

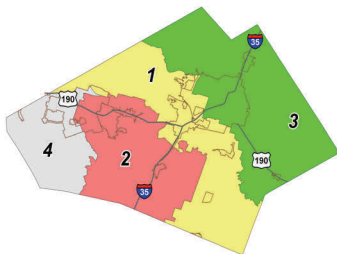
THE CLEARWATER SOURCE

2011 Annual Newsletter

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Clearwater Precincts



CUWCD Directors & Terms:

- Leland Gersbach**—Precinct 1
2008-2012 (President)
- Bill Bartlett**—Precinct 2
2010-2014 (Director)
- Wallace Bishop**—Precinct 3
2008-2012 (Vice President)
- Judy Parker**—Precinct 4
2010-2014 (Secretary)
- David Cole**—At large
2011-2012 (Director)

UPCOMING EVENTS

- **Bell County Water Symposium**
November 17, 2011
CTCOG Building
2180 N. Main, Belton
Preregistration Requested
Call the office now to reserve a seat! Call 254-933-0120

JOHN MAYER STEPS DOWN FROM THE BOARD



The Clearwater Board of Directors received official notice from board member, John Mayer, Director at Large, that he will be stepping down from the board. Mayer has sent a letter of resignation to Board President, Leland Gersbach, that due to personal and family obligations that have arisen that it is imperative that he devote his time to those matters.

John Mayer is one of the five member board that sets policy and hires a professional staff to manage the day to day operations of the Water District. John was re-elected to the At-large directorship in November of 2010. John has served on the board since May of 2006. John served the district first as a member of the Public Advisory Committee, starting in August 2003 to May 2006. He was then first elected to CUWCD in May 2006 and re-elected again for a four year term (2010-2014). John is a retired Army Officer and also retired from Ford Motor Company in a management position. He is a graduate of The Citadel, and received his MBA from Texas Tech University in Lubbock.

Board President Gersbach states "John brought to the Board a sound belief in protecting the ground water, protecting private property rights, and a conservative mind on fiscal matters. We will miss his leadership!"

NEWLY APPOINTED



On September, 14, 2011 the Clearwater Board of Directors selected David Cole to replace John Mayer as

Interim Director At-Large—after taking resumes, letters of interest and interviewing candidates. Mr. Cole has over 15 years experience as an Operator, Supervisor, and General Manager of a retail or wholesale surface and/or ground water supply corporation in Central Texas. He has served the citizens of Bell County in various positions. Mr. Cole has served the CUWCD as a PAC Committee member. He is also a representative on the Bluebonnet WSC as well as a member of their finance committee.

"I have been involved with Clearwater UWCD from the beginning and have enjoyed being a small part of a great organization that is actively involved in protecting groundwater."—David Cole

DROUGHT OF 2011 IS IN EPIC PROPORTIONS!

The stakeholder meeting with the Water Supply Corporations proved to be a very positive opportunity for the District to reaffirm the need for collaboration, consensus and educational outreach. The board and staff will be working directly with the WSC's who use groundwater to encourage an aggressive approach to reduce the use of well water across the County. The staff will also provide service to the WSC's by helping with water level measurements as requested by the management of each entity. The September 9th meeting is proving to be a catalyst for future dialogue as needed during the next 12 to 18 months as leadership strives to address drought concerns.

The Board of Directors authorized the General Manager of the Clearwater Underground Water Conservation District to announce that we are now at Stage 3 conservation conditions for those well owners using water from the Trinity Aquifer and the Edwards Aquifer. The District strongly encourages a reduction in water use of 30% by both Edwards and Trinity users. The Board of Directors wants to inform all permitted and exempt well users that we will move to Stage 4 (40%) voluntary reduction in early October if the area receives no significant rainfall in September!

