DOMESTIC

MUNICIPAL

AGRICULTURAL

CONSERVATION

The Cross Section

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Pre-plant soil moisture survey in progress

Personnel are now in the field gathering data for the High Plains Underground Water Conservation District's annual pre-plant soil moisture survey.

Data collection began Jan. 16 and should conclude in three to four weeks, weather permitting.

"Knowing the amount of soil moisture in the five-foot root zone soil profile has always been important to producers—but it is even more important this year as they look at how water used for pre-plant irrigation affects their Allowable Production Rate (APR) per contiguous acre," said Manager Jim Conkwright.

Meters are used to gather soil moisture data at about 100 permanently-installed monitoring sites within the district's 16-county service area.

Readings are taken at six-inch intervals throughout the five-foot root zone soil profile by lowering a probe into an aluminum access tube at the site. These data are later processed to calculate the amount of moisture in the soil (available moisture) and the amount of moisture

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In This Issue

Understanding the recent rule amendments:

Alternate measuring methods for wells/well systems

Fourth In A Series

This month, we are providing additional information on the alternate measuring methods that have been approved and included in the High Plains Underground Water Conservation District No. 1 ("District") ***Meter Specifications and Approved Meter List Manual ("Meter Manual").***

During the public meetings and hearings that were held on the rules throughout the District in the spring and summer of 2011, the Water District Board of Directors received numerous comments regarding the need for a transitional phase for implementing the new rules.

In addition, many owners/operators recommended that during this transitional period, the District should allow for the use of alternate measuring methods in lieu of approved water meters in order to allow sufficient time to purchase and install the water meters.

In response to these comments, the District adopted rules that allow for a four-year transitional period, from January 1, 2012 to December 31, 2015, for recording groundwater production.

During this transitional period, all groundwater users that are required to record and report production have the option of using one of the approved alternate measuring methods. The ability to use an alternate measuring method to record production applies only to those wells or well systems drilled and completed before January 1, 2012.

Wells or well systems that are required to record and report groundwater production that are completed on January 1, 2012 or after *(new wells)* are required to install a meter before producing groundwater from the well or well system and may not utilize an alternate measuring method.

The only types of wells that **do not** have to record and report groundwater production are those wells that provide water for domestic purposes only and those wells or well systems equipped with a total capacity to produce 17.5 gallons per minute or less *(25,000 gallons per day)*.

All other types of wells in existence before January 1, 2012 must either use an alternate

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Symposium to discuss dollars and $ense of conservation

The dollars and $ense of water conservation is the focus of the inaugural Texas Panhandle Water Conservation Symposium to be held Feb. 8, from 8:30 a.m. to 4:30 p.m., in the Civic Center Grand Plaza, 401 S. Buchanan, in Amarillo.

Symposium sponsors invite the public to join local, state, and national speakers as they discuss economic impacts of water conservation.

The cost is $35 per person, which includes lunch, and on-line registration is available at **www.texaswater.org**

At press time, the morning session includes the following presentations:

- "What's Next After The Worst One-Year Drought?" Dr. John Nielsen-Gammon, Texas State Climatologist, Texas A&M University, College Station.
- "Panhandle Water or Panhandling For Water?--How drought has impacted our water supplies (*and what we can do about it*)," Dr. Robert Mace, Deputy Executive Administrator, Water Science and Conservation Division, Texas Water Development Board (TWDB), Austin.
- "Drought and Conservation Issues from TCEQ's perspective," L'Oreal Stepney, Deputy Director, Office of Water, Texas Commission on Environmental Quality, (TCEQ), Austin.
- "What Changes Can We Expect For The 83rd State Legislature?" Sen. Kel Seliger, Amarillo.
- "Quenching Texas' Thirst – House interim charges before the 83rd Legislative Session," Rep. Walter "Four" Price IV, Amarillo.
- "Water Conservation Myths and the National Efficiency Overview," Carole Baker, Executive Director of the Texas Water Foundation and Chair of the Alliance for Water Efficiency, Lago Vista.

A noon luncheon features Jim Parks, Executive Director of the North Texas Municipal Water District, who will discuss the challenges to a wholesale water provider when implementing a conservation program in an urban environment.

Three concurrent afternoon breakout sessions from 1:15 to 4:30

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Afternoon sessions to feature variety of water conservation information

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p.m. will provide agricultural, municipal, and urban water conservation information.

Agricultural

▪"12/200 Demonstration Project: *Bottom Line is the Bottom Line*," Harold Grall, Moore County corn producer and member of the North Plains Groundwater Conservation District Board of Directors.

▪"Critical Nature of Irrigation System Capacity and Efficiency," Leon New, irrigation specialist, Amarillo.

