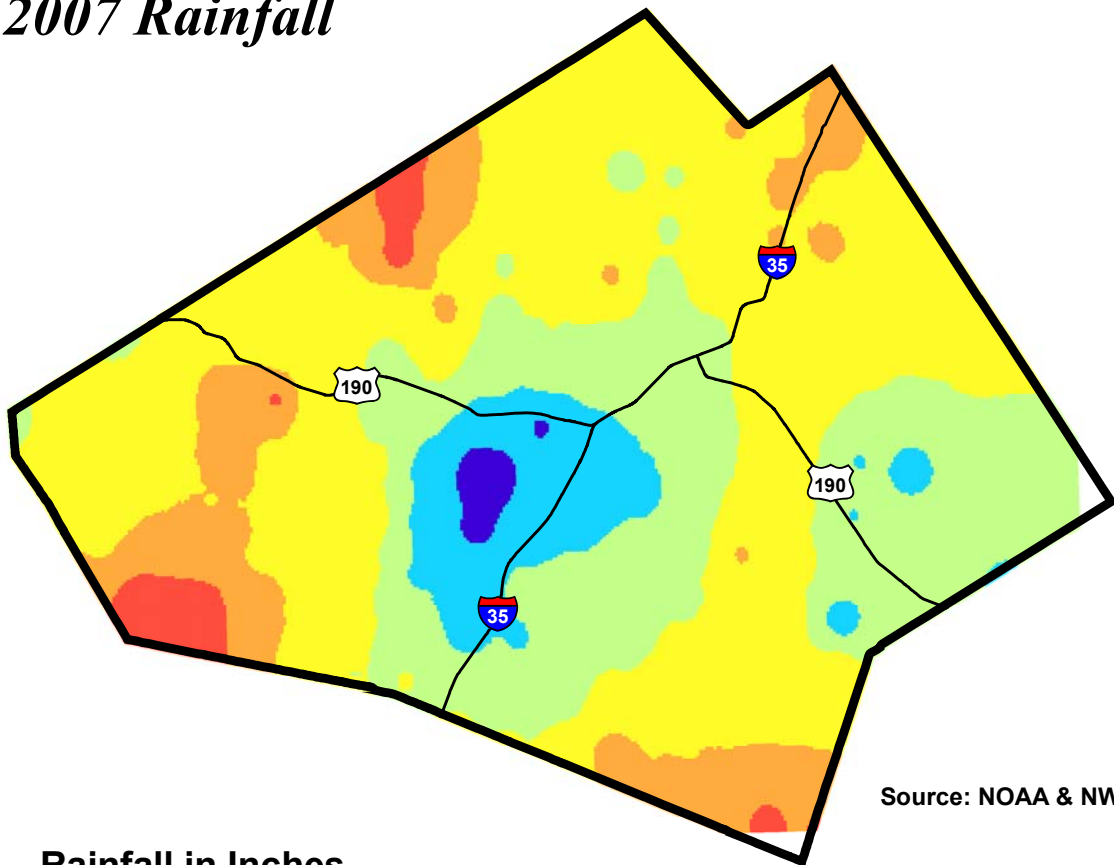




Annual Report Fiscal Year 2007

Bell County 2007 Rainfall



Source: NOAA & NWS

Rainfall in Inches



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Clearwater Underground Water Conservation District

Annual Report—Fiscal Year 2007

The Annual Report for Fiscal Year 2007 (FY07) was approved by the Directors of the Clearwater Underground Water Conservation District (CUWCD or District) on July 22, 2008. This report summarizes the activities and accomplishments of the District during FY07, focusing on administrative tasks, management plan requirements, and miscellaneous activities. Most activities are based on the District's fiscal year; however, information dealing with well registration, permitting, and production are based on the 2007 calendar year.



John Mayer
At-Large

Leland Gersbach
Precinct 1

Judy Parker
Precinct 4

Wallace Biskup
Precinct 3

Horace Grace
Precinct 2

1. INTRODUCTION

The Clearwater Underground Water Conservation District was created by the State legislature in 1989 to manage the groundwater resources of Bell County. The District was approved by the voters of Bell County in August 1999 and opened its doors for business in February 2002. The District's mission is to develop and implement an efficient, economical and environmentally sound groundwater management program to protect and enhance the water resources of the District.

The District's fiscal year runs from October 1st through September 30th. This report summarizes the accomplishments and activities of the District during FY07. However, registration, permitting, and production figures are provided for the calendar year 2007.

During FY07, the District made minor changes to its rules regarding spacing requirements and exception requests and established a travel reimbursement policy for the District's Public Advisory Committee. Efforts were stepped up to register and permit wells used by area quarries, and wells previously misclassified as exempt were identified and procedures begun to convert these to their proper classification. Joint planning efforts with other groundwater conservation districts within Groundwater Management Area 8 continued moving forward to establish desired future conditions for the major and minor aquifers in this boundary. These activities and others are discussed in this report.

The information in this report is presented in three categories as follows:

- Administrative Tasks
- Management Plan Requirements
- Miscellaneous Activities

Administrative tasks include the activities necessary for a groundwater district to function effectively. Management Plan requirements include the required tasks and activities identified in the District's Revised Management Plan. Miscellaneous activities include other activities and programs that have been an integral part of the District but are not required by the Management Plan.

2. *ADMINISTRATIVE TASKS*

Major administrative tasks and activities during FY07 include the following:

A. Contracts:

- Central Texas Council of Governments for Administrative & Planning Services
- TCB, Inc. for Technical Support
- Legal Services
 - (1) Naman, Howell, Smith & Lee
 - (2) Lloyd, Gosselink, Blevins, Rochelle & Townsend, P.C.

B. Financial Items:

- Budget and Tax Rate
- Financial Audit

C. Miscellaneous Policies:

- Revised Travel & Subsistence Policy

D. Board of Directors:

- District Officers
- Meetings

E. District Rules—Amendments

- Monitoring Wells Spacing and Location
- Well Spacing Requirements and Exception Requests

F. Management Plan

A detailed discussion of each of these activities follows below.

A. CONTRACTS

1. Central Texas Council of Governments

The District renewed its contract with the Central Texas Council of Governments (CTCOG) for administrative and planning services for a two year period from October 1, 2006 through September 30, 2008. Although the contract is for a two year term, consideration for renewal occurs on an annual basis. This contract includes the use of CTCOG staff, equipment, and facilities. The District originally contracted with CTCOG for administrative and planning services in March 2000. This contract has proven to be beneficial for both parties.

To ensure prudent use of taxpayer dollars, the Clearwater Board has discussed conducting a study to determine whether management by CTCOG continues to be cost-effective or if the District should consider becoming a “stand-alone” entity.

2. TCB, Inc.

The District initiated a contract with TCB, Inc. in March 2001 for technical consulting services and has continued a contractual relationship over the years. Services for FY07 included the following:

- Technical review of rule amendments;
- Technical review of drilling permits, operating permits, and permit amendments;
- Designation of aquifers for exempt wells;
- Estimate of production for exempt wells;
- Technical assistance in finalizing locations to install stream flow gauge equipment and assistance in coordinating the site preparation and installation.
- Development of Drought Management Plan for the Edwards BFZ initiated.
- Site evaluation of residential subdivision experiencing problems with water seepage.
- Review wastewater permit application.
- Consulting regarding locations for water quality testing.
- Consulting regarding appropriate sites for monitoring water levels in the Edwards BFZ aquifer.
- Consulting regarding management of Trinity aquifer by layer.

Several of the items above are discussed in more detail throughout this report.

3. Legal Services

The District requests legal consulting services on an as-needed basis and utilizes two law firms. Naman, Howell, Smith & Lee for general consultation, and Lloyd, Gosselink, Blevins, Rochelle & Townsend, P.C. (LGBRT) for consultation regarding water-related issues. LGBRT was the District’s primary advisor during FY07 which included the following issues:

- Review of documents such as deed conveying property to City of Temple; interlocal agreement for GMA 8; TCB, Inc. contract with GMA 8; access agreement with Texas Department of Transportation for stream flow gauge equipment and monitoring well; certified letter to quarries.
- Rule revisions regarding monitoring wells and spacing requirements.
- Historic and existing use rules; travel policy; GMA 8 notice and hearing requirements; tax rate notice requirements.
- Vanity ponds; exempt well serving two or more tracts of land; procedure for merging with another district; conflict of interest; source of water for Camp Tahuaya.
- Texas Veterans Land Board permit amendment application; transport issues.

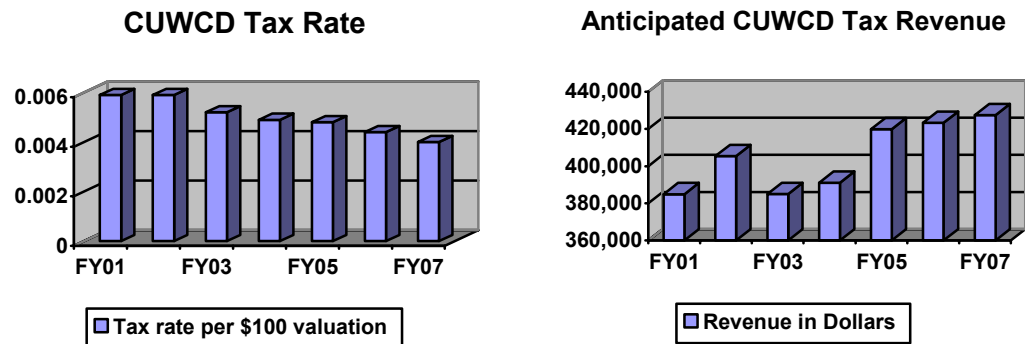
B. FINANCIAL ITEMS

1. Budget and Tax Rate

The District held several workshops to develop an operating budget for the upcoming fiscal year and to set the corresponding ad valorem tax rate. The District has consistently lowered or kept the same tax rate since it began assessing taxes. The adopted tax rate for FY07 was \$0.0040/\$100 valuation, down from \$0.0044/\$100 valuation assessed during FY06. The approved budget for FY07 totaled \$442,959 with \$427,359 anticipated revenue from taxes.

Total revenue (including interest and collected fees) collected during FY07 was higher than anticipated at \$461,840, resulting in an additional \$18,881. Expenditures for FY07 totaled \$398,088--\$44,871 under budget. The excess funds are placed in the District's reserve account, which now totals \$493,389.

The approved budget for FY07, along with the ending schedule of revenues and expenditures for FY07, is attached as Appendix A. Also, Appendix A includes a pie-chart that breaks down expenditures by category. The figures shown in the final report include a \$429,637 reserve balance or carry over from years prior to FY07.



2. Financial Audit

An annual audit of the District's finances is required by Chapter 36.153 of the Texas Water Code. Clearwater's audit occurs in conjunction with CTCOG's audit. The fiscal year for CTCOG runs from July 1st through June 30th. Patillo, Brown & Hill, LLP conducted the CTCOG audit for both FY06 and FY07, with Clearwater as a part of the CTCOG audit. This audit was successful—there were no findings to report. A separate report for Clearwater is being prepared and will be available shortly.

C. MISCELLANEOUS POLICIES

1. Revised Travel and Subsistence Policy

On January 16, 2007, the Board approved amendments to its Travel and Subsistence Policy to allow Public Advisory Committee members to received reimbursement for expenses incurred for attending water related conferences, subject to Board approval on a case-by-case basis. Approval prior to attending the event is recommended.

D. BOARD OF DIRECTORS

1. District Officers

District Officers for FY07 were designated at the last meeting of FY06. The FY07 officers are identified below, along with the office they held and precinct they represent.

Horace Grace, President (Precinct 2)

Wallace Biskup, Vice President (Precinct 3)

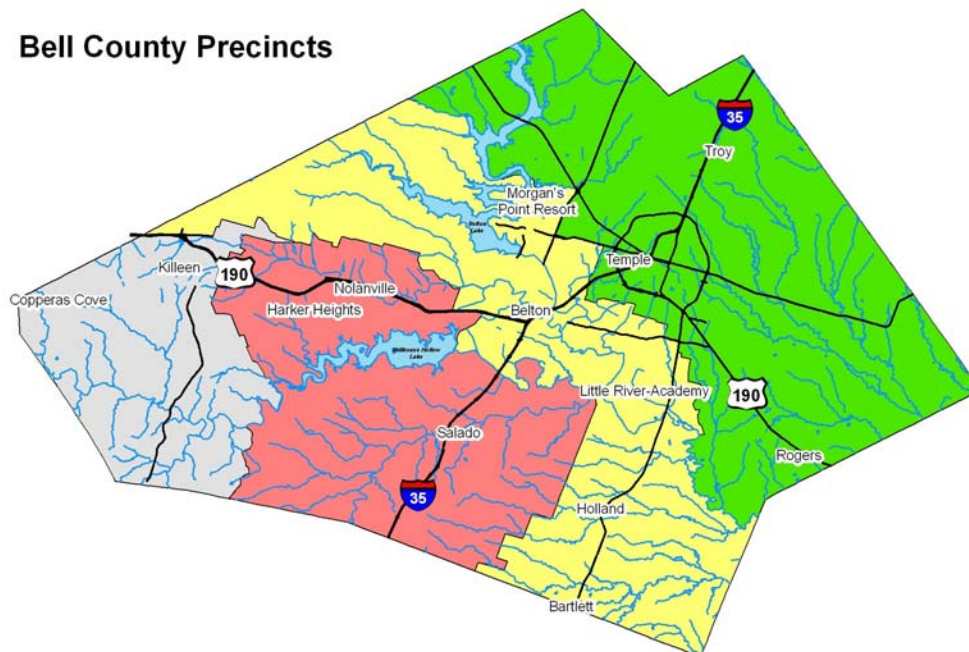
Leland Gersbach, Secretary (Precinct 1)

Judy Parker, Director (Precinct 4)

John Mayer, Director (At-Large)

Below is a map of the Bell County Commissioner Precincts which also serves as the precinct boundaries for the District.

Bell County Precincts



Legend



2. Meetings

During FY07, the Board of Directors held 13 Board meetings and five workshops. The workshops included discussion of the following: developing a Drought Management Plan; results of Trinity Study for Southern Bell County; issues related to the Sonterra development near Jarrell and process for merging with another groundwater conservation district; strategic planning; and proposed budget (2 workshops). Board meetings are typically held on the third Tuesday of each month.

E. DISTRICT RULES—Amendments

The District adopted minor revisions to the rules at the February 20, 2007 Board meeting. These amendments are summarized below:

1. Monitoring Wells Spacing and Location

Rule 8.3 (Permit Exclusions and Exemptions) was revised to allow monitoring wells to observe spacing requirements as required by the State—Texas Water Well Drillers and Pump Installers Administrative Rules. Those rules allow monitoring wells to be exempt from spacing requirements.

2. Well Spacing Requirements and Exception Requests

Rule 11.5 (Spacing Requirements) was revised to clarify spacing requirements for exempt and non-exempt wells and to clarify the procedure for requesting a variance. For variance requests, the burden of property owner notification was placed on the applicant instead of the District. The process for reviewing exceptions to spacing requirements for dewatering and leachate wells was simplified since these wells must be located as needed to achieve their purpose.

F. MANAGEMENT PLAN

During FY07, no changes were made to the District's Management Plan. The District continued to work with other groundwater conservation districts in Groundwater Management Area 8 to develop desired future conditions for the Trinity and Edwards BFZ aquifers. Once adopted, the desired future conditions and the resulting managed available groundwater will be included in the management plan.

Groundwater districts may be audited by the State every seven years to determine if the district is actively engaged in achieving the objectives of its management plan. The Clearwater District has not yet been audited. A detailed discussion of the District's Management Plan activities based on the 2006 approved Plan is included in the following section.

3. *MANAGEMENT PLAN REQUIREMENTS*

The District Management Plan identifies the goals and objectives of the District and provides performance standards and tracking methods to measure the District's effectiveness in meeting these goals. The District goals are mandated by Texas Water Code Chapter 36, Section 36.1071. Although all groundwater conservation districts are subject to these goals, each district chooses how to best implement these goals within their district by establishing their own objectives and performance standards. The District goals are shown below:

- Providing the most efficient use of groundwater;
- Controlling and preventing waste of groundwater;
- Addressing conjunctive surface water management issues;
- Addressing natural resource issues which impact the use and availability of groundwater, and which are impacted by the use of groundwater;
- Addressing drought conditions;
- Addressing conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control, where appropriate and cost-effective; and
- Addressing in a quantitative manner the desired future conditions of the groundwater resources.

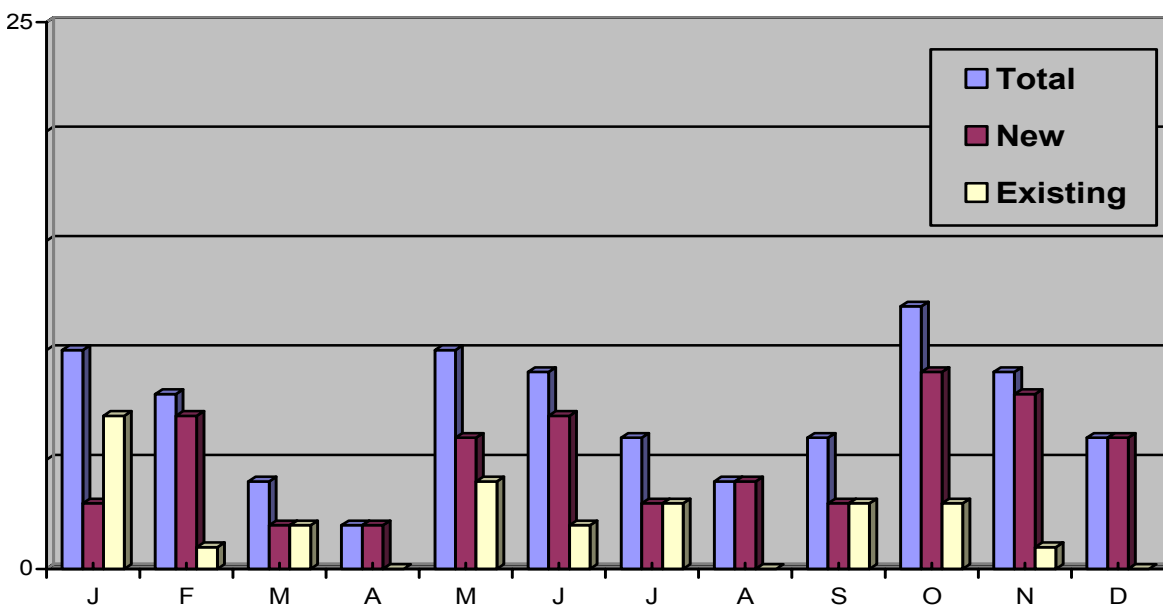
The following is a summary of the District's activities related to these goals.

A. **PROVIDING THE MOST EFFICIENT USE OF GROUNDWATER**

Objectives A.1 and A.2: Registration & Permitting of Wells.

The registration and permitting of wells is an ongoing process. During calendar year 2007, 86 wells were registered. Of these, 12 wells were non-exempt. The tables below summarize the well registration and permitting activity through December 31, 2007.

Well Registration by Month--2007



**Well Registration Summary
2002 through 2007**

Period	Exempt Wells		Non-Exempt Wells*				Total
	Grandfathered	New	Grandfathered	New	New I	New II	
2002	3520	76	50	0	0	0	3646
2003	379	80	4	2	0	0	465
2004	18	82	15	1	1	1	118
2005	22	91	13	-	1	3	130
2006	16	80	5	0	0	3	104
Jan 2007	7	3	0	-	0	0	10
Feb	1	6	0	-	0	1	8
Mar	2	2	0	-	0	0	4
Apr	0	2	0	-	0	0	2
May	4	5	0	-	1	0	10
Jun	2	4	0	-	2	1	9
Jul	3	3	0	-	0	0	6
Aug	0	4	0	-	0	0	4
Sep	3	2	0	-	1	0	6
Oct	0	9	3	-	0	0	12
Nov	0	6	1	-	2	0	9
Dec	0	6	0	-	0	0	6
2007 Total	22	52	4	-	6	2	86
Grand Total	3977	461	91	3	8	9	4549

*Effective March 1, 2004, the District began designating new non-exempt wells as either Classification 1 or Classification 2 as follows:

Classification 1:

- a. A well used for domestic purposes or for watering livestock or poultry;

- b. drilled, equipped or completed so it is incapable of producing more than 25,000 gpd (17 gpm); and
- c. located on a tract of land less than 10 acres in size, created after March 1, 2004.

Classification 2:

- a. A well used for purposes other than domestic, livestock or poultry, regardless of production; or
- b. a well drilled, equipped or completed so it is capable of producing more than 25,000 gpd (17 gpm), regardless of the use.

Well registration totals overtime may no longer accurately reflect the number of wells actually drilled into the ground. This is because some of the registered wells are never drilled, or have been plugged. Additionally, some exempt wells may be converted to a non-exempt well at a later date. To more accurately reflect the number of wells on the ground, the table below shows these adjustments.

Well Registration Adjustment Table

Type of Adjustment	Exempt Wells		Non-Exempt Wells				Year Total
	Grandfathered	New	Grandfathered	New	New I	New II	
2007 Total	3977	461	91	3	8	9	4549
Exempt to Non-Exempt Status ¹	-7	-6	+11	0	0	+2	0
Never Drilled ²	0	-5	0	0	0	-1	-6
Plugged ³	-56	0	-4	0	0	0	-60
Total	3914	450	98	3	8	10	4483

Adjustments made in 2007

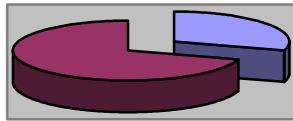
¹ E-07-022P to N1-07-004P, E-04-012P to N2-07-004G, E-03-402P to N2-07-006G, E-02-912G to N2-07-007G, E-03-112G to N2-07-009G, E-02-1919P to N2-07-010G, E-02-090G to N2-07-011G, E-02-1475G to N2-07-012G, E-03-045G to N2-07-013G

² E-05-009P, N2-07-001P

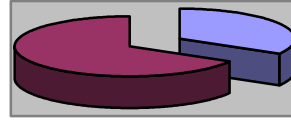
³ E-07-013G, E-02-2746G, E-07-033G

As we have seen in recent years, registration figures for 2007 show that the majority of exempt wells registered are new wells. With regard to non-exempt wells, 2007 was the first year that the majority of non-exempt wells registered were also new wells. In previous years, the registration of existing non-exempt wells has outnumbered new.

Exempt Well Registration-2007



Non-Exempt Well Registration-2007



The Table below summarizes the non-exempt wells that were registered during 2007 and the corresponding permits that were issued where applicable.

Non-Exempt Wells Registered/Permitted During Calendar Year 2007

File No.	Well Owner/ Land Owner	Ac-ft/ Year	Aquifer	Use	Permit Type
N1-07-001P	Schnitker	1.84	Edwards BFZ	Domestic— Landscape Irrig.	Drilling & Operating
N1-07-002P	Smith	1.57	Trinity (Middle)	Domestic— Household and Landscape Irrig.	Drilling & Operating
N1-07-003P	Haddon	0.38	Edwards BFZ	Domestic	Drilling & Operating
N1-07-004P	Lively	1.69	Edwards BFZ	Domestic— Landscape Irrig.	Drilling & Operating
N1-07-005P	Brown	0.38	Edwards BFZ	Domestic	Drilling & Operating
N1-07-006P	McAndrew	0.88	Trinity (Middle)	Domestic & Livestock	Drilling & Operating
N2-07-001G	Jiminez	2.02	Edwards BFZ	Mobile Home Park	Operating Prmt. Withdrawn
N2-07-002P	Michaux	29.46	Edwards BFZ	TxDOT Construction	Drilling & Operating
N2-07-003G	Killeen Crushed Stone	36.0	Trinity (Middle)	Quarry Operation	Operating
N2-07-004G	RLF Salado Quarries #1	3.91	Edwards BFZ	Quarry Operation	Operating
N2-07-005G	RLF Salado Quarries #2				
N2-07-006G	Live Oak Baptist Church	0.16	Trinity (Middle)	Restroom	Operating (Misclassified)
N2-07-007G	Cedar Knob Baptist Church	0.01	Trinity (Upper)	Landscape Irrigation	Operating (Misclassified)
*N2-07-008G	Apache Stone Quarry	11.66	Trinity (Middle)	Quarry Operation	Operating
*N2-07-009G	Parrie Haynes Ranch (TPWD)	13.8	Trinity (Middle)	Youth Ranch	Operating (Misclassified)
N2-07-010G	Bloomer Trailer Manufacturing	2.07	Edwards BFZ	Landscape Irrig. & Wash Bays	Operating (Misclassified)

N2-07-011G	Foster Stagecoach Properties	0.05	Trinity (Upper)	Mineral Water Spa	Operating (Misclassified)
N2-07-012G	Temple Park Estates	4.79	Trinity (Middle)	Public Water Supply	Operating (Misclassified)
N2-07-013G	Temple Tag, LTD	2.47	Ozan	Manufacturing	Operating (Misclassified)
N2-07-014P	Howard	0.62	Edwards Equivalent	Pet Grooming Facility	Drilling & Operating

*Application was received in 2007 but permit was not granted until 2008.

During 2007, five entities in Bell County transported groundwater outside the District. A total of 12.03 ac-ft from the Edwards BFZ aquifer was transported and 31.78 ac-ft from the Trinity aquifer was transported. This is down from the previous year which saw 13.49 ac-ft transported from the Edwards BFZ and 63.62 ac-ft transported from the Trinity. The District is allowed by State law to charge a transport fee of \$0.025/\$1,000 gallons transported. This generated total revenue of \$356.91 for 2007. A summary of transport activity for 2007 is shown in the following chart.

Summary of Groundwater Transport for 2007

Entity (Water Supply Corp.)	Well Number	Aquifer	Destination (County)	Gallons	Transport Fee
Jarrell Schwertner	N-02-042G	Edwards BFZ	Williamson	3,919,400	\$97.99
Bell-Milam-Falls	N-02-038G & N-02-046G	Trinity (Hosston)	Falls, Milam, Williamson	8,757,225	\$218.93
Little Elm Valley	N-02-039G	Trinity (Hosston)	Falls	773,400	\$19.34
East Bell	N-02-034G	Trinity (Hosston)	Falls	789,000	\$19.73
Oenaville & Belfalls	N-02-017G	Trinity (Hosston)	Falls	36,854	\$0.92
Total				14,275,879	\$356.91

Objective A.3: Maintain a Groundwater Database.

The District's database is continually updated as new information is acquired.

1. Groundwater Production:

During 2007, the District continued collecting data from non-exempt wells. Monthly production reports are required by the 10th day of the following month for all wells with operating permits. The total volume of water permitted for the non-exempt wells is shown below as well as the total production from those wells. In 2007, actual water production figures were significantly lower than the amount permitted. Part of this is due to the issuance of Historic and Existing Use Permits (HEUP). The HEUPs are issued for the full amount, regardless of whether the permittee will be using this

amount during the year. Rainfall for 2007 was considerably high which also resulted in lower than normal water usage.

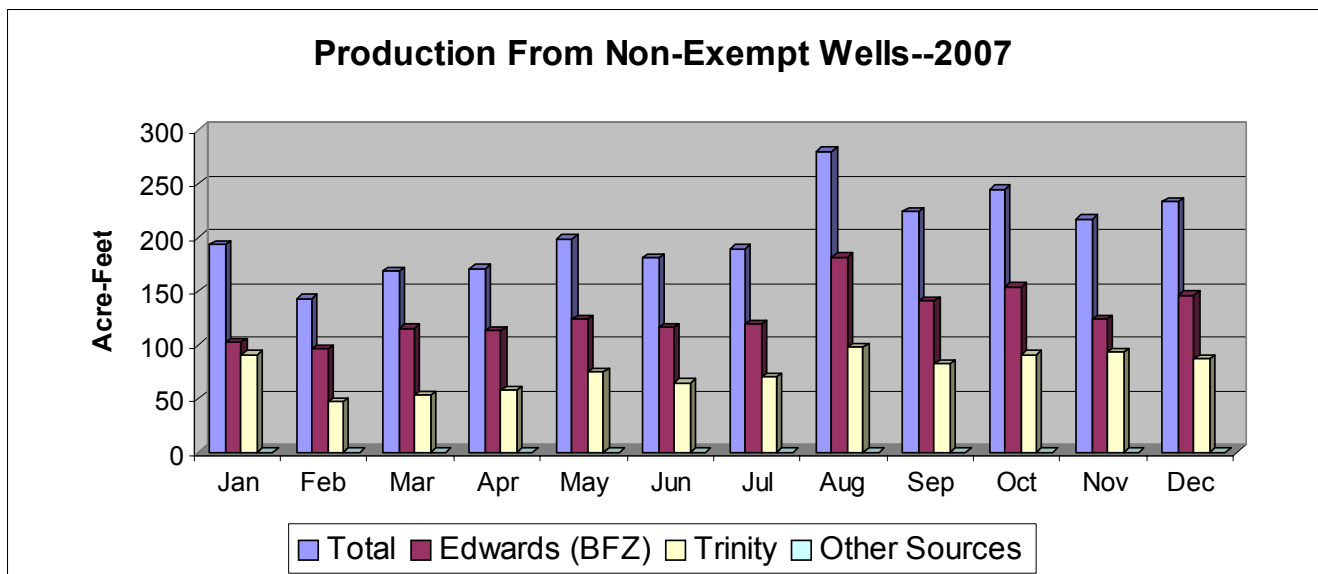
Volume Permitted for Non-Exempt Wells in 2007

Edwards BFZ:	2,429.22 ac-ft (40 wells)
Trinity:	1,827.72 ac-ft (34 wells)
Other Aquifers:	310.10 ac-ft (12 wells)
TOTAL:	4,567.04 ac-ft (86 wells)

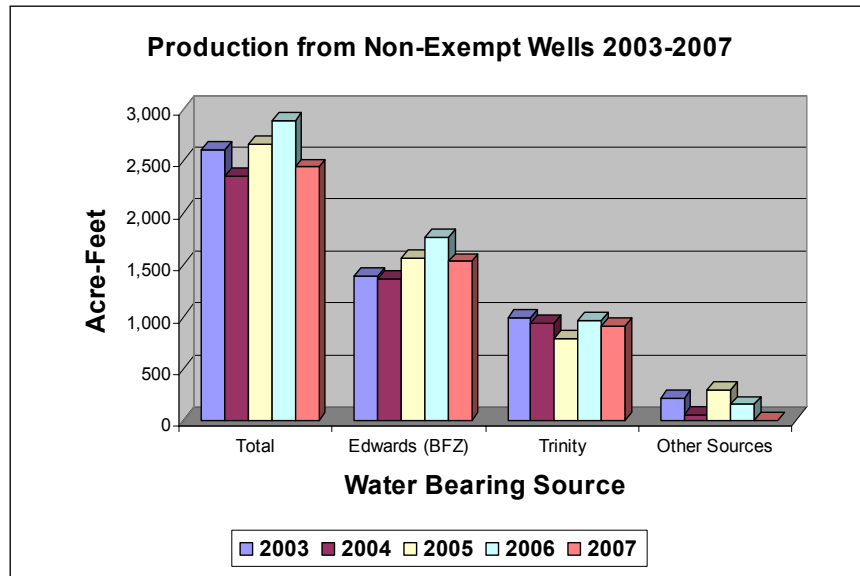
2007 Annual Production (Non-Exempt Wells)

Edwards BFZ:	1,533.38 ac-ft (36 wells)
Trinity:	908.22 ac-ft (27 wells)
Other Aquifers:	0.70 ac-ft (2 wells)
TOTAL:	2,442.30 ac-ft (65 wells)

The following chart shows that total production in 2007 was at its highest level during the month of August with a monthly withdrawal of 280 ac-ft. This is down considerably from the previous year which saw a peak in production of 400.3 ac-ft during the same month. Throughout the year, withdrawals from the Edwards BFZ were consistently higher than from the Trinity aquifer. Production from Other source aquifers was minimal throughout the year totaling only about 3/4 of an acre foot.

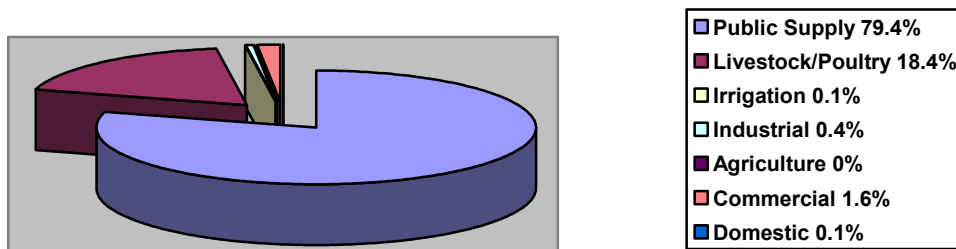


In the following graph, production from 2007 (65 wells) is shown compared to production in years 2003 through 2006. Production in 2007 was down from the previous year, likely due to the abundant rainfall received mid-year breaking the two year drought.

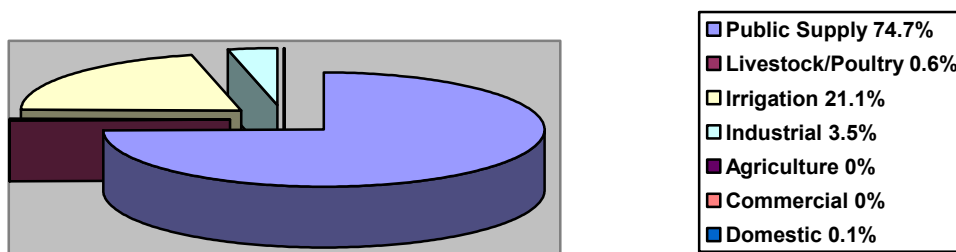


The following pie charts show how the groundwater from the different aquifers was used during 2007. In the Edwards BFZ and Trinity aquifers, water produced from non-exempt wells is used primarily for public supply purposes (79.4% and 74.7% respectively), while water produced from non-exempt wells in other formations was used primarily for domestic use.