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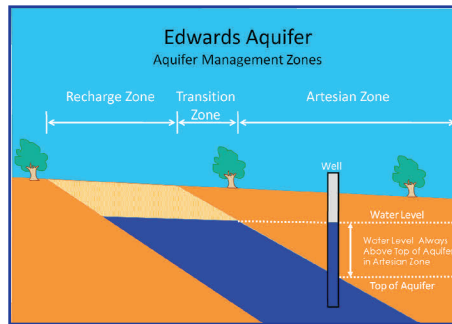
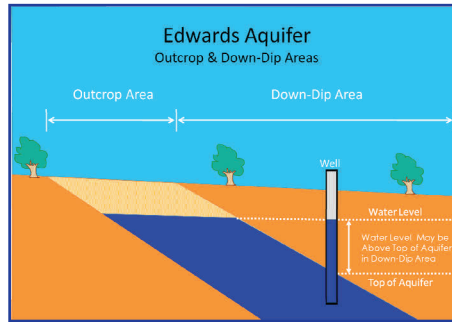
WHAT IS THE “OUTCROP AND DOWN-DIP AREA OF THE EDWARDS?”

Explanation of Edwards Aquifer Area and Zone Designations

There are several related terms that are used by scientists and groundwater managers to describe parts of the Edwards Aquifer. These terms have specific meanings and are used to describe specific portions of the aquifer. CUWCD often receives questions from the public about the meanings of these terms and how they are used to describe different portions of the Edwards aquifer. The following illustrations and definitions may be helpful to show the similarities and differences in the terms used to describe parts of the Edwards aquifer.

Outcrop Area – is the area where the rocks composing the aquifer are exposed on the land surface.

Down-dip Area – is the area where the rocks composing the aquifer are covered by other formations; the thickness of the materials covering the aquifer increases as the aquifer dips or plunges into the subsurface.



Recharge Zone -is the area where the rocks composing the aquifer are exposed on the land surface and water from rainfall or stream flow may percolate into the aquifer because the aquifer is not completely filled with water.

Transition Zone -is the where the rocks composing the aquifer are covered by other formations and the aquifer may not be completely filled with water.

Artesian Zone -is the where the rocks composing the aquifer are covered by other formations and the aquifer is completely filled with water; where the aquifer is covered and completely full of water it is pressurized. The pressure in the aquifer is known as artesian pressure and causes the water level in wells to rise above the top of the aquifer. Artesian pressure can sometimes cause wells to flow freely without the need for a pump.

WELL REGISTRATION AND PRODUCTION REPORT

State Law requires that all wells within a groundwater district be registered with the district.

Well Registration: Since the District’s opening in 2002, a total of 4,864 wells have been registered through December 2010. 145 of these wells were non-exempt and 4,543 exempt.

Well registration for 2011 through August is reported at 53.

Non-exempt wells are capable of producing a large volume of groundwater (over 17 gallons per minute), located on less than 10 acres, or are used for purposes other than Domestic, Livestock, or Poultry. All other wells are “exempt”.

What is an acre-foot of water? The amount of water needed to cover an acre, one foot deep in water. (325,851.43 gallons)