▪ "Water Conservation in a Corn/Cotton Rotation," Charles Schlabs, Deaf Smith County producer.

▪"Tillage in a Water Conservation Program," Robert Meyer of Canyon, corn producer and President of the High Plains Underground Water Conservation District (HPWD) Board of Directors, & Jim Conkwright, HPWD general manager.

Municipal

▪"Financially Making Conservation and Rate Structures Compatible," Dan Crowley, Director of Financial Planning, San Antonio Water Systems (SAWS).

▪"Planning Cost-Effective Efficiency Programs with the Alliance for Water Efficiency's Water Conservation Tracking Tool," Bill Christiansen, program planner, AWE, Chicago.

▪"20 Years of Water Conservation in the Chihuahuan Desert," Anai Padilla, water conservation manager, El Paso Water Utilities.

▪"Measurement of Conservation Results, State Reports, GPCD, and Other Options," Karen Guz, Director of Conservation, SAWS, San Antonio.

Urban

▪"Rainwater Harvesting in Texas," Jim Crownover, conservation consultant, HPWD, Lubbock.

▪ "Water Efficient Plants for the Texas Panhandle," Cecilia George, Texas AgriLife Certified Master Gardener, Lubbock.

▪ "Learning From Our Past To Influence Our Future: Teaching Water Conservation Through Texas History," Barbara Payne, president, Payne Communications, Houston.

▪"20 Minutes to a Lifetime: Captivating Our Kids and Creating Lifelong Water Warriors," Joy Shadid, public relations, PCGD, White Deer.

Symposium sponsors at press time were Abuelo's; Amarillo Economic Development Corporation; Bell Helicopter; Canadian River Municipal Water District; City of Amarillo; Dreamland Industries; Freese and Nichols; Hemphill County Underground Water Conservation District; High Plains Underground Water Conservation District No. 1; Netafim USA; North Plains Groundwater Conservation District; Panhandle Groundwater Conservation District; Panhandle-Plains Land Bank; Parkhill, Smith and Cooper Inc.; PivotTrac/Aqua Planner; Plains Cotton Growers; Sprouse Shrader and Smith P.C.; Texas Agricultural Irrigation Association; Texas Agri-Life Extension; Texas Cattle Feeders Association; Texas Corn Producers Board; Texas Pork Producers Association; Stetson Engineering; Texas Water Foundation; Texas Wheat Producers Association; and Xcel Energy.

More information is available on-line at **http://www.texaswater.org** or by calling the Panhandle GCD at (806) 883-2501.

Texas Water Conservation Advisory Council announces second award

The Texas Water Conservation Advisory Council (WCAC) announces a second award to recognize outstanding and innovative commitment to the state's mission of promoting responsible management and conservation of Texas' water resources.

The Blue Legacy Award for Municipal Water Suppliers is a new award sponsored by the WCAC. The first Blue Legacy Award in Agriculture was awarded in Dec. 2011.

Nomination applications and supporting materials are due Feb. 29.

One award will be given in each of the following categories:

▪Water Supplier – Metropolis (> 500,000)

▪Water Supplier – Medium (100,001-500,000)

▪Water Supplier – Small (50,000-100,000)

▪Water Supplier – Rural (< 50,000)

▪Regional Water Supplier – (Regional Water Districts, River Authorities and Wholesale Suppliers).

A selection committee meets March 7 to determine winners. Winners will be personally notified shortly thereafter—but not publicly announced until the Texas Water 2012[SM] Conference, April 11-13, in San Antonio.

Additional information is available from the WCAC support staff by calling (512) 463-1667 or by e-mailing **wcac@twdb.state.tx.us**

A nomination application packet is available for downloading at **http://www.savetexaswater.org/awards/MUN/2012/MunIndex.htm**

Annual pre-plant survey indicates available/deficit soil moisture trends

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the soil can still hold for plant use (deficit moisture).

Maps are constructed showing the location of soil moisture monitoring sites within the district and the crop type, irrigation application method, and amount of soil moisture in the upper three feet and upper five feet of the soil at each site.

"This information gives producers an idea of soil moisture trends in their area and they can then make pre-plant irrigation decisions based upon this information as well as their own on-farm soil moisture tests," said Field Data Coordinator Gerald Crenwelge.

The High Plains Water District provides soil moisture information to assist producers with management decisions for the upcoming growing season.

Results of the 2012 pre-plant soil moisture survey will be provided to news media and published in *The Cross Section*.

Additional information about the annual pre-plant soil moisture survey is available by calling the High Plains Water District office at (806) 762-0181 or on-line at **http://www.hpwd.com/programs/MoistureSurvey.asp**

THE CROSS SECTION

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Alternative measuring methods are an option for some

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measuring method or meter to record groundwater production.

