MANAGEMENT PLAN

MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT

Adopted August 13, 2009

(This page intentionally left blank)

MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT
MANAGEMENT PLAN
August 13, 2009

The Mid-East Texas Groundwater Conservation District was created in 2001 by the 77th Legislature to operate in the area covered by Freestone, Leon and Madison counties; and confirmed by a majority vote in each county in November of 2002. The combined vote in favor of confirmation of the District was over 74%.

The District is governed by a nine member Board of Directors which serves without pay. Three Board members are appointed by each of the Commissioners Courts of each of the counties composing the District. One member from each county is appointed to represent each of the following interests: agriculture, public water supply, and industry. The current Board members of the District are:

Freestone County	Leon County	Madison County
John Fryer	Mike Speer	William Parten
John Alford Jr.	Wade Hedrick	W. R. Hensarling
Jerry Rogers	Rudy Hibbeler	Don F. Dean

The Board of Directors meets at least quarterly and, by law, its meetings are open to the public. All interested persons are welcome to attend its meetings.

The primary sources of groundwater within the District are the Carrizo-Wilcox, Queen City and Sparta aquifers. Primary sources of surface water include Lake Limestone, Richland-Chambers Lake and Lake Fairfield. A description of the aquifers can be found in Appendix "A".

A. Managed available groundwater in the District based on desired future conditions

Managed available groundwater is defined in TWC §36.001 as "the amount of water that may be permitted by a district for beneficial use in accordance with the desired future condition of the aquifer." The desired future condition of the aquifer may only be determined through joint planning with other groundwater conservation districts (GCDs) in the same groundwater management area (GMA) as required by the 79th Legislature. The GCDs of GMA 12 have not completed the joint planning process to determine the desired future condition of the aquifers within the GMA. Therefore, the District is unable to present a final managed available groundwater value for the aquifers located within the Mid-East Texas Groundwater Conservation District as of the date of this plan.

DESCRIPTION OF AQUIFERS IN THE MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT

From Ashworth, J.B. and Hopkins, J, 1995. Major and Minor Aquifers of Texas: Texas Water Development Board Report 345, 69 p.

Available at:
http://www.twdb.state.tx.us/publications/reports/GroundWaterReports/GWReports/Individual%20Report%20htm%20files/Report%20345.htm

Carrizo-Wilcox Aquifer (see Figure 1)

The Wilcox Group and the overlying 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 water to all or parts of 60 counties. The Carrizo Sand and Wilcox Group crop out along a narrow band that parallels the Gulf Coast and dips beneath the land surface toward the coast, except in the East Texas structural basin adjacent to the Sabine Uplift, where the formations form a trough.

Municipal and irrigation pumpage account for about 35 percent and 51 percent, respectively, of total pumpage. The largest metropolitan areas dependent on ground water from the Carrizo-Wilcox aquifer are Bryan-College Station, Lufkin-Nacogdoches, and Tyler. Irrigation is the predominant use in the Winter Garden region of South Texas.

The Carrizo-Wilcox aquifer is predominantly composed of sand locally interbedded with gravel, silt, clay, and lignite deposited during the Tertiary Period. South of the Trinity River and north of the Colorado River, the Wilcox Group is divided into three distinct formations: the Hooper, Simsboro, and Calvert Bluff. Of the three, the Simsboro typically contains the most massive water-bearing sands. This division cannot be made south of the Colorado River or north of the Trinity River due to the absence of the Simsboro as a distinct unit. Aquifer thickness in the downdip artesian portion ranges from less than 200 feet to more than 3,000 feet.

Well yields are commonly 500 gal/min, and some may reach 3,000 gal/min downdip where the aquifer is under artesian conditions. Some of the greatest yields (more than 1,000 gal/min) are produced from the Carrizo Sand in the southern, or Winter Garden, area of the aquifer. Yields of greater than 500 gal/min are also obtained from the Carrizo and Simsboro formations in the central region.

Regionally, water from the Carrizo-Wilcox aquifer is fresh to slightly saline. In the outcrop, the water is hard, yet usually low in dissolved solids. Downdip, the water is softer, has a higher temperature, and contains more dissolved solids. Hydrogen sulfide and methane may occur locally. Excessively corrosive water with a high iron content is common throughout much of the northeastern part of the aquifer. Localized contamination of the aquifer in the Winter Garden

area is attributed to direct infiltration of oil field brines on the surface and to downward leakage of saline water to the overlying Bigford Formation.

Significant water-level declines have developed in the semiarid Winter Garden portion of the Carrizo aquifer, as the region is heavily dependent on ground water for irrigation. Since 1920, water levels have declined as much as 100 feet in much of the area and more than 250 feet in the Crystal City area of Zavala County. Significant water-level declines resulting from extensive municipal and industrial pumpage also have occurred in Northeast Texas. Tyler and the Lufkin-Nacogdoches area have experienced declines in excess of 400 feet, and in a few wells, as much as 500 feet since the 1940s. In this area, conversion to surface-water use is slowing the rate of water-level decline. The northeast outcrop area has been dewatered in the vicinity of lignite surface-mining operations, and the Simsboro Sand Formation of the Wilcox Group has been affected by water-level declines in parts of Robertson and Milam counties.

Queen City Aquifer (see Figure 2)

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, significant amounts of water for municipal and industrial supplies in Northeast Texas, and water for irrigation in Wilson County. Yields of individual wells are commonly low, but a few exceed 400 gal/min.

Sand, loosely cemented sandstone, and interbedded clay units of the Queen City Formation of the Tertiary Claiborne Group make up the aquifer. These beds fill the East Texas structural basin adjacent to the Sabine Uplift and then dip gently to the south and southeast toward the Gulf Coast. Although total aquifer thickness is usually less than 500 feet, it can approach 700 feet in some areas of Northeast Texas.

Water of excellent quality is generally found within the outcrop and for a few miles downdip, but water quality deteriorates with depth in the downdip direction. In some areas, water of acceptable quality may occur at depths of approximately 2,000 feet. The water may be acidic in much of Northeast Texas and relatively high in iron concentrations in some locations.

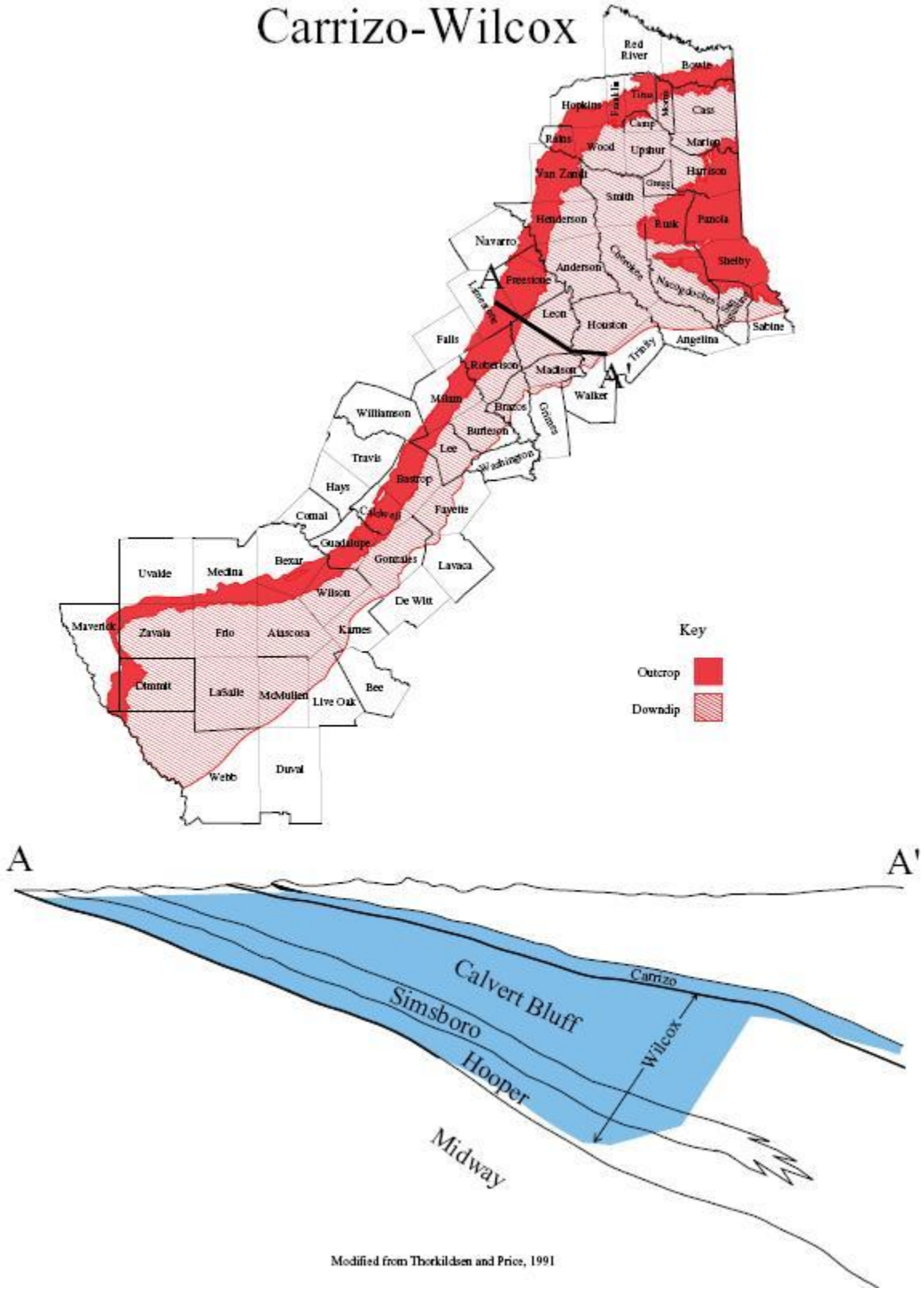
Sparta Aquifer (see Figure 3)

