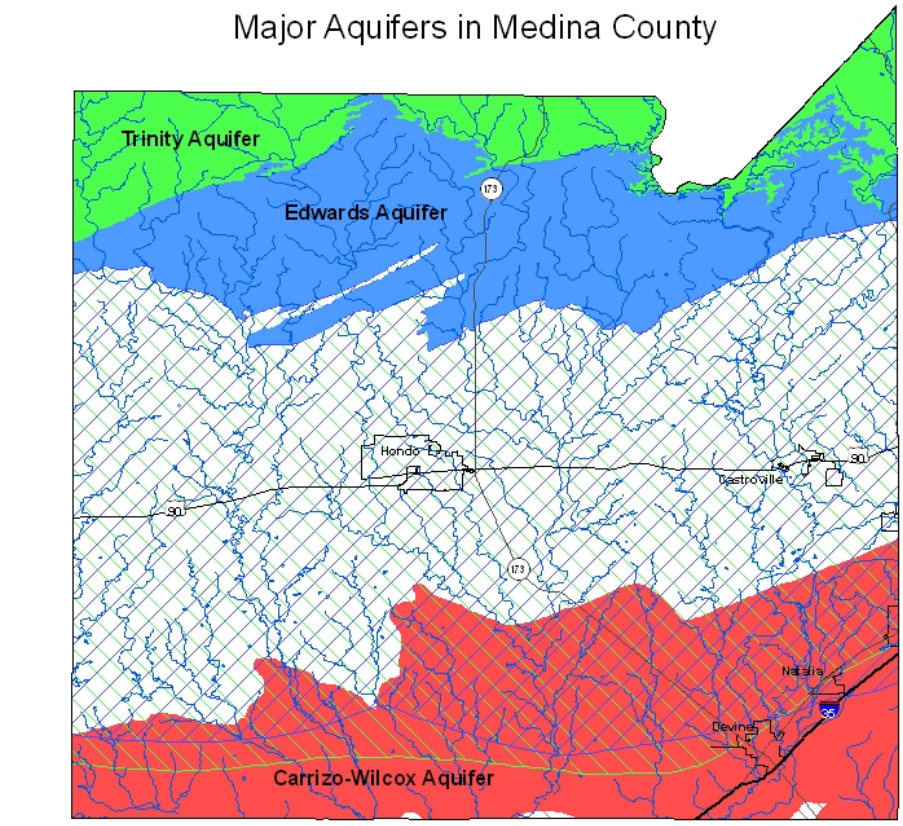
Medina County
Groundwater Conservation District

Groundwater Management Plan
2005 – 2015



Adopted July 27, 2005

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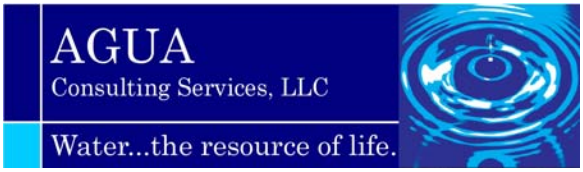
Prepared by



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District Mission

The Medina County Groundwater Conservation District (GCD) strives to bring about conservation, preservation, and the efficient, beneficial, and wise use of water for the benefit of the citizens and economy of Medina County.

Time Period for the Plan

This plan becomes effective upon adoption by the Board of Directors and will remain in effect for 10 years after certification by the Texas Water Development Board (TWDB). This plan will be implemented and will remain in effect until September 1, 2015. It will be reviewed at least every five years.

Guiding Principles

The District recognizes that the groundwater resources of this region are of vital importance to the residents and that these resources must be managed effectively. A basic understanding of the aquifers and their hydrogeologic properties, as well as a quantification of resources is the foundation from which to build prudent planning measures. This management plan is intended as a tool to focus the programs and plans of the District.

About the District

The District has the same boundaries as the County of Medina. The Medina County Commissioners Court originally created the District on July 17, 1989, following the petition process. Confirmation and election of permanent directors was held on November 11, 1989. The District was then validated by Act of the legislature under Section 59, Article 16, Texas Constitution and validated by the 72nd Legislature in 1991.

The District Board of Directors is composed of five members elected to staggered four-year terms. Elections for Directors are held in November. A director is elected from each of the county precincts in and one Director is elected from the County at-large. The Board of Directors holds regular quarterly meetings at the District offices located at1613 Ave. K, Ste 105, Hondo, Texas. Called Board meetings are held when necessary. Meetings of the Board of Directors are public meetings noticed and held in accordance with public meeting requirements.

Since the creation of the Edwards Aquifer Authority, the District's jurisdiction is limited to those aquifers other than the Edwards aquifer found in Medina County. The District revised its programs and rules to reflect these changes. The Edwards Aquifer continues to be the major source of water for the citizens of Medina County and therefore information, education, and coordination between the District and the Edwards Aquifer Authority remains a priority to the District Board of Directors.

