

North Plains Water News



A Publication of the NORTH PLAINS GROUNDWATER CONSERVATION DISTRICT

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FALL 2014

Now Accepting Applications for Partial Meter Reimbursement

The North Plains Groundwater Conservation District is partnering with the Texas Water Development Board (TWDB) to offset up to half of the meter equipment costs on irrigation wells in the district. At their October meeting the board of directors voted to approve a contract with the TWDB that will make funds available to irrigators who install approved meters and provide basic information. As of December, producers have applied for almost one-third of the money, about \$200,000. "This is a way to leverage TWDB funds that are available to help north plains producers manage their water. We appreciate the financial assistance from the TWDB and the opportunity to assist producers and encourage conservation in this way," said North Plains GCD, General Manager, Steve Walthour.

The district is now accepting applications from irrigators for reimbursement on meters installed after June 26, 2014. The grant of \$600,000 was 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. "If we use all these funds, we will request more and we will continue to request funds until there is no further demand, or no more funds available," said Walthour.

"We believe you can't manage what you don't measure," said Walthour. "So, we are interested in doing anything that will give producers the best information about how much water they're using." Walthour explained that while meters are not infallible, he believes they are the most accurate way to measure production.

"We think this reimbursement program will put more meters in the field and that will help producers manage their operations and help the district manage the aquifer," said Walthour.

The matching funds are available for the meter only. Any installation costs or other equipment cost will not be eligible for the cost-sharing program. Reimbursement is also limited to agricultural irrigation metering on wells that produce at least 25,000 gallons per day. Funds are available on a first-come, first-served basis and the number of reimbursements per individual is only limited by availability of funds. Submission of an application does not guarantee reimbursement.

For information about applying for reimbursement call the district at 806-935-6401 or visit the website at www.northplainsgcd.org.



North Plains Groundwater Conservation District is now taking applications for reimbursement of partial meter equipment costs. Program provided through Texas Water Development Board grant.

Better Yields Expected for "200-12 Project"

While all of the "200-12 Project" demonstration fields are harvested, the data is still being compiled for the final annual report of the initial five-year demonstration project. Nevertheless, it is possible to see some trends that developed throughout the 2014 "200-12 Project". Most notably the most intense drought in over a century has continued to ease slightly over the last three years. Though most of the North Plains Groundwater Conservation District remains in a state of severe-to-extreme drought, some timely rains have helped to positively impact yields. On the downside the increased rains have also resulted in increased hail and wind damage that have worked to offset the gains.

"Overall, '200-12 Project' yields appear to be higher than last year," according to Project Lead and District Conservationist, Leon New. "The yields should be more comparable to 2010" said New. 2010 was an above average rainfall year for the area, and with an average of 10 inches of in-season precipitation, the 2014 "200-12 Project" has also topped the average seasonal rainfall of 8-inches for the area. The "200-12 Project" is based on that average of 8 inches of rainfall combined with 6 inches of stored soil moisture, and the 12-inches of irrigation, to reach a total water use of 26 inches for the crop.

One example of a successful "200-12" demonstration is the Moore County field of Harold Grall. With an irrigation capacity of 3.0 gpm per acre, Grall's field yielded 201 bushels per acre on 12.96 inches of irrigation. While the irrigation was almost an inch over the goal, the field only received 9.19 inches of rain for a total of irrigation and rainfall of 22.15 inches. This field started the season with almost no stored soil moisture, so ultimately the field



TWDB Director, Kathleen Jackson and District General Manager, Steve Walthour join area farmers at the Irrigation Conservation Field Day in Stratford.

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2014 Production Reporting Highlights

A schedule for the 2014 production reporting process has been set by the district staff. The 2014 Annual Production Reports were mailed out on Wednesday November, 13th. This year, the district mailed out a Conservation Reserve Worksheet along with the 2014 Annual Production Report. This worksheet gives producers the opportunity to calculate their conservation reserve for 2015. This form is not required to be returned to the district. It is solely for producers' information. An automated version of the worksheet is also available on the district website at, northplainsgcd.org. Anyone who has not received their 2014 Annual Production Reports by now should contact the district office. The reports are due in the district office by close of business on Monday, March 2, 2015.

If you failed to turn in your 2013 Annual Production Report on time the District would like to remind you, that if the 2014 Annual Production Reports are filed by close of business on Thursday, January 15, 2015, the late filing fee charged for 2013 will be refunded in full.