The Sparta aquifer extends in a narrow band from the Frio River in South Texas northeastward to the Louisiana border in Sabine County. The Sparta provides water for domestic and livestock supplies throughout its extent, and water for municipal, industrial, and irrigation purposes in much of the region. Yields of individual wells are generally less than 100 gal/min, although most high-capacity wells average 400 gal/min to 500 gal/min. A few wells produce as much as 1,200 gal/ min.

The Sparta Formation, part of the Claiborne Group deposited during the Tertiary, consists of sand and interbedded clay with massive sand beds in the basal section. These beds dip gently to the south and southeast toward the Gulf Coast and reach a total thickness of up to 300 feet.

Water of excellent quality is commonly found within the outcrop and for a few miles downdip, but it deteriorates with depth in the downdip direction. Locally, water within the aquifer may contain iron concentrations in excess of drinking water standards.

Figure 1



Modified from Thorkildsen and Price, 1991

Figure 2

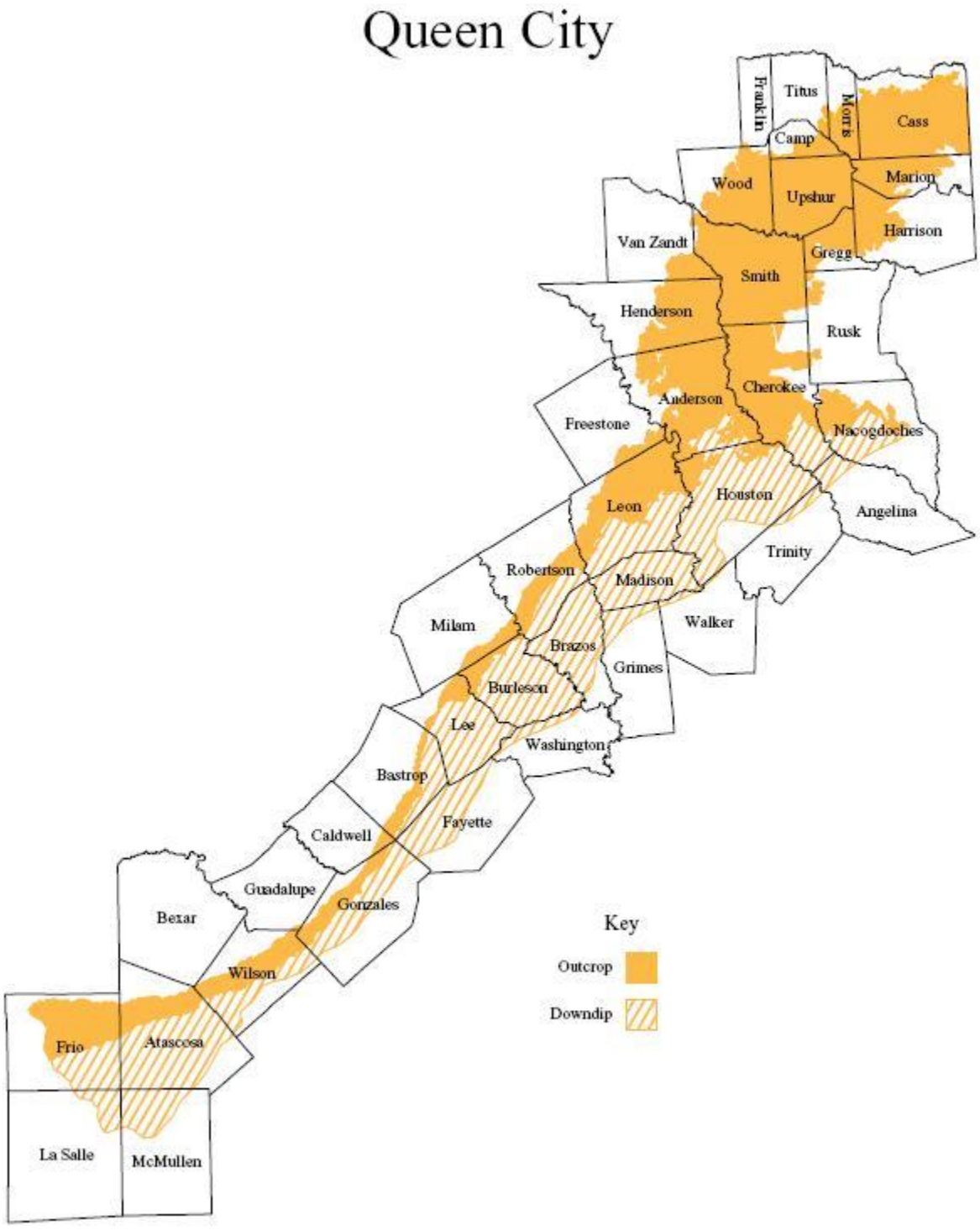
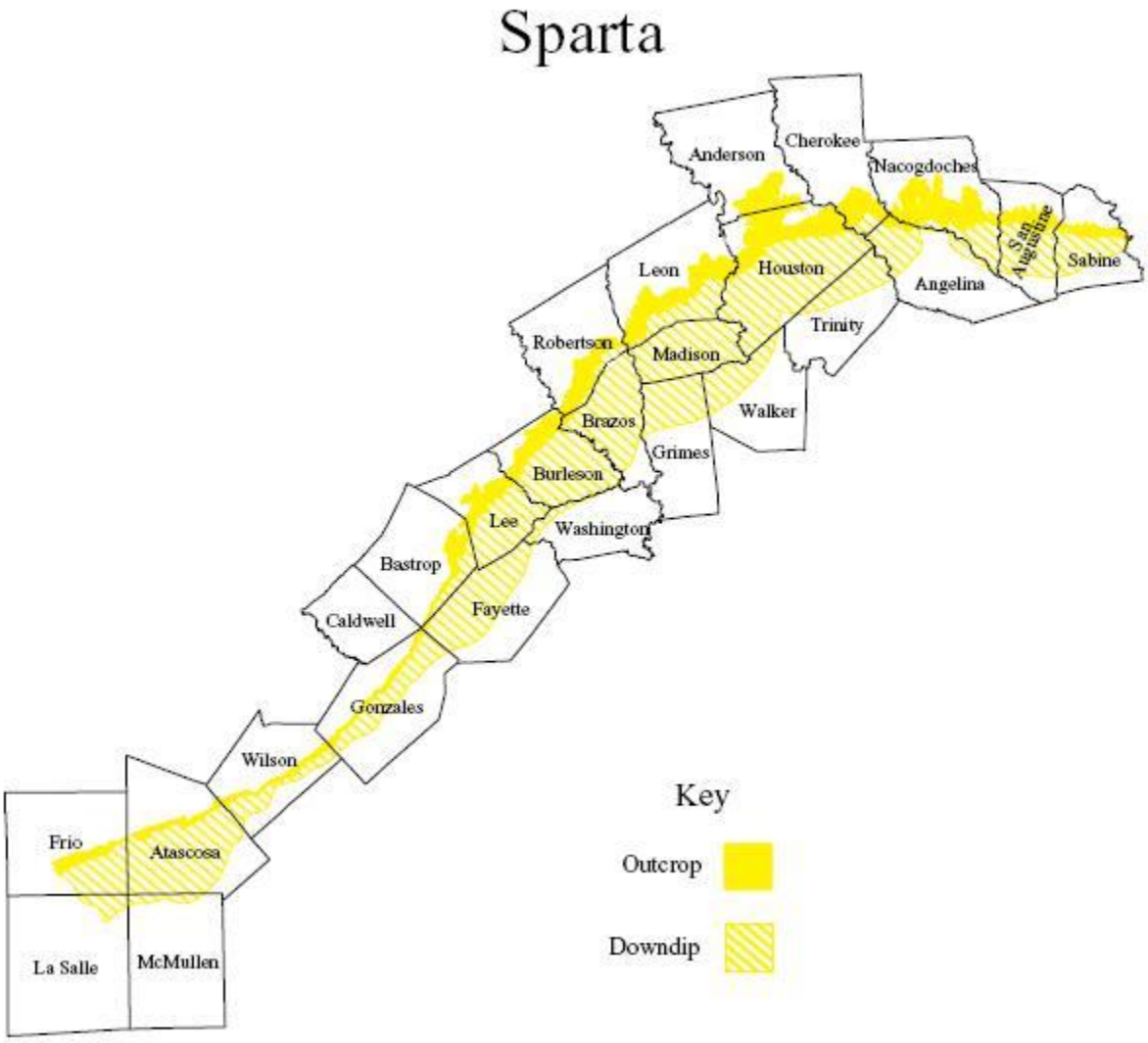

