


GMA #2 PUBLIC EDUCATION


Readers of this newsletter should be accustomed to updates concerning the planning process for the desired future condition of the relevant aquifers. Since the statute was passed in 2005, we have published 11 newsletter articles concerning the process and status updates. These updates are an important part of public education and transparency regarding the goal for our underground water supply. For approximately the past 3 years, each of the District's monthly open meetings has included an agenda item for discussion of desired future conditions. Furthermore, the District has given a public presentation about the process each of the past four years at the South Plains Ag Conference held in Brownfield. Another public presentation is scheduled for this year's conference on February 10. If you missed any of these presentations, copies of the slides are available by contacting the District office. Lastly, if you want to read the minutes from GMA #2 meetings and access other information, please visit the GMA #2 website www.gma2.org. 

New Website Near Completion

During the next month or two, expect a new look for the District's website. Although the content is similar, the menus and choices are updated and reflect current program information. The new design is consistent with other professional websites you see today, which makes for easier browsing.

New to the website are a calendar of events and access to daily water level data from selected wells. The calendar features dates of Board meetings, GMA #2 meetings, Region O meetings and other events that concern the District.

The daily water level data is from selected wells that are equipped with logging equipment. The raw data is shown, as well as charts of monthly variations in water levels. Several of the wells are currently used for irrigation, while others are not used for withdrawals, but monitoring only.

The redesign has been a major effort, but we are very pleased with the results. Check often for new information and items of interest. 


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amounts of annual drawdown (decline) that are possible goals for the aquifer. Next, read the estimated amount of water from the subsequent columns that may be withdrawn during the years 2010, 2020, 2030, 2040 and 2050. All computer models are run for a period of 50 years.

Consider the specific example for a goal of maintaining annual drawdown based on the District's past 10-year average, which is about -1.15 ft/yr. If that were the case, the estimated amount of water that can be withdrawn and meet that condition in 2010 is about 176,184 ac-ft. For the same goal to be met in 2030, the withdrawal decreases to 168,500 ac-ft. However, suppose the goal was set so that no additional decline occurs. This condition represents the 0 drawdown row at the top of the table. To meet that condition, total withdrawals for 2010 would be limited to 66,406 ac-ft. In fact, withdrawals would be limited to that same amount throughout the period till 2050 as shown.

How do the values from this table compare to actual numbers observed during recent years? For the years 2000 thru 2007, the District's average groundwater withdrawals equaled approximately 150,000 ac-ft/yr and average water level change was -0.92 ft/yr. These numbers closely match the model data shown for an average yearly drawdown of 1 foot, suggesting that other model results should be pretty accurate for the District.

From a volumetric standpoint, though, the numbers are a little more meaningful, perhaps. During the same time period shown above, (2000-2007), we estimate a decrease of groundwater in storage equaling about 435,000 ac-ft. That is about 10% of the water in storage for the year 2000, which we calculated to be 4,486,741 ac-ft. The good news is that the decline in storage for this period, though, was not as severe as the decline observed during the period 1995-2000. During that time, we calculate a decline in storage of almost 13% and that was a shorter time period than mentioned in the previous example.

It must not be forgotten that a key part of this process is the fact that it is joint planning. Our District must plan for the desired future condition of the aquifers by coordinating the efforts with the other 6 gcds in GMA #2. By doing so, we share a common goal for a larger segment of the aquifer, thereby ensuring consistent and coordinated management for a large portion of the aquifer. 

2009 IRRIGATION ESTIMATES COMPLETE

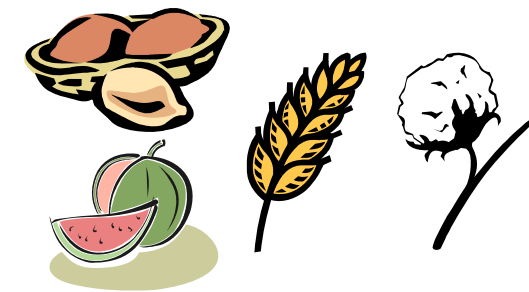



Table 1

Crop	Applied Irrigation (inches)
Cotton	13.58
Peanut	20.81
Grain Sorghum	8.35
Forage Sorghum	10.22
Watermelon	16.63
Wheat	8.07
Pasture/Grass	6.04
Sesame	6.75

The estimated irrigation usage for the District is now complete for the 2009 crop. Estimated crop irrigation is developed from selected irrigated fields that are equipped with meters. These fields include the major irrigated crops that are grown within the District.

Table 1 shows the different crops that were monitored during the 2009 irrigation season, as well as the total application for each.