The three alternate measuring methods that have been approved during the transitional period are based on: (1) natural gas consumption, (2) electric consumption, and (3) hour meters in combination with nozzle packages.

These three methods were selected based, in part, on a similar program at the North Plains Groundwater Conservation District *(North Plains GCD)*.

Each of these methods is based on indirect approaches to measuring the volume of groundwater produced from a well or well system, and anyone that plans to use an alternate measuring method to record groundwater production should review Part Three of the Meter Manual (available on our website at **www.hpwd.com**).

It is important to note that because of the indirect nature of measurement with each of the alternate measuring methods, there may in some cases be differences in the amount of groundwater production being calculated using an alternate method versus the actual amount being pumped.

There are a number of technical reasons for these differences.

For example, the efficiency of a specific well is often a factor, the amount of lift required to pump the water to land surface, or the utilization of squeeze valves at the well head, just to name a few. Metering groundwater production is the most direct and accurate way to record how much water is being produced from the aquifer.

The first two alternate measuring methods available, natural gas and electricity use, are based on the relationship that exists between the amount of energy it takes to lift water from the water table and the distance between the water table and land surface. The shallower the water table, the less energy it takes to list or pump the water to the surface.

The specific calculations used for both of these methods were based largely on relationships that were originally developed for the North Plains GCD.

One difference is that the High Plains Water District's approach uses an average depth-to-water that has been calculated for each county within the District, instead of a single value for the entire District as a whole.

If you own a well or well system that must record and report groundwater production and decide you want to utilize either the natural gas or electricity use method to calculate water use during this transitional period, then it will be important for you to keep all of your monthly bills documenting the amount of energy used each month.

The Water District is in the process of developing a convenient way for producers to be able to log onto the District's website and simply self-report their energy use for their wells or well systems, which will automatically convert the total energy use to the total amount of water use.

The third alternate measuring method available is the use of hour meters and nozzle packages on a well or well system.

With this method, the owner/operator will need to keep records of the hours of use, as recorded on the hour meter, and the rating for the nozzle package installed.

It is important to remember that all water use reporting, regardless of the method of measurement, is based on self reporting by the owner/operator.

The appropriate records must be maintained (*meter readings, gas bills, electric bills, and hour meter/nozzle package records*) by the owner/operator so that annual groundwater use may be easily calculated at the end of each year.

NEXT: An overview of the development of the District's 50/50 Management Goal and the ways the District will track and evaluate the successful achievement of this goal.

District requires proper closure of open water wells

The High Plains Underground Water Conservation District reminds landowners and operators that open, uncovered, and/or deteriorating water wells ("cave-ins") are prohibited within the district's 16-county service area.

ABANDONED WELL & CAVE-IN

Locating and getting open wells properly covered or filled has been an important function of the High Plains Water District since its creation in 1951.

District field personnel often discover open wells or cave-ins while conducting other duties.

Landowners and other concerned citizens often call the District office to report the location of open wells.

Open or deteriorating wells can provide a direct conduit for contaminants to enter groundwater. Rainfall runoff can wash pollutants into wells that are not properly capped or covered.

These openings can also provide a tempting disposal place for unwanted materials, which can lead to serious groundwater contamination problems.

Once groundwater is contaminated, it is often difficult and expensive to return it to an unpolluted state, suitable for use by humans and livestock.

Open wells also can pose very serious dangers to small children and even livestock.

Because of this, the High Plains Water District asks landowners, operators, and real estate developers within its 16-county service area to take time to make sure any open well or cave-in on their property is properly covered or closed.

District field technicians carry two sizes of well plugs in their pickups.

If an open, abandoned water well is located, the field technician will close the well, note its location, and contact the landowner/operator.

The landowner/operator has the option to pay $75 for the well plug installed by the water district OR remove the plug and cap the well themselves.

In both instances, district field personnel will return to the site to make sure the well is properly closed.

Persons knowing the location of an open well or cave-in are encouraged to contact the High Plains Water District office at (806) 762-0181.

Frequently-Asked Questions

How do I know if I have to record and report groundwater production?

Anyone who owns/operates a well or well system that is equipped to produce more than 17.5 gallons per minute (25,000 gallons per day) and that is used for something other than domestic (household) use must record and report groundwater production. Wells or well systems that are equipped to produce 17.5 gallons per minute (25,000 gallons per day) or less or wells that are used solely for domestic (household) purposes do not have to record and report groundwater production.

How do I know if I can use an alternate measuring method?