Queen City
Franklin
Titus
Morris
Cass
Camp
Wood
Upshur
Marion
Van Zandt
Harrison
Gregg
Smith
Henderson
Rusk
Cherokee
Anderson
Freestone
Nacogdoches
Houston
Leon
Angelina
Trinity
Robertson
Madison
Milam
Walker
Brazos
Grimes
Burleson
Lee
Washington
Bastrop
Fayette
Caldwell
Guadalupe
Bexar
Gonzales
Wilson
Frio
Atascosa
La Salle
McMullen
Key
Outcrop
Downdip

Figure 3


Sparta
Anderson
Cherokee
Nacogdoches
San Augustine
Sabine
Leon
Houston
Angelina
Trinity
Robertson
Madison
Walker
Brazos
Grimes
Burleson
Lee
Washington
Bastrop
Caldwell
Fayette
Gonzales
Wilson
Frio
Atascosa
La Salle
McMullen
Key
Outcrop
Downdip

B. Groundwater Availability Model Run 08-77 for Mid-East Texas GCD.

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

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

The report discusses the method, assumptions, and results from the model runs using the groundwater availability model for the central part of the Carrizo-Wilcox, Queen City, and Sparta aquifers (See Figures 1,2 and 3 on the previous pages).

The Yegua-Jackson aquifer also underlies the District. However, a groundwater availability model for this minor aquifer has not been completed at this time.

The TWDB ran the groundwater availability model for the central part of the Carrizo-Wilcox, Queen City, and Sparta aquifers and (1) extracted water budgets for each year of the 1980 through 1999 period and (2) averaged the 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).

The groundwater availability model includes eight (8) layers, representing (from top to bottom):

1. the Sparta Aquifer (Layer1),
2. the Weches Confining Unit (Layer 2),
3. the Queen City Aquifer (Layer 3),
4. the Reklaw Confining Unit (Layer 4),
5. the Carrizo Aquifer (Layer 5),
6. the Upper Wilcox Aquifer (Calvert Bluff Formation – Layer 6),
7. the Middle Wilcox Aquifer (Simsboro Formation – Layer 7), and
8. the Lower Wilcox Aquifer (Hooper Formation – Layer 8)

A groundwater budget summarizes the amount of water entering and leaving the aquifer according to the groundwater availability model. Selected Groundwater flow components were extracted from the water budget for the aquifers located within the district and averaged over the duration of the calibrated portion of the model run (1980 to 1999) in the district. The components of the budgets include:

- Precipitation recharge – This is the aerially distributed recharge sourced from precipitation falling on the outcrop areas of the aquifer (where the aquifer is exposed at land surface) within the district.

- Surface water outflow – This is the total water exiting the aquifer (outflow) to surface water features such as streams, reservoirs, and drains (springs).

- Flow into and out of district – This component describes lateral flow within the aquifer between the district and adjacent counties.

- Flow between aquifers – This describes the vertical flow, or leakage, between the upper and lower facies of the aquifers or confining units. This is controlled by the relative water level elevations in each aquifer or confining unit and aquifer properties of each aquifer or confining unit that define the amount of leakage that occurs. "Inflow" to an aquifer from an overlying or underlying aquifer will always equal the "Outflow" from the other aquifer.

Groundwater in the Carrizo-Wilcox, Queen City, and Sparta aquifers ranges from fresh to brackish in composition (Kelly and others, 2004). Groundwater with total dissolved solids of less than 1,000 milligrams per liter are considered fresh and total dissolved solids of 1,000 to 10,000 milligrams per liter are considered brackish.

The information on the following pages indicates the results of the GAM Run 08-77 conducted by the TWDB for the Mid-East Texas Groundwater Conservation District.

1. Annual recharge

The table below indicates the estimated annual amount of recharge from precipitation to the district. This information was obtained from a Texas Water Development Board GAM Run 08-77. All estimated amounts are reported in acre-feet. No site-specific information is available from the district regarding this item.

Aquifer or Confining Unit	Results
Sparta Aquifer	15,101
Weches Confining Unit	1,941
Queen City Aquifer	26,646
Reklaw Confining Unit	2,545
Carrizo Aquifer	14,884
Wilcox (upper)Aquifer	19,987
Wilcox (middle) Aquifer	10,056
Wilcox (lower) Aquifer	3,674

2. Annual volume estimate of water that discharges from the aquifers to lakes and streams

The table below indicates the estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams and rivers. This information was obtained from a Texas Water Development Board GAM Run 08-77. All estimated amounts are reported in acre-feet. No site-specific information is available from the district regarding this item.

Aquifer or Confining Unit	Results
Sparta Aquifer	3,702
Weches Confining Unit	225
Queen City Aquifer	16,397
Reklaw Confining Unit	678
Carrizo Aquifer	5,633
Wilcox (upper)Aquifer	16,580
Wilcox (middle) Aquifer	10,197
Wilcox (lower) Aquifer	3,443

3. Annual volume flow into the District within each aquifer

The table below indicates the estimated annual volume of flow into the District within each aquifer in the district. This information was obtained from a Texas Water Development Board GAM Run 08-77. All estimated amounts are reported in acre-feet. No site-specific information is available from the district regarding this item.

Aquifer or Confining Unit	Results
Sparta Aquifer	1,488
Weches Confining Unit	460
Queen City Aquifer	2,150
Reklaw Confining Unit	227
Carrizo Aquifer	3,883
Wilcox (upper)Aquifer	2,582
Wilcox (middle) Aquifer	6,517
Wilcox (lower) Aquifer	4,428

4. Annual volume of flow out of aquifers in the District

The table below indicates the estimated annual flow out of the district with each aquifer in the district. This information was obtained from a Texas Water Development Board GAM Run 08-77. All estimated amounts are reported in acre-feet. No site-specific information is available from the district regarding this item.

Aquifer or Confining Unit	Results
Sparta Aquifer	1,384
Weches Confining Unit	92
Queen City Aquifer	2,539
Reklaw Confining Unit	247
Carrizo Aquifer	7,715
Wilcox (upper)Aquifer	4,275
Wilcox (middle) Aquifer	7,483
Wilcox (lower) Aquifer	4,634

5. Annual volume of flow between aquifers in the District

The table below indicates the estimated annual volume of flow between aquifers in the District. This information was obtained from a Texas Water Development Board GAM Run 08-77. All estimated amounts are reported in acre-feet. No site-specific information is available from the district regarding this item.

Aquifer or Confining Unit	Results
Sparta Aquifer into Weches Confining Unit	1,127
Weches Confining Unit into the Queen City Aquifer	2,131
Reklaw Confining Unit into the Queen City Aquifer	111
Reklaw Confining Unit into the Carrizo Aquifer	27
Carrizo Aquifer into the Wilcox (upper) Aquifer	491
Wilcox (upper) into the Wilcox (middle) Aquifer	3,544
Wilcox (middle) into the Wilcox (lower) Aquifer	162

C. The table below indicates the Surface Water Supply for the District as compiled by the Texas Water Development Board. This information is required pursuant to Texas Water Code § 36.1071(e)(3)(F). Amounts are in ac-ft.

