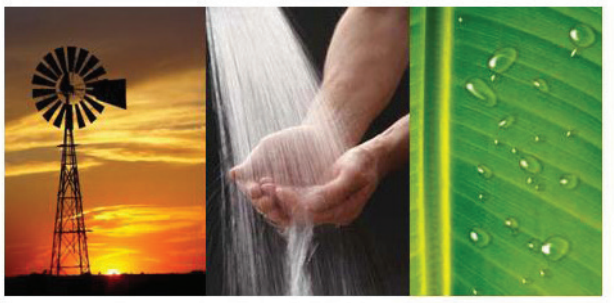
North Plains Water News



A Publication of the NORTH PLAINS GROUNDWATER CONSERVATION DISTRICT

VOLUME 61, NO. 2 END OF SUMMER 2015

No Drought, Now What?

In July of this year, the state climatologist declared "Finally!!!! Texas is officially 100% drought free!" The last portion of the moderate drought in the Northwestern Panhandle was brought to an end by a thunderstorm that moved through the area in mid-August. "This is the first time that Texas has been 100% drought free since April of 2010!" However by Sept. 1, 2015, approximately 42 percent of the state has slipped back into abnormally dry-to-drought conditions with approximately 25 percent of Texas currently in drought according to the US Drought Monitor. According to the data, current drought conditions in Texas are worse than conditions on Aug. 31, 2010, when drought covered only 11.5 percent of the state. In 2010, the state was about five percent dryer but had not yet reached the drought conditions that we see as of Sept. 1, 2015.

The rest of the state is in drought, so why is the Panhandle getting more rain than usual? This summer the high pressure system that settled over most the state funneled precipitation from the west clockwise northeastward across the Texas High Plains and Panhandle areas. Weather experts say the precipitation is from a strong El Niño in the Pacific. An El Niño is characterized by unusually warm ocean temperatures in the equatorial Pacific. El Niño is an oscillation of the ocean-atmosphere system in the tropical Pacific having important consequences for weather around the globe. Among these consequences is increased rainfall across the southern tier of the US. The state climatologist predicts that the currently sustained El Niño is all but guaranteed, although a stronger El Niño does not always mean above normal rainfall averages for Texas. He points out that of the strong El Niño events, the fourth strongest El Niño event, occurring in 1991, brought the greatest amount of rainfall to Texas.

So what is in store for the Panhandle? The district hopes that El Niño conditions mean a wet winter that fills the soil profile with water, and for rain in the spring to reduce agricultural irrigation, reduce lawn watering, and improve grass for livestock. Wet weather and wet soil conditions means we can pump less water from the aquifers in our area, saving those resources for future use. Below is a comparison of the US Drought Monitor for Texas for Sept. 1, 2015, to the same map on Aug, 31, 2010.

Producers Benefit from Million Dollar Meter Program

$1.7 million in grants from the TWDB are making it possible for the district to off-set half of the cost of meters for irrigators.

The North Plains Groundwater Conservation District has distributed over $200,000 to area producers, so far, to help offset the cost of meters on irrigation wells. That leaves about $1.5 million remaining of the funding that is being provided to the district in the form of grants from the Texas Water Development Board (TWDB). The funds are awarded to the district by the TWDB on the basis that meters are an accepted and effective management tool for producers and for groundwater conservation districts.

The TWDB has awarded the funds in several competitive funding rounds that began when the district received $600,000 in October 2014. The TWDB awarded the district an additional $800,000 in May 2015 and then in July another $295,050, bringing the grand total to almost $1.7 million to be passed on to producers who install new meters on their irrigation wells.

The district has registered 149 properties into the Meter Reimbursement Program, which represent approximately 765 meters to be purchased. The initial grant amount was based on cost-sharing an estimated 1,000 meters, so about 25 percent of the first round of funding is still available to help purchase new meters.

The funds from the respective grants will be available to continue to cost share the purchase of irrigation well meters after the previous round of funding is expended. The TWDB funds will allow the district to assist in the purchase of approximately 2,300 meters across the district.

