

## GMA #2 UPDATE

The seven groundwater conservation districts in GMA #2 continue working toward establishing desired future conditions (DFCs) for relevant aquifers. The next meeting is set for August 20, 2009. The meeting will be held at the Martin County Library in Stanton. Additional details and an agenda may be viewed at [www.gma2.org](http://www.gma2.org).



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### Calendar of Events

- August 20 GMA #2 Meeting  
Stanton
- August 27 Region O Meeting  
High Plains UWCD  
Lubbock
- September 1 Board Meeting/Public  
Hearing—8: 30 am  
District Office
- September 7 Labor Day Holiday  
Office Closed
- September 14 Major Rivers  
Workshop/Teacher  
Training
- September 17 Farm Tour
- October 6 Board Meeting  
8:30 am  
District Office
- October 8 Kids, Kows & More
- November 3 Board Meeting  
8:30 am  
District Office

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## GROUNDWATER NEWS

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# GROUNDWATER SOUTH PLAINS NEWS

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## WATER QUALITY AND FERTILITY

During recent years, agricultural producers have incurred enormous fertilizer costs. In fact, during the peak highs of 2008, 32-0-0 prices reached \$500/ton. At that price, it costs nearly \$8/acre for every 10 lbs of N per acre. So, if the total goal for the crop was 100 lbs. N per acre, the cost was about \$80/acre. This spike in prices has raised awareness of soil testing and nutrient management. Local meetings have often been held during this time as specialists from the Texas AgriLife Extension have shared information with growers concerning nutrient management. During such meetings, the issue of nitrogen availability from underground water has also been discussed.

The District analyzes water quality samples using Hach Environmental instruments and testing procedures. When well owners have questions or concerns regarding water quality, they often gather samples and submit them for testing here. Additionally, the District has conducted an area-wide water quality study for a number of years, using a network of selected wells. This is similar to the observation wells used for water level measurements. Several parameters are analyzed during this process, one of which is nitrate.

So, how does nitrate in groundwater affect nutrient management? Consider the following example as an explanation. Assume that your water sample shows 7 mg/l nitrate (as N). To be meaningful, let us convert that to pounds of N per acre-inch of water. So, 7 mg/l is multiplied by .0083 to achieve lbs. N per 1,000 gallons. The result for this example is .06 lbs. N per 1,000 gallons. There are 27,154 gallons in an acre-inch, so the conversion gives us 1.63 lbs. N per acre-inch of water. That much N is available from the source water using the example figures.

In the preceding example, we used 7 mg/l nitrate (as N). During the summer of 2008, 91 water wells were sampled, and the average figure for nitrate was actually 6.87 mg/l. However, the range of values actually shows less than 1 mg/l up to 19 mg/l. Also, notice we used an average irrigation application of 10 acre-inches per acre. Historical data shows that the long-term average irrigation application for cotton within the District is about 10 inches. However, there are dry years where the application is higher. Table 1 shows a range of nitrate values and irrigation application amounts, as well as the total N application for each. These nitrate values illustrate a range observed within the District.

Nitrate (as N) mg/l	Applied Water (in.)	Applied N (#/ac)
5	10	11
5	12	14
10	10	22
10	12	27
15	10	34
15	12	40

Table 1

Concluding, it is evident that proper nutrient management planning includes estimates of N available from the source water. Nitrogen that is available from nitrate in groundwater has both an economic and agronomic value. Having your water analyzed is an important part of understanding your nutrient balance, as is making accurate estimates of your irrigation applications.



## 2010 Calendar Art Winners Receive Awards

Local fourth and fifth graders competed in the South Plains Underground Water Conservation District's third annual calendar artwork contest. The students were given a presentation by the Education Coordinator regarding water conservation. The students were then asked to take that information and create a detailed picture illustrating what they believed to be an important water conservation message for the public. This year over 300 entries were submitted and local judges enjoyed looking at the colorful and creative messages that the 4<sup>th</sup> and 5<sup>th</sup> graders from three Terry County Elemen-


tary Schools created.

The grand prize winner in this year's contest was Sarah Clark, of Brownfield's Oak-Grove Elementary, who received a \$50 cash prize and a certificate for her accomplishment. Her entry titled, "Water Is Life", will be featured on the cover of the South Plains UWCD 2010 calendar.

Other winners received a \$25 cash prize and their artwork will be published on monthly pages of the calendar. They include Oak Grove Elementary students, Alexis Silvia, Jasmine Enriquez, Casey Garza, Samantha McNutt, Swaiz Lee and Michael Flores.

Wellman-Union winners were Martin Lowen, David Fehr, and Erica David. Meadow's Burleson Elementary winners include Katalen Garcia, Adrian Flores, and Olivia Falcon.

The South Plains UWCD thanks all the students who participated in this year's contest. We look forward to the continuation of this program. The 2010 South Plains UWCD calendars will be available to the public November 30th.