Freestone County

RWPG	Water User Group	County	River Basin	Source Name	2010	2020	2030	2040	2050	2060
C	County Other	Freestone	Brazos	Wortham Lake/Reservoir	0	0	0	0	0	0
C	County Other	Freestone	Trinity	Trinity River Run-of-River Municipal	41	41	41	41	41	41
C	County Other	Freestone	Trinity	TRWD Lake/Reservoir System	394	323	273	230	193	164
C	County Other	Freestone	Trinity	Wortham Lake/Reservoir	0	0	0	0	0	0
C	Fairfield	Freestone	Trinity	TRWD Lake/Reservoir System	0	0	0	0	0	0
C	Irrigation	Freestone	Trinity	Trinity River Combined Run-of-River Irrigation	87	87	87	87	87	87
C	Livestock	Freestone	Brazos	Livestock Local Supply	83	83	83	83	83	83
C	Livestock	Freestone	Trinity	Livestock Local Supply	960	960	960	960	960	960
C	Mining	Freestone	Trinity	Other Local Supply	120	120	120	120	120	120
C	Steam Electric Power	Freestone	Trinity	Fairfield Lake/Reservoir	1,567	1,433	1,300	1,167	1,033	900
C	Steam Electric Power	Freestone	Trinity	Livingston-Wallisville Lake/Reservoir System	20,000	20,000	20,000	20,000	20,000	20,000
C	Steam Electric Power	Freestone	Trinity	Trinity River Run-of-River Municipal	0	0	0	0	0	0
C	Steam Electric Power	Freestone	Trinity	TRWD Lake/Reservoir System	5,602	5,602	4,971	4,270	3,617	3,071
C	Teague	Freestone	Brazos	Teague City Lake/Reservoir	0	0	0	0	0	0

C	Teague	Freestone	Trinity	Teague City Lake/Reservoir	0	0	0	0	0	0
C	Wortham	Freestone	Trinity	Mexia Lake/Reservoir	0	1	0	0	0	0
C	Wortham	Freestone	Trinity	Wortham Lake/Reservoir	0	0	0	0	0	0
Total Projected Surface Water Supplies (acre-feet per year) =					**28,854**	**28,650**	**27,835**	**26,958**	**26,134**	**25,426**

Source: Volume 3, 2007 State Water Planning Database 2/19/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Leon County

RWPG	Water User Group	County	River Basin	Source Name	2010	2020	2030	2040	2050	2060
H	N/A	Leon	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Projected Surface Water Supplies (acre-feet per year) =					N/A	N/A	N/A	N/A	N/A	N/A

Source: Volume 3, 2007 State Water Planning Database 2/19/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Madison County

RWPG	Water User Group	County	River Basin	Source Name	2010	2020	2030	2040	2050	2060
H	N/A	Madison	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Projected Surface Water Supplies (acre-feet per year) =					N/A	N/A	N/A	N/A	N/A	N/A

Source: Volume 3, 2007 State Water Planning Database 2/19/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

D. The tables listed below are the Historical Groundwater Pumpage amounts as compiled by the Texas Water Development Board. This data is required under Texas Water Code § 36.1071(e)(3)(B). Amounts are in ac-ft.

Freestone County

Year	Aquifer	Municipal	Manu facturing	Steam Electric	Irrigation	Mining	Livestock	Total
1980	CARRIZO-WILCOX	1,755	0	101	0	18	471	2,345
	OTHER	0	0	0	0	0	34	34
	QUEEN CITY	0	0	0	0	0	30	30
	Total	**1,755**	**0**	**101**	**0**	**18**	**535**	**2,409**
1984	CARRIZO-WILCOX	1,893	0	156	0	74	1,074	3,197
	OTHER	0	0	0	0	0	78	78
	QUEEN CITY	0	0	0	0	0	68	68
	Total	**1,893**	**0**	**156**	**0**	**74**	**1,220**	**3,343**
1985	CARRIZO-WILCOX	1,885	0	144	100	35	429	2,593
	OTHER	0	0	0	0	0	31	31
	QUEEN CITY	0	0	0	0	0	27	27
	Total	**1,885**	**0**	**144**	**100**	**35**	**487**	**2,651**
1986	CARRIZO-WILCOX	1,781	0	135	50	209	358	2,533
	OTHER	0	0	0	0	0	26	26
	QUEEN CITY	0	0	0	0	0	23	23
	Total	**1,781**	**0**	**135**	**50**	**209**	**407**	**2,582**
1987	CARRIZO-WILCOX	1,771	0	147	50	43	358	2,369
	OTHER	0	0	0	0	0	26	26
	QUEEN CITY	0	0	0	0	0	23	23
	Total	**1,771**	**0**	**147**	**50**	**43**	**407**	**2,418**
1988	CARRIZO-WILCOX	2,154	0	145	50	44	380	2,773
	OTHER	0	0	0	0	0	28	28
	QUEEN CITY	0	0	0	0	0	24	24
	Total	**2,154**	**0**	**145**	**50**	**44**	**432**	**2,825**
1989	CARRIZO-WILCOX	1,784	0	144	25	36	335	2,324
	OTHER	0	0	0	0	0	25	25

	QUEEN CITY	0	0	0	0	0	21	21
	Total	**1,784**	**0**	**144**	**25**	**36**	**381**	**2,370**
1990	CARRIZO-WILCOX	1,916	0	163	25	36	329	2,469
	OTHER	0	0	0	0	0	25	25
	QUEEN CITY	0	0	0	0	0	21	21
	Total	**1,916**	**0**	**163**	**25**	**36**	**375**	**2,515**
1991	CARRIZO-WILCOX	1,749	0	155	25	34	335	2,298
	OTHER	0	0	0	0	0	25	25
	QUEEN CITY	0	0	0	0	0	21	21
	Total	**1,749**	**0**	**155**	**25**	**34**	**381**	**2,344**
1992	CARRIZO-WILCOX	1,909	0	149	25	44	470	2,597
	OTHER	0	0	0	0	0	35	35
	QUEEN CITY	0	0	0	0	0	29	29
	Total	**1,909**	**0**	**149**	**25**	**44**	**534**	**2,661**
1993	CARRIZO-WILCOX	1,952	0	141	13	37	441	2,584
	OTHER	0	0	0	0	0	33	33
	QUEEN CITY	0	0	0	0	0	27	27
	Total	**1,952**	**0**	**141**	**13**	**37**	**501**	**2,644**
1994	CARRIZO-WILCOX	2,132	0	125	17	37	459	2,770
	OTHER	0	0	0	0	0	34	34
	QUEEN CITY	0	0	0	0	0	28	28
	Total	**2,132**	**0**	**125**	**17**	**37**	**521**	**2,832**
1995	CARRIZO-WILCOX	2,212	0	105	17	37	494	2,865
	OTHER	0	0	0	0	0	37	37
	QUEEN CITY	0	0	0	0	0	30	30
	Total	**2,212**	**0**	**105**	**17**	**37**	**561**	**2,932**
1996	CARRIZO-WILCOX	2,382	0	99	17	37	613	3,148
	OTHER	0	0	0	0	0	46	46
	QUEEN CITY	0	0	0	0	0	37	37
	Total	**2,382**	**0**	**99**	**17**	**37**	**696**	**3,231**
1997	CARRIZO-WILCOX	2,264	0	95	17	37	459	2,872
	OTHER	0	0	0	0	0	34	34
	QUEEN CITY	0	0	0	0	0	28	28

	Total	**2,264**	**0**	**95**	**17**	**37**	**521**	**2,934**
1998	CARRIZO-WILCOX	2,657	0	110	17	30	515	3,329
	OTHER	0	0	0	0	0	38	38
	QUEEN CITY	0	0	0	0	0	31	31
	Total	**2,657**	**0**	**110**	**17**	**30**	**584**	**3,398**
1999	CARRIZO-WILCOX	2,481	0	92	17	30	536	3,156
	OTHER	0	0	0	0	0	40	40
	QUEEN CITY	0	0	0	0	0	33	33
	Total	**2,481**	**0**	**92**	**17**	**30**	**609**	**3,229**
2000	CARRIZO-WILCOX	2,601	0	91	0	30	538	3,260
	OTHER	0	0	0	0	0	40	40
	QUEEN CITY	0	0	0	0	0	33	33
	Total	**2,601**	**0**	**91**	**0**	**30**	**611**	**3,333**
2001	CARRIZO-WILCOX	2,392	0	117	0	17	527	3,053
	OTHER	0	0	0	0	0	39	39
	QUEEN CITY	0	0	0	0	0	32	32
	Total	**2,392**	**0**	**117**	**0**	**17**	**598**	**3,124**
2002	CARRIZO-WILCOX	2,413	0	98	0	94	523	3,128
	OTHER	0	0	0	0	0	39	39
	QUEEN CITY	0	0	0	0	0	32	32
	Total	**2,413**	**0**	**98**	**0**	**94**	**594**	**3,199**
2003	CARRIZO-WILCOX	2,511	0	99	0	35	147	2,792
	OTHER	0	0	0	0	0	11	11
	QUEEN CITY	0	0	0	0	0	9	9
	Total	**2,511**	**0**	**99**	**0**	**35**	**167**	**2,812**

NOTE: All Pumpage reported in acre-feet 2/19/2009

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2)

Leon County

Year	Aquifer	Municipal	Manufacturing	Steam Electric	Irrigation	Mining	Livestock	Total
1980	CARRIZO-WILCOX	828	161	0	0	26	482	1,497
	QUEEN CITY	517	0	0	0	0	339	856

