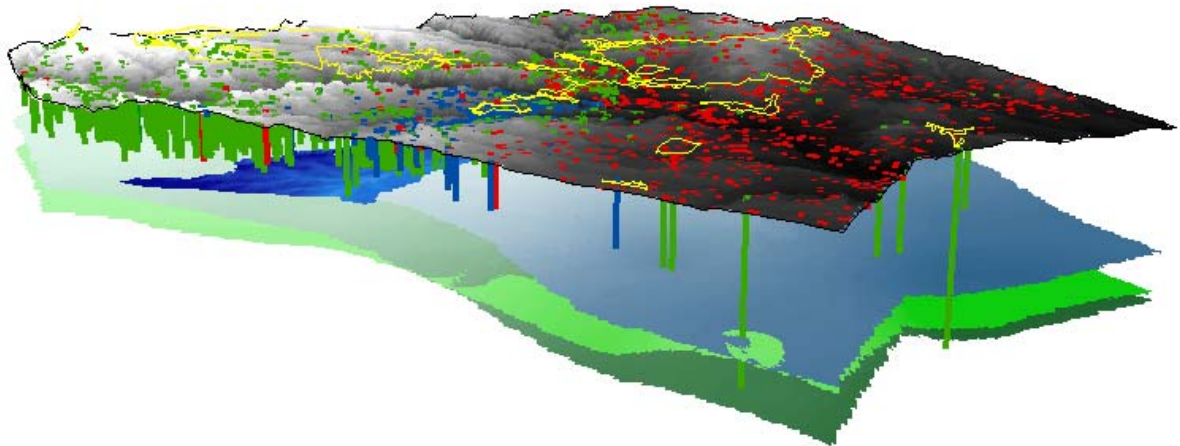




Annual Report

Fiscal Year 2005

3-D Model of Well Depths in Bell County



Aquifer

- Other
- Edwards (BFZ)
- Trinity

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***Clearwater Underground Water Conservation District
FY05 Annual Report***

The FY05 Annual Report was approved by the Directors of the Clearwater Underground Water Conservation District (CUWCD or District) on April 11, 2006.

This report summarizes the activities and accomplishments of the District during Fiscal Year 2005 (FY05), focusing on administrative, management plan, and miscellaneous activities. Administrative activities are based primarily on the District's fiscal year, whereas the other activities are based on the 2005 calendar year.



Ricky Preston, At-Large Wallace Biskup, Precinct 3 Judy Parker, Precinct 4 Leland Gersbach, Precinct 1 Horace Grace, Precinct 2

1. INTRODUCTION

The Clearwater Underground Water Conservation District was created by the State legislature in 1989 and approved by the voters of Bell County in August 1999. 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 opened its doors for business in February 2002. The District's fiscal year runs from October 1st through September 30th. This report summarizes the accomplishments and activities of the District during FY05.

During FY05, the District made several changes to its rules to address minor issues regarding permit exemptions, minor permit amendments, hydrogeological reports, and spacing requirements. The Texas Water Development Board (TWDB) Groundwater Availability Model (GAM) simulations were conducted for the Edwards (BFZ) and Trinity aquifers, resulting in new groundwater availability figures for Bell County. These programs and others are discussed in this report.

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

- Administrative Activities
- Management Plan Activities
- Miscellaneous Activities

Administrative activities include the basic tasks and requirements necessary for a groundwater district to function effectively. Management Plan activities include the required tasks and activities identified in the District's Management Plan. Miscellaneous activities include tasks and programs that do not fall within the other two categories.

2. ADMINISTRATIVE ACTIVITIES

Major administrative activities during FY05 include the following:

A. Contract Renewals:

- Central Texas Council of Governments for administrative & planning services
- Turner Collie & Braden Inc. for technical support
- Legal counsel
 - (1) Naman, Howell, Smith & Lee
 - (2) Lloyd, Gosselink, Blevins, Rochelle & Townsend, P.C.

B. Financial Items:

- Budget and tax rate for FY05
- Financial audit

C. Miscellaneous Policies:

- MOU Regarding Abandoned and Deteriorated Wells
- Fraud Policy
- Abandoned Well Policy

D. Board of Directors:

- Bylaws Amendment Regarding Terms of Officers
- District Officers

E. District Rules—Amendments

- Definition of Terms
- Permit Exclusions and Exemptions
- Hydrogeologic Report
- Minor Permit Amendments
- Spacing Requirements

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 FY05. The FY05 contract is for a two year term with consideration for renewal occurring 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 and has allowed the District to operate with minimal expenses. As a result, the District has renewed the two year contract with CTCOG for FY06.

2. Turner Collie & Braden, Inc.

The District initiated a contract with Turner Collie & Braden, Inc. (TCB) in March 2001 for technical consulting services and has continued a contractual relationship over the years. Services for FY05 included the following:

- Technical review of rules amendments;
- Technical review of drilling permits, operating permits, and permit amendments;
- Technical review of groundwater availability reports for proposed subdivisions relying on groundwater;
- Designation of aquifers for exempt wells;
- Estimate of production from exempt wells;
- Establishment of parameters for hydrogeological studies;
- Estimate of groundwater availability in the Edwards (BFZ) and Trinity aquifers based upon TWDB GAM;
- Continuation of Trinity aquifer study in southern Bell County; and
- Preparation of Management Plan revisions.

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 utilized two law firms during FY05: 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 the processing of various rule amendments and continues to provide counsel for rule-related issues. LGBRT followed proposed legislation considered and adopted by the 79th Texas Legislature and kept the District informed on issues requiring District involvement.

B. FINANCIAL ITEMS

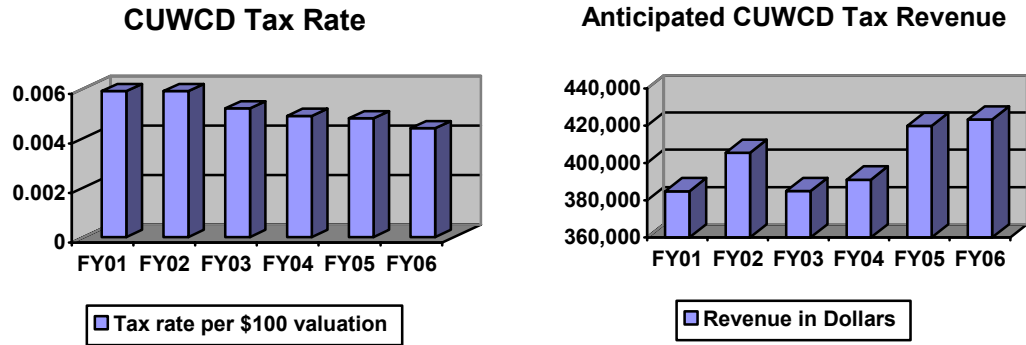
1. Budget and Tax Rate

Several months prior to FY05, the District held work sessions 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 FY05 was \$0.0048/\$100 valuation, down from \$0.0049/\$100 valuation assessed during FY04. The approved budget for FY05 totaled \$434,800 with \$419,800 anticipated revenue from taxes. In August 2005, the District adopted the FY06 tax rate of \$.0044/\$100 valuation which will generate

anticipated tax revenue of \$423,278, with a total approved budget of \$440,778. The District has been able to maintain or increase its budget even with a tax reduction due to increased property values.

Total revenue (including interest and collected fees) for CUWCD for FY05 was \$425,793. This is \$9,007 less than the approved budget of \$434,800. However, expenditures for FY05 only totaled \$340,423, resulting in under-expenditures of \$94,377. Approximately \$40,000 was left over in studies due to delays in the Trinity study. The excess funds are placed in the District’s reserve account, which now totals \$358,034.

The approved budget for FY05, along with the ending schedule of revenues and expenditures for FY05, is attached as Appendix A. Also, Appendix A includes a pie-chart that breaks down expenditures by category. The figure shown in the final report includes a \$272,664 reserve balance or carry over from years prior to FY05.



2. Financial Audit

An annual audit of the District’s finances is required by Chapter 36.153 of the Texas Water Code. CUWCD’s audit occurs in conjunction with CTCOG’s audit. The fiscal year for CTCOG runs from July 1st through June 30th. The audit for FY04 began in February 2005. Patillo, Brown & Hill, LLP conducted the audit which was successful--there were no findings to report. The audit for FY05 is underway.

C. MISCELLANEOUS POLICIES

1. Memorandum of Understanding with TDLR and TCEQ Regarding Abandoned and Deteriorated Wells

On February 17, 2005, the Board adopted a resolution to join a Memorandum of Understanding with the Texas Department of Licensing and Regulation (TDLR) and the Texas Commission on Environmental Quality (TCEQ) to coordinate efforts regarding the investigative procedures for referrals of complaints of abandoned and

deteriorated wells. This was required by the passage of Senate Bill 279 in the 2003 legislative session.

2. Fraud Policy

The Board adopted a Fraud Policy on February 17, 2005. This policy defines misconduct and dishonesty, identifies reporting procedures, and investigation/follow-up procedures.

3. Abandoned Well Policy

On July 19, 2005, the Board adopted an Abandoned Well Policy. This policy outlines the procedures that District staff will follow in investigating complaints regarding abandoned and deteriorated wells. District staff will conduct the initial investigation of the reported well and then forward this information to TDLR for further investigation, determination of corrective action, and enforcement.

D. BOARD OF DIRECTORS

1. Bylaws Amendment Regarding Terms of Officers

On August 16, 2005, the Board adopted an amendment to the District Bylaws clarifying the terms of office for Board officers. The amendment removed the three consecutive year limit that is placed on a director holding a particular office. The resulting term of office is one year, subject to reelection.

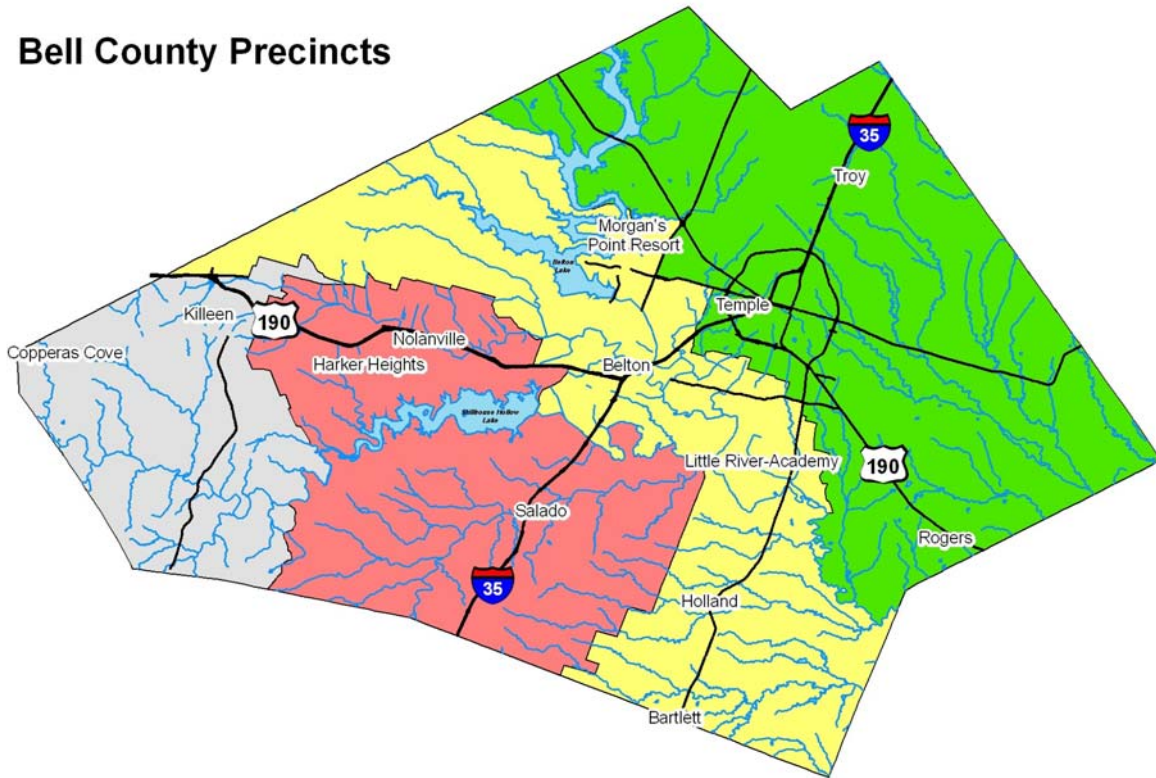
2. District Officers

Board members for FY05 are identified below, along with the office they held and precinct they represent. (The same officers were reelected for FY06.)

Horace Grace, President (Precinct 2)
Wallace Biskup, Vice President (Precinct 3)
Leland Gersbach, Secretary (Precinct 1)
Ricky Preston, Director (At-Large)
Judy Parker, Director (Precinct 4)

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

Bell County Precincts



Legend



3. Meetings

The Board of Directors held thirteen meetings during the calendar year 2005, including one special meeting to adopt the tax rate and budget for FY06. Board meetings are typically held on the third Tuesday of each month. In addition to regular Board meetings, the Directors held seven workshops to discuss the following: Trinity GAM/Study; FY05 budget; Trinity Management by aquifer subdivision; and updating and revising District Management Plan and District Rules. The Board also held a workshop on January 14, 2005 to assist a new District, the Rusk County Groundwater Conservation District, by discussing basic operating procedures and development of a management plan, rules, and policies.

E. DISTRICT RULES—Amendments

The District adopted several minor revisions to the rules during FY05. These amendments are summarized below:

1. Definition of Terms

Definitions were added to the District rules to clarify different types of water wells. These included dewatering well, exempt well, leachate well, monitoring well, non-exempt well, and test well.

2. Permit Exclusions and Exemptions

Rule 8.3 dealing with permit exclusions and exemptions was revised to include a dewatering well, a leachate well, a test well, and a monitoring well as exempt from the District's permitting requirements, subject to certain conditions.

This rule was also revised to change the minimum acreage needed to qualify for exempt status. Previously, more than 10 acres was needed. This was revised to 10 acres or more. Wells located on smaller tracts may still be exempt if the tract existed in this size prior to March 1, 2004 and no subdivision occurs prior to drilling the well.

3. Hydrogeologic Reports

The requirement for a hydrogeologic report was changed from 12 million gallons/year to 37 ac-ft/year. Guidelines for preparing this report were also developed. These guidelines include pumping tests, an analysis of the subsurface geology, well construction information, effect of projected pumping on aquifer users, and analysis of water quality changes due to pumping.

4. Minor Permit Amendments

A minor permit amendment was defined and authority to process these amendments was given to District staff. A minor permit amendment includes increases in production of 20% or less, not to exceed 37 ac-ft/year for those with permits of more than 28 ac-ft/year; and increases of up to 5.5 ac-ft/year for permit holders with 28 ac-ft/year or less.

An increase in transport was also considered a minor permit amendment under certain conditions as follows: Increase of up to 1 ac-ft/year for permit holders transporting less than 1 ac-ft/year; and increases up to 20% of the approved transport for the previous year, not to exceed 10 ac-ft/year for permit holders transporting 1 ac-ft/year or more.

5. Spacing Requirements

The spacing requirement between wells producing from different aquifers was addressed to allow a reduction in the separation, subject to certain completion techniques. These completion techniques are intended to prevent the commingling of water between the aquifers which can result in a loss of artesian pressure or the degradation of water quality.

Other minor changes were made throughout the rules clarifying the requirements as they apply to multiple aquifers, rather than a single aquifer.

F. MANAGEMENT PLAN

During FY05, the District continued to meet the goals and objectives outlined in its Management Plan. The District Management Plan is reviewed annually and is to be updated and readopted at least every five years. During FY05 the District conducted GAM simulations for both the Edwards (BFZ) and Trinity aquifers and developed revised groundwater availability figures to update the Management Plan. During FY05 the District began to revise the Management Plan. Revisions were substantial to incorporate new legislative requirements that have gone into effect as a result of the past three legislative sessions since the Plan's initial approval in 2001. A revised Management Plan was approved by the District Board in December 2005 and was sent to the TWDB for review and approval in January 2006.

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 2001 approved Plan is included in the following section. Future annual reports will be based on the revised Management Plan that was approved by the TWDB on March 6, 2006.

