Plateau Underground Water Conservation & Supply District

Table of Contents

Mission Statement ……2
Time Period for this Plan ……2
General Description ……2
Management of Groundwater Supplies ……3
Regional Cooperation and Coordination ……3
Geographical Information ……5
Groundwater Resources ……5
Groundwater Resource Estimates ……5
Estimate of Managed Available Groundwater …… 5
Groundwater Availability Model--Water Budget Information…….. 6
Estimate of the Amount of Groundwater Used Annually …… 7
Groundwater Use ……8
Projected Water Needs……8
Projected Water Management Strategies ……9
Currently Available and Projected Supply……9
Projected Surface Water Supplies……10
Water Consumption of Invasive Vegetation……10
Annual Effective Recharge……11
Additional Recharge……11
Actions, Procedures, Performance and Avoidance for Implementation…..16
Methodology for Tracking Progress……16
Coordination with Surface Water Entities……17
Goals……17
Management Goals Determined Non-Applicable……22
Definitions……22

Plateau Underground Water
Conservation & Supply District

Management Plan

Mission Statement

The Plateau Underground Water Conservation & Supply District was created by Acts of the 59th Texas Legislature in 1965. 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 Article XVI, Section 59, of the Texas Constitution, and 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 quality of the groundwater. The District also strives to maintain groundwater ownership and rights of landowners as provided in Texas Water Code 36.002.

Time Period for This Plan

This plan becomes effective upon certification by the Texas Water Development Board and replaces the existing management plan adopted by the Board of Directors. The new plan remains in effect until a revised plan is certified. This plan will be reviewed and amended at least once every five years.

General Description

The District is governed by a Board of five Directors elected by local voters. Serving on the current Board are Sam Henderson, Jr., Chairman, Ronnie Sauer, Vice-Chairman, Lynn Griffin, Secretary, Pat Jackson, and Ray Ballew. District rules have been in effect since 1992 which will effectuate the management plan. The District encompasses Schleicher County, Texas. Schleicher County's economy is based in agriculture with a significant contribution from the oil and gas industry.

Management of Groundwater Supplies

The District aids in the management of groundwater 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 could result in a reduction of groundwater use. An observation network shall be maintained in order to monitor changing quality and storage conditions of groundwater supplies within the District. The District will employ all technical resources at its disposal to evaluate the resources available within the District and to determine the effectiveness of management or conservation measures.

The District has adopted rules to manage 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 decision to approve or deny a permit or limit groundwater withdrawals, the District will consider 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 include: the purpose of District rules, legal rights, equitable distribution of resource, and economic hardship to both individual surface owners and surrounding community.