The district will again be participating in the Crop Production Clinics sponsored by Pioneer Hybrid, Inc. The 2015 Texas & Oklahoma Panhandle Crop Production Clinics will be held in 4 towns in our district. The dates and locations for the Clinics are: January 12th – Dalhart, January 13th – Dumas, January 14th – Stratford, and January 15th - Spearman. District staff will be available at the Clinics to answer questions regarding production reporting and the Groundwater Conservation Reserve program, and to assist producers in completing their production reports.

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 and Twitter.



District Water Levels

Annually the district monitors declines in water levels as an important part of its data collection efforts which contribute to the management of the area’s groundwater resources. The district tracks declines in groundwater by maintaining a network of over 435 water-level monitor wells. District monitor wells are measured in January and February after the majority of the season’s agricultural pumping is completed and measuring is completed by mid-March. The information is analyzed and used to create maps that show average water level changes across the district. The data helps the district make reasonable, long-term management decisions based on accurate and current information.

The district began drilling its own dedicated monitor wells in 2007 and also began installing water level monitoring equipment in many of them. The equipment records measurements every 12 hours. So far, the district has drilled 50 dedicated monitor wells and installed monitoring equipment in 46 of those. These continuous measurements create a valuable record of the ongoing changes in water levels. These non-production wells are dedicated solely to data collection. Dedicated, non-production monitor wells provide information with a greater degree of accuracy, reliability and consistency than do the other types of wells the district may monitor. They are also available, if necessary, for conducting water quality analyses and other aquifer tests that cannot easily be conducted in other types of wells.

Changes in water levels in district monitor wells vary from rises in some instances to declines that locally may exceed 8-10 feet per year. Each county in the district has areas of little to no decline, as well as areas of much greater decline. Changes in the water level of the aquifer averaged for all the monitor wells of any county, or calculated from groundwater production data, however, overall show declining water levels.

Declines in the water table are caused predominately by pumping and are influenced by surface recharge and lateral flows into and out of the aquifer. Recharge of the aquifer from the surface comes from rainfall and snowmelt. The Panhandle of Texas receives such modest amounts of rain and snow and has such a high evaporation rate that there is little opportunity for surface recharge to appreciably affect water levels.

The water level measurements resulting from the 2013 production season have been gathered, tabulated and published in the “2013-2014 Hydrology and Groundwater Resources” report, which is available in the district office and the district’s website <http://www.northplainsgcd.org/science-a-technology/hydrology-maps.html>. A summary of the results are also presented in the following table and illustrations. For information on measurements in specific areas please contact the district at 806-935-6401.

| Average Annual Feet of Decline | | Average Annual Feet of Decline | |
|--------------------------------|-----|--------------------------------|-----|
| Dallam | 2.3 | Lipscomb | 0.4 |
| Hansford | 1.9 | Moore | 2.2 |
| Hartley | 2.7 | Ochiltree | .09 |
| Hutchinson | 2.3 | Sherman | 3.3 |

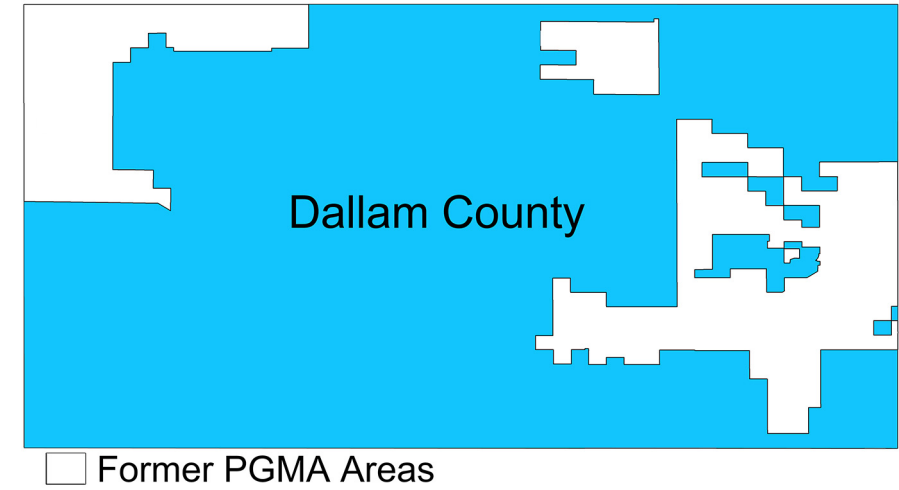
Average annual declines in water level are calculated using reported groundwater production and an estimated specific yield of 18 percent. The entire area of each county was used in the calculations except for Hutchinson County in which only the county area that falls within the district was used.

