,645	9,645	9,645	9,645	9,645
No District-County	Camp	Carrizo-Wilcox	3,862	3,862	3,862	3,862	3,862	3,862	3,862
No District-County	Cass	Carrizo-Wilcox	13,642	13,642	13,642	13,642	13,642	13,642	13,642
No District-County	Franklin	Carrizo-Wilcox	5,732	5,732	5,732	5,732	5,732	5,732	5,732
No District-County	Gregg	Carrizo-Wilcox	6,072	6,072	6,072	6,072	6,072	6,072	6,072
No District-County	Harrison	Carrizo-Wilcox	9,096	9,096	9,096	9,096	9,096	9,096	9,096
No District-County	Hopkins	Carrizo-Wilcox	4,753	4,753	4,753	4,753	4,753	4,753	4,753
No District-County	Houston	Carrizo-Wilcox	2,356	2,356	2,356	2,356	2,356	2,356	2,356
No District-County	Marion	Carrizo-Wilcox	1,966	1,966	1,966	1,966	1,966	1,966	1,966

Groundwater Conservation District	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
No District-County	Morris	Carrizo-Wilcox	2,570	2,570	2,570	2,570	2,570	2,570	2,570
No District-County	Rains	Carrizo-Wilcox	1,411	1,411	1,411	1,411	1,411	1,411	1,411
No District-County	Red River	Carrizo-Wilcox	NR ¹	NR ¹	NR ¹	NR ¹	NR ¹	NR ¹	NR ¹
No District-County	Sabine	Carrizo-Wilcox	1,388	1,388	1,388	1,388	1,388	1,388	1,388
No District-County	San Augustine	Carrizo-Wilcox	587	587	587	587	587	587	587
No District-County	Shelby	Carrizo-Wilcox	6,319	6,319	6,319	6,319	6,319	6,319	6,319
No District-County	Smith	Carrizo-Wilcox	25,547	25,547	25,547	25,547	25,547	25,547	25,547
No District-County	Titus	Carrizo-Wilcox	7,536	7,536	7,536	7,536	7,536	7,536	7,536
No District-County	Trinity	Carrizo-Wilcox	26	26	26	26	26	26	26
No District-County	Upshur	Carrizo-Wilcox	6,658	6,658	6,658	6,658	6,658	6,658	6,658
No District-County	Van Zandt	Carrizo-Wilcox	6,932	6,932	6,932	6,932	6,932	6,932	6,932
No District-County	Wood	Carrizo-Wilcox	17,902	17,902	17,902	17,902	17,902	17,902	17,902
No District-County Total		Carrizo-Wilcox	134,241	134,241	134,241	134,241	134,241	134,241	134,240
Total for GMA 11		Carrizo-Wilcox	251,217	251,217	251,217	251,217	251,217	251,217	251,215

¹A desired future condition was not specified for the Carrizo-Wilcox Aquifer in Red River County and was declared as not relevant (NR) in a clarification.

MODELED AVAILABLE GROUNDWATER FOR THE QUEEN CITY AQUIFER IN GROUNDWATER MANAGEMENT AREA 11 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

Groundwater Conservation District	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Neches & Trinity Valleys	Anderson	Queen City	16,591	16,591	16,591	16,591	16,591	16,591	16,591
Neches & Trinity Valleys	Cherokee	Queen City	8,812	8,812	8,812	8,812	8,812	8,812	8,812
Neches & Trinity Valleys	Henderson	Queen City	10,671	10,671	10,671	10,670	10,670	10,670	10,670
Neches & Trinity Valleys GCD		Queen City	36,073	36,073	36,073	36,073	36,073	36,073	36,073
Pineywoods GCD	Angelina	Queen City	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Pineywoods GCD	Nacogdoches	Queen City	2,946	2,946	2,946	2,946	2,946	2,946	2,946
Pineywoods GCD Total		Queen City	4,041	4,041	4,041	4,041	4,041	4,041	4,041
Rusk County GCD Total	Rusk	Queen City	59	59	59	59	59	59	59
Total (GCDs)		Queen City	40,173	40,173	40,173	40,173	40,173	40,173	40,172
No District-County	Camp	Queen City	1,594	1,594	1,594	1,594	1,594	1,594	1,594
No District-County	Cass	Queen City	16,476	16,476	16,476	16,476	16,476	16,476	16,476
No District-County	Gregg	Queen City	2,511	2,511	2,511	2,511	2,511	2,511	2,511
No District-County	Harrison	Queen City	3,537	3,537	3,537	3,537	3,537	3,537	3,537
No District-County	Houston	Queen City	2,295	2,295	2,295	2,295	2,295	2,295	2,295
No District-County	Marion	Queen City	7,389	7,389	7,389	7,389	7,389	7,389	7,389
No District-County	Morris	Queen City	3,278	3,278	3,278	3,278	3,278	3,278	3,278
No District-County	Sabine	Queen City	0 ⁵	0	0	0	0	0	0

⁵ A zero value indicates the groundwater availability model pumping scenario did not include any pumping in the aquifer.

