2017 ANNUAL REPORT

PANHANDLE GROUNDWATER DISTRICT

"Conserving Water for Future Generations"

Municipal

Agriculture

Conservation

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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 velorem taxes.

MANAGER'S ADDRESS

2017 began with PGCD staff hosting the GMDA annual conference in Fort Worth, Texas. It was a very successful multiple day event. The District's performance audit conducted by TCEQ was completed and passed also. Finally in January, C.E. took part in a TWCA subgroup defining the pros and cons of applying oil and gas correlative rights to water. These discussions were in preparation of the upcoming 85th Texas legislative session which began on January 10. The results of the discussion can be found in a White Paper published by TWCA.

In February the District's new management plan was completed and adopted by the PGCD Board of Directors on February 23, 2017. The plan was subsequently approved by TWDB on April 19, 2017. February through April saw many trips to the State Capitol with the legislative session in full swing. Also in April, the District completed a TWDB agriculture conservation grant application. The grant was awarded for a precision mobile drip irrigation demonstration project.

May brought the end of the 85th Texas legislative regular session. Over 80 groundwater related bills were filed. A couple of omnibus bills out of both the Senate and House were the highlights of the session. SB 1392, filed by Chairman Charles Perry, sought to overhaul groundwater regulation with concepts such as common rules over common groundwater reservoirs throughout the state, changes to districts' permitting abilities and addressing regional water planning to name a few. C.E. was appointed by the Chairman to serve on a special stakeholder panel to address concerns surrounding this bill. While the group was able to agree on many concepts, a final consensus was not reached and the bill ultimately was not passed. HB 31 was filed by Chairman Lyle Larson. This bill, while not as encompassing as SB 1392, took a broad approach to addressing the application and permitting process through restrictions on moratoriums and application information for example. HB 31 was passed out of the full House but did not make it out of the Senate. Other key issues addressed involved brackish groundwater development, attorney's fees, GCD performance, and annexation. Due to political debate outside of the groundwater realm, many bills that PGCD supported, or did not support, were not signed into law. PGCD will continue work towards the balance between landowners' rights, local control and conservation in the upcoming 86th Texas legislature.

June and July saw the District facilitate a compromise between the citizens of the Valle de Oro community and the oil and gas industry concerning the use of groundwater in the area. PGCD also held a public meeting in relation to a proposed dairy in Carson County allowing all to voice their opinions to the Board. In August, a workshop was held by the Board to consider changes to the District's depletion rules in Rule 15. The district staff worked with landowners to conduct a Study Area wide meter compliance check at this time also.

PGCD continued the development of its data collection and reporting software known as DataMaid throughout the year. This will be an important tool in implementing our compliance programs.

PGCD saw many opportunities and obstacles in 2017. We feel it was a successful year and look forward to serving the District again in the year to come.

BOARD OF DIRECTORS

Danny Hardcastle
President
Serving since 1997

Phillip Smith
Vice President
Serving since 1990

Chancy Cruse
Secretary
Serving since 2013

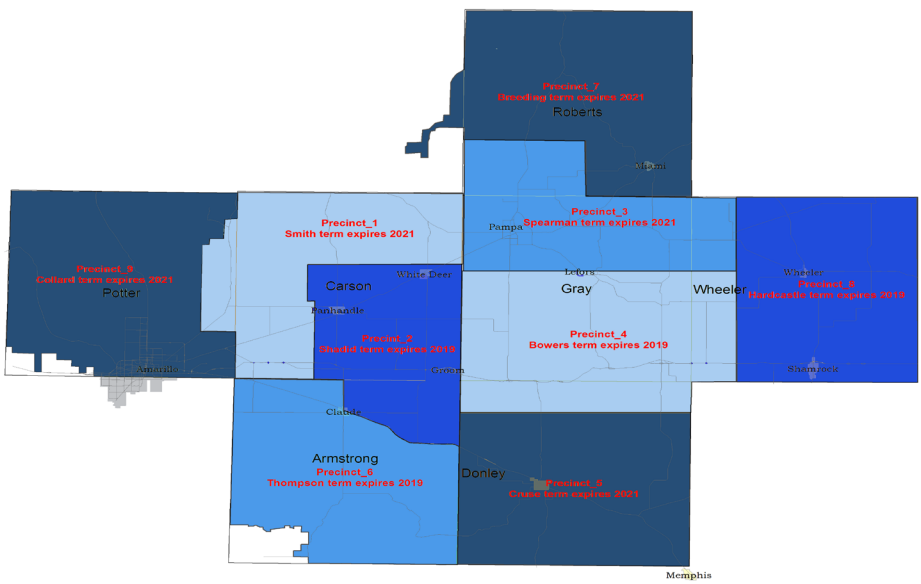
Charles Bowers
Director
Serving since 1990

