

North Plains Water News



A Publication of the NORTH PLAINS GROUNDWATER CONSERVATION DISTRICT

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The 200-12 Project Last Official Year Could be Its Best

While it's still too early to tell, it looks like closer to average rainfall totals and four more years of conservation practice may make this the most successful "200-12" season of them all. According to "200-12 Project" Lead Conservationist, Leon New, in many of the fields there will be an opportunity to manage water and achieve good yields with less irrigation. "With some good timely rainfall from here on out I predict that we should have a good number of the twenty demonstration fields come in under 26 inches of total water on their corn crops," said New.

Since its beginnings in 2010, the "200-12 Project" has attempted to produce a 200 bushel per acre corn crop using 12 inches of applied irrigation. The goal of 12 inches of irrigation was established by combining the irrigation with normal seasonal rainfall of 8 inches and 6 inches of stored soil moisture for a total of 26 inches of total water. Twenty-six inches of total water on the crop amounts to 6 or more inches of savings compared to traditional corn irrigation practices.

While there has been some good news for the 2014 growing season, the Panhandle weather has been characteristically unpredictable. At least one demonstration field has received less rain since this year's crop was planted than in 2011, which stands as the worst single drought year in recorded history. Scattered hail events have caused minor to severe damage that will negatively impact yields on those demonstrations. Nevertheless, New is optimistic about the potential for this year's demonstrations.

"While there has been hail damage, some of it was early enough that the crops are recovering well and should still produce good yields," said New. "We



Leon New addresses the crowd at Harold Grall's Control Field at the 2013 Field Days.

are gathering good data on planting dates which range from late April to mid-June, seeding rates from 24,000-32,000 seeds per acre, and drought tolerant hybrids. We're looking forward to learning from this year's demonstrations to help farmers in the future."

Preliminary results from the "200-12 Project" and the district's collaboration
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New Start at the North Plains Water Conservation Center

Back in the winter, the North Plains GCD board of directors began a new era in demonstrations by changing the name of the North Plains Research Field to the North Plains Water Conservation Center (the Center). The name change came in anticipation of taking over operations of the Center and focusing the activities of the Center on relevant, practical demonstrations that help area producers remain economically viable in their operations, while leaving water in the ground for future generations.

On September 1, 2014 the district takes the next step in that transition by officially assuming management responsibilities of the facility, which has been owned by the district since the 1987.

Texas Agricultural Experiment Station, later renamed Texas A&M AgriLife Research, has leased the field from the district since 1987, performing agricultural research. Going forward the Center will be available for Texas A&M AgriLife Research and other cooperators from academia and industry to conduct water conservation research and demonstrations that will assist farmers in staying economically viable and prolonging irrigated agriculture in the area.

"The board of directors believes the Center should be primarily involved in demonstrating the best practices in conservation of groundwater," said General Manager, Steve Walthour. "While the board recognizes the value of research and will welcome research projects that contribute to the district's conservation objectives, they want the Center to spotlight solutions that are available to stakeholders today."

Preparations have been underway for months to upgrade infrastructure, irrigation and control systems. The irrigation systems will be replaced as soon as the current crops are out of the fields. "The new systems will better reflect the current technology that is commonly used throughout the district," said Paul Sigle, District Agricultural Engineer. A low-interest loan from the Texas Water Development Board is assisting in the improvements.

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President's Address

Over the past 10 years I have had the privilege to serve our community by working with stakeholders and district board members to make a positive impact on groundwater conservation in the northern Texas Panhandle. Today, the district's board is still dedicated and committed to our mission statement, "Maintaining our way of life through conservation, protection and preservation of our groundwater resources."

In my second term as president, I recognize we are all facing many new challenges. I also serve as President of Groundwater Management Area 1, planning for the future of groundwater for the top 18 counties of the Texas Panhandle, so I know we are not alone.

Nowhere in our district is there more groundwater than we had last year, or the year before, so the objective of remaining viable, whether you're a farming operation, a municipality, or a water-dependent industry, is not getting any easier. Add to that ever-present fact, historic drought, market fluctuations, keeping pace with technology and issues specific to your situation, and we all have our hands and our plates full.

However, I do believe that with the challenges there are opportunities, and we can look at some positive developments and accomplishments that can spur us on. First, regarding our legislative charge "to seek a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging and prevention of waste, and control of subsidence..." in the GMA, we don't have to look far to see success stories.

