2018 ANNUAL REPORT

PANHANDLE GROUNDWATER DISTRICT

"Conserving Water for Future Generations"

Panhandle Groundwater Conservation District
201 W. 3rd, White Deer, TX 79097 • 806-883-2501 • www.pgcd.us

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WHO ARE WE?

Panhandle Groundwater Conservation District

Mission

The Panhandle Groundwater Conservation District will strive to develop, promote and implement water conservation, augmentation and management strategies, to protect water resources for the citizens, economy and environment of the District.

50/50 Standard: Our Motto

We want to preserve at least 50 percent of current water supplies for 50 years from now.

About Us:

Created in 1955 by Texas legislature.

Derives its authority from Chapter 36, Texas Water Code

Funded by ad valorem taxes.

MANAGER'S ADDRESS

The beginning of 2018 was filled with planning for our 4th Biennial Water Conservation Symposium. With about 300 in attendance, over 20 sponsors and 16 speakers from all over the state, the conference was quite a success. We look forward to hosting and planning our next Symposium in 2020.

In March, the field staff Technicians finished up our annual Winter Water Level measurements, and soon after office staff began to evaluate the data. This data is what populates our July Newsletter each year and contour maps are generated.

Early in the year, staff members began working with RunBiz Solutions in Amarillo to update and redesign the PGCD website. The overall look is more modern and easier to navigate. The website has an online portal, which is password protected, and the District plans to use it to update operators on their water use throughout the year.

Throughout the summer months, we spent much time outlining our stance and participation within GMA1 and testifying at public hearings hosted by House and Senate standing committees regarding interim charges. We provided testimony mostly pertaining to progress and challenges in encouraging coordination and consistency in aquifer-wide management and permitting practices, one of the Texas House Committee on Natural Resource's interim charges. Many of the interim charge issues and bills that were vetoed at the end of last session along with the flooding issues associated with Hurricane Harvey will certainly be on the agenda for the next Session of the Texas Legislature when they start in January 2019.

Much of the year was spent revising District Rules. In 2017, it became apparent the current rules regarding depletion management were not actively identifying problem areas within the District. It was decided to let a rules subcommittee review the rules. After review, the Board decided to task PGCD staff with proposing recommendations for new management methodologies to ensure that we meet our management goals and Desired Future Condition of the aquifers within the District. Staff was also instructed to review other areas of the Rules to see if any other improvement was needed.

Much of the early part of 2018 was extremely dry, setting a record of the most consecutive days without measurable moisture. The rain did finally start to come in the Summer and Fall. However, much of our District remains in drought. We must do everything we can do to make efficient use of every drop to make our dwindling aquifers last as long as possible for our generations to come.

During the Fall, staff worked toward educating District residents on upcoming proposed rule changes, scheduled to go to hearing on December 20, 2018. While 2018 was not a year of much change for the District, it was a year in preparation for the upcoming changes headed its way in 2019. With the proposed new rules, the District and its constituents will all have to work together to better manage the aquifer – as we all work toward "conserving water for future generations".

BOARD OF DIRECTORS

Danny Hardcastle
President
Serving since 1997

Phillip Smith
Vice President
Serving since 1990

Chancy Cruse
Secretary
Serving since 2013

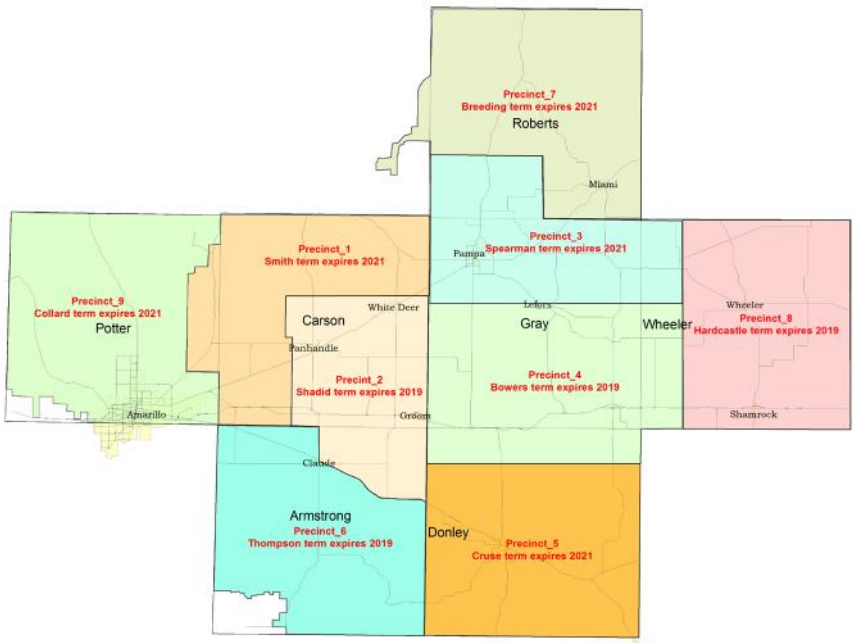
Charles Bowers
Director
Serving since 1990

Bill Breeding
Director
Serving since 2013

F. G. Collard
Director
Serving since 2010

Joy Shadid
Director
Serving since 2015

John R. Spearman
Director
Serving since 2000



Jim Thompson
Director
Serving since 1994

DESIRED FUTURE CONDITIONS

The main purpose of a management plan is to develop goals, management objectives, and performance standards that, when successfully implemented, will work together to achieve the adopted DFCs. Goals 2 through 13 directly and/or indirectly support Goal 1. DFCs adopted for the Ogallala and Dockum aquifers by GMA 1 on November 1, 2016, for the District are described below (note, the Blaine Aquifer in Wheeler County is now classified by GMA 1 as non-relevant for joint planning). A 50-year planning horizon was used in setting the DFCs. Throughout the joint planning process, the District actively worked with the other District Representatives and stakeholders within GMA 1 to determine the DFCs for each relevant aquifer located within each district.

Management Objective 1.1

The cornerstone of the many programs and activities that have been developed and adopted in order to achieve the 50/50 DFC is the District's Rule 15, also referred to as the Depletion Rule, which contains the 50/50 Management Standard stating that 50 percent of the current saturated thickness will remain in 50 years. This 50/50 Management Standard is the tool by which the District will ensure that the District meets or exceeds the 50/50 DFC. Rule 15 states that the allowable rate of decline in the Ogallala Aquifer's saturated thickness annually is 1.25 percent. In order to ensure that the Management Objectives of the District's Rule 15 are being met, the District goes through an annual review process to identify and act upon areas that are exceeding the allowable decline rate of 1.25 percent of saturated thickness on an annual basis. Management Objective 1.1 is for the District to successfully undergo and complete the evaluation and review process required by Rule 15 no later than December 1st of each calendar year. The results of this process will be published in the District's Annual Report which, upon approval by the District Board of Directors, will be published on the District's website.