Groundwater Conservation District	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
No District-County	San Augustine	Queen City	0 ⁶	0	0	0	0	0	0
No District-County	Shelby	Queen City	0	0	0	0	0	0	0
No District-County	Smith	Queen City	32,578	32,578	32,578	32,578	32,578	32,578	32,578
No District-County	Titus	Queen City	0	0	0	0	0	0	0
No District-County	Trinity	Queen City	0	0	0	0	0	0	0
No District-County	Upshur	Queen City	12,165	12,165	12,165	12,165	12,165	12,165	12,165
No District-County	Van Zandt	Queen City	2,343	2,343	2,343	2,343	2,343	2,343	2,343
No District-County	Wood	Queen City	6,510	6,510	6,510	6,510	6,510	6,510	6,510
No District-County		Queen City	90,681	90,681	90,680	90,680	90,680	90,680	90,679
Total for GMA 11		Queen City	130,854	130,854	130,853	130,853	130,853	130,852	130,852

⁶ A zero value indicates the groundwater availability model pumping scenario did not include any pumping in the aquifer.

MODELED AVAILABLE GROUNDWATER FOR THE SPARTA AQUIFER IN GROUNDWATER MANAGEMENT AREA 11 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2020 AND 2080. VALUES ARE IN ACRE-FEET PER YEAR.

Groundwater Conservation District	County	Aquifer	2020	2030	2040	2050	2060	2070	2080
Neches & Trinity Valleys GCD	Anderson	Sparta	307	307	307	307	307	307	307
Neches & Trinity Valleys GCD	Cherokee	Sparta	352	352	352	352	352	352	352
Neches & Trinity Valleys GCD Total		Sparta	658	658	658	658	658	658	658
Pineywoods GCD	Angelina	Sparta	390	390	390	390	390	390	390
Pineywoods GCD	Nacogdoches	Sparta	362	362	362	362	362	362	362
Pineywoods GCD Total		Sparta	752	752	752	752	752	752	752
Total (GCDs)		Sparta	1,410	1,410	1,410	1,410	1,410	1,410	1,410
No District-County	Cass	Sparta	0 ⁶	0	0	0	0	0	0
No District-County	Houston	Sparta	1,482	1,482	1,482	1,482	1,482	1,482	1,482
No District-County	Marion	Sparta	0	0	0	0	0	0	0
No District-County	Sabine	Sparta	49	49	49	49	49	49	49
No District-County	San Augustine	Sparta	166	166	166	166	166	166	166
No District-County	Shelby	Sparta	0	0	0	0	0	0	0
No District-County	Smith	Sparta	0	0	0	0	0	0	0
No District-County	Trinity	Sparta	152	152	152	152	152	152	152
No District-County	Upshur	Sparta	0	0	0	0	0	0	0
No District-County	Wood	Sparta	0	0	0	0	0	0	0
No District-County Total		Sparta	1,848	1,848	1,848	1,848	1,848	1,848	1,848
Total for GMA 11		Sparta	3,259	3,259	3,259	3,259	3,259	3,259	3,259

⁶ A zero value indicates the groundwater availability model pumping scenario did not include any pumping in the aquifer.

MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE CARRIZO-WILCOX AQUIFER IN GROUNDWATER MANAGEMENT AREA 11. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), RIVER BASIN, AND AQUIFER.

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060	2070	2080
Anderson	I	Neches	Carrizo-Wilcox	21,958	21,958	21,958	21,958	21,958	21,958	21,958
Anderson	I	Trinity	Carrizo-Wilcox	5,066	5,066	5,066	5,066	5,066	5,066	5,066
Angelina	I	Neches	Carrizo-Wilcox	27,611	27,611	27,611	27,611	27,611	27,611	27,611
Bowie	D	Sulphur	Carrizo-Wilcox	9,645	9,645	9,645	9,645	9,645	9,645	9,645
Camp	D	Cypress	Carrizo-Wilcox	3,862	3,862	3,862	3,862	3,862	3,862	3,862
Cass	D	Cypress	Carrizo-Wilcox	12,865	12,865	12,865	12,865	12,865	12,865	12,865
Cass	D	Sulphur	Carrizo-Wilcox	777	777	777	777	777	777	777
Cherokee	I	Neches	Carrizo-Wilcox	15,241	15,241	15,241	15,241	15,241	15,241	15,241
Franklin	D	Cypress	Carrizo-Wilcox	5,334	5,334	5,334	5,334	5,334	5,334	5,334
Franklin	D	Sulphur	Carrizo-Wilcox	398	398	398	398	398	398	398
Gregg	D	Cypress	Carrizo-Wilcox	726	726	726	726	726	726	726
Gregg	D	Sabine	Carrizo-Wilcox	5,346	5,346	5,346	5,346	5,346	5,346	5,346
Harrison	D	Cypress	Carrizo-Wilcox	4,636	4,636	4,636	4,636	4,636	4,636	4,636
Harrison	D	Sabine	Carrizo-Wilcox	4,460	4,460	4,460	4,460	4,460	4,460	4,460
Henderson	C	Trinity	Carrizo-Wilcox	3,226	3,226	3,226	3,226	3,226	3,226	3,226
Henderson	I	Neches	Carrizo-Wilcox	3,996	3,996	3,996	3,996	3,996	3,996	3,996
Hopkins	D	Cypress	Carrizo-Wilcox	309	309	309	309	309	309	309
Hopkins	D	Sabine	Carrizo-Wilcox	2,426	2,426	2,426	2,426	2,426	2,426	2,426
Hopkins	D	Sulphur	Carrizo-Wilcox	2,017	2,017	2,017	2,017	2,017	2,017	2,017
Houston	I	Neches	Carrizo-Wilcox	1,721	1,721	1,721	1,721	1,721	1,721	1,721
Houston	I	Trinity	Carrizo-Wilcox	634	634	634	634	634	634	634
Marion	D	Cypress	Carrizo-Wilcox	1,966	1,966	1,966	1,966	1,966	1,966	1,966
Morris	D	Cypress	Carrizo-Wilcox	2,156	2,156	2,156	2,156	2,156	2,156	2,156
Morris	D	Sulphur	Carrizo-Wilcox	415	415	415	415	415	415	415
Nacogdoches	I	Neches	Carrizo-Wilcox	20,859	20,859	20,859	20,859	20,859	20,859	20,859