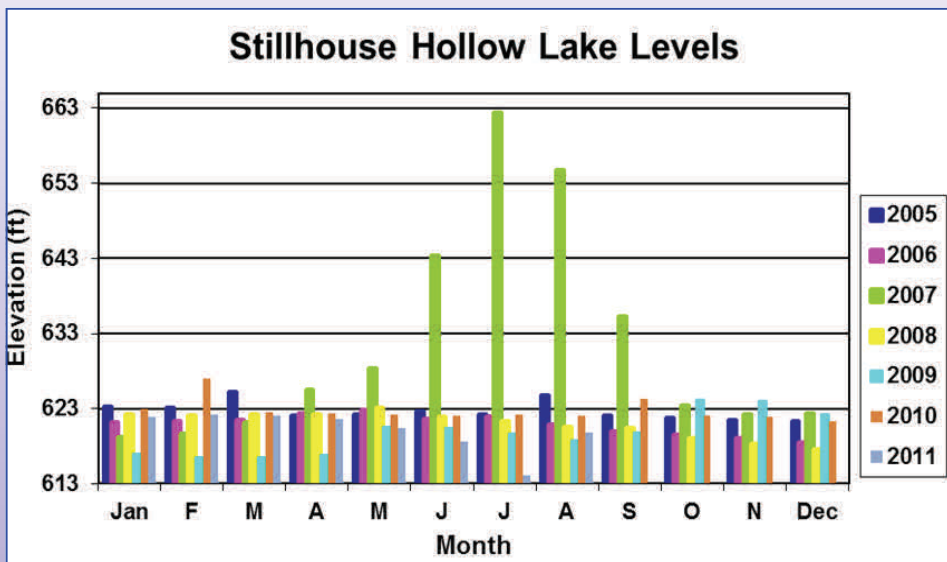
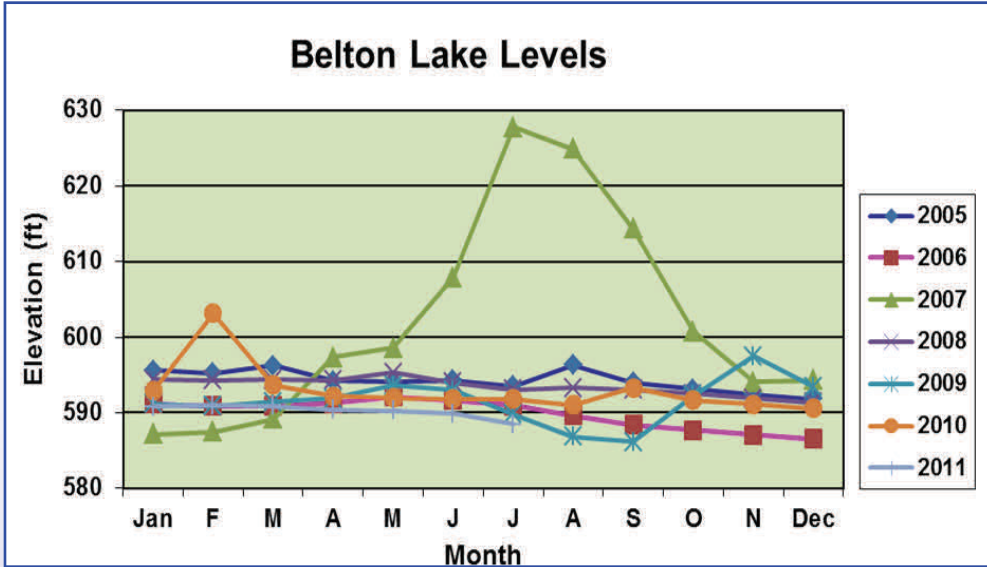
Well Registration Summary 2002 through 2010

Period	Exempts Wells		Non-Exempt Wells		Total
	Existing	New	Existing	New	
2002-2009	4,003	547	96	37	4,683
2010	16	66	0	5	87
Total	4,019	613	103	42	4864

2010 Non-Exempt & Exempt Well Production

Aquifer	Non-Exempt Well Production (ac-ft/yr)	Number of Non-Exempt Wells	Estimated Exempt Well Production (ac-ft/yr)	Number of Exempt Wells	Total Production (ac-ft/yr)
Edwards BFZ	1,769	43	461	692	2230
Trinity	1,000	46	1,244	1,866	2244
Other Aquifers	260	15	1,284	1,918	1544
Total	3,029	104	2,989	4,446	6018

HISTORIC LOW LEVELS OF SURFACE AND GROUNDWATER!



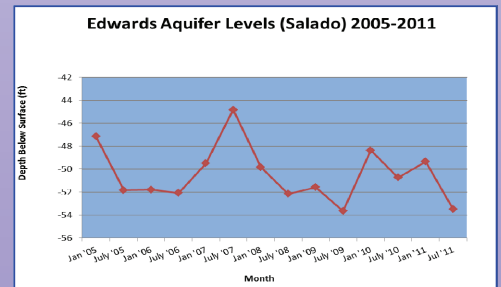
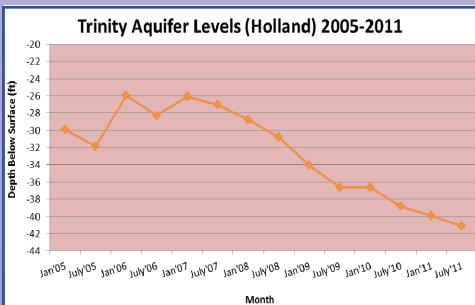
Jan 2011 to Aug of 2011

Trinity Water Well Level Measurements in January through September show water levels dropping as much as 24.2 feet on average. The most extreme drawdown has been as for these wells is 69.7 feet.