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, with the baseline beginning in 1998. 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. The water level measurements are evaluated to determine areas with declines greater than 1.25 percent of saturated thickness when compared to the previous year's measured saturated thickness. 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	Reported to the Board on June 8, 2017	Completed
1.1 B	Evaluate the sum of declines	Reported to the Board on August 24, 2017	Completed
1.1 C	Determine non-exempt water pumping volumes annually and report to board	Reported to the Board on August 24, 2017	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 2017 Newsletter	Completed
1.2 B	Update saturated thickness map on District's webiste	http://pgcd.us/program/mapping Updated on 8/1/16	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 pressure 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

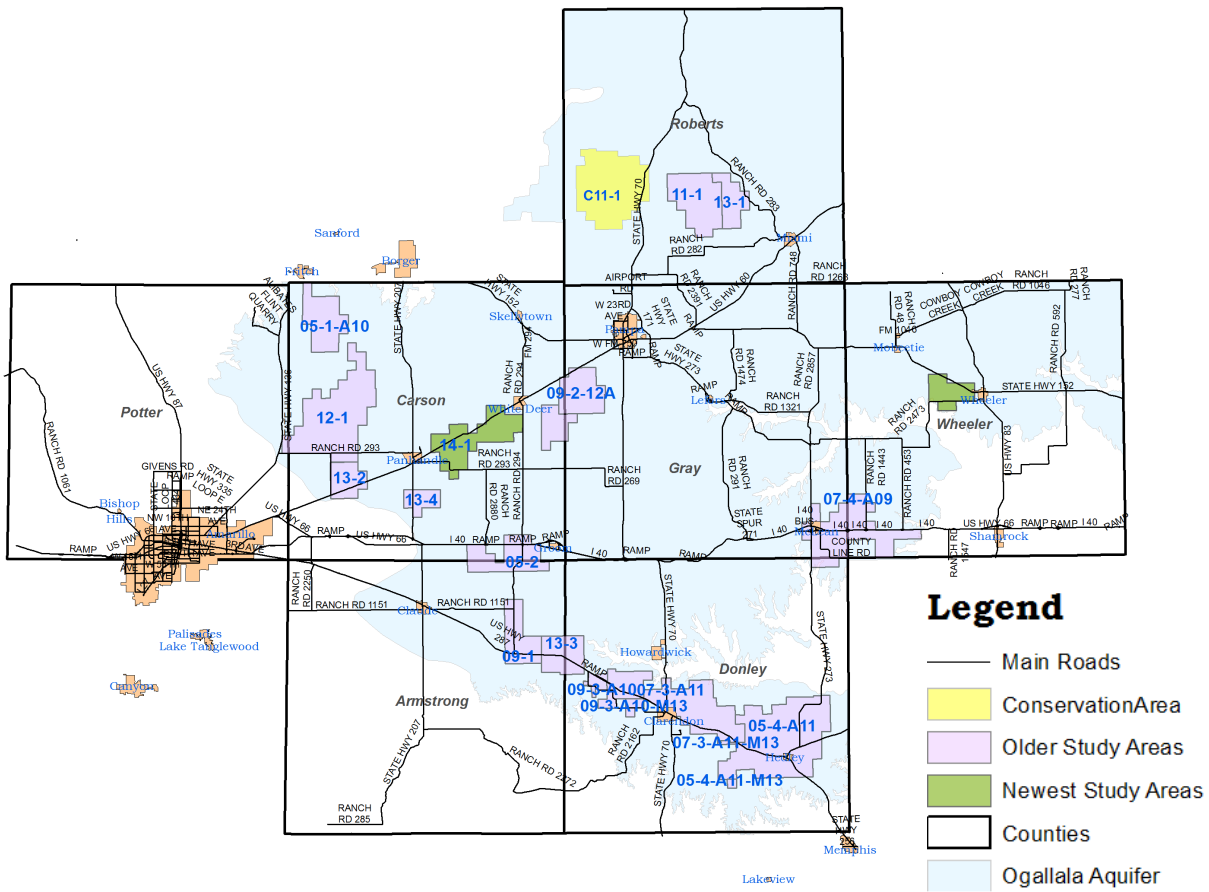
While there are tens of thousands of data points collected over time relative to the Ogallala Aquifer, the opposite is case for the Dockum Aquifer. This can primarily be attributed to dominance of the Ogallala Aquifer in the region and prevalence of poor water quality from the Dockum Aquifer. Due to 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 2017 Newsletter	Completed

Study & Conservation Areas as of December 2017



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 data 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).