3. MANAGEMENT PLAN ACTIVITIES

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. Several of the Plan’s goals and objectives are referenced to the calendar year rather than the fiscal year; therefore, this report will include Management Plan activities through December 2005. The District goals are shown below:

- Efficient use of groundwater
- Minimize waste of groundwater
- Conjunctive surface water management issues
- Develop public/private partnerships

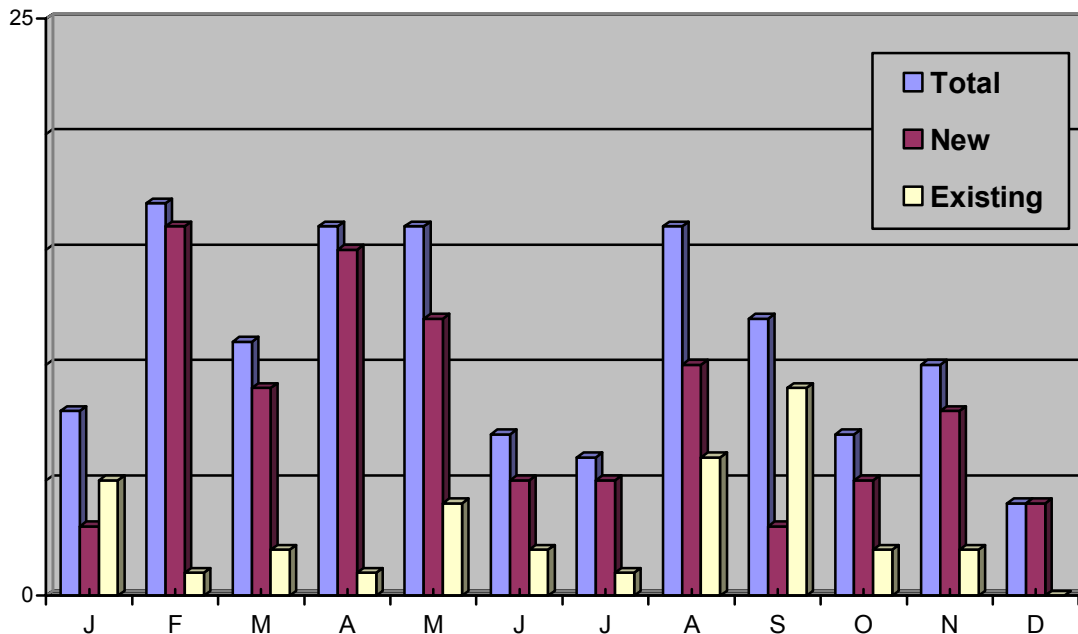
The following is a summary of the District’s activities related to these goals. Appendix B provides a summary of the estimated staff time and expenses necessary to achieve them.

A. 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 2005, 130 wells were registered. Of these, 17 wells were non-exempt. The tables below summarize the well registration and permitting activity through December 31, 2005.

Well Registration by Month--2005



**Well Registration Summary
2002 through 2005**

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	17	83	15	1	1	1	118
Jan 2005	5	3	0	0	0	0	8
Feb	1	16	0	0	0	0	17
Mar	2	8	0	0	0	1	11
Apr	1	15	0	0	0	0	16
May	2	10	2	0	0	2	16
Jun	2	5	0	0	0	0	7
Jul	1	5	0	0	0	0	6
Aug	4	10	2	0	0	0	16
Sep	0	3	9	0	0	0	12
Oct	2	5	0	0	0	0	7
Nov	2	7	0	0	1	0	10
Dec	0	4	0	0	0	0	4
2005 Total	22	91	13	0	1	3	130
Grand Total	3938	330	82	3	2	4	4359

*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

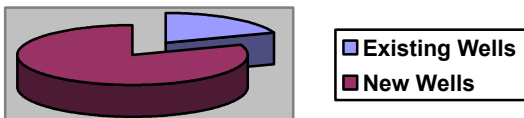
- c. located on a tract of land 10 acres or less in size, created after March 1, 2004.

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.

As was the case in 2004, registration figures for 2005 show that with regard to exempt wells, more new wells were registered than existing wells; however, with regard to non-exempt wells, more existing wells were registered than new wells.

Exempt Well Registration-2005



Non-Exempt Well Registration-2005



Objective A.3: Establish a Groundwater Database.

The District's database is continually updated as new information is acquired. Data is entered within 45 days of receipt, as required by the Management Plan. The Management Plan also requires the District to evaluate methods for estimating current annual aquifer recharge, discharge, movement and storage values by January 1, 2005. This process was begun during 2004, as the District used the TWDB Groundwater Availability Model (GAM) to assess availability of groundwater in the Edwards (BFZ). Through the GAM, aquifer dynamics such as recharge, discharge, movement and storage were considered, with discharge at Salado Springs being the primary factor in assessing availability. The District continued with this process during 2005 by conducting GAM simulations for the Trinity aquifer. At this point in time, the TWDB GAM appears to be the best method for estimating groundwater availability and associated parameters.

1. Groundwater Production:

During 2005, 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 2005, 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.

Volume Permitted for Non-Exempt Wells in 2005

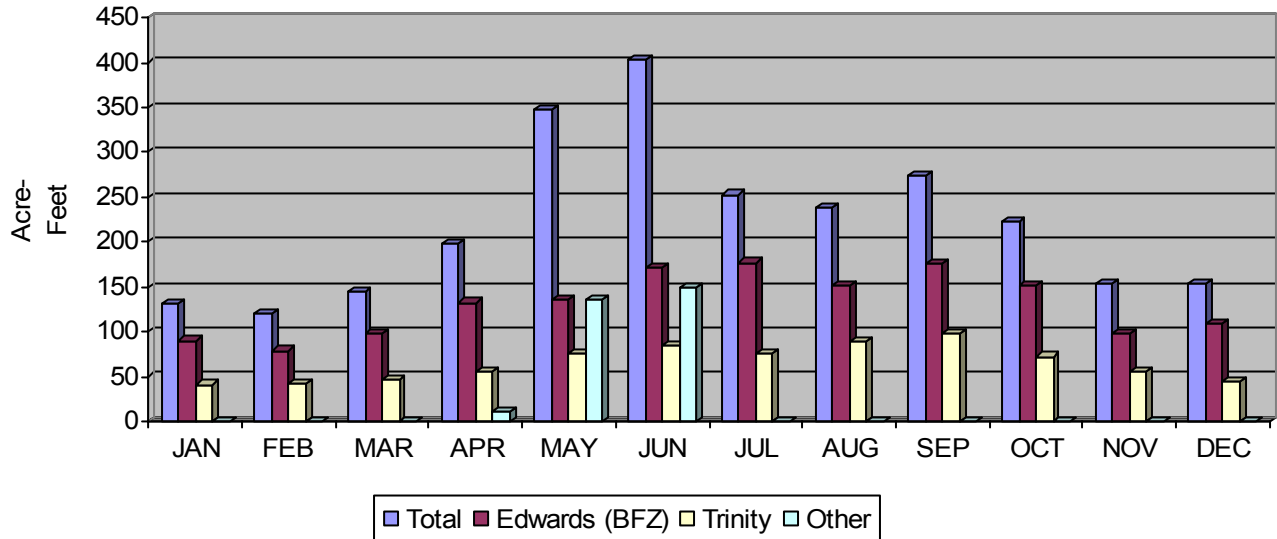
Edwards (BFZ):	2,279.29 ac-ft (27 wells)
Trinity:	1,868.29 ac-ft (24 wells)
Other:	300.52 ac-ft (9 wells)
TOTAL:	4,448.10 ac-ft (60 wells)

2005 Annual Production (Non-Exempt Wells)

Edwards (BFZ):	1,568.99 ac-ft (26 wells)
Trinity:	778.37 ac-ft (20 wells)
Other:	294.07 ac-ft (8 wells)
TOTAL:	2,641.43 ac-ft (54 wells)

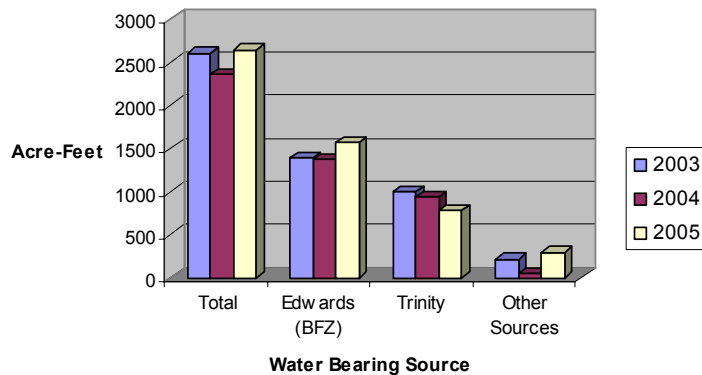
The chart below shows that production in 2005 peaked in June with a total withdrawal of 404 ac-ft. This is up from 2004 when production peaked at 299 ac-ft. Throughout the year, withdrawals from the Edwards (BFZ) were consistently higher than from the Trinity aquifer. Production from Other source aquifers only occurred during the months of April, May and June, with production surpassing the Trinity aquifer in the months of May and June.

Production From Non-Exempt Wells--2005



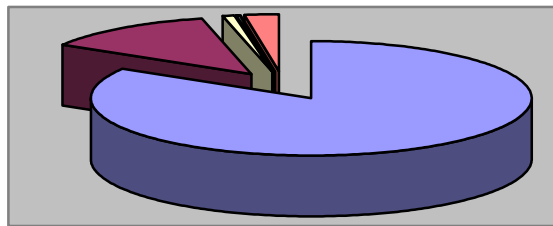
In the graph below, production from 2005 (54 wells) is shown compared to production in 2003 and 2004. Both the Edwards (BFZ) and Other Sources recorded more production than 2004, while less water was produced from the Trinity aquifer.

Production From Non-Exempt Wells—2003 to 2005



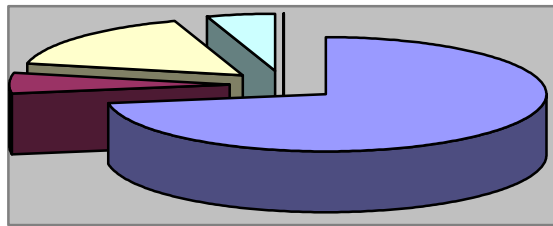
The following pie charts show how the groundwater from the different aquifers is used. In the Edwards (BFZ) and Trinity aquifers, water produced from non-exempt wells is used primarily for public supply purposes (83.6% and 72.6% respectively), while water produced from non-exempt wells in other formations is used exclusively for irrigating agricultural crops.

**Use of Groundwater
By Non-Exempt Wells—Edwards (BFZ) Aquifer**



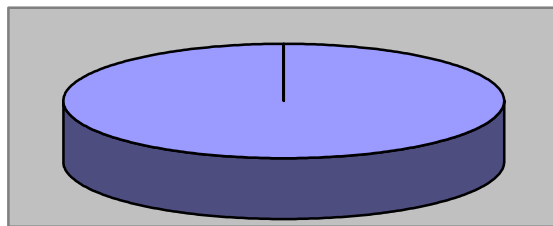
Public Supply	83.6%
Livestock/Poultry	12.7%
Irrigation	0.8%
Industrial	0.4%
Agriculture	0%
Commercial	2.5%

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



Public Supply	72.6%
Livestock/Poultry	5.8%
Irrigation	16.5%
Industrial	5.1%
Agriculture	0%
Commercial	0%

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



Agriculture	100%
-------------	------

Each year, TCB evaluates the exempt wells that had 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, 2005.

Summary of Exempt Well Production

Aquifer	*No. of Wells	Estimated Use Acre-feet/Year
Edwards (BFZ)	620	301
Trinity	1,727	838
Other	1,875	909
TOTAL	4,222	2,048

*Calculations for exempt well production excluded 46 wells that were plugged, 3 wells that were never drilled, and 3 wells that were reclassified from exempt to non-exempt.

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)	1,569	84%	301	16%	1,870
Trinity	778	48%	838	52%	1,616
Other	294	24%	909	76%	1,2-3
TOTAL	2,641	56%	2,048	44%	4,689

The chart above shows that overall, exempt wells account for nearly half (44%) of all the groundwater produced in Bell County. In 2004, the exempt well figure was 46%. In the Trinity aquifer slightly more than half, 52% of production, is attributed to exempt wells; however, in the Edwards (BFZ), exempt wells only account for 16% of

groundwater production, with the vast majority coming from non-exempt wells (84%). Wells producing from other groundwater sources attribute 76% of the production to exempt wells.

2. Aquifer Monitoring:

The Texas Water Development Board (TWDB) measures water levels in 9 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 7 of the 9 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 tables below 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 C 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						
	Jan-Feb 1995	Jan-Mar 2003	July 2003	Jan-Feb 2004	July 2004	Jan 2005	July 2005
58-04-627 (Salado ISD)		39.8	42.6	41.4	39.5	39.1	43.4
58-04-502 (Salado ISD)	--	48.7	56.1	49.2	48.6	47.2	51.8
58-04-602 (Salado WSC)	--	63.2	38.2*	29.5*	32.7*	27.2*	36.0*
58-13-502 (City of Bartlett)	--	--	--	--	--	42.6	40.1
58-04-623 (Foster Stagecoach)	78.3	84	89.58*	89.69	82.79*	86.3	87.2*
58-04-702 (TxDOT)	72.4	78.25	71.96	72.72	71.84	72.2	72.2
58-04-801 (Norwood)	147.4	144.15	137.42	141.34	141.25	134.1	137.6

*Pump turned off 1-2 hours prior to measurement

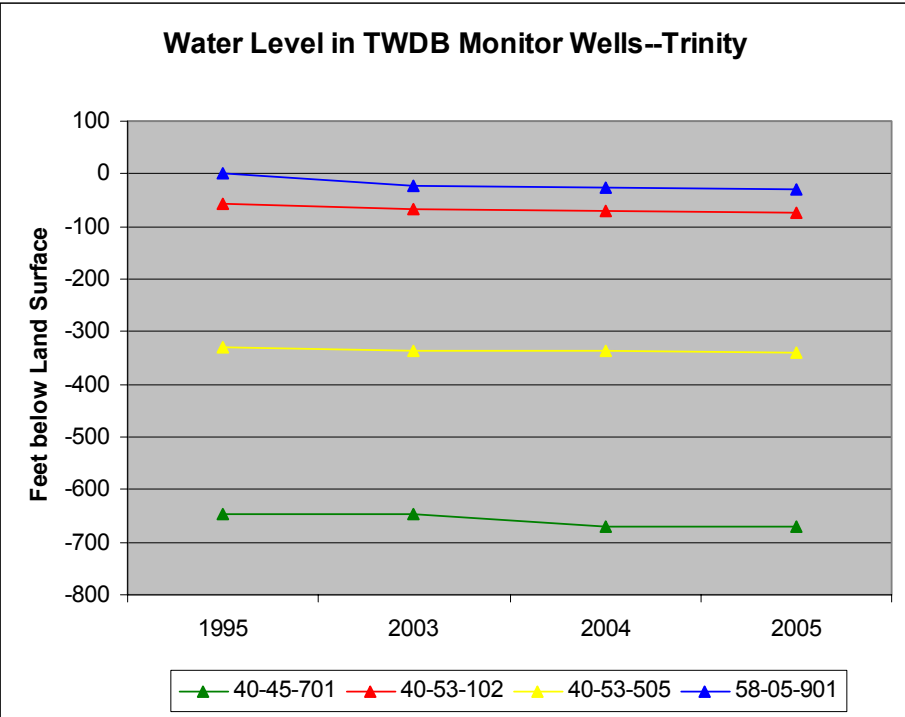
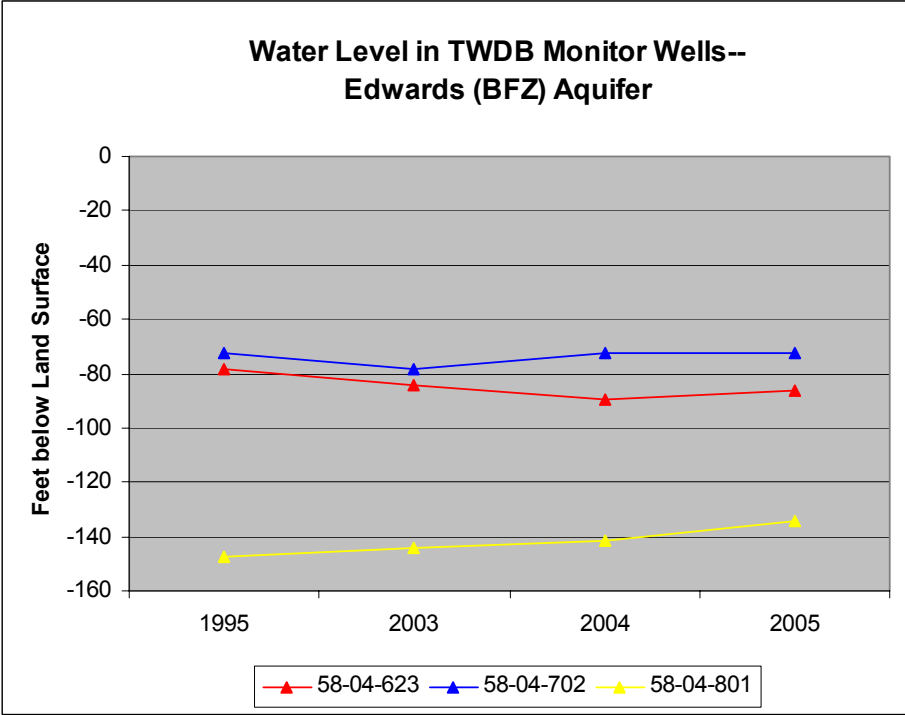
Trinity Aquifer
 Water Level Measurements
 Depth Below Land Surface in Feet

Well Number	Date of Measurement						
	Jan-Feb 1995	Jan-Mar 2003	July 2003	Jan- Mar 2004	July 2004	Jan 2005	July 2005
E-02-1137G (Stephenson #1)	--	--	--	--	311.42	--	--
E-02-1138G (Stephenson #2)	--	--	--	--	290.18	252.8	--
58-02-103 (Mayer)	--	--	--	182.1	189	180.4	201.7
58-13-503 (City of Bartlett)	--	--	--	108.0*	101.83*	--	--
40-45-701 (USCOE—Winkler Pk)	646.08	646	--	669	--	671	--
40-53-102 (USCOE—Leona Pk)	57.4	68.35	70.42	71.28	71.92	72.6	73.3
40-53-505 (Moffat WSC)	331	335	417.83*	336	416.06*	340	--
58-05-901 (City of Holland)	+1.2	23.7	25.3	26.19	28.21	29.9	31.8

*Pump turned off 1-2 hours prior to measurement

The Edwards wells seem to fluctuate from year to year, with no defined pattern apparent. This tends to support the premise that the Edwards (BFZ) recharges quickly with rainfall events. With regard to the Trinity, there has been concern that the aquifer levels are declining. Many of the wells do not have historic data to use for comparison. TWDB measurements shown in the chart above do generally show a pattern of decline over the past 10 years. The most notable is the City of Holland well that shows a consistent decline of approximately 33 feet since 1995. This is an artesian well in the Hensell (middle) formation of the Trinity that was reported as flowing in 1995. Based on past TWDB records, this well stopped flowing in 1997 and the water table has been steadily declining since then. The two USCOE wells are also Hensell wells. The Moffat well is in the lower Trinity, or the Hosston formation. As more measurements are taken during the coming years, the results should be more conclusive regarding the status of the aquifers.