With pumping limitations now in effect for the Edwards Aquifer, the other aquifers within Medina County have the potential of becoming a supplemental supply. The District anticipates demand increasing in these aquifers. Additional interest in aquifer storage and recovery projects

also exists, as does the potential of transport of these groundwater resources outside the District boundaries.

The District is located in three Groundwater Management Areas (GMAs): 9, 10 and 13. Chapter 36 Texas Water Code requires the Medina County GCD to coordinate its management of groundwater with other GCDs in its GMAs. Medina County GCD is unique in that it is in three management areas requiring coordination with **18** GCDs. These include: eight GCDs that are located in GMA 9; four GCDs in GMA 10; and six GCDs in GMA 13 (Figure 1).

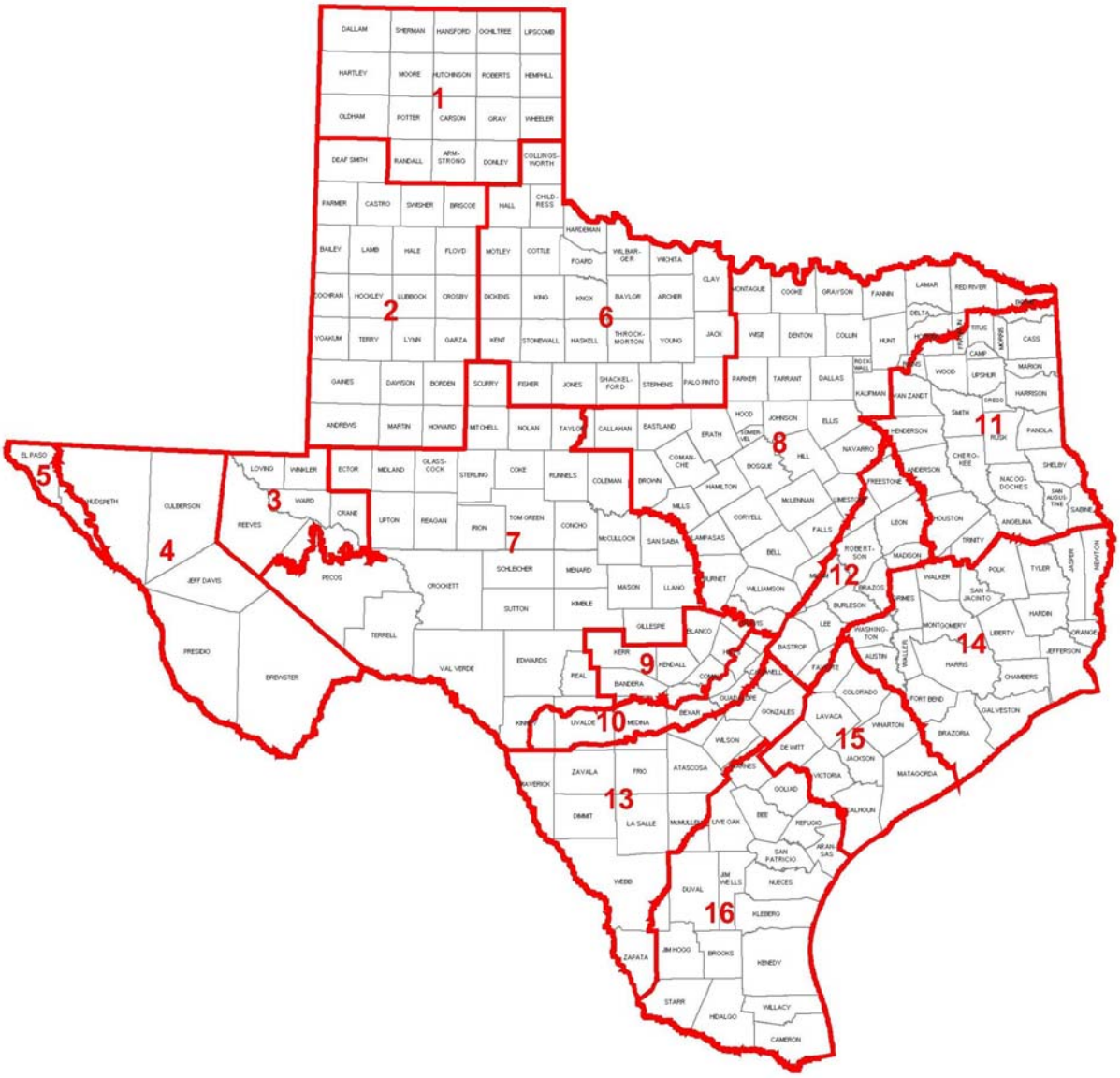

Figure 1. Groundwater Management Areas in Texas

The District will coordinate with the GCDs and surface water management entities within Medina County by providing written notification via email or U.S. Postal Services when the Medina County GCD considers for revision and adoption by the Board of Directors the Groundwater Management Plan, Rules, and other policy related matters that impact the operation and management of the groundwater within Medina County. The GCDs in the three GMAs, surface water management entities, and other interested parties are encouraged and invited to provide information and written or oral comments on issues of concern to them to the Medina County GCD Board of Directors. The District's standard practices will be used for posting public notice as established by the Board of Directors and in accordance with the Texas Open Meeting Acts and related requirements for GCDs in Texas.

Groundwater Resources of the District

The Aquifers within the jurisdiction of the District include the Carrizo-Wilcox, Trinity, Glen Rose, Anachocha, and Leona Gravel. Additional information on these aquifers is available from TWDB's *Aquifers of Texas* (Report 345, 1995). However, specific information on pumping, availability, and recharge are limited to the Carrizo-Wilcox and Trinity Aquifers. This plan, therefore, focuses on those aquifers.

All estimates of recharge and the total amount of usable groundwater are derived from the TWDB's current **Groundwater Availability Model (GAM) RUN 05-31** (July 2005). The District has determined that groundwater use should be managed to sustain the supply by not issuing permits in excess of estimated recharge. When combined with production values, these estimates can be used by the District to derive goals for future estimates of available groundwater. It is estimated that annual recharge to the Carrizo-Wilcox aquifer is **13,700 acre-feet per year**. Recharge for the Trinity aquifer is estimated to be **8,900 acre-feet per year**. Currently, within the District, the total amount of