

**UVALDE COUNTY
UNDERGROUND WATER
CONSERVATION DISTRICT**

**MANAGEMENT PLAN
2011-2021**

Adopted July 26, 2011

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District Mission

The Uvalde County Underground Water Conservation District (UWCD) strives to protect the quality of, conserve, enhance, manage and promote the beneficial use of the groundwater resources of Uvalde County for the benefit of the citizens and the economy and to minimize waste.

Time Period for the Plan

This plan becomes effective upon adoption by the Board of Directors and replaces the previously adopted management plan. This plan will be implemented and will remain in effect for five years from the date of approval by the Texas Water Development Board (TWDB).

Guiding Principles

The District recognizes that the groundwater resources of this region are of vital importance to the residents and the economy, and that this resource must be managed effectively. A basic understanding of the nature of the aquifers and their hydrogeologic characteristics, as well as the quantity of the groundwater resources, is the foundation from which to develop prudent planning measures. This management plan is intended as a tool to focus the programs and plans of the District to conserve the county's valuable groundwater resources while allowing their prudent use.

About the District

The Uvalde County UWCD was created pursuant to Section 59, Article 16 of the Texas Constitution and validated by the 73rd Legislature under Article 2, Senate Bill 1477. The District has the same boundaries as the County of Uvalde.

The District Board of Directors is composed of eight members elected to staggered four-year terms. Elections for Directors are held in November. Two directors are elected from each of the county precincts. The Board of Directors holds regular quarterly meetings. Called Board meetings are held when necessary, at the District offices in the First State Bank of Uvalde Bank Building located at 200 East Nopal, Suite 203, in Uvalde, Texas. Meetings of the Board of Directors are public. Meetings are noticed and held in accordance with public meeting requirements.

The District's Authority to Regulate Groundwater

The District derives its authority to manage groundwater use within the District by virtue of the powers granted and authorized in the District enabling act of the 73rd Legislature under Article 2, Senate Bill 1477. The District, acting under authority of the enabling legislation, assumes all the rights and responsibilities of a groundwater conservation district as specified in Chapter 36 of the Texas Water Code. The District has adopted rules that specify the process, procedures, practices, and requirements for obtaining a permit from the District.

Regulation of the Edwards aquifer within Uvalde County is the responsibility of the Edwards Aquifer Authority (EAA). The Uvalde County UWCD has no jurisdiction over the management of the Edwards (BFZ) aquifer. The District does and will coordinate with the EAA on matters of common interest related to the Edwards (BFZ) aquifer, including monitoring water use and cooperating in research with the EAA and other organizations such as the United States Geological Survey (USGS) and the Natural Resources Conservation Service (NRCS). Table 8. provides information about the projected availability of groundwater in Uvalde County.

Water Resources of the District

Surface water in the District comes primarily from the Nueces River and its tributaries. Groundwater is found in both major and local aquifers in the District. Major aquifers include the Edwards (BFZ), Edwards-Trinity (Plateau), Carrizo-Wilcox and Trinity aquifers. Minor or local aquifers include the Leona Gravel, Buda Limestone, Anacacho, Austin Chalk, and Glen Rose Formations. There is significant production from the Buda Limestone, Austin Chalk and Leona Formation aquifers in areas of the District west of the Knippa Gap. A report completed for the District in 2010¹ concludes that prior studies of the western sub-basin clearly demonstrate that the Edwards (BFZ) aquifer is in hydraulic communication with these minor aquifers, and that index well J-27, although completed in the Edwards (BFZ) aquifer, can indicate declines in groundwater levels in the Buda Limestone, Austin Chalk and Leona Formation aquifers that adversely impact the water resource. When the level in index well J-27 drops below 860 feet msl, recharge to the Leona Formation gravels and discharge to Soldiers Camp Springs to the Nueces River decline measurably.

However, it is difficult to distinguish how much interaction and leakage occurs between the formations because of local structural and geological characteristics, including regional fracturing and faulting as well as local erosion and deposition over geologic time. Historic groundwater use shown in Table 1. below is reported from the four major aquifers and does not include production from the local aquifers, which is not quantified except to the extent that there have been inflows from them into the major aquifers.

TABLE 1.