The data above is also shown in the charts on the next page for the TWDB water level measurements in the Edwards (BFZ) and Trinity aquifers.

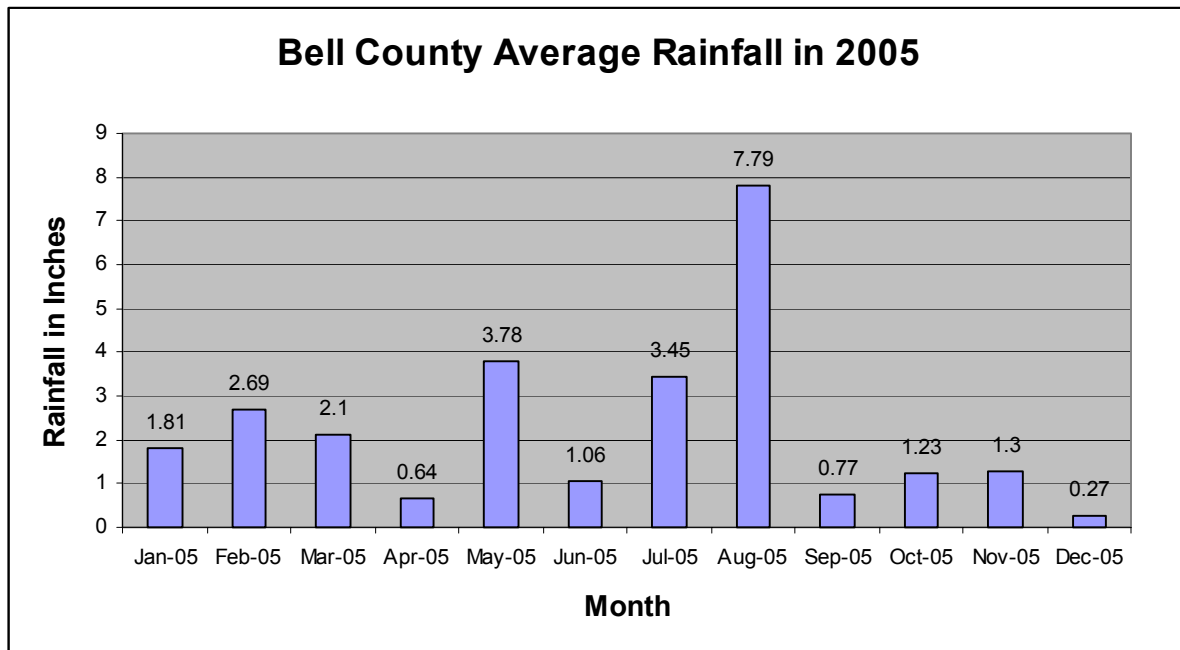


The District is searching for additional well sites to expand its monitoring system. Many of the older wells with historic data are not suitable for current measurements due to problems with the casing and/or well equipment. Newer wells that are selected are more suitable for monitoring but do not have historic data available for comparison purposes. The District has been working with the TWDB and the Texas Department of Transportation to install a continuous monitoring system in a selected

Edwards (BFZ) well to monitor aquifer conditions. The equipment was installed on well 5804620 during 2005, but the site does not appear to be producing useable data. As a result, staff has been looking at a different monitoring site but the equipment has not yet been installed. The District is also working with TCB to identify a suitable well for continuous monitoring of the Trinity aquifer; hopefully the equipment will be installed by the end of 2006.

3. Rainfall and Aquifer Recharge

During 2005, the District considered establishing a rainfall gauge network for the purposes of measuring rainfall events and potential aquifer recharge. The network would have focused on the Edwards (BFZ) recharge area. TCB provided guidance on the implementation of the network and recommended downloading the Gridded Rainfall Data calculated by the National Weather Service (NWS) and the National Oceanic and Atmospheric Administration. The District began maintaining a database of the rainfall data in GIS. The data is calculated by NWS using a combination of gauge sites as well as radar estimates and is distributed in a grid of points every 2.5 miles. 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 198 data points that are spaced approximately 2.5 miles apart.



The total average rainfall in Bell County for 2005 was 26.89 inches. Several consecutive months of low rainfall totals interrupted by one month of heavy rains (August 2005) characterized precipitation received in the District. This meant that Bell County was considered in drought conditions according to the Palmer Drought Severity index. By December 2005, the index showed Bell

County was in severe drought conditions. See Appendix D for a map of the yearly rainfall totals for the 198 data points.

Objective A.4: Provide Public Education Opportunities.

The District's Management Plan requires the dissemination of educational information regarding the hydro-geologic cycle and status of aquifers through at least two newspaper articles, two field day/open house events, and responses to public inquiries as needed. This objective was met as follows:

- (1) ***Field Day/Open House.***
 - Earth Day Event



The District supported local Earth Day events held on April 5 & 6, 2005 at the Mayborn Center in Temple. This event was open to elementary schools within the CTCOG seven county region. Over 1,000 students attended. The CUWCD assisted in the planning of this event and distributed various educational items to the teachers and students. Refer to Appendix E for a complete list of items distributed during the Earth Day events.

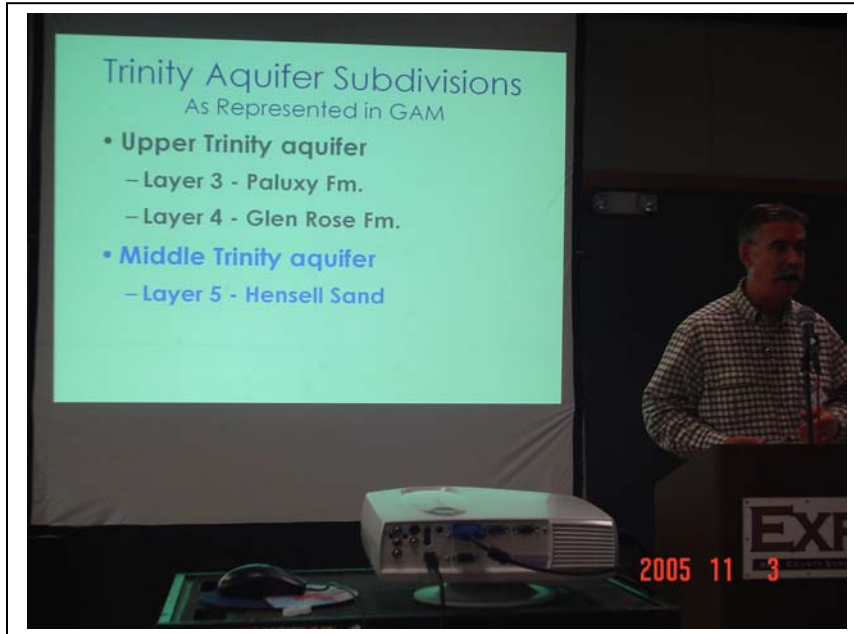


The District also participated in the Fort Hood Earth Day events held on April 22 and 23, 2005. These events were held at the Clear Creek PX on Fort Hood. The District set up a display and distributed various educational materials. See Appendix E for a list of items distributed during this event.

- Bell County Water Symposium

The CUWCD sponsored its fifth water symposium on November 3, 2005 at the Bell County Expo Center. This year 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. The Texas Cooperative Extension also provided free water quality screening for nitrate, bacteria, and salinity. Other topics presented at the symposium included information about the District; update on groundwater availability in the District; update on water legislation passed by the 79th State legislature; clean water through public involvement; update on surface water projects; septic system regulations and water quality protection; plugging abandoned wells.

The CUWCD set up a display and distributed water conservation kits as well as other information on water conservation and the status of the aquifers. Approximately 70 people attended the symposium. Refer to Appendix F for an agenda of the meeting. Appendix E contains a complete list of items distributed during this event.



GAM presentation at annual water symposium on 11-3-05.

(2) *Newspaper Articles.*

▪ The Clearwater UWCD Spring 2005 Report

The District published an article in the Temple Daily Telegram and the Killeen Daily Herald on Sunday, April 24, 2005, and in the Salado Village Voice on Thursday, April 28, 2005. The article provided data from 10 sites in the Edwards (BFZ) and Trinity aquifers monitored by the TWDB, as well as information on the water cycle, well production and upcoming District activities. The article is included in Appendix G.

▪ The Clearwater UWCD Fall 2005 Report

The District published an article in the Temple Daily Telegram and the Killeen Daily Herald on Sunday, November 13, 2005, and in the Salado Village Voice on Thursday, November 17, 2005. The article provided an update on groundwater availability, information on the hydrogeologic cycle, updated well production figures, upcoming events, and changes in aquifer levels. The article is included in Appendix G.

(3) *Responses to Public Inquiries.*

- The District received various inquiries throughout the year, primarily via telephone calls. The majority of inquiries were related to well registration and plugging requirements. Approximately 6 registration forms and 5 plugging brochures were mailed in response to these inquiries. Many others accessed this information from the District's web site.

- Other requests for information included the list of local well drillers; water quality testing; groundwater availability; water supply service areas; spacing requirements; District budget; essay/poster contest; District brochure; well depths and well owner identification. Approximately 13 such requests resulted in information being sent via mail or email.

B. MINIMIZE WASTE OF GROUNDWATER

Objective B.1: Public Education.

The District's Management Plan requires the distribution of conservation material, an annual school contest on water conservation practices, and the annual distribution of two water conservation literature packets. This objective was met as follows:

(1) *Distribution of educational information regarding the current conservation practices for efficient use of water resources.*

- The District distributed various material on water conservation as identified below. The information below does not include conservation material contained in the District brochure, literature packets or the water conservation kits. (See Appendix E for a list of material distributed.)

Event	Date	# Distributed
Annual Crops Clinic	01-21-05	228
Keep Temple Beautiful Clean-Up Day	04-02-05	1,500
National Trash Off Day (Morgan's Point)	04-02-05	50
Earth Day 2005 (CTCOG)	04-05-05	3,366
Earth Day 2005 (Fort Hood)	04-22-05	531
April Classroom Presentations (Academy; Belton; Troy)	04-10-05 to 04-13-05	501
TISD Educational Festival	07-29-05	308
Killeen Parks & Rec Kid's Health Fair	08-06-05	200
Classroom Presentation (Western Hills/Temple)	10-19-05	255
Bell County Home Buyers Seminar	10-25-05	89
After School Focus Group (Raye Allen/Temple)	10-28-05	33
Bell County Water Symposium	11-03-05	390
Classroom Presentation (Troy Elementary)	11-09-05	255
Texas Recycles Day (Temple Library)	11-15-05	50
Essay/Poster Contest Participants	12-02-05	<u>150</u>
TOTAL		7,906

(2) *Conduct secondary school and/or college contest focused on the demonstration of conservation practices applicable to the District.*

- During 2005, the District conducted two Essay/Poster Contests—one during FY05 and one during FY06. The contests were both focused on water

conservation and were open to all 5th grade students in Bell County. The first contest was announced in January 2005 with entries due March 1, 2005 (see Appendix H). Only two entries were received—one essay and one poster. Both participants were awarded first place and received \$500 savings bonds. Several teachers indicated the low participation was due to the timing of the TAKS tests in the spring and recommended we move the contest to the fall.



FY05 Essay and Poster Contest Winners: Gabrielle Hebert and Jonathan Sulak with the District's Board of Directors.

- The second contest was announced in October with entries due November 21st (see Appendix H). It is our intention to keep the contest in the fall to avoid interference with TAKS testing in the spring. A total of 52 entries were received—28 posters and 24 essays. The top three entries in each category were selected and awards (savings bonds) were presented. CUWCD complimentary packets were provided to all participants and their classroom teachers (30) and included information on water conservation as well as CUWCD promotional material (see Appendix E).



FY06 Essay and Poster Contest Winners (Left to Right): Mia Ecker, Daniel Wurster, Cortney Beechem, Matthew Pajestka, Makaylea Harr (Not Pictured: Hunter Robinson-Sisneroz).

(3) ***Compile appropriate water conservation literature into a handout packet made available to District patrons and educational institutions (minimum two per year).***

- The District compiled literature packets containing a variety of information on water conservation, the water cycle, and water quality. The packets are distributed to Bell County schools for the fall and spring semesters and are available for distribution at water conferences and other water-related events. Distribution for the spring 2005 occurred during December 2004 and was identified in the FY04 annual report. Distribution for the fall 2005 semester occurred in September 2005. We did not distribute packets for the spring 2006 semester because our revised Management Plan does not require this but leaves it as one of several outreach options. Distribution of the packets during 2005 is listed below. Refer to Appendix I for an inventory of information contained in the packets. A total of 186 packets were distributed during the year.

<u>Packet ID</u>	<u>Event/Entity</u>	<u>Date</u>	<u>Number Distributed</u>
Oct 04	Annual Crops Clinic	01-21-05	28
Mar 05	CTCOG Earth Day Events	04-05-05	56
Sep 05	*School Distribution	09-06-05	102
TOTAL			186

*For the school distributions, one packet was provided to each campus within the Bell County school districts. Packets were also provided to several private schools within Bell County. The distribution to the schools is summarized below.

Academy ISD (3)	Rogers ISD (3)
Bartlett ISD (3)	Salado ISD (3)
Belton ISD (11)	Temple ISD (14)
Holland ISD (3)	Troy ISD (4)
Killeen ISD (44)	Private Schools (14)

Objective B.2: Identify Wasteful Practices.

The District's Management Plan identifies several performance standards to monitor the District's effectiveness in meeting this objective. Some of the performance standards were addressed in previous years. The remaining ones and those that are ongoing are discussed below.

(1) ***Track Water Quality Issues.***

District directors and staff are able to track water quality issues through a variety of ways as follows: 1) attend various seminars and conferences that address water quality issues; 2) receive various water related articles through TAGD (Texas Alliance of Groundwater Districts); 3) follow local water quality issues identified in the area news media; and 4) membership on the TAGD Groundwater Protection Committee.

Water quality issues were discussed at the Bell County Water Symposium on November 3, 2005. These included the following: Water quality testing for nitrates, bacteria, and salinity; clean water through public involvement (Lake Stillhouse Hollow); septic system regulations and water quality protection; and plugging abandoned wells.



Monty Dossier, Texas Cooperative Extension, discusses water quality results from groundwater testing performed during the 2005 Bell County Water Symposium.

The District continues to monitor events associated with the pollution of the North Bosque River watershed and the impact on Lake Waco. Although this area is not in Bell County, many believe similar problems may exist in the Leon River watershed. There is a Leon River TMDL Advisory Group that the District will keep in touch with to monitor conditions in the Leon River.

The District continued testing water samples for basic drinking water parameters in its in-house laboratory during 2005. This testing is available to registered well owners at no cost. Results of the testing are discussed more fully in Section 4-G.

(2) ***Perchlorate Discharges from the US Naval Weapons Industrial Reserve Plant (NWIRP) at McGregor, Texas.***

As reported last year, a final report by the US Army Corps of Engineers, Brazos River Authority, the Institute of Environmental and Human Health at Texas Tech University, and MWH Inc. was prepared in February 2004 and concluded that the remediation activities conducted by the US Navy are having a significant and positive effect and that the public water supply users in the communities surrounding Lake Belton and Lake Waco are at no risk of exposure to perchlorate from this source. However, certain NWIRP vicinity residents and recreational users of the area could

potentially be exposed to perchlorate if consuming produce from gardens irrigated with impacted stream water, gathering and consuming wild edible vegetation near impacted streams, or drinking water from impacted wells or streams. People who consume fish caught in these watersheds could also potentially be exposed to perchlorate in fish fillets, although the risk of exposure is thought to be low. The study also demonstrated that animals in affected areas could be exposed to perchlorate either directly from drinking contaminated stream water or indirectly by consuming plants or animals that have been exposed to perchlorate.