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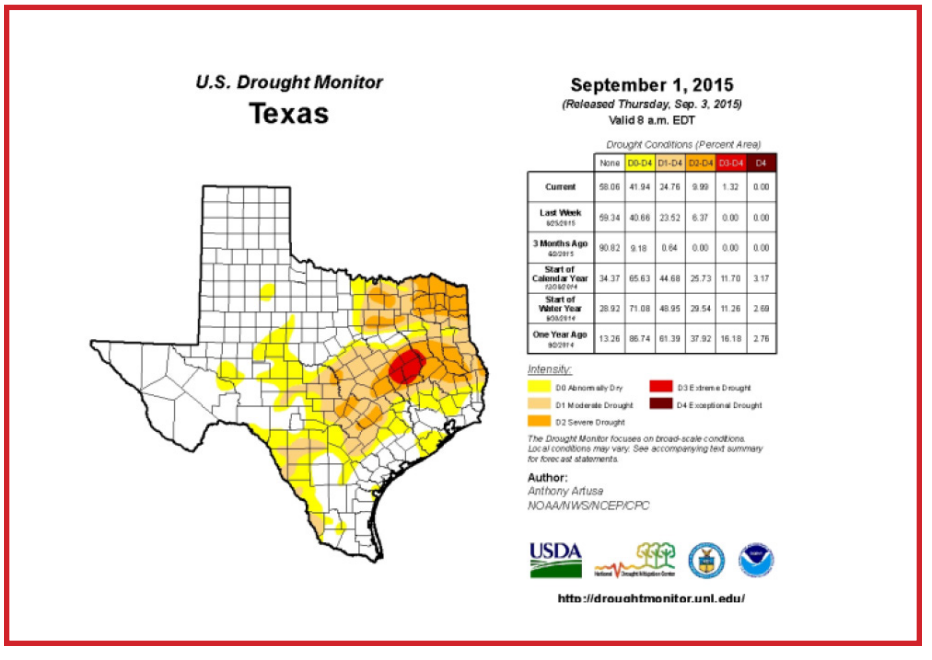
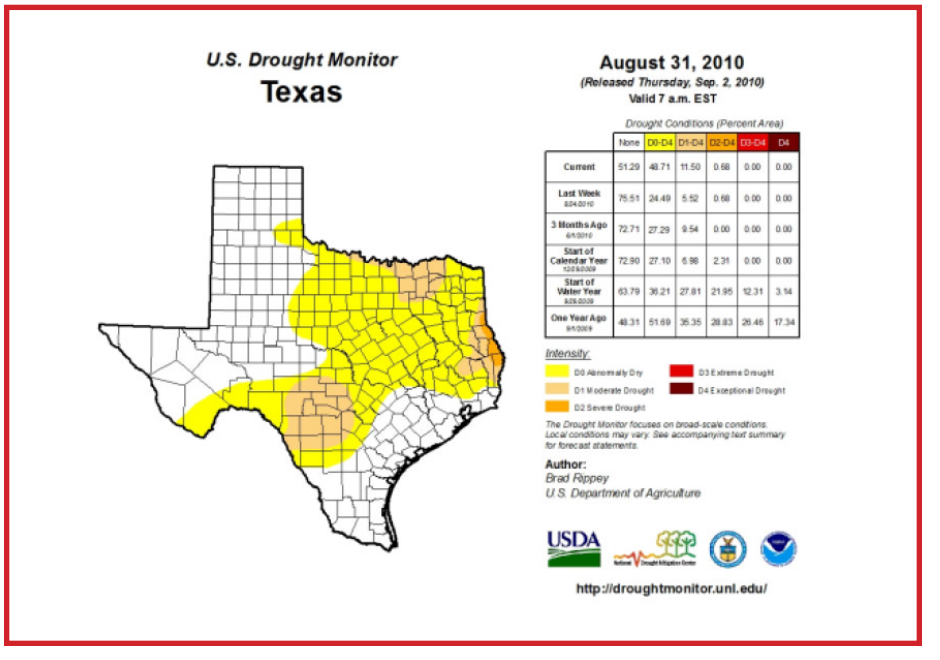