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060	2070	2080
Panola	I	Cypress	Carrizo-Wilcox	0 ⁸	0	0	0	0	0	0
Panola	I	Sabine	Carrizo-Wilcox	4,999	4,999	4,999	4,999	4,999	4,999	4,999
Rains	D	Sabine	Carrizo-Wilcox	1,411	1,411	1,411	1,411	1,411	1,411	1,411
Red River	D	Sulphur	Carrizo-Wilcox	NULL ¹	NULL ¹	NULL ¹	NULL ¹	NULL ¹	NULL ¹	NULL ¹
Rusk	I	Neches	Carrizo-Wilcox	7,111	7,111	7,111	7,111	7,111	7,111	7,111
Rusk	I	Sabine	Carrizo-Wilcox	6,907	6,907	6,907	6,907	6,907	6,907	6,907
Sabine	I	Neches	Carrizo-Wilcox	356	356	356	356	356	356	356
Sabine	I	Sabine	Carrizo-Wilcox	1,032	1,032	1,032	1,032	1,032	1,032	1,032
San Augustine	I	Neches	Carrizo-Wilcox	303	303	303	303	303	303	303
San Augustine	I	Sabine	Carrizo-Wilcox	284	284	284	284	284	284	284
Shelby	I	Neches	Carrizo-Wilcox	2,621	2,621	2,621	2,621	2,621	2,621	2,621
Shelby	I	Sabine	Carrizo-Wilcox	3,698	3,698	3,698	3,698	3,698	3,698	3,698
Smith	D	Sabine	Carrizo-Wilcox	7,939	7,939	7,939	7,939	7,939	7,939	7,939
Smith	I	Neches	Carrizo-Wilcox	17,607	17,607	17,607	17,607	17,607	17,607	17,607
Titus	D	Cypress	Carrizo-Wilcox	5,594	5,594	5,594	5,594	5,594	5,594	5,594
Titus	D	Sulphur	Carrizo-Wilcox	1,942	1,942	1,942	1,942	1,942	1,942	1,942
Trinity	H	Trinity	Carrizo-Wilcox	1	1	1	1	1	1	1
Trinity	I	Neches	Carrizo-Wilcox	266	266	266	266	266	266	266
Upshur	D	Cypress	Carrizo-Wilcox	5,107	5,107	5,107	5,107	5,107	5,107	5,107
Upshur	D	Sabine	Carrizo-Wilcox	1,550	1,550	1,550	1,550	1,550	1,550	1,550
Van Zandt	D	Neches	Carrizo-Wilcox	2,616	2,616	2,616	2,616	2,616	2,616	2,616
Van Zandt	D	Sabine	Carrizo-Wilcox	3,286	3,286	3,286	3,286	3,286	3,286	3,286
Van Zandt	D	Trinity	Carrizo-Wilcox	1,030	1,030	1,030	1,030	1,030	1,030	1,030
Wood	D	Cypress	Carrizo-Wilcox	925	925	925	925	925	925	925
Wood	D	Sabine	Carrizo-Wilcox	16,977	16,977	16,977	16,977	16,977	16,977	16,977
GMA 11 Total			Carrizo-Wilcox	251,217	251,217	251,217	251,216	251,216	251,216	251,215

⁸A zero value indicates the groundwater availability model pumping scenario did not include any pumping in the aquifer.

MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE QUEEN CITY AQUIFER IN GROUNDWATER MANAGEMENT AREA 11. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), RIVER BASIN, AND AQUIFER.

