NECHES & TRINITY VALLEYS GROUNDWATER CONSERVATION DISTRICT

MANAGEMENT PLAN

APOPTED June 11, 2003
As amended August 20, 2009
Adopted August 20, 2009

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Protecting Anderson, Cherokee, and Henderson Counties

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 prevention of 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 and was re-adopted by Board Resolution on August 20, 2009. This District Management Plan 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 and Henderson Counties. All of Anderson County is also included except for the part in the existing Anderson County Underground Water Conservation District.

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 for the aquifers located within the District boundaries and within Groundwater Management Area 11 have not been established; therefore, an estimate of the Managed Available Groundwater is not available at this time. The District is actively working with the other member districts within Groundwater Management Area 11 towards determining an estimate of the Managed Available Groundwater.

The Carrizo-Wilcox aquifers are 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 is 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.

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 are statistically insufficient and are 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.

It should be noted that 95.58 percent, as calculated by TWDB, of the land in Anderson County is included in the District with the remainder being in the Anderson County Underground Water Conservation District. Only one public water supply using groundwater and a small percentage of the total exempt wells are located in the part of the county that is not in the Neches and Trinity Valleys GCD area. Therefore, this Management Plan differentiates statistical information between what is or is not located only in the Neches and Trinity Valleys GCD when using data from the TWDB, State Water Plans, or other non-district sources, when that entity provides the breakout of data and, in those cases, the data is indicated by an asterisk (*).

The following charts present the annual water usage within the District from 2000 to 2004 and include both ground and surface water use. They show a total annual usage of 34,627 acre feet including 17,677 acre feet of groundwater in 2004.

Note that the data for Anderson County includes the entire county and not just the area within the District. The percentage of water use not in the District is not material to the presentation of data as a whole because there are no major water users in the area not in the District.

Figure 1
ANDERSON COUNTY

		Municipal	Manufacturing	Steam Electric	Mining	Irrigation	Livestock	Total
2000	GW	6,677	0	0	96	423	683	7,879
	SW	3,756	0	0	96	0	1,025	4,877
	Total	**10,433**	**0**	**0**	**192**	**423**	**1,708**	**12,756**
2001	GW	5,022	412	0	96	375	337	6,242
	SW	4,385	0	0	96	0	1,340	5,821
	Total	**9,407**	**412**	**0**	**192**	**375**	**1,677**	**12,063**
2002	GW	6,563	445	0	81	382	339	7,810
	SW	6,341	0	0	81	0	1,347	7,769
	Total	**12,904**	**445**	**0**	**162**	**382**	**1,686**	**15,579**
2003	GW	6,408	445	0	17	382	307	7,559
	SW	6,290	0	0	253	0	1,222	7,765
	Total	**12,698**	**445**	**0**	**270**	**382**	**1,529**	**15,324**
2004	GW	5,696	15	0	30	382	304	6,427
	SW	4,922	0	0	224	0	1,210	6,356
	Total	**10,618**	**15**	**0**	**254**	**382**	**1,514**	**12,783**

NOTE: All Pumpage reported in acre-feet

TWDB: 9/9/2008

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=1)

Figure 2
HENDERSON COUNTY

		Municipal	Manufacturing	Steam Electric	Mining	Irrigation	Livestock	Total
2000	GW	4,847	49	0	0	153	931	5,980
	SW	6,881	244	4,860	0	63	620	12,668
	Total	**11,728**	**293**	**4,860**	**0**	**216**	**1,551**	**18,648**
2001	GW	4,647	71	0	0	143	519	5,380
	SW	7,905	228	464	0	62	1,150	9,809
	Total	**12,552**	**299**	**464**	**0**	**205**	**1,669**	**15,189**
2002	GW	4,616	72	0	2	432	142	5,264
	SW	7,703	232	910	1	187	313	9,346
	Total	**12,319**	**304**	**910**	**3**	**619**	**455**	**14,610**
2003	GW	4,413	18	0	23	673	427	5,554
	SW	7,587	59	410	268	290	947	9,561
	Total	**12,000**	**77**	**410**	**291**	**963**	**1,374**	**15,115**
2004	GW	4,508	171	0	39	721	431	5,870
	SW	6,009	552	150	41	311	956	8,019
	Total	**10,517**	**723**	**150**	**80**	**1,032**	**1,387**	**13,889**

NOTE: All Pumpage reported in acre-feet

TWDB: 9/9/2008

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=1)