In order to complete Management Objective 1.1, the following Performance Standards will be met. Actions by the District Board of Directors that may result from this review include the adoption of production limits, drilling moratoriums, and installation of flow meters, as required.

Performance Standard

1.1 A	Winter Water Level Presented to Board of Directors by August 31st	Reported to the Board on August 16, 2018	Completed
1.1 B	Evaluate the Sum of Declines	Reported to the Board on September 27, 2018	Completed
1.1 C	Determine Non-Exempt Water Pumping Volumes and Report to the Board of Directors	222,820 Gallons	Completed

Management Objective 1.2

The District will develop and maintain an integrated geodatabase system based on the District's Observation Well Network and computer mapping programs to annually track and evaluate current supplies by determining a baseline (1998) Ogallala Aquifer saturated thickness in the District. The baseline is utilized to track and review changes in water supplies.

Performance Standard

1.2 A	Annual Review of Depletion	July 2018 Newsletter	Completed
1.2 B	Update Saturated Thickness map on District's Webiste	https://www.pgcd.us/mapping	Completed

Dockum Aquifer Desired Future Conditions

The Dockum Aquifer is classified by the TWDB as a minor aquifer that is present primarily in the western portions of the District and is generally under confined (artesian) conditions. Based on our current understanding of water resources in the Dockum Aquifer, DFCs have been adopted for Armstrong, Carson, and Potter counties within the District. Due to the predominantly confined nature of the Dockum Aquifer, a different approach was taken in adopting DFCs for the Dockum Aquifer. The DFC adopted for the Dockum Aquifer in GMA 1 is that the average decline in water levels will be no more than 30 feet aquifer wide within the District over the next 50 years

Management Objective 1.3

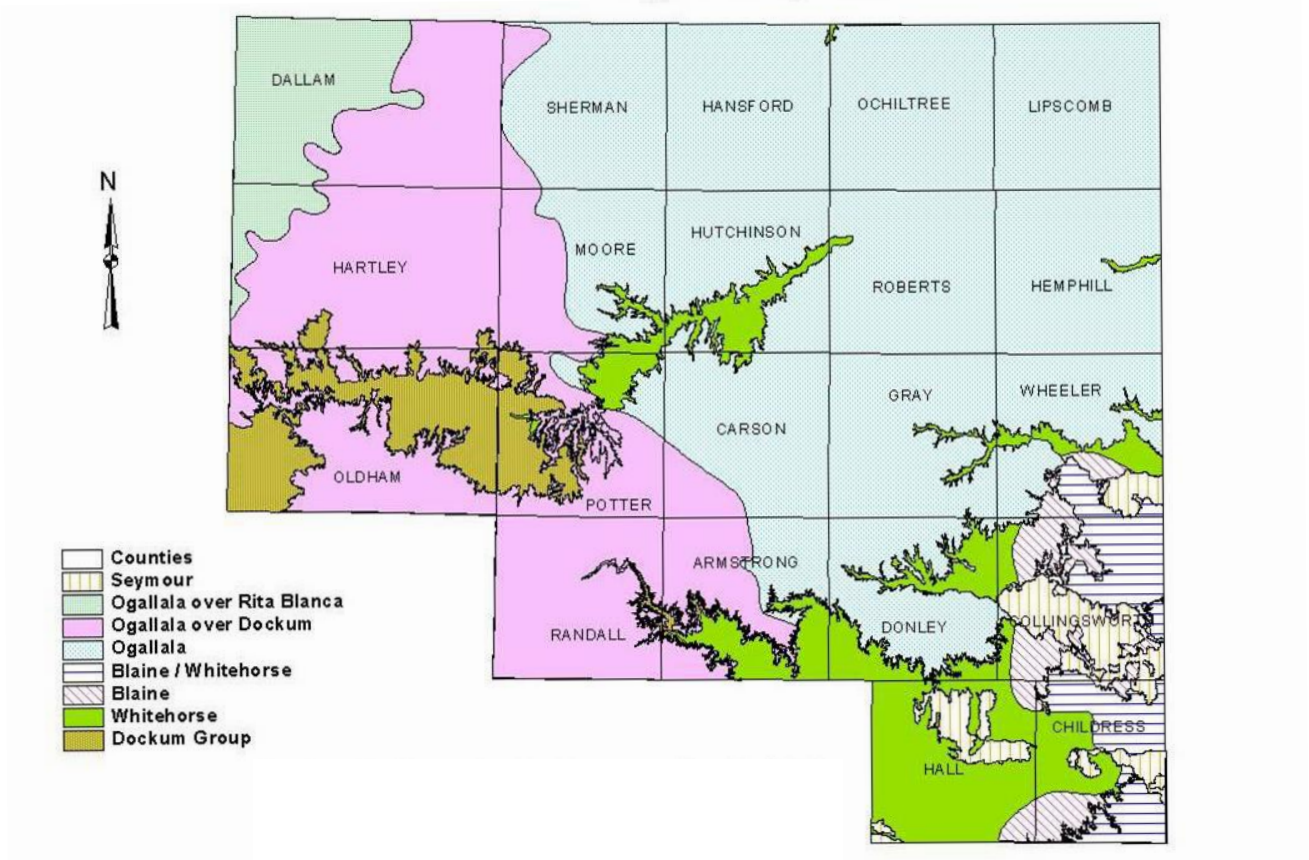
While there are tens of thousands of data points collected over time relative to the Ogallala Aquifer, the opposite is the case for the Dockum Aquifer. This can primarily be attributed to dominance of the Ogallala Aquifer in the region and prevalence of poor water quality from the Dockum Aquifer. Due to declining water levels in the Ogallala Aquifer, there are areas where the Dockum Aquifer is becoming a more important water resource. There are localized areas of good water quality and where technological advances are being made using brackish groundwater desalination.

Due to the scarcity of data regarding the Dockum Aquifer, the District is primarily focused on data collection and trend analysis on wells completed in the Dockum Aquifer currently included in the District's Observation Well Network. This management objective is to monitor and report on Dockum Aquifer wells in the District's Observation Well Network that are experiencing declines for which the trend is in excess of the DFC of 30 feet.

Performance Standard

1.3 A	Data Collection and Trend Analysis in the Dockum Aquifer on Wells in Excess of the DFC of 30 feet	July 2018 Newsletter	Completed

PANHANDLE REGION AQUIFERS



MANAGEMENT OF GROUNDWATER USE

Throughout its history, the District has operated on the core principle (or goal) that groundwater should be used as efficiently as possible for beneficial purposes. In order to achieve this goal, the District maintains a qualified staff to assist water users in protecting, preserving, and conserving groundwater resources. The Board of Directors has in the past and continues today to base its decisions on the best data available to treat all water users as equitably as possible. Once data is collected, the District utilizes a wide variety of forums to provide important information to water users throughout the District so that sound decisions regarding the efficient use of groundwater can be made. The District's Observation Well Network will continuously be reviewed and maintained in order to monitor changing storage conditions of groundwater supplies within the District. The District will continue to undertake and cooperate with technical investigations of groundwater resources within the District. The following management objectives and performance standards have been developed and adopted to collect needed information, disseminate information, and provide opportunities through the District's Agricultural Water Conservation Equipment Loan Program to ensure the efficient use of groundwater.