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060	2070	2080
Anderson	I	Neches	Queen City	11,489	11,489	11,489	11,488	11,488	11,488	11,488
Anderson	I	Trinity	Queen City	5,102	5,102	5,102	5,102	5,102	5,102	5,102
Angelina	I	Neches	Queen City	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Camp	D	Cypress	Queen City	1,594	1,594	1,594	1,594	1,594	1,594	1,594
Cass	D	Cypress	Queen City	15,855	15,855	15,855	15,855	15,855	15,855	15,855
Cass	D	Sulphur	Queen City	624	624	624	624	624	624	624
Cherokee	I	Neches	Queen City	8,812	8,812	8,812	8,812	8,812	8,812	8,812
Gregg	D	Cypress	Queen City	456	456	456	456	456	456	456
Gregg	D	Sabine	Queen City	2,056	2,056	2,056	2,056	2,056	2,056	2,055
Harrison	D	Cypress	Queen City	2,976	2,976	2,976	2,976	2,976	2,976	2,976
Harrison	D	Sabine	Queen City	561	561	561	561	561	561	561
Henderson	C	Trinity	Queen City	154	154	154	154	154	154	154
Henderson	I	Neches	Queen City	10,516	10,516	10,516	10,516	10,516	10,516	10,516
Houston	I	Neches	Queen City	2,080	2,080	2,080	2,080	2,080	2,080	2,080
Houston	I	Trinity	Queen City	216	216	216	216	216	216	216
Marion	D	Cypress	Queen City	7,389	7,389	7,389	7,389	7,389	7,389	7,389
Morris	D	Cypress	Queen City	3,278	3,278	3,278	3,278	3,278	3,278	3,278
Nacogdoches	I	Neches	Queen City	2,946	2,946	2,946	2,946	2,946	2,946	2,946
Rusk	I	Neches	Queen City	39	39	39	39	39	39	39
Rusk	I	Sabine	Queen City	20	20	20	20	20	20	20
Sabine	I	Neches	Queen City	0 ⁹	0	0	0	0	0	0
Sabine	I	Sabine	Queen City	0	0	0	0	0	0	0
San Augustine	I	Neches	Queen City	0	0	0	0	0	0	0
Shelby	I	Sabine	Queen City	0	0	0	0	0	0	0

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060	2070	2080
Smith	D	Sabine	Queen City	12,457	12,457	12,457	12,457	12,457	12,457	12,457
Smith	I	Neches	Queen City	20,121	20,121	20,121	20,121	20,121	20,121	20,121
Titus	D	Cypress	Queen City	0 ¹⁰	0	0	0	0	0	0
Trinity	H	Trinity	Queen City	0	0	0	0	0	0	0
Trinity	I	Neches	Queen City	0	0	0	0	0	0	0
Upshur	D	Cypress	Queen City	6,216	6,215	6,215	6,215	6,215	6,215	6,215
Upshur	D	Sabine	Queen City	5,949	5,949	5,949	5,949	5,949	5,949	5,949
Van Zandt	D	Neches	Queen City	2,343	2,343	2,343	2,343	2,343	2,343	2,343
Wood	D	Cypress	Queen City	779	779	779	779	779	779	779
Wood	D	Sabine	Queen City	5,731	5,731	5,731	5,731	5,731	5,731	5,731
GMA 11 Total			Queen City	130,854	130,854	130,853	130,853	130,853	130,852	130,852

