


Notice to Irrigated Landowners

An IRS engineer will visit the District in December and review information for the cost-in-water depletion program. This program allows irrigated landowners to receive a tax benefit due to declining groundwater levels. This program is specific to the High Plains landowners using groundwater from the Ogallala formation.

Each year, the IRS must review and approve land sales data that establishes the cost of water. Also, the District's water table decline map must meet IRS guidelines.

Since 1999, approximately 622 landowner requests have been fulfilled. Eligible properties are those which have been acquired since 1979. Those who have previously requested this information will soon receive a reorder form.

If you would like additional information or have any questions, call or come by the office. 

SOUTH PLAINS GROUNDWATER NEWS is published by the SOUTH PLAINS UNDERGROUND WATER CONSERVATION DISTRICT, PO Box 986, 802 Tahoka Road, Brownfield, TX 79316. Directors: Doyle Moss, Scott Hamm, Matt Hogue, Larry Yowell, Dan A. Day, Jr.; General Manager: Jason Coleman; Administrative Assistant: Lindy Harris; Education Coordinator: Judy London. Subscriptions are free upon request.

*Phone: (806) 637-7467 FAX: (806) 637-4364
E-mail: spuwcdd@spuwcd.org Web Address: www.spuwcdd.org*

Calendar of Events

November 22-23 Thanksgiving Holiday
Office Closed

December 4 Board Meeting
8:30 am
District Office

December 18 GMA #2 meeting
Mesa UWCD Office

December 24-25 Christmas Holiday
Office Closed

Looking Ahead to 2008

January 1 New Year's
Holiday
Office Closed

January 8 Board Meeting
8:30 am
District Office

February 5 Board Meeting
8:30 am
District Office

February 6 South Plains Ag
Conference and
Trade Show

GROUNDWATER SOUTH PLAINS NEWS

SOUTH PLAINS UNDERGROUND WATER
CONSERVATION DISTRICT

PO BOX 986

BROWNFIELD, TX 79316

ADDRESS SERVICE REQUESTED

BULK RATE
U.S. POSTAGE
PAID
PERMIT NO. 986
BROWNFIELD, TX

GROUNDWATER SOUTH PLAINS NEWS

NOVEMBER 2007

VOLUME 15, NUMBER 1

2008 CENTER PIVOT SURVEY UNDERWAY

The District is currently making an inventory of center pivot irrigation systems within its service area. This survey requires documentation of the location of existing systems, as well as noting the sprinkler head types and configuration of the drop spacings. Consequently, this data must be collected by driving to each system, and may not be acquired using satellite imagery. The District has conducted this survey previously, in both 1998 and 2003. Current provisions of the District Management Plan require that this survey be conducted every five years.

This exercise accomplishes several goals. First, it provides an understanding of the number of fields that were once irrigated, but have been converted to dryland. By comparing the locations of irrigation systems from previous surveys, the District can determine the amount of land being converted to dryland farming during five year increments. As water levels decline, certain areas of the aquifer may no longer be productive of sufficient quantities of irrigation water, and subsequently there is a transition to dryland production. This is typically a very gradual process.

Secondly, the survey also reveals the locations of new center pivots. Now when a new center pivot location is recorded, most often it is due to replacing an older, inefficient irrigation system. For example, center pivots are often installed when replacing side roll sprinkler systems, and less frequently, furrow irrigation or hand move pipe. In a few instances, new center pivots are noted where irrigation is newly developed, and the farm has not previously been irrigated. However, it must be noted that these occurrences are a rarity today. Data indicates that the majority of irrigable land within the District is already developed. Also, new center pivots are sometimes installed where a towable system was once used. Due to difficulties of towing systems, at times this practice is discontinued and another irrigation system is installed. This does not result in additional irrigated acreage, though. It simply allows irrigation at existing sites using two systems instead of one. Consequently, a higher number of systems does not necessarily indicate more irrigated acreage.

Third, this process provides documentation of the adoption of high efficiency sprinkler head configurations for center pivots. Using a center pivot irrigation system is not necessarily a guaranteed means of irrigating efficiently. Original center pivots of years past were often equipped with sprinkler heads located at or near the mainline, as high as 12-14 feet above the land surface. Using these types of sprinklers might result in evaporative losses exceeding 25 percent. However, as technology has evolved, it is now possible that center pivot sprinkler evaporative losses can be as low as 3 percent. Lowest evaporative losses are typically achieved when drops are configured for alternate row spacing, allowing precise application of water in alternate fur-

(Survey...Continued on page 2)

	# Center Pivots	LEPA Configuration	%LEPA
1998	1,345	427	32
2003	1,404	680	48

Table 1

In this issue

- New Brochures Available
- Notice to Irrigated Landowners
- 2008 Calendars Now Available
- Rainfall Data for Brownfield, TX
- 2008 Center Pivot Survey Underway
- Annual Report Receives Board Approval
- District Students Attend Educational Program

NEW BROCHURES AVAILABLE

The District maintains a literature center and technical file to promote education, conservation, and public awareness of groundwater. Kept in the front office, the literature center displays over thirty brochures and short publications. These items address many subjects of interest, including District Rules, permitting, water quality, water supply/availability, conservation tips, and other issues. All of these are available to the public as a service of the District.