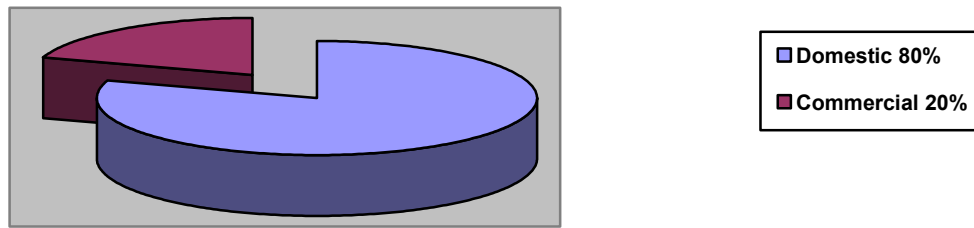
**2007 Use of Groundwater
By Non-Exempt Wells –Edwards BFZ Aquifer**



**2007 Use of Groundwater
By Non-Exempt Wells –Trinity Aquifer**



**2007 Use of Groundwater
By Non-Exempt Wells—Other Groundwater Sources**



Each year, TCB, Inc. evaluates the exempt wells that have been registered and determines the aquifer from which they are producing and provides an estimate of their total annual production. The results are shown below for exempt wells registered through December 31, 2007.

***Summary of Exempt Well Production**

Aquifer	No. of Wells	Estimated Use Acre-feet/Year
Edwards BFZ	650	433
Trinity	1,808	1205
Other Aquifers	1,894	1262
TOTAL	4,352	2,900

**Calculations for exempt well production excluded 56 wells that were plugged and 12 wells that were monitor wells.*

Combining the production from the non-exempt wells with the estimated production from the exempt wells, the following production figures result:

Production Summary for All Wells

Aquifer	Non-Exempt Well Production (Ac-Ft/Year)	% of Total	Estimated Exempt Well Production (Ac-Ft/Year)	% of Total	Total Production (Ac-Ft/Year)
Edwards (BFZ)	1,533	78%	433	22%	1,966
Trinity	908	43%	1205	57%	2,113
Other Aquifers	1	0%	1262	100%	1,263
TOTAL	2,442	46%	2,900	54%	5,342

The chart above shows that overall, exempt wells account for 54% of all the groundwater produced in Bell County. In the Trinity, 57% of production is attributed to exempt wells; however, in the Edwards BFZ, exempt wells only account for 22% of groundwater production, with the vast majority coming from non-exempt wells (78%). During 2007, wells producing from other groundwater sources essentially attributed 100% of the production to exempt wells, since production from non-exempt wells was less than 0.1% of the total production.

2. Aquifer Monitoring:

The Texas Water Development Board (TWDB) measures water levels in 8 wells in Bell County in January each year. The District measures water levels in selected wells twice annually (January and July), and supplements the TWDB well data by taking July water level measurements for 6 of the 8 TWDB wells. However, it is difficult to compare the water level measurements taken by the District with those taken by the TWDB due to differences in measurement procedures and equipment. The District primarily uses an e-line; an airline is used if the well is equipped with one. Due to heavy rainfall and flooding during mid-year, July measurements were not able to be taken from two TWDB well sites located near Lake Belton.

The following tables provide a summary of the monitoring data. Numbers in red were taken by the TWDB, whereas numbers in blue were taken by the District. Refer to Appendix B for a map of the aquifer monitoring sites. **NOTE: Larger numbers represent greater depth necessary to reach the surface of the aquifer, i.e. a decline in the aquifer level.**

Edwards BFZ Aquifer
Water Level Measurements
Depth Below Land Surface in Feet

Well Number	Date of Measurement										
	Other	Jan-Mar 03	Jul-03	Jan-Feb 04	Jul-04	Jan-05	Jul-05	Jan-Feb 06	Jul-06	Jan-Feb 07	Jul-07
58-04-627 (Salado ISD)	--	39.8	42.6	41.42	39.54	39.05	43.42	43.34	43.58	40.84	36.17
58-04-502 (Salado ISD)	(1985) 50.5	48.7	56.14	49.17	48.58	47.16	51.83	51.79	52.08	49.5	44.83
58-04-602 (Salado WSC)	(1981) 29.27	63.2	38.17 ¹	29.5 ¹	32.71 ¹	27.17 ¹	36.00 ¹	36.5 ¹	41.84 ¹	27.55 ¹	21.50 ¹
58-13-502 (City of Bartlett)	--	--	--	--	--	42.62	40.13	50.29	52.29 ¹	60.79 ¹	49.45 ¹
58-04-623 (Foster Stgch)	(1993) 85.39	85	89.58 ¹	89.69	82.79 ¹	86.3	87.17 ¹	83.00 ¹	95.25 ¹	80.3	72.34
58-04-702 (TxDOT) ²	(1980) 71	78.25	71.96	72.72	71.84	72.2	72.17	72.83	72.73 ³	72.08 ³	69.87 ³
58-04-801 (Norwood)	(1966) 134.93	144.15	137.42	141.34	141.25	134.1	137.58	140.25	140.5	137.7	133.08

CUWCD

¹ Pump turned off at least 1-2 hours prior to measurement

TWDB measurement

measurement

² Continuous monitor equipment installed during 2006 (data available: <http://hyper20.twdb.state.tx.us/twdbwells/twdbwells.html>)

³ Average reading from continuous monitor site on date of water level measurements (Jul-07 average for July 26th 2007)

Trinity Aquifer
Water Level Measurements
Depth Below Land Surface in Feet

Well Number	Date of Measurement										
	Other	Jan-Mar '03	Jul-03	Jan-Mar 04	Jul-04	Jan-05	Jul-05	Jan-Feb 06	Jul-06	Jan-Feb 07	Jul-07
E-02-1137G (Stephenson/Bowen)	--	--	--	--	311.42	not taken	not taken	335.73 ²	342.66 ²	363.45 ²	--
E-02-1299G (Mayer)	--	--	--	182.1	189	180.38	201.72	200.62 ²	227.18 ²	183.29 ²	217.94
N2-05-008G (River Ridge Ranch East Dam Well)	--	--	--	--	--	--	--	--	--	164.58	138.50
N2-05-010G (River Ridge Ranch Common Park)	--	--	--	--	--	--	--	--	--	266.88	256.25
E-06-063P (Texas Veterans Land Board)	--	--	--	--	--	--	--	--	--	375.25	379.58
E-02-721G (McCallum #1)	--	--	--	--	--	--	--	--	--	145.5	132.42
E-02-722G (McCallum #2)	--	--	--	--	--	--	--	--	--	145.00	131.92
E-03-444P (Purnell)	--	--	--	--	--	--	--	--	--	411.92	400.58
E-02-804G (Dobson)	--	--	--	--	--	--	--	--	--	335.75	324.50
E-05-083P (Murphy)	--	--	--	--	--	--	--	--	--	282.63	288.42
40-63-501 (East Bell WSC)	(1962) +13.5 (flowing)	--	--	--	--	--	--	--	130 ³	155 ³	150 ³
40-53-102 (USCOE- Leona Park)	(1993) 55.14	68.35	70.42	71.28	71.92	72.6	73.33	74.16	74.5	75.35	--
40-45-701 (USCOE-Winkler Park)	--	bad reading	--	bad reading	326.09	bad reading	--	333.29	335.54	bad reading	--
40-53-406 (Moffat WSC)	(1967) 243.55	335	417.83 ¹	336	416.06 ¹	340	not avail.	not avail.	not avail.	333	381.26
58-05-901 (City of Holland)	(1995) +1.2 (flowing)	23.7	25.3	26.19	28.21	29.9	31.84	25.96	28.3	26.1	27.04

¹ Pump turned off at least 1-2 hours prior to measurement

TWDB measurement

CUWCD measurement

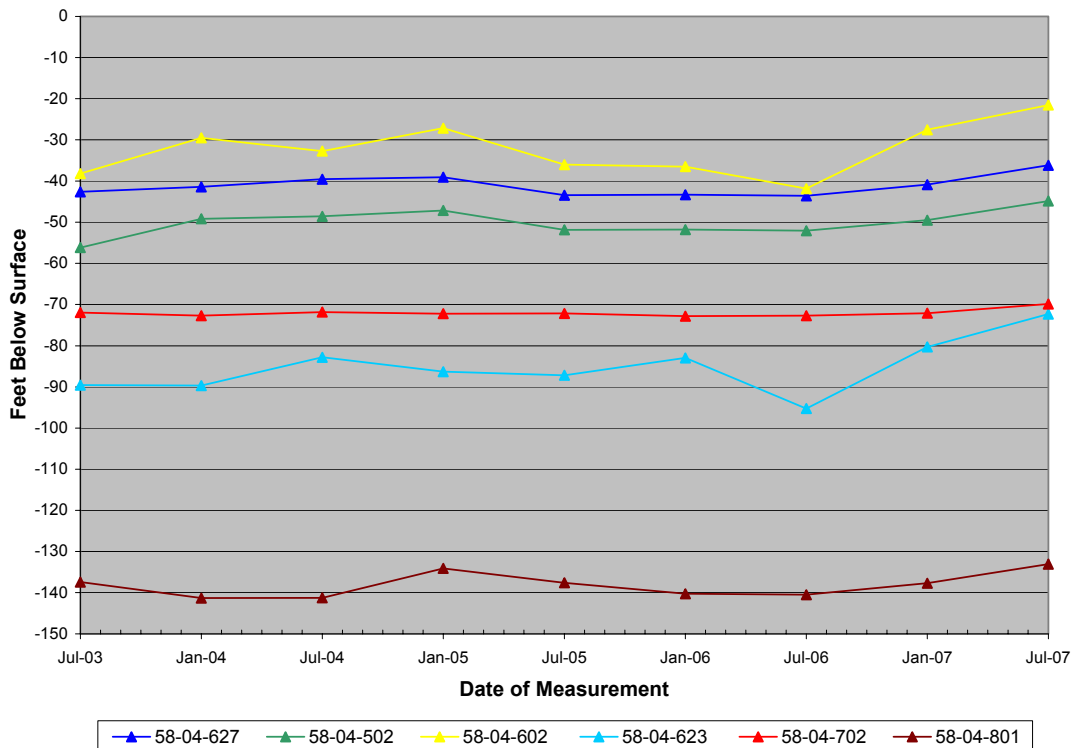
² Method of measurement was airline

³ Measurement was reported by East Bell WSC

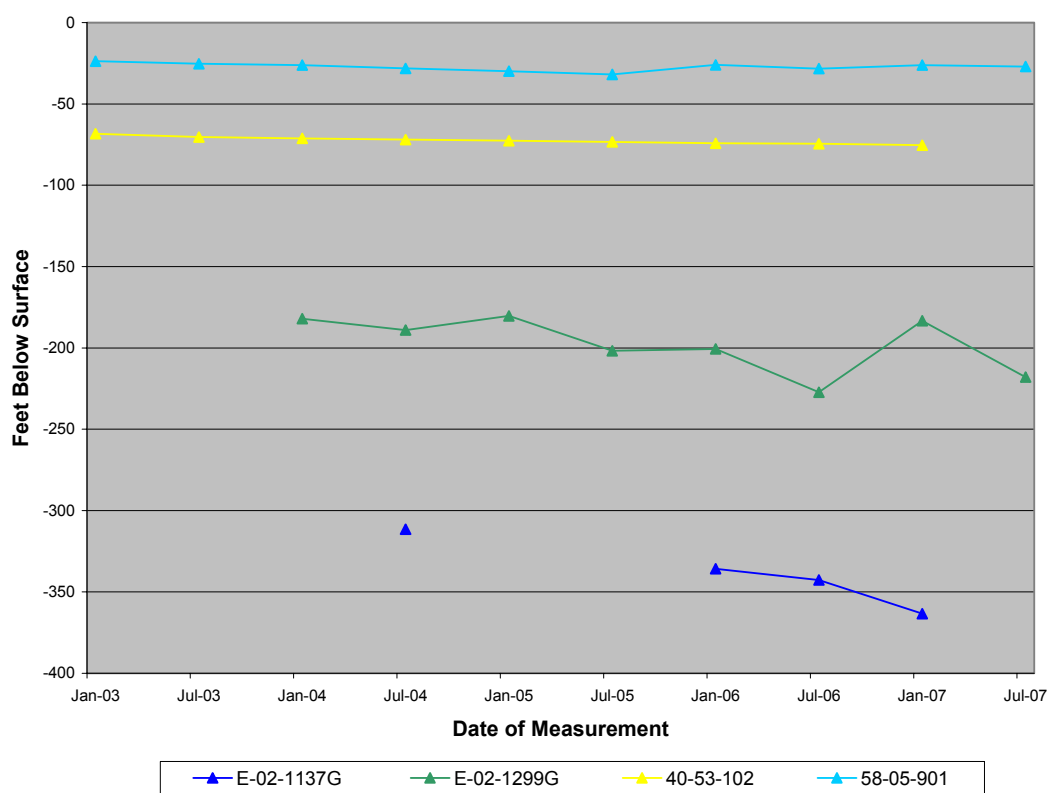
The wells in the Edwards BFZ seem to fluctuate from year to year, with no defined pattern. This supports the premise that the Edwards BFZ recharges quickly with rainfall events. The abundant rainfall of 2007 has increased aquifer levels for the Edwards BFZ throughout all of the monitoring locations. All locations except one registered the highest water level readings since monitoring began in 2003. With regard to the Trinity, there continues to be concern that the aquifer levels are declining. Although many of the wells do not have historic data to use for comparison, the measurements shown in the previous table do generally show a pattern of decline over the past 10 years. Because some of the wells that are measured are pumped, measurements taken may not reflect static water levels. As more measurements are taken during the coming years, the results should be more conclusive regarding the status of the aquifers.

The data for some of the TWDB well sites and a few of the sites measured by the District for both the Edwards BFZ and Trinity aquifers are shown in the following charts.

Water Levels from Edwards (BFZ) Monitor Wells in Bell County



Water Levels from Trinity Monitor Wells in Bell County



The District continues to search for additional well sites to expand its monitoring system. In addition to the 7 TWDB monitor wells, the District currently monitors 14 other wells. The District has been working with the TWDB and the Texas Department of Transportation (TxDOT) to install a continuous monitoring system in selected Edwards BFZ wells to monitor aquifer conditions. One site was equipped during 2006—a graph of measurements taken from this site is provided under Objective E.2. A second Edwards site has been secured from TxDOT and will be equipped in the spring of 2008 when the well will no longer be in use.

Staff has been looking for suitable wells for continuous monitoring of the Trinity aquifer. The Board has reached general consensus that it may be necessary to drill wells for monitoring purposes in each layer of the Trinity.

Objective A.4: Education—Water Cycle and Aquifer Status

The District's Management Plan requires the dissemination of educational information regarding the water cycle and the status of the aquifers through at least two outreach methods/activities. During FY07, the District satisfied this requirement as follows:

Water Cycle:

- 1) The District published a newspaper article in April 2007 that included a summary and graphic of the water cycle. This article was published as follows:

Killeen Daily Herald: April 22, 2007
Temple Daily Telegram: April 22, 2007
Salado Village Voice: April 19, 2007

- 2) Splash Activity Books are geared toward 3rd grade level students and focus on the water cycle as well as water awareness and water conservation. FY07 was the first year the District contacted schools and took orders to distribute the Splash Activity Book. This book is published by the American Water Works Association. During the spring of 2007, orders were taken for 3,869 students in the Killeen, Temple, and Belton school districts and included distribution to 60 home school students by the Lake Stillhouse Hollow Cleanwater Steering Committee. The Splash books were delivered to the schools in August and September of 2007.

Aquifer Status:

- 1) The District publishes information on the status of Bell County's aquifers on the District's website. This information includes water level measurements for seven Edwards BFZ wells and fifteen Trinity wells. This information is continually updated as new measurements and wells are added.
- 2) The District published its annual newsletter in September 2007 that included a table summarizing the change in aquifer levels for one Edwards BFZ well and one Trinity well.

B. CONTROLLING AND PREVENTING WASTE OF GROUNDWATER

Objective: Water Quality Protection.

The District's Management Plan requires the dissemination of educational information on eliminating and reducing the wasteful use of groundwater focusing on water quality protection through at least two outreach methods/activities. During FY07, the District satisfied this requirement as follows:

1) Well Plugging Demonstration

The District sponsored a well plugging demonstration on June 12, 2007. The Texas Cooperative Extension and the local county extension office were partners with the District in this event. The demonstration well was a large diameter hand dug well located in southwest Killeen on the Boyd property along Stan Schlueter Loop.

The demonstration showed the proper way to plug a hand dug well and emphasized the importance of plugging abandoned wells to prevent groundwater contamination.



2) Classroom Presentations

Clearwater staff conducted several classroom presentations during the year that included a segment on non-point source pollution. The presentation consisted of a powerpoint presentation and a groundwater model to demonstrate groundwater basics and the impact of non-point source pollution on both groundwater and surface water. Presentations were given to Rogers Elementary, Troy Elementary, Nolanville Elementary, and Nolan Middle School. Refer to Appendix C for a complete list of items distributed during these events.

C. ADDRESSING CONJUNCTIVE SURFACE WATER MANAGEMENT ISSUES

Objective: Participate in Regional Water Planning Process.

The District's Management Plan requires participation in the regional planning process by attending a minimum of two meetings of the Brazos G Regional Water Planning Group per fiscal year. During FY07, the District satisfied this requirement as follows:

Two regular Region G meetings were held during FY07—February 1, 2007 and June 20, 2007. Board President Horace Grace was a voting member of the Region G Group representing Small Business and attended both of these meetings. District staff also attended both meetings. Meeting agendas are shown in Appendix D.

D. ADDRESSING NATURAL RESOURCE ISSUES WHICH IMPACT THE USE AND AVAILABILITY OF GROUNDWATER, AND WHICH ARE IMPACTED BY THE USE OF GROUNDWATER

Objective: Monitor Water Quality.

The District's Management Plan requires monitoring of water quality by obtaining and testing water samples from at least six wells within the District. The District has an in-house water quality lab and offers free testing service to registered well owners. Testing parameters include coliform bacteria; alkalinity; conductivity/total dissolved solids; fluoride; hardness; nitrate; nitrite; pH; phosphate; and sulfate. During FY07, the District satisfied this requirement as follows:

<u>Wells Tested</u>	<u>Date</u>	<u>Wells Tested</u>	<u>Date</u>	<u>Wells Tested</u>	<u>Date</u>
E-02-2136G	10/10/06	E-02-1066G	07/17/07	E-02-537G	07/24/07
E-02-144G	01/09/07	E-02-470G	07/17/07	E-02-2736G	07/24/07
E-04-070P	05/30/07	E-02-2425G	07/17/07	E-02-3583G	07/24/07
E-02-203G	05/30/07	E-02-2521P	07/17/07	E-02-3257G	07/24/07
E-02-144G	06/12/07	E-02-2847G	07/17/07	E-02-2781G	07/24/07
E-02-1475G	07/10/07	E-02-049P	07/17/07	E-06-047P	07/24/07
E-03-344P	07/11/07	E-02-240G	07/17/07	E-02-2715G	07/24/07
E-02-1205G	07/17/07	E-02-757G	07/17/07	E-02-313G	07/24/07
E-02-1475G	07/17/07	E-02-3281G	07/24/07	E-02-1483G	07/24/07

Wells Tested	Date	Wells Tested	Date	Wells Tested	Date
E-02-757G	07/24/07	E-03-354G	07/31/07	E-02-129G	08/28/07
E-02-2849G	07/24/07	E-02-049P	08/01/07	E-03-430P	08/28/07
E-02-2848G	07/24/07	E-02-2425G	08/01/07	E-02-1149G	09/11/07
E-02-002G	07/24/07	E-03-430P	08/07/07	E-02-144G	09/19/07
E-02-2641G	07/25/07	E-02-2035G	08/07/07	E-02-129G	09/27/07
E-06-047P	07/25/07	E-02-3281G	08/07/07	E-02-943G	09/27/07
E-07-043G	07/25/07	E-02-226G	08/14/07	N2-07-002P	09/27/07
E-02-1149G	07/25/07	E-02-227G	08/14/07	E-02-2807G	09/28/07
E-02-1066G	07/26/0	E-02-056P	08/14/07 (2 samples)	Salado Creek	09/28/07

Staff conducted fifty-five testing events that included forty-one different wells. The majority of the testing occurred during the summer months due to media events highlighting concerns that heavy rainfall and flooding could result in possible wellhead contamination. A summary of the testing results and a location map of the well sites are shown in Appendix E.

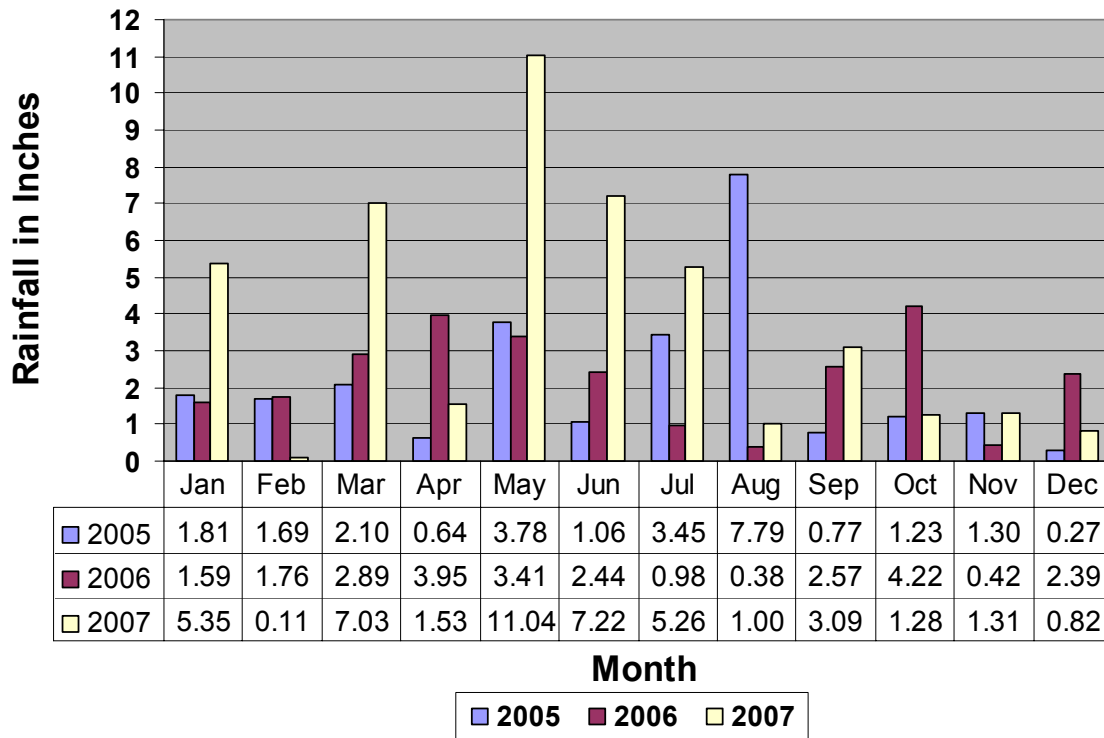
E. ADDRESSING DROUGHT CONDITIONS

Objective E.1: Palmer Drought Severity Index Map and Drought Preparedness Council Situation Report.

As required by the District's Management Plan, each month staff downloads updated data from the Palmer Drought Severity Index (PDSI) map and checks for updates to the Drought Preparedness Council Situation Report (Situation Report) that is posted on the Texas Water Information Network website. This information is presented to the Board on a monthly basis and is included in Appendix F. During FY07 the Palmer Drought index ranged from Moderate Drought to Extremely Wet. By January 2007, Drought conditions were reduced from Moderate Drought to Incipient Dry Spell. By July the index had reached the wettest index category of Extremely Wet. Conditions continued at the extremely wet level through September 2007.

During FY07, the District continued to monitor rainfall that was recorded or observed by Doppler radar by the National Weather Service (NWS) and the National Oceanic and Atmospheric Administration. Each month, the District downloaded the GIS files that contain the rainfall data. The data is mapped and provided for the public over the District's website and at Board meetings. This information will be used in conjunction with Salado Spring flow data for implementation of a Drought Contingency Plan. The chart below shows the average total rainfall in Bell County by month. The average is generated from the 202 data points that are spaced approximately 2.5 miles apart.

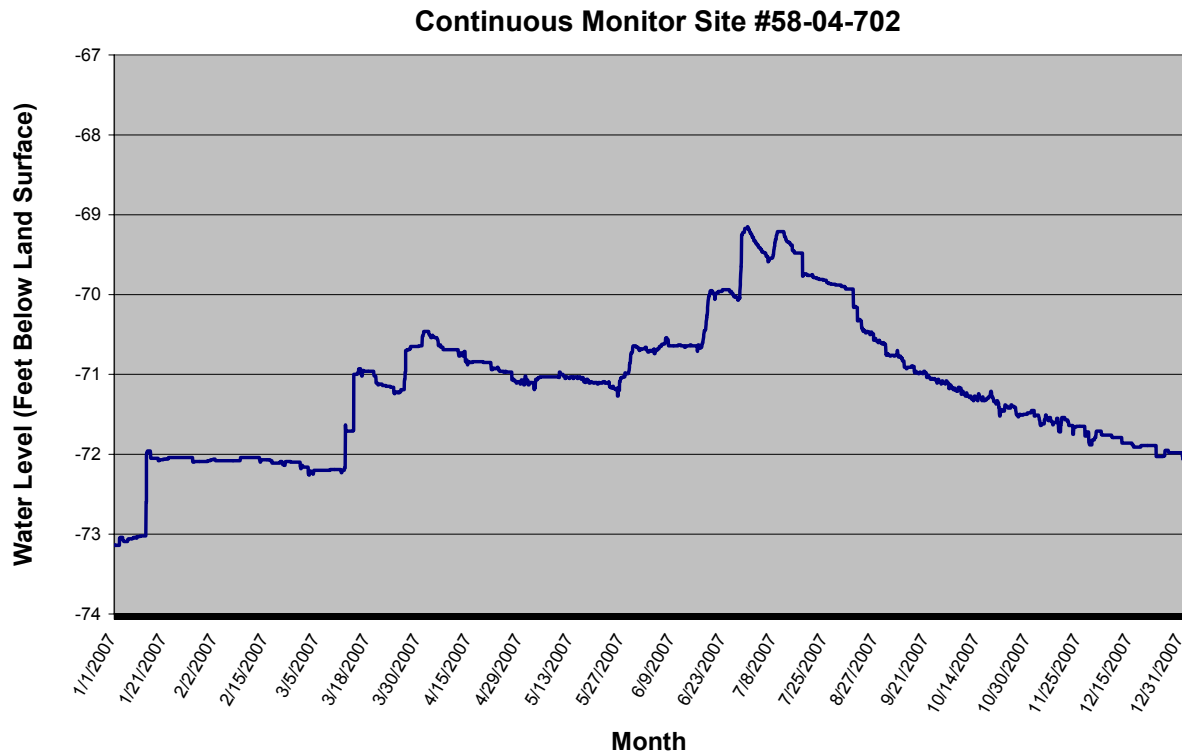
Bell County Average Rainfall in 2005-2007



The total average rainfall in Bell County for 2007 was 45.04 inches. This represented a drastic increase to the total amount received in 2005 at 26.89 inches and 2006 at 27 inches. Rainfall was focused mainly from January through July with the exception of February and then slowed down to a more even distribution throughout the remaining months of the year in 2007. Bell County progressed from a moderate drought to an extremely wet rating in 2007 according to the Palmer Drought index. Appendix G contains a map of the yearly rainfall totals for the 202 data points.

Objective E.2: TWDB Continuous Monitoring Wells.

The District's Management Plan requires monitoring of drought conditions by reviewing data from the TWDB monitor wells in Bell County that are equipped with a continuous monitoring system. During FY06, TWDB installed continuous monitoring equipment in State Well No. 58-04-702 drilled in the Edwards BFZ aquifer on FM 2843 near the Hidden Springs Subdivision. Monitoring of this well began on May 4, 2006.



The graph above shows the data collected by the continuous monitor site during calendar year 2007. Collection of measurements began on January 1, 2007 at 01:00 and has continued every hour since that time. The readings for 2007 show notable increases in January, March, June and July in response to significant rainfall. Water level readings ranged from -73.14 ft. on January 1, 2007 to -69.15 ft. on June 30, 2007 representing a 4 foot rise in water level during this period. The average reading during this time was -71.17 ft. The general trend of the data shows an incline in the water level from the end of January through July and a decline from August through December. According to the Palmer Drought Severity Index drought conditions for 2007 ranged from an incipient dry spell in January to extremely wet mid-year and then very wet conditions in December.

District staff has identified a site for a second monitoring well in the Edwards BFZ aquifer and is working with TWDB to install the continuous monitoring equipment. Installation is expected in the Spring of 2008. Staff is also working with TCB, Inc. to determine suitable locations for drilling monitor wells in the Trinity aquifer and will pursue this during FY08.

F. ADDRESSING CONSERVATION RECHARGE ENHANCEMENT, RAINWATER HARVESTING, PRECIPITATION ENHANCEMENT, OR BRUSH CONTROL, WHERE APPROPRIATE AND COST-EFFECTIVE

Objective F1: Promote Conservation.

The District's Management Plan requires promotion of conservation by one outreach method/activity. During FY07, the District satisfied this requirement by conducting an essay and poster contest on water conservation. This contest was conducted during the fall of 2006

and was open to all 5th grade students in Bell County. The theme of the contest was *Water: Copasetic and Creative Ways to Conserve this Cool Creation*. Winners received savings bonds in the amount of \$100 (3rd place) \$250 (2nd place) and \$500 (1st place). A total of 289 entries were received. A copy of the flyer announcing this contest is located in Appendix H.



Pictured left to right:
Allegra Mojica
Logan Arnold
Madison Allen
Eugene Hernandez
Savannah Hall
Katie Kozeny

Objective F2: Promote Rainwater Harvesting.

The District's Management Plan requires promotion of rainwater harvesting by posting information on the District website. The District satisfied this requirement by including a segment on rainwater harvesting on its website under the Education menu tab along with a link to the Texas Cooperative Extension website and their Rainwater Harvesting Manual. This info was updated during FY07 to include additional links to Rainwater Harvesting Contacts and Suppliers and to the Texas Cooperative Extension manual on Rainwater Harvesting Landscape Methods. A copy of the posted information is included under Appendix I.

Objective F3: Provide Information on Recharge Enhancement and Brush Control.

The District's Management Plan requires promotion of conservation by providing information relating to recharge enhancement and brush control on the District website. The District satisfied this requirement by including a segment on recharge enhancement and brush control on its website under the Education menu tab. For additional information on recharge enhancement and brush control, links to the Texas State Soil and Water Conservation website, the Leon River Restoration Project website, and the Texas Cooperative Extension website are provided. This was updated during FY07 to include a link to the Brush Management Fact Sheet produced by Environmental Defense. A copy of the posted information is included under Appendix J.

**G. ADDRESSING IN A QUANTITATIVE MANNER THE DESIRED FUTURE
CONDITIONS OF THE GROUNDWATER RESOURCES**

This management goal is not applicable to the District because the desired future conditions (DFC) of the groundwater resources in Groundwater Management Area 8 (GMA 8) have not yet been defined.

Beginning in FY06, Clearwater has been coordinating with five other groundwater districts within GMA 8 to define the DFCs of the aquifers. During the 2007 Legislative Session, four more groundwater districts were created in GMA 8 bringing the total to ten. GMA 8 includes 45 counties extending from Travis County northward to the Oklahoma border. As required by HB 1763 passed by the 79th Texas Legislature, the GCDs of each GMA are responsible for determining the DFCs of the major and minor aquifers within its area by the year 2010. The TWDB will then determine the managed available groundwater (MAG) figure for the GMA. This figure will be included in the Regional Water Plans and the State Water Plan.

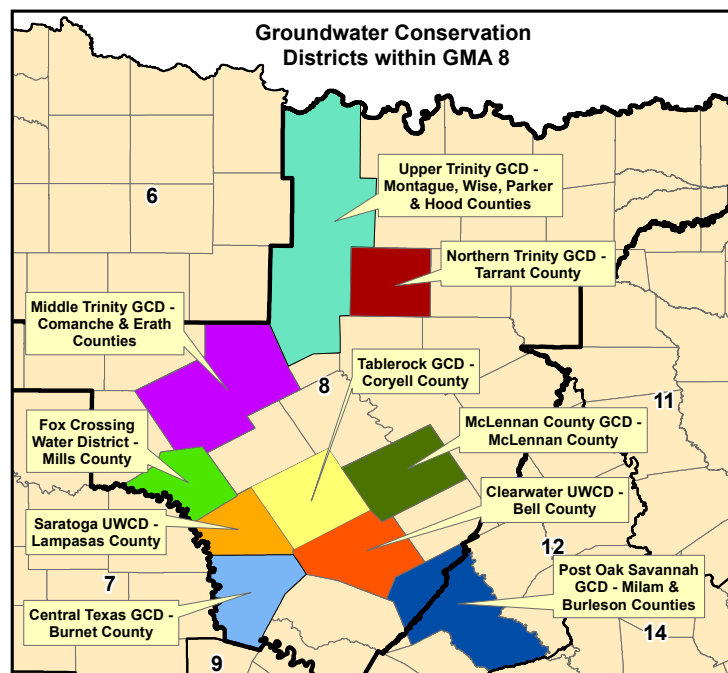
During FY07, Clearwater assumed a major role within GMA 8. Clearwater was appointed as the administrator, serving as the point of contact in coordinating with TCB, Inc. and other outside agencies. Clearwater developed and currently maintains the GMA 8 website and coordinates the GMA 8 meetings. Clearwater's GMA 8 representative frequently chairs the GMA 8 meetings as well and has been instrumental in keeping the committee focused on meeting set deadlines.