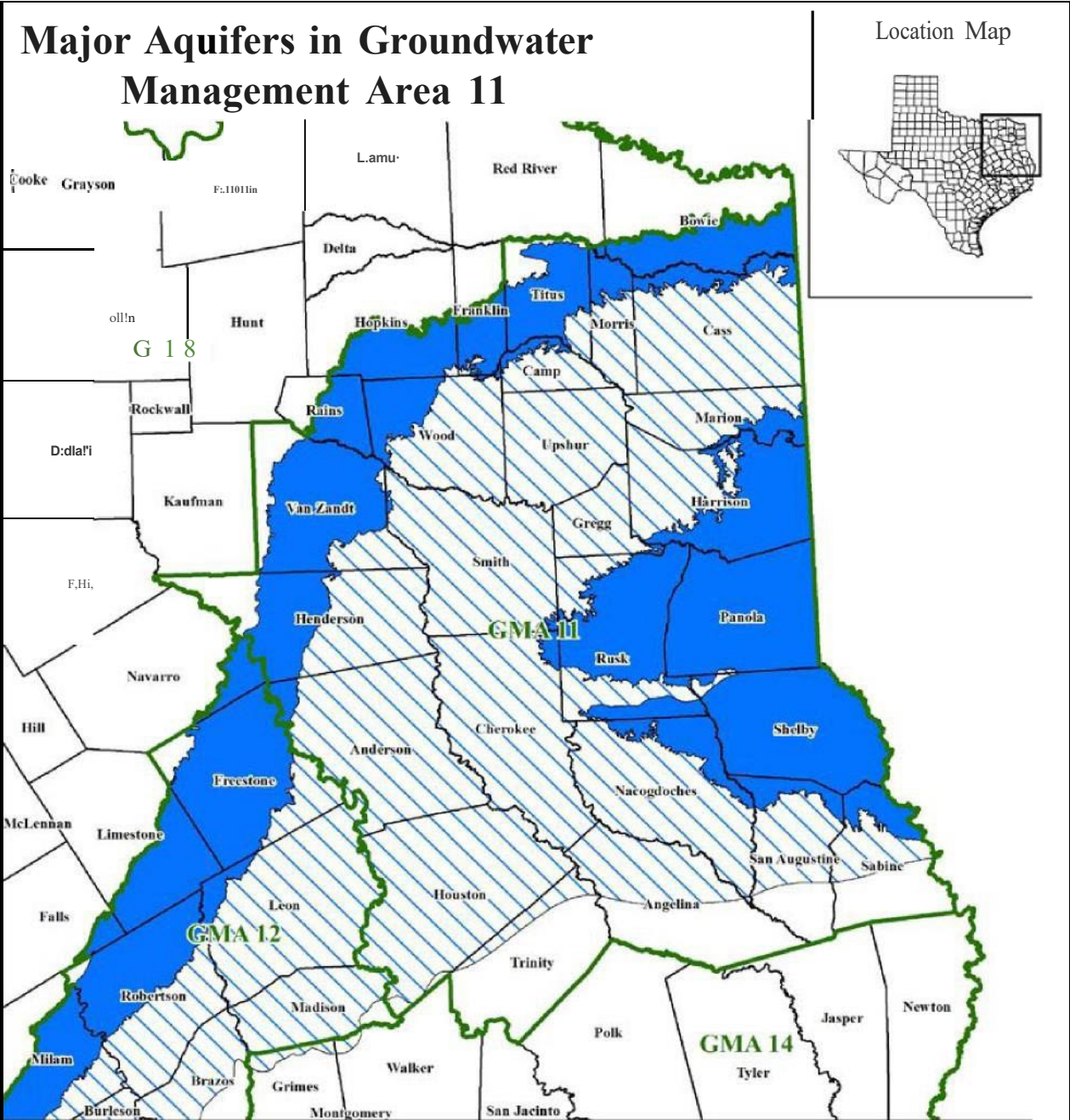
⁸A zero value indicates the groundwater availability model pumping scenario did not include any pumping in the aquifer.

MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE SPARTA AQUIFER IN GROUNDWATER MANAGEMENT AREA 11. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), RIVER BASIN, AND AQUIFER.

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060	2070	2080
Anderson	I	Neches	Sparta Aquifer	109	109	109	109	109	109	109
Anderson	I	Trinity	Sparta Aquifer	198	198	198	198	198	198	198
Angelina	I	Neches	Sparta Aquifer	390	390	390	390	390	390	390
Cass	D	Cypress	Sparta Aquifer	0 ¹¹	0	0	0	0	0	0
Cherokee	I	Neches	Sparta Aquifer	352	352	352	352	352	352	352
Houston	I	Neches	Sparta Aquifer	505	505	505	505	505	505	505
Houston	I	Trinity	Sparta Aquifer	977	977	977	977	977	977	977
Marion	D	Cypress	Sparta Aquifer	0	0	0	0	0	0	0
Nacogdoches	I	Neches	Sparta Aquifer	362	362	362	362	362	362	362
Rusk	I	Neches	Sparta Aquifer	0	0	0	0	0	0	0
Sabine	I	Neches	Sparta Aquifer	36	36	36	36	36	36	36
Sabine	I	Sabine	Sparta Aquifer	13	13	13	13	13	13	13
San Augustine	I	Neches	Sparta Aquifer	163	163	163	163	163	163	163
San Augustine	I	Sabine	Sparta Aquifer	3	3	3	3	3	3	3
Shelby	I	Sabine	Sparta Aquifer	0	0	0	0	0	0	0
Smith	D	Sabine	Sparta Aquifer	0	0	0	0	0	0	0
Smith	I	Neches	Sparta Aquifer	0	0	0	0	0	0	0
Trinity	H	Trinity	Sparta Aquifer	0	0	0	0	0	0	0
Trinity	I	Neches	Sparta Aquifer	152	152	152	152	152	152	152
Upshur	D	Sabine	Sparta Aquifer	0	0	0	0	0	0	0
Wood	D	Sabine	Sparta Aquifer	0	0	0	0	0	0	0
GMA 11 Total			Sparta Aquifer	3,259	3,259	3,259	3,259	3,259	3,259	3,259

⁸ A zero value indicates the groundwater availability model pumping scenario did not include any pumping in the aquifer.