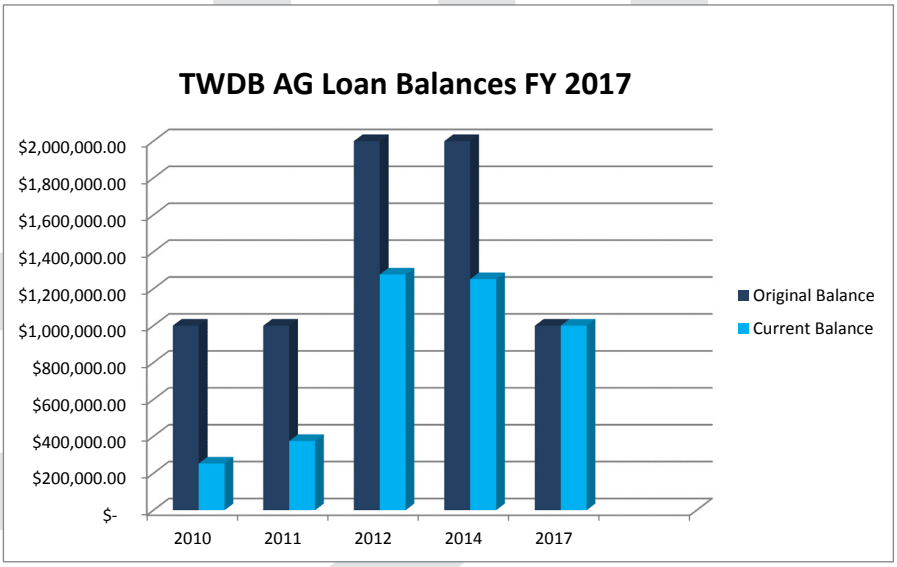
Water level measurements from wells in the District's Observation Well Network are used to generate annual depletion maps. The District will strive to install additional monitoring wells in locations when necessary in order to evaluate the effects of high-impact pumping operations as necessary. Furthermore, 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	Measured 870 out of 902 (96%) by April 1, 2017	Completed
2.1 B	Annual Depletion Maps	Published in the July 2017 Newsletter	Completed
2.1 C	IRS Depletion Map	January 3, 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 - January 2017 & April 2017	Completed
2.2 B	Review Ag Loan Applications within 60 Days.	Granted 3 Loans for a Total of $357,800	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 2016, January, April & July 2017	Completed
2.3 B	Attend Farm & Ranch Show Annually	11/29/2016-12/1/2016	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**	**714 out of 726 Meters were Recorded; 98%**	**Completed**
2.5 B	**Review and Prepare revised estimates for TWDB Annual Agriculture Water Estimates**	**Reported to TWDB on 3/24/2017 and revised on 4/28/2017**	**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**	**No complaints recorded.**	**Completed**
3.1 B	**Report Each Complaint to the Board with Staff Recommendations for Resolution**	**No complaints recorded.**	**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. This program is 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. In 2017, there were no new Multiple Well Permits issued. However, the City of Amarillo did expand one of their Multiple Well Permits, by adding two 10 inch wells, which was approved by the District Board of Directors.

Performance Standard

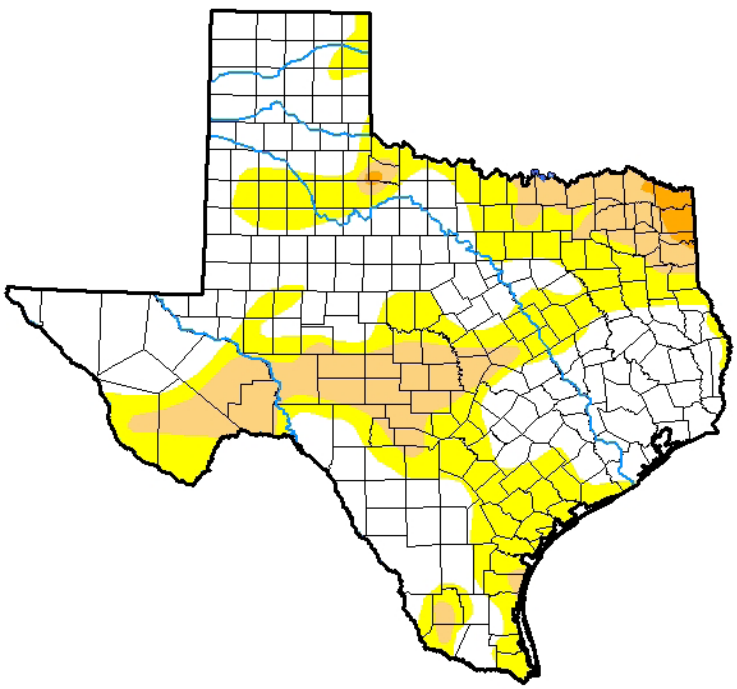
4.1 A	Ensure Drought Contingency Plans for Multiple Well Permits.	All required Drought Contingency Plans are current and on file with the District.	Completed

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	http://pgcd.us/links/	Completed