3-4-5 Project Takes Conservation Management to the Next Level

The "3-4-5 Gallon Production Maximization Project" (3-4-5) is benefitting from good rainfall in the first year, improving the opportunities to leave water in the ground for the future. "We are expecting good yields and good data to support the project," said project coordinator, Leon New. Participants in the "3-4-5" project are using variable rate irrigation to simulate 3, 4, and 5 gallon per minute irrigation conditions in side-by-side, production-scale demonstrations. The "3-4-5" participants are applying the techniques and technologies used in the "200-12" and demonstrating their application under the selected levels of available irrigation. "We should be able to make some good comparisons that will demonstrate water management strategies at various irrigation capacities," said New.

Welcome early season rains delayed planting for most participants in the project, but once the crops were planted they had the advantage of a full soil profile. The full profile is due to both rains this season and the ability for some cooperators to leave water in the ground last year for the first time since 2010. "After the rains stopped in late August, we needed to irrigate to finish the crops," said New. "While we were getting the rain the plants were taking moisture primarily from 1, 2 and 3 feet in the soil profile. Since then, we've seen the roots going down to 4 and 5 feet to find moisture." Crop root penetration and water extraction are monitored using advanced soil probe technology supported by gypsum soil moisture sensors.

New said he expects to see some of the "3-4-5" fields to complete with less than 12 inches of irrigation applied. "The greatest water requirement occurred while the area was still receiving periodic beneficial rainfall. By the time continuous irrigation became necessary in most fields, the crops had moved into the grain fill stage and were using less water." As of now, no crop in any field has stressed due to insufficient water under any level of irrigation. New said he also expects to see most, if not all, "3-4-5" fields yielding 200 or more bushels per acre. Yield information will allow for more conclusive comparisons.

"3-4-5 Project" lead, Leon New, explains the project at the August field day held in conjunction with the districts corporate partner, Crop Production Services. See the ad for dates for upcoming field meetings.

In addition to the "3-4-5" project, the district is performing a study comparing Precision Mobile Drip Irrigation (PMDI) to Low Energy Precision Application (LEPA). PMDI involves drip hoses being pulled across the field by the center pivot system, in order to reduce wind-loss and evaporation by applying the irrigation directly to the soil. LEPA applies the irrigation water with hoses no more than 18 inches above the soil and is reported to reach application efficiency levels of 95 percent and more. PMDI is projected to reach efficiencies approaching 98 to 99 percent.

The "3-4-5" project consists of 625 acres provided by five different producers using seven center pivot systems. Harold Grall, Danny Krienke, Zac Yoder, Stan Spain and Dennis Buss of Hartley Feeders have all provided acres for the project. Grant support from the Texas Water Development Board will assist in the "3-4-5" into 2018.

NORTH PLAINS GROUNDWATER Conservation District

North Plains Groundwater Conservation District Fall Field Meetings!

"Maximized Yield Per Drop at 3-4-5 GPM"

September 22, Etter, North Plains Water Conservation Center
September 23, Perryton, Ochiltree County Expo
September 24, Dalhart, Rita Blanca Coliseum

Registration at 9:30 - Field Tours at 10 am.

FREE Lunch, CEU's, and Door Prizes Provided!

Texas 84th State Legislature

The 84th Legislature was extremely active in passing groundwater-related bills partially due the state's emphasis on developing new water supplies through aquifer storage and recovery projects and groundwater desalination projects, protection of groundwater rights, and clarifying administrative processes.

The Texas Water Journal, Volume 6, Number 1, 2015 provides an excellent summary of all water related bills passed out of the legislative session. The journal is an online, peer-reviewed journal regarding Texas water resources management and policy issues. The journal invited the Texas Alliance of Groundwater Districts, the Texas Water Conservation Association, the Lone Star Chapter of the Sierra Club and the Texas Water Infrastructure Network to provide their opinions and perspectives on the 84th Legislative Session and the changes in Texas water policy. A copy of the Texas Water Journal can be found online at https://journals.tdl.org/twj/index.php/twj/index.

The summaries below are just a few of the water related bills that passed through the House and the Senate. More detailed information related to the bills can be found at http://www.legis.state.tx.us/.

