

# North Plains Water News



A Publication of the NORTH PLAINS GROUNDWATER CONSERVATION DISTRICT

VOLUME 58, NO. 2 "Maintaining our way of life through conservation, protection, and preservation of our groundwater resources."

Summer 2012

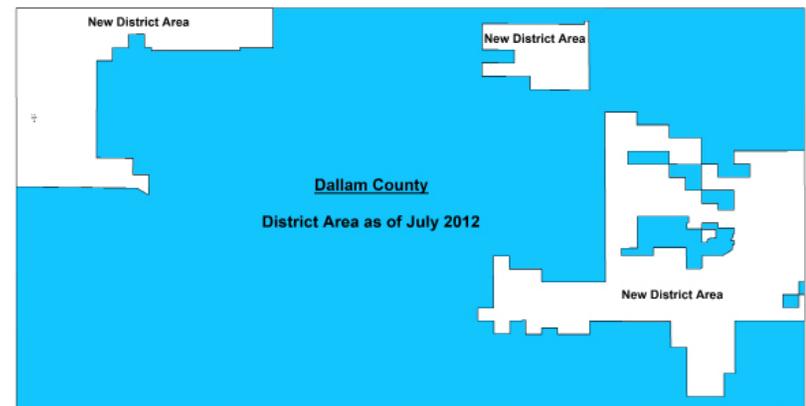
## TCEQ Orders Dallam County PGMA's to Join District

The Texas Commission on Environmental Quality has ordered three unregulated areas in Dallam County to join the North Plains Groundwater Conservation District. TCEQ commissioners followed the earlier recommendation of the executive director when they agreed it is in the best public interest for the areas to be included in, and managed by the district. This resolves a situation that began when the areas were designated as Critical Management Areas in 1990 and later legislation recognized them as Priority Groundwater Management Areas (PGMA's), because of the potential for critically low groundwater conditions in the future.

"The district is committed to

working together with the landowners in those areas to create a smooth transition into the district," said North Plains Groundwater Conservation District General Manager, Steve Walthour. The district will follow the process for adding the new areas as it is set out in Chapter 35 of the Texas Water Code.

As required by the statute, the board of directors of North Plains GCD will vote in their next meeting in August to reaffirm their previous vote to accept the properties into the district. "The process will also include stakeholder meetings to gather input related to the transition, provide information regarding the district's conservation program, and discuss a timetable for implementation," said Walthour.



The voters in the PGMA areas will have the opportunity to determine if they prefer to pay for their share of district operations through property tax at the district's current rate or through production fees. The landowners in the PGMA areas will have representation on the board of directors by the current Dallam County representative, Brian Bezner, and will also be allowed to vote when the Dallam County precinct comes

up for election in 2014.

"The district's priority will be on accuracy rather than expediency in this process," said Walthour. "We plan to make sure everyone understands what is required and when, so there are no surprises for landowners in the new areas of the district." For more information please call the district office at 806-935-6401 or email Steve Walthour at [swalthour@northplainsgcd.org](mailto:swalthour@northplainsgcd.org).

## 200-12 Project Year Three Off and Running

After the driest growing season on record last year, early rainfall has been appreciated in 2012. Though the forecast is for another hot summer in the area, at least the starting conditions have been more favorable in the third year of the District's "200-12 Reduced Irrigation on Corn Demonstration" project.

The "200-12 Project," was designed to be a five-year demonstration of strategies and techniques that can be combined into a comprehensive resource management system to allow irrigating farmers to be economically viable with limited and restricted water resources. "The '200-12 Project' is focused on the cash in the bank at the end of the season, not on the highest yield possible, and the approach has shown remarkable promise in the first two years," said District General Manager, Steve Walthour.

The Project has shown such potential that what began as a District-funded initiative with three members of the Board committing their own acres, has developed into a state and federally

supported effort that includes eight cooperating farmers, and four members of the Board. Along the way, the Project has been collecting recognition including the Texas Water Conservation Advisory Council's Blue Legacy Award and the Texas Commission on Environmental Quality's Environmental Excellence Award for Agriculture.

The name "200-12 Project" is derived from the proposed goal of producing 200 bushels-per-acre of corn with only 12 inches of applied irrigation per acre. Twelve inches of irrigation represents a reduction of close to 40-percent compared to traditional, high-yield irrigation practices. "The 200 bushel goal was proposed as a target to shoot for, by applying as many water saving practices as possible to the process," said board member and cooperator, Danny Krienke. Nevertheless, in 2010 two of the three cooperators had yields of over 190 bushels per acre while realizing significant water savings.