During FY07, GMA 8 held five meetings as follows: November 13, 2006; February 8, 2007; April 12, 2007; August 9, 2007; and September 5, 2007. During FY07, the GMA 8 Committee members entered into an interlocal agreement and officially contracted with TCB, Inc. for assistance in developing the desired future conditions for the major and minor aquifers within their boundary. Due to time constraints and limited funds, GMA 8 agreed to use existing data where available in developing the DFCs.

The methodology used for developing the DFCs for the Edwards BFZ, Trinity, and Woodbine aquifers involved using the TWDB Groundwater Availability Model (GAM) to simulate the projected effect that various pumping levels will have on the aquifers. The results from the GAM simulations were evaluated and then used to develop the DFCs. With the exception of the Woodbine, there are no GAMs available for the minor aquifers; therefore, the methodology used to determine the DFCs for these aquifers involved developing and using a 2 dimension spreadsheet to predict potential effects of pumping in the aquifers.

Production figures for unprotected counties (counties without a groundwater conservation district) were based on groundwater availability figures from the 2006 approved regional water plans, with the exception of the 13 counties that are affected by the production of Barnett Shale. For the 13 unprotected counties that are affected by the production of Barnett Shale, production figures were based on the availability figures that are identified in the TWDB report "*Assessment of Groundwater Use in the Northern Trinity Aquifer Due to Urban Growth and Barnett Shale Development.*" The 10 counties with groundwater districts had the option of using the regional water plan figures, figures from the Barnett Shale study, or their own figures. Clearwater used its own figures from GAM runs that had been previously conducted.

GMA 8's goal was to provide the DFCs to the TWDB by their set deadline to ensure inclusion in the 2011 Regional Water Plans. The DFCs for the minor aquifers (except the Woodbine) were tentatively approved by the GMA 8 Committee in February 2007. GAM runs were ongoing during the latter part of FY07 for the Edwards BFZ and the Trinity. Adoption of DFCs for the Edwards BFZ aquifer and four minor aquifers (Brazos River Alluvium, Blossom, Nacotoch, and Woodbine) occurred in FY08 by the set TWDB deadline. GMA 8 continues to move forward to set the DFCs for the remaining Trinity aquifer and three minor aquifers (Ellenburger-San Saba, Hickory, and Marble Falls). A map of GMA 8 is shown below.



4. MISCELLANEOUS ACTIVITIES

In addition to the administrative tasks and Management Plan requirements, Clearwater has been involved in several miscellaneous activities during FY07. These activities include the following:

- A. Trinity Aquifer Study in Southern Bell County
- B. Management of Trinity Aquifer by Layer
- C. Monitor Wells
- D. Drought Management Plan
- E. Salado Creek Stream Flow Gauging Program
- F. Water Quality Testing by Certified Lab
- G. Subdivision Groundwater Availability Report Review
- H. Groundwater Transport
- I. Historic and Existing Use Permit Policy Review
- J. Exempt Well Production Methodology Review
- K. Quarry Registration/Permit Enforcement
- L. Misclassified Well Permitting
- M. Strategic Planning
- N. Non-Exempt Well Meter Program
- O. Water Quality Protection Grant Program
- P. Abandoned Wells
- Q. Bell County Water Symposium
- R. Newsletter
- S. Major Rivers Water Education Program
- T. Book Cover Distribution
- U. Literature Packet Distribution
- V. Water Conservation Kits
- W. Presentations and Outreach
- X. Public Advisory Committee
- Y. Internet Site
- Z. Resource Library

These activities are discussed in more detail below.

A. TRINITY AQUIFER STUDY IN SOUTHERN BELL COUNTY

In 2003, the District contracted with TCB, Inc. to conduct a study of the Trinity aquifer in southern Bell County due to the increase in residential development and the use of individual wells for water service. The study determined the hydrogeologic properties of the aquifer in this area and the volume of water in storage. The study evolved from its original scope to include calculation of the volume of groundwater stored in the three aquifer subdivisions (upper, middle, and lower) within the study area as well as outside the study area to include the entire county. The results of the Trinity study were presented to the Board during the latter part of FY06. Some discrepancies were noted and revisions are underway. The final report is anticipated to be completed during the Spring of 2008.

During FY07, TCB, Inc. recommended conducting geophysical logs of wells in southwestern Bell County to help determine where the Trinity layers are located and the thickness of the layers. This information will enhance the Trinity Study and clarify some of the discrepancies identified in the study. The Clearwater Board authorized up to four geophysical logs. The logs will be completed as opportunity allows when new wells are drilled to the lower Trinity. One log was completed in FY07.

B. MANAGEMENT OF TRINITY AQUIFER BY LAYER

During FY07, the Board continued discussions regarding the management of the Trinity aquifer by layer or subdivision—Upper (Paluxy and Glen Rose); Middle (Hensell, Cow Creek, and Hammett); Lower (Sligo and Hosston). It was determined that additional information from the geophysical logs was needed before a policy decision on management is made. In the interim period, well data reflects layer designation.

C. MONITOR WELLS

The Board continued discussions regarding monitor wells during FY07. The need to establish monitor wells/index wells for the District Management Plan and Drought Management Plan was discussed. Issues included whether existing wells should be used or new wells drilled; whether continuous monitoring equipment should be installed or the wells measured manually; the number of wells needed; and the location of the wells. Staff continued to look for existing wells that would be suitable for monitoring but was not successful. Generally, existing wells that were no longer in use, were in questionable condition and did not have construction information available. Newly drilled wells were in good condition and had adequate construction records; however, these wells were being used by the landowner and would not be available for our purposes.

D. DROUGHT MANAGEMENT PLAN

During FY07, the Board discussed the development of a drought management plan. It was determined that a drought management plan would be developed for the Edwards BFZ aquifer first, and then the Trinity. The Board approved a task order with TCB, Inc. to develop the drought management plan for the Edwards BFZ aquifer and preliminary collection of data began. This task continued on into FY08.

E. SALADO CREEK STREAM FLOW GAUGING PROGRAM

During 2005, the District approved the expenditure of funds to install stream flow gauges in Salado Creek to monitor the input of water from the springs in the Salado area. During the latter part of FY07, the two gauges were installed. One gauge was placed upstream of the springs near the Hidden Springs Subdivision, and one placed downstream of the springs east of I35. Data has been collected regularly from the downstream site, but there were some communication issues at the upstream site that were resolved during FY08. Data from this

program will be used to support the District's Management Plan availability figures for the Edwards BFZ aquifer and will be used in the development of the District's Drought Management Plan.



Installation of stream flow gauge at the downstream site.



Installation of stream flow gauge at upstream site.

F. WATER QUALITY TESTING BY CERTIFIED LAB

The budget for FY07 included funds for water quality testing at a certified lab. The purpose of the testing was to enhance testing from the Texas Water Development Board (TWDB) that collects water samples for testing approximately every five years. TWDB collected samples from six wells during FY07—five Trinity wells and one Edwards well. Potential sites were identified and approved by the Board. These included two additional Edwards wells, six additional Trinity wells, and one sample from Salado Creek. An agreement was made with TWDB to train staff in the collection of three samples that TWDB would process at no charge. The remaining six samples were collected by staff and processed with the Lower Colorado River Authority Environmental Laboratory Services (LCRA ELA). The testing results and locations are included in Appendix K.

G. SUBDIVISION GROUNDWATER AVAILABILITY REPORT REVIEW

During FY07, the District continued coordinating with the county commissioners and staff to ensure new subdivisions have an adequate source of water supply. The District's goal is to inform developers and potential purchasers of the groundwater resources in Bell County. No new subdivisions requiring a groundwater availability report were presented to the District during FY07.

H. GROUNDWATER TRANSPORT

During FY07, the Board considered a transport proposal for the Sonterra Development in Williamson County. Approximately 1,120 ac-ft/year from the Edward BFZ aquifer was proposed from wells owned by 7KX Ranch. An additional 672 ac-ft/year was proposed for new developments within Bell County. The Board met with the developer and discussed the relevant issues. An application was not filed by the developer.

I. HISTORIC AND EXISTING USE PERMIT POLICY REVIEW

During FY07, the District reviewed its policy regarding Historic and Existing Use Permits at the request of a well owner that had missed the June 30, 2004 application deadline. The Board concurred that it did not wish to amend the rules to re-open the application period.

J. EXEMPT WELL PRODUCTION METHODOLOGY REVIEW

In order to get a more accurate account of the amount of groundwater used in Bell County, the District has TCB, Inc. provide an estimate of exempt well production twice a year. During FY07, the Board reviewed the methodology used to make this estimate. It was determined that the estimate would include active wells and also abandoned, capped, and wells not in use, since these wells may be brought back into operation without the District's knowledge. This excludes monitor and plugged wells and wells never drilled. It was also determined that the daily usage figure for domestic use would be 175 gallons per person. This revised methodology was to begin with the 2007 estimates.

K. QUARRY REGISTRATION/PERMIT ENFORCEMENT

During FY07, the Board asked staff to contact quarry/rock crushing operations in Bell County to determine whether groundwater was being used at their facilities. Staff obtained a list of these operations from TCEQ (Texas Commission on Environmental Quality) and sent letters to 16 facilities via certified mail. The majority of facilities reported using run-off water collected in the gravel pits or public water supply. Three facilities reported using groundwater—Killeen Crushed Stone, RLF Salado Quarries, and Apache Stone. These wells were registered and the permitting process begun. Killeen Crushed Stone's operating permit was approved during FY07; however, the other two permits were not approved until FY08.

L. MISCLASSIFIED WELL PERMITTING

Several wells misclassified as exempt were identified by staff during FY07. Staff discussed this issue with the Board for direction on how to process the permit applications. A total of 14 wells were misclassified. Of these, seven were in operation and seven were not. For those wells not in use, the change from exempt to non-exempt was administrative. For the remaining seven, an operating permit was required. The application fee was waived and the District paid the costs associated with the public notification. Although this process began during FY07, the actual permit hearings did not occur until FY08.

M. STRATEGIC PLANNING

During FY07, the Board discussed the benefit of preparing a strategic plan. Three potential companies were given the opportunity to provide a presentation to the Board. The Board did not make a decision on this issue in FY07 but approved a proposal in FY08.

N. NON-EXEMPT WELL METER PROGRAM

As part of the FY07 budget, the Board approved \$1,000 toward purchasing meters for those non-exempt wells that were “grandfathered” and do not have a meter. Many of these well owners are estimating production, whereas a meter would ensure accurate reporting. No one participated in this program during FY07.

O. WATER QUALITY PROTECTION GRANT PROGRAM

The District’s Water Quality Protection Grant Program provides financial assistance to local governmental entities and other non-profit entities that provide public drinking water. The funds are to be used to implement measures or recommendations that protect water quality. The District did not receive any grant applications during FY07.

P. ABANDONED WELLS

The District continues to coordinate with the Texas Department of Licensing and Regulation (TDLR) to identify and investigate reports of abandoned wells. After initial investigation, staff refers abandoned wells to TDLR for further investigation, determination of corrective action, and enforcement. The District did not refer any abandoned wells to TDLR during FY07. Staff did meet with TDLR staff as they conducted a site visit to the previously referred wells. Six wells remain under investigation.

The District continues to work with the Bell County Public Health District for assistance in locating abandoned wells when septic systems are inspected. The District promotes the plugging of abandoned wells by distributing educational information at various conferences and events and hosting well plugging demonstrations. According to records from the Texas Department of Licensing and Regulation, during FY07 a total of 15 wells were plugged in Bell County—4 water wells and 11 monitor wells.

Q. BELL COUNTY WATER SYMPOSIUM

During FY07, Clearwater sponsored its sixth annual water symposium on November 8, 2006 at the Bell County Expo Center. The District partnered with the Texas Cooperative Extension/Bell County Extension Office and was able to provide Continuing Education Units for Private and Commercial Pesticide Applicators. State Senator Kip Averitt, Chair of the Senate Natural Resources Committee, was the keynote speaker providing a legislative

update. Topics presented at the symposium included information about the District and an update on groundwater studies; project updates from Chisholm Trail Special Utility District, Kempner Water Supply Corporation, and the Brazos River Authority; information on watershed protection of the Leon River and Lampasas River; and information on rainwater harvesting and water wise landscaping.



Bell County Annual Water Symposium, November 8, 2006

The District set up a display and distributed water conservation kits as well as other information on water conservation and the status of the aquifers. Approximately 130 people attended the symposium. Refer to Appendix L for an agenda of the meeting. Appendix C contains the Activity Report that lists the items distributed during this event.

R. NEWSLETTER



The District published its fourth annual newsletter—The Clearwater Source—during the latter part of FY07. The newsletter was mailed in September to all registered well owners. Newsletter articles included a summary of the 80th legislative session; update on the GMA 8 joint planning process; update on well registration and production; update on District projects; data on rainfall, lake levels, and aquifer levels; and method for disinfecting a water well.

S. MAJOR RIVERS WATER EDUCATION PROGRAM

During FY07, the District again sponsored the Major Rivers Water Education Program. This program is geared toward 4th and 5th grade students. During the spring of 2007, orders were

taken for 2,071 students and 73 teachers in the Killeen, Temple, and Troy school districts. The Major Rivers Program material was delivered to the schools in September 2007.

T. BOOK COVER DISTRIBUTION

The District again participated in purchasing book covers during FY07 for all middle and high school students in Bell County with distribution to occur during the 2007/2008 school year. The book covers provide information on water conservation and a brief overview of the District, including its goals and objectives. A total of 27,000 book covers were distributed to the students at the start of the school year during August and September 2007. The book covers distributed are shown in Appendix M.

U. LITERATURE PACKET DISTRIBUTION

The District compiles literature packets containing a variety of information on water conservation, the water cycle, and water quality. The packets are distributed to Bell County schools—one per campus—for each fall semester. Packets are usually distributed during the month of September, but this time the packets went out in December 2007, which falls under FY08. As a result, no packets were distributed during FY07; however, getting back to the September distribution month will result in two packet distributions for FY08. Distribution generally includes approximately 105 packets.

V. WATER CONSERVATION KITS

To promote public awareness and encourage water conservation, the District distributes water conservation kits at special events. The water conservation kits include the following items: faucet aerator; one touch on/off tap saver; 7 spray water saving hose nozzle; toilet leak detector dye tablets; shower flow meter bag; and lawn and garden rain gauge. These items were available for distribution at the following events: Annual Bell County Water Symposium (11-08-06); Fort Hood Texas Recycles Day (11-11-06); Annual Crops Clinic (1-09-07); and Fort Hood Earth Day Events (4-24-07). Refer to Appendix C for the Activity Report that lists the items distributed at these events.

W. PRESENTATIONS AND OUTREACH

Clearwater continues to promote public awareness of the District, Bell County's water resources, and water conservation. Board members and staff have spoken to various groups and schools throughout the year and have attended various events and provided information for distribution regarding the District, groundwater resources, water cycle, water quality protection, and water conservation as identified below. (See Appendix C for the Activity Report that lists the material distributed.)

Presentations	Date	# Distributed
Noon Rotary Club—Killeen	10-11-06	36
5 th Grade—Rogers Elementary	10-17-06	490
5 th Grade—Troy Elementary	11-09-06	700
5 th Grade—Nolanville Elementary	12-13-06	1,050
6 th Grade—Nolanville Middle School	01-19-07	376
6 th Grade—Nolanville Middle School	01-29-07	404
Fort Hood Earth Day Events	04-23-07 & 04-24-07	<u>3,478</u>
Total		6,534

Other Events	Date	# Distributed
Bell County Water Symposium, Bell Co. Expo	11-08-06	1,326
Fort Hood Texas Recycles Day, Killeen	11-11-06	1,180
Annual Crops Clinic, Bell Co. Expo	01-09-07	719
Essay/Poster Contest Participants	01-29-07	867
Master Gardeners Teacher Training	07-27-07	151
Fort Hood National Night Out	08-07-07	<u>148</u>
TOTAL		4,391



District staff provided a booth for the Fort Hood Texas Recycles Day on November 11, 2006.

X. PUBLIC ADVISORY COMMITTEE

The Public Advisory Committee (PAC) meets on an as-needed basis. The PAC did not meet during FY07. The PAC members are as follows:

Vince Cortese	-	Precinct 1
Rosann Feagin	-	Precinct 2
Marvin Green, PAC Chair	-	Precinct 3
Henry Bunke	-	Precinct 4
David Cole	-	At-Large

Throughout FY07, PAC members have regularly attended the Clearwater Board meetings, providing representation at 10 of the 12 regular monthly Board meetings. The PAC has provided valuable comments to the Board members at these meetings. The Board continues to value the input from the PAC and will assign tasks to them as needed.

Y. INTERNET SITE

The District's web site (www.clearwaterdistrict.org) continues to grow since it was first developed in the spring of 2001. The web site contains general information about the District and Board of Directors; calendar of events; press releases; meeting agendas; District Management Plan; District Rules; links to water-related sites; District forms; an overview of the District including a summary of activities; aquifer data; and educational information including data on water use and water conservation tips.

Records indicate that the top pages that were accessed during 2007 were the Major Rivers Program press release; District Mission Statement; Overview of Bell County Aquifers; State Water Camp press release; and Water Use Information. Information will be added to the web site during the next year as needed.

Z. RESOURCE LIBRARY

The District maintains a resource library to help promote public education and conservation of our water resources. The resource library consists of videotapes and literature focusing on the water cycle, groundwater, water conservation, and other water-related issues. This information is designed for age groups from pre-K to college level. The information in the Clearwater library is available for use by the public. A listing of the library material is shown in Appendix N.

5. *SUMMARY*

During FY07, the District continued to acquire data for use in managing Bell County's groundwater resources. Two stream flow gauge sites were installed in Salado Creek to monitor spring flow from the Edwards BFZ aquifer in the Salado area and a site was identified to install the second of two continuous monitoring wells in the Edwards. Although the Trinity Study for Western Bell County has been completed (final report forthcoming), some discrepancies were identified. The Board authorized up to four geophysical logs of Hosston (lower Trinity) wells to be conducted to address these discrepancies. This data will also assist in determining whether it is appropriate to manage the Trinity aquifer by layer.

Data acquisition also included ongoing projects like the aquifer monitoring program and monthly production reports from non-exempt wells, as well as estimates of exempt well use which are updated biannually. Water samples were collected from eight wells and one from Salado Creek for testing at certified labs to obtain data on the quality of the aquifer water. All of this information will assist the District in understanding how much water is available in the aquifers, how much water is being withdrawn from the aquifers, and what impact the withdrawal is having on our groundwater resources so that management decisions can be made.

A drought management plan for the Edwards BFZ aquifer was begun during FY07 and the need to develop a strategic plan was discussed by the Board.

Clearwater continued its participation in GMA 8. During FY07, four additional groundwater conservation districts were created and therefore became voting members bringing the number of groundwater districts to ten. The GMA 8 Committee contracted with TCB, Inc. to assist in the development of the desired future conditions for the two major and seven minor aquifers within its boundary. A GMA 8 website was created to share data among the Committee members and to keep the public informed of the Committee's progress. Several meetings were held during FY07 and GAM runs were requested to assist in developing the desired future conditions.

Rule revisions were adopted to allow monitoring wells to be exempt from District spacing requirements and spacing requirements were clarified as were the procedures for requesting a variance.

Public education and service continue to be a major focus of the District during FY07. District staff visited four different schools involving three school districts and gave approximately 23 presentations focusing on Bell County's aquifers, water conservation, and non-point source pollution. In addition, numerous presentations were given to various schools attending the Earth Day events held at the Killeen Civic and Conference Center. The District's Earth Day participation and annual water symposium continue to be major outreach opportunities.

During the next fiscal year, the District will continue to acquire data on the aquifers and will collect data from the Salado Creek Stream Flow Gauging Program to monitor Salado Springs. When the opportunity presents itself, geophysical logs of selected wells in the lower Trinity will be conducted to confirm the Trinity Study results. The District will continue to pursue additional monitoring sites for both the Edwards BFZ and the Trinity aquifers and will look for suitable

locations for index wells to be equipped with a continuous monitoring system. The District will determine whether management of the Trinity aquifer by layer is the appropriate course to follow. The District plans to complete a Drought Management Plan for the Edwards BFZ aquifer and then focus on the Trinity aquifer, and a Strategic Plan will be developed to assist the District in prioritizing its goals and objectives for the next few years.

Appendix A

Clearwater Underground Water Conservation District

Approved Budget FY2007

REVENUE

*Bell County Tax Appraisal District	\$ 427,359
Application Fees	\$ 100
Transport Fees	\$ 500
Interest	\$ 15,000
Total	\$ 442,959

*Based on 2006 Certified values of \$10,683,973,357
Tax rate per \$100 valuation is \$0.0040

EXPENDITURES

Contracts

Administrative	\$ 190,247
Legal	\$ 40,000
Appraisal District	\$ 6,000
Professional/Technical Consulting	\$ 45,000
Studies	\$ 64,062
Special Programs	
Education	\$ 15,350
Education Supplies	\$ 9,000
Other	\$ 4,000
Water Quality Grant	\$ 1,000
Director's Compensation	\$ 8,000
Director Expenses	\$ 6,000
Equipment	\$ 3,000
Supplies	\$ 1,000
Insurance	\$ 2,000
Printing	\$ 3,800
Communications	\$ 4,500
GMA 8	\$ 5,000
Management Consultant	\$ 5,000
*Contingency Fund	\$ 20,000
Reserves for Uncollected Taxes	\$ 10,000
Total	\$ 442,959

*Includes \$15,600 anticipated revenue from fees and interest.

8/30/2006

FILED FOR RECORD
2006 AUG 30 AM 8:41
VADA SECTION
BELL COUNTY CLERK

**CLEARWATER UNDERGROUND WATER CONSERVATION PROJECT
OCTOBER 2006 THROUGH SEPTEMBER 2007**

SCHEDULE OF REVENUES AND EXPENDITURES

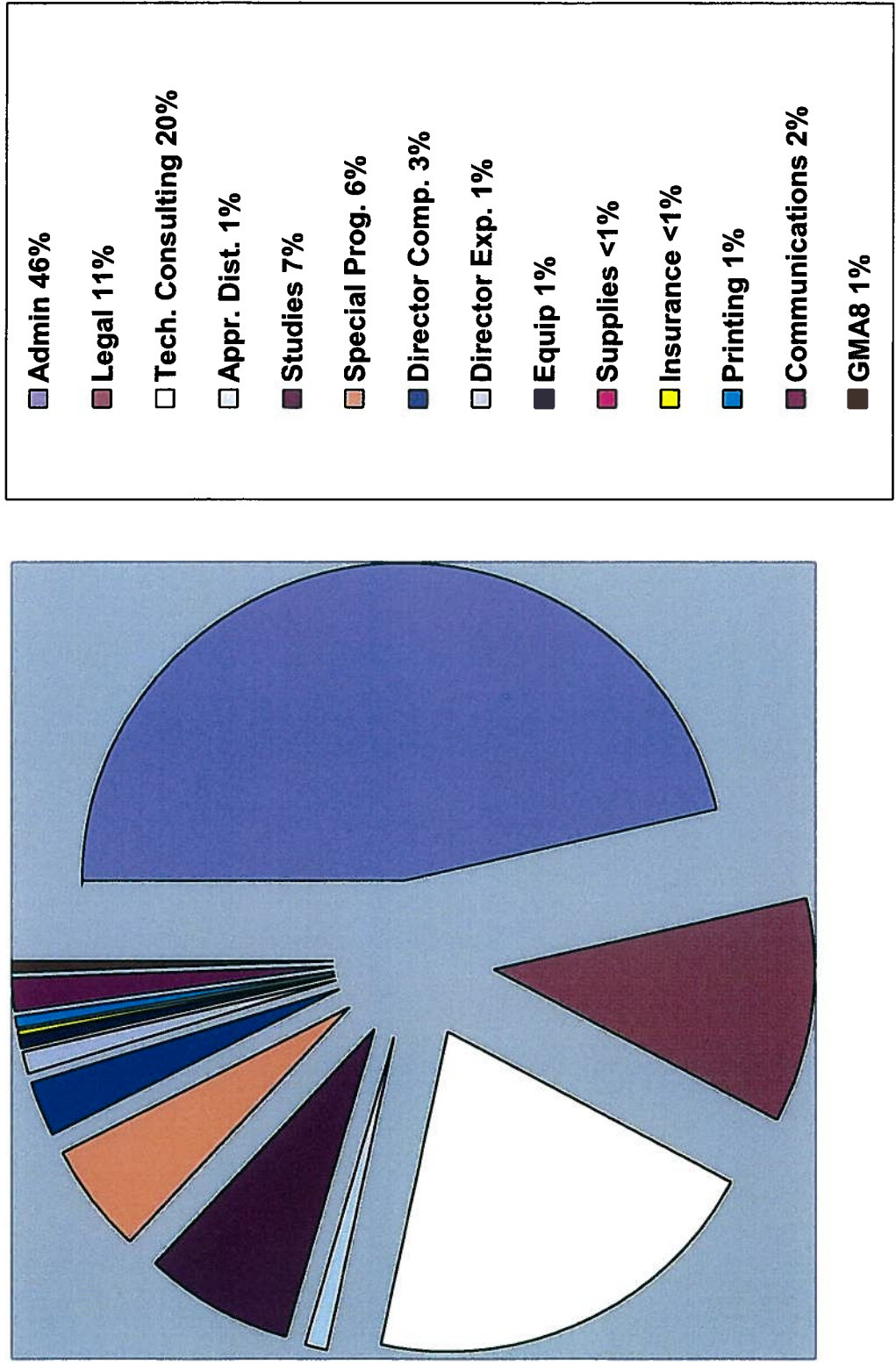
	<u>Total</u>
REVENUES:	
October 1, 2006 through September 30, 2007	
Bell County Tax Appraisal District	\$ 422,080
Application Fees	1,266
Transport Fees	613
Interest	36,382
Other	<u>1,500</u>
Revenues (October 1, 2006 thru September 30, 2007)	\$ 461,840
Carry forward	\$ <u>429,637</u>
TOTAL Revenues	<u>\$ 891,477</u>

EXPENDITURES:	
October 1, 2006 through December 10, 2007	
Administrative Services	\$ 184,975
Board Expenditures	158,730
Educational Special Programs	12,606
Educational Supplies	6,184
Speical Programs Other	3,556
Water Quality Project	-
Clearwater Studies	29,471
Clearwater GMA 8	<u>2,567</u>
Total Expenditures	<u>\$ 398,088</u>
REVENUES OVER EXPENDITURES	<u>\$ 493,389</u>

GMA8 JOINT FUND

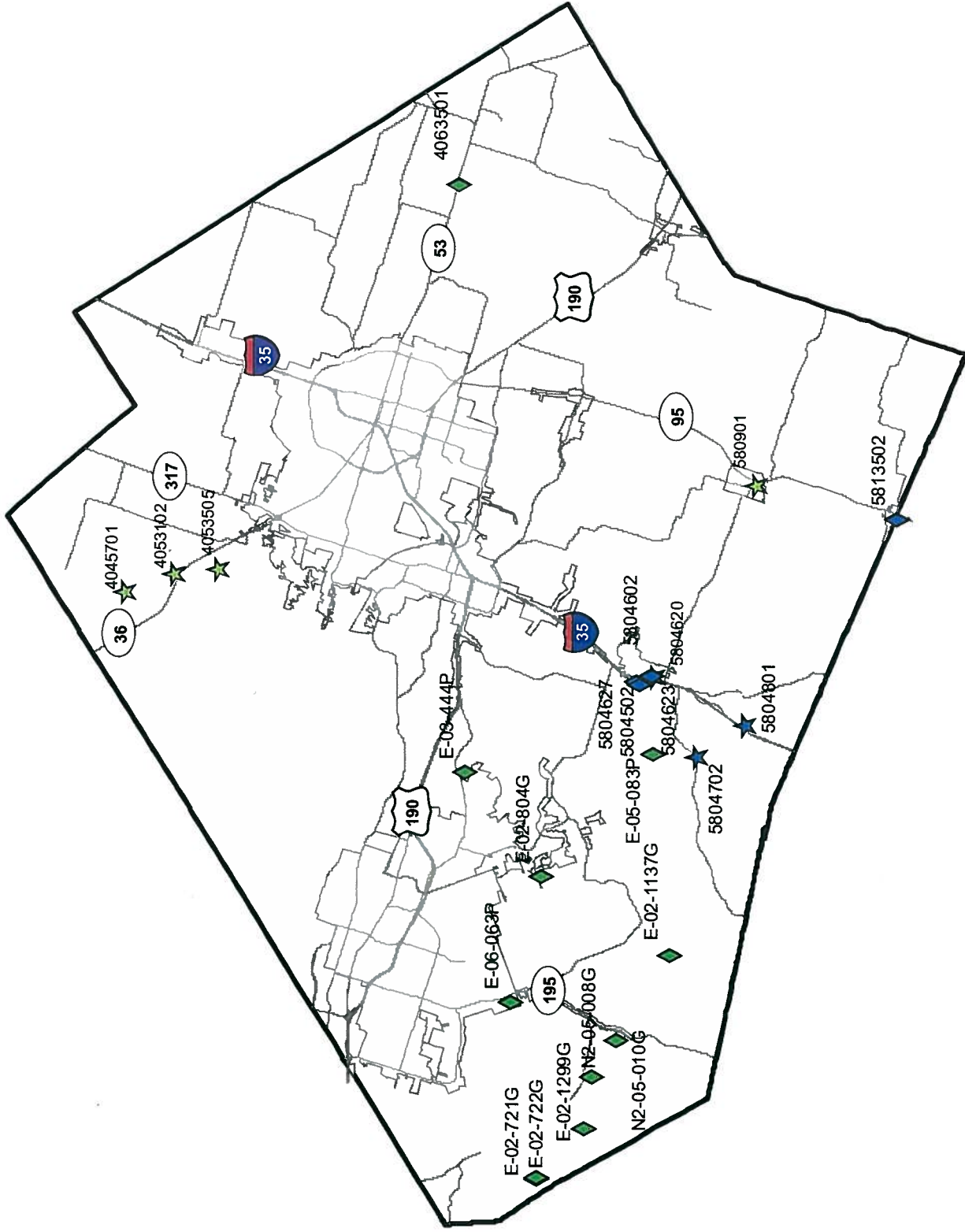
REVENUES	\$ 15,400
EXPENDITURES:	\$ 15,400
REVENUES OVER EXPENDITURES	<u>\$ -</u>

Expenditures for FY07



Appendix B

Aquifer Monitor Sites

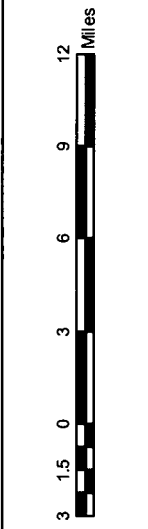
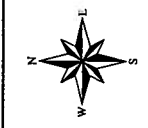


Clearwater Underground Water
Conservation District
2180 N. Main St., PO Box 729
Belton, TX 76504
July 17, 2008



Legend

Clearwater_Edwards
Clearwater_Trinity



Appendix C

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Horace Grace

Activity: Presentation

Date(s)/Location: 10-11-06 Noon Rotary Club; Plaza Hotel, Killeen

Information Distributed and Quantity: 19 CUWCD brochures and 17 newsletters

Notes: _____

CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 10-17-06 Rogers Elementary School, 5th grade students

Information Distributed and Quantity: 70 of the following: TWDB Shower Flow
bags; Groundwater Foundation Bookmarks (2)—Top 10 Ways and Water Cycle; CUWCD info
cards; CUWCD rulers; CUWCD pencils; and CUWCD frisbee.

Notes: Presentation included powerpoint, water model, and wheel of water.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff & Directors

Activity: Bell County Water Symposium

Date(s): 11-08-06

Location: Bell County Expo Center

Information Distributed and Quantity: See attached.

Notes: Approximately 130 people attended the event.

<u>Item</u>	<u>Quantity</u>
CUWCD	
CUWCD Brochure folder	29
CUWCD Fall 2006 Newsletter	23
Use Water Wisely Wheels	42
Cups	43
Rulers	73
Pencils	61
Ink Pens	100
Frisbees	36
Spray Bottles—Indoor Use	50
Spray Bottles—Outdoor Use	50
Balloons	12
Calendars	70
Your Groundwater Conservation District (Local Control) Brochure	18
Water Quality Testing Kits	15
Groundwater Foundation	
Groundwater Basics brochure	25
Bookmark—The Water Cycle	74
Bookmark—Top 10 Ways to Protect and Conserve Groundwater	78
Texas Groundwater Protection Committee	
Plugging Abandoned Water Wells Brochure	24
Landowner's Guide to Plugging Abandoned Water Wells Handout	15
TWDB	
Being Water Wise Outdoors Brochure	29
Being Water Smart Indoors Brochure	26
Texas Lawn Watering Guide	27
WaterWise Council of Texas	
Irrigation Best Management Practices Brochure	17
Landscape Improvements Best Management Practices Brochure	18
Lawn Maintenance Best Management Practices Brochure	30
Miscellaneous	
Auto Not Pollute Slide Card	24
Water Conservation Sticker Sheets	41
Water Conservation Items:	
Faucet Aerator	50
One Touch On/Off Tap Saver	50
Shower Flow Meter Bag	26
Toilet Leak Detector Dye Tablets	50
7 Spray Water Saving Hose Nozzle	50
Lawn & Garden Rain Gauge	50
TOTAL	1,326

CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 11-9-06 Troy Elementary School, 5th grade students

Information Distributed and Quantity: 100 of the following: TWDB Shower Flow bags; Groundwater Foundation Bookmarks (2)—Top 10 Ways and Water Cycle; CUWCD info cards; CUWCD rulers; CUWCD pencils; and CUWCD frisbee.