A.9 MAPS



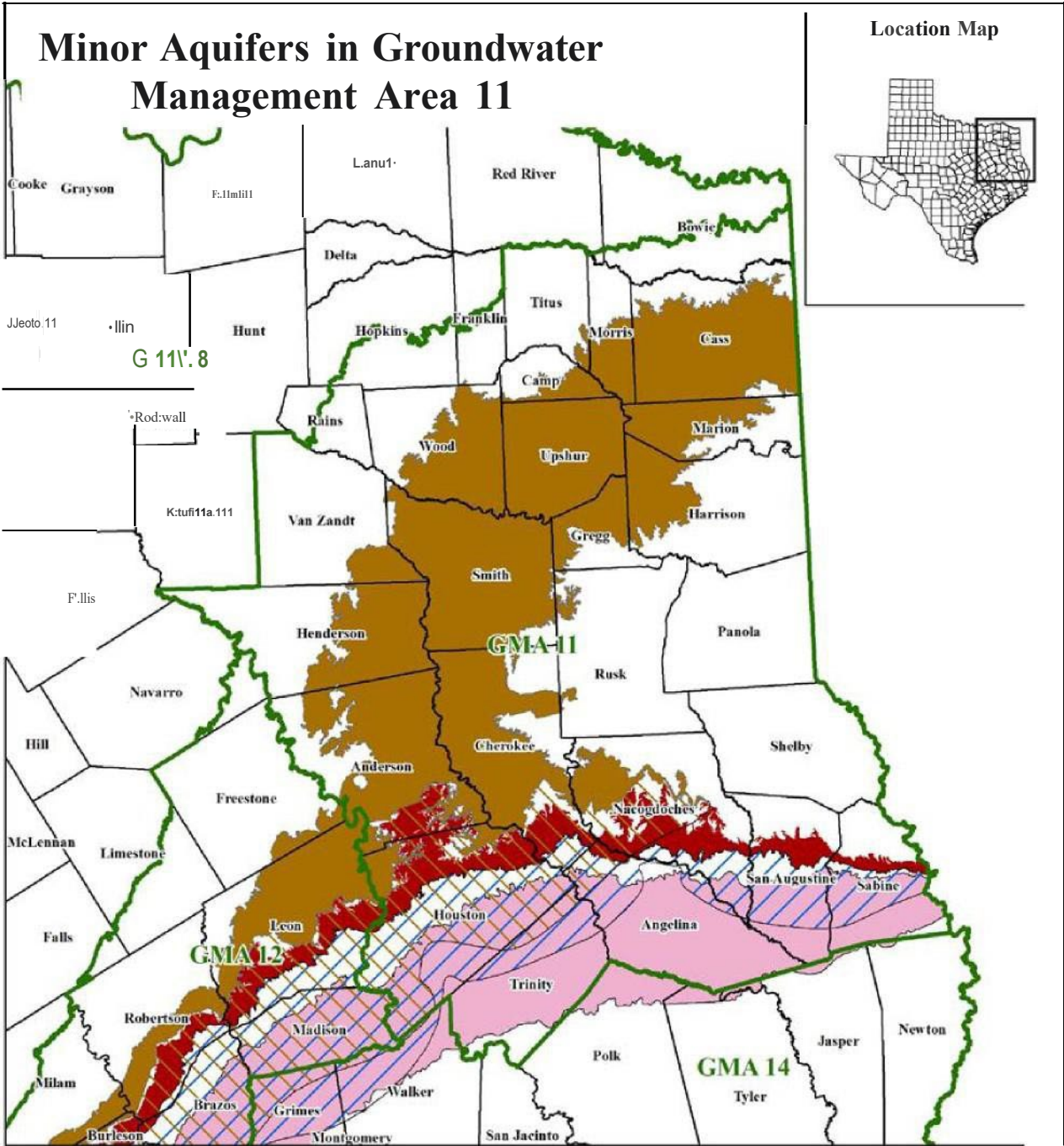
c::J Groundwater Management Areas (GMA 1As)