November 14, 2017
(Released Thursday, Nov. 16, 2017)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	54.34	45.66	15.26	0.97	0.00	0.00
Last Week 11-07-2017	58.23	41.77	8.80	0.56	0.00	0.00
3 Months Ago 08-15-2017	89.71	10.29	1.23	0.00	0.00	0.00
Start of Calendar Year 01-03-2017	81.50	18.50	6.29	1.97	0.04	0.00
Start of Water Year 09-26-2017	70.54	29.46	4.17	0.04	0.00	0.00
One Year Ago 11-15-2016	64.98	35.02	16.32	7.69	0.63	0.00

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:
Richard Tinker
CPC/NOAA/NWS/NCEP

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

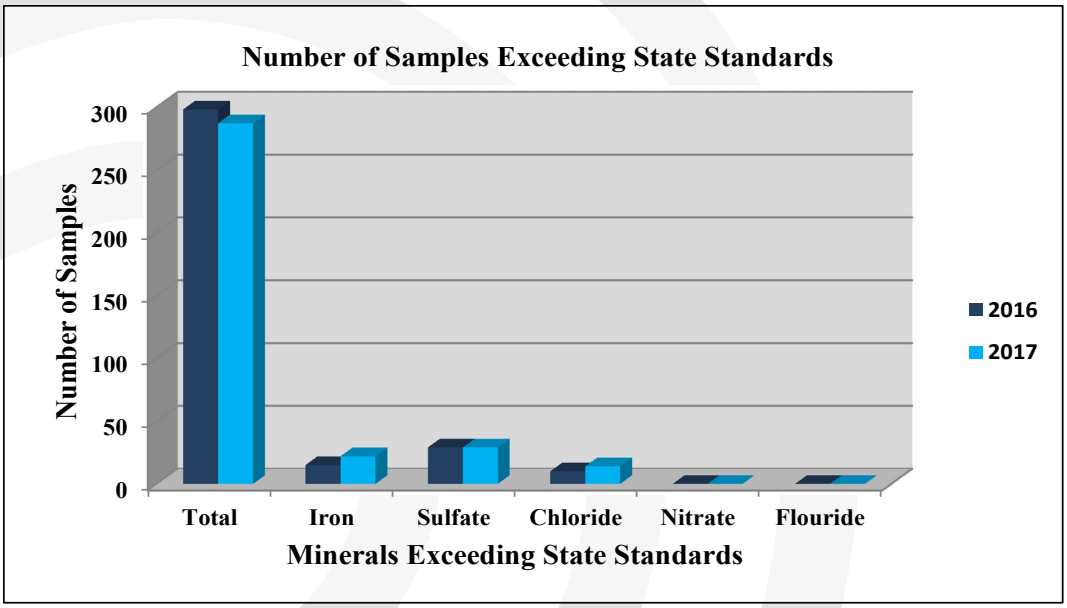
5.1 A	The District Manager will Participate in 75% of PWPG Meetings and Activities.	Hearing attended on 5/17/16 on the Regional Water Plan	Completed

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.	287 out of 302 samples were collected - 95%	Completed
6.1 B	Record Water Quality Data in Database within 30 Days of Sampling	373 Total Water Samples (287 by the District and 86 brought in by District individuals) were Collected and Recorded in the Database	Completed

IMPORTANCE OF 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**

Attendees at June Board of Directors Meeting

Attendees at June Board of Directors 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	$0.046/acre	Completed
8.1 C	Collect and Record Rain Gauge Readings at Least Bi-Monthly	October 2016, January-September 2017	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://pgcd.us/flight-tracks/	Completed
8.1 E	Provide Required Rainfall Monitoring, Water Quality Testing & Other Require Reports to Texas Department of Licensing	2016 Report provided on 9/27/17	Completed

Panhandle Groundwater Conservation District completed its 18th year of precipitation enhancement. This year was considerably slower than the 2016 season with only 16 operational days compared to last year's 29 days. This was due in part to many weather events moving through overnight, and many days with precipitation at the start of the season and towards the end were characterized with low overcast skies which is a hinderance to operations. This year's first seeding flight occurred on April 16, 2017 and the final seeding mission was on September 16, 2017. This year's operations mostly occurred during the peak summer months of June and July with the start and latter half of the season being much slower. The season ended with 20 total seeding flights, 16 reconnaissance flights, 276 glaciogenic flares burned and 21 hygroscopic flares.

While drought is always a concern for the Panhandle, this year, according to the U.S. Drought monitor, there were only a few instances that some areas of the Panhandle were dry. During late March, most of the Panhandle saw some abnormally dry conditions, but that was quickly rectified with April rainfall. During June and July the eastern tier of Panhandle counties saw some moderately dry conditions, but again this was set back to normal with August rainfall. Rainfall this year was above average in all PGCD's counties through March. In April, all the counties except Donley were above average. In May and June we saw a lull in precipitation with the majority of the counties being below average which was reflected in the U.S. Drought Monitor. In July, August and September all the counties returned to above normal rainfall. Rainfall totals through September show all the counties at or above average total rainfall for 2017 which is reflected in the chart provided.