Notes: Presentation included powerpoint, water model, and wheel of water.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Fort Hood's Texas Recycles Day

Date(s): 11/11/2006 (1:00 pm to 4:00 pm)

Location: Central Texas College- Mayborn Planetarium and Space Theater (Killeen, TX)

Information Distributed and Quantity: See attached

Notes: One water conservation item was given out at a time.

<u>Item</u>	<u>Quantity</u>
Water Conservation Kits	
Toilet Leak Detector Dye Tablets	17
7 Spray Water Saving Hose Nozzle	42
Lawn & Garden Rain Gauge	28
Faucet Aerator	33
One Touch On/Off Tap Saver	32
Shower Flow Meter Bag	50
 CUWCD	
Cups	98
Frisbees	97
Pencils	75
Plastic Ink Pens	84
Rulers	100
Slim Jim 2007 Calendar	68
<i>The Clearwater Source</i> : 2006 Annual Newsletter	5
CUWCD small Brochures	10
Use Water Wisely Water Wheels	28
 Groundwater Foundation	
Top 10 Ways to Protect and Conserve Groundwater Bookmark	41
Water Cycle Bookmark	66
 Miscellaneous	
Water Conservation Sticker Sheets	69
"Groundwater Basics"	8
 TWDB	
"Being Water Smart Indoors"	9
"Being Water-Wise Outdoors"	7
"Texas Lawn Watering Guide"	13
"Pass the Buck for Water Conservation at Home"	100
"Pass the Buck for Water Conservation in Your Yard"	<u>100</u>
 Total	 1180

CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 12-13-06 Nolanville Elementary School, 5th grade students

Information Distributed and Quantity: 150 of the following: TWDB Shower Flow bags; Groundwater Foundation Bookmarks (2)—Top 10 Ways and Water Cycle; CUWCD info cards; CUWCD rulers; CUWCD pencils; and CUWCD Frisbee.

Notes: Presentation included powerpoint and water model.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Annual Crops Clinic

Date(s): 1-09-07

Location: Bell County Expo Center

Information Distributed and Quantity: See attached.

Notes: _____

<u>Item</u>	<u>Quantity</u>
CUWCD	
CUWCD Brochure folder	36
CUWCD Newsletter	5
Use Water Wisely Wheels	14
Cups	22
Rulers	49
Pencils	38
Ink Pens	92
Frisbees	33
Well Registration Form	3
Slim Jim 2007 Calendar	9
Spray Bottles—Indoor Use	49
Spray Bottles—Outdoor Use	49
Water Conservation Kit Items	
Shower Flow Bag	34
One Touch On/Off Tap Saver	50
Faucet Aerator	50
Toilet Leak Detector Dye Tablets	47
7 Spray Water Saving Hose Nozzle	48
Lawn & Garden Rain Gauge	50
Groundwater Foundation	
Groundwater Basics brochure	3
Texas Groundwater Protection Committee	
Plugging Abandoned Water Wells Brochure	4
Miscellaneous	
Auto Not Pollute Slide Card	3
Water Conservation Sticker Sheets	11
TWDB	
“Being Water Smart Indoors”	6
“Being Water Wise Outdoors”	4
Lawn Watering Guide	2
Groundwater Foundation	
Top 10 Ways to Protect and Conserve Groundwater Bookmark	4
Water Cycle Bookmark	4
Total	719

CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 01-19-07 Nolan Middle School (Killeen ISD), 6th grade students

Information Distributed and Quantity: 94 of the following: TWDB Shower Flow
bags; CUWCD rulers; CUWCD pencils; and Water Wheels.

Notes: Presentation included powerpoint and water model.

CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 01-29-07 Nolan Middle School (Killeen ISD), 6th grade students

Information Distributed and Quantity: 101 of the following: TWDB Shower Flow
bags; CUWCD rulers; CUWCD pencils; and Water Wheels.

Notes: Presentation included powerpoint and water model.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Essay/poster contest participants

Date(s)/Location: 01-29-07

Information Distributed and Quantity: 287 of the following: TWDB Shower Flow
bags; CUWCD Use Water Wisely Wheels; CUWCD activity cards

Notes: _____

CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Activity Report

CUWCD Representative: Staff

Activity: Fort Hood Earth Day Events

Date(s): 4-23-07 & 4-24-07

Location: Killeen Civic and Conference Center, Killeen

Information Distributed and Quantity: see attached.

Notes: Staff gave presentations (16) to elementary school children during the two days and
provided information to the public during the evening session. Presentations focused on the
District, groundwater basics, water conservation and water quality protection.

<u>Item</u>	<u>Quantity</u>
CUWCD	
Brochure folder	50
Fall 2006 Newsletter	30
Use Water Wisely Wheels	100
Cups	47
Rulers	100
Pencils	100
Ink Pens	100
Frisbees	100
Balloons	30
Groundwater Foundation	
Groundwater Basics brochure	15
Bookmark—The Water Cycle	65
Bookmark—Top 10 Ways to Protect and Conserve Groundwater	60
TWDB	
Being Water Wise Outdoors Brochure	16
Being Water Smart Indoors Brochure	11
Texas Lawn Watering Guide	100
Dillos Demonstrate Wordless Water Conservation Brochure	41
Dillo Dollar Home Conservation Tips	94
Dillo Dollar Yard Conservation Tips	58
Shower Flow Meter Bag	54
Miscellaneous	
TAGD large brochure	5
Water Conservation Sticker Sheets	100
Water Conservation Kit Items:	
Faucet Aerator	50
One Touch On/Off Tap Saver	50
TWDB Shower Flow Meter Bag	50
Toilet Leak Detector Dye Tablets	50
7 Spray Water Saving Hose Nozzle	50
Lawn & Garden Rain Gauge	50
Pre-Assembled Packet for School Children	
TWDB Shower Flow Meter Bag	317
CUWCD Ruler	317
CUWCD Frisbee	317
CUWCD Info Card	317
CUWCD Groundwater/Puzzle Card	317
TWDB Dillo Dollar Home Conservation Tips	167
TWDB Dillo Dollar Yard Conservation Tips	150
TOTAL	3,478

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: None—only provided material for their distribution

Activity: Master Gardeners Teacher Training

Date(s): 7-27-07

Location: _____

Information Distributed and Quantity: See attached.

Notes: _____

<u>Item</u>	<u>Quantity</u>
CUWCD	
Use Water Wisely Wheels	30
Groundwater Foundation	
Bookmark—The Water Cycle	30
TWDB	
Being Water Wise Outdoors Brochure	30
Texas Lawn Watering Guide	30
WaterWise Council of Texas	
Irrigation Best Management Practices Brochure	5
Landscape Improvements Best Management Practices Brochure	10
Lawn Maintenance Best Management Practices Brochure	10
Miscellaneous	
U-Mix-It Safe Spray Outdoors	<u>6</u>
Total	151

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Fort Hood's National Night Out

Date(s): 8/7/2007 (5:00 pm to 8:00 pm)

Location: Smith Middle School Ft. Hood, TX

Information Distributed and Quantity: See attached

Notes:

<u>Item</u>	<u>Quantity</u>
CUWCD	
Pencils	25
Plastic Ink Pens	30
Rulers	19
Use Water Wisely Water Wheels	11
Balloons	48
Miscellaneous	
Water Conservation Sticker Sheets	<u>15</u>
Total	148

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Major Rivers Water Education Program Distribution

Date(s): 8/31/07 – 9/7/07

Location: Bell County Schools

Information Distributed and Quantity: see attached.

Notes: Staff contacted Bell County schools and took orders in the spring. Each teacher packet

includes 30 student packets.

**Major Rivers Orders for Fall 2007
Bell County**

School	Grade	Students	Teachers	# of Teacher Kits	# of Additional Packets
Killeen ISD					
Iduma Elementary	5	150	6	6	0
Duncan Elementary	5	100	5	5	0
Meadows Elementary	4	154	7	7	0
Skipcha Elementary	4	132	6	6	0
Hay Branch Elementary	4	125	6	6	0
Trimmier Elementary	4	23	1	1	0
Willow Springs Elementary		132	6	6	0
Ira Cross Elementary	5	110	5	5	0
Maureen Collop Elementary	5	68	3	3	0
Brookhaven Elementary	4	132	6	6	0
Clear Creek Elementary	4	110	6	6	0
Temple ISD					
	5	725	12	12	13
Troy ISD					
Troy Elementary		110	4	4	0
TOTAL		2,071	73	73	13

Each teacher packet serves 30 students. Each additional student packet serves 30 students.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Splash Activity Book Distribution

Date(s): 8/31/07 – 9/7/07

Location: Bell County Schools—3rd Grade

Information Distributed and Quantity: see attached.

Notes: Staff contacted Bell County schools and took orders in the spring.

SPLASH SCHOOLS

Rebecca Cuevas
Killeen ISD
254-289-4596
25 books

Susan Baumann, CIS
Duncan Elementary
52400 Muskogee Road
Fort Hood, TX 76544
254-501-1620 ext. 1636
K-3rd
480 books

Julie Gomes
Instructional Specialist
Meadows Elementary
423 27th Street
Fort Hood, TX 76544
254-501-1870
K-3rd
390 books

Darrin Ashmore, CIS
Ira Cross Elementary
1910 Herndon
Killeen, TX 76543-5237
254-501-2558
Pre-K-3
600 books

Carolyn Bellavia, CIS
Hay Branch Elementary
6101 Westcliff Rd.
Killeen, TX 76543
254-501-2100
2nd
125 books

Gwen James
Campus Instructional Specialist
Peebles Elementary
1800 North W.S. Young Drive
Killeen, TX 76543
254-501-2141 ext. 2120
350 books

Pershing Park Elementary
1500 West Central TX Expwy.
Killeen, TX 76549
25 books

Janice Manson
Campus Instructional Specialist
Saegert Elementary
5600 Schorn Drive
Killeen, TX 76542
200-6675-6660
2nd-3rd
280 books

Lori Burch
Pershing Park Elementary
1500 W. Centex Expwy
Killeen, TX 76549
254-501-1790
25 books

Shary Oldham
Pershing Park Elementary
1500 W. Central Texas Expy.
Killeen, TX 76549
24 books

Donna Winkler, CIS
Mountain View Elementary
500 Mountain Lion Road
Harker Heights, TX 76548
254-501-1900
140 books

Mary Odom
Harker Heights Elementary
726 S. Ann Blvd.
Harker Heights, TX 76548
1st-3rd
260 books

Vicki Hayes
Skipcha Elementary
515 Prospector Trail
Harker Heights, TX 76548
2nd
150 books

Sue Hildebrand
Senior Director of Elementary
Curriculum and Instruction
TISD--FHARC
300 South 27th Street
Temple, TX 76504
2nd
725 books

Sandra Velo
Miller Heights Elementary
1110 Fairway Drive
Belton, TX 76513
254-215-3300
K-2nd
210 books

Home Schools
LSHCSC
Kenneth Schoen
1 – 3 Grade
60 books

TOTAL = 3,869 Splash Books

Appendix D

NOTICE OF OPEN MEETING

BRAZOS G REGIONAL WATER PLANNING GROUP

10:00 a.m., Thursday, February 1, 2007

Brazos River Authority Central Office

4600 Cobbs Drive, Waco, Texas 76710

AGENDA

- 1. CALL MEETING TO ORDER**
- 2. INVOCATION**
- 3. NOTICE OF MEETING**
- 4. ATTENDANCE AND ANNOUNCEMENTS**
- 5. PUBLIC INPUT - Public questions and comments on agenda items or water planning issues (*limited to 5 minutes each; public must fill out a 'Request to Speak' form prior to the discussion of the agenda item*)**
- 6. PROGRAM**
 - 6.1 FEATURED EDUCATIONAL BRIEFING:**

"Legislative Update"
Presented by
Matt Phillips, Brazos River Authority
 - 6.2 Report from Texas Parks and Wildlife Department staff regarding department activities**
 - 6.3 Report from Texas Water Development Board staff on water planning issues**
 - 6.4 Report from Bylaw Adhoc Workgroup and consider recommendations:**
 - a. Consider bylaw revisions for voting member terms and staggering**
Possible action on foregoing
 - b. Consider application form for new voting members**
Possible action on foregoing
 - c. Report on voting member interest category definitions**
 - d. Consider recommendation of nominees for Chair, Vice-Chair and two (2) At-Large positions**
Possible action on foregoing
- 7. CONFIRMATION OF NEXT MEETING DATE;**
Possible action on foregoing
- 8. NEW BUSINESS TO BE CONSIDERED AT NEXT MEETING**
- 9. ADJOURN**

"Lunch will be served during the course of the meeting for members only"

Agenda items may be considered, deliberated and/or acted upon in a different order than set forth above.

Meeting agendas and materials are available online at www.brazosgwater.org

For additional information, please contact

Teresa Clark at 254-761-3177 or via e-mail info@brazosgwater.org

Brazos River Authority, Administrative Agent

NOTICE OF OPEN MEETING

BRAZOS G REGIONAL WATER PLANNING GROUP

10:00 a.m., Wednesday, June 20, 2007

**Brazos River Authority Central Office
4600 Cobbs Drive, Waco, Texas 76710**

AGENDA

- 1. CALL MEETING TO ORDER**
- 2. INVOCATION**
- 3. NOTICE OF MEETING**
- 4. ATTENDANCE AND ANNOUNCEMENTS**
- 5. PUBLIC INPUT - Public questions and comments on agenda items or water planning issues *(limited to 5 minutes each; public must fill out a 'Request to Speak' form prior to the discussion of the agenda item)***
- 6. PROGRAM**
 - 6.1 Report from Texas Parks and Wildlife Department staff regarding department activities**
 - 6.2 Report from Texas Water Development Board staff on water planning issues:**
 - a. Kevin Kluge, Water Planning Update**
 - b. George Jones, TWDB Financial Assistance**
 - 6.3 Report from HDR, David Dunn, on approved Scope of Work tasks**
 - 6.4 Report on New Voting Member Solicitation status**
 - 6.5 Legislative Update by Matt Phillips, Brazos River Authority**
 - 6.6 Featured Educational Briefings on "Groundwater Management in Texas":**
 - a. Robert Mace, Director, Groundwater Resources Division, TWDB**
 - b. Leon Byrd, Senior Staff Geologist, Groundwater Planning and Assessment Team, TCEQ**
 - c. Mike McGuire, GMA #6**
 - d. Caroline Runge, GMA #7**
 - e. Randy Williams, GMA #8**
 - f. Gary Westbrook, GMA #12**
 - g. Lloyd Behm, GMA #14**
- 7. CONFIRMATION OF NEXT MEETING DATE;**
Possible action on foregoing
- 8. NEW BUSINESS TO BE CONSIDERED AT NEXT MEETING**
- 9. ADJOURN**

"Lunch will be served during the course of the meeting for members only"

**Agenda items may be considered, deliberated and/or
acted upon in a different order than set forth above.**

Meeting agendas and materials are available online at www.brazosgwwater.org

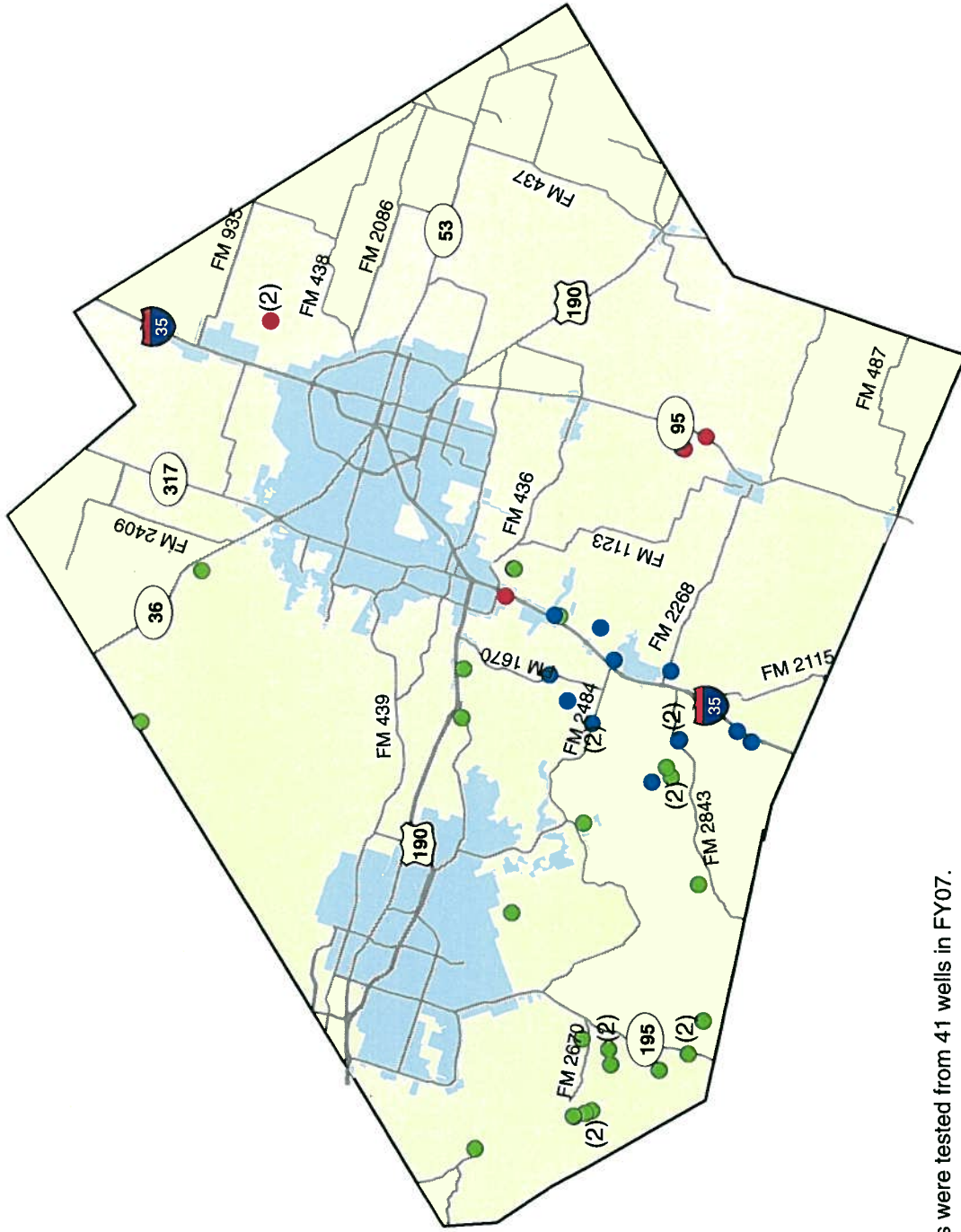
For additional information, please contact

Teresa Clark at 254-761-3177 or via e-mail info@brazosgwwater.org

Brazos River Authority, Administrative Agent

Appendix E

Clearwater UWCD Lab - Groundwater Samples Tested in FY2007



A total of 55 samples were tested from 41 wells in FY07.

Clearwater Underground Water
Conservation District
2180 N. Main St., PO Box 729
Belton, TX 76513
July 17, 2007



Legend

- Edwards
- Trinity
- Other Sources
- Bell_Cities

File Name Data Type

Results of Groundwater Samples Tested During FY2007

Test Date	CUWCD #	Aquifer ²	Depth (ft)	Coliform Bacteria ³	Fecal Matter	Alkalinity (mg/L)	Conductivity (µs/cm)	Total Dissolved Solids (mg/L)	Fluoride ⁴ (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	pH	Phosphate (mg/L)	Sulfate ⁴ (mg/L)
10/10/2006	E-02-2136G	M. Trinity-Hensell	450	Absent	Absent	320	1641	1147	*2.30	0	5.80	0.006	7.6	0.27	*80
1/9/2007	E-02-144G	Other-Austin Chalk	30	Present	Absent	300	415	309	0.80	320	2.30	0.001	7.3	0.40	15
5/30/2007	E-02-203G	Edwards (BFZ)	150	Present	Absent	260	429	243	0.40	300	34.20	0.030	7.5	0.37	18
5/30/2007	E-04-070P	Edwards (BFZ)	60	Absent	Absent	400	1165	394	1.90	100	1.60	0.012	7.7	0.04	*80
6/12/2007	E-02-144G	Other-Austin Chalk	30	Absent	Absent	Inconclusive	461	345	0.80	280	28.90	0.011	7.4	0.84	6
7/10/2007	E-02-1475G	U. Trinity-Glen Rose	380	Absent	Absent	420	1692	976	1.90	40	7.40	0.375	7.8	0.01	*80
7/11/2007	E-03-344P	M. Trinity-Hensell	540	Absent	Absent	360	2430	1210	2.10	760	2.30	0.001	7.6	0.11	*80
7/17/2007	E-02-240G	U. Trinity-Glen Rose	140	Present	Present	420	726	394	0.30	480	14.50	0.008	7.2	0.38	21
7/17/2007	E-02-049P	Edwards (BFZ)	120	Present	Present	360	557	338	0.20	460	20.10	0.008	7.5	0.51	19
7/17/2007	E-02-2847G	Edwards (BFZ)	200	Present	Absent	300	449	270	0.70	360	12.80	0.002	7.5	0.31	12
7/17/2007	E-02-2521P	Edwards (BFZ)	120	Absent	Absent	300	493	263	0.10	340	14.60	0.003	7.7	0.15	9
7/17/2007	E-02-2425G	U. Trinity-Glen Rose	Ukn	Present	Absent	420	1058	647	2.10	80	1.70	0.000	7.8	0.05	*80
7/17/2007	E-02-470G	U. Trinity-Glen Rose	120	Present	Absent	360	714	422	0.40	440	18.40	0.003	6.4	0.02	56
7/17/2007	E-02-1066G	U. Trinity-Glen Rose	350	Present	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
7/17/2007	E-02-757G	Edwards (BFZ)	Ukn	Present	Present	340	491	293	0.20	420	14.30	0.023	7.4	0.10	12
7/17/2007	E-02-1205G	Edwards (BFZ)	120	Present	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
7/17/2007	E-02-1475G	U. Trinity-Glen Rose	380	Present	Absent	400	1683	973	1.80	60	7.80	0.003	7.9	0.18	*80
7/24/2007	E-02-002G	Edwards Equivalent	85	Absent	Absent	300	442	283	1.30	340	6.70	0.004	7.7	0.11	22
7/24/2007	E-02-2848G	U. Trinity-Glen Rose	Ukn	Present	Absent	400	1110	717	1.90	240	1.20	0.006	7.8	0.08	*80
7/24/2007	E-02-2849G	U. Trinity-Glen Rose	Ukn	Absent	Absent	360	1441	926	2.20	480	12.80	0.005	7.5	0.24	*80
7/24/2007	E-02-757G	Edwards (BFZ)	Ukn	Present	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
7/24/2007	E-02-1483G	Alluvium	30	Present	Present	380	663	389	0.50	Inconclusive	Inconclusive	0.049	7.0	0.55	82
7/24/2007	E-02-313G	Edwards (BFZ)	200	Absent	Absent	320	458	294	1.10	320	16.30	0.004	7.5	0.09	21
7/24/2007	E-02-2715G	M. Trinity-Hensell	400	Present	Absent	400	995	643	2.20	60	5.40	0.002	7.8	0.15	*80
7/24/2007	E-06-047P (well)	M. Trinity-Hensell	870	Absent	Absent	360	1082	647	2.00	80	9.90	0.007	7.8	0.21	*80
7/24/2007	E-02-2781G	Edwards (BFZ)	137	Present	Absent	280	395	243	0.30	280	31.30	0.008	7.6	0.07	14
7/24/2007	E-02-3257G	Alluvium	30	Present	Present	360	483	305	0.00	400	1.40	0.079	7.2	0.10	21
7/24/2007	E-02-3583G	U. Trinity-Glen Rose	Ukn	Present	Present	400	676	436	0.20	400	75.00	0.008	7.0	0.13	23
7/24/2007	E-02-2736G	U. Trinity-Glen Rose	120	Present	Present	320	443	293	1.80	340	1.70	0.012	7.7	0.11	34
7/24/2007	E-02-537G	U. Trinity-Glen Rose	735	Absent	Absent	380	2260	1473	2.00	260	10.10	0.010	7.7	0.32	1
7/24/2007	E-02-3281G	M. Trinity-Hensell	700	NT	NT	360	1758	1175	2.10	260	6.70	0.192	7.6	0.21	*80
7/25/2007	E-02-1149G	U. Trinity-Glen Rose	520	Present	Absent	300	447	320	0.20	400	5.90	0.008	NT	0.05	26
7/25/2007	E-07-043G	M. Trinity-Hensell	550	Present	Absent	380	1295	806	2.10	220	1.10	0.005	7.7	0.05	*80
7/25/2007	E-06-047P (tank)	M. Trinity-Hensell	870	Present	Absent	400	1007	642	1.90	80	1.20	0.029	7.8	0.10	*80
7/25/2007	E-02-2641G	Alluvium	Ukn	Present	Present	280	540	338	0.00	300	5.70	0.002	NT	0.19	33
7/26/2007	E-02-1066G	U. Trinity-Glen Rose	350	Absent	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
7/31/2007	E-03-354G	U. Trinity-Glen Rose	150	Absent	Absent	220	629	394	0.50	300	1.90	0.000	7.5	0.13	*80

Results of Groundwater Samples Tested During FY2007 ¹ (continued)															
Test Date	CUWCD #	Aquifer ²	Depth (ft)	Coliform Bacteria ³	Fecal Matter	Alkalinity (mg/L)	Conductivity (µs/cm)	Total Dissolved Solids (mg/L)	Fluoride ⁴ (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	pH	Phosphate (mg/L)	Sulfate ⁴ (mg/L)
8/1/2007	E-02-2425G	U. Trinity-Glen Rose	Ukn	Absent	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
8/1/2007	E-02-049P	Edwards (BFZ)	120	Present	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
8/7/2007	E-03-430P	M. Trinity-Hensell	882	Present	Absent	440	1098	682	1.80	80	0.50	0.108	8.0	0.18	*80
8/7/2007	E-02-2035G	U. Trinity-Glen Rose	Ukn	Present	Absent	460	1430	990	2.20	300	1.50	0.003	7.6	0.09	*80
8/7/2007	E-02-3281G	M. Trinity-Hensell	700	Absent	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
8/14/2007	E-02-226G (house)	U. Trinity-Glen Rose	Ukn	Present	Absent	NT	437	288	1.80	340	1.10	0.001	7.8	0.03	12
8/14/2007	E-02-227G	U. Trinity-Glen Rose	Ukn	Present	Absent	420	431	274	1.90	320	0.00	0.004	7.8	0.07	11
8/14/2007	E-02-056P	Edwards (BFZ) (well)	140	Present	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
8/14/2007	E-02-056P	Edwards (BFZ) (house)	140	Present	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
8/28/2007	E-02-129G	M. Trinity-Hensell	470	Absent	Absent	460	1117	696	*2.3	40	0	0.270	8.1	0.06	*80
8/28/2007	E-03-430P	M. Trinity-Hensell	882	Absent	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
9/11/2007	E-02-1149G	U. Trinity-Glen Rose	520	Present	Absent	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
9/19/2007	E-02-144G	Other-Austin Chalk	30	Inconclusive	Absent	Inconclusive	585	304	0.60	320	2	0.000	7.6	0.12	9
9/27/2007	E-02-129G	M. Trinity-Hensell	470	Absent	Absent	440	NT	NT	2.20	120	2	0.000	7.9	0.23	*80
9/27/2007	E-02-943G	U. Trinity-Glen Rose	460	Absent	Absent	460	NT	NT	*2.3	80	1	0.007	7.9	0.20	*80
9/27/2007	N2-07-002P	Edwards (BFZ)	200	Absent	Absent	320	NT	NT	0.20	360	5	0.002	7.3	0.14	9
9/28/2007	E-02-2807G	Edwards (BFZ)	100	Absent	Absent	360	NT	NT	1.10	400	1	0.008	7.4	0.02	25
9/28/2007	Salado Creek	Surface water	0	Present	Present	240	407	NT	0.10	260	1	0.003	7.9	0.01	4

Results Summary			
	# of wells tested	(+) Coliform %	(+) Fecal Matter %
Before 7/01/2007	5	2	40%
After 7/01/2007	33	22	67%
FY2007 totals	38	24	63%
FY2006 totals	15	3	20%
FY2005 totals	14	5	36%
			0%

Notes:

results were not conducted by a certified lab, therefore, the data is provided for informational purposes only.

2. The aquifer designation was determined by Turner Collie & Braden, Inc.

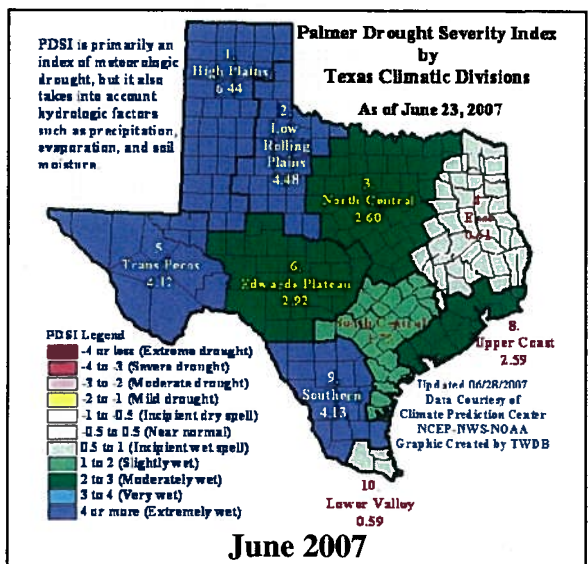
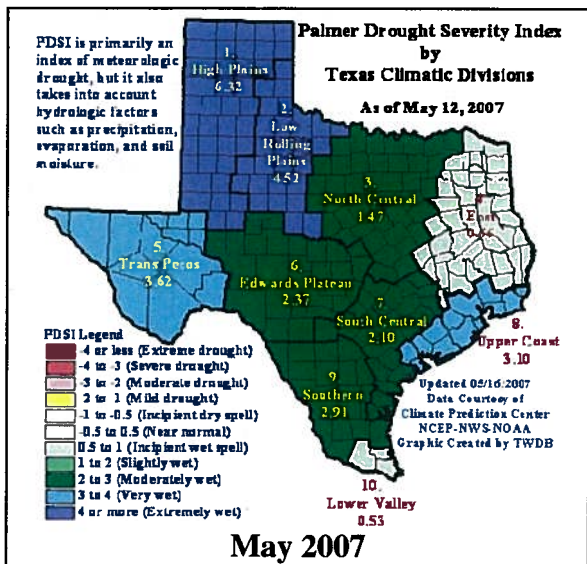
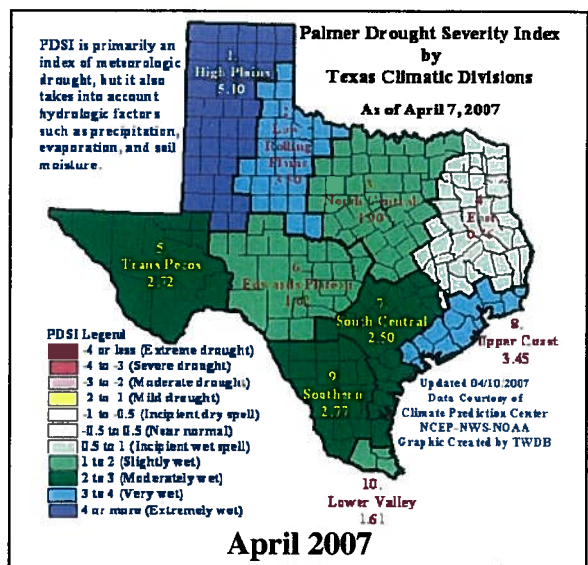
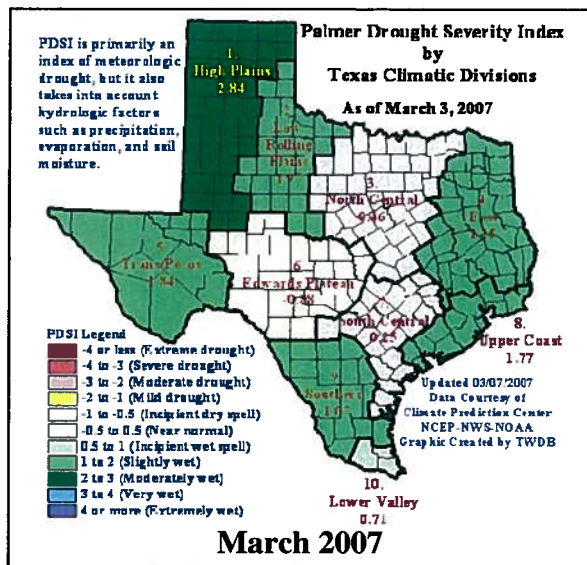
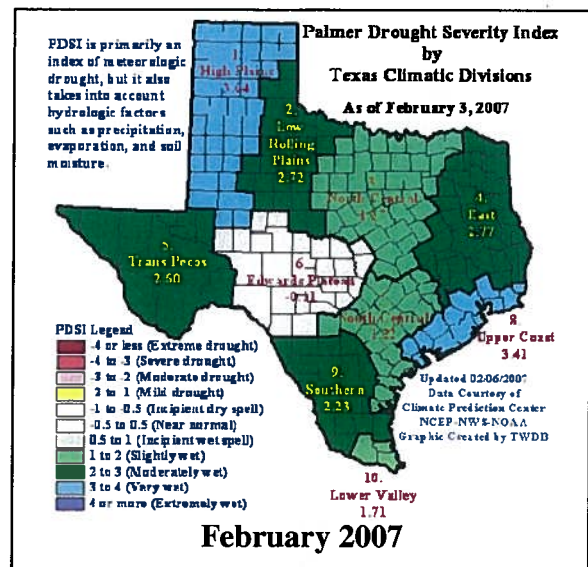
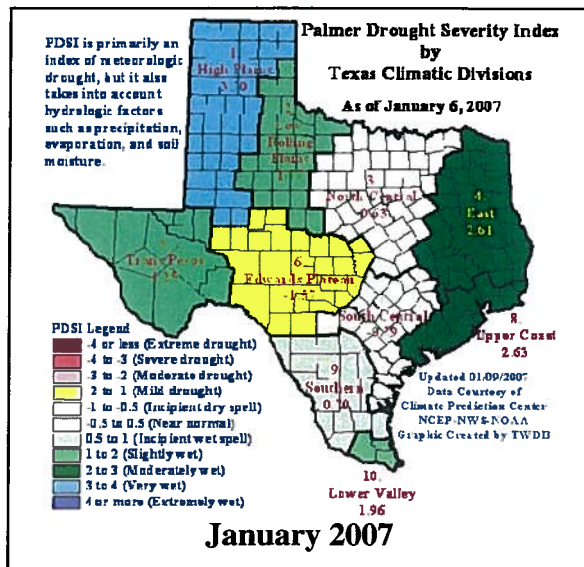
3. The presence/absence test only indicates if total coliform is present. No distinction is made on the origin of the bacteria.