Figure 3
CHEROKEE COUNTY

		Municipal	Manufacturing	Steam Electric	Mining	Irrigation	Livestock	Total
2000	GW	6,021	362	131	32	81	706	7,333
	SW	1,857	244	2,569	149	2	1,059	5,880
	Total	**7,878**	**606**	**2,700**	**181**	**83**	**1,765**	**13,213**
2001	GW	6,293	419	56	27	81	714	7,590
	SW	1,502	207	1,624	124	2	1,071	4,530
	Total	**7,795**	**626**	**1,680**	**151**	**83**	**1,785**	**12,120**
2002	GW	5,425	399	40	30	81	689	6,664
	SW	1,018	198	1,161	137	2	1,033	3,549
	Total	**6,443**	**597**	**1,201**	**167**	**83**	**1,722**	**10,213**
2003	GW	5,439	363	40	17	81	572	6,512
	SW	1,221	180	1,172	181	2	858	3,614
	Total	**6,660**	**543**	**1,212**	**198**	**83**	**1,430**	**10,126**
2004	GW	4,600	98	21	23	81	557	5,380
	SW	917	49	608	163	2	836	2,575
	Total	**5,517**	**147**	**629**	**186**	**83**	**1,393**	**7,955**

NOTE: All Pumpage reported in acre-feet

TWDB: 9/9/2008

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=1)

B. PROJECTED TOTAL WATER DEMANDS

The following tables show the projected water demand for Anderson, Cherokee, and Henderson Counties through the year 2060. This is the combined surface water and groundwater use for the District. The projections are from the 2007 State Water Plan and include agriculture, municipal and industrial use.

Since the District does not cover all of Anderson County, the generic county-wide data have been converted to a proportional value (relative to the size of the District) by multiplying each value from the County Water Demands data sheet by 0.9558.

Figure 4
Anderson County Projected Total Water Demands (in acre-feet)
Generic data indicated by an (*) is apportioned to show the demand for the 95.58 percent of the county land mass that is in the district as calculated by TWDB.

RWPG	Water User Group	River Basin	2010	2020	2030	2040	2050	2060
I	Elkhart	Trinity	177	183	185	188	192	196
I	Frankston	Neches	524	547	564	582	598	612
I	Palestine	Neches	1,955	2,018	2,062	2,106	2,156	2,210
I	Palestine	Trinity	1,762	1,819	1,858	1,898	1,943	1,992
I	Brushy Creek WSC	Neches	150	152	154	153	155	159
I	Brushy Creek WSC	Trinity	122	124	126	125	127	130
I	Consolidated WSC	Neches	29	30	30	29	30	31
I	Consolidated WSC	Trinity	98	99	99	98	100	102
I	Four Pine WSC	Trinity	283	292	296	301	306	314
I	Walston Springs WSC	Neches	427	438	441	444	452	464
I	County Other*	Neches	765	794	812	831	851	872
I	County Other*	Trinity	4,453	4,627	4,732	4,839	4,956	5,080
I	Steam Electric Power*	Neches	0	10,806	12,634	14,862	17,577	20,887
I	Mining*	Neches	442	480	502	524	545	566
I	Mining*	Trinity	49	53	55	57	60	62
I	Irrigation*	Neches	13	13	13	13	13	13
I	Irrigation*	Trinity	189	189	189	189	189	189
I	Livestock*	Neches	768	768	768	768	768	768
I	Livestock*	Trinity	865	865	865	865	865	865
Total Projected Water Demands			13,070	24,297	26,386	28,872	31,883	35,512

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

9/8/2008

Figure 5
Henderson County Projected Total Water Demands (in acre-feet)

RWPG	Water User Group	River Basin	2010	2020	2030	2040	2050	2060
I	Athens	Trinity	2,693	3,169	3,739	4,392	5,248	6,306
I	Eustace	Trinity	149	161	172	183	199	221
I	Gun Barrel City	Trinity	1,257	1,452	1,637	1,841	2,089	2,416
I	Mabank	Trinity	74	78	82	87	93	101
I	Malakoff	Trinity	420	437	453	468	494	532
I	Payne Springs	Trinity	165	174	182	191	203	220
I	Seven Points	Trinity	174	205	234	266	304	355
I	Tool	Trinity	405	452	500	548	610	695
I	Trinidad	Trinity	183	183	183	181	184	190
I	County Other	Trinity	262	257	253	248	246	246
I	Manufacturing	Trinity	110	118	133	151	172	195
I	Steam Electric Power	Trinity	2,387	2,308	2,376	2,458	2,559	2,681
I	Mining	Trinity	265	302	327	352	378	399
I	Livestock	Trinity	854	854	854	854	854	854
I	Berryville	Neches	126	134	142	149	162	179
I	Brownsboro	Neches	158	182	206	232	263	304
I	Chandler	Neches	409	453	494	538	596	674
I	Murchison	Neches	139	148	157	166	179	196
I	County Other	Neches	2,761	2,901	3,032	3,162	3,365	3,645
I	Manufacturing	Neches	12	14	16	18	20	22
I	Mining	Neches	14	14	14	14	14	14
I	Livestock	Neches	2,594	2,594	2,594	2,594	2,594	2,594
I	Log Cabin	Trinity	96	128	144	142	141	141
I	Bethel-Ash WSC	Trinity	163	194	222	253	290	342
I	East Cedar Creek FWSD	Trinity	2,319	2,853	3,402	3,931	4,631	5,516
I	Virginia Hill WSC	Trinity	393	384	375	366	361	364
I	West Cedar Creek MUD	Trinity	1,280	1,803	2,199	2,527	2,952	3,489
I	Athens	Neches	77	107	136	163	199	246
I	Bethel-Ash WSC	Neches	250	303	351	404	468	556
I	Brushy Creek WSC	Neches	72	79	86	91	100	114
I	R P M WSC	Neches	69	75	80	86	95	106
I	Irrigation	Neches	10	10	10	10	10	10
Total Projected Water Demands			**20,340**	**22,526**	**24,785**	**27,066**	**30,073**	**33,923**