Average county declines and average declines in monitor wells differ because district monitor wells are typically located near areas of intense pumping. This tends to over represent declines resulting in higher values than averages calculated by other methods.

Average Depth to Water and Comparisons of Average Declines in Select District Water Level Monitor Wells.

| County | Avg. Depth to Water (Feet) | 2013 Avg. Well Decline (Feet) | 2012 Avg. Well Decline (Feet) | Current 5-Year Avg. Well Decline (Feet) | Previous 5-Year Avg. Well Decline (Feet) | Current 10-Year Avg. Well Decline (Feet) | Previous 10-Year Avg. Well Decline (Feet) |
|---------------|----------------------------|-------------------------------|-------------------------------|---|--|--|---|
| Dallam | 272 | 4.7 | 4.6 | 4.3 | 3.0 | 3.5 | 2.3 |
| Hansford | 305 | 3.0 | 2.9 | 2.8 | 2.3 | 2.6 | 1.6 |
| Hartley | 355 | 4.7 | 4.6 | 4.3 | 4.2 | 4.5 | 3.1 |
| Hutchinson | 347 | 2.2 | 2.1 | 2.0 | 1.8 | 1.9 | 1.5 |
| Lipcomb | 157 | 0.9 | 0.8 | 0.7 | 0.5 | 0.6 | 0.2 |
| Moore | 347 | 3.3 | 3.1 | 2.9 | 2.2 | 2.5 | 1.4 |
| Ochiltree | 329 | 1.6 | 1.5 | 1.4 | 1.0 | 1.2 | 0.5 |
| Sherman | 298 | 3.2 | 3.0 | 2.9 | 2.4 | 2.7 | 1.8 |
| District-wide | 301 | 3.0 | 2.8 | 2.7 | 2.2 | 2.4 | 1.6 |

Board Considers Production Fees for Former Dallam County PGMA's



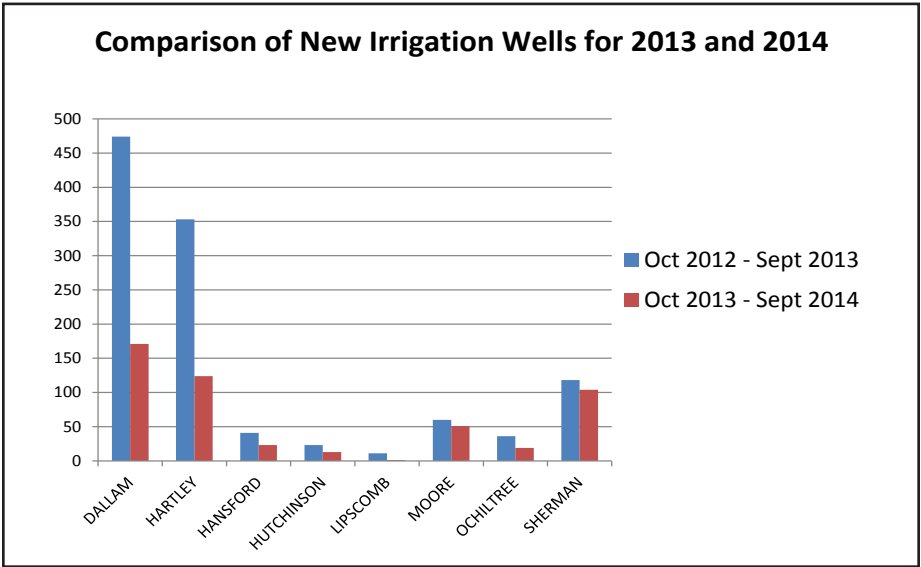
More than two years after accepting the former Dallam County Priority Groundwater Management Areas into the district, the board is ready to establish production fees to allow producers in those areas to pay for their fair share of the district’s operations. After being ordered into the district by the Texas Commission on Environmental Quality the residents in those areas voted against paying the same tax that the rest of the district pays. The Texas Water Code states that if new areas are annexed into the district and elect not to pay the taxes, then the district is required to assess fees.

“The board wanted to take some time to survey the wells and get solid production data before beginning the fee process,” said District General Manager, Steve Walthour. The areas were officially annexed into the district in August of 2012 and filed their first current production reports in March of 2014 for the 2013 production year. The board has asked the district’s staff to study the actual costs of operating the areas, as well as their fair share of the cost of operations of the district, to establish a basis for the fees.