HISTORICAL WATER USE IN THE DISTRICT

GW = groundwater; SW = surface water

Year	Source	Municipal	Manufacturing	Steam Electric	Irrigation	Mining	Livestock	Total
2000	GW	7,846	378	0	56,967	250	642	66,083
	SW	0	0	0	1,094	0	642	1,736
	Total	7,846	378	0	58,061	250	1,284	67,819
2001	GW	5,472	1,110	0	83,276	250	592	90,700
	SW	67	13	0	1,700	0	592	2,372
	Total	5,539	1,123	0	84,976	250	1,184	93,072
2002	GW	4,777	751	0	88,392	717	579	95,216
	SW	59	9	0	1,804	0	579	2,451
	Total	4,836	760	0	90,196	717	1,158	97,667
2003	GW	5,207	152	0	67,820	239	557	73,975
	SW	64	2	0	425	0	557	1,048
	Total	5,271	154	0	68,245	239	1,114	75,023
2004	GW	4,083	3	0	66,399	239	522	71,246
	SW	50	0	0	377	0	522	949
	Total	4,133	3	0	66,776	239	1,044	72,195
NOTE: All Pumpage reported in acre-feet								
Source: TWDB Water Use Survey Database				1/5/2010				

¹ Green, Ronald T. and Bertetti, F. Paul, *Development of a Candidate Drought Contingency Plan for Uvalde County, Texas*, Geosciences and Engineering Division, Southwest Research Institute, San Antonio, TX, May 2010

Groundwater Resources of the District

The aquifers under the jurisdiction of the District include the major Edwards-Trinity (Plateau), Carrizo-Wilcox and various formations of the Trinity major aquifers, and several local aquifer formations including the Leona Gravels, Buda Limestone, Anacacho Formation, Austin Chalk, and Glen Rose Formation. Of these aquifers, the Leona Gravel, Austin Chalk and Buda Limestone are the most significant, and have yields conducive to producing water for irrigation and other uses. The rest of the aquifers mostly supply domestic and livestock where water is not available from the Edwards (BFZ) Aquifer.

Estimated Amount of Groundwater Annually Used in the District

The estimated amount of groundwater being used in the District over the five-year period 1999-2003 varied from 66,056 to 95,595 acre-feet, including use of the Edwards (BFZ) aquifer. (See Table 2. below) This estimated annual amount is the most recent data available. TWDB data on estimated groundwater use is available from 1980 to 2003, excepting 1981 to 1983, when no data was collected. 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.

The District has noted variations in the reported amounts of water used from year to year. The reported values for some years in some categories of use appear significantly lower than the preceding or succeeding years. While actual water use varies from year to year based on variations in precipitation and other conditions, the degree of variation in the reported values for some years prompts the concern that the water use reported to TWDB may not reflect the full extent of groundwater use in the District. The District estimates the normal use of irrigation water in Uvalde County at two and one-half acre-feet per irrigated acre.

TABLE 2.

**HISTORICAL GROUNDWATER PUMPAGE IN UVALDE COUNTY
(acre-feet)**

Year	Aquifer	Municipal	Manufacturing	Steam Electric	Irrigation	Mining	Livestock	Total
1999	CARRIZO-WILCOX	23	0	0	0	0	28	51
	EDWARDS (BFZ)	6,667	575	0	75,784	250	180	83,456
	EDWARDS-TRINITY PLATEAU	386	0	0	0	0	448	834
	OTHER	86	3	0	0	0	12	101
Total		7,162	578	0	75,784	250	668	84,442
2000	CARRIZO-WILCOX	26	0	0	0	0	27	53
	EDWARDS (BFZ)	7,300	354	0	56,967	250	173	65,044
	EDWARDS-TRINITY PLATEAU	422	0	0	0	0	431	853
	OTHER	94	0	0	0	0	12	106
Total		7,842	354	0	56,967	250	643	66,056

HISTORICAL GROUNDWATER PUMPAGE IN UVALDE COUNTY (acre-feet)								
Year	Aquifer	Municipal	Manufacturing	Electric	Irrigation	Mining	Livestock	TOTAL
2001	CARRIZO-WILCOX	26	0	0	0	0	25	51
	EDWARDS (BFZ)	5,110	756	0	83,276	250	159	89,551
	EDWARDS-TRINITY PLATEAU	402	0	0	0	0	397	799
	OTHER	237	3	0	0	0	11	251
Total		5,775	759	0	83,276	250	592	90,652
2002	CARRIZO-WILCOX	28	0	0	0	0	25	53
	EDWARDS (BFZ)	4,501	756	0	88,392	717	156	94,522
	EDWARDS-TRINITY PLATEAU	387	0	0	0	0	388	775
	OTHER	231	3	0	0	0	11	245
Total		5,147	759	0	88,392	717	580	95,595
2003	CARRIZO-WILCOX	28	0	0	0	0	34	62
	EDWARDS (BFZ)	4,215	151	0	67,820	239	218	72,643
	EDWARDS-TRINITY PLATEAU	366	0	0	0	0	544	910
	OTHER	218	3	0	0	0	15	236
Total		4,827	154	0	67,820	239	811	73,851
Source: TWDB Water Use Survey Database							1/5/2010	