In 2011, under historically extreme dry conditions, one of the cooperators



In May, North Plains Groundwater Conservation District was awarded the Texas Environmental Excellence Award for the "200-12 Project." Governor Rick Perry is shown congratulating representatives of the District. Pictured are (l-r) Glynett Haaland and Board Member Danny Krienke.

yielded 178 bushels per acre while using less water. In fact, the producer saved 8 inches of water, compared to the rest of his farming operation, while producing an average of 8 bushels more per acre. Most remarkably, in all of the previous examples the grower's return on investment was the same or higher

than with traditional irrigation practices. So what will 2012 hold for the "200-12 Project"? Well, no one knows how much rainfall growers will have to work with, but we do know a few things about what will happen this season. To find out log onto [www.northplainsgcd.org](http://www.northplainsgcd.org).

## Groundwater Conservation Reserve Update

In 2010, all groundwater producers in the District had the opportunity to bank their unused water in the Groundwater Conservation Reserve (GCR) program. The program was put into place to promote conservation by allowing well owners to plan and save water not pumped in one year to use in subsequent years. Most producers saved at least .5 acre-feet in 2010, allowing them to produce 2.25 acre-feet per acre in 2011 or use their savings in subsequent years. A producer may use up to .5 acre-feet per acre out of their savings during any of the five years after the water is saved. The GCR program was very important during the 2011 drought as about 25 percent of the well owners used all or part of their reserve from 2010. Though 25 percent of producers used water out of their reserve, almost 75 percent of producers saved more water to the GCR last year.

This spring, the District staff created a method for the District to track GCR when producers pool their properties for reporting and operational purposes. The GCR on properties or recently pooled properties will remain intact only if the following conditions apply:

1. The properties have not changed ownership during the calendar year (property inherited or received as a gift will maintain the reserve). The property must be maintained under the same ownership for one full calendar year.
2. The previous year's amount of water actually used for a recently re-pooled property can be accurately proven.
3. The production report was filed accurately and on time by the March 1 deadline.

For further information, please contact Casey Tice or Laura West at the District offices (806-935-6401).

## North Plains Groundwater Conservation District Production by County

COUNTY	2008	2009	2010	2011
HANSFORD	142,700	152,700	129,700	233,400
OCHILTREE	75,500	65,800	60,500	110,500
SHERMAN	275,100	282,900	242,000	396,400
HARTLEY	364,600	385,800	345,400	479,800
MOORE	191,400	200,100	163,900	264,100
DALLAM	314,000	317,100	290,000	72,600
HUTCHINSON	52,400	53,400	41,200	72,600
LIPSCOMB	30,800	30,800	30,500	52,100
<b>TOTALS</b>	<b>1,444,500</b>	<b>1,488,700</b>	<b>1,303,100</b>	<b>1,981,500</b>

\* These amounts are subject to change based on data corrections to production reports.

In 2011, groundwater production in the District rose approximately 33% over the more normal production years of 2008 and 2009 because of the extreme drought and heat. Many irrigators and some cities struggled to maintain adequate water supply as a result of the drought conditions. In 2010, precipitation during the early part and later critical growing periods of the year caused lower than normal groundwater production for the area. Since 2006, the District has tracked production through metering and the use of alternative measuring methods to monitor production. The annual reported production is an indicator of aquifer and regional pumping conditions.

## Board Evaluating District Rules

Will North Plains Groundwater Conservation District's current rules and management plan allow the District to fulfill its mission and reach the desired future conditions established across the District? That's one of the major questions the District's board of directors will address over the next few months.

Desired future condition, or DFC, means a quantitative description of the desired condition of the groundwater resources in a management area at one or more specified future times. The District is part of Groundwater Management Area 1 that set DFCs for the Panhandle in 2010. The Ogallala Aquifer DFC is to have 40 percent of the water in Dallam, Hartley, Moore and Sherman Counties and 50 percent of the water left in Hansford, Hutchison, Lipscomb and Ochiltree Counties in 50 years

According to District General Manager, Steve Walthour, the District's Groundwater Management Plan and District rules reflect groundwater management concepts that were created before the DFCs were set. The board is evaluating the effectiveness of the District's rules and looking at management approaches that will make sure the District achieves the DFCs, as well as addresses the concerns of citizens regarding their economic viability into the future.

In addition to considering the desired future conditions, the discussion about rules will consider issues shared by citizens, and ways to simplify the District's current set of rules. Among other possibilities, the Board is discussing annual production limits, well spacing, well density, and possible mechanisms for adjusting production

limitations, if needed.

Walthour emphasized that the District's current rules are in effect until amended by the board and that any proposed rules would be presented and discussed in public meetings before they would be voted on by the board. In August, the District will take its concepts to the public for stakeholder input before the board proposes new rules. "If new rules are proposed, the board will be asking for additional, more extensive input," said Walthour. "It only makes sense to go to our citizens who rely on the Ogallala to find out how to make the District's management plan and rules work best for everyone."

For more information or to provide input into the rule review process, contact the District office at 806-935-6401 or email [swalthour@northplainsgcd.org](mailto:swalthour@northplainsgcd.org).

