

**SUTTON COUNTY UNDERGROUND
WATER CONSERVATION DISTRICT**

MANAGEMENT PLAN

2009-2014

Adopted:

January 26, 2009

301 S. Crockett Avenue

Sonora, Texas 76950

Ph: 325/387-2369 Fax: 325/387-5737 email: sutuwcd@sonoratx.net

Sutton County Underground Water Conservation District

Table of Contents

Mission Statement.....4

Time Period for This Plan.....4

Statement of Guiding Principles.....4

General Description.....5

Groundwater Resources.....5

Regional Cooperation and Coordination.....6

Estimated Available Groundwater.....7

Groundwater Use.....8

Annual Amount of Recharge.....9

Annual Volume of Water Discharged.....9

Annual Volume of Flow Into District.....9

Annual Volume of Flow Out of District.....9

Annual Volume of Flow Between Aquifers.....9

Surface Water Resources.....10

Projected Total Water Demand.....11

Table of Contents, Continued

Water Supply Needs.....	12
Water Management Strategies.....	12
Actions, Procedures, Performance and Avoidance for Plan Implementation.....	13
Methodology for Tracking Progress.....	14
Goals, Management Objectives & Performance Standards.....	14
Management Goals Not Applicable.....	16
Definitions.....	18
References.....	19

SUTTON COUNTY UNDERGROUND WATER CONSERVATION DISTRICT

MANAGEMENT PLAN

MISSION STATEMENT

The Sutton County Underground Water Conservation District (the District) was created to provide for the conservation, preservation, protection, recharge and prevention of waste of the underground water reservoirs located under the District consistent with Chapter 36 of the Texas Water Code. The District strives to bring about conservation, preservation and the efficient, beneficial and wise use of water for the benefit of the citizens and economy of the District through monitoring and protecting the quantity and quality of the groundwater. The District also strives to maintain groundwater ownership and rights of the landowners as provided in the Texas Water Code §36.002.

TIME PERIOD FOR THIS PLAN

This plan becomes effective upon adoption by the Board of Directors and approval by the Texas Water Development Board executive administrator. This new plan remains in effect for a five-year period or until a revised plan is approved, whichever is earlier.

STATEMENT OF GUIDING PRINCIPLES

Due to the negligible amount of surface water in Sutton County, the population of the Sutton County Underground Water Conservation District depends almost exclusively on groundwater resources. This vital water supply sustains the local economy and environment and therefore the protection and conservation of groundwater is of utmost importance to the District. The entire regional area is impacted by the local management of this resource, making its prudent management even more essential. The District places a high priority on the right of ownership of groundwater and believes cost-effective and judicious management of this precious commodity is best served by a locally-elected board. The understanding of local conditions promotes the most responsible management of groundwater resources in the District.

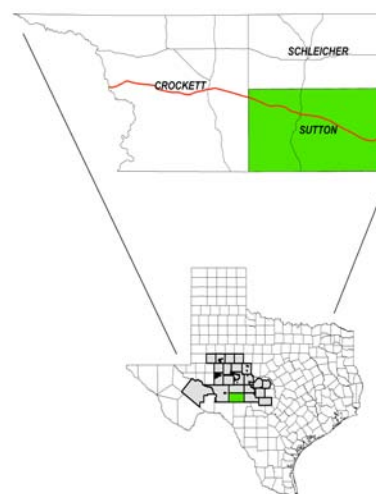
GENERAL DESCRIPTION OF THE DISTRICT

History

The Sutton County Underground Water Conservation District was created by the Acts of the Texas Legislature in 1985. The District was created to provide for the conservation, preservation, protection, recharge and prevention of waste of the underground water located under the District. The District encompasses all of Sutton County and is governed by a five-member locally-elected board of directors. The board includes four members from individual precincts and one at-large member. Members of the current board of directors are Ralph Mayer, Chairman, Bob Brockman, Secretary, Diana Condra, Dean Dermody and Joe David Ross with elections being held every two years. Sutton County's economy is primarily based on agriculture and oil and gas. Recreational hunting also contributes to the income of the area.