The NRCS estimates that there are 15,429 acres of land irrigated by groundwater from the Leona Gravel, Austin Chalk and Buda Limestone aquifers. The estimated annual use of groundwater within the Jurisdiction of the District that is being derived from aquifers other than the Edwards (BFZ) Aquifer is therefore 38,572 acre-feet, not all of which is reflected in Table 2 above. Water use reports submitted to the District for wells in the minor aquifers for the years 2007-2010 are summarized in Table 3.

TABLE 3.
HISTORICAL GROUNDWATER PUMPAGE IN MINOR AQUIFERS
UVALDE COUNTY UNDERGROUND WATER CONSERVATION DISTRICT
(acre-feet)

AQUIFER	2007	2008	2009	2010
ALLUVIUM	190	199	669	143
AUSTIN CHALK	1,443	2,816	3,238	1,626
BUDA LIMESTONE	110	1,637	2,059	734
GLEN ROSE	26	50	26	48
LEONA GRAVEL	287	11,173	7,780	7,176
SERPENTINE			1	
TRINITY/GLEN ROS	79	61	53	435
TRINITY	228	267	1,667	908
TOTAL ACRE-FEET	2,362	16,236	15,508	11,070
No. of Reports	66	142	208	200
Annual Rainfall (in.)	28.9	11.1	14.2	18.7
Source: Uvalde County UWCD Annual Water Use Report database				

Groundwater Recharge From Precipitation, Discharges to Surface Water Bodies and Flows Into, Out of and Between Aquifers in the District

TABLE 4.

Estimates of Annual Recharge from Precipitation to Aquifers in the District
(acre-feet / year.)

Aquifer	Recharge from Precipitation
CARRIZO-WILCOX	2,948
EDWARDS-TRINITY (PLATEAU)	28,213
Source : TWDB GAM Run 10-022, July 2010 ¹	

TABLE 5.

**Estimates of Annual Volume of Water That Discharges to Springs
and Other Surface Water Bodies from District Aquifers**
(acre-feet / year.)

Aquifer	Discharge to Springs and Surface Water Bodies
CARRIZO-WILCOX	29
EDWARDS-TRINITY (PLATEAU)	23,677
Source : TWDB GAM Run 10-022, July 2010	

TABLE 6.

**Estimated Annual Flows Into, Out of and Between Aquifers
within District Boundaries**
(acre-feet / year.)

Groundwater Movement	Aquifer	Amount of Flow/Year
Estimated Annual Flow into the District within Each Aquifer	Carrizo-Wilcox	1,289
	Edwards-Trinity (Plateau)	30,730
Estimated Annual Flow out of the District within Each Aquifer	Carrizo-Wilcox	8,987
	Edwards-Trinity(Plateau)	13,938
Estimated Net Annual Flows Between District Aquifers	Carrizo-Wilcox	N/A
	Edwards-Trinity (Plateau)	N/A
Source : TWDB GAM Run 10-022, July 2010		

Projected Total Water Demand and Supply within the District

Estimates of projected water demand are based on anticipated patterns of population growth and migrations that are applied to standardized estimated water use rates for the recognized categories of water use and anticipated increases in efficiency and conservation in agricultural water use. Total water demand may ultimately be met by either surface water or groundwater supplies. The estimate of projected total water demand in the District over the next 50 years decreases from 65,886 acre-feet in 2010 to 57,042 acre-feet in 2060, with significant decreases in irrigation use of about 10,000 acre-feet, a very small increase in municipal use in the City of Uvalde, and about 960 acre-feet of increased use in the County Other category, which includes the public water supplies for the cities of Utopia and Concan.

TABLE 7.