For more on the legislation summary go to northplainsgcd.org/news/extra.

TWDB Approves Approximately $3.9 Billion in SWIFT Inaugural Financial assistance

Earlier this summer the Texas Water Development Board (TWDB) approved approximately $3.9 billion in financial assistance from the State Water Implementation Fund for Texas (SWIFT). The inaugural round of SWIFT financing will be distributed to 21 applicants for approximately $1 billion in projects in the first year and approximately $3.9 billion total over the next decade.

"Being able to finance projects through SWIFT is a major step toward achieving the goal of securing Texas' long-term water supplies," said TWDB Chairman Bech Bruun. "The projects selected to receive SWIFT financing will help ensure that Texans have sustainable and reliable water sources for decades to come."

The applicants are requesting funding for 32 projects identified in the state water plan. The types of projects approved include transmission pipelines, canal linings, capacity expansions, seawater desalination, leak detection systems, water meter replacements, and reservoirs.

"The Board was pleased to see a wide range of projects represented in the SWIFT applications," said TWDB Board member Carlos Rubinstein. "One of those projects, Lake Ralph Hall, is the first reservoir permitted by the State of Texas since 1985 and an important water supply strategy for North Texas."

SWIFT was established by the Texas Legislature and voters in 2013 to fund projects in the state water plan. SWIFT was created through the transfer of a one-time, $2 billion appropriation from the state's Rainy Day Fund. The $2 billion will be leveraged with revenue bonds over the next 50 years to finance approximately $27 billion in water supply projects.

"We took the legislature and voters of Texas very seriously when they put their confidence in us to manage SWIFT," said TWDB Board member Kathleen Jackson. "We've traveled the state, engaged communities, and developed a new approach to fast-track the state water plan. We are beyond excited to approve the first round of SWIFT financing and see the large number of impactful projects moving forward to develop water for Texas."

For more on SWIFT funding go to northplainsgcd.org/news/extra.

2014 Groundwater Production Reporting

At first glance, groundwater withdrawals within the district were almost the same in 2014 as the previous year. However, a closer look shows that the historically highest producing Dallam, Hartley and Moore Counties were down approximately 41,000 acre-feet from 2013, while the remaining five counties showed a 43,000 acre-feet increase in production, primarily lead by Ochiltree and Sherman counties. The difference in declining and increasing production rates throughout the district over the past few years is a combination of new irrigated agriculture land development, precipitation, accelerated groundwater level declines in some areas and broad swings in agricultural commodity prices. Based on the declining water levels in the western part of the district, we anticipate that groundwater production will continue to generally decline in that area in the future. Below is a table of groundwater withdrawals from the Ogallala, Dockum and Rita Blanca aquifers within the district since 2007. The data for Dallam County from 2007 to 2012 is skewed because a portion of the county was not within the district's jurisdiction before 2012.