⇓ **24.2 feet drop in Middle Trinity**

Edwards BFZ Water Well Level Measurements in January through September show water levels dropping as much as 6.74 feet on average in the Edwards (BFZ) Aquifer. This average draw down is based on the nine monitor wells.

⇓ **6.74 feet drop in Edwards BFZ**



YOUR WATER, YOUR DISTRICT

CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

All across Texas, water from underground aquifers enables cities and towns, farmers and ranchers, industries and businesses to grow and prosper. More than half of the state's water supplies come from underground resources.

The way groundwater is used and the issues that develop in communities vary widely across the Lone Star State.

Texas law specifies that "groundwater conservation districts... are the state's preferred method of groundwater management."

Local groundwater conservation districts make sure groundwater is managed responsibly for the communities they serve.

In 1999, the Bell County residents voted for local control of water resources and confirmed the Clearwater Underground Water Conservation District. The District has been serving the residents of Bell County since the opening of its doors in February of 2002.

What has your District done for you?

◆ Registered 4,864 wells in

Bell County.

- ◆ Developed and adopted District Rules to establish water protection for registered well owners.
- ◆ Increased groundwater availability figures from approximately 3,500 ac-ft. to 15,000 ac-ft. for planning and permitting purposes through aquifer studies.
- ◆ Collects aquifer data through water quality sampling and semi-annual measurement and continuous monitoring equipment.

- ◆ Conducted over 100 public outreach events including but not limited to District annual water symposiums, classroom presentations, essay/poster contests, Earth Day events, Major Rivers programs, well plugging demos and newspaper articles.
- ◆ Collects data from District installed stream flow gauges in Salado Creek .
- ◆ Developed drought plans for the Edwards BFZ and Trinity aquifers.

Join the District for the 11th Annual

Bell County Water Symposium

Central Texas Council of Governments Building
2180 N. Main Street (old Walmart)
Belton, Texas

November 17, 2011 8:30 A.M. — 4:00P.M.

Farmers and Ranchers can receive 3 Hrs CEU's
These are fee based and can be purchased at the event
from **Texas AgriLife Extension Service**

11th Annual Water Symposium

Key Topics and Speakers

Drought and Predictions of 2011 thru 2012

Dr. John Nielson-Gammon, State Climatologist Texas A&M

Status of Water Supply in Central Texas

Brad Brunett, Water Services Manager, Brazos River Authority

Legislative Changes and Challenges for Texas

Jimmy Don Aycock, State Representative District 54

What is the Drought Status of Our Aquifers?

Randy Williams, BarW Groundwater Exploration LLC

Rainwater Harvesting "Why and How"

BCMGA Specialist, Texas AgriLife Extension Service

Landscape the EarthKind Way for Water Conservation

BCMGA Specialist, Texas AgriLife Extension Service

Event is free but requires RSVP call by November 7th 5:00 p.m.

Sponsors

Clearwater Underground Water Conservation District
Bell County
Texas AgriLife Extension Service
BarW Groundwater Exploration
AECOM
Lloyd-Gosselink Attorneys at Law

Where do you get YOUR water?

There are two types of water sources: **groundwater** (water that is found below ground level) and **surface water** (water that appears above the ground). Bell County has two main surface water reservoirs—Lakes Belton and Stillhouse Hollow, and two main groundwater resources—Edwards BFZ and Trinity aquifers. The source of water supply is shown below for local cities and water supply corporations (WSC).

Belton Lake—Cities: Belton, Copperas Cove, Ft. Hood, Harker Heights, Killeen, Moffat*, Morgan's Point Resort, Nolanville, Temple, and Troy*; WSC: Bell County WCID #2*, Pendleton*

Lake Stillhouse Hollow—Cities: Buckholts, Holland, Kempner, Lampasas, Lott, Rogers, and Rosebud; WSCs: Armstrong*, Bell-Milam-Falls*, Bell County WCID #5*, Dog Ridge, East Bell*, Jarrell-Schwertner*, Little Elm Valley*, Oenaville & Belfalls*, Salem-Elm Ridge, West Bell, and Westphalia.

Edwards BFZ Aquifer—WSCs: Salado and Jarrell-Schwertner*.