PROJECTED TOTAL WATER DEMAND IN UVALDE COUNTY

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
L	County Other	Uvalde	Nueces	1,572	1,867	2,110	2,305	2,425	2,532
L	Irrigation	Uvalde	Nueces	55,791	53,609	51,513	49,498	47,563	45,703
L	Livestock	Uvalde	Nueces	1,284	1,284	1,284	1,284	1,284	1,284
L	Manufacturing	Uvalde	Nueces	432	455	473	490	505	538
L	Mining	Uvalde	Nueces	313	345	364	383	401	418
L	Sabinal	Uvalde	Nueces	407	403	398	393	389	389
L	Uvalde	Uvalde	Nueces	6,087	6,124	6,144	6,148	6,150	6,178
Total Projected Water Demands (acre-feet per year) =				65,886	64,087	62,286	60,501	58,717	57,042

Source: Volume 3, 2007 State Water Planning Database

1/5/2010

The District estimates the normal use of irrigation water in Uvalde County at two and one-half acre-feet per irrigated acre. The NRCS estimates that there are 15,429 acres of land irrigated by groundwater from the Leona Gravel, Austin Chalk and Buda Limestone aquifers. Annual production of groundwater from these aquifers within the jurisdiction of the District is estimated to be 38,572 acre-feet. The remaining demand is supplied from the Carrizo-Wilcox, Edwards (BFZ), Edwards-Trinity (Plateau) and Trinity aquifers.

The Edwards Aquifer Authority enabling legislation allows recharge credits to be obtained by political subdivisions adding recharge to the Edwards (BFZ) Aquifer. Should the Edwards(BFZ) Aquifer Recharge program be implemented by use of groundwater from aquifer other than the Edwards (BFZ) Aquifer, groundwater that is now used for other purposes could be diverted to recharge to the Edwards (BFZ) Aquifer, and could therefore materially impact the availability of groundwater for beneficial use within the District, and substantially impact historic use and accepted conservation practices. The District will evaluate such projects, taking

into account all applicable statutory and regulatory criteria, to ensure that the yield and quality of groundwater in the District are not jeopardized and the rights and interests of groundwater users in the District are protected.

TABLE 8.
PROJECTED GROUNDWATER AVAILABILITY IN UVALDE COUNTY
(acre-feet)

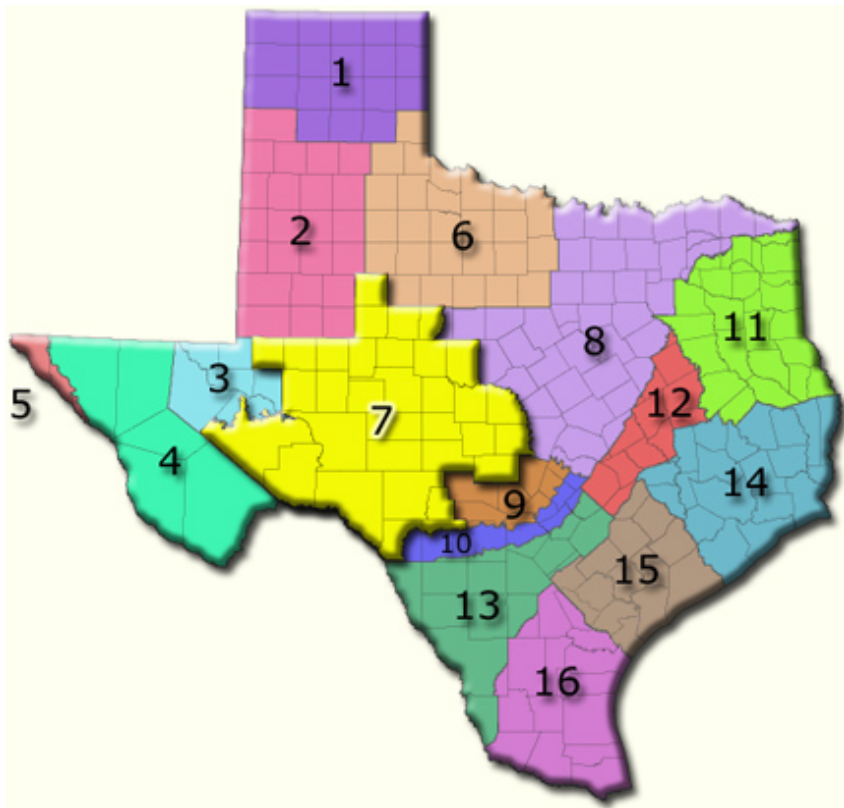
Aquifer	2010	2020	2030	2040	2050	2060
CARRIZO-WILCOX	27,093	27,093	27,093	27,093	27,093	27,093
EDWARDS-BFZ	82,842	82,842	82,842	82,842	82,842	82,842
EDWARDS-TRINITY (PLATEAU)	3,185	3,185	3,185	3,185	3,185	3,185
TRINITY	580	580	580	580	476	476
TOTAL (acre-feet/yr)	113,700	113,700	113,700	113,700	113,596	113,596
Source: Vol. 3, 2007 TWDB State Water Planning database						6/1/2010