usable groundwater from the Carrizo-Wilcox aquifer is estimated to be **13,700 acre-feet**. Estimates for the Trinity aquifer are **8,900 acre-feet**. Accordingly, the estimated total usable amount of groundwater within these aquifers in the District is **23,600 acre-feet**. There are other local aquifers such as the Leona Gravel where studies are currently underway to determine the volumes of water stored and recharged in the aquifer. **The total amount of usable groundwater including other aquifers such as the Leona Gravel is estimated to be 27,000 acre-feet.**

Based on data obtained from a study by Dr. Bill Dugas in association with the Seco Creek Water Quality Demonstration Project, recharge could be increased by an estimated 40,000 gallons per acre per year through extensive brush management followed by enhanced grazing practices. The implementation of these feasible methods on 500 acres would equate to approximately 62 acre-feet per year of increased recharge.

Water Use in the District

The estimated average amount of groundwater being used in the District on an annual basis is **82,896 acre-feet** per year. This estimated annual amount is based on the TWDB's "Annual Water Use Survey for the Year 2000," which is the most recent data available. Until recently, response to the TWDB survey was voluntary. As a result, the TWDB water use survey data is subject to variations in completeness and accuracy. TWDB data on estimated groundwater use is available from 1980 to 2000, excepting 1981 to1983, when no data was collected.

The total reported groundwater use in the District for the year 2000 is **51,281 acre-feet** per year. Actual water use may vary from year to year based on differing conditions. However, the degree of variation of the reported values for some years causes the concern that the water use reported to TWDB may not reflect the full extent of groundwater use in the District.

Table 1. Estimated Historical Groundwater Use (acre-feet)

Medina County Groundwater Conservation District, Medina County

Year	Aquifer	Municipal	Manufacturing	Steam-Electric	Mining	Irrigation	Livestock	Total Use
1980	Carrizo-Wilcox	97	0	0	0	7,787	90	7,974
	Edwards-BFZ	4,650	0	0	2	66,377	114	71,143
	Trinity	26	0	0	0	0	42	68
1984	Carrizo-Wilcox	203	0	0	24	18,252	60	18,539
	Edwards-BFZ	5,522	0	0	109	66,659	76	72,366
	Trinity	33	0	0	0	0	28	61
1985	Carrizo-Wilcox	207	0	0	31	424	50	712
	Edwards-BFZ	4,763	0	0	90	56,905	64	61,822
	Trinity	31	0	0	19	0	22	72
1986	Carrizo-Wilcox	201	0	0	0	702	49	952
	Edwards-BFZ	5,203	0	0	0	94,180	63	99,446
	Trinity	36	0	0	0	0	22	58
1987	Carrizo-Wilcox	202	0	0	28	797	59	1,086
	Edwards-BFZ	4,701	0	0	79	81,049	76	85,905
	Trinity	24	0	0	17	0	26	67
1988	Carrizo-Wilcox	221	0	0	28	696	56	1,001
	Edwards-BFZ	5,527	0	0	83	93,354	92	99,056
	Trinity	27	0	0	18	0	25	70
1989	Carrizo-Wilcox	159	0	0	26	746	56	987
	Edwards-BFZ	6,288	0	0	77	95,676	71	102,112
	Trinity	30	0	0	17	0	25	72