c=J Texas Counties

GMA 11 Major Aquifers

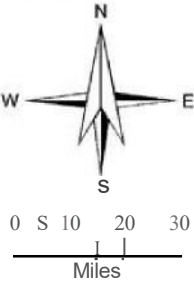
1111 Carrizo-Wilcox Outerop

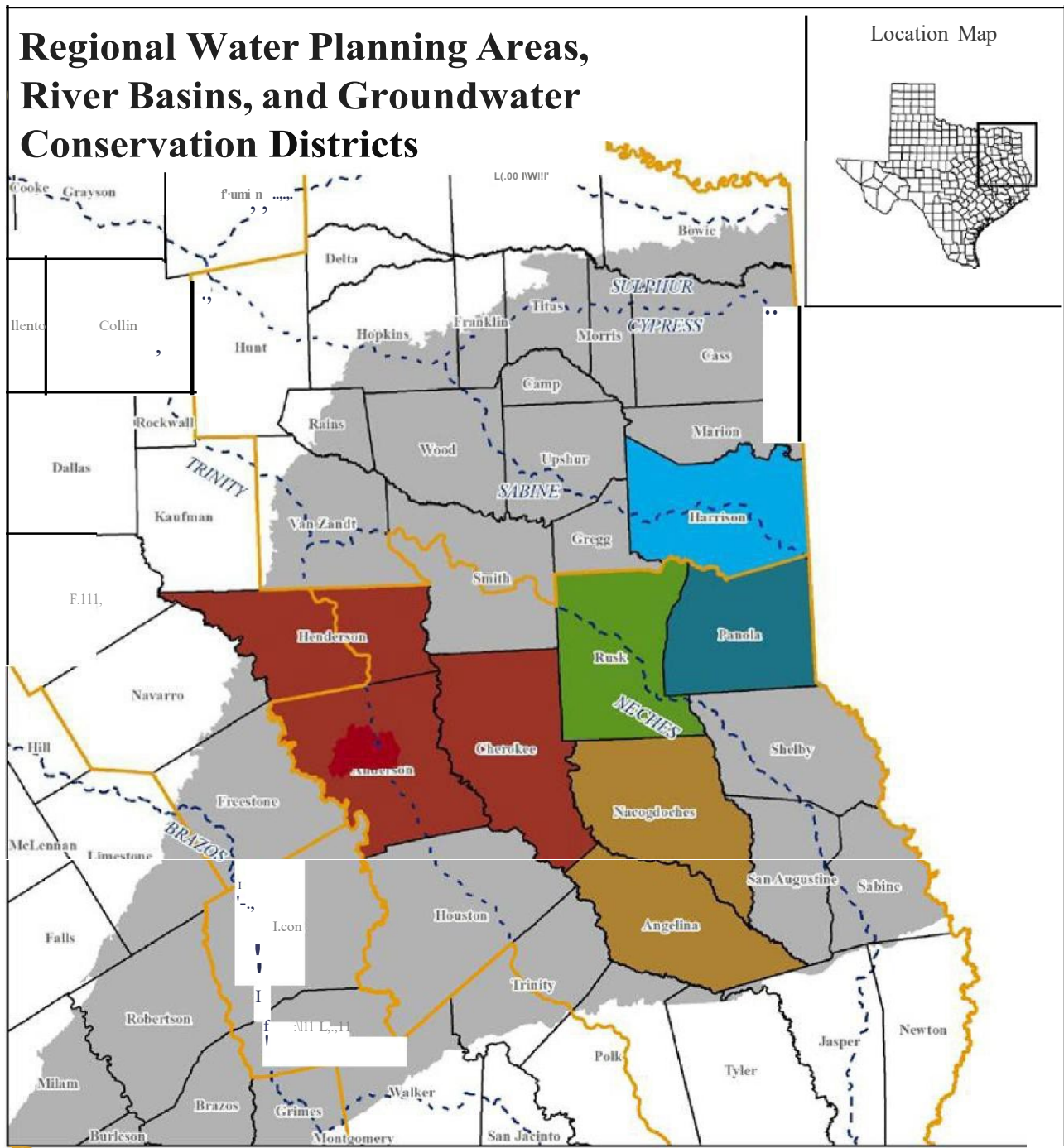
1SS] Carrizo-Wilcox Subcrop



Groundwater Management Areas (OMAs)
Texas Counties

- Minor_Aquifers**
- Queen City Outcrop
 - Queen City Subcrop
 - Sparta Outcrop
 - Sparta Subcrop
 - Yegua Jackson Outcrop

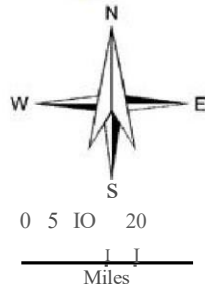




D Regional Water Planning Areas (RWPAs)

- Texas Counties
- - - River Basins
- GMA 11 Aquifers

- 11111111 Neches & Trinity alle s GCD
- 1111 Palo Verde County GCD
- 1111 Pineywoods GCD
- 1111 Rusk County GCD
- 11111111 Harris County GCD (Pending)



A.10 SURFACE WATER AND GCD'S REGIONAL PLANNING NOTICES

Penny Hanson

From: Penny Hanson
Sent: Thursday, November 21, 2024 2:13 PM
To: Jim Thompson Uimthompson@wardtimber.com); John Martin Umartin@setgcd.org); Kelley Holcomb (kholcomb@anra.org); Kevin Ward; Monty Shank/Upper Neches River Auth; NETMWD
Subject: Updated Management Plan for 2024
Attachments: NTVGCD Management Plan 2024 - for email.pdf

The Neches and Trinity Valleys Groundwater District (NTVGCD) has updated the District's Management Plan as required by the Texas Water Code (TWC), §36.1072. The Texas Water Code, §36.1071 requires new goals and new data be added to the management plan.

The Management Plan has been amended and adopted on November 21, 2024 to include data from GAM Run 24-002 and the Estimated Historical Water Use and 2022 State Water Plan Datasets from the Texas Water Development Board.

NTVGCD conducted a public hearing for the amendment and adoption on Thursday, November 21, 2024 in the district offices located at 501 Devereaux Street, Suite 201 in Jacksonville, Texas, 76766. Written comments were also considered if received prior to or at the public hearing.

A copy of the proposed Management Plan as revised and adopted by the Board of Directors is enclosed for your review and comment. The Management Plan and District Rules may also be reviewed at www.ntvgcd.org.