The dry 2009 growing season resulted in larger-than-average irrigation usage for the season. In fact, the totals shown in Table 1 are the highest for most crops during the past 10 years. The other recent crop year that had similar values was 2006. Based on the growing season rainfall, that makes perfect sense. Both 2006 and 2009 had approximately 8.5" of growing season (April-Sept.) rainfall. For comparison, 2008 growing season rainfall was about 14.5". All references to rainfall are taken from the District's rain gage network, which is monitored monthly. 

RESULTS OF SOUTHERN OGALLALA GAM

The following table contains results from the Southern Ogallala Groundwater Availability Model. The data shown is the estimated annual water usage allowable to meet a particular amount of drawdown. These numbers are specific for the District. The complete results from each scenario are available online at www.gma2.org.

Source: TWDB GAM runs 07-44, 08-61 and 08-85

	2010	2020	2030	2040	2050
Drawdown (ft.)	Pumping amounts shown as ac-ft				
0	66,406	66,406	66,406	66,406	66,406
-0.64	49,930	49,868	49,730	49,482	49,280
-1.00	151,078	150,635	146,802	131,403	112,617
-1.25	172,246	171,090	161,138	123,768	96,250
-1.50	193,414	191,225	164,674	107,507	80,401
-1.75	214,412	209,081	160,708	94,514	62,711
-2.00	174,642	170,387	153,948	118,749	85,484
10 Yr. Average	176,184	175,208	168,500	137,374	99,607
Weighted 10 Yr. Average	226,442	221,871	174,064	106,869	60,547

Director Election

The four-year terms of two District Directors expire this year. These two include Matt Hogue—Precinct Two and Scott Hamm—Precinct 4. March 8th is the final date to file for a director's seat. Early voting will take place from Monday, April 26, through Tuesday, May 4. Early voting will be held at the County Clerk's office in the Terry County Courthouse. Election day is Saturday, May 8th. Forms needed to file for a director's seat are available at the District office. 🇺🇸

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Calendar of Events

February 10	South Plains Ag Conference and Trade Show
February 15	Presidents' Day Office Closed
March 2	Board Meeting 8:30 am District Office
March 2	Primary Election Day
April 2	Good Friday Holiday Office Closed
April 6	Board Meeting 8:30 am District Office
May 8	Board of Directors Election

Don't Forget to Vote

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GROUNDWATER NEWS

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GMA #2: WHERE ARE WE?

In the November issue of this newsletter, we provided an update from the August 20, 2009 GMA #2 meeting in Stanton. The result of that meeting was a request from GMA #2 for a 50/50 model run by the Texas Water Development Board (TWDB). The 50/50 scenario was adopted by the High Plains UWCD last summer and designates a goal of maintaining 50% of current saturated thickness in 50 years. That model request is nearing completion and we anticipate having the draft report soon.

The past model requests submitted to TWDB all specified an allowable amount of drawdown as the criteria for the desired future condition (DFC) of the aquifer. Specifically, these scenarios include the following amounts of drawdown, by county, in feet per year: 0, -0.64, -1, -1.25, -1.50, -1.75, and -2. The value -0.64 ft is the 10-year (1998-2007) average drawdown for the 7 groundwater conservation districts (gcds) in the management area. Other scenarios modeled include the individual county 10-year average drawdown, as well as a weighted average for each county so that the overall GMA #2 average is -1 ft. In all, this represents 9 different scenarios of annual drawdown. Discussions surrounding this type of approach have now been conducted for over 3 years of the joint planning process. Several reasons accompany this methodology.

First, it is based on data that comprises the most basic and comprehensive information concerning the state of the aquifer. Secondly, it is based on data that is measured and can be quantified physically. These factors also mean that evidence of meeting a particular goal may be readily available each year.

What is involved with the decision making process now? Well, as stated earlier, a new approach was requested by High Plains UWCD and a model request is pending for 50/50. That will be part of the discussion at the next GMA #2 meeting. When that will occur is uncertain. Most likely, it will be during March or April of this year. What is certain is the statutory deadline for adoption of DFCs and that is September 1, 2010. Is there any support for the 50/50 approach in GMA #2 outside of High Plains UWCD? It is too soon to tell much, since the model results from that request are still pending.

What happens once a goal or DFC is adopted? The DFC is sent to TWDB, who will then officially give each gcd the estimated amount of water that can be withdrawn each year to meet the goal. That number will be an estimate only, since regional computer models are not calibrated to provide that type of specific information. However, the estimate may be pretty close to reality, depending on model performance and calibration for the area of concern. The table on page 3 titled "Results of Southern Ogallala GAM" contains the information described above. It was generated by computer models from the TWDB and is taken from GAM runs 07-44, 08-61 and 08-85. The results from 08-85 are probably the most accurate estimates of pumping and drawdown of the three model runs. The distribution of pumping and the assumptions used for the 08-85 run appear to be the best representation of actual conditions at this time. These reports are available online at the GMA #2 web site www.gma2.org.

Now, the way to read the table is as follows: look first to the left-hand column which shows the various

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