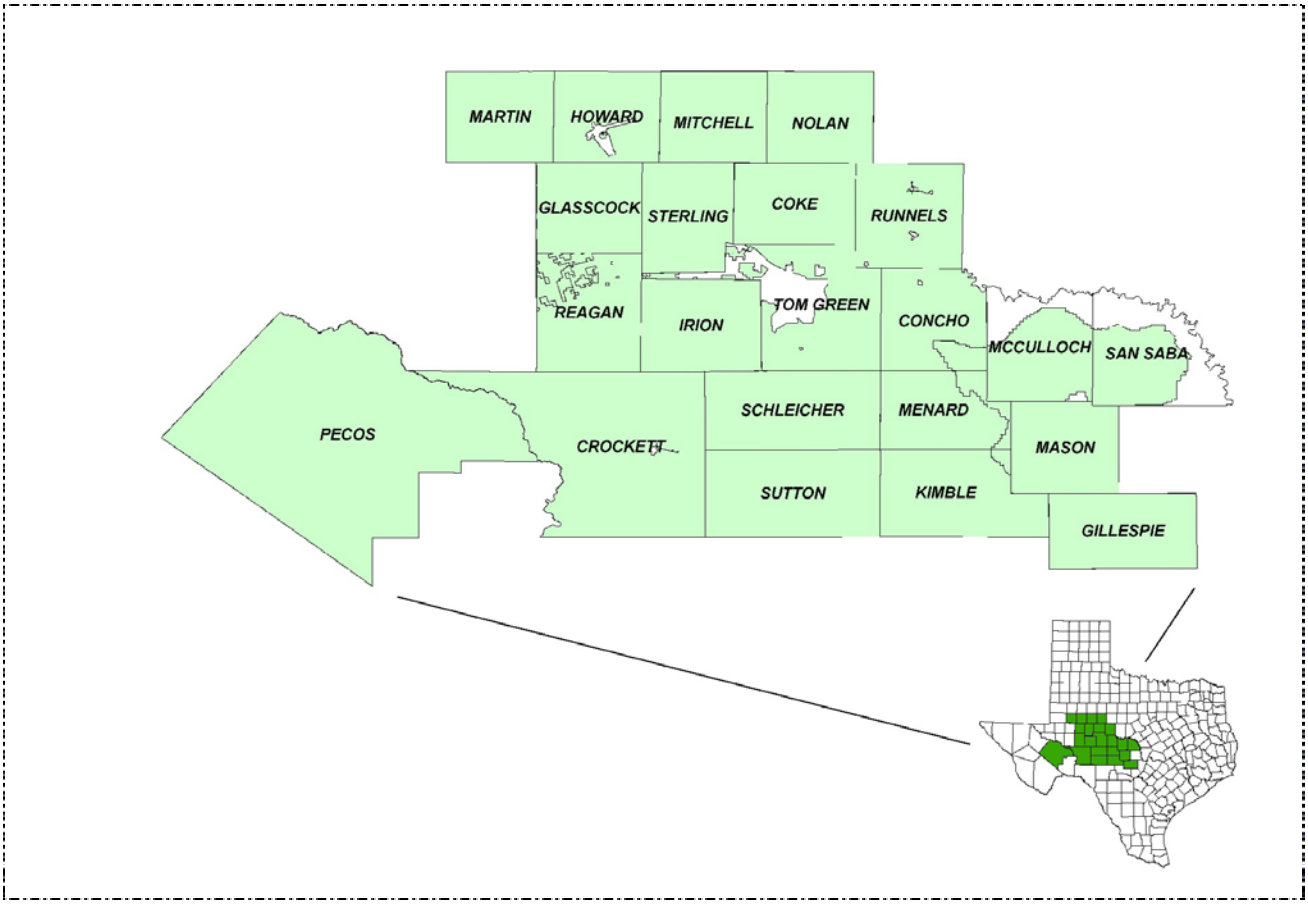
Regional Cooperation and Coordination

In 1988, four groundwater conservation districts, Coke County UWCD, Glasscock County UWCD, Irion County WCD, and Sterling County UWCD signed an original Cooperative Agreement. More districts came in and signed this agreement, and in the fall of 1996, the original Cooperative Agreement was redrafted and the West Texas Regional Groundwater Alliance was created. The WTRGA now consists of eighteen locally created and locally funded groundwater conservation districts that encompass twenty-nine thousand eight hundred square 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 following districts are currently members of the WTRGA: Coke County UWCD, Crockett County GCD, Glasscock GCD, Hill

Country UWCD, Hickory UWCD, Irion County WCD, Jeff Davis County UWCD, 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, and Wes-Tex GCD.

This Alliance was created because the local districts have a common objective 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 and ranching, oil and gas, and municipalities. The Alliance provides coordination essential to effect region wide planning in an area which has common water resource allocation problems that are unique to this part of Texas.



West Texas Regional Groundwater Alliance

Geographical Information

The District lies within the Edwards Plateau and consists of approximately 838,000 acres in Schleicher County, Texas.

Groundwater Resources

The Edwards-Trinity (Plateau) aquifer underlies the Edwards Plateau east of the Pecos River and the Stockton Plateau west of the Pecos River, extending from the Hill Country of Central Texas to the Trans-Pecos region of West Texas, providing water to all or parts of 38 counties. The aquifer consists of saturated sediments of lower Cretaceous age Trinity Group formations and overlying limestones and dolomites of the Comanche Peak, Edwards, and Georgetown formations. (1)

The Edwards-Trinity (Plateau) aquifer is the fresh water source for Schleicher 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 porespace as in sandstones, but more to joints, crevices, and solution openings that have been enlarged by solvent action of water charged with carbon dioxide.

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. (2)

Groundwater Resource Estimates

All estimates of groundwater availability, usage, supplies, recharge, storage, and future demands are from data supplied by the Region F Regional Water Plan or the Texas Water Development Board unless otherwise noted.