These portions of the county were designated by the TCEQ 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 PGMA designation required that the area either join an existing, viable groundwater conservation district or create its own district. Following a hearing before an administrative law judge in Dalhart in August 2009, the Texas Commission on Environmental Quality recommended those areas join the North Plains Groundwater Conservation District and asked the board if they would accept the areas into the District.

The district agreed to accept the areas and held an election to determine if the residents wanted to be included in the district; however, residents voted against joining the district at that time, leading the TCEQ to order the areas into the district. Prior to the order more than 17,000 acres were voluntarily annexed into the district under the existing tax rate.

Those producers and residents who did not voluntarily annex will now be subject to the production fees. The Texas Water Code sets the first year’s fees at no more than \$1 per acre foot for non-exempt agricultural producers and \$10 per acre foot for all other non-exempt uses, including municipal and industrial. The fees will be established by rule and will, therefore, require the standard public notice and hearing procedures for passing any district rule.



WaterWise Program Saves Millions of Gallons

Since the district began the WaterWise Conservation Education Program for fifth graders four years ago, the program has accumulated an estimated annual savings of almost 26 million gallons of water and more than 182 million gallons of lifetime savings. The program is offered free of charge to fifth grade students throughout the district and it conserves precious resources and educates students and their families at the same time.

“The water savings are certainly valuable, but the full value of the program is really difficult to measure as the participants are changing their attitudes and actions about how they use our precious resources.” said Kirk Welch, district assistant general manager for outreach. “This year 814 teachers, students and their families participated in program.” WaterWise achieves these results by uniquely combining an educational project and a conservation project with measureable resource savings.

The program begins with classroom discussions teaching the importance of using water and energy efficiently, followed by hands-on, creative problem solving. Next, participants take home a WaterWise Kit that contains conservation tools. With the help of their parents/guardians, they install the tools in their home and complete a home survey. Here are a few samples of questions asked on the home survey.

- Did you install the high efficiency shower head? Yes - 44%
- Did you work with your family on this Program? Yes - 61%
- Did your family change the way they use water? Yes - 69%

Before installing the conservation tools in their homes, parents/guardians and students measured the efficiency of pre-existing devices so they could calculate savings generated using the new devices. Using the family habits collected from a home survey as the basis for this calculation, eight hundred fourteen (814) households are expected to save the following resource totals. Savings from these actions and new behaviors will continue for many years to come.

TOTAL PROJECTED PROGRAM SAVINGS:

| Annual | Lifetime |
|-----------|-----------------------------|
| 4,789,549 | 32,373,616 gallons of water |
| 14,417 | 102,600 therms of gas |
| 231,618 | 1,654,984 kWh electricity |

By installing and monitoring the new efficiency tools in their own homes, students are able to measure what they learned with actual water, energy, and monetary savings. These savings benefit both the participating student households and their communities.

Students were asked to complete a ten question test before the program was introduced and then again after it was completed to determine the knowledge gained through the program. On average students answered 63-percent of the questions correctly prior to being involved in the program and improved to answer 81-percent correctly following participation.

This article was compiled from excerpts from the 2013-2014 North Plains GCD WaterWise Program Summary Report.



Fifth grade students each receive a kit packed with water conservation tools to take home. The students (and parents) learn as they install the devices and calculate their savings.

Plan Now for 2014 Groundwater Production

Annual allowable production for all producers of groundwater in the district is 1.5 acre feet/acre of groundwater rights (18 inches). The allowable production limits apply to all producers including, agricultural, municipal, industrial, confined animal feeding operations, and exporters.

In addition to the annual allowable production amount, any producer who has Groundwater Conservation Reserve (GCR) available from the past three years may use up to 6 inches of the GCR during 2014. The allowable production for 2014 combined with maximum GCR of 6 inches equates to 2 acre feet/acre available for production in 2014.

The GCR began in 2010 and was created as a means to promote conservation and water use efficiency, while giving producers more flexibility to manage their resources. The GCR allows producers to save unused allowable production from one year to be used in either of the next five years. A maximum of 6 inches of GCR may be applied to any production year. Failure to file production reports on time will result in a loss of the GCR for that year.