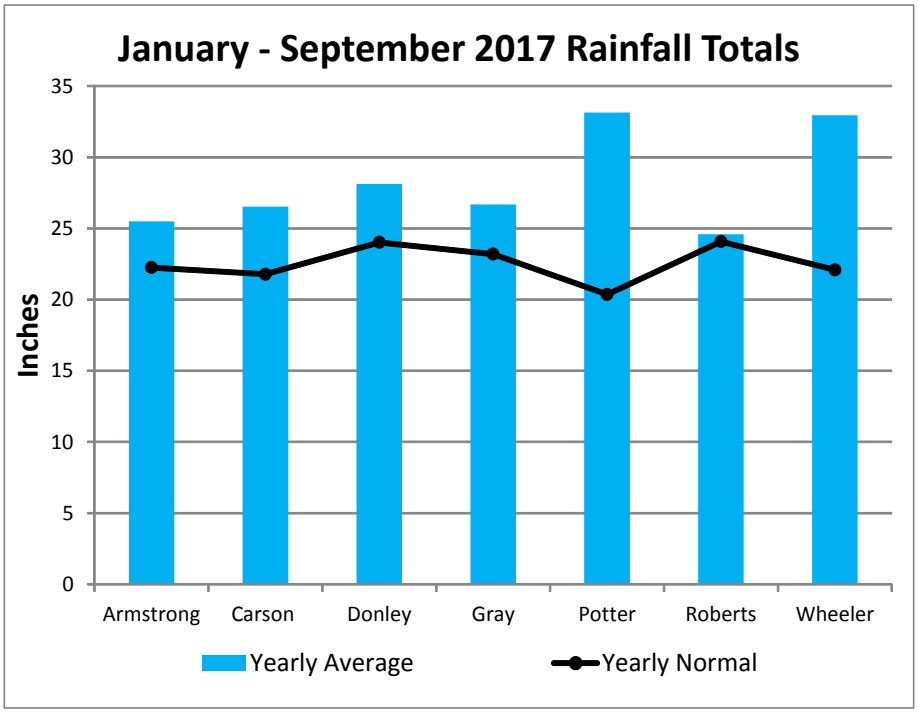
Management Objective 8.2

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 2015, January and April 2016	Completed
8.2 B	Provide at Least 2 Articles about the Program to all Local Newspapers	Precipitation Enhancement Article (4/30/16 Pampa News), Weekly Rain Report in White Deer Newspaper	Completed
8.2 C	At Least 2 Presentations Annually to a Public or Civic Group	GMDA Annual Meeting (1/10/17), Pampa Kiwanis (3/3/17)	Completed
8.2 D	Complete the Program Summary Report and Include in District's Annual Report Each Year	See Table Below	Completed

2017 Program Summary	
Number of Seeding Days	16
Number of Seeding Missions	20
Number of Recon Flights	16
Total Flight Hours in Both Aircrafts	70
Total Flares Used	297
Total Program Cost	$135,356.63



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 marks the 4th Biennial Texas Panhandle Water Conservation Symposium. Each symposium has drawn over 300 attendees, and we are anticipating to have at least that many in 2018.

Performance Standard

9.1 A	Annually make at least 5 Civic Education Presentations.	WOWW Science Collaborative (11/14/16), Pampa Homeschool Field Trip (2/17/17), Carson Co. Ag Day (2/23/17), Venada Blanco Study Club (2/27/17), Pampa Kiwanis (3/3/17), Panhandle Brownie Scouts (4/11/17) Groom Boy Scouts (4/18/17), Clarendon Boy & Girl Scouts (4/18/17), Amarillo Zoo Day (4/21/17)	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 - Jadyn Wright, 2nd Place - Merrit Mitchell, 3rd Place - Ryan Rodan	Completed
9.1 D	Water Warrior Presentation to at least 3 Public School Settings Outside of School	WOWW Science Collaborative (11/7/16), Amarillo Farm & Ranch Show (11/29/16) Carson Co. Ag Day (2/23/17),	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.