Location and Extent

The District lies within the Edwards Plateau and consists of approximately 955,520 acres in Sutton County, Texas. Sonora is the county seat and the only city in the county. The population of Sutton County was approximately 4,300 in 2006. Sutton County is bordered by Schleicher County to the north, Kimble County to the east, Edwards and Val Verde Counties to the south and Crockett County to the west.



Topography and Drainage

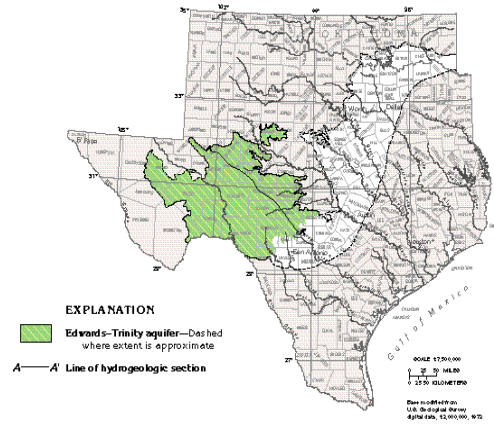
The land is generally rolling to stony, flat topped hills with elevations from 1,900 to 2,500 feet. The District is included in two different river basins, the Colorado and the Rio Grande. The western half of the county slopes southwestward into the Devils River. The eastern half drains to the North Llano River and a small portion drains northeastward to the San Saba River. The land also includes shallow depressions that catch rainfall and runoff to be either evaporated or infiltrated into the soil.

GROUNDWATER RESOURCES

Edwards-Trinity (Plateau) Aquifer

The Edwards-Trinity (Plateau) Aquifer is the fresh water source for Sutton County and includes all rocks from the base of the Antlers to the top of the Georgetown Formation (Washita Group). Limestone is the predominant rock underlying the Edwards Plateau soils. The permeability of the limestone is not necessarily due to intergranular pore space as in sandstones, but more to joints, crevices, and solution openings that have been enlarged by solvent action of water charged with carbon dioxide. The Glen Rose in Sutton County consists of limestone, sandstone, and green and red shale. It is underlain by Permian foundations and overlain by the Fredericksburg Group. The

Glen Rose pinchout extends eastward from southern Crockett County across Sutton County to the Sutton-Kimble County line, thence northeastward to the northeast corner of Menard County. The Antlers Formation consists of buff to gray, fine to medium-grained, cross-bedded, quartz sand and sandstone interbedded with lesser amounts of red, gray, and purple shale. The Edwards Formation is a granular to crystalline, dolomitic limestone called brown lime or brown sand on local well driller's logs. Caverns or caves and smaller solution channels are common in the Edwards. Alluvial deposits of Pleistocene and Recent age occur along nearly all of the stream courses on the Edwards Plateau. These deposits consist of sand, gravel, silt and clay derived from the erosion of the underlying rocks, and occurs primarily as terrace and flood-plain alluvium. Permian limestone contains fresh to slightly saline water in the area of the common corners of Kimble, Menard, Schleicher and Sutton Counties. The Permian is overlain by the Edwards and associated limestones in this area and is recharged by water from the Cretaceous.¹



Modified from Barker, R.A., Bush, P.W., and Baker, E.T., Jr., 1994, Geologic history and hydrogeologic setting of the Edwards-Trinity aquifer system, west-central Texas: U.S. Geological Survey Water-Resources Investigations Report 94-4038, 50 p.

REGIONAL COOPERATION AND COORDINATION

West Texas Regional Groundwater Alliance

The District is a member of the West Texas Regional Groundwater Alliance (WTRGA), a group of groundwater districts with common objectives regarding the management of groundwater in the Edwards-Trinity (Plateau) Aquifer. In 1988, four groundwater conservation districts, Coke County UWCD, Glasscock County UWCD, Irion County WCD and Sterling County UWCD signed the original Cooperative Agreement and as new districts were created, they too joined the Alliance. In the fall of 1996, the original Cooperative Agreement was redrafted and the West Texas Regional Groundwater Alliance was created. The WTRGA consists of seventeen locally-created and locally-funded groundwater conservation districts that encompass approximately 18.2 million acres or 28,368 miles of West Texas. Due to the diversity of the region, each member district provides its own unique programs to best serve its constituents. The current member districts are:

- | | |
|----------------------|---------------------|
| Coke County UWCD | Crockett County GCD |
| Glasscock GCD | Hickory UWCD |
| Hill Country UWCD | Irion County WCD |
| Kimble County GCD | Lipan-Kickapoo WCD |
| Lone Wolf GCD | Menard County UWD |
| Middle Pecos GCD | Permian Basin UWCD |
| Plateau UWC & SD | Santa Rita UWCD |
| Sterling County UWCD | Sutton County UWCD |
| Wes-Tex GCD | |

This Alliance was created to implement the local districts' common objectives to facilitate the conservation, preservation and beneficial use of water and related resources. Local districts monitor water-related activities of the State's largest industries such as farming & ranching, oil and gas and municipalities. The Alliance provides coordination essential to the activities of these member districts as they strive to accomplish their objectives.

West Texas Weather Modification Association

In 1996, the West Texas Weather Modification Association (WTWMA) was formed for the purpose of providing weather modification for rainfall enhancement and aquifer recharge. The target area of WTWMA includes 6.4 million acres or 10,000 square miles. The District has participated in WTWMA since 1996. Current members include:

- | | |
|----------------------|---------------------|
| City of San Angelo | Crockett County GCD |
| Glasscock GCD | Irion County WCD |
| Plateau UWC & SD | Santa Rita UWCD |
| Sterling County UWCD | Sutton County UWCD |

ESTIMATED AVAILABLE GROUNDWATER

The passage of HB 1763, 79th Regular Session of the Texas Legislature, required groundwater conservation districts (GCD) to establish a desired future condition (DFC) of aquifers within the groundwater management areas (GMA) by September 1, 2010. The Texas Water Development Board (TWDB) would then establish the managed available groundwater (MAG) for each GCD.

The Edwards-Trinity (Plateau) Aquifer is within GMA 7 and is the largest aquifer not subdivided into multiple GMAs. Due to the enormous size and diversity of the Edwards-Trinity (Plateau) Aquifer and length of time required to obtain a groundwater availability model (GAM) run from the TWDB, no DFC or MAG is available for this plan. The District continues to work with GMA 7, the public, TWDB, and other GCDs to establish a desired future condition.

Groundwater availability was calculated in the 2006 Region F Regional Water Plan and indicates minimal water is available from storage in Sutton County.

**Table 1
Groundwater Availability in Sutton Countyⁱⁱ**

River Basin	Aquifer	Annual Recharge During Drought* (acre-feet)	Supply From Storage (acre-feet)	Annual Availability (acre-feet)
Colorado	Edwards-Trinity	9,349	0	9,349
Rio Grande	Edwards-Trinity	11,426	0	11,426
Total		20,775		20,775

* Drought recharge equals one half of average annual recharge.

The District continues to gather data and perform research in order to obtain more accurate recharge and storage estimates.

GROUNDWATER USE

Table 2
Historical Groundwater Pumpage for Edwards-Trinity (Plateau)
Aquifer in Sutton County
 Unit: Acre Feet (ACFT)

Year	Municipal	Mfg	Steam			Livestock	Total
			Electric	Irrigation	Mining		
1980	1,700	0	0	1,350	11	738	3,799
1984	1,571	0	0	794	78	456	2,899
1985	1,402	0	0	1,275	78	502	3,257
1986	1,289	0	0	1,020	49	447	2,805
1987	1,051	0	0	1,020	62	560	2,693
1988	1,140	0	0	1,020	69	597	2,826
1989	1,325	51	0	797	38	592	2,803
1990	1,175	0	0	771	38	590	2,574
1991	1,202	0	0	771	73	623	2,669
1992	1,164	0	0	771	77	460	2,472
1993	1,186	0	0	1,253	77	480	2,996
1994	1,156	0	0	1,307	75	500	3,038
1995	1,285	0	0	1,228	75	502	3,090
1996	1,416	0	0	1,786	75	380	3,657
1997	1,417	0	0	1,786	75	416	3,694
1998	1,263	0	0	270	75	392	2,000
1999	1,404	0	0	1,786	75	429	3,694
2000	1,385	0	0	1,473	75	440	3,373
2001	1,325	0	0	1,114	75	414	2,928
2002	2,594	0	0	1,114	98	372	4,178
2003	1,222	0	0	292	108	365	1,987