Our own "200-12 Project" is a model of how GCD's (the regulators) and stakeholders (the regulated) can come together around common ideas and get

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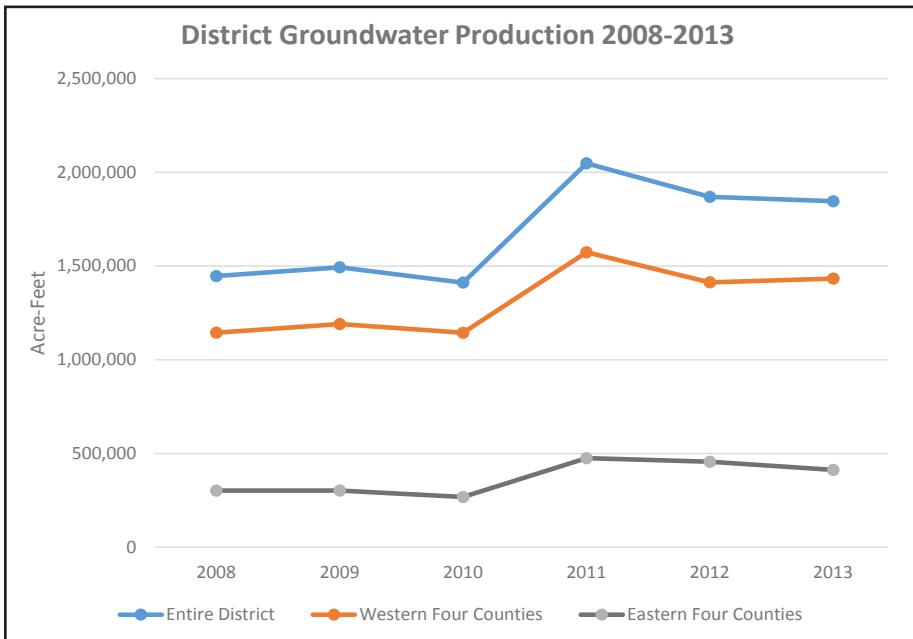
Bob Zimmer
NPGCD Board President

2013 Production Volumes by County

County	2008	2009	2010	2011	2012	2013
Dallam	313,451	317,441	302,561	374,733	371,965	399,272
Hartley	364,560	387,305	401,506	519,684	458,696	458,998
Sherman	275,128	285,571	261,608	407,265	348,012	346,685
Moore	191,409	200,220	178,336	271,684	234,688	228,297
GMA-1 West	1,144,548	1,190,537	1,144,011	1,573,366	1,413,361	1,433,252
Hansford	142,694	152,686	129,984	234,903	218,793	201,914
Hutchinson	52,846	53,869	42,023	73,747	72,230	69,716
Ochiltree	75,527	65,840	62,269	114,392	109,213	98,280
Lipscomb	30,832	30,242	33,826	52,003	55,572	42,519
GMA-1 East	301,899	302,637	268,102	475,045	455,808	412,429
Total	1,446,447	1,493,174	1,412,113	2,048,411	1,869,169	1,845,681

Since 2006, the district has tracked groundwater production through metering and the use of alternative measuring methods. Reported annual groundwater production is a very accurate method to monitor regional pumping conditions and the aquifer. The top line in the “District Groundwater Production 2008-2013” chart represents groundwater pumped throughout the entire district since 2008; the middle line represents pumping volumes in the district’s western four counties and the bottom line represents pumping in the district’s eastern four counties.

The years 2008-2010 were relatively normal years for rainfall and soil moisture and the consistent pumping volumes shown in the chart reflect that consistency. Severe drought conditions were the main reason for peak groundwater pumping in 2011. The severity of the drought has lessened since 2011, but we can’t safely say it is over. That lessening in severity is reflected in a slight downward trend in the total volume of groundwater pumped since 2011. Increased agricultural land development and more wells drilled since 2011 will likely prevent groundwater pumping from returning to pre-2011 levels in the near future. Rainfall totals across the district during 2014 are promising and tend to indicate that 2014 groundwater pumping could be very similar to the 2013 volumes.



Rules Review Continues

For the past two years the district has critically reviewed its conservation rules to ensure that the rules are implementing the management plan adopted in 2013, to simplify and/or reorganize the rules as appropriate for clarity, and to review whether implementation of the rules assists the district in achieving its mission statement.