## Rhoades Recognized for Service

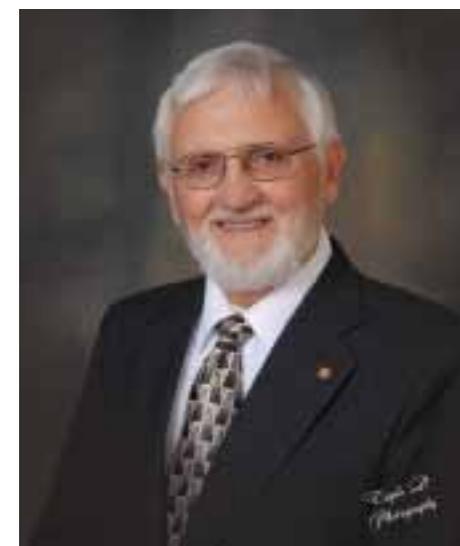


Board President Gene Born presents a plaque to Pauletta Rhoades, finance and administration coordinator, in recognition of her 15 years of service to the North Plains Groundwater Conservation District.

## Gene Born Takes the Reins of the North Plains Groundwater Conservation District Board

Gene Born, Lipscomb County director of the North Plains Groundwater Conservation District assumed the post of president of the board during the regular May board meeting. Born has served as vice president for the last two years and was elevated to president as part of the District's leadership rotation. Earlier this month, Born was re-elected to serve a two-year term as the director for Lipscomb County. He has represented Lipscomb County on the board since 2000.

Outgoing president, Bob Zimmer was elected to serve as secretary, which puts Zimmer in line to serve as president again in four years. Zimmer and Danny Krienke had no opposition in the May election and will represent Precincts 5 and 6, respectively, on the board of directors.



Gene Born, President

# Organic Vegetables With Less Water? Sound Like a Fish Story?

What could be better for your body and the planet than growing organic vegetables using about one-tenth of the water normally used? Well, how about producing a low-fat protein source while you're at it--in the form of your favorite fish? James Nelson of Sunray, Texas is doing all those things with a Do-It-Yourself aquaponics system he built in his own backyard.

"I was already gardening and when I heard that aquaponics was more water conservative and you don't have to put up with all the weeding I was very interested," said Nelson. In an aquaponic system the plants are grown in a controlled environment that reduces the occurrence of weeds and makes it easy to eliminate any weeds that do come up.

Aquaponics is a food production approach that leverages the symbiotic relationship between fish and plants. One of the biggest concerns in raising fish for food is that the accumulation of fish waste can become poisonous to the fish. In a traditional fish farming operation this issue calls for regular changing of the water in the tanks. With aquaponics, the system pumps



Tomatoes in the foreground and squash and lettuce in the background are all growing in lava rock and nutrient-rich water from the fish tank below.

the water and nutrients out of the tank and into grow beds filled with a growing medium like gravel, lava rock or specialized clay pellets.

Fish waste is high in the nutrients plants need to thrive. The growing media allows the plants to more easily access the water and nutrients than they could in normal soil. The roots of the plants are literally soaked in the nutrient-rich mixture of water and fish waste. Once the plants have removed most of the nutrients from the water it is returned back to the fish tank, cleaned and aerated to provide a healthy environment for the growing fish.

"I also like to eat fish, so being able to raise my own fish and know that what comes out of the system is organic was appealing to me," said Nelson. "You have to be careful about putting any chemicals on the plants that might hurt the fish and vice versa, so there's a check in place to make sure it stays all natural," Nelson said. "I started out doing lots of research on it to find the least expensive way to get started to make sure it would work. Since then, I've built two systems for myself and one for a friend, with



James Nelson of Sunray is shown here with the second of his backyard aquaponics systems. Vegetables on the top are watered and fertilized with the water that provides habitat for catfish in the bottom tank.

more and bigger projects in the works," he added.

The water is continually circulated through the system, so none is wasted, though some is lost through plant transpiration and evaporation. Periodically, more water needs to be added to the system, but because there is no loss to run-off, much less water is used compared to traditional gardening. Other benefits include the elimination of the need for chemical fertilizer in the growing process and the fact that a system can be set up anywhere. Aquaponics systems may offer one way to address food shortages around the world, while conserving clean water. "There are actually groups that are helping villages in countries in famine to train the residents so they can have a system and create an almost self-sufficient food source," said Nelson.

Sounds great, right? But, if this system is as smart as it sounds, then why aren't more people doing it? Well, as a matter of fact, there are many people all across the country and the globe using aquaponics principles. There are clubs and web communities of aquaponics enthusiasts with systems ranging from an indoor fish tank and kitchen herb garden, to multiple tanks with a greenhouse full of grow beds. While most large-scale aquaponics operations are non-profit or educational, the practice is even being applied with some success in commercial operations.