NOTE: All Pumpage reported in acre-feet

Source: TWDB Water Use Survey Database

(<http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2>)

ANNUAL AMOUNT OF RECHARGE FROM PRECIPITATION.ⁱⁱⁱ

The estimated annual amount of recharge from precipitation to the District into the Edwards Group is 26,888 acre-feet.

The District receives no annual recharge from precipitation into the Undifferentiated Trinity Group

ANNUAL VOLUME OF WATER THAT DISCHARGES FROM THE AQUIFER TO SPRINGS AND SURFACE WATER BODIES^{iv}

The estimated annual volume of water that discharges from the Edwards Group to springs, streams and rivers is 26,628 acre-feet.

No water discharges from the Undifferentiated Trinity Group into springs, streams or rivers.

ANNUAL VOLUME OF FLOW INTO THE DISTRICT^v

The estimated annual volume of flow into the District within the Edwards Group is 19,363 acre-feet.

The estimated annual volume of flow into the District within the Undifferentiated Trinity Group is 5,763 acre-feet.

ANNUAL VOLUME OF FLOW OUT OF THE DISTRICT^{vi}

The estimated annual volume of flow out of the District within the Edwards Group is 13,683 acre feet.

The estimated annual volume of flow out of the District within the Undifferentiated Trinity Group is 12,175 acre feet.

ANNUAL VOLUME OF FLOW BETWEEN AQUIFERS^{vii}

The estimated net annual volume of flow within the District from the Edwards Group into the Undifferentiated Trinity Group is 6,057 acre-feet.

SURFACE WATER RESOURCES

There are no surface water management entities in Sutton County and little surface water within the District with the exception of the North Llano River which heads a few miles from the edge of Sutton County. The District has no jurisdiction over surface water. Although there are a few small surface impoundments used to store pumped groundwater for livestock consumption, these are viewed as inefficient by the District.

Table 3
2007 State Water Plan – Projected Surface Water Supplies
Sutton County
Total County Surface Water Supplies Data

Water User Group	River Basin	Source Name	2000	2010	2020	2030	2040	2050	2060
Sonora	Rio Grande	Edwards-Trinity-Plateau Aquifer	1,150	1,919	1,919	1,919	1,919	1,919	1,919
County-Other	Colorado	Edwards-Trinity-Plateau Aquifer	40	54	56	56	55	54	54
County-Other	Rio Grande	Edwards-Trinity-Plateau Aquifer	259	223	232	231	226	225	223
Mining	Colorado	Edwards-Trinity-Plateau Aquifer	0	35	35	36	36	37	37
Mining	Rio Grande	Edwards-Trinity-Plateau Aquifer	46	45	47	47	48	48	49
Irrigation	Colorado	N Llano River Combined Run-of-River Irrigation	475	8	8	8	8	8	8
Irrigation	Colorado	Edwards-Trinity-Plateau Aquifer	0	554	554	554	554	554	554
Irrigation	Rio Grande	Edwards-Trinity-Plateau Aquifer	1,786	1,250	1,232	1,232	1,232	1,232	1,232
Livestock	Colorado	Livestock Local Supply	71	46	46	46	46	46	46
Livestock	Colorado	Edwards-Trinity-Plateau Aquifer	284	312	312	312	312	312	312
Livestock	Rio Grande	Livestock Local Supply	85	57	57	57	57	57	57
Livestock	Rio Grande	Edwards-Trinity-Plateau Aquifer	339	381	381	381	381	381	381
Total Projected Surface Water Supplies (acre-feet per year)			4,535	4,884	4,879	4,879	4,874	4,873	4,872
=									

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

PROJECTED TOTAL WATER DEMAND

Sutton County's population is projected to increase by approximately 15% between 2000 and 2050, according to the Region F Regional Water Plan.^{viii} Based on estimated projections, water demands will increase proportionately into the year 2060, at which point the total demand for Sutton County will be approximately 4,098 acre-feet.