In July, the board adopted District Rule 4 related to desired future conditions as required by the Chapter 36 of the Texas Water Code. District Rule 4 addresses the district’s method for achieving the DFCs for the Ogallala, Rita Blanca, and Dockum aquifers. Desired Future Conditions (“DFC’s”) for the district are set by Groundwater Management Area 1 Joint Planning. Ogallala aquifer and Rita Blanca aquifer Desired Future Conditions for counties within the District are as follows:

- Management Zone 1: Dallam, Hartley, Sherman and Moore Counties: 40% volume in storage remaining in 50 years; and
- Management Zone 2: Hansford, Hutchinson, Ochiltree and Lipscomb Counties: 50% volume in storage remaining in 50 years;

Dockum aquifer Desired Future Conditions are that the average water level will decline no more than 30 feet over the next 50 years. The district rules require that the district review the Annual Allowable Production limit at the beginning of a five-year joint planning period and every five years thereafter. The district is scheduled to begin review of the DFCs and groundwater production in 2016. If the board determines that a reduction in the Annual Allowable Production Limit is required to meet the DFC goal, the reduction will be implemented at the beginning of the next planning period in January 2021. The district will publish a report to keep the public informed of the characteristics and conditions of the aquifers and the district’s status in relation to the DFC goals.

The district continues to discuss drafts of potential rule amendments related to spacing, Groundwater Conservation Reserve, measuring groundwater withdrawals, well exemptions, and water quality. If the board determines that it wishes to propose a new rule or an amended rule, the board will hold hearings to gather public comment before it considers adopting the proposal. The critical review of the rules should be completed by early 2015.

The 200-12 Project

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with Texas AgriLife Extension, the Efficient Profitable Irrigation in Corn (EPIC) project will be presented at this year’s 200-12/EPIC Irrigation Field Days. Dates and times for the field days are as follows:

- September 8, 2014** Sherman County Barn, Stratford, TX 9:00 am
- September 10, 2014** Ochiltree County Expo Building, Perryton, TX 9:00 am
- September 11, 2014** North Plains Water Conservation Center, Etter, TX 9:00 am

Besides updates on the demonstrations, the field days will feature experts in many of the techniques and technologies that are applied to reach the demonstrations’ conservation and yield goals. Texas Water Development Board Director, Kathleen Jackson, will present the Keynote address at the Sherman County event. Lunch will be provided free at all of the field days and three Pesticide Applicator CEU’s will be available. North Plains Groundwater Conservation District will sponsor the \$10 per person CEU administrative fee.

2014 is the final year of the original five-year, “200-12 Project” but the district board of directors has plans to continue and update the demonstrations into the future. Recently acquired grant support from the Texas Water Development Board will assist in evolving the demonstrations to reflect the ongoing challenges and the latest developments. You can read more on this and other developing conservation projects in the article titled “Texas Water Development Board Partners with District” in the last Issue of the North Plains Water News at www.northplainsgcd.org.

USGS/District Water Quality Survey Concludes

In 2011 the district board approved a joint venture between the district and the United States Geological Survey (USGS) to perform a water quality study. The study involved sampling 30 wells spread throughout the district. Half of the 30 selected wells were sampled in 2012 (Phase I) and the other half in 2013 (Phase II). Phase III occurred in early to mid-2014 and consisted of a critical analysis and review of the data and a pending formal publication of the report.

The groundwater samples were analyzed for standard mineral constituents as well as select trace elements. The project wells sampled and results will form the core well and informational database of the district’s on-going groundwater quality monitoring program and may be expanded upon into the future.

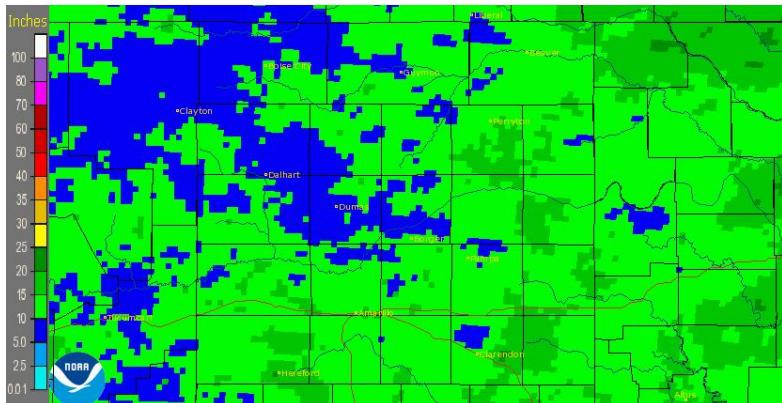
The USGS will publish an official report which should become available in October, 2014. The report will be available in the district office in Dumas Texas. Information contained in the report will appear in future issues of the North Plains Water News.