Groundwater in Bell County has not been tested for perchlorate. Contamination of groundwater is not considered an issue since information available indicates the perchlorate outside of Bell County is located in shallow groundwater that disperses to surface water where it becomes diluted. No new information is available.

(3) *MTBE—Methyl Tertiary-Butyl Ether.*

The CUWCD continues to collect information on MTBE and coordinates with Texas Commission on Environmental Quality (TCEQ) to keep an updated list of leaking petroleum storage tanks in Bell County. As of January 2006, TCEQ identified 10 leaking petroleum storage tank sites in Bell County that are undergoing investigation or remediation. Last year 11 sites were listed. TCEQ completed their investigation of 3 of these sites, but 2 more were added, bringing the total to 10. Appendix J contains a listing of the 10 sites that are currently under investigation. CUWCD will continue to monitor this issue.

(4) *Abandoned Wells.*

As mentioned earlier in this report, in 2005, the District entered into a MOU with the TDLR and the TCEQ to coordinate investigative procedures for referrals of abandoned and deteriorated wells. The District also adopted an abandoned well policy outlining these procedures.

During 2005, the District investigated complaints of eight abandoned wells. One of these was plugged by the well owner. The other seven were referred to TDLR for further investigation, determination of corrective action, and enforcement. Of these seven, three were determined to be cisterns, and one was properly capped. Three wells remain under investigation.

During 2003, the City of Rogers well was identified as abandoned. The District worked with them to resolve this issue and in December 2005 the well was properly plugged.

The District is continuing 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 2005 eight water wells were plugged in Bell County and 42 monitor wells for a total of 50.

(5) Reporting Unplugged Abandoned Water Wells.

The District staff reports unplugged abandoned water wells to the well owners and the District Board within 30 days of discovery and provides TCEQ and TWDB an annual report on unplugged abandoned water wells.

C. CONJUNCTIVE SURFACE WATER MANAGEMENT ISSUES

Objective C.1: Coordinate Emergency Response/Drought Contingency Planning With Surface-Water Entities.

During 2005, the District continued progress toward developing a drought management plan. In 2002, the District collected existing drought management plans from municipalities, water supply corporations, and other entities in Bell County, and solicited input from these entities regarding the development of the District's drought management plan. During 2003, the District implemented its well monitoring program which provides useful data on changes occurring in the aquifers. In 2004 the District implemented the groundwater availability model (GAM) for the northern segment of the Edwards (BFZ), which resulted in a revised availability figure of 7,500 ac-ft/year.

During 2005, the District conducted the GAM for the northern Trinity aquifer which resulted in a revised availability figure of 7,092 ac-ft/year, as well as availability figures for the three subdivisions. TCB's study of the Trinity aquifer in southern Bell County will provide valuable data on the availability of groundwater in this area as well. This study has just recently been completed. Staff began collecting rainfall data from the National Weather Service, and began monitoring the Palmer Drought Severity Index in 2005. Also in 2005, the District approved installing stream flow gauges in Salado Creek to monitor spring discharge. All of this data will be taken into consideration as the District works to develop its drought management plan.

D. DEVELOP PUBLIC/PRIVATE PARTNERSHIPS

Objective D.1: Encourage Public Participation.

During 2005, the Public Advisory Committee (PAC or Committee) member from Precinct 2 resigned. The remaining members are shown below:

Marvin Green, Chair	-	Precinct 3
Vince Cortese	-	Precinct 1
Vacant	-	Precinct 2
John Mayer	-	Precinct 4
David Cole	-	At-Large

The PAC meets on an as-needed basis. One meeting was held on April 13, 2005. The purpose of the meeting was to discuss public education and outreach programs and to receive comments on the FY04 annual report.

Throughout the year, PAC members have regularly attended the CUWCD Board meetings, providing representation at 9 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.

4. MISCELLANEOUS ACTIVITIES

In addition to the administrative tasks and Management Plan requirements, the CUWCD has been involved in several miscellaneous activities during FY05. Many of these activities are related to the Management Plan goals; therefore, this report includes activities through December 2005. These activities include the following:

- A. Trinity Aquifer Study in Southern Bell County
- B. Trinity GAM
- C. Salado Creek Stream Flow Gauging Program
- D. Well Plugging Demonstration
- E. Abandoned Well Cost Sharing Program
- F. Water Quality Protection Grant Program
- G. Water Quality Testing
- H. Non-Exempt Well Meter Program
- I. Subdivision Groundwater Availability Report Review
- J. GMA 8
- K. Water Conservation Kits
- L. Major Rivers Water Education Program/Splash Activity Book
- M. Newsletter
- N. Book Cover Distribution
- O. Internet Site
- P. Resource Library
- Q. Promotional Material/Activities

These activities are discussed in more detail below.

A. TRINITY AQUIFER STUDY IN SOUTHERN BELL COUNTY

In 2003, the District contracted with Turner Collie and Braden 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 will determine the hydrogeologic properties of the aquifer in this area and the volume of water in storage. The study has 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 study has been completed and the findings will be presented to the District shortly.



Geophysical logs were performed on several wells as part of the Trinity study, including this one in Holland, TX.

B. TRINITY GAM

During 2005, the District contracted with TCB to conduct the TWDB GAM (groundwater availability model) for the Trinity aquifer in Bell County. The District's management goal for the unconfined portions of the aquifer (upper layer--Paluxy and Glen Rose) was to maintain 95% of the saturated thickness after 50 years. The management goal for the confined portions of the aquifer (middle layer—Hensell; and lower layer—Hosston) was to maintain 50% of the available artesian drawdown after 50 years. Based upon these goals, the following availability figures were established:

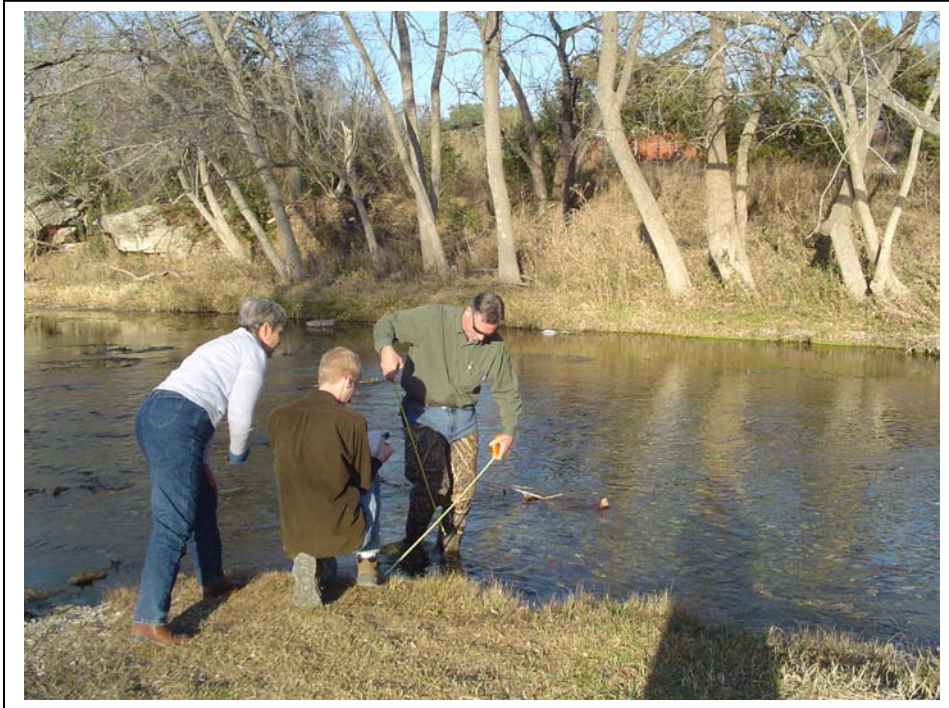
Upper Layer:	992 ac-ft/year
Middle Layer:	1,100 ac-ft/year
Lower Layer:	5,000 ac-ft/year
TOTAL:	7,092 ac-ft/year

The District has revised its management plan to include these figures along with the revised availability figure of 7,500 ac-ft/year for the Edwards (BFZ) based on GAM runs conducted during 2004.

C. 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. One gauge will be placed upstream of the springs and one placed downstream. Bids were taken and a vendor was selected along with the equipment. The two locations were recently finalized

and the equipment will be installed in the Spring of 2006. 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.



Data collection for possible stream flow gauge site along Salado Creek near Pace Park.

D. WELL PLUGGING DEMONSTRATION

In January 2005, the District was able to host its 2nd well plugging demonstration. The demonstrations are made possible by partnering with the Texas Cooperative Extension and the local county extension office. The January demonstration involved a hand dug well located in the northwestern portion of the county, near Whitehall. Approximately 40 people attended the demonstration.



Well plugging demonstration near Whitehall 1-26-05.

E. ABANDONED WELL COST SHARING PROGRAM

The District approved funds for this program with the FY06 budget. Details of the program were approved by the District during the fall 2005. The District will pay 50% of the plugging costs for an abandoned well, not to exceed \$1,000 per well. Wells registered prior to December 31, 2005 are eligible for consideration. The program was announced to the public in 2006. Results of this program will be reported in the FY06 Annual Report.

F. 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 2005.

G. WATER QUALITY TESTING

During 2005, the District continued its in-house laboratory for water quality testing. Testing is available for registered well owners at no cost and includes testing for coliform bacteria, alkalinity, conductivity/total dissolved solids, fluoride, hardness, nitrate, nitrite, pH, phosphate, and sulfate. Samples from 14 wells were tested during 2005. A map of the well locations and a summary of the results are shown in Appendix K. The District is not a certified lab and refers those looking for tests from a certified lab to the Waco-McLennan County Health Department for coliform bacteria testing and the Environmental Laboratory Services in Austin for coliform bacteria and chemical contaminants testing.

H. NON-EXEMPT WELL METER PROGRAM

Funds for this program were approved by the District with the FY06 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. Under this program, the District notified all non-exempt wells existing prior to February 1, 2002 of the opportunity to apply for participation in this program. In December 2005, the District approved the purchase of four meters at an estimated cost of \$1,400. A budget amendment was approved for the additional funds. One of the meters has been installed. The other three are underway.

I. SUBDIVISION GROUNDWATER AVAILABILITY REPORT REVIEW

During 2005 the District continued coordinating with the county commissioners and staff to review groundwater availability reports for subdivisions relying on groundwater. The District's goal is to ensure that developers and potential purchasers are knowledgeable about the groundwater resources in this area. In 2005, the District reviewed reports for one subdivision.

J. GMA 8

Groundwater Management Area 8 (GMA 8) held its first meeting in November 2005. The District hosted this meeting of 6 groundwater conservation districts (GCD). 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 desired future conditions of the major and minor aquifers within its area by the year 2010. The TWDB will then determine the managed available groundwater figure for the GMA. This figure will be included in the Regional Water Plans and the State Water Plan. The GMA 8 group will meet quarterly. See Appendix L for a map of the GMA 8 region.

K. 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; shorter shower timer; 5 spray water saving hose nozzle; moisture meter; shower flow meter bag; CUWCD brochure; and TWDB brochure on water conservation. Fifty kits were distributed at the District's annual water symposium held on November 3, 2005.

L. MAJOR RIVERS WATER EDUCATION PROGRAM/SPLASH ACTIVITY BOOKS

The District partners with the Brazos River Authority to implement the Major Rivers Water Education Program. The District took orders for this program during the spring 2005 for distribution in the fall 2005. Orders were taken for 483 students and 14 teachers in the Belton and Salado school districts. The Major Rivers Program material was delivered to the schools in October 2005.

In 2005, the District worked with the Lake Stillhouse Hollow Clean Water Steering Committee to purchase Splash Activity Books from the American Water Works Association for distribution in Killeen elementary schools. The District purchased 2,000 books.

M. NEWSLETTER



The District published its second annual newsletter during 2005—The Clearwater Source. The newsletter was mailed in September to all registered well owners. Newsletter articles included the GAM results; water legislation passed during the 79th session; summary of revised rules; update on well registration and production; abandoned well policy; historic use permits; and summary of District programs and activities.

N. BOOK COVER DISTRIBUTION

In 2005, the District purchased book covers for all middle and high school students in Bell County for distribution during the 05/06 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 27,800 book covers will be distributed.

O. 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; educational information including data on water use and water conservation tips.

Records indicate that the top four pages that were accessed during 2005 were the District rules; annual water symposium; well registration and permitting summary; and driving directions. Information will be added to the web site during the next year as needed.

P. RESOURCE LIBRARY

The District continues to add items to its resource library to help promote public education and conservation. 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

CUWCD library is available for use by the public. A listing of the library material is shown in Appendix M.

Q. PROMOTIONAL MATERIAL/ACTIVITIES

CUWCD continues to distribute various items to promote public awareness of the District and water conservation. These items have been distributed at various events. In addition, Board members have spoken to various groups throughout the year and staff has made an effort to visit more schools. Refer to Appendix E for a summary of activities and items distributed during 2005.



Students from Belton Intermediate's 5th grade GT class watch a demonstration of aquifer recharge and pollution given on 4-12-05.

5. *SUMMARY*

The District has been very active during 2005, continuing to acquire data necessary to effectively manage Bell County's groundwater resources. Data acquisition includes 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. The Trinity GAM simulations were conducted resulting in revised groundwater availability figures for the Trinity as a whole, as well as availability figures for the three aquifer subdivisions. The Trinity study has been completed and will identify the hydrogeologic properties of the Trinity aquifer and determine the volume of water in storage. Additional sites suitable for aquifer monitoring will also be identified as part of the study. Stream flow gauge sites have been identified for Salado Creek to monitor spring flow from the Edwards (BFZ) aquifer in the Salado area. 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.

The District is required to review and readopt its management plan every five years. A readopted Management Plan was due to the TWDB for approval by February 2006. The revised Plan was approved by the District in December 2005 and presented to the TWDB in January 2006. Approval was given on March 6, 2006. Substantial changes to the Plan were made as a result of legislative changes. Revised groundwater availability figures for both the Edwards (BFZ) and the Trinity aquifers are incorporated in the revised Management Plan. Legislative changes also require participation in GMA 8. The first quarterly meeting of GMA 8 was held in November 2005.

Minor rule amendments were adopted throughout the year and involved new definitions; permit exclusions and exemptions; hydrogeologic reports; minor permit amendments; and spacing requirements. These revisions were intended to clarify the District's requirements, simplify procedures, and protect water quality.

During 2005 the District stepped up its efforts to address the problem of abandoned wells. The District entered into an MOU with the TDLR and TCEQ to coordinate investigative procedures. District staff investigated eight complaints of abandoned wells during 2005 and referred seven of these to TDLR for investigation and enforcement action.

Public education and service continue to be a major focus of the District. District staff has focused on increasing participation with area schools during 2005. A total of 16 presentations involving four school districts were given during the past year. New programs approved by the District during 2005 with FY06 funds include the Non-Exempt Well Meter Program and the Abandoned Well Cost Sharing Program. The District's annual water symposium and Earth Day participation continue to be major outreach opportunities.

During the next year, the District will continue to acquire data on the aquifers and will implement the Salado Creek Stream Flow Gauging Program to monitor Salado Springs. Rainfall data will continue to be collected throughout the whole of the County. Results of the Trinity study for southern Bell County will be reviewed and well sites for continuous monitoring will be

identified. All of this data, along with the GAM data, will be useful in developing the District's Drought Management Plan. The District will continue to pursue additional monitoring sites for both the Edwards (BFZ) and the Trinity aquifers. Educational efforts during the next year will include more presentations to classrooms and the development of a District activity book.