Table 1, Continued

Year	Aquifer	Municipal	Manufacturing	Steam-Electric	Mining	Irrigation	Livestock	Total Use
1990	Carrizo-Wilcox	110	0	0	26	574	57	767
	Edwards-BFZ	5,343	0	0	77	77,120	73	82,613
	Trinity	29	0	0	17	0	25	71
1991	Carrizo-Wilcox	109	0	0	24	760	58	951
	Edwards-BFZ	5,190	0	0	76	102,120	75	107,461
	Trinity	41	0	0	18	0	25	84
1992	Carrizo-Wilcox	117	0	0	24	718	70	929
	Edwards-BFZ	4,871	0	0	76	96,518	91	101,556
	Trinity	58	0	0	18	0	30	106
1993	Carrizo-Wilcox	130	1	0	24	489	88	732
	Edwards-BFZ	5,389	0	0	76	63,946	114	69,525
	Trinity	65	0	0	18	0	38	121
1994	Carrizo-Wilcox	266	2	0	24	5,733	72	6,097
	Edwards-BFZ	4,999	0	0	76	54,437	93	59,605
	Trinity	25	0	0	18	0	31	74
1995	Carrizo-Wilcox	267	4	0	24	6,380	77	6,752
	Edwards-BFZ	5,499	0	0	76	60,589	100	66,264
	Trinity	30	0	0	18	0	34	82
1996	Carrizo-Wilcox	136	0	0	24	6,439	71	6,670
	Edwards-BFZ	6,214	0	0	76	61,144	92	67,526
	Trinity	32	0	0	18	0	31	81
1997	Carrizo-Wilcox	422	2	0	24	3,751	62	4,261
	Edwards-BFZ	5,805	0	0	76	35,624	80	41,585
	Trinity	20	0	0	18	0	27	65
1998	Carrizo-Wilcox	467	8	0	24	5,475	45	6,019
	Edwards-BFZ	6,751	0	0	76	51,997	58	58,882
	Trinity	20	0	0	18	0	20	58
1999	Carrizo-Wilcox	560	10	0	24	3,642	51	4,287
	Edwards-BFZ	6,376	0	0	76	34,583	66	41,101
	Trinity	20	0	0	18	0	22	60
2000	Carrizo-Wilcox	859	6	0	24	4,160	47	5,096
	Edwards-BFZ	6,480	0	0	76	39,509	61	46,126
	Trinity	20	0	0	18	0	21	59

Source: TWDB Water Use Survey Database

TWDB: 07/26/2005

As a result of this concern, the District calculated the average amount of groundwater used for each category over the period of record in the TWDB's annual water use survey data.

(1) For the Carrizo the average is 73,812 acre-feet per year.

(2) For the Edwards (Balcones Fault Zone) the average is 1,334,094 acre-feet per year.

(3) For the Trinity the average is 1,329 acre-feet per year.

Projected Demands for Water the District

The TWDB published projected groundwater needs in their planning document *State Water Plan 2002*. The estimates contained in the State Plan, the Adopted Regional Plan, and related files of the TWDB have been used for the purpose of devising this plan. The TWDB has projected that the total water demands for the Medina County will be **148,255** acre-feet per year by 2010.

Table 2. Projected Water Demand, Medina GCD

Medina County Groundwater Conservation District, Medina County

RWPG	WUG	River Basin	Category	2000	2010	2020	2030	2040	2050
L	Castroville	San Antonio	Municipal	958	985	1,013	1,061	1,092	1,123
L	Devine	Nueces	Municipal	953	943	940	964	987	1,005
L	Hondo	Nueces	Municipal	2,032	2,092	2,164	2,263	2,327	2,393
L	Lacoste	San Antonio	Municipal	278	299	300	326	345	365
L	Lytle	Nueces	Municipal	92	89	87	88	90	92
L	Natalia	Nueces	Municipal	397	408	422	440	452	464
L	County-Other	Nueces	Municipal	1,961	2,038	2,075	2,197	2,272	2,416
L	County-Other	San Antonio	Municipal	441	458	466	493	509	540
L	Irrigation	Nueces	Irrigation	120,332	115,260	110,402	105,749	101,291	97,022
L	Irrigation	San Antonio	Irrigation	24,081	23,322	22,402	21,521	20,678	19,869
L	Livestock	Nueces	Livestock	1,638	1,638	1,638	1,638	1,638	1,638
L	Livestock	San Antonio	Livestock	276	276	276	276	276	276
L	Manufacturing	Nueces	Manufacturing	302	319	339	361	384	411
L	Mining	Nueces	Mining	75	60	58	57	58	60
L	Mining	San Antonio	Mining	68	68	70	72	74	76
Total Projected Water Demands (acre-feet per year) =				**153,884**	**148,255**	**142,652**	**137,506**	**132,473**	**127,750**