MANAGED AVAILABLE GROUNDWATER IN THE DISTRICT

Managed Available Groundwater (MAG) in the district is defined in Section 36.001 of the Texas Water Code as “the amount of water that may be permitted by a district for beneficial use in accordance with the desired future conditions of the aquifer.” Initially it was thought that this number would include all pumping, both exempt and non-exempt uses, in the aquifer, but in June of 2010 the Texas Water Development Board determined that the MAG would be the permissible amount of water in the aquifer, that is, the total amount that may be pumped to attain the desired future condition, minus the exempt uses.

The Uvalde County UWCD is required, pursuant to Section 36.108 of the Texas Water Code, to meet at least annually with other groundwater conservation districts in Groundwater Management Areas (GMAs) designated by the Texas Water Development Board, to participate in joint planning and adoption of Desired Future Conditions of its aquifers.

Figure 1.
Groundwater Management Areas of the State



The Desired Future Conditions are submitted to the TWDB, which through the use of Groundwater Availability Models determines the MAGs for each aquifer in each district. Uvalde County UWCD is unique in that it is located within the boundaries of three GMAs, (7, 10, and 13), requiring coordination with 35 other groundwater conservation districts (GCDs). These include: 19 GCDs in GMA 7; 8 GCDs in GMA 10; and 8 GCDs in GMA 13 (Figure 1).

The Desired Future Conditions for the aquifers located within District boundaries were adopted by the relevant Groundwater Management Areas prior to September 1, 2010 as follows:

- 1) Carrizo-Wilcox Aquifer: An average drawdown of twenty-three (23) feet within the District from 2010 to 2060.
- 2) Edwards-Trinity (Plateau) Aquifer: Total net decline in water levels within the Uvalde County UWD at the end of the 2010-2060 period shall not exceed two (2) feet below 2010 water levels in the aquifer.
- 3) Trinity Aquifer: The Trinity aquifer is irrelevant in that portion of the District within the boundaries of GMA7: well drawdown during average recharge conditions not to exceed twenty (20) feet (including exempt and non-exempt uses) below 2010 water levels in that portion of the District within the boundaries of GMA 10.

- 4) Leona Gravel, Austin Chalk and Buda Limestone aquifers: Average well drawdown of zero (0) feet (including exempt and non-exempt uses) on the basis that there has been no long-term drawdown of these local aquifers from recent historic pumping, the aquifers are connected among themselves and with the Edwards (BFZ) aquifer, and are in equilibrium and self-regulating.

However, until the final Managed Available Groundwater (MAG) estimates based on these DFCs have been provided to the District by the TWDB, the requirement to include them in the Management Plan is not applicable and the groundwater availability numbers set forth above in Table 7. will be used for groundwater management planning purposes. Once the MAGs are made available the district will amend the management plan.

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.

A. Duplicative permits. The District has adopted and will enforce rules to restrict total production for irrigation to two acre-feet per acre on a tract of land. In reviewing an application, and before issuing a permit, the District shall take into consideration the amount of water already permitted for irrigation, regardless of source or the permitting authority, so that the total allocation of water to the tract of land shall not exceed, cumulatively, a total of two acre-feet per acre. Further, production allocation already made by the District shall be reduced to the extent that another permitting authority grants groundwater or surface water rights which would result in total permits exceeding two acre-feet per acre.

B. Waste. In consideration of economic and cultural activities occurring within the District, the District has developed rules that identify and monitor waste. The District will promote water-saving practices and the installation and use of water-saving devices and irrigation equipment.

C. Research and Data Collection. All ongoing TWDB, USGS, and EAA observation studies and data collected will be monitored in order to gain additional information regarding changing storage conditions of groundwater supplies within the District jurisdiction. The District will work cooperatively with investigations of groundwater resources within the District and will make the results of investigations available to the public upon acceptance of the information by the District's Board. Preliminary or draft data may be made available under circumstances where the data is identified as draft and preliminary and where the District believes the information may be useful and beneficial.