	SPARTA	41	0	0	0	0	43	84
	Total	**1,386**	**161**	**0**	**0**	**26**	**864**	**2,437**
1984	CARRIZO-WILCOX	1,295	162	0	0	72	772	2,301
	QUEEN CITY	445	0	0	0	0	587	1,032
	SPARTA	23	0	0	0	0	94	117
	Total	**1,763**	**162**	**0**	**0**	**72**	**1,453**	**3,450**
1985	CARRIZO-WILCOX	1,349	162	0	0	85	782	2,378
	QUEEN CITY	447	0	0	0	0	595	1,042
	SPARTA	20	0	0	0	0	96	116
	Total	**1,816**	**162**	**0**	**0**	**85**	**1,473**	**3,536**
1986	CARRIZO-WILCOX	1,293	162	0	0	133	674	2,262
	QUEEN CITY	460	0	0	0	0	513	973
	SPARTA	12	0	0	0	0	82	94
	Total	**1,765**	**162**	**0**	**0**	**133**	**1,269**	**3,329**
1987	CARRIZO-WILCOX	1,379	162	0	75	145	782	2,543
	QUEEN CITY	366	0	0	0	0	595	961
	SPARTA	12	0	0	0	0	96	108
	Total	**1,757**	**162**	**0**	**75**	**145**	**1,473**	**3,612**
1988	CARRIZO-WILCOX	1,462	162	0	0	207	816	2,647
	QUEEN CITY	336	0	0	75	0	621	1,032
	SPARTA	22	0	0	0	0	100	122
	Total	**1,820**	**162**	**0**	**75**	**207**	**1,537**	**3,801**
1989	CARRIZO-WILCOX	1,436	162	0	0	131	718	2,447
	QUEEN CITY	350	0	0	0	0	547	897
	SPARTA	28	0	0	0	0	88	116
	Total	**1,814**	**162**	**0**	**0**	**131**	**1,353**	**3,460**
1990	CARRIZO-WILCOX	1,508	162	0	0	146	707	2,523
	QUEEN CITY	441	0	0	0	0	539	980
	SPARTA	27	0	0	0	0	86	113
	Total	**1,976**	**162**	**0**	**0**	**146**	**1,332**	**3,616**
1991	CARRIZO-WILCOX	1,381	162	0	0	448	721	2,712
	QUEEN CITY	307	0	0	0	0	550	857
	SPARTA	13	0	0	0	0	88	101

	Total	**1,701**	**162**	**0**	**0**	**448**	**1,359**	**3,670**
1992	CARRIZO-WILCOX	1,418	162	0	0	461	670	2,711
	QUEEN CITY	332	0	0	0	0	510	842
	SPARTA	14	0	0	0	0	81	95
	Total	**1,764**	**162**	**0**	**0**	**461**	**1,261**	**3,648**
1993	CARRIZO-WILCOX	1,473	260	0	0	437	644	2,814
	QUEEN CITY	372	0	0	0	0	490	862
	SPARTA	18	0	0	0	0	78	96
	Total	**1,863**	**260**	**0**	**0**	**437**	**1,212**	**3,772**
1994	CARRIZO-WILCOX	1,375	290	0	0	463	559	2,687
	QUEEN CITY	365	0	0	0	0	426	791
	SPARTA	13	0	0	0	0	68	81
	Total	**1,753**	**290**	**0**	**0**	**463**	**1,053**	**3,559**
1995	CARRIZO-WILCOX	1,419	277	0	0	1,005	675	3,376
	QUEEN CITY	344	0	0	0	0	516	860
	SPARTA	25	0	0	0	0	82	107
	Total	**1,788**	**277**	**0**	**0**	**1,005**	**1,273**	**4,343**
1996	CARRIZO-WILCOX	1,485	290	0	0	1,005	563	3,343
	QUEEN CITY	359	0	0	0	0	430	789
	SPARTA	7	0	0	0	0	68	75
	Total	**1,851**	**290**	**0**	**0**	**1,005**	**1,061**	**4,207**
1997	CARRIZO-WILCOX	1,427	486	0	0	1,025	697	3,635
	QUEEN CITY	370	0	0	0	0	532	902
	SPARTA	7	0	0	0	0	84	91
	Total	**1,804**	**486**	**0**	**0**	**1,025**	**1,313**	**4,628**
1998	CARRIZO-WILCOX	1,543	459	0	0	865	531	3,398
	QUEEN CITY	400	0	0	0	0	405	805
	SPARTA	8	0	0	0	0	64	72
	Total	**1,951**	**459**	**0**	**0**	**865**	**1,000**	**4,275**
1999	CARRIZO-WILCOX	1,423	484	0	0	867	550	3,324
	QUEEN CITY	368	0	0	0	0	420	788
	SPARTA	7	0	0	0	0	66	73
	Total	**1,798**	**484**	**0**	**0**	**867**	**1,036**	**4,185**

2000	CARRIZO-WILCOX	1,503	545	0	0	865	539	3,452
	QUEEN CITY	390	0	0	0	0	411	801
	SPARTA	7	0	0	0	0	64	71
	Total	**1,900**	**545**	**0**	**0**	**865**	**1,014**	**4,324**
2001	CARRIZO-WILCOX	1,439	465	0	0	660	535	3,099
	QUEEN CITY	343	0	0	0	0	409	752
	SPARTA	7	0	0	0	0	65	72
	Total	**1,789**	**465**	**0**	**0**	**660**	**1,009**	**3,923**
2002	CARRIZO-WILCOX	1,904	429	0	0	1,067	517	3,917
	QUEEN CITY	357	0	0	0	0	395	752
	SPARTA	7	0	0	0	0	63	70
	Total	**2,268**	**429**	**0**	**0**	**1,067**	**975**	**4,739**
2003	CARRIZO-WILCOX	1,424	449	0	0	1,067	52	2,992
	QUEEN CITY	366	0	0	0	0	40	406
	SPARTA	7	0	0	0	0	7	14
	Total	**1,797**	**449**	**0**	**0**	**1,067**	**99**	**3,412**

NOTE: All Pumpage reported in acre-feet 2/19/2009

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2)

Madison County

Year	Aquifer	Municipal	Manu facturing	Steam Electric	Irrigation	Mining	Livestock	Total
1980	OTHER	53	0	0	0	0	204	257
	QUEEN CITY	35	0	0	0	0	0	35
	SPARTA	1,662	0	0	0	0	245	1,907
	Total	**1,750**	**0**	**0**	**0**	**0**	**449**	**2,199**
1984	OTHER	481	0	0	0	24	232	737
	QUEEN CITY	86	0	0	0	0	0	86
	SPARTA	2,052	34	0	0	0	323	2,409
	Total	**2,619**	**34**	**0**	**0**	**24**	**555**	**3,232**
1985	OTHER	412	0	0	0	24	224	660
	QUEEN CITY	85	0	0	0	0	0	85
	SPARTA	1,983	69	0	0	0	318	2,370
	Total	**2,480**	**69**	**0**	**0**	**24**	**542**	**3,115**
1986	OTHER	362	0	0	0	25	208	595
	QUEEN CITY	72	0	0	0	0	0	72

	SPARTA	2,244	70	0	0	0	266	2,580
	Total	**2,678**	**70**	**0**	**0**	**25**	**474**	**3,247**
1987	OTHER	326	0	0	0	20	208	554
	QUEEN CITY	56	0	0	0	0	0	56
	SPARTA	1,540	70	0	0	0	290	1,900
	Total	**1,922**	**70**	**0**	**0**	**20**	**498**	**2,510**
1988	OTHER	86	0	0	0	21	218	325
	QUEEN CITY	113	0	0	0	0	0	113
	SPARTA	1,559	69	0	0	0	279	1,907
	Total	**1,758**	**69**	**0**	**0**	**21**	**497**	**2,345**
1989	OTHER	484	0	0	0	18	198	700
	QUEEN CITY	154	0	0	0	0	0	154
	SPARTA	1,745	70	0	0	0	237	2,052
	Total	**2,383**	**70**	**0**	**0**	**18**	**435**	**2,906**
1990	OTHER	227	0	0	0	18	199	444
	QUEEN CITY	44	0	0	0	0	0	44
	SPARTA	1,861	70	0	0	0	238	2,169
	Total	**2,132**	**70**	**0**	**0**	**18**	**437**	**2,657**
1991	OTHER	90	0	0	0	23	203	316
	QUEEN CITY	57	0	0	0	0	0	57
	SPARTA	1,881	69	0	0	0	243	2,193
	Total	**2,028**	**69**	**0**	**0**	**23**	**446**	**2,566**
1992	OTHER	283	0	0	0	23	251	557
	QUEEN CITY	55	0	0	0	0	0	55
	SPARTA	1,633	69	0	0	0	301	2,003
	Total	**1,971**	**69**	**0**	**0**	**23**	**552**	**2,615**
1993	CARRIZO-WILCOX	0	0	0	6	0	0	6
	OTHER	267	0	0	0	23	236	526
	QUEEN CITY	61	0	0	6	0	0	67
	SPARTA	1,670	74	0	6	0	282	2,032
	Total	**1,998**	**74**	**0**	**18**	**23**	**518**	**2,631**
1994	CARRIZO-WILCOX	0	0	0	6	0	0	6
	OTHER	101	0	0	0	23	205	329
	QUEEN CITY	71	0	0	6	0	0	77
	SPARTA	1,730	74	0	6	0	246	2,056
	Total	**1,902**	**74**	**0**	**18**	**23**	**451**	**2,468**
1995	CARRIZO-WILCOX	0	0	0	6	0	0	6
	OTHER	81	0	0	0	23	218	322
	QUEEN CITY	72	0	0	6	0	0	78
	SPARTA	1,534	148	0	6	0	261	1,949