Source: Table 2, 2002 State Water Planning Database TWDB: 07/21/05

Projected Water Supplies

The Region L Regional Water Planning Group has developed various water supply strategies to address shortages in various water user groups (WUGS) within the Medina County GCD as shown in Table 3. These strategies will be implemented over the next 10-50 years as necessary. The General Manager serves as a representative of the District on the Region L Water Planning Group.

Table 3. Projected Water Supplies for the District

Medina County Groundwater Conservation District, Medina County

RWPG	WUG	River Basin	Source Name	2000	2010	2020	2030	2040	2050
L	Castroville	San Antonio	Edwards-BFZ Aquifer	730	730	730	730	730	730
L	Devine	Nueces	Edwards-BFZ Aquifer	287	287	287	287	287	287
L	Hondo	Nueces	Edwards-BFZ Aquifer	1,109	1,109	1,109	1,109	1,109	1,109
L	Lacoste	San Antonio	Edwards-BFZ Aquifer	131	131	131	131	131	131
L	Lytle	Nueces	Edwards-BFZ Aquifer	41	41	41	41	41	41
L	Natalia	Nueces	Carrizo-Wilcox Aquifer	510	510	510	510	510	510
L	County-Other	Nueces	Carrizo-Wilcox Aquifer	1,585	1,585	1,585	1,372	1,372	1,372
L	County-Other	Nueces	Edwards-BFZ Aquifer	668	668	668	668	668	668
L	County-Other	Nueces	Trinity Aquifer	163	163	163	376	376	376
L	County-Other	San Antonio	Carrizo-Wilcox Aquifer	20	20	20	8	8	8
L	County-Other	San Antonio	Edwards-BFZ Aquifer	316	316	316	316	316	316
L	County-Other	San Antonio	Trinity Aquifer	146	146	146	146	146	146
L	Irrigation	Nueces	Carrizo-Wilcox Aquifer	4,783	4,797	4,798	682	681	679
L	Irrigation	Nueces	Edwards-BFZ Aquifer	46,624	46,624	46,624	46,624	46,624	46,624
L	Irrigation	Nueces	Trinity Aquifer	544	545	546	326	326	326
L	Irrigation	San Antonio	Carrizo-Wilcox Aquifer	0	0	0	0	0	0
L	Irrigation	San Antonio	Edwards-BFZ Aquifer	14,244	14,244	14,244	14,244	14,244	14,244
L	Irrigation	San Antonio	Irrigation Local Supply	12	12	12	12	12	12
L	Irrigation	San Antonio	Trinity Aquifer	0	0	0	0	0	0
L	Livestock	Nueces	Livestock Local Supply	1,638	1,638	1,638	1,638	1,638	1,638
L	Livestock	San Antonio	Livestock Local Supply	276	276	276	276	276	276
L	Manufacturing	Nueces	Edwards-BFZ Aquifer	825	825	825	825	825	825
L	Mining	Nueces	Carrizo-Wilcox Aquifer	68	54	53	45	46	47
L	Mining	Nueces	Trinity Aquifer	7	6	5	12	12	13
L	Mining	San Antonio	Carrizo-Wilcox Aquifer	0	0	0	0	0	0
L	Mining	San Antonio	Trinity Aquifer	0	0	0	0	0	0
Total Projected Water Supplies (acre-feet per year) =				**74,727**	**74,727**	**74,727**	**70,378**	**70,378**	**70,378**

Source: Table 5, 2002 State Water Planning Database TWDB: 07/21/2005

It is expected that as supplies within the Edwards aquifer become less available that users will begin to increase use of other aquifers over which the Medina County GCD has jurisdiction. The District will manage the groundwater use within these aquifers, and permit wells determined to be in compliance with the District rules and the Management Plan the District has adopted.

The total estimated water supplies for all sources are estimated to be **74,727 acre-feet** in 2010.

Projected Groundwater Supplies within the District

Groundwater from Carrizo-Wilcox	**6,966** acre-feet per year
Groundwater from Trinity	**860** acre-feet per year
Local supplies including the Leona Gravels	**2,926** acre-feet per year

Total Projected Availability from All Water Supply Sources

Total available supply from all sources in 2010 is estimated to be **74,962 acre-feet per year** (Table 4).