Aquaponics is not only water efficient, but also space efficient. The owner of a commercial operation gearing up in Wisconsin said it would take 60 acres of farmland using traditional practices to produce



Channel catfish can gain as much as 2-3 pounds in a year, so they can be ready to eat in one growing season. Many different fish species grow well in an aquaponic environment.

as much food as they can produce at their indoor aquaponic facility that sits on 1.5 acres. Nelson said he has seen similar results. "I planted the same variety of tomatoes in the aquaponic system and in the ground, and while the aquaponic plants are not as big, they have a lot more tomatoes."

So, if you are already a gardener and looking for something new to try, or if you never thought you had the space for a garden, aquaponics may be a way for you to grow better food, in a smaller space and use less water. Nelson also pointed out a benefit that should not be overlooked. "It's a lot of fun!" For more information and links about aquaponics visit our website at [www.northplainsgcd.org](http://www.northplainsgcd.org) under the Science and Technology section.

## Summer Interns Assist and Learn

The District is pleased to welcome two temporary members of the team this summer as part of the summer internship program. The internships are designed to give the students real world work experience, an overview of the mission and functions of the District, and an opportunity to apply their specific skills to contribute to the District's conservation efforts.

Brian Downs is a senior agricultural systems management major at Texas A&M University with a minor in business administration. He is scheduled to graduate in May of 2013. Bryan graduated in 2008 with a class ranking of three out of 500 students from Crowley High School in Crowley, Texas. Among other projects, Bryan assists the District with financial reporting related to funding of the "200-12 Reduced Irrigation on Corn Demonstration" project. Brian has been an active member of the Texas A&M Singing Cadets since 2009.



Brian Downs

Paul Sigle is a senior biological and agricultural engineering major at Texas A&M University, with an emphasis on environmental and natural resources. Paul is scheduled to graduate in December 2012. Paul's relevant coursework has included, crop physiology, principals of hydrology and soil and water conservation engineering. Paul is involved with installation and maintenance of monitoring equipment related to the "200-12 Project," as well as data gathering and reporting. His past intern experiences include



Paul Sigle

irrigation, cultivation and pest control of an organic orchard in Spicewood, TX and quality control and testing at the Spoetzl Brewery in Shiner, TX.

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# North Plains and Texas AgriLife Present Summer Irrigation Meetings

Agricultural producers in this part of the world all want to know how to make the most of the water, above and below the ground. Again, that will be the focus at this year's summer irrigation meetings brought to you by Texas AgriLife Extension Service, Texas AgriLife Research and the North Plains Groundwater Conservation District. The four meetings across the district will highlight three primary irrigation projects in the North Plains that are all sponsored in whole, or in part, by North Plains Groundwater Conservation District.

The irrigation projects include the District's "200-12 Reduced Irrigation on Corn Demonstration" initiated by the District in 2010. The Texas Water Development Board and the USDA - Natural Resources Conservation Service have joined in by providing partial funding for the "200-12 Project". Since last year's meetings the "200-12 Project" has also received the Texas Water Conservation Advisory Council's Save Texas Water Blue Legacy Award for agriculture and been given the state's highest conservation honor, The Texas Environmental Excellence Award for agriculture, presented by the Texas Commission on Environmental Quality.

The meetings will also feature information from the AgriLife Extension North Plains "Efficient Profitable Irrigation in Corn" project, or EPIC as it is known, and the AgriLife Research "12-200 Corn" project at the North Plains Research Field at Etter.

"These projects are addressing the issues of diminishing groundwater resources and the irrigation agriculture economy that is dependent on them," said District General Manager, Steve Walthour. "The District sees it as part of the mission to show producers how to do more with less, not just make rules to require it."

All meetings will begin at 9 a.m. and are free. The dates and locations are:

- Aug. 21: Hutchinson County Corn Irrigation Conference, Morse Community Building, Morse.
- Aug. 22: Ochiltree Corn Irrigation Conference, Perryton Expo Center, Perryton.
- Aug. 23: Etter Corn Irrigation Field Day, North Plains Research Field, Etter.
- Aug. 24: Dalhart Corn Irrigation Conference, Rita Blanca Coliseum, Dalhart.

Each location will include local topics that will be most pertinent to the local producers and showcase technologies used in the processes.



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## Water Saving Lawn Watering Tips

- Don't water things that don't grow, like streets and sidewalks.
- Water early or late in the day when there is less heat to cause evaporation.
- Water when there is as little wind as possible to keep the water on your lawn.
- Water your lawn when it needs it, not on a timer. Use a rain gauge or tuna can to know when you've applied no more than one inch of water per week.
- Allow grass to dry between watering to promote deeper root growth.
- Cut your lawn to 2 1/2 - 3 inches. Taller grass shades the soil, reducing evaporation.

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