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.

The District has obtained metering equipment from the TWDB for implementation of a program to help local groundwater users determine groundwater usage from the various aquifers of the District.

D. Aquifer Recharge. The District shall not allow recharge of an aquifer under its jurisdiction if the water being placed into the aquifer is of inferior quality to water residing in the formation.

TABLE 9.

**PROJECTED SURFACE WATER SUPPLY IN UVALDE COUNTY
(acre-feet/year)**

Source	2010	2020	2030	2040	2050	2060
NUECES RUN-OF- RIVER IRRIGATION PERMITS	1,231	1,231	1,231	1,231	1,231	1,231
LOCAL LIVESTOCK SUPPLY	642	642	642	642	642	642
TOTAL (acre-feet/yr)	1,873	1,873	1,873	1,873	1,873	1,873
Source: 2007 TWDB State Water Planning database, Surface Water Sources 6/1/10						

TABLE 10.

**PROJECTED TOTAL AVAILABLE WATER SUPPLY IN UVALDE COUNTY
(acre-feet/year)**

	2010	2020	2030	2040	2050	2060
Groundwater	113,700	113,700	113,700	113,700	113,596	113,596
Surface Water	1,873	1,873	1,873	1,873	1,873	1,873
TOTAL	115,573	115,573	115,573	115,573	115,469	115,469
Source: Tables 8 and 9, <i>supra</i>						

Water Management Strategies to Meet Needs of Water User Groups

The projected water supplies and demand estimates for Uvalde County in the 2007 State Water Plan indicate that projected demands exceed projected supplies. To meet the needs of water user groups in the District, Region L recommended water management strategies to address the identified shortages. Water management strategies are projects or procedures that if implemented will produce additional water to meet the identified needs of water user groups. The total amount of groundwater and surface water resulting from implementation of the water management strategies recommended for Uvalde County in the 2007 State Water Plan is anticipated to provide 4,487 acre-feet in 2010, increasing to 6,939 acre-feet in 2060. Transfers from the Edwards (BFZ) Aquifer and municipal water conservation are the primary strategies identified. (Table 11).

TABLE 11.
PROJECTED WATER NEEDS IN UVALDE COUNTY
2007 State Water Plan
(acre-feet/year)

RWPG	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
L	County Other	Uvalde	Nueces	960	665	422	227	107	0
L	Irrigation	Uvalde	Nueces	24,256	26,438	28,534	30,549	32,484	34,344
L	Livestock	Uvalde	Nueces	0	0	0	0	0	0
L	Manufacturing	Uvalde	Nueces	728	705	687	670	655	622
L	Mining	Uvalde	Nueces	0	0	0	0	0	0
L	Sabinal	Uvalde	Nueces	-139	-135	-130	-125	-121	-121
L	Uvalde	Uvalde	Nueces	-3,793	-3,830	-3,850	-3,854	-3,856	-3,884
Positive values reflect a water surplus; negative values reflect a water need.									
Total Projected Water Needs (acre-feet per year) =				-3,932	-3,965	-3,980	-3,979	-3,977	-4,005
Source: Volume 3, 2007 State Water Planning Database								1/5/2010	

TABLE 12.
2007 STATE WATER PLAN
WATER MANAGEMENT STRATEGIES
FOR UVALDE COUNTY
(acre-feet/year)

WUG	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
Sabinal	Nueces	Edwards Transfers	Edwards-BFZ Aquifer	Uvalde	139	135	130	125	121	121
Sabinal	Nueces	Municipal Water Conservation	Conservation	Uvalde	34	65	92	116	139	145
Uvalde	Nueces	Edwards Transfers	Edwards-BFZ Aquifer	Uvalde	3,793	3,830	3,850	3,854	3,856	3,884
County Other	Nueces	Municipal Water Conservation	Conservation	Uvalde	0	0	0	33	73	137
Uvalde	Nueces	Municipal Water Conservation	Conservation	Uvalde	521	1,017	1,471	1,882	2,269	2,652
TOTAL					4,487	5,047	5,543	6,010	6,458	6,939
Source: Volume 3, 2007 State Water Planning Database									1/5/2010	

OTHER ECONOMICALLY FEASIBLE WATER MANAGEMENT STRATEGIES FOR UVALDE COUNTY

Additionally, 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.