Penny Hanson

General Manager
Neches & Trinity Valleys Groundwater Conservation District
501 Devereux, Ste. 201 Jacksonville, TX 75766
Ph. 903-541-4845 / Fax 903-541-4869



Penny Hanson

From: Penny Hanson
Sent: Thursday, November 21, 2024 2:14 PM
To: David Miley; John McFarland; Teresa Griffin
Subject: 2024 NTVGCD Management Plan
Attachments: NTVGCD Management Plan 2024 - for email.pdf

The Neches and Trinity Valleys Groundwater District (NTVGCD) has updated the District's Management Plan as required by the Texas Water Code (TWC), §36.1072. The Texas Water Code, §36.1071 requires new goals and new data be added to the management plan.

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A copy of the proposed Management Plan as revised and adopted by the Board of Directors is enclosed for your review and comment. The Management Plan and District Rules may also be reviewed at www.ntvgcd.org.

Penny Hanson

General Manager
Neches & Trinity Valleys Groundwater Conservation District
501 Devereux, Ste. 201 Jacksonville, TX 75766
Ph. 903-541-4845 / Fax 903-541-4869



A.11 POSTED NOTICE PUBLISHED

JACKSONVILLE PROGRESS | SATURDAY, OCTOBER 26, 2024

NOTICE OF PUBLIC HEARING

Notice is hereby given that the Board of Directors for the Neches and Trinity Valleys Groundwater Conservation District will consider amending and re-adopting their Management Plan at a public hearing on November 21, 2024 at 11:30 am at the District office. The regularly scheduled meeting will immediately follow at 11:40 am. The purpose of the hearing is to receive comments and/or discuss the 2024 District Management Plan prior to Board adoption and submittal to the Texas Water Development Board for approval. Copies of the proposed Management Plan will be available at the District Office at 501 Devereux St., Ste. 201, Jacksonville, TX.

JACKSONVILLE DAILY PROGRESS

PUBLISHER'S AFFIDAVIT

State of Texas,

County of Cherokee

Before me, the undersigned authority, personally appeared this day, Lange Svehlak, known to me to be the Publisher

of the Jacksonville Daily Progress, who, upon oath, deposes and says that the Public Notice was published in the Jacksonville Daily Progress as requested.

Said Publications appearing on:

10-26-24

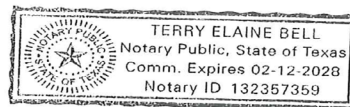
Signed:


Lange Svehlak, Publisher, Jacksonville Daily Progress

Subscribed and sworn to me this 29 day of October 2024.

Terry Elaine Bell
Notary Public of Texas

2/12/28
My Commission expires



A.12 POSTED AGENDA



**NECHES & TRINITY VALLEYS
GROUNDWATER CONSERVATION DISTRICT**
Protecting and Serving Anderson, Cherokee and Henderson Counties

Phone: (903) 541-4845

Fax: (903) 541-4869

Email: office@ntvgcd.org

www.ntvgcd.org

P.O. Box 1387

501 Devereaux Suite 201

Jacksonville, Texas 75766

**NOTICE OF A PUBLIC HEARING AND BUSINESS MEETING OF THE
BOARD OF DIRECTORS OF THE NECHES AND TRINITY VALLEYS
GROUNDWATER CONSERVATION DISTRICT**

Notice is hereby given that the Board of Directors of the Neches and Trinity Valleys Groundwater Conservation District will hold a Public Hearing beginning at 11:30 AM, on Thursday, November 21, 2024, at the District office located at 501 Devereux St. Jacksonville, TX

PUBLIC HEARING AGENDA – AMENDING AND RE-ADOPTING THE DISTRICT MANAGEMENT PLAN

1. Call to order.
2. Public Hearing for amending and re-adopting the District Management Plan
3. Adjourn

Posted by:  Date: October 25, 2024

Penny Hanson, General Manager NTVGCD

NTVGCD is committed to compliance with the American Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the District Office at (903) 541-4845 at least two days prior to the meeting if accommodation is needed.

CLOSED SESSION: During the meeting, the Board reserves the right to go into closed session for any of the purposes authorized under Texas Government Code Section 551.071, for any item on the above agenda or as otherwise authorized by law.

PUBLIC COMMENTS: Citizens who desire to address the Board on any matter may sign up to do so prior to this meeting. Please limit comments to 3 minutes. No discussion or final action will be taken by the Board.

NOTICE: ENTRY TO THIS MEETING WITH A HANDGUN IS FORBIDDEN

This meeting is a public meeting under Chapter 551 of the Texas Government Code. Pursuant to Section 30.06, Penal Code (trespass by license holder with a concealed handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law) may not enter this property with a concealed handgun. Pursuant to Section 30.07, Penal Code (trespass by license holder with an openly carried handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law) may not enter this property with a handgun that is carried openly. For purposes of this notice, "property" means the room or rooms where the open meeting of the Neches and Trinity Valleys Groundwater Conservation District is held.