Table 4
2007 State Water Plan Projected Water Demands
Sutton County
Total County Water Demands Data

Water User	River Basin	2000	2010	2020	2030	2040	2050	2060
Sonora	Rio Grande	1104	1212	1282	1294	1289	1292	1279
County-Other	Colorado	50	55	58	59	58	58	58
County-Other	Rio Grande	207	228	241	243	242	243	240
Mining	Colorado	32	35	35	36	36	37	37
Mining	Rio Grande	43	45	47	47	48	48	49
Irrigation	Colorado	457	561	551	540	530	518	507
Irrigation	Rio Grande	1016	1250	1226	1202	1178	1155	1132
Livestock	Colorado	248	358	358	358	358	358	358
Livestock	Rio Grande	303	438	438	438	438	438	438
Total Projected Water Demands (acre-feet per year)		3460	4182	4236	4217	4177	4147	4098

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

WATER SUPPLY NEEDS

Current estimates of supply and demand indicate a projected surplus for irrigation and for the City of Sonora, the only municipality in the District.

Table 5
2007 State Water Plan Projected Water Needs
Sutton County
Total County Water Needs Data*

WUG	River Basin	2010*	2020*	2030*	2040*	2050*	2060*
Sonora	Rio Grande	724	667	667	683	684	697
County-Other	Colorado	0	0	0	0	0	0
County-Other	Rio Grande	0	0	0	0	0	0
Mining	Colorado	0	0	0	0	0	0
Mining	Rio Grande	0	0	0	0	0	0
Irrigation	Colorado	1	11	22	32	44	55
Irrigation	Rio Grande	0	6	30	54	77	100
Livestock	Colorado	0	0	0	0	0	0
Livestock	Rio Grande	0	0	0	0	0	0
Total Projected Water Needs (acre-feet per year) =		725	684	719	769	805	852

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

* Positive values indicate a water surplus and negative values indicate a water need.

WATER MANAGEMENT STRATEGIES

Water management strategies as designed in the Region F Regional Water Plan, 2006 consist of conservation in relation to irrigation techniques.

Table 6
Projected Water Management Strategies
Sutton County
Total County **Water Management Strategies Data**

Water User Group	Basin	Strategy	2010	2020	2030	2040	2050	2060
Irrigation	Colorado	Conservation	0	44	88	88	88	88
Irrigation	Rio Grande	Conservation	0	98	196	196	196	196
Sutton Co Total (acre-feet/year)			0	142	284	284	284	284

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

Preservation and protection of groundwater quantity and quality has been the guiding principle of the District since its creation. The goals and objectives of this plan will provide guidance in the performance of existing District activities and practices. District rules address groundwater withdrawals by means of spacing and/or production limits, waste, and well drilling completion as well as capping and plugging of unused or abandoned wells. These rules are meant to provide equitable conservation and preservation of groundwater resources, protect vested property rights and prevent confiscation of property.

ACTIONS, PROCEDURES, PERFORMANCE AND AVOIDANCE FOR PLAN IMPLEMENTATION

The District will implement and utilize the provisions of this plan as a guide for determining the direction and/or priority for District activities. Operations of the District and all agreements entered into by the District will be consistent with the provisions of this plan.

The District has adopted rules for the management of groundwater resources and will amend those rules as necessary pursuant to TWC Chapter 36 and the provisions of this plan. Rules will be adhered to and enforced. The promulgation and enforcement of the rules will be based on the best technical evidence available.

The District shall treat all residents with equality. Residents may apply to the District for discretion in enforcement of the rules on grounds of adverse economic effect or unique local character. In granting discretion to any rule, the Board shall consider the potential for adverse effect on adjacent landowners. The exercise of said discretion by the Board shall not be construed as limiting the power of the Board. The District will seek cooperation in the implementation of this plan and the management of groundwater supplies within the District.