Compliance with the district’s allowable production limits helps well owners save water, but can also save money by avoiding fees for exceeding production limits. The district’s board has adopted a policy of initially assessing a fee for exceeding the district’s production limits, instead of pursuing litigation. If well owners exceed the production limit the board requires the well owner to install a meter and assesses fees as follows :

- First offense: \$25 per acre/foot
- Second offense: \$75 per acre/foot
- Third offense: \$225 per acre/foot

For example, if a producer pumps 3 inches over their allocation on a 640 acre section, that equates to 1920 acre/inches or 160 acre/feet over the annual production limit. On the first offense, that scenario would produce a fine of \$25 x 160 acre/feet = \$4,000. On the third offense this scenario would produce a fine of \$225 x 160 = \$36,000. If you have questions about your water planning for 2014, district staff will be happy to answer any questions you may have.

Better Yields Expected for “200-12 Project”

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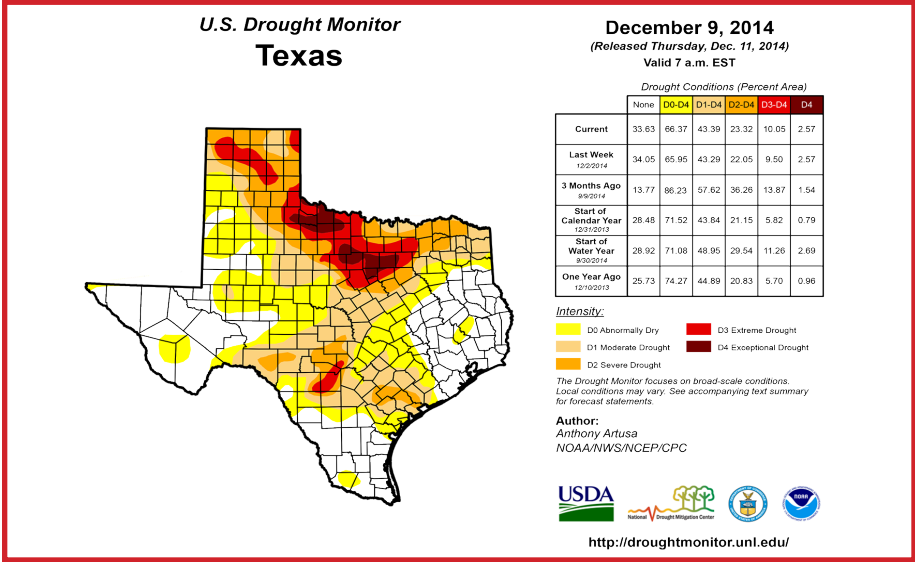
produced an extra bushel of yield with almost 3.85 inches less total water than the model. The field produced 15.51 bushels per inch of irrigation water compared to the expected average of 9 bushels when using traditional irrigation methods. In addition, in Ochiltree County, with an irrigation capacity of 5.0 gpm per acre, Danny Krienke produced 217 bushels per acre with 14.42 inches of irrigation and 7.76 inches of seasonal rainfall. His field produced 15.04 bushels per inch of irrigation. Both growers used soil moisture probes to manage irrigation. Grall’s field was one that received hail damage in June, however the crop was at the seven-leaf stage, which helped it maintain it’s yield.

Rainfall averaged about 9 inches for the demonstration fields, unfortunately not all of the fields actually received that much rain. Some came in with rainfall levels in the 6-7 inch range and their irrigation amount is correspondingly higher. In addition, with the increased rains in some areas came damaging hail that knocked-back what could have been higher yields.

All things considered, however, it was a better production year for the farmers across the region and for those in the “200-12 Project.” New said one the biggest wins for 2014 won’t be realized until the 2015 growing season. “Due to better rainfall in many areas, farmers have been able to reestablish soil water levels that were drastically depleted in 2011 and not yet regained,” said New. He added, “Ending soil water levels are good for 2014, which means farmers will have more to work with during the 2015 season.”

The district provided multiple opportunities for public education and interaction regarding the “200-12 Project” this year. Community members attended three irrigation meetings during September that highlighted the “200-12 Project” as well as the “EPIC” project, which is a cooperative effort between the district and Texas AgriLife Extension. EPIC is an acronym that stands for Efficient Profitable Irrigation in Corn. The district provides funding for EPIC and supports its goal of demonstrating strategies for saving precious inches of irrigation even in high-yield corn operations.