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 District operations and activities. 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 has adopted rules relating to the permitting of wells and the production of groundwater and continues to review and revise those rules in accordance with the best scientific evidence available and pursuant to changes in state laws and regulations. The rules adopted by the District shall be pursuant to Chapter 36 of the Texas Water Code 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. District Rules may be viewed on the District website at http://www.uvaldecountywcd.org/District_Rules.html.

The District shall treat all citizens indiscriminately. 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 of Directors shall consider the potential for adverse effect on adjacent landowners. The exercise of said discretion by the District Board shall not be construed as limiting the power of the District Board.

The District will seek 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 cooperation and coordinated with the appropriate state, regional or local management entity.”

METHODOLOGY TO TRACK PROGRESS TOWARDS ACHIEVING DISTRICT MANAGEMENT GOALS

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 in which each objective activity was engaged in during the year so that the effectiveness of each activity may be evaluated. The annual report will be maintained on file at the District

office and made available to the public upon adoption by the Board.

MANAGEMENT GOALS, OBJECTIVES AND PERFORMANCE STANDARDS

Goal 1.0 To Provide for the Most Efficient Use of Groundwater in the District

Management Objective

1.1 On at least one occasion each year the district will provide educational materials promoting and explaining conservation methods and concepts for the efficient use of water.

Performance Standard

1.1a. Number of annual events where conservation material was provided through service organizations

1.1b. Record of brochure titles available at the district office during the year

Management Objective

1.2 Each year the District will provide informative speakers on at least two occasions to school or civic groups to raise public awareness of practices that promote the efficient use of groundwater.

Performance Standards

1.2 Number of programs provided to school or civic groups each year.

Goal 2.0 To Control and Prevent the Waste of Groundwater.

Management Objective

2.1 Each year the District will provide, on at least six occasions, educational materials concerning waste, which is prohibited under District Rules, to the local newspapers and the general public.

Performance Standard

2.1 The number of newspaper articles and/or public service announcements concerning waste which the District publishes each year in a newspaper of general circulation in Uvalde County.

Management Objective

2.2 The District will investigate all written reports of groundwater waste within five working days from the date the report is filed with the District.

Performance Standard

2.2 The number of times a written groundwater waste report is filed with the district, with a log of date filed and date investigated.

Goal 3.0 Addressing Natural Resource Issues that Impact the Use and Availability of Groundwater and are Impacted By the Use of Groundwater

Management Objective

3.1 Each year the District will cooperate with interested parties and appropriate agencies to disseminate information to landowners and the public on aquifer recharge or weather modification by conducting one informational public meeting on one of the topics, including information on such projects, if any, available to the public, and information on District rules governing such projects.

Performance Standard

3.1 Number of public meetings or presentations conducted annually in which information on aquifer recharge or weather modifications is made available, including District Rules governing such projects.

Management Objective

3.2 Issuance of well construction permits, or preregistration of exempt wells, prior to the drilling of all new wells for all aquifers under the District's jurisdiction.

Performance Standard

3.2 The number of permits of well construction permits issued within 90 days of the filing of administratively complete applications, and the number of registrations completed within 20 days of notification of drilling of exempt wells.

Goal 4.0 Addressing Drought Conditions

Management Objective

4.1 Annually monitor the Palmer Drought Severity Index (PDSI), notifying all District public water suppliers of severe drought conditions when they occur.

4.2 Publish a public service announcement in a newspaper of general circulation in Uvalde County, notifying area residents of drought conditions and recommending conservation measures.

Performance Standards

4.1 Report the current drought status of the District to the Board of Directors at quarterly meetings and the number of times that letters are sent to public water suppliers warning of severe drought conditions

4.2 Annually report to the Board of Directors the number of times area residents are notified of severe drought conditions in the local newspaper

Goal 5.0 (a) Addressing Conservation

Management Objectives

5.(a) 1. At least once annually the District will provide educational literature promoting water conservation in a public educational presentation.

Performance Standard

5.(a) 1. Report to Board of Directors annually number of times water conservation information was distributed to area residents or in public informational or educational meetings.

Goal 5.0 (b) Addressing Recharge Enhancement

Management Goal

5.(b) 1 Each year the District will cooperate with interested parties and appropriate agencies to disseminate information to landowners and the public on aquifer recharge by publishing, at least once a year, information about a public meeting concerning aquifer recharge or notifying the public of written materials available at the District office on the topic

Performance Standard

5.(b)1 Number of newspaper announcements of public meeting or availability of materials at the District office including District Rules governing such projects.