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

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

Figure 6
Cherokee Count County Projected Total Water Demand (in Acre-feet)

RWPG	Water User Group	River Basin	2010	2020	2030	2040	2050	2060
I	Alto	Neches	233	248	261	273	286	304
I	Bullard	Neches	13	13	13	13	13	14
I	Jacksonville	Neches	3,502	3,637	3,741	3,827	3,948	4,111
I	New Summerfield	Neches	208	258	302	338	379	427
I	Rusk	Neches	1,194	1,283	1,353	1,421	1,495	1,591
I	Troup	Neches	6	6	7	7	8	8
I	Wells	Neches	122	121	119	117	115	116
I	County Other	Neches	902	790	617	378	272	218
I	Manufacturing	Neches	718	784	839	891	934	1,007
I	Steam Electric Power	Neches	2,245	1,790	2,093	2,462	2,912	3,460
I	Mining	Neches	93	97	99	101	103	105
I	Irrigation	Neches	321	321	321	321	321	321
I	Livestock	Neches	1,765	1,765	1,765	1,765	1,765	1,765
I	Alto Rural WSC	Neches	393	404	409	411	424	447
I	Craft-Turney WSC	Neches	515	614	742	908	995	1,078
I	North Cherokee WSC	Neches	387	439	482	519	560	616
I	Rusk Rural WSC	Neches	358	372	381	388	401	423
I	Southern Utilities Company	Neches	421	458	486	513	543	583
Total Projected Water Demands			**13,396**	**13,400**	**14,030**	**14,653**	**15,474**	**16,594**

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

9/8/2008

C. PROJECTED SURFACE WATER SUPPLIES

The following charts show the surface water supplies for the District for 2010 and the projected surface water supplies through the year 2060.

Note that the data for Anderson County includes the entire county and not just the area within the District. 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.

Figure 7
Anderson County (in Acre-feet)

RWP G	Water User Group		River Basin	Source Name	2010	2020	2030	2040	2050	2060
I	Palestine		Neches	Palestine Lake/Reservoir	2,278	2,278	2,278	2,278	2,278	2,278
I	Palestine		Trinity	Palestine Lake/Reservoir	2,053	2,053	2,053	2,053	2,053	2,053
I	Irrigation		Neches	Neches River Combined Run-of-River Irrigation	197	197	197	197	197	197
I	Irrigation		Trinity	Trinity Combined Run-of-River Irrigation	1,060	1,060	1,060	1,060	1,060	1,060
I	Livestock		Neches	Livestock Local Supply	599	599	599	599	599	599
I	Livestock		Trinity	Livestock Local Supply	684	684	684	684	684	684
I	Consolidated WSC		Neches	Houston County Lake/Reservoir	20	21	20	20	21	22
I	Consolidated WSC		Trinity	Houston County Lake/Reservoir	69	68	67	67	69	71
Total Projected Surface Water Supplies (acre-feet per year) =					**6,960**	**6,960**	**6,958**	**6,958**	**6,961**	**6,964**

9/8/2008

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

Figure 8

Henderson County (in Acre-feet)