METHODOLOGY FOR TRACKING PROGRESS

The methodology that the District will use to trace the progress in achieving the management goals as prescribed by TWC 36.1071(a) will be as follows:

The District General Manager will prepare and present an annual report to the Board of Directors on District performance regarding management plan goals and objectives for the preceding fiscal year during the first meeting of each fiscal year. The annual report will be maintained at the District office.

GOALS, MANAGEMENT OBJECTIVES AND PERFORMANCE STANDARDS

The District recognizes the importance of public education to encourage efficient use, implement conservation practices, prevent waste, and preserve the integrity of groundwater. Since the District was formed in 1985, it has provided residents with materials, programs, water analysis, and other information when requested, including requests from the TWDB for water level and analysis data.

Goal 1.0 – Provide for the Efficient Use of Groundwater (36.1071(a)(1))

Management Objective

1.1 - Provide programs to improve public awareness of efficient use, wasteful practices and conservation measures.

Performance Standard

1.1a - Annual report to the Board of Directors on the number of programs provided.

Management Objective

1.2 - Each year the District will publish one article or newsletter on water conservation.

Performance Standard

1.2a - Annual report to the Board of Directors on the number of newsletters or articles published.

Goal 2.0 - Control and Prevent Waste of Groundwater (36.1071(a)(2))

Management Objective

2.1 - Each year the District will register all new wells drilled in the District.

Performance Standard

2.1a – District will maintain files including information on the drilling and completion of all new wells in the District.

2.1b – Annual report to the Board of Directors on the number of new wells registered during the year.

Goal 3.0 - Natural Resource Issues (36.1071(a)(5))

Management Objective

3.1 - Annually measure the wells in the water level monitoring network within the District.

Performance Standard

3.1a - Annually report to the Board of Directors the number of wells monitored in the District's water level monitoring network.

Management Objective

3.2. – Maintain a district-wide rainfall event network using voluntary monitors and automatic digital rainfall collectors to help evaluate recharge.

Performance Standard

3.2a – Annually report to the Board of Directors the total number of rain gauges in the rainfall monitoring network.

3.2b – Annually report to the Board of Directors the annual rainfall within the District.

Management Objective

3.3 – Annually sample 33% of the operating monitor wells in the District's water quality monitoring network.

Performance Standard

3.3a – Annually report to the Board of Directors the percentage of wells sampled in the District's water quality monitoring network.

Goal 4.0 - Drought Conditions (36.1071(a)(6))

Management Objective

4.1 - Monitor the Palmer Drought Severity Index (PDSI).

Performance Standard

4.1a – Provide a quarterly report to the Board of Directors on climatic conditions and proposed management strategies.

Goal 5.0 - Conservation and Precipitation Enhancement (36.1071(a)(7))

Management Objective - Conservation

5.1 – Provide and distribute literature on water conservation by publishing at least

one newsletter or newspaper article annually.

Performance Standard

5.1a – Annual report to the Board of Directors listing the number of times newsletters or newspaper articles were published.

Management Objective - Precipitation Enhancement

5.2 The District will participate in the West Texas Weather Modification Association.

Performance Standard

5.2a – Report monthly to the Board of Directors on West Texas Weather Modification Association activities.

5.2b – Provide West Texas Weather Modification Association Annual Report to the Board of Directors.

5.2c – Annually provide to the Board of Directors the number of meetings attended by District personnel.

Goal 6.0 – Addressing in a Quantitative Manner the Desired Future Conditions of the Groundwater Resources (36.1071(a)(8))

The District covers part of the Edwards-Trinity (Plateau) Aquifer and is within Groundwater Management Area (GMA) 7. The Edwards-Trinity (Plateau) Aquifer is the largest aquifer not subdivided into multiple GMAs. Due to the enormous size and diversity of the Edwards-Trinity (Plateau) Aquifer, inconsistencies in the groundwater availability model (GAM), as noted in the Executive Summary of both GAM Run 07-32 and 07-37, and length of time required to obtain a GAM run from the TWDB, no Desired Future Condition nor Managed Available Groundwater number is available for this plan. The District continues to work with GMA 7, other GCDs, the public and the TWDB to establish a DFC prior to the September 1, 2010 deadline. This goal is not applicable to the District at this time.