	Total	**1,687**	**148**	**0**	**18**	**23**	**479**	**2,355**
1996	CARRIZO-WILCOX	0	0	0	6	0	0	6
	OTHER	545	0	0	0	23	323	891
	QUEEN CITY	530	0	0	6	0	0	536
	SPARTA	2,052	181	0	6	0	388	2,627
	Total	**3,127**	**181**	**0**	**18**	**23**	**711**	**4,060**
1997	CARRIZO-WILCOX	0	0	0	6	0	0	6
	OTHER	285	0	0	0	23	201	509
	QUEEN CITY	232	0	0	6	0	0	238
	SPARTA	1,679	156	0	6	0	240	2,081
	Total	**2,196**	**156**	**0**	**18**	**23**	**441**	**2,834**
1998	CARRIZO-WILCOX	0	0	0	6	0	0	6
	OTHER	306	0	0	0	23	170	499
	QUEEN CITY	249	0	0	6	0	0	255
	SPARTA	1,802	136	0	6	0	204	2,148
	Total	**2,357**	**136**	**0**	**18**	**23**	**374**	**2,908**
1999	CARRIZO-WILCOX	0	0	0	6	0	0	6
	OTHER	287	0	0	0	23	180	490
	QUEEN CITY	234	0	0	6	0	0	240
	SPARTA	1,691	217	0	6	0	216	2,130
	Total	**2,212**	**217**	**0**	**18**	**23**	**396**	**2,866**
2000	CARRIZO-WILCOX	0	0	0	0	0	0	0
	OTHER	340	0	0	0	6	159	505
	QUEEN CITY	277	0	0	0	0	0	277
	SPARTA	2,003	183	0	0	0	189	2,375
	Total	**2,620**	**183**	**0**	**0**	**6**	**348**	**3,157**
2001	CARRIZO-WILCOX	0	0	0	0	0	0	0
	OTHER	320	0	0	0	23	162	505
	QUEEN CITY	307	0	0	0	0	0	307
	SPARTA	1,864	177	0	0	0	194	2,235
	Total	**2,491**	**177**	**0**	**0**	**23**	**356**	**3,047**
2002	CARRIZO-WILCOX	0	0	0	0	0	0	0
	OTHER	336	0	0	0	23	156	515
	QUEEN CITY	337	0	0	0	0	0	337
	SPARTA	1,939	194	0	0	0	187	2,320
	Total	**2,612**	**194**	**0**	**0**	**23**	**343**	**3,172**

2003	CARRIZO-WILCOX	0	0	0	0	0	0	0
	OTHER	331	0	0	0	23	48	402
	QUEEN CITY	330	0	0	0	0	0	330
	SPARTA	1,801	187	0	0	0	57	2,045
	Total	**2,462**	**187**	**0**	**0**	**23**	**105**	**2,777**

NOTE: All Pumpage reported in acre-feet 2/19/2009

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2)

E. Projected Water Demands for Mid-East Texas GCD as calculated in the 2007 State Water Plan. This information was obtained from the State Water Plan, Volume 3, Regional Water Planning Group Database. This data is required under Texas Water Code § 36.1071(e)(3)(G). Units are indicated in ac-ft.

Freestone County

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
C	County Other	Freestone	Brazos	195	197	196	192	191	191
C	County Other	Freestone	Trinity	1,056	1,074	1,069	1,048	1,038	1,038
C	Fairfield	Freestone	Trinity	1,120	1,208	1,297	1,383	1,482	1,588
C	FLO Community WSC	Freestone	Trinity	20	20	20	20	19	19
C	Irrigation	Freestone	Brazos	2	2	2	2	2	2
C	Irrigation	Freestone	Trinity	6	6	6	6	6	6
C	Livestock	Freestone	Brazos	122	122	122	122	122	122
C	Livestock	Freestone	Trinity	1,406	1,406	1,406	1,406	1,406	1,406
C	Mining	Freestone	Brazos	13	14	15	16	16	17
C	Mining	Freestone	Trinity	103	112	117	122	128	132
C	Steam Electric Power	Freestone	Trinity	18,210	20,524	23,999	28,234	33,398	39,692
C	Teague	Freestone	Brazos	209	281	301	327	353	383
C	Teague	Freestone	Trinity	327	439	472	512	553	599
C	Wortham	Freestone	Trinity	246	253	255	252	251	251
	Total Projected Water Demands (acre-feet per year) =			**23,035**	**25,658**	**29,277**	**33,642**	**38,965**	**45,446**

Source: Volume 3, 2007 State Water Planning Database 2/19/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Leon County

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
H	Buffalo	Leon	Trinity	348	384	401	397	392	395
H	Centerville	Leon	Trinity	189	203	210	207	205	206
H	County Other	Leon	Brazos	396	418	424	415	409	411
H	County Other	Leon	Trinity	432	455	462	452	445	448
H	FLO Community WSC	Leon	Trinity	418	525	578	574	559	567
H	Irrigation	Leon	Trinity	542	542	542	542	542	542
H	Jewett	Leon	Brazos	51	60	64	64	63	64
H	Jewett	Leon	Trinity	151	177	192	191	188	190
H	Livestock	Leon	Brazos	423	423	423	423	423	423
H	Livestock	Leon	Trinity	1,268	1,268	1,268	1,268	1,268	1,268
H	Manufacturing	Leon	Trinity	714	842	967	1,093	1,207	1,313
H	Mining	Leon	Brazos	221	213	209	205	201	198
H	Mining	Leon	Trinity	1,296	1,251	1,226	1,204	1,183	1,166
H	Normangee	Leon	Brazos	39	40	41	40	39	40
H	Normangee	Leon	Trinity	98	102	103	101	100	101
	Total Projected Water Demands (acre-feet per year) =			**6,586**	**6,903**	**7,110**	**7,176**	**7,224**	**7,332**

Source: Volume 3, 2007 State Water Planning Database 2/19/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Madison County

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
H	County Other	Madison	Brazos	106	110	113	115	118	122
H	County Other	Madison	Trinity	897	931	960	973	1,000	1,034
H	Irrigation	Madison	Trinity	19	19	19	19	19	19
H	Livestock	Madison	Brazos	120	120	120	120	120	120
H	Livestock	Madison	Trinity	630	630	630	630	630	630
H	Madisonville	Madison	Trinity	781	815	837	856	881	908
H	Manufacturing	Madison	Trinity	260	289	316	343	367	398

H	Mining	Madison	Brazos	9	9	9	9	9	9
H	Mining	Madison	Trinity	15	15	15	15	15	15
H	Normangee	Madison	Trinity	8	8	8	8	8	8
	Total Projected Water Demands (acre-feet per year) =			**2,845**	**2,946**	**3,027**	**3,088**	**3,167**	**3,263**

Source: Volume 3, 2007 State Water Planning Database 2/19/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

F. Water Needs for the Mid-East Texas Groundwater Conservation District as prescribed from the Texas Water Development Board and the most recent State Water Plan. This data is required under Texas Water Code § 36.1071(e)(4). Amounts are in ac-ft. NOTE: Positive values are projected water surpluses and negative values are projected water needs.