Management Objective 2.1

The Observation Well Network, with approximately 850 water wells located throughout the District is continuously maintained and monitored. Wells in the Observation Well Network produce groundwater from the Ogallala Aquifer, the Dockum Aquifer, and also other minor aquifers in the area. Water levels are measured by District staff in as many wells as possible, with the management objective being to measure water levels in at least 90 percent of the wells in the Observation Well Network each year. This data is then processed for quality assurance/quality control, entered into the District's geodatabase, analyzed, mapped, and used to make decline calculations and update historic trend lines (hydrographs).

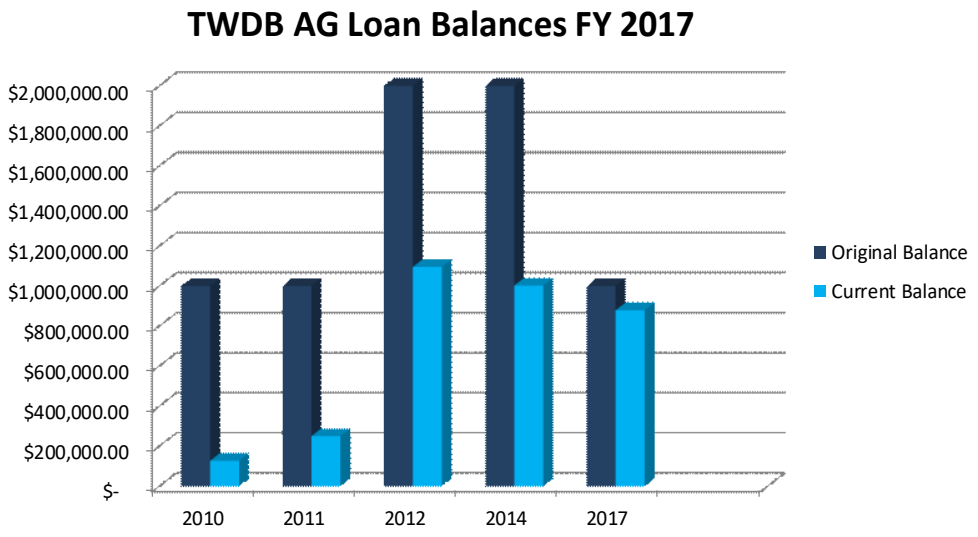
Water level measurements from wells in the District's Observation Well Network are used to generate annual depletion maps. The District will strive to install additional monitoring wells in locations when necessary in order to evaluate the effects of high-impact pumping operations as necessary. Furthermore, the District will install and maintain automatic data gathering equipment on wells as needed.

Performance Standard

2.1 A	Measure Water Levels in at least 90 Percent of the Wells in the District's Network by April 1st	Measured 820/850 Wells - 96%	Completed
2.1 B	Annual Depletion Maps	Published in the July 2018 Newsletter	Completed
2.1 C	IRS Depletion Map & Letters	December 12, 2017	Completed

Management Objective 2.2

The District encourages efficient groundwater use by continued promotion of low pressure and other efficient sprinkler systems, drip irrigation systems, and other recognized water conservation measures, which will decrease the utilization of less efficient row irrigation techniques. This will be accomplished by increasing the use of the District's Agricultural Water Conservation Equipment Loan Program, as long as TWDB Agricultural Loan Program funds are available and economically competitive. The District will enhance awareness of the loan program by utilizing local newspapers and the PWN. The District website will have information on availability of funds and guidelines for applicants. The District will strive to provide timely responses to loan applicants.



Performance Standard

2.2 A	Ag Loan Reminder	In Panhandle Water News - April & July 2018	Completed
2.2 B	Review Ag Loan Applications within 60 Days.	Granted 5 Loans for a Total of $501,268.00	Completed

Management Objective 2.3

The District encourages the efficient use of groundwater by disseminating educational information regarding current best management practices and trends in water conservation for agricultural, municipal, and industrial applications. The District publishes a newsletter quarterly that contains resources for water users interested in water conservation. In addition, the District also attends and participates in public events throughout the District including the annual Amarillo Farm and Ranch Show as often as possible.

Performance Standard

2.3 A	Publish Panhandle Water News Quarterly	October 2017, January, April & July 2018	Completed
2.3 B	Attend Farm & Ranch Show Annually	November 28-30, 2017	Completed

Management Objective 2.4

In order to ensure that the Board of Directors and District constituents are aware of and informed on the most current information on water conservation, groundwater management, and emerging policy issues related to groundwater resources, District staff actively participate in a broad grouping of professional associations that focus on water resource issues. District staff will report at the next available regularly scheduled Board of Directors meeting in the General Manager's Report on any activities resulting from participation with the following active affiliations:

- Texas Alliance of Groundwater Districts (TAGD)
- Texas Water Conservation Association (TWCA), and,
- Groundwater Management Districts Association (GMDA).

Performance Standard

2.4 A	Attend & Participate in 75% of TAGD, TWCA & GMDA Meetings.	Attended & Participated in 100% of all Meetings.	Completed

MANAGEMENT OF GROUNDWATER USE CONT.

Management Objective 2.5

The District has adopted rules that require approved flow meters on all new and replacement wells three inches or larger in column pipe size. Flow meters are also required for non-exempt wells in all Study and Conservation Areas. The District believes that when a water user understands the volume of groundwater being used, they are better able to adopt best management practices that result in the efficient use of groundwater. Therefore, the District is committed to continuing the program focused on requiring flow meters for certain wells, flow meter monitoring, and data collection and analysis of water use by crop and irrigation type. To achieve this objective the District will read and record flow meter data from 90 percent of the installed flow meters in the District annually. Study and Conservation Area meters will be read at least annually; however, they may be read on a monthly or quarterly basis as needed. The information from the District's metering program will be published in the District's Annual Report.

Performance Standard

2.5 A	Flow Meter Data for at least 90% Annually	952 out of 1055 Meters were Recorded; 90 Percent	Completed
2.5 B	Review and Prepare revised estimates for TWDB Annual Agriculture Water Estimates	Reported to TWDB on 3/20/2018	Completed

GROUNDWATER WASTE PREVENTION

Another core principle adopted by the District since its inception in order to conserve groundwater resources of the region is by controlling and preventing the waste of groundwater. The following management objectives and performance standards have been developed and adopted as an integral component of the District's umbrella goal to achieve the 50/50 Management Standard.

Management Objective 3.1

The District is continuously working to take positive and prompt action to identify and address all reported wasteful practices and instances of waste located by District staff within the District. This effort involves the following actions to be taken by the District.