Trinity Aquifer—Cities: Moffat* and Troy*; WSCs: Armstrong*, Bell County WCID #2* & #5*, Bell-Milam-Falls*, East Bell*, Little Elm Valley*, Oenaville & Belfalls*, and Pendleton*.

*Indicates a mixture of groundwater and surface water.

NOTE: Use of groundwater for areas outside of Bell Co. was not determined.

WATER CONSERVATION

DRIER TIMES CALLS FOR ACTION NOW!!!!

Not since the 1950s has Texas experienced a drought as devastating as the one we are currently in. According to the State Climatologist at Texas A&M, Dr. Neilsen-Gammon, the intensity of this year's drought might count for two or three years of the 1950's drought.

Currently Bell Co. is more than 60% behind rainfall totals, for the running 365 day period, than last year this time.

The Clearwater Board of Directors believes in being proactive, therefore, over the past 10 years they have prepared and planned by establishing a drought management plan. In this plan triggers are used to determine the

need to move into specific stages of drought (levels 1-4), thus establishing a call of action by well owners to abide by a voluntary conservation goal. Bell County well owners must understand the importance of reducing their daily water use in order to preserve for our future.

- When the kids want to cool off, don't use the sprinkler! Go inside or to a public pool.
- Check for and fix leaky faucets and toilet leaks.
- Install water-saving showerheads. All hardware stores carry the newest versions.
- Replace older toilets with low volume flush toilets, or install a displacement device in the tank.
- Adjust water level in washing machine to match load size; only run dishwasher when full.
- When replacing appliances, buy water and energy efficient appliances...*Energy Star*.
- Don't water lawns except as necessary to save trees ...not in the heat of the day or on windy days.
- Water thoroughly but less frequently...apply one inch of water every 5 days or more (and don't forget to account for rainfall in your calculations). Water trees only at the drip edge! Not at the root Flare!
- Don't use an automatic sprinkler system, use rain shut-off device or manual control.
- Use mulch to retain moisture in the soil (it also helps control weeds).
- Allow grass to grow 3" in height; taller grass holds in moisture and reduces evaporation.
- Plant EarthKind, Waterwise, Native and Adapted Plants.

Continued from Page 1

Drought

Clearwater Board of Directors have directed the district staff to continue round table discussions with the rural water supply corporations serving Bell County residents. He stated "It is now time for leadership to think past today! We need to realize things can and are getting worse, and we need to proactively get the Stakeholders to the table. We are asking: What can the district do to assist all well users to reduce unnecessary consumption? The hard choices are "water on your yard today, may be the drinking water you need tomorrow?"

Drought Stage	Description	Reduction
1	Awareness	10%
2	Concern	20%
3	Serious	30%
4	Critical	40%

Monitor Wells Are Vital

Monitoring wells provide the District with crucial information about the status of the aquifers. Equipping wells with a continuous monitoring system (data collected 24/7) provides data on a continuous basis to enable the district to evaluate the data and determine related patterns.

There are currently three wells in the Edwards BFZ aquifer and three wells in the Trinity aquifer (one in each subdivision—Upper, Middle, and Lower) that are equipped with a continuous monitoring system. All six wells are specifically and solely used for monitoring purposes.

Data from the monitoring wells is collected through the Texas Water Development Board (TWDB) system and published on their website. A link to all the TWDB monitoring well system data is available on the Clearwater website at www.clearwaterdistrict.org under the "District Data" tab.

In addition to the continuous monitoring sites, Clearwater also measures water levels in selected wells twice a year, or more frequently if needed. Please contact the District if you would like to include your well in this program.

Currently the District Staff works with Randy Williams, contract Geoscientist, shown in the above photo using the new Sonic Wave Meter. This meter will take the place of the of E-line equipment. The older method was very time consuming in measuring monitor wells and costly if the line is stuck and/or lost in the well. The new sonic meter uses sound waves and provides accurate readings in seconds opposed to the former method taking up to an hour per well. This in itself allows the staff to measure monitor wells up to four times per year.



Clearwater
Underground Water
Conservation District



Clearwater Mission Statement

To implement an efficient, economical, and environmentally sound groundwater management program to protect and enhance the water resources of the District.