RWPG	Water User Group		River Basin	Source Name	2010	2020	2030	2040	2050	2060
I	Athens		Trinity	Athens Lake/Reservoir	1,537	1,663	1,783	1,892	2,003	2,105
I	Gun Barrel City		Trinity	TRWD System	389	375	363	357	349	343
I	Mabank		Trinity	TRWD System	80	68	60	55	50	46
I	Malakoff		Trinity	TRWD System	231	202	183	167	155	149
I	Payne Springs		Trinity	TRWD System	51	45	40	37	34	31
I	Seven Points		Trinity	TRWD System	108	89	81	77	74	71
I	Tool		Trinity	TRWD System	251	196	173	160	148	139
I	Trinidad		Trinity	Trinidad City Lake/Reservoir	484	484	484	484	484	484
I	County Other		Trinity	TRWD System	141	112	93	79	66	56
I	County Other		Trinity	Trinity River Run-of-River Municipal	0	0	0	0	0	0
I	Manufacturing		Trinity	Athens Lake/Reservoir	44	43	43	43	43	42
I	Steam Electric Power		Trinity	TRWD System	0	0	0	0	0	0
I	Steam Electric Power		Trinity	Forest Grove Lake/Reservoir	0	0	0	0	0	0
I	Steam Electric Power		Trinity	Trinidad Lake/Reservoir	3,067	3,033	3,000	2,967	2,933	2,900
I	Mining		Trinity	TRWD System	165	134	114	98	83	70
I	Livestock		Trinity	Livestock Local Supply	341	341	341	341	341	341
I	County Other		Neches	Palestine Lake/Reservoir	100	100	100	100	100	100
I	Livestock		Neches	Livestock Local Supply	279	279	279	279	279	279
I	Livestock		Neches	Athens Lake/Reservoir	1,267	1,132	1,004	890	774	667
I	East Cedar Creek FWSD		Trinity	TRWD System	717	737	754	763	774	783
I	West Cedar Creek MUD		Trinity	TRWD System	794	781	760	736	715	698
I	Athens		Neches	Athens Lake/Reservoir	44	56	65	70	76	82
I	Irrigation		Neches	Athens Lake/Reservoir	7	6	5	5	4	4
Total Projected Surface Water Supplies (acre-feet per year) =					**10,097**	**9,876**	**9,725**	**9,600**	**9,485**	**9,390**

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

9/8/2008

Figure 9
Cherokee County (in Acre-feet)

RWPG	Water User Group		River Basin	Source Name	2010	2020	2030	2040	2050	2060
I	Jacksonville		Neches	Jacksonville Lake/Reservoir	3,381	3,311	3,243	3,168	3,135	3,093
I	Rusk		Neches	Rusk City Lake/Reservoir	64	63	63	62	61	60
I	County Other		Neches	Jacksonville Lake/Reservoir	218	180	134	78	54	41
I	Manufacturing		Neches	Jacksonville Lake/Reservoir	693	714	727	738	742	758
I	Steam Electric Power		Neches	Stryker Lake/Reservoir	2,245	1,790	2,093	2,462	2,912	3,460
I	Mining		Neches	Other Local Supply	2	2	2	2	2	2
I	Irrigation		Neches	Neches River Combined Run-of-River Irrigation	182	182	182	182	182	182
I	Livestock		Neches	Livestock Local Supply	1,059	1,059	1,059	1,059	1,059	1,059
I	Craft-Turney WSC		Neches	Jacksonville Lake/Reservoir	497	559	643	752	790	811
I	North Cherokee WSC		Neches	Jacksonville Lake/Reservoir	374	400	418	430	445	463
Total Projected Surface Water Supplies (acre-feet per year) =					**8,715**	**8,260**	**8,564**	**8,933**	**9,382**	**9,929**

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

9/8/2008

D. GROUNDWATER AVAILABILITY

The Wilcox group and the overlaying Carrizo Formation of the Claiborne Group form a hydro-logically 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 industrials 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 Run 09-021).

The managed available groundwater is the amount of groundwater available for permitting purposes in each of the aquifers within the district. The Desired Future Conditions (DFC) are the conditions we would want the aquifers to be by the year 2060. The Managed Available Groundwater (MAG) will be determined by the TWDB after the DFCs have been approved for the Groundwater Management Area 11 (GMA-11). These are to be completed by September 1, 2010. The Neches and Trinity Valleys GCD is participating with the other groundwater districts in determining the DFCs for GMA-11.

TABLE 1: PROJECTED GROUNDWATER AVAILABILITY
In Acre-feet per year

	1999	GW Availability from 2007 State Water Plan			
County	Baseline Pumping	Total	Sparta	Queen City	Carrizo-Wilcox
Anderson	5,549	28,750	600	18,320	9,830
Cherokee	8,983	33,070	350	21,850	10,870
Henderson	8,389	24,920	0	15,350	8,660
TOTALS	**22,921**	**86,740**	**950**	**55,520**	**29,360**

Source: Water for Texas – 2007, Texas Water Development Board

The following tables shows the water flowing into and out of the aquifers including water discharging from each aquifer to springs and surface water bodies including lakes, streams and rivers. Other data presented included the storage, flow between aquifers, recharge, general head boundary, evapotranspiration, and other flows in and out.

TABLE 2: 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 (1980-1999).