Estimate of Managed Available Groundwater

The Desired Future Conditions for the aquifers located within the District boundaries and within Groundwater Management Area 7 have not

been established; therefore, an estimate of the managed available groundwater is not yet available. The District is actively working with other districts within Groundwater Management Area 7 to determine the desired future conditions for each aquifer located within the district. Once these are established an estimate of the managed available groundwater will be determined, and the District Management Plan will be amended at that time.

Groundwater Availability Model--Water Budget Information

The following table, taken from GAM Run 08-51, by Wade Oliver of the Texas Water Development Board, shows estimates, in acre feet per year, of precipitation recharge, the amount of groundwater that discharges to surface water bodies, the flow into the District within each aquifer, the flow out of the District within each aquifer, and the flow between aquifers in the District.

Estimated annual amount of Recharge from precipitation To the District	**Lipan Aquifer**	**387**
	Edwards Group and equivalent limestone	**22,410**
	Undifferentiated Trinity Group	**0**
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	**Lipan Aquifer**	**0**
	Edwards Group and equivalent limestone	**8,379**
	Undifferentiated Trinity Group	**0**
Estimated annual volume of flow into the District within each aquifer in the District	**Lipan Aquifer**	**19**
	Edwards Group and equivalent limestone	**5,001**
	Undifferentiated Trinity Group	**2,441**
Estimated annual volume of flow out of the District within each aquifer in the District	**Lipan Aquifer**	**411**
	Edwards Group and equivalent limestone	**20,582**
	Undifferentiated Trinity Group	**7,776**
Estimated net annual volume of flow between each aquifer in the District	**Trinity into Edwards**	**5,329**

Estimate of the amount of Groundwater Being Used Annually

The following table is taken from Texas Water Development Board data, and shows the five most recent available years estimates for amount and type of groundwater and surface water use in the District:

Historical Water Use Summary by Groundwater (GW) and Surface Water (SW)

Unit: Acre Feet (ACFT)

SCHLEICHER COUNTY								
Year	Source	Municipal	Manufacturing	Steam Electric	Irrigation	Mining	Livestock	Total
2000	GW	671	0	0	2,150	105	438	3,364
2000	SW	0	0	0	0	0	109	109
	Total	**671**	**0**	**0**	**2,150**	**105**	**547**	**3,473**
2001	GW	543	0	0	1,294	87	273	2,197
2001	SW	0	0	0	0	0	279	279
	Total	**543**	**0**	**0**	**1,294**	**87**	**552**	**2,476**
2002	GW	569	0	0	1,300	108	243	2,220
2002	SW	0	0	0	0	0	249	249
	Total	**569**	**0**	**0**	**1,300**	**108**	**492**	**2,469**
2003	GW	470	0	0	964	108	222	1,764
2003	SW	0	0	0	0	0	228	228
	Total	**470**	**0**	**0**	**964**	**108**	**450**	**1,992**
2004	GW	471	0	0	735	108	247	1,561
2004	SW	0	0	0	0	0	253	253
	Total	**471**	**0**	**0**	**735**	**108**	**500**	**1,814**

Groundwater Use

Projected water demand for Schleicher County in acre feet:

RWPG	Water User Group	River Basin	2010	2020	2030	2040	2050	2060
F	Eldorado	Colorado	581	644	671	675	691	711
F	County Other	Colorado	117	108	102	98	95	93
F	County Other	Rio Grande	25	23	22	21	20	20
F	Mining	Colorado	125	134	139	144	149	154
F	Irrigation	Colorado	1,750	1,716	1,680	1,645	1,609	1,575
F	Irrigation	Rio Grande	358	351	344	337	330	322
F	Livestock	Colorado	583	583	583	583	583	583
F	Livestock	Rio Grande	204	204	204	204	204	204
Total Projected Water Demands (ac.ft./yr)			3,743	3,763	3,745	3,707	3,681	3,662

Source: Volume 3, 2007 State Water Planning Database

Projected Water Needs

Projected water needs for Schleicher County in acre feet:
Positive values reflect a water surplus; negative values reflect a water need.