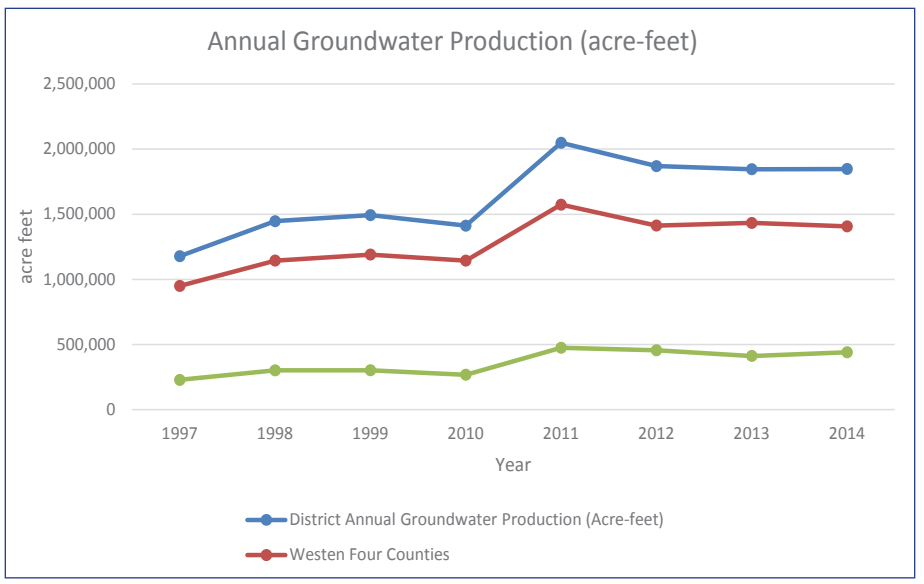
County	2007	2008	2009	2010	2011	2012	2013	2014
Dallam	268,667	313,451	317,441	302,561	374,733	371,965	399,272	393,624
Hansford	106,887	142,694	152,686	129,984	234,903	218,793	201,914	211,634
Hartley	312,449	364,560	387,305	401,506	519,684	458,696	458,998	442,058
Hutchinson	34,973	52,846	53,869	42,023	73,747	72,230	69,716	73,992
Lipscomb	32,710	30,832	30,242	33,826	52,003	55,572	42,519	48,791
Moore	148,159	191,409	200,220	178,336	271,684	234,688	228,297	209,907
Ochiltree	53,658	75,527	65,840	62,269	114,392	109,213	98,280	106,278
Sherman	220,530	275,128	285,571	261,608	407,265	348,012	346,685	361,336
Total	**1,178,033**	**1,446,447**	**1,493,174**	**1,412,113**	**2,048,411**	**1,869,169**	**1,845,681**	**1,847,620**

Groundwater Production from the District's Four Western Counties in Acre-feet, 2007-2014.

County	2007	2008	2009	2010	2011	2012	2013	2014
Dallam	268,667	313,451	317,441	302,561	374,733	371,965	399,272	393,624
Hartley	312,449	364,560	387,305	401,506	519,684	458,696	458,998	442,058
Moore	148,159	191,409	200,220	178,336	271,684	234,688	228,297	209,907
Sherman	220,530	275,128	285,571	261,608	407,265	348,012	346,685	361,336
Total	**949,805**	**1,144,548**	**1,190,537**	**1,144,011**	**1,573,366**	**1,413,361**	**1,433,252**	**1,406,925**

Groundwater Production from the District's Four Eastern Counties in Acre-feet, 2007-2014.

County	2007	2008	2009	2010	2011	2012	2013	2014
Hansford	106,887	142,694	152,686	129,984	234,903	218,793	201,914	211,634
Hutchinson	34,973	52,846	53,869	42,023	73,747	72,230	69,716	73,992
Lipscomb	32,710	30,832	30,242	33,826	52,003	55,572	42,519	48,791
Ochiltree	53,658	75,527	65,840	62,269	114,392	109,213	98,280	106,278
Total	**228,228**	**301,899**	**302,637**	**268,102**	**475,045**	**455,808**	**412,429**	**440,694**



Through August of this year, higher than normal precipitation rates across the district should reduce the total amount of groundwater production needed to grow crops, water lawns and control dust. In comparing anticipated groundwater withdrawals based on precipitation this year with previous years since 2007, this year compares favorably to 2010 and the district has received more precipitation since July than in 2010, so far. For 2015, the district anticipates that groundwater withdrawal amounts will be significantly lower than the 2011 through 2014 production years. However, district-wide groundwater withdrawals should not be as low as 2010 because of the increase in new irrigated agriculture acres since then. Any reductions in groundwater withdrawals will be a blessing for area stakeholders as the district monitors its progress in achieving its desired future conditions.

The District is Getting More Social

Though there was a time when staying in touch in a fast-paced world was difficult, the introduction of social media over the last several years has allowed individuals, as well as other entities, to become connected with those people with whom we share common interests. Here in the North Plains Groundwater Conservation District, staying in contact with area producers is a high priority. With that in mind, the district has implemented a number of social media presences that might be of interest to the social media savvy, as well as those just getting involved.

The first platform implemented by the district was its Facebook page. Content for this page primarily relates to programs, events and water conservation tips. This page is also a great resource to individuals looking for information on xeriscaping or the latest drought assessment. You can anticipate posts from our Facebook once a day.