GAM 08-71 used model runs for the northern sections of the Carrizo-Wilcox, Queen City, and Sparta aquifers and the northern sections of the Trinity aquifer. The Nacatoch aquifer also underlies the district; however, a GAM had not been completed for this minor aquifer at the time GAM 08-71 was performed. The components of the modified budgets shown in the following tables include precipitation recharge, surface water outflow, flow into and out of district, and flow between aquifers. The tables show the annual water budgets for each county extracted from the groundwater budget reported in acre feet per year.

GAM 09-021 (July 31, 2009) contains the estimates from the model runs for the northern sections of the Carrizo-Wilcox, Queen City, and Sparta Aquifers and the northern sections of the Trinity Aquifer in addition to new information from the Nacatoch Aquifer model run as included in the annual water budget values below. The GAM 09-021 run report is used in place of the results presents in GAM 08-71 in developments of the District's Management Plan.

Precipitation recharge: This is the areally distributed recharge sourced from precipitation falling on the outcrop areas of the aquifer. The estimated annual amount of recharge from participation to the district in acre-feet per year (rounded to nearest 1 acre-foot) is:

Estimated annual recharge from precipitation:

Sparta Aquifer	22,771
Weches Confining Unit	2,420
Queen City Aquifer	74,954
Reklaw Confining Unit	4,395
CarrizoAquifer	7,206
Upper Wilcox Aquifer	6,639
Middle Wilcox Aquifer	3,584
Lower Wilcox Aquifer	1,329
Nacatoch Aquifer	56
Woodbine Aquifer	0
Washita and Fredericksburg Confining Unit	0
Paluxy Aquifer	0
Glen Rose Confining Unit	0
Hensell Aquifer	0
Peasall/Cow Creek/Hammett/ Sligo Confining Unit	0
Hosston Aquifer	0

The estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams and rivers in acre-feet per year (rounded to nearest 1 acre-foot) is:

Surface water outflow:

Sparta Aquifer	5,985
Weches Confining Unit	395
Queen City Aquifer	43,978
Reklaw Confining Unit	3,899
CarrizoAquifer	3,669
Upper Wilcox Aquifer	2,167
Middle Wilcox Aquifer	3,296
Lower Wilcox Aquifer	1,221
Nacatoch Aquifer	357
Woodbine Aquifer	0
Washita and Fredericksburg Confining Unit	0
Paluxy Aquifer	0
Glen Rose Confining Unit	0
Hensell Aquifer	0

Peasall/Cow Creek/Hammett/ Sligo Confining Unit	0
Hosston Aquifer	0

The flow into and out of the district describes lateral flow within the aquifer between the district and adjacent counties and the flow into and out of the district is presented in the following tables.

The estimated annual volume of flow into the district within each aquifer in the district in acre-feet per year (rounded to nearest 1 acre-foot) is:

Flow into the district:

Sparta Aquifer	510
Weches Confining Unit	61
Queen City Aquifer	5,249
Reklaw Confining Unit	994
CarrizoAquifer	7,998
Upper Wilcox Aquifer	5,867
Middle Wilcox Aquifer	4,227
Lower Wilcox Aquifer	4,465
Nacatoch Aquifer	1,092
Woodbine Aquifer	40
Washita and Fredericksburg Confining Unit	6
Paluxy Aquifer	18
Glen Rose Confining Unit	12
Hensell Aquifer	31
Peasall/Cow Creek/Hammett/ Sligo Confining Unit	0
Hosston Aquifer	148

The estimated annual volume of flow out of the district within each aquifer in the district in acre-feet per year (rounded to nearest 1 acre-foot) is:

Flow out of the district:

Sparta Aquifer	2,063
Weches Confining Unit	148
Queen City Aquifer	3,718
Reklaw Confining Unit	785
CarrizoAquifer	5,820
Upper Wilcox Aquifer	5,654
Middle Wilcox Aquifer	3,652
Lower Wilcox Aquifer	2,269
Nacatoch Aquifer	260
Woodbine Aquifer	42
Washita and Fredericksburg Confining Unit	6
Paluxy Aquifer	19
Glen Rose Confining Unit	12

Hensell Aquifer	32
Peasall/Cow Creek/Hammett/ Sligo Confining Unit	0
Hosston Aquifer	152

Flow between the aquifers describes the vertical flow, or leakage, between aquifers or confining units. Inflow to an aquifer from an overlaying or underlying aquifer will always equal the outflows from the other aquifer. The estimated net annual volume of flow between each aquifer in the district in acre-feet per year (rounded to nearest 1 acre-foot) is:

Estimated flow between aquifers:

Sparta Aquiferto the Weches Confining Unit	6,876
Weches Confining Unit to the Queen City Aquifer	7,916
Queen City Aquifer to the Reklaw Confining Unit	7,113
Reklaw Confining Unit to the Carrizo Aquifer	8,776
CarrizoAquifer to the Upper Wilcox Aquifer	7,496
Upper Wilcox Aquifer to the Middle Wilcox aquifer	3,392
Middle Wilcox Aquifer to the Lower Wilcox Aquifer	4,053
Kemp Clay and Midway Units to the Nacatoch Aquifer	223
Washita and Fredericksburg Confining Unit to the Woodbine Aquifer	1
Washita and Fredericksburg Confining Unit in/out of The Paluxy Aquifer	0
Paluxy Aquifer in/out of the Glen Rose Confining Unit	0
Glen Rose Confining Unit to the Hensell Aquifer	1
Hensell Aquifer to the Pearsall/Cow Creek/Hammett/Sligo Confining Unit	1
Peasall/Cow Creek/Hammett/Sligo Confining Unit to The Hosston Aquifer	3

A very small portion of the northern section of the Trinity aquifer is located within the district. The water budget values of this aquifer are, therefore, very small or zero. Since only the confined portion of the Trinity aquifer is located within the district, surface water outflow values using both the evapotranspiration and streamflow-routing modeling packages were zero for this aquifer.

SOURCE: Texas Water Development Board, Groundwater Availability Model Run 09-021, July 31, 2009.

E. PROJECTED WATER NEEDS WITHIN THE DISTRICT

The TWDB has published projected water needs in "*Water for Texas - 2007*". The water need estimates in this plan have been extracted from that TWDB document and will be used until alternatives may be generated. With normal rainfall and the advent of expected conservation practices, total water needs within the District projected to be used within the District on an annual basis 2010 to 2060 in acre feet is as follows:

TABLE 3: WATER SUPPLY NEEDS IN YEARS 2010 AND 2060

In acre feet per year

	2010	2060
Anderson County	18	22,105 (note 1)
Cherokee County	54	705
Henderson County	4,682	17,270
TOTAL PROJECTED NEEDS	**4,754**	**40,080**

Note 1: Increase of 21,853 acre feet due to demand by steam-electric needs.
Source: Water for Texas – 2007, Texas Water Development Board

F. PROJECTED WATER MANAGEMENT STRATEGIES

The projected water management strategies from the most recently adopted state water plan to supply the needs of the district are presented below.

Figure 10
PROJECTED WATER MANAGEMENT STRATEGIES

Anderson County

RW PG	WUG	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
I	Steam Electric Power	Neches	Purchase from Water Provider (2)	Palestine Lake/Reservoir	Reservoir	0	21,853	21,853	21,853	21,853	21,853
I	Frankston	Neches	New Wells - Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Anderson	0	0	121	121	121	121
I	Mining	Neches	New Wells - Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Anderson	0	87	87	87	87	87
I	Frankston	Neches	Municipal Conservation	Conservation	Anderson	0	0	6	7	8	9
I	County Other	Trinity	New Wells - Queen City Aquifer	Queen City Aquifer	Anderson	0	0	0	0	0	81
I	Mining	Trinity	New Wells - Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Anderson	18	34	34	34	34	34
I	County Other	Neches	New Wells - Queen City Aquifer	Queen City Aquifer	Anderson	0	0	0	0	0	41
Total Projected Water Management Strategies (acre-feet per year) =						**18**	**21,974**	**22,101**	**22,102**	**22,103**	**22,226**

Henderson County

RWPG	WUG	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
I	Athens	Trinity	Municipal Conservation - Basic	Conservation	Henderson	24	152	212	288	388	520
I	Athens	Trinity	Municipal Conservation - Expanded	Conservation	Henderson	0	38	131	175	213	258