RWPG	WUG	River Basin	2010	2020	2030	2040	2050	2060
F	Eldorado	Colorado	129	66	39	35	19	0
F	County Other	Colorado	0	0	0	0	0	0
F	County Other	Rio Grande	0	0	0	0	0	0
F	Mining	Colorado	25	16	11	6	1	0
F	Irrigation	Colorado	536	570	606	641	677	711
F	Irrigation	Rio Grande	488	495	502	509	516	524
F	Livestock	Colorado	0	0	0	0	0	0
F	Livestock	Rio Grande	0	0	0	0	0	0
Total Projected Water Needs(ac.ft./yr)			0	0	0	0	0	0

Source: Volume 3, 2007 State Water Planning Database

Projected Water Management Strategies

Projected water management strategies for Schleicher County in acre feet per year:

RWPG	WUG	River Basin	Water Mangement Strategy	Source Name	2010	2020	2030	2040	2050	2060
F	Irrigation	Colorado	Irrigation	Conservation	0	89	178	178	178	178
F	Irrigation	Rio Grande	Irrigation	Conservation	0	18	36	36	36	36
Total Projected Water Management Strategies					0	107	214	214	214	214

Source: Volume 3, 2007 State Water Planning Database

Currently Available and Projected Supply
By water use group in acre feet

USE	2000	2010	2020	2030
Municipal	490	710	710	710
Irrigation	2000	3132	3132	3132
Livestock	675	787	787	787
Mining	150	150	150	150
Other	154	142	131	124

Region F 2006 Regional Water Plan

Irrigated acres in Schleicher County by crop type:

Crop	Acres
Wheat	175
Forage Crops	343
Pecans	204
Other	97

***TWDB 2002 as listed in Region F 2006 Regional Water Plan**

Projected Surface Water Supplies

RWPG	Water User Group	County	River Basin	Source Name	2010	2020	2030	2040	2050	2060
F	Mining	Schleicher	Colorado	San Saba Run-of-River Mining	0	0	0	0	0	0
F	Irrigation	Schleicher	Colorado	San Saba Run-of River Irrigation	0	0	0	0	0	0
F	Livestock	Schleicher	Colorado	Livestock Local Supply	83	83	83	83	83	83
F	Livestock	Schleicher	Rio Grande	Livestock Local Supply	29	29	29	29	29	29
Total Projected Surface Water Supplies (acre-feet per year)					112	112	112	112	112	112

Source: Volume 3, 2007 State water Planning Database

Water Consumption of Invasive Vegetation

The above figures do not include the water consumed by invasive vegetation. A large mature juniper has a transpiration rate of about 33 gal/day(1) or 12,045 gal/yr. or 0.04 ac-ft/year. At a density equivalent to

only one mature juniper per acre, an estimated loss of 33,720 ac-ft/yr occurs within the District. The transpiration rate of a mesquite tree is estimated at 21 gal/day(2) or 0.02 ac-ft/yr. At a density equivalent to one mesquite tree per acre, an estimated loss of 16,860 ac-ft/yr occurs within the District. The following table describes brush population in Schleicher County.(3)

Density

	Light	**Moderate**	**Heavy**
Cedar	**34,400 ac.**	**60,000 ac.**	**164,000 ac.**
Mesquite	**146,800 ac.**	**239,000 ac.**	**388,6000ac.**

(1) Biology and Ecology of Redberry Juniper," by Darrell N. Uehert, Technical Report 97-1, Juniper Symposium 1997, Texas Agricultural Experiment Station, TAMU.

(2) Ibid.

(3) Brush Survey of 1973, Schleicher County, Soil Conservation Service

Annual Effective Recharge

A Groundwater Availability Model, titled GAM Run 07-03, was provided by TWDB geologist Andy Donnelly to Groundwater Management Area 7, of which Plateau UWC&SD is a member. The model used 21 years of historic conditions followed by a 50 year predictive time period.

The model places the District's annual recharge at 24,018 ac-ft/yr., a figure approximately five percent higher than the amount estimated in Wade Oliver's GAM Run 08-51.

Rainfall is the only source of recharge for the District. The amount of water that actually reaches the aquifer depends on many factors, such as vegetative growth, soil construction and rate of rainfall.