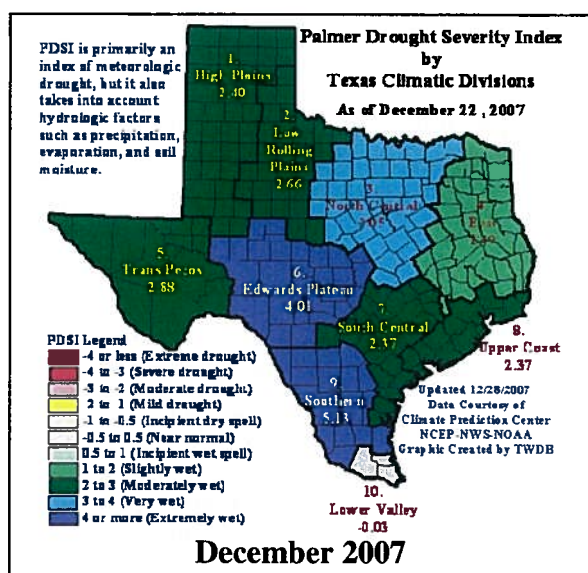
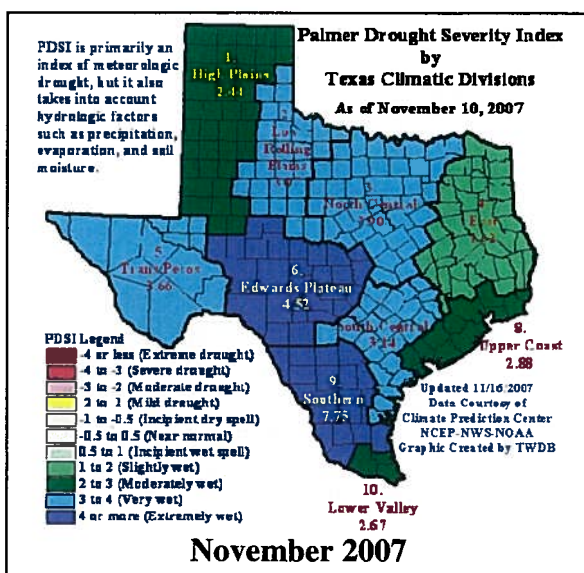
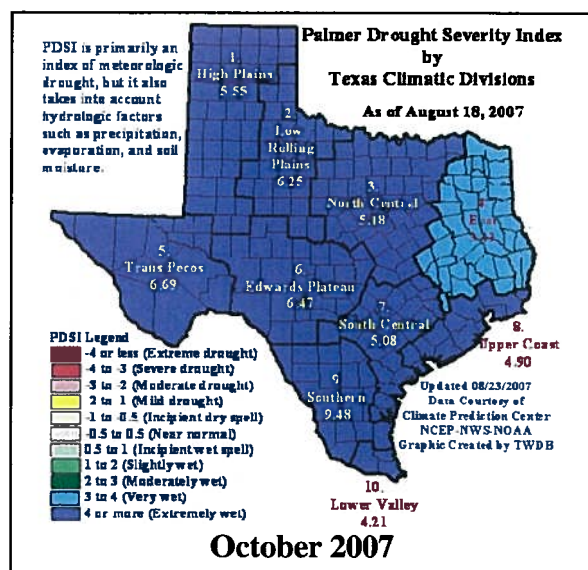
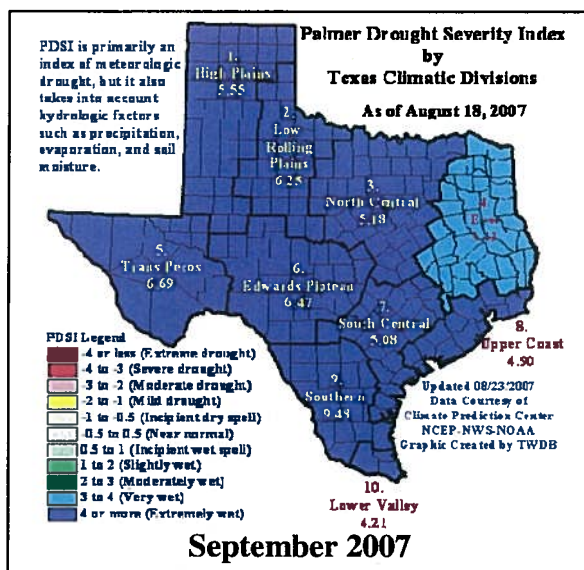
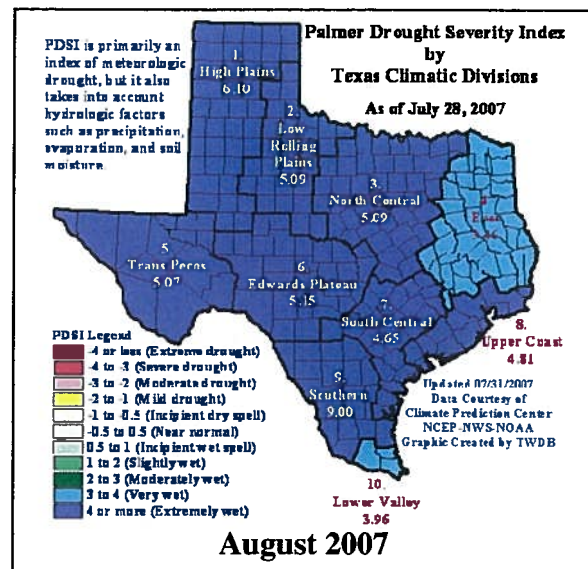
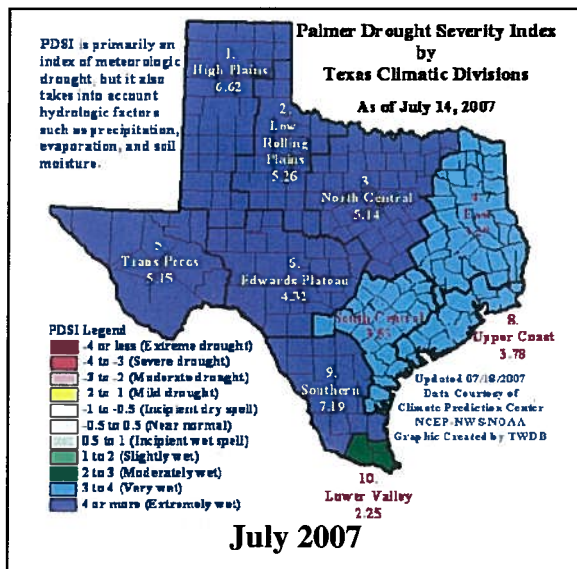
4. The limit of the Fluoride test is 2.3 mg/L and the limit of the Sulfate test is 80 mg/L.

5. NT means not tested because the test was not requested or the test could not be performed because the equipment was under repair.

Appendix F

Palmer Drought Severity Index January – December 2007







DROUGHT PREPAREDNESS COUNCIL

RICK PERRY
Governor

5805 N. Lamar Blvd.
P.O. Box 4087
Austin, Texas 78773-0220
Phone: (512) 424-2138
Fax: (512) 424-2444

JACK COLLEY
Council Chairman

February 8, 2007

TO: Governor Rick Perry
Lieutenant Governor David Dewhurst
Secretary of State Roger Williams
Senator Mario Gallegos, President Pro Tempore of the Senate
Speaker Tom Craddick, Speaker of the House, State of Texas
Senator Steve Ogden, Chairman, Senate Finance Committee
Senator Kip Averitt, Chairman, Senate Natural Resources Committee
Senator John Corona, Chairman, Senate Transportation and Homeland Security Committee
Representative Warren Chisum, Chairman, House Appropriations Committee
Representative Robert Puente, Chairman, House Natural Resources Committee
Representative Sid Miller, Chairman, House Agriculture & Livestock Committee
Representative Aaron Pena, Chairman, House Criminal Jurisprudence Committee
Deirdre Delisi, Governor's Chief of Staff
Steven McCraw, Director of Homeland Security

FROM: Jack Colley, Chairman, Drought Preparedness Council

SUBJECT: Statewide Drought Situation Report

1. Next Council Meeting

March 8, 2007, at 2:00 p.m. at the Texas Department of Public Safety Headquarters in the Governor's Conference Room, Governor's Division of Emergency Management, 5805 N. Lamar Blvd., Austin, Texas.

Jack Colley, Chairman
Governor's Division of Emergency Mgmt

Pal Scully, Member
Texas Department of Agriculture

Scott Alley, Member
Texas Department of Transportation

Bill Billingsley, Member
Texas Commission on Environmental
Quality

James Hull, Member
Texas Forest Service

John Sutton, Member
Texas Water Development Board

Dr. Travis Miller, Member
Texas Cooperative Extension

Harvey R. Everheart, Member
Texas Alliance of Groundwater Districts

Thomas Walker, Member
Office of the Governor
Economic Development & Tourism

Gus Garcia, Member
Office of Rural Community Affairs

Richard Egg, Member
State Soil & Water Conservation Board

Cindy Loeffler, Member
Texas Parks & Wildlife Department

Paul Tabor, Member
Texas Department of State Health Services

Judith Jenness, Member
Texas Department of Housing and
Community Affairs

Dr. John W. Nielsen-Gammon, Member
Office of the State Climatologist

2. General Conditions

Texas experienced its sixth wettest January on record last month and its eighth wettest December through January period. The precipitation was heaviest in the eastern part of the state, as is common for this time of year, but almost all locations within Texas have received above-normal precipitation over the past three months. Much of the precipitation was in the form of snow or freezing rain and was useful for drought relief.

The portions of the state still under acute drought conditions include Central and South-Central Texas, with the most severe conditions found across the southern Edwards Plateau and the Winter Garden area to its south, and then eastward to the Big Bend area. The Texas Panhandle has received ample precipitation this fall and winter and is out of drought status. Southeast Texas was considerably wetter than normal over the past six months. Dry long-term conditions remain in North-Central and Northeast Texas. The agricultural situation there is good, but water supplies are still experiencing lingering effects from the drought of 2005-2006 and the area is vulnerable to a recurrence of drought this summer, depending on the adequacy of spring rainfall.

El Nino conditions persist in the equatorial Pacific Ocean. Normally this implies a wetter than normal winter for Texas, and so far it has been wetter than normal. El Nino should remain in place at least through March, but predictions for April and beyond are considerably less skillful.

3. Overall Statewide Drought Conditions

The Climate Prediction Center (CPC) predicts above normal precipitation for the entire state from February 2007 to April 2007 with equal chances of below normal, normal, or above normal temperatures for the state.

The CPC's longer term forecast predicts above normal precipitation for the entire state from March 2007 to May 2007 with normal temperatures for most of the state.

The National Oceanic and Atmospheric Administration (NOAA) Seasonal U.S. Drought Outlook, through April 2007, indicates drought conditions will improve.

The Edwards Plateau is experiencing "Near Normal" conditions. The remainder of the state is under "Slightly Wet" to "Very Wet" Drought conditions, according to the Palmer Drought Severity Index (PDSI). The PDSI varies from moderately wet, to slightly wet, incipient wet spell, near normal, incipient dry spell, mild drought, moderate drought, severe drought, and extreme drought in order of increasing severity.

The Crop Moisture Index (CMI) indicates the Upper Coast region is under "Standing Water" conditions and the East and South Central regions are experiencing "Fields Too Wet" conditions. The remainder of the state is under "Moisture Adequate" conditions. The CMI varies from flooding, to standing water, moisture adequate, mildly dry, abnormally dry, excessively dry, severely dry, and extremely dry in order of increasing severity.

The Keetch-Byram Drought Index (KBDI) indicates areas with high fire danger in small parts of Edwards Plateau, and Southern regions. The KBDI is a drought index specifically used to describe potential or expected fire behavior. The index is classified as Low, Moderate, High or Extreme fire danger, in order of increasing severity.

The Texas Forest Service reports outdoor burning bans in 19 counties, primarily in west and central Texas.

One hundred sixty-six water supply systems are under mandatory water use restrictions according to the Texas Commission on Environmental Quality's (TCEQ) list of Public Water Supplies Effected by Drought. Another one hundred and ten community water supply systems are under voluntary water use restrictions.

Water level measurements were available for all seven key monitoring wells. Water levels rose in all seven monitoring wells since the beginning of January, ranging from 0.14 feet in the Castro County Ogallala well to 8.69 feet in the Atascosa County Carrizo well. The J-17 well recorded a water level of 59.50 feet below land surface. This water level is 20.50 feet above the Stage 1 critical management level.

4. Water Utility Status

February 2007 began with 276 public water systems requiring customers to adhere to outside water use restrictions. Of the 276 systems, 166 water systems have mandatory restrictions based on address and day of the week, and 110 systems are asking customers to voluntarily conserve water. The rains in January enabled 10 public water systems to relax restrictions and return to normal usage patterns. If rains continue, additional systems will be able to review their drought contingency plans and modify watering restrictions.

5. Water Rights – Statewide

Cooler weather and significant rains provided relief in the State in January, but it may still be too early to say the drought has ended. New temporary water use permit applications, both short and long term, are being reviewed on a site-specific basis and issued if there is sufficient surplus water at the requested source. Applications for new water use permits and amendments to existing permits remained near normal for the month. The availability of unappropriated water for new water use permits is decreasing in the State, and the search for long-term, dependable alternate sources of water remains a high priority issue.

6. Water Rights – Lower Rio Grande / Rio Grande Watermaster (RGWM)

Current Conditions: As of January 27, 2007 the U.S. combined ownership at Amistad/Falcon stood at 74.54 percent of conservation capacity [2,479,151 (acre-feet) AF], down from 96.45 percent (3,207,979 AF) a year ago at this time. Overall, the system is holding at 63.08 percent (3,661,975 AF) of conservation capacity with Amistad at 81.29 percent (2,561,838 AF) and Falcon at 41.46 percent (1,100,131 AF). Mexico has 47.72 percent (1,182,823 AF) of the water it could store at Amistad/Falcon.

Allocations: As of the printing of the December ownership report, the U.S. has allocated in excess of 456,382 AF to Class A and B water rights. The U.S. continues to have an amount in excess of 160,000 AF for future allocations.

Storage & Loss Amistad vs. Falcon: The U.S. is currently storing approximately 1.83 million AF at Amistad (103 percent), occupying 60,000 AF of Mexico's space at Amistad. The U.S. is currently storing approximately 645,000 AF at Falcon (41.5 percent).

The year-to-date evaporation and seepage losses at Amistad are 63,950 AF. For the same period, 1,628 AF was lost at Falcon. The ratio of loss between Amistad and Falcon continues to consistently be 2:1 with Amistad being twice as efficient in overall storage and loss as compared to total amount in storage.

Releases to Meet Demands: Mexico has released 7,872 AF from Amistad and 10,589 AF from Falcon for their needs. The U.S. has released 58,281 AF from Amistad and 28,427 AF from Falcon for U.S. needs. Combined with gains between Amistad and Falcon, the U.S. inflows to Falcon have totaled 64,948 AF. As is evident, the U.S. met 100 percent of the overall needs in the middle and lower Rio Grande directly from Amistad this year. This movement of water is primarily driven by the U.S. excess amount in storage at Amistad and the need to keep it below conservation capacity, particularly when the U.S. is occupying Mexico's space in Amistad.

Upper Rio Grande (New Mexico): Elephant Butte in New Mexico is currently storing 560,199 AF (27.68 percent) and Caballo Dam in New Mexico, downstream of Elephant Butte is storing 45,400 AF (20.00 percent). This water storage in part is used to meet water needs in the El Paso area.

Outlook: As anticipated, most all accounts began 2007 with 100 percent usable balances. Recent wet conditions resulted in a reduction of irrigation water demand during the months of November through February. If these conditions continue through the end of February, pre-plant irrigation demand will be minimized while conserving the current storage conditions. While overall deliveries of water by Mexico are just slightly below average due to the extensive drought experienced for most of 2006, current basin conditions should provide for significant opportunities to mitigate the creation of a new debt when the current cycle ends in October 2007. Discussions between the two countries, relative to deficit avoidance, are ongoing.

Recent U.S. shares in the Amistad/Falcon reservoir systems are as follows:

<u>YEAR</u>	<u>U.S. SHARE (percent)</u>	<u>TOTAL (ACRE-FEET)</u>
1994	65.7	2,271,609
1995	47.7	1,587,370
1996	35.6	1,183,637
1998	39.8	1,324,700
1999	40.8	1,357,939
2000	41.7	1,387,125
1997	36.5	1,215,254
2001	32.49	1,080,676
2002	34.76	1,156,072
2003	51.60	1,716,273
2004	95.37	3,172,308
2005	94.52	3,143,933
2006	74.71	2,484,826
2007	74.54	2,479,151

(Note: Numbers for previous years are the levels at the end of the year.)

7. South Texas Watermaster – Guadalupe / Lavaca / San Antonio / Nueces Region

Conditions in South Texas and the Concho areas improved with significant rainfall for the month. Areas remain in drought conditions but are much improved over previous months.

Area of Coverage: Edwards, Real, Kinney, Uvalde, Zavala, Dimmit, La Salle, and Webb Counties

Rainfall and Area Conditions: The Southwest Texas area received some needed rain. The beginning and middle of January produced rain showers for the whole region and the month ended with more needed rain showers. The range of rainfall in the area was 2.50 to 3.50 inches for the month. The rains provided some temporary relief from drought conditions. Permit restrictions on the Nueces River are still in effect. Most of the diversions of surface water are for irrigation use and small amounts are for municipal and industrial purposes. The crops being irrigated in the area are carrots, spinach, and pecans. The U.S. Drought Report Monitor indicates that this area is still experiencing severe to exceptional drought conditions at this time.

Streamflow Conditions: Most of the streamflows for the major streams in this area continue to drop and are flowing below the mean for this time of year. The Nueces River at Laguna has current streamflows of 70 cubic feet per second (cfs) compared to 59 cfs for last month, with the mean being 101 cfs. The Nueces River near Brackettville has current streamflows of 0.29 cfs compared to 0.23 cfs for last month, with the mean being 1.3 cfs. The Nueces River below Uvalde has current streamflows of 11 cfs compared to 8.8 cfs for last month, with the mean being 60 cfs. The Frio River at Concan has current streamflows of 49 cfs compared to 47 cfs for last month, with the mean being 89 cfs. The Sabinal River at Sabinal has current streamflows of 1.0 cfs compared to 0.81 cfs for last month, with the mean being 17 cfs. The Leona River near Uvalde has current streamflows of 14 cfs compared to 13 cfs for last month, with the mean being 76 cfs.

The streamflows of the intermittent and tributary streams in the area are currently flowing below the average for this time of the year.

Area of Coverage: Bastrop, Bexar, Blanco, Caldwell, Comal, Fayette, Guadalupe, Hays, and Medina Counties

Rainfall and Area Conditions: Beneficial amounts of rain fell across the San Antonio Regional area during the month of January. The month-to-date rainfall measured at the San Antonio International Airport was 5.03 inches; the average for January is 1.66 inches. Total annual rainfall to date is 5.03 inches; the normal year to date is 1.66 inches. This is a departure from normal of +3.37 inches. The U.S. Drought Monitor, dated January 23, 2007, indicates the San Antonio Regional Area is experiencing extreme drought conditions. Ground moisture is fair to good across the entire San Antonio Regional Area.

Streamflow Conditions: Some creeks and streams are beginning to show streamflow while others continue to remain dry. Plowing in preparation for spring planting is currently underway. Winter oats are doing well. A good harvest of beets, turnips, cabbage, spinach, garlic, mustard green, carrots, and Swiss chard have been reported. Municipal water use has dropped dramatically with the reduction of lawn irrigation and cooler weather patterns. Industrial water use remains constant.

Streamflows have improved somewhat for the month of January. The Guadalupe River at Spring Branch is currently 138 cfs; the mean flow for January is 294 cfs. The San Marcos River at Luling is 239 cfs; the mean flow for January is 385 cfs. Lastly, the Blanco River at Wimberley is 82 cfs; the mean flow for January is 127 cfs.

Currently, Canyon Lake Reservoir is 902.74 feet, impounding 329,594 acre-feet (AF), and is at 64 percent capacity. Lake Medina is 1,027.76 feet, impounding 92,050 AF and is 57 feet below the spillway at 36.9 percent capacity. The Edwards Aquifer level at the J17 well in Bexar is 671.6 feet. The historical average for January is 669.5 feet. This is 2.1 feet above the monthly historical average. The San Marcos Springs are flowing at 181 cfs. The historical monthly average for January is 175.0 cfs. This is 6.0 cfs above the monthly historical average. Lastly, the Comal Springs are flowing at 301.0 cfs. The monthly historical flow for January is 306.0 cfs. This is 5.0 cfs below the historical monthly average.

Drought Restrictions: Temporary permits on the Blanco River are still temporarily suspended. Suspensions have been partially lifted on the Medina and Guadalupe Rivers and are being permitted on a case by case basis.

Area of Coverage: Bandera, Blanco, Comal, Kendall, and Kerr Counties

Rainfall and Area Conditions: This area received various amounts of precipitation, ranging from 3 to 5 inches for the month of January. The scattered showers during the month provided much needed soil moisture. Soil moisture conditions are currently in the adequate range, according to the Texas Crop Moisture Index. With the current amount of rainfall for this month, some pastures are already being turned over. Most of the surface water diversions in this area are for municipal and industrial use. The U.S. Drought Monitor indicates that this area is in moderate to severe drought conditions at this time.

Stream flow Conditions: Most of the streamflows of the major streams of the area continue to fluctuate due to the scattered showers, however they are still below the average for this time of the year. The Guadalupe River near Kerrville has current streamflows of approximately 59 cfs, with the historical mean being 119 cfs. This equates to a 49.6 percent flow of the Guadalupe River flowing past Kerrville. The Medina River near Bandera has current streamflows of approximately 38 cfs, with the historical mean being 116 cfs. This equates to a 32.8 percent flow of the Medina River flowing past Bandera.

Some small streams and tributaries are currently flowing even though most are still below the average for this time of year.

Drought Restrictions: There are no restrictions, other than normal permit restrictions in place at this time. However, the river flows are being monitored on a daily basis. Most of the temporary permit holders that divert from the Guadalupe River are able to do so.

Lake Medina: Even with the amount of rain that has fallen in this area, Lake Medina has received little to no inflows for the month of January. The conservation pool level for Lake Medina at the end of January was 36.94 percent (92,140 AF), compared to last month at 37.2 percent (94,860 AF).

Area of Coverage: Atascosa, Karnes, Gonzales, Wilson, McMullen, Dewitt, Guadalupe, Lavaca, Fayette, Colorado, Wharton, Jackson, Zavala, Dimmit, Uvalde, and La Salle Counties

Rainfall and Area Conditions: This area received 3.5 to 5.5 inches of rainfall for the month of January. The area has good soil moisture conditions at this time. Lake Texana is at 100 percent capacity (last month ended at 90 percent) which is 44.09 feet above mean sea level (msl). Very little crop or diversion activity occurred in this area over the last couple of months. Oat, wheat, and rye crops are doing well at this time.

According to the U.S. Drought Monitoring System, this area is experiencing non-drought conditions to moderate drought conditions. This wide range of conditions is due to the good soil moisture that exists in the southern portions of the area as compared to the much dryer soil moisture in the western parts of the area. The rain received in December and January was wide spread and will help drought conditions in the entire area.

Streamflow Conditions: The flow of the San Antonio River near Falls City is currently 309 cfs with the historical mean for January at 288 cfs and ending the month at 375 cfs. The Cibolo Creek near Falls City is currently 51 cfs. The ending for last month was 56 cfs with the historical mean for January at 33 cfs. The Guadalupe River near Cuero is currently at 975 cfs. The ending reading for last month was 673 cfs with the historical mean for January at 1080 cfs. The Lavaca River at Edna is currently 179 cfs. The ending reading for last month was 33 cfs with the historical mean for January at 78 cfs. The Navidad River near Hallettsville is currently at 43 cfs. The ending reading for last month was 6.7 cfs with the historical mean for January at 34 cfs. The Atascosa River near Whittset is currently 24 cfs. The ending reading for last month was 22 cfs with the historical mean for January at 12 cfs. The Frio River near Tilden is currently 3.5 cfs. The ending reading for last month was 3.5 cfs with the historical mean for January at 41 cfs. Lastly, the Nueces River near Tilden is currently 61 cfs. The ending reading for last month was 16 cfs with the historical mean for January at 0.67 cfs.

Area of Coverage: Bee, Goliad, Victoria, Calhoun, Jackson, Refugio, Aransas, San Patricio, Nueces, Kleberg, Jim Wells, Duval, Live Oak, Kenedy, Willacy, Brooks, and Jim Hogg Counties.

Rainfall and Area Conditions: This area received significant amounts of rainfall throughout the month of January. Rainfall amounts measured from 1 inch to over 5 inches of rain, therefore, the streamflows of area streams and the soil moisture to area farmlands have improved. The Corpus Christi Reservoir System received some inflows to provide an increase to the lake levels. Most of the surface water diversions in this area are for municipal and industrial uses; little irrigation water use has been noted. The U.S. Drought Monitor indicates this area is currently experiencing abnormally dry conditions at this time.

Streamflow Conditions: The streamflows of streams in the area increased due to the amounts of rainfall in the area. The Guadalupe River near Victoria has current streamflows of approximately 1,120 cfs compared to 576 cfs last month, with the historical mean being 1,710 cfs. The San Antonio River near Goliad has current streamflows of approximately 532 cfs compared to 1,080 cfs last month, with the historical mean being 638 cfs. Streamflows are currently above permit restrictions of water rights on the San Antonio River in the Goliad County therefore, those water rights can continue to divert. The Guadalupe River near Tivoli (below the confluence of the San Antonio River and Guadalupe River) currently has streamflows of 2,240 cfs,

compared to 813 cfs last month, with the historical mean being 2,240 cfs. The Nueces River near Tilden is currently flowing at approximately 124 cfs compared to 50 cfs last month, with the historical mean being 79 cfs. The Frio River near Tilden currently has streamflows of 4.0 cfs compared to 5.1 cfs last month, with the historical mean being 93 cfs. Streamflows over the Calallen Dam, near Corpus Christi were estimated at 2.9 cfs toward the end of the month compared to 23 cfs last month, with the historical mean being 119 cfs.

Corpus Christi Reservoir System: The Corpus Christi Reservoir System received some much needed inflows for the month of January. The level of the reservoir system continues to increase and is currently at 66.7 percent compared to 82 percent at this time last year (last month 64.0 percent, 609,153 AF). The level of Choke Canyon is currently at 74.5 percent capacity which translates to 517,918 AF (last month 73.9 percent, 513,581 AF) capacity compared to 88.3 percent (614,040 AF) capacity during the same time last year. The level of Lake Corpus Christi is currently at 45.81 percent which translates to 117,805 AF (last month 37.1 percent, 95,572 AF) capacity compared to 63.7 percent (153,788 AF) capacity during the same time last year. The City of Corpus Christi continues to divert much of their monthly water supply needs from Lake Texana. The level of Lake Texana has risen slightly and is currently reported to be at approximately 44.1 msl or 100.2 percent capacity (last month, 42.4 msl or 96.3 percent capacity); full capacity is 44.0 msl.

The Concho River Valley received beneficial amounts of precipitation in varying forms, including rain, sleet, ice and snow for the month of January. This provided relief to the ongoing drought conditions in the area. According to information provided by the United States Department of Agriculture (USDA), the State Drought Monitor Index classifies the Concho Valley as severe to extreme drought conditions.

Area of Coverage: Sterling, Tom Green, Irion, Concho, Coke, Runnels, Reagan, and Schleicher Counties

Rainfall and Area Conditions: Temperatures for the month were below normal. Rainfall for the month was 1.81 inches. The normal rainfall amount for the month of January is 0.78 inches. Wheat, alfalfa, and hay grazer were sown for the winter growing season and are well-established. Irrigation water demand in the Concho Valley was reduced for the season.

Streamflow Conditions: Mean daily discharge statistics for the month of January, based on 5 years of record for United States Geological Survey (USGS) Gaging Station 081307000 (Spring Creek above Twin Buttes Reservoir near San Angelo) are 17 cfs. The most recent value is 21 cfs. Mean daily discharge statistics at USGS Gaging Station 0813600 (Concho River at San Angelo) based on 76 years of record is 25 cfs. Currently, the gage is at 2.56 cfs. Mean daily discharge statistics for the month of January at USGS Gaging Station 08128000 (South Concho at Christoval) based on 70 years of record is 16 cfs. The most recent daily value is 9.4 cfs. Flows continue to go over the permitted conservation dams. Area lakes indicate Lake Nasworthy is at 85 percent (8716 AF), O.C. Fisher is at 9.94 percent (7899 AF), and Twin Buttes Lake is at 19.83 percent (36,931 AF) of capacity.

8. Upper Colorado

Much of the upper Colorado River area received more than normal precipitation during the month of January 2007. The National Weather Service in San Angelo reported monthly precipitation of 1.86 inches in January which is 1.04 inches above normal. The

Midland/Odessa and Big Spring area received normal to above normal precipitation (0.6 to 1.2 inches) during the month of January. Most of the tributaries of the upper Colorado River are mostly flowing at levels at or above the long-term medians. The pool levels in E.V. Spence and O.H. Ivie Reservoirs remained somewhat constant relative to last month. As of the end of the month, the pool levels of E.V. Spence and O.H. Ivie Reservoirs were 13 percent and 40 percent, respectively.

9. Texas Panhandle and Southern High Plains

The National Weather Service (NWS) in Amarillo reported 0.94 inches of rain for January which is 0.35 inches above the monthly average. The NWS also reported a total of 9 inches of snow, which is 4.6 inches above the monthly average. Lake Mackenzie is standing at 78.17 feet which is a decrease of 0.14 feet for the month. Lake Meredith is at 54.03 feet which is an increase 0.28 feet for the month. Lake Greenbelt is at 55.51 feet which is an increase of 0.40 feet for the month.

The Lubbock area received 1.1 inches of precipitation during the month of December and similar amounts were recorded throughout the area. This reflects 0.62 inches above-normal for the first month of the year. The long term drought situation has not changed and all communities previously noted as being on mandatory water restrictions remain on those restrictions. No new communities were added to the water restrictions list during the month of December. White River Lake is down 25 feet from normal (normal is 46 feet at the dam). This is the same level the lake was at the end of December 2006. Lake Alan Henry is full; however, this lake is not used for public drinking water supplies at present.

10. Agricultural Concerns

Precipitation in the form of rain, snow and ice was prevalent over much of the state in December and January, leaving the state in much better shape than it was at the beginning of winter. The effects of the prolonged drought still linger. Hay supplies are short statewide and winter grazing is very limited in most of the Rolling Plains, east, central and southwestern regions of the state. While surface moisture is adequate for planting spring crops, much of the central, Edwards Plateau, and southwest regions of Texas are critically short of subsurface soil moisture needed to sustain field crops and pastures as the warm season approaches. Cold weather has greatly reduced growth rates in wheat pasture and ryegrass, requiring ranchers to stretch already short hay supplies.

Drought: Soil moisture levels are returning to normal, with some areas experiencing adequate to surplus conditions.

Texas Weekly Crop Report: Wheat crops are good to excellent. Rangeland and pasture conditions remain poor to good.

Cattle: The wet conditions and cold temperatures are causing stress to cattle, and they are thin in spite of supplemental feeding.

Weekly Texas Hay Report: Trading activity is light. Demand is good with a short supply and prices remain steady. Weather conditions have delayed fieldwork in some areas.

Hay Hotline: Texas Department of Agriculture has the Hay and Grazing Hotline set up for buyers and sellers at (877) 429-1998 or online at www.agr.state.tx.us.

11. Drought Impacts to Wildlife

No information available at this time.

12. Wildfire Concerns

The Keetch-Byram Drought Index (KBDI) is used to help determine potential for fire risk. It is a numerical index where each number is an estimate of the amount of precipitation (in 100ths of an inch) needed to bring the soil back to saturation. The index ranges from 0 to 800, with 0 representing a saturated soil, and 800 a completely dry soil. The KBDI's relationship to fire danger is that as the index increases, the vegetation is subjected to increased moisture stress. KBDI levels and its relationship to expected fire potential are reflected in the following:

KBDI = 0 – 200: Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. This is typical of spring dormant season following winter precipitation.

KBDI = 200 – 400: Typical of late spring; early growing season. Lower litter and duff layers are drying and beginning to contribute to fire intensity.

KBDI = 400 – 600: Typical of late summer, early fall. Lower litter and duff layers contribute to fire intensity and will burn actively.