I	Bethel-Ash WSC	Trinity	Municipal Conservation - Basic	Conservation	Henderson	3	14	17	21	25	30
I	County Other	Trinity	Municipal Conservation - Basic	Conservation	Henderson	2	8	9	10	11	12
I	East Cedar Creek FWSD	Trinity	Municipal Conservation - Basic	Conservation	Henderson	74	178	241	313	407	531
I	East Cedar Creek FWSD	Trinity	Municipal Conservation - Expanded	Conservation	Henderson	1	9	13	17	20	24
I	Eustace	Trinity	Municipal Conservation - Basic	Conservation	Henderson	5	11	13	16	19	23
I	Eustace	Trinity	Municipal Conservation - Expanded	Conservation	Henderson	1	2	4	4	4	4
I	Gun Barrel City	Trinity	Municipal Conservation - Basic	Conservation	Henderson	37	82	106	135	171	218
I	Log Cabin	Trinity	Municipal Conservation - Basic	Conservation	Henderson	2	7	8	9	9	10
I	Mabank	Trinity	Municipal Conservation - Basic	Conservation	Henderson	5	14	15	17	19	21
I	Malakoff	Trinity	Municipal Conservation - Basic	Conservation	Henderson	4	14	16	18	21	24
I	Payne Springs	Trinity	Municipal Conservation - Basic	Conservation	Henderson	5	10	12	14	16	20
I	Seven Points	Trinity	Municipal Conservation - Basic	Conservation	Henderson	2	10	12	15	18	22
I	Tool	Trinity	Municipal Conservation - Basic	Conservation	Henderson	5	18	22	26	31	38
I	Trinidad	Trinity	Municipal Conservation - Basic	Conservation	Henderson	2	7	8	9	10	11
I	Virginia Hill WSC	Trinity	Municipal Conservation - Basic	Conservation	Henderson	5	19	20	21	22	24
I	West Cedar Creek MUD	Trinity	Municipal Conservation - Basic	Conservation	Henderson	24	93	118	145	180	224
I	Manufacturing	Trinity	Manufacturing Conservation	Conservation	Henderson	0	0	3	4	5	5
I	Bethel-Ash WSC	Trinity	New Wells - Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	0	173	173	173	173	173
I	Eustace	Trinity	New Wells - Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	72	72	72	72	72	72
I	Log Cabin	Trinity	New Wells - Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	60	60	60	60	60	60
I	Athens	Neches	Municipal Conservation	Conservation	Henderson	1	6	12	17	22	30
I	County Other	Neches	Municipal Conservation	Conservation	Henderson	31	57	74	92	108	129
I	Athens	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Athens	Neches	Purchase from Water Provider (1)	Forest Grove Lake/Reservoir	Reservoir	26	48	73	89	144	161
I	Irrigation	Neches	Purchase from Water Provider (1)	Forest Grove Lake/Reservoir	Reservoir	165	178	189	184	212	192
I	Bethel-Ash WSC	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	County Other	Neches	Purchase from Water Provider (3)	Palestine Lake/Reservoir	Reservoir	0	150	200	300	400	500
I	Livestock	Neches	Temporary Pumping Facilities	Athens Lake/Reservoir	Reservoir	1,500	0	0	0	0	0

I	County Other	Neches	New Wells - Queen City Aquifer	Queen City Aquifer	Henderson	50	150	200	300	400	500
I	Bethel-Ash WSC	Neches	Overdraft Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	17	105
I	R P M WSC	Neches	Overdraft Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	0	0	3	9	18	29
I	County Other	Neches	Overdraft Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	100	0	0	0	0	0
I	Eustace	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Livestock	Neches	Forest Grove Reservoir Project	Forest Grove Lake/Reservoir	Reservoir	0	1,137	1,274	1,154	1,799	1,594
I	Athens	Neches	Indirect Reuse	Indirect Reuse	Henderson	26	24	35	46	54	60
I	Livestock	Neches	Indirect Reuse	Indirect Reuse	Henderson	500	1,119	1,185	1,236	1,071	948
I	Irrigation	Neches	Indirect Reuse	Indirect Reuse	Henderson	165	88	91	95	79	72
I	East Cedar Creek FWSD	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	0	0	0	820	2,481
I	Gun Barrel City	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	0	0	0	791	1,236
I	Mabank	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	23	42	40	38	40
I	Malakoff	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	69	127	120	118	129
I	Livestock	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Livestock	Trinity	Supplemental Wells	Queen City Aquifer	Henderson	0	0	0	0	0	0
I	Livestock	Trinity	Supplemental Wells	Other Aquifer	Henderson	0	0	0	0	0	0
I	Manufacturing	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Mining	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Steam Electric Power	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Athens	Trinity	Purchase from Water Provider (1)	Forest Grove Lake/Reservoir	Reservoir	0	711	1,041	1,164	2,388	2,594
I	Manufacturing	Trinity	Purchase from Water Provider (1)	Forest Grove Lake/Reservoir	Reservoir	0	38	49	50	90	91
I	East Cedar Creek FWSD	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	176	1,136
I	Gun Barrel City	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	170	264
I	Mabank	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	28	29
I	Malakoff	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	87	94
I	West Cedar Creek MUD	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	523	573
I	Seven Points	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	54	58