In the Edwards Plateau region, the annual rate of evaporation is three times greater than the annual rate of precipitation, thus creating a perpetual low soil moisture content that retards percolation except under the most ideal conditions. Percolation usually occurs during relatively short periods after rainfall. Soil permeability is an expression of the ability of water to pass through pore spaces of the soil and varies throughout the Edwards Plateau from less than 0.06 to 0.63 inches per hour. Rain intensities greater than these rates will produce surface runoff.

*Occurrence, Availability, and Chemical Quality of Gropundwater in the Edwards Plateau Region of Texas, Report 235, Texas Department of Water Resources, Loyd A. Walker, 1979.

Additional Recharge

The estimate of the annual amount of additional natural or artificial recharge of groundwater within the District that could result from implementation of feasible methods for increasing the natural or artificial recharge is difficult to determine due to the direct correlation to rainfall. There are several methods of additional recharge:

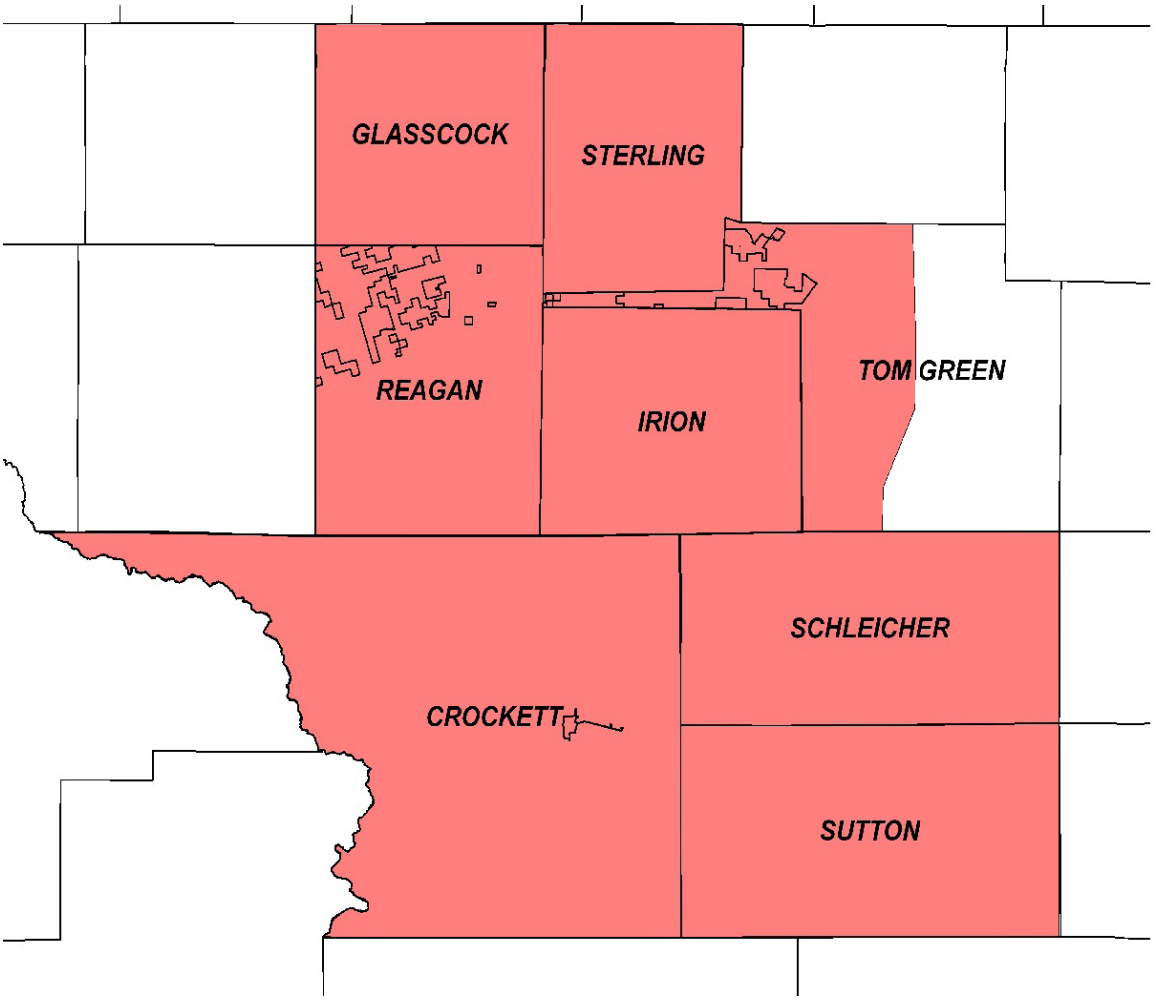
1. **Flood Prevention Sites – In 1962, Public Law 566 mandated the construction of thirteen dam sites on the Dry Devil's River Draw for the prevention of flooding in Sonora, Texas. Of the two site located within Schleicher County, site #1 is capable of detaining 4,866 acre feet, and site #2 is capable of detaining 5000 acre feet.(1) The dams were designed to regulate flow of floodwater, thereby releasing water at a predetermined rate to prevent flooding. Since construction of the sites, the only storm event to produce enough water to fill structures 9, 10, 11, and 12 occurred in 1990. Structures 1-8 have never been filled to capacity.**