Freestone County

RWPG	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
C	County Other	Freestone	Brazos	0	0	0	0	0	0
C	County Other	Freestone	Trinity	833	742	698	680	654	625
C	Fairfield	Freestone	Trinity	-227	-315	-404	-490	-589	-695
C	FLO Community WSC	Freestone	Trinity	5	5	5	5	6	6
C	Irrigation	Freestone	Brazos	0	0	0	0	0	0
C	Irrigation	Freestone	Trinity	100	100	100	100	100	100
C	Livestock	Freestone	Brazos	11	11	11	11	11	11
C	Livestock	Freestone	Trinity	263	263	263	263	263	263
C	Mining	Freestone	Brazos	6	5	4	3	3	2
C	Mining	Freestone	Trinity	36	27	22	17	11	7
C	Steam Electric Power	Freestone	Trinity	9,074	6,626	2,387	-2,682	-8,633	-15,606
C	Teague	Freestone	Brazos	-5	-77	-98	-123	-149	-179

C	Teague	Freestone	Trinity	-8	-120	-153	-193	-234	-280
C	Wortham	Freestone	Trinity	-246	-252	-255	-252	-251	-251
Total Projected Water Needs (acre-feet per year) =				**-486**	**-764**	**-910**	**-3,740**	**-9,856**	**-17,011**

Source:Volume 3, 2007 State Water Planning Database 2/20/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Leon County

RWPG	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
H	Buffalo	Leon	Trinity	-37	-73	-90	-86	-81	-84
H	Centerville	Leon	Trinity	-15	-29	-36	-33	-31	-32
H	County Other	Leon	Brazos	-24	-46	-52	-43	-37	-39
H	County Other	Leon	Trinity	-26	-49	-56	-46	-39	-42
H	FLO Community WSC	Leon	Trinity	-100	-207	-260	-256	-241	-249
H	Irrigation	Leon	Trinity	0	0	0	0	0	0
H	Jewett	Leon	Brazos	-9	-18	-22	-22	-21	-22
H	Jewett	Leon	Trinity	-26	-52	-67	-66	-63	-65
H	Livestock	Leon	Brazos	0	0	0	0	0	0
H	Livestock	Leon	Trinity	0	0	0	0	0	0
H	Manufacturing	Leon	Trinity	-169	-297	-422	-548	-662	-768
H	Mining	Leon	Brazos	0	0	0	0	0	0
H	Mining	Leon	Trinity	0	0	0	0	0	0
H	Normangee	Leon	Brazos	-2	-3	-4	-3	-2	-3
H	Normangee	Leon	Trinity	-3	-7	-8	-6	-5	-6
Total Projected Water Needs (acre-feet per year) =				**-411**	**-781**	**-1,017**	**-1,109**	**-1,182**	**-1,310**

Source:Volume 3, 2007 State Water Planning Database 2/20/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Madison County

RWPG	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
H	County Other	Madison	Brazos	-4	-8	-11	-13	-16	-20
H	County Other	Madison	Trinity	-35	-64	-107	-107	-138	-203
H	Irrigation	Madison	Trinity	0	0	0	0	0	0
H	Livestock	Madison	Brazos	0	0	0	0	0	0
H	Livestock	Madison	Trinity	0	0	0	0	0	0
H	Madisonville	Madison	Trinity	-31	-65	-87	-106	-131	-158
H	Manufacturing	Madison	Trinity	-55	-84	-111	-138	-162	-193
H	Mining	Madison	Brazos	0	0	0	0	0	0
H	Mining	Madison	Trinity	-1	-1	-1	-1	-1	-1
H	Normangee	Madison	Trinity	0	0	0	0	0	0
			Total Projected Water Needs (acre-feet per year) =	**-126**	**-222**	**-317**	**-365**	**-448**	**-575**

Source:Volume 3, 2007 State Water Planning Database 2/20/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

G. Projected Water Management Strategies as reported by the Texas Water Development Board are found in Appendix "A". This information is required pursuant to Texas Water Code § 36.1071(e)(4). Amounts are indicated in ac-ft. This data was obtained from the 2007 State Water Plan.

H. Management Goals, Objectives and Performance Standards

1. Providing the most efficient use of groundwater.

It is the goal of the District to promote the most efficient use of groundwater.

Management Objective
The District will at least once annually conduct at least one program to provide public information and education to promote the efficient use of groundwater. Such programs may include newspaper publication, open meetings, handout brochures and mail-out brochures.

Performance Standard
The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.

2. Controlling and preventing the waste of groundwater.

It is the goal of the District to prevent the waste of groundwater.

Management Objective
The District will at least annually conduct at least one program to provide public information and education of the prevention of the waste of groundwater. Such programs may include newspaper publications, open meetings, handout brochures and mail-out brochures.

Performance Standard
The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.

3. Controlling and prevention subsidence.

The goal is not applicable to the District.

4. Conjunctive surface water management issues.

Currently surface water is used from Lake Fairfield and Richland Chambers Reservoir for steam-electric use.

It is the opinion of the District that the conjunctive surface water goal is not an issue in the District. Therefore, this goal is not applicable at this time.

5. Natural resource issues.

There are no known natural resource issues in the District that have an impact on the groundwater quantity or quality at this time. Therefore, this goal is not applicable to the District at this time.

6. Addressing drought conditions.

It is the goal of the District to identify drought conditions and to promote strategies for groundwater use and management under such conditions.

Management Objective
The District shall call for the most efficient use of groundwater by all users in the District to maintain sufficient groundwater aquifer resources during periods of drought and for future resources by preventing waste and by regulation of users, if necessary to prevent depletion of the aquifers. The District will review the Texas Palmer Drought Index and the Texas Drought Preparedness Report, and monitor the District's production figures annually.

Performance Standard
The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.

7. Conservation.

It is the goal of the District to support water conservation.

Management Objective
The District will at least annually conduct a least one program to provide public information and education to promote the conservation of water. Such programs may include newspaper publication, open meetings, handout brochures and mail-out brochures.

Performance Standard
The District will document the number of times this activity was completed in the annual report to the Board of Directors and maintain a record of the above for subsequent audits.

8. Recharge Enhancement

The District does not currently have the capacity to enter directly into such projects by providing funding support. Possible recharge enhancement may be achieved by brush control on native pasture and/or the breakup of hardpan by mechanical means on former or current farmland. Therefore, this goal is not applicable to the District at this time.

9. Rainwater Harvesting

This management goal is not applicable to the operation of the District as it is cost prohibitive.

10. Precipitation Enhancement

This management goal is not applicable to the operation of the District as it is cost prohibitive.

11. Brush Control

The district is supportive of activities related to brush control as it relates to the recharge of the aquifers; however, this management goal is not applicable to the operations of the District as it is cost prohibitive.

12. Addressing in a Quantitative Manner the Desired Future Conditions

The desired future conditions of the groundwater within the District have not yet been established in accordance with Chapter 36.108 of the Texas Water Code. The District is actively participating in the joint planning process and the development of a desired future condition for the portion of the aquifers within the District. Therefore, this goal is not applicable to the District at this time.

Once the Desired Future Conditions are established by the Groundwater Districts that comprise the Groundwater Management Area 12, they will be reported to the Texas Water Development Board. The Texas Water Development Board will calculate the Managed Available Groundwater for the GMA and each Groundwater Conservation District. The GCD will take the MAG data and will use that information to establish the available groundwater for the Mid-East Texas Groundwater Conservation District. This management plan will be amended once this data is ascertained by the planning process of the GMA and subsequent TWDB data.

I. Groundwater management strategy

The District is committed to managing and protecting groundwater in a way that will maintain for the future adequate and safe supplies of groundwater for the citizens of the District. It will work with other entities to promote conservation of supplies, protect water quality, and implement strategies to manage the pumping of groundwater.

It is the policy of the District to promote water conservation, provide public information, prevent the pollution of groundwater resources and maintain a regulatory permitting system which results in the prevention of aquifer drawdown and consequent reduction of groundwater availability to future generations.

J. Actions, Procedures, Performance and Avoidance for Plan Implementation

The District will implement the provisions of this plan and will utilize the provisions of this plan as a guidepost for determining the direction or priority for all District activities. All operations of the District, all agreements entered into by the District and any additional planning efforts in which the District may participate will be consistent with the provisions of this plan.

The District shall treat all citizens with equality. Citizens may apply to the District for discretion in enforcement of the rules on grounds of adverse economic effect or unique local conditions. In granting of discretion to any rule, the Board shall consider the potential for adverse effect on adjacent landowners. The exercise of said discretion by the Board, shall not be construed as limiting the power of the Board.

The District will seek the cooperation in the implementation of this plan and the management of groundwater supplies within the District. All activities of the District will be undertaken in co-operation and coordinated with the appropriate state, regional or local water management entity.

The District will adopt rules relating to the permitting of wells and the production of groundwater. The rules adopted by the District shall be pursuant to Texas Water Code Chapter 36 and the provisions of this plan. All rules will be adhered to and enforced. The promulgation and enforcement of the rules will be based on the best technical evidence available.

Rules for the District can be downloaded at the following link: http://www.mideasttexasgcd.com/finalrules092308.pdf.

K. Methodology for Tracking District Progress in Achieving Management Goals

The District manager will prepare and present an annual report to the Board of Directors on District performance in regards to achieving management goals and objectives. The presentation of the report will occur during the last quarterly Board meeting each fiscal year, beginning September 1, 2009. The report will include the number of instances in which each of the activities specified in the Districts management objectives was engaged in during the fiscal year. Each activity will be referenced to the estimated expenditure of staff time and budget in accomplishment of the activity. The notations of activity frequency, staff time and budget will be referenced to the appropriate performance standard for each management objective describing the activity, so that the effectiveness and efficiency of the Districts operations may be evaluated. The Board will maintain the report on file, for public inspection at the Districts offices upon adoption. This methodology will apply to all management goals contained within this plan.

L. Planning period

The planning period for this Plan is five years following Plan approval. The District may review and amend this Plan as needed.