KBDI = 600 – 800: Often associated with more severe drought and increased wildfire occurrence. Intense, deep-burning fires with significant downwind spotting can be expected. Live fuels can also be expected to burn actively at these levels.

There are currently 14 counties, illustrated in Attachment 2, with KBDI values in excess of 400, indicating that areas within these counties are beginning to experience dry conditions, which could result in an increased fire risk potential.

The Council, which is chaired by Jack Colley, Chief, Governor's Division of Emergency Management, is composed of state agencies concerned with the effects of drought and fire on the citizens of the State of Texas. The attached information was compiled and provided by representatives listed below. Points of contact, telephone numbers, and web site addresses are also provided.

Jack Colley, Chief, Governor's Division of Emergency Management, (512) 424-2443, fax (512) 424-2444, web site: <http://www.txdps.state.tx.us/dem>

John Sutton, Texas Water Development Board, (512) 463-7988, fax (512) 463-9893, web site: <http://www.twdb.state.tx.us>

Bill Billingsley, Texas Commission on Environmental Quality, (512) 239-1697, fax (512) 239-4770, web site: <http://www.tceq.state.tx.us>

Richard Egg, Texas State Soil & Water Conservation Board, (254) 773-2250, fax (254) 773-3311, web site: <http://www.tsswcb.state.tx.us>

Pal Scully, Texas Department of Agriculture, (512) 475-1611, fax (512) 463-5837, web site: <http://agr.state.tx.us>

Dr. Travis Miller, Texas Cooperative Extension, (979) 845-4008, fax (979) 845-0604, web site: <http://soilcrop.tamu.edu>

Cindy Loeffler, Texas Parks & Wildlife Department, (512) 912-7015, fax (512) 707-1358, web site: <http://www.tpwd.state.tx.us>

Judith Jenness, Department of Housing and Community Affairs, (512) 475-2135, Fax (512) 475-7498, web site: <http://www.tdhca.state.tx.us>

James Hull, Texas Forest Service, (979) 458-6606, fax: (979) 458-6610, web site: <http://txforests.tamu.edu>

Scott Alley, Texas Department of Transportation, (512) 416-3187, fax (512) 416-2941, web site: <http://www.dot.state.tx.us/>

Paul Tabor, Texas Department of State Health Services, (512) 458-7126, fax (512) 458-7472, web site: <http://www.dshs.state.tx.us/>

Thomas Walker, Office of the Governor, Economic Development & Tourism, (512) 936-0169, fax (512) 936-0141, web site: <http://www.governor.state.tx.us/divisions/ecodev>

Harvey Everheart, Texas Alliance of Groundwater Districts, (806) 872-9205, fax (806) 872-2838, web site: <http://www.texasgroundwater.org/>

Dr. John W. Nielsen-Gammon, Office of the State Climatologist, (979) 862-2248, fax (979) 862-4466, web site: <http://www.met.tamu.edu/oscl/>

Gus Garcia, Office of Rural Community Affairs, (512) 936-7876, fax (512) 936-6776, web site: <http://www.orca.state.tx.us>

CC:

Amy Jeter, Committee Clerk, Senate Finance Committee
Sarah Hicks, Committee Director, Senate Finance Committee
Teddy Carter, Committee Clerk, Senate Natural Resources Committee
Amy Peterson, Committee Director, House Appropriations
Hope Wells, Committee Clerk, House Natural Resources Committee
Steven Schar, Committee Clerk, House Agriculture and Livestock Committee
Gina Chung, Committee Clerk, House Criminal Jurisprudence Committee
Zak Covar, Policy Advisor for TCEQ Issues, Governor's Policy Office
Auburn Mitchell, Policy Advisor for Agriculture/TDA, Governor's Policy Office
Rob Johnson, Lt. Governor's Chief of Staff
Carmen Cernosek, Lt. Governor's Natural Resources Policy Analyst
Shane Linkous, Deputy Division Chief, Intergovernmental Relations, Attorney General's Office
Ernest Angelo, Jr., Chairman, Public Safety Commission
Louis E. Sturns, Member, Public Safety Commission
Colonel Thomas Davis, Director, Department of Public Safety
Lieutenant Colonel David McEathron, Assistant Director, Department of Public Safety
Lori Gabbert, Budget Analyst, Legislative Budget Board (LBB-DPS)
Tom Lambert, Budget Analyst, Legislative Budget Board (LBB-TCEQ)
Ed Perez, Executive Director, Texas Office of State-Federal Relations, Washington, DC
Brandon Steinmann, Director, Texas Office of State-Federal Relations, Austin, Texas

Attachment 1

CLIMATIC REGIONS

High Plains

Low Rolling Plains

North Central

East

Trans-Pecos

Edwards Plateau

Southern

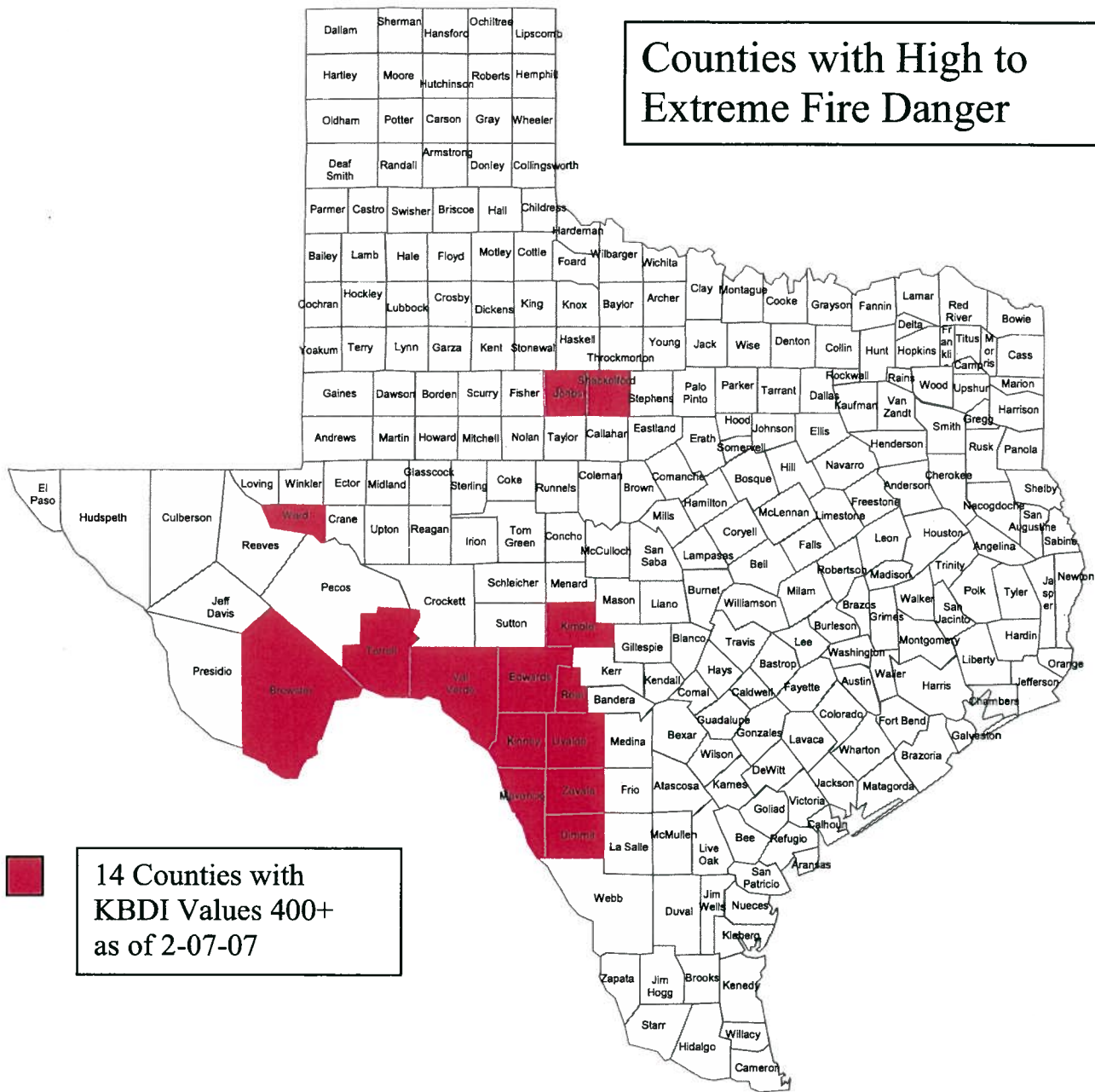
Upper Coast

South Central

10—Lower Valley

110—Lower Valley

Attachment 2





DROUGHT PREPAREDNESS COUNCIL

RICK PERRY
Governor

5805 N. Lamar Blvd.
P.O. Box 4087
Austin, Texas 78773-0220
Phone: (512) 424-2138
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JACK COLLEY
Council Chairman

April 12, 2007

TO: Governor Rick Perry
Lieutenant Governor David Dewhurst
Secretary of State Roger Williams
Senator Mario Gallegos, President Pro Tempore of the Senate
Speaker Tom Craddick, Speaker of the House, State of Texas
Senator Steve Ogden, Chairman, Senate Finance Committee
Senator Kip Averitt, Chairman, Senate Natural Resources Committee
Senator John Corona, Chairman, Senate Transportation and Homeland Security Committee
Representative Warren Chisum, Chairman, House Appropriations Committee
Representative Robert Puente, Chairman, House Natural Resources Committee
Representative Sid Miller, Chairman, House Agriculture & Livestock Committee
Representative Aaron Pena, Chairman, House Criminal Jurisprudence Committee
Deirdre Delisi, Governor's Chief of Staff
Steven McCraw, Director of Homeland Security

FROM: Jack Colley, Chairman, Drought Preparedness Council

SUBJECT: Statewide Drought Situation Report

1. Next Council Meeting

May 17, 2007, at 2:00 p.m. at the Texas Department of Public Safety Headquarters in the Governor's Conference Room, Governor's Division of Emergency Management, 5805 N. Lamar Blvd., Austin, Texas.

Jack Colley, Chairman
Governor's Division of Emergency Mgmt

Pal Scully, Member
Texas Department of Agriculture

Scott Alley, Member
Texas Department of Transportation

Bill Billingsley, Member
Texas Commission on Environmental
Quality

James Hull, Member
Texas Forest Service

John Sutton, Member
Texas Water Development Board

Dr. Travis Miller, Member
Texas Cooperative Extension

Harvey R. Everheart, Member
Texas Alliance of Groundwater Districts

Thomas Walker, Member
Office of the Governor
Economic Development & Tourism

Gus Garcia, Member
Office of Rural Community Affairs

Richard Egg, Member
State Soil & Water Conservation Board

Cindy Loeffler, Member
Texas Parks & Wildlife Department

Paul Tabor, Member
Texas Department of State Health Services

Judith Jenness, Member
Texas Department of Housing and
Community Affairs

Dr. John W. Nielsen-Gammon, Member
Office of the State Climatologist

2. General Conditions

Strange winter weather continued across Texas in March and early April. According to preliminary data, and after a very dry February, March 2007 was the wettest March on record for Texas as a whole. Additionally, records were established in the High Plains, the Low Rolling Plains, North Central Texas, and the Edwards Plateau. The only corners of the state that did not receive above-normal rainfall over the past month were extreme northeast Texas, extreme East Texas, and extreme West Texas. Except for the former two areas, nearly the entire state has received above normal precipitation over the past three and six months.

The precipitation this winter and early spring have eliminated long-term precipitation deficits in the High Plains, the Low Rolling Plains, the Trans Pecos, and Southeast Texas. Other areas, particularly north-central and northeast Texas, remain under long-term drought despite plenty of water recently. In both areas, rainfall deficits during the past two years rank those areas around the 10th-15th driest such periods on record. Long-term conditions are also generally dry throughout the Edwards Plateau and in parts of South Texas and the Lower Valley.

Most of the state of Texas is in good shape heading into the warmer part of the year. Those places still undergoing long-term drought will come under drought stress sooner than other areas if rainfall deficits develop during late spring and summer. Normal rainfall through the summer would be sufficient to hold drought at bay in most areas.

3. Overall Statewide Drought Conditions

The Climate Prediction Center (CPC) predicts below normal precipitation for the eastern half of Texas April 2007 to June 2007 and above normal temperatures for the entire state. The CPC predicts equal chances of below normal, normal, or above normal precipitation for the state from May 2007 to July 2007. During the same period, the CPC predicts above average temperatures for most of the state. National Oceanic and Atmospheric Administration (NOAA) Seasonal U.S. Drought Outlook through June 2007 indicates drought conditions are ongoing but will improve.

The East region is experiencing "Incipient Dry Spell" conditions. The North Central and Edwards Plateau, and Lower Valley areas are under "Slightly Wet" conditions. The remainder of the state is under "Moderately Wet" to "Extremely Wet" drought conditions, according to the Palmer Drought Severity Index (PDSI). The PDSI varies from moderately wet, to slightly wet, incipient wet spell, near normal, incipient dry spell, mild drought, moderate drought, severe drought, and extreme drought in order of increasing severity.

The Crop Moisture Index (CMI) indicates "Moisture Adequate" to "Fields Too Wet" conditions throughout the state. The CMI varies from flooding, to standing water, moisture adequate, mildly dry, abnormally dry, excessively dry, severely dry, and extremely dry in order of increasing severity. The Six-Month Standardized Precipitation Index (SPI) indicates that at the end of September the entire state is experiencing "Near Normal" to "Extremely Wet" conditions.

According to the Texas Commission on Environmental Quality's (TCEQ) list of Public Water Supplies Effected by Drought, 155 water supply systems are under mandatory water use restrictions. Another 93 community water supply systems are under voluntary water use restrictions.

Water level measurements were available for six of the seven key monitoring wells. Water levels rose in four of the monitoring wells since the beginning of March, ranging

from 0.21 feet in the Coryell County Trinity well to 8.80 feet in the Bexar County Edwards well. Water levels declined in the remaining monitoring wells, ranging from 0.04 feet in the Castro County Ogallala well to 1.02 feet in the Tarrant County Paluxy well. The J-17 well recorded a water level of 56.90 feet below land surface. This water level is 23.10 feet above the Stage 1 critical management level.

The Keetch-Byram Drought Index (KBDI) indicates areas with high fire danger in small parts of Edwards Plateau and Southern regions. The KBDI is a drought index specifically used to describe potential or expected fire behavior. The index is classified as Low, Moderate, High or Extreme fire danger, in order of increasing severity. Texas Forest Service reports outdoor burning bans in 22 counties, primarily in west and central Texas.

4. Water Utility Status

April 2007 began with 286 public water systems on the drought list. Of these 286 systems, 155 systems are requiring customers to adhere to a mandatory outside watering schedule based on address and day of the week and 93 systems are asking customers to voluntarily reduce water use. A total of 38 water systems have removed all restrictions and returned to normal operations. It is expected that, due to recent rains and the forecast for rain to continue, additional water systems will remove watering restrictions.

5. Water Rights – Statewide

Increased rains in parts of the State provided some needed relief to the dry conditions in March, but it is still too early to declare the drought has ended. New temporary water use permit applications, both short and long term, are being reviewed on a site-specific basis and issued if there is sufficient surplus water at the requested source. Applications for new water use permits and amendments to existing permits remained near normal for the month. Beginning April 1 and continuing through the end of August, the annual Hale Clause and Lake Proctor restrictions are once again implemented. Owners of these water rights with imposed restrictions are required to call the “Hale Clause Hotline” on a weekly basis to determine if diversion of water is allowed for their permit. The availability of unappropriated water for new water use permits continues to decrease in all river basins in the State and the search for long-term, dependable alternate sources of water remains a high priority issue.

6. Water Rights – Lower Rio Grande / Rio Grande Watermaster (RGWM)

Current Conditions: As of March 24, 2007, the U.S. combined ownership at Amistad/Falcon stands at 74.27% of conservation capacity (2,470,233 AF), down from 91.33% (3,037,730 AF) a year ago at this time. Overall, the system is holding 63.01% (3,657,921 AF) of conservation capacity, with Amistad at 82.43% (2,597,509 AF) and Falcon at 39.96% (1,060,406 AF). Mexico has 47.91% (1,187,688 AF) of the water it could store at Amistad/Falcon.

Allocations: As of the printing of the February ownership report, an excess of 189,000 AF was allocated to Class A & B rights. Future allocations in 2007 exceed 20,000 AF.

Storage & Loss Amistad vs. Falcon: Approximately 1.85 million AF of water is stored at Amistad (104.6%) occupying 82,000 AF of Mexico's space at Amistad (which is not an issue so long as Amistad is not above conservation capacity). We are currently storing approximately 616,000 AF at Falcon (39.7 %).

Evaporation and seepage losses at Amistad YTD are 90,955 AF. For the same period, 47,831 AF was lost at Falcon due to evaporation and seepage. The ratio of loss between Amistad and Falcon continues to consistently be 2:1 with Amistad being twice as efficient in overall storage and loss as compared to total amount in storage.

Releases to Meet Demands: Mexico has released 24,075 AF from Amistad and 36,466 AF from Falcon for their needs. The U.S. has released 125,585 AF from Amistad and 128,496 AF from Falcon for our needs. Combined with gains between Amistad and Falcon, U.S. inflows to Falcon have totaled 150,755 AF. As is evident, 100% of our overall needs have been met in the middle and lower Rio Grande directly from Amistad this year. Keep in mind that this movement of water is primarily driven by our excess amount in storage at Amistad and the need to keep it below conservation capacity, particularly when the U.S. is occupying Mexico's space in Amistad

Upper Rio Grande (New Mexico): Elephant Butte in New Mexico is currently storing 610,463 AF (30.17%) and Caballo Dam in New Mexico, downstream of Elephant Butte is storing 18,646 AF (8.21%). This water storage in part is used to meet water needs in the El Paso area.

Outlook: Recent rains on the Upper part of the Rio Grande Basin during March (particularly the Pecos River) had a slight positive impact on the storage conditions for the U.S. However, these impacts may not be enough to sustain current storage conditions for very long considering the increase in irrigation demand which is expected to continue on an upward trend through May of 2007.

Late season monsoonal rains allowed Mexico to fill most of their reservoirs in the Rio Conchos. This condition has not existed since 1991-92. While overall deliveries of water by Mexico are below-average due slightly in part to the drought experienced for most of 2006, current basin conditions should provide for significant opportunities to mitigate the creation of a new debt when the current cycle ends in October 2007. To this end, the U.S. and Mexico held a meeting on March 30th, 2007 to discuss water deliveries to avoid the establishment of a deficit by the end of the current treaty cycle (October 2007). A follow-up meeting is scheduled for May 9th, and meetings will continue monthly through September 2007. The Rio Grande Watermaster is a direct participant in these meetings.

Recent U.S. shares in the Amistad/Falcon reservoir systems are as follows:

<u>YEAR</u>	<u>U.S. SHARE (percent)</u>	<u>TOTAL (ACRE-FEET)</u>
1994	65.7	2,271,609
1995	47.7	1,587,370
1996	35.6	1,183,637
1997	36.5	1,215,254
1998	39.8	1,324,700
1999	40.8	1,357,939
2000	41.7	1,387,125
2001	32.49	1,080,676
2002	34.76	1,156,072
2003	51.60	1,716,273
2004	95.37	3,172,308
2005	94.52	3,143,933
2006	74.71	2,484,826
2007	75.05	2,496,176

(Note: Numbers for previous years are the levels at the end of the year.)

7. South Texas Watermaster – Guadalupe / Lavaca / San Antonio / Nueces Region

The month of March was one of record setting rainfalls in some parts of South Central Texas. The Concho Basin received some very needed and sustained rain falls for the month. A few counties received enough rain to be removed from the U.S. Drought Monitor drought designation. However, a great majority of both areas are still under some type of drought condition designation. The March rains certainly improved soil and stream flow conditions in these two areas of the state.

Area of Coverage: Bee, Goliad, Victoria, Calhoun, Jackson, Refugio, Aransas, San Patricio, Nueces, Kleberg, Jim Wells, Duval, Live Oak, Kenedy, Willacy, Brooks, and Jim Hogg Counties

Rainfall and Area Conditions: This area continued to receive some rainfall throughout the month of March. Heavy rainfall was experienced mid-month and again toward the end of the month. Rainfall amounts measured from a trace to approximately 4 inches of rain. Therefore, the soil moisture to area farmlands has continued to improve. The Corpus Christi Reservoir System has received some inflows, and is continuing to receive inflows from the rains that were experienced toward the end of the month. The lake levels are therefore increasing. Most of the surface water diversions in this area are for municipal and industrial uses; little irrigation use has been noted. The U.S. Drought Monitor indicates some of the area is currently experiencing abnormally dry conditions at this time, although with the recent rains, the area is improving.

Streamflow conditions: The streamflows of streams in the area are depicting a significant increase compared to last month. Most of the streamflows in the area are currently above normal for this time of year. The Guadalupe River near Victoria has current streamflows of approximately 8,180 CFS compared to 775 CFS last month, with the historical mean being 1,630 CFS. The San Antonio River near Goliad has current streamflows of approximately 2,600 CFS compared to 290 CFS last month, with the historical mean being 537 CFS. The Guadalupe River near Tivoli (below the confluence of the San Antonio River and Guadalupe River) currently has streamflows of 3,040 CFS, compared to 1,240 CFS last month, with the historical mean being 1,990 CFS. The Nueces River near Tilden is currently flowing at approximately 0.10 CFS compared to 0.10 CFS last month, with the historical mean being 73 CFS. The runoff from the recent rains has not yet reached this site, but streamflows are expected to rise dramatically when the runoff reaches this area. The Frio River near Tilden currently has streamflows of 83 CFS compared to 0.09 CFS last month, with the historical mean being 96 CFS. The Atascosa River near Whittsett currently has streamflows of approximately 504 CFS, compared to 10 CFS last month with the historical mean being 590 CFS. The Mission River near Refugio currently has streamflows of 82 CFS compared to 22 CFS last month with the historical mean being 50 CFS. The Aransas River near Skidmore is currently flowing at approximately 19 CFS compared to 5.7 CFS last month with the historical mean being 5.1 CFS. Streamflows over the Calallen Dam, near Corpus Christi were estimated at 48 CFS toward the end of the month compared to 8.4 CFS last month, with the historical mean being 207 CFS.

Corpus Christi Reservoir System: The Corpus Christi Reservoir System received some inflows for the month of March, increasing the level of the reservoir system. The reservoir system is currently at 74.4% (708,492 AF) compared to 66.3% (631,528 AF) last month. The level of the reservoir system at this same time last year was at 78.5% (735,369 AF). The level of Choke Canyon is currently at 76.4% (531,290 AF) compared to 73.9% (514,013 AF) last month. The level of the reservoir at this same time last year was at approximately 86.3% (600,289 AF). The level of Lake Corpus Christi is currently at 89.4% (177,202 AF) compared to 45.81% (117,805 AF) last month. The level of the reservoir at this same time last year was approximately 86.6% (135,080 AF). The City of

Corpus Christi continues to divert much of their monthly water supply needs from Lake Texana. The lake level of Lake Texana has risen slightly and is currently reported to be at approximately 44.1 mean sea level (msl) or 100.2% capacity compared to 43.8 msl or 99.5% capacity last month.

Area of Coverage: Edwards, Real, Kinney, Uvalde, Zavala, Dimmit, La Salle, and Webb Counties

Rainfall and Area Conditions: The Southwest Texas area received much needed relief from the drought conditions for the month of March. The beginning of the month started out with no rain showers from Edwards County to La Salle County. From there, the middle of the month received rain showers for the whole Southwest region. Flooding occurred in the northern counties and heavy showers in the southern counties for the end of the month. The range of rainfall in the area is 1.50 to 7.0 inches for the month. Most of the diversions of surface water are for irrigation use and small amounts for municipal and industrial purposes. The crops being irrigated in the area are carrots, spinach, cabbage and wheat. The U.S. Drought Report indicates the area is still experiencing severe to extreme drought conditions at this time.

Streamflow Conditions: Most of the streamflows for the major streams in this area continue to drop and are flowing below the mean for this time of year. The Nueces River at Laguna has current streamflows of 399 CFS compared to 62 CFS for last month, with the mean being 104 CFS. The Nueces River near Brackettville has current streamflows of 16 CFS, compared to .15 CFS for last month, with the mean being 1.5 CFS. The Nueces River below Uvalde has current streamflows of 170 CFS compared to 11 CFS for last month, with the mean being 58 CFS. The Frio River at Concan has current streamflows of 116 CFS compared to 43 CFS for last month, with the mean being 95 CFS. The Sabinal River at Sabinal has current streamflows of 1.2 CFS compared to .07 CFS for last month, with the mean being 22 CFS. The Leona River near Uvalde has current streamflows of 12 CFS compared to 11 CFS for last month, with the mean being 101 CFS.

The streamflows of the intermittent and tributary streams in the area are currently flowing above the average for this time of the year.

Area of Coverage: Bandera, Blanco, Comal, Kendall, and Kerr Counties

Rainfall and Area Conditions: This area received various amounts of precipitation, ranging from 6 to 11 inches for the month of March. The scattered showers during the month are now providing much needed soil moisture. With the current amount of rainfall for March, the soil moisture is near normal, according to the Soil Moisture Index. Most of the surface water diversions in this area are for municipal and industrial. The U.S. Drought Monitor indicates the area is in the abnormally dry to moderate drought conditions at this time.

Stream flow Conditions: Most of the streamflows of the major streams and their tributaries have risen in the month of March, due to the scattered showers. The Guadalupe River near Kerrville, Texas, is currently running above the normal mean for March. Stream flows of approximately 160 CFS, with the historical mean being 139 CFS. This equates to a 115% flow of the Guadalupe River flowing past Kerrville, Texas. The Medina River near Bandera, Texas, also was running above the normal mean for March. Current stream flows of approximately 227 CFS, with the historical mean being 156 CFS. This equates to a 145.5% flow of the Medina River flowing past Bandera, Texas. The above stated stream flow percentage is due to the heavy March rainfall.

Drought Restrictions: There are currently no restrictions, other than normal permit restrictions in place at this time. However, the river flows are being monitored on a daily bases. Most of the temporary permit holders that divert are able to do so.

Lake Medina: With the amount of rain that has fallen in this area, Lake Medina is now receiving inflows for the month of March. The conservation pool level for Lake Medina at the end of March was 39.4% (100,400 acre-feet (AF)), compared to last month's 35.59% (90,710 AF).

Area of Coverage: Atascosa, Karnes, Gonzales, Wilson, McMullen, Dewitt, Guadalupe, Lavaca, Fayette, Colorado, and Wharton Counties.

Rainfall and Area Conditions: This area received 7 to 15 inches of rainfall for the month of March. The soil moisture conditions are very good in the area at this time. Lake Texana is at 100% capacity (previous month ended at 98%) which is 44.0 ft. above msl. Oat, wheat, and rye crops are doing very well at this time. New crop corn and milo have been planted and are growing well.

According to the U.S. Drought Monitoring System, parts of this area are not experiencing drought conditions at this time. Atascosa and McMullen Counties are experiencing abnormal to moderate drought conditions according this monitoring system.

Stream flow conditions: The flow of the San Antonio River near Falls City is currently 504 CFS; the historical mean for March is 296 cfs; and the ending for last month was 202 CFS. The Cibolo Creek near Falls City is currently 295 CFS; the ending for last month was 31 CFS, and the historical mean for March is 34 CFS. The Guadalupe River near Cuero is currently at 6320 CFS; the ending reading for last month was 725 CFS; the historical mean for March is 1250 CFS. The Lavaca River at Edna is currently 246 CFS; the ending reading for last month was 32 CFS; and the historical mean for March is 86 CFS. The Navidad River near Hallettsville is currently at 59 CFS; the ending reading for last month was 0 CFS; the historical mean for March is 46 CFS. The Atascosa River near Whitsett is currently 601 CFS; the ending reading for last month was 10 CFS; and the historical mean for March is 12 CFS. The Frio River near Tilden is currently 90 CFS; the ending reading for last month was .12 CFS; and the historical mean for March is 5.5 CFS. Lastly, the Nueces River near Tilden is currently .10 CFS; the final reading for last month was .12 CFS; and the historical mean for March is 5.5 CFS.

Area of Coverage: Bastrop, Bexar, Blanco, Caldwell, Comal, Fayette, Guadalupe, Hays, and Medina Counties

Rainfall and Area Conditions: Very beneficial amounts of rainfall fell across the entire San Antonio Regional area during the month of March. Month-to-date rainfall measured at the San Antonio International Airport was 4.80 inches; the average for March is 1.89 inches. Total annual rainfall to date is 10.05 inches; normal year to date is 5.00 inches, a departure from normal of +5.05 inches. The U.S. Drought Monitor, dated March 27, 2007, indicates the San Antonio Regional Area is experiencing moderate to severe drought conditions. Ground moisture is excellent across the entire San Antonio Regional Area.

Streamflow Conditions: Small creeks and streams are now flowing throughout the San Antonio Regional Area. Spring planting has resumed and crops that were previously planted are showing strong signs of early growth due to the timely rains in March. Crops of corn, milo, green beans, squash, peas, tomatoes, wheat, and hay grazers have been planted. Municipal and irrigational water use has dropped dramatically with the above-average rainfall for March. Industrial use remains constant.

Streamflows are on the rise going into the end of March. The Guadalupe River at Spring Branch is currently 7,910 CFS; mean flow for March is 362 CFS. The San Marcos River at Luling is 965 CFS; mean flow for March is 403 cfs. Lastly, the Blanco River at Wimberley is 980 CFS; mean flow for March is 156 CFS.

Canyon Lake Reservoir is 911.60 feet elevation and is impounding 420,786 AF; total full pool is 740,900 AF and is 65.7% of capacity. Lake Medina is 1031.00 feet elevation; total full pool is 194,000 AF, currently impounding 101,000 AF, 32 feet below the spillway, and is 39.4% of capacity. The Edwards Aquifer level at the J17 well in Bexar is 673.7 feet; the historical average for March is 669.1 feet, and this is 4.6 feet above the monthly historical average. The San Marcos Springs are flowing at 235 CFS; the historical monthly average for March is 178.0 CFS. This is 57.0 CFS above the monthly historical average. Lastly, the Comal Springs are flowing at 303.0 CFS; the monthly historical flow for March is 305.0 CFS, and this is 2.0 CFS below the historical monthly average.

Drought Restrictions: Temporary permit restrictions have been lifted on all tributaries in the San Antonio Regional Area. Only permits with stream flow restrictions are being restricted.

The Concho River Valley received a good amount of precipitation in the month of March, most of it in the last week of the month. According to information provided by USDA, the State Drought Monitor Index rates the Concho Valley as Moderately Dry to Severe drought conditions.

Area of Coverage: Sterling, Tom Green, Irion, Concho, Coke, Runnels, Reagan, and Schleicher Counties.

Rainfall and Area Conditions: Temperatures for the month were within normal ranges. Rainfall for March was 3.83 inches. (Normal rainfall amount for the month of February was 1.08 inches). Irrigation demand in the Concho Valley was just beginning to increase as pre-irrigation for spring planting. The recent rainfall amounts have decreased this demand for pre-irrigation from surface water supplies. Soil saturation is good. Mesquite, oak, pecan, and other varieties of trees have put out their leaves. This indicates the end of their seasonal dormancy.

Streamflow Conditions: Mean daily discharge statistics for the month of January, based on 5 years of record for USGS Gauging Station 081307000 (Spring Creek above Twin Buttes Reservoir near San Angelo), are 22 cubic feet per second (CFS). The most recent value is 45 CFS. Mean daily discharge statistics at USGS Gauging Station 0813600 (Concho River at San Angelo), based on 76 years of record is 26 CFS. Currently it is at 358 CFS. Mean daily discharge statistics for the month of January at USGS Gauging Station 08128000 (South Concho at Christoval, Texas), based on 70 years of record is 19 CFS. The most recent daily value is 9.4 CFS. Area lakes indicate Lake Nasworthy is at 87% (8839 AF), O. C. Fisher is at 9.82% (7808 AF), and Twin Buttes Lake is 21.49 % (40,009 AF) of capacity.

8. Upper Colorado

The upper Colorado River area received more than normal precipitation during the month of March 2007. The National Weather Service in San Angelo reported monthly precipitation of 3.86 inches in March, 2.87 inches above normal. The Midland, Odessa, and Big Spring area received more than normal precipitation during the month as well. Tributaries in the upper portion of the upper Colorado River watershed are mostly

flowing at levels above the long-term medians. Tributaries in upper reaches of the lower portion (San Saba River watershed and Llano River watershed) of the upper Colorado River watershed are also flowing above the long term medians. The pool levels in E.V. Spence and O.H. Ivie Reservoirs rose slightly during the month. As of the end of the month, the pool levels of E.V. Spence and O.H. Ivie Reservoirs were 13.5 % and 40 %, respectively.

9. Texas Panhandle and Southern High Plains

Amarillo Area: The National Weather service in Amarillo reported: 2.35 inches for March, which is 2.3 inches above the March average. Approximately 4.60 inches of rain fell since January 1, 2007, which is 2.41 inches above the annual average to date. Area lakes received much needed precipitation. MacKenzie gained 1.62 feet for the month with a total rainfall of 4.3 inches as of March 28. Meredith gained 0.78 feet for the month (no rainfall totals available). Greenbelt gained 1.10 feet for the month with a total of 4.85 inches of rain.

Lubbock Area: The Lubbock area had a tremendous March as far as precipitation goes. Lubbock received 5.68 inches for the month and similar amounts were recorded throughout the area. The total precipitation for 2007 now stands at 7.16 inches, which is 5.25 inches above normal for this point in the year. The long term drought situation has not changed and all of the communities previously noted as being on mandatory water restrictions remain on those restrictions. No new communities were added to the water restrictions list during the month of February. White River Lake is down 24 feet from normal (normal is 46 feet at the dam); this is a one foot rise from the end of February 2007. Lake Alan Henry is full; however, this lake is not used for public drinking water supplies at present.