You can also view this year's winning artwork on the SPUWCD Educational Website at [www.Savingh2o.org](http://www.Savingh2o.org). 

### DISTRICT ASSISTS

### LANDSCAPE IRRIGATORS


During the month of July, approximately 500 landscape sprinkler gages were distributed throughout the District. The distribution locations included Brownfield, Meadow and Wellman city offices, as well as the three banks located in Brownfield.

The gages are a tool that homeowners and business owners use to accurately measure the amount of water applied to landscapes. It is particularly important during summer months to monitor irrigation applications, since hot temperatures and wind may cause high evaporative losses. Applying the proper amount of irrigation water may help the appearance of turf grasses, improve turf health, and prevent over-watering.

Accompanying the gages are pamphlets that explain the importance of water conservation, and also include tips for using water wisely. General water requirements are listed for certain grasses, trees and ornamentals. Hopefully these tools help irrigators make educated decisions before watering their landscapes. 

### HEARING SET FOR PROPOSED RULES

Recent changes to Chapter 36, Texas Water Code, require that groundwater conservation districts (gcds) adopt rules consistent with the statute. Specifically, these changes concern administrative processes regarding issuance of permits and notice and procedures for hearings. The legislation affecting this portion of the water code was sponsored by Sen. Robert Duncan of Lubbock during the 79<sup>th</sup> Legislature. It applies to uniform procedures for notice and hearing requirements.

During the past months, the District has developed preliminary draft language that conforms to the statute. As required by law, the District has scheduled a hearing to receive comment on the proposed rules on September 1, 2009, at 8:30 AM at the District office (802 Tahoka Road, Brownfield). Copies of the rules are available on the District web site ([www.spuwcd.org](http://www.spuwcd.org)) and at the District office. 

## A Summer in the Life of an Education Coordinator!

**W**hat a busy summer it has been for me, working with four underground water conservation districts. It seems like I have been around the world and back, learning different ways of teaching water conservation and meeting new people from the water conservation field. I feel that we have had a successful year promoting our program and communicating our goals and plans for the future. I am excited to see where our program will be by this time next year.

By: Crystal Hogue

### Water Conservation Day at the Capitol

On Thursday, May 21<sup>st</sup>, the Texas Water Foundation hosted Water Conservation Day at the Capitol. The event was held at the Texas State Capitol so lawmakers had exposure to the successful water conservation programs in our state. As policy makers consider important water conservation legislation, knowledge of existing programs is helpful. "Water conservation strategies are critical tools in addressing the water needs of future generations of Texas and I applaud the efforts of our water conservation leaders and the important work we are doing today," said Senator Averitt, Chairman of Senate Natural Resources.

Our program was one of the ten groups that participated during this event. A summary of our existing programs was created using pictures of selected activities and a brief explanation of each. The display highlighted the individual water districts within our program and also illustrated the importance of the cooperative effort. I enjoyed meeting Carole Baker of the Subsidence District. We appreciate all her hard work putting this event together.

### Nebraska Children's Groundwater Festival

I volunteered at the 21<sup>st</sup> annual Children's Groundwater Festival in Grand Island, Nebraska. I wanted to get an inside look at what it takes to host such an event. I was also eager to learn new programs and presentations that we might implement here.

The event is sponsored by the Central Platte Natural Resources District and was held at the Central Community College in Grand Island. This year's festival hosted over one thousand fourth and fifth grade students from the state of Nebraska. Over three hundred volunteers helped make the festival successful.

The festival educates students about groundwater and its relationship to other natural resources in a fun and interactive atmosphere. I have already implemented several of the activities here in our program.

### Texas State Water Camp

The 17th annual State Youth Water Camp was held at the George and Opal Bentley Center in Monahans, Texas. This year's camp took place July 12<sup>th</sup> through the 16<sup>th</sup>.

The camp teaches high school youth the importance of water stewardship and trains them in water conservation and preservation. The camp also illustrates how water resources are used by industry, agriculture, and municipalities. Fourteen students from around the state were excited to spend the week learning about the importance of water conservation.

I enjoyed getting to know the students and staff during our many field trips and classroom activities. We look forward to the 2010 camp and anticipate sponsoring students from the SPUWCD.

### Blog & Twitter

The Education Cooperative blog was created in 2009 so the communities in our groundwater districts might follow the various activities and programs we offer. It is also a way to promote our happenings not only statewide but nationally. I maintain the blog with regular entries of commentary, descriptions of events, or other material such as graphics or video. Read my blog at [www.savingh20.blogspot.com/](http://www.savingh20.blogspot.com/).

The Education Program is also an active member on Twitter. Twitter is increasingly used for commercial organizations to tell customers "what's new." In addition, politicians and celebrities use it to keep constituents and fans informed. You can follow our tweets via our website at [www.savingh2o.org](http://www.savingh2o.org) or by becoming a follower on Twitter through our username - savingh2o. 