Site 1


N
Image © 2009 DigitalGlobe
©2009 Google
30°46'40.82" N 100°39'52.28" W
elev 2317 ft
Jun 28, 2005
Eye alt 9609 ft

Site 2

2.Weather Modification - Weather modification is another tool considered effective for increased aquifer recharge. The Colorado River Municipal Water District Weather Modification Program indicates a 23% increase in rainfall within the target area over a 26 year period. San Angelo conducted a weather enhancement program from 1985 to 1989 with a result of 15% increase in rainfall. The Plateau UWC&SD has been a member of the West Texas Weather Modification Association since the initial season of 1996. The average rainfall for the District is 19.0 in/yr and 11.2 from May to September when weather modification activities occur.(2) A 10% increase of one inch of rainfall during the growing season results on a reduction of pumpage for all users, potential increase in runoff, increases productivity of crops and rangeland, provides additional moisture infiltration below root depth available for recharge and increases spring flow. One inch of rainfall distributed over the entire District is equal to 69,833 ac-ft of rainwater.



Area covered by West Texas Weather Modification Association

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(1) Workplan for Watershed Protection and Flood Protection, U.S. Department of Agriculture Soil Conservation Service, 1958.
(2) Texas Almanac, 2007

Under ideal conditions, with 20% of rainfall infiltrating beyond the root zone for potential recharge, increased rainfall would result in additional potential recharge from May 1 to Sept. 30 as follows:

10% Increase	15% Increase	23% Increase
1.12 inches	1.68 inches	2.58 inches
15,642 ac-ft	23,464 ac-ft	36,034 ac-ft

3. Range Management through brush control - Brush control can be accomplished by mechanical control, prescribed burn, combination of mechanical and burn, or chemical application. Brush control may be considered more as a conservation method than an additional recharge method. Effective brush control could potentially conserve up to 17,646 ac-ft/year if the entire District were returned to 70% grass, 12% oak, and 18% juniper. The following table shows water balance on rangeland at the Texas Agricultural Experiment Station. Sonora, Texas.

***"**How to Increase or Reduction in Juniper Cover Alters Rangeland Hydrology", by Thomas L. Thurow and Justin W. Hester, Technical Report 97-1, Juniper Symposium 1997, Texas Agricultural Experiment Station, TAMU.

	100% Grass	70% Grass Grass 12% Oak 18% Juniper Juniper	40% Grass 24% Oak 36% Juniper
Rainfall (inches)	22.6	22.6	22.6
Interception Loss	3.0	6.3	9.6
Water reaching the soil	19.6	16.3	13.0
Runoff	0.2	0.2	0.2
Water going into the soil	19.4	16.1	12.8
Evapotranspiration	15.7	15.8	12.8
Deep Drainage	3.7	0.3	0.0
Moderate stocking rate (animal units per section)	34	22	11

Combined efforts of effective weather modification and brush control could possibly result in 33,288 acre feet/year.

Actions, Procedures, Performance and Avoidance for Plan Implementation

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

The District has adopted and will amend as necessary rules relating to the permitting of wells and the production of groundwater. The rules adopted by the District shall be pursuant to TWC Chapter 36 and the provisions of this plan. All rules will be adhered to and enforced. The promulgation and enforcement of the rules will be based on the best technical evidence available.