- Report each complaint to the landowner and/or operator within two working days.
- Resolve the complaint and note the corrective action taken.
- Report resolution of each complaint to the landowner/operator and to the Board at the next regularly scheduled meeting during the General Manager's Report.

Performance Standard

3.1 A	All Complaints of Waste will be Recorded, Investigated and Reported to the Land Owner within 4 Business Days	One complaint was reported, PGCD contacted the Land Owner, and the issue is still ongoing and unresolved.	Completed
3.1 B	Report Each Complaint to the Board with Staff Recommendations for Resolution	The complaint was reported to the Board and is still awaiting Staff Resolution.	Completed

In order to address drought conditions, the District has implemented a number of programs that are designed to positively support constituents in the District when drought conditions exist. While three of these efforts are described below in Management Objectives 4.1 - 4.3, others are documented elsewhere in the management plan. For example the District operates a state-permitted precipitation enhancement program, described below in Goal 8.

Management Objective 4.1

Conduct drought contingency planning by ensuring that drought contingency plans required in all Multiple Well Permits issued by the District are included in the permit applications and that they are administratively complete.

Performance Standard

4.1 A	Ensure Drought Contingency Plans for Multiple Well Permits.	All required Drought Contingency Plans are current and on file with the District.	Completed

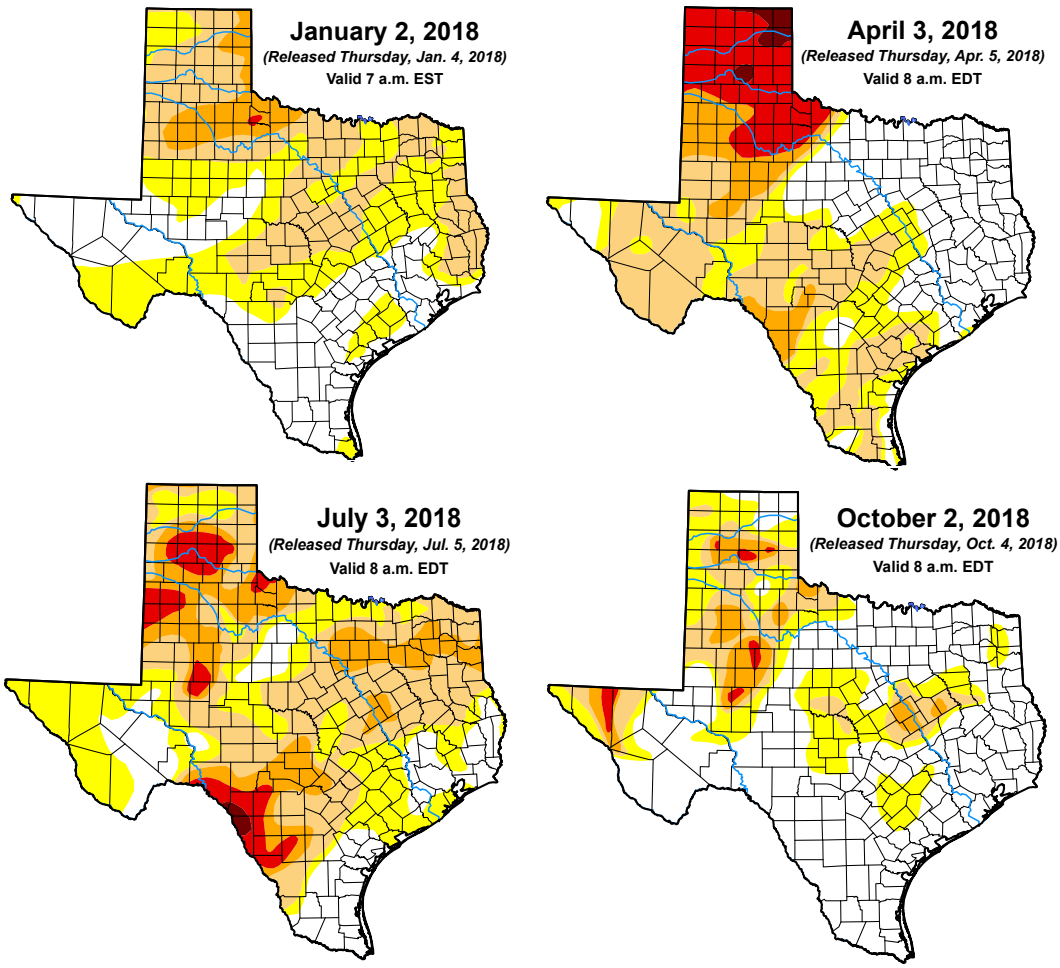
Management Objective 4.2

In order to provide ongoing information regarding water conditions in the District, establish and maintain links to National Oceanic and Atmospheric Administration Drought Monitor indices are on the District Website.

Performance Standard

4.2 A	Provide a link to the NOAA Drought Monitor	https://www.pgcd.us/links	Completed

2018 TEXAS DROUGHT MONITOR MAPS



Intensity:

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

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

Author:

Eric Luebehusen
U.S. Department of Agriculture

http://droughtmonitor.unl.edu/

JOINT MANAGEMENT EFFORTS

The Canadian River Municipal Water Authority (CRMWA) supplements member city allocations of groundwater with supplies from Lake Meredith. The CRMWA system is the largest conjunctive use water provider in the State of Texas, providing a combination of groundwater and surface water to 11 member cities. All current CRMWA groundwater supplies are produced within the boundaries of the District.

The Greenbelt Water Authority (GWA) is the second surface water user with supplies inside the boundaries of the District. GWA is now also utilizing groundwater resources from the Ogallala Aquifer. The District will communicate with regards to rules and technical data as it applies to conjunctive use within the District.

Management Objective 5.1

In order to continually monitor the impact of declining surface-water availability on groundwater resources within the District, the General Manager participates in the Panhandle Water Planning Group (PWPG) with the two surface-water entities currently operating within the District. This activity helps facilitate regular communication and cooperation with regards to conjunctive use issues in the District.