CUWCD

Public Advisory Committee:

- Tom Madden—Precinct 1**
- Henry Bunke—Precinct 2**
- Marvin Green—Precinct 3**
(Committee chair)
- Bradley Ware—Precinct 4**
- Vacant—At Large**

Water Quality Testing

The District's in house lab offers registered well owners free testing for common constituents and bacteria. Testing bottles are available in our office. Annual testing is recommended.

E-mail Contact List

Contact the District office if you would like to be included in our e-mail list for agendas and press releases.

Clearwater District
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Central TX Council of Gov. Bldg.
P.O. Box 729
Belton TX 76513

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www.clearwaterdistrict.org



A MESSAGE FROM THE PRESIDENT, LELAND GERSBACH

This being my first letter as president of Clearwater, let me say that it is an honor that the Board had the confidence in me to elect me as their new president. Along with this honor comes the duty to protect the groundwater of the Bell County area to insure that we, our children and our grandchildren have a clean and adequate supply of this very precious resource that we all rely on to survive. It also includes being prudent with the taxpayer dollars that you provide us to operate and use those dollars wisely to accomplish the above charges.

Besides my election as your president, there have been several other changes in staff and direction of Clearwater. First of all, I would like to welcome Dirk Aaron as our new manager of the District. Many, if not most of you, know Dirk as our Bell County Extension County Agent. After a career with the Extension Service, Dirk decided to start a second career in water for Bell County where he grew up and currently resides. His career included stops in Lubbock, Coryell, Terry, Hale and Bexar Counties where he was involved in water issues ranging from the high plains to conservation issues in San Antonio. He is replacing Cheryl Maxwell, our first and only manager who is going back to her original career as a planner with Central Texas Council Of Governments (CTCOG). I would like to thank Cheryl publicly for the 10 years she led our District to be one of the most respected and organized Districts in the state.

Another change that we are currently involved is the construction of our own building. For

the past 10 years, we have been under the umbrella of CTCOG which has done an outstanding job of providing the planning, personnel, and needs of the District. However, the Board felt that now was the time to stand on our own as an independent entity from both an organizational and financial perspective. Prior Boards, in planning for this day, had saved enough funds to pay for the building with no debt which should greatly increase our efficiency and lower our overhead. This efficiency will allow us to put the saved funds into drilling or acquiring more monitor wells across the County. This will allow better monitoring of our underground water to obtain more scientific data, thus a better understanding of what is going on under us. The downturn in our economy is allowing us to construct our building at a much lower cost over previous estimates. Thanks go to Jim Reed, the manager of CTCOG, and his staff who have committed to make our move as seamless as possible so the public should see no decrease in services. The address of our offices will be 700 Kennedy Court in the Belton Business Park which is just off Loop 121 about one half mile north of Highway 190.

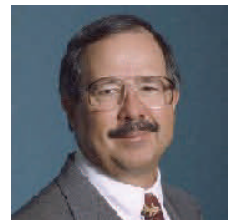
The Drought Continues

As we are all aware, we are in the worst one year drought in our local recorded history as well as setting daily records for heat. Predictions are that this may last into 2012 and that the La Nina weather phenomenon is again strengthening. We are advising all of you that use underground water to be especially cognizant in conserving water. Since we are getting no recharge from

rain, our groundwater levels and springs are decreasing daily. Unwarranted watering and use during this drought will not only affect your well but also your neighbors and in many cases will take years to replenish, if ever. I know that my own wells are at the lowest in my lifetime and most of my stock tanks are dry requiring more prudent use of underground water.

We Need your Help!

As I noted above, our main thrust in the future will be adding more monitor wells and obtaining additional scientific data. If you have a Trinity or Edwards well that you are not using or using infrequently, we would encourage you to allow the District to use it as one of our monitoring wells. Depending on the well, a monitor well can be one that we would measure quarterly, yearly, or on a real time basis. Since every well was drilled and encased differently, we would need to evaluate it to determine if it can be used as a monitor well. The District will appreciate and pledge to you no inconvenience to you as the well owner and nothing will be done without your consent. Please contact Dirk, myself, or any board member if you would be willing to help us in this endeavor. We appreciate your support.



President Leland Gersbach

(POSTAGE STAMP)

(NAME)
(STREET)
(CITY)