The final report for this year’s “200-12 Project” is scheduled for publication some time after the first of the year. While this is the final year of the original 5-year “200-12 Project,” the board of directors is committed to continuing the award winning demonstrations. The Texas Water Development Board has signed on with financial support for the project through the 2018 growing season. For more information on the “200-12 Project” visit the web site at <http://www.northplainsgcd.org/education/200-12-project.html> or call the district office at 806-935-6401.



Water Conservation Artwork Contest Winners Announced

Allena Rowland, daughter of Johnny and Lori Rowland of Sunray was this year’s grand-prize winner in the Water Conservation Artwork Contest sponsored by North Plains Groundwater Conservation District. The annual contest is open to all fourth, fifth, and sixth grade students who reside within the district.

Allena’s artwork titled “Water Catching” is a water color depicting a rainy day with a rain barrel in action. Allena will receive a certificate of recognition, a \$50 cash prize, and her artwork will be featured on the cover of the 2014 North Plains Groundwater Conservation District Water Conservation Calendar. Allena is a home school student from Sunray. The calendars are free to the public.

Other winners in this year’s contest were:

Marshall Simmons – artwork titled “Saving Water From a Rainbarrel”. Marshall is the son of Kelly and Scott Simmons and was in Mrs. Henley’s class at Hillcrest Elementary School in Dumas.

Dade Gomez – artwork titled “Mr. Waterhog”. Dade is the son of Destiny and Mario Gomez and was in Mrs. Kaul’s class at St. Anthony of Padua Catholic School in Dalhart.

Thomas Meyer – artwork titled “You’re Gonna Have Trouble if You Don’t

Have Stubble”. Thomas is the son of David and Christine Meyer and was in Mrs. Kaul’s class at St. Anthony of Padua Catholic School in Dalhart.

Cash McCurley – artwork titled “Saving Water”. Cash is the son of Amber McCurley and was in Mrs. Henley’s class at Hillcrest Elementary School in Dumas.

Lauren Skipworth – artwork titled “Full Loads of Laundry Save Water”. Lauren is the daughter of Kylene and Brandon Skipworth and was in Mrs. McOmber’s class at Hillcrest Elementary School in Dumas.

Sa Ki Da – artwork titled “Water Cycle”. Sa Ki was in Mrs. Robinett’s class at Morningside Elementary School in Dumas.

Jazelle Segura – artwork titled “Saving Water”. Jazelle is the daughter of Robert Segura and was in Mrs. Robinett’s class at Morningside Elementary School in Dumas.

Ar Li – artwork titled “The Water”. Ar Li was in Mrs. Robinett’s class at Morningside Elementary School in Dumas.

Zivan Segura – artwork titled “Save Water”. Zivan is the son of Robert Segura and was in Mrs. Robinett’s class at Morningside Elementary School in Dumas.

Ar Ba – artwork titled “Don’t Put One Shirt”. Ar Ba is the son of Syfo Lah and Har Bi Bar and was in Mrs. Robinett’s class at Morningside Elementary School in Dumas.

Ashley Adame – artwork titled “Reduce, Reuse, Recycle”. Ashley is the daughter of Lorena Macias and was in Mrs. Strickland’s class at Morningside

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Elementary School in Dumas.

Max Orman – artwork titled “Max’s Carwaxh”. Max is the son of Shane and Marcy Orman and was in Mrs. Kaul’s class at St. Anthony of Padua Catholic School in Dalhart.

All of these students earned certificates of appreciation, a \$25 cash award, and will have their artwork featured inside the annual Water Conservation Calendar. The free water conservation calendars serve as a colorful reminder throughout the year of ways that each of us can be more responsible with our water. The calendars will be available at the North Plains Groundwater Conservation District offices at 603 East 1st Street in Dumas, and also at water utility offices in each town within the district. You can also request copies of the calendar by calling the district office at 806-935-6401.

The district would like to thank all of the students who participated in this year’s contest.

The district also appreciates the parents and teachers who encourage their students to enter this contest each year. It is an excellent way to encourage students to think about ways that they could conserve water and get a water conservation message to others through their art. If you would like to participate in the 2015 Water Conservation Calendar Art Contest, please send in your landscape drawing to the office. They can be mailed to PO Box 795 Dumas, TX 79029 or dropped off at 603 E 1st St. Dumas, TX 79029.



Allena Rowland’s, water color titled “Water Catching” is this year’s grand-prize winner in the Water Conservation Artwork Contest sponsored by North Plains Groundwater Conservation District. The picture depicts a rainy day with a rain barrel in action.