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

In an effort to recognize all potential contamination sources, the District will work to promote capping and plugging of abandoned water wells. The District will also coordinate efforts with the Railroad Commission in identifying abandoned oil and gas wells that pose potential threats to the integrity of the groundwater.

Methodology for Tracking Progress

The methodology that the District will use to track its progress on an annual basis in achieving its management goals will be as follows: The District manager will prepare and present an annual report to the Board of Directors on District performance in regards to achieving management goals and objectives. The annual report will be maintained at the District office.

Coordination with Surface Water Entities

There are three adjudication certificates held by water users within the District. The District has no authority over surface water.

Goals

1.0 To provide for the most efficient use of groundwater.

Management Objective (1.1) The District realizes the importance of public education of groundwater use and conservation practices. Each year, the District will publish at least two educational articles identifying conservation practices for the efficient use of groundwater. Each year, the District will respond to invitations to speak on groundwater topics to at least one group, if requested. Each year, the District will provide 100 percent of the schools within the District with educational material that includes efficient groundwater use information.

Performance Effectiveness Standard (1.1a) Number of articles published identifying conservation practices for the efficient use of groundwater each year.

Performance Effectiveness Standard (1.1b) Number of requests for speaking engagements and the number of speaking engagements responded to on groundwater topics each year.

Performance Effectiveness Standard (1.1c) Percentage of schools within the District to which educational material was made available each year.

Management Objective (1.2) According to District Rules, wells within the District are required to be registered and/or permitted. As part of daily operations, all wells will be registered with the District upon notification by well drillers or landowners. The District will permit all wells after determination by District personnel that all well construction criteria have been met. Upon request by the Board, District personnel shall evaluate total water usage on the requested section(s) including permitted wells and exempt wells.

Performance Effectiveness Standard (1.2a) Number of wells registered annually will be reported in the annual report to the District Board.

Performance Effectiveness Standard (1.2b) Number of wells permitted annually will be reported in the annual report to the District Board.

Performance Effectiveness Standard (1.2c) Number of evaluations performed will be reported in the annual report to the District Board.

Management Objective (1.3) The District is included in Region F Regional Planning Group. Each year that District personnel serve on the Region f RWPG Board, any committee, or office, the District will actively participate in Region F Regional Planning and attend at least 50% of meetings.

Performance Effectiveness Standard (1.3a) Percentage of Region F Regional Planning meetings attended each year.

Performance Effectiveness Standard (1.3b) Number of committees, offices, duties performed by the District each year will be reported in the annual report to the District Board.

Management Objective (1.4) The District has entered into a Cooperative Management Agreement with the West Texas Regional Groundwater Alliance. The purpose of the WTRGA is to facilitate the conservation, preservation, protection, and most efficient use of groundwater. Each year, the District will attend at least 80% of WTRGA meetings.
Performance Effectiveness Standard (1.4a) Percentage of West Texas Regional Groundwater Alliance meetings attended each year.

Management Objective (1.5) A water quality baseline will be established for the District through a monitor well program of approximately sixty wells. At least 33% of these wells will be sampled each year. All test results will be entered into the database and a copy mailed to landowners within 30 days of testing.

Performance Effectiveness Standard(1.5a) Percentage of monitor wells sampled each year.

Performance Effectiveness Standard (1.5b) Number of days required to enter data into database and mail lab results to landowner each year.

Management Objective (1.6) The district realizes the importance of monitoring the aquifer level. An established groundwater level program of selected wells will be maintained by the District. If a well cannot be measured, the reason shall be stated in the water level report.

Performance Effectiveness Standard (1.6a) **Number of water well levels obtained on an annual basis from selected monitor wells each year will be reported in the annual report to the District Board.**

2.0 Implement strategies to control and prevent waste of groundwater.

Management Objective (2.1) **Each year the District will identify and respond to reports of wasteful practices within five working days. Each year at least one article will be published on wasteful practices.**

Performance Effectiveness Standard (2.1a) **Number of reported wasteful practices identified and responded to each year will be reported in the annual report to the District Board .**

Performance Effectiveness Standard (2.1b) **Number of articles published on wasteful practices each year.**