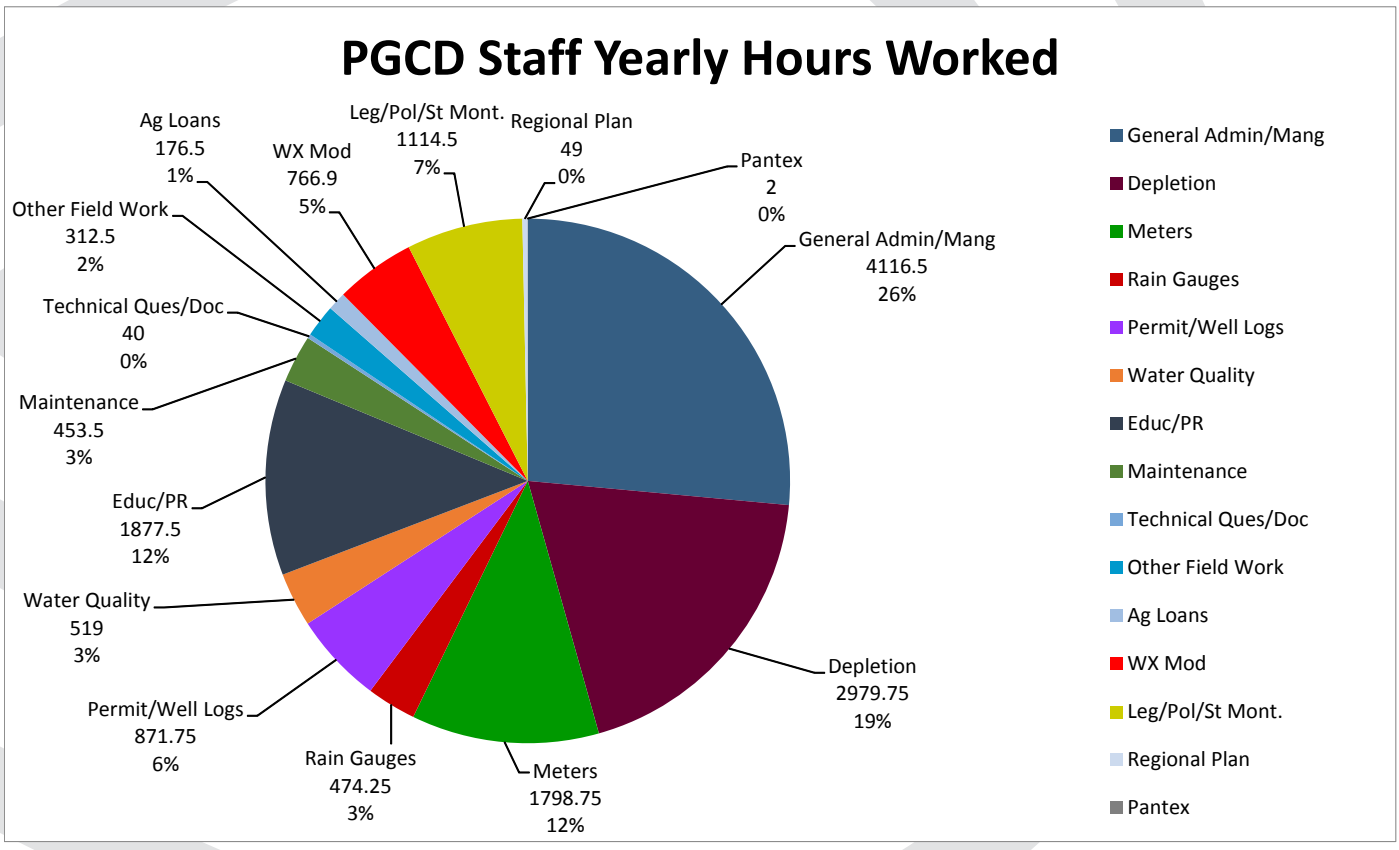
Performance Standard

10.1 A	**Webpage Highlighting the District's Rainwater Harvesting System and Information about Tours**	**http://pgcd.us/programs/**	**Completed**
10.1 B	Provide a Link to TWDB Rainwater Harvesting Webpage	http://pgcd.us/links/	**Completed**

2016-2017 EXPENDITURES

Accounting Fees	$ 6,300.00	Payroll Expenses	$ 180.00
Appraisal District Fees	$ 29,016.85	Payroll Taxes	$ 39,105.49
Board Expense	$ 20,245.11	Postage	$ 8,825.39
Capital Operating Improvements	$ 48,444.38	Printing	$ 10,083.30
Capitol Expense	$ -	Professional Services	$ 67,560.14
Car Expense	$ 20,882.16	Regional Planning	$ 17,281.62
Contract Labor	$ 50.00	Repairs & Maintenance	$ 15,573.15
Dues	$ 6,158.88	Retirement	$ 33,373.95
Education/Information	$ 35,534.15	Salaries	$ 531,451.60
Field Equipment Assets	$ 8,427.11	Scholarships	$ 3,875.00
Field Supplies	$ 1,137.28	Service Charges	$ 588.00
Grant Fund	$ 4,250.00	Tax Increment Payment	$ 4,110.00
Insurance & Bonds	$ 71,196.92	Special Studies	$ 49,384.04
Janitorial	$ 5,200.00	Travel & Training	$ 35,712.51
Meters	$ 25,046.23	Utilities	$ 21,777.85
Miscellaneous	$ 1,137.39	Water Quality	$ 5,877.49
Office Supplies & Software	$ 20,944.13	Weather Modification	$ 165.356.63
Election Expenses	$ 44.30	RWH Rebate	$ 12,471.39
Total			$ 1,326,602.44