I	Tool	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	108	114
I	County Other	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	37	36
I	Mining	Trinity	Purchase from Water Provider (1)	Toledo Bend Lake/Reservoir	Reservoir	0	0	0	0	46	44
I	West Cedar Creek MUD	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	1,325	1,990	2,017	2,439	2,685
I	Seven Points	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	150	212	213	251	273
I	Tool	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	332	452	437	504	534
I	County Other	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	38	65	56	51	49
I	Mining	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	0	46	79	70	63	61
I	County Other	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Log Cabin	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Malakoff	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Tool	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	251	0	0	0	0	0
I	County Other	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	21	0	0	0	0	0
I	Seven Points	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	108	0	0	0	0	0
I	East Cedar Creek FWSD	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	2,156	2,595	3,499	3,520	3,999	1,855
I	Payne Springs	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	153	158	188	171	219	218
I	Gun Barrel City	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	1,168	1,321	1,684	1,649	1,292	897
I	Mabank	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	12	0	0	0	0	0
I	Mining	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	26	0	0	0	0	0
I	West Cedar Creek MUD	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	791	0	0	0	0	0
I	Malakoff	Trinity	Purchase from Water Provider (1)	TRWD System	Reservoir	35	0	0	0	0	0
I	Virginia Hill WSC	Trinity	Supplemental Wells	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	0
I	Athens	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	906	698	969	1,246	1,419	1,542
I	Manufacturing	Trinity	Purchase from Water Provider (2)	Indirect Reuse	Henderson	63	37	45	54	54	54
I	Payne Springs	Trinity	Municipal Conservation - Expanded	Conservation	Henderson	0	1	1	1	1	1
I	Brownsboro	Neches	Overdraft Carrizo Wilcox Aquifer	Carrizo-Wilcox Aquifer	Henderson	0	0	0	0	0	40

Total Projected Water Management Strategies (acre-feet per year) =						**8,587**	**11,490**	**15,064**	**15,892**	**21,984**	**23,772**

Cherokee County

RWPG	WUG	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
I	Manufacturing	Neches	Purchase from Water Provider (1)	Jacksonville Lake/Reservoir	Reservoir	244	244	244	244	244	244
I	New Summerfield	Neches	Purchase from Water Provider (1)	Columbia Lake/Reservoir	Reservoir	0	2,565	2,565	2,565	2,565	2,565
I	Rusk	Neches	Purchase from Water Provider (1)	Columbia Lake/Reservoir	Reservoir	0	4,275	4,275	4,275	4,275	4,275
I	Irrigation	Neches	New Wells - Queen City Aquifer	Queen City Aquifer	Cherokee	40	40	40	40	40	40
I	Mining	Neches	New Wells - Queen City Aquifer	Queen City Aquifer	Cherokee	0	0	0	0	0	40
I	New Summerfield	Neches	Municipal Conservation	Conservation	Cherokee	0	10	18	21	23	26
I	Rusk	Neches	Municipal Conservation	Conservation	Cherokee	0	0	0	51	66	76
Total Projected Water Management Strategies (acre-feet per year) =						**284**	**7,134**	**7,142**	**7,196**	**7,213**	**7,266**

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

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 Water Planning Groups I and C and other sources included in the adopted state water plan as shown in Water for Texas – 2007, Texas Water Development Board. 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 2060. The region as a whole appears to have enough water supplies to meet demands through 2060. 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 affect 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.

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. As required by TWC 36.1071(b) this management plan and any amendments thereon shall be consistent with the regional water plans. 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

1A. 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

1A. 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

1B. 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

1B. The number of citizens in attendance annually at District presentations concerning the principals of water conservation relating to the best practices for the efficient use of groundwater.

Management Objective

1C. 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

1C. Number of occasions, annually, 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

2A. 100 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

2B. 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.

GOAL 3.0 CONTROLLING AND PREVENTING SUBSIDENCE

This goal is not applicable to the district.

GOAL 4.0 ADDRESSING CONJUNCTIVE SURFACE WATER MANAGEMENT ISSUES

This goal is not applicable to the district.

GOAL 5.0 NATURAL RESOURCE ISSUES THAT IMPACT THE USE AND AVAILABILITY OF GROUNDWATER AND ARE IMPACTED BY THE USE OF GROUNDWATER

This goal is not applicable to the district.

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.

During extreme drought conditions within the District as measured by the Palmer Drought Index, all efforts will be made to see that all municipalities and public water supply companies follow their drought contingency plans. During extreme 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.

6A. 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.

6A. Methodology

The District will maintain a drought contingency plan as developed by the District and approved by the Board. The plan and revisions will be maintained in the District office. The Board will include a report of the annual review in Board records and maintain the report in the District office.

6B. Performance Standard

During extreme drought conditions within the District, efforts will be made through contact by District staff to see that municipalities and public water supply companies follow their drought contingency plans

6B. 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 number of plans implemented with the results of water use reduction when such data is available. The report will be maintained on file in the District Office.

GOAL 7.0 ADDRESSING CONSERVATION, RECHARGE ENHANCEMENT, RAINWATER HARVESTING, PRECIPITATION ENHANCEMENT, OR BRUSH CONTROL

Management Objective: Conservation

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

Number of occasions, annually, 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.

Management Objective: Recharge Enhancement

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

Management Objective: Rainwater Harvesting

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

Management Objective: Precipitation Enhancement

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

Management Objective: 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 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 in Groundwater Management Area 11 and the development of a desired future condition for the portion of the aquifers within the District and the GMA 11 area. Therefore, this goal is not applicable to the District at this time.