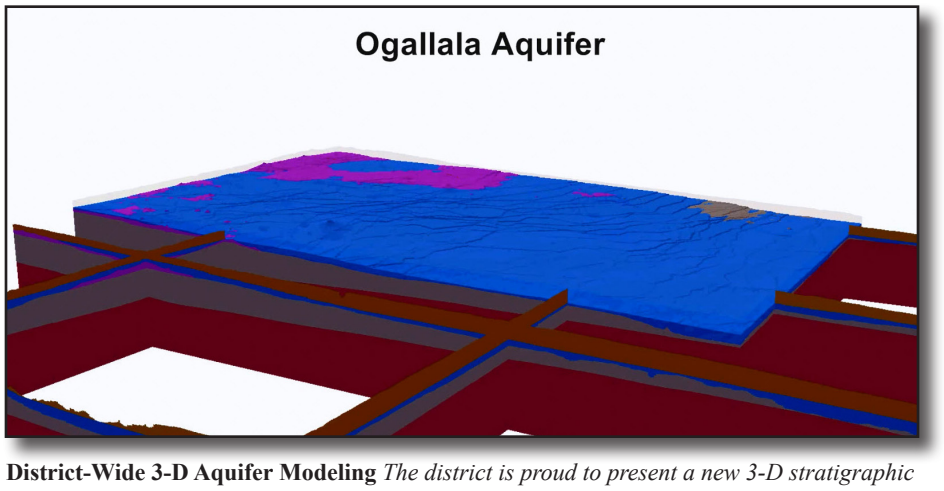
Beginning after the district's Facebook page, the North Plains GCD Twitter presence has made a great impact on the district's ability to remain connected to stakeholders, as well as news outlets and fellow conservation-minded professionals. While our Facebook platform was our first dip into social media, our Twitter following has quickly surpassed it. Content for Twitter includes everything that we use in our Facebook posts, however, with this more news-based platform the District can distribute more text information. Posts include information regarding weather, agricultural issues, water conservation practices, xeriscape tips, district program information and reminders about district events. Since Twitter is a faster-paced platform, we try to get our followers updates three to four times a day.

A new addition to our social media lineup is Instagram. While our other two platforms are mostly text based, Instagram allows us to show people what the District is up to via images. Some content we hope to use in the future includes updates on programs and events, photos from the field and xeriscaping tips. Since we're relatively new to this platform, our goal is to interact with our followers once a day via Instagram.

Our social media efforts are expanding to keep residents and supporters of the North Plains Groundwater Conservation District informed. If you have any suggestions for what you would like to see more of on social media, or you wish to share images with the district, please contact Lynsey Meharg at lmcanally@northplainsgcd.org.

Save Paper and Water by Choosing our E Newsletter

North Plains GCD now offers our district newsletters by email. If you would like us to send you a digital copy of the newsletter, you can go online at www.northplainsgcd.org and fill out the form on the right side of the page, or just email kwelch@northplainsgcd.org. You can also go online to download previous newsletters and find us on Facebook, Twitter and Instagram.



District-Wide 3-D Aquifer Modeling *The district is proud to present a new 3-D stratigraphic model of the geology beneath the entire North Plains Groundwater Conservation District. Aquaveo Inc., of Provo, Utah created the model using data from over 10,000 wells. The model helps with the challenge of visualizing underground formations and understanding the characteristics and interactions of those formations. The project includes the Ogallala aquifer throughout the district, the Rita Blanca aquifer in Dallam County and the Dockum aquifer. For more information and an animated version of the model, search North Plains Groundwater Channel on YouTube.*

Eagle Scout Project Features Water Efficient Landscape

Eagle Scout, Kyle Gram, along with his family, friends, fellow scouts and others have worked for many months to rehabilitate the garden surrounding the Welcome to Dumas sign on South 287. North Plains GCD along with the City of Dumas joined in the effort as partners to improve this first impression that many travelers see as they enter the city coming from Amarillo. The district provided technical assistance and some sweat equity, along with the rest of the volunteers, to help Kyle complete the final project on the way to his designation as an Eagle Scout. The improved garden features native and adapted xeriscape plants and will eventually serve as a resource for residents wanting to learn more about the types of plants that can thrive in the semi-arid climate of the Panhandle, saving water while creating a beautiful landscape. The district offers our congratulations to Eagle Scout Kyle Gram for a job well done!