MANAGEMENT GOALS DETERMINED NOT-APPLICABLE

Goal 7.0 - Controlling and Preventing Subsidence (36.1071(a)(3))

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

Goal 8.0 - Conjunctive Surface Water Management Issues (36.1071(a)(4))

There are no surface water management entities within the District. This management goal is not applicable to the operations of the District.

Goal 9.0 - Recharge Enhancement (36.1071(a)(7))

The diverse topography and limited knowledge of any specific recharge sites makes any type of recharge enhancement project economically unfeasible. This management goal is not applicable to the operation of the District.

Goal 10.0 - Rainwater Harvesting (36.1071(a)(7))

The arid nature of the area within the District makes the cost of rainwater harvesting projects economically unfeasible. This management goal is not applicable to the operations of the District.

Goal 11.0 - Brush Control (36.1071(a)(7))

The District recognizes the benefits of brush control through increased spring flows and the enhancement of native turf which limits runoff. However, most brush control projects within the District are carried out and funded through the NRCS and ample educational material and programs on brush control are provided by the Texas Agrilife Extension Service. This management goal is not applicable to the operations of the District.

DEFINITIONS AND CONCEPTS

“Board” - the Board of Directors of the Sutton County Underground Water Conservation District.

“District” – the Sutton County Underground Water Conservation District.

“Groundwater” - water percolating below the surface of the earth.

“Integrity” - the preservation of groundwater quality.

“Ownership” - pursuant to TWC Chapter 36, §36.002, means the recognition of the rights of the owners of the land pertaining to groundwater.

“Recharge” - amount of water that infiltrates to the water table of an aquifer.

“Surface Water Entity” - TWC Chapter 15 Entities with authority to store, take divert, or supply surface water for use within the boundaries of a district.

“TCEQ” - Texas Commission on Environmental Quality.

“TWDB” - Texas Water Development Board.

“Waste” - pursuant to TWC Chapter 36, §36.001(8), means any one or more of the following:

- (1) withdrawal of groundwater from a groundwater reservoir at a rate and in an amount that causes or threatens to cause intrusion into the reservoir of water unsuitable for agricultural, gardening, domestic, or stock raising purposes;
- (2) the flowing or producing of wells from a groundwater reservoir if the water produced is not used for a beneficial purpose;
- (3) escape of groundwater from a groundwater reservoir to any other reservoir or geologic strata that does not contain groundwater;
- (4) pollution or harmful alteration of groundwater in a groundwater reservoir by saltwater or by other deleterious matter admitted from another stratum or from the surface of the ground;
- (5) willfully or negligently causing, suffering, or allowing groundwater to escape into any river, creek, natural watercourse, depression, lake, reservoir, drain, sewer, street, highway, road, or road ditch, or onto any land other than that of the owner of the well unless such discharge is authorized by permit, rule, or order issued by the commission under Chapter 26;

- (6) groundwater pumped for irrigation that escapes as irrigation tailwater onto land other than that of the owner of the well unless permission has been granted by the occupant of the land receiving the discharge; or
- (7) for water produced from an artesian well, “waste” has the meaning assigned by Section 11.205.

“Well” - an artificial excavation that is dug or drilled for the purpose of producing groundwater.

LIST OF REFERENCES

ⁱ Occurrence, Availability, and Chemical Quality of Ground Water in the Edwards Plateau Region of Texas, Report 235, Texas Department of Water Resources, Loyd E. Walker, July, 1979.

ⁱⁱ Region F Regional Water Plan, January 2006, Table 3.1-1, Groundwater Availability in Region F.

ⁱⁱⁱ GAM Run 08-52 by Wade Oliver, Texas Water Development Board, Groundwater Availability Modeling Section, July 11, 2008.

^{iv} Ibid.

^v Ibid.

^{vi} Ibid.

^{vii} Ibid.

^{viii} Region F Regional Water Plan, January 2006, Table 2.2-1, Historical and Projected Population by County.