Performance Standard

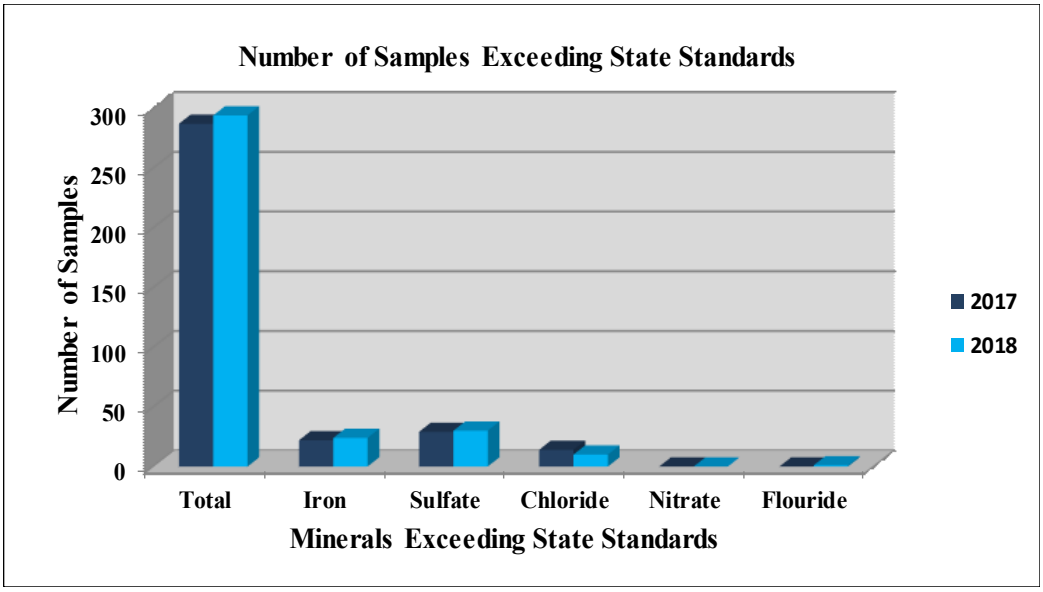
5.1 A	The District Manager will Participate in 75% of PWPG Meetings and Activities.	Attended and Participated in 100% of Meetings	Completed

NATURAL RESOURCE ISSUES

As part of the umbrella goal of achieving the adopted DFCs, the District recognizes that the protection of water quality is equally as important as working to ensure adequate water quantity. In order to protect the District's most important natural resource, the abundant, high quality groundwater resources, the District has for many years maintained and operated a water quality sampling program sampling different areas each summer which yields a complete set of data biennially.

Management Objective 6.1

In order to control and prevent the contamination of groundwater, the District maintains and works to expand the groundwater quality monitoring. As part of this effort, an annual sampling program will be conducted within the District's Water Quality Network. The objective will be to sample at least 80 percent of the wells in the District's Water Quality Network on a biennial basis. Also, upon request the District will conduct analysis of water within current District sampling capabilities, including sites near oil and gas industry injection well sites.



Performance Standard

6.1 A	Sample 80% of the Water Quality Network biennially.	294 Samples out of 350 Sites - 84%	Completed
6.1 B	Record Water Quality Data in Database within 30 Days of Sampling	401 Total Water Samples (294 by the District and 107 brought in by District individuals) were Collected and Recorded in the Database	Completed

CUSTOMER SERVICE

Management Objective 7.1

Customer service is of great importance to the Board and Staff of the District. As detailed in the corresponding performance standards, the District will continue to provide timely response to customer assistance requests in the following areas:

- Pump flow tests.
- Processing of well drilling permits.
- Review and revision of District Rules, as necessary, to incorporate revisions required by new legislation.
- Well camera recordings.

Customer service and operating efficiency are important to the District and is our top priority. When producers request pump flow tests, processing of well drilling permits and well camera recordings, the PGCD staff works hard to ensure all requests are completed in a timely manner. The District also stays on top of reviews and revisions of District Rules as necessary.

Performance Standard

7.1 A	Provide Requested Flow Tests within 5 Working Days & Enter into Database	All Requests Completed	Completed
7.1 B	Manager's Action on Well Drilling Permits within 10 Working Days of Approval	All Sent in a Timely Manner	Completed
7.1 C	Provide Well Camera Service within 5 Working Days & Archive DVD to Library	All Requests Completed	Completed

August 2018 Board of Directors Meeting

PGCD Staff at a Proposed Rules Educational Meeting

PRECIPITATION ENHANCEMENT

Texas Water Code Section 36.1071(a)(7) requires groundwater conservation districts to include in the management plan a goal addressing precipitation enhancement. The District has one of the longest continuous precipitation enhancement programs in the State of Texas.

Management Objective 8.1

The District will continue to operate its Precipitation Enhancement Program throughout the planning horizon of this management plan. The program will operate within budget. A rain gauge network will be maintained and monitored to check results. Flight records will be collected and archived. The program will abide by Texas Department of Licensing and Regulation requirements for testing, monitoring, and reporting in order to ensure compliance with permit guidelines. Results of the District's Precipitation Enhancement Program will be presented to the Board of Directors and included in the Annual Report each year.

Performance Standard

8.1 A	Annually Conduct Program from April to September 30	April 1 - September 30	Completed
8.1 B	Calculate the Baseline Costs for the Program by December 1 of Each Year	$0.041/acre	Completed
8.1 C	Collect and Record Rain Gauge Readings at Least Bi-Monthly	October 2017, January 2018 and March-September 2018	Completed
8.1 D	Annually Maintain all Flight Records & Archived Data on all Precipitation Enhancement Operations and Make Available for Review Upon Request	Current Flight Tracks on our website - https://www.pgcd.us/flight-tracks	Completed
8.1 E	Provide Required Rainfall Monitoring, Water Quality Testing & Other Require Reports to Texas Department of Licensing	2017 Report provided on 9/28/18 and presented to Board of Directors on 01/26/18	Completed

Panhandle Groundwater Conservation District completed its 19th year of precipitation enhancement. This year was considerably busier than the 2017 season with 25 operational days compared to last year's 16 days. This year's first seeding flight occurred on May 12, 2018 and the final seeding mission was on August 28, 2018. This year stayed consistently busy from May to August with August having the most seeding days at 10. The season ended with 28 total seeding flights, 12 reconnaissance flights, and 520 flares burned.

This year's seeding season began with a drought in place throughout the Panhandle and other portions of Texas. According to the U.S. Drought Monitor on April 24, 2017 all the Texas Panhandle was in an extreme to exceptional drought. We began to see some relief starting in July with all the exceptional drought portions gone and a much smaller portion of the central Panhandle still in extreme drought. The season ended with the northeast portion of the Panhandle clear of drought, some very small areas of extreme drought in Armstrong County and the rest of the area ranging from abnormally dry to severe drought. April's rainfall started the season off well below normal for the month. From May to August and interesting trend set up with all the counties receiving close to the normal rainfall except Armstrong and Potter counties. This can attribute to why those counties stayed in an exceptional drought longer than other portions of the District. September broke that trend with all the counties receiving above the normal rainfall for the month. Rainfall totals through September show Donley, Gray, Roberts and Wheeler close to the normal yearly rainfall, Carson and Potter with over half the yearly rainfall and Armstrong with less than half of the yearly rainfall received.