APPENDIX A

Clearwater Underground Water Conservation District

FILED FOR RECORD
2004 SEP - 1 AM 9: 25

VADA SUTTON
BELL COUNTY CLERK

Approved Budget FY2005

	<u>FY2005 Budget</u>
<i>Contracts</i>	
<i>Admin.</i>	\$171,000.00
<i>Legal</i>	\$41,800.00
<i>Appraisal District</i>	\$6,000.00
<i>Studies</i>	\$70,000.00
<i>Technical Consulting</i>	\$30,000.00
<i>Election Expenses</i>	\$0.00
<i>Special Programs/Services</i>	\$25,000.00
<i>Water Quality Grant</i>	\$1,000.00
<i>Supplies</i>	\$2,000.00
<i>Equipment</i>	\$5,000.00
<i>Director Expenses</i>	\$7,000.00
<i>Director Compensation</i>	\$8,000.00
<i>Insurance</i>	\$3,000.00
<i>Communications</i>	\$7,500.00
<i>Printing</i>	\$7,500.00
<i>Contingency Fund</i>	\$25,000.00
<i>Reserves for Uncollected Taxes</i>	\$10,000.00
<i>Total</i>	\$419,800.00
<i>Tax Rate per \$100 Valuation</i>	\$0.0048249
	\$0.0048

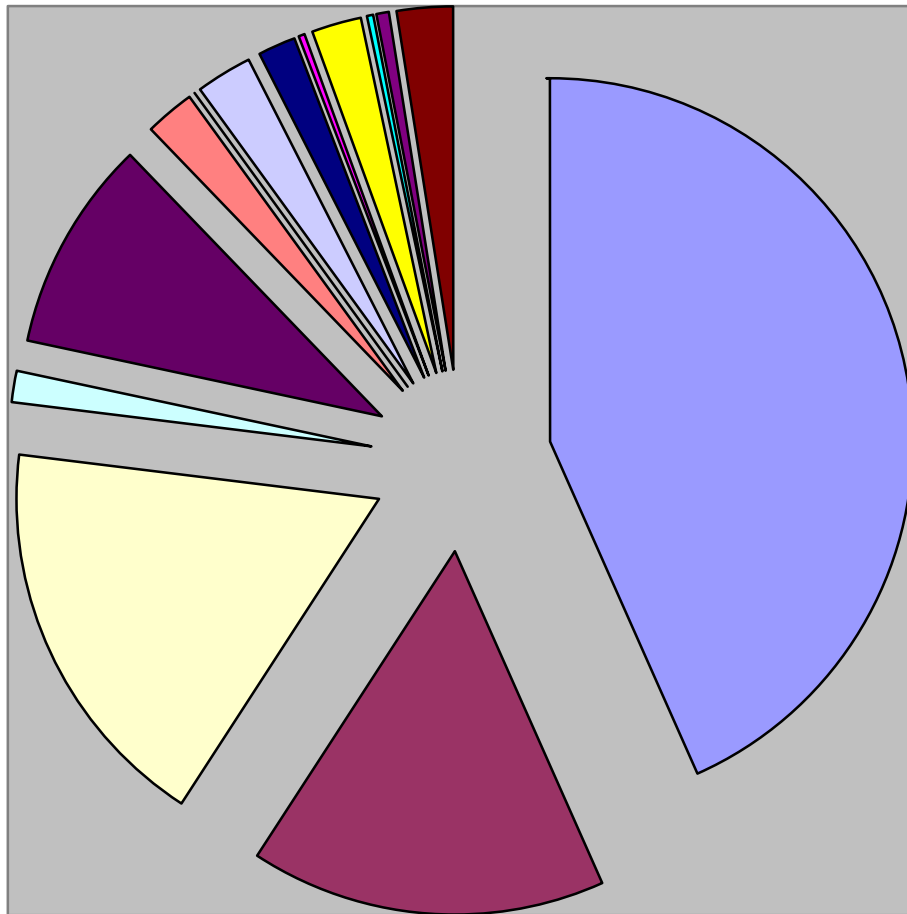
Approved 8/31/04

**CLEARWATER UNDERGROUND WATER CONSERVATION PROJECT
OCTOBER 2004 THROUGH SEPTEMBER 2005**

SCHEDULE OF REVENUES AND EXPENDITURES

	<u>Total</u>
REVENUES:	
October 1, 2004 through December 31, 2005	
Bell County Tax Appraisal District	411,484.75
Application Fees	425.00
Transport Fees	1,016.01
Interest	<u>12,867.67</u>
Revenues (October 1, 2004 thru November 30, 2005)	\$ 425,793.43
Carry forward (Program Year Ending September 30, 2004)	<u>\$ 272,663.97</u>
TOTAL Revenues	<u>698,457.40</u>
EXPENDITURES:	
October 1, 2004 through December 31, 2005	
Administrative Services	\$ 147,609.33
Board Expenditures	185,276.41
Special Programs	7,537.63
Water Quality Project	-
Application Fees	-
Transport Fees	-
Total Expenditures	<u>\$ 340,423.37</u>
REVENUES OVER EXPENDITURES	<u>\$ 358,034.03</u>
(Will carryforward to FY06)	
Grant Status 05332	340,423.37
Total	<u>340,423.37</u>
Difference	0.00
Custom Report	<u>340,423.37</u>
Difference	0.00

Expenditures for FY05



- Admin
- Legal
- Tech. Consulting
- Appr. Dist.
- Studies
- Special Prog.
- WQ Grant
- Director Comp.
- Director Exp.
- Equip
- Supplies
- Insurance
- Printing
- Communications

APPENDIX B

**Summary of Staff Time and Expenses
Necessary to Meet Management Plan Goals
Calendar Year 2005**

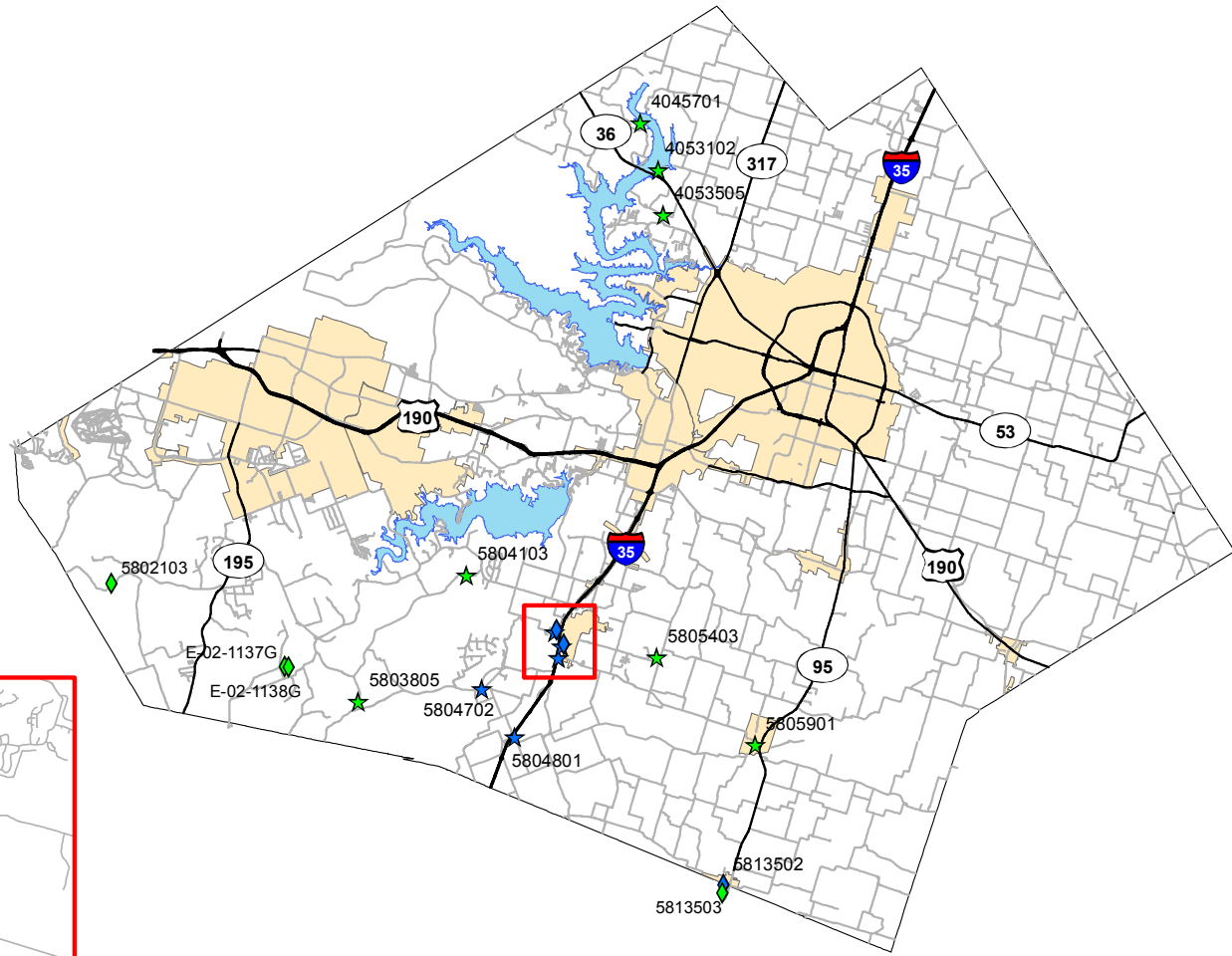
Goal/Objective	Estimated Staff Time (hours)	Estimated Expenses*
A.1- A.3 Registration& Permitting of Wells; Database Development**	360	--
A.4 Public Education Opportunities—Earth Day Event	64	Ed. Materials-- \$3,420
A.4 Public Education Opportunities—Water Symposium	50	Miscellaneous-- \$ 900 Ed. Materials-- \$ 955
A.4 Public Education Opportunities—Newspaper Articles (twice annually)	36	\$4,300
A.4 Public Education Opportunities—Responses to Public Inquiries	10	--
B.1 Public Education—Distribution of Educational Information	(included in other tasks)	--
B.1 Public Education—Essay/Poster Contest	24	\$ 500
B.1 Public Education—Literature Packets (one annually)	30	\$ 750
B.2 Wasteful Practices—Water Quality Issues; Perchlorate; MTBE; Abandoned Wells	40	--
C.1 Coordinate Emergency/Drought Planning with Surface Water Entities	16	--
D.1 Encourage Public Participation—Public Advisory Committee	0	--
Total	630	\$10,825

* Estimated expenses do not include staff salary; expenses less than \$500 are not shown.

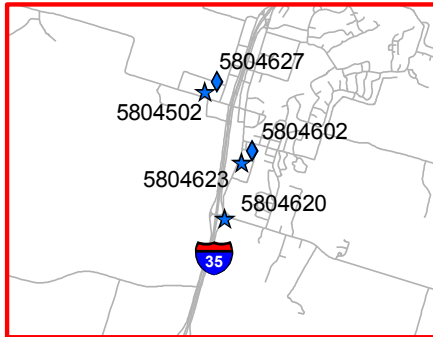
**Summary does not include time/expense of technical consultant to complete tasks that enhance database (GAM; exempt well use estimate; aquifer designation; etc.)

APPENDIX C

Aquifer Monitor Sites



Salado Inset



Clearwater Underground Water Conservation District
 E. 2nd Avenue, PO Box 729
 Belton, TX 76513
 March 14, 2006



File Name
 K:\clearwater_mapping\Monitor Wells

Data Type

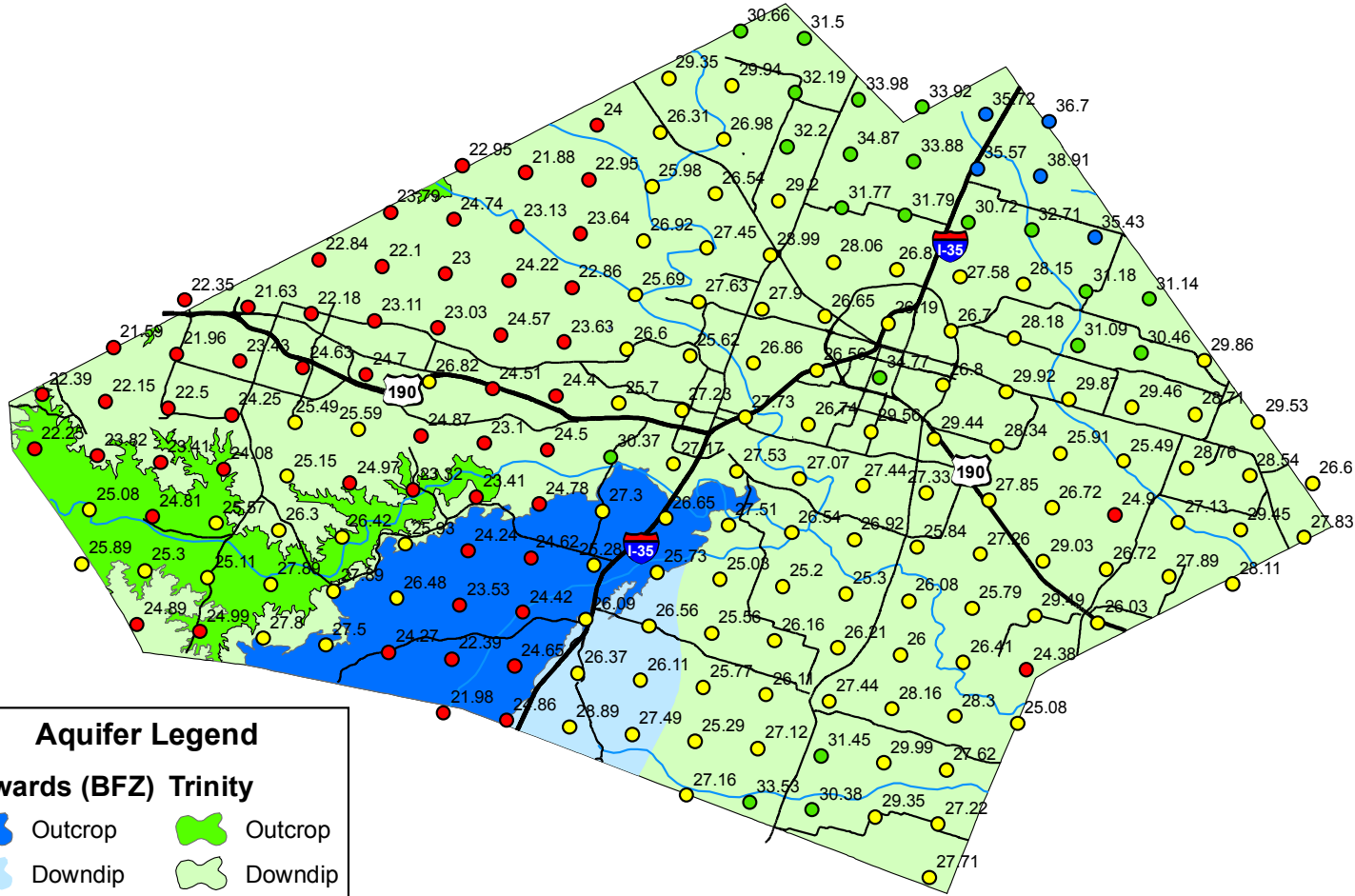


Legend

- ◆ Clearwater_Trinity
- ◆ Clearwater_Edwards
- ★ TWDB_Trinity
- ★ TWDB_Edwards


APPENDIX D

Rainfall Totals for 2005



Aquifer Legend

Edwards (BFZ) Outcrop	Trinity Outcrop
Edwards (BFZ) Dwndip	Trinity Dwndip



Clearwater Underground Water Conservation District
 550 E. 2nd Avenue, PO Box 729
 Belton, TX 76504
 March 14, 2006

3 1.5 0 3 6 9 12 Miles

File Name K:\NOAA Rainfall\Monthly Reports\	Data Source: National Weather Service Precipitation Analysis
--	--



Rainfall in Inches

21.59 - 25.00	30.01 - 35.00
25.01 - 30.00	35.01 - 38.91

APPENDIX E

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Annual Crops Clinic

Date(s): 1-21-05

Location: Bell County Expo Center

Information Distributed and Quantity: See attached.

Notes:

<u>Item</u>	<u>Quantity</u>
CUWCD	
Literature Packets (See attached sheet for contents)	28
CUWCD Brochure folder	23
“Overview of Bell County Aquifers” Handout	15
CUWCD Newsletter	22
Use Water Wisely Wheels	56
Cups	19
Rulers	40
Pencils	121
Ink Pens	100
Frisbees	70
Well Plugging Press Release	16
Well Registration Form	12
Groundwater Foundation	
Groundwater Basics brochure	13
Texas Groundwater Protection Committee	
Plugging Abandoned Water Wells Handout	26
Miscellaneous	
Auto Not Pollute Slide Card	7
Water Conservation Sticker Sheets	57
TWDB	
“Being Water Smart Indoors”	21
“Being Water Smart Outdoors”	22
Lawn Watering Guide	32

**Clearwater Underground Water Conservation District
Literature Packet
Inventory—October 2004**

CUWCD

Cover letter and resource library
Bell County Aquifers
Groundwater Production
Water Use Information

American Water Works Association: 25 Facts About Water

Groundwater Foundation:

What is Groundwater?
Wells and How They Work
Contamination and Concerns
Sources of Contamination
On-Site Wastewater Treatment

H2ouse: Save Water, Money, Energy Now! Top 5 Actions

Texas Agricultural Extension Service (Aggie Horticulture):

Landscape Maintenance Practices Save Water
Lawns Don't Waste Water, People Do!
What is Xeriscape?
All Plants Have a Place in Xeriscape Landscapes

Texas Water Development Board

Major Aquifers of Texas
Minor Aquifers of Texas
Groundwater Conservation Districts: Confirmed and Pending Confirmation
Major River Basins in Texas
Regional Water Planning Groups

US Department of Agriculture/Natural Resources Conservation Service:

What on Earth Do You Know About Water?
How on Earth Do You Save Water?
How on Earth Do You Water Your Lawn?