Table 4. Projected Water Availability for the Medina County GCD

Medina County Groundwater Conservation District, Medina County

RWPG	Source Name	Source Type	River Basin	2000	2010	2020	2030	2040	2050
L	Irrigation Local Supply	Surface Water	San Antonio	12	12	12	12	12	12
L	Livestock Local Supply	Surface Water	Nueces	1,638	1,638	1,638	1,638	1,638	1,638
L	Livestock Local Supply	Surface Water	San Antonio	276	276	276	276	276	276
L	Carrizo-Wilcox Aquifer	Groundwater	Nueces	6,946	6,946	6,946	2,609	2,609	2,609
L	Carrizo-Wilcox Aquifer	Groundwater	San Antonio	20	20	20	8	8	8
L	Edwards-BFZ Aquifer	Groundwater	Nueces	49,789	49,789	49,789	49,789	49,789	49,789
L	Edwards-BFZ Aquifer	Groundwater	San Antonio	15,421	15,421	15,421	15,421	15,421	15,421
L	Trinity Aquifer	Groundwater	Nueces	714	714	714	714	714	714
L	Trinity Aquifer	Groundwater	San Antonio	146	146	146	146	146	146
Total Projected Water Availability (acre-feet per year) =				**74,962**	**74,962**	**74,962**	**70,613**	**70,613**	**70,613**

Source: Table 4, 2002 State Water Planning Database TWDB: 07/21/2005

Table 5. Recommended Groundwater-Related Management Strategies

Medina County Groundwater Conservation District, Medina County

RWPG	WUG	WUG County	Source County	River Basin	WMS Name	Source Name	2000	2010	2020	2030	2040	2050
L	Castroville	Medina	Medina	San Antonio	Unnamed	Edwards-BFZ Aquifer	400	400	400	400	400	400
L	Castroville	Medina	Medina	San Antonio	Conservation - Municipal	Edwards-BFZ Aquifer	3	13	11	12	12	8
L	Devine	Medina	Medina	Nueces	Unnamed	Edwards-BFZ Aquifer	800	800	800	800	800	800
L	Devine	Medina	Medina	Nueces	Conservation - Municipal	Edwards-BFZ Aquifer	5	22	18	19	19	7
L	Hondo	Medina	Medina	Nueces	Unnamed	Edwards-BFZ Aquifer	1,300	1,300	1,300	1,300	1,300	1,300
L	Hondo	Medina	Medina	Nueces	Conservation - Municipal	Edwards-BFZ Aquifer	47	88	89	104	118	133
L	Lacoste	Medina	Medina	San Antonio	Unnamed	Edwards-BFZ Aquifer	300	300	300	300	300	300
L	Lacoste	Medina	Medina	San Antonio	Conservation - Municipal	Edwards-BFZ Aquifer	2	6	5	5	6	3
L	Lytle	Atascosa	Medina	Nueces	Conservation - Municipal	Edwards-BFZ Aquifer	5	9	10	8	8	5
L	Natalia	Medina	Medina	Nueces	Conservation - Municipal	Carrizo-Wilcox Aquifer	0	9	7	8	8	5
L	County-Other	Medina	Medina	San Antonio	Unnamed	Edwards-BFZ Aquifer	100	100	100	100	100	100
L	Irrigation	Medina	Medina	San Antonio	Conservation - Irrigation	Edwards-BFZ Aquifer	510	510	510	510	510	510
L	Irrigation	Medina	Medina	Nueces	Conservation - Irrigation	Edwards-BFZ Aquifer	4,490	4,490	4,490	4,490	4,490	4,490
L	Mining	Medina	Medina	San Antonio	Unnamed	Edwards-BFZ Aquifer	100	100	100	100	100	100
Total Recommended Groundwater-Related Management Strategies (acre-feet per year) =							**8,062**	**8,147**	**8,140**	**8,156**	**8,171**	**8,161**

Source: Table 12, 2002 State Water Planning Database

TWDB: 07/05

Groundwater Recharge

The Medina County Groundwater Conservation District requested the TWDB to perform a Groundwater Availability Model (GAM) run to determine the average annual recharge rates for the Trinity (Hill Country) and Carrizo-Wilcox aquifers within Medina County.

To determine average annual recharge, the TWDB utilized groundwater availability model run **GAM 05-31.**

- The model recharge cell values (feet per day) were extracted from the Trinity (Hill Country) and southern part of the Queen City and Sparta aquifers Groundwater Availability Models (GAMs). Model stress periods represented average annual recharge conditions. The southern part of the Queen City and Sparta aquifers GAM includes the updated version of the Carrizo-Wilcox aquifer model.
- In order to select all recharge cells within Medina County, the model recharge cell values were imported into a Geographic Information System, in which the recharge values were converted into feet per year and intersected with Texas county boundaries.
- The average annual recharge was calculated from each of the two GAMs within Medina County as acre-feet per year and inches per year.