Drought Weakens Its Grip, Doesn't Let Go

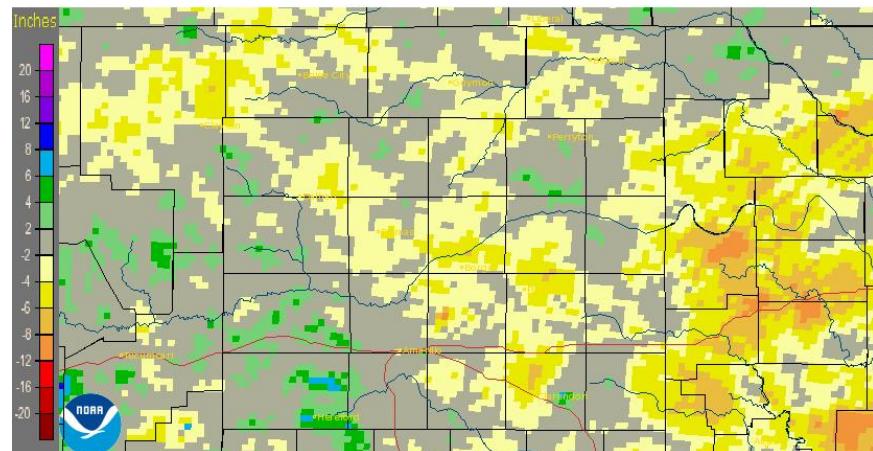
Welcome early and mid-summer rains in the Texas Panhandle not seen in many locations since 2010 have helped the area recover from a very dry spring. National Weather Service (NWS) observed precipitation amounts within the North Plains Groundwater Conservation District range from 5" to over 15" in spots through mid August. The map below shows the NWS year-to-date observed precipitation through August 13, 2014 for the Texas Panhandle.

Amarillo, TX (AMA): Current Year to Date Observed Precipitation
Valid at 8/13/2014 1200 UTC - Created 8/14/14 0:17 UTC



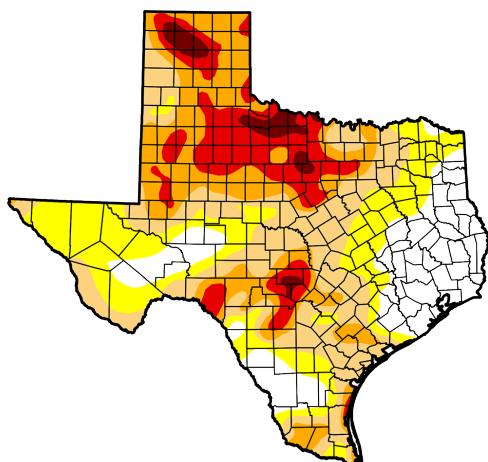
Though the summer rainfall has been helpful in recovering from dry conditions, the National Weather Service shows much of the Panhandle is still below normal (as much as 6") for year-to-date precipitation through August 13, 2014. The map below shows the NWS year-to-date departure from normal precipitation.

Amarillo, TX (AMA): Current Year to Date Departure from Normal Precipitation
Valid at 8/13/2014 1200 UTC - Created 8/14/14 0:17 UTC



As of August 12, 2014, the US Drought Monitor shows that the North Plains GCD is still experiencing severe to exceptional drought conditions. Much of the precipitation the area has received has come at strategically beneficial times during the plant growing cycle.

U.S. Drought Monitor Texas



August 19, 2014
(Released Thursday, Aug. 21, 2014)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	19.17	80.83	59.28	34.23	15.16	2.76
Last Week 8/12/2014	17.26	82.74	57.68	35.71	14.06	2.62
3 Months Ago 5/20/2014	9.82	90.18	72.31	56.11	40.35	25.05
Start of Calendar Year 12/31/2013	28.48	71.52	43.84	21.15	5.82	0.79
Start of Water Year 10/1/2013	6.62	93.38	70.95	25.08	4.01	0.12
One Year Ago 8/20/2013	2.82	97.18	88.93	66.88	17.80	2.58

Intensity:
 D0 Abnormally Dry D3 Extreme Drought
 D1 Moderate Drought D4 Exceptional Drought
 D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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Richard Tinker
CPC/NOAA/NWS/NCEP



<http://droughtmonitor.unl.edu/>



The district performs water quality analysis at the request of local landowners and prior to many land sales for banking and real estate concerns. Most analyses are free to district residents. The district offers water quality tests for calcium, magnesium and total hardness, chloride, conductivity, fluoride, iron, nitrates, pH, sodium, sulfate, total dissolved solids, and presence/absence of coli-form bacteria.