US Environmental Protection Agency:

What Do I Need to Know to Protect My Private Drinking Water Supply?
How Can I Help to Protect My Drinking Water Supply?
What Can I Do If There is a Problem with My Drinking Water?
Water Recycling and Reuse: The Environmental Benefits

US Geological Survey: A Primer on Water Quality

WaterWise Council of Texas:

Understanding Our Water Supply
Water Demand in Texas
Supplemental Water Sources: Rainwater Harvesting & Greywater
List of Rainwater Harvesting Providers

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Well Plugging Demonstration

Date(s): 1-26-05

Location: Whitehall Area—Mary Jo Byars Property

Information Distributed and Quantity: 35 CUWCD Brochure folders

Notes: _____

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Judy Parker

Activity: Noon Exchange Club

Date(s): 1-31-05

Location: Killeen

Information Distributed and Quantity: 25 CUWCD Brochure folders

Notes: _____

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Covington Real Estate--Belton

Date(s): 2-08-05

Location: Belton

Information Distributed and Quantity: 25 CUWCD Brochure folders

Notes: Met with office staff to discuss CUWCD requirements.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Keep Temple Beautiful

Date(s): 4-2-05

Location: Temple High School

Information Distributed and Quantity: 500 of the following: TWDB Dillo Dollars for water conservation at home; TWDB Dillo Dollars for water conservation in the yard; water conservation stickers (3/sheet); CUWCD info cards.

Notes: The items above will be given out as a prize package for youth participating in contest to collect trash.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: National Trash Off Day—Morgan's Point Resort

Date(s): 4-2-05

Location: Morgan's Point Resort

Information Distributed and Quantity: 50 of the following: TWDB Water Wheels;
CUWCD pencils; CUWCD cups; CUWCD info cards.

Notes: The items above will be given out to volunteers working the event.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: CTCOG Earth Day Events

Date(s): 4-5-05 & 4-6-05

Location: Mayborn Center, Temple

Information Distributed and Quantity: 1122 of the following: TWDB Shower Flow
Meter Bags; CUWCD Water Wheels; CUWCD Rulers; CUWCD Pencils; CUWCD Frisbees;
and CUWCD info cards. 56 Literature packets (see attached inventory).

Notes: _____

**Clearwater Underground Water Conservation District
Literature Packet
Inventory—March 2005**

CUWCD:

Clearwater District... Who We Are
Cover Letter, Packet Inventory, and Library Resource List
Evaluation Form (Please fill out)
Water Use Information
Bell County Aquifers
Groundwater Production
Map—Central Texas Watersheds
Water Consumption Worksheet
Groundwater Basics Crossword Puzzle

Groundwater Foundation:

The Groundwater Gazette: Issue 1: Groundwater Basics
Get Informed: Wells and How They Work
Contamination and Concerns
Sources of Contamination
On-site Wastewater Treatment

Save Our Springs Alliance:

Map—Edwards Aquifer Region (created by Hill Country Foundation)
Edwards Aquifer: Geology and Hydrology
Threats to the Survival of the Edwards Aquifer

Texas Water Development Board:

Available Lesson Plans: Grades 3-12th
Map—Major Aquifers of Texas
Map—Minor Aquifers of Texas
Map—Groundwater Conservation Districts
Map—Major River Basins in Texas
Map—Regional Water Planning Groups
Pass the Buck for Water Conservation at Home
Pass the Buck for Water Conservation in Your Yard
Brochure: Being Water Smart Indoors
Brochure: Being Water-Wise Outdoors
Northern Trinity Aquifer
Map—Trinity Study Area

U.S. Environmental Protection Agency

Surf Your Watershed (What is a Watershed?)
Water Trivia Facts

Water Smart:

Are You Paying For More Water Than You Need?
Are You Watering Your Lawn Efficiently?

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Fort Hood Earth Day Events

Date(s): 4-22-05 & 4-23-05

Location: Clear Creek PX, Fort Hood

Information Distributed and Quantity: (see attached inventory)

Notes: _____

**Fort Hood Earth Day Events
April 22 & 23, 2005
Distribution of Items**

CUWCD

Brochure folder	66
Rulers	130
Pencils	225
Ink Pens	160
Cups	50
Spray Bottles—Indoor Recipes	49
Spray Bottles—Outddor Recipes	41

TWDB

Being Water-Wise Outdoors	20
Being Water-Smart Indoors	27
Texas Lawn Water Guide	28
Dillos Demonstrate Water Conservation	12
Water Conservation Activity Book	46
Shower Flow Meter Bag	100

Groundwater Foundation

Water Cycle Bookmark	67
Top 10 Ways to Save GW Bookmark	40
Groundwater Basics brochure	5

Miscellaneous

Plugging Abandoned Water Wells brochure	4
Auto Not Pollute Slide Card	28
Water Conservation Sticker Sheets (12)	128

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 4-10-05 Academy Elementary 4th grade; 4-12-05 Belton Intermediate
5th grade GT class; 4-13-05 Troy Elementary 5th grade.

Information Distributed and Quantity: 167 of the following: TWDB Shower Flow
bags; CUWCD Water Wheel; CUWCD info cards; CUWCD rulers; CUWCD pencils; and
CUWCD Frisbees.

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

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Ready, Set, Learn! TISD Education Festival

Date(s): 7-29-05 (4 p.m.-8 p.m.)

Location: Miller Park, Temple TX

Information Distributed and Quantity: See attached

Notes: There were hundreds of people in attendance. The Clearwater booth was housed with the Central Texas Council of Governments' 911 Education and Solid Waste Booths.

<u>Item</u>	<u>Quantity</u>
CUWCD	
Activity Card: Water Crossword Puzzle	4
Activity Card: Water Word Search	9
Activity Card: Unscramble the Water Conservation Message	3
Activity Card: Groundwater Matching Game	3
Balloons	81
Cups	111
Frisbees	100
Pencils	200
Rulers	150
TAGD Brochure: "Your Groundwater District"	0
Groundwater Foundation	
Top 10 Ways to Protect and Conserve Groundwater Bookmark	25
Water Cycle Bookmark	36
Miscellaneous	
Water Conservation Sticker Sheets	125
TWDB	
"Being Water Smart Indoors"	7
"Being Water Smart Outdoors"	0
"The Dillos Demonstrate Wordless Water Conservation"	1

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Killeen Parks and Rec Kids Health Fair

Date(s): 8-6-05

Location: Killeen

Information Distributed and Quantity: 150 CUWCD Rulers, Pencils, and Frisbees; 100

Ink Pens; 50 each Groundwater Foundation Bookmarks (2)—Top 10 Ways and Water Cycle.

Notes: _____

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: September 2005 water conservation literature packet mailout

Date(s): 9-6-2005, 9-15-2005

Location: 102 school campuses in Bell County (14 private schools and 88 public schools)

Information Distributed and Quantity: 102 literature packets--See attached

Notes:

**Clearwater Underground Water Conservation District
Literature Packet
Inventory—September 2005**

CUWCD:

Activity Cards: “Water Word Search,” “Water Crossword Puzzle,” “Water Word Matching Game,” and “Hidden Message”
Bell County Aquifers
Clearwater District... Who We Are
Cover Letter, Packet Inventory, and Library Resource List
Evaluation Form (Please fill out)
Groundwater Production
Map—Central Texas Watersheds
Water Conservation: Quantity and Quality
Water Consumption Worksheet

Groundwater Foundation:

Get Informed: Wells and How They Work

Texas Water Development Board:

“Being Water Smart Indoors”
“Being Water-Wise Outdoors”
Map—Major Aquifers of Texas
Map—Minor Aquifers of Texas
Map—Groundwater Conservation Districts
Map—Major River Basins in Texas
Map—Regional Water Planning Groups

U.S. Environmental Protection Agency

Surf Your Watershed (What is a Watershed?)
What’s Up with Our Nation’s Waters?

Water Education Foundation: Water Kids

The Water Cycle
The Earth’s Water Supply
What’s an Acre Foot?
How Much Water Does it Take to...
Water Pollution “No-Knows”

Water Use It Wisely

Water Conservation Guide: Water Wisdom

Distribution List for Bell County Private Schools

Sheila Sharp, Director
Temple Christian Center
P.O. Box 3220
Temple, TX 76505

Janet Blacklock, Principal
Central Texas Christian Academy
3205 Oakview Dr.
Temple, TX 76502

Ray Davis, Principal
Temple Christian School
3401 N. 3rd
Temple, TX 76501

Jheri Lynn Smith, Principal
Temple Montessori School
P.O. Box 2969
Harker Heights, TX 76548

Colleen McGlauphlin
Memorial Baptist Christian School
4001 Trimmier Road
Killeen, TX 76542

Rose Thompson, Principal
Richard Milburn Academy
1001 E. Veterans Memorial Blvd.
Killeen, TX 76541

Naomi Matthys, Principal
Grace Lutheran School
1007 Bacon Ranch Road
Killeen, TX 76542

Ardelle Hamilton, Principal
St. Mary's School
1019 South 7th Street
Temple, TX 76504

Susan Terry, Principal
Holy Trinity Catholic School
418 North 11th Street
Temple, TX 76501

David Manning, Principal
Immanuel Lutheran School
2109 W. Avenue H
Temple, TX 76504

Becky Adams, Director
Cornerstone Christian Academy
502 N. 38th Street
Killeen, TX 76541

Colvin Davis
American Preparatory Institute
P.O. Box 1800
Killeen, TX 76540

Gary Hammonds, Principal
Tabernacle Baptist School
6601 South Fort Hood Street
Killeen, TX 76542

Diane Waite, Principal
St. Joseph Catholic School
2901 E. Rancier Ave.
Killeen, TX 76543

Distribution List for Bell County Public Schools

Randy Hendricks, Superintendent Academy Independent School District 704 E. Main Street Little River, TX 76554-9801	(3)	Michael Mayfield, Superintendent Bartlett Independent School District P.O. Box 170 Bartlett, TX 76511-0170	(3)
Wayne Carpenter, Deputy Superintendent Belton Independent School District P.O. Box 269 Belton, TX 76513	(11)	Cindy Gunn, Superintendent Holland Independent School District P.O. Box 217 Holland, TX 76534-0217	(3)
Dr. Jim Hawkins, Superintendent Killeen Independent School District 200 North W. S. Young Drive Killeen, TX 76540	(44)	Katie Ryan, Superintendent Rogers Independent School District One Eagle Drive Rogers, TX 76569-9998	(3)
Dr. Robin Battershell, Superintendent Salado Independent School District P.O. Box 98 Salado, TX 76571-0098	(3)	Louis Jez, Temple Independent School District Warehouse 505 S. 5 th Street Temple, TX 76504	(14)
Kerry Hansen, Superintendent Troy Independent School District P.O. Box 409 Troy, TX 76579-0409	(4)		

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 10/19/05 Western Hills Elementary School, Temple, 5th grade students

Information Distributed and Quantity: 85 of the following: TWDB Shower Flow bags; CUWCD Water Wheel; CUWCD info cards; CUWCD rulers; CUWCD pencils; and CUWCD Frisbees.

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

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: After School Focus Group presentation

Date(s)/Location: 10/28/05 Raye Allen Elementary School, Temple, 5th grade students

Information Distributed and Quantity: 11 of the following: TWDB Shower Flow bags; Groundwater Foundation bookmark—The Water Cycle; Groundwater Foundation bookmark—Top 10 Ways to Protect and Conserve Groundwater; CUWCD info cards; CUWCD rulers; CUWCD pencils; and CUWCD cups.

Notes: Presentation focused on the water cycle and soil erosion.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Judy Parker

Activity: Bell County Home Buyers Educational Seminar sponsored by the Texas
Cooperative Extension

Date(s)/Location: 10/25/05 Bell County Expo Center, Belton, TX

Information Distributed and Quantity: Approximately 25 people attended. See
attached list for item distribution.

Notes: Director Parker gave a powerpoint presentation and staff setup a display

<u>Item</u>	<u>Quantity</u>
CUWCD	
CUWCD Brochure folder	6
CUWCD Newsletter	5
Brochure—Your GCD (TAGD/CUWCD)	4
Use Water Wisely Wheels	11
Rulers	10
Ink Pens	21
2006 Calendars	11
Spray Bottles—Indoor Use	6
Spray Bottles—Outdoor Use	6
TWDB	
Brochure—Being WaterWise Outdoors	8
Brochure—Being Water Smart Indoors	7
Texas Lawn Watering Guide	9
Shower Flow Meter Bag	6
WaterWise Council of Texas	
Irrigation Best Management Practices Brochure	7
Landscape Improvements Best Management Practices Brochure	12
Lawn Maintenance Best Management Practices Brochure	8
Texas Groundwater Protection Committee	
Plugging Abandoned Water Wells Brochure	7
Groundwater Foundation	
Groundwater Basics brochure	10
Bookmark—The Water Cycle	9
Bookmark—10 Ways to Protect & Conserve Groundwater	6
Miscellaneous	
Water Conservation Sticker Sheets	5

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff & Directors

Activity: Bell County Water Symposium

Date(s): 11-03-05

Location: Bell County Expo Center

Information Distributed and Quantity: See attached.

Notes:

<u>Item</u>	<u>Quantity</u>
CUWCD	
*Water Conservation Kit	50
CUWCD Brochure folder	20
CUWCD 2005 Newsletter	49
Use Water Wisely Wheels	34
Cups	33
Rulers	60
Pencils	30
Ink Pens	80
Frisbees	48
Spray Bottles—Indoor Use	75
Spray Bottles—Outdoor Use	60
Balloons	20
Calendars	70
Your Groundwater Conservation District (Local Control) Brochure	7
Groundwater Foundation	
Groundwater Basics brochure	15
Bookmark—The Water Cycle	72
Bookmark—Top 10 Ways to Protect and Conserve Groundwater	80
Office of Community Rural Affairs	
Water Resource—Guide for Texas	28
Utilizing Technology for Small Water Systems (Book)	14
Managing the Water Well (Book)	4
Texas Cooperative Extension	
Questions About GCD's in Texas (Book)	14
Texas Groundwater Protection Committee	
Plugging Abandoned Water Wells Brochure	19
TWDB	
Being Water Wise Outdoors Brochure	6
Being Water Smart Indoors Brochure	44
Water Conservation Activity Book	10
Shower Flow Meter Bag	12
Texas Lawn Watering Guide	3
Dillos Demonstrate Wordless Conservation Brochure	16
Dillo Dollar—Water Conservation in Your Home	8
Dillo Dollar—Water Conservation in Your Yard	8
Water Smart Bill Stuffer—Paying for more water than you need?	20
Water Smart Bill Stuffer—Watering your lawn efficiently?	13
WaterWise Council of Texas	
Irrigation Best Management Practices Brochure	8
Landscape Improvements Best Management Practices Brochure	20
Lawn Maintenance Best Management Practices Brochure	8

Miscellaneous

Auto Not Pollute Slide Card	5
Water Conservation Sticker Sheets	40

TOTAL **1,103**

*Each Water Conservation Kit also contains a CUWCD general brochure and TWDB 49 Water Saving Tips brochure.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Classroom presentations

Date(s)/Location: 11/9/05 Troy Elementary School, 5th grade students

Information Distributed and Quantity: 85 of the following: TWDB Shower Flow bags; CUWCD Water Wheel; CUWCD info cards; CUWCD rulers; CUWCD pencils; and CUWCD Frisbees.

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

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Texas Recycles Day

Date(s)/Location: 11/15/05 Temple Public Library

Information Distributed and Quantity: 50 CUWCD 2005 Newsletters; 50 CUWCD cups; 25 TWDB brochures—Dillos Demonstrate Wordless Water Conservation; 25 water conservation sticker sheets; 25 CUWCD pencils; 25 CUWCD balloons.

Notes: Information above was available for the public to pick up during the children's story time that focused on recycling and environmental protection.

**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT**

Activity Report

CUWCD Representative: Staff

Activity: Complimentary packets to all participants in Essay & Poster Contest

Date(s): 12-02-05

Location: Information was mailed or distributed to the schools

Information Distributed and Quantity: See attached

Notes:

**CUWCD Essay & Poster Contest
Inventory—December 2005**

The following information was sent to all contest participants—30 total.