TIME TRACKING



WELL PERMITTING & REGISTRATION

It is important to remember that all water wells drilled to the water table MUST have a completed application BEFORE it is drilled. It is as simple as giving the District a call before drilling. We completed the third year in which changes were made to the permit and registration forms. Whether or not a proposed well is in a study area will determine which "permit" form is used. PGCD has two forms for the permitted wells; Single Water Well Drilling: Application for PERMIT to be used if in a Study Area and Single Water Well Drilling: Application for PERMIT to be used if not currently in a designated study area at the time of applying for and ultimately drilling the water well. The goal of two applications is to further inform the landowner if they are currently in a study area or that the area could be designated as a study area in the future if production limits are exceeded, with the possibility of going into a conservation area if production amounts continue to exceed the allowable limit, which could result in reductions of the maximum annual production rate for this applied-for well.

This year also completes the third year where total contiguous acres were added to the two Single Water Well Drilling PERMIT forms. This adds the "Total Production", which multiplies the total contiguous acres by 4.5 gallons per minute production, allowed by the rules. Any other water wells already on the contiguous acres is added, then the production is subtracted from the total production allowed in order to make sure no more wells are drilled that is allowed for, from the total acreage production allowable.

Having added the test-hole form as page two (2) to both the Single Water Well Drilling Permit form and the Exempt Water Well Registration form has worked out very well. These forms are now 3 page forms with the test-hole page used only if applicable. This was done to streamline the permitting process.

The following are the total water wells permitted or registered with Panhandle Groundwater District for the 2016-2017 fiscal year and the four previous years. This year well applications totaled 244. The 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 website.

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 flad with the latitude, longitude, date spaced and technicians' initials, the application must be approved by the Board of Directors.

Overall, the total wells drilled, based on the permitting process, are down last year from the previous year by 14 percent, but up from last year by 20 percent. The biggest increase this year is in registered wells, rising from 94 in 2015-16 to 125 this year. 2011-2012 dropped of the table this year, which was the peak year with 491 wells drilled. Monitoring Well registrations increased from 12 to 32 and the permitted wells decreased from 97 to 87 from the previous fiscal year.

Well Permits Approved

	2016-2017	2015-2016	2014-2015	2013-2014	2012-2013
Armstrong	2	2	2	10	4
Carson	11	18	17	29	32
Donley	8	13	11	41	28
Gray	8	10	13	24	27
Hutchinson	0	0	0	0	0
Potter	42	37	25	37	36
Roberts	2	4	2	3	0
Wheeler	14	13	9	18	26
Total	87	97	79	162	153

Domestic, Stock & Rig Supply Well Registrations Received

	2016-2017	2015-2016	2014-2015	2013-2014	2012-2013
Armstrong	10	11	20	2	22
Carson	13	6	5	8	16
Donley	20	21	41	23	48
Gray	21	15	17	29	27
Hutchinson	0	0	1	0	0
Potter	22	9	34	23	5
Roberts	7	10	19	20	18
Wheeler	32	22	27	36	55
Total	125	94	154	141	191

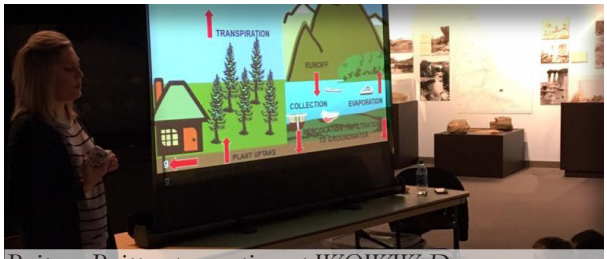
Observation & Monitoring Well Registrations Received

	2015-2016	2014-2015	2013-2014	2012-2013	2011-2012
Armstrong	0	0	0	0	0
Carson	4	0	0	0	0
Donley	0	0	0	0	0
Gray	0	0	2	0	9
Hutchinson	0	0	0	0	0
Potter	5	1	4	11	24
Roberts	0	0	0	0	0
Wheeler	4	0	0	3	2
Total	13	1	6	14	35

YEAR AT A GLANCE

October 2016

10.4 TWCA Legislative Committee Meeting in Austin
10.5 GMA1 Meeting in Amarillo
10.12-14 TWCA Conference in San Antonio
10.17-19 Great Plains Meter Training in Omaha, NE
10.26-28 AGI Conference in Golden, CO



Britney Britten presenting at WOWW Day

November 2016

11.1 TWCA Legislative Committee Meeting in Austin
11.2 GMA1 Meeting in Amarillo
11.7 WOWW Science Collaborative
11.14-16 NWRA Meeting in San Antonio
11.16-17 TWDB Work Session in Austin
11.28-29 TWCA GW Legislative Committee Meeting in San Antonio
11.28-30 Amarillo Farm & Ranch Show