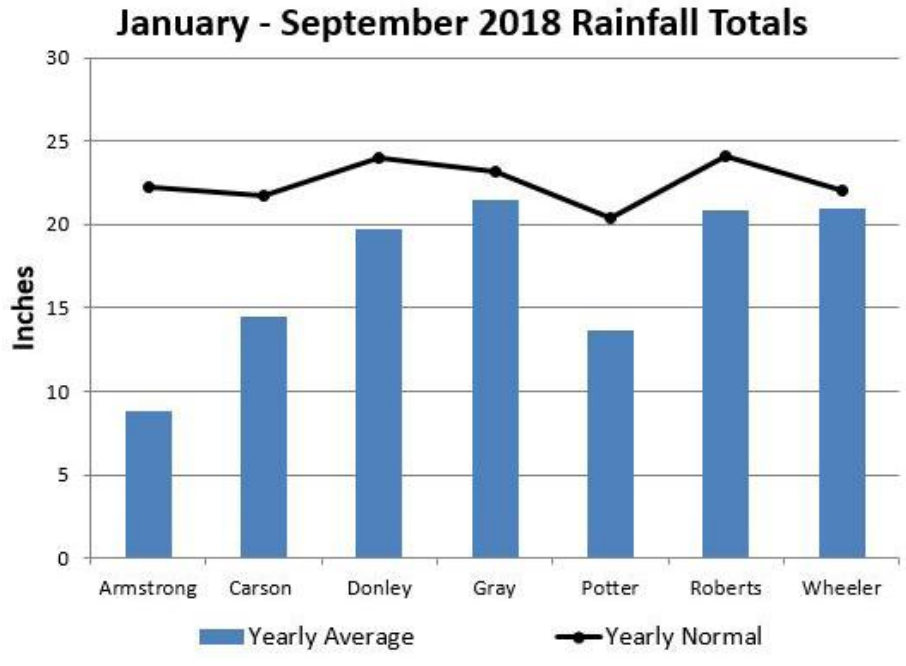
Management Objective 8.2

Educate the public with regards to the benefits of the District's Precipitation Enhancement Program through informational articles in the PWN and local newspapers, public presentations, and Program summaries in the District's Annual Report each year.

Performance Standard

8.2 A	Publish an Article about Precipitation Enhancement in at least 2 of the Quarterly Issues of PWN	October 2017 and April 2018	Completed
8.2 B	Provide at Least 2 Articles about the Program to all Local Newspapers	Weekly Rain Report in White Deer Newspaper	Completed
8.2 C	At Least 2 Presentations Annually to a Public or Civic Group	Travis Middle School (3/29/18), Pampa Rotary (4/25/18)	Completed
8.2 D	Complete the Program Summary Report and Include in District's Annual Report Each Year	See Table Below	Completed

2018 Program Summary	
Number of Seeding Days	25
Number of Seeding Missions	28
Number of Recon Flights	12
Total Flight Hours in Both Aircrafts	80
Total Flares Used	520
Total Program Cost	$174,312.43



CONSERVATION EDUCATION

Texas Water Code Section 36.0015 states, in part, that, "In order to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater.…Groundwater conservation districts may be created…are the state's preferred method of groundwater management through rules developed, adopted, and promulgated by a district in accordance with the provisions of this chapter." It is noteworthy that in this overview section of Texas water law addressing groundwater management that "conservation" is the first action groundwater conservation districts are to pursue. The 50/50 Management Standard can only be achieved if our groundwater resources are conserved in a manner that ensures adequate water resources will be available for future generations. While water conservation is a fundamental component of many of the District's programs, the following represent management objectives most focused on water conservation.

Management Objective 9.1

Continue and expand, when possible, the District's Groundwater Conservation Education Program. District staff will make presentations on the importance of water conservation to at least 5 civic organizations and in at least 35 elementary schools. Annually, the District will award at least three college scholarships to students in the District based on participation in a water conservation essay competition. The District will maintain an Internet information page and launch an aggressive conservation education initiative called "Water Warriors", as well as work with other entities to present an ongoing Panhandle area water conservation symposium. February 28, 2018 marked the 4th Biennial Texas Panhandle Water Conservation Symposium. Each symposium has drawn over 300 attendees, and this year was no different. We are already planning for the next symposium in 2010.

Performance Standard

9.1 A	Annually make at least 5 Civic Education Presentations.	NWRA in Tucson, AZ (12/16/17) 2018 Water Conservation Symposium (2/28/18), Carson Co. Ag Day (3/6/18), Panhandle Dianthus Club (3/6/18), TWRA in Ft. Worth (4/5/18), White Deer Lions Club (4/24/18), Pampa Rotary Club (4/25/18), White Deer Library (6/26/18)	Completed
9.1 B	Annually make 35 Elementary School Presentations	Presented to a total of 35 Schools within the District	Completed
9.1 C	Annually Provide at least 3 Scholarships	Winners: 1st Place - Riley Albracht 2nd Place - Callie Thornton, 3rd Place - Lily Nguyen	Completed
9.1 D	Water Warrior Presentation to at least 3 Public School Settings Outside of School	Amarillo Farm & Ranch Show (11/29/17) Carson Co. Ag Day (3/6/18), White Deer Library (6/28/18)	Completed

RAINWATER HARVESTING

Rainwater harvesting is becoming an increasingly important strategy for meeting water supply needs, especially in the more rural areas of Texas. While rainwater harvesting is one of the many topics included in the District's water conservation education programs, the following management objective and performance standards are specifically focused on rainwater harvesting. In an effort to push for more rainwater harvesting systems in our area, PGCD offers a Rainwater Harvesting Rebate Program that allows residents within the District to apply for up to 50 percent of the total project cost or apply for a loan with a low interest rate to be paid out over five years. Requirements regarding system details can be found on our website or by calling the District.

Management Objective 10.1

The District has established and maintains a rainwater harvesting system and provides educational tours to the public regarding the many benefits of the system. Tours of the District office rainwater harvesting system are provided upon request. A link to an informational page highlighting the rainwater harvesting system will be maintained and updated as necessary on the District's website. In addition, a link to the TWDB website on rainwater harvesting will also be maintained on the District's website.