CUWCD Info Card
CUWCD Pencil
CUWCD Frisbee
CUWCD Balloon

TWDB Shower Flow Bag
TWDB Brochure—Being Water Smart Indoors
TWDB Brochure—Being Water Wise Outdoors

The Groundwater Foundation Bookmarks—The Water Cycle; Top Ten Ways to Protect
and Conserve Groundwater

5 Minute Shower Timer

APPENDIX F

5th ANNUAL
**BELL COUNTY WATER
SYMPOSIUM**

**November 3, 2005
BELL COUNTY EXPO CENTER
BELTON, TEXAS
8:30 A.M – 3:00 P.M.**

AGENDA

- 8:30 a.m.** **Registration**
- 9:00 a.m.** **Welcome & Overview of the Clearwater Underground Water Conservation District**
Horace Grace/Judy Parker – Clearwater District
How Much Water Is Available in the Edwards (BFZ) and Trinity Aquifers? Results of Groundwater Availability Model
Randy Williams – Turner Collie & Braden, Inc.
- 9:45 a.m.** **Legislative Update on Water Issues**
Brian Sledge – Lloyd, Gosselink, Blevins, Rochelle & Townsend, P.C.
- 10:30 a.m.** **Break**
- 10:45 a.m.** **Clean Water Through Public Involvement**
Martha Underwood—Lake Stillhouse Hollow Clean Water Steering Committee
Update on Surface Water Projects
David Cole-- Central Texas Water Supply Corporation
- 11:30 a.m.** **Septic System Regulations and Water Quality Protection**
Michael Jahns/Kent Stephens -- Bell County Public Health District
- 12:15 p.m.** **Lunch**
- 1:00 p.m.** **Results of Water Quality Testing**
Dr. Monty Dozier – Texas Cooperative Extension/TAMU
- 2:00 p.m.** **Plugging Abandoned Water Wells**
David Gunn – Texas Department of Licensing & Regulation
- 2:45 p.m.** **Closing Comments**
Horace Grace – Clearwater District

“Water is the best of all things.”
PINDAR, Olympian Odes (C. 522 – C. 438 B.C.)

Symposium Sponsors

*Clearwater Underground Water Conservation District
Texas Cooperative Extension—Bell County
Turner Collie & Braden, Inc.
Lloyd, Gosselink, Blevins, Rochelle & Townsend, P.C.*



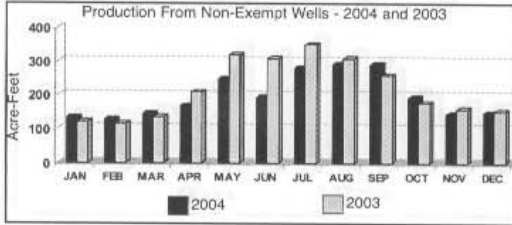
APPENDIX G

THE CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

DISTRICT INFORMATION

The Clearwater Underground Water Conservation District (CUWCD or District) is responsible for managing the groundwater in Bell County. There are two major aquifers within the District—the Edwards (Balcones Fault Zone—BFZ) and the Trinity. The Edwards (BFZ) is located in the southern portion of the county and the Trinity underlies all of Bell County.

During 2004, production figures were recorded for 54 non-exempt wells in Bell County. Production from these wells is shown in the chart below. A total of 768.4 million gallons, or 2,358.29 acre/feet of groundwater was produced. Staff registered 92 new exempt wells and 8 existing exempt wells. There were 18 non-exempt wells registered.



One acre-foot is the amount of water needed to cover one acre of land a depth of one foot.

The District measures water levels from selected wells twice annually. This data supplements water level measurements taken annually by the Texas Water Development Board (TWDB). Water levels for the ten TWDB monitor wells are shown in the table below.

Change in Aquifer Levels 1995- 2005

State Well No.	Location	Aquifer	Depth From Land Surface (ft)			
			J/F 1995	Jan-03	Feb-04	Jan-05
58-04-623	Salado	Edwards (BFZ)	78.3	85	89.69	86.3
58-04-702	SW of Salado	Edwards (BFZ)	72.4	78.25	72.72	72.2
58-04-801	South of Salado	Edwards (BFZ)	147.4	144.15	141.34	134.1
40-45-701	NW of Moffat	Trinity	646.08	646	*669.0	671
40-53-102	NW of Moffat	Trinity	57.4	68.35	71.28	72.6
40-53-505	Moffat	Trinity	331	335	336	340
58-03-805	SW of Salado	Trinity	N/A	389.4	393.72	NR1
58-04-103	West of Salado	Trinity	280.1	310.8	304.7	311.6
58-05-403	West of Salado	Trinity	205.6	248.3	249.87	256.2
58-05-901	Holland	Trinity	**1.2	23.7	26.19	29.9

Note: Larger numbers represent greater depth to reach the water surface, i.e. a decline in the aquifer level.

Bell County Aquifers



TRINITY
 [Hatched Box] OUTCROP
 [Dotted Box] DOWNDIP

EDWARDS
 [Solid Black Box] OUTCROP
 [Hatched Box] DOWNDIP

Outcrop: The part of the water bearing rock layer that appears at the land surface.
 Downtip: The part of the water-bearing rock layer that dips below other rock layers.

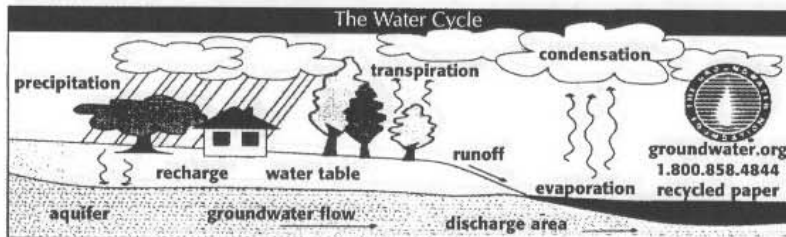
News/Upcoming Events

- **Water Camp** (Monahans, TX)- The District will fund three students to attend the Summer Camp. Contact office for info.
- **Edwards BFZ Groundwater Availability Model** identifies 7,500 ac-ft of usable groundwater each year for the Edwards. The Trinity study is ongoing.
- **Additional aquifer monitoring sites needed**—please contact the District office.
- **Free Water Quality Testing** is available for registered well owners—contact the District office for details.

THE WATER CYCLE

The Earth's water is always in movement and is always changing states, from liquid to vapor to ice and back again. The water cycle describes the existence and movement of water on, in, and above the Earth. The water cycle has no starting point. But, we'll begin in the oceans, since that is where most of the Earth's water exists. The sun, which drives the water cycle, heats water in the oceans, which **evaporates** as vapor into the air. Rising air currents take the vapor up into the atmosphere, where cooler temperatures cause the vapor to **condense** into clouds. Air currents move clouds around the globe, cloud particles collide, grow, and fall out of the sky as **precipitation**. Some precipitation falls as snow and can accumulate as ice caps and glaciers, which can store frozen water for thousands of years. Snowpacks in warmer climates often thaw and melt when spring arrives, and the melted water flows overland as snowmelt. Most precipitation falls back into the oceans or onto land, where, due to grav-

ity, the precipitation flows over the ground as surface **runoff**. A portion of runoff enters rivers in valleys in the landscape, with streamflow moving water towards the oceans. Runoff, and ground-water seepage, accumulate and are stored as freshwater in lakes. Not all runoff flows into rivers, through. Much of it soaks into the ground as infiltration or **recharge**. Some of this water stays close to the land surface and can seep back into surface-water bodies (and the ocean) as ground-water **discharge**. Some ground water finds openings in the land surface and emerges as freshwater springs. Shallow ground water is taken up by the roots of plants and is **transpired** from leaf surfaces back into the atmosphere. Some water infiltrating into the ground goes deeper and replenishes **aquifers** (water saturated subsurface rock), which store huge amounts of freshwater for long periods of time. Over time, though, this water keeps moving, some to reenter the ocean, where the water cycle "ends."



Source: Text—"The Water Cycle." United States Geological Survey: <http://ga.water.usgs.gov/edu/watercycle.html>
 Image- The Groundwater Foundation: <http://www.groundwater.org>

CUWCD Directors

Leland Gersbach -- Precinct 1 • Horace Grace -- Precinct 2
 Wallace Biskup -- Precinct 3 • Judy Parker -- Precinct 4 • Ricky Preston -- At Large

www.clearwaterdistrict.org

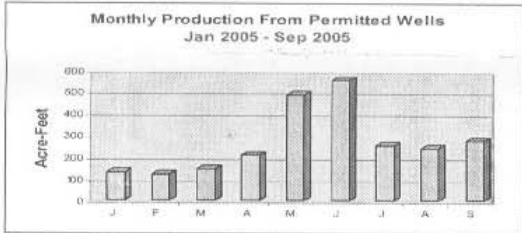
Clearwater UWCD • P.O. Box 729, Belton, TX 76513 • 254-933-0120

DISTRICT INFORMATION

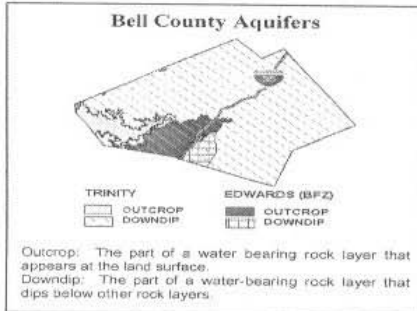
The Clearwater Underground Water Conservation District (CUWCD or District) manages Bell County's groundwater. There are two major aquifers within the District—the Edwards (Balcones Fault Zone—BFZ) and the Trinity. The Edwards (BFZ) is located in the southern portion of the county and the Trinity underlies all of Bell County.

Groundwater Availability for the two aquifers was determined in 2005 by using the Texas Water Development Board's released models. The District Board of Directors adopted the annual availability figure for the Edwards (BFZ) at 7,500 ac-ft based on a preferred flow of 200 ac-ft/month from Salado Springs during a repeat of the 1950's drought conditions. For the Trinity aquifer, an annual availability of 7,092 ac-ft was adopted. The management goal for the Trinity was to leave 50% of the available drawdown after 50 years for confined portions of the aquifer and to leave 95% of the saturated thickness for unconfined portions.

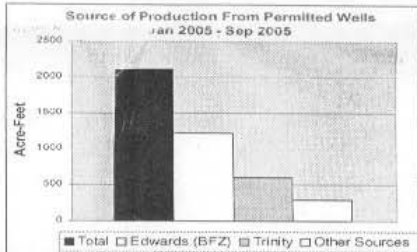
Production figures for non-exempt wells—generally wells producing more than 25,000 gallons per day—are reported to the District on a monthly basis. The chart below shows production from the 60 permitted wells from January through September 2005. So far in 2005, these wells have produced 2,112 ac-ft of water. Historic production figures for 2003 and 2004 were 2,608 ac-ft and 2,358 ac-ft, respectively. The chart to the left shows production from each underground source of water.



One acre-foot is the amount of water needed to cover one acre of land to a depth of one foot (325,851 gallons).



- #### Upcoming Events
- **Well Plugging Program**- Starting in January, the District will partially fund the plugging of abandoned wells for landowners that can show a demonstrated need.
 - **Well Plugging Demonstration**- Spring 2006.
 - **Aquifer Monitoring Sites**- District needs additional sites to monitor water levels.
 - **Essay/Poster Contest for 5th grade**- Deadline to turn in entries is November 21, 2005.
- For more information, call: 254-933-0120.



The District measures water levels from selected wells twice annually. This data supplements water level measurements taken annually by the Texas Water Development Board

Aquifer Levels Summer 2003 to Summer 2005

State Well No.	Location	Aquifer	Depth From Land Surface (ft)			
			Other Measurement	July 2003	July 2004	July 2005
58-04-502	Salado	Edwards (BFZ)	50.5 (1995)	56.14	48.58	51.83
58-04-702	SW of Salado	Edwards (BFZ)	71 (1980)	71.96	71.84	72.17
58-04-801	S of Salado	Edwards (BFZ)	134.93 (1966)	137.42	141.25	137.58
40-93-102	N of Moffat	Trinity	*180 (1962)	70.42	71.92	73.33
58-06-801	Holland	Trinity	Flowing (1995)	25.3	28.21	31.84

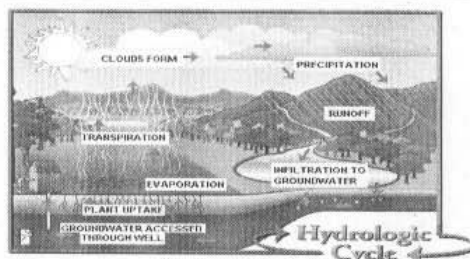
*Measurement was taken after 24 hours of pumping.

A SUMMARY OF THE HYDROLOGIC CYCLE

Nature recycles the earth's water supply through a process known as the water cycle or hydrologic cycle. This cycle operates continuously and receives energy from the sun. There are six major components of this cycle: evapotranspiration, condensation, precipitation, infiltration, percolation and runoff. This section explains key concepts and components of the hydrologic cycle.

The hydrologic cycle consists of inflows, outflows, and storage. Inflows add water to the different parts of the hydrologic system, while outflows remove water. Storage is the retention of water by parts of the system. Because water movement is cyclical, an inflow for one part of the system is an outflow for another.

Looking at an aquifer as an example, percolation of water into the ground is an inflow to the aquifer. Discharge of ground water from the aquifer to a stream is an outflow (also an inflow for the stream). Over time, if inflows to the aquifer are greater than its outflows, the amount of water stored in the aquifer will increase. Conversely, if the inflows to the aquifer are less than the outflows, the amount of water stored decreases.



Inflows and outflows can occur naturally or result from human activity. The earth's water supply remains constant, but man is capable of altering the cycle of that fixed supply. Population increases, rising living standards, and industrial and economic growth have placed greater demands on our natural environment. Our activities can create an imbalance in the hydrologic equation and can affect the quantity and quality of natural water resources available to current and future generations.

From Groundwater Basics <http://www.purdue.edu/dp/envirosft/groundwater/src/basics.htm>

Clearwater UWCD • P.O. Box 729, Belton, TX 76513 • 254-933-0120

APPENDIX H



Essay & Poster Contest

Clearwater Underground Water Conservation District

Water Conservation
5th Grade Students

Theme: Ways to Conserve Water in Bell County

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 residents in Bell County can conserve and protect our water resources, both surface water and groundwater. Entries should include existing conservation practices as well as new and innovative ideas. (See judging criteria on back.)

Essays may be typed or handwritten (please make sure handwriting is legible). Posters must be at least 8 1/2" x 11" in size. All entries must be postmarked no later than **March 1st** and submitted to the following:

Clearwater UWCD
P.O. Box 729
Belton, TX 76513

or

Essays may be faxed to:
254-939-0885
Attn: Cheryl Maxwell

Entries may also be hand delivered to 550 E. 2nd Avenue, Bldg. A of the Bell County Annex in Belton by 5:00 p.m. on March 1st.

All participants will receive a CUWCD complimentary packet. Prizes will be awarded to the top three entries in each category 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 the CUWCD office at 254-933-0120 for additional information.



Please complete the information below and attach to the front of your entry.

Name: _____ Telephone No: _____

Address: _____

School Name: _____ Teacher: _____

School District: _____ Grade: _____

Judging Criteria for Essay & Poster Contest

<i>Content</i>	<i>70%</i>	
<i>Knowledge of Existing Conservation Methods</i>		<i>35%</i>
* <i>New Ideas for Conserving Water</i>		<i>25%</i>
<i>Reference to Bell County</i>		<i>10%</i>
<i>Presentation</i>	<i>30%</i>	
<i>Creativity</i>		<i>20%</i>
<i>Grammar/Spelling</i>		<i>5%</i>
<i>Neatness</i>		<i>5%</i>

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

Research Aid

Several web sites have water conservation tips--search using the key words "water conservation". The CUWCD office also has a list of web sites, brochures and literature with information on water conservation--call 254-933-0120.

ATTENTION 5th Graders:

Win a \$500, \$250 or \$100 U.S. Savings Bond

By Participating and Winning:

The Clearwater Underground Water Conservation District's
ESSAY and POSTER CONTEST



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 residents in Bell County can conserve and protect our water resources, both surface water and groundwater. Entries should include existing conservation practices as well as new and innovative ideas. (See judging criteria on back.)

All participants will receive a CUWCD complimentary packet. Prizes will be awarded to the top three essays and top 3 posters.

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 the 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 21st** and submitted to the following:

Clearwater UWCD
P.O. Box 729
Belton, TX 76513

or

Essays may be faxed to:
254-939-0885
Attn: Cheryl Maxwell

Entries may also be hand delivered to 550 E. 2nd Avenue, Bldg. A of the Bell County Annex in Belton by 5:00 p.m. on November 21st. Fill out the form located below and attach it to the entry.

Judging Criteria for Essay & Poster Contest

Content	70%	
Knowledge of Existing Conservation Methods		35%
* New Ideas for Conserving Water		25%
Reference to Bell County		10%
Presentation	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 in Bell County.

Research Aid

Several web sites have water conservation tips--search using the key words "water conservation". The CUWCD office also has a list of web sites, brochures and literature with information on water conservation--call 254-933-0120.



Please complete the information below and attach to the front of your entry.

Name: _____ Telephone No: _____

Address: _____

School Name: _____ Teacher: _____

School District: _____ Grade: _____

APPENDIX I

**Clearwater Underground Water Conservation District
Literature Packet
Inventory—October 2004**

CUWCD

- Cover letter and resource library
- Bell County Aquifers
- Groundwater Production
- Water Use Information

American Water Works Association: 25 Facts About Water

Groundwater Foundation:

- What is Groundwater?
- Wells and How They Work
- Contamination and Concerns
- Sources of Contamination
- On-Site Wastewater Treatment

H2ouse: Save Water, Money, Energy Now! Top 5 Actions

Texas Agricultural Extension Service (Aggie Horticulture):

- Landscape Maintenance Practices Save Water
- Lawns Don't Waste Water, People Do!
- What is Xeriscape?
- All Plants Have a Place in Xeriscape Landscapes

Texas Water Development Board

- Major Aquifers of Texas
- Minor Aquifers of Texas
- Groundwater Conservation Districts: Confirmed and Pending Confirmation
- Major River Basins in Texas
- Regional Water Planning Groups

US Department of Agriculture/Natural Resources Conservation Service:

- What on Earth Do You Know About Water?
- How on Earth Do You Save Water?
- How on Earth Do You Water Your Lawn?