The District's Management Plan requires that an inventory be made of these items at least once a year. This allows the staff to determine which publications are most often requested, and which subjects are of greatest interest. As a result of this survey, the District has recently developed five new publications for the literature center.

Titles of these documents/brochures include:

- 2005 Saturated Thickness of the Ogallala Aquifer
- Historical Rainfall Records for Brownfield, Texas
- Aquifers of the SPUWCD
- What's in Your Drinking Water?
- Rainwater Harvesting

Call or come by the District office if you would like a copy of any of these items. 🇺🇸

(Survey...Continued from page 1)

rows. Placement of water in alternate furrows requires that drops be equipped with drag hoses, socks, or bubblers. This technology is often termed Low Energy Precision Application (LEPA). Part of the District's goal during the survey is to identify those systems equipped for LEPA. Table 1 contains some data acquired from surveys in 1998 and 2003.

Not all fields within the District are well suited for LEPA methods. Challenges to implementing LEPA include certain crop types, soil types, and field slope, among others. Broadcast crops such as wheat, forage sorghum, and (sometimes) grain sorghum are normally irrigated using broadcast spray, either above or within the crop canopy. Of the row crops, peanuts are typically irrigated using spray nozzles. However, certain practices may also be employed now that minimize evaporative losses from spray applications. For instance, a number of spray applicators now used are installed at mid to low elevations and pressure regulated, which controls droplet size. Sprinklers that produce larger droplets are a better technology than what was used during early center pivot designs. The following spray heads are commonly installed on center pivot irrigation systems here: low-drift nozzles, inverted (or low angle) wobblers, wobblers, rotators, and super sprays.

Lastly, it is important that the District perform this survey, since a lot of useful information is gathered. However, it is also important that irrigators closely manage all irrigation systems, whatever the sprinkler configuration. Proper irrigation water management may extend the available supply of water resources and conserve this valuable resource. 🇺🇸

Rainfall Data for Brownfield, TX

The SPUWCD began operating in 1993. Since that time, extensive data has been collected so that the Board can develop sound policies for aquifer management. An important component of the District's data gathering involves rainfall analysis. Because agricultural irrigation is the highest District use, understanding the factors that influence this use are of great importance

The following table contains a summary of precipitation for the months of April to September during the past 15 years. These months were chosen because this time period encompasses the entire growing season for most major crops grown here.

Year	April - September Totals (inches)
1993	8.01
1994	10.77
1995	21.76
1996	17.36
1997	15.76
1998	6.59
1999	15.66
2000	10.88
2001	7.59
2002	7.71
2003	9.52
2004	21.51
2005	17.12
2006	9.75
2007	16.40
15 Year Average	13.09
10 Year Average	12.27
5 Year Average	14.86

Source: NOAA

Annual Report Receives Board Approval

During the regular Board meeting in October, District staff presented the annual report concerning attainment of Management Plan goals and selected activities of the South Plains UWCD. The District's fiscal year ends August 31 and a report is developed shortly thereafter each year.

The report is a means of ensuring the District is accountable for completing the programs and goals established by the Board of Directors. Also, it provides an opportunity for identifying areas that require improvement, or suggestions for new programs that further the mission of the District.

The District Board reviewed the 2007 annual report and approved its content by unanimous vote. Copies of the annual report are available at the District office, and are also available online at www.spuwcd.org. 🇺🇸

2008 CALENDARS NOW AVAILABLE

Following a very successful education outreach project in the spring, the artwork of thirteen 4th and 5th graders was published in a colorful calendar for the District. In addition to displaying the students' brightly colored drawings, the 2008 calendar features water conservation advice to think about each month. It also includes a list of useful online resources for water information and several websites that provide water-related games and activities for kids. Copies of the calendar are available at the South Plains UWCD office.

Anyone interested in obtaining more information about the programs available through the water education cooperative at South Plains UWCD can contact Judy London, 806-215-1650, or email londonj@windstream.net. Presentations can be scheduled for classrooms, home-school groups, civic, youth, or other organizations. 🇺🇸

District Students Attend Educational Program

The annual Kids, Kows & More event organized by Texas Cooperative Extension-Terry County gave us the perfect opportunity to deliver our water conservation message to school children. More than 200 students from the three elementary schools in the District participated in an activity with Education Coordinator, Judy London. Working in four separate groups, they used an activity entitled "The Blue Planet" to conduct a random sampling of the earth's surface. Their goal was to determine an approximate ratio of land to water on the surface of the planet by tossing and catching a beach ball globe. Scientific studies show that approximately 71% of the earth's surface is covered by water, and students were pleased to learn that their probability samplings were very close, ranging from 70% to 72%. The learning activity involved important math skills, including estimating, predicting, calculating percentages, and comparing.

Students also learned that only a small fraction of the earth's water is suitable and available for human consumption. Water found in oceans, seas, glaciers and icebergs poses real challenges for being a viable supply for human populations. Consequently, students realized the importance of conserving water during their daily activities.

This is the fifth year that the District has participated in this event, which means that about 900 students have been educated at this expo. Special thanks to Southwest Dairy Farmers and Terry County Cooperative Extension for organizing the event. 🇺🇸



The Board of Directors and staff of the South Plains UWCD wish you a happy and safe holiday season. May the Lord bring you adequate rain, abundant crops, and peace in the coming year.