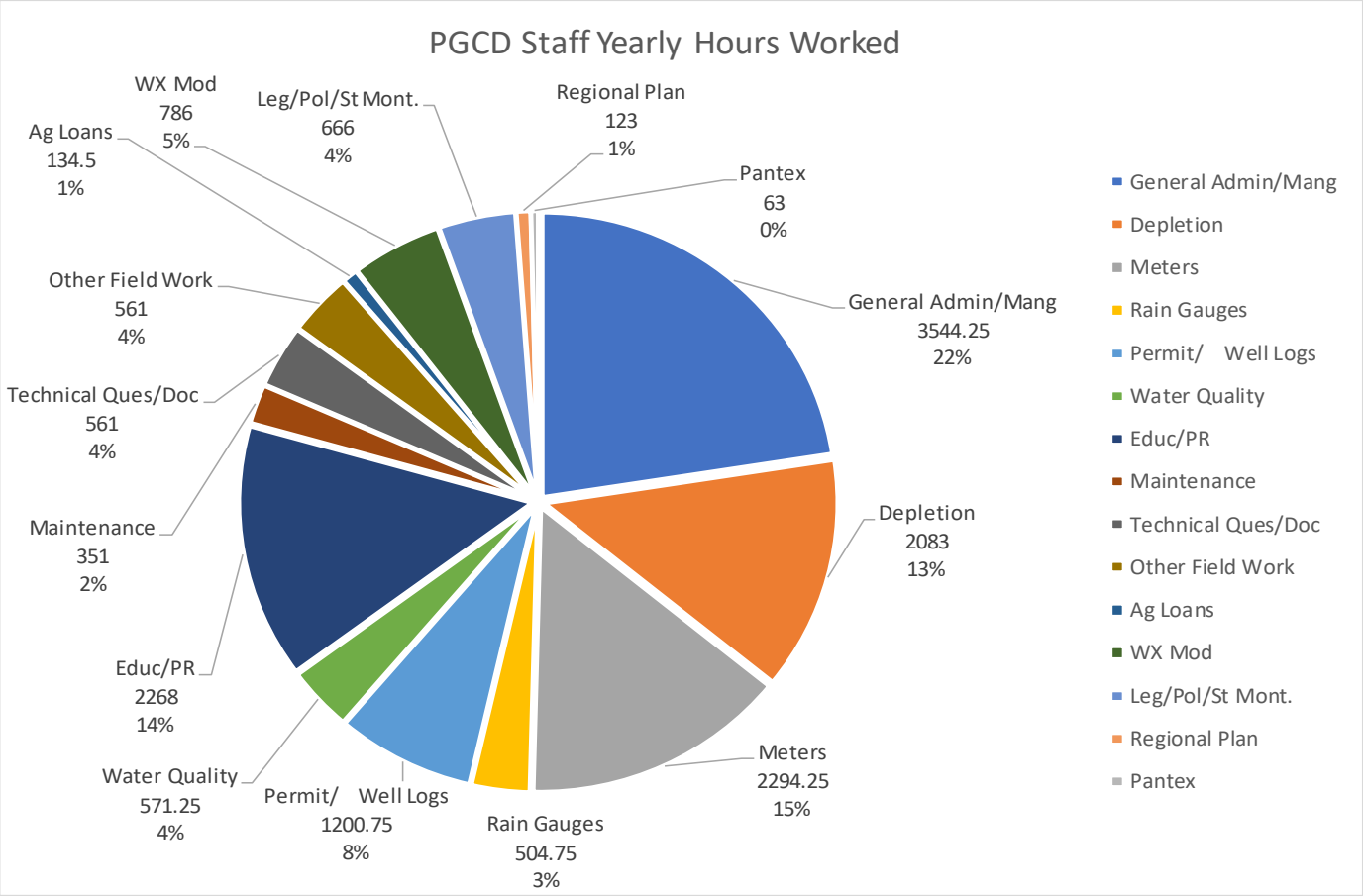
Performance Standard

10.1 A	Webpage Highlighting the District's Rainwater Harvesting System and Information about Tours	https://www.pgcd.us/rain-water-harvesting	Completed
10.1 B	Provide a Link to TWDB Rainwater Harvesting Webpage	https://www.pgcd.us/links	Completed

2017-2018 EXPENDITURES

Accounting Fees	$	6,300.00	Payroll Expenses	$	162.00
Appraisal District Fees	$	32,372.85	Payroll Taxes	$	39,857.09
Board Expense	$	14,666.03	Postage	$	2,041.80
Capital Operating Improvements	$	31,794.46	Printing	$	5,790.70
Capitol Expense	$	-	Professional Services	$	61,574.62
Car Expense	$	30,281.20	Regional Planning	$	13,850.46
Contract Labor	$	-	Repairs & Maintenance	$	10,065.03
Dues	$	3,827.72	Retirement	$	32,993.03
Education/Information	$	45,967.48	Salaries	$	525,511.83
Field Equipment Assets	$	2,707.86	Scholarships	$	5,125.00
Field Supplies	$	2,265.85	Service Charges	$	609.35
Grant Fund	$	6,382.50	Tax Increment Payment	$	5,400.00
Insurance & Bonds	$	83,810.48	Special Studies	$	31,515.38
Janitorial	$	5,250.00	Travel & Training	$	25,492.39
Meters	$	100,071.09	Utilities	$	20,284.19
Miscellaneous	$	1,744.67	Water Quality	$	6,388.79
Office Supplies & Software	$	15,186.04	Weather Modification	$	174,312.43
Election Expenses	$	-	RWH Rebate	$	-
Total				$	1,343,602.32

TIME TRACKING



It is important to remember that all water wells drilled to the water table MUST have a completed application, signed by the landowner, BEFORE it is drilled. This statement is made every year, but is important because without the application prior to drilling, a fine will be assessed to the driller and the landowner. It is as simple as giving the District a call before drilling.

As we complete the fourth year in which changes were made to the permit and registration forms, proposed changes to the rules, if approved in December 2018, will somewhat change the water well drilling permitting process also. There is currently the distinction of drilling a permitted well in a Study Area or not in a Study Area. Drilling a water well in a study area will no longer apply. There will be a "Water Well Drilling Permit" and it will apply to all wells with a 2" inside column pipe or larger which produces 17.5 gallons per minute or greater. Then there will be the Exempt Water Well Registration Form for all, what we call, 1" wells (which can have from a ¾ to 1 ¼ inch inside column pipe), which will produce less than 17.5 gallons per minute, no matter the acreage. All wells must meet spacing rules and Permitted wells must be spaced prior to drilling. The same "spacing and placing" the blue PGCD Logo flag, for the drillers to know the well has been spaced and is ready to drill, still applies.

"Spacing and Placing" the Blue PGCD Logo Flag has worked out extremely well. There is no mistaking if that blue PGCD Logo Flag is on the location where the water well is to be drilled. That has triggered the driller to call the District Office several times, and that is our ultimate goal, to space that well prior to drilling.

The test-hole form will still be part of the Drilling Permit Form and the Exempt Well Registration Form and continues to work out well. This page still only needs to be completed if a test hole is going to be drilled. If no test hole is going to be drilled, this page is not completed, which has streamlined the process for the landowner and the District.

The following is the total water wells permitted or registered with Panhandle Groundwater Conservation District for the 2017-2018 fiscal year and the four previous years. This year well applications totaled 295. The completed registrations and permits are received by fax, mail or email and are often brought in by the landowner. Drillers already have the forms and many landowners print the forms off of the PGCD Website, but I also often email the form to the landowner.

Currently, wells drilled on more than 10 acres and pumping less than 17.4 gallons per minute require a registration. The three most common water well registrations are for domestic, stock and rig supply wells. Rig supply wells generally produce more than 17.4 gallons per minute, but they are defined as an exempt use in Chapter 36 of the Texas Water Code. Any well that produces more than 17.4 gallons per minute must be permitted, as well as any well drilled on less than 10 acres. This requires being spaced both from property lines and other water wells. Once the proposed well location meets these requirements and is approved by our field technicians, by placing a blue PGCD flag with the latitude, longitude, date spaced & initials, the well may be drilled at the landowner's risk. The application must be approved by the Board of Directors.