Only those wells or well systems that were drilled and completed before January 1, 2012 can use an alternate measuring method to record groundwater production. All new wells or well systems drilled on or after January 1, 2012 that are required to record and report groundwater production must install an approved meter or metered system before producing from the well or well system. For more information on the alternate measuring methods and approved meters, see the District's *Meter Specifications and Approved Meter List Manual.*

What types of alternate measuring methods can be used?

Three different types of alternate measuring can be used to measure groundwater production in the District: (1) measuring based on natural gas consumption (2) measuring based on electricity consumption, and (3) measuring based on hour meters in combination with nozzle packages. For the specifics on how to record and report water use based on any of these three methods, see the District's *Meter Specifications and Approved Meter List Manual.*

2011 drought affects water district

2011 will long be remembered as the driest and one of the hottest years on record within the High Plains Underground Water Conservation District service area.

Average annual precipitation for the 24 West Texas Mesonet sites within the Water District (below) is 18.36 inches. However, 2011 precipitation was only 6.05 inches or 33% below normal. For many, this proved to be the driest year on record--according to the National Weather Service.

Amarillo set a temperature record with 50 days greater than or equal to 100 degrees Fahrenheit (F) while Lubbock also set a record with 100 straight days with highs at or about 90 degrees F (June 22 through August 10th).

West Texas Mesonet Station & County	Average Annual Precipitation (Inches)	2011 Precipitation (Inches)	% of Average Annual Precipitation
Abernathy (Hale)	18.95	7.44	39%
Amarillo Airport	20.36	7.00	34%
Amherst (Lamb)	17.43	5.63	32%
Anton (Hockley)	19.32	5.60	29%
Dimmitt (Castro)	18.06	7.24	40%
Floydada (Floyd)	21.16	7.18	34%
Friona (Parmer)	17.25	6.44	37%
Hart (Castro)	17.34	6.30	36%
Hereford (Deaf Smith)	16.41	6.82	42%
Levelland (Hockley)	17.78	4.74	27%
Lubbock (Lubbock)	17.75	6.07	34%
Lubbock Airport	19.12	5.86	31%
Morton (Cochran)	16.30	6.01	37%
Muleshoe (Bailey)	17.32	5.72	33%
O'Donnell (Lynn)	20.64	5.45	26%
Olton (Lamb)	17.02	8.05	47%
Plainview (Hale)	17.17	4.98	29%
Ralls (Crosby)	19.08	6.67	35%
Reese Ctr. (Lubbock)	17.32	5.45	31%
Slaton (Lubbock)	18.11	5.51	30%
Sundown (Cochran)	18.30	5.09	28%
Tahoka (Lynn)	19.95	5.16	26%
Tulia (Swisher)	19.33	5.52	29%
Wolfforth (Lubbock)	19.36	5.29	27%
Source: http://www.mesonet.ttu.edu/Drought.htm			

Conservation Conversation

News briefs and other conservation-related information

DROUGHT PLANNING WORKSHOPS--The Texas Commission on Environmental Quality (TCEQ) will be hosting drought emergency planning workshops throughout the state in January and February 2012. The workshops will provide local government officials, board members, and water system operators information and tools to prevent and mitigate water outages. Local workshops are scheduled for Feb. 28 at the UTPB Center for Energy and Economic Diversification Building, 1400 N. FM 1788 in Midland and Feb. 29 at the First Christian Church, 2323 Broadway in Lubbock. Both meetings are from 4 to 8 p.m. Presentation topics, workshop locations and registration information are available at **http://www.tceq.texas.gov/assistance/water/drought-emergency-planning-workshops**

EQIP DEADLINE NEARING: USDA-Natural Resources Conservation Service (NRCS) Assistant State Conservationist Mickey Black reminds agriculture producers that the first ranking period cut-off date for the Environmental Quality Incentives Program (EQIP) is February 3, 2012. Producers interested in EQIP should submit applications to their local county NRCS offices so their applications can be considered during the first ranking period of 2012.

"EQIP is a valuable tool to help agricultural producers implement conservation practices that provide environmental benefits to help sustain agricultural operations," said Black.

For more information, including eligibility requirements, producers should call their local USDA Service Center office today. Service Center locations and program information can be found on the Texas NRCS Web site at **www.tx.nrcs.usda.gov.**

STATE WATER PLAN AVAILABLE: The 2012 State Water Plan is now available to the public at **http://www.twdb.state.tx.us/wrpi/swp/swp.asp.** The plan, updated every five years, was approved by the Texas Water Development Board at their Dec. 15 meeting and was delivered to the Governor and the Texas Legislature on Jan. 5. The plan is developed to ensure that cities, rural communities, farms, ranches, businesses, and industries will have enough water to meet their needs during a drought of record.

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