M. Resolution

See Exhibit "B".

N. Notice and Hearing

This Plan was adopted following notice and hearing required by 31 TAC Sec. 356.6(a)(4).

O. Surface water management entity coordination

After adoption, this Plan will be provided to applicable surface water management entities for comment. Evidence of co-ordination with surface water management entities is attached. See Exhibit "C".

P. Regional Water Planning Group review

After notice and hearing and after adoption, this Plan was submitted to applicable Regional Water Planning Groups for comment. Evidence of submission to Regional Water Planning Groups is attached. See Exhibit "C".

Freestone County

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
C	Fairfield	Freestone	Trinity	Conveyance and Treatment Project (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	312	333
C	Fairfield	Freestone	Trinity	Conveyance and Treatment Project (2)	Indirect Reuse	Navarro	0	0	506	534	423	456
C	Wortham	Freestone	Trinity	Conveyance Project (1)	Navarro Mills Lake/Reservoir	Reservoir	250	300	300	300	300	300
C	Steam Electric Power	Freestone	Trinity	Conveyance Project (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	528	478
C	Steam Electric Power	Freestone	Trinity	Conveyance Project (2)	Indirect Reuse	Henderson	0	0	0	1,090	718	655
C	County Other	Freestone	Brazos	Municipal Conservation-Basic	Conservation	Freestone	2	9	10	10	11	12
C	Teague	Freestone	Brazos	Municipal Conservation-Basic	Conservation	Freestone	3	11	12	15	18	20
C	County Other	Freestone	Trinity	Municipal Conservation-Basic	Conservation	Freestone	14	49	53	57	60	63
C	Fairfield	Freestone	Trinity	Municipal Conservation-Basic	Conservation	Freestone	34	65	81	98	118	139
C	FLO Community WSC	Freestone	Trinity	Municipal Conservation-Basic	Conservation	Freestone	0	2	2	2	2	2
C	Teague	Freestone	Trinity	Municipal Conservation-Basic	Conservation	Freestone	4	16	20	23	27	32
C	Wortham	Freestone	Trinity	Municipal Conservation-Basic	Conservation	Freestone	7	14	16	18	20	22

C	Fairfield	Freestone	Trinity	Municipal Conservation-Expanded	Conservation	Freestone	1	3	3	3	4	4
C	Teague	Freestone	Brazos	New Wells - Carrizo-Wilcox Aquifer	Carrizo-Wilcox Aquifer	Freestone	85	87	86	172	172	173
C	Teague	Freestone	Trinity	New Wells - Carrizo-Wilcox Aquifer	Carrizo-Wilcox Aquifer	Freestone	136	135	135	271	271	270
C	Fairfield	Freestone	Trinity	New Wells - Carrizo-Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	282	282	282	282	282	282
C	County Other	Freestone	Trinity	Purchase from Water Provider (1)	Navarro Mills Lake/Reservoir	Reservoir	194	225	208	189	241	211
C	County Other	Freestone	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	108	103
C	Steam Electric Power	Freestone	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	2,019	1,923
C	County Other	Freestone	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Navarro	60	110	188	165	146	141
C	Steam Electric Power	Freestone	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Navarro	1,606	1,991	3,438	3,059	2,743	2,634
C	County Other	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0
C	Fairfield	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0
C	FLO Community WSC	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0
C	Irrigation	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0
C	Livestock	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0
C	Mining	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0

C	Steam Electric Power	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0
C	Teague	Freestone	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Freestone	0	0	0	0	0	0
C	Livestock	Freestone	Trinity	Supplemental Wells	Queen City Aquifer	Freestone	0	0	0	0	0	0
C	Steam Electric Power	Freestone	Trinity	TRA Freestone County Reuse	Indirect Reuse	Freestone	0	0	10,000	10,000	20,000	20,000
C	Wortham	Freestone	Trinity	Water Treatment Plant - Expansion	Navarro Mills Lake/Reservoir	Reservoir	0	0	0	0	0	0
Total Projected Water Management Strategies (acre-feet per year) =							**2,678**	**3,299**	**15,340**	**16,288**	**28,523**	**28,253**

Source: Volume 3, 2007 State Water Planning Database
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

2/19/2009

Leon County

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
H	County Other	Leon	Brazos	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	24	46	52	43	37	39
H	Buffalo	Leon	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	37	73	90	86	81	84
H	Centerville	Leon	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	15	29	36	33	31	32
H	County Other	Leon	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	8	15	18	14	13	14
H	FLO Community WSC	Leon	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	100	207	260	256	241	249
H	Jewett	Leon	Brazos	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	9	18	22	22	21	22
H	Jewett	Leon	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	26	52	67	66	63	65
H	Manufacturing	Leon	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	169	297	422	548	662	768

H	Normangee	Leon	Brazos	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	2	3	4	3	2	3
H	Normangee	Leon	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Leon	3	7	8	6	5	6
H	County Other	Leon	Trinity	New Groundwater Wells	Queen City Aquifer	Leon	9	17	19	16	13	14
H	County Other	Leon	Trinity	New Groundwater Wells	Sparta Aquifer	Leon	9	17	19	16	13	14
Total Projected Water Management Strategies (acre-feet per year) =							**411**	**781**	**1,017**	**1,109**	**1,182**	**1,310**

Source: Volume 3, 2007 State Water Planning Database
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

2/19/2009

Madison County

RWPG	WUG	WUGCounty	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
H	County Other	Madison	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Madison	0	50	100	57	0	0
H	Manufacturing	Madison	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Madison	55	84	111	138	162	193
H	Mining	Madison	Trinity	New Groundwater Wells	Carrizo-Wilcox Aquifer	Madison	1	1	1	1	1	1
H	County Other	Madison	Trinity	New Groundwater Wells	Queen City Aquifer	Madison	0	11	7	4	9	9
H	County Other	Madison	Brazos	New Groundwater Wells	Sparta Aquifer	Madison	4	8	11	13	16	20
H	County Other	Madison	Trinity	New Groundwater Wells	Sparta Aquifer	Madison	36	3	0	46	129	194
H	Madisonville	Madison	Trinity	New Groundwater Wells	Sparta Aquifer	Madison	31	65	87	106	131	158
Total Projected Water Management Strategies (acre-feet per year) =							**127**	**222**	**317**	**365**	**448**	**575**

Source: Volume 3, 2007 State Water Planning Database
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

2/19/2009

RESOLUTION OF THE BOARD OF DIRECTORS OF THE MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT

RESOLUTION 2009-2

BE IT RESOVED BY THE BOARD OF DIRECTORS OF THE MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT THAT THE ATTACHED DOCUMENT ENTITLED MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN IS APPROVED BY THE SAID BOARD.

PASSED AND APPROVED THIS 13th DAY OF AUGUST, 2009 BY A MAJORITY VOTE OF SAID BOARD TAKEN IN A REGULAR MEETING HELD IN COMPLIANCE WITH APPLICABLE LAW.

RESOLUTION SIGNED THIS 13th DAY OF AUGUST, 2009.

ATTEST:_____
Bill Parten, Secretary/Treasurer

BOARD OF DIRECTORS

BY: _____
Mike Speer, President

EXHIBIT "B"

EXHIBIT "C" – Transmittal Letter List of Regional Water Planning Groups/Surface Water Entities

The attached transmittal letter, together with a copy of the Mid-East Texas Groundwater Conservation District Management Plan, was sent to the following recipients by first class mail, following notice and hearing on the Plan:

Mr. Jim Parks, Chairman
Region C Water Planning Group
North Texas Municipal Water District
P O Box 2408
Wylie, TX 75098

Mr. Mark Evans, Chairman
Region H Water Planning Group
Trinity County Judge
P O Box 457
Groveton, TX 75845

Tarrant Regional Water District
800 East North Side Dr.
P O Box 4508
Fort Worth, TX 76164

Trinity River Authority
P O Box 60
Arlington, TX 76004-0060

Luminant
Lincoln Plaza
500 N. Akard
Dallas, TX 75201
Attn: Administration

Brazos River Authority
P O Box 7555
Waco, TX 76714-7555

Limestone Electric Generating Station
NRG Texas Power, LLC.
1301 McKinney, Suite 2300
Houston, TX 77010

Mid-East Texas Groundwater Conservation District

101 West Main, Suite 229
P O Box 477
Madisonville, Texas 77864
Phone: 936-348-3212
Fax: 936-348-3512
Website: www.mideasttexasgcd.com

Date: August 19, 2009

To: Regional Water Planning Groups/Surface Water Management Entities

From: Robert Gresham, General Manager

Subject: Approved Management Plan

Enclosed is a copy of the Management Plan adopted by the Mid-East Texas Groundwater Management District. This is being submitted to you for your review, comment and coordination in compliance with the rules of the Texas Water Development Board. Please address your comments to the District at the above address. Thank you.

Exhibit "C"