Management Objective (2.2) **As a service to water well owners within the District, a field lab service for water analysis is available. Annually, at least, two articles will be published advertising the availability of water analysis service performed by the District. Each year the District will continue to perform water quality analysis for residents of the District upon all requests.**

Performance Effectiveness Standard (2.2a) **Number of articles published advertising the availability of water analysis service performed by the District each year.**

Performance Effectiveness Standard (2.2b) **Number of water analyses requested and performed each year will be reported in the annual report to the District Board.**

Management Objective(2.3) **In order to prevent waste of groundwater within the District, the Board shall review annually all long term detected contamination sites to determine status and further needed activity by the District.**

Performance Effectiveness Standard (2.3a) **A report summarizing the annual review of contamination sites by the Board will be reported in the annual report to the District Board.**

3.0 Control and prevent subsidence

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

4.0 Address conjunctive surface water management issues

All surface water impoundments located within the District are used to supply water fro livestock consumption. There are no surface water management entities with surface water storage located within the District. This management goal is not applicable to the operations of the District.

5.0 Address natural resources that impact the use and availability of groundwater or are impacted by the use of groundwater within the District.

The District has no documented occurrences of endangered or threatened species dependent on groundwater. Other issues related to resources - air, water, soil, etc. supplied by nature that are useful to life are likewise not documented. Therefore, this management goal is not applicable.

6.0 Address drought conditions

Management Objective The District will monitor the Palmer Drought Severity Index by Texas Climatic Divisions at least once a month by downloading the PDSI map. If PDSI indicates that the District will experience severe drought conditions, the District will notify all public water suppliers within the District.

Performance Effectiveness Standard Number of months the PDSI map was downloaded each year.

Performance Effectiveness Standard Number of times the district experienced severe drought according to the monthly PDSI downloaded maps and the number of times that notification was sent to public water suppliers will be included in the annual report to the District Board.

7.0 Address conservation

Management Objective The District personnel will meet with Eldorado personnel at least once annually to discuss water usage and conservation techniques implemented.

Performance Effectiveness Standard The number of annual meetings

with Eldorado personnel to discuss water usage and conservation techniques implemented.

Management Objective The Board shall review the District rules and determine if there is a need to update rules at least every two years. The outcome of rule reviews and the determination for any needed rule updates will be provided in a statement included in the annual report every two years.

Performance Effectiveness Standard Number of rule review determination statements in the annual report every two years.

8.0 Address in a quantitative manner the desired future conditions of the groundwater resources The Plateau UWC&SD is part of Groundwater Management Area (GMA) 7. At present no desired future condition nor managed available groundwater number is available for GMA 7. Therefore, this goal is not applicable to the District at this time.

9.0 Precipitation Enhancement The District will participate in weather enhancement for the pupose of aquifer recharge, reduction in groundwater use and economic benefit. Each year, at least one article will be published on weather modification. All flight paths, if provided by the West Texas Weather Modification Association, will be available at the District Office for public view. All rainfall data from a twenty gauge system will be recorded on a monthly basis during the program schedule. An annual report of all program results will be given to the Board of Directors.
Performance Effectiveness Standard 9.1a Number of articles written on weather modification each year.
Performance Effectiveness Standard 9.1b Number of flight paths available for public view each year.
Performance Effectiveness Standard 9.1c Number of gauges with recorded rainfall each month.
Performance Effectiveness Standard 9.1d An Annual report of program results to the Board of Directors.

Management Goals Determined Non-Applicable

1. **Recharge Enhancement**
2. **Rainwater Harvesting**
3. **Brush Control**
4. **Controlling and Preventing Subsidence**

Definitions

"District" -- Plateau Underground Water Conservation & Supply District

"Board" -- Plateau UWC&SD Board of Directors

"TWDB" -- Texas Water Development Board

"Waste" -- as defined by Chapter 36 of the Texas Water Code means 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 for 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 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 TCEQ.

(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.

"Abandoned Well'-- shall mean a well or borehole the condition of which is causing, or is likely to cause, pollution of groundwater on the District and includes a well which is not in use or which contains no pumping equipment (open or uncovered well). A well or borehole which is not in compliance with applicable law, including the rules of the District, the Texas Water Well Driller's Act, Texas Commission on Environmental Quality, or any other state or federal agency or political subdivision, is presumed to be an abandoned or deteriorated well.