December 2016

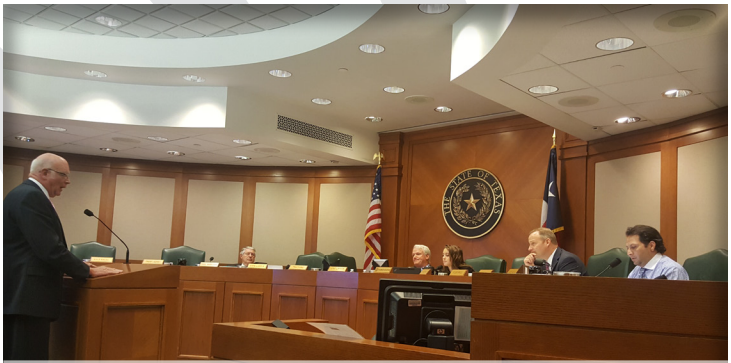
12.7-8 TWCA Board Meeting in Austin

January 2017

1.9-12 PGCD Hosts GMDA Annual Meeting in Fort Worth
1.12 TWCA Legislative Committee Meeting in Austin
1.17 Region A Planning Meeting in Amarillo
1.23-25 TWDB Water Conference in Austin
1.25-26 TAGD Meeting in Austin

February 2017

2.2 Meeting with Wye River Authority in Austin
2.2 Texas Water Foundation Meeting in Austin
2.15 High Plains Irrigation Conference in Amarillo
2.23 Carson County Ag Day
2.27 Presentation to Venado Blanco Study Club


C.E. tesitfying before the House Natural Resources Committee

March 2017

3.1-3 TWCA Annual Conference in Austins
3.3 Precipitation Enhacement Presentation to Pampa Kiwanis
3.13-15 House Natural Resources Meeting in Austin
3.20-22 House Natural Resources Meeting in Austin
3.27-30 House Natural Resources Meeting in Austin

April 2017

4.3-6 House Natural Resources Meeting in Austin
4.10-13 House Natural Resources Meeting in Austin
4.11 Panhandle Girl Scouts
4.13 Donley County Health Fair
4.18 Groom Boy Scouts
4.20 GMDA Meeting in Dallas
4.21 Amarillo Zoo Day
4.24-28 House Natural Resources Meeting in Austin


Board of Directors Oath of Office 2017

May 2017

5.1-2 House Natural Resources Meeting in Austin
5.3-4 Texas Aquifer Conference in Austin
5.8-12 House Natural Resources Meeting in Austin
5.15-19 House Natural Resources Meeting in Austin
5.24-26 GMDA Summer Meeting in Albuquerque NM
5.30 House Natural Resources Meeting in Austin
5.31 TAGD Summer Meeting in Austin

June 2017

6.1 TAGD Summer Meeting in Austin
6.14-16 TWCA Mid-Year Conference in Galveston
6.27 White Deer Library Presentation

Jennifer Puryear presenting to White Deer Library

July 2017

7.13 Presentation to Saint Matthew's School in Pampa
7.26 Ag Committee Meeting with PRPC Meeting in Amarillo

August 2017

8.23 Texas A&M Extension Planning Meeting in Amarillo
8.28-31 TAGD Meeting in San Marcos
8.30 TCFA Water Planning Meeting in Amarillo

September 2017

9.7 NPGCD Etter Field Day
9.19 Water Conservation Symposium Planning Meeting in Amarillo

GMDA HIGHLIGHTS

PGCD Staff hosted the Groundwater Management Districts Association (GMDA) Annual Meeting in Fort Worth, Texas in January of 2017. Attendees from New Mexico, Colorado, Nebraska, Kansas, Louisiana, Texas and Mississippi traveled to Fort Worth to discuss important matters regarding groundwater management, desalination projects, education and outreach programs and many more related topics. Over the two day conference, attendees listened to a total of 24 speakers.

GMDA is a regional organization composed of local groundwater management districts in several Western, Midwestern and Southern states. The Annual Meeting consists of presentations from noted experts in the fields of hydrogeology, geology, flow meters and different management strategies. Most importantly, the conference provides a forum to exchange ideas on different approaches taken by other states. For example, the primary issue in Kansas, Colorado and Texas is groundwater quantity, while in Nebraska it is groundwater quantity and quality. Some of the Districts have developed unique projects in education and management to preserve our groundwater resources for future generations.

Bill Mullican, PG presenting at GMDA

Jennifer Puryear presenting at GMDA


Attendees at the Conference


Attendees at the MillerCoors Water Conservation Tour


PGCD Staff at Cowboy's Stadium Tour

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

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
- Chris Archibald, Field Technician
- Jake Robinson, Field Technician

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