Overall, the total wells drilled, based on the permitting process, are up last year from the previous year by 17% percent and up this year from last year by 31%. The biggest increase this year is in monitoring wells, rising from 32 in 2016-2017 to 66 registered wells this year. 2012 – 2013 dropped off the table this year with 379 wells drilled, following 2011 – 2012 which was the peak year for water wells drilled, with 491 wells drilled that year. As the table shows for the past 5 years, water well drilling continued to drop until last year with an increase of 33 wells from the previous year and again this year with and increase of 70 wells coming from both an increase in registrations and in monitoring wells. The Monitoring Well registrations increased from 32 to 66, registrations increased from 125 to 149 and the permitted wells decreased from 87 to 80 from the previous fiscal year.

Well Permits Approved

	2017-2018	2016-2017	2015-2016	2014-2015	2013-2014
Armstrong	8	2	2	2	10
Carson	20	11	18	17	29
Donley	8	8	13	11	41
Gray	12	8	10	13	24
Hutchinson	0	0	0	0	0
Potter	21	42	37	25	37
Roberts	2	2	4	2	3
Wheeler	9	14	13	9	18
Total	80	87	97	79	162

Domestic, Stock & Rig Supply Well Registrations Received

	2017-2018	2016-2017	2015-2016	2014-2015	2013-2014
Armstrong	28	10	11	10	2
Carson	33	13	6	5	8
Donley	22	20	21	41	23
Gray	19	21	15	17	29
Hutchinson	0	0	0	1	0
Potter	12	22	9	34	23
Roberts	12	7	10	19	20
Wheeler	23	32	22	27	36
Total	149	125	94	154	141

Observation & Monitoring Well Registrations Received

	2017-2018	2016-2017	2015-2016	2014-2015	2013-2014
Armstrong	0	0	0	0	0
Carson	31	15	4	0	0
Donley	0	0	0	0	0
Gray	1	0	0	0	2
Hutchinson	0	0	0	0	0
Potter	30	13	5	1	4
Roberts	0	0	0	0	0
Wheeler	4	4	4	0	0
Total	66	32	13	1	6

October 2017

10.3 Regional Ag Committee Meeting, Amarillo
10.3-4 Groundwater Recharge Roundtable, Senate Energy & Natural Resources, Washington DC
10.9 TCFA Meeting, Amarillo
10.17 Regional Water Planning Chairs Committee Meeting, Austin
10.17 Accelerated H2O Meeting, Lubbock
10.18-20 TWCA Fall Conference, San Antonio
10.23 Texas Water Foundation Board Meeting & Film Festival, Austin
10.23-24 NWRA Groundwater Taskforce Meeting, Dallas


Julie Bennett at teh Amarillo Farm & Ranch Show

November 2017

11.6 Pantex Environmental Meeting, Panhandle
11.8 TAGD Leadership & Board Member Training, Amarillo
11.9 TAGD Database Training Meeting, Amarillo
11.9 GMA1 Meeting, Amarillo
11.14-17 NWRA Groundwater Taskforce Meeting in Tuscon, AZ
11.28-30 Amarillo Farm & Ranch Show

December 2017

12.5-8 Panhandle Water Planning Group Meeting in Austin


Attendees at the Biennial Water Conservation Symposium

January 2018

1.3-5 NWRA Leadership & Groundwater Taskforce, Las Vegas
1.16-19 GMDA Annual Meeting, Biloxi, MS
1.30-31 TAGD Meeting, Austin

February 2018

2.7 Irrigation Conference, Amarillo
2.13 High Plains UWCD Board Meeting
2.28 4th Water Conservation Symposium

March 2018

3.6 Carson County Ag Day, Panhandle
3.6 Dianthus Club Meeting, Panhandle
3.7 TWCA Meeting in Austin


CE testifying in Austin over Interim Charges

April 2018

4.9-10	NWRA Federal Water Issues Conference, Garden City, KS
4.10	Red River Advisory Committee Meeting
4.24	White Deer Lions Club Meeting
4.25	Pampa Rotary Club Meeting

May 2018

5.21-22	TAGD Summer Meeting in Austin
5.31-1	GMDA Summer Meeting in Savannah, GA

June 2018

6.1	GMDA Summer Meeting in Savannah, GA
6.4	Senate Ag & Rural Affairs Interim Meeting, Austin
6.5	House Natural Resources Committee Interim Meeting, Canyon
6.12-15	TWCA Mid-Year Conference, Conroe
6.26-28	TWCA Risk Management Leadership Training, Sanford
6.28	White Deer Library Presentation
6.28	House Natural Resources Meeting, Austin


Summer Education at White Deer Library

July 2018

7.17	Texas Water Foundation Meeting, Austin
7.19	TAMU Water Well Training Meeting, Bushland

August 2018

8.14	Regional Planning Group Executive Committee Meeting, Amarillo
8.15	Regional Planning Group Meeting, Amarillo
8.28-30	TAGD Summit Meeting, San Antonio
8.30	Texas Board of Professional Geoscientists Meeting, Austin


CE presenting upcoming proposed Rule changes in Donley County

September 2018

9.7	TWCA Groundwater Panel, Austin
9.18	Meeting in Donley County for PGCD Proposed Rules
9.19	Texas Water Foundation Meeting, Austin

SYMPOSIUM HIGHLIGHTS

On February 28th, Panhandle Groundwater Conservation District, along with the City of Amarillo, and numerous sponsors held the 4th Biennial Texas Panhandle Water Conservation Symposium. With about 300 people in attendance, the event was considered quite a success. There were 16 speakers from across the state of Texas. Topics ranged from Drones in Agriculture to Cybersecurity & Water.

The events' origin came about in 2011 when fires and drought were ravaging most of the state. The goal is to create awareness about water conservation with the general public, in the agriculture community and also the municipal sector. As we are all water users, it's importance to bridge the gap and better understand the areas where we can all improve.

The Crown of Texas Water Conservation Award was given to Representative Four Price (pictured left below) based on his conservation efforts in the Texas Legislature. PGCD would like to thank everyone who attended the Symposium, and especially all of our sponsors, who helped make the event successful. We are already looking forward to our next Symposium in 2020.

Representative Four Price at the Symposium.

Senator Kel Seliger speaking over Legislative updates.

Attendees at the Symposium.

Attendee door prize winners.

TWDB Board Member, Peter Lake presenting.

Back Row (Left to Right): Peter Winegeart, Jake Robinson, C.E. Williams, Steve Shumate, Kelly Lane.
Front Row (Left to Right): Anita Haiduk, Jennifer Puryear, Britney Britten and Julie Bennett.

Staff Members & Job Titles

- C.E. Williams, General Manager
- Peter Winegeart, Assistant General Manager
- Jennifer Puyear, Meteorologist
- Steve Shumate, Hydrogeologist
- Anita Haiduk, Permitting Clerk/Secretary
- Julie Bennett, Business Administrator
- Britney Britten, PR/Education
- Jake Robinson, Field Technician
- Kelly Lane, Field Technician

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