President's Address

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things done. This program has endured through some of the driest conditions in recorded history to successfully demonstrate how to make the most of limited water situations. The validation of the program has come in the form of statewide, national and international interest in the project, awards, and possibly the best indication of belief, monetary support. The Texas Water Development Board (TWDB) has partnered with the district on the "200-12 Project" in 2011 and again just recently in 2014 for close to \$450,000. Add to that another \$250,000 from USDA-Natural Resources Conservation Service and it seems clear that this program is on the right track.

Along the same line, the district-funded Texas A&M AgriLife Extension "Efficient Profitable Irrigation on Corn" (EPIC) project is demonstrating that ag irrigators with access to more water can also manage for water savings while reaching for higher yields. This project has also attracted statewide attention and awards.

However, the real test of the effectiveness of both projects is the buy-in from irrigating farmers, since they are ultimately the only ones who can save water on their farms. We have some of the most respected farmers in the district leading by example by participating in the demonstrations, and unofficially we know that the techniques and technologies that make the programs work are being adopted by increasing numbers. One of our next steps is to quantify the adoption rates over the coming years.

Another positive development is the district's timely compliance with implementation of rules to achieve the Desired Future Conditions (DFC's). After the district's new management plan was approved by the TWDB in August 2013, a one-year deadline was initiated for the district to make sure it's rules were sufficient to actually meet the DFC's. The new Rule 4 that fulfills that requirement was approved during the July 2014 board meeting.

This kind of progress is possible because of a relationship of mutual respect between the stakeholders and the board and between individual board members. While we don't always agree with each other, we do respect each other's opinions. I believe that respect has been earned through a policy of openness and transparency. As president, I will strive to continue to foster that openness through public meetings, hearings and accessibility in all district matters.

I believe our progress in management of the resource combined with conservation demonstrations that are on target are helping us draw the right kind of attention to the area and the district. I believe we as a district, including board members and stakeholders are developing a reputation for taking a reasonable approach to the process of resource management. I will support and defend the system of local control of groundwater as the most effective and logical mechanism for stewarding the resource, as declared by the legislature. I believe the district's track record certainly strengthens the case for local control.

Finally, one of the most important positive things we have to be thankful for is rain. While it may not be as evenly distributed as some would like, as a whole, the drought does appear to be easing slightly across the district. With more moisture comes more opportunities to leave water in the ground for future generations and that makes all of our jobs a little easier.

Summer Party with News Channel 10

The whole crew from News Channel 10 rolled into town with one thing in mind: Celebrating! The Summer Celebration came to Dumas on July 21st and the district jumped right in to be a part of highlighting all that makes Dumas and the Panhandle such a great place to be. While the team from News Channel 10 covered stories unique to Dumas, including the 10th largest Lions Club in the world and the always rockin' Ding Dong Daddy, North Plains GCD staff were busy giving away Operation: Summer Showers Water Conservation Survival Kits. Summer intern, Vanessa Ledesma even got a chance to make her Channel 10 debut telling viewers about Operation: Summer Showers. Sponsors shared products, food and games with the public before during and after the four newscasts that were broadcast from the courthouse lawn. When the news team was not on the air, they were right in the middle of the fun which included the district's Water Festival favorite water relay, the "Long Haul," with Walt Howard, Dave Oliver, Stacy Sakai and Matt Hamilton helping out with hauling. As a part of the district's participation in the event, News Channel 10 helped produce a video Public Service Announcement featuring the pride of Lipscomb, TX, RJ Vandygriff. Make sure you visit our website to take a look at the video clip and browse around to see what you might find out about groundwater and how to save it. Thanks to News Channel 10 for coming to town and throwing a heck of a party while they were at it!



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Water Conservation Center

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Possible future projects at the Center include: a "200-12 Project" demonstration, testing drought resistant seed technologies, demonstration of more efficient irrigation technologies and management tools, and conservation tillage programs. Demonstrations of non-agricultural water conservation strategies including rainwater harvesting and a low water-use landscaping will also be developed. "The Center will be a focal point for the district's community education initiatives by providing a place to engage stakeholders in conservation on multiple levels," said Assistant General Manager – Outreach, Kirk Welch.

The district has retained current "200-12 Project" Coordinator, Leon New to assist with the transition. New will continue managing the "200-12 Project" on-farm water conservation demonstration program, while working with district staff to facilitate development of the North Plains Water Conservation Center.