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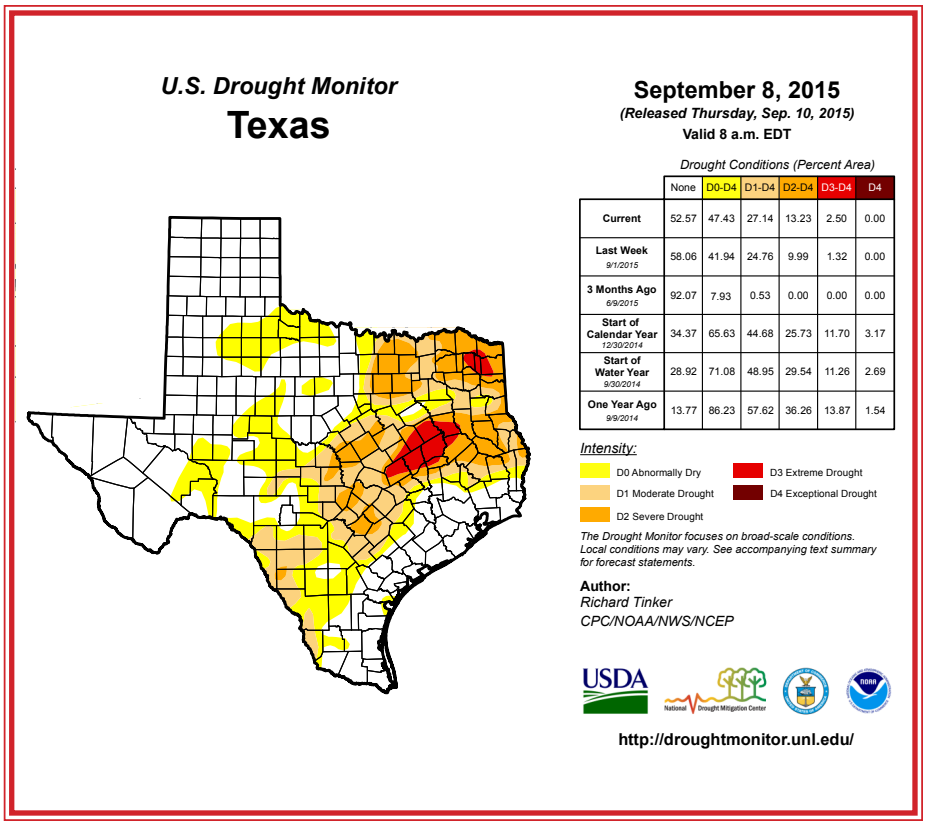

Producers Benefit from Million Dollar Meter Program

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Persons wishing to apply for meter reimbursement should be aware of the following:

- One half (½) the actual cost of each meter installed on an agricultural irrigation well is eligible for reimbursement.
- Parties must complete registration with the district prior to purchasing and installing meters.
- Registration is no guarantee of reimbursement. Reimbursement is contingent upon program funds availability and meeting program requirements.
- Reimbursement is on a first come, first served basis.
- First come, first served does not mean first to register their intention to seek reimbursement.
- First come, first served does mean first to complete the entire process of registering, completing all paperwork, installing all meters, receiving district inspections, furnishing all necessary receipts to the district and requesting reimbursement.
- Installation costs, other equipment costs, labor costs and meters not for agricultural irrigation purposes are not eligible for reimbursement.
- The applicant must agree to provide certain information to the district annually.

Applications and guidelines are available to be downloaded from the district's web site http://www.northplainsgcd.org/ or from the district office at 603 E. First St., Dumas, TX, 79029.

For questions and additional information not contained in this article please contact Dale Hallmark by email dhallmark@northplainsgcd.org or at the district office or by phone at 806-935-6401.