Parameters and Assumptions

The Trinity (Hill Country) GAM estimated recharge using base flow analyses and rainfall distributions for a 27-month period between December1974 and March 1977, and then refined during the model calibration process (Mace and others, 2000). For the southern part of the Queen City and Sparta aquifers, GAM recharge was estimated by using a nonlinear function of average annual precipitation adjusted for topography and underlying geologic formation permeabilities, and then refined during the model calibration process (Kelley and others, 2004).

Each of the GAMs includes various uncertainties in the calibration of recharge based on:

(1) conceptualizations of the recharge process,

(2) methodologies used to estimate recharge, and

(3) implementation of recharge within each of the different GAMs.

The reader is encouraged to review the assumptions and limitations for each of the GAMs (Mace and others, 2000; Kelley and others, 2004) for more detailed explanations.

Results of GAM Runs

Recharge rates for Medina County were calculated as total average annual volume of recharge per year (acre-feet per year), and as average annual depth of recharge per unit area per year (inches per year), from the Trinity (Hill Country) aquifer and the southern part of the Carrizo-Wilcox aquifer. The recharge rate and areas for each of the aquifers within Medina County are shown in Table 6.

Table 6. Recharge rates for Medina County

Aquifer	Recharge (acre-feet/year)	Recharge (inches/year)	Recharge area ($miles^2$)
Trinity (Hill Country)	8,900	1.4	121
Southern Carrizo-Wilcox	13,700	0.8	342
Total	**22,600**		

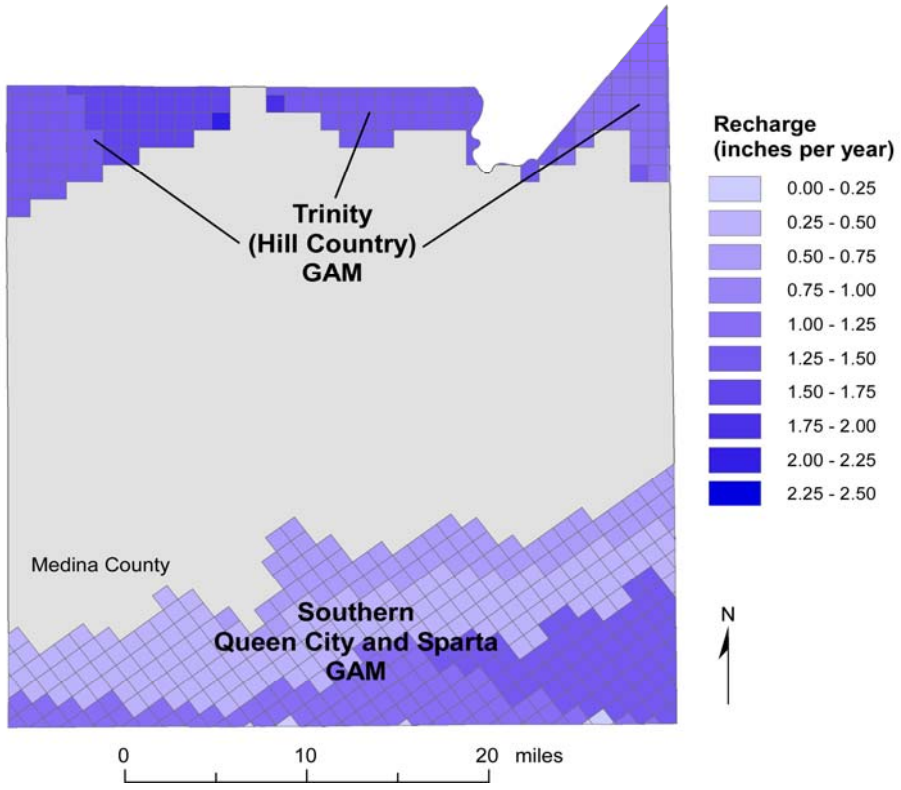

Figure 2. Distribution of average annual recharge rates for active model cells of the Trinity (Hill Country) GAM and the southern part of the Carrizo-Wilcox aquifer contained within the Queen City and Sparta aquifer GAM within Medina County

The spatial distribution of average annual recharge rates for active model cells of the Trinity (Hill Country) and southern part of the Queen City and Sparta aquifers GAMs within Medina County is shown in Figure 2.

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 the most efficient use of groundwater. The District will monitor an ongoing TWDB and United State Geological Survey (USGS) observation network in order to gain additional information regarding changing storage conditions of groundwater supplies within the District. The District will work cooperatively with investigations of groundwater resources within the District and will make the results of investigations available to the public once accepted by the District or allowed to be released by a cooperating organization or agency.