Goal 5.0 (c) Addressing rainwater harvesting

Management Objective

5.(c) 1 The District will display rainwater harvesting manuals publicly at the district office and at least once annually provide notice in the District newsletter that manuals on rainwater harvesting is available to residents in the District office.

Performance Standards

5.(c)1 Report to the Board of Directors annually on the number of times notice was published in the District newsletter about the availability of Rainwater Harvesting manuals in the District office.

Management Objective

5.(c)2 Include information on rainwater harvesting in one public education presentation annually

Performance Standards

5.(c)2 Report to Board of Directors annually the number of educational presentations that included rainwater harvesting information.

Goal 5.0 (d) Addressing Precipitation Enhancement

5.(d)1 Each year the District will cooperate with interested parties and appropriate agencies to disseminate information to landowners and the public on weather modification by publishing, at least once a year, information about a public meeting concerning aquifer recharge or notifying the public of written materials available at the District office on the topic

Performance Standard

5.(d)1 Number of newspaper announcements of public meeting or availability of materials at the District office.

Goal 5.0 (e) Addressing Brush Control

Management Objective

5.(e)1 Meet once annually with NRCS to discuss prioritizing brush control for EQIP funds or other federal conservation funding.

Performance Standards

5.(e)1 Report to Board of Directors annually on the number of meetings held with NRCS officials regarding priority conservation funding for brush control.

Goal 6.0 Addressing in a Quantifiable Manner the Desired Future Conditions of the District Aquifers.

Management Objective

6.1 Desired Future conditions for the District have been adopted as of September 1, 2010 pursuant to the joint planning process set forth in Section 36.108 of the Texas Water Code. Although the District has not yet received MAG values from the TWDB, the District will review annually all well registration and permit records to assess whether the District is on target to meet the Desired Future Condition estimates submitted to the TWDB.

Performance Standard

6.1 The Districts' Annual report will include discussion of the District's permit and well registration totals and evaluate whether the District is on track to maintain the Desired Future Conditions estimates over the 50-year period.

Management Objective

6.2 The District will annually sample water levels in at least five monitor wells and will compare five-year water level averages based on these sample to the corresponding five-year increment of its Desired Future Conditions to track its progress in achieving Desired Future Conditions.

Performance Standard

6.2 The District will maintain a log of the annual water level samples taken each year and upon obtaining a record of water levels for five consecutive years and calculating the averages therefrom, the District will include a discussion of its comparison of water level averages to the corresponding five-year period of its Desired Future Condition levels to track progress in achieving Desired Future Conditions.

36.1071 (a) Management Goals Not Applicable to the District

Goal 1.0 Controlling and Preventing Subsidence

The rigid geologic framework of the region precludes significant subsidence from occurring. This goal is not applicable to the operation of the District.

Goal 2.0 Addressing Conjunctive Surface Water Management Issues

The amount of surface water use in Uvalde County is limited to domestic and livestock use and

run-of-the river irrigations rights under the jurisdiction of the TCEQ. There are no local surface water entities distributing or regulating surface water use in the district with whom to meet and coordinate planning and effort.

Statement of Commitment by Uvalde County Underground Water Conservation District to Effectuation of the District Groundwater Management Plan.

The District will implement the provisions of this plan and/or future amendments and will utilize the provisions of this plan, or amended plan, as guidance for implementation of District goals, in promulgating District Rules and selecting, evaluating, and carrying out district programs, activities and hydrogeologic studies.

ⁱ See pages 2-5 of TWDB GAM Run 10-022 (posted on TWDB website at <http://www.twdb.state.tx.us/gam/GAMruns/GR10-22.pdf>.) for a description of the groundwater availability models and assumptions for the Edwards-Trinity (Plateau) and Carrizo-Wilcox aquifers that were employed in this GAM run.

The Edwards-Trinity (Plateau) Aquifer and the Hill Country Portion of the Trinity Aquifer overlap in the northern portion of the District. The Edwards Group (Layer 1) of the Hill Country portion of the Trinity aquifer model is not present in the district. Therefore comparison in flows made between the two models is made on Layer 2 of the Edwards-Trinity (Plateau) Aquifer and Layers 2- 4 collectively of the Hill Country portion of the Trinity Aquifer. (Page 5)