10. Agricultural Concerns

Good moisture was received over most of the state during March and early April. Soil moisture is abundant over most of the state, with the exception of the counties along the Rio Grande from Terrell south to Willacy. Agricultural producers have had more problems with excess rain interfering with planting and stand establishment in south and Central Texas than from lack of moisture. The High Plains and Rolling Plains have good soil moisture. The wheat crop received some damage from the freezing weather on April 7 and 8, but still hold good promise for an above average crop. Winter pastures are growing well over most of the state, bringing relief to ranchers who struggle to provide feed for livestock due to the shortage and price of hay. Warm season grasses are growing well over most of the state, excepting the High Plains, where freezes and cool temperatures delay growth.

Much of the southwest and west Texas region is impacted by prolonged drought and is still short of stock water. Perennial grasses have been damaged by prolonged drought, overgrazing, and desert termites. It will take a prolonged period of favorable weather to restore normal pasture conditions.

Continued rains across the state have given many producers a positive outlook on this growing season. Wheat producers anticipate this growing season to be one of the most productive in several years. Most areas of the state received moderate to heavy amounts of moisture. In Central Texas, heavy downpours dropped from 2.0 to 8.0 inches, causing flooding in a few areas. Eastern Texas and the Panhandle both received mostly 0.50 to 2.0 inches of rainfall. The Trans-Pecos area and South Texas both received mostly 0.01 to 1.0 inches of rainfall, as isolated showers brought as much as 1.5 inches to small sections. The Lower Valley received mostly 0.01 to 0.25 inches of rainfall. In most areas of the state, soils dried enough to allow farming activities to

continue, but in a few areas such as the Blacklands additional rainfall kept soils too wet for field work. Supplemental feeding continued to decline considerably across most areas of the state as forage growth increased.

Field Crops Report:

Small Grains: Recent moisture and warm weather continued to improve wheat conditions in the Plains, Cross Timbers, Blacklands, and South Texas. Insect activity remained light in the Northern High Plains, but weed spraying continued. Also in the Northern High Plains, producers continued to pull cattle off wheat fields intended for grain or hay. Wheat continued to progress in the Southern Low Plains, and some fields have even shown signs of early heading. Statewide, wheat and oat condition was mostly fair to good.

Cotton: Land preparations were halted in the Southern High Plains due to the increase in moisture. Producers in the Southern Low Plains reported good levels of underground moisture as they continue to prepare for planting.

Corn: "Standing water" in some fields damaged corn acreage in isolated areas of the Blacklands. Poorly drained fields in South Texas were showing some signs of yellowing.

Fruit, Vegetable and Specialty Crop Report:

Producers in North East Texas continued to prepare land for planting of tomatoes, squash, and watermelons. Harvest of cabbage, spinach, and broccoli continued during the beginning of the week in the Edwards Plateau. There were also a few reports of cabbage and potatoes being harvested in South Texas.

Pecans: Producers finished trimming trees and continued to prepare orchards for watering.

Livestock, Pasture and Range Report:

Pastures continued to "green up" in the Northern Low Plains. Native pastures also continued to improve in the Southern Low Plains. Recent rains have helped range and pasture conditions in the Blacklands, increasing forage available to cattle. In North East Texas, pastures were "greening up" with ryegrass, clovers, with some warm season forages emerging. Some producers in North East Texas still remained concerned about the high costs of fertilizer. Range and pastures in the Edwards Plateau have shown a dramatic change over the last month as many are "greening up" and growing. There have been a few reports of toxic spring plants in rangelands along the Coastal Bend. Included in these reports are some problems of lobelia. In South Texas, native range and pasture conditions continued to improve, providing forage for livestock. Livestock body conditions continue to improve as the availability of high quality forage increases. Statewide, range and pasture condition was mostly fair to good.

Weekly Texas Hay Report for Friday, April 6:

Prices remain steady in spite of tight supply. Light to moderate movement has been reported in most areas. Comments have been made that the market is at a near standstill and people are waiting to see what will happen with new crop. Negotiations on new crops continue, with first cutting being one to four weeks away depending on the area. Some reports have been made of first cuttings in the West, North Central and South. In the Panhandle late last week some areas experienced rain and some hail which has delayed field work. Earlier this week temperatures were above average but have returned to normal. Corn planting will begin soon. The West has received some rain as well as hail which has damaged some young alfalfa in areas. The North, Central and Eastern areas have received rain, and along the Brazos River they experienced extreme flooding forcing some growers to replant. Corn has been planted in this area and is in good condition. Some May beetles and tent caterpillars have been reported. In the South some areas have received rain and some have experienced windy conditions causing sand to blow. Most areas in Texas are forecasted to receive colder temperatures and possible freezes this weekend, which has caused concern of crop

damage and set backs. Soil moisture has been rated as short to surplus. Pasture and rangeland conditions are poor to good, with most areas reporting improvement. Supplemental feeding continues in some areas. The Texas Department of Agriculture has the Hay and Grazing Hot Line set up for linking buyers and sellers, at (877) 429-1998 or on the Web at www.tda.state.tx.us.

11. Drought Impacts to Wildlife

No information available at this time.

12. Wildfire Concerns

The Keetch-Byram Drought Index (KBDI) is used to help determine potential for fire risk. It is a numerical index where each number is an estimate of the amount of precipitation (in 100ths of an inch) needed to bring the soil back to saturation. The index ranges from 0 to 800, with 0 representing a saturated soil, and 800 a completely dry soil. The KBDI's relationship to fire danger is that as the index increases, the vegetation is subjected to increased moisture stress. KBDI levels and its relationship to expected fire potential are reflected in the following:

KBDI = 0 – 200: Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. This is typical of spring dormant season following winter precipitation.

KBDI = 200 – 400: Typical of late spring; early growing season. Lower litter and duff layers are drying and beginning to contribute to fire intensity.

KBDI = 400 – 600: Typical of late summer, early fall. Lower litter and duff layers contribute to fire intensity and will burn actively.

KBDI = 600 – 800: Often associated with more severe drought and increased wildfire occurrence. Intense, deep-burning fires with significant downwind spotting can be expected. Live fuels can also be expected to burn actively at these levels.

There are currently 11 counties, illustrated in Attachment 2, with KBDI values in excess of 400, indicating that areas within these counties are beginning to experience dry conditions, which could result in an increased fire risk potential.

The Council, which is chaired by Jack Colley, Chief, Governor's Division of Emergency Management, is composed of state agencies concerned with the effects of drought and fire on the citizens of the State of Texas. The attached information was compiled and provided by representatives listed below. Points of contact, telephone numbers, and web site addresses are also provided.

Jack Colley, Chief, Governor's Division of Emergency Management, (512) 424-2443, fax (512) 424-2444, web site: <http://www.txdps.state.tx.us/dem>

John Sutton, Texas Water Development Board, (512) 463-7988, fax (512) 463-9893, web site: <http://www.twdb.state.tx.us>

Bill Billingsley, Texas Commission on Environmental Quality, (512) 239-1697, fax (512) 239-4770, web site: <http://www.tceq.state.tx.us>

Richard Egg, Texas State Soil & Water Conservation Board, (254) 773-2250, fax (254) 773-3311, web site: <http://www.tsswcb.state.tx.us>

Pal Scully, Texas Department of Agriculture, (512) 475-1611, fax (512) 463-5837, web site: <http://agr.state.tx.us>

Dr. Travis Miller, Texas Cooperative Extension, (979) 845-4008, fax (979) 845-0604, web site: <http://soilcrop.tamu.edu>

Cindy Loeffler, Texas Parks & Wildlife Department, (512) 912-7015, fax (512) 707-1358, web site: <http://www.tpwd.state.tx.us>

Judith Jenness, Department of Housing and Community Affairs, (512) 475-2135, Fax (512) 475-7498, web site: <http://www.tdhca.state.tx.us>

James Hull, Texas Forest Service, (979) 458-6606, fax: (979) 458-6610, web site: <http://txforests.tamu.edu>

Scott Alley, Texas Department of Transportation, (512) 416-3187, fax (512) 416-2941, web site: <http://www.dot.state.tx.us/>

Paul Tabor, Texas Department of State Health Services, (512) 458-7126, fax (512) 458-7472, web site: <http://www.dshs.state.tx.us/>

Thomas Walker, Office of the Governor, Economic Development & Tourism, (512) 936-0169, fax (512) 936-0141, web site: <http://www.governor.state.tx.us/divisions/ecodev>

Harvey Everheart, Texas Alliance of Groundwater Districts, (806) 872-9205, fax (806) 872-2838, web site: <http://www.texasgroundwater.org/>

Dr. John W. Nielsen-Gammon, Office of the State Climatologist, (979) 862-2248, fax (979) 862-4466, web site: <http://www.met.tamu.edu/osc/>

Gus Garcia, Office of Rural Community Affairs, (512) 936-7876, fax (512) 936-6776, web site: <http://www.orca.state.tx.us>

CC:

Amy Jeter, Committee Clerk, Senate Finance Committee
Sarah Hicks, Committee Director, Senate Finance Committee
Teddy Carter, Committee Clerk, Senate Natural Resources Committee
Amy Peterson, Committee Director, House Appropriations
Hope Wells, Committee Clerk, House Natural Resources Committee
Steven Schar, Committee Clerk, House Agriculture and Livestock Committee
Gina Chung, Committee Clerk, House Criminal Jurisprudence Committee
Zak Covar, Policy Advisor for TCEQ Issues, Governor's Policy Office
Auburn Mitchell, Policy Advisor for Agriculture/TDA, Governor's Policy Office
Rob Johnson, Lt. Governor's Chief of Staff
Carmen Cernosek, Lt. Governor's Natural Resources Policy Analyst
Shane Linkous, Deputy Division Chief, Intergovernmental Relations, Attorney General's Office
Ernest Angelo, Jr., Chairman, Public Safety Commission
Louis E. Sturns, Member, Public Safety Commission
Colonel Thomas Davis, Director, Department of Public Safety
Lieutenant Colonel David McEathron, Assistant Director, Department of Public Safety
Lori Gabbert, Budget Analyst, Legislative Budget Board (LBB-DPS)
Tom Lambert, Budget Analyst, Legislative Budget Board (LBB-TCEQ)
Ed Perez, Executive Director, Texas Office of State-Federal Relations, Washington, DC
Brandon Steinmann, Director, Texas Office of State-Federal Relations, Austin, Texas

Attachment 1

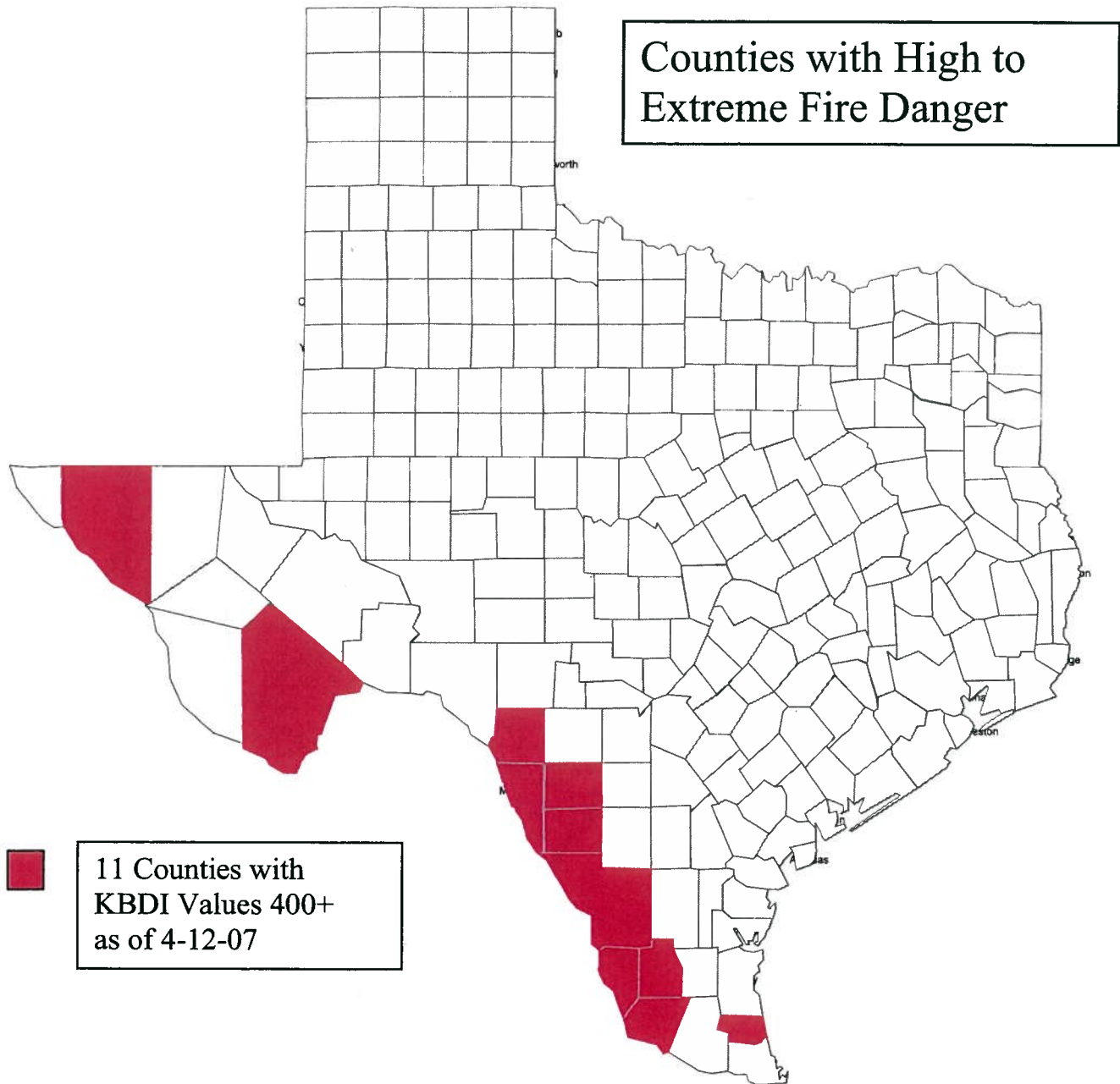
CLIMATIC REGIONS

The map of Texas is divided into 10 climatic regions, each indicated by a number and a label with a leader line. The regions are:

- High Plains**: Located in the northwestern part of the state, including counties like Dallam, Sherman, and Hartman.
- Low Rolling Plains**: Located in the northern part of the state, including counties like Garza, Borden, and Garfield.
- North Central**: Located in the north-central part of the state, including counties like Tarrant, Dallas, and Collin.
- East**: Located in the eastern part of the state, including counties like Harris, Houston, and San Antonio.
- Trans-Pecos**: Located in the western part of the state, including counties like El Paso, Big Bend, and Brewster.
- Edwards Plateau**: Located in the central part of the state, including counties like Llano, Burnet, and Gillespie.
- Southern**: Located in the southern part of the state, including counties like Bexar, Comal, and Guadalupe.
- South Central**: Located in the south-central part of the state, including counties like Tarrant, Dallas, and Collin.
- Upper Coast**: Located in the northeastern part of the state, including counties like Harris, Houston, and San Antonio.
- Lower Valley**: Located in the southern part of the state, including counties like Bexar, Comal, and Guadalupe.

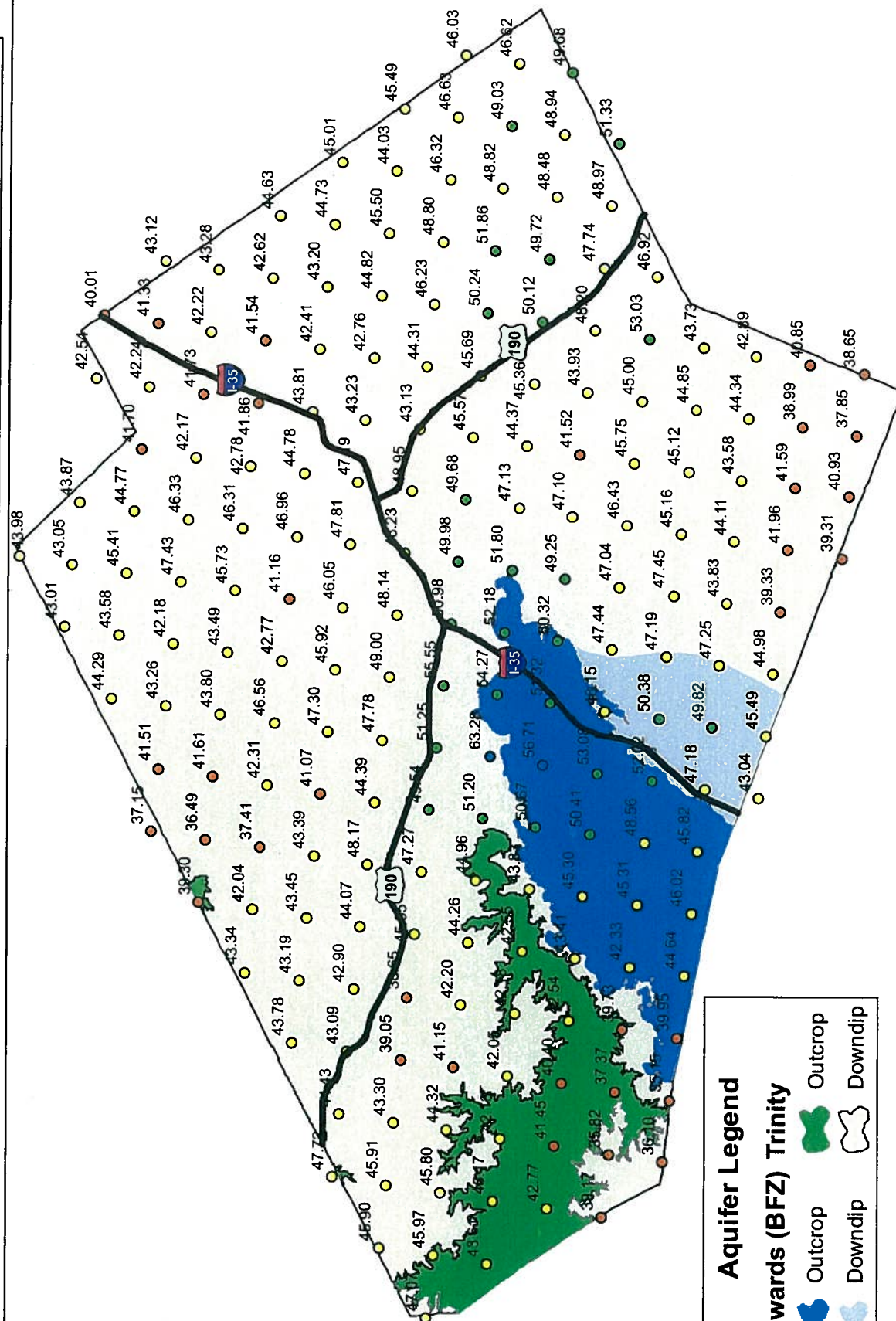
110 — Lower Valley

Attachment 2



Appendix G

Rainfall Totals for 2007

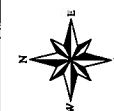


Cleanwater Underground Water
Conservation District
2180 N. Main St., PO Box 729
Belton, TX 76504
May 12, 2008



File Name
K:\NOAA Rainfall\Monthly Reports\

Data Source:
National Weather Service
Precipitation Analysis



Rainfall in Inches

- 35.15 - 42.00
- 42.01 - 49.00
- 49.01 - 56.00
- 56.01 - 63.28

Appendix H



HEY 5TH GRADERS!
WANT TO WIN A \$500, \$250, OR \$100 U.S. SAVINGS BOND?

All you have to do is ENTER AND WIN
Clearwater Underground Water Conservation District's
Annual ESSAY AND POSTER CONTEST

This year's theme:

**"WATER: COPASETIC AND
CREATIVE WAYS TO
CONSERVE THIS
COOL CREATION"**

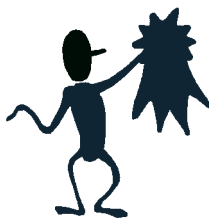


The Clearwater Underground Water Conservation District (CUWCD) is sponsoring an essay and poster contest for all 5th grade students in Bell County. The entries should address ways that we can conserve and protect our water resources—both surface and groundwater. Entries should include existing conservation practices as well as new and innovative ideas. *Get creative!*

See judging criteria on the back.



All participants will receive a CUWCD complimentary packet. Prizes will be awarded to the top three entries in both the essay and poster categories as follows:



1st Place--\$500 Savings Bond
2nd Place--\$250 Savings Bond
3rd Place--\$100 Savings Bond

Entries become property of CUWCD upon submittal and may be reproduced by the District. Please contact CUWCD office at 254-933-0120 for additional information.

Essays may be typed or handwritten (please make sure handwriting is legible). Posters must be at least 8 ½ x 11" in size. All entries must be postmarked no later than November 20, 2006 and submitted to the following:

Clearwater UWCD
PO Box 729
Belton, TX 76513

or

Essays may be faxed to:
254-770-2360
Attn: Cheryl Maxwell

Entries may also be hand delivered to 2180 North Main in Belton by 5:00 p.m. on November 20th. Please fill out the form below and attach it to each entry.

JUDGING CRITERIA FOR ESSAY AND POSTER CONTEST:

<u>Content</u>	70%	
Knowledge of Existing Conservation Methods	40%	
*New Ideas for Conserving Water	30%	
<u>Presentation</u>	30%	
Creativity	20%	
Grammar/Spelling	5%	
Neatness	5%	

*Be sure your entry (essay and/or poster) clearly identifies which methods are your original ideas and suggestions for conserving water.

Research Aid:

Several websites have water conservation tips—type the key words "water conservation" in your search engine. The CUWCD office also has a list of websites, brochures, and literature with information on water conservation. Call 254-933-0120 to visit with District staff.

Please complete the information below and attach it to the back of each entry:

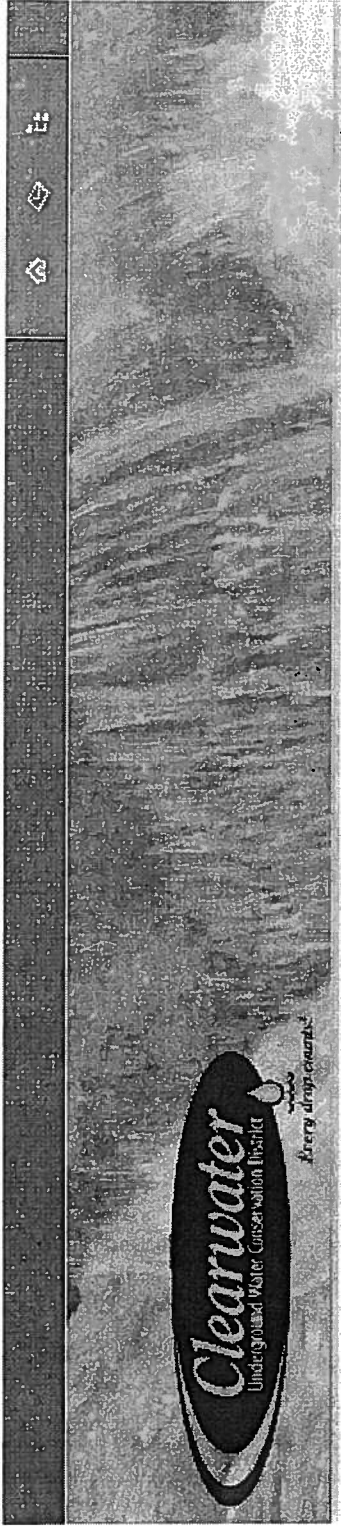
Name: _____ Telephone No. _____

Address: _____

School Name: _____ Teacher: _____

School District: _____ Grade: _____

Appendix I



Home ❖ Education ❖ Rainwater Harvesting

search...

Clearwater District
2180 North Main
Belton, TX 76513
ph 254-933-0120
alt ph 254-770-2370
fax 254-770-2360

Rainwater Harvesting

Rainwater Harvesting

Collecting rainwater from roofs and storing it for future use is a practical way to maximize the benefits of precipitation in Central Texas. In fact, cisterns that captured rainwater were a common way for early settlers to store water for everyday use. This old practice has now become modernized in Central Texas as several builders are installing rainwater harvesting systems to supply most or all of the water demands for homes and businesses. One famous example is the Lady Bird Johnson Wildflower Research Center in Austin. Typical rainwater harvesting systems include a large catchments area such as the roof of a home, gutters to transport rainfall, and screens which filter leaves and debris. A roof washer (with a 30 micron filter) is installed just before storage in large tanks (50 to 15,000 gallon fiberglass). The storage tank may be buried underground or hidden among landscape.

One estimate by the Texas Cooperative Extension said that 0.6 gallons of water can be harvested for each square foot of roof per inch of rain received, depending on collection efficiency. For example, if an inch of rain falls on a 2,000 square foot roof surface, then 1,200 gallons of water can be harvested. An average rainfall year of 35 inches in Bell County would result in as much as 42,000 gallons of water harvested from rain. With appropriate conservation measures, this may be sufficient to supply household needs. Rainwater harvesting can also be done by simply placing barrels or buckets outside prior to a rain event. Harvested water could be used for watering plants, however, this water would not be suitable for human consumption unless it is filtered and kept in a closed container.

To best determine whether rainwater harvesting would be a practical way for your family to supply all or some of your water demands, we recommend calculating a water budget

Event

«	<	Mar	
S	M	T	
24	25	26	
2	3	4	
9	10	11	
16	17	18	
23	24	25	
30	31	1	

«	<	Apr	
S	M	T	
30	31	1	
6	7	8	
13	14	15	
20	21	22	
27	28	29	

using the online calculator found on the Texas Cooperative Extension's website. This website includes a detailed description of rainwater harvesting systems. Also, check out the extensive rainwater harvesting manual developed by the Texas Water Development Board. It includes everything from rainwater harvesting system components, water treatment, design guidelines, water demand calculations, and cost estimates. A link to this manual is shown below along with other rainwater harvesting resources.

Filter

Item Title

- Rainwater Harvesting Contacts & Suppliers
- TCE Rainwater Harvesting Landscape Methods
- Rainwater Harvesting Manual

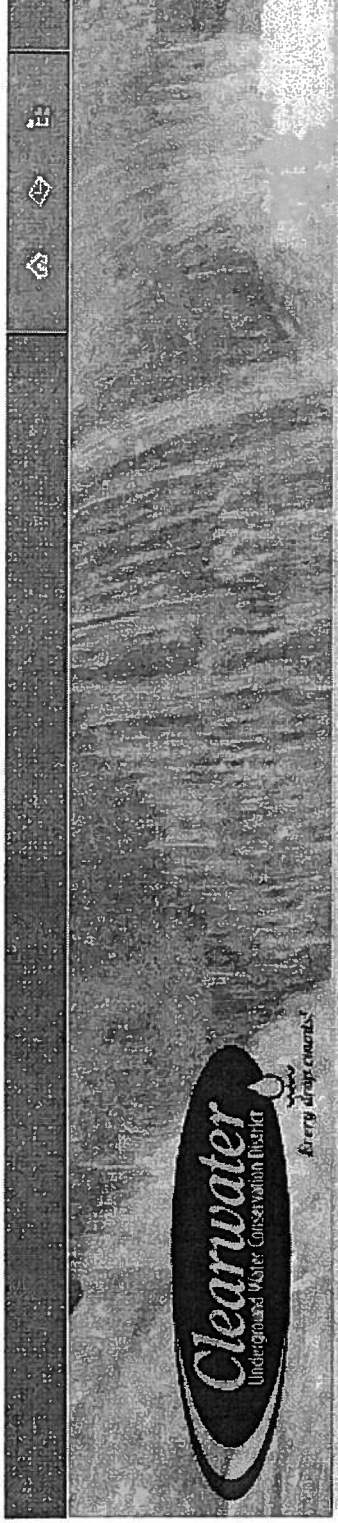
<< Start < Prev 1 Next > End >>

Results 1 - 3 of 3

- **Recharge Enhancement and Brush Control**
- **Groundwater and the Hydrologic Cycle**
- **Water Conservation and Water Quality**
- **Plugging Abandoned Wells**
- **New Well Owner Information**
- **Groundwater Conservation Districts**
- [Back]



Appendix J



Home ❖ Education ❖ Recharge Enhancement and Brush Control

search...

**Clearwater District
2180 North Main
Belton, TX 76513
ph 254-933-0120
alt ph 254-770-2370
fax 254-770-2360**

Recharge Enhancement and Brush Control

Recharge Enhancement and Brush Control

The Clearwater District's motto is "Every drop counts!" This statement becomes even more poignant as water supplies shrink because of drought and water demand increases with the predicted doubling of our State's population by 2050. As water planners and landowners grapple with lower flows in streams and the potential for declining water levels in aquifers, solutions such as enhancing recharge of groundwater and educating the public to conserve water must be realized.

Brush control has been studied to quantify the amount of water that can be saved through the elimination of unwanted brush such as mesquite, juniper, and saltcedars. These studies have generally shown that elimination and control of regrowth can enhance the recharge of groundwater and conserve water resources. The Texas State Soil and Water Conservation Board has implemented several brush control programs in watersheds across the State. More about these programs can be found by clicking here.

In our area, the Leon River Restoration Project is attempting to quantify the effects of removal of ashejuniper on water yield in Hamilton and Coryell counties. The project is currently in phase one, however, updates can be found by clicking here.

According to the Texas Cooperative Extension (TCE), unwanted brush can have negative effects on land resources such as "depleting groundwater, reducing stream flow, drying up lakes and reservoirs, increasing the salinity of the soil surface, competing with forage grasses and native plants, and degrading wildlife habitat."^[1] As a result, private landowners may wish to learn more about the methods to control and manage brush. These may include mechanical, chemical, prescribed burning or biological methods. These are described in detail in the TCE publication, *Brush Management Methods*. It can also be downloaded by clicking on the item below.

As always, a landowner should weigh the positives and negatives before implementing

Event	Mar
-------	-----

«	<	Apr
5	M	T
30	31	1
6	7	8
13	14	15
20	21	22
27	28	29

brush control measures. There are some desirable uses for brush such as food and cover for wildlife, atheistic appeal, and harvesting for wood burning and crafting. Environmental Defense has prepared a fact sheet to help inform the public about the effectiveness of brush management and the related environmental impacts. This fact sheet can be found by clicking here. To learn more about brush control measures, visit the TCE bookstore, <http://tcebookstore.org/pubsearch.cfm>, which has many publications viewable in .pdf form or available for purchase.

[1] Source: Texas Cooperative Extension, *Biological Control of Saltcedar*, October 21, 2006, Publication number L-5444.

Filter

Item Title

Brush Management Fact Sheet
Brush Control Manual

<< Start < Prev 1 Next > End >>

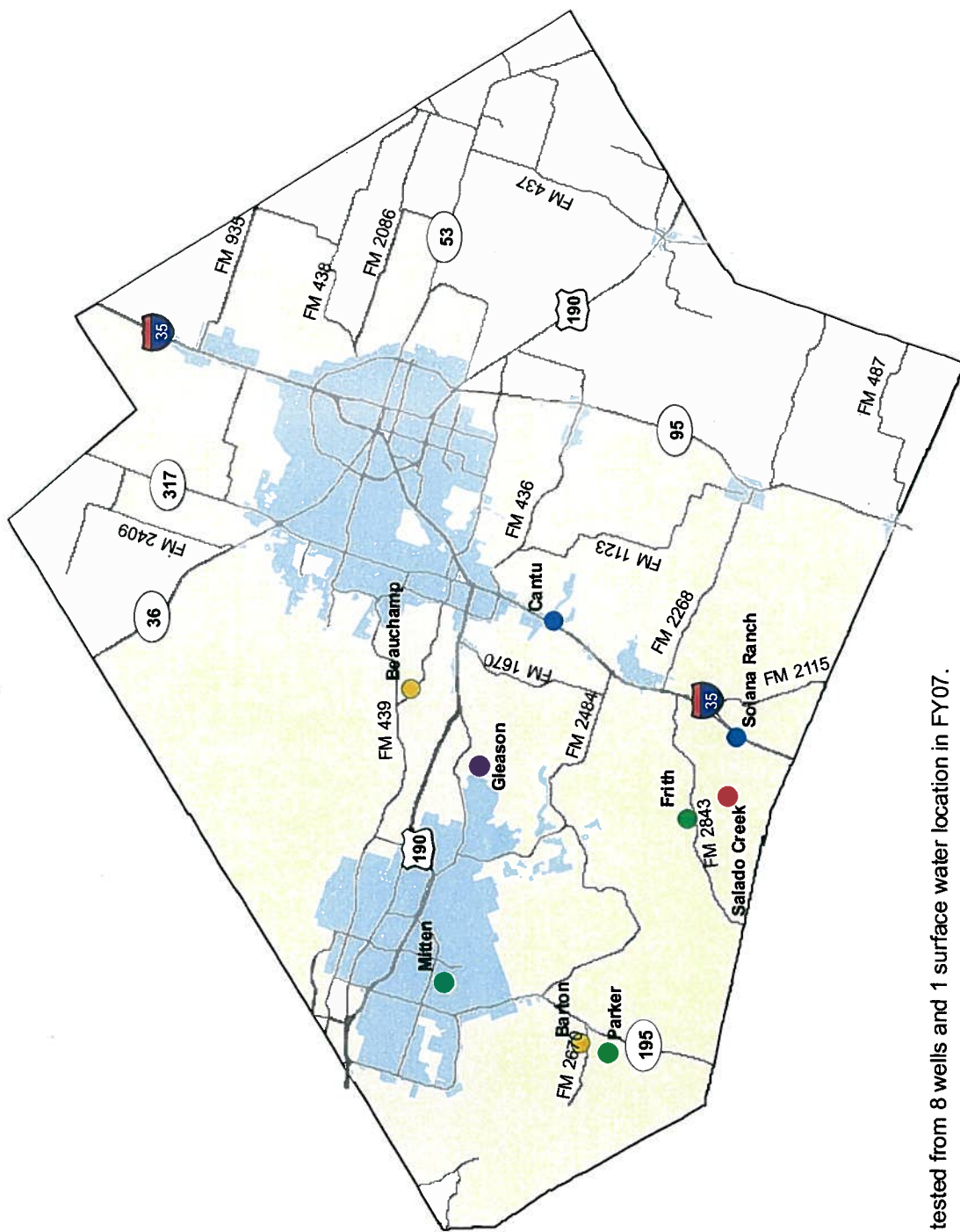
Results 1 - 2 of 2

- Rainwater Harvesting
- Groundwater and the Hydrologic Cycle
- Water Conservation and Water Quality
- Plugging Abandoned Wells
- New Well Owner Information
- Groundwater Conservation Districts

[Back]

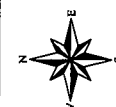
Appendix K

Certified Lab - Groundwater Samples Tested in FY2007



A total of 9 samples were tested from 8 wells and 1 surface water location in FY07.