The District will employ all technical resources at its disposal to evaluate the groundwater resources available within the District and to determine the effectiveness of conservation measures.

Actions, Procedures, Performance, and Avoidance for Plan Implementation

The District rules will be used to regulate groundwater withdrawals by means of spacing and production limits. The District may deny a well construction permit or limit groundwater withdrawals in accordance with the guidelines stated in the rules of the District. 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.

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

1) the purpose of the rules of the District;
2) the equitable distribution of the resource;
3) the economic hardship resulting from grant or denial of a permit or the term prescribed by the permit;
4) other factors that may be pertinent to a specific aquifer or applicant condition.

In pursuit of the District's mission of protecting the resource, 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 Boards 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, or other factors as noted above. The District will enforce the terms and conditions of permits and the rules of the District by enjoining the permit holder, when determined necessary by the District's Board of Directors, in a court of competent jurisdiction as provided for in Texas Water Code 36.102.

Methodology to Track Management Plan Progress

The District manager will prepare an annual report on District performance in achieving the management goals. The annual report will be presented to the Board of Directors during the first quarterly Board of Directors meeting each fiscal year. The report will include the number of instances each management objective or related activity the District was engaged in during the year compared to the goals for the specific activity. The annual report will be maintained on file at the District office and made available to the public upon adoption by the District's Board of Directors.

Management Goals, Objectives, and Performance Standards

Resource Goals

Goal 1.0: To Control and Prevent the Waste of Groundwater

Management Objective

Each year the District will provide at least one public service announcement concerning waste, which is prohibited under the District rule, to the newspapers and to the general public on at least six occasions.

Performance Standards

(a) The District will furnish at least six newspaper articles and/or public service announcements on an annual basis.

(b) The District will investigate all written reports of waste of groundwater within 24 hours.

Goal 2.0: Addressing Natural Resource Issues That Impact the Use and Availability of Groundwater and Are Impacted by the Use of Groundwater

Management Objective

Each year the District will work with various interest groups and appropriate agencies, such as the San Antonio River Authority, to provide information on aquifer storage and recovery projects and will require permits for all aquifer storage and recovery projects.

Performance Standards

(a) The District will require permits for all aquifer and storage projects within the District and report the number of applications submitted annually.

(b) The District will provide one article to a newspaper of general circulation in the District regarding the San Antonio River Authority's Aquifer Storage and Recovery project.

Management Objective

Each year the District will require issuance of a well construction permit prior to drilling all new wells.

Performance Standard

Each year all well construction permits in compliance with the District rules will be issued within **15** working days. Well construction permits not in compliance will be considered at the next regular board meeting.

Goal 3.0: Providing for the Efficient Use of Groundwater within the District

Management Objective

Each year, the District will provide informative speakers to schools and civic groups to raise public awareness of practices which ensure the efficient use of groundwater.

Performance Standard

The District will make at least 2 public speaking appearances to promote the efficient use groundwater per year.

Goal 4.0: The Control and Prevention of Subsidence

This Management Goal is not applicable to the district. The geologic framework of the District Area precludes any significant subsidence from occurring.

Goal 5.0: Addressing Conjunctive Surface Water Management Issues

Except as provided in Chapter 36 of the Texas Water Code, the District has no jurisdiction over surface water. The District shall consider the effects of surface water resources as required by Section 36.113 and other state law.

Management Objective:

The District will attend 50% 0f the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management entities within the District.

Performance Standard

The District will attend at least 50% of the regular meetings of the Region L Regional Water Planning Group and coordinate activities when requested by surface water management entities within the District. The District will report these activities annual in the District annual report to the Board of Directors.

Conservation and Drought Goals

Goal 6.0: Addressing Conservation

Management Objective:

The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in Medina County.

Performance Standard

A copy of the article submitted by the District for publication to a newspaper of general circulation in Medina County regarding water conservation will be included in the Annual Report to the Board of Directors.

Goal 7.0: Addressing Drought Conditions

Management Objective:

Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Water Information Network Web site www.txwin.net.

Performance Standard:

Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to the Board of Directors.

References

Kelley, V. A., Deeds, N. E., Fryar, D. G., and Nicot, J-P, with Jones, T. L., Dutton, A. R.,

Bruehl, G., Unger-Holtz, T., and Machin, J. L., 2004, Groundwater Availability Model for the Queen City and Sparta aquifers: Final Report prepared for the Texas Water Development Board.

Mace, R. E., Chowdhury, A. H., Anaya, R., and Way, S.-C., 2000, Groundwater availability of the Trinity Aquifer, Hill Country Area, Texas: numerical simulations through 2050: Texas Water Development Board Report 353, 117 p. 3

Appendix A

Evidence of the Administrative Processes Required For the Certification of the Groundwater Management Plan as Administratively Complete