US Environmental Protection Agency:

- What Do I Need to Know to Protect My Private Drinking Water Supply?
- How Can I Help to Protect My Drinking Water Supply?
- What Can I Do If There is a Problem with My Drinking Water?
- Water Recycling and Reuse: The Environmental Benefits

US Geological Survey: A Primer on Water Quality

WaterWise Council of Texas:

- Understanding Our Water Supply
- Water Demand in Texas
- Supplemental Water Sources: Rainwater Harvesting & Greywater
- List of Rainwater Harvesting Providers

**Clearwater Underground Water Conservation District
Literature Packet
Inventory—March 2005**

CUWCD:

Clearwater District... Who We Are
Cover Letter, Packet Inventory, and Library Resource List
Evaluation Form (Please fill out)
Water Use Information
Bell County Aquifers
Groundwater Production
Map—Central Texas Watersheds
Water Consumption Worksheet
Groundwater Basics Crossword Puzzle

Groundwater Foundation:

The Groundwater Gazette: Issue 1: Groundwater Basics
Get Informed: Wells and How They Work
Contamination and Concerns
Sources of Contamination
On-site Wastewater Treatment

Save Our Springs Alliance:

Map—Edwards Aquifer Region (created by Hill Country Foundation)
Edwards Aquifer: Geology and Hydrology
Threats to the Survival of the Edwards Aquifer

Texas Water Development Board:

Available Lesson Plans: Grades 3-12th
Map—Major Aquifers of Texas
Map—Minor Aquifers of Texas
Map—Groundwater Conservation Districts
Map—Major River Basins in Texas
Map—Regional Water Planning Groups
Pass the Buck for Water Conservation at Home
Pass the Buck for Water Conservation in Your Yard
Brochure: Being Water Smart Indoors
Brochure: Being Water-Wise Outdoors
Northern Trinity Aquifer
Map—Trinity Study Area

U.S. Environmental Protection Agency

Surf Your Watershed (What is a Watershed?)
Water Trivia Facts

Water Smart:

Are You Paying For More Water Than You Need?
Are You Watering Your Lawn Efficiently?

**Clearwater Underground Water Conservation District
Literature Packet
Inventory—September 2005**

CUWCD:

Activity Cards: “Water Word Search,” “Water Crossword Puzzle,” “Water Word Matching Game,” and “Hidden Message”
Bell County Aquifers
Clearwater District... Who We Are
Cover Letter, Packet Inventory, and Library Resource List
Evaluation Form (Please fill out)
Groundwater Production
Map—Central Texas Watersheds
Water Conservation: Quantity and Quality
Water Consumption Worksheet

Groundwater Foundation:

Get Informed: Wells and How They Work

Texas Water Development Board:

“Being Water Smart Indoors”
“Being Water-Wise Outdoors”
Map—Major Aquifers of Texas
Map—Minor Aquifers of Texas
Map—Groundwater Conservation Districts
Map—Major River Basins in Texas
Map—Regional Water Planning Groups

U.S. Environmental Protection Agency

Surf Your Watershed (What is a Watershed?)
What's Up with Our Nation's Waters?

Water Education Foundation: Water Kids

The Water Cycle
The Earth's Water Supply
What's an Acre Foot?
How Much Water Does it Take to...
Water Pollution “No-Knows”

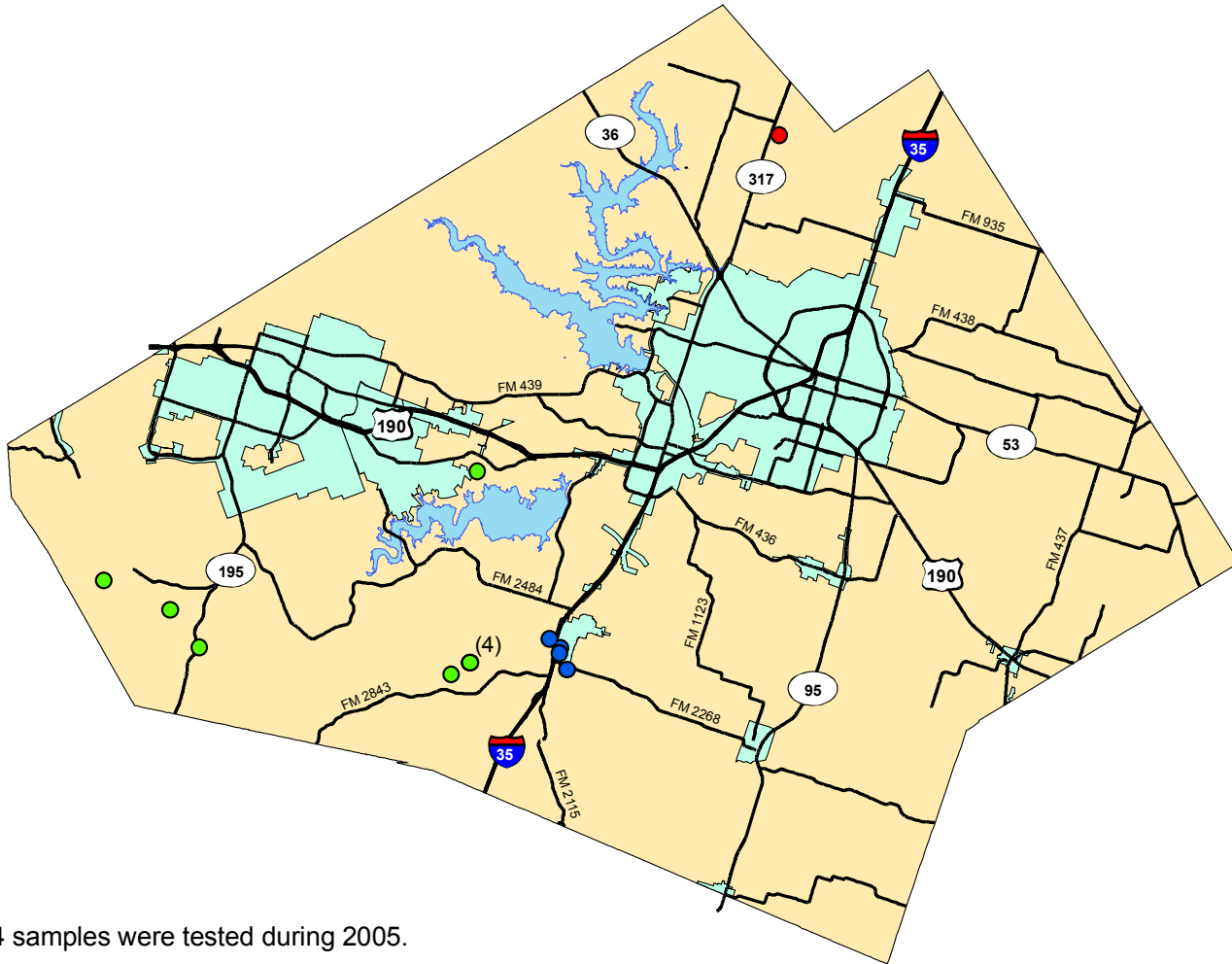
Water Use It Wisely

Water Conservation Guide: Water Wisdom

APPENDIX J

APPENDIX K

Groundwater Samples Tested in 2005



A total of 14 samples were tested during 2005.

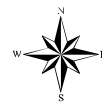


Clearwater Underground Water Conservation District
 550 E. 2nd Avenue, PO Box 729
 Belton, TX 76513
 March 3, 2006



File Name

Data Type



Legend

- Edwards (BFZ)
- Trinity
- Other Sources
- City Limits

Results of Groundwater Samples Tested During 2005¹

Test Date	Aquifer ²	Depth (ft)	Coliform Bacteria ³	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)
3/1/2005	Trinity-Hensell	470	Present	400	936	699	2.30	140	0	0	7.80	0.49	80
6/21/2005	Trinity-Hensell	910	Present	360	856	651	1.80	80	2.80	0.03	7.80	0.34	80
6/28/2005	Trinity-Hensell	910	Error ⁵	NT ⁶	NT	NT	NT	NT	NT	NT	NT	NT	NT
6/29/2005	Trinity-Hensell	755	Error	520	3550	2480	1.80	0	3.00	0.004	7.70	0.22	80
7/12/2005	Trinity-Hensell	910	Absent	380	995	652	1.90	80	2.50	0.09	7.60	0.22	80
8/2/2005	Trinity-Hensell	910	Absent	360	1003	661	2.30	80	2.60	0.001	7.70	0.31	80
10/25/2005	Trinity-Hensell	880	Present	340	759	625	Error	100	3.20	0.05	7.70	Error	80
11/8/2005	Trinity-Hensell	450	Absent	NT	1396	921	NT	NT	NT	NT	NT	NT	NT
11/22/2005	Trinity-Hensell	600	NT	400	789	590	2.30	60	2.30	0.002	7.60	0.30	80
6/21/2005	Edwards (BFZ)	UNK ⁷	Present	300	391	278	1.40	350	0.70	0.003	7.50	0.18	30
8/9/2005	Edwards (BFZ)	200	Absent	280	420	289	1.00	300	2.70	0.022	7.60	Error	19
8/16/2005	Edwards (BFZ)	125	NT	310	574	293	0.50	210	3.20	0.005	7.00	0.18	13
8/16/2005	Edwards (BFZ)	105	NT	300	756	391	0.10	220	2.30	0.004	7.50	0.16	14
3/2/2005	Other- Buda	26	Present	240	370	227	1.60	240	3.20	0.003	7.30	0.19	11

Notes:

1. Samples were collected by the well owner and tested by the Clearwater staff within 24 hours of collection. The well owner was given instructions on collecting the sample and was asked to draw the sample as close to the wellhead as possible. Laboratory 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. Error means the test was attempted, but no result was obtained. Error could be due to an expired reagent or an instrument malfunction.
6. NT means not tested because the test was not requested or the test could not be performed because the equipment was under repair.
7. UNK means the information is unknown.

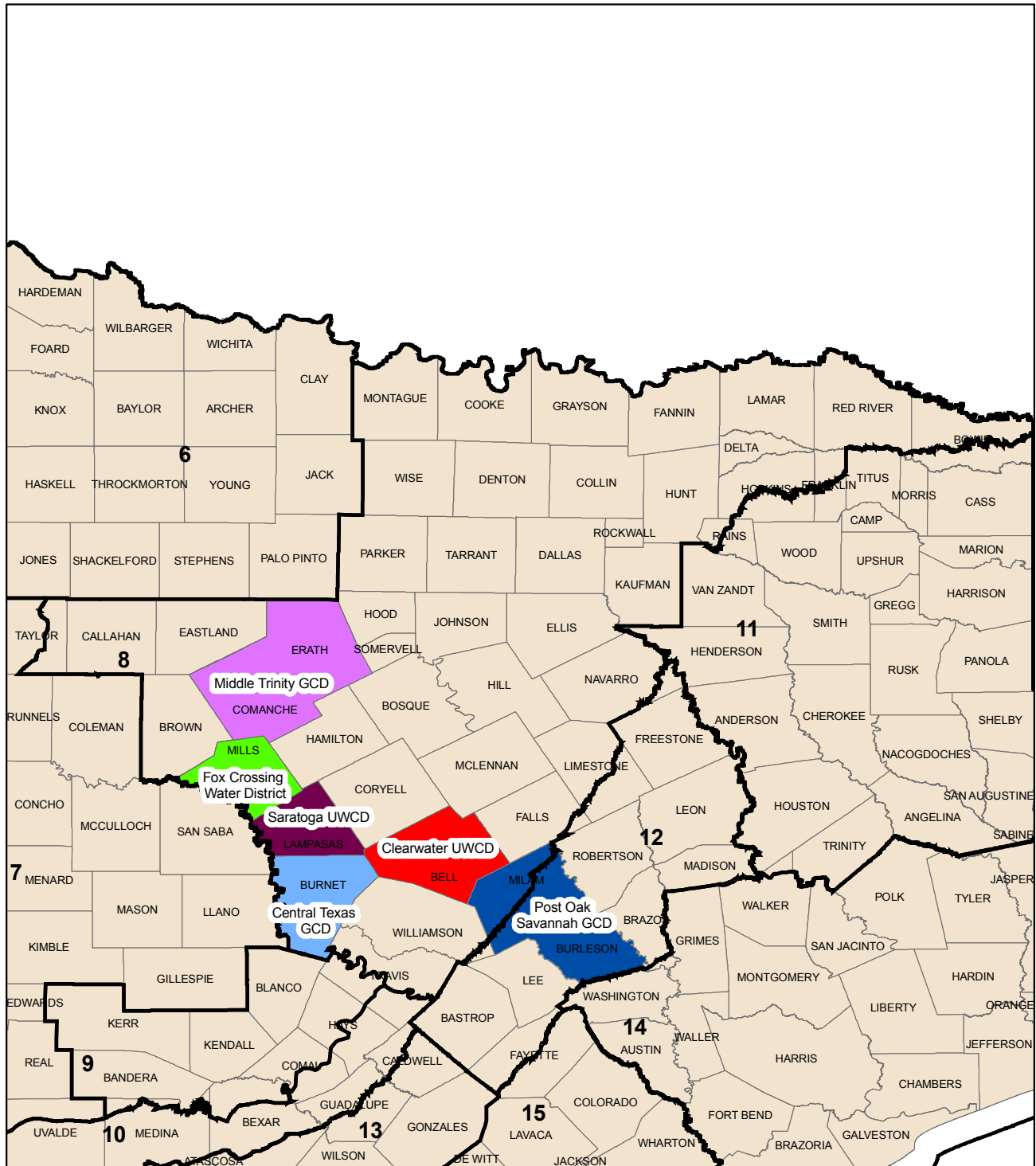

Historical Results of Groundwater Samples Tested From 2004-2005 ¹											
Aquifer ²	Depth (ft)	Alkalinity (mg/L)	Conductivity (µs/cm)	Total Dissolved Solids (mg/L)	Fluoride ³ (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	pH	Phosphate (mg/L)	Sulfate ³ (mg/L)
Trinity-Glen Rose											
Minimum	300	440	2150	1576	No Data ⁴	280	20.10	0.003	7.80	No Data	80
Maximum	680	440	2650	2050	No Data	300	29.30	0.004	7.90	No Data	80
Mean	490	440	2400	1813	No Data	290	24.70	0.004	7.85	No Data	80
Number of Samples: 2											
Trinity-Hensell											
Minimum	450	320	759	590	1.80	0	7.50	0.000	7.60	0.18	80
Maximum	910	520	3550	2480	2.30	240	0.00	0.375	8.00	0.49	80
Mean	782	398	1398	973	2.07	108	2.00	0.063	7.79	0.29	80
Number of Samples: 19											
Trinity-Hosston											
Minimum	865	420	1153	869	No Data	60	0.10	0.001	8.10	No Data	80
Maximum	868	480	1354	1040	No Data	80	0.30	0.004	8.20	No Data	80
Mean	867	450	1254	955	No Data	70	0.20	0.003	8.15	No Data	80
Number of Samples: 2											
Edwards (BFZ)											
Minimum	100	280	391	278	0.10	180	0.30	0.001	7.00	0.00	1
Maximum	660	380	1110	626	2.30	380	3.20	0.022	7.90	0.77	80
Mean	268	319	632	385	1.20	276	1.50	0.005	7.51	0.23	34
Number of Samples: 9											
Other Sources											
Minimum	18	240	370	227	1.10	240	3.20	0.002	7.10	0.19	11
Maximum	30	380	2220	1491	1.60	860	154.90	0.024	7.60	0.28	80
Mean	25	305	1068	713	1.35	470	42.85	0.001	7.32	0.24	50
Number of Samples: 4											

Notes:


1. This table contains the historical results of all groundwater samples tested by the Clearwater District in Bell County. The results were performed "in-house" by a non-certified water testing lab.
2. The aquifer designation was determined by Turner Collie & Braden, Inc.
3. The limit of the Fluoride test is 2.3 mg/L and the limit of the Sulfate test is 80 mg/L. Therefore, a true mean is limited by the range of the test.
4. No Data is available because a test on the samples were either not performed or failed.

APPENDIX L

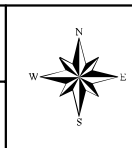
Groundwater Districts in GMA Region 8


Clearwater
Underground Water
Conservation District
November 15, 2005



File Name: _____ Data Type: _____



Legend



GMA Boundaries

APPENDIX M



**CLEARWATER UNDERGROUND WATER
CONSERVATION DISTRICT
RESOURCE LIBRARY
September 2005**

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
WaterPlow 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. DRIPIAL 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! Dripiat 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 ½” 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.