Clearwater Underground Water
Conservation District
2180 N. Main St., PO Box 729
Belton, TX 76513
July 17, 2007



- Legend**
- Edwards (blue dot)
 - Upper Trinity (yellow dot)
 - Middle Trinity (green dot)
 - Lower Trinity (purple dot)
 - Surface Water (red dot)
 - Bell_Cities (light blue area)

Data Type

File Name

Final Analysis Report

LCRA Environmental Laboratory Services

Date: 26-Oct-07

CLIENT: Clearwater UWCD
Lab Order: 0709851
Project: Clearwater Groundwater Analysis
Lab ID: 0709851-001

Client Sample ID: Cantu
Collection Date: 9/27/2007 8:50:00 AM
Matrix: GROUNDWATER
Tag No:

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		E200.7		Analyst: TRO		
Calcium	98.1	0.200		mg/L	1	10/3/2007 8:43:58 PM
Iron	ND	0.0500		mg/L	1	10/3/2007 8:43:58 PM
Magnesium	26.0	0.200		mg/L	1	10/3/2007 8:43:58 PM
Potassium	1.24	0.200		mg/L	1	10/3/2007 8:43:58 PM
Sodium	9.45	0.600		mg/L	1	10/3/2007 8:43:58 PM
ICPMS METALS, TOTAL RECOVERABLE		E200.8		Analyst: SW		
Arsenic	ND	2.00		µg/L	1	10/5/2007
Selenium	ND	4.00		µg/L	1	10/5/2007
ANIONS BY ION CHROMATOGRAPHY		E300.0		Analyst: WR		
Chloride	9.48	1.00		mg/L	1	10/9/2007 11:30:00 PM
Fluoride	1.09	0.01		mg/L	1	10/9/2007 11:30:00 PM
Sulfate	35.4	1.00		mg/L	1	10/9/2007 11:30:00 PM
ALKALINITY		SM2320 B		Analyst: WR		
Alkalinity, Bicarbonate (As CaCO ₃)	289	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Carbonate (As CaCO ₃)	ND	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Total (As CaCO ₃)	289	2		mg/L CaCO ₃	1	10/9/2007
NITRATE AND NITRITE		SM4500-NO3-H		Analyst: JB		
Nitrogen, Nitrate & Nitrite	ND	0.02		mg/L	1	10/4/2007

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range
H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits X Value exceeds Maximum Contaminant Level

LCRA Environmental Laboratory Services

Date: 26-Oct-07

CLIENT: Clearwater UWCD
Lab Order: 0709851
Project: Clearwater Groundwater Analysis
Lab ID: 0709851-002

Client Sample ID: Barton
Collection Date: 9/27/2007 9:55:00 AM
Matrix: GROUNDWATER
Tag No:

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		E200.7		Analyst: TRO		
Calcium	8.22	0.200		mg/L	1	10/3/2007 9:12:49 PM
Iron	ND	0.0500		mg/L	1	10/3/2007 9:12:49 PM
Magnesium	6.19	0.200		mg/L	1	10/3/2007 9:12:49 PM
Potassium	5.40	0.200		mg/L	1	10/3/2007 9:12:49 PM
Sodium	477	0.600		mg/L	1	10/3/2007 9:12:49 PM
ICPMS METALS, TOTAL RECOVERABLE		E200.8		Analyst: SW		
Arsenic	ND	2.00		µg/L	1	10/5/2007
Selenium	ND	4.00		µg/L	1	10/5/2007
ANIONS BY ION CHROMATOGRAPHY		E300.0		Analyst: WR		
Chloride	345	10.0	X	mg/L	10	10/10/2007 8:22:00 PM
Fluoride	5.83	0.10	X	mg/L	10	10/10/2007 8:22:00 PM
Sulfate	139	10.0		mg/L	10	10/10/2007 8:22:00 PM
ALKALINITY		SM2320 B		Analyst: WR		
Alkalinity, Bicarbonate (As CaCO3)	389	2		mg/L CaCO3	1	10/9/2007
Alkalinity, Carbonate (As CaCO3)	3	2		mg/L CaCO3	1	10/9/2007
Alkalinity, Total (As CaCO3)	393	2		mg/L CaCO3	1	10/9/2007
NITRATE AND NITRITE		SM4500-NO3-H		Analyst: JB		
Nitrogen, Nitrate & Nitrite	ND	0.02		mg/L	1	10/4/2007

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits	X	Value exceeds Maximum Contaminant Level

LCRA Environmental Laboratory Services

Date: 26-Oct-07

CLIENT: Clearwater UWCD
Lab Order: 0709851
Project: Clearwater Groundwater Analysis
Lab ID: 0709851-003

Client Sample ID: Parker
Collection Date: 9/27/2007 10:30:00 AM
Matrix: GROUNDWATER
Tag No:

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		E200.7		Analyst: TRO		
Calcium	12.1	0.200		mg/L	1	10/3/2007 9:21:04 PM
Iron	ND	0.0500		mg/L	1	10/3/2007 9:21:04 PM
Magnesium	11.5	0.200		mg/L	1	10/3/2007 9:21:04 PM
Potassium	5.76	0.200		mg/L	1	10/3/2007 9:21:04 PM
Sodium	336	0.600		mg/L	1	10/3/2007 9:21:04 PM
ICPMS METALS, TOTAL RECOVERABLE		E200.8		Analyst: SW		
Arsenic	ND	2.00		µg/L	1	10/5/2007
Selenium	ND	4.00		µg/L	1	10/5/2007
ANIONS BY ION CHROMATOGRAPHY		E300.0		Analyst: WR		
Chloride	127	10.0		mg/L	10	10/10/2007 8:34:00 PM
Fluoride	4.96	0.10	x	mg/L	10	10/10/2007 8:34:00 PM
Sulfate	221	10.0		mg/L	10	10/10/2007 8:34:00 PM
ALKALINITY		SM2320 B		Analyst: WR		
Alkalinity, Bicarbonate (As CaCO ₃)	341	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Carbonate (As CaCO ₃)	5	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Total (As CaCO ₃)	346	2		mg/L CaCO ₃	1	10/9/2007
NITRATE AND NITRITE		SM4500-NO3-H		Analyst: JB		
Nitrogen, Nitrate & Nitrite	0.19	0.02		mg/L	1	10/4/2007

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits	X	Value exceeds Maximum Contaminant Level

LCRA Environmental Laboratory Services

Date: 26-Oct-07

CLIENT: Clearwater UWCD
Lab Order: 0709851
Project: Clearwater Groundwater Analysis
Lab ID: 0709851-004

Client Sample ID: Frith
Collection Date: 9/27/2007 12:30:00 PM
Matrix: GROUNDWATER
Tag No:

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		E200.7		Analyst: TRO		
Calcium	51.7	0.200		mg/L	1	10/3/2007 9:29:24 PM
Iron	ND	0.0500		mg/L	1	10/3/2007 9:29:24 PM
Magnesium	65.6	0.200		mg/L	1	10/3/2007 9:29:24 PM
Potassium	20.0	0.200		mg/L	1	10/3/2007 9:29:24 PM
Sodium	1070	30.0		mg/L	50	10/8/2007 7:35:20 PM
ICPMS METALS, TOTAL RECOVERABLE		E200.8		Analyst: SW		
Arsenic	ND	2.00		µg/L	1	10/5/2007
Selenium	ND	4.00		µg/L	1	10/5/2007
ANIONS BY ION CHROMATOGRAPHY		E300.0		Analyst: WR		
Chloride	470	10.0	X	mg/L	10	10/10/2007 8:45:00 PM
Fluoride	5.40	0.10	X	mg/L	10	10/10/2007 8:45:00 PM
Sulfate	1360	25.0	X	mg/L	25	10/11/2007 8:09:00 PM
ALKALINITY		SM2320 B		Analyst: WR		
Alkalinity, Bicarbonate (As CaCO ₃)	471	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Carbonate (As CaCO ₃)	ND	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Total (As CaCO ₃)	471	2		mg/L CaCO ₃	1	10/9/2007
NITRATE AND NITRITE		SM4500-NO3-H		Analyst: JB		
Nitrogen, Nitrate & Nitrite	ND	0.02		mg/L	1	10/4/2007

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits	X	Value exceeds Maximum Contaminant Level

LCRA Environmental Laboratory Services

Date: 26-Oct-07

CLIENT: Clearwater UWCD
Lab Order: 0709851
Project: Clearwater Groundwater Analysis
Lab ID: 0709851-005

Client Sample ID: Michaux
Collection Date: 9/27/2007 1:05:00 PM
Matrix: GROUNDWATER
Tag No:

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		E200.7		Analyst: TRO		
Calcium	102	0.200		mg/L	1	10/3/2007 9:37:33 PM
Iron	ND	0.0500		mg/L	1	10/3/2007 9:37:33 PM
Magnesium	13.6	0.200		mg/L	1	10/3/2007 9:37:33 PM
Potassium	1.26	0.200		mg/L	1	10/8/2007 7:46:23 PM
Sodium	10.6	0.600		mg/L	1	10/3/2007 9:37:33 PM
ICPMS METALS, TOTAL RECOVERABLE		E200.8		Analyst: SW		
Arsenic	ND	2.00		µg/L	1	10/5/2007
Selenium	ND	4.00		µg/L	1	10/5/2007
ANIONS BY ION CHROMATOGRAPHY		E300.0		Analyst: WR		
Chloride	11.8	1.00		mg/L	1	10/10/2007 12:15:00 AM
Fluoride	0.25	0.01		mg/L	1	10/10/2007 12:15:00 AM
Sulfate	15.7	1.00		mg/L	1	10/10/2007 12:15:00 AM
ALKALINITY		SM2320 B		Analyst: WR		
Alkalinity, Bicarbonate (As CaCO ₃)	260	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Carbonate (As CaCO ₃)	ND	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Total (As CaCO ₃)	260	2		mg/L CaCO ₃	1	10/9/2007
NITRATE AND NITRITE		SM4500-NO3-H		Analyst: JB		
Nitrogen, Nitrate & Nitrite	3.80	0.10		mg/L	5	10/4/2007

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits	X	Value exceeds Maximum Contaminant Level

LCRA Environmental Laboratory Services

Date: 26-Oct-07

CLIENT: Clearwater UWCD
Lab Order: 0709851
Project: Clearwater Groundwater Analysis
Lab ID: 0709851-006

Client Sample ID: S. Creek
Collection Date: 9/27/2007 1:35:00 PM
Matrix: GROUNDWATER
Tag No:

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		E200.7		Analyst: TRO		
Calcium	59.5	0.200		mg/L	1	10/3/2007 9:43:01 PM
Iron	0.0531	0.0500		mg/L	1	10/3/2007 9:43:01 PM
Magnesium	16.8	0.200		mg/L	1	10/3/2007 9:43:01 PM
Potassium	1.09	0.200		mg/L	1	10/8/2007 7:51:59 PM
Sodium	6.22	0.600		mg/L	1	10/3/2007 9:43:01 PM
ICPMS METALS, TOTAL RECOVERABLE		E200.8		Analyst: SW		
Arsenic	ND	2.00		µg/L	1	10/5/2007
Selenium	ND	4.00		µg/L	1	10/5/2007
ANIONS BY ION CHROMATOGRAPHY		E300.0		Analyst: WR		
Chloride	7.21	1.00		mg/L	1	10/10/2007 12:26:00 AM
Fluoride	0.14	0.01		mg/L	1	10/10/2007 12:26:00 AM
Sulfate	7.73	1.00		mg/L	1	10/10/2007 12:26:00 AM
ALKALINITY		SM2320 B		Analyst: WR		
Alkalinity, Bicarbonate (As CaCO ₃)	179	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Carbonate (As CaCO ₃)	ND	2		mg/L CaCO ₃	1	10/9/2007
Alkalinity, Total (As CaCO ₃)	179	2		mg/L CaCO ₃	1	10/9/2007
NITRATE AND NITRITE		SM4500-NO3-H		Analyst: JB		
Nitrogen, Nitrate & Nitrite	ND	0.02		mg/L	1	10/4/2007

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits	X	Value exceeds Maximum Contaminant Level

OWNER: Robert Gleason

SWN: 4060403

COUNTY: Bell

DATE: 9 / 26 / 2007

AQUIFER: HENSELL SAND MEMBER OF TRAVIS PEAK FORMATION

Asterisk (*) next to value indicates that the constituent exceeds TCEQ standards (MCL) for drinking water.

	MG/L		MG/L		MG/L
Silica	10	Carbonate	2.4	Dissolved Solids	1670 *
Calcium	14.5	Bicarbonate	513.76	Hardness as CaCO ₃	100
Magnesium	13.8	Sulfate	650 *	SAR	25.22
Sodium	559	Chloride	150	Conductivity	2530
Potassium	6.08	Fluoride	5.58 *	pH	8.06
Strontium	5.8	Nitrate as NO ₃	< 0.15	Temperature	22°C

DESCRIPTION

FLAG VALUE +/-

TEMPERATURE, WATER (CELSIUS)	22.0	
NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)	< 0.15	
ARSENIC, DISSOLVED (UG/L AS AS)	< 0.733	
BARIUM, DISSOLVED (UG/L AS BA)	16.3	
BERYLLIUM, DISSOLVED (UG/L AS BE)	< 0.835	
BORON, DISSOLVED (UG/L AS B)	1010	
CADMIUM, DISSOLVED (UG/L AS CD)	< 0.654	
CHROMIUM, DISSOLVED (UG/L AS CR)	< 1.17	
COBALT, DISSOLVED (UG/L AS CO)	< 0.593	
COPPER, DISSOLVED (UG/L AS CU)	2.46	
IRON, DISSOLVED (UG/L AS FE)	25.5	
LEAD, DISSOLVED (UG/L AS PB)	< 0.843	
MANGANESE, DISSOLVED (UG/L AS MN)	0.502	
THALLIUM, DISSOLVED (UG/L AS TL)	< 0.363	
MOLYBDENUM, DISSOLVED, UG/L	17.0	
STRONTIUM, DISSOLVED (UG/L AS SR)	5800	
VANADIUM, DISSOLVED (UG/L AS V)	< 2.55	
ZINC, DISSOLVED (UG/L AS ZN)	5.54	
ANTIMONY, DISSOLVED (UG/L AS SB)	< 0.836	
ALUMINUM, DISSOLVED (UG/L AS AL)	4.25	
LITHIUM, DISSOLVED (UG/L AS LI)	24.4	
SELENIUM, DISSOLVED (UG/L AS SE)	< 0.989	
ALPHA, DISSOLVED, PC/L	< 4.00	2.33
URANIUM, NATURAL, DISSOLVED, UG/L	< 1.00	
ALKALINITY, FIELD, DISSOLVED AS CaCO ₃	425	
BROMIDE, DISSOLVED, (MG/L AS BR)	1.18	

DATE: 9 / 26 / 2007

AQUIFER: TWIN MOUNTAINS FORMATION

Asterisk (*) next to value indicates that the constituent exceeds TCEQ standards (MCL) for drinking water.

	MG/L		MG/L		MG/L
Silica	10	Carbonate	2.4	Dissolved Solids	1942 *
Calcium	34	Bicarbonate	667.52	Hardness as CaCO3	227
Magnesium	31.3	Sulfate	569 *	SAR	18.27
Sodium	614	Chloride	328 *	Conductivity	2830
Potassium	7.85	Fluoride	5.41 *	pH	7.53
Strontium	11.4	Nitrate as NO ₃	0.75	Temperature	24°C

DESCRIPTION	FLAG	VALUE	+/-
TEMPERATURE, WATER (CELSIUS)		24.1	
NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)		0.170	
ARSENIC, DISSOLVED (UG/L AS AS)	<	0.733	
BARIUM, DISSOLVED (UG/L AS BA)		20.4	
BERYLLIUM, DISSOLVED (UG/L AS BE)	<	0.835	
BORON, DISSOLVED (UG/L AS B)		738	
CADMIUM, DISSOLVED (UG/L AS CD)	<	0.654	
CHROMIUM, DISSOLVED (UG/L AS CR)	<	1.17	
COBALT, DISSOLVED (UG/L AS CO)	<	0.593	
COPPER, DISSOLVED (UG/L AS CU)		6.41	
IRON, DISSOLVED (UG/L AS FE)		3.15	
LEAD, DISSOLVED (UG/L AS PB)	<	0.843	
MANGANESE, DISSOLVED (UG/L AS MN)		1.12	
THALLIUM, DISSOLVED (UG/L AS TL)	<	0.363	
MOLYBDENUM, DISSOLVED, UG/L		2.65	
STRONTIUM, DISSOLVED (UG/L AS SR)		1140	
VANADIUM, DISSOLVED (UG/L AS V)	<	2.55	
ZINC, DISSOLVED (UG/L AS ZN)		4.90	
ANTIMONY, DISSOLVED (UG/L AS SB)	<	0.836	
ALUMINUM, DISSOLVED (UG/L AS AL)		2.98	
LITHIUM, DISSOLVED (UG/L AS LI)		23.2	
SELENIUM, DISSOLVED (UG/L AS SE)	<	0.989	
ALPHA, DISSOLVED, PC/L	<	4.47	2.56
URANIUM, NATURAL, DISSOLVED, UG/L	<	1.00	
ALKALINITY, FIELD, DISSOLVED AS CaCO3		400	
BROMIDE, DISSOLVED, (MG/L AS BR)		1.90	

DATE: 9 / 26 / 2007

AQUIFER: GLEN ROSE LIMESTONE AND HENSELL MEMBER OF PEARSALL FORMATION

Asterisk (*) next to value indicates that the constituent exceeds TCEQ standards (MCL) for drinking water.

	MG/L		MG/L		MG/L
Silica	10	Carbonate	2.4	Dissolved Solids	2597 *
Calcium	39.5	Bicarbonate	405.15	Hardness as CaCO3	281
Magnesium	41.2	Sulfate	996 *	SAR	21.12
Sodium	795	Chloride	485 *	Conductivity	3830
Potassium	9.19	Fluoride	4.98 *	pH	7.5
Strontium	10.9	Nitrate as NO ₃	3.26	Temperature	24°C

DESCRIPTION

FLAG VALUE +/-

TEMPERATURE, WATER (CELSIUS)	23.7	
NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)	0.736	
ARSENIC, DISSOLVED (UG/L AS AS)	< 0.733	
BARIUM, DISSOLVED (UG/L AS BA)	11.8	
BERYLLIUM, DISSOLVED (UG/L AS BE)	< 0.835	
BORON, DISSOLVED (UG/L AS B)	1410	
CADMIUM, DISSOLVED (UG/L AS CD)	< 0.654	
CHROMIUM, DISSOLVED (UG/L AS CR)	< 1.17	
COBALT, DISSOLVED (UG/L AS CO)	< 0.593	
COPPER, DISSOLVED (UG/L AS CU)	4.70	
IRON, DISSOLVED (UG/L AS FE)	5.64	
LEAD, DISSOLVED (UG/L AS PB)	< 0.843	
MANGANESE, DISSOLVED (UG/L AS MN)	0.978	
THALLIUM, DISSOLVED (UG/L AS TL)	< 0.363	
MOLYBDENUM, DISSOLVED, UG/L	1.61	
STRONTIUM, DISSOLVED (UG/L AS SR)	1090	
VANADIUM, DISSOLVED (UG/L AS V)	< 2.55	
ZINC, DISSOLVED (UG/L AS ZN)	12.3	
ANTIMONY, DISSOLVED (UG/L AS SB)	< 0.836	
ALUMINUM, DISSOLVED (UG/L AS AL)	2.15	
LITHIUM, DISSOLVED (UG/L AS LI)	40.2	
SELENIUM, DISSOLVED (UG/L AS SE)	< 0.989	
ALPHA, DISSOLVED, PC/L	< 6.05	3.74
URANIUM, NATURAL, DISSOLVED, UG/L	< 1.00	
ALKALINITY, FIELD, DISSOLVED AS CaCO ₃	336	
BROMIDE, DISSOLVED, (MG/L AS BR)	3.18	

Appendix L

Bell County Water Symposium

Bell County Expo Center

Belton, Texas

November 8, 2006

8:00 a.m.—3:30 p.m.

AGENDA

8:00 a.m. Registration

8:30 a.m. Welcome/Overview of the Clearwater District and Water Planning in Texas
Horace Grace—Clearwater Board President

9:00 a.m. Results of Clearwater District Studies
Randy Williams—Turner Collie & Braden, Inc.

9:45 a.m. Legislative Update
Senator Kip Averitt, Chair of Senate Natural Resources Committee

10:15 a.m. Break

10:25 a.m. Chisholm Trail Special Utility District Plans for Bell & Williamson Counties
Don Rauschuber, Chisholm Trail Special Utility District

11:05 a.m. Brazos River Authority Projects for Central Texas
John Hofmann, Brazos River Authority

11:45 a.m. Kempner Water Supply Corporation Plans for New Water Treatment Plant
David Sneed, Kempner Water Supply Corporation

12:00 p.m. Lunch

12:45 p.m. Leon River Watershed Protection Program & Monitoring the Lampasas River Watershed
Aaron Wendt, Texas State Soil & Water Conservation Board
Jay Bragg, Brazos River Authority

1:45 p.m. Wellhead Management
Monty Dozier, Texas A&M University

2:30 p.m. Rainwater Harvesting and WaterWise Landscaping
John Smith, Texas A&M University

3:15 p.m. Closing Comments
Horace Grace

***3 CEUs available for Licensed Private
and Commercial Pesticide Applicators—
1 Law/Regulations; 2 General***

Symposium sponsored by the following:
Clearwater Underground Water Conservation District
Bell County Extension Office
Turner, Collie & Braden, Inc.
Lloyd, Gosselink, Blevins, Rochelle & Townsend, P.C

Appendix M

Are you Poisoning your Water?

Tell Your Parents...

- Never pour pesticides down household drains, sewer inlets or stormwater inlets.
- Never fertilize or apply pesticides before an expected rain.

Can you find in the puzzle below items that cannot be safely poured down the drain? How many other words can you find?

T R A S H B I N A C O M P O S T O N
E R P E S T I C I D E S L F C A N S A
A C A P A R K D I E S E L F C A N S A
A G I N K W A P A I N T B U G S O I
C A W T U S E A N T I M O T O R O I L G
Y E T P E B I O E I E R T A T T
C E H C O U D S S E R F R E T U B E
L E K I A P I G A S O L I N E E R Y W A F
L I N P E S T O N O O E B E E X T L
U L E T U R P E N T I N E P Z U E U
C L R M O T H B A L L S F O E E R I
B R A K E F L U I D O G A I M E S O
W A O V E N C L E A N E R H O P D E
L H A Z A R D O U S W A S T E V E N

WASHES
GLASS
MOTOR OIL
PESTICIDES
ANTIFREEZE
FLUORESCENT LIGHTS
PAINT THINNER
DISHWASHING SOAP
TRANSISTOR FLUID
FLUORESCENT LIGHTS
HARDWOOD FINISH
LUBRICANTS
OILY CLEANER
RUBBER FEEL
KITCHEN
FAT PROOF
CAR WAX

Cleanwater
Underground Water Conservation District

P.O. Box 729 • Balton, TX 76513 • (254) 933-0120 • www.cleanwaterdistrict.org

Walraven
9801 Spring Creek Drive, Suite 100 • Carroll, Texas 75411
972-424-2424 • www.walraven.com

Student: _____

Subject: _____

IT'S INSANE to pour deadly chemicals DOWN THE DRAIN!

When grass clippings, pet waste, automotive products, fertilizers, pesticides and other chemicals wash down a storm drain, they don't go away. They flow into streams, rivers, lakes or bays, harming plants and animals and contaminating the water we drink. The technical term is "nonpoint source pollution."

Here's how to make sure that you don't help feed the storm drain:

YARD

Don't overfertilize. Sweep (do not wash) fertilizer and soil off driveways and walkways.

PET

Pick up pet waste from yards, trails and sidewalks.

HOME

Use nontoxic or natural household cleaning products. Recycle or properly dispose of household chemicals.

CAR

Maintain your car to prevent oil leaks and recycle used motor oil.

1-800-CLEAN UP

Texas Commission on Environmental Quality and the U.S. Environmental Protection Agency

1. Center notebook on book cover and fold top and bottom ends. Center it like a letter when you fold it. Write a message for the storm drain on the inside of the cover.
2. Fold in sides of book cover to create a pocket for each letter. Write a message for the storm drain on the inside of the cover. Write a message for the storm drain on the inside of the cover.
3. Slide ends of book into letters and fold them over. Make sure the letters are secure and the message is visible.
4. Make sure your notebook is covered with letters and the message is visible. Make sure the letters are secure and the message is visible.



Appendix N



**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT
RESOURCE LIBRARY**
May 2008

Videotapes/DVDs

1. WATER

Backyard Safari
Pre-K – 2nd Grade

Why is water so important to life? Youngsters learn why animals and plants have different ways of getting the water they need. They'll also see that water can be liquid, hard ice, or foggy steam. Teacher guide included. (30 minutes)

2. WATER CYCLE—GO WITH THE FLOW

3-2-1 Classroom Contact
Grades 4 – 6

Water on Earth is cleaned in a cycle of evaporation, condensation, and precipitation. Follow the flow from ocean to clouds to rain, discover how dirty water becomes clean, and learn how people fit into the water cycle. Teacher guide included. (15 minutes)

3. WATER: FROM THE EARTH FOR YOU

Enviro-Tacklebox
Grades 5 – 9

Demonstrates how a growing population has put increasing demands upon the world's finite resources. Teacher guide included. (20 minutes)

4. GROUNDWATER

Earth Revealed—High School Edition
Grades 9 – College

Explains how groundwater is distributed and measures its importance to human life. Teacher guide included. (15 minutes)

5. MAJOR RIVERS

Brazos River Authority
4th Grade

Follow along with "Major Rivers" and his horse "Aquifer" as they provide an overview of water in Texas, to include groundwater, surface water, water treatment, wastewater treatment and conservation. (15 minutes)

6. GROUNDWATER QUALITY: MANAGING THE RESOURCE

The Water Education Foundation (California)

Since groundwater basins are out of sight under the earth, groundwater resources are easily overlooked and mismanaged. This program provides valuable information about how to better use and protect our precious groundwater supplies. (15 minutes)

**7. CONJUNCTIVE USE: A COMPREHENSIVE APPROACH TO WATER
PLANNING**

The Water Education Foundation (California)

This program simplifies an often misunderstood concept: conjunctive use—coordinating surface water and groundwater supplies, which are often managed as separate resources. (11 minutes)

8. WATER WELL BASICS

American Ground Water Trust
Grade 6 and above

An educational video that shows step by step, the processes of well drilling, well construction and equipment installation needed to provide a safe home water supply. (15 minutes)

9. DIVINING THE FUTURE: GROUNDWATER CONSERVATION DISTRICTS

Texas Alliance of Groundwater Districts; TCEQ; Texas Cooperative Extension; and Texas Groundwater Protection Committee.

Video provides a general overview of groundwater conservation districts including their role and responsibilities as well as services they provide. (20 minutes)

10. FOUNDATIONS: AQUIFERS OF TEXAS

Texas Alliance of Groundwater Districts; TCEQ; Texas Cooperative Extension; and Texas Water Development Board.

Video provides general information on types of aquifers, recharge areas, water movement in aquifers, and water removal from aquifers. (10 minutes)

11. CROSSROADS: TEXAS WATER LAW

Texas Alliance of Groundwater Districts; TCEQ; Texas Cooperative Extension; and Texas Groundwater Protection Committee.

Video provides general overview of water law in Texas as it relates to diffused surface water, surface water, and groundwater. (10 minutes)

12. TEX*A*SYST: WELL PLUGGING—PLUGGING WATER WELLS IN TEXAS

Texas Agricultural Extension Service; Texas Groundwater Protection Committee.

Video focuses on landowners plugging large diameter water wells. Other videos in the TEX*A*SYST series include Introduction to TEX*A*SYST; Pesticides and Fertilizer Storage; Petroleum Product Storage; Household Hazardous Waste and Septic System; and Livestock Waste Management. (Approx. 10 – 15 minutes each)

13. UNDERSTANDING TEXAS WATER ISSUES

Real Estate Center, Mays Business School, College Station, TX; Texas Cooperative Extension; Texas Water Resources Institute

Real estate professionals are caught in the middle of an economy that may soon be more dependent on water than oil. This video discusses the State's basic water dilemmas and solutions. CD also available. (45 minutes)

Videotapes/DVDs—continued

14. BELL COUNTY WATER SYMPOSIUM—FALL 2002, 2003 & 2004

Clearwater Underground Water Conservation District

Set of videotapes documenting the November 7, 2002, November 19, 2003 and October 27, 2004 water symposiums. Topics include the following: 1) Legislative update on water issues; 2) Overview of Bell County aquifers; 3) Brazos G Regional Water Planning Group and the Brazos River Authority; 4) Role of water supply corporations and CCN's; 5) Water quality protection and water conservation; 6) and Rainwater harvesting. (Each tape approximately 2 hours)

15. TEXAS: THE STATE OF WATER Vol. 1 & 2

Texas Parks and Wildlife Department

Texas The State of Water- Finding a Balance is an in-depth, hour long documentary presented and produced by the Texas Parks and Wildlife Department. The program explores how the demand for water will grow dramatically in years to come, and weighs the impact that growth will have on the state. The documentary shows how the steps we take – or do not take – will impact Texas and its people, wildlife and economic vitality for future generations. (Each video 1 hour)

Books

1. THE WATER SOURCEBOOKS

Partnership of EPA, Region 4; Alabama Department of Environmental Regulation; LEGACY—Partners in Environmental Education; and Water Environment Federation

Series consists of a set of 4 volumes appropriate for Grades K-2, Grades 3-5, Grades 6-8, and Grades 9-12. The series explains the water management cycle using a balanced approach and how it affects every aspect of the environment. The curriculum provides strong science and math content, but also links these subject areas to social studies and language arts. Each Sourcebook contains hands-on activities and investigations, fact sheets, reference materials, and a glossary of terms.

2. PROJECT WET CURRICULUM AND ACTIVITY GUIDE

Project WET—Water Education for Teachers
Montana State University
Texas Sponsor: Caddo Lake Institute

A collection of over 90 innovative, interdisciplinary activities that are hands-on, easy to use, and fun for Grades K-12. The Guide is divided into seven concept areas: chemistry and physics of water; life science; earth systems; natural resources; water resource management; society; and culture. Multidisciplinary activities are included, integrating language arts, mathematics, science, geography, history, government, and health.

3. MAKING DISCOVERIES

The Groundwater Foundation

Groundwater activities for the classroom and community. What is an aquifer? How does groundwater get contaminated? Find the answers to these questions and more in this activity book. Through interactive water education experiences, students learn

concepts in science, math, language arts, social science, fine arts, and physical education. Hands-on activities focus on groundwater, surface water, wetlands, and pollution prevention.

4. MAKING A BIGGER SPLASH

The Groundwater Foundation

This guide features best-loved water education and festival activities. All the activities in this collection are hands-on, brains-on fun and teach important water concepts to participants.

5. HANDBOOK OF WATER USE AND CONSERVATION

Amy Vickers
WaterFlow Press

A comprehensive and authoritative handbook on water use and efficiency measures for those concerned about efficient water use. Includes ten key steps to a successful conservation program, water use characteristics of major customer sectors, water audit procedures, and hundreds of fact-filled tables, illustrations, and case studies.

Miscellaneous

1. DRIPAL PURSUIT

The Groundwater Foundation

A card game with interesting water trivia. Just how many gallons of water does it take to produce a hamburger, fries, and soft drink? The answer will surprise you! Dripal Pursuit questions relate to water, natural resources, and geography. The answers are interesting and intriguing and help everyone understand important water concepts.

2. PUDDLE PICTURES

The Groundwater Foundation

Reinforce water lessons by playing this game based on the popular game *Pictionary*. Draw a water-related word and help teammates come up with the word on the card. Example: Can you draw the word "recharge"?

3. THE JUG: A COMPLETE AQUIFER SCIENCE KIT

The Groundwater Foundation

The JUG contains all the supplies needed to construct a groundwater flow model to help students "Just Understand Groundwater." The plastic 8 1/2" tall JUG comes with all the needed accessories and detailed instructions for experiments which enable the user to understand important concepts about groundwater including aquifer geology, water movement, water pumping, contamination and cleanup.

4. WATER CONSERVATION LITERATURE PACKETS

Clearwater Underground Water Conservation District

Assembly of water conservation literature from various sources to include the Texas Water Development Board, US Geological Survey, WaterSmart, US Department of Agriculture and US Environmental Protection Agency.